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Effects on the U.S. Economy of Revoking China's Permanent Normal Trade Relations Status

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United States International Trade Commission

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Abbreviations and Acronyms

Item	Definition
AI	artificial intelligence
API	active pharmaceutical ingredients
ATP	assembly, testing, and packaging
AUV	average unit value
AVE	ad valorem equivalent
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
Census	U.S. Census Bureau
CES	constant elasticity of substitution
CISA	Cybersecurity and Infrastructure Security Agency
Commission or USITC	U.S. International Trade Commission
ESS	energy storage systems
GATT	General Agreement on Tariffs and Trade
GE	general equilibrium model
GHw	gigawatt hour
HS	Harmonized System
HTS	<i>Harmonized Tariff Schedule of the United States</i>
ITPD	International Trade and Production Database
ITPD-E	International Trade and Production Database for Estimation
ITPD-S	International Trade and Production Database for Simulation
ITPD-U	International Trade and Production Database by End use
ISIC	International Standard Industrial Classification
KSM	key starting materials
NAICS	North American Industrial Classification System
n.e.c	not elsewhere classified
n.i.e	not identified elsewhere
NOES	non-oriented electrical steel
NSP	national security product
NTR	normal trade relations
PNTR	permanent normal trade relations
PCB	printed circuit board
PPE	personal protective equipment
PE	partial equilibrium model
OECD	Organisation for Economic Co-operation and Development
TRAINS	Trade Analysis Information System
UNCTAD	UN Conference on Trade and Development
USDHS	U.S. Department of Homeland Security
USDOS	U.S. Department of State
USITC DataWeb/Census	U.S. International Trade Commission Interactive Tariff and Trade DataWeb/U.S. Census Bureau
USMCA	United States-Mexico-Canada Agreement
VA	Veterans Affairs
WTO	World Trade Organization

Executive Summary

This report provides a prospective analysis of U.S. trade, production, and prices in the U.S. economy and industries directly and most affected by the complete and immediate revocation (referred to as immediate revocation) of permanent normal trade relations (PNTR) treatment for all goods of Chinese origin (“goods of China,” “Chinese imports,” or “imports from China”). Furthermore, the report examines an alternative scenario in which China’s PNTR status is revoked with a five-year phase-in of tariffs on a subset of national security products (NSPs). The U.S. International Trade Commission (Commission or USITC) prepared this report in response to direction by the U.S. House of Representatives Committee on Appropriations accompanying the Commerce, Justice, Science; Energy and Water Development; and Interior and Environment Appropriations Act, 2026.

Normal trade relations (NTR) is a legal designation that confers nondiscriminatory trade treatment, known as most-favored nation status in international law, to a country. China received NTR status from the United States on January 1, 1948, as part of the U.S. implementation of the General Agreement on Tariffs and Trade until it was revoked for communist nations on August 1, 1951. The United States restored China’s NTR status in 1979, but it was subject to an annual review. The United States ultimately granted the country unconditional NTR status, effective January 1, 2002 (commonly referred to as permanent NTR or PNTR).

Trade Between the United States and China in the 21st Century

U.S. exports of goods and services to China increased from \$21.8 billion to \$162.6 billion between 2000 and 2025; U.S. imports from China increased from \$103.2 billion to \$331.9 billion during the same period. Manufactured goods accounted for more than 88 percent of U.S. imports from China during that period. This report focuses on manufactured goods not only because of their prominence in U.S.-Chinese trade, but also because of the relatively large differences in the average rates of duty for manufacturing imports between column 1 (NTR treatment) and column 2 (non-NTR treatment) of the *Harmonized Tariff Schedule of the United States* (HTS). On average, if PNTR status is revoked and China becomes subject to duty rates in column 2 instead of column 1, duty rates for manufactured products would increase by 28.8 percentage points, compared to increases of 7.3 and 0.8 percentage points for agriculture products and mining and energy products, respectively. Trade in services is not subject to duty rates in the HTS.

Estimated Effects of China PNTR Status Revocation

To estimate the effects of revoking China’s PNTR status on U.S. trade, prices, production, and product sourcing, the Commission used a general equilibrium (GE), or “economy-wide,” gravity model of trade and production, which produced industry-specific and economy-wide impacts on the U.S. economy in each year over a six-year period. The Commission also estimated and provided long-run estimates, after

the economy fully adjusts, for context and to allow for consistent comparisons to other GE modeling approaches in the literature. To estimate the effects of the alternative scenario in which China's PNTR status is revoked with a five-year phase-in of tariffs on a subset of NSPs, the Commission employed a series of unlinked partial equilibrium (PE) models and qualitative analyses.

The Commission chose to use 2023 (GE model) and 2024 (PE model) as the baseline years to analyze the impact of revoking China's PNTR status. This choice reflected both the greater stability of effective U.S. tariff rates prior to 2025 and, in the case of the global GE model, lags in availability of international trade and production data. The choice of the base year does not impact the main policy input to the models, which is the difference between column 1 and column 2 tariff rates specified in chapters 1–97 of the HTS. This value, which was a trade-weighted average of 35.2 percentage points for all goods, has almost no variation by year or importer. However, the choice of these baseline years may impact the size of estimated effects because the models do not encompass higher effective tariff rates on imports from China resulting from changes in U.S. trade policy in 2025 or 2026 or the change in import patterns caused by those changes. If a more recent baseline year were to be used, the effects of PNTR status revocation would likely be smaller in magnitude because of the smaller share of Chinese imports in those years.

Main Findings

According to Commission estimates, the revocation of PNTR treatment for all products from China would lead to several outcomes.¹

- The price of Chinese imports would increase and as a result U.S. consumers and producers would adjust their purchases away from Chinese imports. This outcome would be especially pronounced for manufactured goods and intermediate inputs in industries in which the United States has a greater reliance on Chinese imports (i.e., China accounts for a relatively high share of U.S. imports).
- U.S. consumers and producers would shift to domestic sources and imports from other trading partners, particularly Mexico, Vietnam, and Taiwan. U.S. import-competing industries would experience increases in production.
- U.S. consumers and producers would face price increases of 0.7 percent and 0.5 percent, respectively, in the long run. Higher prices on intermediate goods would reduce real output by 0.2 percent in the long run.
- Most industries would have small declines in real output (usually of less than 1 percent). The extent of the effect would depend on their reliance on Chinese intermediate goods and other competitiveness dynamics. U.S. real output would be lower in each year compared to the baseline as the widespread increase in input costs would raise production expenses and outweigh the gains in industries that compete with Chinese imports.

¹ In their additional views, Chairman Doyle and Commissioner Kearns provide additional context on the proposed revocation of China's PNTR status and explain why they believe the economy-wide model overestimates the costs and underestimates the benefits to the United States of this policy change. See Additional Views of Chairman Brett W. Doyle and Commissioner Jason E. Kearns.

- Certain industries that face relatively high import competition from China would likely be among those directly and most affected by PNTR status revocation, particularly if tariffs increase significantly as a result of the change in that status. Three such industries highlighted in this report are projected to experience growth in real output as prices rise, imports from China fall, and domestic shipments increase. The extent of these changes would vary across industries because of many different factors, including the scale of Chinese import penetration, the competitiveness of other sources of imports, and the industry's reliance on imported materials.
- U.S. production in the subset of NSPs identified by the Commission is estimated to increase in varying degrees with a five-year phase-in of PNTR status revocation, as are prices of such products. Compared to the immediate revocation of PNTR status, the phase-in period would allow time for U.S. manufacturers to both expand capacity and mitigate the potentially large price increases in the first several years.

Economy-Wide Effects

U.S. consumers and producers would adjust their sourcing decisions, reallocating U.S. purchases away from Chinese imports and toward U.S. domestic sources and imports from other trading partners. Imports from China would decrease 30.8 percent after six years and 73.8 percent in the long run ([table ES.1](#)). Although U.S. imports from China would decline, imports from other trading partners would increase, especially from Mexico, Taiwan, Vietnam, Canada, Japan, and South Korea, resulting in total imports from the world decreasing by 0.5 percent in the sixth year. U.S. consumers and producers would increase their purchases of domestic shipments by 0.6 percent in the sixth year and 1.8 percent in the long run.

Table ES.1 Summary of economic effects relative to 2023 baseline

In percentages, based on values. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in the column header compared to the baseline.

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Consumer prices	0.8	0.9	1.0	1.0	1.0	1.0	0.7
Intermediate input prices	1.0	1.1	1.1	1.2	1.2	1.2	0.8
Total shipments of domestic producers	0.1	0.2	0.3	0.4	0.4	0.5	0.3
Real output	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2
Total exports	-0.1	-0.2	-0.3	-0.5	-0.6	-0.8	-2.7
Total imports	-0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-1.8
Imports from China	-6.5	-11.3	-16.5	-21.6	-26.3	-30.8	-73.8

Source: USITC estimates.

Note: 2023 was selected as the baseline year for the economy-wide model as the most recent year in which all necessary data were available. Total shipments of domestic producers includes both U.S. shipments and exports.

Revoking PNTR treatment for all goods of Chinese origin would immediately increase the prices consumers and businesses pay for imports of those products. The prices of intermediate inputs, such as parts, industrial materials, and machinery, would increase by 1.2 percent in the sixth year following PNTR status revocation and 0.8 percent in the long run, which would increase production costs across industries. Consumer prices would increase by 1.0 percent in the sixth year and 0.7 percent in the long

run because of U.S. firms' reliance on China for those production inputs. Price effects are estimated to be most pronounced in the first years after revocation of PNTR status. Prices would remain above pre-revocation price levels, although the price increases would temper over the long run.

Higher U.S. production costs would lead to a decline in U.S. exports because U.S. goods and services become less competitive globally. Real (price-adjusted) output in the United States would fall by 0.3 percent in the sixth year and 0.2 percent in the long run despite increased nominal (monetary) shipments because higher input costs would increase production costs. The effect on U.S. production would vary by industry because of variation in reliance on Chinese imports and the competitiveness factors at play for U.S. producers. Compared to other sectors, U.S. manufacturing experiences the largest adjustment because of its greater reliance on imports for production and therefore more direct exposure to tariffs; other sectors would experience more moderate changes. U.S. manufacturers that directly compete with Chinese imports would benefit, but these increases in U.S. production would be outweighed by decreases in U.S. production elsewhere due to rising input costs, decreasing economy-wide real output. Over the long term, however, manufacturing real output increases as intermediate sourcing and purchases of final goods move away from China and toward domestic (and other) suppliers.

Directly and Most Affected Industries

Industries that would be directly and most affected by PNTR status revocation are likely to be those that would face relatively larger increases in tariffs after revocation and that have a higher share of the market supplied by imports from China (Chinese import penetration). To illustrate the range of impacts that a change in tariffs would have on import-competing industries, the Commission analyzed the impacts of PNTR status revocation on three industries that represent different broad manufacturing sectors, industry sizes, and supply chain positions: those manufacturing games and toys, technical textiles, and machine tools and power tools. For each of these industries, the expected decrease in imports from China following PNTR status revocation would cause shifts toward other sources (domestic and imported). U.S. production would likely increase, in real terms, alongside increased consumer prices. Increases in U.S. production would vary by industry and depend, in part, on supply chain dynamics, the price sensitivity of specific segments, and the competitiveness of other sources of imports.

[Table ES.2](#) displays the modeling estimates for the selected industries in the sixth year following PNTR status revocation. Games and toys would see the largest increase in real output from a relatively smaller base, partially because of its high initial Chinese import penetration in the industry compared to other industries. Producers of technical textiles and machine tools and power tools, which face less import competition from China, would experience more limited growth opportunities but from relatively larger bases of more-established domestic industries. These industries would also experience restrained growth because of higher costs of materials and equipment sourced from China that would also face higher tariffs following PNTR status revocation.

Table ES.2 Comparison of estimated effects in selected directly and most affected industries in the sixth year relative to 2023 baseline
In percentages.

Industry description	Percentage change in consumer prices	Percentage change in imports from China	Percentage change in imports from all other sources	Percentage change in real output
Games and toys	34.8	-11.7	36.0	12.8
Technical textiles	3.5	-32.5	3.6	0.8
Machine tools and power tools	3.8	-14.0	2.9	0.0

Source: USITC estimates.

Note: 2023 was selected as the baseline year for the economy-wide models as the most recent year in which all necessary data were available.

Although PNTR status revocation is likely to impact costs of specific materials used in construction, imports from China account for only a small share of the total cost of residential construction or the price of housing. Higher tariffs on imports from China would likely cause the cost of certain kinds of material inputs used in residential construction, particularly those where China is a major supplier, to increase. For example, imports from China account for 29.0 percent of lighting equipment imports from all sources, and PNTR status revocation would likely cause prices for those products to be 6.2 percent higher than baseline. Therefore, the impact of higher consumer prices for these material inputs on residential construction is expected to be minimal.

Alternative Industry-Level Scenario: Five-Year Phase-In for NSPs

To estimate the effect of an alternative scenario in which revoking China's PNTR status is phased in over five years on U.S. trade, production, and prices for a selection of industries representing a subset of NSPs, the Commission used a series of partial equilibrium models and qualitative analyses considering both immediate revocation and phase-in over five years. The effects and analysis are specific to each industry analyzed and consider specific industry background, including dependency on China for inputs and the time required for the industry to adjust to the policy change, among other factors.

The U.S. government does not maintain an official list of NSPs. To consider a selection of such products, the Commission used various industry selection criteria, including U.S. government-identified national security linkages and Chinese import penetration, among other factors. The Commission profiled industries that would be illustrative of the varying effects of China's PNTR status revocation on a wide range of products, including batteries, computers, and ball and roller bearings.

For the NSPs analyzed, the models indicate that phased-in PNTR status revocation would reduce Chinese imports and increase demand for U.S. products and imports from other sources ([table ES.3](#)). Phasing-in of tariffs for NSPs would prevent significant price increases in the first few years compared to immediate revocation, allowing U.S. manufacturing capacity time to expand to meet demand in the NSPs modeled. Although not modeled, qualitative analysis indicates that phasing-in tariffs would likely prevent significant price increases in the first few years for other NSPs such as PPE and synthetic graphite as well.

Table ES.3 Impact on prices, domestic shipments, and imports from China of phased-in tariffs after five years, relative to 2024 baseline

In percentages. NSP = national security product.

NSP-producing industry	Percentage change in price	Percentage change in domestic shipments	Percentage change in imports from China
Batteries	5.7	19.5	-55.5
Broadcast and wireless communications equipment	6.4	32.8	-75.0
Electronic computers	4.4	31.0	-83.3
Motors and generators	1.7	5.3	-68.5
Ball and roller bearings	2.7	7.2	-64.8
Speed changer, industrial high-speed drive, and gears	1.5	3.7	-66.7

Source: USITC estimates.

Note: The effects on two NSPs are not modeled because the national security elements of those NSPs are distinct from the industry in which they are classified under the North American Industry Classification System (i.e., graphite in miscellaneous nonmetallic mineral products and personal protective equipment in surgical appliances and supplies). See [chapter 4](#) sections [“Personal Protective Equipment”](#) and [“Synthetic Graphite”](#) for more details. The Commission selected 2024 as the baseline year for the partial equilibrium models as the most recent year in which all necessary data were available; this differs from the economy-wide model for which all necessary data were only available for 2023.

Although these models provide estimates for specific industries only, they are suggestive of the potential impact of tariff phase-in for other NSP products. For the six NSP-producing industries that are modeled in [chapter 4](#), tariff phase-in substantially reduces the impact on prices, domestic shipments, and imports that would occur from immediate and full application of higher tariffs. On average for these industries, the change in those economic outcomes in the first year is about two-thirds smaller when tariffs are phased in. If tariffs were phased in on a broad set of NSP products, the magnitude of the economy-wide response discussed earlier in this report could be substantially affected.

Chapter 1: Introduction

Scope of the Report

The U.S. International Trade Commission (Commission or USITC) prepared this report in response to a report of the U.S. House of Representatives Committee on Appropriations (Committee) accompanying the Commerce, Justice, Science; Energy and Water Development; and Interior and Environment Appropriations Act, 2026, signed by the President on January 23, 2026.² The Committee report directs the Commission to conduct an investigation and issue a report that provides (1) a prospective economic analysis of revoking China’s PNTR status over a six-year period, (2) analysis and detailed information on the directly and most affected industries, and (3) an examination of an alternative scenario in which China’s PNTR status is revoked and tariffs are phased in over a period of five years (a five-year phase-in) on a subset of national security products (NSPs). In response, the Commission self-instituted an investigation and issued this report under section 332(b) of the Tariff Act of 1930.

The *Harmonized Tariff Schedule of the United States* (HTS) is organized into several columns. The HTS “rates of duty” columns include column 1 (containing column 1-general and column 1-special) and column 2. Column 1-general provides the normal trade relations (NTR) duty rates applicable to products of most countries, including China. Column 1-special provides lower-than-general or duty-free rates for products entering under free trade agreements or preference programs.³ The United States and China do not have a free trade agreement with each other, and the vast majority of U.S. imports from China do not directly enter under any preference programs.⁴ For these reasons, this report focuses on column 1-general rather than column 1-special rates of duty and references to column 1 throughout the report are to the column 1-general rates of duty. Column 2 provides the duty rates applicable to products of countries listed in HTS general note 3(b); at present, those countries are Belarus, Cuba, North Korea, and Russia. Generally, column 2 duty rates are higher than column 1-general duty rates.

The revocation of PNTR treatment for products from China would shift applicable HTS duty rates from column 1 to column 2. To examine the impacts of PNTR status revocation, this report analyzes column 1-general and column 2 duty rates specified in chapters 1–97 of the HTS. The column 1-general and column 2 duty rates used in this report do not account for temporary modifications to these duty rates specified in chapter 99 of the HTS, such as additional tariffs applied under sections 301 or 232. The

² *Commerce, Justice, Science; Energy and Water Development; and Interior and Environment Appropriations Act, 2026*, Pub. L. No. 119-74, 140 Stat. 5, 1. For the relevant Committee report text, see [appendix A](#).

³ USITC, *HTS (2026) Revision 7*, Publication 5735, General Note 3(c), April 2026.

⁴ USITC DataWeb/Census, imports for consumption, accessed July 17, 2026.

Commission decided to exclude these temporary duty modifications from its analysis to isolate the impact of PNTR status revocation without also capturing the impacts of other tariff policies.⁵

[Figure 1.1](#) provides an example using a product from a sector analyzed in [chapter 3](#). In this example, if PNTR status is revoked tariffs would increase from 4.4 percent (column 1) to 30.0 percent (column 2) on goods imported under HTS subheading 8458.11.00.

Figure 1.1 *Harmonized Tariff Schedule of the United States* entry for numerically controlled lathes (subheading 8458.11.00) (Presented for illustrative purposes)

Harmonized Tariff Schedule of the United States Revision 7 (2026)
Annotated for Statistical Reporting Purposes

XVI
84-72

Heading/ Subheading	Stat. Suf- fix	Article Description	Unit of Quantity	Rates of Duty	
				1	2
				General	Special
8458		Lathes (including turning centers) for removing metal:			
8458.11.00		Horizontal lathes:			
		Numerically controlled.....		4.4% ^{1/}	Free (A*, AU, BH, CL, CO, D, E, IL, JO, JP, KR, MA, OM, P, PA, PE, S, SG)
	05	Used or rebuilt.....	No.		
	10	Other:			
		Multiple spindle.....	No.		
	30	Other:			
		With a power rating of less than 18.65 kW.....	No.		
	50	With a power rating of 18.65 kW or greater but not exceeding 37.3 kW.....	No.		
	90	With a power rating exceeding 37.3 kW....	No.		

Source: USITC, *HTS (2026) Revision 7*, Publication 5735, April 2026, 84-72.

The Commission conducted an analysis of a hypothetical U.S. policy decision that would remove PNTR treatment on all products from China, examining the economy-wide effect on U.S. prices, production, trade, and product sourcing over a six-year period.⁶ The economy-wide impact analyzed in [chapter 2](#) covers both goods and services sectors. The Commission provides a prospective economic analysis of this isolated U.S. policy decision, implicitly holding constant all other policies, whether domestic or foreign.⁷ In addition, the Commission analyzed the probable effects of (1) immediate and complete PNTR status revocation on the directly and most affected industries primarily by highlighting the impact

⁵ For example, as a result of an action under section 301, the United States has applied additional column 1-general duties on imports from China. However, the HTS does not indicate that any additional column 2 duties would apply on those imports if NTR status were revoked. A comparison of column 1-general and column 2 duty rates that incorporates the additional duties applied under section 301 to column 1 would result in much smaller differences across the two columns than a comparison based solely on the duty rates specified in chapters 1–97. USITC, *HTS (2026) Revision 7*, Publication 5735, Chapter 99, Subchapter III, Subheadings 9903.88.01–9903.88.04, 9903.88.15–9903.88.16, 9903.91.01–9903.91.16, 9903.92.10, and 9903.92.80, April 2026.

⁶ The Commission also estimated and provided the results for the long run, when trade and production can fully adjust to the policy change.

⁷ Although services industries are not subject to tariffs, they may be indirectly impacted by the revocation of PNTR status.

on three such industries as illustrative of the impact on a broader category of directly and most affected industries and (2) a five-year phase-in of PNTR status revocation on a subset of national security products. The selection criteria for directly and most affected industries and examples of the industries considered are described in greater detail in [chapter 3](#); the alternative scenario in which tariffs are phased in for a subset of NSPs is examined in [chapter 4](#).

Tariff Shocks and Ad Valorem Equivalents

Revoking PNTR treatment for products from China would shift applicable HTS duty rates on these products from column 1 rates to column 2 rates. To provide a summary of the tariff changes being considered in this report, 170 industries⁸ are mapped into four broad sectors: agriculture, mining and energy, manufacturing, and services.⁹ [Table 1.1](#) shows both unweighted and trade-weighted average ad valorem equivalents (AVE) tariffs for each broad sector.¹⁰ Unweighted tariffs are a simple average of AVE duty rates across HTS lines within the broad sector and tariffs are then weighted by the share of imports for that HTS line in total sectoral imports from China. The differences between unweighted and weighted tariff changes across sectors indicate that industries that import relatively more from China would face larger tariff changes if PNTR status were revoked.¹¹ Using either unweighted or trade-weighted average tariffs, manufacturing industries receive the largest tariff increases (23 industries see tariff increases larger than 40 percentage points, with some of these industries seeing tariff increases of greater than 60 percentage points).¹² Note that service sectors are not subject to tariffs; therefore, any impact of PNTR status revocation on service industries will be indirect.

⁸ For definitions of these 170 industries, see the ITPD for Estimation (ITPD-E) guide. Borchert et al., “Industry List - ITPD-E Guide,” accessed May 28, 2020.

⁹ For this report, the Commission computed ad valorem equivalent (AVE) tariffs at the industry level. AVEs convert non-ad valorem duties into percentage-of-value terms to allow for consistent analysis of tariffs across products and industries. For more details on how the Commission computes AVEs at the industry level from the HTS, see [appendix F](#).

¹⁰ The trade-weighted AVEs weight each industry AVE by the share of that U.S. industry’s imports from China in total U.S. imports from China in the broad sector. This weights the tariff changes by how much the industry imports from China, relative to all trade in the broad sector.

¹¹ This aspect is particularly salient for agriculture, where tariffs do not change much on average; but weighting by trade as a share of total agricultural trade with China illustrates that industries that import more from China tend to see much larger tariff increases.

¹² USITC calculations.

Table 1.1 Increases in tariffs after revocation of permanent normal trade relations status on products from China, by sector

In percentage points.

Broad sector	Change in unweighted average tariff	Change in weighted average tariff
Agriculture	7.3	32.6
Mining and energy	0.8	5.0
Manufacturing	28.8	36.8
Services	0.0	0.0
All sectors	21.4	35.2

Sources: USITC calculations using USITC, *HTS (2026) Revision 7*, Publication 5735, April 2026; USITC

DataWeb/Census, accessed April 23, 2026.

Note: Weighted tariff change calculations are based on 2023 trade data.

Analytical Approaches and Limitations

To analyze the hypothetical change in the PNTR status of China, the Commission used two analytical approaches. An economy-wide general equilibrium (GE) model with the ability to break out industry-level results was employed to estimate the impact of an immediate and complete removal (immediate removal) of PNTR treatment on all products from China. A set of industry-specific partial equilibrium (PE) models was used to estimate the impact of a phased-in removal of PNTR treatment for specific industries that produce NSPs.

The Commission analyzed the impact of the immediate and complete removal of PNTR treatment on all products from China using an economy-wide model of trade and production. The Commission used historical patterns in global trade to estimate responsiveness of trade flows to tariffs over time and then incorporated these measures into a multicountry, multisector economy-wide simulation model—the GE gravity model.¹³ The GE gravity model provides estimates of the impact of changing tariffs on Chinese products on the U.S. economy, including important economic indicators such as total U.S. domestic output, trade with China, diversion of trade domestically and to the rest of the world, and prices.

Simulating the GE gravity model is a quantitative exercise that requires a complete set of trade and production data covering all countries and all industries over a range of years. This report uses the most comprehensive and recent data that are available—the International Trade and Production Database (ITPD) suite of products, built specifically for estimation and simulation of GE gravity models.¹⁴ These data include broad coverage of bilateral trade and domestic production values for 265 economies and 170 industries during 1988–2023.¹⁵ The model therefore uses 2023 as the baseline, the last year for

¹³ Details of this approach, including specifics of the first stage (estimation) and second stage (stimulation), can be found in [chapter 2](#). For a more technical description, see [appendix D](#).

¹⁴ Borchert et al., “The International Trade and Production Database for Estimation (ITPD-E),” August 2021; Larch et al., “ITPD-E-R03,” June 2025; Borchert et al., “Globalization, Trade, and Inequality: Evidence from a New Database,” November 2024.

¹⁵ For more details on data used in GE gravity model, see [chapter 2](#). USITC DataWeb/Census, accessed March 27, 2026; USDOC, BEA, “Input-Output (Before Redefinitions) Interactive Data Application. Make-use imports (before redefinitions), the use of commodities by industry, before redefinitions (producers’ prices),” accessed March 27, 2026.

which data needed to run the model are available. The GE model—as well as the PE model described below—both use estimated AVE tariff rates.¹⁶

The Commission analyzed the impact of an alternative industry-level scenario in which PNTR treatment would be removed for a subset of NSPs with a five-year staging period, using a series of PE, industry-specific, forward-looking simulation models. For each selected NSP, the PE model estimates how the phasing-in of the tariffs would affect U.S. producers' shipments, sourcing of U.S. imports from different countries, and the average prices of the NSPs in the U.S. market, considering the time firms need to build physical capital.¹⁷ Industry-specific data from the Economic Census, the Manufactures' Shipments, Inventories, and Orders data, DataWeb, and the U.S. Bureau of Economic Analysis (BEA) 2017 Input-Output Detailed Use Tables are used to build the baseline of the models.¹⁸ The industry-specific PE models of a subset of NSPs use data from the 2022 Economic Census, updated to 2024 with data from the Manufactures' Shipments, Inventories, and Orders data on U.S. shipments and the Commission's DataWeb data on trade, and other inputs.¹⁹ Because 2024 is the most recent year available across all required data, it was chosen as the baseline year for the PE analysis.²⁰ The PE models only require data on trade and production for the United States in specific industries; the GE model requires complete trade and production data across all countries and industries. Because of these less restrictive data requirements, the PE model can use a more recent baseline year of 2024.

The GE and PE models provide a structured way to isolate the effects of revocation of China's PNTR status by holding all other economic factors constant. Both models consider only counterfactual changes for U.S. duties applied to Chinese imports and do not consider retaliation or other hypothetical changes in policy. Neither model forecasts the future economy or incorporates broader trends such as productivity growth, inflation, demographic change, or shifts in global demand.

Although no model can perfectly capture all aspects of the economy, the models used in this report reflect some of the most recent technical innovations and features of the economic literature available to the Commission under the time constraints of this study. These models chosen allow for disaggregation at a detailed industry level and estimation of changes in U.S. trade, production, prices, and product sourcing. Some structural simplifications shape the GE model's results. For example, the model does not formally include capital or investment dynamics, which means it cannot explicitly capture how firms might face capacity constraints in the short run or expand or upgrade capacity in response to new market conditions. Instead, the GE model uses a method to approximate dynamic

¹⁶ For more details on construction of ad valorem equivalents, see [appendix F](#).

¹⁷ These models are described in detail in [chapter 4](#). For a more technical description, see [appendix E](#).

¹⁸ For more details on data used in PE simulation models, see [chapter 4](#). USITC DataWeb/Census, March 6, 2026.

¹⁹ Details about the NSP PE models' data inputs are presented in [chapter 4](#). Census, 2022 Economic Census, Sales, value of shipments, or revenue, December 2024; USDOC, BEA, "Input-Output Accounts Data: The Use of Commodities by Industry, After Redefinitions (Producers' Prices)," accessed March 27, 2026; CISA, "Critical Infrastructure Sectors," accessed March 31, 2026. Census, M3 Survey, "Value of Manufacturers' Shipments for Industry Groups," Monthly Full Report on Manufacturers' Shipments, Inventories and Orders December 2025, February 23, 2026.

²⁰ Namely, U.S. producers' shipments are available for 2024 but are only coarsely approximated for 2025. For more details on data used in PE simulation models, see [chapter 4](#).

effects in a static model.²¹ In other words, although the model allows production to expand on the basis of estimated trade elasticities, it is agnostic about whether that expansion is due to increased capacity utilization or new investment (either from domestic or foreign sources, e.g., through reshoring).^{22 23}

Additionally, labor is assumed to be mobile between industries, U.S. and other countries' total trade balances are fixed as a share of each country's income (though allowed to change among a country's trading partners), and the model does not include currency fluctuations or a financial sector. As a result, because of the assumption of labor mobility, the model may understate the short-term challenges some sectors or workers could face and may overstate the speed or ease with which gains accrue in expanding industries.²⁴ The GE model also treats all industries similarly, with limited ability for tailored features beyond industry-specific initial production and trade values, supply of intermediate inputs, use of intermediate inputs and labor in production, and estimated substitutability. Finally, the choice of 2023 as the baseline year may impact the size of the estimated effects because Chinese trade shares were smaller in 2025. Using a more recent baseline year, the effects of PNTR status revocation would be expected to be smaller in magnitude.

The PE models of NSP industries focus on the impact of phasing in the new tariffs and capital adjustment lags (the time it takes for firms to increase capital) over time, and they are simplified in other areas. The industry-specific PE models do not attempt to estimate economy-wide effects and do not consider potential uncertainty associated with the trade policy changes.²⁵ The models provide illustrative examples and do not estimate the effects of removal of PNTR treatment on the full set of NSPs because no such set exists.

²¹ This method allows the model to indirectly capture growth in production, including through growth in investment. See [appendix D](#).

²² Commissioner Karpel observes that this means that the model does not constrain investment including so-called "tariff-jumping" investments that would reshore some production in response to increased tariff rates, even if the model does not specifically measure increased investment.

²³ As explained in their additional views, Chairman Doyle and Commissioner Kearns believe that the economy-wide model underestimates the potential for capital investment from the column 2 tariff shock, including "tariff-jumping" investments. This is because investment that might only take place when importing reaches a cost-prohibitive level would not be captured by a linear approximation of the investment that occurred at relatively lower tariff levels during the 2000-2023 time period from which the model's "trade elasticities" are generated, particularly when there was limited certainty about any additional tariffs imposed during that time. In their additional views, they also discuss other limitations of the economy-wide model. See Additional Views of Chairman Brett W. Doyle and Commissioner Jason E. Kearns.

²⁴ Details on the GE gravity model and the associated limitations are presented in [chapter 2](#).

²⁵ Details on the PE models and the associated limitations are presented in [chapter 4](#).

History of Normal Trade Relations and China

After the General Agreement on Tariffs and Trade (GATT) entered into force on January 1, 1948, the United States provided normal trade relations (NTR)²⁶ status to all its trading partners, including China, as part of its implementation of the agreement.²⁷ In 1951, Congress directed the President to suspend NTR status for any nation or area controlled by a communist government.²⁸ On August 1, 1951, President Harry S. Truman subsequently suspended NTR status for such countries, including China.²⁹

A provision of the Trade Act of 1974, known as the Jackson-Vanik amendment, disallows NTR status being granted or restored to any nonmarket economy country that prohibits or substantially restricts free emigration of its citizens through certain means.³⁰ The provision allows the President to grant NTR status to a nonmarket economy country if the President determines, and reports as such to Congress, that the country is no longer imposing the emigration prohibitions or restrictions at issue.³¹ Additionally, it authorizes the President to waive the free emigration requirements and extend NTR status to a nonmarket economy country if the President determines that doing so will substantially promote the objectives of the statute.³² The President's waiver authority expires in July of each year but may be extended on an annual basis if the President determines and reports to Congress that an extension will substantially promote the aforementioned objectives.³³ Congress can, by joint resolution, disapprove the President's waiver authority; if such a joint resolution is not passed within 60 days of the expiration of the waiver authority, it continues automatically.³⁴ These provisions are frequently referred to collectively as Title IV of the Trade Act of 1974.

On December 15, 1978, the United States and China announced that the two countries would formally recognize each other and establish official diplomatic relations.³⁵ Soon thereafter on October 23, 1979, President Jimmy Carter signed Executive Order 12167, which granted China a waiver under the Trade Act of 1974 and established NTR subject to an annual extension of the waiver and the potential

²⁶ When the United States implemented the GATT in 1948, it afforded most-favored-nation (MFN) treatment to all its trading partners. In 1998, Congress passed the Internal Revenue Service Restructuring and Reform Act, which included a provision that replaced "MFN" with "NTR" throughout U.S. law. The remainder of this report will subsequently use NTR exclusively. Internal Revenue Service Restructuring and Reform Act of 1998, Pub. L. No. 105-206, § 5003, 112 Stat. 685, 789-790.

²⁷ GATT, arts. 1, 26(6); Provisional Application of the General Agreement, 1947.

²⁸ Trade Agreements Extension Act of 1951, Pub. L. No. 82-50, § 5, 65 Stat. 72, 73.

²⁹ Trade Agreements Extension Act of 1951, giving effect to sections 5 and 11, Presidential Proclamation 2935, 16 Fed. Reg. 7635 (August 4, 1951).

³⁰ Trade Act of 1974, Pub. L. No. 93-618, § 402, 88 Stat. 1978, 2056 (codified as amended at 19 U.S.C. § 2432).

³¹ 19 U.S.C. § 2432(b).

³² 19 U.S.C. § 2432(c).

³³ 19 U.S.C. § 2432(d).

³⁴ 19 U.S. Code § 2193; Pub. L. No. 93-618, § 402, 88 Stat. 1978, 2056 (1974) (codified as amended at 19 U.S.C. § 2432(d)). Note that the specifics of section 2432(d) were amended in 1990 by Pub. L. No. 101-382, § 132(a)(1), 104 Stat. 629, 643. For further details on the changes, see 19 U.S.C. § 2432 notes.

³⁵ USDOS, Office of the Historian, "Address by President Carter to the Nation," December 15, 1978; Joint Communiqué on the Establishment of Diplomatic Relations between the United States of America and the People's Republic of China, January 1, 1979.

disapproval of Congress.³⁶ Numerous legislative attempts to disapprove or add conditions to China's NTR status between 1978 and 2000—while it was subject to annual waivers—ultimately failed.³⁷ As Congress debated the merits of making China's NTR status permanent, some legislators expressed concern that the removal of an annual review of China's NTR status—and subsequently the corresponding uncertainty—would incentivize U.S. firms to shift production to China.³⁸ Other members of Congress and congressional witnesses downplayed these concerns or even argued that the shift of status would have the opposite effect.³⁹ Some argued that annual review added enough uncertainty to be an irritant, though not enough for leverage in negotiations with China regarding major issues.⁴⁰

Ultimately, Congress passed a law in 2000 granting the President the authority to confer to China NTR status that was no longer subject to the conditionality of Title IV of the Trade Act of 1974, resulting in what is commonly referred to as permanent normal trade relations (PNTR) status.⁴¹ Under this authority, President George W. Bush issued a presidential proclamation that made NTR with China permanent, effective January 1, 2002.⁴² The granting of PNTR status was a part of the lead-up to China's accession to the World Trade Organization (WTO) on December 11, 2001.⁴³ The law also amended the Trade Act of 1974 by adding a temporary safeguard tool to restrict surges of imports from China and to require the Office of the U.S. Trade Representative (USTR) to publish an annual report to Congress

³⁶ Executive Order 12167 (1979); Proclamation 4697 (Oct. 23, 1979).

³⁷ In 1995, H.J. Res. 96, a joint resolution to disapprove renewal of China's waiver, was tabled in the House, thereby precluding any further disapproval action. During the next four years, resolutions of disapproval failed in the House. In 1996, H.J. Res. 182 was defeated by a vote of 141 to 286. In 1997, H.J. Res. 79 was defeated by a vote of 173 to 259. In 1998, H.J. Res. 121 was defeated by a vote of 166 to 264. In 1999, H.J. Res. 57 was defeated by a vote of 170 to 260. H.R. Rep. No. 106-632, at 10 (2000).

³⁸ 106 Cong. Rec. H3596 (daily ed. May 23, 2000) at 3612, 3614, and 3598 (statements of Rep. Major Owens and Rep. Dana Rohrabacher expressing concern about U.S. manufacturing shifting to China and yielding trade enforcement to the WTO).

³⁹ *U.S. Consideration of Permanent Normal Trade Relations with China: Hearings before the S. Comm. on Finance*, 106th Cong. 39 (2000) (statement of Steve Van Andel that PNTR would help U.S. businesses conduct business in China and thus help U.S. workers); *Permanent Normal Trade Relations for China (PNTR): Hearing before the H. Comm. on Banking*, 106th Cong. 15-16 (2000) (statement by Rep. Edward Royce that PNTR would help reform China and improve standards), 21 (statement by Sec. Lawrence Summers that PNTR would not limit the United States's options, but rather limit China's options for restricting U.S. trade), 22 and 29 (statement by Sec. Lawrence Summers that PNTR would not shift manufacturing from the United States to China, but rather shift investment from elsewhere in Asia to China); *Permanent Normalized Trade Relations with the People's Republic of China: Hearing before the S. Comm. on Commerce*, 106th Cong. 35 (2000) (statement by Sec. William Daley that PNTR would not put additional pressure on the U.S. textile sector); *Permanent Normalized Trade Relations for China: Hearing before the H. Comm. on Banking*, 106th Cong. 100 (2000) (submission by The Business Roundtable that PNTR would allow a specific firm to return manufacturing to Kansas from China).

⁴⁰ *Permanent Normalized Trade Relations for China: Hearing before the H. Comm. on Banking*, 106th Cong. 6 (2000) (statement by Sec. Lawrence Summers).

⁴¹ Pub. L. No. 106-286, §§ 101–102, 114 Stat. 880, 881–882 (2000).

⁴² *To Extend Nondiscriminatory Treatment (Normal Trade Relations Treatment) to the Products of the People's Republic of China*, Proclamation 7516, 67 Fed. Reg. 479 (Jan. 4, 2002).

⁴³ USDOS, "China: WTO Accession and Permanent Normal Trade Relations (PNTR)," May 4, 2000.

regarding China's WTO compliance.⁴⁴ These continuing USTR reports have frequently highlighted Chinese noncompliance with its obligations under the WTO.⁴⁵

Overview of 21st-Century Trade Between the United States and China

The history of bilateral trade between the United States and China dates to the 18th century, but consistent trade between the two countries was not established until the last quarter of the 20th century.⁴⁶ Until 1999, trade values remained under \$100 billion annually.⁴⁷ Since then, U.S. trade with China (goods and services) has grown significantly ([figure 1.2](#)). Between 2000 and 2025, the value of U.S. exports to China increased nearly eightfold (from \$21.8 billion to \$162.6 billion) and the value of U.S. imports from China increased almost threefold (from \$103.2 billion to \$331.9 billion). U.S. exports to China peaked in 2024 at \$198.3 billion, and U.S. imports from China peaked in 2022 at \$561.7 billion. China's share of U.S. imports grew from 7.3 percent in 2000 to a peak of 18.3 percent in 2015, before declining to 7.7 percent by 2025. In a similar trend, China's share of U.S. exports increased from 2.2 percent in 2000 to a peak of 8.9 percent in 2017, then decreased to 5.3 percent by 2025.

⁴⁴ Pub. L. No. 106-286, §§ 103, 421, 114 Stat. 880, 882, 903 (2000) (codified as amended at 19 U.S.C. § 2451, and 22 U.S.C. § 6951, respectively); CRS, *Permanent Normal Trade Relations and U.S.-China Tariffs*, 1, May 14, 2025.

Section 2451 was omitted pursuant to section 2451b(c), which provided that this part ceased to be effective 12 years after the date of entry into force of the Protocol of Accession of the People's Republic of China to the WTO.

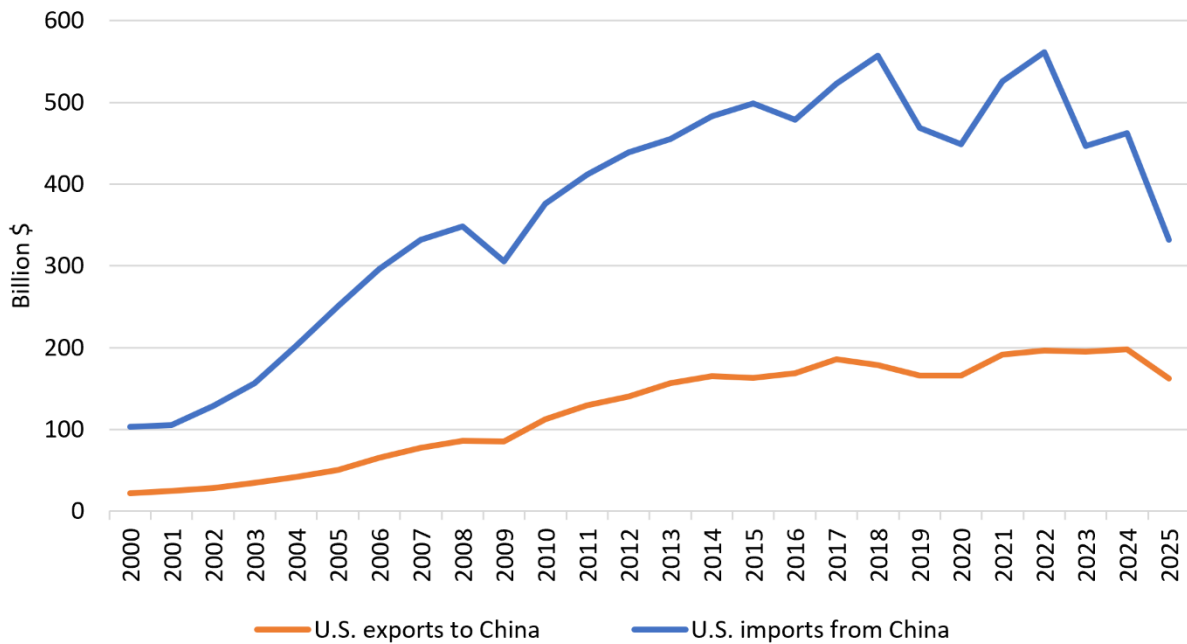
⁴⁵ CRS, *Permanent Normal Trade Relations and U.S.-China Tariffs*, 1, May 14, 2025; See, e.g., USTR, *2010 Report to Congress on China's WTO Compliance*, 10–14, December 2010.

⁴⁶ USDOS, U.S. Embassy to China, "History of the U.S. and China," June 15, 2018.

⁴⁷ USITC DataWeb/Census, accessed June 22, 2026. UDSOC, BEA, table 3.3, "U.S. International Trade in Services by Area and Country, Not Seasonally Adjusted Detail," accessed June 5, 2026.

Figure 1.2 U.S. imports and exports of goods and services with China, 2000–2025

In billions of U.S. dollars. Underlying data for this figure can be found in appendix [table G.1](#).

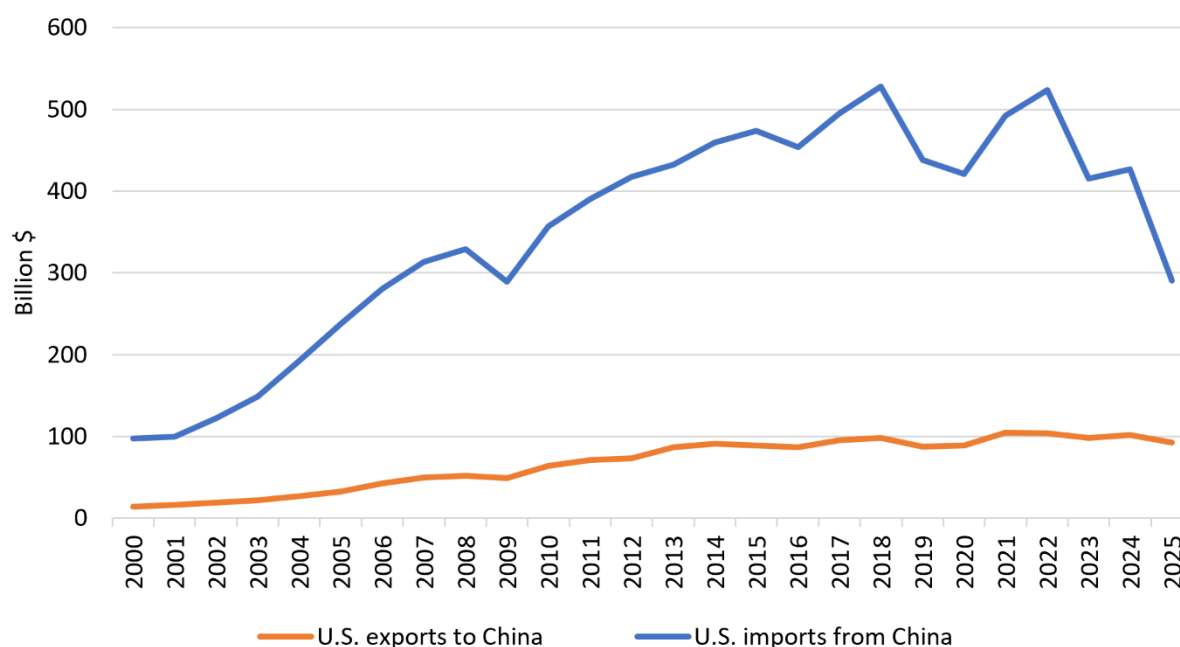


Source: USITC DataWeb/Census, total exports and general imports; accessed June 22, 2026. UDSOC, BEA, table 3.3, “U.S. International Trade in Services by Area and Country, Not Seasonally Adjusted Detail,” accessed June 5, 2026.

Most U.S.-Chinese trade in goods and services is concentrated in the manufacturing sector. More than 94 percent of total U.S. imports from China between 2000 and 2018 were in manufactured goods; by 2024, the share of U.S. imports from China that were manufactured goods fell below 92 percent and dropped further to 88 percent (or \$290.6 billion) in 2025. [Figure 1.3](#) shows the value of U.S. imports from and exports to China of manufactured goods. Both increased, but imports showed a much higher growth in value than exports, resulting in a manufacturing trade deficit that peaked most recently in 2022 and has been declining since.

Figure 1.3 U.S. imports and exports of manufactured goods with China, 2000–2025

In billions of U.S. dollars. Underlying data for this figure can be found in appendix [table G.2](#).



Source: USITC DataWeb/Census, total exports and general imports; NAICS 31, 32, and 33; accessed June 22, 2026.

Report Organization

The remainder of this report is organized into three chapters. [Chapter 2](#) analyzes the impact on the U.S. economy of revoking PNTR treatment for all products from China, using the economy-wide GE gravity model of trade and production for six years after implementation and in the long run. It includes a summary of findings, a detailed description of the model and data, and selected results describing the economy-wide effects of revoking China's PNTR status.

[Chapter 3](#) analyzes the impact of revoking PNTR treatment for all products from China on directly and most affected industries primarily by highlighting the impact on three such industries as illustrative of the broader category of directly and most affected industries. The chapter describes how the industries were selected and presents the impacts on U.S. trade, production, prices, and product sourcing in each of the selected industries. This chapter concludes with a section examining the impact of removing PNTR status on housing and construction costs and an overview of additional industries that would be impacted by PNTR status revocation.

[Chapter 4](#) examines an alternative scenario where Congress revokes PNTR status with a five-year phase-in of tariffs on a subset of NSPs using PE models. This chapter describes how industries producing NSPs were selected, provides analysis of these industries, describes the key sources of supply, and provides some qualitative analysis of the effects that would likely occur under the tariff phase-in scenario of PNTR status revocation.

Chapter 2: Economy-Wide Effects of PNTR Status Revocation

This chapter provides a prospective economic analysis of the impact of revoking permanent normal trade relations (PNTR) treatment for all products from China on U.S. trade, prices, production, and product sourcing at the economy-wide level over a six-year period. The analysis employs a general equilibrium (GE) gravity model customized to reflect how U.S. production may respond to the tariff change and to generate predictions over a six-year period.⁴⁸ The analysis presented in this chapter isolates the impact of revoking PNTR treatment for all products from China and estimates how that would affect various outcomes such as trade, prices, production, and product sourcing. The analysis does not factor in other policy changes that have occurred or may occur that could affect those outcomes as well, unless those policies and their effects are present in the baseline data.

Summary of Findings

Revoking PNTR treatment on all products from China would increase the relative price of these imports and would significantly reduce imports from China (30.8 percent decrease in import value in the sixth year following PNTR status revocation relative to the baseline).⁴⁹ It also would induce U.S. consumers to increase sourcing from domestic suppliers (0.5 percent increase in domestic shipment value in the sixth year) and previously higher-priced non-China foreign suppliers (3.4 percent increase in import value from all other import sources in the sixth year), such as Mexico, Taiwan, and Vietnam.⁵⁰

These demand and sourcing shifts would result in increases in U.S. consumer prices for both import-competing industries and import-dependent industries (1.0 percent increase in the sixth year).⁵¹ In import-competing industries, domestic producers would face reduced competition from Chinese goods that are now more expensive because of tariffs, which allows domestic producers to raise prices and

⁴⁸ The GE gravity model is a model of trade and production that belongs to a class of quantitative trade models used widely in academic and policy settings. For more detail, see [appendix D](#); Eaton and Kortum, “Technology, Geography, and Trade,” 2002; Yotov et al., *An Advanced Guide to Trade Policy Analysis*, November 2016.

⁴⁹ Modeling results that form the basis of this chapter’s quantitative predictions are presented in comparison to 2023 baseline values, which are referred to as the “baseline” or the “2023 baseline” throughout this chapter. The year 2023 was selected as the baseline because of the availability of a full range of trade and production data across countries and industries and because policy shifts were relatively minimal in 2023, facilitating isolation of the effect of PNTR revocation.

⁵⁰ This chapter uses the term “total U.S. shipments” or “total shipments” to refer to the nominal value of a U.S. industry’s shipments to domestic and export markets, excluding any freight and excise taxes. “U.S. domestic shipments” or “domestic shipments” are the U.S. industry’s shipments to other facilities or consumers located in the United States. Changes in real output refer to changes in U.S. total shipments, adjusted by the removal of the contribution of changes in producer prices. Changes in real output approximate changes in the U.S. quantity of production.

⁵¹ Import-competing industries are those that produce goods or services that directly compete with imports. Import-dependent industries are those that rely on imports as inputs into production. For further discussion on industry-specific effects, see [chapter 3](#). For full information on model results for all industries, see [appendix H](#).

increase production. In import-dependent industries, tariff-driven price increases in upstream intermediate goods would result in increased production costs that can lead domestic producers to raise prices and often decrease production. Workers would reallocate from shrinking industries into expanding industries and, as demand for domestic production and labor increases in the aggregate, the economy-wide nominal wages of workers also would increase.

Stronger relative U.S. demand for domestic production would increase total U.S. shipments (0.5 percent increase in the sixth year) and decrease total U.S. imports (0.5 percent decrease in import value in the sixth year). Higher input and production costs would lead to a decrease in real output (0.3 percent decrease in the sixth year) and a decrease in U.S. export competitiveness (0.8 percent decrease in U.S. exports in the sixth year).⁵² Across broad sectors, manufacturing would see the largest price increases (2.1 percent increase in the sixth year), the steepest reduction in imports from China (41.7 percent decrease in the sixth year), the largest increase in domestic shipments (1.2 percent increase in the sixth year), and largest increase in imports from alternative foreign sources (4.9 percent increase in the sixth year) as the sector with the most exposure to trade with China and the tariff change.

In the long run, when the U.S. economy can fully adjust, total U.S. imports would fall 1.8 percent; U.S. imports from China would fall 73.8 percent; and U.S. domestic shipments would increase 0.6 percent relative to the baseline. These shifts highlight significant reallocation away from China to domestic and alternative foreign suppliers. The long-run estimated price effects (0.7 percent increase) are less dramatic than in the short run as consumers and firms complete their adjustments to new suppliers.⁵³ Relative to the baseline, total U.S. shipments would increase 0.3 percent and real output would decline by 0.2 percent, reflecting the impact of smaller long-run price increases paired with a less dramatic long-run reduction in economy-wide output as U.S. firms reconfigure supply chains in the wake of higher production costs. Across broad sectors, manufacturing would experience a real output gain (0.1 percent) in the long run, whereas other sectors (agriculture, mining and energy, and services) would find the increase in input costs—due to increases in both intermediate input prices and wages—to outweigh any positive output effect from reduced import competition.

Modeling Methodology

The economic impacts of revoking PNTR treatment on all products from China were estimated using a GE gravity model of trade and production. This quantitative framework integrates empirical estimates of industry-level trade responsiveness over time with a multicountry, multisector simulation model that predicts how an immediate and complete change in U.S. tariffs on Chinese imports from HTS column 1 rates to column 2 rates across all industries would change prices, trade, production, and sourcing decisions in the U.S. economy over a six-year period. The modeling strategy estimates effects for many

⁵² Predicted output effects are consistent with other assessments of PNTR revocation that also find economy-wide output losses in the short run and the long run. Oxford Economics, *The Impact of China PNTR Repeal and Increased Tariffs*, November 2023; Hogan et al., “Economic Implications of Revoking China’s PNTR Status,” September 20, 2024.

⁵³ Long-run estimated price effects reported in this chapter are consistent with other assessments of PNTR revocation that find that long-run reallocation dampens peak price effects. Oxford Economics, *The Impact of China PNTR Repeal and Increased Tariffs*, November 2023; Hogan et al., “Economic Implications of Revoking China’s PNTR Status,” September 20, 2024.

industries present in the underlying trade and production data, which are aggregated up to economy-wide indexes using observed trade and market shares from the underlying data. The economic analysis in this chapter focuses on economy-wide effects; predicted effects at the industry level are discussed in [chapter 3](#).

Likely Economic Effects of the Tariff Increases

Revoking PNTR treatment for all products from China would be expected to raise the prices of affected goods, significantly reduce imports of goods from China, increase production costs in U.S. industries that rely on those goods as inputs, and shift sourcing patterns toward domestic suppliers and alternative foreign producers. Higher input costs would likely reduce U.S. export competitiveness. Reduced competition from China would allow some import-competing domestic industries to raise prices and expand production. At the economy-wide level, these forces would likely put upward pressure on consumer and producer prices and would likely lead to small declines in real output as the economy adjusts to higher costs and trade and sourcing relationships reconfigure. Economy-wide price increases and output losses are likely to be larger in the short run (when adjustment is more constrained) than in the long run (when sourcing can fully adjust); trade effects would likely be smaller in the short run than in the long run.

Description of the Analytical Approach

To assess the economy-wide effects of revoking PNTR treatment for products from China, the Commission employed a two-stage quantitative framework that links observed historical patterns in global trade to an economy-wide model of trade and production.⁵⁴ The first stage employs an empirical gravity model that uses trade data, production data, bilateral tariffs, and other standard gravity model inputs to estimate tariff-based trade elasticities for each individual industry across all country pairs. The first stage also uses the empirical gravity model to estimate economy-wide adjustment in estimated trade elasticities within different time horizons, ranging up to six years, and in the long run using the full sample of trade and production data. Industry-level elasticities are combined with economy-wide adjustment patterns to produce industry-specific trade elasticities over different lengths of time.⁵⁵ These estimated trade elasticities measure the responsiveness to increased trade costs of the overall economy and each industry over different lengths of time, ensuring that the model reflects the speed at which

⁵⁴ For more details on the analytical approach, see [appendix D](#). See [chapter 1](#) for an overview of the differences between this model and the partial equilibrium models used in [chapter 4](#).

⁵⁵ For more detail on the empirical gravity model used in this investigation, see [appendix D](#). For more detail on the empirical gravity model generally, see Yotov et al., *An Advanced Guide to Trade Policy Analysis*, November 2016. For more detail on estimating tariff-based trade elasticities, see Fontagné et al., “Tariff-Based Product-Level Trade Elasticities,” 2022; Caliendo and Parro, “Trade and Welfare Effects of NAFTA,” 2015; Anderson and Yotov, “Short Run Gravity,” September 2020; and Anderson and Yotov, “Gravity in Transition,” March 2025.

firms and consumers adjust their sourcing behavior. Trade responsiveness over different lengths of time is impacted by a variety of demand-driven and supply-driven factors.⁵⁶

The second stage incorporates these measures of trade responsiveness over time into a multicountry, multisector GE gravity simulation model. This model accounts for direct and indirect effects and evaluates the broad impact of changes in tariffs on trade, production, prices, and product sourcing.⁵⁷ To estimate economic effects, this model requires complete bilateral trade and production data and leverages additional information from international input-output tables for additional key model parameters.⁵⁸

In the simulation framework, industries rely on labor and a wide range of tradable intermediate inputs. Labor is mobile across industries, and intermediate inputs are sourced from a broad basket of domestic and imported varieties across a range of industries. When U.S. tariffs on imports from China increase following PNTR status revocation, the cost of affected goods rises. Firms that use these goods as inputs may face higher production costs; consumers may see higher prices of final goods. At the same time, higher tariffs shift sourcing patterns toward domestic suppliers or alternative foreign producers. As some domestic industries change production because of reduced import competition and higher intermediate input costs, the model predicts that workers would move from shrinking industries to expanding industries. These adjustments feed through supply chains, affecting production, trade, and prices across all industries. The degree to which these adjustments occur depends on the responsiveness of trade as measured by the trade elasticity, which may vary by industry.

The simulation model is a gravity-based trade model that belongs to a class of quantitative trade models used extensively in the economics literature.⁵⁹ This model is well suited to study changes in trade policy: Recent academic studies have used similar models to study numerous types of trade policies.⁶⁰ The

⁵⁶ These factors are captured in the first-stage estimation to the extent that such factors (e.g., speed of investment, excess capacity, and delays in reorienting supply chains) can be identified from historical changes in bilateral trade flows within a given range of time. See [appendix D](#) for more information on the empirical strategy for estimating time-varying trade responsiveness.

⁵⁷ Direct effects refer to the immediate impact tariffs have on the prices of imported goods. Indirect effects refer to impacts that filter through the broader economic environment (via general prices, costs, income, and expenditures).

⁵⁸ The trade and production data for simulation require additional steps to be taken to produce a complete bilateral trade matrix by addressing missing values. Input-output tables provide information on the supply and use of intermediates by industry. For more detail, see [appendix D](#).

⁵⁹ For a technical description of the model, see [appendix D](#). For further information on this class of models, see Eaton and Kortum, “Technology, Geography, and Trade,” 2002; Anderson and van Wincoop, “Gravity with Gravitas,” 2003; Arkolakis et al., “New Trade Models, Same Old Gains?,” 2012; Yotov et al., *An Advanced Guide to Trade Policy Analysis*, November 2016.

⁶⁰ Such as free trade agreements, China’s Belt and Road Initiative, and Brexit, among others. Anderson and Yotov, “Terms of Trade,” 2016; Baier et al., “On the Widely Differing Effects of Free Trade Agreements,” 2019; Caliendo and Parro, “Trade and Welfare Effects of NAFTA,” 2015; Kohl, “The Belt and Road Initiative’s Effect,” 2019; Brakman et al., “Consequences of Brexit,” 2018.

Commission has also used similar models in previous reports to study trade barriers with Cuba and the economic impact of maximum residue limits.⁶¹

To simulate the economy-wide effect of revoking PNTR status on products from China, the Commission estimated the ad valorem equivalent (AVE) tariff rate for all tariff subheadings for both the general column 1 tariff rates available to all trading partners with PNTR status, as listed in the *Harmonized Tariff Schedule of the United States* (HTS), and column 2 duty rates, which are the higher tariff rates applicable to goods from trading partners to whom the United States does not accord PNTR status.⁶² These differences between column 1 and column 2 duty rates are used to specify a counterfactual change in trade costs across sectors in the economy. The counterfactual tariffs reflect an immediate and complete change of U.S. tariffs on imports of all products from China from current column 1 levels to column 2 rates.⁶³ The model is simulated six times to produce estimates in year one compared to the baseline, in year two compared to the baseline, and so on, with an additional simulation reflecting long-run outcomes when the economy can fully adjust to the change in trade costs.⁶⁴ Modeling results that form the basis of this chapter's quantitative predictions are presented in comparison to 2023 baseline values, which are referred to as the "baseline" or the "2023 baseline" throughout this chapter. Although the analysis focuses on the effect of changing tariffs on imports from China from column 1 to column 2 rates, tariff policy in and before 2023 (such as additional tariff actions applied on imports from China) is accounted for in the baseline trade data to the extent this tariff policy has shaped 2023 trade flows.

Model Inputs

Two sets of data inputs are used in estimation and simulation. The first stage uses trade and production data during the years 2000–2023 from the 2025 Revision of the International Trade and Production Database for Estimation (ITPD-E).⁶⁵ The ITPD-E is a global database of trade and production covering 265 countries, 153 goods industries, and 17 services industries that generally follow the International Standard Industrial Classification of All Economic Activities (ISIC) versions 3.1 and 4.0, spanning 1988–

⁶¹ USITC, *Overview of Cuban Imports*, March 2016; USITC, *Global Economic Impact of Missing and Low Pesticide Maximum Residue Levels*, Vol. 2, January 2021.

⁶² An AVE tariff rate expresses any tariff (whether originally specific, mixed, or compound) as a percentage of import value. This standardization allows tariffs to be consistently compared across products and incorporated into the gravity model. For the gravity model, AVEs are calculated using total import value from all countries. See [appendix F](#) for the methodology used to compute AVEs for column 1 and column 2 tariffs.

⁶³ As described in [chapter 1](#), this report's analysis of PNTR revocation uses comparisons of column 1-general and column 2 duty rates specified in chapters 1–97 of the HTS, excluding consideration of modifications to duty rates specified in chapter 99.

⁶⁴ The Commission performed the long-run simulation to examine the impact of removal of PNTR status of all imports from China once the U.S. economy adjusts fully, even if that takes longer than six years. Long-run elasticity estimates allow for consistent comparisons between this report and other GE approaches to conducting quantitative trade policy analysis, including past studies examining PNTR revocation and other Commission investigations. Oxford Economics, *The Impact of China PNTR Repeal and Increased Tariffs on the US Economy and American Jobs*, November 2023; Hogan et al., "Economic Implications of Revoking China's PNTR Status," September 20, 2024; USITC, *U.S.-Mexico-Canada Trade Agreement: Likely Impact*, April 2019; USITC, *Economic Impact of Trade Agreements*, June 2021.

⁶⁵ Borchert et al., "The International Trade and Production Database for Estimation (ITPD-E)," August 2021; Larch et al., "ITPD-E-R03," June 2025.

2023.⁶⁶ The ITPD-E is well suited for the first-stage estimation because it has consistently constructed and detailed industry-level trade and production information, wide country and time-series coverage, and comprehensive coverage of all sectors in the economy.⁶⁷ These data are combined with data on bilateral tariff rates calculated as AVEs, sourced from the United Nations Conference on Trade and Development (UNCTAD) Trade Analysis Information System (TRAINS) database, and other standard gravity controls, sourced from the Dynamic Gravity Dataset (such as bilateral distance and indicators for whether two countries share a border, a language, or colonial history).⁶⁸

The second-stage simulation model takes trade elasticity estimates from the first stage as key parameters in combination with several other data inputs. Trade and production data for 2023 are sourced from the 2025 Revision of the International Trade and Production Database for Simulation (ITPD-S).⁶⁹ The year 2023 was chosen as the baseline year of the simulation model because that was the most recent year for which complete data were available (the 2025 revisions of the ITPD-E and ITPD-S extend only to 2023) and because tariffs in 2023 experienced much less variation during that year than in 2025, providing a more defined annual baseline. The ITPD-S takes ITPD-E trade and production data and uses a variety of methods to fill and estimate missing values to provide a complete bilateral trade matrix.⁷⁰ To measure the use of intermediate inputs in production by sector and the supply of intermediate inputs to international and domestic markets by sector and country, the simulation model uses the 2025 release of the Organisation for Economic Co-operation and Development (OECD) international input-output tables and the International Trade and Production Database by End Use (ITPD-U).⁷¹ These allow the model to incorporate some supply chain linkages.

Model Estimates

The model produces estimated changes in prices, production, trade, and product sourcing from a baseline year of 2023 over a six-year period following an immediate and complete change of U.S. tariffs on all products from China from column 1 to column 2 rates of duty. The section also documents the changes in prices, production, trade, and product sourcing in the long run when full adjustment can take place. The model produces results for each of the 170 goods and services industries and each country in

⁶⁶ The estimation uses a sample of 241 countries that accounts for all goods trade during 2000–2023.

⁶⁷ For more information on why the ITPD-E database is well suited for empirical gravity estimation, see Borchert et al., “The International Trade and Production Database for Estimation (ITPD-E),” August 2021; Larch et al., “ITPD-E-R03,” June 2025.

⁶⁸ Gurevich and Herman, “The Dynamic Gravity Dataset,” February 2018; UNCTAD, TRAINS database, accessed January 2, 2026.

⁶⁹ Borchert et al., “Globalization, Trade, and Inequality: Evidence from a New Database,” November 2024.

⁷⁰ A complete bilateral trade matrix (i.e., no missing values) is required to estimate the simulation model. For more information on this, see Borchert et al., “Globalization, Trade, and Inequality: Evidence from a New Database,” November 2024.

⁷¹ The ITPD-U segments trade and domestic shipment value for the 153 goods industries in the ITPD-E into consumer, intermediate, and capital goods categories based on the underlying end use. This is used to identify the share of intermediate supplied by ITPD goods industry. OECD input-output tables are used to identify the share of intermediates supplied by ITPD services industry, and also the share of intermediates used by each ITPD industry. OECD, “OECD Inter-Country Input-Output (ICIO) Tables,” 2026, accessed April 28, 2026; Jones et al., “Determinants of Intermediate Goods Trade,” February 2026.

the trade and production data. The estimated effects across industries vary and reflect differences in Chinese trade, domestic production and market size, and trade responsiveness (which captures both demand- and supply-driven factors). Industry-level results are summarized at the economy-wide level and at broad sectoral levels.⁷² The results reported in the respective sections below focus on U.S. outcomes.

Model Limitations

The GE model used to estimate the economy-wide effects provides a structured way to isolate the effects of moving from the application of column 1 to column 2 rates of duty on imports from China, but it does so by holding all other economic factors constant. For example, inflation is considered to be zero for each year examined. It is not a forecast for the future U.S. economy and does not incorporate broader trends such as productivity growth, demographic change, or shifts in global demand. The model does not consider any other U.S. or foreign trade action, including potential retaliatory tariff action. Additionally, the choice of 2023 as the baseline year may impact the size of the estimated effects because the share of Chinese imports in the U.S. economy was smaller, for example, in 2025. If a more recent baseline year were to be used, the effects of PNTR status revocation would likely be smaller in magnitude as a result of the smaller share of Chinese imports in the U.S. economy in those years. Furthermore, the model is focused on estimating the effects of revoking PNTR status for China and does not estimate the effect of that policy change in conjunction with any other policy changes such as the trade actions that occurred in 2025 and 2026.

Another limitation of the model is that some structural simplifications shape the results. The model assumes that workers can move freely between jobs and the overall labor participation rate remains unchanged, which precludes frictions in labor markets such as retraining needs, relocation barriers, or periods of unemployment that may slow worker adjustment. As a result, the model may understate the short-run challenges some sectors or workers could face across the economy and may overstate the speed or ease with which gains accrue in expanding industries. Additionally, the model does not distinguish between U.S. regions and therefore cannot account for differences in local trade exposure or identify disparate effects across U.S. regions in response to the trade shock.

The model does not include currency or a financial sector and, therefore, reports only changes in real exchange rates (or relative prices) and not nominal exchange rates. The model also treats economy-wide trade imbalances of countries or economies as fixed shares of gross domestic product, meaning an economy's total nominal income is a fixed share of its total nominal expenditure. This limits each economy's ability to adjust through changes in savings or borrowing—although nominal (monetary) aggregate trade balances in absolute terms can adjust as prices and quantities adjust. In the model, U.S. and other countries' total trade balances are fixed as a share of each country's income; however, the distribution of trade across different trading partners is allowed to change.

The absence of formal dynamic features is another limitation of the model. Because it does not incorporate such features, the model cannot explicitly capture any production capacity constraints in

⁷² Economy-wide prices are indexes of industry-level price indexes, weighted by total U.S. expenditure in each industry. For the broad sectors, the 170 industries are aggregated into four categories: agriculture, mining and energy, manufacturing, and services. For more detail on aggregation, see [appendix D](#).

the short run or potential expansion or capacity upgrades over time in response to new market conditions. Instead, the model uses historical trade data to estimate the time required for total bilateral trade to adjust to changes in trade costs in order to approximate a timeline of model outcomes over six years. The resulting estimates reflect a set of reduced-form, time-varying trade elasticities that embed all factors that would impact adjustment to a change in bilateral trade costs through bilateral trade capacity, which might include investment in marketing or destination-specific capital, long contracts or other sourcing frictions, or uncertainty about policy duration. None of these channels are explicitly built into the model, but their combined influence is captured in the estimated responsiveness of trade flows at each time horizon, which is applied uniformly across industries to adjust the estimated industry-specific elasticities and generate six-year adjustment paths. These elasticities therefore represent an empirical approximation of dynamic adjustment rather than structural model parameters tied to specific mechanisms. For example, although the model does not explicitly capture how revocation of PNTR may affect investment in new capacity, the elasticity estimates factor in the effect of investment in new capacity that would take place in response to tariff changes over the period modeled.

Economy-Wide Effects of PNTR Status Revocation

This section presents the modeling results for the U.S. economy, specifically the changes in prices, production, trade, and product sourcing from a baseline year of 2023 following an immediate and complete change of U.S. tariffs on all products from China from column 1 to column 2 rates of duty. The model produces estimates over a six-year period and in the long run, when trade and production can fully adjust to the change. Summary effects for U.S. prices, total shipments, real output, total imports, and imports from China are reported in [table 2.1](#). U.S. prices would rise (1.0 percent increase in the sixth year from the baseline); total shipments would increase (0.5 percent in the sixth year) and U.S. real output would decline modestly (0.3 percent in the sixth year) as higher prices on intermediate inputs and higher wages for U.S. workers raise domestic production costs. Adjustment in sourcing patterns would be substantial, with a large, predicted reduction in U.S. imports from China (30.8 percent decrease in the sixth year) replaced by alternative foreign suppliers and domestic production. Despite these shifts, total U.S. imports would decline only modestly (0.5 percent decrease in the sixth year), and U.S. exports would fall (0.8 percent decrease in the sixth year) as higher production costs make U.S. goods less competitive in international markets.

Table 2.1 Summary of economic effects relative to 2023 baseline

In percentages, based on values. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in the column header compared to the baseline.

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Consumer prices	0.8	0.9	1.0	1.0	1.0	1.0	0.7
Intermediate input prices	1.0	1.1	1.1	1.2	1.2	1.2	0.8
Total shipments of domestic producers	0.1	0.2	0.3	0.4	0.4	0.5	0.3
Real output	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2
Total exports	-0.1	-0.2	-0.3	-0.5	-0.6	-0.8	-2.7
Total imports	-0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-1.8
Imports from China	-6.5	-11.3	-16.5	-21.6	-26.3	-30.8	-73.8

Source: USITC estimates.

Note: 2023 was selected as the baseline year for the economy-wide models as the most recent year in which all necessary data were available. Total shipments of domestic producers includes their U.S. shipments and exports.

Impact on U.S. Prices

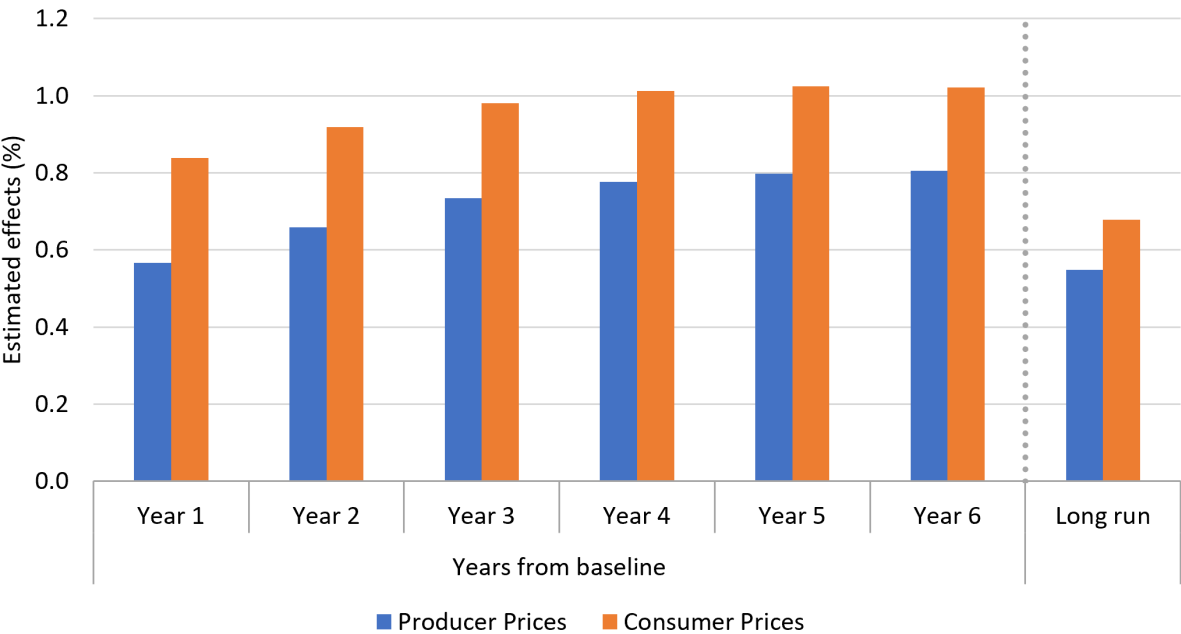
The revocation of PNTR treatment for all products from China leads to higher consumer and producer prices in the United States ([figure 2.1](#)). Consumer prices reported here summarize the prices paid by U.S. consumers (both households and producers purchasing inputs) across imported and domestic goods. Producer prices reported here summarize the prices received by U.S. producers for goods and services sold across foreign and domestic markets, net trade and transportation costs, otherwise known as the factory gate price.⁷³ Consumer prices in the first year increase by about 0.8 percent relative to the baseline prices and increase by about 1.0 percent relative to baseline prices in subsequent years, remaining above baseline levels even after the economy can fully adjust in the long run.⁷⁴ This means that the main impact on prices occurs in the first year after the tariff shock—with smaller price increases in subsequent years—and the long-run impact is smaller than the impact in the first six years. The producer price increase (less than 0.6 percent in the first year relative to the baseline) is smaller in magnitude than consumer price effects because under the model U.S. producers do not face higher tariffs in export markets like U.S. consumers face when buying imported goods.

⁷³ Producer prices are mathematically an index summarizing prices received by U.S. producers for sales made across all foreign and domestic markets. The simulation considered here has no change in trade costs applied to U.S. interstate trade or U.S. exports, so it is identical to the factory gate price in this simulation.

⁷⁴ The model is not dynamic; therefore, economic effects in each year are not additive but are separately estimated relative to the baseline year.

Figure 2.1 Change in U.S. producer and consumer price indexes relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown in horizontal axis labels compared to the baseline. Underlying data for this figure can be found in appendix [table G.3](#).

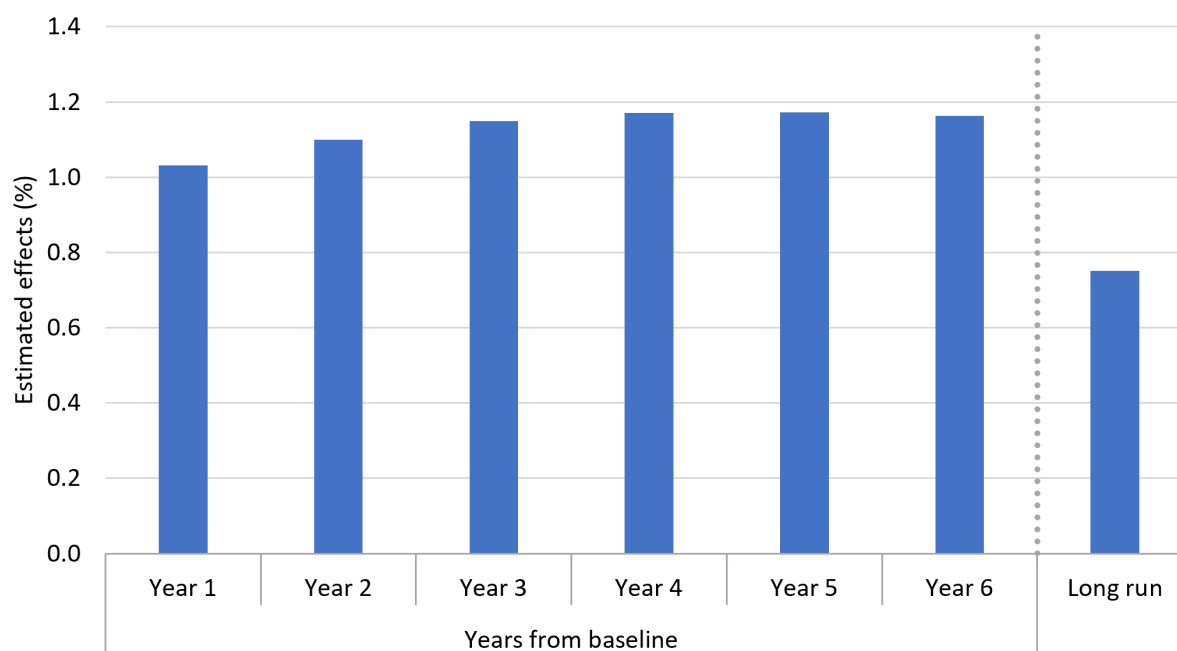


Source: USITC estimates.

The predicted increase in prices for intermediate inputs (about 1 percent in the first year) is larger than the increase in consumer prices ([figure 2.2](#)). This result is due to a relatively high reliance on imports from China in intermediate goods such as parts, industrial materials, and machinery. Manufacturers would be most strongly impacted by the increased intermediate input costs, both because they use many imported inputs and because tariff increases are concentrated in manufacturing categories. These higher intermediate input costs would feed into the prices of final goods and services across the economy, including in sectors that do not trade heavily with China nor see a large tariff increase on their inputs or competing imports of final goods from China.

Figure 2.2 Change in U.S. intermediate input price index relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown in the column header compared to the baseline. Underlying data for this figure can be found in appendix [table G.4](#).



Source: USITC estimates.

The pattern of the predicted price effects in figures 2.1 and 2.2 over time reflects how the U.S. economy adjusts gradually to higher tariffs on imports from China. In the short run, firms and consumers would have limited ability to change sourcing decisions, adjust how they organize production, or quickly substitute away from affected imports. As a result, the predicted first-year price increases mainly capture the direct effect of tariffs on Chinese goods and the most immediate cost increases for firms that rely heavily on those imports.

Over the following years, however, more of the U.S. economy would become exposed to higher costs. As producers adjust sourcing and shift toward more expensive domestic or alternative foreign suppliers, the additional costs of these substitutions accumulate and spread throughout supply chains. Manufacturing industries that rely heavily on imported intermediates would drive much of this continued pressure, though non-manufacturing industries would also see production costs and output prices increase because of sourcing changes. Taken together, the national price indexes would rise further in years two through six—but to a lesser degree than in the first year—peaking about five years after the tariff increase ([figure 2.1](#)).

In the long run, the price effects would become more muted because the economy has had time to fully reconfigure around the new tariff environment. The model reflects the actions of consumers and firms to gradually adapt through new sourcing patterns and reallocation of production and economic activity, and these adjustments would reduce some of the initial bottlenecks that arise when tariffs first go into effect. As supply chains settle into new patterns and domestic and foreign suppliers expand output, the upward pressure on prices would ease. Prices would remain above pre-tariff levels, but the long-run

increases would be smaller than those observed during the first six years.⁷⁵ In this sense, the long-run outcomes would reflect an economy that has fully absorbed the shock, rather than one still working through the costly transition away from Chinese goods and inputs.⁷⁶

Impact on U.S. Production

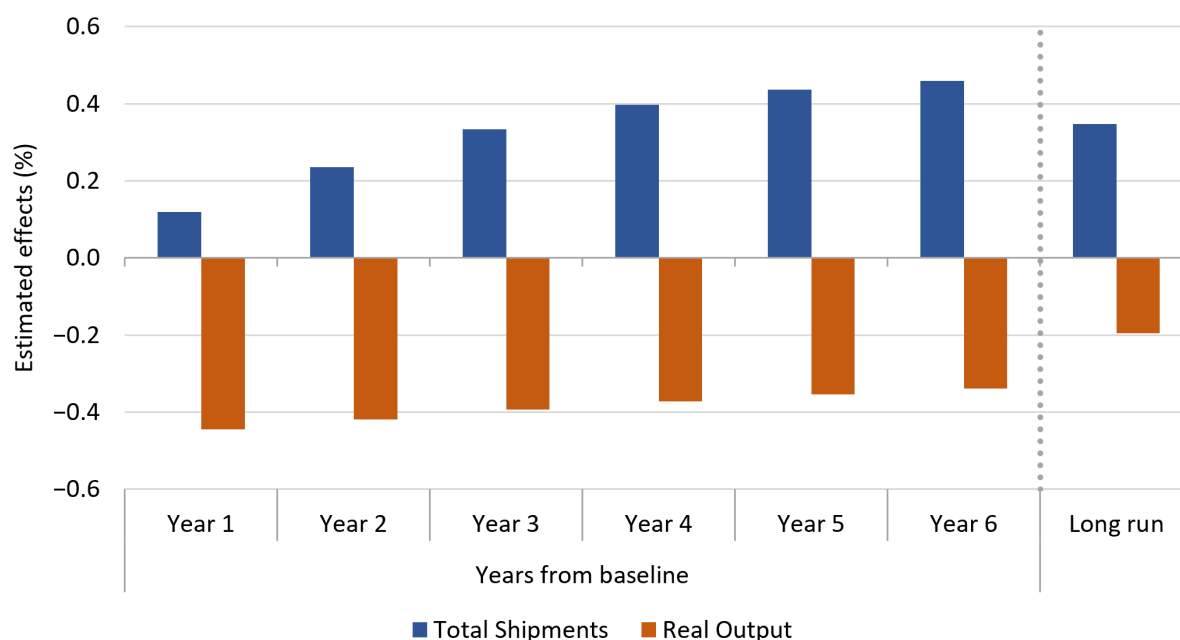
The model predicts that U.S. production would respond unevenly across industries following the revocation of PNTR treatment on products from China because each industry relies on Chinese inputs to a different degree and faces different levels of competition from Chinese goods. U.S. industries that directly compete with Chinese imports, especially in manufacturing, would benefit from stronger domestic demand as imports become more expensive and these industries expand their total shipments and real output. At the same time, U.S. industries that depend heavily on imported intermediate inputs would face higher production costs (either because of new tariffs or in substituting to other, previously higher-priced, sources) that would dampen their ability to expand and, in many cases, reduce total shipments and real output. Economy-wide real output would be lower in each year compared to the baseline (0.4 percent lower in the first year and 0.3 percent lower in the sixth year) as the widespread increase in input costs through higher intermediate input prices and higher wages would raise production expenses and outweigh the gains in a subset of import-competing industries ([figure 2.3](#)). Therefore, although some domestic industries would benefit from substitution away from Chinese goods, the increase in production costs would dampen total U.S. production.

⁷⁵ This is consistent with previous studies of PNTR revocation that find economy-wide price effects moderate over time following an initial spike. Oxford Economics, *The Impact of China PNTR Repeal and Increased Tariffs*, November 2023; Hogan et al., “Economic Implications of Revoking China’s PNTR Status,” September 20, 2024.

⁷⁶ This can also be seen in the gap between consumer and producer price indexes ([figure 2.1](#)). The U.S. producer price index increase is driven by the increased production costs due to higher tariffs on inputs. U.S. consumers face higher prices on both imports (imports directly subject to tariffs and higher-priced alternative foreign sources) and domestic goods. Overall, this results in a larger increase in consumer prices. In the short run, the gap between consumer and producer price effects is large because consumers cannot fully shift away from Chinese goods subject to tariffs. In the long run, consumers more fully substitute away from China and face less of a tariff burden.

Figure 2.3 Change in U.S. total shipments and real output relative to 2023 baseline

In percentages, shipments based on values. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown in the column header compared to the baseline. Underlying data for this figure can be found in appendix [table G.5](#).



Source: USITC estimates.

In the long run, when U.S. firms and U.S. consumers can more fully substitute away from goods subject to tariffs, the reduction in real output relative to the baseline would be smaller (0.2 percent decrease) and the increase in total shipments relative to the baseline would be tempered by a smaller price increase relative to the baseline (0.3 percent increase). Some industries, particularly in manufacturing, would see increases in real output in the long run (manufacturing output overall would increase by 0.1 percent in the long run relative to the baseline). However, for many industries that rely more heavily on imported intermediates and face less direct import competition from China, the increase in production costs would outweigh benefits of reduced import competition even when the economy fully adjusts. At the economy-wide level, the output losses across shrinking industries would outweigh the output gains across expanding industries, yielding a predicted decrease in total U.S. real output.⁷⁷

Impact on Trade and Product Sourcing

The revocation of PNTR treatment on products from China and resulting higher bilateral trade costs with China would reshape U.S. trade and sourcing patterns through two main channels: redirecting U.S.

⁷⁷ A modest long-run reduction in economy-wide real output following sharper short-run real output reductions is consistent with previous studies of PNTR revocation. Oxford Economics, *The Impact of China PNTR Repeal and Increased Tariffs*, November 2023; Hogan et al., “Economic Implications of Revoking China’s PNTR Status,” September 20, 2024.

sourcing away from China and increasing intermediate input costs that would affect the whole U.S. economy. The result would be a persistent reduction in import value from China, falling 30.8 percent (\$140.9 billion) in the sixth year compared to the baseline and 73.8 percent (\$337.9 billion) in the long run (figures 2.4 and 2.6), modest increases in imports from many other foreign suppliers ([table 2.2](#) and [figure 2.6](#)), and higher domestic consumption of U.S. production accompanied by a gradual decline in U.S. export competitiveness ([figure 2.7](#)).⁷⁸ At first, these sourcing shifts would be limited, but they would be larger in magnitude in later years relative to the baseline and eventually reflect the full adjustment of consumer and producer substitution patterns in response to the tariff change.

As sourcing from China contracts, domestic shipments to the U.S. market would rise and imports from a range of alternative foreign suppliers would expand. [Table 2.2](#) shows that U.S. imports from suppliers in Mexico, Vietnam, Taiwan, Japan, South Korea, and others would experience meaningful gains under the model results (\$3.5–\$18.3 billion in increased U.S. import value). At the same time, U.S. producers would fill a large part of the gap created by reduced Chinese import competition, leading to substantial increases in domestically consumed shipments over time (0.6 percent increase in the sixth year compared to the baseline, an increase of \$205.9 billion).

Table 2.2 Change in U.S. sourcing by supplier in the sixth year relative to 2023 baseline
In billions of dollars and percentages.

Supplier	Gain in shipment value (billions \$)	Percentage change (%)
United States	205.9	0.6
Mexico	18.3	3.6
Taiwan	12.5	12.6
Vietnam	12.4	10.4
Canada	7.0	1.5
Japan	6.9	3.4
South Korea	6.9	5.3
Germany	6.5	3.0
Thailand	5.5	8.8
India	4.7	3.8
Malaysia	3.5	6.6

Source: USITC estimates.

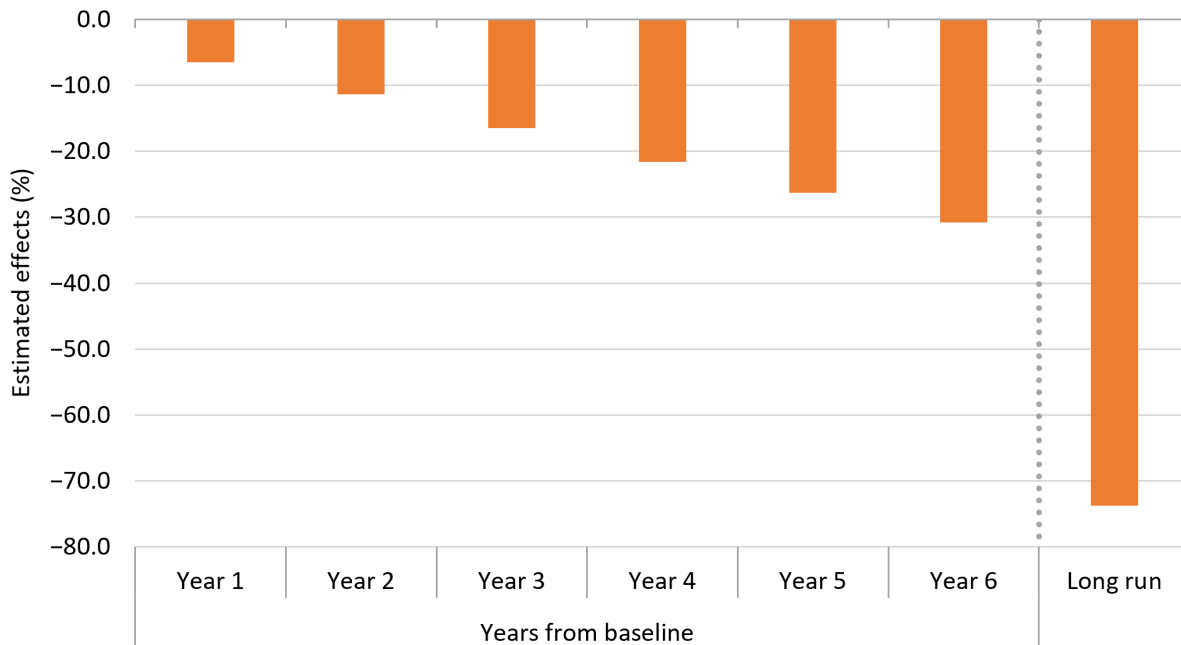
U.S. exports, however, would decline in each of six years compared to the baseline as U.S. producers raise their prices, in part, because of higher input costs that raise U.S. production costs relative to foreign competitors and, in part, because of reduced import competition from China, resulting in more U.S. goods being sold domestically. These price increases would occur in domestic and export markets, reducing the competitiveness of U.S. goods in world markets, contributing to declining exports over

⁷⁸ The magnitude of the predicted long-run reduction in Chinese imports and the finding that trade largely reallocates to alternative foreign suppliers, with some partial reallocation to domestic suppliers and small decreases in U.S. exports, are consistent with the results of previous studies of PNTR revocation. Oxford Economics, *The Impact of China PNTR Repeal and Increased Tariffs*, November 2023; Hogan et al., “Economic Implications of Revoking China’s PNTR Status,” September 20, 2024.

time.⁷⁹ The combination of lower exports ([figure 2.7](#)) and only mildly reduced overall imports ([figure 2.5](#)) would lead to a slight decrease in net import value (or the nominal trade balance), but the dominant pattern would be a reshuffling of trade partners and a reallocation toward the domestic market ([figures 2.6](#) and [2.7](#)).⁸⁰

Figure 2.4 Change in U.S. imports from China relative to 2023 baseline

In percentages, based on values. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown compared to the baseline. Underlying data for this figure can be found in appendix [table G.6](#).



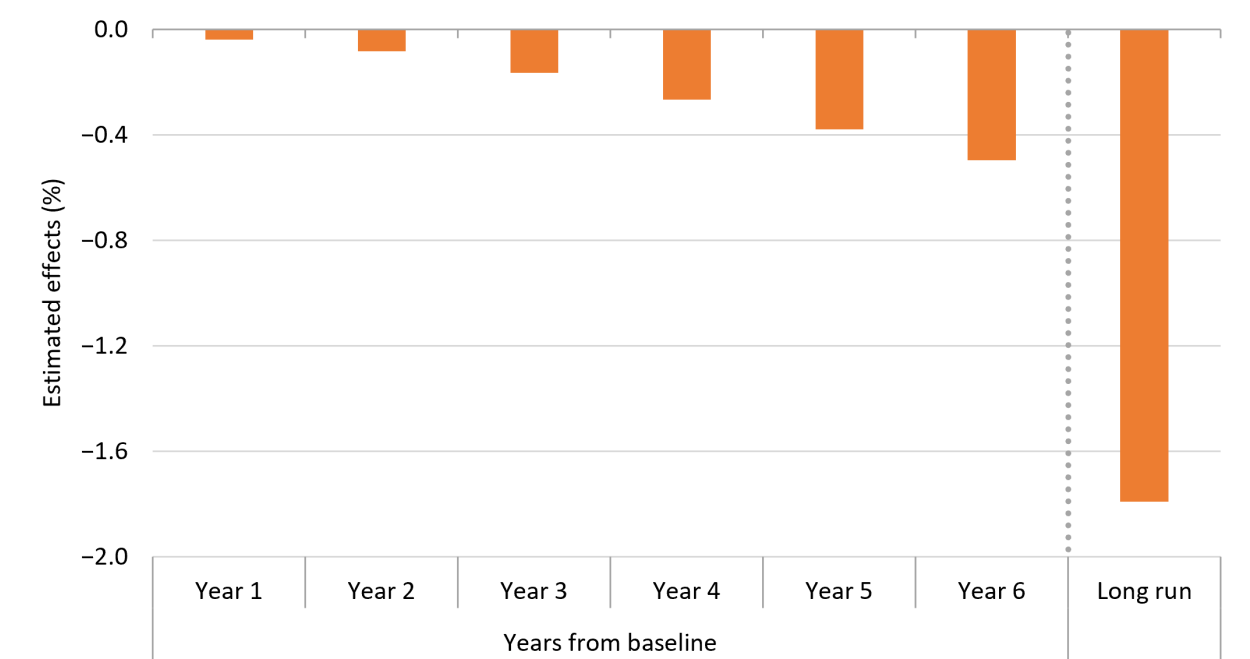
Source: USITC estimates.

⁷⁹ The reduction in U.S. exports over time is also related to limited reallocation in the short run. Although U.S. export competitiveness immediately suffers because of higher prices, foreign importers take time to respond and reallocate away from U.S. goods. The full effect is not realized until sourcing can fully adjust in the long run.

⁸⁰ As noted in the “Model Limitations” section, the model is static and the trade balance is fixed as a share of income. Therefore, this change in net imports follows from changes in economy-wide income and expenditure.

Figure 2.5 Change in total U.S. imports relative to 2023 baseline

In percentages, based on values. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown compared to the baseline. Underlying data for this figure can be found in appendix [table G.7](#).

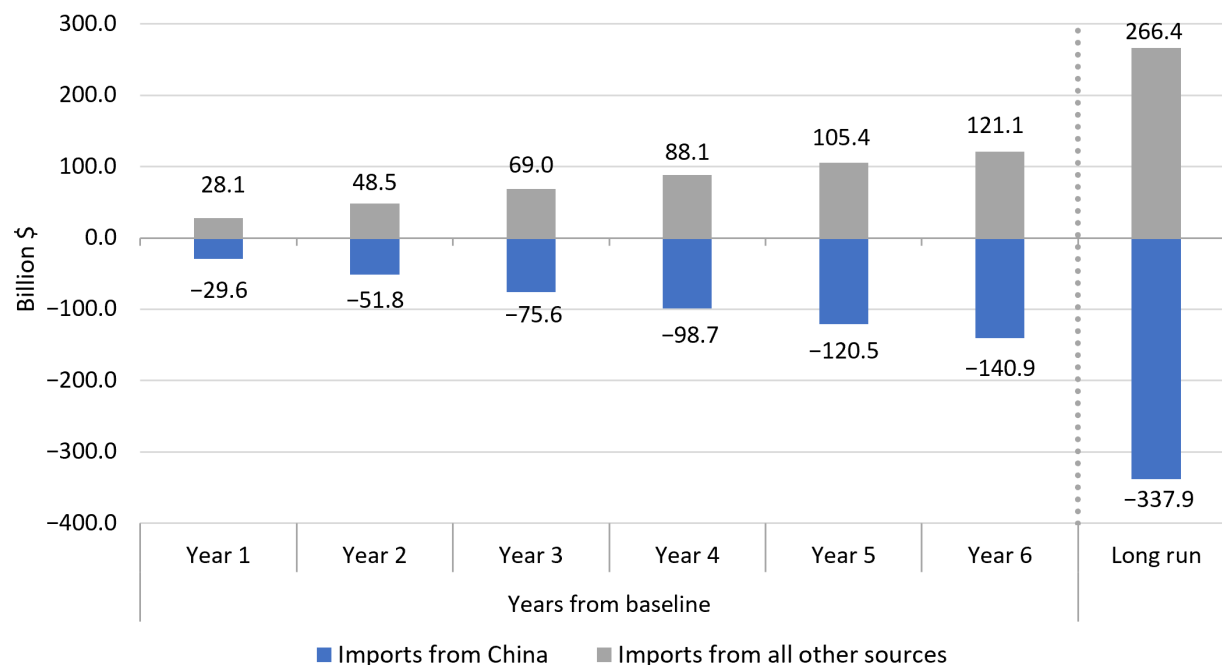


Source: USITC estimates.

Figure 2.6 Change in U.S. imports relative to 2023 baseline

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown compared to the baseline.

Underlying data for this figure can be found in appendix [table G.8](#).



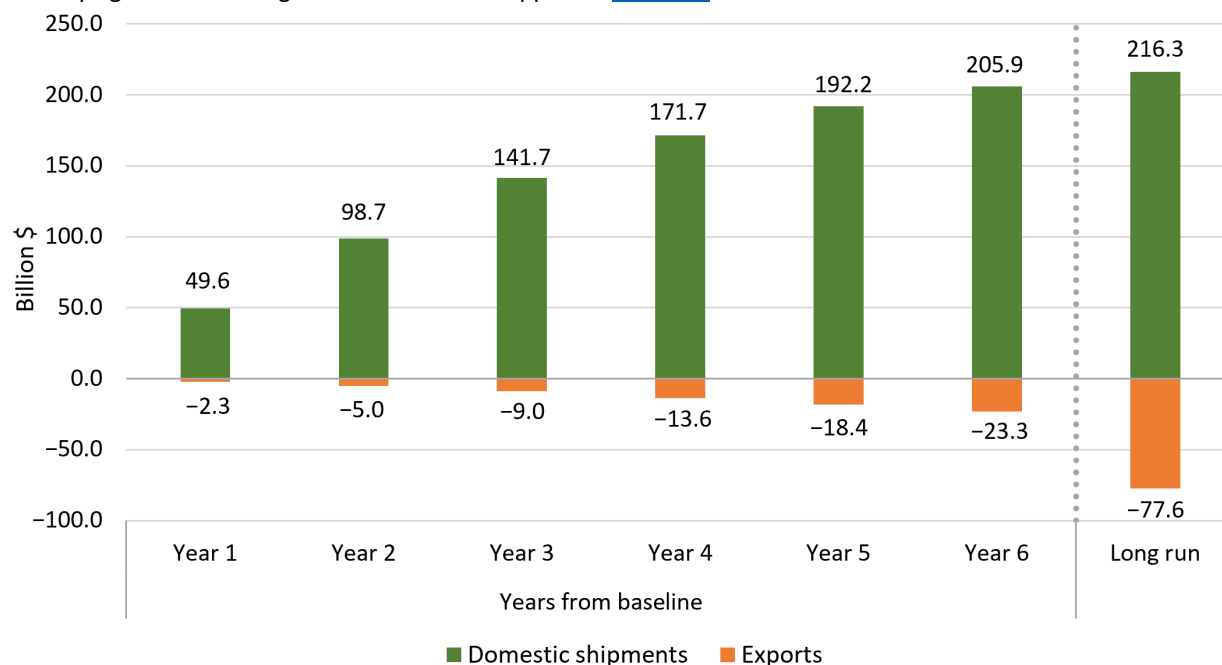
Source: USITC estimates.

Note: The column reported for each year depicts changes in U.S. imports by source (China or alternative foreign suppliers).

Figure 2.7 Change in U.S. producers' shipments relative to 2023 baseline

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown compared to the baseline.

Underlying data for this figure can be found in appendix [table G.9](#).



Source: USITC estimates.

Note: The column reported for each year depicts changes in U.S. production by where it is consumed (domestically or exported).

Impacts on Broad Sectors

The revocation of PNTR treatment on products from China would affect broad sectors of the U.S. economy—agriculture, mining and energy, manufacturing, and services—in different ways.⁸¹ The economic impacts would depend on how much each U.S. sector relies on imports from China as well as how higher input costs resulting from increased tariffs would spread through supply chains.⁸² Differences in exposure to Chinese imports and differences in the supply and use of intermediate inputs shape the predicted sector-specific effects of PNTR status revocation ([table 2.3](#)). These dynamics illustrate how the revocation of PNTR status would have effects that are felt differently across broad sectors of the U.S. economy; examining economy-wide indexes does not reveal the full story of the tariff shock.

⁸¹ These four broad sectors group the model's 170 industries in the following ways: agriculture contains industry codes 1–28, mining and energy contains industry codes 29–35, manufacturing contains industry codes 36–153, and services contains industry codes 154–70.

⁸² Broad sectoral results capture important differences that contribute to economy-wide effects. However, these broad sectors mask significant differences in underlying industries, of which there are many. See [chapter 3](#) for a discussion of individual industry-level results.

Table 2.3 Summary of economic effects by sector in the sixth year relative to 2023 baseline
In percentage change. Shipments and trade based on values.

Broad sector	Price	Total shipments	Domestic shipments	Real output	Total exports	Total imports	Imports from China	Imports from all other sources
Agriculture	0.8	0.4	0.5	-0.4	-0.1	0.5	-18.3	0.7
Mining & Energy	0.8	0.2	0.4	-0.6	-0.8	0.8	-1.6	0.8
Manufacturing	2.1	0.6	1.2	-0.4	-1.4	-1.0	-41.7	4.9
Services	0.8	0.4	0.5	-0.3	0.1	0.5	0.7	0.5

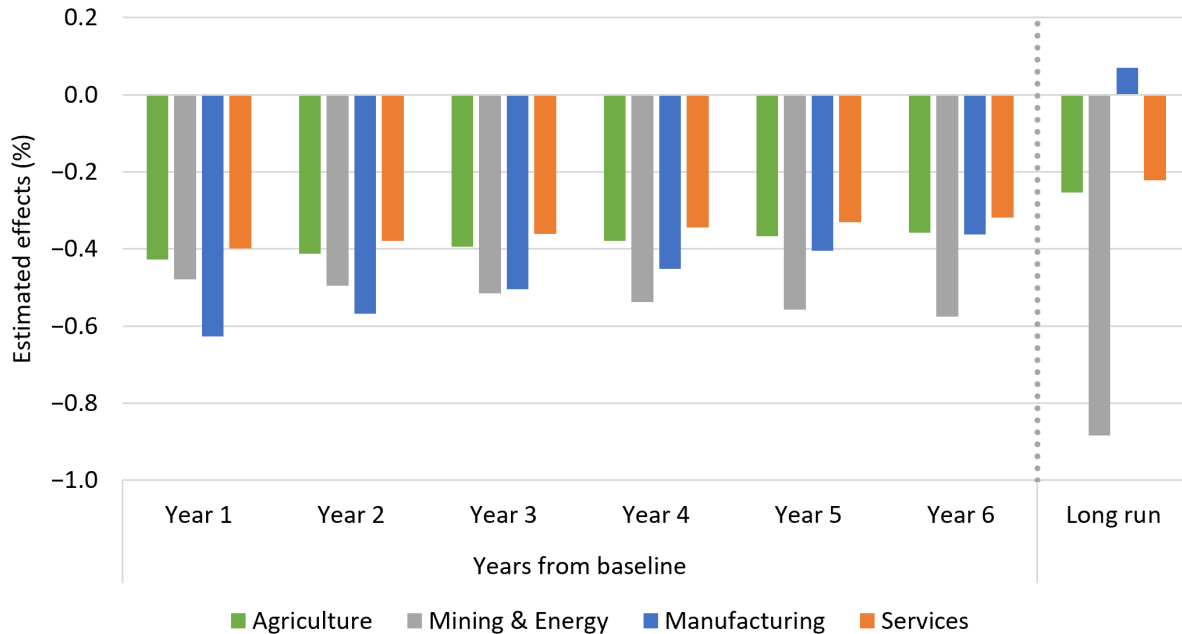
Source: USITC estimates.

Note: These four broad sectors group the model's 170 ITPD-E industries in the following ways: agriculture contains industry codes 1–28, mining and energy contains industry codes 29–35, manufacturing contains industry codes 36–153, and services contains industry codes 154–70.

U.S. manufacturing would bear the largest adjustment burden as a result of its deep integration with global input markets and more direct exposure to tariffs, whereas other sectors would experience more moderate changes. Across all sectors, higher input costs (via both intermediate goods inputs and nominal wages of U.S. workers) and shifting trade patterns would contribute to higher prices, lower real output, and reconfigured sourcing relationships in the sixth year compared to the 2023 baseline. In the long run, the manufacturing sector would expand real output slightly by 0.1 percent ([figure 2.8](#)) because the increase in production costs is moderated by full adjustment in sourcing patterns.

Figure 2.8 Change in real output by sector relative to 2023 baseline

In percentage change. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown in the column header compared to the baseline. Underlying data for this figure can be found in appendix [table G.10](#).



Source: USITC estimates.

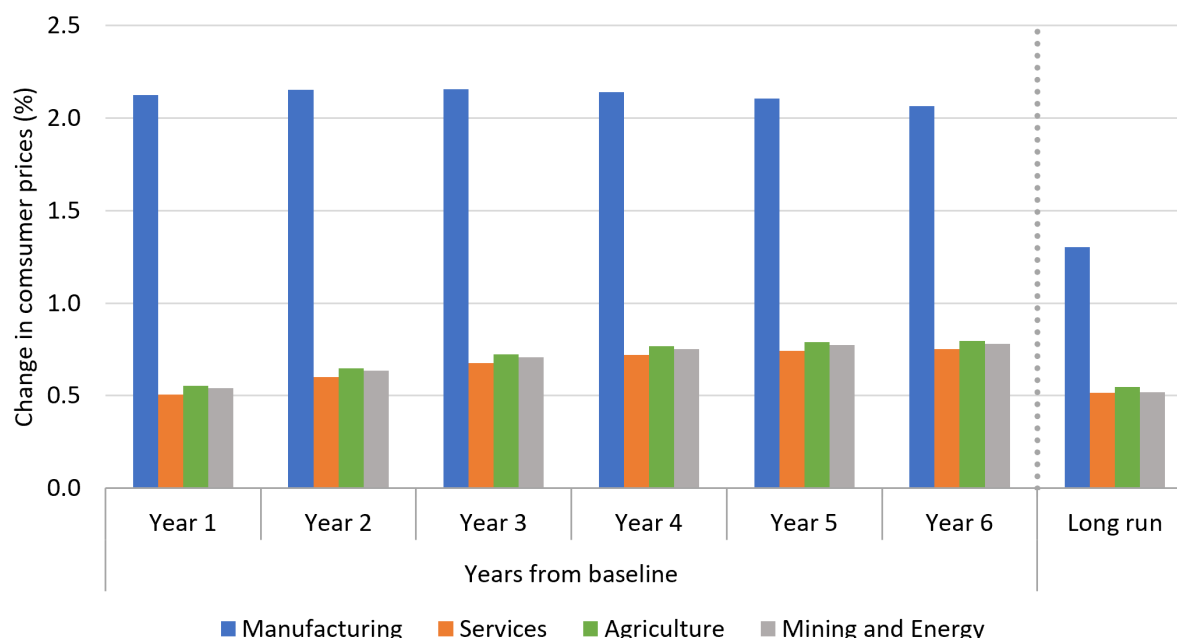
Note: These four broad sectors group the model's 170 ITPD-E industries in the following ways: Agriculture contains industry codes 1–28, mining and energy contains industry codes 29–35, manufacturing contains industry codes 36–153, and services contains industry codes 154–70.

U.S. manufacturing would experience the largest price increases of any sector ([figure 2.9](#)), rising by more than 2 percent in the sixth year compared to the 2023 baseline, because it is both most directly exposed to the tariff increases and most reliant on imported intermediate goods. By contrast, prices in agriculture, mining and energy, and services would rise more modestly and gradually (0.8 percent in each sector in the sixth year) because these sectors are less directly exposed to the tariff increases and relatively more impacted through rising intermediate input prices.⁸³ These predicted price patterns shape the broader economic response, because higher production costs would filter through industries at varying speeds and intensities.

⁸³ See the “Impact of Tariffs on Construction and Housing Costs” section in [chapter 3](#) for a discussion of impacts of revoking the PNTR status of China on construction services.

Figure 2.9 Change in U.S. consumer prices by sector in each year relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each bar represent the counterfactual values in the year shown in the column header compared to the baseline. Underlying data for this figure can be found in appendix [table G.11](#).



Source: USITC estimates.

Note: These four broad sectors group the model's 170 industries in the following ways: agriculture contains industry codes 1–28, mining and energy contains industry codes 29–35, manufacturing contains industry codes 36–153, and services contains industry codes 154–70.

U.S. production outcomes also differ across sectors ([table 2.3](#) and [figure 2.8](#)). Total shipments would increase in all broad sectors because domestic producers absorb some of the demand that shifts away from costlier Chinese imports. Yet, accounting for higher prices, real output would decline across all sectors. Real output in the services sector is the least affected because services prices rise relatively less than prices of goods sectors because the services sector is not directly impacted by the change in tariffs ([figure 2.8](#)). This change in the relative prices makes services relatively cheaper and increases the relative demand for services in both the U.S. and export markets.⁸⁴ However, despite the increase in relative demand, the services sector still faces rising prices on intermediate goods used in the supply of services, which depress real services output. The agriculture, mining and energy, and manufacturing sectors would experience slightly larger real output declines, reflecting the broader rise in input costs and reduced export competitiveness that affect the economy as a whole.⁸⁵

⁸⁴ The services sector does not face higher tariffs and, as such, would experience an improvement in the terms of trade (or the ratio of export prices to import prices) relative to other sectors (agriculture, mining and energy, and manufacturing) which receive higher tariffs (see [table 1.1](#)).

⁸⁵ As noted earlier, once the economy can fully adjust in the long run, the manufacturing sector would exhibit a slight increase in real output. When sourcing patterns can fully adjust, the manufacturing sector would gain slightly because it is the sector most directly exposed to import competition from China.

Trade patterns at the broad sector level would follow similar paths. Manufacturing shows the steepest predicted reduction in imports from China and the largest predicted increases in sourcing from alternative foreign suppliers, illustrating its central role in U.S.-Chinese bilateral goods trade through direct import competition and reliance on imported intermediates. Nonmanufacturing sectors would see much smaller shifts in sourcing because they compete less with and rely less on Chinese imports. Across all goods sectors, exports would fall modestly as higher production costs lead to higher industrial prices, which would reduce U.S. competitiveness in global markets. The reduction in exports would be sharper for the manufacturing sector, which would see the largest production cost increases, driving up the prices of U.S. products and hampering their global competitiveness. The services sector would see an increase in exports because services prices would not increase as much as goods prices, which would contribute to higher relative global demand for U.S. services.

Chapter 3: Directly and Most Affected Industries

This chapter provides a prospective economic analysis on U.S. trade, production, and prices in selected industries that would be among those directly and most affected by the immediate and complete revocation of permanent normal trade relations (PNTR) treatment of products from China (referred to throughout this chapter as “PNTR status revocation”). Most of the analysis of this chapter focuses on the impacts that PNTR status revocation would have on industries that compete in markets where imports from China are relatively large but would face significantly higher tariffs following the shift to column 2 duty rates. To demonstrate the range of impacts on these import-competing industries, the Commission selected three goods-producing industries that represent different broad manufacturing sectors, industry sizes, and supply chain positions: games and toys, technical textiles, and machine tools and power tools. Sections of the chapter covering these industries include contextual descriptions of the domestic and import sources of supply as well as the factors driving competition in those industries’ markets.⁸⁶ To examine the effects of PNTR status revocation on a services industry likely to be among the most affected, this chapter also analyzes the potential impacts of PNTR status revocation on residential construction, including an examination of how higher tariffs could impact the costs of material inputs used in construction. The chapter concludes with projections for a broader group of industries estimated to be those with the greatest increases and decreases in production as a result of PNTR status revocation.

Summary of Findings

Consistent with the economy-wide findings described in [chapter 2](#), higher tariffs resulting from PNTR status revocation would be likely to cause increases in consumer prices and decreases in imports from China in the three main goods-producing industries analyzed in this chapter in the sixth year following PNTR status revocation, relative to baseline levels.⁸⁷ As a result, each industry’s domestic shipments and

⁸⁶ Data accompanying these descriptions cover the period from 2022 to 2025, reflecting changes in each industry between the 2022 Economic Census (a key source of data used in this analysis) and the most recent year for which full-year data were available.

⁸⁷ Modeling results that form the basis of this chapter’s quantitative predictions are presented in comparison to 2023 baseline values, which are referred to as the “baseline” or the “2023 baseline” throughout this chapter.

real output would increase.⁸⁸ The extent of the predicted impacts of China PNTR status revocation for each industry would depend largely on the average tariff increase that would occur as a result of PNTR status revocation as well as the baseline level of imports from China in each market ([table 3.1](#)). Other factors affecting these impacts include the industry-specific responsiveness of trade to changes in tariffs and each industry's use of material inputs that could become more costly after PNTR status revocation.

Table 3.1 Summary of Chinese import penetration in 2023 and the differences in HTS column 1 and column 2 duty rates for selected directly and most affected industries
In percentages.

Industry description	Chinese import penetration (%)	Difference in column 1 and column 2 duty rates (%)
Games and toys	78.1	54.2
Technical textiles	6.0	57.8
Machine tools and power tools	9.2	30.8

Source: USITC estimates; USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025; USITC, *Harmonized Tariff Schedule of the United States (2023)*, Basic Edition, December 30, 2022.

Note: Chinese import penetration is the value of imports from China divided by the value of apparent U.S. consumption in 2023. The value of apparent U.S. consumption is estimated as the sum of U.S. imports and U.S. domestic shipments. The difference in column 1 and column 2 duty rates refers to average ad valorem percentage difference in column 1-general and column 2 duty rates specified in chapters 1–97 of the HTS, excluding consideration of temporary modifications to duty rates specified in chapter 99. See [appendix F](#) for a discussion of how column 1 and column 2 ad valorem equivalents are calculated in this investigation.

Imports from China supply most of the U.S. market for games and toys. If a much higher column 2 duty rate were to apply to those imports as a result of PNTR status revocation, the market for games and toys would take time to shift away from the dominant source of supply and toward other, much smaller sources. For this reason, imports of games and toys from China are estimated to be 11.7 percent lower than the baseline in the sixth year following PNTR status revocation, which is the smallest decrease among the industries examined ([table 3.2](#)). However, even this moderate decrease in imports from China would allow imports from other sources and domestic shipments to increase substantially.

⁸⁸ This chapter uses the term “total U.S. shipments” or “total shipments” to refer to the nominal value of a U.S. industry’s shipments to domestic and export markets, excluding any freight costs and excise taxes. For each industry, total shipments are estimated in this chapter using information from two databases provided by the U.S. Census Bureau (Census): the 2022 Economic Census and the Manufacturers’ Shipments, Inventories, & Orders (M3) survey using methods described in greater detail in the industry-specific sections below. U.S. export data come from U.S. domestic export statistics produced by Census. Domestic exports are exports of products that originate in the United States. “U.S. domestic shipments” or “domestic shipments” are the U.S. industry’s shipments to other facilities in the United States. U.S. domestic shipments are estimated in analyses in this chapter as the difference between total shipments and U.S. exports. Changes in real output refer to changes in the U.S. industry’s total shipments, adjusted to remove the contribution of changes in producer prices. Producer prices refer to the weighted average price received by U.S. producers for goods and services sold across foreign and domestic markets. Changes in real output approximate changes in the U.S. industry’s quantity of production. USITC DataWeb/Census, Imports for consumption, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, February 23, 2026; Census, “Census Glossary,” accessed April 23, 2026; Census, *Instruction Manual for Reporting on the Monthly M3 Survey*, March 18, 2024, 3; Census, “International Trade Definitions,” accessed April 29, 2026.

Domestic shipments of games and toys are predicted to be 35.6 percent higher in the sixth year relative to the baseline, contributing to an increase in real output of 12.8 percent. The domestic game and toy industry would grow relatively rapidly from a small base compared to the other industries covered in this chapter, although most of the U.S. market would likely remain supplied by imports (particularly from Vietnam). In addition, the higher tariffs applied on the largest source of supply in the market would cause consumer prices to increase by 34.8 percent—the highest predicted increase of the industries examined in this chapter—which would reduce real expenditure for these products.⁸⁹

Table 3.2 Comparison of estimated effects in selected directly and most affected industries in the sixth year relative to 2023 baseline

In percentages.

Industry description	Change in imports from China (%)	Change in imports from other sources (%)	Change in domestic shipments (%)	Change in real output (%)	Change in consumer prices (%)
Games and toys	-11.7	36.0	35.6	12.8	34.8
Technical textiles	-32.5	3.6	3.0	0.8	3.5
Machine tools and power tools	-14.0	2.9	2.5	0.0	3.8

Source: USITC estimates.

Imports of technical textiles from China would be subject to the most substantial increase in tariff rates of the three goods-producing industries examined as a result of PNTR status revocation. These imports would decrease by 32.5 percent from a relatively low base as the market adjusts toward other sources of supply relatively quickly. Because imports from China account for a low share of the technical textiles market, the growth opportunities for other sources of supply and the rise in consumer prices would be more muted than for the games and toys industry. Domestic shipments, which accounted for most of the U.S. market in the baseline, would increase by 3.0 percent in the sixth year following PNTR status revocation and real output would increase by 0.8 percent. The industry's growth opportunities would be limited in market segments by competition from imports from other countries (particularly Mexico and India). Some technical textile producers also consider it likely that they would face higher production costs as a result of higher tariffs on imported materials and equipment used in production, which could reduce investment incentives.

The impacts of PNTR status revocation on the machine tools and power tools industry would likely be more moderate than for the other two goods-producing industries examined in this chapter. As with technical textiles, China is one of several sources of imports of machine tools and power tools to a much larger U.S. market served largely by domestic shipments. As a result of PNTR status revocation, these imports would be subject to column 2 duty rates that are on average 30.8 percentage points higher ad valorem than column 1 duty rates, much lower than the tariff increases for the other two goods-producing industries examined. Imports from China would fall by 14.0 percent from the baseline in the sixth year following PNTR status revocation. Domestic shipments would increase by 2.5 percent: These would likely be primarily in market segments with the highest Chinese import penetration such as power tools, welding equipment, and certain machine tools. However, the industry's growth in real output is

⁸⁹ Changes in real expenditure refer to changes in the value of domestic and imported goods consumed in the U.S. market, adjusted to remove the contribution of changes in consumer prices. Changes in real expenditure approximate changes in the quantity of products consumed in a market.

expected to be minimal—less than 0.05 percent—in the sixth year after PNTR status revocation. The relatively minor predicted growth of this industry likely reflects the higher production costs due to additional tariffs on material inputs, which could hamper U.S. competitiveness in both U.S. and global markets.

Higher tariffs on imports from China would likely cause the cost of certain kinds of material inputs used in residential construction, particularly those where China is a major supplier, to increase. For example, imports from China account for 29.0 percent of lighting equipment imports from all sources, and PNTR status revocation would likely cause prices for those products to be 6.2 percent higher than baseline. Although PNTR status revocation is likely to impact costs of specific materials used in construction, imports from China account for only a small share of the total cost of residential construction or the price of housing. Therefore, the impact of higher consumer prices for these material inputs on residential construction is expected to be minimal.

Selection of Directly and Most Affected Industries for Analysis

This chapter focuses on the effects of the prospective policy change on three specific goods-producing industries: those manufacturing games and toys, technical textiles, and machine tools and power tools. In deciding which industries to highlight in this chapter, the Commission compiled a ranking of industries likely to be directly and most affected based on factors likely to lead to direct and relatively large effects of PNTR status revocation on import-competing industries. Two key factors, among others, were considered: the extent of Chinese import penetration in the U.S. market and the magnitude of changes in tariffs on imports from China if PNTR status were revoked.⁹⁰ The Commission then selected the three industries highlighted in this chapter from among the top 20 percent of industries in the ranking for the reasons described below.

Industries were defined using the 2025 revision of the International Trade and Production Database (ITPD) used in the gravity model.⁹¹ As described in [chapter 2](#), ITPD data are organized into 170 industries that generally follow the International Standard Industrial Classification of All Economic Activities (ISIC)

⁹⁰ Chinese import penetration is the value of imports from China divided by the value of apparent U.S. consumption. The value of apparent U.S. consumption is estimated as the sum of U.S. imports and U.S. domestic shipments. For purposes of industry selection in this investigation, apparent U.S. consumption and Chinese import penetration were calculated using 2021 trade data from the 2025 revision of the International Trade and Production Database for Estimation. The magnitude of changes in tariffs on imports from China is the difference between column 1 and column 2 duty rates as detailed in the 2023 *Harmonized Tariff Schedule of the United States* (HTS) on an ad valorem equivalent (AVE) basis. See [appendix F](#) for a discussion of how column 1 and column 2 AVEs are calculated in this investigation.

⁹¹ Borchert et al., “The International Trade and Production Database for Estimation (ITPD-E),” August 2021; Larch et al., “ITPD-E-R03,” June 2025.

versions 3.1 and 4.0. Of these, 153 ITPD industries produce goods and therefore compete in markets where a change in tariffs on competing imports may have a direct effect.⁹²

For each industry, the Commission calculated a ranking factor by multiplying the magnitude of tariff changes by Chinese import penetration.⁹³ Goods-producing industries were then ranked from highest to lowest, determined by the ranking factor. This approach allowed the Commission to identify U.S. industries competing in markets with larger tariff changes and higher dependence on imports from China. These markets would experience increased trade costs from the associated additional duties, leading to greater impacts on trade, production, and prices.⁹⁴

The three goods-producing industries covered in this chapter were in the top 20 percent of industries according to this ranking. The Commission selected these industries to assess how PNTR status revocation would affect industries at different stages of the supply chain (consumer, intermediate, and capital goods), in distinct broad sectors where imports from China are most common (consumer discretionary products, textiles and apparel, and machinery), and of varying sizes and levels of segmentation. Specifically:

- Games and toys manufacturing (ITPD industry 152) covers a group of consumer discretionary products with the highest Chinese import penetration and among the highest differences in duties of any ITPD industry.⁹⁵ The U.S. games and toys industry is relatively small, so this analysis allows for an examination of the impacts of PNTR status revocation on a domestic industry that competes in a market largely dominated by imports.
- Technical textiles manufacturing (ITPD industry 58) covers a group of specialized textile products (e.g., waterproof and flame-resistant fabrics) that are intermediate goods within supply chains with significant Chinese import competition at every production stage.⁹⁶ This analysis also considers how higher tariffs on imports from China would likely affect a U.S. industry that is the main supplier to its market.
- Machine tools and power tools manufacturing (ITPD industry 116) is a broad industry group covering a wide range of machines that serve other manufacturing industries, services industries, and final consumers.⁹⁷ This analysis focuses on the different ways in which imports from China compete in highly segmented markets.

⁹² Larch et al., “ITPD-E-R03,” June 2025, 14–15. Of the 153 goods-producing sectors, 28 industries are agricultural, 7 are mining and energy, and the remaining 118 are manufacturing. The remaining 17 industries are services where tariffs may have an indirect effect. See [chapter 2](#) and [appendix D](#) for more information on the data and approach used in the gravity modeling analysis.

⁹³ The ranking factor approximates the value of additional duties that would have been paid on imports from China relative to the estimated value of apparent U.S. consumption, assuming no changes in trade values or prices.

⁹⁴ The Commission also considered factors other than Chinese import penetration, the magnitude of the tariff changes, and the corresponding ranking factor. Specifically, for ITPD industries being considered for this analysis, the Commission also considered the possible substitutability of specific imported products from China with products made by existing U.S. producers.

⁹⁵ Larch et al., “ITPD-E-R03,” June 2025, 27. More detail on each industry’s trade, industry data, and market conditions are provided in the sections covering those industries below.

⁹⁶ Larch et al., “ITPD-E-R03,” June 2025, 26.

⁹⁷ Larch et al., “ITPD-E-R03,” June 2025, 26.

In addition to the three goods-producing industries selected, the Commission examined the effects of China PNTR status revocation on a services industry likely to be most affected by PNTR status revocation. Tariffs do not apply directly to services, so the selection criteria and the approach to analyzing the effect of PNTR status revocation on services differed from those used for the goods-producing industries. The Commission identified residential construction as a services industry that relies more heavily than most other services industries on material inputs, including those sourced from China.⁹⁸ In its analysis of the effects of PNTR status revocation on this industry, the Commission focused on how the policy change would impact the prices of material inputs sourced from China and the implications for construction and housing costs.

Modeling Methodology

This chapter’s quantitative analyses include modeling results for individual industries from the GE gravity model described in [chapter 2](#). The GE gravity model framework integrates empirical estimates of industry-level trade responsiveness over time with a multicountry, multi-sector simulation model that predicts how an immediate and complete change in U.S. tariffs on Chinese imports from column 1 rates to column 2 rates would affect all industries in the U.S. economy.⁹⁹ The model predicts the effects of China PNTR status revocation on prices, trade, production, and sourcing on industries in the years following the policy change relative to the level of these indicators in a baseline year 2023. Although this chapter focuses on the effects of China PNTR status revocation on the industries highlighted in this chapter in the first six years following the policy change, “long run” estimates are also provided to show the effects of the policy after the economy fully adjusts.¹⁰⁰

Generally, as noted in [chapter 2](#), the model predicts increases in consumer prices in the first year following PNTR status revocation, reflecting the immediate impact of the higher tariffs.¹⁰¹ The near-term effects of PNTR status revocation on trade, production, and sourcing would include positive and negative impacts, depending on the industry, with more gradual adjustments in the longer term. For the

⁹⁸ Material inputs account for a far larger share of the cost of construction than for most other services industries. According to data provided in input-output tables from the U.S. Bureau of Economic Analysis, material inputs account for about half of the residential construction industry’s intermediate inputs. Few other services industries had comparably high use of material inputs as a share of their intermediate costs, and these were primarily construction-related or utility industries. USDOC, BEA, Input-Output (After Redefinitions) Interactive Data Application, make-use imports (after redefinitions), the use of commodities by industry, after redefinitions (producers’ prices), detail level, 2017, accessed March 27, 2026. As described in greater detail in the Housing and Construction Costs section below, imports from China account for large shares of total imports of certain material inputs commonly used in residential construction.

⁹⁹ As described in [chapter 1](#), this report’s analysis of PNTR status revocation uses comparisons of column 1-general and column 2 duty rates specified in chapters 1–97 of the HTS, excluding consideration of temporary modifications to duty rates specified in chapter 99. For this reason, the tariff rates that form the basis for modeling the impacts of PNTR status revocation do not encompass higher effective tariffs on imports from China that included additional duties specified in chapter 99. Furthermore, as explained in [chapter 2](#), the baseline data used to model the impacts of PNTR revocation reflect a market that may have experienced adjustment to these additional duties in addition to any other tariff policies in and before 2023.

¹⁰⁰ The long run is the time it takes for the economy to fully adjust to the effects of the policy change.

¹⁰¹ For a data presentation with results for all 170 ITDP sectors, see [appendix H](#).

three main goods-producing industries examined in this chapter, higher tariffs on imports from China would cause those imports to fall, causing trade diversion toward other sources, including the domestic industry. For these industries, U.S. production is predicted to fall immediately after the tariffs in response to higher production costs but would ultimately rise to a level higher than the 2023 baseline. Industries with greater differences in HTS column 1 and column 2 duty rates would face greater predicted price impacts and corresponding trade and production impacts than those with smaller differences in duty rates.

The extent and speed of each industry's adjustment to PNTR status revocation is also affected by factors that vary considerably across industries. In particular, the model predicts that industries with higher Chinese import penetration would generally experience larger impacts across production and price indicators and higher rates of growth for other sources of supply. However, it would take longer for a market with relatively high imports from China to adjust toward substitutable products from other sources than for a market with relatively low imports from China. For this reason, the model predicts relatively large differences between long-run and sixth-year impacts following PNTR status revocation for the games and toys industry (which has the highest Chinese import penetration of any ITPD industry) compared to the other industries examined in this chapter.

Because Chinese import penetration is such a significant driver of both the scale and adjustment speed of each industry's predicted impacts from PNTR status revocation, the selection of baseline year similarly has a major effect on these results. U.S. imports from China decreased between 2023 and 2025 for each of the three main goods-producing industries and most of the industries producing construction inputs examined in this chapter, consistent with the overall trends in imports from China shown in [chapter 1](#).¹⁰² As discussed in [chapter 2](#), use of 2023 as the baseline for analysis likely leads to greater estimated impacts of PNTR status revocation compared to what would be estimated to occur under more recent U.S. market conditions where Chinese goods comprise a smaller share of total imports.

In addition to Chinese import penetration, the responsiveness of U.S. and foreign supply to the tariff increases is affected by the speed of investment decisions and the time necessary to build new plants and production lines.¹⁰³ Supply adjustments in response to PNTR status revocation would also be affected by the availability of excess or divertible capacity, the diversion of supply chains for material inputs and capital goods, and other changes in the U.S. and global economies. These factors are partially captured in the GE model's estimated trade elasticities for each industry and are further analyzed qualitatively in the sections below.

Games and Toys

The games and toys industry (as defined under ITPD industry 152) produces a broad variety of consumer products used for entertainment and learning. This sector includes the manufacture of toys and collectibles such as dolls, building sets, and tricycles. In addition, the industry produces games, including

¹⁰² USITC DataWeb/Census, imports for consumption, accessed various dates.

¹⁰³ See also [chapter 4](#) for more discussion of the effect of investment lag on industry-specific impacts of PNTR revocation.

board games, playing cards, puzzles, video game consoles, and coin-operated arcade games.¹⁰⁴ The U.S. games and toys manufacturing industry is a small part of a broader group of companies that design games and toys and sell them to retailers or directly to consumers (referred to in this chapter as “game and toy sellers”). As described in greater detail below, game and toy sellers include those companies with U.S. production as well as those that are more reliant on imports.

U.S. retail sales of games and toys were approximately \$54 billion in 2025, led by sales of video game consoles, games and puzzles, and building sets.¹⁰⁵ Most video game consoles are designed and distributed by Sony (Japan), Nintendo (Japan), and Microsoft (United States).¹⁰⁶ The remainder of the games and toys market includes a broad array of industry participants. Many products are designed, branded, and distributed by large companies such as Mattel (United States), Hasbro (United States), and the LEGO Group (Denmark).¹⁰⁷ These companies may source games and toys from their own production operations or from third-party production.¹⁰⁸ Companies that make or sell toys may also license use of brands from other toy-producing companies or intellectual property from companies in other industries (e.g., from multimedia companies like Disney).¹⁰⁹ Games and toys with more limited or niche brand recognition, such as those sold under retailers’ private labels, are also present in the market.¹¹⁰

¹⁰⁴ ITPD industry 152 corresponds with International Standard Industrial Classification of All Economic Activities (ISIC), revision 3.1, sector 3694 (Manufacture of games and toys). This industry produces both finished games and toys as well as parts or components of those products. Although the games and toys industry includes video game consoles, it does not include the writing and publishing of video games or software for use in video game consoles. This industry also does not include the manufacture of bicycles. Larch, “ITPD-E-R03,” June 2025, 27; UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004, 121–122.

¹⁰⁵ The estimated value of retail sales presented here is the sum of sales estimates produced by Circana, LLC—a market research firm that conducts retail tracking—for two separate retail markets: video game consoles and accessories; and toys (a category that includes most games but excludes video game consoles). The estimated value of retail sales is not directly comparable to estimates of U.S. total shipments, domestic shipments, and U.S. imports of games and toys presented in this section of the report. Retail sales include other costs and markups along the supply chain between the production or importation of games and toys and the final sale to consumers. Toy Association, “U.S. Sales Data,” accessed March 11, 2026; Byshonkov, “Circana: The U.S. Gaming Market,” January 26, 2026.

¹⁰⁶ Lee, “Console Market Share Statistics 2026,” August 7, 2025.

¹⁰⁷ JAKKS Pacific Inc., Form 10-K, March 2, 2026, 6; EC, ECSIP Consortium, *Study on the Competitiveness of the Toy Industry*, August 30, 2013, 35; the LEGO Group, Annual Report 2025, accessed March 18, 2026, 7; Mattel Inc., Form 10-K, February 23, 2026, 6; Hasbro Inc., Form 10-K, February 25, 2026, 10–11.

¹⁰⁸ Mattel Inc., Form 10-K, February 23, 2026, 8; Hasbro Inc., Form 10-K, February 25, 2026, 11; the LEGO Group, *Annual Report 2025*, accessed March 18, 2026, 9.

¹⁰⁹ Mattel Inc., Form 10-K, February 23, 2026, 7; Hasbro Inc., Form 10-K, February 25, 2026, 9.

¹¹⁰ Delesline, “Target Launches Private Label Toy Brand,” March 6, 2024; EC, ECSIP Consortium, *Study on the Competitiveness of the Toy Industry*, August 30, 2013, 44–45.

U.S. Production

U.S. producers supply a relatively small share of the domestic games and toys market.¹¹¹ The U.S. games and toys manufacturing industry had an estimated \$1.8 billion in total shipments in 2025, an increase of about \$50 million from 2022 levels.¹¹² U.S. exports were \$1.0 billion in 2025, indicating that U.S. domestic shipments accounted for less than half of total U.S. shipments ([figure 3.1](#)).¹¹³ However, it is possible that much of the reported value of these exports were products that did not originate in the United States but, rather, were reexported after importation from another country.¹¹⁴ About 450 establishments manufacturing games and toys in 2022 employed approximately 5,600 workers.¹¹⁵ Estimated employment in this industry decreased to 5,500 workers in 2025.¹¹⁶

¹¹¹ U.S. shipment, employment, establishment, and trade information presented in this section are based on data classified under NAICS 339930 (doll, toy, and game manufacturing), a category that overlaps closely with ITPD industry 152. Larch et al., “ITPD-E-R03,” June 2025, 27; UN, Statistics Division, ISIC Rev. 3.1, Revision 3.1, 2004, 121–22; EOP, OMB, *North American Industry Classification System*, 2022, 302.

¹¹² Total shipment data for 2022 was from Sales, Value of Shipments, or Revenue data from the 2022 Economic Census. The Commission extrapolated total shipment data for 2023–25 from 2022 total shipments using annual changes in broader manufacturing sector total shipments as reported in the Manufacturers’ Shipments, Inventories, & Orders (M3) database. Specifically, 2022 total shipments data for NAICS 339930 (doll, toy, and game manufacturing), was multiplied by an index of total shipments data covering 2023–25 (where 2022 = 1) for M3 industry category 39S (Miscellaneous Products). Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 339930 (doll, toy, and game manufacturing), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A39SVS, February 23, 2026.

¹¹³ USITC DataWeb/Census, domestic exports, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026.

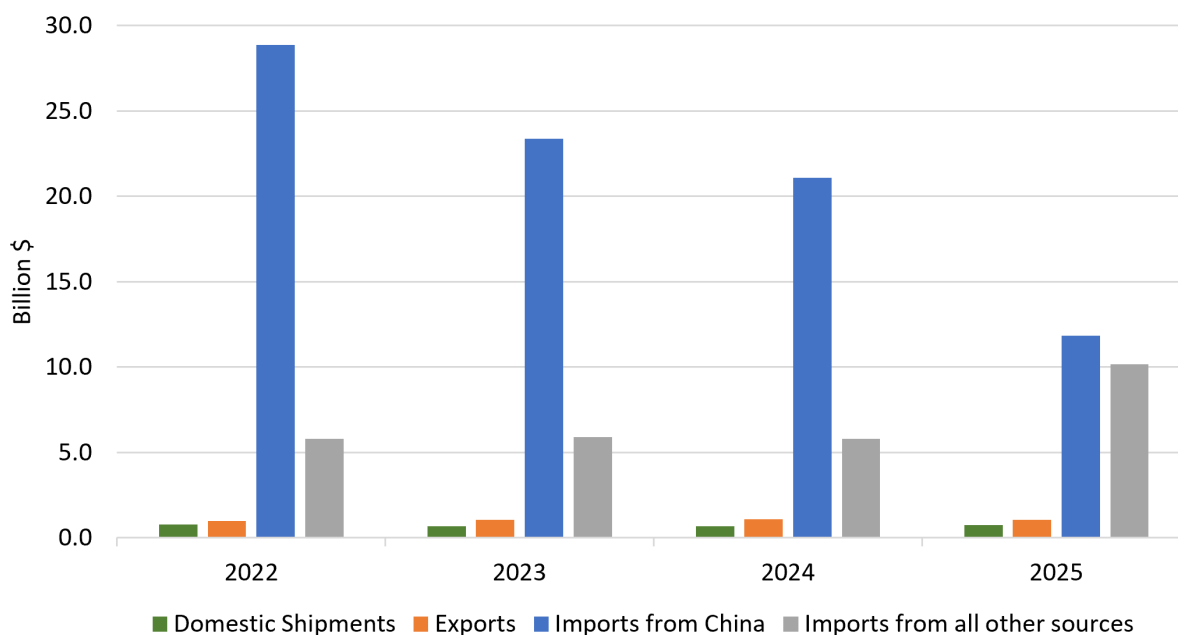
¹¹⁴ According to U.S. trade data, U.S. domestic exports of games and toys totaled \$1.05 billion in 2025, up from \$966 million in 2022. Most of these exports were either miscellaneous toys (under HS heading 9503) or video game consoles (under HS subheading 9504.50). The value of U.S. domestic exports of these products far exceeds partner countries’ reported imports of these products from the United States, which may indicate that the value of exports of goods originating in the United States was far lower than reported domestic exports. For example, U.S. reported domestic exports of miscellaneous toys and video game consoles to the three largest U.S. export destinations for games and toys—Canada, Mexico, and Brazil—totaled \$575 million in 2025. However, these three countries’ reported imports of miscellaneous toys and video game consoles from the United States totaled \$210 million in 2025. USITC DataWeb/Census, domestic exports, accessed March 10, 2026; S&P Global Market Intelligence, GTAS database, HS subheadings 9405.50 and 9503.00, accessed March 10, 2026.

¹¹⁵ Establishment data are from the 2022 Economic Census. According to the U.S. Census Bureau, “an establishment is a single physical location at which business is conducted, services are provided, or industrial operations are performed. It is not necessarily identical with a firm or enterprise, which may consist of one establishment or more.” Census, 2022 Economic Census, Number of employees and number of establishments, NAICS 339930 (doll, toy, and game manufacturing), December 2024; Census, “Census Glossary,” accessed April 23, 2026.

¹¹⁶ For 2022, employment data are from the 2022 Economic Census. For 2023–25, employment data are estimated by multiplying employment from the 2022 Economic Census by annual changes in seasonally adjusted March employment numbers reported in the Bureau of Labor Statistics’ Current Employment Statistics (CES) database. CES data are generally available for broader categories of products than those covered in the analyses of this report. Census, 2022 Economic Census, Number of employees, NAICS 339930 (doll, toy, and game manufacturing), December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

Figure 3.1 Value of U.S. domestic shipments, imports, and exports of games and toys, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.12](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026; Census, 2022 Economic Census, sales, value of shipments, or revenue, NAICS 339930 (doll, toy, and game manufacturing), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A39SVS, February 23, 2026.

Note: Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

A diverse array of businesses makes games and toys in the United States. Most of the largest game and toy sellers headquartered in the United States rely primarily on imports for their U.S. sourcing strategies (as described in the U.S. imports of games and toys section below). However, several of the largest U.S. game and toy sellers, including Hasbro and MGA Entertainment, also own U.S. manufacturing facilities or source from third-party U.S. production.¹¹⁷ Other U.S. toy manufacturers—including American Plastic Toys, Cra-Z-Art, and Simplay3—primarily produce games and toys in the United States.¹¹⁸ Most U.S. producers employ only a few workers: About 87 percent of establishments making games and toys in 2022 had fewer than 20 employees.¹¹⁹ Examples of game and toy manufacturers with relatively few employees include Uncle Goose, Channel Craft, and Maple Landmark—businesses that market their hand-crafted wooden toys partly on the basis of their high quality and use of environmentally

¹¹⁷ Hasbro Inc., “Hasbro Announces Completion of the Sale of Manufacturing Facilities to Cartamundi Group,” August 31, 2015; Hasbro Inc., *Form 10-K*, February 25, 2026, 11; Little Tikes, “Little Tikes Over the Years,” accessed March 16, 2026; Summit County, Ohio, “Little Tikes,” accessed June 23, 2026.

¹¹⁸ Bonior, “Simplay3’s Tom Mordough,” November 10, 2022; American Plastic Toys, “About Us,” accessed March 16, 2026; Cra-Z-Art, “Our Story at Cra-Z-Art,” February 5, 2024.

¹¹⁹ About 11 percent of establishments reported 20–99 employees, and roughly 2 percent indicated 100 or more workers in 2022. Census, 2022 Business Patterns, NAICS 339930 (doll, toy, and game manufacturing), accessed April 5, 2026.

sustainable materials.¹²⁰ The U.S. game and toy manufacturing industry does not serve all game and toy market segments. For example, video game consoles sold by Microsoft, Sony, and Nintendo—accounting for most of that market segment—are made in other countries such as China and Vietnam.¹²¹

U.S. Imports

Beginning in the 1960s, imports began to take market share from U.S.-manufactured games and toys because they were lower priced, which was driven by the low wages in other economies. Over the ensuing decades, U.S. game and toy sellers shifted much of their own supply chains to Japan, Taiwan, Hong Kong, and ultimately mainland China to reduce costs, particularly labor costs.¹²² As U.S. game and toy sellers increasingly sourced from China during the 1990s, they nonetheless viewed these sourcing strategies as being subject to risk as a result of provisional U.S. normal trade relations with China and the potential for higher duties on imports from China.¹²³ However, this risk was mitigated by the permanence granted to China's NTR status in 2002.¹²⁴

¹²⁰ Uncle Goose, "About Our Products," accessed March 12, 2026; Bergells, "What's the Culture Like at Uncle Goose?," January 21, 2021, Allen, "Uncle Goose," December 17, 2024; Maple Landmark, "Our History," accessed March 13, 2026; Maple Landmark, "Natural Resources," accessed March 13, 2026; Whalen, "Ho, Ho, No," November 10, 2021; Channel Craft, "About Channel Craft," accessed March 13, 2026.

¹²¹ Tartar et al., "Made in Vietnam," December 10, 2025; Sony, transcript of Q4 2025 earnings conference call, May 14, 2025. By contrast, the United States is a major producer of video games. IBISWorld estimates that the U.S. industry publishing video games will generate revenue of \$66.6 billion in 2026 and employs 128,000 workers. Kempenich, *Video Game Software Publishing in the United States*, April 2026, 5.

¹²² Mattel Inc., written submission to the USITC, May 2, 1994; AFL-CIO, written submission to the USITC, May 20, 1994; U.S. Congress, Senate, Committee on Finance, *Testimony of Harry J. Pearce*, 104th Congress, 2nd sess., June 6, 1996, 40.

¹²³ USITC, *Toys and Models*, November 1991, 3; Mattel Inc., *Form 10-K*, March 22, 1995, 7–8; Hasbro Inc., *Form 10-K*, December 25, 1994, 5; U.S. Congress, Senate, Committee on Finance, *Testimony of Harry J. Pearce*, 104th Congress, 2nd sess., June 6, 1996, 97–98; U.S. Congress, House of Representatives, Committee on Ways and Means, *Testimony of Thomas F. St. Maxens*, 106th Congress, 2nd sess., February 16, 2000; Pierce and Schott, "The Surprisingly Swift Decline of US Manufacturing Employment," July 2016, 1636 and app.

¹²⁴ The history of U.S. normal trade relations with China is described in greater detail in [chapter 1](#). In its 2003 annual report, Mattel noted that China's PNTR status "substantially reduces the possibility of China losing its NTR status, which would result in increased costs for Mattel and others in the toy industry." Although not specific to the games and toys industry, a 2016 journal article by Pierce and Schott found that the U.S. granting permanent NTR status to imports from China reduced uncertainty for U.S. importing firms even though tariff levels themselves did not change. They found that PNTR led to increases in U.S. imports from China and the growth in the number of firms participating in U.S. importation from China, particularly in products with greater differences between column 1 and column 2 tariff rates. Mattel, Inc., *Form 10-K*, March 24, 2003, 6; Pierce and Schott, "The Surprisingly Swift Decline of US Manufacturing Employment," July 2016, 1649–50, 1659.

Since that time, the Chinese game and toy-producing industry has become the primary source of these products to the United States.¹²⁵ Between 2022 and 2025, imports from China accounted for more than half of all global trade in games and toys, with U.S. imports from China accounting for the single largest bilateral flow of these imports (about one-fifth of global trade).¹²⁶ Most of the largest global game and toy sellers, including Mattel and the LEGO Group, have had manufacturing operations in China.¹²⁷ In addition, game and toy sellers that design and distribute products frequently contract production to third-party Chinese manufacturers.¹²⁸ Large clusters of games and toys manufacturing facilities exist in several Chinese provinces, particularly Guangdong and Zhejiang.¹²⁹

The Chinese games and toys industry is globally competitive due to a combination of cost advantages, its scale of labor and material supply, and established supply chain and industry expertise. In 2025, China had more than 1.4 million workers in industries that produce games, toys, and other cultural and recreational products.¹³⁰ Although Chinese workers have seen increased wages in recent years, those in manufacturing continue to earn far less than their counterparts in the United States.¹³¹ Beyond its cost and labor supply advantages, China's large-scale production of games and toys and many other manufactured goods has led to the establishment of a robust supply chain for readily available material

¹²⁵ U.S. imports of games and toys from China increased from 47.2 percent of apparent U.S. consumption in 1997 to 54.7 percent in 2002. China's share of the U.S. market significantly increased after the U.S. granted PNTR status to imports from China in 2002, rising to 85.8 percent in 2007, 84.3 percent in 2012, 86.6 percent in 2017, and 81.4 percent in 2022. Census, *Game, Toy, and Children's Vehicle Manufacturing: 2002*, January 2005; Census, *Doll and Stuffed Toy Manufacturing: 2002*, January 2005; Census, 2007 Economic Census, Table EC0731SG1, sales, value of shipments, or revenue, NAICS 33993 (doll, toy, and game manufacturing), accessed June 26, 2026; Census, 2012 Economic Census, Table EC1231SG1, sales, value of shipments, or revenue, NAICS 339930 (doll, toy, and game manufacturing), accessed June 26, 2026; Census, 2017 Economic Census, Table EC1731BASIC, sales, value of shipments, or revenue, NAICS 339930 (doll, toy, and game manufacturing), accessed June 26, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 339930 (doll, toy, and game manufacturing), December 2024; USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 33993 (doll, toy, and game manufacturing), accessed June 26, 2025

¹²⁶ These global trade data are imports reported at the HS 6-digit level rather than at the detailed HTS statistical reporting number level that concords directly with NAICS 339930 (doll, toy, and game manufacturing). Data availability varied across years and reporting countries within this database. S&P Global Market Intelligence, GTAS database, HS subheadings 9503.00, 9504.20, 9504.30, 9504.40, 9504.50, and 9504.90, accessed March 18, 2026.

¹²⁷ Bian, "Where Are Famous Toy Brands Manufactured?," February 12, 2026; the LEGO Group, *Annual Report 2025*, accessed March 18, 2026; Mattel Inc., *Form 10-K*, February 23, 2026.

¹²⁸ Hasbro Inc., *Form 10-K*, February 25, 2026, 23; Kennemer, "The Top Toy Manufacturers in China List," February 16, 2026; HKTDC, "Guangdong: A Global Leader in Toy Making," accessed March 18, 2026.

¹²⁹ Kennemer, "The Top Toy Manufacturers in China List," February 16, 2026; HKTDC, "Guangdong: A Global Leader in Toy Making," accessed March 18, 2026; Bian, "Where Are Famous Toy Brands Manufactured?," February 12, 2026.

¹³⁰ Government of China, NBS, "Average Number of Employees, Cultural, Educational, Art, Craft, Sport & Recreational Product," accessed May 1, 2026.

¹³¹ The average monthly earnings of employees in China's manufacturing sector have increased in recent years, from \$521 per month in 2015 to more than \$833 per month in 2022. However, Chinese manufacturing workers' earnings were equivalent to only 15.3 percent of U.S. manufacturing workers' monthly earnings in 2022. International Labour Organization (ILO), "Average Monthly Earnings of Employees by Sex, Economic Activity, and Currency," accessed May 1, 2026.

inputs.¹³² China also has superior port and road infrastructure when compared to many other countries, with comparably low operational costs.¹³³ In addition, both U.S. and Chinese industry participants report that China's industry has developed expertise in quickly setting up production across a wide variety of games and toys.¹³⁴

Although China has remained the main source of games and toys in the U.S. market, the U.S. market depends less on these imports than in previous years. As shown in [table 3.3](#), U.S. imports from China decreased in each year between 2022 and 2025, falling from \$28.9 billion to \$11.8 billion during this period.¹³⁵ U.S. imports from China decreased across all major categories of games and toys.¹³⁶ As described in greater detail below, global game and toy sellers as well as contract manufacturers in China have increased their investment in other countries in recent years.¹³⁷ These companies describe their shifting investment strategy as being driven by a general interest in diversifying supply as well as a specific concern over the high additional duties imposed on U.S. imports from China.¹³⁸ A shift to third-country sourcing led to increases in U.S. imports from Vietnam, Mexico, and other countries. As a result, imports from China accounted for 53.8 percent of total U.S. imports of games and toys in 2025, down from about 80 percent of total imports annually from 2022 to 2024.¹³⁹

¹³² U.S. industry representative, interview by USITC staff, April 2, 2026; Toy Association, written submission to the USITC, April 13, 2026, 2; HKTDC, "Guangdong: A Global Leader in Toy Making," accessed March 18, 2026.

¹³³ Reuters, "Toy Manufacturers' Shift from China Not Child's Play," January 21, 2024. According to a 2019 report by the World Economic Forum, China had the 24th-highest scored transport infrastructure in the world out of 141 countries ranked. Vietnam, the next-largest source of U.S. games and toys imports, had the 66th-highest scored transport infrastructure in these rankings. Schwab, *The Global Competitiveness Report: 2019*, 2019, 155, 595.

¹³⁴ U.S. industry representative, interview by USITC staff, April 2, 2026; Crossley and Aeppel, "U.S. Toymaker Doubles Down in China Despite Rising Costs, Political Tensions," July 2, 2021; Bian, "Where Are Famous Toy Brands Manufactured?," February 12, 2026.

¹³⁵ USITC DataWeb/Census, imports for consumption, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026.

¹³⁶ Census concords the following HTS statistical reporting numbers to NAICS 339930 (doll, toy, and game manufacturing): 6308.00.0010, 6308.00.0020, 7018.90.1000, 8306.21.0000, 8306.29.0000, 8715.00.0020, 8715.00.0040, 8806.21.0000, 8806.22.0000, 8806.91.0000, 8806.92.0000, 9503.00.0011, 9503.00.0013, 9503.00.0071, 9503.00.0073, 9503.00.0090, 9504.50.0000, 9504.90.4000, 9504.90.6000, and 9505.90.2000. The value of imports from China for each of these statistical reporting numbers decreased between 2022 and 2025, except for imports entering under 8806.91.0000 and 8806.92.0000 (certain kinds of unmanned aircraft). The value of imports entering under those two statistical reporting numbers accounted for less than 0.05 percent of U.S. imports of games and toys from China in 2025. USITC DataWeb/Census, imports for consumption, HTS statistical reporting numbers 6308.00.0010, 6308.00.0020, 7018.90.1000, 8306.21.0000, 8306.29.0000, 8715.00.0020, 8715.00.0040, 8806.21.0000, 8806.22.0000, 8806.91.0000, 8806.92.0000, 9503.00.0011, 9503.00.0013, 9503.00.0071, 9503.00.0073, 9503.00.0090, 9504.50.0000, 9504.90.4000, 9504.90.6000, 9505.90.2000, accessed March 6, 2026; Census, "Interactive Concordance, Imports, 2022–2025," accessed March 6, 2026.

¹³⁷ U.S. industry representative, interview by USITC staff, April 2, 2026; Toy Association, written submission to the USITC, April 13, 2026; Tartar et al., "Made in Vietnam," December 10, 2025.

¹³⁸ U.S. industry representative, interview by USITC staff, April 2, 2026; Tartar et al., "Made in Vietnam," December 10, 2025; VTech, *Annual Report 2025*, 2025, 7; DiNapoli and McLymore, "Major US Toymaker Speeds Up Plan to Move Manufacturing Out of China," March 13, 2025.

¹³⁹ USITC DataWeb/Census, imports for consumption, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026.

Table 3.3 Value of U.S. imports of games and toys, by import source, 2022–25

In millions of dollars.

Trade partner	2022 (million \$)	2023 (million \$)	2024 (million \$)	2025 (million \$)
China	28,872	23,363	21,086	11,828
Vietnam	2,436	1,923	1,961	5,576
Mexico	803	941	1,104	1,396
Indonesia	497	420	470	490
Japan	279	298	238	475
All other sources	1,791	2,300	2,020	2,214
Total	34,677	29,245	26,878	21,979

Source: USITC DataWeb/Census, imports for consumption, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026.

Effects of China PNTR Status Revocation

An increase in tariffs on imports of games and toys from China is likely to have relatively substantial effects on these imports and the market. Upon PNTR status revocation, imports of games and toys from China would be subject to ad valorem column 2 tariff rates that are, on average, 54.2 percent; whereas the rate in column 1 is free of duty.¹⁴⁰ Because imports from China account for such a large share of the U.S. market for these goods, higher tariffs resulting from the revocation of PNTR status would likely lead to greater trade-, production-, and price-related impacts in the games and toys industry than in most other U.S. manufacturing industries.¹⁴¹ [Table 3.4](#) provides the estimated effects of higher tariffs resulting from revocation of PNTR status in the sixth year after PNTR status revocation relative to the baseline.¹⁴²

¹⁴⁰ USITC estimates; USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025; USITC, *Harmonized Tariff Schedule of the United States (2023)*, Basic Edition, December 30, 2022. See [appendix F](#) for a discussion of how column 1 and column 2 AVEs are calculated in this investigation.

¹⁴¹ The effects of PNTR revocation on the overall manufacturing sector are described in [chapter 2](#). For a data presentation with results for all 170 ITPD sectors, see [appendix H](#).

¹⁴² Imports of games and toys from China decreased by 49.4 percent between 2023 and 2025, outpacing the 30.0 percent decrease in overall imports from China during that time. USITC DataWeb/Census, imports for consumption, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026. As described in [chapter 2](#), the decline in U.S. imports from China since 2023 likely leads to greater estimated impacts of PNTR revocation compared to what would be estimated under more recent U.S. market conditions, particularly for industries like games and toys that experienced more pronounced declines in U.S. imports.

Table 3.4 Summary of estimated effects in the U.S. games and toys industry in the sixth year relative to 2023 baseline

In percentages.

Item	Change (%)
Consumer prices	34.8
U.S. industry's production cost	0.9
Imports from China	-11.7
Imports from other sources	36.0
Imports from all sources	-1.5
U.S. industry's domestic shipments	35.6
U.S. exports	-0.8
U.S. industry's total shipments	13.8
U.S. industry's real output	12.8
U.S. industry's employment	13.3
U.S. real expenditure	-25.5

Source: USITC estimates.

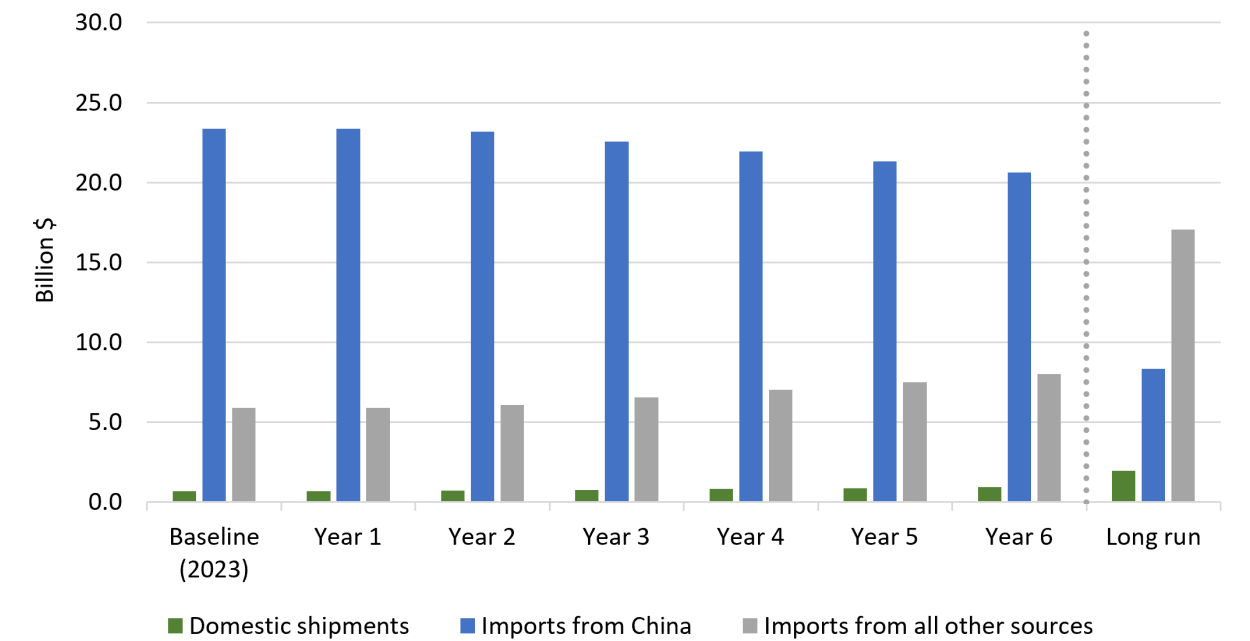
Higher tariffs offset some of the cost advantages of producing games and toys in China and would likely cause imports from China to fall. [Figure 3.2](#) shows how revocation of PNTR would impact the sources of supply to the U.S. market in the first year following PNTR status revocation.¹⁴³ Because sources of supply are expected to adjust over time to the higher tariffs (see section on modeling methodology), changes in trade and domestic shipments are estimated to be minimal in the first year following PNTR status revocation. However, imports from China are estimated to be 11.7 percent lower in the sixth year compared to the 2023 baseline and 64.3 percent lower over the long run. Because China is the largest supplier to the market, the decrease in imports from China would create significant growth opportunities for other sources of supply. As described in greater detail below, imports from other sources are expected to absorb most of the market share lost by imports from China. Imports from other sources are estimated to be 36.0 percent higher in the sixth year following PNTR status revocation, led by higher imports from Vietnam, Mexico, Malaysia, Indonesia, and Japan. U.S. domestic shipments would also increase: They are estimated to be 35.6 percent (or \$245 million) higher in the sixth year following PNTR status revocation and 187.7 percent (or \$1.3 billion) higher over the long run.¹⁴⁴

¹⁴³ This chapter primarily reports on the industry and market effects of PNTR revocation using percentages generated by the gravity model simulation described in [chapter 2](#) and [appendix D](#). In some cases, this chapter also presents estimates of dollar value changes in domestic shipments and trade after PNTR revocation. For this purpose, the Commission generated these value-based estimates by multiplying ITPD-specific gravity model results (expressed as percentages) by domestic shipment and trade values derived from Census data for corresponding NAICS 6 industries. Domestic shipment and trade values are from 2023 to maximize consistency with the 2023 baseline data used in the gravity model simulation.

¹⁴⁴ USITC estimates. As stated above in the section on U.S. production of games and toys, U.S. export data may be overstated, which would mean that U.S. domestic shipments—and the estimated increase in the value of domestic shipments presented here—are understated.

Figure 3.2 Estimated value of U.S. domestic shipments and imports of games and toys as a result of PNTR status revocation

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Underlying data for this figure can be found in appendix [table G.13](#).



Sources: USITC estimates; USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 339930 (doll, toy, and game manufacturing), accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 339930 (doll, toy, and game manufacturing), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A39SVS, February 23, 2026.

Note: Baseline values are from 2023 to maximize consistency with the data used in the gravity model simulation described in [chapter 2](#) and [appendix D](#). Domestic shipments are the U.S. industry’s shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Existing U.S. producers of games and toys could help drive the projected increase in U.S. domestic shipments. According to a Census survey, facilities in a broad sector that includes games and toys (NAICS 33991–33993) had average capacity utilization of 81.4 percent in the fourth quarter of 2025 based on about 50 plant hours per week.¹⁴⁵ This suggests that some U.S. producers of games and toys have excess capacity and would be able to increase their production using existing machinery if they receive more orders. One U.S. manufacturer noted that its facility could likely ramp up production by expanding shifts and hiring more workers, even though it recently saw the labor market tightening somewhat in its

¹⁴⁵ Census, QPC, table 1, “Quarterly Survey of Plant Capacity Utilization Full Rates: 2025 Quarter 4,” NAICS 339 (miscellaneous manufacturing), March 2026.

region.¹⁴⁶ Furthermore, U.S. producers of glass, plastic, or wooden games and toys make a variety of other products on the same equipment.¹⁴⁷ These manufacturers may be able to divert some of this production to accept larger orders for toys. For example, Pride Manufacturing was a contract manufacturer of a broad variety of wooden products, including Lincoln Logs building sets.¹⁴⁸ Pride Manufacturing shut down in early 2026 because it lost a major contract for another key product, cigar tips, indicating that it may have been able to expand its production of wooden toys if demand were to increase for those products.¹⁴⁹

New investment in U.S. game and toy manufacturing may also occur in response to tariffs. Established U.S. manufacturers of games and toys may grow their operations by expanding existing factories or building new factories. For example, in response to higher tariffs in 2025, U.S. manufacturer Cra-Z-Art announced investments in factory space and machinery purchases in the United States.¹⁵⁰ In addition, multinational game and toy sellers have indicated some willingness to invest in U.S. manufacturing either as a response to higher tariffs or as part of broader efforts to diversify production outside of China.¹⁵¹ An increase in domestic investment following China PNTR status revocation would likely take time to occur. New game and toy production lines can be set up in a few months if sufficient engineering expertise and labor are available.¹⁵² Building new factories can be far more time-consuming: A new factory being built in Virginia by the LEGO Group is projected to begin production in 2027 after being announced in 2022.¹⁵³

[Figure 3.3](#) shows the estimated growth in the U.S. game and toy manufacturing industry as a result of PNTR status revocation. Total shipments would increase by 13.8 percent in the sixth year relative to the baseline: This growth is less than one-fifth of the projected growth in total shipments of 73.3 percent in

¹⁴⁶ U.S. industry representative, interview by USITC staff, April 2, 2026. A 2025 Census survey found that 24.5 percent of manufacturers of miscellaneous products (NAICS 339) reported that they did not fully utilize their capacity in the fourth quarter of 2025 due to insufficient supply of labor. However, 68.1 percent reported that capacity underutilization was due to insufficient orders. These responses suggest that any effect contributing to more demand for domestically produced goods in this broad sector, including reduced competition with imports, could lead to more use of domestic capacity. Census, QPC, table 3b, “Quarterly Survey of Plant Capacity Utilization: Reasons for Difference in Actual Operations vs. Full Production Capability, 2025 Quarter 4,” NAICS 339 (miscellaneous manufacturing), March 2026.

¹⁴⁷ WVDED, “Discover the Legacy of Marble King,” July 16, 2024; West Virginia Humanities Council, “Marbles,” August 5, 2025; Rodon Group, “Plastic Injection Molding in the USA,” November 7, 2024; Rodon Group, “History of Rodon,” November 7, 2024; Lanzone, “Legendary Toy Maker Left Scrambling,” January 23, 2026; LT Molding Solutions, “About LT Molding Solutions,” accessed May 12, 2026.

¹⁴⁸ Reagan and Korber, “Made in the USA,” December 19, 2014; WGME Staff, “Pride Manufacturing to Close, Cutting 115 Jobs,” January 17, 2026.

¹⁴⁹ Cohen, “Maine Company Loses Contract Making Wooden Cigar Tips,” January 23, 2026; Lanzone, “Legendary Toy Maker Left Scrambling,” January 23, 2026.

¹⁵⁰ Cra-Z-Art, “Cra-Z-Art Boldly Responds to Tariffs,” March 13, 2025; Fickenscher, “US’s Biggest Toy Maker Cra-Z-Art to Expand,” March 13, 2025.

¹⁵¹ Sony, transcript of Q4 2025 earnings conference call, May 14, 2025; Coleman, “Hasbro CEO Details Tariff Impact,” May 1, 2025; Toy Association, written submission to the USITC, April 13, 2026, 2.

¹⁵² U.S. industry representative, interview by USITC staff, April 2, 2026; Awen Hollek, “The 10-Stage Toy Development Timeline,” March 17, 2025.

¹⁵³ Schulte, “Lego’s \$1B Chesterfield Facility Nears 35% Completion,” October 1, 2025.

the long run, likely because of the scale of the supply shift that would take place in a market currently dominated by imports from China.¹⁵⁴ However, real output would be higher than the baseline in the second year following PNTR status revocation, growth that occurs earlier than in most other industries.¹⁵⁵ Real output is estimated to be 12.8 percent higher in the sixth year following PNTR status revocation, and 72.2 percent higher in the long run.¹⁵⁶ The U.S. game and toy industry's growth would far outpace the overall U.S. manufacturing sector's growth, which is estimated to have lower real output in the sixth year following PNTR status revocation compared to the baseline and an increase of less than 0.1 percent over the baseline in the long run.¹⁵⁷ The game and toy industry's employment would be an estimated 13.3 percent higher than the baseline in the sixth year following PNTR status revocation.¹⁵⁸ This growth would represent an increase from about 5,600 to about 6,400 workers.¹⁵⁹

¹⁵⁴ For the games and toys industry, the GE Model estimates a trade elasticity—a measure of trade responsiveness—of 5.98. This value is comparable to the trade elasticities estimated for the other two goods-producing industries examined in this chapter. See [chapter 2](#) and [appendix D](#) for more information on how trade elasticities were estimated in this report.

¹⁵⁵ USITC estimates. Only 11 of the 170 ITPD industries are estimated to experience any growth in real output in the second year after PNTR revocation. See [appendix H](#) for a table of results for all 170 industries.

¹⁵⁶ USITC estimates.

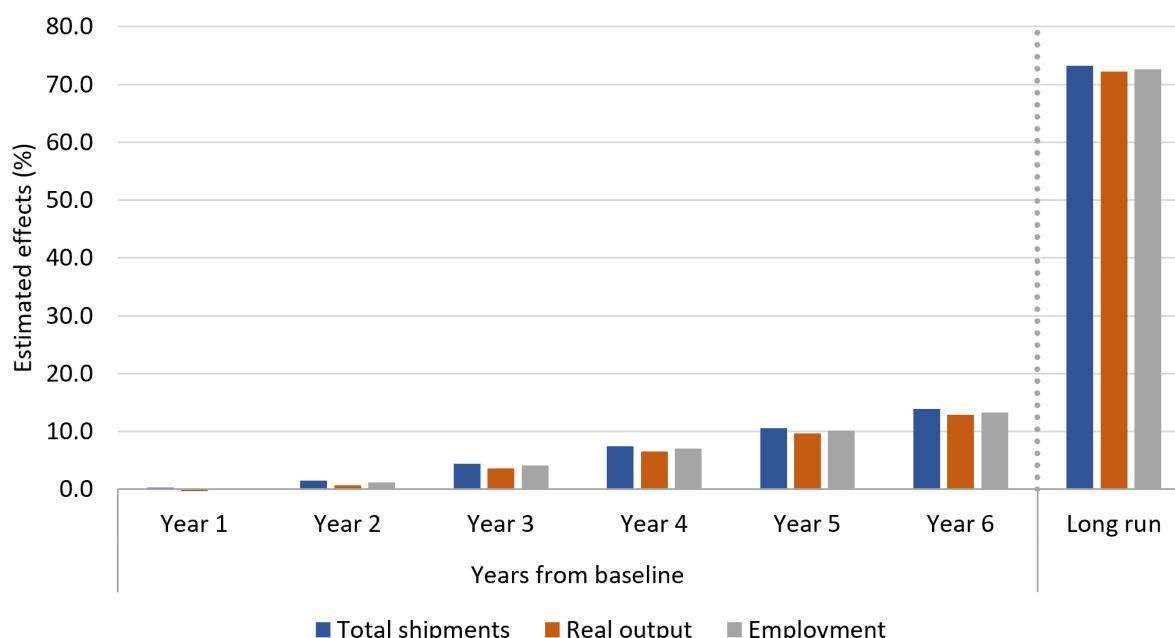
¹⁵⁷ USITC estimates. For more information on changes in the broader manufacturer sector in response to PNTR revocation, see [chapter 2](#).

¹⁵⁸ USITC estimates.

¹⁵⁹ In some cases, this chapter presents estimates of employment changes, expressed in terms of the number of employees, after PNTR revocation. The Commission generated employment change estimates by multiplying ITPD-specific gravity model results (expressed as percentages) by U.S. employment data derived from Census data for corresponding NAICS-defined industries. Employment data are from 2023 to maximize consistency with the 2023 baseline data used in the gravity model simulation described in [appendix D](#). USITC estimates; Census, 2022 Economic Census, number of employees, NAICS 339930 (doll, toy, and game manufacturing), December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

Figure 3.3 Change in total shipments, real output, and employment in the U.S. games and toys industry relative to 2023 baseline as a result of PNTR status revocation

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Underlying data for this figure can be found in appendix [table G.14](#).



Source: USITC estimates.

Among the diverse array of games and toys sold in the United States, U.S. manufacturers would be more likely to see a greater increase in domestic shipments and production in market segments where they have traditionally had competitive advantages. For example, bulky or large toys are not as cost-effective to ship overseas as other toys because they require more space in shipping containers.¹⁶⁰ Partly for this reason, U.S. producers such as Little Tikes, Step2, Simplay3, and American Plastic Toys have continued to manufacture outdoor plastic toys and kitchen sets domestically for decades, despite competition from imports.¹⁶¹ In addition, U.S. producers of games and toys highlight their use of automation as a means to improve their cost competitiveness relative to labor-intensive manufacturers in China and other countries.¹⁶² In particular, capital-intensive production processes reliant on automation may be used to expand U.S. production of building kits, as demonstrated by recent investments made by producers of LEGO and K'Nex building sets.¹⁶³

¹⁶⁰ U.S. industry representative, interview by USITC staff, April 2, 2026; EC, ECSIP Consortium, *Study on the Competitiveness of the Toy Industry*, August 30, 2013, 59.

¹⁶¹ Little Tikes, "Little Tikes Over the Years," accessed March 16, 2026; Step2, "About Step2," accessed March 16, 2026; Bonior, "Simplay3's Tom Murdough," November 10, 2022, 3; American Plastic Toys, "About Us," accessed March 16, 2026; Summit County, Ohio, "Little Tikes," accessed June 23, 2026.

¹⁶² Fickenscher, "US's Biggest Toy Maker Cra-Z-Art to Expand," March 13, 2025; Rodon Group, "Cheaper than China Pricing," November 7, 2024; Chen et al., "Trump's Tariffs Have Meant a Boom in Business," June 9, 2025.

¹⁶³ Chen et al., "Trump's Tariffs Have Meant a Boom in Business," June 9, 2025; the LEGO Group, "LEGO Bricks in the Making," video, September 2, 2017; the LEGO Group, "LEGO Unveils Plans for On-Site Solar Park," March 18, 2026.

However, manufacturing of many games and toys will likely continue to rely primarily on manual production processes, which could keep most production concentrated in lower-wage foreign countries. Many game and toy sellers operate in market segments where routinely offering new products is valued by buyers and where product offerings may be discontinued after only a few months. The churn of product offerings favors the use of labor rather than capital investment, as new capital-intensive production lines take more time to set up.¹⁶⁴ In addition, production of certain kinds of games and toys cannot be easily automated. For example, dolls are often assembled using many different components and involve labor-intensive steps like face painting, hair affixing, dressing, and packaging.¹⁶⁵ For these reasons, U.S. industry representatives state that most game and toy manufacturing is likely to remain outside of the United States.¹⁶⁶

Observed changes in trade following recent U.S. tariff policy shifts also suggest that imports are likely to remain a significant source of supply to the U.S. market. As additional U.S. tariffs were imposed on imports from China in 2018 and 2025, many U.S.-based and foreign game and toy companies have looked for alternative sources of supply, particularly in other Asian countries.¹⁶⁷ In response to these additional tariff actions, contract manufacturing companies operating primarily in China have also invested in game and toy-producing facilities in other economies, particularly Vietnam, bringing their equipment and production expertise to those investments.¹⁶⁸ For example, Hosiden Corp. (Japan), Goertek Inc. (China), and Pegatron Corp. (Taiwan), contract manufacturers of video game consoles, have expanded their production in Vietnamese factories.¹⁶⁹ U.S. imports of video game consoles from Vietnam increased by 327.4 percent between 2022 and 2025 and overtook imports from China.¹⁷⁰ Notwithstanding these shifts, U.S. industry representatives state that U.S. game and toy sellers will likely continue to rely on Chinese producers despite higher tariffs because of the Chinese industry's depth of experience, large capacity, and robust supply chain.¹⁷¹ Despite the tariff actions in place in 2025, imports

¹⁶⁴ Torpey, "Toy Jobs: Work in the Business of Play," 2008, 4; *Power Kid Podcast*, "Nancy Zwiers Talks Barbie, PAW Patrol, and More!," September 1, 2020; Reece, "Toy Manufacturing," accessed June 23, 2026.

¹⁶⁵ *Power Kid Podcast*, "Nancy Zwiers Talks Barbie, PAW Patrol, and More!," September 1, 2020; Fickenscher, "US's Biggest Toy Maker Cra-Z-Art to Expand," March 13, 2025.

¹⁶⁶ U.S. industry representative, interview by USITC staff, April 2, 2026; Toy Association, written submission to USTR, April 15, 2026, 5; Whitten, "Mattel CEO Says Toy Manufacturing Won't Come," May 6, 2025; DiNapoli and McLymore, "Major US Toymaker Speeds Up Plan to Move," March 13, 2025.

¹⁶⁷ VTech, *Annual Report 2025*, 2025, 7; DiNapoli and McLymore, "Major US Toymaker Speeds Up Plan to Move Manufacturing Out of China," March 13, 2025.

¹⁶⁸ U.S. industry representative, interview by USITC staff, April 2, 2026; Tartar et al., "Made in Vietnam," December 10, 2025.

¹⁶⁹ Tartar et al., "Made in Vietnam," December 10, 2025.

¹⁷⁰ USITC DataWeb/Census, imports for consumption, HTS statistical reporting number 9504.50.0000, video game consoles and machines, accessed March 6, 2026.

¹⁷¹ Toy Association, written submission to the USITC, April 13, 2026, 2; Reuters, "Toy Manufacturers' Shift from China Not Child's Play," January 21, 2024.

from China accounted for most U.S. imports of games and toys other than video game consoles in that year.¹⁷²

Higher tariffs on the largest source of supply to the U.S. market would be likely to substantially increase prices of these products in the United States. Compared to the 2023 baseline, the effect of revoking PNTR status on consumer prices is estimated to be a 37.8 percent increase in prices in the first year following PNTR status revocation. In the sixth year of market adjustment to the higher tariffs compared to the baseline, consumer prices would be an estimated 34.8 percent higher ([table 3.4](#)).¹⁷³ Because games and toys are discretionary products, higher prices may contribute to reduced demand for these products.¹⁷⁴ Although the nominal value of the market's consumption of higher-priced games and toys may increase slightly, real expenditure for games and toys is estimated to be 25.5 percent lower in the sixth year compared to the baseline as a result of PNTR status revocation.¹⁷⁵

Rising prices for games and toys, coupled with weakening consumer demand, are expected to affect firms that design and sell these products. U.S. game and toy sellers that largely rely on imports would likely face higher costs, reduced profitability, and lower sales of their products to retailers that would also be eager to keep their costs low.¹⁷⁶ The Toy Association states that the broader game and toy industry supports hundreds of thousands of jobs in the United States that extend beyond manufacturing, such as product design and engineering jobs. They state that many of these jobs would be at risk if game and toy companies were to face significantly higher costs.¹⁷⁷ Retailers state that they would experience similar effects. For example, they state that higher tariffs and a corresponding increase in the price of games and toys would adversely affect small retailers that cannot absorb these increases.¹⁷⁸ U.S. game and toy sellers and U.S. retailers assert that household consumers would be left with higher costs, lower product choice and availability, and less overall buying power if prices for games and toys increase significantly.¹⁷⁹

Technical Textiles

The technical textiles industry (as defined under ITPD industry 58) produces a broad range of functional textiles (i.e., textiles designed to meet performance specifications rather than for aesthetics) using a wide variety of processes.¹⁸⁰ This sector comprises the manufacture of certain narrow fabrics, nonwoven

¹⁷² USITC DataWeb/Census, imports for consumption, HTS statistical reporting numbers 6308.00.0010, 6308.00.0020, 7018.90.1000, 8306.21.0000, 8306.29.0000, 8715.00.0020, 8715.00.0040, 8806.21.0000, 8806.22.0000, 8806.91.0000, 8806.92.0000, 9503.00.0011, 9503.00.0013, 9503.00.0071, 9503.00.0073, 9503.00.0090, 9504.90.4000, 9504.90.6000, 9505.90.2000, accessed March 6, 2026.

¹⁷³ USITC estimates.

¹⁷⁴ Hasbro Inc., *Form 10-K*, February 25, 2026, 21.

¹⁷⁵ USITC estimates.

¹⁷⁶ Hasbro Inc., *Form 10-K*, February 25, 2026, 21, 34; Luo, "Mattel Adjusts Operation," December 8, 2025.

¹⁷⁷ Toy Association, written submission to the USITC, April 13, 2026, 4–5.

¹⁷⁸ NRF, written submission to the USITC, April 13, 2026, 5.

¹⁷⁹ NRF, written submission to the USITC, April 13, 2026, 5; Toy Association, written submission to the USITC, April 13, 2026, 3–4.

¹⁸⁰ ITPD industry 58 corresponds with International Standard Industrial Classification of All Economic Activities (ISIC), revision 4, sector 1399 (Manufacture of other textiles n.e.c.). Larch et al., "ITPD-E-R03," June 2025, 26–27; United Nations, *ISIC Rev. 3.1, Revision 3.1*, 2004, 121.

fabrics, and coated fabrics, which are primarily used as material inputs in other manufacturing sectors, including downstream industries that produce vehicles, filtration systems, infrastructure, furniture, hygiene products, medical equipment, and items for military use.¹⁸¹ According to U.S. industry representatives, this diversity of downstream markets supports steady demand for their products.¹⁸² [Table 3.5](#) presents examples of products that are made using technical textiles.

Table 3.5 Selected products manufactured using technical textiles as material inputs, by fabric type

Fabric type	Selected products
Narrow fabric	Seat belts, chin straps, safety harnesses, parachute straps, space flight suit closures, pet leashes, zippers, decorative ribbons
Nonwoven fabric	Face masks, surgical gowns, vehicle trunk lining, air filters, dryer sheets, sound insulation, pleated shades, roadway reinforcement, diapers, industrial cleaning wipes
Coated fabric	Tarps, tents, awnings, boat covers, institutional mattress ticking, agricultural curtains, upholstery, construction signage, gym mats, protective clothing

Source: USITC.

Note: The above table is not an exhaustive list of all products that use technical textiles as material inputs.

U.S. Production

The U.S. technical textile industry supplied about 60.0 percent of apparent U.S. consumption in 2025 ([figure 3.4](#)).¹⁸³ Total shipments for the U.S. industry were \$10.4 billion in 2025, a 9.9 percent decline

¹⁸¹ Narrow fabrics are primarily woven or braided fabrics measuring less than 30 cm wide, including certain fabrics that may be reinforced, elasticized, or otherwise designed to serve a technical purpose. USITC, *HTS (2026) Revision 10*, Section XI, Chapter 58, 58-1, Note 5(a)–(c), June 2026; Census, “North American Industry Classification System,” NAICS 313220, Narrow Fabric Mills and Schiffli Machine Embroidery, accessed July 7, 2026. Coated fabrics include woven and knit fabrics impregnated, coated, covered, or laminated with rubber or plastic. USITC, *HTS (2026) Revision 10*, Section XI, Chapter 59, 59-1, Notes 1, 2(a)–(b), 3, and 5(a), June 2026. Nonwoven fabrics (nonwovens) are fabrics that are manufactured from fibers or filaments through mechanical, thermal, or chemical processing (i.e., not woven or knit). INDA, “About Nonwovens,” accessed April 14, 2026; U.S. industry representative, interview by USITC staff, March 12, 2026; U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

¹⁸² U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

¹⁸³ U.S. shipment, employment, establishment, and trade information presented in this section are based on data classified under NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills). These NAICS industries overlap closely with ITPD industry 58.

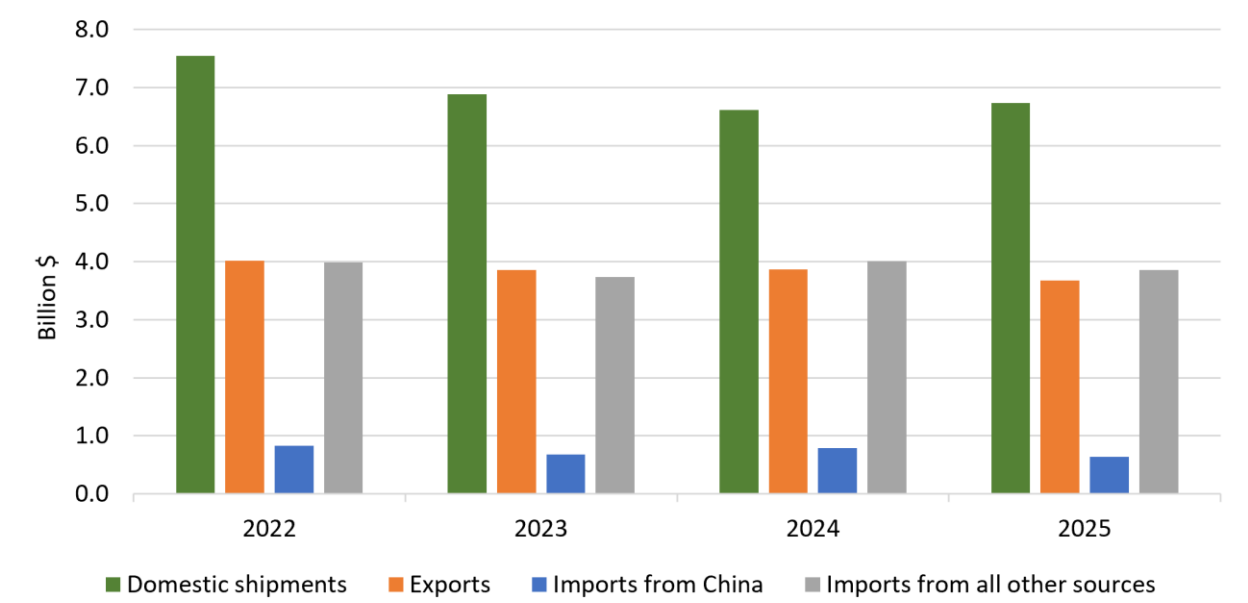
over 2022 levels.¹⁸⁴ U.S. exports were \$3.7 billion in 2025, suggesting that nearly 65.0 percent of total U.S. shipments were U.S. domestic shipments. Conversely, in 2022, U.S. exports were \$4.0 billion and comprised more than half of total U.S. shipments. Mexico and Canada together accounted for 57.8 percent of the U.S. industry's exports in 2025, with trade facilitated by the United States-Mexico-Canada Agreement (USMCA).¹⁸⁵

¹⁸⁴ Total shipment data for 2022 were from sales, value of shipments, or revenue data from the 2022 Economic Census. The Commission extrapolated total shipment data for 2023–25 from 2022 total shipments using annual changes in broader manufacturing sector total shipments as reported in the Manufacturers' Shipments, Inventories, & Orders (M3) survey. Specifically, 2022 total shipments data for NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills) were multiplied by an index of total shipments data covering 2023–25 (where 2022 = 1) for M3 industry category 13S (Textile Mills). Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A13SVS, February 23, 2026.

¹⁸⁵ WTO, *Global Value Chains Sectoral Profiles*, August 30, 2024, 3, 5; USMCA Implementation Act, 19 U.S.C. §§ 4501–4732; USITC DataWeb/Census, domestic exports, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed March 6, 2026. The USMCA provides the three North American trade partners with reciprocal duty-free treatment on qualifying goods, and its rules of origin encourage regional supply chains. The USMCA went into effect on July 1, 2020, replacing the North American Free Trade Agreement.

Figure 3.4 Value of U.S. domestic shipments, imports, and exports of technical textiles, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.15](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), fabric coating mills, December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A13SVS, February 23, 2026.

Note: Domestic shipments are the U.S. industry’s shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

In the United States, a variety of firms manufacture technical textiles. The industry is generally characterized by innovation and advanced engineering capabilities, with output that meets strict performance specifications and regulatory standards.¹⁸⁶ Technical textiles is a capital-intensive industry that requires expensive machinery and equipment.¹⁸⁷ Worker recruitment and rising labor costs are additional challenges for the industry, although some textile mills have begun to invest more in automation to reduce labor costs and increase efficiency.¹⁸⁸ Nonetheless, the industry is a major employer. In 2022, the U.S. technical textiles industry employed about 28,500 workers across 536 mostly privately held establishments, including 160 narrow fabric mills (NAICS 313220), 223 nonwoven fabric mills (NAICS 313230), and 153 coated fabric mills (NAICS 313320). By 2025, employment in the

¹⁸⁶ Feroletto, *Textile Mills in the US*, March 2026, 12; AFFOA, *National Textile Industry Workforce Needs Assessment*, 2024, 32; INDA, written submission to the USITC, April 13, 2026, 2.

¹⁸⁷ Feroletto, *Textile Mills in the US*, March 2026, 24–25.

¹⁸⁸ Feroletto, *Textile Mills in the US*, March 2026, 35; AFFOA, *National Textile Industry Workforce Needs Assessment*, 2024, 32.

technical textiles industry decreased to about 25,000, down more than 12 percent from 2022.¹⁸⁹ Nearly half of technical textile establishments include specialty mills employing fewer than 20 workers.¹⁹⁰

U.S. technical textile producers report stiff competition for customers, with price being a significant factor in nearly every end-use market.¹⁹¹ However, U.S. industry representatives indicate that cost is not always the primary consideration for buyers. Some customers are willing to pay a premium for certain preferences that the U.S. industry delivers, including compliance with product specifications, such as safety standards, and for customized, engineered textile solutions.¹⁹²

The U.S. technical textiles industry benefits from U.S. government procurement policies that support a fully domestic supply chain for certain finished textile products.¹⁹³ The Berry and Kissell Amendments are two key domestic preference statutes that apply to textile-based purchases for the U.S. Department of Defense (USDOD) and the U.S. Department of Homeland Security (USDHS), respectively.¹⁹⁴ In particular, the Berry Amendment—which applies to finished textile products including tents, tarps,

¹⁸⁹ Census, 2022 Economic Census, Number of employees and number of establishments, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

¹⁹⁰ About 36 percent of establishments reported 20–99 employees, and roughly 11 percent indicated 100–249 workers in 2022. Less than 3 percent of technical textile manufacturing establishments employ more than 250 workers, and these establishments are primarily in the nonwoven fabrics (nonwovens) industry. Census, 2022 Business Patterns, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed April 5, 2026. Some U.S. technical textile companies are parts of a larger corporate structure that includes related businesses in chemicals or finished textile products or both. For example, Milliken, a large U.S. producer of innovative textiles, also has divisions that manufacture specialty chemicals and flooring. Additionally, Safety Components, a U.S. manufacturer of technical fabrics for protective gear, is part of Elevate Textiles, a multinational corporation that includes thread, denim, and apparel manufacturers. Furthermore, in certain segments of the nonwovens industry—particularly for the price-sensitive disposable end markets—some establishments have developed a vertically integrated structure, where a share of textile production may be for a company’s internal consumption. For example, 3M produces nonwovens in the United States as material inputs for its respirators and sorbent pads, and Kimberly-Clark produces nonwovens as material inputs for diapers, wet wipes, and other absorptive hygiene products. Milliken, “A Global Manufacturing Leader,” accessed April 11, 2026; Elevate Textiles, “Who We Are,” accessed April 11, 2026; Safety Components, “Who We Are,” accessed April 11, 2026; 3M, “3M Valley Plant,” April 6, 2026; Kimberly-Clark, *Form 10-K: Annual Report*, February 13, 2025, 2.

¹⁹¹ U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026. An example of an end-use market with low price sensitivity is that of technical textile-based products for yachts (e.g., covers, shades).

¹⁹² U.S. technical textile manufacturers also report that they offer downstream U.S. industries certain advantages over imports, including quick and reliable delivery (i.e., geographic proximity eliminates the risk of shipping bottlenecks), collaborative product development, and low minimum order quantities available from smaller-scale U.S. mills. U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

¹⁹³ NCTO, “Government Procurement,” June 24, 2017; CRS, *Domestic Preference Statutes: The Berry Amendment and the Kissell Amendment*, May 19, 2025. NCTO, “Government Procurement,” June 24, 2017; CRS, *Domestic Preference Statutes: The Berry Amendment and the Kissell Amendment*, May 19, 2025.

¹⁹⁴ 10 U.S.C. § 4862 and 6 U.S.C. § 453b.

parachutes, apparel, and footwear, as well as certain other goods (e.g., flatware) purchased by the USDOD—requires fully domestic sourcing of raw materials and production, from components to final assembly.¹⁹⁵ Similarly, the Kissell Amendment requires domestic sourcing of textiles and textile products procured by the USDHS, although it makes explicit allowance for foreign sourcing under the terms of certain trade agreements.¹⁹⁶ U.S. industry sources have credited the government procurement programs with providing critical, reliable demand for fibers, yarns, and fabrics produced in the United States, thereby ensuring domestic sources of many material inputs into defense-related applications.¹⁹⁷

U.S. Imports

U.S. imports of technical textiles supplied 40.0 percent of apparent consumption in 2025.¹⁹⁸ Technical textile imports fell from \$4.8 billion in 2022 to \$4.5 billion in 2025, primarily driven by a \$249 million decline in imports of coated fabrics ([table 3.6](#)).¹⁹⁹ China is the top supplier of technical textiles imports to the United States, despite a 22.5 percent decrease in levels between 2022–25.²⁰⁰

¹⁹⁵ 10 U.S.C. § 4862; CRS, *Domestic Preference Statutes*, May 19, 2025, 1.

¹⁹⁶ 6 U.S.C. § 453b; CRS, *Domestic Preference Statutes*, May 19, 2025, 1.

¹⁹⁷ Borneman, “U.S. Textiles,” February 27, 2026; USDOC, OTEXA, “The Berry Amendment,” accessed April 9, 2026. U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026. The Berry Amendment allows exceptions for certain materials that are not domestically available, such as 50 denier rayon yarn.

¹⁹⁸ USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed March 6, 2026; Census, 2022 Economic Census, sales, value of shipments, or revenue, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A13SVS, February 23, 2026.

¹⁹⁹ USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026. During 2022–25, U.S. imports of nonwovens decreased by \$97 million but narrow fabrics increased by \$26 million.

²⁰⁰ USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026. Despite the decline in China’s exports to the United States, China’s global exports of technical textiles increased between 2022 and 2025. In particular, China’s technical textiles exports to Vietnam and Cambodia had the largest growth by value during the period. S&P Global, GTAS database, exports from China to all trade partners, HS subheadings 5601.21, 5601.22, 5601.29, 5601.30, 5602.10, 5602.21, 5602.29, 5602.90, 5603.11, 5603.12, 5603.13, 5603.14, 5603.91, 5603.92, 5603.93, 5603.94, 5604.10, 5604.90, 5605.00, 5606.00, 5804.10, 5804.21, 5804.29, 5804.30, 5806.10, 5806.20, 5806.31, 5806.32, 5806.39, 5806.40, 5807.10, 5807.90, 5808.10, 5808.90, 5809.00, 5810.10, 5810.91, 5810.92, 5810.99, 5811.00, 5901.10, 5901.90, 5902.10, 5902.20, 5902.90, 5903.10, 5903.20, 5903.90, 5907.00, 5908.00, 5909.00, 5910.00, 5911.10, 5911.20, 5911.31, 5911.32, 5911.40, 5911.90, technical textiles, accessed May 1, 2026.

Table 3.6 Value of U.S. imports of technical textiles, by fabric type, 2022 and 2025

In billions of dollars and percentages.

Fabric type	2022 (billion \$)	2025 (billion \$)	Change, 2022–25 (%)
Narrow fabrics	1.2	1.2	2.2
Nonwovens	2.2	2.1	–4.4
Coated fabrics	1.4	1.2	–17.2
All fabric types	4.8	4.5	–6.7

Source: USITC DataWeb/Census, imports for consumption, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026.

Note: Calculations are based on unrounded data.

Exporters from China compete in the U.S. technical textiles market primarily based on their low prices, ability to supply large-scale volume, and product mix.²⁰¹ The textiles industry in China is highly developed, with wide-ranging production of fibers, yarns, fabrics, and finished goods.²⁰² As a result, China has become the key global supplier of intermediate inputs used in textile production, including textile manufacturing machinery and certain material inputs with limited availability from other sources, allowing it to offer lower prices for technical textiles than other suppliers.²⁰³ The industry has enormous export-oriented capacity and benefits from economies of scale in high-volume, price-sensitive markets.²⁰⁴ Furthermore, China manufactures a broad variety of technical textiles, including certain options that other suppliers do not offer.²⁰⁵

Imports from China accounted for 14.2 percent of total U.S. technical textiles imports in 2025 ([table 3.7](#)).²⁰⁶ China is the leading source of U.S. imports of nonwovens and the second-largest source of both narrow and coated fabrics.²⁰⁷ In recent years, the nonwoven industry in China has invested in high-quality, efficient manufacturing equipment and in the development of its workforce to support

²⁰¹ Fibre2Fashion, “Rising US Tariffs May Shift Polyurethane-Coated Fabric,” March 13, 2025; Fibre2Fashion, “China Retains Edge,” March 18, 2025; “Can China Retain its Lead?,” March 20, 2025.

²⁰² WTO, *Global Value Chains Sectoral Profiles*, August 30, 2024, 2, 6, 8–10; Maile and Staritz, “Lead Firm Strategies,” March 12, 2026, 15–16.

²⁰³ INDA, written submission to the USITC, April 13, 2026, 2–3; NCTO, written submission to the USITC, April 13, 2026, 1, 3, 5.

²⁰⁴ Frederick and Gereffi, “Upgrading and Restructuring in the Global Apparel Value Chain,” 2011, 84–86, 90; Maile and Staritz, “Lead Firm Strategies,” March 12, 2026, 16.

²⁰⁵ For example, China produces certain specialty grade nonwovens—that are not customized or high-end—not readily available from other sources. INDA, written submission to the USITC, April 13, 2026, 3; *Trade Talks*, “How One Small American Manufacturer Is Dealing,” 34:19, April 19, 2026; NCTO, written submission to the USITC, April 13, 2026, 5.

²⁰⁶ USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026.

²⁰⁷ In 2025, Mexico was the top source of U.S. imports of narrow fabrics (NAICS 313220), and India was the top source of coated fabrics (NAICS 313320). USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026.

production for the export market.²⁰⁸ Although China exports a diverse range of fabrics to the United States, U.S. imports from China have become increasingly concentrated in nonwovens that enter under two HTS statistical reporting numbers, 5603.92.0095 (14.0 percent of total technical textile imports from China in 2025) and 5603.93.0090 (11.6 percent).²⁰⁹ Notably, these products are among the small share of fabrics from China excluded from section 301 tariffs.²¹⁰ This suggests that China's industry has the operational flexibility (i.e., sufficient production capacity, access to raw materials, and logistical support) to adapt its supply to the U.S. market in favor of products that are not disadvantaged by additional duties.²¹¹

Table 3.7 Value of U.S. imports of technical textiles, by import source, 2022–25

In millions of dollars.

Trade partner	2022	2023	2024	2025
China	822	675	790	637
Mexico	497	529	606	604
India	380	404	514	442
Germany	398	363	382	380
Canada	463	476	416	369
All other sources	2,250	1,963	2,085	2,056
Total	4,809	4,410	4,793	4,489

Source: USITC DataWeb/Census, imports for consumption, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed March 6, 2026.

Note: Calculations are based on unrounded data.

²⁰⁸ Nonwovens production particularly benefits from China's large-scale manufacturing operations. Pourdeyhi, "Implications for the Nonwovens Industry," February 13, 2024; McIntyre, "China's Nonwovens Output," May 6, 2025; McIntyre, "Nonwovens Manufacturing in Asian Countries Varies," February 4, 2026.

²⁰⁹ Imports under these numbers include nonwovens greater than 25 grams per square meter (g/m²) up to 70 g/m² in weight (HTS statistical reporting number 5603.92.0095) and greater than 70 g/m² up to 150 g/m² in weight (HTS statistical reporting number 5603.93.0090) made from staple fibers. USITC, *HTS (2026) Revision 5*, chapter 56, 56.5, April 2026; USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026.

²¹⁰ Many fabrics from China became subject to section 301 tariffs in 2019. USTR, 83 Fed. Reg. 47974 (September 21, 2018). These tariffs were separate from the tariff actions taken since January 2025, which applied to many other sources of U.S. imports and therefore have different impacts on competitiveness. EOP, Executive Order 14195, 90 Fed. Reg. 9121 (February 7, 2025) and EOP, Executive Order 14257, 90 Fed. Reg. 15041 (April 7, 2025). Notably, China's share of U.S. imports of technical textiles dropped from 25.7 percent in 2018 to 14.2 percent in 2025. USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed May 1, 2026.

²¹¹ For example, U.S. imports from China of certain nonwovens entering under HTS 5603.93.0090 rose from \$18 million in 2018 to \$74 million in 2025; by comparison, U.S. imports from China of certain plastic-coated fabrics under HTS 5903.90.3090, which are subject to section 301 tariffs, fell from \$40 million in 2018 to \$6 million in 2025. USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed May 5, 2026; USTR, 83 Fed. Reg. 47974 (September 21, 2018).

Overall, the U.S. import sourcing for technical textiles is relatively fragmented. Mexico and India are the second- and third-largest sources of U.S. imports of technical textiles, supplying 13.5 percent and 9.8 percent shares in 2025, respectively.²¹² As imports from China have decreased, Mexico and India have become increasingly important suppliers to the U.S. market.²¹³ However, for both countries, U.S. imports are focused within a specific product category. Narrow fabrics are the top U.S. technical textile imports from Mexico and accounted for 67.4 percent of total technical textile imports from Mexico in 2025.²¹⁴ Similarly, coated fabrics led U.S. technical textile imports from India, with 59.4 percent of India's total in 2025.²¹⁵

Effects of China PNTR Status Revocation

The U.S. technical textiles industry would likely experience small but positive changes in the sixth year as a result of the revocation of China's PNTR status, compared to the 2023 baseline. HTS column 2 rates are 57.8 percentage points higher, ad valorem, than HTS column 1 rates.²¹⁶ [Table 3.8](#) provides the estimated effects of higher tariffs in the sixth year after PNTR status revocation.²¹⁷ However, the

²¹² USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026.

²¹³ USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed May 1, 2026. Mexico's share of U.S. imports of narrow fabrics (NAICS 313220) increased significantly from 21.9 percent in 2018, when section 301 tariffs were enacted on many such fabrics imported from China, to 34.1 percent in 2025. India's share of U.S. imports of coated fabrics (NAICS 313320) grew even more significantly between 2018–25, rising from 6.6 percent to 21.9 percent. See above discussion of section 301 tariffs on textiles from China.

²¹⁴ Of total U.S. imports of technical fabrics from Mexico in 2025, 62.0 percent entered under HTS statistical reporting number 5911.90.0080, a category that includes certain narrow technical textiles, and 95.8 percent of these imports entered duty free under the USMCA, which offers a price advantage over imports subject to tariffs in the U.S. market. USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026; USITC DataWeb/Census, HTS statistical reporting number 5911.90.0080, textile fabrics for technical uses, accessed June 8, 2026; Fibre2Fashion, "Technical Textiles Trade in US," March 5, 2025.

²¹⁵ Nearly half (48.4 percent) of technical textile imports from India in 2025 were concentrated in HTS statistical reporting number 5903.90.3090, a category for certain plastic-coated fabrics. Fibre2Fashion, "India's Strategic Position in US Industrial Textiles Market," February 22, 2025. USITC DataWeb/Census, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed February 28, 2026.

²¹⁶ USITC estimates; USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025; USITC, *Harmonized Tariff Schedule of the United States (2023)*, Basic Edition, December 30, 2022. See [appendix F](#) for a discussion of how column 1 and column 2 AVEs are calculated in this investigation.

²¹⁷ Imports of technical textiles from China decreased by 5.7 percent between 2023 and 2025, a more modest decline compared to the 30.0 percent decrease in overall imports from China during that time. USITC DataWeb/Census, imports for consumption, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed March 6, 2026. As described in [chapter 2](#), the decline in U.S. imports from China since 2023 likely leads to greater estimated impacts of PNTR revocation compared to what would be estimated under more recent U.S. market conditions, but this effect is likely less pronounced for industries like technical textiles that experienced relatively lower declines in U.S. imports.

industry-level results do not capture the likely variation in impacts across product categories, such as by fabric type and market segment.²¹⁸ Factors influencing these trends are outlined below.

Table 3.8 Summary of estimated economic effects of PNTR status revocation in the U.S. technical textiles industry in the sixth year relative to the 2023 baseline
In percentages.

Item	Change (%)
Consumer prices	3.5
U.S. industry's production cost	1.0
Imports from China	-32.5
Imports from other sources	3.6
Imports from all sources	-1.8
U.S. industry's domestic shipments	3.0
U.S. exports	0.0
U.S. industry's total shipments	1.7
U.S. industry's real output	0.8
U.S. industry's employment	1.3
U.S. real expenditure	-3.0

Source: USITC estimates.

Generally, technical textiles from China compete most effectively in price-sensitive, high-volume end-use segments of the U.S. market.²¹⁹ If the price of technical textiles from China were to rise substantially because of higher tariff rates, U.S. imports from China would be expected to decline sharply. This would create an opportunity for U.S. manufacturers to supply more goods to domestic consumers, leading to a small increase in U.S. production to meet domestic demand for the price-sensitive end-use markets currently supplied by China. Although the United States is likely to capture some of China's share in these price-sensitive markets, it is likely that imports from third countries would also increase.²²⁰ In particular, imports of narrow fabrics and coated fabrics from Mexico and India, respectively, would likely see growth as imports from China fall, as these countries are already major suppliers to the U.S. market for these products. By contrast, there are fewer alternative sources of nonwoven products other than China, and the creation of new sources of supply would require significant capital investments. For this

²¹⁸ For example, U.S. technical fabrics do not face import competition from China for USDOD and USDHS purchases under the Berry and Kissell Amendments. As such, a considerable share of the U.S. technical textile industry's domestic shipments is to market segments that would likely experience minimal effects from PNTR revocation.

²¹⁹ For example, fabrics from China are frequently used for construction signs, tarps used to cover commercial truck beds, and institutional mattress covers. U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

²²⁰ Qualifying imports of technical textiles from Mexico have the cost advantage of duty-free access to the U.S. market. The Indian government has an initiative to promote the technical textile industry, including support for export promotion, research, and training. Government of India, PIB, "5 Years of National Technical Textiles Mission," March 27, 2025; Fibre2Fashion, "India's Strategic Position in US Industrial Textiles Market," February 22, 2025; Fibre2Fashion, "Can China Retain Its Lead?," March 20, 2025; Fibre2Fashion, "US Tariffs May Reshape Plastics-Coated Textile Fabric Trade Dynamics," March 13, 2025; Fibre2Fashion, "US Industrial Textile Imports Fall," April 30, 2026.

reason, China would likely continue to be one of the main suppliers of these products in addition to the U.S. industry.

[Figure 3.5](#) shows how revocation of PNTR would impact the sources of supply to the U.S. market following PNTR status revocation. Changes in trade and domestic shipments are estimated to be minimal in the first year following PNTR status revocation.²²¹ However, imports from China are estimated to be 32.5 percent (or \$220 million) lower in the sixth year and 86.9 percent (or \$587 million) lower over the long run compared to the 2023 baseline.²²² Although the projected percentage changes are large, the relatively small changes in value reflect the moderate starting point of U.S. technical textile imports from China. U.S. domestic shipments would increase by an estimated 3.0 percent (or \$207 million) in the sixth year as a result of PNTR status revocation and 7.0 percent (or \$481 million) over the long run compared to the baseline.²²³ U.S. imports from other countries would likely grow as well, rising an estimated 3.6 percent in the sixth year as a result of PNTR status revocation and 8.6 percent over the long run.²²⁴

²²¹ USITC estimates.

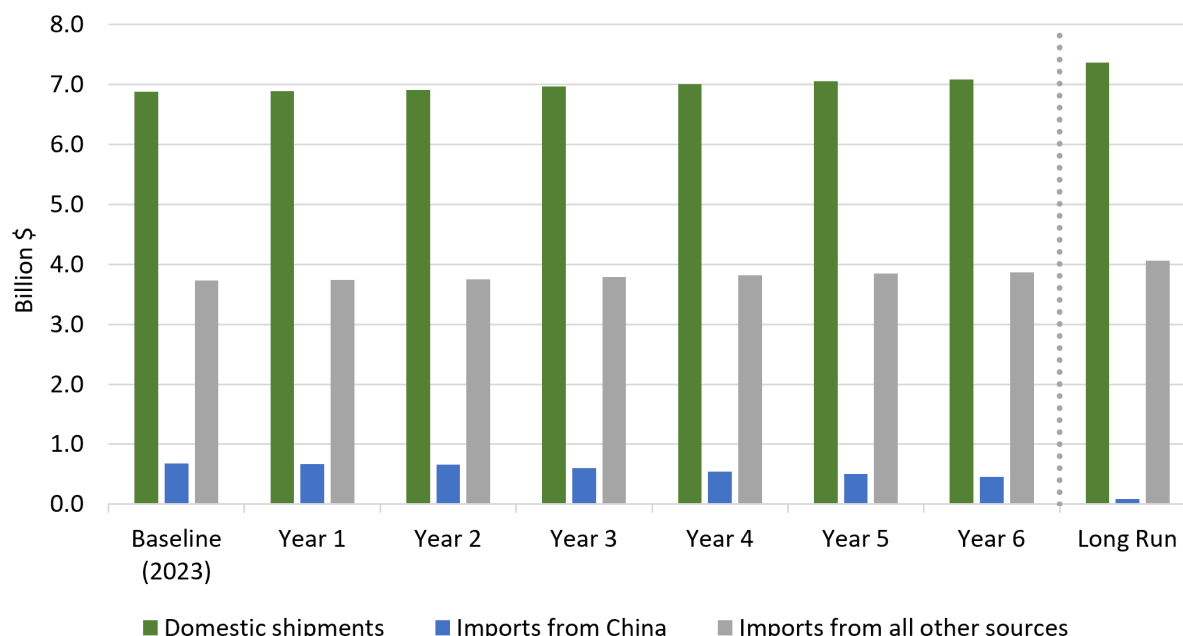
²²² USITC estimates.

²²³ USITC estimates.

²²⁴ USITC estimates.

Figure 3.5 Estimated value of U.S. domestic shipments and imports of technical textiles as a result of PNTR status revocation

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Underlying data for this figure can be found in appendix [table G.16](#).



Sources: USITC estimates; USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), accessed March 6, 2026; Census, 2022 Economic Census, sales, value of shipments, or revenue, NAICS 313220 (narrow fabric mills and Schiffli machine embroidery), NAICS 313230 (nonwoven fabric mills), and NAICS 313320 (fabric coating mills), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A13SVS, February 23, 2026.

Note: Baseline values are from 2023 to maximize consistency with the data used in the gravity model simulation described in [appendix D](#). Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Within more price-sensitive market segments, the impact on China's share of the U.S. market is expected to be different for nonwovens than for narrow and coated fabrics. Nonwovens manufacturing often involves large, sophisticated, capital-intensive machinery and requires specially trained workers.²²⁵ China has an established, highly competitive nonwovens industry that accounts for a significant share of global production capacity.²²⁶ Additionally, China produces certain specialty grades of nonwovens that are not available from other sources.²²⁷ As a result, the effect of PNTR status revocation may be more

²²⁵ INDIA, *North American Nonwovens Supply Report*, 2026, 3, 5; Russell, *Handbook of Nonwovens*, May 31, 2022, 10–11; Kirchain et al., *Preparing the Advanced Manufacturing Workforce*, May 2021.

²²⁶ McIntyre, "China's Nonwovens Output Records the Largest Post-Pandemic Growth," May 6, 2025; McIntyre, "Nonwovens Manufacturing in Asian Countries Varies," February 4, 2026; INDIA, written submission to the USITC, April 13, 2026, 3.

²²⁷ INDIA, written submission to the USITC, April 13, 2026, 3; *Trade Talks*, "How One Small American Manufacturer Is Dealing," 34:19, April 19, 2026.

limited for these products compared to narrow and coated fabrics because third countries may not currently have the production capacity (i.e., machinery and trained operators) to increase their supply to the United States.²²⁸

Although the U.S. manufacturers of technical textiles compete with imports from China in the fabrics market, China is also a significant source of material inputs and machinery for the U.S. industry. China reportedly accounts for more than half of global capacity for yarn spinning.²²⁹ Furthermore, China accounted for approximately 80 percent of global production of polyester fiber in 2023, including staple fibers and filament.²³⁰ With the shift to column 2 rates of duty applied to all products from China following revocation of its PNTR status, the cost of imported material inputs and equipment would likely rise considerably, increasing the production costs for the domestic textile industry.²³¹ Because the technical textiles industry relies heavily on imported intermediate goods from China, the higher tariffs are estimated to increase the industry's production costs, dampening growth in real output.²³²

The U.S. technical textile industry has the potential to expand output with existing facilities. Reportedly, idle capacity could be brought back online in two to six years depending on the state of the facility and the ability to hire.²³³ Furthermore, the U.S. nonwovens industry reports unused capacity from recent investments.²³⁴ However, the broader U.S. textiles industry has a shortage of skilled labor, with

²²⁸ McIntyre, "China's Nonwovens Output Records the Largest Post-Pandemic Growth," May 6, 2025; McIntyre, "Nonwovens Manufacturing in Asian Countries Varies," February 4, 2026; INDA, written submission to the USITC, April 13, 2026, 3.

²²⁹ USDA, FAS, *Cotton and Products Annual Report*, April 23, 2025, 14.

²³⁰ Textile Exchange, *Materials Market Report*, September 2025, 5; *China Textile Leader*, "Operation Analysis of China's Chemical Fiber Industry in 2023," April 16, 2024. Textile Exchange reported 71 million tons of global polyester production in 2023, and the China Chemical Fibers Association reported that China's output of polyester fiber totaled 57 million tons for the same year.

²³¹ U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 1, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

²³² USITC estimates. The role that higher tariffs on intermediate imports plays in reducing the manufacturing sector's real output is also described in [chapter 2](#). For example, U.S. exports of technical textiles to foreign markets would likely become more expensive, leading to a reduction in exports.

²³³ NCTO reports that about 40 mills across the U.S. textile industry have closed since April 2024. ATA, "2023 Advanced Textiles State of the Industry Report," June 1, 2023; Nishimura, "It Will Take More Than Tariffs," May 4, 2026; NCTO, written submission to the USITC, April 13, 2026, 4. U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

²³⁴ INDA, written submission to the USITC, April 13, 2026, 1.

insufficient numbers of young employees to replace the experienced workers who have reached retirement age.²³⁵

The opportunity to gain market share could also incentivize investment in new U.S. technical textiles capacity, although uncertainty and ambiguity about trade policy may impact investment decisions. In particular, U.S. industry representatives have expressed hesitation about expanding production without certainty that tariffs would remain in effect and without clarification of how column 2 duties may apply in conjunction with other duties.²³⁶ Nonetheless, U.S. textile industry representatives believe that current conditions are likely to support increased investment and production capacity, primarily in existing sites rather than new facilities.²³⁷ Notably, investment in national security–related textiles manufacturing is now eligible for support under the 2026 Defense Production Act (DPA).²³⁸

[Figure 3.6](#) presents estimates of the U.S. technical textile industry’s response to PNTR status revocation. The U.S. technical textile industry’s total shipments are estimated to increase by 1.7 percent in the sixth year relative to the baseline, equivalent to over half of the 3.3 percent growth in total shipments in the long run. The relatively rapid adjustment of this industry’s total shipments to PNTR status revocation compared to other industries described in this chapter is likely because of the lower market share held by imports from China in the baseline and the corresponding ability for other sources of supply to fill the gap left by those imports relatively quickly.²³⁹ Real output would begin to rise in the fourth year following PNTR status revocation, increasing over the 2023 baseline by 0.8 percent in the sixth year and 2.6 percent in the long run. Employment is estimated to grow from about 27,000 workers to 27,300

²³⁵ A 2025 Census survey found that 35.3 percent of textile mills (NAICS 313) reported that they did not fully utilize their capacity in the fourth quarter of 2025 due to insufficient supply of labor. By contrast, only 17.4 percent of the broader manufacturing sector reported that insufficient supply of labor contributed to less than full capacity utilization. Census, QPC, table 3b, “Quarterly Survey of Plant Capacity Utilization: Reasons for Difference in Actual Operations vs. Full Production Capability, 2025 Quarter 4,” NAICS 313 (textile mills), March 2026; ATA, “2023 Advanced Textiles State of the Industry Report,” June 1, 2023; Nishimura, “It Will Take More Than Tariffs,” May 4, 2026; AFFOA, *National Textile Industry Workforce Needs Assessment*, 2024, 31. U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

²³⁶ U.S. industry representatives estimate that new production lines would cost at least \$5–10 million, and workers require about two years of training to become fully productive. Nishimura, “It Will Take More Than Tariffs,” May 4, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

²³⁷ NCTO, written submission to the USITC, April 13, 2026, 2; Tymkiw, “U.S. Textile Manufacturers Are Building for the Future,” September 4, 2025; U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 1, 2026.

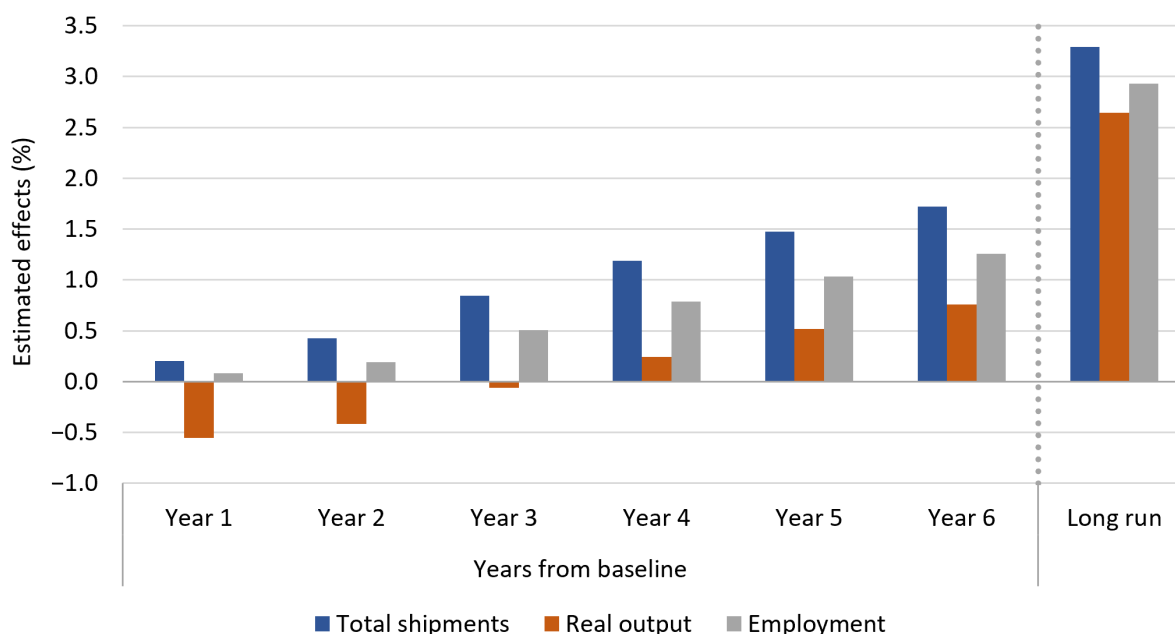
²³⁸ The DPA authorizes the President to direct domestic industrial capacity in support of national defense. In 2026, President Trump invoked the DPA and allowed for funding under the DPA for certain warfighter clothing, textiles, and equipment. Defense Production Act, 50 U.S.C. § 4501; Feroletto, *Textile Mills in the US*, March 2026, 32–33; *Business Insider*, “Washington’s Textile Strategy,” March 5, 2026; NCTO, “U.S. Textile Industry Applauds,” February 23, 2026; EOP, 91 Fed. Reg. 8063 (February 13, 2026).

²³⁹ For the technical textiles industry, the GE Model estimates a trade elasticity—a measure of trade responsiveness—of 5.86. This value is comparable to the trade elasticities estimated for the other two goods-producing industries examined in this chapter. See [chapter 2](#) and [appendix D](#) for more information on how trade elasticities were estimated in this report.

workers, or 1.3 percent, in the sixth year compared to the baseline.²⁴⁰ The industry is expected to experience small negative impacts in the early years following the policy change before achieving these small gains.²⁴¹

Figure 3.6 Change in total shipments, real output, and employment in the U.S. technical textiles industry relative to 2023 baseline as a result of PNTR status revocation

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Underlying data for this figure can be found in appendix [table G.17](#).



Source: USITC estimates.

A removal of China's PNTR status would result in small benefits to upstream manufacturers in the technical textiles supply chain. The U.S. fiber and yarn industry, which reportedly has unused capacity, would likely benefit from a small increase in demand from domestic fabric manufacturers as they increase production.²⁴² However, China is a major global producer of certain material inputs to the U.S. fiber and yarn industry, and an increase in tariffs on U.S. imports of these intermediate goods would

²⁴⁰ USITC estimates.

²⁴¹ Initially after PNTR revocation, rising costs of intermediate inputs would increase producer prices by more than the increase in total shipments; as a result, real output would decline in the first two years compared to the 2023 baseline. However, the immediate growth in total shipments would mean higher revenue for U.S. firms, allowing for increased spending on production. Because wages increase more slowly than the intermediate input costs, U.S. manufacturers would likely hire more workers rather than spend more on intermediate goods, as reflected in the small increase in employment that begins in the first year. USITC estimates.

²⁴² U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

increase costs for U.S. fiber and yarn producers.²⁴³ U.S. technical textile producers' demand for U.S.-produced fibers and yarns would soften as a result of higher prices. Furthermore, it is expected that some U.S. sourcing of upstream products would shift to third countries, particularly within Asia.²⁴⁴ For example, Vietnam, a key importer of manmade fibers from China, has become an important source of certain manmade fibers and yarns for the U.S. technical textile industry.²⁴⁵

Downstream industries in the United States may experience a negative impact as a result of increased fabric costs, which would raise the price of their products.²⁴⁶ Consumer prices for technical textiles in the U.S. market are estimated to rise by 3.5 percent in the sixth year compared to the 2023 baseline, resulting in a 3.0 percent decrease in U.S. real expenditure ([table 3.8](#)).²⁴⁷ Production may also shift to low-cost sources of finished goods, such as Vietnam, that source intermediate inputs from China.²⁴⁸ Ultimately, fabrics from China may continue to enter the U.S. market through imports of finished goods from third countries (i.e., through articles made with textiles from China) rather than as material inputs for downstream U.S. production.²⁴⁹ Many of these downstream products are for highly price-sensitive disposable end uses, such as hygiene products, that benefit from production in locations with lower costs.²⁵⁰ These products may see less quantity demanded as prices increase and customers pivot to reusable products and other alternatives or decide to cut their spending overall.²⁵¹

²⁴³ U.S. industry representative, interview by USITC staff, March 31, 2026; U.S. industry representative, interview by USITC staff, April 1, 2026; U.S. industry representative, interview by USITC staff, April 7, 2026.

²⁴⁴ U.S. industry representative, interview by USITC staff, April 7, 2026.

²⁴⁵ WTO, *Global Value Chains Sectoral Profiles*, August 30, 2024, 5, 9–10; *China Textile Leader*, “Operation Analysis of China’s Chemical Fiber Industry in 2023,” April 16, 2024. S&P Global, GTAS database, exports from China to all trade partners, HS headings 5401, 5402, 5403, 5404, 5405, 5406, 5501, 5502, 5503, 5504, 5506, 5507, 5508, 5509, 5510, 5511, certain manmade fibers and yarn, accessed April 16, 2026; USITC DataWeb/Census, HS headings 5401, 5402, 5403, 5404, 5405, 5406, 5501, 5502, 5503, 5504, 5506, 5507, 5508, 5509, 5510, 5511, certain manmade fibers and yarn, accessed April 16, 2026. The United States imported \$2.3 billion in manmade fibers and yarns in 2025, a decrease of \$291 million from 2019 levels. U.S. imports of these products from Vietnam increased by \$184 million during 2019–25, rising sharply from \$57 million to \$240 million; by comparison, such imports from China fell from \$385 million to \$179 million, a decrease of \$206 million, during the same period.

²⁴⁶ INDA, written submission to the USITC, April 13, 2026, 3; AAFA, written submission to the USITC, April 13, 2026, 3.

²⁴⁷ USITC estimates.

²⁴⁸ Rao, “Alpha Foam—Leveraging Strengths,” 2026; McIntyre, “China’s Nonwovens Output,” May 6, 2025. S&P Global, GTAS database, exports from China to all trade partners, HS headings 5401, 5402, 5403, 5404, 5405, 5406, 5501, 5502, 5503, 5504, 5506, 5507, 5508, 5509, 5510, 5511, certain manmade fibers and yarn, accessed April 16, 2026.

²⁴⁹ Haberkorn et al., “Global Trade Patterns . . . U.S.-China Tariff Hikes,” April 12, 2024.

²⁵⁰ Rao, “Alpha Foam—Leveraging Strengths,” 2026.

²⁵¹ Deppen, “Nearly Half of Shoppers Are Concerned,” May 13, 2025; McIntyre, “Reusable Hygiene Gains Momentum,” March 2, 2026.

Machine Tools and Power Tools

The machine tools and power tools industry (as defined under ITPD section 116)²⁵² manufactures a wide variety of products, ranging from industrial machinery costing millions of dollars to inexpensive power tools for home use.²⁵³ Machine tools include machines for working metal, plastic, stone, wood, and other materials as well as welding and soldering equipment.²⁵⁴ Machine tools other than welding and soldering equipment usually manufacture products by removing material from or reshaping a workpiece. This is a step in the production of parts for the aerospace, defense, automotive, medical device, electronics, semiconductor, oil and gas, shipbuilding, and consumer products industries, among others.²⁵⁵ Welding and soldering equipment is used to join two materials.²⁵⁶ Power tools are pneumatic or hydraulic hand tools or hand tools with self-contained motors.²⁵⁷ The machine tools and power tools industry also manufactures parts and accessories for machine tools and power tools.²⁵⁸ [Table 3.9](#) provides examples of machine tools and power tools.²⁵⁹

²⁵² ITPD industry 116 corresponds with International Standard Industrial Classification of All Economic Activities (ISIC), revision 3.1, sector 2922 (Manufacture of machine tools). Larch, “ITPD-E-R03,” June 2025, 26; *ISIC Rev. 3.1, Revision 3.1*, 2004, 104–5.

²⁵³ Home Depot, “RYOBI 4V Cordless 1/4 in. Screwdriver,” accessed April 13, 2026; U.S. industry representative, interview by USITC staff, March 27, 2026; Haas Automation Inc., “VF-2,” accessed April 15, 2026.

²⁵⁴ UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004, 104–5.

²⁵⁵ UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004, 104–5; Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026.

²⁵⁶ Welding uses heat or pressure to fuse together metal or other materials. Soldering joins metal by melting solder (a metal alloy) into the joint between two pieces of metal. Welding Institute, “What Is Soldering?,” accessed May 26, 2026; Welding Institute, “What Is Welding?,” accessed May 26, 2026.

²⁵⁷ USITC, *HTS (2026) Revision 7*, Publication 5735, April 2026, pp. 84-97. Pneumatic tools are powered by compressed air and hydraulic tools use pressurized hydraulic fluid to generate mechanical force. Government of Canada, CCOHS, “Powered Hand Tools,” August 28, 2025; Hydraulic Power Sales, “Exploring the Power of Hydraulic Tools,” accessed April 28, 2026.

²⁵⁸ UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004, 104–5.

²⁵⁹ This industry does not include machinery used in metal mills or foundries, machinery for mining and quarrying, machinery for food, beverage and tobacco processing, or machinery for textile, apparel and leather production. It also does not include interchangeable tools for machine tools and power tools. These interchangeable tools need to be replaced regularly and include drill bits, punches, dies, taps, milling cutters, turning tools, saw blades, cutting knives, etc. This industry does include parts and accessories—such as work holders, dividing heads, and other special attachments for machine tools—that are not replaced regularly. UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004, 104–5; U.S. industry representative, interview by USITC staff, April 14, 2026.

Table 3.9 Examples of products manufactured by the machine tools and power tools industry

Tool type	Selected products
Machine tools	Lathes, mills, presses, and other machine tools that perform tasks, including boring, cutting, drilling, grinding, milling, shaping, turning, welding, and soldering
Power tools	Chainsaws, circular saws, electric screwdrivers, reciprocating saws, and sanders
Parts and accessories	Work holders, dividing heads, and other special attachments

Source: UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004, 104–5 and information compiled by USITC staff.

Note: The above table is not an exhaustive list of all machine tools and power tools.

Machine tools are generally sold to industrial users through distributors, but some machine tools are also sold through retail channels to household consumers.²⁶⁰ Power tools are sold through retail channels such as hardware stores and through distributors and are purchased by users in construction and manufacturing as well as by household consumers.²⁶¹

U.S. Production

U.S. producers of machine tools and power tools had estimated total shipments of \$18.5 billion in 2025, up from \$18.3 billion in 2022 ([figure 3.7](#)).²⁶² Of those total estimated shipments, machine tools accounted for \$15.8 billion (of which \$6.8 billion were shipments of welding and soldering equipment and \$9.0 billion were of machine tools other than welding and soldering equipment) and power tools accounted for \$2.7 billion.²⁶³ Most of the U.S. domestic industry's shipments were to the U.S. market, where it is the largest supplier. U.S. domestic shipments were \$14.4 billion in 2025, whereas exports were \$4.2 billion.²⁶⁴ About 1,500 domestic establishments manufacturing machine tools and power tools

²⁶⁰ U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

²⁶¹ Guirguis, *Power Tool Manufacturing in the US*, May 2026, 11, 18, 29.

²⁶² U.S. shipment, employment, establishment, and trade information presented in this section is based on data classified under NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing). These NAICS industries overlap closely with ITPD industry 116.

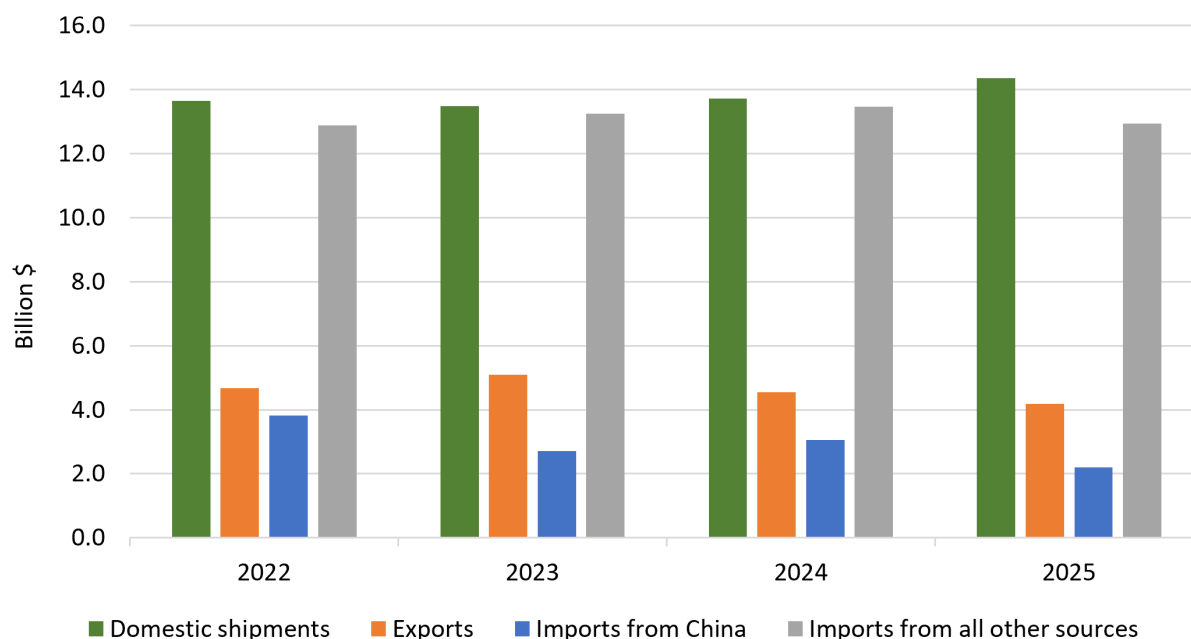
²⁶³ Total shipment data for 2022 were from Sales, Value of Shipments, or Revenue data from the 2022 Economic Census. The Commission extrapolated total shipment data for 2023–25 from 2022 total shipments using annual changes in broader manufacturing sector total shipments as reported in the Manufacturers' Shipments, Inventories, & Orders (M3) database. Specifically, 2022 total shipments data for NAICS 333517 (machine tool manufacturing) were multiplied by an index of total shipments data covering 2023–25 (where 2022 = 1) for M3 industry category 33S (Machinery) less M3 industry categories 33A, 33C, 33D, 33G, 33H, 33I, and 33M (underlying machinery industries that do not cover machine tool manufacturing but for which specific M3 data were available). Total shipments data for 2022 for NAICS 333991 (power-driven hand tool manufacturing) and 333992 (welding and soldering equipment manufacturing) were multiplied by an index of total shipments data covering 2023–25 (where 2022 = 1) for M3 industry category 33I (Metalworking Machinery Manufacturing). Census, 2022 Economic Census, sales, value of shipments, or revenue, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), December 2024; Census, M3 Survey, Historical Data, Value of shipments, A33AVS, A33CVS, A33DVS, A33GVS, A33HVS, A33IVS, A33MVS, and A33SVS, February 23, 2026.

²⁶⁴ USITC DataWeb/Census, accessed March 10, 2026.

in 2022 employed approximately 49,700 workers.²⁶⁵ Estimated employment in this industry remained essentially the same at 49,200 workers by 2025.²⁶⁶

Figure 3.7 Value of U.S. domestic shipments, imports, and exports of machine tools and power tools, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.18](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), December 2024; Census, Manufacturers' M3 Survey, Historical Data, Value of shipments, A33AVS, A33CVS, A33DVS, A33GVS, A33HVS, A33IVS, A33MVS, and A33SVS, February 23, 2026.

Note: Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

²⁶⁵ Census, 2022 Economic Census, number of employees and number of establishments, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), December 2024.

²⁶⁶ Census, 2022 Economic Census, number of employees, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

Most production in the domestic machine tools and power tools industry is relatively concentrated among a small number of companies and locations.²⁶⁷ U.S. industry representatives identified only 15 to 20 companies producing machine tools in the United States, many of which are foreign owned.²⁶⁸ Only a small number of domestic producers of power tools were identified through publicly available sources.²⁶⁹ Power tool manufacturers, such as Milwaukee Electric Tool Corporation (Milwaukee Tool) and Stanley Black & Decker Inc., have domestic U.S. production facilities, but they manufacture various products and have global production facilities, making it difficult to determine where specific products are being manufactured.²⁷⁰ Production in the United States of parts and accessories for machine tools and power tools was also estimated by a U.S. industry representative to be concentrated among a small number of companies.²⁷¹

U.S. Imports

Imports are a major source of supply in the U.S. market for machine tools and power tools and compete with products manufactured in the United States. Total U.S. imports of machine tools and power tools decreased from \$16.7 billion in 2022 to \$15.1 billion in 2025, a 9.4 percent decrease ([table 3.10](#)). Machine tools accounted for 59.9 percent of the industry's total U.S. imports in 2025, and power tools accounted for 40.1 percent. U.S. imports of machine tools were essentially the same in 2022 and 2025; imports of power tools decreased by 20.8 percent. The decrease in total U.S. imports was mostly accounted for by imports from China decreasing from \$3.8 billion in 2022 to \$2.2 billion in 2025 (a decrease of 42.6 percent). Almost all the decrease in total imports was from a \$1.5 billion decline in U.S. imports of power tools from China.²⁷²

Even with this decrease, China was the largest—but not a dominant—U.S. supplier of machine tools and power tools and accounted for 14.5 percent of U.S. imports for this industry in 2025 ([table 3.9](#)).²⁷³ Other leading sources of U.S. imports of machine tools and power tools and their share of total imports of machine tools and power tools in 2025 were: Germany (14.2 percent), Japan (13.6 percent), Vietnam (10.1 percent), and Mexico (9.8 percent).²⁷⁴

China was the leading source of U.S. imports of power tools and the sixth-largest source of U.S. imports of machine tools, accounting for 27.7 percent and 5.6 percent, respectively, of total U.S. imports of

²⁶⁷ U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026.

²⁶⁸ U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026.

²⁶⁹ Hanson, "American Made Tools," March 30, 2026.

²⁷⁰ Stanley Black & Decker Inc., "SBD in the USA," accessed April 2, 2026; Stanley Black & Decker, *Form 10-K: Annual Report*, accessed April 12, 2026, Exhibit 21; TTI, *Annual Report 2025*, accessed April 20, 2026, 50.

²⁷¹ U.S. industry representative, interview by USITC staff, April 6, 2026.

²⁷² USITC DataWeb/Census, accessed March 10, 2026. As discussed in the "Effects of China PNTR Status Revocation" section, power tool manufacturers have reacted to additional duties imposed in 2025 by beginning to move production out of China.

²⁷³ USITC DataWeb/Census, accessed March 10, 2026.

²⁷⁴ USITC DataWeb/Census, accessed March 10, 2026.

those products in 2025.²⁷⁵ According to industry representatives, the Chinese industry consists of many producers that vary in size and compete in the U.S. market on the basis of price related to cost advantages, including from subsidized inputs and less stringent regulatory and safety standards. Industry sources stated that for certain machine tools, the prices for products manufactured in China can be up to 70 percent lower than for those made in the United States.²⁷⁶

Table 3.10 Value of U.S. imports of machine tools and power tools, by import source, 2022–25
In millions of dollars.

Trade partner	2022	2023	2024	2025
China	3,819	2,700	3,062	2,193
Germany	1,888	2,112	2,256	2,152
Japan	2,423	2,339	2,103	2,053
Vietnam	1,291	1,245	1,332	1,529
Mexico	1,438	1,389	1,636	1,480
All other sources	5,849	6,168	6,149	5,728
Total	16,709	15,953	16,538	15,136

Source: USITC DataWeb/Census, imports for consumption, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), accessed March 6, 2026.

Effects of China PNTR Status Revocation

An increase in tariffs on imports of machine tools and power tools from China is estimated to have relatively small overall effects on the U.S. industry manufacturing these products and the market. PNTR status revocation would result in an immediate average increase of 30.8 percentage points in ad valorem tariff rates on machine tools and power tools.²⁷⁷ This tariff increase is less than those that would occur for games and toys and technical textiles, as described in the sections on those industries above. China is also one of several sources of supply to the U.S. market for machine tools and power tools, as it competes with other sources of imports and a large domestic industry. Although China is the leading source of imports in the U.S. market, it accounted for only 14.5 percent of U.S. imports of machine tools and power tools in 2025. Therefore, higher tariffs on imports from China would likely lead to more modest impacts across most trade-, production-, and price-related indicators compared to the

²⁷⁵ The five leading sources of U.S. machine tool imports in 2025 and their share of imports were Japan (21.0 percent), Germany (18.6 percent), Italy (8.9 percent), South Korea (8.1 percent), and Canada (7.4 percent). The five leading import sources of power tools in 2025 and their share of imports were China (27.7 percent), Vietnam (24.5 percent), Mexico (21.0 percent), Germany (7.7 percent), and Taiwan (4.8 percent). USITC DataWeb/Census, accessed March 10, 2026.

²⁷⁶ MaxXT, “Top 10 Power Tool Manufacturers in China,” June 13, 2025; Wong, “Top 9 Power Tool Manufacturers in China,” June 11, 2025; Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026; U.S. industry representative, interview by USITC staff, April 21, 2026.

²⁷⁷ USITC estimates; USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025; USITC, *Harmonized Tariff Schedule of the United States (2023)*, Basic Edition, December 30, 2022. See [appendix F](#) for a discussion of how column 1 and column 2 AVEs are calculated in this investigation.

other two goods-producing industries examined in this chapter.²⁷⁸ [Table 3.11](#) provides the estimated effects of higher tariffs in the sixth year after PNTR status revocation.²⁷⁹

Table 3.11 Summary of estimated effects in the U.S. machine tools and power tools industry in the sixth year relative to 2023 baseline as a result of PNTR status revocation

In percentages.

Item	Change (%)
Consumer prices	3.8
U.S. industry's production cost	0.9
Imports from China	-14.0
Imports from other sources	2.9
Imports from all sources	0.0
U.S. industry's domestic shipments	2.5
U.S. exports	-0.1
U.S. industry's total shipments	0.9
U.S. industry's real output	0.0
U.S. industry's employment	0.5
U.S. real expenditure	-3.2

Source: USITC estimates.

The largest likely effect of higher tariffs on the U.S. market for machine tools and power tools is a decrease in imports from China. [Figure 3.8](#) shows how revocation of PNTR would impact the sources of supply to the U.S. market in the six years following PNTR status revocation and over the long run. Changes in trade and domestic shipments are estimated to be minimal in the first year following PNTR status revocation.²⁸⁰ However, imports from China are estimated to be 14.0 percent lower in the sixth year compared to the 2023 baseline and 60.3 percent lower over the long run.²⁸¹ A decrease in imports from China would result in modest increases in both U.S. domestic shipments and imports from other sources.²⁸² U.S. domestic shipments would increase by an estimated 2.5 percent (or \$336 million) in the sixth year following PNTR status revocation compared to the 2023 baseline and 9.0 percent (or \$1.2 billion) over the long run.²⁸³

²⁷⁸ The effects of PNTR revocation on the overall manufacturing sector are described in [chapter 2](#).

²⁷⁹ Imports of machine tools and power tools from China decreased by 18.8 percent between 2023 and 2025, a more modest decline compared to the 30.0 percent decrease in overall imports from China during that time. USITC DataWeb/Census, imports for consumption, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), accessed March 6, 2026. As described in [chapter 2](#), the decline in U.S. imports from China since 2023 likely leads to greater estimated impacts of PNTR revocation compared to what would be estimated under more recent U.S. market conditions, but this effect is likely less pronounced for industries like machine tools and power tools that experienced relatively lower declines in U.S. imports.

²⁸⁰ USITC estimates.

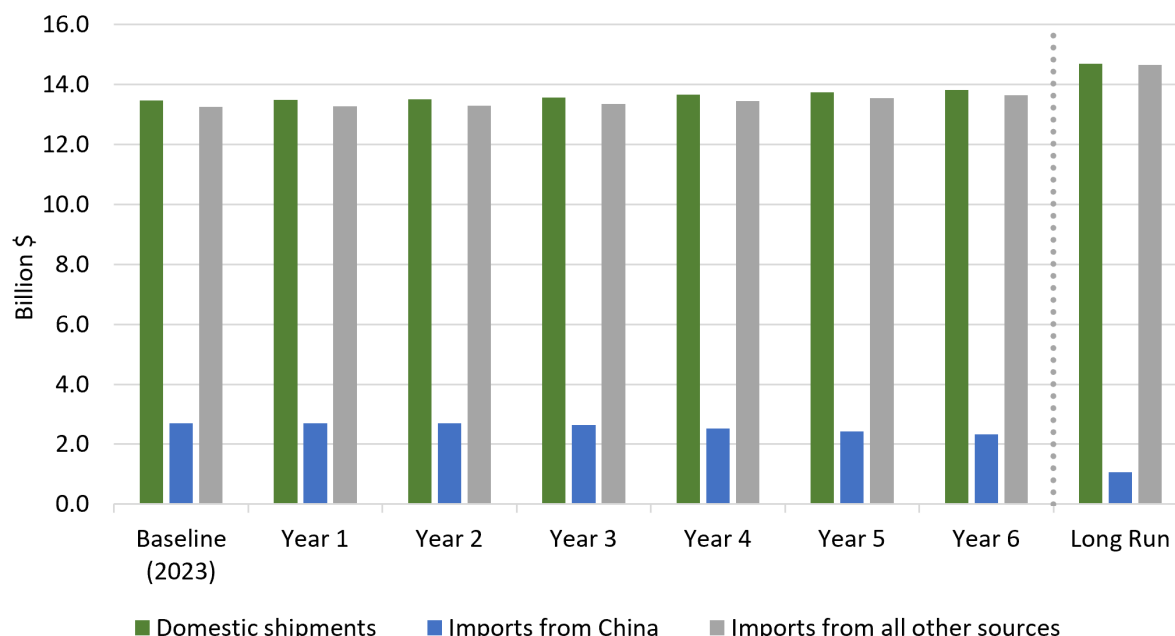
²⁸¹ USITC estimates.

²⁸² The largest increases in U.S. imports after PNTR revocation would be from Germany, Japan, Taiwan, Italy, Vietnam, and Mexico. USITC estimates.

²⁸³ USITC estimates. As stated above in the section "U.S. production of games and toys," U.S. export data may be overstated, which would mean that U.S. domestic shipments—and the estimated increase in the value of domestic shipments presented here—are understated.

Figure 3.8 Estimated value of U.S. domestic shipments and imports of machine tools and power tools as a result of PNTR status revocation

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Underlying data for this figure can be found in appendix [table G.19](#).



Sources: USITC estimates; USITC DataWeb/Census, domestic exports and imports for consumption, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), accessed March 6, 2026; Census, 2022 Economic Census, sales, value of shipments, or revenue, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), December 2024; Census, M3 Survey, Historical Time Series—NAICS, Shipments, A33AVS, A33CVS, A33DVS, A33GVS, A33HVS, A33IVS, A33MVS, and A33SVS, February 23, 2026.

Note: Baseline values are from 2023 to maximize consistency with the data used in the gravity model simulation described in [appendix D](#). Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

[Figure 3.9](#) shows the estimated growth in U.S. machine tools and power tools industry, which is likely to experience relatively small impacts on real output, total shipments, and employment following PNTR status revocation. The machine tools and power tools industry's total shipments are estimated to increase by 0.9 percent in the sixth year relative to the baseline and by 2.5 percent in the long run, indicating that just over one-third of the industry's long-run growth in total shipments takes place by the sixth year. As with the other goods-producing industries examined in this chapter, this expected adjustment to the policy change is because of the scale of imports from China in the baseline. It will take longer for suppliers to this market to offset declining imports from China than suppliers of technical

textiles, but less time than suppliers of games and toys.²⁸⁴ The industry's real output would be an estimated 0.5 percent lower than the baseline in the first year after PNTR status revocation but would slowly grow in subsequent years. By the sixth year, real output would be just over the baseline value (by less than 0.05 percent) and in the long run would be 1.9 percent higher.²⁸⁵ The machine tools and power tools industry's employment would be an estimated 0.5 percent higher than the baseline in the sixth year following PNTR status revocation.²⁸⁶ This growth would represent an increase from about 51,000 workers to about 51,300 workers.²⁸⁷

²⁸⁴ For the machine tools and power tools industry, the GE Model estimates a trade elasticity—a measure of trade responsiveness—of 5.06. This value is comparable to the trade elasticities estimated for the other two goods-producing industries examined in this chapter. See [chapter 2](#) and [appendix D](#) for more information on how trade elasticities were estimated in this report.

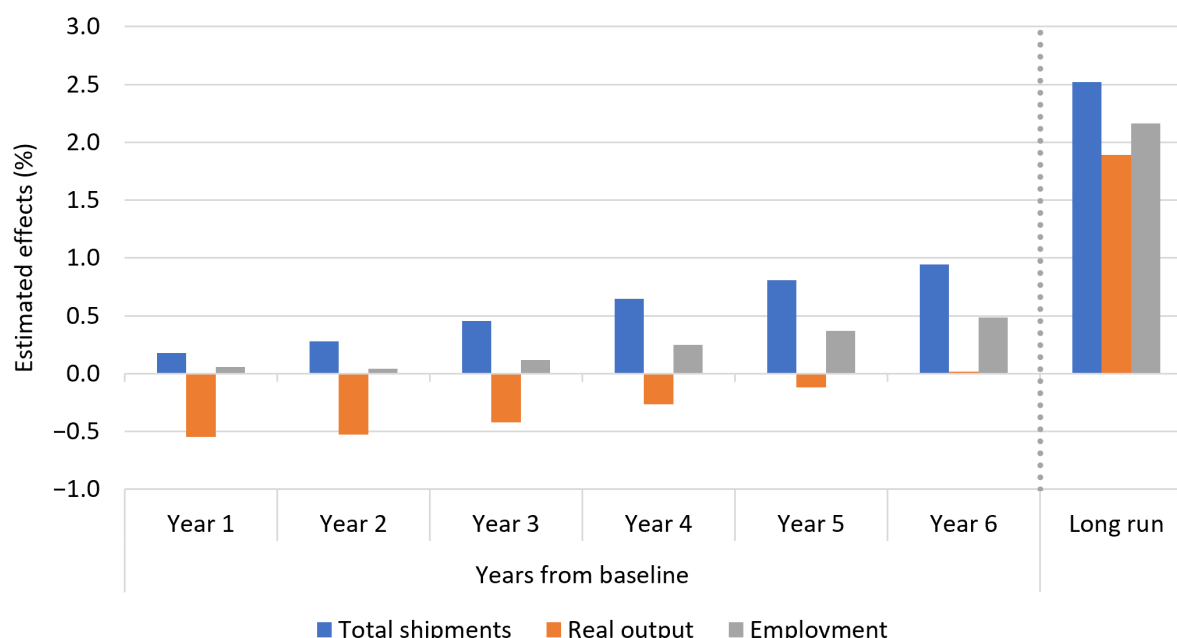
²⁸⁵ USITC estimates.

²⁸⁶ Initially after PNTR revocation, rising costs of intermediate inputs would increase producer prices by more than the increase in total shipments; as a result, real output would decline in the first two years compared to the 2023 baseline. However, the immediate growth in total shipments would mean higher revenue for U.S. firms, allowing for increased spending on production. Because wages increase more slowly than the intermediate input costs, U.S. manufacturers would likely hire more workers rather than spend more on intermediate goods, as reflected in the small increase in employment that begins in the first year. USITC estimates.

²⁸⁷ USITC estimates; Census, 2022 Economic Census, Number of employees, NAICS 333517 (machine tool manufacturing), NAICS 333991 (power-driven hand tool manufacturing), and NAICS 333992 (welding and soldering equipment manufacturing), December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

Figure 3.9 Changes in total shipments, real output, and employment in the U.S. machine tools and power tools industry relative to 2023 baseline as a result of PNTR status revocation

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Underlying data for this figure can be found in appendix [table G.20](#).



Source: USITC estimates.

Although China PNTR status revocation is likely to cause small but positive overall effects for the U.S. industry producing machine tools and power tools, outcomes would likely vary for different market segments because of the varying levels of competition with imports from China for products in those segments.²⁸⁸ U.S. manufacturers of products that currently face significant competition with imports from China (such as power tools and certain machine tools) are expected to experience positive effects from PNTR status revocation. By contrast, manufacturers of products that face less competition from imports from China (such as other types of machine tools) could see negative effects if revoking PNTR status for all products from China increases their intermediate input costs. These disparate effects are described qualitatively in greater detail below, beginning with a discussion of manufacturers that could benefit from PNTR status revocation and following with an example of an industry segment that could see negative effects from PNTR status revocation.

China is the leading source of imports of power tools; a likely effect of PNTR status revocation would be a decrease in imports from China, which could result in positive effects for the U.S. power tools industry.²⁸⁹ However, positive effects of PNTR status revocation could be reduced for this industry if U.S.

²⁸⁸ The different market segments described in this analysis had comparable average differences in ad valorem tariff rates between HTS columns 1 and 2 of approximately 34–36 percentage points. USITC estimates; USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025; USITC, *HTS (2023)*, Basic Edition, December 30, 2022. See [appendix F](#) for a discussion of how column 1 and column 2 AVEs are calculated in this investigation.

²⁸⁹ USITC DataWeb/Census, accessed March 10, 2026.

imports shift from China to countries such as Vietnam and Mexico, which were the second- and third-leading U.S. import sources of power tools in 2025.²⁹⁰

A decrease in imports from China would be consistent with what was seen in 2025 when manufacturers in the power tools industry stated that additional tariffs resulted in shifting supply.²⁹¹ Stanley Black & Decker Inc. stated that in response to the additional tariffs implemented in 2025 and potential future changes in policy, the company would use North American operations to reduce production in China for the U.S. market by the end of 2026 or early 2027.²⁹² In its first quarter 2025 earnings call, Stanley Black & Decker Inc. noted that it has manufacturing hubs in Mexico, Southeast Asia, and the United States that serve the U.S. market and stated that the company had the ability to shift some production from China to Mexico.²⁹³ Milwaukee Tool reported that in 2025 it shifted some of its production to “lower tariff jurisdictions” and specified that production had moved to several new sites in the United States as well as into Mexico and Vietnam.²⁹⁴

In addition to power tool producers, domestic manufacturers of certain machine tools with significant import competition from China would likely see positive effects from PNTR status revocation. China is a major supplier to U.S. markets for non-rotating arc welding equipment, laser-operated machine tools,

²⁹⁰ From 2024 to 2025, U.S. imports of power tools from Vietnam (NAICS 333991) increased by 13.6 percent, but imports from Mexico decreased by 7.7 percent. From 2022 to 2025, imports from Vietnam and Mexico increased by 16.4 percent and 8.5 percent, respectively. USITC DataWeb/Census, accessed March 10, 2026.

²⁹¹ Imports of power tools from China decreased from \$2.5 billion in 2024 to \$1.7 billion in 2025 (a decrease of 32.4 percent). USITC DataWeb/Census, accessed March 10, 2026.

²⁹² In its fourth quarter 2025 earnings call, Stanley Black & Decker stated that it planned to reduce its imports from China for North American sales from about 20 percent to about 5 percent by the end of 2026. Stanley Black & Decker, *Form 10-K: Annual Report*, accessed April 12, 2026, 39; Stanley Black & Decker, transcript of Q4 2025 earnings call, February 4, 2026, 11.

²⁹³ Stanley Black & Decker, transcript of Q1 2025 earnings call, April 30, 2025, 4, 8.

²⁹⁴ TTI, *Annual Report 2025*, accessed April 20, 2026, 4, 50.

and low-cost machine tools used to cut, drill, or otherwise work metal.²⁹⁵ U.S. producers of these products would likely experience greater benefits from PNTR status revocation due to China's greater import penetration within these segments, particularly for sales of the most price-sensitive product categories where imports from China are concentrated. For example, an industry representative stated that imports of laser-operated machine tools from China are concentrated in sales of 2D lasers, which are less technologically complicated than other industrial lasers such as 3D lasers.²⁹⁶ A representative of a company producing another type of machine tool stated that imports from China primarily supply products suitable for entry-level purchasers. Because these entry-level products have fewer features, imports from China more easily meet the minimum requirements for purchasers and are cheaper than products manufactured in the United States, forcing down domestic prices.²⁹⁷ Across these lower-tier market segments, Chinese manufacturers compete on price even if they cannot always compete on certain non-price factors such as quality, reliability, and safety.²⁹⁸ Therefore, the application of higher tariffs on imports from China is likely to reduce those price advantages and allow U.S. producers to charge higher prices or increase their shipments in these price-driven market segments.

However, U.S. manufacturers of machine tools that do not face significant domestic competition with China could see negative effects from PNTR status revocation. Imports from China made up only 5.6 percent of machine tool imports in 2025, and China was the sixth-leading import source behind Japan (21.0 percent), Germany (18.6 percent), Italy (8.9 percent), South Korea (8.1 percent), and Canada (7.4

²⁹⁵ In 2025, U.S. imports of machine tools from China accounted for 5.6 percent of total U.S. imports of machine tools. By contrast, imports from China accounted for 43.1 percent of U.S. imports of non-rotating arc welding equipment (classified under HTS subheading 8515.39). Imports from China accounted for 9.3 percent of laser-operating machine tools (HTS subheading 8456.11), including 28.2 percent of laser-based machine tools used to work metal and without use of numerical controls (HTS statistical reporting number 8456.11.1050). Various types of machine tools used to work metal may enter under HTS statistical reporting numbers that specify that each machine tool is valued at less than \$3,025 each. These HTS statistical reporting numbers are 8458.19.0020, 8458.99.5060, 8459.29.0020, 8459.39.0020, 8459.41.0020, 8459.49.0020, 8459.59.0020, 8459.69.0020, 8459.70.8060, 8460.39.0020, 8460.90.8020, 8461.20.8070, 8461.30.8040, 8461.40.5040, 8461.50.8020, 8461.90.6020, 8461.90.6050, 8462.22.0020, 8462.23.0020, 8462.25.0020, 8462.26.0020, 8462.29.0020, 8462.32.5020, 8462.39.0020, 8462.49.0020, 8462.59.0020, 8462.63.8020, 8462.69.8020, 8462.90.8020, and 8463.90.0060. In 2025, imports from China accounted for 41.3 percent of U.S. imports of low-cost machine tools used to work metal. USITC DataWeb/Census, imports for consumption, HTS statistical reporting numbers 8456.11.1010, 8456.11.1050, 8456.11.7000, 8456.11.9000, 8458.19.0020, 8458.99.5060, 8459.29.0020, 8459.39.0020, 8459.41.0020, 8459.49.0020, 8459.59.0020, 8459.69.0020, 8459.70.8060, 8460.39.0020, 8460.90.8020, 8461.20.8070, 8461.30.8040, 8461.40.5040, 8461.50.8020, 8461.90.6020, 8461.90.6050, 8462.22.0020, 8462.23.0020, 8462.25.0020, 8462.26.0020, 8462.29.0020, 8462.32.5020, 8462.39.0020, 8462.49.0020, 8462.59.0020, 8462.63.8020, 8462.69.8020, 8462.90.8020, 8463.90.0060, 8515.39.0020, 8515.39.0040, 8515.39.0060 and NAICS 333517 and 333992, accessed March 10, 2026.

²⁹⁶ Industrial lasers are high power lasers used to quickly and accurately cut a variety of materials in industrial settings. Industrial lasers can also be used for laser welding, particularly in automotive applications. 2D lasers are primarily used to cut flat products such as sheet metal, whereas 3D lasers cut a wider variety of shapes. Many parts that are cut on 3D lasers first need to be cut on a 2D laser. Industry representative, interview by USITC staff, April 21, 2026.

²⁹⁷ Industry representative, interview by USITC staff, April 6, 2026.

²⁹⁸ Industry representative, interview by USITC staff, April 6, 2026; Industry representative, interview by USITC staff, April 21, 2026.

percent).²⁹⁹ For such producers, if they rely on production inputs from China that are hard or impossible to obtain in the quantities needed outside of China, revoking PNTR status would increase production costs, reducing competitiveness with producers from countries other than China.³⁰⁰

Manufacturers of computer numerically controlled (CNC) machine tools do not face significant competition from imports from China and are an example of an industry that may experience negative effects from higher duties on imports from China. Chinese producers of CNC machine tools offer low-price options, but non-price factors limit their competitiveness in the U.S. market. In 2025, imports of CNC machine tools from China accounted for only 2.0 percent of total imports of CNC machine tools.³⁰¹ CNC machine tools are often technologically complex, and despite price being important, non-price factors such as capabilities, reliability, quality, company reputation, and availability of service are necessary to access the U.S. market.³⁰² Purchasers of CNC machine tools use them to manufacture products made to certain specifications and expect the CNC machine tool to last a relatively long time.³⁰³ Therefore, a reputation for reliability and availability of service is highly valued by purchasers of CNC machine tools.³⁰⁴ One significant competitive advantage that U.S. producers have over imports from China is domestic service networks, which provide support for machine tool customers long after a purchase has been made.³⁰⁵ When considering CNC machine tools from China, U.S. purchasers have concerns about whether they would be able to find servicing for that product in the future.³⁰⁶ Because

²⁹⁹ USITC DataWeb/Census, accessed March 10, 2026.

³⁰⁰ Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026.

³⁰¹ USITC DataWeb/Census, imports for consumption, HTS statistical reporting numbers 8456.11.1010, 8456.12.1010, 8456.20.1010, 8456.30.1050, 8456.40.1010, 8457.20.0010, 8458.11.0010, 8458.11.0030, 8458.11.0050, 8458.11.0090, 8458.91.1060, 8458.91.1080, 8458.91.5050, 8458.91.5070, 8459.21.0080, 8459.31.0010, 8459.31.0040, 8459.31.0070, 8459.41.0020, 8459.41.0030, 8459.41.0090, 8459.51.0080, 8459.61.0080, 8459.70.4000, 8460.12.0040, 8460.12.0080, 8460.22.0080, 8460.23.0080, 8460.24.0005, 8460.24.0010, 8460.24.0030, 8460.24.0050, 8460.31.0080, 8460.40.4010, 8460.40.4060, 8460.90.4060, 8461.20.4000, 8461.30.4060, 8461.50.4050, 8461.90.3040, 8461.90.3080, 8462.23.0020, 8462.23.0050, 8462.24.0020, 8462.24.0050, 8462.25.0020, 8462.25.0050, 8462.26.0020, 8462.26.0050, 8462.32.1080, 8462.32.5020, 8462.32.5050, 8462.33.0080, 8462.42.0080, 8462.51.0080, 8462.61.4060, 8462.62.4030, 8462.63.4030, 8462.69.4030, 8462.90.4030, accessed March 10, 2026.

³⁰² Quality in the CNC machine tool industry is usually evaluated based on the accuracy and the speed of the machine and CNC machine tools that are more precise and can process larger volumes of parts are more expensive. Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁰³ U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁰⁴ U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁰⁵ U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁰⁶ U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

imports from China have generally not succeeded at overcoming non-price factors to gain U.S. market share, higher tariffs applied on these limited imports are unlikely to significantly affect the domestic market for these products.

Even as they face few positive effects from tariffs in their domestic sales, U.S. producers of CNC machine tools would experience negative impacts in their material input costs. China dominates the production of the cast iron required for U.S. manufacturing of CNC machines.³⁰⁷ Cast iron makes up the base and column of a machine tool and absorbs and dissipates vibrations generated during the machining process.³⁰⁸ High-quality, heavier castings improve the stability of the machine tool and increase the accuracy of the part being produced by the machine tool.³⁰⁹ However, high-quality castings are not available domestically in the quantities needed by the U.S. machine tool industry, and sourcing from other producers such as India and Vietnam is difficult owing to volume and quality limitations.³¹⁰ Thus, increasing tariffs on imports from China is likely to result in higher production costs for U.S. CNC machine tools manufacturers, reducing their competitiveness in the U.S. and global markets.³¹¹

Downstream industries in the United States may experience a negative impact resulting from increased prices for machine tools and power tools, which would raise their production costs. Consumer prices for machine tools and power tools in the U.S. market are estimated to rise by 3.8 percent in the sixth year compared to the 2023 baseline, resulting in a 3.2 percent decrease in U.S. real expenditure ([table 3.11](#)).³¹² Because they are used in virtually every manufacturing sector, higher prices for machine tools could increase production and input costs for a broad range of U.S. industries.³¹³ For example, as discussed below, in the “Housing and Construction Costs” section, increased prices for power tools would contribute to modest increases in construction and housing costs. However, some downstream users of machine tools may see greater benefits than costs from PNTR status revocation. For certain industries that rely on machine tools in their production, the benefit of decreased competition from imports of low-price, directly competitive products from China in the downstream segment could outweigh increased costs of machine tools necessary for production. For example, U.S. industrial mold manufacturers could see overall positive effects from PNTR status revocation because they face direct

³⁰⁷ U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁰⁸ Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁰⁹ U.S. industry representative, interview by USITC staff, April 14, 2026.

³¹⁰ Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, April 2, 2026; U.S. industry representative, interview by USITC staff, April 6, 2026.

³¹¹ In part, U.S. producers could become less competitive because producers in other countries would have access to inputs from China at the cheaper, nontariff price. Haas Automation, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026.

³¹² USITC estimates.

³¹³ Haas Automation, written submission to the USITC, April 13, 2026.

competition from Chinese industrial molds, which according to industry representatives, are sold at prices 30–60 percent below U.S. manufacturers’ cost of production.³¹⁴

Housing and Construction Costs

This section discusses the potential impact of the removal of China’s PNTR status on residential construction and housing costs in the United States. It considers the effects of existing tariffs and the U.S. construction industry’s reliance on Chinese inputs on U.S. industry and consumer costs. These factors suggest that, although certain material costs would rise, the overall impact of tariffs on these costs would likely be minimal.

For the purposes of this discussion, the residential construction industry includes entities that build or remodel single-family or multifamily housing structures, or both. This industry is an important contributor to the U.S. economy, employing an average of approximately 930,700 workers in 2025 and registering \$601.4 billion in total shipments in 2022.³¹⁵ Furthermore, housing is a substantial component of consumer spending, accounting for 33.4 percent of average per consumer expenditures in 2024.³¹⁶

Potential Tariff Impacts on Housing and Construction Costs

In 2024, construction costs—which include materials and services—accounted for about 64 percent of the average sale price of a U.S. single-family residence.³¹⁷ Imported materials account for a small but not insubstantial share of overall U.S. construction costs, and tariffs on these materials may have a similarly small impact on construction and housing costs.³¹⁸

³¹⁴ An industrial mold is an assembly of metal parts and pieces used to mass produce plastic products. The American Mold Builders Association states that Chinese manufacturers are able to offer lower prices because of “non-market subsidies, state owned-enterprise financing, indigenous tool steel at below-market prices, currency management, and the absence of the labor, environmental, and safety standards U.S. shops are required to meet.” American Mold Builders Association, written submission to the USITC, April 13, 2026; U.S. industry representative, interview by USITC staff, May 8, 2026.

³¹⁵ Census, 2022 Economic Census, Sales, value of shipments, or revenue (\$1,000), NAICS 23611 (residential building construction), December 2024; U.S. Bureau of Labor Statistics (BLS), “Employment, Hours, and Earnings from the Current Employment Statistics Survey (National),” accessed June 29, 2026.

³¹⁶ USDOL, BLS, “Consumer Expenditures--2024,” December 19, 2025.

³¹⁷ Lynch, “Cost of Constructing a Home,” January 20, 2025.

³¹⁸ Industry observers indicate that an examination of past tariff impacts is a useful means of assessing the potential impact of PNTR removal on residential construction and housing costs. U.S. industry representative, interview by USITC staff, April 16, 2026; U.S. industry representative, interview by USITC staff, April 20, 2026; multinational industry representative, written submission to the USITC, April 13, 2026.

More specifically, U.S. industry observers estimate that all materials (domestic and foreign) account for 30–60 percent of total construction costs.³¹⁹ Furthermore, according to the National Association of Home Builders (NAHB), imports accounted for an estimated \$14 billion, or about 7 percent, of the total value of goods incorporated into newly constructed single-family and multifamily structures in the United States in 2025.³²⁰ U.S. industry observers indicate that tariffs may affect construction costs—and thus the price of housing, home renovation, and maintenance—by altering the price of materials used in residential construction projects.³²¹ The effect of these cost increases may vary, depending on factors such as tariff rates and the relative reliance on imports for particular materials.³²² Tariffs likely have a greater impact on small construction companies and contractors because these firms typically have fewer relationships and lesser influence with suppliers than larger competitors, have smaller margins, and have fewer resources to adapt to tariff shifts.³²³

Beyond costs, the imposition of tariffs can disrupt supply chains and result in challenges associated with vendor reliability, customs processing, lead times, and managing inventory, among other issues.³²⁴ Higher tariffs can lead to the redesign, cancellation, or delay of projects. It can also prompt changes in contracting approaches (e.g., inclusion of escalation clauses and contingencies in contracts and proposals, longer negotiations, and a greater reliance on risk management).³²⁵ Risk management strategies, including stockpiling, material substitution, and supplier commitments, may help firms to mute the effects of price changes.³²⁶

³¹⁹ Total construction costs may include both goods and services, while materials costs refer only to the value of the goods incorporated into a structure. Materials tend to contribute more to construction costs in multifamily residential buildings, especially as those multifamily buildings increasingly employ mixed-use development (e.g., grocery stores on the first floor of apartment complexes). These structures utilize more steel, aluminum, and copper than single-use multifamily construction projects. These products are more likely to be imported from China (e.g., as opposed to timber or stone) and therefore may face additive sections 232 and 301 tariffs. This may increase the impact of PNTR revocation on the multifamily segment. U.S. industry representative, interview by USITC staff, April 14, 2026; USITC, *Quartz Surface Products, Inv. No. TA-201-79 (Remedy)*, hearing transcript, April 14, 2026, 103–104.

³²⁰ Strong, “How Tariffs Impact the Home Building Industry,” accessed March 30, 2026.

³²¹ Solar, “Tariffs and Housing,” August 12, 2025; Home Builders Association of Marion & Polk Counties, “How Tariffs Impact the Home Building Industry,” February 11, 2025; U.S. industry representative, interview by USITC staff, April 14, 2026; U.S. industry representative, interview by USITC staff, April 16, 2026; U.S. industry representative, interview by USITC staff, April 20, 2026; Patel et al., “Recent Tariffs,” October 3, 2025; Strong, “How Tariffs Impact the Home Building Industry,” accessed March 30, 2026; Castro, “Will Tariffs Help or Hurt,” March 21, 2025. One U.S. industry representative stressed the importance of the remodeling segment, which accounts for about 40 percent of U.S. residential construction revenues. U.S. industry representative, interview by USITC staff, April 16, 2026.

³²² Johnson, “Understanding Tariffs,” April 17, 2025.

³²³ Baldwin CPAs, “Navigating Tariffs,” May 20, 2026; Williams, “Tariffs Could Inflate Housing Costs,” December 19, 2025; U.S. industry representative, interview by USITC staff, April 14, 2026; U.S. industry representative, interview by USITC staff, April 16, 2026; U.S. industry representative, interview by USITC staff, April 20, 2026.

³²⁴ CMiC, “The Full Impact of Tariffs,” June 11, 2025.

³²⁵ Meisels et al., “2026 Engineering and Construction,” November 13, 2025; Castro, “Will Tariffs Help or Hurt,” March 21, 2025; CMiC, “The Full Impact of Tariffs,” June 11, 2025; U.S. industry representative, interview by USITC staff, April 14, 2026.

³²⁶ Meisels et al., “2026 Engineering and Construction,” November 13, 2025; CMiC, “The Full Impact of Tariffs,” June 11, 2025.

At the same time, new tariffs can motivate increased production and innovation of construction materials in the domestic market, as firms develop substitutes for higher-priced foreign materials and pursue increased production efficiency, according to one source.³²⁷ Another source suggests that such increases in domestic production could benefit the U.S. construction industry by increasing the price stability of materials and reducing supply chain vulnerabilities.³²⁸

Industries Producing Construction Inputs

In order to analyze the effects of PNTR status revocation on construction costs, the Commission focused on a group of ITPD industries that it considered most likely to produce material inputs used in construction (industries producing construction inputs). These industries were identified based on review of the correspondence between ITPD and detailed ISIC sector descriptions upon which ITPD codes are based, as well as the main types of underlying products imported within each of those industries. All identified industry categories are broad, and as such, each category covers a mix of industries that include both producers of construction inputs and producers of goods unrelated to construction. Additionally, some of the products manufactured by industries producing construction inputs have alternative end uses. Among those industries producing construction inputs, several are characterized by relatively high import penetration from China, with China accounting for over 10 percent of total sectoral imports in 2025.³²⁹ By contrast, other industries had relatively low import penetration from China in 2025, with imports from China accounting for less than 10 percent of total imports in each industry.³³⁰

U.S. Imports of Material Inputs Used in Construction

Although China is not a top source of the structural materials used in residential housing construction—such as lumber and cement—it is a major source of a variety of non-structural items used in construction such as electrical equipment, appliances, glass, and fixtures, as well as tools used on a construction site.³³¹ For example, the United States is highly reliant on imports from China for pottery, porcelains, and earthenware, a group of products which includes bathroom fixtures such as toilets and

³²⁷ Ting, “Evaluating the Impact of Tariffs,” January 3, 2026.

³²⁸ Castro, “Will Tariffs Help or Hurt,” March 21, 2025.

³²⁹ These include non-structural plastic, ceramic, and glass products within ITPD codes 93–95; various types of metal hardware within ITPD codes 104, 107, and 108; electrical equipment, machinery, and fixtures within ITPD codes 110, 112, 114, 123, 127, and 129; and equipment used by construction services firms within ITPD codes 113 and 116. USITC DataWeb/Census, Imports for consumption, accessed April 10, 2026; Larch et al., “ITPD-E-R03,” June 2025, 26–27; United Nations, *ISIC Rev. 4 Rev. 4*, 2008; United Nations, *ISIC Rev. 3.1, Revision 3.1*, 2004.

³³⁰ These include wood products such as lumber and plywood within ITPD codes 65–67; most mineral (e.g., clay, ceramic, cement, stone, asphalt, or plaster) products within ITPD codes 97–101 (other than the ceramic and glass fixtures described above); and most categories of steel and aluminum within ITPD codes 102–103 (other than certain fabricated metal products described above). USITC DataWeb/Census, Imports for consumption, accessed April 10, 2026; Larch et al., “ITPD-E-R03,” June 2025, 26–27; United Nations, *ISIC Rev. 4 Rev. 4*, 2008; United Nations, *ISIC Rev. 3.1, Revision 3.1*, 2004.

³³¹ USITC DataWeb/Census, Imports for consumption, accessed April 10, 2026; UN, Statistics Division, *ISIC Rev. 3.1, Revision 3.1*, 2004.

sinks. In 2025, the United States sourced 42.0 percent of imports in this category from China.³³² China is also a large supplier of domestic appliances (34.5 percent), lighting equipment and electric lamps (29.0 percent), and a category of fabricated metal products that includes fasteners (28.4 percent).³³³ One industry observer identified China as an important source of appliances but stated that Thailand is also an increasingly important supplier of these products.³³⁴ Likewise, trade data reveal that imports from China have generally remained a major source of supply of these products in the U.S. market despite relatively significant decreases in recent years.³³⁵

Discrete data on the share of U.S. residential construction inputs sourced from China are unavailable. However, one U.S. industry representative indicated that imports from China make up about 20 percent of total imported materials used in U.S. residential construction.³³⁶ Considering industry estimates on the overall share of imported inputs in construction, this suggests that Chinese materials account for less than 2 percent of all material inputs to residential construction and less than 1 percent of overall construction costs.³³⁷

Effects of China PNTR Status Revocation

Revocation of China's PNTR status would result in increased consumer prices for many materials used as construction inputs, while yielding growth in some of the U.S. industries producing these goods. These effects would vary across products but would generally be small.

More specifically, consumer prices are expected to rise across a variety of industries producing construction inputs in the sixth year following PNTR status revocation compared to the 2023 baseline. Although most industries producing construction inputs are expected to experience small price increases ranging between 0.5 and 4 percent, certain categories would see larger increases in consumer

³³² The industry manufacturing pottery, porcelains, and earthenware (ITPD code 95) includes the manufacture of many items—such as tableware, ornamental items, and pots—in addition to residential construction inputs. USITC DataWeb/Census, Imports for consumption, accessed April 10, 2026; Larch et al., “ITPD-E-R03,” June 2025, 26; United Nations, *ISIC Rev. 4, Rev. 4*, 2008, 119.

³³³ As with pottery, porcelains, and earthenware, domestic appliances (ITPD code 123), lighting equipment and electric lamps (ITPD code 129), and other fabricated metal products not elsewhere classified (ITPD code 108) include items that are not construction inputs as well as construction-related items. USITC DataWeb/Census, imports for consumption, accessed April 10, 2026. Larch et al., “ITPD-E-R03,” June 2025, 26–27; United Nations, *ISIC Rev. 4, Rev. 4*, 2008, 127–28, 138–40.

³³⁴ U.S. industry representative, interview by USITC staff, April 16, 2026.

³³⁵ USITC DataWeb/Census, imports for consumption, accessed April 10, 2026.

³³⁶ U.S. industry representative, interview by USITC staff, April 16, 2026.

³³⁷ As noted above, industry sources estimate that imports account for about 7 percent of the total value of goods incorporated into newly constructed single-family and multifamily structures in the United States, and that all materials account for 30–60 percent of total construction costs. Strong, “How Tariffs Impact the Home Building Industry,” accessed March 30, 2026; U.S. industry representative, interview by USITC staff, April 14, 2026; USITC, *Quartz Surface Products, Inv. No. TA-201-79 (Remedy), hearing transcript*, April 14, 2026, 103–104. According to these estimates, imports from China would account for 1.4 percent of material inputs to residential construction, and 0.4–0.8 percent of overall construction costs.

prices. For example, prices in the pottery, porcelain, and earthenware category would increase by 13.5 percent in the sixth year and domestic appliance prices would grow by 7.1 percent.³³⁸

PNTR removal would also result in shifts in revenues, employment, and real output in U.S. industries producing construction inputs, most of which would be minimal. Most of these industries would see slight growth in revenues and employment. Effects on real output would generally be a broader mix of small increases and decreases ranging between -1 and 3 percent.³³⁹ Industries producing construction inputs that are expected to post relatively larger increases in revenues, employment, and real output include domestic appliances and pottery, porcelains, and earthenware; by contrast, the basic precious and nonferrous metals industry is expected to post relatively larger decreases in all three indicators.³⁴⁰

The following section provides a brief case study on the potential effects of PNTR removal on another group of construction inputs for which China is a key source: electrical and lighting products.

Case Study: Effects on Electrical and Lighting Inputs

Electrical equipment and lighting products are important residential construction inputs, with the NAHB reporting that electrical rough-ins and lighting represented 6.4 percent and 1.3 percent, respectively, of the average construction cost of a single-family home in 2024.³⁴¹ China is a key source of the types of materials and fixtures that are inputs to the electrical rough-ins and lighting in residential construction. More specifically, China accounts for 8.5 percent of total U.S. imports of electricity distribution control apparatus (including electrical panels), 16.0 percent of U.S. insulated wire imports, and 29.0 percent of U.S. imports of lighting equipment and electric lamps.³⁴² Removal of China's PNTR status would lead to decreased imports from China and overall increases in consumer prices and imports from the rest of the world in each of these product categories.³⁴³

Focusing on lighting, U.S. industry observers indicate that the United States relies heavily on China and other Asian markets as sources of both fixtures and material inputs to lighting production—such as LED chips—owing to these countries' supply chain advantages and competitive costs.³⁴⁴ In an analysis that focused specifically on material inputs to residential construction, one source estimates that China alone

³³⁸ USITC estimates.

³³⁹ More specifically, employment is expected to increase in 19 of these sectors in the sixth year compared to the 2023 baseline and revenues are expected to increase in 23 sectors. USITC estimates.

³⁴⁰ Specifically, in the sixth year following PNTR revocation, the U.S. domestic appliances industry is expected to see revenue, employment and real output decreases of 12.2 percent, 11.7 percent, and 11.1 percent, respectively, and the U.S. pottery, porcelains, and earthenware segment would see decreases of 5.5 percent in revenues, 5.0 percent in employment, and 4.5 percent in real output. Conversely, revenues, employment, and real output in the U.S. basic precious and nonferrous metals industry would decline by 2.2 percent, 2.6 percent, and 3.1 percent. These shifts are small, but they would be relatively larger than those in other sectors that provide material inputs to residential housing construction.

³⁴¹ These costs include materials costs and well as labor and subcontracting costs associated with the electrical and lighting component of single-family house construction. Lynch, "Cost of Constructing a Home," January 20, 2025.

³⁴² USITC DataWeb/Census, imports for consumption, accessed April 10, 2026

³⁴³ USITC estimates, see [appendix D](#).

³⁴⁴ National Specialty Lighting, "Lighting in a Global Market," November 3, 2025; Chelsea Lighting, "Lighting Industry Continues to React to Tariff Policies," May 28, 2026.

accounts for almost half of all U.S. imports of interior and exterior lighting fixtures.³⁴⁵ Because imports from China account for such a large share of the U.S. markets for these products, PNTR status revocation would lead to an estimated 15.2 percent decrease in imports of lighting equipment from China in the sixth year relative to the 2023 baseline and a 6.2 percent increase in consumer prices. Model results also suggest that the revocation of PNTR would lead to a 4.7 percent increase in U.S. imports of lighting equipment from all other sources in the sixth year from the baseline.³⁴⁶

These findings align with industry perceptions and research findings on the impact of past or speculative tariffs on lighting products from China. U.S. industry observers indicate that additional tariffs on Chinese lighting inputs and fixtures have disrupted supply chains and raised the costs of production and final goods. They suggest that this has led firms to shift production, assembly, and supply to other foreign markets, such as Vietnam and Mexico; simplify the design of lighting products; and rework orders, among other responses.³⁴⁷

Effects on Construction Services

USITC model estimates for the U.S. construction industry³⁴⁸ as a whole—which encompasses both residential and nonresidential construction—reinforce the finding that removal of China’s PNTR status would have a small effect on construction costs and housing prices. More specifically, PNTR status revocation would raise consumer prices charged by the U.S. construction industry by 0.9 percent in the sixth year compared to the 2023 baseline.³⁴⁹ Industry revenues and real output would also experience small shifts—of 0.5 percent and –0.4 percent, respectively—but industry employment would be largely unchanged.³⁵⁰ Overall, this analysis suggests that, although the costs of certain material inputs heavily sourced from China will rise slightly, the U.S. construction services industry would not be significantly affected by the effects of PNTR status revocation.³⁵¹

³⁴⁵ Ford and Wu, “From Lumber to Lighting,” July 6, 2025.

³⁴⁶ USITC estimates.

³⁴⁷ Sovis, “The Impact of Tariffs on LED Lighting Costs,” July 19, 2025; Chelsea Lighting, “Lighting Industry Continues to React to Tariff Policies,” May 28, 2026; National Specialty Lighting, “Lighting in a Global Market,” November 3, 2025; U.S. industry representative, interview by USITC staff, April 14, 2026.

³⁴⁸ ITPD-E code 158 (Construction) corresponds to EBOPS 2010 code SE (Construction), which includes building, repair, renovation, and related work on buildings, engineered improvements to land, and infrastructure. UN Statistics Division, “Correspondence between the EBOPS 2010 and the Central Product Classification,” accessed June 24, 2026; Larch et al., “ITPD-E-R03,” June 2025, 28.

³⁴⁹ These estimates reflect potential changes in the price of overall construction output and are wholly based on Commission model results. They are not directly comparable to the estimates of potential price changes in material input costs provided above, which are based on both model results and third-party approximations.

³⁵⁰ USITC estimates.

³⁵¹ A recent article indicates that backlog in the overall U.S. construction industry rose during February–March 2026 despite a large increase in the price of oil. Obando, “Backlog Rebounded in March,” April 16, 2026. This further suggests that the construction industry may not be highly sensitive to materials price shocks.

Other Industries Likely to Be Directly and Most Affected by China PNTR Status Revocation

The Commission's modeling approach generated estimates of the effects of PNTR status revocation on all 170 ITPD industries, allowing for a quantitative examination of a broader group of industries that would be most affected by the policy change. [Appendix H](#) provides a data presentation with results for all 170 industries. [Table 3.12](#) provides selected effects of PNTR status revocation in the sixth year after the policy change, relative to the 2023 baseline, for the 10 industries with the greatest projected increases in U.S. real output. Many of the industries that would see the greatest increases in U.S. real output are those that produce final consumer goods and face relatively high import competition from China, like the games and toys industry described above. Two industries—those producing (1) batteries and accumulators and (2) telephone and data communications equipment—overlap with industries producing national security products analyzed in [chapter 4](#).³⁵² Technical textiles and machine tools and power tools would not be among the top 10 industries in terms of real output growth but are also included in [table 3.12](#) for purposes of comparison.³⁵³

³⁵² The analyses of these industries in [chapter 4](#) use a different modeling methodology and analytical approach than the GE model used in [chapter 3](#). See [chapter 4](#) for more information.

³⁵³ As noted in the section above covering selection of the industries analyzed in this chapter, the technical textiles industry and machine tools and power tools industry were analyzed in detail in this chapter because they met quantitative thresholds independent from the GE modeling results. They were also selected because analysis of these industries demonstrates how PNTR revocation would affect industries at different stages of the supply chain (consumer, intermediate, and capital goods), in different broad sectors where imports from China are most common (consumer discretionary products, textiles and apparel, and machinery), and of different sizes and levels of segmentation.

Table 3.12 Comparison of estimated effects in U.S. industries with the greatest estimated increase in real output in the sixth year relative to 2023 baseline as a result of PNTR status revocation
In percentages. ITPD = International Trade and Production Database.

Industry description and ITPD industry code	Change in imports from China (%)	Change in domestic shipments (%)	Change in real output (%)	Change in consumer prices (%)
Games and toys (152)	-11.7	35.6	12.8	34.8
Domestic appliances (123)	-39.8	14.7	11.1	7.1
Made-up textile articles (e.g., blankets, linens, cushions, curtains, washcloths) (55)	-21.3	20.6	10.5	18.0
Batteries and accumulators (128)	-30.0	23.6	9.8	12.0
Telephone and data communications equipment (132)	-31.0	21.6	7.3	11.0
Other miscellaneous manufacturing (e.g., non-disposable safety equipment, brushes, globes, umbrellas, novelty items) (153)	-21.4	6.5	5.1	7.5
Furniture (148)	-52.5	6.4	5.0	3.1
Pottery, china, and earthenware (95)	-26.1	16.5	4.5	13.5
Wearing apparel except fur apparel (60)	-20.2	5.6	2.9	8.4
Lighting equipment and electric lamps (129)	-15.2	4.4	2.9	6.2
Technical textiles (58)	-32.5	3.0	0.8	3.5
Machine tools and power tools (116)	-14.0	2.5	0.0	3.8

Source: USITC estimates.

Note: Industries selected are those with the greatest estimated increases in U.S. real output. Industries producing technical textiles and machine tools and power tools are also included for purposes of comparison.

Most industries (131 out of 170) are projected to have lower U.S. real output in the sixth year relative to the baseline as a result of PNTR status revocation, although most of these declines would be less than 1 percent. [Table 3.13](#) provides results for the 10 industries with the greatest expected decreases in U.S. real output relative to the baseline in the sixth year following PNTR status revocation. Those with the most significant projected decreases in real output are industries that have relatively low direct import competition from China, relatively low differences in column 1 and column 2 duty rates, or both.³⁵⁴ For these industries, the limited gains associated with reduced competition with imports from China would

³⁵⁴ This analysis is based on a comparison of industries using (1) the baseline trade data matrix used in the International Trade and Production Database for Simulation (ITPD-S) used in this report's simulation gravity model; and (2) differences in average ad valorem equivalent column 1 and column 2 duty rates. USITC estimates; Borchert et al., "Globalization, Trade, and Inequality: Evidence from a New Database," November 2024; USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025; USITC, *Harmonized Tariff Schedule of the United States (2023)*, Basic Edition, December 30, 2022. [Chapter 2](#) and [appendix D](#) provide more information on the ITPD-S and [appendix F](#) provides more information on the calculation of ad valorem equivalent duty rates.

likely be offset by increased production costs and, for certain industries, reduced export competitiveness.³⁵⁵

Table 3.13 Comparison of estimated effects in U.S. industries with the greatest estimated decrease in real output in the sixth year relative to 2023 baseline as a result of PNTR status revocation
In percentages. ITPD = International Trade and Production Database.

Industry description and ITPD industry code	Change in imports from China (%)	Change in domestic shipments (%)	Change in real output (%)	Change in consumer prices (%)
Leathers and skins (62)	-31.5	-0.3	-3.2	0.7
Aircraft and spacecraft (144)	-76.4	-1.0	-3.2	0.7
Basic precious and non-ferrous metals (103)	-26.4	-0.9	-3.1	0.7
Pharmaceuticals, medicinal chemicals, and botanical products (87)	-51.0	0.0	-2.3	0.8
Processed nuclear fuel (81)	1.5	-1.4	-2.1	0.2
Agricultural and forestry machinery (115)	-10.1	-0.3	-1.9	0.8
Motor vehicles (138)	-18.6	-0.3	-1.7	0.8
Engines and turbines (not for transportation equipment) (109)	-59.5	0.5	-1.6	0.9
Watches and clocks (137)	-25.0	0.7	-1.5	1.1
Live swine (18)	-0.5	0.3	-1.5	0.6

Source: USITC estimates.

Note: Industries selected are those with the greatest estimated decreases in U.S. real output.

³⁵⁵ Examples of these effects are described in the sections in this chapter covering the technical textiles and machine tools and power tools industries, and on an economy-wide basis in [chapter 2](#).

Chapter 4: National Security Products

This chapter examines an alternative scenario at the industry level (as opposed to an economy-wide level) in which Congress revokes China’s permanent normal trade relations (PNTR) status with a five-year phase-in of column 2 tariff rates on a subset of national security products (NSPs).³⁵⁶ The chapter first describes how the NSP-producing industries were selected and the methodology used to model this scenario. The rest of the chapter consists of sections analyzing each selected NSP-producing industry, including characterizing the products, production, trade with China, competitiveness factors, and model results. Results highlight how a tariff phase-in would change the effects of removing PNTR treatment of goods from China on U.S. prices, total U.S. shipments, and imports from China and non-China sources.³⁵⁷

This chapter uses a variety of information sources to analyze the effects of revoking China’s PNTR treatment on a subset of NSPs. In particular, this chapter’s quantitative analyses include results from partial equilibrium modeling of the tariff increases, comparing immediate and complete (“immediate”) application of column 2 tariff rates on products from China to a five-year phase-in of those rates on products from China. A partial equilibrium model is used here because the NSP-producing industries are more specific than the industry aggregations used in the GE model, which would not appropriately compare the effects of a five-year phase-in compared to immediate revocation.

Summary of Findings

According to Commission partial equilibrium modeling, U.S. domestic shipments in this subset of NSP industries will increase because of increased tariff rates resulting from the revocation of China’s PNTR status, but the degree varies across industries, from 3.7 percent to 32.8 percent ([table 4.1](#)). By year 5, the results in both phased-in and immediate tariff increase scenarios are the same for all products. Phasing-in of tariffs for these NSPs over five years, however, prevents significant price increases in the first few years, allowing U.S. manufacturing capacity time to expand to meet demand before the full tariff increase.

³⁵⁶ Throughout this chapter, the acronym “NSP” is used for what is being produced; the term “NSP-producing industry” or “industry” is used when describing a group of producers.

³⁵⁷ Shipments include the net selling value (exclusive of freight and excise taxes) of all products shipped from an establishment (whether to a domestic or foreign destination). According to the BEA, an establishment is “an economic unit—business or industrial—at a single geographic location, where business is conducted or where services or industrial operations are performed. An establishment is not necessarily identical to an enterprise or company, which may consist of one or more establishments.” BEA, “Glossary,” accessed June 22, 2026; Census, “Census Glossary,” accessed April 23, 2026. Domestic shipments are the U.S. industry’s shipments of products sent to other facilities in the United States. For more, see [chapter 3](#) discussion.

Table 4.1 Impact on prices, domestic shipments, and imports from China of phased-in tariffs after five years, relative to 2024 baseline

In percentages. NSP = national security product.

NSP-producing industry description	Percentage change in price	Percentage change in domestic shipments	Percentage change in imports from China
Batteries	5.7	19.5	-55.5
Broadcast and wireless communications equipment	6.4	32.8	-75.0
Electronic computers	4.4	31.0	-83.3
Motors and generators	1.7	5.3	-68.5
Ball and roller bearings	2.7	7.2	-64.8
Speed changer, industrial high-speed drive, and gears	1.5	3.7	-66.7

Source: USITC estimates.

Note: The effects on two NSPs are not modeled because the national security elements of the NSPs are distinct from the industry they are classified in (graphite in miscellaneous nonmetallic mineral products, and personal protective equipment in surgical appliances and supplies). See the “Personal Protective Equipment” and “Synthetic Graphite” sections for more details.

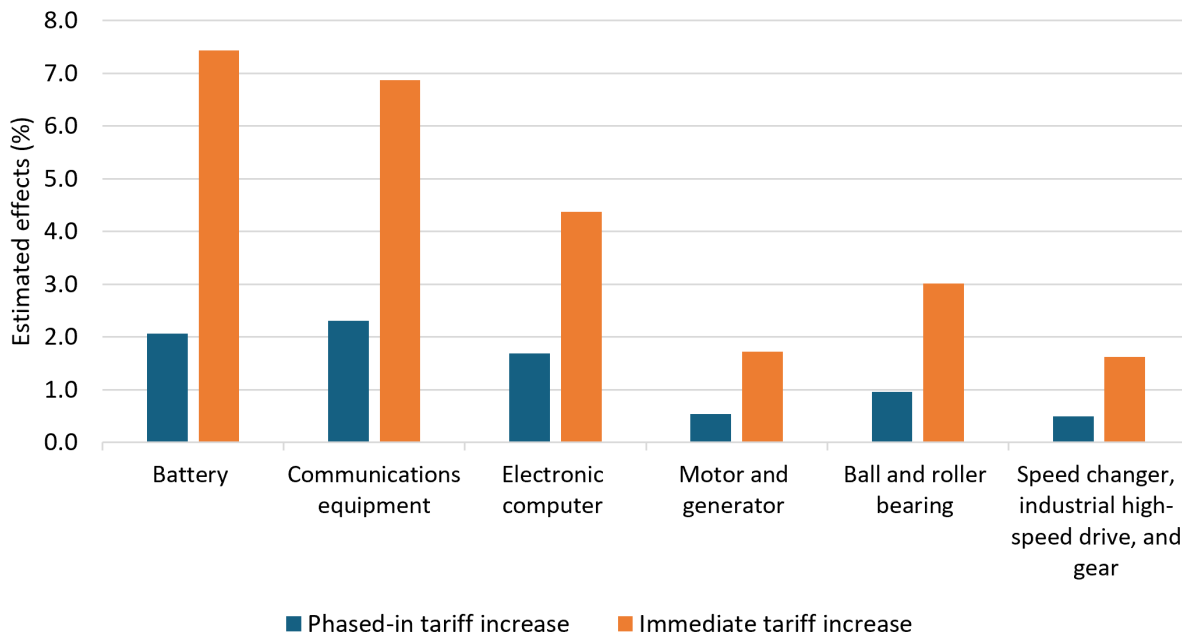
Compared to immediate revocation, price increases are smaller when tariffs are phased in.³⁵⁸ For example, in year 1 following phased-in tariff removal, battery prices are estimated to grow by 2.1 percent (5.4 percentage points lower than they would have with immediate revocation); in communications equipment, the price increase is estimated to be 2.3 percent (4.6 percentage points lower than with immediate revocation) ([figure 4.1](#)).³⁵⁹ Although magnitudes would vary by industry, phasing-in of tariffs would likely limit price increases for all NSPs in the first few years.

³⁵⁸ In the phased-in scenario, the total tariff increase is spread equally over the first five years.

³⁵⁹ Detailed results for each modeled industry are discussed in the “Industry-Level Effects of PNTR Status Revocation” section.

Figure 4.1 Change in prices in year 1 between immediate and phased-in tariff increase, relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.21](#).



Source: USITC estimates.

At the same time, phasing in tariffs dampens the initial growth in U.S. domestic shipments, with the increase in domestic shipments in years one through three lower for each product.

Although these models provide estimates for specific industries only, they are suggestive of the potential impact of tariff phase-in for other NSP products.³⁶⁰ For the six NSP-producing industries that are modeled in chapter 4, tariff phase-in substantially reduces the impact on prices, domestic shipments, and imports that would occur from immediate and full application of higher tariffs. On average for these industries, the change in those economic outcomes in the first year is about two-thirds smaller when tariffs are phased in. If tariffs were phased in on a broad set of NSP products, the magnitude of the economy-wide response discussed earlier in this report could be substantially affected.

In interviews, a little more than half of the industry representatives who discussed NSPs expressed concern about increased tariffs on Chinese intermediate inputs affecting the ability to produce competitively in the United States.³⁶¹ Chinese intermediate inputs are important for several NSPs, including batteries, electric motors, and some types of personal protective equipment. Tariffs on Chinese intermediate inputs would likely increase the cost of U.S. production.

³⁶⁰ Although the results of phased-in tariffs for other NSPs would likely be qualitatively similar, the six industries modeled in this chapter were not selected to be collectively representative of all NSP-producing industries.

³⁶¹ The Commission interviewed several dozen individuals for this report, and of these, about 20 discussed the impact of tariffs on inputs for U.S. NSP-producing industries. U.S. industry representatives, interviews with USITC staff, various dates.

Selection of National Security Products for Analysis

The Commission selected an illustrative subset of NSP-producing industries to examine the effects of phased-in PNTR status revocation and subsequently higher tariffs on shipments, imports, and pricing of NSPs. This section describes the methodology employed by the Commission to select the subset of NSPs analyzed in this chapter and the industries that produce them. In particular, two criteria were used: national security linkages and Chinese import penetration (i.e., Chinese imports' share of U.S. consumption). To ensure the feasibility of trend analysis and economic modeling across a broad array of industries and products, this chapter relies on trade, production, and employment data that use the 2022 North American Industrial Classification System (NAICS).³⁶² Using NAICS enables integration of data from the U.S. Census Bureau, the Bureau of Labor Statistics, and the Bureau of Economic Analysis (BEA).³⁶³

The U.S. government does not maintain an official list of NSPs. Industries were selected from a broad and inclusive, though not exhaustive, list of industries that could potentially be producing NSPs (NSP-producing industries). The list includes industries that other U.S. government agencies have determined have important national security functions and those that produce significant inputs for products that have significant national security functions.³⁶⁴ The Commission also considered the extent of Chinese import penetration as a basis for identifying NSP-producing industries where China PNTR status revocation would likely have an identifiable impact. These criteria are described below.

NSP Consideration Criterion 1: National Security Linkage

As a threshold, the Commission limited its analysis to industries considered to have a linkage to national security. These industries were defined using two approaches: the industry has either a direct national security role or its output supplies a national security-related supply chain.

Industries with a direct national security role. The Commission considered industries within sectors that other U.S. government agencies have determined have important national security functions. Specifically, the Commission considered the 16 “critical infrastructure” sectors listed in two Presidential policy documents: a 2013 Presidential Policy Directive (PPD-21) and the 2024 National Security Memorandum (NSM-22) that superseded it. Both documents identify these sectors as being vital for

³⁶² EOP, OMB, *North American Industry Classification System*, 2022.

³⁶³ Census, “ECN Core Statistics Summary Statistics,” December 2024. Industrial classification systems such as NAICS are necessary but imperfect mechanisms for the development of product groupings for economic and trade analysis. Trade data (classified at the product level using the *Harmonized Tariff Schedule of the United States* (HTS) and Schedule B) are mapped to specific NAICS-based industries, which may not capture multiple industries producing the same product. NAICS generally classifies industries at the establishment level according to the primary product or service supplied at that location. Because of the comprehensiveness and availability of these data, use of industrial classification systems as a means of classifying product groupings is common.

³⁶⁴ See for example CISA, “Critical Infrastructure Sectors,” accessed March 31, 2026; NSM-22 (April 30, 2024).

national security, national economic security, or national public health or safety.³⁶⁵ These sectors have been referenced on government websites or in other government actions and investigations, including national security–related investigations under section 232 of the Trade Expansion Act of 1962.³⁶⁶ The Commission mapped these critical infrastructure sectors to individual industries using 2022 NAICS codes. Those industries were considered as possible NSP-producing industries for the purposes of this investigation.

Industries within national security–related supply chains. Using input-output tables from the BEA, the Commission estimated the extent to which supplying industries serve downstream industries identified as having a direct national security role (as described above).³⁶⁷ If 25 percent or more of a supplying industry’s output was used directly or indirectly within downstream industries identified as having a national security role, the supplying industry was considered a possible NSP-producing industry for this investigation.

³⁶⁵ EOP, NSM-22 (April 30, 2024); CISA, “National Security Memorandum on Critical Infrastructure Security and Resilience,” accessed March 31, 2026; White House, PPD-21 (February 12, 2013); CISA, “Critical Infrastructure Sectors,” accessed March 31, 2026. NSM-22 and PPD-21 define critical infrastructure using a statutory definition from section 1016(e) of the USA Patriot Act of 2001 (42 U.S.C. § 5195c(e)) as being “systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.” Patriot Act of 2001, Pub. L. No. 107-56, § 1016, 115 Stat. 272, 400.

³⁶⁶ Trade Expansion Program, 19 U.S.C. § 1862; CISA, “Critical Infrastructure Sectors,” accessed March 31, 2026. Several recent section 232 investigations, which concern whether national security is impaired by imports, have found that specific products covered in those investigations are essential to the sectors listed in PPD-21 or NSM-22. EOP, Proclamation 11002, 91 Fed. Reg. 2443 (January 20, 2026); USDOC, *The Effect of Imports of Steel*, January 11, 2018, 14, 23–24, Appendix I; USDOC, *The Effect of Imports of Aluminum*, January 17, 2018, 13, 36–39. Other U.S. government investigations have not explicitly used PPD-21 or NSM-22 as a guide but have nonetheless referenced national defense, the electrical grid, public health, transportation, and manufacturing capabilities that overlap with the sectors in PPD-21/NSM-22. EOP, Executive Order 14017, 86 Fed. Reg. 11849 (March 1, 2021); USDOC, *Report on the Effect of Imports of Automobiles and Automobile Parts on the National Security*, November 8, 2021; EOP, Proclamation 10962, 90 Fed. Reg. 37727 (August 5, 2025); EOP, Proclamation 10976, 90 Fed. Reg. 48127 (October 6, 2025); Proclamation 10984, 90 Fed. Reg. 48451 (October 17, 2025).

³⁶⁷ BEA input-output data provide information on the extent to which commodities are used as intermediate inputs in industries. The BEA classifies commodities and input-using industries using industrial classifications systems covering different levels of aggregation. The most detailed input-output data produced by the BEA covers the linkages between 402 industry groups (BEA detail industries) based on 2017 NAICS codes. The Commission created a concordance between 2022 NAICS codes and BEA detail industries and used this information to identify BEA detail industries with a direct national security role. The Commission then estimated the share of each commodity’s output used in BEA detail industries with a direct national security role to identify industries within national security related supply chains. BEA, “Input-Output (After Redefinitions) Interactive Data Application. Make-use imports (after redefinitions), the use of commodities by industry, after redefinitions (producers’ prices),” accessed March 27, 2026.

NSP Consideration Criterion 2: Chinese Import Penetration

The Commission also considered U.S. reliance on imports of Chinese origin when selecting NSPs for analysis. The NSP-producing industries selected are among those where import penetration from China is at least 5 percent of the value of apparent U.S. consumption.³⁶⁸ This approach excluded several of the largest NSP-producing industries, including petroleum refining and extraction industries, automobile production, and iron and steel mills because of low Chinese import penetration in those markets. Because import penetration was calculated using dollar values rather than quantity, this approach also excluded semiconductors and pharmaceuticals that have relatively high quantities of extremely low-value imports from China (see boxes [4.1](#) and [4.2](#)).³⁶⁹ It still left the Commission with several dozen NSP-producing industries to choose from.

NSP-Producing Industries Selected for Analysis

From the set of industries characterized by the criteria described above, the Commission selected eight NSP-producing industries to analyze in this chapter. These industries were selected to demonstrate the breadth of impacts of phased-in PNTR status revocation on a range of products serving different critical infrastructure sectors and at different supply chain stages ([table 4.2](#)).

³⁶⁸ Chinese import penetration is the value of imports from China divided by the value of apparent U.S. consumption. The value of apparent U.S. consumption is based on the values of imports for consumption from China and all other sources plus sales, shipments, or revenue from the 2022 Economic Census, less U.S. domestic exports. To be consistent with the data from the Economic Census, trade data covered imports and exports in 2022. USITC DataWeb/Census, domestic exports and imports for consumption, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, December 2024.

³⁶⁹ In addition to the value of imports from China and their share of U.S. consumption of the product, the Commission also considered the types of imports that are specified within the applicable NAICS industry or HTS statistical reporting number. Certain NSP-producing industries were not selected because imports from China were led by products that likely had little to do with national security. For example, products within NAICS 326190, other plastics manufacturing, were not selected because many of the imports from China were under a statistical code for plastic household goods used in kitchens and bathrooms. In addition, certain NAICS-based industries were not selected because it was difficult to discern what was imported from China. For example, NAICS 332999, other fabricated metal manufacturing, includes products used in national security related supply chains. However, imports from China are categorized in HTS statistical reporting numbers that do not identify the imported products beyond the type of metal used such as HTS statistical reporting number 7326.90.8688, articles of iron or steel, not elsewhere specified or included or HTS statistical reporting number 7616.99.5190, articles of aluminum, not elsewhere specified or included. USITC DataWeb/Census, domestic exports and imports for consumption, accessed March 6, 2026.

Table 4.2 National security products analyzed in Chapter 4

In percentages. NAICS = North American Industry Classification System.

Sector description	NAICS code	Critical infrastructure sector/supply chain	U.S. imports from China, share of U.S. consumption, 2022
Batteries	335910	Critical manufacturing	23.7
Surgical appliances and supplies	339113	Healthcare and public health	10.0
Broadcast and wireless communications equipment	334220	Information technology and communications	43.4
Electronic computers	334111	Information technology	48.9
Certain motors and generators	335312	Critical manufacturing	11.4
Ball and roller bearings	332991	National security-related supply chains (transportation, defense, etc.)	11.7
Miscellaneous nonmetallic mineral products	327999	National security-related supply chains (batteries)	6.7
Speed changers, industrial high-speed drives, and gears	333612	National security-related supply chains (critical manufacturing, defense, etc.)	11.7

Source: USITC DataWeb/Census, Domestic exports and imports for consumption, accessed March 6, 2026; U.S. Census Bureau, 2022 Economic Census, Sales, value of shipments, or revenue, December 2024; BEA, “Input-Output Accounts Data: The Use of Commodities by Industry, After Redefinitions (Producers’ Prices),” accessed March 27, 2026; CISA, “Critical Infrastructure Sectors,” accessed March 31, 2026.

Note: Sectors are listed in descending order of total U.S. shipments in 2025. U.S. consumption estimated as values of imports for consumption from China and all other sources plus sales, shipments, or revenue from the 2022 Economic Census, less U.S. domestic exports.

Modeling Methodology

The economic impacts of increasing the tariffs on imports of NSP-producing industries analyzed in this chapter were estimated using industry-specific simulation models that include forward-looking investments that account for time needed to adjust the domestic producers’ capital stock. The models estimate how the phasing-in of the tariffs would affect U.S. domestic shipments, U.S. imports from different countries, and U.S. prices for NSPs.³⁷⁰ The economic analysis in this chapter includes six different, unlinked models, each focused on one of the NSPs selected above.³⁷¹

³⁷⁰ See [appendix E](#) for full model estimates. See [chapter 1](#) for an overview of the differences between these models and the general equilibrium model used in chapters [2](#) and [3](#).

³⁷¹ For two of the industries (surgical appliances and supplies manufacturing, and miscellaneous nonmetallic mineral products), the scale of domestic production of NSPs was significantly less than the NAICS-6 level industry, and the importance of imports from China was significantly different for the NSP compared to the broader NAICS industry. The Commission considered the differences between the data used in the model and the industries of interest to the investigation to be too large, and the effects of tariffs are instead examined using descriptive analysis. For specific data on the differences between the NSP and the rest of the industry, see [“Personal Protective Equipment”](#) and [“Synthetic Graphite.”](#)

Likely Economic Effects of the Tariff Increases

In general, an increase in the tariff rate on imports of the NSPs from China from the column 1 to the column 2 rate would reduce the demand for these imports and increase demand for U.S. products and imports from other sources.³⁷²

If a tariff is increased from the column 1 to the column 2 rate immediately, then the resulting shift in demand away from imports from China would lead to an immediate but limited increase in U.S. production and a short-run spike in average industry prices within the U.S. market. Capital investments would further increase U.S. supply of the NSP with a lag of one year or more. The short-run price increases will eventually be dampened as production of the NSPs expands in the United States.

On the other hand, if a tariff increase is phased in over time and U.S. producers anticipate scheduled future tariff increases when making investment decisions, the immediate increase in U.S. production would be smaller in the short run, and a more gradual increase in U.S. production would reflect the time for firms to increase capital and the phasing-in of the tariff increase. The U.S. market would not see a short-run spike in industry average prices if most of the tariff increases were backloaded until the capital stock of the U.S. industry would have been able to adjust.

Description of the Analytical Approach

The partial equilibrium (PE) simulation models estimate the impact of the higher tariff rates on the NSP imports from China on domestic shipments of U.S. producers, imports from China and an aggregate of imports from the rest of the world, and industry average prices within the U.S. market in each of the first six years.³⁷³

All the industry-specific models share a common modeling structure. They assume that the NSPs from different countries are viewed as differentiated by U.S. consumers and that U.S. production combines capital and variable inputs like labor and intermediate goods. U.S. producers invest in capital to expand production. Forward-looking capacity investments are subject to adjustment lags reflecting the time it takes to plan and implement these capital investments once existing capacity has been utilized. The simulation models are calibrated to industry-specific capital adjustment lags and other industry conditions in the 2024 baseline year.³⁷⁴

In addition to accounting for the effects of tariffs on imports of the final product, the model accounts for the effects of tariffs on imports of intermediate products from China on the costs of U.S. production. The cost shares of the intermediate inputs are calibrated to the 2017 BEA use table for the NSP.³⁷⁵ The simulations assume the same phase-in schedule for tariff increases for the NSP and its manufactured

³⁷² Column 1 rates are applicable to all countries that are not specifically assigned to column 2. For more on column 1 and column 2 rates, see [chapter 1](#).

³⁷³ The models used in this chapter are industry-specific partial equilibrium models that are different from the economy-wide model used in chapters [2](#) and [3](#) of this report.

³⁷⁴ Because the model is forward looking, the baseline year of 2024 is the most recent year for which all data required by the PE models are available.

³⁷⁵ BEA, "Input-Output (Before Redefinitions) Interactive Data Application. Make-use imports (before redefinitions), the use of commodities by industry, before redefinitions (producers' prices)," accessed March 27, 2026.

good inputs. In one scenario, the tariffs on its manufactured intermediate inputs are immediately increased to column 2 rates along with the tariff on the NSP. In the other scenario, the tariffs are phased in.

Inputs of the Models

The models include the following data inputs.

- Ad valorem equivalent column 1 and column 2 tariff rates are from the Harmonized Tariff Schedule of the United States (HTS).³⁷⁶
- 2024 industry-specific data are calculated from data for the specific industry from the 2022 Economic Census and updated using more aggregate 2024 data from Manufacturers' Shipments, Inventories, and Orders data on U.S. shipments and the Commission's DataWeb data on trade.³⁷⁷
- The capital shares in production costs are estimated using industry data from the 2022 Economic Census and include production cost increases from PNTR status revocation.³⁷⁸
- Values for the elasticity of substitution are estimated econometrically using trade data from DataWeb.³⁷⁹
- Data on input cost shares are from the BEA 2017 Input-Output Detailed Use Tables.³⁸⁰
- Estimates of time to build additions to the capital stock of domestic producers are based on public sources and interviews with industry representatives.³⁸¹

Model Estimates

In general, the expansion of U.S. production of the subset of NSPs is limited in the first six years by capital adjustment lags.³⁸² The delay in capacity expansion can result in short-run price spikes that affect U.S. consumers and downstream users if the tariff increases are immediate and not anticipated in the

³⁷⁶ For detailed description of ad valorem equivalent rates calculation methodology see [appendix F](#). USITC, *Harmonized Tariff Schedule of the United States (2023)*, December 30, 2022.

³⁷⁷ "The Economic Census is the official five-year measure of businesses in the United States providing comprehensive statistics at the national, state, and local levels. It serves as the benchmark for current economic activity, such as the Gross Domestic Product and Producer Price Index." The Manufacturers' Shipments, Inventories, and Orders survey occurs monthly and is published at a more aggregated level. Census, "2022 Economic Census," accessed June 22, 2026; Census, "ECN Core Statistics Summary Statistics," December 2024; Census, "About the Surveys," accessed April 23, 2026.

³⁷⁸ Census, "ECN Core Statistics Summary Statistics," December 2024; Census, "About the Surveys," accessed April 23, 2026. Estimated production cost increases and tariff increases are described further in [appendix E](#).

³⁷⁹ See data release for specific elasticities.

³⁸⁰ USDOC, BEA, "Input-Output (Before Redefinitions) Interactive Data Application. Make-use imports (before redefinitions), the use of commodities by industry, before redefinitions (producers' prices)," accessed March 27, 2026.

³⁸¹ U.S. industry representative, interview by USITC staff, March 19, 2026; U.S. industry representative, interview by USITC staff, March 26, 2026; Orca Lean Digital Solutions, "How Long Would It Really Take," June 2, 2025.

³⁸² The Committee's report specifies a five-year tariff phase-in period for the alternative scenario but does not specify a period of analysis for the alternative scenario, so six years are included to match the period considered in the economy-wide modeling of the immediate implementation scenario in chapters [2](#) and [3](#).

investments of U.S. producers. Phasing in tariff increases reduces these spikes in industry average prices but also reduces the urgency to increase U.S. production during the phase-in period.

The model estimates of shipments, imports, and price effects for each of the six modeled NSPs are reported in their respective sections of this chapter, for the first six years after the policy change. The significant differences in the estimated economic impacts among the six NSPs reflect differences in the lags in capital adjustment estimated by the Commission and other factors that determine the magnitudes of economic effects in PE models of trade policy.³⁸³

Model Limitations

The models focus on the impact of phasing in the tariffs and capital adjustment lags in the industry's transition, and they are simplified in other areas. First, the industry-specific PE models reported in this chapter do not attempt to estimate economy-wide effects nor allow for overall changes in demand except in response to the tariff rate changes. Second, they do not consider potential uncertainty associated with trade policy changes. How these limitations affect the model results is ambiguous and may not be uniform across all six models. The models provide illustrative examples and do not estimate the effects of removal of PNTR treatment on the full set of NSPs because no such set exists.

Industry-Level Effects of PNTR Status Revocation

Below are eight sections examining the effects of a phased-in removal of PNTR treatment for products from China across a five-year phase-in period. Sections are presented in descending order of total U.S. shipments in 2025 ([table 4.3](#)). Each section begins with a description of the industry modeled, U.S. producers, shipments, and import trends. That is followed by an explanation of the importance of price and the availability of supply to the U.S. market via domestic production or alternative import sources. The final portion of each section explains the difference between staging the increase in tariffs on imports from China from column 1 rates to column 2 rates versus having the tariff immediately increase to the full column 2 rate for domestic shipments, imports from China, imports from non-Chinese sources, and prices.

³⁸³ Other factors include the market share of inputs, the magnitude of the tariff changes, and price responsiveness of demand.

Table 4.3 Total U.S. shipments of national security product-producing industries, 2025

In billions of dollars.

NSP-producing industry description	Total U.S. shipments
Batteries	57.5
Surgical appliances and supplies	39.1
Broadcast and wireless communications equipment	36.2
Electronic computers	19.0
Motors and generators	15.9
Ball and roller bearings	6.1
Miscellaneous nonmetallic mineral products	5.5
Speed changer, industrial high-speed drive, and gears	4.3

Source: Census, 2022 Economic Census, Sales, value of shipments, or revenue, December 2024; USDOC, BEA, "Input-Output Accounts Data: The Use of Commodities by Industry, After Redefinitions (Producers' Prices)," accessed March 27, 2026.

Note: Shipment data in 2022 taken from 2022 Economic Census at the NAICS 6-digit level. For 2025, shipment data are estimated according to changes seen in a more aggregated sector since 2022 for most of these industries, with the exception of batteries and electronic computers, which were listed separately in 2025 data.

The eight NSP-producing industries discussed below illustrate a breadth of impacts of phased-in PNTR status revocation on a range of products serving different critical infrastructure sectors and at different positions in the supply chain. In 2022, these industries accounted for 2.3 percent of the value of total U.S. shipments of manufactured goods that could be considered NSPs, 44.9 percent of such imports from China, and 5.5 percent of total U.S. consumption of such goods.³⁸⁴

Batteries

The battery manufacturing industry includes producers of primary (non-rechargeable) and storage batteries (rechargeable).³⁸⁵ Major applications of these batteries include electric vehicles, energy storage systems (ESS),³⁸⁶ and portable electronics. Batteries may be categorized as NSPs because they have important military applications, and energy storage is a part of the U.S. energy infrastructure. In the automotive industry, the primary battery alternative for vehicle propulsion is internal combustion engines; pumped storage hydropower may be an alternative to ESS. No viable substitutes exist for batteries in portable electronics, but such electronics tend to be produced outside the United States and thus batteries' lack of a substitute is less important.³⁸⁷

³⁸⁴ Commission calculation based on data from Census and DataWeb. Consumption estimated as the values of imports for consumption from China and all other sources plus sales, shipments, or revenue from the 2022 Economic Census, less U.S. domestic exports. To be consistent with the data from the Economic Census, trade data covered imports and exports in 2022. USITC DataWeb/Census, domestic exports and imports for consumption, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, December 2024. For details on industry selection, including which manufactured goods could be considered NSPs, see the "[Selection of National Security Products for Analysis](#)" section.

³⁸⁵ The industry covered in this section is NAICS 335910, battery manufacturing.

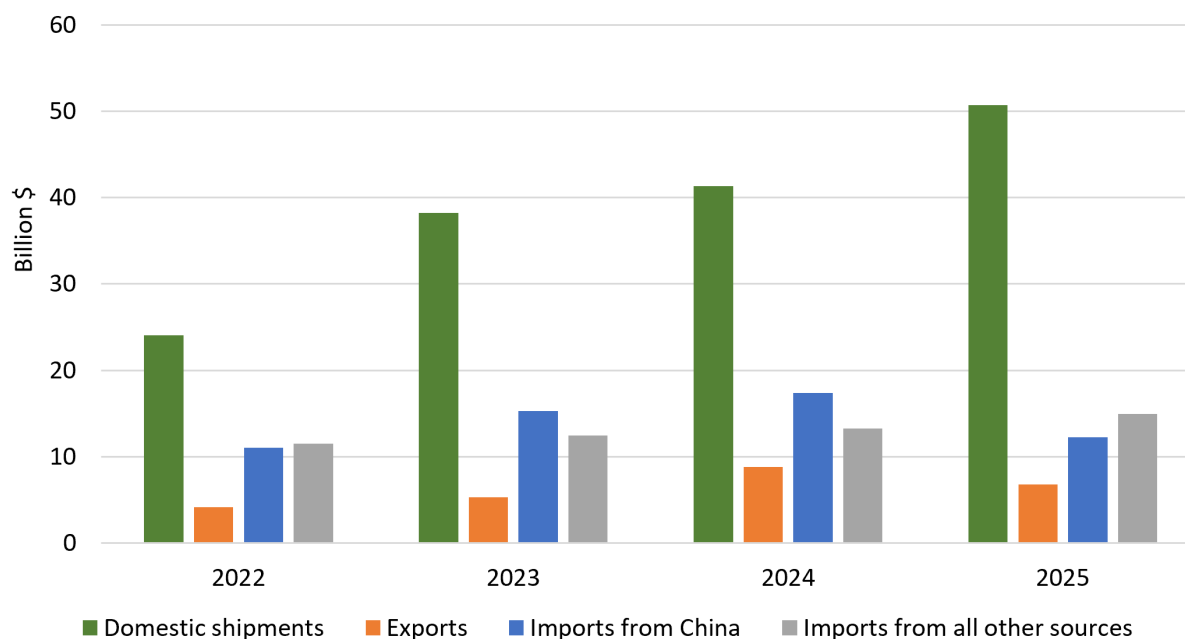
³⁸⁶ Energy storage systems hold electricity for later use. The majority of such systems use lithium-ion batteries. Energy, EIA, "Energy Storage for Electricity Generation," August 28, 2023.

³⁸⁷ For more, see "[Broadcast and Wireless Equipment](#)" and "[Electronic Computers](#)" sections.

The United States has a significant battery manufacturing industry ([figure 4.2](#)), including lead-acid and lithium-ion battery manufacturing. In 2022, 294 battery manufacturing establishments existed.³⁸⁸ Lithium-ion battery manufacturers in the United States are a mix of U.S.-based startups (e.g., Tesla), Asian-headquartered battery manufacturers (e.g., LG Energy Solutions, SK Battery Americas), and joint ventures between U.S. vehicle manufacturers and Asian battery producers (e.g., Ultium LLC).³⁸⁹ Most lead-acid battery manufacturers in the United States are privately held U.S. companies (e.g., Clarios, Stryten, East Penn).³⁹⁰ Total U.S. battery shipments doubled from \$28.2 billion in 2022 to \$57.5 billion in 2025.³⁹¹ From 2022 to 2025, employment in battery manufacturing increased from 46,200 to 60,700.³⁹²

Figure 4.2 U.S. domestic shipments, imports, and exports of batteries by value, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.22](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 33591, accessed March 2, 2026; Census, “Shipments,” 2022 Economic Census, December 2024; Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

Imports make up a significant but declining share of U.S. battery consumption, and China is by far the top import source, particularly of lithium-ion batteries. Among lithium-ion battery applications, Chinese

³⁸⁸ NAICS 335910. Census, “ECN Core Statistics Summary Statistics,” December 2024.

³⁸⁹ NLR, NAATBatt Lithium-Ion Battery Supply Chain Database, March 31, 2026.

³⁹⁰ BCI, “BCI Interactive Member Map,” March 1, 2025.

³⁹¹ Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

³⁹² Census, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers’ Shipments, Inventories, & Orders - Historical Data, January 29, 2026.

suppliers are leaders in ESS.³⁹³ U.S. battery imports rose from \$22.5 billion in 2022 to \$27.2 billion in 2025, but import penetration decreased from 48.3 percent to 34.9 percent. China's share of U.S. battery imports declined from 49.0 percent to 45.0 percent during the same period.³⁹⁴ Major Chinese manufacturers include CATL, BYD, and Gotion. South Korea and Japan are also major battery suppliers.³⁹⁵

Competitiveness

Price is an important competitive factor for batteries but not always the most important. For lead-acid batteries, some consumers may be willing to pay a premium for perceived battery longevity because of the high economic cost of battery failure.³⁹⁶ Range and recharge speed are also important for lithium-ion battery competitiveness, where those factors may limit the ability for electric vehicles to be used on longer drives.³⁹⁷ Lower-priced lithium-ion batteries from China have had a significant impact on U.S. lithium-ion battery production. Pack prices in the United States were \$36 per kilowatt hour higher (43 percent) than in China in 2025 because of a combination of higher costs in the United States and product mix.³⁹⁸ Even though tariffs on lithium-ion batteries from China (including column 1 and additional tariffs) were greater than 25 percent in 2025, import levels from China were significant, partially a result of high demand in settings like data centers and limited sourcing alternatives.³⁹⁹

Supply constraints on intermediate inputs could prevent U.S. battery manufacturers from reaching full production capacity on new investments. Specifically, U.S. battery production is heavily reliant on China for many key battery inputs, particularly anode material for lithium-ion batteries and antimony for lead-acid batteries.⁴⁰⁰ Raising tariffs on these products could impact downstream U.S. battery producers.⁴⁰¹

³⁹³ U.S. industry representative, interview by USITC staff, March 19, 2026; Volta Foundation, written submission to the USITC, April 13, 2026, 2, 4–5; Ren, “China Amps up Battery Buildout,” April 9, 2026; SNE Research, “Global LIB ESS Market Reaches 550 GWh,” January 28, 2026.

³⁹⁴ USITC DataWeb/Census, accessed February 24, 2026.

³⁹⁵ SNE Research, “Global LIB ESS Market Reaches 550 GWh,” January 28, 2026.

³⁹⁶ Kaitwade, “How Global Battery Brands Control Lead-Acid Pricing,” December 4, 2025.

³⁹⁷ U.S. industry representative, interview by USITC staff, April 15, 2026; Shepard, “What Are Six Key Considerations?,” June 14, 2022; Ngoy et al., “Lithium-Ion Batteries and the Future of Sustainable Energy,” November 1, 2025.

³⁹⁸ The United States produces fewer lithium-iron-phosphate (LFP) batteries than China, whose LFP batteries tend to be less expensive. U.S. industry representative, interview by USITC staff, March 19, 2026; Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 70.

³⁹⁹ 2025 was the first full year tariffs on all lithium-ion battery imports from China (including batteries and parts) were at this level. U.S. industry representative, interview by USITC staff, March 19, 2026; Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 80.

⁴⁰⁰ U.S. industry representative, interview by USITC staff, March 19, 2026; NAATBatt International, written submission to the USITC, April 13, 2026, 2–4; Volta Foundation, written submission to the USITC, April 13, 2026, 1–2; Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 27; Torsekar, *Wartime Footing*, March 2026, 10–11; USITC, *Active Anode Material From China*, March 2026.

⁴⁰¹ NAATBatt International is concerned that China could retaliate by restricting export of these intermediate inputs using existing licensing regimes. NAATBatt International, written submission to the USITC, April 13, 2026, 2–4.

Effects of China PNTR Status Revocation

The modeling analysis compares two tariff scenarios for battery imports from China: first, an immediate increase in the tariff rate for batteries and intermediate inputs to U.S. battery production in year 1 from column 1 to column 2 rates from China; and, the alternative, a gradual five-year phase-in of the total (battery and intermediate inputs) tariff increase from the column 1 rates to column 2 rates with one-fifth of the total increase each year. Both scenarios model a 0.46 percent increase in production costs due to tariffs on imported intermediate inputs, and a 36.6 percentage point increase in tariffs on imported batteries.⁴⁰²

The model includes a three-year capital adjustment lag for the battery industry. U.S. lithium-ion battery manufacturing currently has significant supply constraints, but capacity is projected to increase from less than 200 gigawatt hours (GWh) in 2025 to more than 1,000 GWh in 2030, alleviating some supply constraints.⁴⁰³ Constraints may still exist after 2030; new lithium-ion battery plants often require several years to reach full capacity utilization.⁴⁰⁴

[Figure 4.3](#) reports the estimated value of U.S. domestic shipments, relative to 2024 baseline values, for the battery industry. U.S. shipments increase under both tariff scenarios. The phased-in tariff increases would lead to slower growth in domestic shipments from year 1 to year 4, with U.S. domestic shipments in year 1 only increasing by \$1.7 billion (4.4 percent) compared with an increase of \$6.3 billion with an immediate tariff increase.⁴⁰⁵

⁴⁰² Estimated production cost increases and tariff increases are described further in the inputs of the model section of this chapter and [appendix E](#).

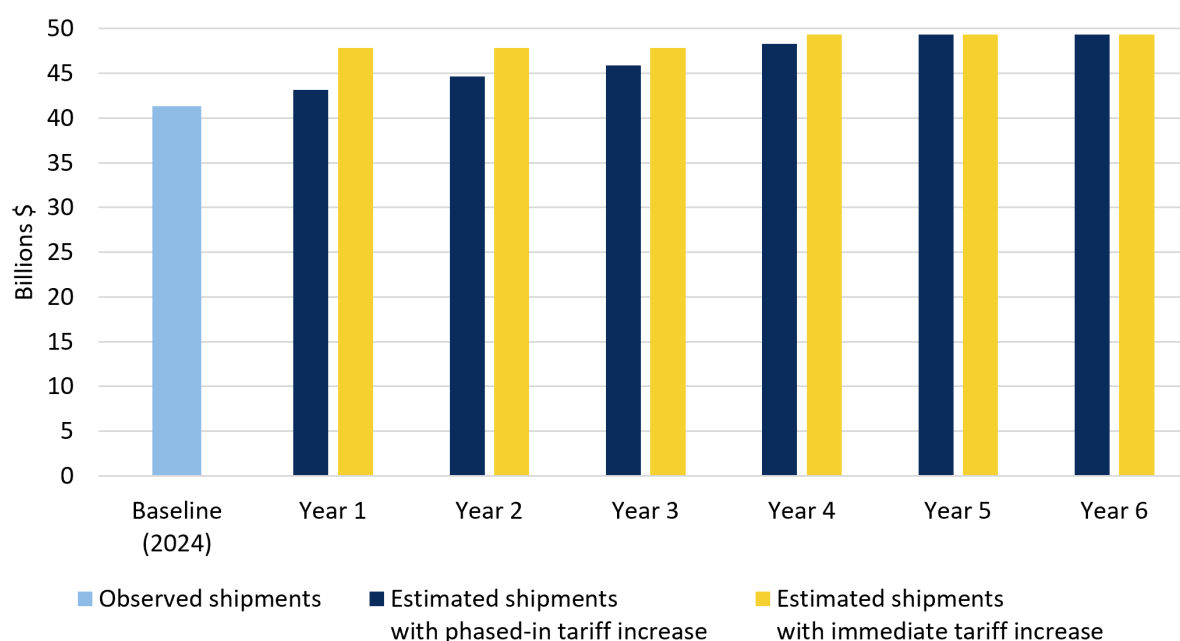
⁴⁰³ Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 87 (CRU data); Vasilas et al., “Projecting Demand for Workers,” May 6, 2024, 9–11; Venditti, “Ranked,” August 29, 2024.

⁴⁰⁴ Fleischmann et al., “Unlocking Growth in Battery Cell Manufacturing,” October 25, 2021.

⁴⁰⁵ The relatively modest increase in battery production does not reflect significant existing investments in U.S. battery production capacity already scheduled to begin production in the first few years after the baseline. Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 87.

Figure 4.3 Estimated value of U.S. domestic battery shipments following permanent normal trade relations status revocation

In billions of dollars. Underlying data for this figure can be found in appendix [table G.23](#).



Source: USITC estimates.

The model projects U.S. imports of Chinese origin would decline by \$10.6 billion in year 5 (a 55.5 percent decline). Under the phased-in tariff increase, imports from China would decline gradually, dropping by \$2.7 billion in year 1 and \$9.2 billion in year 4. Similarly, imports from other sources would increase more slowly under the phased-in tariff increase, increasing incrementally to \$2.9 billion (a 20.9 percent increase) in year 5.⁴⁰⁶ These imports would likely come from South Korea and Japan, the top other sources of battery imports to the United States. Under an immediate tariff increase, imports from other sources would immediately increase by \$3.9 billion in year 1 and stay at that level in years 2 and 3 before dropping in year 4, as a capital adjustment lag in the U.S. industry limits U.S. production increases until then.

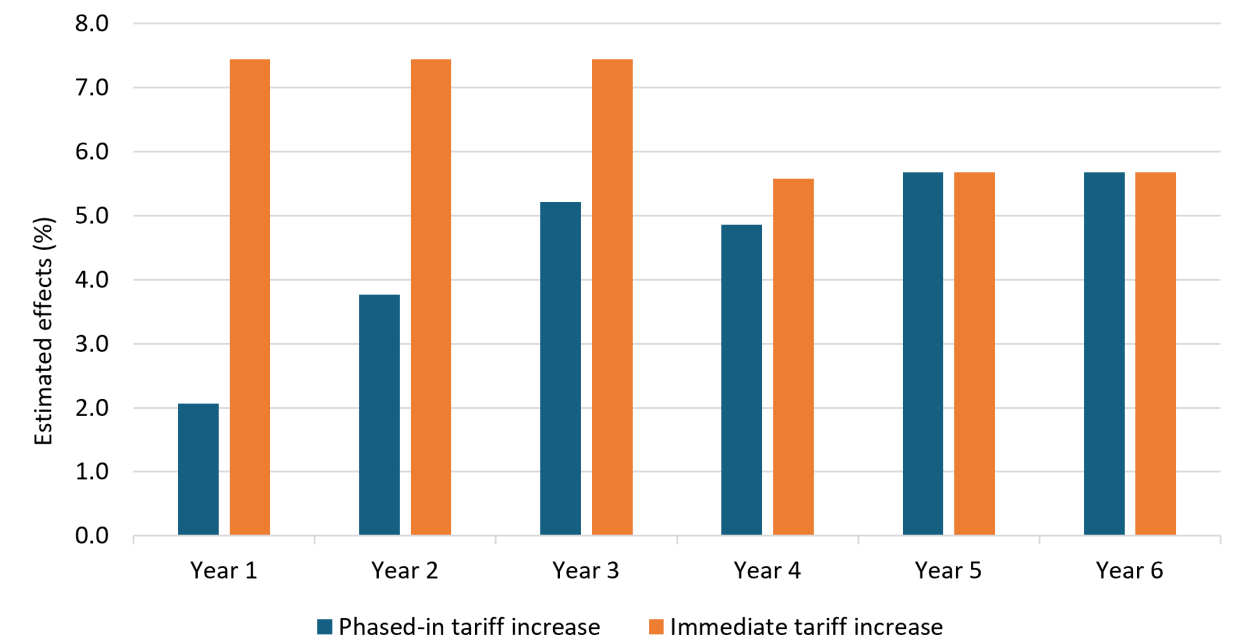
[Figure 4.4](#) reports the estimated percentage changes in the industry average price in the U.S. market, relative to 2024 baseline values. Prices would increase under both tariff scenarios. The phased-in tariff increase would dampen price increases that would occur with an immediate tariff increase. An immediate tariff increase would be accompanied by a price increase in the short run—i.e., the first three years—of over 7.4 percent, which overshoots the price increase in the long run, because of the capital adjustment lag. That overshooting would be mostly absent with the phased-in tariff increase. This price increase reflects China’s edge in battery prices; however, battery prices have declined globally, and continued declines in cost could at least partially offset any tariff-induced price increase.⁴⁰⁷

⁴⁰⁶ See [appendix E](#), tables [E.3](#) and [E.4](#) for full results.

⁴⁰⁷ Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 70.

Figure 4.4 Change in the average price of batteries in the U.S. market relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.24](#).



Source: USITC estimates.

Personal Protective Equipment

Personal protective equipment (PPE) is part of the surgical appliances and supplies industry, which also manufactures articles used in surgical and dental procedures, and various other medical instruments and equipment.⁴⁰⁸ Even though the surgical appliances and supplies industry covers a wide variety of products, notable imports from China include PPE used in the medical, construction, and manufacturing industries. As such, this section focuses on PPE that plays an important national security role, specifically in U.S. public health security, and has applications in the construction and manufacturing industries.

The United States has a significant surgical appliances and supplies manufacturing industry, including disposable and non-disposable PPE to a limited extent.⁴⁰⁹ Disposable PPE includes goods that are worn once and then disposed of (e.g., nitrile gloves, surgical masks, surgical gowns); non-disposable PPE includes goods that are built for multiple uses or to last in varying environments (e.g., high-resolution vests, hard hats, Kevlar gloves). In 2022, the surgical appliances and supplies industry had 1,767 manufacturing establishments.⁴¹⁰ Total U.S. shipments of surgical appliances and supplies increased from \$37.9 billion in 2022 to \$39.1 billion in 2025 as a result of higher exports. However, imports

⁴⁰⁸ The industry covered in this section is NAICS 339113, surgical appliance and supplies manufacturing.

⁴⁰⁹ PPE data are included with the broader NAICS 6-digit category “surgical appliances and supplies manufacturing.”

⁴¹⁰ Census, “ECN Core Statistics Summary Statistics,” December 2024.

account for most U.S. PPE consumption because domestic production of PPE is limited.⁴¹¹ PPE accounted for about 7.4 percent of U.S. surgical appliances and supplies shipments from 2022 to 2025.⁴¹²

In 2025, China made up 15.7 percent of U.S. imports of surgical appliances and supplies.⁴¹³ China's share of imports of surgical appliances and supplies declined by 6.7 percentage points from 2022 to 2025, and imports of these goods from China declined by 26.8 percent during the same time period.⁴¹⁴ Imports of PPE from China drove much of this decline, dropping by nearly \$500 million (41.6 percent).⁴¹⁵ Within PPE, U.S. imports of gloves and disposable apparel designed for use in hospitals, clinics, and laboratories declined by 46.6 percent and 19.8 percent, respectively, during the reporting period.⁴¹⁶ The construction, manufacturing, and agricultural industries almost entirely rely on lower-priced PPE from China for non-disposable PPE; disposable PPE is often supplied by a limited number of U.S. producers competing with Chinese exporters.⁴¹⁷ In addition to PPE and surgical appliances and supplies, another aspect of public health security is active pharmaceutical ingredients, which is discussed in [box 4.1](#).

Box 4.1 Active Pharmaceutical Ingredients

Active pharmaceutical ingredients (APIs) are substances in small molecule drugs that are intended for incorporation into a finished drug product for the purpose of diagnosing, curing, mitigating, treating, or preventing disease—or to affect functions of the body.^a The small molecule drug supply chain generally begins with key starting materials (KSMs), which are used to make APIs before being converted to individual dosages of small molecule drugs.^b Because many APIs are produced outside of the United States, disruptions in supply of these products could introduce risk to U.S. public health security.

China and India are widely recognized as the largest producers of APIs, but ascertaining the ultimate share of APIs and KSMs that originate from China and enter the United States is difficult.^c China was the largest supplier of medicinals and botanicals—a basket category that typically covers bulk APIs and KSMs—to the United States in terms of volume in 2025.^d Imports of medicinals and botanicals include many, but not all, APIs and KSMs. In 2025, U.S. imports of medicinal and botanical imports from China

⁴¹¹ Census, “Manufacturers’ Shipments, Inventories, & Orders - Historical Data,” February 19, 2026.

⁴¹² This estimate was calculated from the share of U.S. exports in schedule B codes USITC believes contain PPE products from total U.S. domestic exports classified under the NAICS 6-digit level for surgical appliances and supplies. USITC DataWeb/Census, domestic exports, NAICS 339113, Schedule B 3006.50.0000, 3926.20.1010, 4015.12.1000, 4015.12.9000, 4015.19.0100, 4818.50.0000, 6210.10.0000, 6307.20.0000, 6307.90.9845, 6506.10.0090, 6812.91.0000, and 9020.00.8000.

⁴¹³ USITC/Census, DataWeb, accessed February 24, 2026.

⁴¹⁴ Ireland, Mexico, and Malaysia are also top exporters of surgical appliances and supplies to the United States. USITC/Census, DataWeb, accessed February 24, 2026.

⁴¹⁵ The USITC marked the following HTS statistical codes within the surgical appliances and supplies NAICS as PPE: 3926.20.1010, 3926.90.9950, 4015.12.1010, 4015.12.1020, 4015.12.9000, 4015.19.1110, 4015.19.1150, 4015.19.5100, 4818.50.0020, 4818.90.0020, 6116.10.1300, 6116.10.4400, 6210.10.2000, 6210.10.5010, 6210.10.5090, 6216.00.1300, 6216.00.1900, 6307.20.0000, 6307.90.9842, 6307.90.9844, 6506.10.3030, 6506.10.3075, 6506.10.6030, 6506.10.6075, 6812.80.1000, 9020.00.6000, 9020.00.9000. USITC DataWeb/Census, imports for consumption, accessed February 24, 2026.

⁴¹⁶ USITC/Census, DataWeb, accessed February 24, 2026.

⁴¹⁷ U.S. industry representative, interview by USITC staff, March 10, 2026; U.S. industry representative, interview by USITC staff, March 9, 2026.

accounted for 67.6 percent of the volume of total U.S. imports of these products. Furthermore, a significant share of Chinese API and KSMs are sent to third countries (such as India) and transformed into products of that country before being exported to the United States.^e These products of third countries with a significant amount of Chinese content would not be affected by revocation of China's PNTR status.

Despite China being a key supplier of APIs and KSMs that are consumed in the United States, a direct tariff on U.S. imports from China of such goods may not significantly disrupt U.S. supply chains because of Chinese inputs' route to the United States and because Chinese inputs primarily supply the generic market.^f Many Chinese APIs and KSMs are substantially transformed elsewhere before being exported to the United States. For example, India increased its bulk generic drug export capacity and could benefit if increased tariffs were placed on China, but China accounts for about 70 percent of India's bulk drug and intermediate imports.^g

Another reason higher tariffs on direct imports from China may not affect U.S. API production is because Chinese and U.S. APIs often compete in different segments of the pharmaceutical market. Although imports from China account for most medicinal and botanical imports on a volume basis, they account for only 4.0 percent of the value of these imports.^h U.S. API imports from China are primarily generic products that do not compete directly with the patented APIs that are primarily produced in the United States or imported from other top suppliers, such as Ireland.ⁱ The average unit value (AUV) of U.S. imports from China in 2025 of medicinals and botanicals was less than \$12 per kg. By comparison, the AUV of such imports from Ireland (the next-largest source of imports by value) in that year was \$158,592 per kg.^j Increased U.S. tariffs on direct imports of Chinese APIs would likely increase the price of imports of generic products and lead to trade diversion to other potential sources of generic pharmaceuticals. The effect of this tariff increase on U.S. API producers and imports that compete with higher-priced patented products would likely be muted.^k

^a USITC, *COVID-19 Diagnostics and Therapeutics*, October 2023, 17.

^b Wosińska and Shi, "US Drug Supply Chain Exposure to China," July 28, 2025.

^c USCC, "Chained to China," November 2025, 489–490; Statista, "Distribution of Active Pharmaceutical Ingredient (API) Production," September 2024.

^d NAICS 325411, medicinals and botanicals. USITC DataWeb/Census, imports for consumption, accessed August 3, 2026. Medicinal and botanicals imports include many but not all APIs and KSMs. It also includes other medicinal chemicals, such as vitamins, which China also supplies.

^e Nearly half of U.S. consumption of Chinese APIs come indirectly via India. USCC, "Chained to China," November 2025, 491.

^f Generic drugs are manufactured to be the same as a marketed brand name drug in attributes including dosage form, safety, strength, route of administration, quality, performance characteristics, and intended use. FDA, "Generic Drugs," March 16, 2021; Kaushik, "China Now Fighting a Losing Battle," July 9, 2025.

^g Babu, "India's Bulk Drug Imports Grow," May 6, 2024; USCC, "Chained to China," November 2025, 491.

^h NAICS 325411, medicinals and botanicals. USITC DataWeb/Census, imports for consumption, accessed August 3, 2026.

ⁱ DrugPatentWatch, "The Dragon Awakes," July 2, 2025; Wosińska and Shi, "US Drug Supply Chain Exposure to China," July 28, 2025. Generic medicines account for 90 percent of prescriptions filled in the United States. AAM, "2020 Generic Drug & Biosimilars Access and Savings in the U.S. Report," December 2024.

^j The difference in AUVs is likely due to the type of drugs produced in Ireland (innovative or brand name) versus China (generic). USITC DataWeb/Census, imports for consumption, accessed March 6, 2026.

^k Relatedly, section 232 tariffs on pharmaceutical products do not apply to generics and their ingredients. 91 Fed. Reg. 18183 (April 9, 2026); Wosińska and Shi, “US Drug Supply Chain Exposure to China,” July 28, 2025.

Competitiveness

Price is one of the most important competitiveness factors for PPE products, though it is usually considered together with other factors. The purchasing of PPE is dependent on factors, including price, quality, and reliability of supply—with customers usually choosing the lowest-cost product or closest quality to fit their specific use case. For example, customers interested in purchasing gowns for hospital settings focus on the type of gowns and materials chosen with the protection of patients and healthcare workers in mind before analyzing manufacturers and prices.⁴¹⁸ Additionally, many customers in the hospital, airline, and construction settings purchase a reliable supply of PPE from large distributors who may assemble items into a kit for the end user or serve as one seller for all required PPE.⁴¹⁹

Supply factors for PPE vary by type and end use, but both disposable and non-disposable PPE suppliers use a network of distributors to deliver products to the end user. For disposable PPE, distributors primarily purchase imported products to sell in bulk orders to end users, such as hospitals.⁴²⁰ Because disposable PPE products are mainly made from materials that are produced in the United States (e.g., plastics, paper, and petroleum), domestic capacity is available to meet some demand if the price of Chinese imports increased because of tariffs.⁴²¹ However, U.S. production costs for some products, including nitrile gloves, can be double or triple that of foreign suppliers (including China) because of higher U.S. labor costs and regulatory requirements.⁴²²

Non-disposable PPE consists of goods primarily used in the construction, manufacturing, and agricultural industries to ensure worker safety.⁴²³ China produces a majority of the fabric inputs used in non-disposable PPE apparel products that are used to manufacture non-disposable PPE apparel products domestically and exported to other countries as inputs in their production.⁴²⁴ Additionally, finished non-disposable PPE products are typically imported from Asian nations, including China.⁴²⁵

⁴¹⁸ ShunVogue, “Understanding the Cost of Hospital PPE Gowns,” March 3, 2026.

⁴¹⁹ U.S. industry representative, interview by USITC staff, March 18, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁴²⁰ Major U.S. producers of disposable PPE include 3M, Altor Safety, and Maxter Healthcare Inc. 3M, “3M Personal Protective Equipment,” accessed April 16, 2026; Altor Safety, “About,” accessed April 16, 2026; Maxter Healthcare Inc., “About Us,” accessed April 16, 2026.

⁴²¹ New York Embroidery Studio, written submission to the USITC, March 19, 2026; 1; AMMA, written submission to the USITC, April 13, 2026, 2; St. Louis Fed, “Gross Domestic Product: Plastics and Rubber Products Manufacturing,” September 26, 2025.

⁴²² Maxter Healthcare Inc., written submission to the USITC, April 13, 2026, 2; AMMA, written submission to the USITC, April 13, 2026, 1.

⁴²³ U.S. producers include PIP Global Safety and HexArmor. HexArmor, “About Us,” April 16, 2026; PIP Global Safety, “PIP U.S. Based Manufacturing Facilities,” June 23, 2026.

⁴²⁴ U.S. industry representative, interview by USITC staff, March 23, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026.

⁴²⁵ U.S. industry representative, interview by USITC staff, March 23, 2026.

Some U.S. producers have worked with Chinese suppliers to relocate facilities to other Asian nations near their existing supply chain in China in response to the recent imposition of additional U.S. tariffs. These Chinese suppliers had already met U.S. producers' quality standards. These other Asian locations have lower labor costs than the United States and allow U.S. producers to avoid raising prices to a level that would be unaffordable for their customer base.⁴²⁶ Lead times for Chinese partners to open new factories in neighboring countries ranged from 3 to 18 months depending on the technology requirements to manufacture the product.⁴²⁷ According to various sources, the production of non-disposable PPE products is highly labor intensive and unlikely to be relocated back to the United States, despite higher tariffs potentially increasing prices.⁴²⁸

Effects of China PNTR Status Revocation

Because of the data limitations mentioned in the modeling methodology section above, the effects of tariffs on PPE are not modeled but are instead described qualitatively.⁴²⁹ U.S. shipments and prices would be expected to increase under both scenarios. An immediate increase in the tariff rate would be unlikely to increase domestic shipments significantly in the short run, given the limited domestic capacity in production of both disposable and non-disposable PPE. One industry representative claimed that four years would be required to build a factory capable of producing a specific type of PPE.⁴³⁰ An industry representative with domestic production stated that their firm could increase its U.S. production capacity in as little as two to three months, and with outside funding, could expand further.⁴³¹ As discussed above, many PPE suppliers would likely maintain contracts with Chinese suppliers and work to move production of PPE products to nearby countries, rather than moving production to the United States. However, tariffs that are phased in could provide domestic producers of disposable PPE more time to increase capacity and reduce large initial price increases.

Broadcast and Wireless Communications Equipment

The broadcast and wireless communications equipment (communications equipment) industry includes producers of smartphones, certain consumer electronics (e.g., earbuds, speakers), routers, television

⁴²⁶ U.S. industry representative, interview by USITC staff, March 23, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026.

⁴²⁷ U.S. industry representative, interview by USITC staff, March 23, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026.

⁴²⁸ International Safety Equipment Association, written submission to the USITC, April 13, 2026, 2–3; industry expert, interview by USITC staff, April 9, 2026; U.S. industry representative, interview by USITC staff, April 10, 2026.

⁴²⁹ PPE data are included with the broader NAICS 339113, surgical appliance and supplies manufacturing. However, the scale of domestic production of PPE was significantly less than the NAICS 6-digit level industry, and the importance of imports from China was substantially different for the NSP compared to the broader NAICS industry. The Commission considered the differences between the data used in the model and the industry of interest to the report to be too large, and the effects of tariffs are instead examined using descriptive analysis.

⁴³⁰ U.S. industry representative, interview by USITC staff, March 26, 2026.

⁴³¹ U.S. industry representative, interview by USITC staff, March 18, 2026.

cameras, GPS devices, cable set top boxes, and radio equipment.⁴³² Some of these products have dual-use (defense and non-defense) and some have exclusive defense-specific national security applications, such as telecommunications infrastructure; automotive, aviation, and maritime navigation systems; and battlefield communications networks.

Communications equipment produced in the United States makes up a minority of U.S. consumption. In 2022, 668 establishments were manufacturing such equipment in the United States.⁴³³ U.S. communications equipment manufacturers are a mix of publicly traded defense and aerospace firms (e.g., L3Harris Technologies, General Dynamics Mission Systems, Viasat), diversified U.S. electronics and component suppliers (e.g., Amphenol, Garmin), and multinational telecommunications equipment providers (e.g., Ericsson).⁴³⁴ U.S. domestic shipments decreased from \$20.0 billion in 2022 to \$18.6 billion in 2025 ([figure 4.5](#)), but over the same period, communications equipment exports rose from \$12.3 to \$17.6 billion.⁴³⁵ Employment in communications equipment manufacturing decreased from 62,100 in 2022 to 58,300 in 2025.⁴³⁶

⁴³² The industry covered in this section is NAICS 334220, broadcast and wireless equipment manufacturing. The HTS statistical reporting numbers under which GPS devices are imported, 8526.91.0020 and 8526.91.0020, are conformed to NAICS 334511.

⁴³³ Census, “ECN Core Statistics Summary Statistics,” December 2024.

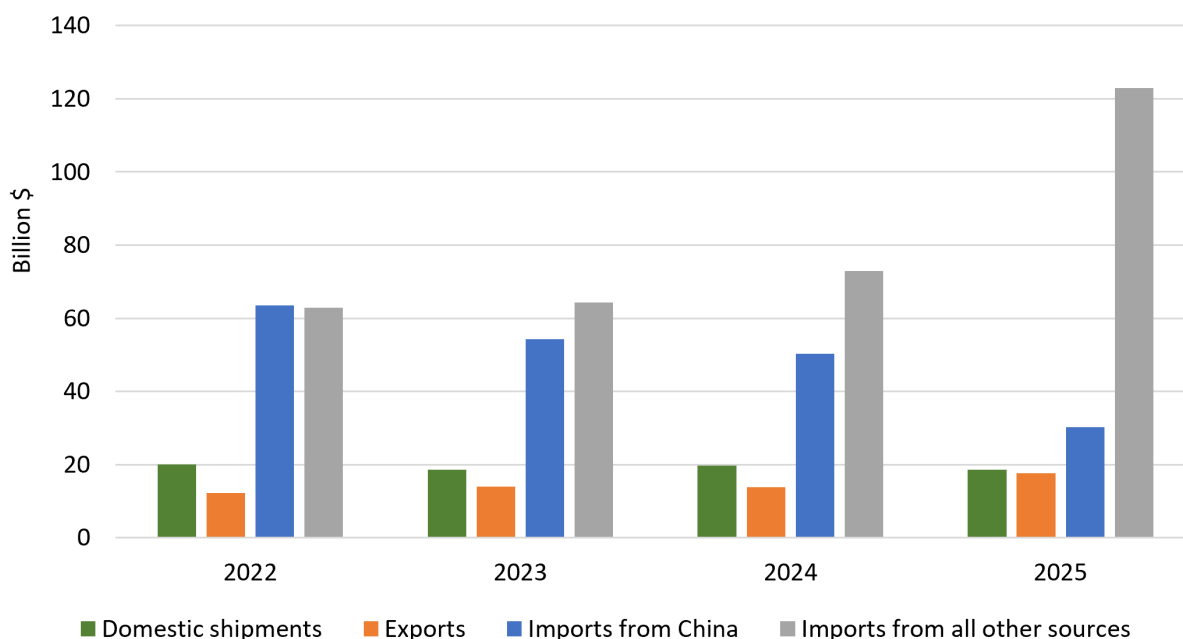
⁴³⁴ Lee, *Communications Equipment Manufacturing in the US*, January 2026, 28–33; General Dynamics Mission Systems, “Communications Systems,” accessed June 29, 2026; Viasat, “Products,” accessed June 29, 2026; Ericsson, “Ericsson’s USA 5G Smart Factory,” accessed June 29, 2026.

⁴³⁵ Census, “Manufacturers’ Shipments, Inventories, & Orders - Historical Data,” February 19, 2026.

⁴³⁶ USDOL, BLS, CES database, NAICS 334220, accessed February 23, 2026.

Figure 4.5 U.S. domestic shipments, imports, and exports of communications equipment by value, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.25](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 334220, accessed March 2, 2026; Census, “Shipments,” 2022 Economic Census, December 2024; Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

Note: Shipment data in 2022 are taken from 2022 Economic Census at the NAICS 6-digit level. For 2023 to 2025, shipment data are estimated on the basis of changes seen in a more aggregated sector of Communications (34X).

Imports make up the vast majority of U.S. communications equipment consumption, but China’s share of U.S. imports declined significantly from 50.2 percent in 2022 to 19.7 percent in 2025.⁴³⁷ However, reliance on imports from China varies by product. More than three-fourths of U.S. communications equipment imports from China in 2025 were smartphones (\$23.4 billion), making up 39.9 percent of U.S. smartphone imports.⁴³⁸ For other products, China’s share of U.S. imports ranged from as high as 73.1–97.8 percent of clock radios and radiobroadcast receivers to 1.1 percent of network switches and routers.⁴³⁹ Among communications equipment products that could be considered NSPs, China’s highest shares of U.S. imports are in aerial and aerial reflector antennas (24.1 percent) and radio transceiver parts and modules (16.4 percent).⁴⁴⁰ Imports from other sources—particularly Vietnam and India—

⁴³⁷ Imports of communications equipment from all sources as a share of U.S. consumption during the period increased from 94.3 percent to 99.4 percent. USITC DataWeb/Census, imports for consumption, NAICS 334220, accessed February 24, 2026.

⁴³⁸ Smartphones are imported under HS 8517.13.

⁴³⁹ HTS statistical reporting numbers 8527.91.0500, 8527.92.1000, and 8517.62.0020, respectively. USITC DataWeb/Census, accessed February 24, 2026.

⁴⁴⁰ HTS statistical reporting numbers 8517.71.0000 and 8529.90.8700, respectively. USITC DataWeb/Census, accessed February 24, 2026.

increased since 2022 because of a number of factors, including section 301 tariffs on imports from China originally put in place in 2018.⁴⁴¹ Much of this shift consisted of moving final assembly operations to those countries, with many components continuing to come from China.⁴⁴²

Competitiveness

The most important competitiveness factors for communications equipment vary significantly by market.⁴⁴³ For example, with wireless routers price is a key purchasing factor on the lower end of the consumer market, but the higher-end consumer and enterprise markets are less price sensitive.⁴⁴⁴ For consumer wireless routers, factors such as latency, bandwidth, range (including extension router compatibility), ease of setup, and higher frequency signal technology differentiate products, with higher-tier products generally offering enhanced performance features. For enterprise wireless routers, scalability, performance, and security are important factors, and large organizations often rely on virtual private network support, threat detection, and monitoring and analytics software as part of a broader service package.⁴⁴⁵

China is not only a major global producer of consumer electronic products,⁴⁴⁶ it is also a major supplier of electronic intermediate goods. Specifically, China is a major supplier of products such as transistors, printed circuit boards (PCBs), and legacy microchips (chips). Legacy chips are semiconductors made with mature technology and production processes that are relatively inexpensive and long established. Often these chips have proven longevity, durability, and reliability. Such characteristics can make legacy chips well suited for applications in automotive systems, industrial equipment, and consumer electronics.⁴⁴⁷ According to industry estimates, China accounted for between 40 and 59 percent of global PCB production in 2024.⁴⁴⁸ Although much of consumer electronics assembly has shifted to South and Southeast Asia, China has maintained a major presence in the global supply chain because of its high level of vertical integration and dense manufacturing ecosystems, with co-located suppliers, low-cost freight and energy, and large capital stocks.⁴⁴⁹ Even though the higher value physical components of smartphones, routers, and GPS devices—semiconductors that handle processing, memory storage, input/output functions, and radio transmission and reception—are mainly fabricated in Taiwan and South Korea, they often pass through China for assembly into a finished product. In recent years, the United States has rapidly shifted sourcing for router manufacturing, for example, from China to Vietnam

⁴⁴¹ USITC DataWeb/Census, accessed May 1, 2026; Roberts, “After Two Decades,” March 31, 2026; Alfaro and Chor, “Global Supply Chains,” September 2023, 3–4, 16–17, 20.

⁴⁴² Alfaro and Chor, “Global Supply Chains,” September 2023, 3–4, 17, 20.

⁴⁴³ Based on bill of lading data from January 1, 2025, to December 31, 2025. S&P Global, Global Trade Atlas, HS heading 851762, accessed March 10, 2026.

⁴⁴⁴ Sharma, “Router Market Research Report 2023,” August 25, 2025.

⁴⁴⁵ Jonni, “How to Choose an Enterprise Router for Your Business,” July 31, 2025.

⁴⁴⁶ China accounted for roughly 55 percent of global exports of finished consumer electronics in 2023. Kratz et al., *China and the Future of Global Supply Chains*, February 4, 2025.

⁴⁴⁷ Shivakumar et al., “The Strategic Importance of Legacy Chips,” March 3, 2023.

⁴⁴⁸ Pereira, “China Reinforcing Foothold on Manufacturing Industry for PCBs,” October 29, 2025; SysPCB, “2025 Overview of China’s PCB Industry,” June 16, 2025; PC&F, “Printed Circuit Design & Fab Online Magazine - Tracking Giants: Inside the World’s Top PCB Fabricators,” September 2, 2025.

⁴⁴⁹ Kratz et al., *China and the Future of Global Supply Chains*, February 4, 2025; CTA, written submission to the USITC, April 13, 2026, 3–4; USCC, *2025 Annual Report to Congress*, November 2025, 318–321.

and India; but factories in these countries are sometimes Chinese-owned, and they rely on China for 25 to 34 percent, respectively, of intermediate inputs.⁴⁵⁰ China is also building additional legacy semiconductor production capacity that at least one U.S. industry representative expects will flood the market within the next five years.⁴⁵¹ Another source predicts that China's expansion of production will "drive down" legacy semiconductor prices globally and "put pressure on non-Chinese vendors."⁴⁵²

Despite U.S. presence in high-value areas of the electronics supply chain (e.g., certain equipment, semiconductor design, and software integration), the United States largely relies on foreign intermediate inputs and assembly.⁴⁵³ This is in part because of higher U.S. labor and regulatory costs than in certain South Asian and Southeast Asian countries. Electronics manufacturing operations often compete on low margins and high output, making them highly sensitive to intermediate input costs.⁴⁵⁴ The United States also reportedly has a shortage of skilled labor in digital systems, robotics, and radio frequency engineering, which is required for advanced manufacturing facilities.⁴⁵⁵ The United States has no major router production; much of the router supply chain, from PCB fabrication to final packaging, is in Southeast Asia.⁴⁵⁶ According to a 2024 CTA study, the United States has little to no consumer electronics production and revoking PNTR status with China would mostly benefit other foreign producers.⁴⁵⁷

However, some U.S. manufacturing in certain products and intermediate inputs could substitute for imports. U.S. producers such as GlobalFoundries and Texas Instruments produce radio transceivers, power management chips, and specialty processors similar to those used in routers and GPS devices.⁴⁵⁸ Garmin has a major assembly and testing facility in Olathe, Kansas.⁴⁵⁹ The United States is also a leading exporter of aerials and aerial reflectors.⁴⁶⁰

⁴⁵⁰ DuBravac and O'Hanlon, "Routers, Restrictions, and Reality," March 23, 2026, 10; industry expert, interview by USITC staff, April 9, 2026; Kratz et al., *China and the Future of Global Supply Chains*, February 4, 2025.

⁴⁵¹ U.S. industry representative, interview by USITC staff, April 10, 2026.

⁴⁵² U.S. industry representative, interview by USITC staff, April 10, 2026; Martin, "China's Chip Ambitions Shake up Global Tech Industry," April 20, 2026.

⁴⁵³ U.S. industry representative, interview by USITC staff, April 10, 2026; industry expert, interview by USITC staff, April 9, 2026.

⁴⁵⁴ U.S. industry representative, interview by USITC staff, April 10, 2026; industry expert, interview by USITC staff, April 9, 2026.

⁴⁵⁵ DuBravac and O'Hanlon, "Routers, Restrictions, and Reality," April 9, 2026, 12.

⁴⁵⁶ DuBravac and O'Hanlon, "Routers, Restrictions, and Reality," April 9, 2026, 12; Kan, "Why Is the FCC Banning Foreign-Made Wi-Fi Routers?," April 14, 2026.

⁴⁵⁷ CTA, *PNTR Revocation Is a Recipe for Inflation*, January 2024, 6 and 10.

⁴⁵⁸ GlobalFoundries, "Driving Innovation in Communications and Navigation," March 17, 2025; GF, "Burlington, Vermont Manufacturing," accessed May 26, 2026; TI, "Texas Instruments Begins Production," December 17, 2025; U.S. industry representative, interview by USITC staff, April 10, 2026.

⁴⁵⁹ Garmin, "Garmin International," accessed May 26, 2026; Garmin, "Garmin chosen for 'Made in Kansas' program," August 29, 2025.

⁴⁶⁰ Observatory of Economic Complexity, "Aerials and Aerial Reflectors," accessed April 16, 2026.

Effects of China PNTR Status Revocation

The modeling analysis considers two alternative tariff scenarios for imports of communications equipment from China: first, an immediate increase in the tariff rate in year 1 from column 1 to column 2 rates for communications equipment and intermediate inputs to U.S. communications equipment production from China; second, a gradual five-year phase-in, with one-fifth of the total (communications equipment and intermediate inputs) tariff increase from the column 1 rates to column 2 rates each year. Both scenarios model a 1.68 percent increase in production costs due to tariffs on imported intermediate inputs, and a 35.0 percentage point increase in tariffs on imported communications equipment.

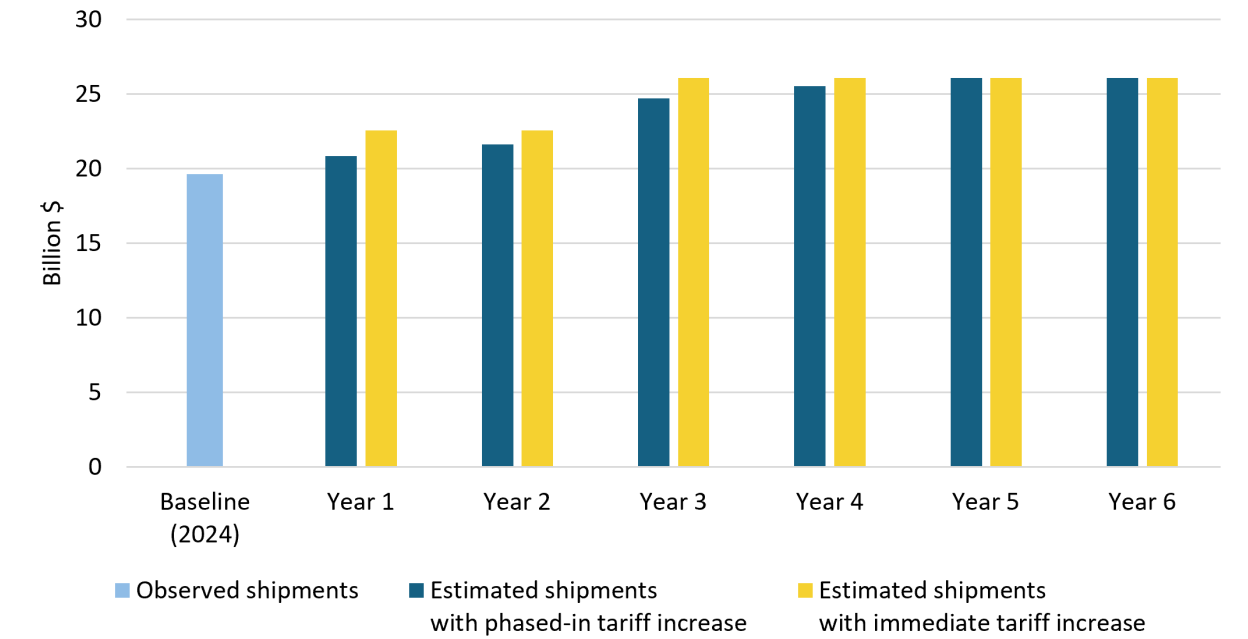
[Figure 4.6](#) presents the estimated value of U.S. domestic shipments, relative to 2024 baseline values, for the communications equipment industry. U.S. shipments would increase under both scenarios. Under an immediate full tariff increase, the expansion of U.S. production would occur in two steps, reflecting the estimated two-years' time to build and implement new investments.⁴⁶¹ U.S. domestic shipments would rise from \$19.6 billion in the baseline to \$22.6 billion in the first two years. Further increases would not occur until year three when more capacity became available. Under a phased-in tariff increase, the expansion in U.S. production would be more gradual, with U.S. domestic shipments increasing only to \$21.6 billion in the first two years ([figure 4.6](#)). Most of the increase in domestic shipments would likely occur for products where the United States already has production capacity (e.g., GPS devices and radio transceivers).⁴⁶²

⁴⁶¹ Orca Lean Digital Solutions, "How Long Would It Really Take," June 2, 2025.

⁴⁶² CTA, *PNTR Revocation Is a Recipe for Inflation*, January 2024, 7, 9, and 10; GF, "Driving Innovation in Communications and Navigation," March 17, 2025; Maker, "An In-Depth Visit Behind the Scenes," April 17, 2013; Ericsson, "Ericsson's USA 5G Smart Factory," accessed April 16, 2026.

Figure 4.6 Estimated value of U.S. domestic shipments of communications equipment following permanent normal trade relations revocation

In billions of dollars. Underlying data for this figure can be found in appendix [table G.26](#).



Source: USITC estimates.

Under the immediate tariff increase, imports from other sources would increase by \$35.5 billion in the first two years before declining to \$32.6 billion in later years. This temporary trade diversion would be due to the capital adjustment lag in the U.S. industry. If the tariff increase were phased in, the increase in imports from other sources would be gradual as well: increasing incrementally from \$10.6 billion in year 1 to \$32.6 billion in year 5.⁴⁶³ The diversion of U.S. consumption of communications equipment from Chinese imports to imports from other sources in both tariff scenarios reflects an ongoing trend of sourcing communications equipment from South Asia and Southeast Asia. Low labor costs and existing manufacturing capacity in South Asia and Southeast Asia mean that in both tariff scenarios, U.S. consumption would likely be satisfied by increased imports from countries such as Vietnam and India rather than expanded U.S. production.⁴⁶⁴ Upstream Chinese content would also likely continue because China is a major supplier of legacy chips and PCB assemblies, with components originating in or passing through China for downstream processing.⁴⁶⁵

[Figure 4.7](#) reports the estimated percentage changes in the industry average price in the U.S. market, relative to 2024 baseline values. Prices would increase under both scenarios. Under the immediate tariff increase, the average U.S. market price for communications equipment would rise to 6.9 percent above the baseline in years 1 and 2, then the price would stabilize at 6.3 percent higher through years 3–6,

⁴⁶³ These estimates can be seen in full, including U.S. imports, in tables [E.7](#) and [E.8](#).

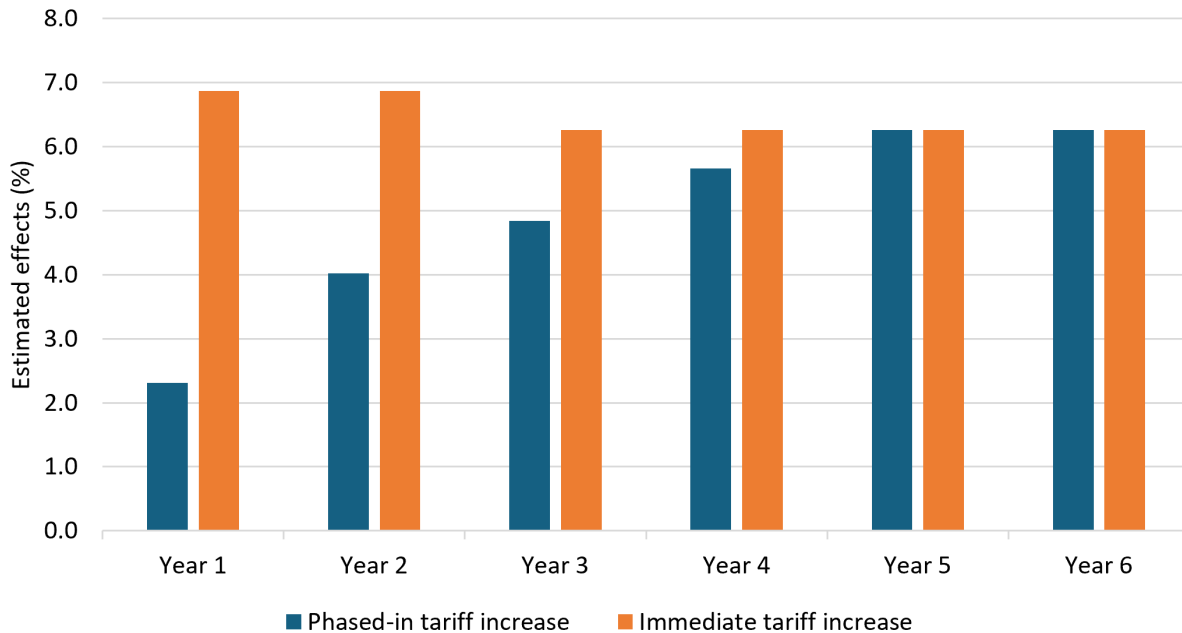
⁴⁶⁴ Lee, *Communications Equipment Manufacturing in the US*, January 2026, 23–25.

⁴⁶⁵ Kratz et al., *China and the Future of Global Supply Chains*, February 4, 2025.

relative to the baseline. When the tariff is phased in the price would rise gradually from years 1–4, before stabilizing at 6.3 percent higher in years 5 and 6.

Figure 4.7 Change in the average price of communications equipment in the U.S. market relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.27](#).



Source: USITC estimates.

Electronic Computers

The electronic computer (computer) industry includes producers of mainframes, personal computers, workstations, laptops, and computer servers.⁴⁶⁶ Many of these products, particularly mainframes and servers, have national security applications.⁴⁶⁷

Computer production in the United States accounts for a small share of U.S. consumption of these products. In 2022, 152 establishments manufactured computers in the United States.⁴⁶⁸ Domestic U.S. computer manufacturers are a mix of publicly traded U.S.-based original equipment manufacturers and integrated software and IT service providers (e.g., Dell, HP, Hewlett Packard Enterprise, IBM,

⁴⁶⁶ The industry covered in this section is NAICS 334111, electronic computer manufacturing.

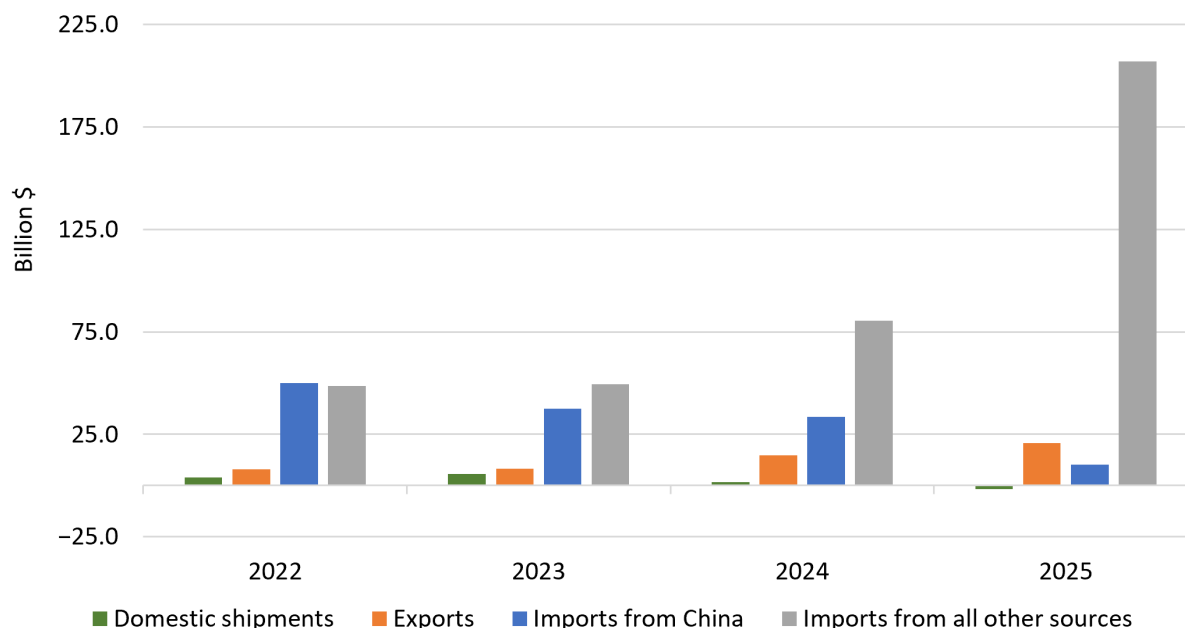
⁴⁶⁷ Mainframes form the backbone of critical infrastructure systems that manage banking transactions, government records, airline reservations, and insurance databases. Servers are the computing infrastructure used in (1) security operations centers for cyber threat detection services; (2) power grid, water system, and transportation network control and monitoring; (3) cloud and AI services; and more. Defense-specific applications include (1) battlefield information processing, (2) intelligence collection and analysis, (3) logistics and supply chain management, and more. For further information, see Brookings, “The Future of Data Centers,” 2026.

⁴⁶⁸ Census, “ECN Core Statistics Summary Statistics,” December 2024.

Supermicro) and foreign-headquartered firms (e.g., Lenovo).⁴⁶⁹ U.S. domestic shipments of computers decreased from \$3.9 billion in 2022 to -\$1.8 billion in 2025 (figure 4.8).⁴⁷⁰ Employment in computer manufacturing decreased from 13,898 in 2022 to 12,037 in 2025.⁴⁷¹

Figure 4.8 U.S. domestic shipments, imports, and exports of computers by value, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.28](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 334111, accessed March 2, 2026; Census, “Shipments,” 2022 Economic Census, December 2024; Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

Note: Domestic shipments, which are calculated as total shipments less domestic exports, appear negative in 2025, likely because of the high ratio of imports to production and undocumented reexports. This net calculation combines two different data sources. The M3 survey is based on a sample and thus may be less precise than the trade data.

Imports account for almost all U.S. computer consumption, but China’s share of U.S. imports has declined significantly in recent years. China’s share declined from 50.8 percent in 2022 to 4.7 percent in

⁴⁶⁹ Jozkowski, *Computer Manufacturing in the US*, December 2025, 15 and 29.

⁴⁷⁰ Census, M3 Survey, Historical Data, February 19, 2026.

⁴⁷¹ For 2022, employment data are from the 2022 Economic Census. For 2023 to 2025, employment data are the product of employment from the 2022 Economic Census and annual changes in seasonally adjusted employment numbers reported in the Current Employment Statistics (CES) database. CES data are generally available for broader categories of products than those covered in the analyses of this report. Census, 2022 Economic Census, number of employees, NAICS 334111, electronic computer manufacturing, December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

2025.⁴⁷² Major Chinese manufacturers include Lenovo, Huawei, and New H3 Technologies.⁴⁷³ During this time, Mexico, Taiwan, Vietnam, and Thailand all passed China as sources of U.S. computer imports.⁴⁷⁴ As for the manufacturing of servers specifically, most of the market share shifted from China to Taiwan, which took advantage of proximity to its own semiconductor production.⁴⁷⁵ Apparent consumption rose by 110 percent between 2022 and 2025—expanding from roughly \$103 billion to \$216 billion—driven by growth in both the volumes and average unit values of imports as data center investments for artificial intelligence (AI) accelerated.⁴⁷⁶

Competitiveness

The importance of price as a competitive factor in the server and mainframe markets differs by application and performance need. Most users of mainframes are large organizations such as banks, retailers, government agencies, healthcare and insurance providers, and airlines, which experience high data and transaction throughput.⁴⁷⁷ Mainframe downtime and data breaches are costly—resulting in lost revenue, reputational damage, and divulgence of sensitive information. In addition to upfront cost, factors such as reliability, security, and support service quality are used to calculate a total cost of ownership.⁴⁷⁸ The global mainframe market is dominated by IBM’s zSystem, manufactured in Poughkeepsie, New York, accounting for more than 60 percent of the market in 2025, with some legacy systems serving much of the remaining market share.⁴⁷⁹

Servers supply high and low ends of the enterprise market. On the high end, performance and scalability needs can outweigh considerations of price. Examples include servers designed for AI services, high-performance computing clusters, and mission-critical enterprise systems.⁴⁸⁰ At the high end, a few companies such as Supermicro, Dell, Hewlett Packard Enterprises, and Lenovo differentiate products using factors, including compute density (concentration of computing resources, such as servers, in a specific space), cooling efficiency, scalability, lifecycle support, and total cost of ownership. The

⁴⁷² USITC DataWeb/Census, accessed February 24, 2026.

⁴⁷³ Mordor Intelligence, “China Data Center Server Companies - Top Players' List,” accessed June 29, 2026.

⁴⁷⁴ USITC DataWeb/Census, imports for consumption for NAICS 334111, electronic computer manufacturing, accessed March 2, 2026.

⁴⁷⁵ David and Graham, *Scaling Servers*, 2025, 6; SIA and Deloitte, *Powering AI*, June 2026, 38.

⁴⁷⁶ David and Graham, *Scaling Servers*, 2025, 2 and 6; Waugh, “Trade in AI-Related Products,” April 8, 2026, 2.

⁴⁷⁷ IBM, *IBM Z*, 2025; Tozzi, “Mainframes Rule,” May 16, 2022; Mordor Intelligence, “Mainframe Market Size, Growth & Outlook,” January 19, 2026.

⁴⁷⁸ Acronis, “The Hidden Cost of Downtime,” March 10, 2026; Khalil, “Data Breach Statistics 2025–2026,” December 7, 2025; Straits Research, “Mainframe Market Size, Share & Trends Report by 2033,” May 26, 2026; Jozkowski, *Computer Manufacturing in the US*, December 2025, 18.

⁴⁷⁹ IBM, “IBM zSystem,” accessed June 4, 2026; Mordor Intelligence, “Mainframe Market Size, Growth & Outlook,” January 19, 2026; Magill, “IBM to Invest \$150B in US Manufacturing, R&D,” April 30, 2025.

⁴⁸⁰ Sharma, “High Performance Computing Server Market Research Report 2033,” August 24, 2025; server-parts.eu, “HPC Servers and Clusters,” October 13, 2024; Schell, “AI Server Market Size,” July 3, 2025; MarketsandMarkets, “AI Server Market Report 2024-2030,” accessed May 5, 2026.

importance of each factor varies according to customer needs.⁴⁸¹ At the low end, the market for servers required for cloud storage, web hosting, and virtualized environments is more price sensitive.⁴⁸²

Servers are largely manufactured in East Asia, although the United States specializes in designing high-value components and assembling some high-end servers.⁴⁸³ Lower labor costs, fewer regulations, high concentrations of capital, and proximity to suppliers in East Asia make the region more competitive in lower value-added sections of the server supply chain.⁴⁸⁴ Firms in the United States lead globally in the design of advanced logic chips, memory chips, and graphics processing units. These components make up most of the value of finished server racks.⁴⁸⁵ High-performance computing servers also run on proprietary software and are integrated into proprietary server builds, for which some U.S. capacity exists in the assembly of U.S.-designed power, cooling, and networking components in finished servers.⁴⁸⁶ The advanced chips embedded in servers are mainly produced in Taiwan and South Korea. Commodity-level chips often come from China, but these chips tend to enter the United States as parts of assembled devices rather than direct imports ([box 4.2](#)).⁴⁸⁷

Box 4.2 Semiconductors

Semiconductors are a critical component in computers and other electronic devices. However, because most Chinese semiconductor content does not enter the United States as stand-alone imports, tariffs placed on semiconductor products may not significantly affect U.S. consumption of Chinese semiconductors.

The semiconductor supply chain often spans multiple countries. Fabrication occurs in one location; assembly, testing, and packaging (ATP) can occur on site or in another location.^a Establishing the country of origin of semiconductors can be difficult when the manufacturing supply chain is international. U.S. customs rulings place origin in the location of fabrication, but the source in U.S. import data is often the packaging and testing location. For example, according to U.S. import data, U.S. imports of semiconductors from Malaysia totaled \$9.8 billion in 2025, but Malaysia has no fabrication capacity.^b

After semiconductor production is completed, many semiconductors may be installed in other goods produced—such as computers, phones, or other electronics—before being exported to and consumed in the United States.^c

⁴⁸¹ Schell, “Top Five AI Server Companies,” September 22, 2025; Sharma, “High Performance Computing Server Market Research Report 2033,” August 24, 2025; server-parts.eu, “HPC Servers and Clusters,” October 13, 2024; Schell, “AI Server Market Size,” July 3, 2025; MarketsandMarkets, “AI Server Market Report 2024-2030,” accessed May 5, 2026.

⁴⁸² Wright and Wigmore, “What Is Commodity Hardware?,” May 17, 2023.

⁴⁸³ Jozkowski, *Computer Manufacturing in the US*, December 2025, 9 and 18, 40–41; Segan and Griffith, “Silicon, USA,” July 3, 2023.

⁴⁸⁴ Jozkowski, *Computer Manufacturing in the US*, December 2025, 6–8, 18.

⁴⁸⁵ SIA, *Powering AI*, June 2026, 9–11, 33–34.

⁴⁸⁶ CoreWeave, “NVIDIA Blackwell GPUs,” accessed April 16, 2026; Stokel-Walker, “TIME100 Most Influential Companies of 2026: Foxconn,” April 30, 2026; Supermicro, “Supermicro Adding 3 New Manufacturing Facilities,” June 17, 2024.

⁴⁸⁷ Goujon et al., *Thin Ice*, May 13, 2024; Miller, “How Does Semiconductor Trade Work?,” July 25, 2025, 2.

A relatively small percentage of direct U.S. imports of semiconductors are from China (4 percent of U.S. semiconductor imports, below the threshold for consideration in this chapter) and made up primarily of legacy chips.^d Instead, Chinese semiconductors are installed in devices that are increasingly assembled in other markets such as Vietnam, Taiwan, and Malaysia before entering the United States.^e One industry expert estimated that nearly one-third of U.S. semiconductor consumption was imported as components installed in other goods such as phones and computers.^f Most U.S. semiconductor content from China enters through this indirect route and would not be affected by tariffs on direct imports of Chinese semiconductors.^g

^a Varadarajan et al., *Emerging Resilience in the Semiconductor Supply Chain*, May 2024, 10.

^b It does have significant ATP capacity. Industry representative, interview by USITC staff, April 10, 2026; USITC DataWeb/Census, imports for consumption for HTS 8542, accessed June 5, 2026.

^c Miller, “How Does Semiconductor Trade Work?,” July 2025.

^d Miller, “How Does Semiconductor Trade Work?,” July 25, 2025; Shivakumar et al., “The Strategic Importance of Legacy Chips,” March 3, 2023.

^e Miller, “How Does Semiconductor Trade Work?,” July 25, 2025, 2.

^f Miller, “How Does Semiconductor Trade Work?,” July 25, 2025, 2, 4.

^g Miller, “How Does Semiconductor Trade Work?,” July 25, 2025, 2, 6–7.

Effects of China PNTR Status Revocation

The modeling analysis considers two alternative tariff scenarios for computer imports from China: first, an immediate increase in the tariff in year 1 from column 1 to column 2 rates for computers and imports of intermediate inputs to U.S. computer production from China; second, a gradual phase-in over five years, with one-fifth of the total (computers and intermediate inputs) tariff increase from the column 1 rate to column 2 rates each year. Both scenarios model a 0.4 percent increase in production costs due to tariffs on imported intermediate inputs and a 35.0 percentage point increase in tariffs on imported computers.

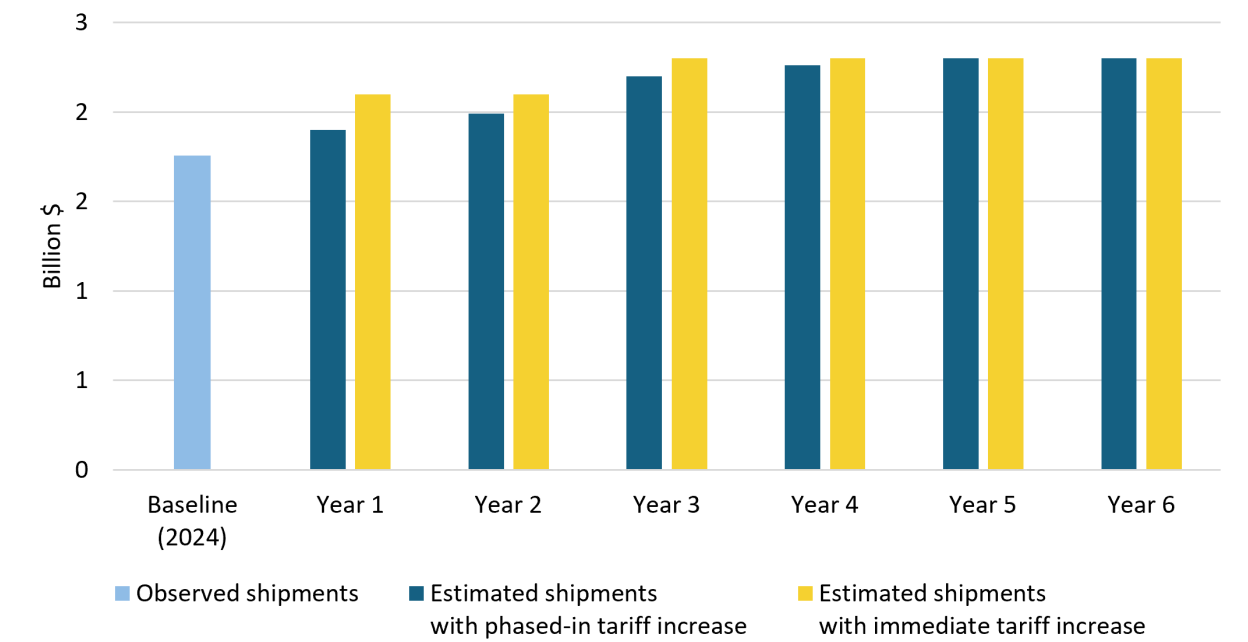
[Figure 4.9](#) reports the estimated value of U.S. domestic shipments, relative to 2024 baseline values, for the computer industry. Under an immediate full tariff increase, the expansion of U.S. production would occur in two steps, first increasing to \$2.1 billion in year 1, then increasing to \$2.3 billion in year 3 when new production capacity is available, reflecting the estimated two-year time to build and implement new investments.⁴⁸⁸ Under a phased-in tariff increase, the expansion in U.S. production would be more gradual, not reaching \$2.3 billion until year 4.⁴⁸⁹ The predicted slight increase in domestic shipments reflects low U.S. computer manufacturing capacity, which is focused on the assembly of high-end servers, laptops, and desktops.

⁴⁸⁸ Orca Lean Digital Solutions, “How Long Would It Really Take,” June 2, 2025.

⁴⁸⁹ For full model estimates, including U.S. imports, see [appendix E](#) tables [E.9](#) through [E.12](#).

Figure 4.9 Estimated value of U.S. domestic computer shipments following permanent normal trade relations revocation

In billions of dollars. Underlying data for this figure can be found in appendix [table G.29](#).



Source: USITC estimates.

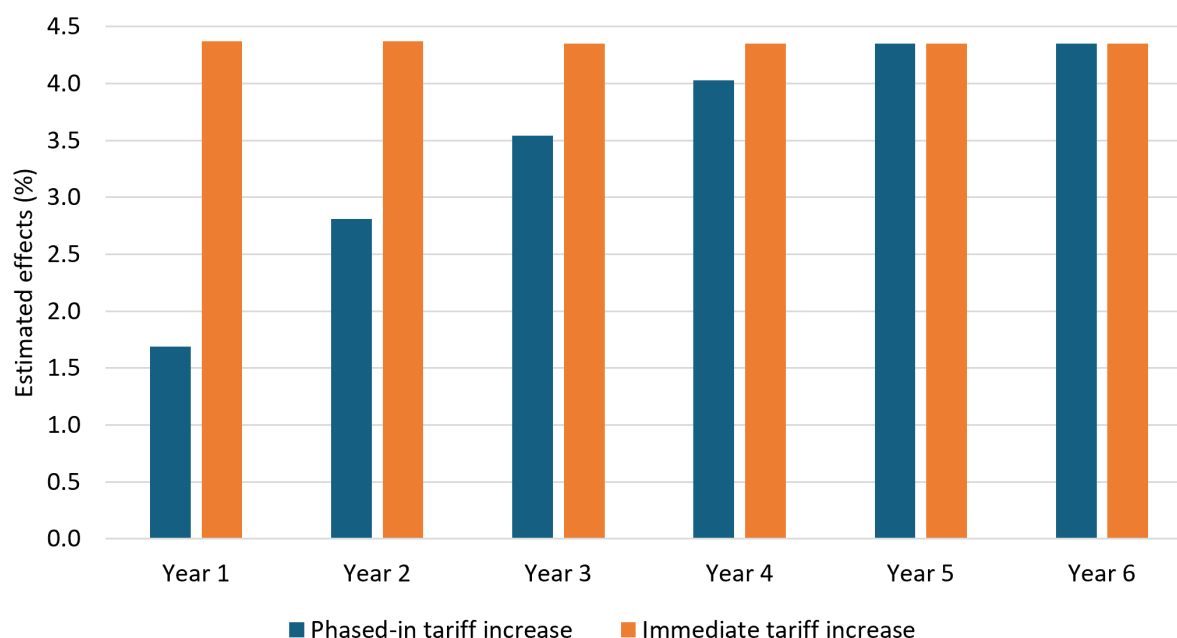
The immediate tariff increase would lead to a spike and slight overshooting in imports from other sources of \$34.9 billion in the first two years, before declining slightly to \$34.7 billion in year 3. This temporary trade diversion would be due to the capital adjustment lag in the U.S. industry. Overshooting would be absent when the tariff increase is phased in, with the increase in imports from other sources gradually reaching \$34.7 billion at the end of the five-year phase-in period.⁴⁹⁰ The increase in such imports reflects significant U.S. reliance on imports and East Asia’s structural advantages in computer manufacturing. Tariffs on imports from China would likely benefit assemblers in other countries rather than lead to significant onshoring in the United States.⁴⁹¹ Moreover, indirect Chinese content would likely continue to be part of the supply chain despite declining imports from China.⁴⁹²

[Figure 4.10](#) reports the estimated percentage changes in the industry average price in the U.S. market, relative to 2024 baseline values. Prices would increase under both scenarios. Prices would increase more slowly under the phased-in tariff scenario, steadily increasing from 1.7 percent to 4.4 percent in year 5, in contrast to the immediate 4.4 percent increase under the immediate tariff increase.

⁴⁹⁰ These estimates can be seen in full in tables [E.11](#) and [E.12](#).
⁴⁹¹ CTA, *PNTR Revocation Is a Recipe for Inflation*, January 2024, 6 and 10.
⁴⁹² CTA, written submission to the USITC, April 13, 2026, 3–4.

Figure 4.10 Change in the average price of computers in the U.S. market relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.30](#).



Source: USITC estimates.

Certain Motors and Generators

The certain motors and generators industry includes production of electric motors, power generators, and motor-generator sets, along with facilities that specialize in factory-basis armature rewinding.⁴⁹³

This includes both alternating-current and direct-current motors for a variety of applications, non-turbine electric generators, rotary converters, and traction motors used in electric vehicles. This industry grouping of certain motors and generators excludes components tied to internal combustion engine starting and charging systems.⁴⁹⁴

Motors and generators are important to national security, for example, motors and generators contribute to domestic energy security by providing the machinery needed to produce and convert electrical power. End-use markets include electric utilities, construction, transport and logistics, and data centers.⁴⁹⁵ One U.S. industry representative expects that the large-scale creation of data centers and electrification needs will drive demand increases for this industry.⁴⁹⁶

The United States has a growing domestic motor and generator manufacturing industry, but consumption is outpacing manufacturing growth so the United States increasingly relies on imports ([figure 4.11](#)). In 2025, imports made up almost three-quarters of U.S. consumption.⁴⁹⁷ In 2022, this

⁴⁹³ The industry covered in this section is NAICS 335312, motor and generator manufacturing.

⁴⁹⁴ Such products are classified in NAICS 336320, motor vehicle electrical and electronic equipment.

⁴⁹⁵ Global Market Insights Inc., “U.S. Industrial Generator Market Size & Share,” July 2025.

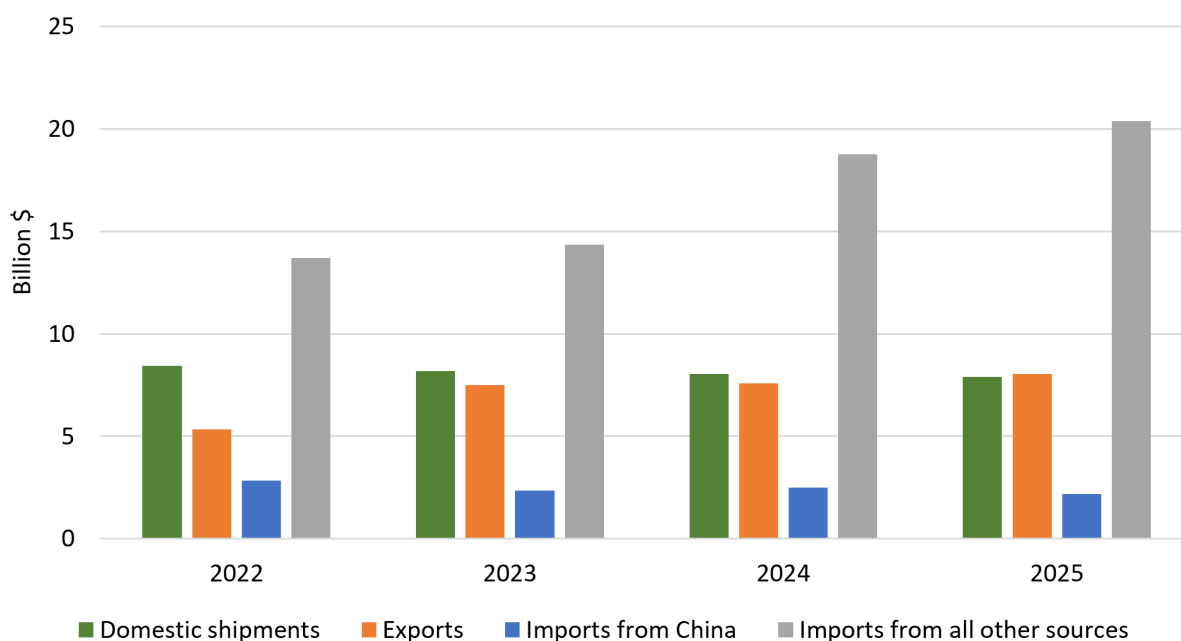
⁴⁹⁶ Industry expert, interview by USITC staff, April 9, 2026.

⁴⁹⁷ USITC DataWeb/Census, accessed February 24, 2026.

industry had 388 manufacturing establishments.⁴⁹⁸ Employment in motor and generator manufacturing increased from 28,521 to 32,447 between 2022 and 2025.⁴⁹⁹ During the same period, total shipments increased in value by \$2.1 billion, with domestic shipments decreasing by \$0.6 billion and U.S. exports of motors and generators increasing by \$2.7 billion (figure 4.11). Major U.S. electric motor manufacturers include Ametek Inc., Baldor Electric Company, General Electric, Regal Rexnord Corporation, and Japan-headquartered Nidec Motor Corporation.⁵⁰⁰ Major U.S. generator manufacturers include Briggs & Stratton, Caterpillar, Cummins, Generac Power Systems, and Sweden-headquartered Atlas Copco.⁵⁰¹

Figure 4.11 U.S. domestic shipments, imports, and exports of motors and generators by value, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.31](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 335312, accessed March 2, 2026; Census, 2022 Economic Census, shipments, December 2024; Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

Note: Shipment data in 2022 taken from 2022 Economic Census at the NAICS 6-digit level. For 2023–25, shipment data are estimated according to changes seen in a more aggregated sector of Electrical Equipment (35C).

Imports make up a growing share of U.S. motor and generator consumption, but China’s share of U.S. imports declined between 2022 and 2025. U.S. motor and generator imports rose from \$16.5 billion in 2022 to \$22.6 billion in 2025. During the same period, import penetration increased from 66.2 percent to 74.1 percent. At the same time, the share of imports from China decreased from 17.2 percent to 9.7 percent. An industry representative noted that generator manufacturing has shifted to Southeast

⁴⁹⁸ Census, “ECN Core Statistics Summary Statistics,” December 2024.

⁴⁹⁹ USDOL, BLS, CES database, NAICS 335312, accessed February 23, 2026.

⁵⁰⁰ Wan, “Top 10 Electric Motor Manufacturers in USA 2024,” July 5, 2024.

⁵⁰¹ Global Market Insights Inc., *U.S. Industrial Generator Market Size, Growth Report 2025-2034*, July 2025.

Asia.⁵⁰² Between 2022 and 2025, U.S. imports of motors and generators from Thailand increased by \$857.5 million (313.9 percent), imports from Vietnam increased by \$526.5 million (47.8 percent), imports from India increased by \$377.8 million (75.7 percent), and imports from Indonesia increased by \$113.8 million (193.0 percent).⁵⁰³

Competitiveness

Price and quality are the two most important competitiveness factors in the consumer generator market. U.S. design and engineering paired with low-cost international manufacturing deliver high-performance generators at an affordable price.⁵⁰⁴ An industry representative cites the relationship between price and quality as a core competitiveness factor in the consumer generator market.⁵⁰⁵

Consumers in the generator market are sensitive to performance and reliability, thus firms cannot reduce quality to offset tariff-driven cost increases without sacrificing competitiveness.⁵⁰⁶ Building equivalent domestic production capacity is not typically considered a viable solution. U.S. production facilities can take up to five years to bring online; overseas sites—particularly production facilities in Southeast Asia—can be stood up at less expense and faster as a result of lower costs of land, materials, and variable local permitting standards.⁵⁰⁷ Vertical integration in generator manufacturing supports a value-driven model, with overseas factories producing fully finished units, including assembly, testing, packaging, and labeling, in one place.⁵⁰⁸

The electric motor market is divided into fractional horsepower motors (less than 1 horsepower) for small commodity use and integral horsepower motors (1 horsepower or more) for specialized automotive and industrial uses, with price being the primary competitiveness factor for fractional horsepower motors, and quality for integral.⁵⁰⁹ Fractional horsepower motors account for 58.2 percent of the electric motor market and manufacturers compete on incremental efficiency gains that deliver cost savings.⁵¹⁰ Chinese producers, benefiting from lower labor costs and government subsidies, offer fractional-horsepower motors at prices that challenge U.S. producers.⁵¹¹ Integral horsepower motors for industrial and automotive use compete on quality factors such as operational reliability, durability, application-specific design and energy efficiency.⁵¹² The U.S. manufacturing model for integral motors

⁵⁰² U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁰³ USITC DataWeb/Census, imports for consumption for NAICS 335312, accessed May 6, 2026.

⁵⁰⁴ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁰⁵ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁰⁶ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁰⁷ For example, when WEG announced its investment expansion in Brazil it expected the new capacity to come online three years later. Reuters, “Motor Maker WEG to Invest \$207 Million to Expand in Brazil,” September 30, 2025; U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁰⁸ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁰⁹ Emergen Research, *Fractional Horsepower Motor Market (2024–2034)*, October 31, 2025.

⁵¹⁰ Strategic Market Research, *Fractional Horsepower AC Motors Market Report*, December 2025; Market.us, *Electric Motors Market*, March 2025.

⁵¹¹ Emergen Research, *Fractional Horsepower Motor Market*, October 31, 2025.

⁵¹² Sharma, *Integral Horsepower Motors Market*, December 2024.

focuses on customization, compliance, and premium quality and is better positioned to compete in this segment than the fractional horsepower motor's high-volume, low-cost model.⁵¹³

Domestic U.S. production of motors and generators faces supply vulnerabilities because it depends heavily on key intermediate inputs from abroad.⁵¹⁴ Turbine generators and high-performance motors rely on neodymium iron boron rare earth magnets, which are primarily imported or made from imported intermediate inputs.⁵¹⁵ China dominates global rare earth mining, processing, and magnet production, creating a significant supply chain vulnerability for U.S. manufacturers.⁵¹⁶ In 2025, following imposition of additional U.S. tariffs, China announced global export controls on several rare earth elements.⁵¹⁷ Although China later suspended most of these measures before they took effect, the escalation highlighted U.S. dependence on Chinese rare earth production and processing.⁵¹⁸ U.S. efforts to develop domestic sources are in the early stages.⁵¹⁹ An industry representative noted that it could take up to six years for a mining project to come online in the United States.⁵²⁰ Non-oriented electrical steel (NOES) is another key intermediate input for motors and generators that depends on imports, but not from China.⁵²¹

Intermediate inputs for refining rare earths and metals used in the production of motors and generators could also be affected by tariff increases from revocation of China's PNTR status, despite some increased investment in U.S. production capacity. Recent Chinese export restrictions on sulfuric acid—essential in processing rare earth ores—have tightened supply and pushed prices higher, increasing the risk that downstream rare earth processing will face shortages.⁵²²

Effects of China PNTR Status Revocation

The modeling analysis considers two alternative tariff scenarios for imports of motors and generators from China: first, an immediate increase in the tariff rate in year 1 from column 1 to column 2 rates for motors and generators and intermediate inputs to U.S. motors and generators production from China; second, a gradual phase in over five years, with one-fifth of the total (motors and generators and

⁵¹³ Wan, "How Does Induction Motor Production in China Compare to the United States?," December 21, 2024.

⁵¹⁴ Energy, "The U.S. Department of Energy's Critical Minerals and Materials Program," January 2025.

⁵¹⁵ USDOC, *The Effect of Imports of Neodymium-Iron-Boron (NdFeB) Permanent Magnets*, 6, February 14, 2023.

⁵¹⁶ Gagarin and Eggert, "Measuring Trade Flows of Sintered NdFeB Magnets," December 1, 2023.

⁵¹⁷ Government of China, MOFCOM, "A Spokesperson for the Ministry of Commerce answered reporters," October 9, 2025.

⁵¹⁸ CRS, "Rare Earth Elements and U.S. Supply Chains," March 4, 2026. CRS, "Rare Earth Elements and U.S. Supply Chains," March 4, 2026; Baskaran and Schwartz, "Rare Earth Export Restrictions, One Year Later," January 23, 2025.

⁵¹⁹ Kalia et al., "MP Materials Seals Mega Rare-Earths Deal," July 10, 2025; Ames Laboratory, "Scientists Develop Rare Earth Free Magnet for Use in Industrial Motors," April 30, 2025.

⁵²⁰ U.S. industry representative, interview by USITC staff, April 7, 2026.

⁵²¹ Industry expert, interview by USITC staff, April 9, 2026, Husted and Wu, "The Little Monopoly," October 14, 2025; IMARC Group, *United States Electrical Steel Market Size*, accessed April 16, 2026; Electrical Trader, "Grain-Oriented vs Non-Grain-Oriented Steel," April 16, 2026. In 2025, 92.8 percent of U.S. imports of NOES by customs value came from the EU but China did not supply any U.S. imports of NOES. USITC DataWeb/Census, imports for consumption, HTS statistical reporting numbers 7225.19.0000, 7226.19.1000, and 7226.19.9000, accessed May 26, 2026.

⁵²² *Business Times*, "China Moves to Ban Sulphuric Acid Exports," April 11, 2026.

intermediate inputs) tariff increase from the column 1 rates to column 2 rates each year. Both scenarios model a 0.68 percent increase in production costs due to tariffs on imported intermediate inputs and a 32.8 percentage point increase in tariffs on imported motors and generators.

[Figure 4.12](#) reports the estimated value of U.S. domestic shipments, relative to 2024 baseline values, for the motors and generators industry. U.S. shipments would increase under both scenarios. Under an immediate full tariff increase, U.S. domestic shipments would increase from \$8.1 billion in the base year to \$8.4 billion in year 1, then increase to \$8.5 billion in year 5. Almost all the increase in U.S. domestic shipments would occur in year 1, with a small additional percentage limited by the industry’s estimated three-year time to build and implement new investments.⁵²³ In that same scenario, Chinese-origin imports would drop by \$2.2 billion in year 1, then slightly decrease further in year 5. Under a phased-in tariff increase, U.S. domestic shipments would steadily increase from \$8.1 billion in the base year to \$8.5 billion in year 5. At the same time, Chinese-origin imports would decrease steadily but not reach a \$2.2 billion decline until year 5.⁵²⁴ Southeast Asian countries would be likely beneficiaries of this trade diversion, reflecting a trend of growing imports of motors and generators from there, particularly Thailand and Vietnam.⁵²⁵ Lower labor costs, shorter lead times to set up manufacturing facilities, and access to upstream intermediate inputs from China would continue to give Southeast Asia an advantage in manufacturing motors and generators.⁵²⁶

⁵²³ Orca Lean Digital Solutions, “How Long Would It Really Take?,” June 2, 2025.

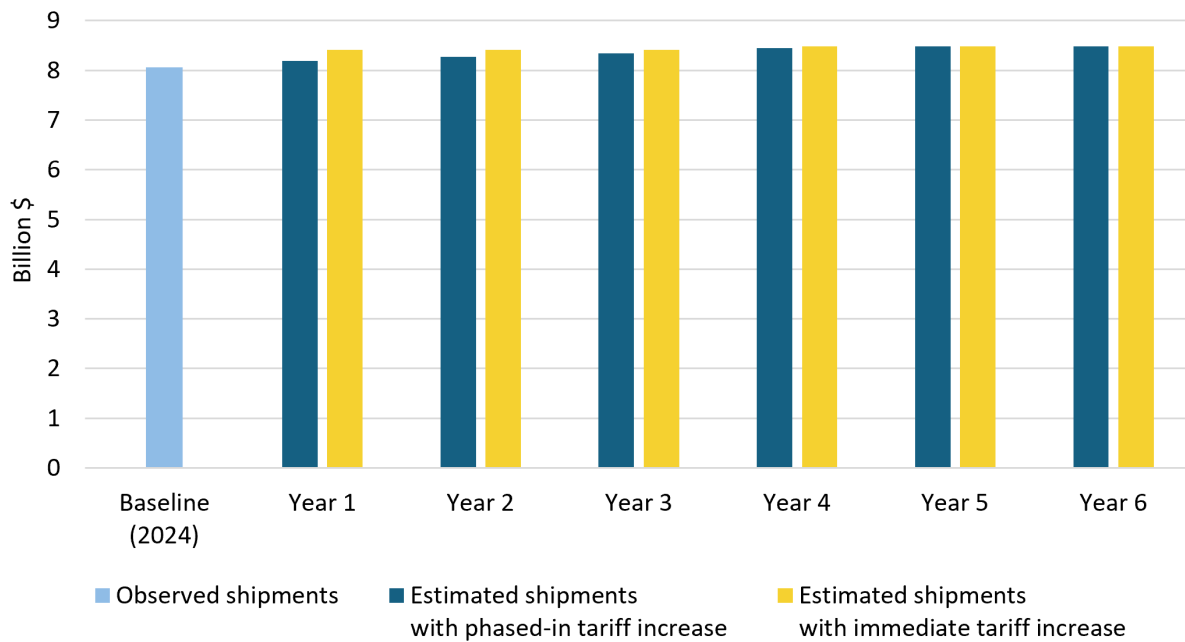
⁵²⁴ For full model estimates, including U.S. imports, see [appendix E](#) tables [E.13](#) through [E.16](#).

⁵²⁵ USITC DataWeb/Census, imports for consumption for NAICS 335312, accessed May 6, 2026.

⁵²⁶ Factorem, “Asia Manufacturing Index 2026,” April 28, 2026.

Figure 4.12 Estimated value of U.S. domestic shipments of motors and generators following permanent normal trade relations revocation

In billions of dollars. Underlying data for this figure can be found in appendix [table G.32](#).

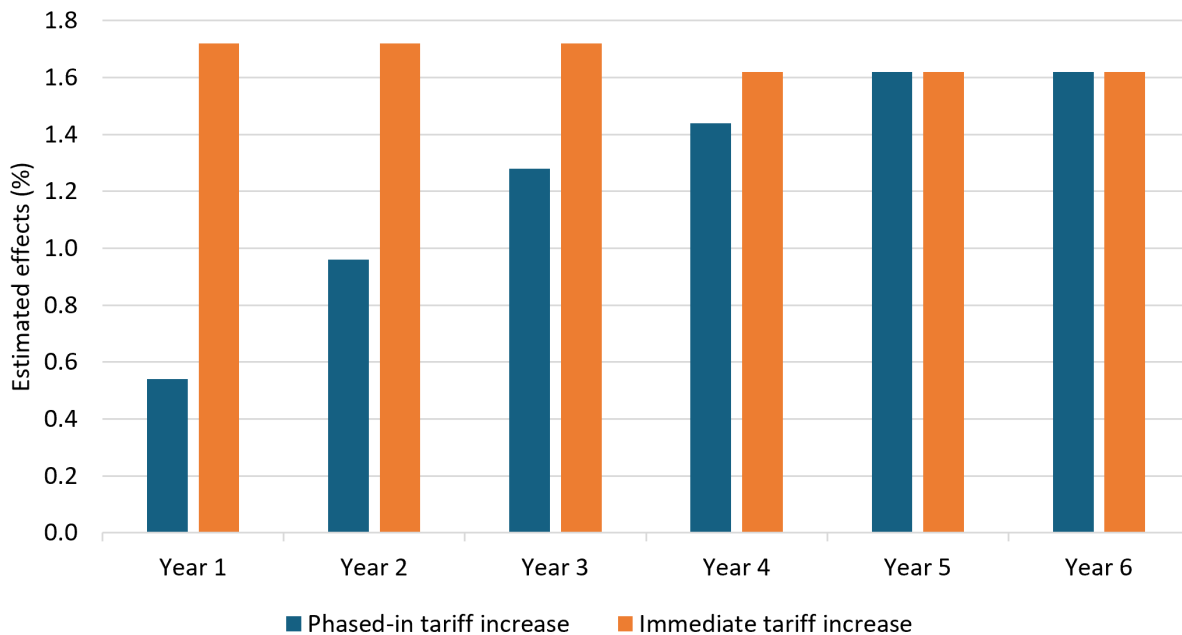


Source: USITC estimates.

[Figure 4.13](#) reports the estimated percentage changes in the industry average price in the U.S. market, relative to 2024 baseline values, for the industry. Prices would increase under both scenarios. The immediate tariff increase would lead to an increase in prices of 1.7 percent in the first three years because of the capital adjustment lag. The price increase would be more gradual under the phased-in tariff increase.

Figure 4.13 Change in the average price of motors and generators in the U.S. market relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.33](#).



Source: USITC estimates.

Ball and Roller Bearings

The ball bearings industry includes producers of ball and roller bearings (bearings) of all materials, most commonly steel.⁵²⁷ Bearings are mechanical components that use rolling elements contained in rings to reduce friction and allow rotation between fixed and moving parts.⁵²⁸ For example, a bearing allows a wheel to rotate on its axle.⁵²⁹ Bearings are distinguished by the shape of their rolling elements: ball bearings have spherical rollers and roller bearings have rollers that are produced in different forms, such as cylindrical or tapered (conical).⁵³⁰ In general, ball bearings are used in applications that require high-speed movement and roller bearings are used in applications involving movement of heavy loads at slower speeds.⁵³¹ Leading applications for bearings include automotive components such as engines, transmission, and wheels; railway components; jet engines; heavy industrial machinery; mining

⁵²⁷ The industry covered in this section is NAICS 332991, ball and roller bearing manufacturing. Other materials used in bearings include ceramic, glass, or copper. CBP, *The Classification of Ball Bearings*, April 2012, 7; Guirguis, *Ball Bearing Manufacturing in the US*, March 2026; Census, “North American Industry Classification System (NAICS): 332991,” accessed March 11, 2026.

⁵²⁸ Guirguis, *Ball Bearing Manufacturing in the US*, March 2026, 7; NTN Global, “More About Bearings,” accessed March 6, 2026.

⁵²⁹ Schaeffler Company, “Wheel Bearings,” accessed April 16, 2026.

⁵³⁰ NTN Global, “More About Bearings,” accessed March 6, 2026; CBP, *The Classification of Ball Bearings*, April 2012, 8; SKF, “Bearing Basics,” accessed March 9, 2026.

⁵³¹ SKF, “Bearing Basics,” accessed March 9, 2026.

equipment; and wind turbines.⁵³² Roller bearings are also critical for aerospace and defense applications, including spacecraft, satellites, drones, and military aircraft.⁵³³ Because of their unique and critical functionality, bearings have relatively few substitutes.⁵³⁴

The United States has significant bearing manufacturing. In 2022, 107 firms operated 165 manufacturing establishments in the industry.⁵³⁵ Roller and ball bearing manufacturers in the United States are a mix of large multinational firms with headquarters in Asia and Europe (e.g., NTN Corporation, JTEKT Corporation, Schaeffler AG, and NSK Ltd.) and U.S.-based firms (e.g., Timken Co., New Hampshire Ball Bearings Inc., Scheerer Bearing Corporation). Most large multinational firms are publicly traded; smaller U.S. producers are privately held.⁵³⁶

Total U.S. bearings shipments increased from \$5.8 billion in 2022 to \$6.1 billion in 2025 ([figure 4.14](#)). From 2022 to 2025, average annual employment in bearing manufacturing increased irregularly from 18,023 to 18,240.⁵³⁷ In the United States, Timken is the top domestic supplier, accounting for about 21 percent of the market, followed by NTN Corporation.⁵³⁸ Foreign-owned firms with production facilities in the United States account for smaller shares of domestic production.⁵³⁹

⁵³² Guirguis, *Ball Bearing Manufacturing in the US*, March 2026; NTN Global, “More About Bearings,” accessed March 6, 2026; USITC, *Tapered Roller Bearings from Korea*, August 2018, I.14.

⁵³³ JTEKT, “Aerospace and Defense,” accessed March 9, 2026; IBSCO, “Aerospace and Defense,” accessed March 9, 2026.

⁵³⁴ USITC, *Tapered Roller Bearings from Korea*, August 2018, II.15.

⁵³⁵ Census, “ECN Core Statistics Summary Statistics,” December 2024.

⁵³⁶ Scheerer Bearing Corporation, “About -Scheerer Bearing Corporation,” accessed May 4, 2026; Barden Bearings, “The Company,” accessed May 4, 2026; Schaeffler Group, “Schaeffler Group,” accessed May 4, 2026; JTEKT CORPORATION, “Share Information,” accessed May 4, 2026; NTN Global, “Investors,” accessed May 4, 2026; NSK Global, “Corporate Profile,” accessed May 4, 2026; Schaeffler Group, “Investor Relations,” accessed May 4, 2026; New Hampshire Ball Bearings, Inc., “Our Company,” accessed June 22, 2026.

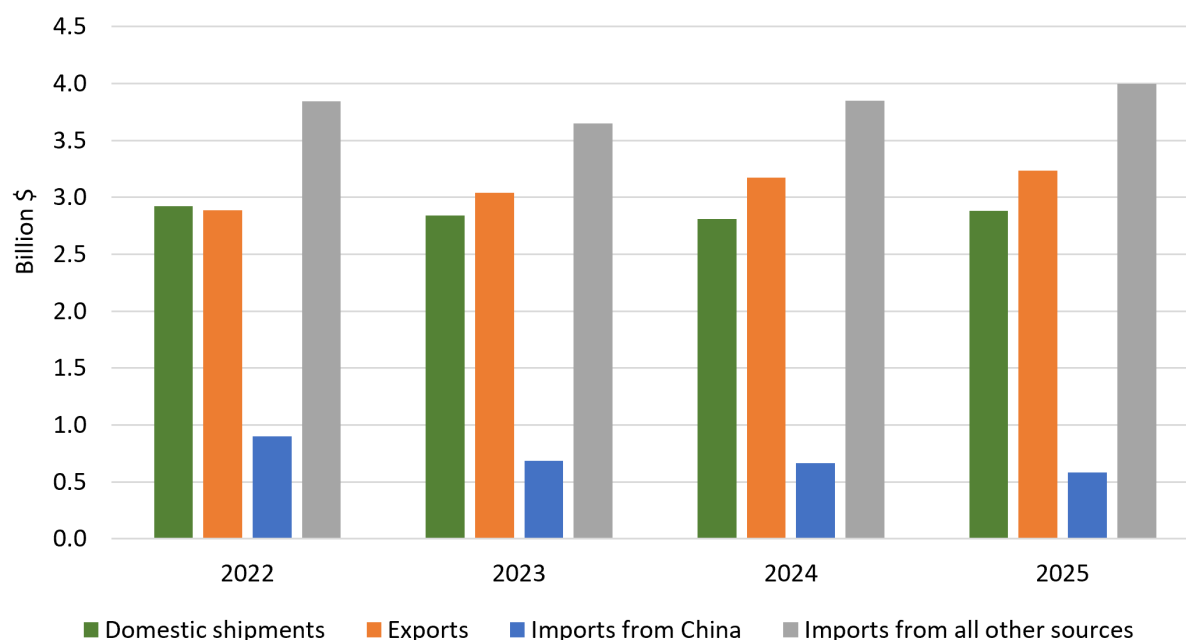
⁵³⁷ For 2022, employment data are from the 2022 Economic Census. For 2023–25, employment data are a result of the product of employment from the 2022 Economic Census and seasonally adjusted employment numbers in broader categories of products reported in the Current Employment Statistics (CES) database. Census, 2022 Economic Census, Number of employees, NAICS 332991, December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

⁵³⁸ Guirguis, *Ball Bearing Manufacturing in the US*, March 2026, 26.

⁵³⁹ Guirguis, *Ball Bearing Manufacturing in the US*, March 2026, 26.

Figure 4.14 U.S. domestic shipments, imports, and exports of bearings, by value, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.34](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 332991, accessed March 2, 2026; Census, “Shipments,” 2022 Economic Census, December 2024; Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

Note: Shipment data in 2022 taken from 2022 Economic Census at the NAICS 6-digit level. For 2023–25, shipment data are estimated on the basis of changes seen in a more aggregated sector of Fabricated Metal Products (32G).

Imports of bearings account for about 75 percent of U.S. consumption and declined, irregularly, from 2022 to 2025. In 2025, total U.S. shipments (including domestic shipments and exports) were about 33 percent larger than total U.S. imports, up from about 22 percent larger in 2022. China’s share of U.S. imports declined from 19 percent in 2022 to 13 percent in 2025. Certain types of roller bearings originating in China have been subject to antidumping duties since 1987, potentially limiting some imports.⁵⁴⁰ The global roller bearings market is characterized by a handful of leading multinational producers—SKF, Schaeffler, Timken, NSK, NTN, and JTEKT—that account for more than 50 percent of the global market.⁵⁴¹ In China, SKF is believed to be the largest bearings producer, with 6,000 employees and nine manufacturing facilities.⁵⁴² Many smaller producers in China serve local and regional

⁵⁴⁰ USDOC, “Tapered Roller Bearings and Parts Thereof,” March 21, 2024.

⁵⁴¹ SKF, “The Bearing Market,” accessed March 10, 2026.

⁵⁴² SKF, “The Bearing Market,” accessed March 10, 2026; Liu, “SKF Group to Ramp up Investments in China,” December 4, 2024; SKF, “About SKF,” accessed May 8, 2026.

customers.⁵⁴³ Outside of China, leading producers of bearings are located in India (SKF), Japan (JTEKT), Germany (Schaeffler), and Mexico (Timken).⁵⁴⁴

Competitiveness

Price is the most important factor for commodity-type bearings; for more complex bearings, quality can be more important. According to industry stakeholders, the ball and roller bearings market is sensitive to price, especially for the more common types of “commodity bearings,” such as ball bearings.⁵⁴⁵ These are typically higher-volume products that are used in applications with less stringent quality requirements.⁵⁴⁶ For these products in particular, imports from China have put price pressure on U.S. producers. Customers of more complex bearings that are specialized and used in advanced technologies, including those subject to harsh environments (e.g., automotive bearings or those used in medical devices) tend to be less price sensitive.⁵⁴⁷

Producers in the United States have scaled back production, particularly for less complex bearings, and closed facilities in response to Chinese imports during the past 20 years. The value of U.S. domestic shipments has declined as well.⁵⁴⁸ Some products made in China do not have a domestic Chinese market, so China is likely to export them to third countries if U.S. tariffs increase.⁵⁴⁹ Additionally, some U.S. producers assert that if tariffs on Chinese products increase, multinational firms will divert production from facilities in China to other economies, such as Indonesia, the Philippines, Romania, Taiwan, and Vietnam, where labor and production costs are lower than in the United States.⁵⁵⁰ Imports from these countries could continue to put pressure on prices and prevent U.S. firms from competing on price after tariffs on China are increased. Furthermore, some U.S. bearing producers import intermediate parts or components from China for U.S. bearing production. In those cases, the tariffs would increase U.S. production costs of finished goods; even if firms raised bearing prices, intermediate input costs are likely to increase and potentially prevent profit margins from increasing.⁵⁵¹

U.S. bearing producers could increase supply of certain types of bearings from existing capacity relatively quickly in response to tariffs on China but may be deterred from adding capacity by some risks and challenges.⁵⁵² The production process is automated and enables new capacity to be brought online

⁵⁴³ SKF, “The Bearing Market,” accessed March 10, 2026.

⁵⁴⁴ SKF, “The Bearing Market,” accessed March 10, 2026; SKF, “Manufacturing Footprint,” accessed June 4, 2026; Schaeffler, “Schaeffler Germany,” accessed June 11, 2026; Timken, “Timken Expands Manufacturing Footprint in the Americas” December 18, 2020; JTEKT, “Company Overview,” accessed June 29, 2026.

⁵⁴⁵ U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁴⁶ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁴⁷ U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁴⁸ American Gear Manufacturers Association, “A Perspective on Ball and Roller Bearings,” May 2023, 77; U.S. industry representative, interview by USITC staff, March 27, 2026.

⁵⁴⁹ U.S. industry representative, interview by USITC staff, March 27, 2026.

⁵⁵⁰ U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁵¹ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁵² U.S. industry representative, interview by USITC staff, March 27, 2026.

without significant increases in labor costs.⁵⁵³ However, one of the bigger challenges that U.S. manufacturers face in scaling production is access to an adequate supply of raw inputs. Most of the more complex roller bearings produced in the United States require high-grade alloy steel (called bearing steel) that is not readily available in larger volumes in the United States.⁵⁵⁴ Some of the types of bearing steel are not produced in the United States at all and are imported from countries such as Japan and South Korea.⁵⁵⁵ Access to adequate steel volumes is critical if producers add production capacity. Another challenge is policy uncertainty. Industry stakeholders describe the industry as capital intensive, requiring from \$10 million to \$100 million to expand capacity, and some expressed that uncertainty in tariff policy could limit investments.⁵⁵⁶ It takes several years to reach a “break-even point” after investing in new production lines, thus producers are less likely to invest if they anticipate changes in tariff policies impacting domestic demand.⁵⁵⁷

Effects of China PNTR Status Revocation

The modeling analysis considers two alternative tariff scenarios for imports of bearings from China: an immediate increase in the tariff rate in year 1 from column 1 to column 2 rates for bearings and intermediate inputs to bearings production from China and a gradual phase in over five years, with one-fifth of the total (bearings and intermediate inputs) tariff increase from the column 1 rates to column 2 rates each year. Both scenarios model a 0.62 percent increase in production costs due to tariffs on imported intermediate inputs and a 53.4 percentage point increase in tariffs on imported bearings.

[Figure 4.15](#) reports the estimated value of U.S. domestic shipments, relative to 2024 baseline values, for the bearings industry. U.S. shipments increase under both scenarios. Under an immediate full tariff increase, the expansion of U.S. production occurs in two steps, reflecting the industry’s estimated four-year time to build and implement new investments.⁵⁵⁸ U.S. domestic shipments rise slightly from \$2.8 billion in the baseline to \$3.0 billion in the first two years. Under a phased-in tariff increase, the expansion in U.S. production is slightly more gradual, with U.S. domestic shipments increasing to \$2.9 billion in the first three years.⁵⁵⁹ Most of the increase in domestic shipments would likely occur for more complex or specialty products with existing U.S. capacity, such as roller bearings.⁵⁶⁰

⁵⁵³ Most of the manufacturing equipment for roller and ball bearings is imported and can have long lead times to deliver. U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁵⁴ U.S. industry representative, interview by USITC staff, March 11, 2026; U.S. industry representative, interview by USITC staff, March 27, 2026.

⁵⁵⁵ U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁵⁶ U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026.

⁵⁵⁷ U.S. industry representative, interview by USITC staff, April 9, 2026.

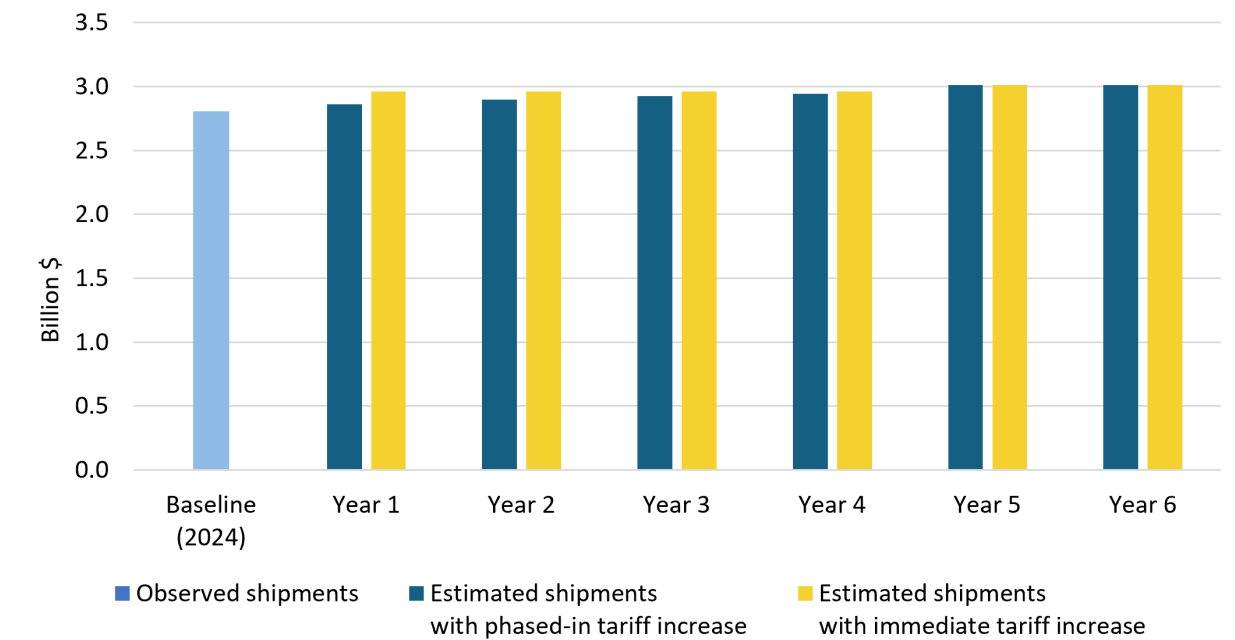
⁵⁵⁸ U.S. Industry representative, interview by USITC staff, March 26, 2026.

⁵⁵⁹ For full model estimates see [appendix E](#), Tables [E.17](#) through [E.20](#).

⁵⁶⁰ U.S. industry representative, interview by USITC staff, March 11, 2026; U.S. industry representative, interview by USITC staff, March 27, 2026.

Figure 4.15 Estimated value of U.S. domestic shipments of bearings following permanent normal trade relations revocation

In billions of dollars. Underlying data for this figure can be found in appendix [table G.35](#).



Source: USITC estimates.

Under the immediate tariff increase imports from other sources would increase from \$3.9 billion in the baseline to \$4.3 billion in the first three years before declining slightly in later years. The model shows a decline in imports from China that would continue a downward trend that started in 2022. If the tariff increase is phased in, the increase in imports from other sources would be more gradual as well.⁵⁶¹ The increase in imports from other sources likely reflects multinational bearing firms shifting production from plants in China to operations in other markets where production costs are low.⁵⁶²

[Figure 4.16](#) reports the estimated percentage changes in the industry average price in the U.S. market, relative to 2024 baseline values. Prices would increase under both scenarios. Under the immediate full tariff increase, prices would immediately increase by 3 percent for the first four years before dropping to 2.6 percent. This effect would be due to the capital adjustment lag that would be absent when the tariff increase is phased in, with price increases not reaching 2.6 percent until year 4.⁵⁶³

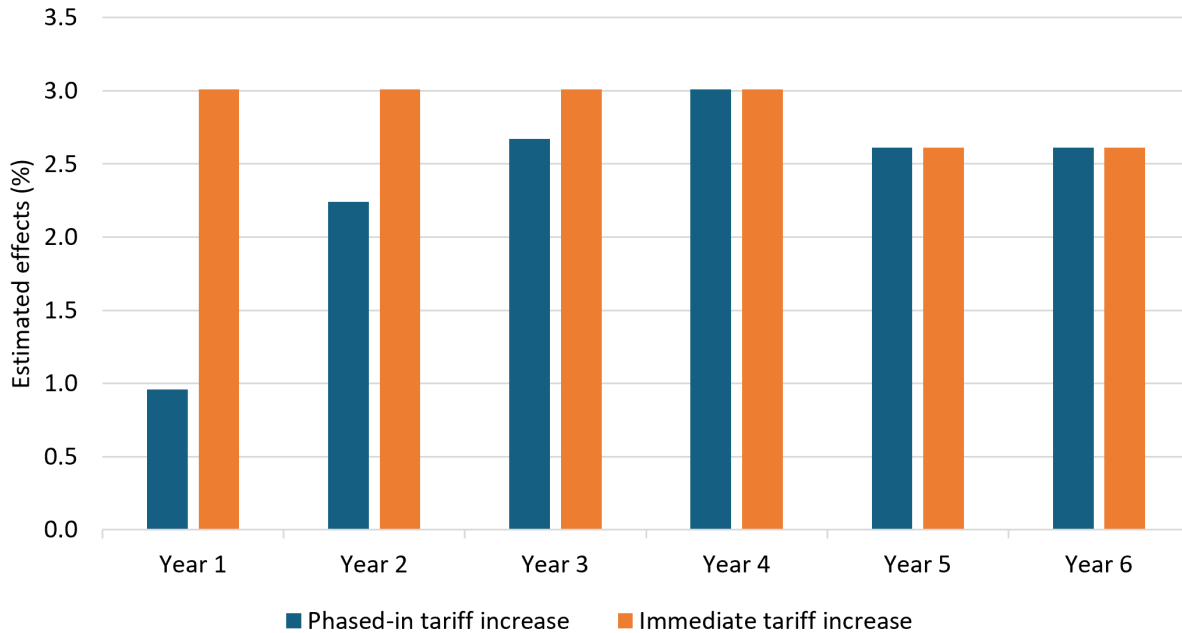
⁵⁶¹ These estimates, including U.S. imports, can be seen in tables [E.19](#) and [E.20](#).

⁵⁶² For example, leading producer SKF has roller and ball bearing facilities all over the world, including plants in India and Indonesia. U.S. industry representative, interview by USITC staff, March 27, 2026; U.S. industry representative, interview by USITC staff, April 9, 2026; SKF USA Inc., “About SKF USA,” accessed June 3, 2026; SKF, “SKF Doubles Its Manufacturing Capacity in Indonesia to Support Strong Growth,” September 14, 2005; “Manufacturing Footprint: India,” accessed June 4, 2026.

⁵⁶³ For full model estimates, see [appendix E](#), tables [E.17](#) and [E.18](#).

Figure 4.16 Change in the average price of bearings in the U.S. market relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.36](#).



Source: USITC estimates.

Synthetic Graphite

Synthetic graphite is a product grouped with the miscellaneous nonmetallic mineral products industry, which includes producers of nonmetallic mineral products, including asbestos, synthetic (also called artificial) graphite, asphalt, concrete, mica, peat pots, and synthetic stones.⁵⁶⁴ Firms in this industry typically transform mined nonmetallic minerals into intermediate products.⁵⁶⁵ The mixture of products is found in many different applications, such as mica, which is used for insulation in blast furnaces, and concrete, which is used in roads and construction.⁵⁶⁶

Within the broader sector of miscellaneous nonmetallic mineral products, synthetic graphite is closest to the criterion used to identify NSPs and will be the focus of this descriptive analysis.⁵⁶⁷

⁵⁶⁴ The industry covered in this section is NAICS 327999, All other miscellaneous nonmetallic mineral products manufacturing. Census, “North American Industry Classification System (NAICS): 327999,” accessed March 11, 2026; Census, “International Trade Reference –Import Concordance,” accessed June 29, 2026.

⁵⁶⁵ USDOL, BLS, “Nonmetallic Mineral Product Manufacturing,” accessed April 16, 2026.

⁵⁶⁶ IBISWorld, *Products and Markets: 32799 Nonmetallic Mineral Product*, accessed April 14, 2026; Ashville Mica, “What Is Mica and What is it Used For?” accessed June 10, 2026; American Cement Association, “Applications of Cement,” accessed June 10, 2026.

⁵⁶⁷ Graphite was designated as critical in the 2025 U.S. List of Critical Minerals that was published by the U.S. Geological Survey. USGS, “Final 2025 List of Critical Minerals,” November 7, 2025.

Synthetic graphite is used in furnace electrodes and in battery components.⁵⁶⁸ It is vital for supply chains of steel, nonferrous metals, and batteries that are used in many products, including military equipment (e.g., vehicles, munitions, and aircraft) and other defense applications. Synthetic graphite is manufactured from petroleum coke or other products and is one of two forms of graphite.⁵⁶⁹ Electrodes made from synthetic graphite are used in electric arc furnaces at steel mills and in nonferrous metals plants.⁵⁷⁰ Synthetic graphite is also the main material used in lithium-ion battery anodes (negative terminals).⁵⁷¹ These batteries are used in electric vehicles, electronic consumer devices, and energy storage systems.⁵⁷² Natural graphite can substitute for synthetic in most cases but requires additional processing to increase purity.⁵⁷³ About 70–80 percent of global battery manufacturers use synthetic graphite in anodes.⁵⁷⁴ Graphite has relatively few substitutes. Silicon can replace some graphite in battery anodes; some emerging battery chemistries do not use graphite, but these battery types are generally not on the market.⁵⁷⁵

The United States has a relatively significant miscellaneous nonmetallic mineral industry; however, synthetic graphite production is minimal.⁵⁷⁶ In 2022, 269 firms operated 395 manufacturing establishments within the broader industry, but only a handful manufacture synthetic graphite.⁵⁷⁷ Total U.S. shipments of miscellaneous nonmetallic mineral products increased from \$5.2 billion in 2022 to \$5.5

⁵⁶⁸ Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 1, 6–8.

⁵⁶⁹ The other is natural graphite, which is not included in this NAICS-6 industry. Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 8; ECGA, “Carbon and Graphite,” accessed May 7, 2026.

⁵⁷⁰ Graphite is used in furnace electrodes. Graphite electrode manufacturing is in NAICS 335991, carbon and graphite product manufacturing, and not covered in this section. ECGA, “Main Uses of Carbon and Graphite,” accessed March 13, 2026; Resonac Graphite America Inc., “Leading Manufacturer of Graphite Electrodes,” April 13, 2026; Census, “North American Industry Classification System (NAICS): 335991,” accessed May 8, 2026.

⁵⁷¹ Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 1, 6–8.

⁵⁷² Epsilon Advanced Materials, “Graphite Anode Manufacturing Process,” accessed March 13, 2026; ECGA, “Main Uses of Graphite,” accessed March 13, 2026; Nanografi Advanced Materials, “Battery Anode Materials,” accessed March 13, 2026.

⁵⁷³ The United States does not produce natural graphite domestically. Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 8.

⁵⁷⁴ Synthetic graphite and natural graphite are sometimes blended for use in batteries. Synthetic graphite is typically higher quality and more consistently produced to required specifications than natural graphite and provides higher performance in battery anodes used in certain electric vehicles. OIES, *Insight-164: Western Battery Graphite Markets*, February 2025, 4; Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 12; Benchmark Mineral Intelligence, “Glossary: What Is Graphite?” accessed March 17, 2026; Benchmark Mineral Intelligence, “Infographic: China Controls Three-Quarters,” November 7, 2023.

⁵⁷⁵ OIES, *Insight-164: Western Battery Graphite Markets*, February 2025, 3; Benchmark Mineral Intelligence, “Silicon-Based Anode Supply to Grow Alongside Nickel Cells to 2035,” accessed May 1, 2026; IEA, “Sodium-Ion Battery Momentum Grows, but Challenges Remain,” February 17, 2026.

⁵⁷⁶ Volta Foundation, written submission to the USITC, April 13, 2026, 5–6.

⁵⁷⁷ Census, “ECN Core Statistics Summary Statistics,” December 2024.

billion in 2025.⁵⁷⁸ Average annual employment from 2022 to 2025 increased by barely 1 percent from 11,429 to 11,583.⁵⁷⁹

Although emerging within the broader industry, domestic synthetic graphite production was valued at about \$1.2 billion in 2023.⁵⁸⁰ Only a few synthetic graphite firms have some commercial production in the United States. Those producers are mostly privately held firms with U.S.-based headquarters (e.g., ACP Technologies, Superior Graphite, Anovion, Novonix, and Elemental Advanced Materials). One Indian firm (Epsilon Advanced Materials) also produces synthetic graphite in the United States.⁵⁸¹ Despite limited production levels, several firms have announced plans to bring new capacity online during the next several years.⁵⁸²

Imports of the broader industry, miscellaneous nonmetallic mineral products, account for a relatively small share of U.S. consumption, and total imports declined, irregularly, from 2022 to 2025. China accounted for nearly 40 percent of total U.S. imports from 2022 to 2024, but its share of imports dropped to nearly 20 percent in 2025. China's share of U.S. imports of the subcategory, synthetic graphite, fell from 62 percent in 2022 to 28 percent in 2025.⁵⁸³ During this period, U.S. imports of

⁵⁷⁸ Census, "Shipments," 2022 Economic Census, December 2024; Census, M3 Survey, "Value of Manufacturers' Shipments for Industry Groups," Monthly Full Report on Manufacturers' Shipments, Inventories and Orders December 2025, February 23, 2026. Shipment data in 2022 taken from 2022 Economic Census at the NAICS 6-digit level. For 2023–25, shipment data are estimated on the basis of changes seen in a more aggregated sector of Nonmetallic Mineral Products (27A).

⁵⁷⁹ For 2022, employment data are from the 2022 Economic Census. For 2023 to 2025, employment data are estimated by multiplying employment from the 2022 Economic Census by annual changes in seasonally adjusted March employment numbers reported in the Current Employment Statistics (CES) database. CES data are generally available for broader categories of products than those covered in the analyses of this report. Census, 2022 Economic Census, Number of employees, NAICS 327999, December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

⁵⁸⁰ U.S. Geological Survey, *Minerals Yearbook 2023: Graphite, Vol. Advance Data Release of the 2023 Annual Tables*, March 25, 2025.

⁵⁸¹ Resonac Graphite America Inc. and Tokai Carbon USA manufacture graphite electrodes in the United States. These firms produce synthetic graphite as part of the electrode production process. NLR, NAATBatt Lithium-Ion Battery Supply Chain Database, accessed April 15, 2026; Tokai Carbon USA, "Company Overview," accessed May 8, 2026; Resonac Graphite America Inc., "Leading Manufacturer of Graphite Electrodes," April 13, 2026; Census, "North American Industry Classification System (NAICS): 335991," accessed May 8, 2026.

⁵⁸² In 2023, U.S. production of synthetic graphite was 343,000 metric tons. NLR, NAATBatt Lithium-Ion Battery Supply Chain Database, accessed April 15, 2026; USGS, *Minerals Yearbook 2023: Graphite, Vol. Advance Data Release of the 2023 Annual Tables*, March 25, 2025.

⁵⁸³ The decline in imports from China primarily occurred in the second half of 2025 and can be partially attributed to preliminary affirmative determination in U.S. import injury investigations concerning active anode material from China. HTS statistical reporting numbers for artificial (synthetic) graphite, 3801.10.1000, 3801.10.5000, 3801.10.5010, and 3801.10.5090. Effective January 1, 2025, HTS statistical reporting number 3801.10.5000 was annotated with the establishment of HTS statistical reporting numbers 3801.10.5010 and 3801.10.5090. USITC, *HTS (2025) Basic Edition*, USITC Publication 5575, January 2025, Change Record, p. 3.

synthetic graphite from Indonesia increased substantially and accounted for 32 percent in 2025 compared to zero in 2022.⁵⁸⁴

In terms of global supply of synthetic graphite, China produced 75 percent of all synthetic graphite in 2023 and currently has 98 percent of the world's synthetic graphite production capacity.⁵⁸⁵ China's dominance is partially a result of its ample supply of the raw inputs used in synthetic graphite production (petroleum coke or needle coke) and the availability of inexpensive electricity to produce graphite.⁵⁸⁶ Numerous firms produce synthetic graphite in China.⁵⁸⁷ Chinese graphite manufacturers produce volumes that exceed domestic demand, incentivizing export to Asia, Europe, and North America.⁵⁸⁸

Competitiveness

Price is an important factor in the graphite market, but high costs of capital, as well as lengthy time to build and qualify new production facilities, also affect U.S. competitiveness in synthetic graphite production. Market prices are not transparent because transactions are commonly made via private deals involving graphite producers and consumers.⁵⁸⁹ According to industry reports and stakeholders in the battery supply chain, however, China has driven down the global price of synthetic graphite through oversupply, leading some to speculate that Chinese producers are selling below cost to capture market share.⁵⁹⁰ Subsidized manufacturers in China are able to flood the market with inexpensive synthetic graphite, making conditions difficult for producers in the United States to compete.⁵⁹¹ The influx of lower priced imports from China, which may be subsidized by the Chinese government, hampers U.S. firms from obtaining financing necessary to open new production facilities.⁵⁹² Building a new plant in North America can cost substantially more than in China, and U.S. production costs are estimated to be double those in China.⁵⁹³ These conditions have made it challenging for U.S. producers to compete.

⁵⁸⁴ The increase in imports from Indonesia coincided with new production capacity coming online there. In August 2024, BTR New Materials Group Ltd. (a subsidiary of China Baoan Group Co. Ltd.) commenced production at a new plant in Indonesia that produces natural and synthetic graphite and other battery materials. BTR New Material Group Co. Ltd., "BTR's Indonesian Facility Becomes Largest Anode Plant," accessed May 28, 2026.

⁵⁸⁵ Mehdi, *Insight-164: Western Battery Graphite Markets*, February 2025, 4; Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 9.

⁵⁸⁶ Benchmark Mineral Intelligence, "Glossary: What Is Graphite?," accessed March 17, 2026.

⁵⁸⁷ These firms include Fangda Carbon New Material Co. Ltd., Guangdong Kaijin New Energy Technology Co. Ltd., and Jiangxi Zichen Technology Co. Ltd. Tsuji, *Global Value Chains: Graphite*, May 2022, 22, 53, 57.

⁵⁸⁸ Volta Foundation, *2025 Annual Battery Report*, January 24, 2026, 524.

⁵⁸⁹ Natural Resources Canada, "Graphite Facts," January 24, 2022.

⁵⁹⁰ Horizon Advisory, *The China Hazard*, October 2024, 19; Mehdi, *Insight-164: Western Battery Graphite Markets*, February 2025, 8; Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 15.

⁵⁹¹ U.S. industry representative, interview by USITC staff, March 19, 2026; Horizon Advisory, *The China Hazard*, October 2024, 19.

⁵⁹² U.S. industry representative, interview by USITC staff, March 12, 2026; U.S. industry representative, interview by USITC staff, March 19, 2026; U.S. industry representative, interview by USITC staff, April 15, 2026; Williams, "Graphite Market Forecast," January 19, 2026.

⁵⁹³ Williams, "Graphite Market Forecast," January 19, 2026; Golden, *Confronting China's Grip on Graphite for Batteries*, July 22, 2025; U.S. industry representative, interview by USITC staff, April 15, 2026.

Although it is uncertain if U.S. producers could increase prices as a result of higher tariffs, the tariffs could help stabilize prices enough to allow new entrants in the market to scale up production.⁵⁹⁴ It can take three to five years to bring a new graphite facility online.⁵⁹⁵ Because graphite manufacturing is capital intensive, especially during the startup phase at a new facility, manufacturers tend to have higher marginal operating costs initially and then these costs decrease as production become more efficient.⁵⁹⁶ For example, one U.S. producer stated that its marginal operating costs at a new plant will go down after the first five to six years of operation.⁵⁹⁷ Industry observers noted that the United States has the technology and ability to produce more synthetic graphite but struggles to compete with the low-cost, high-volume Chinese supply.⁵⁹⁸ As of March 2026, several U.S. producers had announced plans to build new U.S. synthetic graphite capacity within the next several years; however, many of these projects are in early stages of development.⁵⁹⁹

An additional challenge for new entrants is getting their products to the market. Synthetic graphite must go through a rigorous qualification process before it can be used as an intermediate input in certain applications, such as batteries.⁶⁰⁰ This qualification process can take three to five years, but nothing proves that it prevents either domestic or Chinese producers from competing in the market.⁶⁰¹ However, some analysts estimate that it could potentially take up to 10 years (inclusive of the qualification process) for the U.S. graphite industry, as a whole, to build enough capacity to meet domestic demand for batteries.⁶⁰²

⁵⁹⁴ New graphite facilities require significant investment in manufacturing equipment. Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 17; U.S. industry representative, interview by USITC staff, March 12, 2026.

⁵⁹⁵ NAATBatt International, written submission to the USITC, April 13, 2026, 4–5.

⁵⁹⁶ Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 16–17.

⁵⁹⁷ Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 17; U.S. industry representative, interview by USITC staff, March 12, 2026.

⁵⁹⁸ Industry expert, interview by USITC staff, April 9, 2026.

⁵⁹⁹ Superior Graphite, “Superior Graphite to Build . . . Annum Active Anode Material Capacity,” accessed March 30, 2026; Business Wire, “Epsilon Advanced Materials Inc. Receives Letter of Interest,” July 9, 2025; Business Wire, “Epsilon Advanced Materials Partners,” September 26, 2025; Graphite One Inc., “Graphite One Selects Ohio’s ‘Voltage Valley,’” March 20, 2024; NOVONIX, “NOVONIX Selected For US\$150,” October 19, 2022; Novonix, “Anode Materials,” May 16, 2025; Anovion Technologies, “Anovion Technologies Announces Plans,” May 15, 2023.

⁶⁰⁰ U.S. industry representative, interview by USITC staff, March 12, 2026; U.S. industry representative, interview by USITC staff, April 15, 2026; Volta Foundation, written submission to the USITC, April 13, 2026, 1.

⁶⁰¹ Many Chinese producers have qualified their products for batteries, but new U.S. producers have not. Williams, “Graphite Market Forecast,” January 19, 2026; Stanford University, STEER, “Graphite Supply Chain Forum,” June 10, 2025; Tesla Inc., “USTR Comments Portal: Comments on Possible Further Extension of Certain Exclusions,” 2024; U.S. industry representative, interview by USITC staff, April 15, 2026; U.S. industry representative, interview by USITC staff, April 16, 2026.

⁶⁰² Volta Foundation, written submission to the USITC, April 13, 2026, 6; Golden, *Confronting China’s Grip on Graphite for Batteries*, July 22, 2025; U.S. industry representative, interview by USITC staff, April 15, 2026.

Effects of China PNTR Status Revocation

Because of the limitations mentioned above, the effects of tariffs on synthetic graphite are not modeled; instead, they are described qualitatively.⁶⁰³ Both U.S. shipments and prices could increase under both scenarios. An immediate increase in the tariff rate would be unlikely to immediately increase domestic shipments, given the lack of installed capacity and time required to implement new investments. Furthermore, as discussed above, synthetic graphite producers need to complete a qualification process before their products can be used in certain applications like batteries. However, in the long run, tariffs that are phased in could provide domestic producers with additional time to bring new plants online and ramp up production, reducing the potential for large immediate price increases.⁶⁰⁴ As a result, the volume of imports from China could decline. Barring a rapid increase in domestic supply or imports from the relatively few non-Chinese economies that produce synthetic graphite, immediate tariffs would be unlikely to reduce Chinese imports significantly.⁶⁰⁵

Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing

The speed changer, industrial high-speed drive, and gear industry (“gears, speed changers, and drives”) includes producers of speed reducers and gear motors.⁶⁰⁶ A speed reducer is a power transmission mechanism set at either a constant or adjustable speed placed between a motor and machinery to reduce rotational speed and increase torque (the force to rotate the machinery). Gear motors are a propulsion or movement system consisting of an electric motor and a reduction gear train integrated into one package.⁶⁰⁷ Gear and speed changer manufacturers produce power transmission equipment and gears used in the production processes of other manufacturers. End users include a wide range of manufacturers such as food and beverage processors, constructions contractors, industrial goods manufacturers, and others that need power transmission equipment and gears for machinery used in their manufacturing processes.⁶⁰⁸ Major U.S. manufacturers of gears, speed changers, and drives are

⁶⁰³ Graphite data are included with the broader NAICS 632799, miscellaneous nonmetallic mineral products manufacturing.” However, the scale of domestic production of graphite was significantly less than the NAICS-6 level industry, and the importance of imports from China was substantially greater for the NSP compared to the broader NAICS industry. The Commission considered the differences between the data used in the model and the industry of interest to the report to be too large, and the effects of tariffs are instead examined using descriptive analysis.

⁶⁰⁴ NAATBatt contends that five years is not enough time for domestic battery material suppliers to achieve meaningful levels of production and recommends a minimum 10-year phase-in period for tariffs on battery materials. NAATBatt International, written submission to the USITC, April 13, 2026, 4–6.

⁶⁰⁵ In 2023, China produced 75 percent of global synthetic graphite and India was the next largest foreign producer, accounting for about 5 percent of production. According to the Volta Foundation, graphite would be extremely sensitive to supply-chain disruptions due to the lack of suppliers outside of China. Volta Foundation, written submission to the USITC, April 13, 2026, 4; Oxford Economics, *Enabling North American Graphite Growth*, February 2024, 9–10.

⁶⁰⁶ The industry covered in this section is NAICS 333612, speed changer, industrial high-speed drive, and gear manufacturing. Census, “North American Industry Classification System (NAICS): 333612,” accessed March 16, 2026.

⁶⁰⁷ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 2.

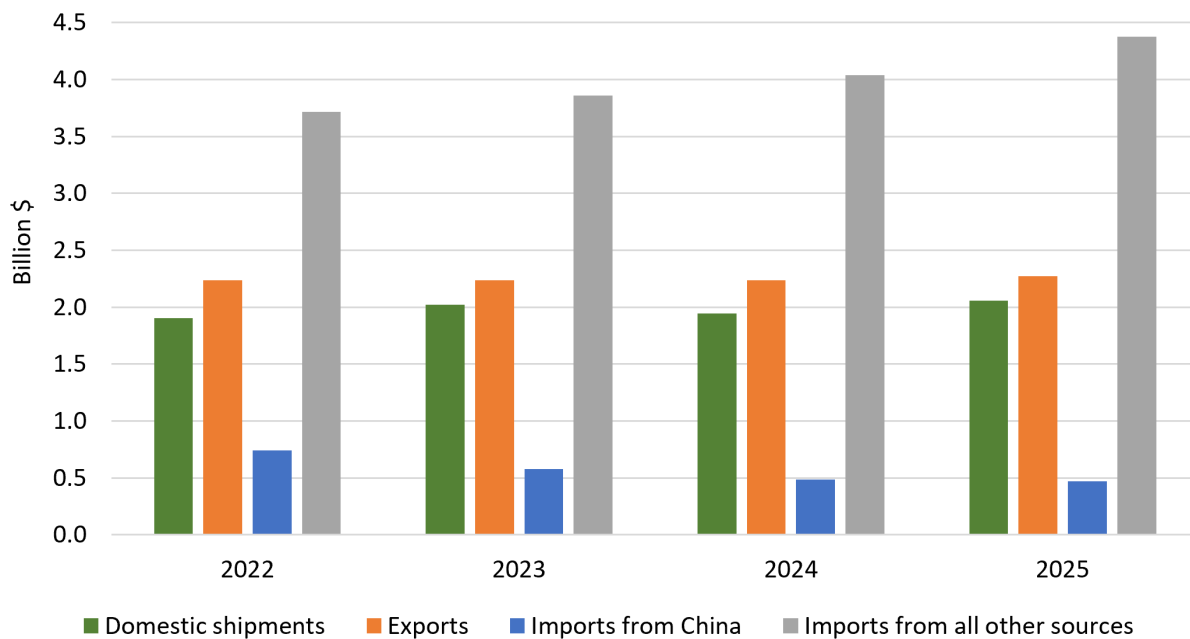
⁶⁰⁸ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 4.

primarily headquartered in the United States and privately held (e.g., Cone Drive Operations Inc., Hosburgh & Scott Co., and Lenze America Corporation). At least one major U.S. manufacturer, Habasit, is headquartered in Switzerland.⁶⁰⁹

The United States has experienced similar growth in both employment and shipments in recent years in the gears, speed changers, and drives industry ([figure 4.17](#)). In 2022, 205 manufacturing establishments were within NAICS 6-digit industry 333612.⁶¹⁰ Total U.S. gears, speed changers, and drives shipments increased from \$4.1 billion in 2022 to \$4.3 billion in 2025, although shipment growth was not consistent throughout the period.⁶¹¹ Employment from 2022 to 2025 increased steadily from 10,922 to 11,640.⁶¹²

Figure 4.17 U.S. domestic shipments, imports, and exports of gears, speed changers, and drives, by value, 2022–25

In billions of dollars. Underlying data for this figure can be found in appendix [table G.37](#).



Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 333612, accessed March 2, 2026; Census, 2022 Economic Census, shipments, December 2024; Census, M3 Survey, “Value of Manufacturers’ Shipments for Industry Groups,” Monthly Full Report on Manufacturers’ Shipments, Inventories and Orders December 2025, February 23, 2026.

Note: Shipment data in 2022 taken from 2022 Economic Census at the NAICS 6-digit level. For 2023 to 2025, shipment data are estimated based on changes seen in a more aggregated sector of Power Transmission (33K).

⁶⁰⁹ NAICS Association, “NAICS Code Description,” March 30, 2026.

⁶¹⁰ Census, “ECN Core Statistics Summary Statistics,” December 2024.

⁶¹¹ Census, M3 Survey, Historical Data, February 19, 2026.

⁶¹² For 2022, employment data are from the 2022 Economic Census. For 2023 to 2025, employment data are estimated by multiplying employment from the 2022 Economic Census by annual changes in seasonally adjusted March employment numbers reported in the Current Employment Statistics (CES) database. CES data are generally available for broader categories of products than those covered in the analyses of this report. Census, 2022 Economic Census, Number of employees, NAICS 333612, December 2024; USDOL, BLS, CES database, seasonally adjusted employment, accessed March 4, 2026.

Imports make up a significant share of U.S. consumption of gears, speed changers, and drives. U.S. gears, speed changers, and drives imports rose from \$4.4 billion in 2022 to \$4.8 billion in 2025; import penetration has remained steady at slightly above 70 percent.⁶¹³ Imports from China accounted for a 16.6 percent share of imports in 2022 and declined each year following to a 9.7 percent share of imports in 2025. China, Mexico, and India are prominent sources for U.S. gears, speed changers, and drives.⁶¹⁴ Among other factors, the advantages of lower labor and compliance costs, along with easily automated production, have made these countries competitive in producing highly standardized gears used in many applications. Many of these non-U.S. producers have lower upfront costs for investments in automation through robotics and technological systems, which reduce per-unit costs and improve product quality.⁶¹⁵

Competitiveness

Price is the most important competitiveness factor for many products within this industry; quality and lead time tend to matter less.⁶¹⁶ Quality is similar between competitors, and all producers typically meet buyers' expectations and standards across the industry. Although lead time and customer service often matter more than quality, they are usually minor factors and rarely significant enough to outweigh price differences.⁶¹⁷

Imports from China have put price pressure on U.S. producers.⁶¹⁸ Industry representatives note that Chinese competitors have been able to lower their prices to keep delivered costs at relatively the same level despite section 301 tariffs imposed in 2018 through government subsidies.⁶¹⁹ These same industry representatives mention that U.S. companies had to increase prices as a result of higher intermediate input costs from tariffs imposed on imported intermediate inputs needed to manufacture these products.⁶²⁰

Some industry experts believe that the benefits of increased tariffs to U.S. producers will be muted. According to industry experts, if tariffs on China were increased, some manufacturers may divert production from China to other markets where labor, production, and intermediate input (e.g., steel and aluminum) costs are lower than the United States.⁶²¹ China's high level of automation, relatively low labor costs, and ability to produce at high volumes and efficiency remain a significant supply advantage

⁶¹³ Census, "Manufacturers' Shipments, Inventories, & Orders - Historical Data," February 19, 2026.

⁶¹⁴ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 16.

⁶¹⁵ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 10.

⁶¹⁶ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026; Global Newswire, "Automotive Gears Market Is Expected to Generate a Revenue," January 7, 2026.

⁶¹⁷ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶¹⁸ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 9; U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶¹⁹ U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶²⁰ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶²¹ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 10; U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

over U.S. producers.⁶²² Industry representatives expect that Chinese producers would remain competitive within the U.S. market, even with higher tariffs.⁶²³

U.S. producers lean on their advantages in factors other than price to be competitive.⁶²⁴ Industry representatives emphasize that they maintain advantages in customer service, lead times, and quality over foreign suppliers.⁶²⁵ Customer service and lead times tend to be bigger differentiators than quality.⁶²⁶ Production facilities in this industry are usually located near buyers and their supply chain to cut transportation costs, minimize lead times, and be able to respond promptly with repairs or assistance.⁶²⁷

Despite these advantages, U.S. producers face obstacles with high upfront capital costs, limited ability to scale production quickly, and competitive price pressure from China. Although U.S. gears, speed changers, and drives producers could add new domestic production, they are constrained by high upfront costs.⁶²⁸ Furthermore, some U.S. producers with global production indicate that, in response to additional U.S. tariffs levied in 2025, they may import products from other sources (e.g., Canada, India, Japan, Mexico) to supply the U.S. market instead of increasing their U.S. production capacity.⁶²⁹

Effects of China PNTR Status Revocation

The modeling analysis considers two alternative tariff scenarios for imports of gears, speed changers, and drives from China: first, an immediate increase in the tariff rate in year 1 from column 1 to column 2 rates for gears, speed changers, drives, and intermediate inputs to U.S. gear, speed changer, and drive production from China; second, a gradual phase in each year, with one-fifth of the total (gears, speed changers, and drives and intermediate inputs) tariff increase from the column 1 rates to column 2 rates each year. Both scenarios model a 0.98 percent increase in production costs due to tariffs on imported intermediate inputs, and a 30.8 percentage point increase in tariffs on imported gears, speed changers, and drives.

[Figure 4.18](#) reports the estimated value of U.S. domestic shipments, relative to 2024 baseline values, for gears, speed changers, and drives. U.S. shipments would increase under both scenarios. Under an

⁶²² U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026; Bajpai, “Why China Dominates Global Manufacturing,” February 28, 2026; Atkinson, “China Is Rapidly Becoming a Leading Innovator,” September 16, 2024.

⁶²³ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶²⁴ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶²⁵ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶²⁶ U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026; Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 16–19.

⁶²⁷ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 18.

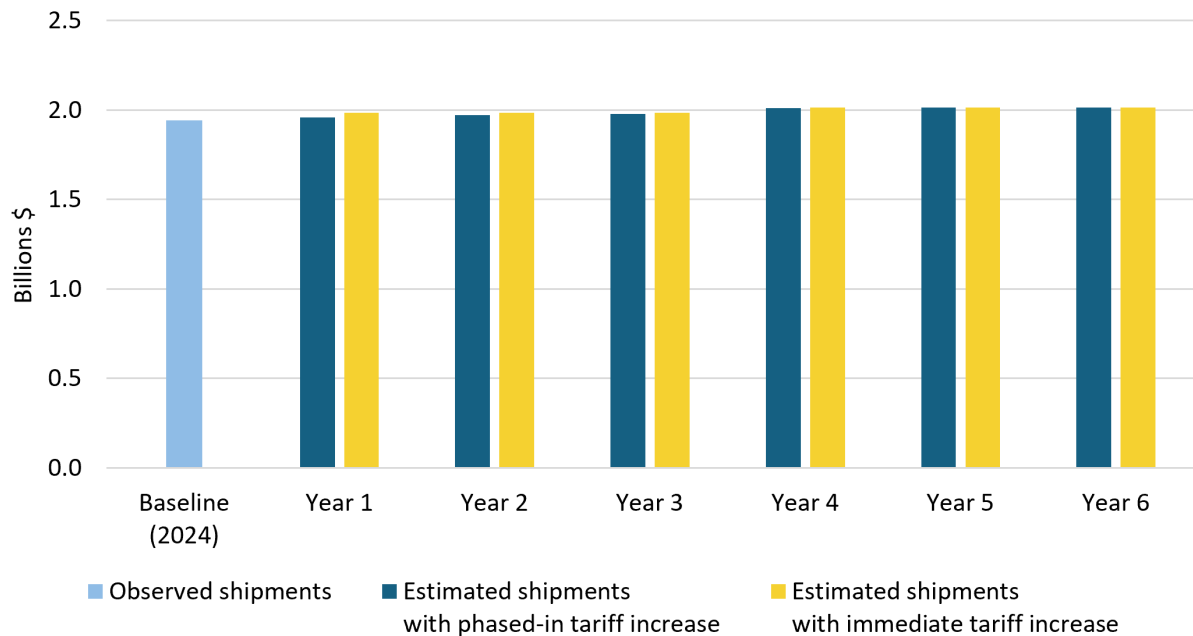
⁶²⁸ Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025, 10–11; Fagan, “State of the Gear Industry 2026,” March 4, 2026; U.S. industry representative, interview by USITC staff, March 20, 2026; U.S. industry representative, interview by USITC staff, March 23, 2026.

⁶²⁹ PressAdvantage, “National Gear Repair Inc. Addresses Critical Industrial Gear Manufacturing Needs,” February 4, 2026; Jozkowski, *Gear & Speed Changer Manufacturing in the US*, August 2025.

immediate full tariff increase, the expansion of U.S. production would occur in two steps, reflecting the industry’s estimated three-year time to build and implement new investments.⁶³⁰ In year 1, production would increase by \$42 million, followed by an increase in year 4 by another \$31 million. Under a phased-in tariff increase, the expansion in U.S. shipments would be more gradual, only increasing by \$18 million in year 1, and would not catch up to the immediate increase until year 5.

Figure 4.18 Estimated value of U.S. domestic shipments of gears, speed changers, and drives following permanent normal trade relations revocation

In billions of dollars. Underlying data for this figure can be found in appendix [table G.38](#).



Source: USITC estimates.

The model estimates significant trade diversion from China—U.S. imports from China would decline by \$427 million—to other non-U.S. sources, whose share of U.S. imports would increase by \$354 million. Imports would be promptly diverted under an immediate tariff increase, with almost all the shift from Chinese to other import sources occurring in year 1. Under a phased-in tariff, the shift from China to other import sources would be more gradual, with imports from China declining by \$132 million in year 1 and not reaching a \$427 million decline until year 5. This diversion of imports to other sources would account for most of the decline in U.S. imports from China and is consistent with industry representatives’ expectations of increased imports from other sources such as Canada, India, Japan, or Mexico.⁶³¹

[Figure 4.19](#) reports the estimated percentage changes in the industry average price in the U.S. market, relative to 2024 baseline values. Prices would increase under both scenarios. The immediate tariff increase would lead to a 1.6 percent increase and overshooting in prices in the first three years because

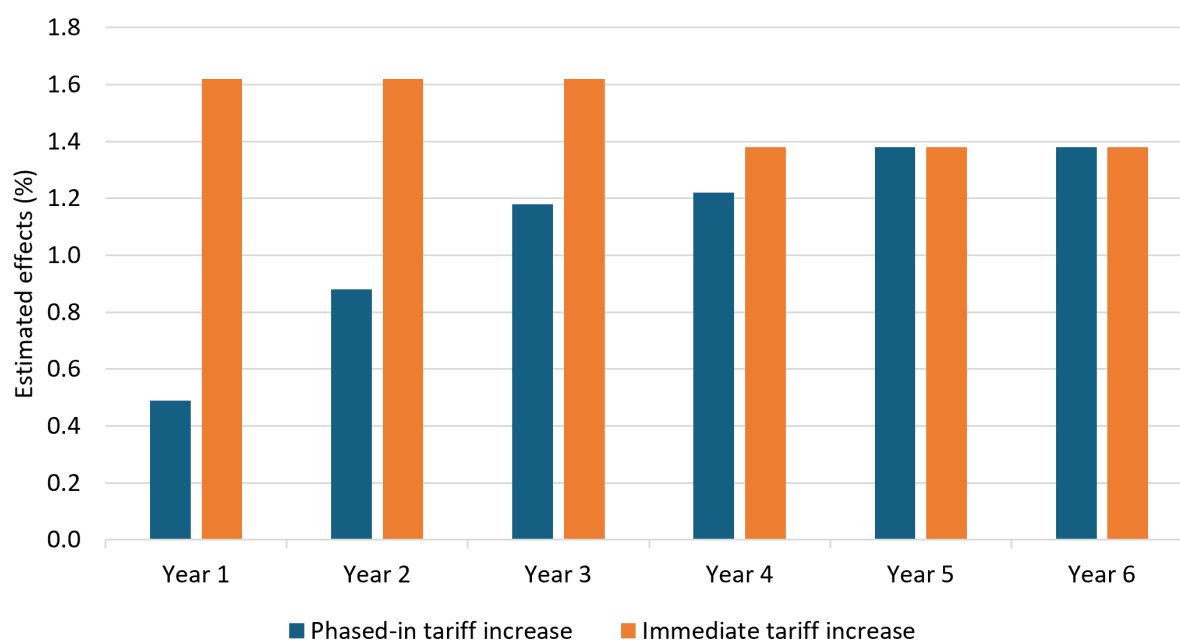
⁶³⁰ Orca Lean Digital Solutions, “How Long Would It Really Take?,” June 2, 2025.

⁶³¹ For full model estimates, including U.S. imports, see [appendix E](#), tables [E.21](#) through [E.24](#).

of the capital adjustment lag, which would be mostly absent if the tariff increase were phased in, and prices would increase 0.5 percent in year 1 to 1.4 percent in year 5.

Figure 4.19 Change in the average price of gears, speed changers, and drives in the U.S. market relative to 2024 baseline

In percentages. Underlying data for this figure can be found in appendix [table G.39](#).



Source: USITC estimates.

Additional Views of Chairman Brett W. Doyle and Commissioner Jason E. Kearns

The U.S. International Trade Commission's (Commission's) analysis of the impacts of revoking permanent normal trade relations (PNTR) treatment of all U.S. imports from China finds that, although some domestic industries would increase production and benefit from PNTR revocation as U.S. imports from China decline, the economy as a whole would be worse off as real gross domestic product (GDP) declines, with higher prices (e.g., almost a 1 percentage point increase in the inflation rate in the first year) driven by the higher cost of intermediate inputs.

However, in our view, the Commission's findings are limited in three ways:

- First, the study does not account for the harm that took place from originally granting PNTR. The effects of granting PNTR status in conjunction with other policies pursued by China continue to distort the U.S. manufacturing sector and affect U.S. economic prosperity today. Revoking PNTR, or a similar but more targeted, surgical approach, could help stop the harm that the granting of PNTR initially unleashed. Thus, reviewing the historical and ongoing impact of granting PNTR is relevant to this “prospective” analysis by demonstrating the costs of inaction.
- Second, the economy-wide costs of PNTR removal shown in this report are likely overstated because of certain features of the Commission's model and, as the report acknowledges, the substantial reorientation of trade away from China that has already taken place since the model's baseline year of 2023.
- Finally, a number of economic benefits of revoking PNTR with China have not been fully accounted for, including more reliable, resilient, and secure supply chains.

The Promises and Reality of PNTR with China

Even as elite consensus about the merits of trade liberalization grew in the late 1990s and 2000s, granting PNTR to China was a controversial decision. It was signed into law on October 10, 2000, and took effect when China joined the WTO in 2001 after a decisive 83 to 15 vote in U.S. Senate but a much closer 237 to 197 vote in the U.S. House of Representatives.⁶³² Within the bill, Congress expressed reservations about the difficulties faced by the U.S. government and U.S. businesses over the prior 10-

⁶³² To authorize extension of nondiscriminatory treatment (normal trade relations treatment) to the People's Republic of China, and to establish a framework for relations between the United States and the People's Republic of China, H.R. 4444, 106th Congress (2000). <https://www.congress.gov/bill/106th-congress/house-bill/4444/all-actions>.

year period in dealing with China.⁶³³ But PNTR's backers promised a host of benefits, including greater access to China's fast-growing market and economic liberalization of China, as well as progress on human rights and the rule of law.⁶³⁴ In expressing the view that the United States was giving up little to gain a lot, President Bill Clinton said at the time, "This is a hundred-to-nothing deal for America when it comes to the economic consequences."⁶³⁵ In that vein, the Office of the U.S. Trade Representative requested in 1999 a study from the Commission focusing solely on the effects of liberalization by China;

⁶³³ Normal Trade Relations for the People's Republic of China, Pub. L. No. 106-286, § 202, 114 Stat. 880, 892 (2000). The bill recognized that trade in goods between the two countries had grown approximately 428 percent from 1989 to 1999 and the goods trade deficit had grown more than 1,000 percent. It recognized that China "restricts imports through relatively high tariffs and non-tariff barriers, including import licensing, technology transfer, and local content requirements" and that businesses had complained about Chinese policies. It acknowledged that China's commitments in a bilateral deal in November 1999 "promise to eliminate or greatly reduce the principal barriers to trade and investment in China, if those commitments are effectively complied and enforced." It acknowledged that China's record in implementing trade-related commitments had been "mixed." It called the human rights record of China a "matter of very serious concern" and, quoting a U.S. Department of State report, noted the situation had recently "deteriorated."

⁶³⁴ President Clinton: "For trade with China will not only extend our nation's unprecedented economic growth, it offers us a chance to help to shape the future of the world's most populous nation, and to reaffirm our own global leadership for peace and prosperity...China will open its markets to American products from wheat to cars to consulting services, and our companies will be far more able to sell goods without moving factories or investments there. . . . Of course, opening trade with China will not, in and of itself, lead China to make all the choices we believe it should. But clearly, the more China opens its markets, the more it unleashes the power of economic freedom, the more likely it will be to more fully liberate the human potential of its people. As tariffs fall, competition will rise, speeding the demise of huge state enterprises. Private firms will take their place, and reduce the role of government in people's daily lives. Open markets will accelerate the information revolution in China, giving more people more access to more sources of knowledge. That will strengthen those in China who fight for decent labor standards, a cleaner environment, human rights and the rule of law..." White House, "Remarks on Signing PNTR with China," October 10, 2000, https://clintonwhitehouse4.archives.gov/textonly/library/hot_releases/October_10_2000_6.html. See also WTO Director-General Michael Moore in a May 2000 speech: "The benefits for China are clear. Opening its markets to foreign trade and investment will make it richer. Committing itself to WTO rules will entrench market-based reform and strengthen the rule of law. It will also give Beijing a seat at the WTO table and a stake in the world trading system, bolstering progressive forces in China." Michael Moore, "The WTO and the New Economy," May 22, 2000, https://www.wto.org/english/news_e/spmm_e/spmm31_e.htm. The notion that human rights and international peace almost automatically follow from trade liberalization was encapsulated in the following quote by Thomas Friedman: "No two countries that both had McDonald's had fought a war against each other since each got its McDonald's." Thomas Friedman, *The Lexus and the Olive Tree: Understanding Globalization* (1999), 195.

⁶³⁵ William J. Clinton, The President's News Conference, March 29, 2000, <https://www.presidency.ucsb.edu/documents/the-presidents-news-conference-1062>.

the assessment projected positive U.S. economic impacts.⁶³⁶ Other economic studies also contributed to the positive perception of granting PNTR to China.⁶³⁷

Had they known then what they know now about the results of granting PNTR and China's WTO accession—or believed what skeptics said at the time—U.S. policymakers likely would not have made the same decision.⁶³⁸ As PNTR provided certainty about the continuation of NTR tariff rates on U.S. imports from China, it unleashed a wave of offshoring of U.S. production.⁶³⁹ American companies seized upon the opportunity to shift their supply chains to take advantage of the lower labor costs, aided by the repression of Chinese workers, and weaker environmental regulations, advantages that China still provides today, as discussed in some of the case studies in this report.⁶⁴⁰ This unlocked a period of massive export-led growth of China's economy, aided by state support, forced technology transfer, and

⁶³⁶ U.S. International Trade Commission (USITC), *Assessment of the Economic Effects on the United States of China's Accession to the WTO*, August 1999, tables ES-4 and ES-5, https://www.usitc.gov/publications/701_731/pub3228.pdf. The analysis predicted a small, positive effect on U.S. GDP and improvement of the overall U.S. trade balance, using a computable general equilibrium (CGE) model. The scope as requested by the U.S. Trade Representative (USTR) focused only on the economic effects of China's removal of its own trade barriers. What wasn't modeled was "permanent" lower duties on U.S. imports from China. However, as explained further below, had the USITC also assessed the impact of providing certainty on tariff rates on U.S. imports from China, it would likely have shown even greater positive effects.

⁶³⁷ See, e.g., Daniel Rosen, "China and the World Trade Organization: An Economic Balance Sheet," Peterson Institute, June 1999, <https://www.piie.com/publications/policy-briefs/china-and-world-trade-organization-economic-balance-sheet>. ("The United States will achieve substantial economic and political benefits from Chinese entry to the WTO.")

⁶³⁸ As Commissioner Kearns noted in his response to the Commission's 232/301 report, the concerns about China expressed in the original PNTR law grew louder after passage, and the turning point was as far back as 2005. Robert B. Zoellick, Deputy Secretary of State, "Remarks to National Committee on U.S.-China Relations," New York City, Sept. 21, 2005, <https://2001-2009.state.gov/s/d/former/zoellick/rem/53682.htm>.

See, "Additional Views of Commissioner Jason E. Kearns," in USITC, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries*, March 2023, 173, <https://www.usitc.gov/publications/332/pub5405.pdf>.

⁶³⁹ Kyle Handley and Nuno Limão, "Policy Uncertainty, Trade, and Welfare: Theory and Evidence for China and the United States," *American Economic Review* 107, no. 9 (2017): 2731–83, <https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.20141419> (providing evidence that the reduction in policy uncertainty was a key factor in the effects of China's WTO accession on the U.S. economy). See also USITC, *U.S.-Mexico-Canada Trade Agreement: Likely Impact on the U.S. Economy and Specific Industry Sectors*, April 2019, [Table 2.6, https://www.usitc.gov/publications/332/pub4889.pdf](https://www.usitc.gov/publications/332/pub4889.pdf) (illustrating the importance of policy certainty, the Commission would have found net economic losses to the United States from the United States-Mexico-Canada Agreement but for the policy certainty that the analysis says was provided by the digital provisions). Justin Pierce and Peter Schott, "The Surprisingly Swift Decline of U.S. Manufacturing Employment," *American Economic Review* 106, no. 7 (July 2016): 1632–1662, <https://www.aeaweb.org/articles?id=10.1257/aer.20131578> (showing that granting PNTR to China was a factor in U.S. firms shifting all or part of their operations offshore).

⁶⁴⁰ See, e.g., [chapter 3](#) of the report covering the most affected industries (stating that, according to U.S. industry representatives, China's cost advantages in the machine tools and power tools sector derive at least in part from less stringent regulatory and safety standards).

currency manipulation.⁶⁴¹ U.S.-headquartered multinational companies benefited, producing in China and importing into the United States.⁶⁴²

The recent “China Shock” story is now familiar: The loss of good jobs in the United States—mainly manufacturing jobs with middle-class wages—has been severe,⁶⁴³ with negative effects on communities around the country, deaths of despair,⁶⁴⁴ and a direct line to our current political polarization.⁶⁴⁵ Trade policy of the early 2000s ushered in an era of large and persistent global imbalances that continue to this day,⁶⁴⁶ causing harm that was more broad-based in the United States than one may think, rather than concentrated in certain pockets.⁶⁴⁷ The offshoring of entire supply chains has created dependence that hurt resilience⁶⁴⁸ and, as the industrial commons shrunk, innovation slowed.⁶⁴⁹

This harm done to American producers and workers by PNTR for China was not inevitable. For one thing, the U.S. government failed to use the tools it had at its disposal. For example, the President refused several times to grant relief to domestic producers under the temporary China-specific safeguard, even

⁶⁴¹ See, e.g., Robert Lighthizer, *No Trade is Free: Changing Course, Taking on China, and Helping America’s Workers*, 2023, 111–38 (discussing China’s mercantilist practices).

⁶⁴² According to USITC staff research, based on data from the U.S. Bureau of Economic Analysis, Chinese affiliates of U.S.-based multinationals employed 1.7 million workers in China by 2014, which would have represented only some portion of the workers employed in all firms supplying these affiliates. Alexander Hammer, “The Size and Composition of U.S. Manufacturing,” USITC Executive Briefings on Trade, June 2017, https://www.usitc.gov/publications/332/executive_briefings/sizecompositionebot.pdf.

⁶⁴³ See, e.g., David Autor, David Dorn, and Gordon H. Hanson, “The China Syndrome: Local Labor Market Effects of Import Competition in the United States,” *American Economic Review* 103, no. 6 (2013): 2121–68, <https://www.aeaweb.org/articles?id=10.1257/aer.103.6.2121>.

⁶⁴⁴ Justin Pierce and Peter Schott, “Trade Liberalization and Mortality: Evidence from U.S. Counties,” *American Economic Review: Insights* 2, no. 1 (March 2020): 47–64, <https://www.aeaweb.org/articles?id=10.1257/aeri.20180396>. See also Anne Case and Angus Deaton, *Deaths of Despair and the Future of Capitalism*, 2020.

⁶⁴⁵ David Autor et al., “Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure,” *American Economic Review* 110, no. 10 (2020): 3139–3183, <https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.20170011>.

⁶⁴⁶ See, Matthew Klein and Michael Pettis, *Trade Wars Are Class Wars: How Rising Inequality Distorts the Global Economy and Threatens International Peace*, 2020.

⁶⁴⁷ Josh Bivens, “Adding Insult to Injury: How Bad Policy Decisions Have Amplified Globalization’s Costs for American Workers,” Economic Policy Institute, June 2017, <https://www.epi.org/publication/adding-insult-to-injury-how-bad-policy-decisions-have-amplified-globalizations-costs-for-american-workers/> (arguing that harm to U.S. workers from U.S. trade policy has been broad-based, not concentrated).

⁶⁴⁸ See, e.g., USITC, *COVID-19 Related Goods: The U.S. Industry, Market, Trade, and Supply Chain Challenges*, December 2020, 22–24, <https://www.usitc.gov/publications/332/pub5145.pdf> (noting the various factors inhibiting the domestic production ramp-up of COVID-19 related goods like ventilators in 2020).

⁶⁴⁹ See, Gary Pisano and Willy Shih, “Restoring American Competitiveness,” *Harvard Business Review*, 2009, <https://hbr.org/2009/07/restoring-american-competitiveness> (explaining that outsourcing of manufacturing diminished the ability of the United States to create new high-tech products). Many of these same outcomes of U.S. trade policy were highlighted in a recent article in the International Monetary Fund’s *Finance and Development* magazine by U.S. Trade Representative Jamieson Greer. Jamieson Greer, “Economics for the Real Economy,” *IMF F&D Magazine*, June 2026, <https://www.imf.org/en/publications/fandd/issues/2026/06/straight-talk-economics-for-the-real-economy>.

after the Commission recommended taking action before the tool expired in 2013.⁶⁵⁰ Other World Trade Organization (WTO) rules were not enforced.⁶⁵¹ As law professor Mark Wu noted in 2016, China's behavior presented unique challenges that had never been anticipated by WTO rule makers; namely, that WTO members would so flagrantly disregard market-based principles.⁶⁵²

The situation described above demonstrates the costs of maintaining the status quo, a situation that has led to growing calls to revoke PNTR to regain the leverage the United States lost over China when PNTR

⁶⁵⁰ Trade Act of 1974, 19 U.S.C. § 2451. This product-specific mechanism gave the President the authority to impose restrictions on Chinese imports after an affirmative determination by the Commission of market disruption to domestic producers as a result of those imports. The Commission ruled affirmatively in favor of the domestic industry in five cases. Of these, President Bush denied relief in four cases during 2002–2005, and President Obama imposed a remedy in one case on passenger vehicle and light truck tires in 2009. See Congressional Research Service, *Chinese Tire Imports: Section 421 Safeguards and the World Trade Organization (WTO)*, August 2012, <https://www.everycrsreport.com/reports/R40844.html>. In addition, the United States refused to address currency manipulation, by applying and enforcing a U.S. law, although the United States recognized this issue before granting PNTR to China. China was labeled a currency manipulator in 1992 and 1994, and then not again until 2019. U.S. Government Accountability Office, *Treasury Assessments Have Not Found Currency Manipulation, But Concerns about Exchange Rates Continue*, April 2005, <https://www.gao.gov/assets/gao-05-351.pdf>. U.S. Department of the Treasury, *Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the United States*, May 2019, <https://home.treasury.gov/system/files/206/2019-05-28-May-2019-FX-Report.pdf>. As Brad Setser and Shahin Vallée wrote in a recent *Foreign Affairs* article, “China has a long history of using its central bank to intervene in the foreign exchange market and to manage capital flows so that its currency does not appreciate. In 2025, China resumed foreign currency purchases that keep the renminbi’s value artificially low.” Brad Setser and Shahin Vallée, “The Real Problem with Global Trade,” *Foreign Affairs*, June 11, 2026, <https://www.foreignaffairs.com/china/real-problem-global-trade>.

⁶⁵¹ See, e.g., USTR, *2003 Report to Congress on China’s WTO Compliance*, December 11, 2003, https://ustr.gov/archive/assets/Document_Library/Reports_Publications/2003/asset_upload_file425_4313.pdf (noting concerns in China’s compliance with WTO commitments in areas such as intellectual property rights); U.S.-China Economic and Security Review Commission, *2004 Report to Congress*, June 2004, 61-75, https://www.uscc.gov/sites/default/files/annual_reports/2004-Report-to-Congress.pdf (noting that United States and other WTO members allowed the marginalization of the Transitional Review Mechanism to monitor China’s compliance); USTR, *U.S.-China Trade Relations: Entering a New Phase of Greater Accountability and Enforcement*, February 2006, <https://ustr.gov/sites/default/files/Top-to-Bottom%20Review%20FINAL.pdf> (in which, as part an interagency “top-to-bottom” review of China trade policy, USTR commits to expanding enforcement capacity to better ensure China’s compliance with trade obligations); U.S. Government Accountability Office, *U.S.-China Trade: USTR’s China Compliance Reports and Plans Could Be Improved*, April 2008, <https://www.gao.gov/assets/gao-08-405.pdf> (finding that USTR’s annual reports on China’s trade compliance still lack the information necessary for proper monitoring and enforcement).

⁶⁵² Mark Wu, “The ‘China, Inc.’ Challenge to Global Trade Governance,” *Harvard International Law Journal* 57, no. 2 (Spring 2016): 261–324, 287, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2779781. (“The China, Inc. challenge does not arise from the fact that the Chinese economic structure differs from market capitalism in its purest form. WTO rules, after all, accept different systems. Instead, the challenge stems from the fact that *China, Inc.* {emphasis added} does not conform to any of the alternative economic forms envisioned under WTO rules.”). See also USTR, *2018 Report to Congress On China’s WTO Compliance*, February 2019, 5, <https://ustr.gov/sites/default/files/2018-USTR-Report-to-Congress-on-China%27s-WTO-Compliance.pdf> (“Indeed, it seems increasingly clear that China’s actions have done severe harm to other WTO members and the multilateral trading system, which was never designed to deal with a non-market economy of China’s size.”).

was passed and to become less reliant on U.S. imports from the country.⁶⁵³ Extreme dependence on China in the U.S. defense industrial base has increasingly been recognized as a major national security threat,⁶⁵⁴ whereas in the past such concerns were peremptorily dismissed as “protectionism.” Policymakers of all stripes now focus on economic security, a far cry from the policy dialogue of the early 2000s, or even the mid-2010s.⁶⁵⁵ Revoking PNTR is only one of many options for policymakers to consider, but we believe the costs of PNTR removal for China in this study are likely overestimated.

The Costs of Revoking PNTR with China

The Commission’s study found costs of PNTR removal for China that are not insignificant. In the first year, consumer prices would rise almost 1 percentage point, while almost one-half of 1 percentage point is shaved off real GDP growth, complicating macroeconomic policy in the first year. Specifically, the model results show that the new tariffs on U.S. imports from China raise consumer prices a total of 1.0 percent in the first six years, nearly all of which would happen in the very first year, when consumer prices rise 0.8 percent. Meanwhile, real output declines by 0.4 percent in the first year and 0.2 percent in the long run.⁶⁵⁶

To arrive at these results, Commission staff adapt for use in this investigation a general equilibrium gravity model with a number of assumptions and simplifications necessary to conduct the modeling exercise.⁶⁵⁷ One of the more important simplifications in the model is the lack of an explicit investment channel. This largely eliminates the possibility of so-called “tariff-jumping” investments that would reshore some production if tariff rates were to reach a level at which importing into the United States becomes, or is anticipated to be, cost-prohibitive. These investments would be particularly likely to occur when there is certainty about tariff rates, as would be the case under the revocation of PNTR. In specifying a six-year time horizon, the request by the U.S. House of Representatives Committee on

⁶⁵³ See, e.g., Restoring Trade Fairness Act, H.R. 694, 119th Congress. 2025; Neither Permanent Nor Normal Trade Relations Act, S. 5264, 118th Congress, 2024.

⁶⁵⁴ See, e.g., U.S. Government Accountability Office, *Defense Industrial Base: Actions Needed to Address Risks Posed by Dependence on Foreign Suppliers*, July 2025, <https://www.gao.gov/products/gao-25-107283>.

⁶⁵⁵ See, e.g., Justin Muzinich, Gina Raimondo, James Taiclet, Jonathan Hillman, and Anya Schmemmann, “U.S. Economic Security: Winning the Race for Tomorrow’s Technologies,” Council on Foreign Relations, November 2025, <https://www.cfr.org/task-force-reports/us-economic-security>.

⁶⁵⁶ This paragraph uses changes in real output (total nominal shipments deflated by producer prices) and changes in real GDP (total nominal shipments deflated by consumer prices) interchangeably given that changes in producer and consumer prices track each other. See [chapter 2](#) of the report covering economy-wide modeling results.

⁶⁵⁷ The Commission’s model contains no financial market (hence, no exchange rates) or government sector (hence, no tariff revenue), partial labor market features (wages are reported but the model assumes full employment and full labor mobility), and no specific input-output linkages between upstream and downstream industries. The model assumes perfect competition (i.e., higher production costs automatically translate into higher prices although not in a 1:1 fashion), fixed labor supply, no explicit investment channel, fixed trade balances as a share of GDP, and no endogenous changes to the production process (no capital-labor substitution). Several of these dimensions serve to overestimate the costs of PNTR revocation and are explored in this section. Of the assumptions mentioned, only the assumption of labor mobility (i.e., no labor market frictions) clearly *underestimates* the costs of the PNTR revocation because it allows output in a sector to immediately increase as higher wages attract labor from other sectors. At the same time, this assumes that labor must always move across sectors rather than draw from existing unemployed or underemployed workers in a sector.

Appropriations clearly contemplated a long enough period for new investments to be made in response to the tariffs.⁶⁵⁸ By expanding producer capacity, these investments would bring down prices at a rate faster than shown in the model.

In the Commission’s model, tariffs on imports are allowed to stimulate domestic production in an industry based on a linear approximation of how tariffs have done so between the years 2000 and 2023 that are covered by the dataset.⁶⁵⁹ This is an empirical exercise based on actual historical data that deserves to be commended.⁶⁶⁰ However, the level of investment that might ensue from the Column 2 tariff shock would not have necessarily taken place at relatively lower tariff levels in the historical data over those years, particularly when there was limited certainty about any new tariffs imposed.

There are other reasons that the short-term price increase in the model results might be overestimated. There is limited ability for firms in the model to substitute capital for labor when demand for labor rises, which causes production costs to increase more than they should as wages rise. Because perfect competition is assumed, higher intermediate input and labor costs automatically get passed along as increases in producer prices.⁶⁶¹ Because it does not differentiate between importers and consumers in the supply chain of the importing country, the model cannot reflect the impacts of business-to-business contracting and other nuances that often result in importers absorbing some, if not all, additional tariff costs, as we saw happen to a substantial degree with the additional tariffs in 2025.⁶⁶²

The other main methodological issue pertains squarely to the time period of analysis and whether phase-in of the tariffs is fully contemplated as requested. First, model simulations are compared against a baseline year of 2023. As the report acknowledges generally and for certain sectors, a major shift in U.S. imports away from China has already happened since that time,⁶⁶³ and this has been driven at least in part by tariffs on imports from China that are already higher than the NTR rate. For all sectors combined, in just two years, China’s share of U.S. imports has dropped 5 percentage points, from 14

⁶⁵⁸ This limitation of the economy-wide modeling is illustrated to some degree by partial equilibrium modeling of national security products, modeling that includes investment that can raise capital stock and production possibilities over time. See [appendix E](#) of the report.

⁶⁵⁹ See [appendix D](#) of the report.

⁶⁶⁰ This exercise is more empirical—and so, better in this respect—than many past economy-wide models such as those using CGE models because it econometrically estimates the trade elasticities (i.e., responsiveness to higher tariffs) based on historical data through 2023.

⁶⁶¹ These cost increases are passed to producer prices in proportion to the producing country’s “use-shares” of intermediate inputs and labor. See [appendix D](#) of the report.

⁶⁶² See, e.g., Alberto Cavallo, Paola Llamas, and Franco Vazquez, “Tracking the Short-Run Price Impact of U.S. Tariffs,” Harvard Business School Working Paper, January 2026, https://www.pricinglab.org/files/TrackingTariffs_Cavallo_Llamas_Vazquez.pdf (using high-frequency retail microdata, the authors find pass-through of the 2025 tariffs from importers to retailers only reached 24 percent by October 2025).

⁶⁶³ For example, at the industry level, as noted in the [chapter 4](#) case study on electronic computers, China’s share of U.S. imports in the industry has declined from 50.8 percent in 2022 to 4.7 percent in 2025.

percent of U.S. imports in 2023 to 9 percent in 2025.⁶⁶⁴ As a result, an analysis of the impact of moving from Column 1 (NTR) to Column 2, based on 2023 data, overestimates the impact of revoking PNTR.⁶⁶⁵

Short-term price shocks can also be reduced by phasing in tariffs. In the report, a five-year phase-in of Column 2 tariffs is presented at the industry level using several distinct partial equilibrium models. As the report notes, these models show that in all NSP sectors a tariff phase-in brings down the price impact to less than half of what is modeled without a phase-in, while allowing domestic production to reach the same level by the sixth year.⁶⁶⁶ Such a phase-in approach could be considered not only for national security products but for all sectors with high Chinese import penetration, and this would dampen the immediate economy-wide price impact.

The Benefits of Revoking PNTR with China

Aside from whether costs of PNTR revocation are overestimated by the Commission's analysis, and we believe they are overall, the economic benefits of more resilient supply chains, rebuilding of the U.S. manufacturing base, and tariff revenue are either not accounted for or underemphasized in the Commission's study.

- **More resilient supply chains.** To the extent that reorienting sourcing away from China is a policy goal, the model shows that this can be greatly aided by PNTR removal. The Commission's model shows that U.S. imports from China decrease by 31 percent by the sixth year and 74 percent in the long run.⁶⁶⁷ As noted in many of the report's case studies, U.S. imports that shift to other partners may continue to include substantial Chinese content, but there is some combination of reshoring and friendshoring that will occur and, from the perspective of supply chain resilience, would likely be viewed by most policymakers as a win, especially in strategic sectors.
- **Rebuilding the U.S. manufacturing sector.** Despite this trade diversion to other partners, an underemphasized point in the Commission's report is the projected long-run gains for the sector that suffered the most from granting PNTR to China: the U.S. manufacturing sector, which is projected to experience a real output gain over the long run (i.e., at some point after six years) of 0.1 percent.⁶⁶⁸ Assuming costs in the model are overestimated, as explained above, this figure could be higher. This means revoking PNTR with China would give U.S. workers and producers more room to compete.
- **Tariff revenue.** As mentioned, rising costs of intermediate inputs is the key driver of negative economy-wide outcomes in the Commission's model. There is no welfare analysis, however, so there is no measurement of how much tariff revenue would be generated that could be used, until trade flows shift away from China, to help downstream producers. Tariff revenue in 2025 on

⁶⁶⁴ See [chapter 1](#) of the report.

⁶⁶⁵ Revoking PNTR would either replace the existing additional tariffs on China if "de-stacking" rules apply or would add to existing tariffs that apply at that time.

⁶⁶⁶ See [appendix tables E.2 to E.25](#). For example, the price increase for batteries in Year 1 compared to the baseline year is 7.4 percent without the tariff phase-in but only 2.1 percent with the tariff phase-in. The increase in domestic shipments reaches 19.5 percent by Year 4 without the phase-in and reaches the same level in Year 5 with the phase-in. Appendix tables E.2 and E.3.

⁶⁶⁷ See [chapter 2](#) of the report covering economy-wide modeling results.

⁶⁶⁸ See [chapter 2](#) of the report covering economy-wide modeling results.

Chinese imports alone was nearly \$100 billion, meaning a substantial sum could be generated from PNTR revocation and used for this purpose.⁶⁶⁹

The Role of Tariffs and Analyzing Their Effects

The last two-plus decades since PNTR for China passed have shown that an intense focus on short-term prices and immediate access to cheap imports obscures the costs to U.S. producers and workers and reduces our ability to strategically foster domestic industries that provide long-term economic security. It is in this arena of competing priorities between the short- and long-term and between producers and consumers that trade policy decisions are made in the context of U.S. economic and national security goals.

As such, this study provides an opportunity to think not only about PNTR removal but how economic analysis can potentially inform the trade policy debate. Commission models have historically been designed to capture only the long-term efficiency gains of trade liberalization.⁶⁷⁰ Although there are some improvements in the Commission's study over the traditional static computable general equilibrium methodology, as we explain above, this model does not appear to stray far from the same late 20th-century approach that we believe categorically overstates the benefits of trade liberalization, while underestimating its costs, and does this in reverse with new trade barriers like tariffs, overestimating the costs and understating the benefits. We look forward to further discussion and debate over the appropriate tools for economic analysis.

⁶⁶⁹ U.S. International Trade Commission Interactive Tariff and Trade DataWeb (USITC DataWeb)/U.S. Census Bureau (Census), accessed July 20, 2026. <https://dataweb.usitc.gov/>. Commissioner Kearns notes that among other uses, a critical feature of tariffs is that the revenue generated can be redistributed to downstream producers hurt by tariffs on their inputs, just as tax revenue can be used in numerous ways. See, e.g., USITC, "Statement of Commissioner Jason E. Kearns on Remedy Recommendations in the Global Safeguard Investment Quartz Surface Products, Inv. No. TA-201-79," May 5, 2026, https://www.usitc.gov/press_room/documents/quartz_surface_products_commissioner_statements-05052026.pdf.

⁶⁷⁰ See "Additional Views of Commission Jason E. Kearns," in USITC, *Economic Impact of Trade Agreements Implemented under Trade Authorities Procedures, 2021*, June 2021, 219-220 (criticizing the Commission's economy-wide modeling approach for assuming full employment and no labor frictions). <https://www.usitc.gov/publications/332/pub5199.pdf>.

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Appendix A: Text of H.R. Rep. No. 119–272

EQUAL EMPLOYMENT OPPORTUNITY COMMISSION

SALARIES AND EXPENSES

The Committee recommends \$435,382,000 for the Equal Employment Opportunity Commission (EEOC), which is \$19,618,000 below fiscal year 2025 and equal to the OMB Budget request.

Compliance with Federal Law.—The Committee reminds the EEOC that all decisions rendered by the Commission must be bound by Federal law, Supreme Court precedent, and adhere to precedent established by relevant Federal District and Circuit Court of Appeals.

INTERNATIONAL TRADE COMMISSION

SALARIES AND EXPENSES

The recommendation includes \$134,000,000 for the International Trade Commission (ITC), which is \$12,000,000 above fiscal year 2025 and equal to the OMB Budget request.

Section 337 Investigations.—Under Section 337 of the Tariff Act of 1930, the ITC must consider the impact on the public interest before issuing any remedial order. The Committee directs ITC to provide a report to the Committee, no later than 120 days after the enactment of this Act, outlining the ways in which ITC develops its factual record on which a public interest determination is predicated. Further, the Committee is concerned that the parties appearing in Section 337 investigations may not be the only persons or entities with a beneficial interest in such investigations. The Committee urges the ITC to promptly implement measures to ensure disclosure of any persons and entities with a beneficial interest in each Section 337 investigation, including the identity, business address and, if a legal entity, place of formation of any person or legal entity that provides funding for some or all of the fees or expenses of any Section 337 investigation.

Trade Enforcement Analysis.—The Committee directs the ITC to complete, no later than 180 days after the enactment of this Act, an investigation and prospective economic analysis of revoking permanent normal trade relations (PNTR) treatment of all products of the PRC on the U.S. economy, U.S. industry, and product sourcing over a six-year period. The ITC is further directed to provide this report to the Committee within 30 days of completion. The report should include the results of the ITC's investigation and analysis including detailed information, to the extent practicable, on U.S. trade, production, and prices in the industries that would be directly and most affected by the imposition of rates of duty in Column 2 of the Harmonized Tariff Schedule (19 U.S.C. 1202) on products from China. The report should also examine an alternative scenario where Congress revokes PNTR with a five-year phase-in of tariffs on a subset of national security products.

LEGAL SERVICES CORPORATION

PAYMENT TO THE LEGAL SERVICES CORPORATION

The Committee recommends \$300,000,000 for the Legal Services Corporation (LSC), which is \$260,000,000 below fiscal year 2025 and \$279,000,000 above the OMB Budget request.

Appendix B: *Federal Register* Notice



10130

Federal Register / Vol. 91, No. 40 / Monday, March 2, 2026 / Notices

U.S.C. 3003, and the implementing regulations, 43 CFR 10.10.

Dated: February 20, 2026.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2026-04038 Filed 2-27-26; 8:45 am]

BILLING CODE 4312-52-P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 332-609]

Effects on the U.S. Economy of Revoking China's Permanent Normal Trade Relations Status

AGENCY: United States International Trade Commission.

ACTION: Notice of investigation.

SUMMARY: The U.S. International Trade Commission has self-instituted Investigation No. 332-609, *Effects on the U.S. Economy of Revoking China's Permanent Normal Trade Relations Status*, to produce a report as directed by the U.S. House of Representatives Committee on Appropriations analyzing revocation of permanent normal trade relations treatment for all products of China.

DATES:

April 13, 2026: Deadline for filing all written submissions.

August 21, 2026: Anticipated date for publication of the report.

ADDRESSES: All Commission offices, including the Commission's hearing rooms, are located in the U.S. International Trade Commission Building, 500 E Street SW, Washington, DC. All written submissions should be addressed to the Secretary, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>.

FOR FURTHER INFORMATION CONTACT:

Project Leader Tamara Gurevich (202-205-3404 or Tamara.Gurevich@usitc.gov) or Deputy Project Leaders Theron Gray (202-205-3132 or Theron.Gray@usitc.gov) and Tyler Berard (202-205-3354 or Tyler.Berard@usitc.gov) for information specific to this investigation. For information on the legal aspects of this investigation, contact Brian Allen (202-205-3034 or Brian.Allen@usitc.gov) of the Commission's Office of the General Counsel. The media should contact Claire Huber, Office of External Relations (202-205-1819 or Claire.Huber@usitc.gov). Hearing-

impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-205-1810. General information concerning the Commission may be obtained by accessing its internet address (<https://www.usitc.gov>). Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

SUPPLEMENTARY INFORMATION:

Background: The Commerce, Justice, Science; Energy and Water Development; and Interior and Environment Appropriations Act, 2026 (the Act), signed by the President on January 23, 2026, provides funding for the Commission for fiscal year 2026. Public Law 119-74. A report of the House of Representatives Committee on Appropriations (Committee) accompanying the Act contains language directing the Commission to conduct an investigation and prospective economic analysis of revoking permanent normal trade relations (PNTR) treatment for all products of China on the U.S. economy, U.S. industry, and product sourcing over a six-year period. The Committee in its report states that the Commission report in this investigation (1) should include detailed information, to the extent practicable, on U.S. trade, production, and prices in the industries that would be directly and most affected by the imposition of rates of duty in column 2 of the Harmonized Tariff Schedule of the United States on products of China; (2) should examine an alternative scenario in which Congress revokes PNTR treatment, with a five-year phase-in of tariffs, on a subset of national security products from China; and (3) should be transmitted to the House of Representatives and Senate Committees on Appropriations within 210 days of the Act's enactment. Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2026, H.R. Rep. No. 119-272, at 109 (2025); 172 Cong. Rec. H255 (daily ed. Jan. 8, 2026).

The Commission is self-instituting this investigation under section 332(b) of the Tariff Act of 1930 (19 U.S.C. 1332(b)) to produce a report containing information and analysis as detailed above and will publish its report no later than August 21, 2026.

Written submissions: The Commission does not plan to hold a public hearing in connection with the preparation of this report. Interested persons are invited to file written submissions and other information concerning the

matters to be addressed in this investigation. All written submissions should be addressed to the Secretary, and should be received no later than 5:15 p.m., April 13, 2026. All written submissions must conform to the provisions of section 201.8 of the Commission's *Rules of Practice and Procedure* (19 CFR 201.8). Filings must be made through the Commission's Electronic Document Information System (EDIS, <https://edis.usitc.gov>). Persons with questions regarding electronic filing should contact the Office of the Secretary, Docket Services Division (202-205-1802), email EDIS3help@usitc.gov, or consult the Commission's *Handbook on Filing Procedures*.

Confidential business information:

Any submissions that contain confidential business information (CBI) must also conform with the requirements in section 201.6 of the Commission's *Rules of Practice and Procedure* (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the "confidential" or "nonconfidential" version, and that the CBI is clearly identified by means of brackets. All written submissions, except for CBI, will be made available for inspection by interested persons.

The Commission will not include any CBI in its report. However, all information, including CBI, submitted in this investigation may be disclosed to and used: (i) by the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits, reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract personnel for cybersecurity or other security purposes. The Commission will not otherwise disclose any CBI in a manner that would reveal the operations of the firm supplying the information.

Summaries of views of interested persons: Interested persons wishing to have a summary of their views included in the report should include a summary with a written submission on or before April 13, 2026, and should mark the summary as having been provided for that purpose. The summary should be clearly marked as "summary for inclusion in the report" at the top of the page. The summary may not exceed 500 words and should not include any CBI. The summary will be published as provided if it meets these requirements

Appendix C: Summaries of Views of Interested Persons

Interested persons had the opportunity to file written submissions to the U.S. International Trade Commission (Commission) in the course of this investigation and to provide summaries of the positions they had expressed for inclusion in this report. This appendix contains these written summaries, provided that they meet certain requirements set out in the notice of investigation (see [appendix B](#)). The Commission has not edited these summaries. This appendix also contains the names of interested persons who filed written submissions during this investigation but did not provide written summaries. A copy of each written submission is available on the Commission's Electronic Document Information System (EDIS), at <https://www.edis.usitc.gov>, by searching for submissions related to Inv. No. 332-609.

Summaries Included with Written Submissions

American Compass

The United States has become unacceptably dependent on China for strategically critical goods and inputs, even as the Chinese Communist Party has proven willing to weaponize control of critical supply chains. The need for critical supply-chain independence is the most urgent motivation for increased congressional interest in revoking China's PNTR.

As American Compass's 2024 paper "Disfavored Nation: A Guide to Rescinding Permanent Normal Trade Relations with China" demonstrates, a new China-specific tariff regime is better suited to this goal than applying Column 2 rates. Congressional direction to consider "an alternative scenario where Congress revokes PNTR with a five-year phase-in of tariffs on a subset of national security products" reflects both serious congressional proposals (e.g. the Neither Permanent Nor Normal Trade Relations Act, introduced in the 118th Congress by Senators Tom Cotton, Josh Hawley, and Marco Rubio, which would revoke China's PNTR and apply a 35% minimum tariff rate on all Chinese goods, with a 100% rate on specified strategic goods), and also American Compass's recommendations, which in turn reflect this policy design concern.

As we argue in "Disfavored Nation":

China requires different treatment that a newly designed third column of the HTS is better suited to provide.

The tariff rates prescribed in Column 2 are largely left over from the "Smoot-Hawley" Tariff Act of 1930. Most of the higher tariff rates under Column 2 target...products that were strategically important in the 1930s. Meanwhile raw materials and inputs that are strategically vital in today's economy enjoy lower rates and in some cases duty-free treatment. The tariff rate on uranium is zero in both Column 1 and Column 2, as is the rate for several chemical precursors to fertilizer....while the Column 1 tariff for cars is 2.5%, the Column 2 rate of 10% is not much better. So, while Column 2's average tariff rate of 30% would be preferable for China versus Column 1, there are many examples of Column 2 rates that fall short of the broader goals of this policy change.

Tariffs levied as a fixed fee have also not been adjusted for inflation, resulting in negligible Column 2 rates on some important goods.

A well-designed tariff regime specific to China (and potentially other nations in China's sphere of influence) will be more effective. High effective tariff rates on China over the last year have already reduced China's share of U.S. imports to about 7.5% as of late 2025.

American businesses deserve stability and predictability; the American national interest requires critical supply-chain independence. Rescinding PNTR and imposing a well-designed, phased-in, China-specific tariff regime targeting strategically critical goods is an important step towards achieving both.

"Disfavored Nation" (attached to our comment submission) walks through the goals, policy design considerations, and likely effects of this approach. We offer it for the Commission's consideration.

Haas Automation, Inc.

Haas Automation, Inc. ("Haas"), America's largest machine tool manufacturer, opposes a revocation of China's Permanent Normal Trade Relations ("PNTR") status. Revoking China's PNTR status and shifting all Chinese imports to column 2 of the Harmonized Trade Schedule ("HTS") would result in drastically increased costs to American manufacturers who rely on global supply chains to meet their manufacturing needs.

While American manufacturers would face these increased costs on their inputs, their foreign competitors from outside of China would not face the same cost increases, even if they are sourcing significant amounts of their own components from China. Instead, they would be able to incorporate these same Chinese components into their finished products and export them to the United States subject only to the column 1 HTS duty rates to which their home countries are subject.

Machine tools are used in virtually every manufacturing sector and are essential in, among others, the aerospace, defense, automotive, medical device, electronics, semiconductor, oil & gas, shipbuilding, and consumer products industries. Machine tool users range from sole proprietor shops to small machine shops to the world's largest manufacturing plants.

When purchasing machine tools, a variety of factors influence a buyer's decision. The two key factors, however, are capabilities and price. Generally, machines that are more precise and/or can process larger volumes of parts are more costly. Machines that are less precise and/or are slower or can process lower volumes are less costly.

U.S. machine tool manufacturers, including Haas, produce a wide range of machine tools to meet their customers' performance needs. U.S. manufacturers of machine tools, however, are currently at a significant disadvantage when compared to many of their foreign competitors regarding price considerations. Many foreign competitors, particularly in Asia, are able to take advantage of significantly less expensive labor costs in order to provide lower prices for their machines.

Providing these same foreign competitors with additional pricing advantages by subjected Haas and other American manufacturers to higher supply costs by increasing duty rates on Chinese sourced components will only serve to exacerbate the already existing pricing disadvantages faced by American manufacturers.

Targeted tariffs specifically focused on finished products coming from China would be a far more effective strategy to combat unfair Chinese trade practices while not placing undue burden on America's manufacturing industry.

NAATBatt International

NAATBatt International represents companies across the North American lithium-ion battery ecosystem and appreciates the opportunity to provide input on the potential economic effects of revoking China's PNTR status. China controls an estimated 65–70% of global lithium chemical conversion, over 75% of cathode material production, and approximately 90% of graphite anode processing — a position built through more than two decades of sustained state investment exceeding \$100 billion per year. This integrated industrial dominance cannot be displaced quickly or cheaply.

Revoking PNTR before alternative supply chains exist would not punish China, it would primarily deprive American consumers and businesses of the lithium battery technology now essential to data centers and digital infrastructure, military and national security systems, energy storage, transportation, and autonomous systems. It would also risk triggering Chinese retaliation: China's existing graphite export licensing regime could be expanded to restrict Western cell makers' access to materials, tooling, and customers, potentially shuttering much of U.S. battery production and jeopardizing the billions of dollars already invested by the United States in building a domestic battery ecosystem.

The United States cannot rapidly replace Chinese battery supply from domestic or allied sources. Building comparable capacity will require substantial capital and at least a decade. Key constraints include:

- Permitting: hazardous chemical facilities require 1–2 years for site selection and face public resistance.
- Construction: approximately 3 years to build and commission a facility, with long lead times for critical components.
- Capital: cell assembly runs \$100–\$200M/GWh; raw material processing adds another \$100–\$200M/GWh; power infrastructure adds ~\$100M/GWh.
- Workforce: critical shortages of experienced process engineers, toolmakers, and trained facility operators.

NAATBatt supports the Administration's goal of eliminating U.S. dependence on insecure supply chains and believes that goal is achievable. If the Commission considers recommending changes to China's PNTR status, NAATBatt urges a phased transition of no less than 10 years, with tariff increases tied to verified milestones in domestic and allied-nation capacity development. Competitive materials processing, cell manufacturing, and supporting infrastructure will require approximately \$500M/GWh in investment, totaling tens of billions of dollars. Investors will commit only with durable policy certainty and incentives that make North American projects globally competitive.

NAATBatt members recommend prioritizing: (1) refining and production of high-value battery materials, where supply chains are most concentrated; and (2) advanced high-power batteries for defense, robotics, autonomous systems, and AI data center energy storage, areas of critical national security importance aligned with the Administration's own executive priorities.

Done right, with adequate lead time and investment, the United States can build a battery supply chain that serves both national security and economic competitiveness. Done prematurely, PNTR revocation risks undermining the very industrial base it aims to protect.

National Foreign Trade Council

The National Foreign Trade Council is concerned that the ITC's investigation may not fully capture the broad and long-term effects of withdrawing PNTR from China, resulting in greater economic harm to the United States.

World Trade Organization (WTO) rules require all members, including the United States, to extend most favored nation (MFN) treatment "immediately and unconditionally" to new WTO members. Consequently, Congress enacted the U.S.-China Relations Act of 2000 (H.R.4444), replacing annual reviews and approvals of China's trade status with Permanent Normal Trade Relations (PNTR). Passage of this legislation was necessary for the United States to benefit from commitments China made as part of its WTO membership.

Withdrawing PNTR for China would effectively terminate the United States' recognition of China's WTO rights, which would almost certainly cause China to retaliate. Retaliation could result in higher Chinese tariffs on U.S. imports, but may also target U.S. interests beyond tariffs, such as:

- **Market Access Restrictions:** Restricting the entry of U.S. goods, services, and companies into its market, beyond just raising tariff rates.
- **Technical Standards & Regulatory Barriers:** Implement stricter licensing, quarantine, or technical standard requirements on U.S. products.
- **Export Restraints:** Curtailing U.S. access to products and materials necessary for various supply chains, and for which China holds significant global market share.
- **Intellectual Property and Investment Violations:** Withdrawing specific protection for intellectual property (IP).

The potential for retaliation and the associated economic effects are not theoretical. China has aggressively retaliated against other measures by leveraging its control of 90% of the world's supply of critical minerals and rare earth elements (CM/REE) and its bureaucratic licensing processes to cut off exports to the U.S. of these products. For example, in response to new U.S. export control measures (the Bureau of Industry and Security's "Affiliates Rule"), China immediately suspended U.S. export licenses for CM/REE, leaving producers of a range of defense, consumer, and industrial products such as semiconductors, magnets, batteries for electric vehicles, and components for medical imaging devices scrambling. China also is able to inflict disruption to U.S. supply chains through third countries; it can (and has) restrict(ed) exports of CM/REE to other nations when it believes such exports will ultimately result in products being supplied to the U.S. market or U.S. companies. If the United States withdraws PNTR, China will not hesitate to apply maximum pressure, including through third countries.

Regardless of what form retaliation takes, a unilateral U.S. move to withdraw PNTR for China will leave U.S. businesses at a disadvantage in the Chinese market compared to rival companies from other WTO member countries that are not subject to retaliation.

The NFTC is concerned that the true economic impact of withdrawing PNTR for China will not be captured by the ITC's current investigation. We urge the ITC to address the potential effects of retaliation in its report or, at a minimum, note that there are additional negative effects from retaliation that fall outside the scope of this investigation.

National Retail Federation

NRF believes an assessment of the economic effects of permanent normal trade relations tariff status for China will find significant net negative impacts, particularly for consumers. Tariff rate increases will be substantial for consumer goods found in nearly every household. For categories like toys, the effective tariff rates would nearly quadruple above the already-inflated effective rate faced in 2025, which has a current base tariff rate of 0% but includes as well tariffs imposed under Sections 301 and 232 as well as the International Economic Emergencies Act. Apparel and travel goods could face effective tariff rates of around 100%. Small retailers are not in a position to absorb these double-digit cost increases. Moreover, much of the production that could leave China to avoid higher rates already has moved. What remains in China are the products where cost-competitive alternatives are hardest to find, especially since other countries are likely to face additional Section 301 and 232 tariffs as well. If the products are not available elsewhere for affordable prices, they may no longer be available to consumers, which may lead to reduced options, potential empty shelves or very high prices for any remaining products that are available. That means American consumers will bear the brunt of the additional costs. Commission modeling should incorporate these facts in its model parameter assumptions.

New York Embroidery Studio

New York Embroidery Studio is a U.S. manufacturer of medical personal protective equipment (PPE) and protective apparel located in Brooklyn, New York. The company produces isolation gowns, surgical gowns, masks, lab coats, and related protective garments used by hospitals, government agencies, and institutional buyers.

The COVID-19 pandemic demonstrated the vulnerability created by heavy reliance on global supply chains for essential medical equipment. When global logistics networks failed and exporting countries prioritized domestic demand, healthcare providers in the United States faced severe shortages of protective equipment.

Domestic manufacturers responded by rapidly expanding production capacity. Companies across the United States invested in facilities, workforce training, and automated manufacturing systems in order to produce PPE at scale within the United States.

As a result of these investments, the United States now possesses substantially greater domestic PPE manufacturing capability than existed prior to the pandemic. Much of this capacity remains in place today but is not always fully utilized as global supply conditions have normalized.

Revoking permanent normal trade relations status for China would narrow pricing distortions created by global overcapacity and support more consistent utilization of existing domestic manufacturing facilities. Maintaining this capability is important for both economic and strategic reasons. The United States

should retain the ability to manufacture essential protective equipment domestically in order to respond effectively during future public health emergencies.

United States Fashion Industry Association

China is the largest producer of apparel for American consumers, representing 25% of imports by volume in 2025. These imports already face an average applied MFN tariff of 11.7%, more than five times higher than the United States' average applied tariff of approximately 2%. Should Congress revoke PNTR for China, clothing imports would be subject to the exorbitantly high "Column II" duties in the U.S. tariff schedule. These duties, for apparel products classifiable under Chapters 61 and 62, range from 35 percent to 90 percent. Tariffs this high could not be absorbed by either the foreign producer or the U.S. apparel brand or retailer, and their imposition would result in swift consumer price increases.

China is the predominant supplier of many fashion products, and other country suppliers do not have the expertise or production capacity to fill a gap caused by the imposition of massive tariff increases on China. China, for example, supplies 61 percent of women's and girl's man-made fiber sweaters, while the second largest supplier of such sweaters, Bangladesh, accounts for a mere 12 percent of imports. Revocation of PNTR for China would result in the imposition of a whopping 90 percent Column II duty on women's and girl's man-made fiber sweaters – and a massive price increase for hard-working American women.

Today, trade supports high-quality, high-paying design, product development, logistics, sourcing, e-commerce and service jobs at brands and retailers. In fact, according to studies of our industry's global value chains, 70 percent of the value of imported clothing remains here in the United States—even if the clothing is manufactured outside of the United States. Massive tariffs on Chinese-origin apparel, as a consequence of the revocation of China PNTR would have the perverse impact of discouraging growth of these jobs at America's most innovative and iconic companies, because, for many of these products, China is the leading supplier in the world and there are no realistic options for other sourcing destinations that can viably replace China.

Furthermore, Column II duties on Chinese-origin clothing, footwear, and other fashion products would constitute a huge tax increase on U.S. consumers. As American consumers struggle with already high prices, it makes little sense to burden families with even higher prices on essential consumer goods such as clothing.

USFIA cannot stress strongly enough that revocation of PNTR for China would cause not only a tax increase on American families, but a massive regressive tax increase. Column II duties on apparel made in China, in the face of already elevated prices, would force American families to pay more for such things as back-to-school shoes, sweaters, and pullovers for the fall, or, for that matter, on baby clothes. The average U.S. household in the bottom income quintile spends a higher portion of its income on apparel and footwear than wealthier Americans, meaning that tariffs on apparel and footwear hit struggling families more than anyone else.

Volta Foundation

Volta Foundation is the world's largest network of battery professionals, a global not-for-profit of more than 100,000 members and 250 member companies. We submit these comments to help the Commission understand how the U.S. battery industry works today, and why revoking China's Permanent Normal Trade Relations (PNTR) status would disrupt it before domestic alternatives are ready.

The United States is in the early stages of building a domestic battery supply chain, but in several critical areas, China remains the only meaningful supplier. China produces 97% of the world's lithium iron phosphate (LFP) cathode material, the core product for batteries used for grid-scale energy storage. China produces 93% of processed battery-grade graphite. Subsequently, China also manufactures nearly all LFP battery cells consumed globally, which U.S. storage developers depend on today.

There is no near-term workaround. Battery materials cannot be swapped like commodity inputs in other industries. Qualifying an alternative cathode or graphite source takes 18 to 30 months of customer testing. Even if qualification were instant, the volume is not there: U.S. LFP cathode production covers roughly 9 GWh against 65 GWh of demand, and domestic graphite output serves less than 10% of what U.S. cell Gigafactories require. New factories take three to five years to build, and closing upstream gaps would take longer still.

Revoking PNTR would add 10 to 44 percentage points in tariffs on top of rates already in place. Those costs would hit immediately; the alternatives they are meant to encourage would take years to arrive. U.S.-made LFP cells already cost 56% more than Chinese equivalents. Pack-level costs run 44% above Chinese prices. Utilization rates at major U.S. plants have fallen below 50%, and \$21.1 billion in domestic battery investments were cancelled or downsized in 2025 alone. Additional tariffs would widen these gaps, slow factory ramp-ups, and put further investment at risk, weakening the manufacturing base the policy is intended to strengthen.

The downstream impacts are equally consequential. The United States deployed a record 18.9 GW of battery storage in 2025, with roughly 500 GWh in the forward pipeline through 2031; much of it is tied to grid reliability and data-center expansion. Higher battery costs or procurement delays would slow these deployments when grid capacity and data-center power supply have become urgent national priorities.

Volta Foundation does not oppose efforts to reduce U.S. dependence on Chinese supply chains: that dependence is a real strategic vulnerability. However, sequencing matters: imposing the full cost of decoupling before alternatives exist would impair domestic production rather than accelerate it. We recommend a phased, milestone-driven tariff schedule tied to verified domestic or allied-nation supply readiness, paired with federal investment in upstream materials and structured technology-licensing partnerships to bring manufacturing know-how onshore.

Written Submissions Without Summaries

The following interested persons filed written submissions without summaries. Please see EDIS for full submissions.

Table C.1 List of interested persons that submitted written submissions without summaries

Interested persons
Abby Innovation
Advanced Medical Technology Association
American Apparel and Footwear Association
American Medical Manufacturers Association
American Mold Builders Association
Association of the Nonwoven Fabrics Industry
Aviation Suppliers Association
China Association of Automobile Manufacturers
China Chamber of Commerce for Import and Export of Machinery and Electronic Products
Coalition for a Prosperous America
Computer & Communications Industry Association
Consumer Technology Association
D&B Auto Body
Footwear Distributors & Retailers of America
Forging Industry Association
Information Technology and Innovation Foundation
International Dairy Foods Association
International Safety Equipment Association
Maxter Healthcare
Modification and Replacement Parts Association
National Council of Textile Organizations
National Independent Flag Dealers Association and Flag Manufacturers Association of America
National Milk Producers Federation and the U.S. Dairy Export Council
Solar Energy Industries Association
The U.S.-China Business Council
Toy Association
United States Council for International Business

Source: Compiled by the USITC.

Appendix D: General Equilibrium Modeling Framework

Introduction

This appendix describes the technical details of the general equilibrium gravity modeling framework used for the prospective analyses presented in chapters 2 and 3. The objective of the modeling approach is to produce separate estimates for short-run and long-run effects of the trade policy.⁶⁷¹ To do this, the Commission employs a strategy to estimate time-varying trade elasticities, which are then used as a key parameter in the simulation model to produce time-varying estimates of the trade policy.⁶⁷² These elasticities are estimated in such a manner to flexibly capture both demand-driven and supply-driven adjustments that impact trade responsiveness over time. This appendix first describes the empirical model used to estimate time-varying, tariff-based trade elasticities by industry. Second, it describes the simulation model used to estimate both economy-wide and industry-level general equilibrium effects of the revocation of permanent normal trade relations (PNTR) status on all products from China.

The Empirical Gravity Model

The empirical gravity model used for the first step of this analytical approach is based on structural gravity models commonly used in the academic literature and described in Anderson and van Wincoop (2003) and Eaton and Kortum (2002).⁶⁷³ The goal of the first modeling step is to obtain estimates of trade elasticities by industry, which are key parameters in the simulation model. The estimation approach borrows from recent advances in empirical economic modeling to identify time-varying trade elasticities and uses tariffs as the key data to estimate elasticities. The estimated elasticities are used in the simulation model to produce predicted effects over a six-year period.

The econometric version of the model follows the practices recommended by Yotov et al. (2016), Head and Mayer (2014), and Larch et al. (2025).⁶⁷⁴ The strategy employed to estimate time-varying elasticities builds on work by Anderson and Yotov (2020, 2025) and consists of two stages.⁶⁷⁵ The first stage estimates a gravity regression pooled across all industries to estimate aggregate trade elasticities over varying time horizons. The second stage estimates gravity regressions separately for each industry to obtain disaggregated, industry-level trade elasticities over the long run, which, together with trends from the first stage, permit the tracing out of industry-level time-varying trade elasticities.

The first-stage estimating equation takes the following form:

$$X_{ijkt} = \exp(\beta \ln(1 + \tau_{ijkt}) + \mu_{ikt} + \nu_{jkt} + \gamma_{ijk\Delta t}) \varepsilon_{ijkt}.$$

Here, X_{ijkt} represents bilateral imports in industry k from country i into country j in year t ; τ_{ijkt} are bilateral ad valorem tariff rates. The estimation uses exporter-industry-time and importer-industry-time

⁶⁷¹ “Long run” is the time it takes for the economy to fully adjust to the effects of the policy change.

⁶⁷² The trade elasticity is the percentage change in bilateral trade with respect to a change in bilateral trade costs.

⁶⁷³ Anderson and van Wincoop, “Gravity with Gravitas,” 2003; Eaton and Kortum, “Technology, Geography, and Trade,” 2002.

⁶⁷⁴ Yotov et al., *An Advanced Guide to Trade Policy Analysis*, November 2016; Head and Mayer, “Gravity Equations,” 2014; Larch et al., “Estimating Gravity Equations,” 2025.

⁶⁷⁵ Anderson and Yotov, “Short Run Gravity,” 2020; “Gravity in Transition,” March 2025.

fixed effects, μ_{ikt} and ν_{jkt} , to proxy for multilateral resistances in line with best gravity estimation practices. Estimates of β are estimates of the trade elasticity, represented by σ_k in the simulation model outlined in the following section.⁶⁷⁶

In addition, the estimation includes pair-interval fixed effects, $\gamma_{ijk\Delta t}$. In line with work by Anderson and Yotov (2025), these allow for identification of trade elasticities over different time horizons Δt .⁶⁷⁷ These pair-interval fixed effects absorb all bilateral trade costs that are invariant over a given period Δt , so that only the variation within the interval remains. Therefore, the beta coefficient estimates the impact of tariffs only within the time interval Δt . The model produced estimates with a series of interval interactions from three years to six years, as well as an interval defined as the full sample period, to obtain a long-run estimate.

The transition between short-run and long-run elasticities can be written as $\beta_{\Delta t} = \beta^{LR} \times \lambda_{\Delta t}$ where $\beta_{\Delta t}$ is the short-run elasticity over time horizon Δt , and $\lambda_{\Delta t}$ can be thought of as an adjustment factor over time horizon Δt (or the proportion by which the Δt -specific short-run elasticity is reduced from the long-run elasticity). This flexibly captures both demand-driven and supply-driven adjustments that impact trade responsiveness over time by producing elasticity estimates using only a limited range of variation in trade flows over time.

[Table D.1](#) displays the estimated adjustment factors over the six-year period. Each number represents the percentage of the long-run elasticity that is “felt” after a given amount of time from a change in trade costs. The adjustment factors over the full six-year period are a linear function using the three-year, six-year, and long-run estimates, which are well identified by the first-stage estimation.⁶⁷⁸ Using these estimates, short-run elasticities will be smaller than long-run elasticities because it takes time for importers and exporters to adjust to changes in trade policy.

Table D.1 Estimated trade elasticity adjustment factors over six years

Adjustment factor	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
$\lambda_{\Delta t}$	0.14	0.18	0.22	0.26	0.30	0.34

Source: USITC estimates.

The second-stage estimating equation is then:

$$X_{ijkt} = \exp(\beta^k \ln(1 + \tau_{ijkt}) + \alpha Z_{ij} + \mu_{ikt} + \nu_{jkt}) \varepsilon_{ijkt} \quad \forall k$$

with variables defined as above, with the addition of Z_{ij} , representing time-invariant country-pair controls (namely, bilateral distance, an indicator representing contiguity, and an indicator for common colony). Notably, this estimation is carried out separately for each industry k , which allows for the identification of industry-specific estimates of β . This allows the model to account for heterogeneous trade responses across industries.

⁶⁷⁶ Fontagné et al., “Tariff-Based Product-Level Trade Elasticities,” 2022; Yotov et al., An Advanced Guide to Trade Policy Analysis, November 2016; Heid and Larch, “Gravity with Unemployment,” 2016.

⁶⁷⁷ Anderson and Yotov, “Gravity in Transition,” March 2025.

⁶⁷⁸ This approach was used because one-year and two-year intervals are too short to permit proper identification of β within the pair-interval fixed effect and the four-year and five-year interval estimation suffered from convergence issues.

Time-varying components for each industry were computed using estimated values of $\lambda_{\Delta t}$ from the first estimation stage. That is, for each industry's long-run estimate of β^k , short-run estimates are produced for each time interval Δt by computing $\beta_{\Delta t}^k = \beta^k \times \lambda_{\Delta t}$. This yields a time interval-specific estimate of the trade elasticity for each industry k ($\beta_{\Delta t}^k$), which uses a common adjustment parameter for each interval ($\lambda_{\Delta t}$) but is anchored by industry-specific long-run elasticities (β^k) that capture differences in long-run trade responsiveness across industries.⁶⁷⁹

The trade data used for estimation come from Revision 2025 of the International Trade and Production Database for Estimation (ITPD-E).⁶⁸⁰ These data contain detailed information on international trade and domestic production across 170 industries for 265 countries, consisting of 153 goods industries and 17 services industries, during 1988–2023. To estimate trade elasticities for goods industries, a sample of all 153 goods industries for 246 countries during the period 2000–2023 was used. These trade data were combined with information on bilateral gravity variables from the Commission's Dynamic Gravity Dataset and bilateral effective applied tariff rates sourced from the UN Conference on Trade and Development's Trade Analysis Information System (TRAINS) database.⁶⁸¹

For services industries, the method outlined in Ahmad and Schreiber (2024) and data from the 2025 release of the OECD international input-output tables were used.⁶⁸² This method uses data on industry revenues as a share of gross operating surplus from input-output tables to estimate trade elasticities based on a theoretical relationship between trade elasticities and profit margins in a monopolistic competition model of trade. Estimated services elasticities are comparable with the long-run estimates for goods industries estimated via the second-stage equation above; the same adjustment factors $\lambda_{\Delta t}$ were applied to obtain time-varying values.

[Table D.2](#) provides summary statistics for long-run industry trade elasticities across broad sectors (agriculture, mining and energy, manufacturing, and services) and overall. Services tend to be the least responsive; mining and energy industries tend to be the most responsive. Manufacturing industries vary significantly in responsiveness, depending on the industry, with a mean elasticity close to the total mean elasticity of all sectors.⁶⁸³

⁶⁷⁹ It may be the case that β^k is relatively small, such that short-run estimates may be below 1. The model requires $\sigma_k > 1$, so these estimates are truncated slightly above 1.

⁶⁸⁰ Borchert et al., "The International Trade and Production Database for Estimation (ITPD-E)," August 2021; Larch et al., "ITPD-E-R03," June 2025.

⁶⁸¹ Gurevich and Herman, "The Dynamic Gravity Dataset," February 2018; UNCTAD, TRAINS database, accessed January 2, 2026. Gravity variables from the Dynamic Gravity Dataset are updated to 2023.

⁶⁸² Ahmad and Schreiber, "Estimating Elasticities for Tradable Services in Policy Simulations," September 2024; OECD, "OECD Inter-Country Input-Output (ICIO) Tables," 2026, accessed April 28, 2026.

⁶⁸³ The total sample average elasticity is about 6, which is within the range of values commonly estimated and used broadly in other economic studies using similar trade models. See, e.g., Head and Mayer, "Gravity Equations," 2014; Fontagné et al., "Tariff-Based Product-Level Trade Elasticities," 2022; Anderson and van Wincoop, "Gravity with Gravitas," 2003; Caliendo and Parro, "Trade and Welfare Effects of NAFTA," 2015.

Table D.2 Summary statistics for long-run trade elasticity estimates

Sector	Industry count	Mean	Standard deviation	Minimum	Median	Maximum
Agriculture	28	4.12	1.24	2.37	3.93	7.33
Mining and Energy	7	11.17	8.09	1.57	11.17	27.42
Manufacturing	118	7.45	4.08	1.54	6.58	20.41
Services	17	3.53	1.15	1.66	3.53	5.77
Total	170	6.66	4.19	1.54	5.47	27.42

Source: USITC estimates.

General Equilibrium Simulation Model

To capture the economy-wide and industry-level effects of revoking PNTR treatment on all products from China, the Commission used a quantitative trade model based on the class of models described by Eaton and Kortum (2002) and Yotov et al. (2016), with several important modifications.⁶⁸⁴ First, domestic production is allowed to adjust within the model, enabling output to respond to changes in trade costs through both price and quantity channels. Second, domestic production is modeled as a function of both labor inputs and a composite intermediate good.

The model is given by the following system of equations:

$$X_{ijk} = \left(\frac{\tau_{ijk} c_{ik}}{P_{jk}} \right)^{1-\sigma_k} E_{jk}, \quad (1)$$

$$P_{jk} = \left(\sum_i (\tau_{ijk} c_{ik})^{1-\sigma_k} \right)^{\frac{1}{1-\sigma_k}}, \quad (2)$$

$$c_{ik} = \frac{w_i^{\beta_k} P_i^{\gamma_k}}{A_{ik}}, \quad (3)$$

$$P_i = \prod_k P_{ik}^{\eta_{ik}}, \quad (4)$$

$$Y_i = \sum_k R_{ik} = \sum_k \sum_j X_{ijk}, \quad (5)$$

$$E_{jk} = \alpha_{jk} \phi_j Y_j. \quad (6)$$

Equation (1) is the gravity equation in which bilateral exports of industry k from country i to country j are determined by the importer's industry expenditure (E_{jk}), exporter production costs (c_{ik}), bilateral trade costs (τ_{ijk}), and the inward multilateral resistance of the importer (P_{jk}). Trade responses are shaped by the trade elasticity (σ_k), which is estimated using the empirical model in the first stage. The inward multilateral resistance is defined by equation (2) and represents the aggregate trade costs faced by the importing country, connecting bilateral trade between countries i and j with the rest of the

⁶⁸⁴ Eaton and Kortum, "Technology, Geography, and Trade," 2002; Yotov et al., *An Advanced Guide to Trade Policy Analysis*, November 2016.

world. Equation (2) can also be defined as the consumer price index for industry k in the importing country.

Equation (3) captures production costs (and therefore factory gate prices p_{ik}) in the exporting country i as a function of two production inputs: labor (L_{ik}) and a composite intermediate good (M_{ik}), with input prices represented by w_i and P_i and input shares in output represented by β_k and γ_k , respectively.⁶⁸⁵ Economy-wide wages are determined on the basis of the labor demand of producers and equalize across industries, so changes in wages are driven by changes in total country-level income Y_i . The intermediate good is defined as an aggregate-over-industry output and has a composite price index defined by equation (4), where η_{ik} is a measure of the contribution of industry k output to total intermediate supply in country i . By assumption, $\beta_k + \gamma_k = 1$ and $\sum_k \eta_{ik} = 1$.⁶⁸⁶

The model is closed with market-clearing conditions over income and expenditure represented by equations (5) and (6). Equation (5) ties country-level income (Y_i) to industry revenues (R_{ik}), with industry revenues being the sum of that industry's trade flows across all destinations (including the domestic market, $j = i$). Equation (6) relates country incomes to expenditures, where α_{jk} are the shares of expenditure on industry k production in country j 's total expenditure and ϕ_j are exogenous aggregate trade imbalances.⁶⁸⁷

To evaluate the effects of the revocation of PNTR status on products from China, the Commission used the "hat algebra" approach of Dekle et al. (2007, 2008) and trade and production data for 2023 from the International Trade and Production Database for Simulation (ITPD-S).⁶⁸⁸ The method for solving the simulation model focuses on proportional changes in key economic variables, rather than their levels, and allows for efficient computation of the new equilibrium after a shock with less data required and without recalibrating the entire model.⁶⁸⁹ The ITPD-S takes ITPD-E trade and production data and uses a variety of methods to fill and estimate missing values to provide a complete bilateral trade matrix.⁶⁹⁰

⁶⁸⁵ The production function is a standard Cobb-Douglas function given by $y_{ik} = A_{ik} L_{ik}^{\beta_k} M_{ik}^{\gamma_k}$, with A_{ik} representing the productivity specific to country i and industry k .

⁶⁸⁶ In other words: γ_k are intermediate use shares, or how much each sector uses intermediate goods in production; η_{ik} are intermediate supply shares, or how much each sector produces that is considered an intermediate or capital good that would be used somewhere else in the economy as an input.

⁶⁸⁷ Aggregate imbalances are fixed as a share of income, but the nominal gap between total expenditure and income can change as prices and quantities adjust. Furthermore, although aggregate imbalances are fixed as a share of income, bilateral trade balances freely adjust as trade flows (imports and exports) respond to the policy shock.

⁶⁸⁸ Dekle et al., "Unbalanced Trade," 2007; Dekle et al., "Global Rebalancing with Gravity," 2008; Borchert et al., "Globalization, Trade, and Inequality: Evidence from a New Database," November 2024.

⁶⁸⁹ Solving the model in changes requires only baseline trade shares (obtained from ITPD-S) and key parameters ($\sigma_k, \beta_k, \gamma_k, \eta_{ik}$), with σ_k estimated via the empirical model and the remaining parameters computed from input-output tables. Solving the model in levels would require baseline values for trade, prices, costs, productivities, revenues, and expenditures, in addition to the key parameters.

⁶⁹⁰ A complete bilateral trade matrix (i.e., no missing values) is required to estimate the simulation model. For more information on this, see Borchert et al., "Globalization Trade, and Inequality: Evidence from a New Database," November 2024.

The procedure works as follows:

- **Baseline shares:** Compute baseline trade, production, and revenue/expenditure shares from observed trade data.
- **Specify the policy shock:** Define the counterfactual change in trade costs and express as a proportional change: $\hat{\tau}_{ijk} = \frac{\tau'_{ijk}}{\tau_{ijk}}$, where $(\tau'_{ijk}, \tau_{ijk})$ represent counterfactual and baseline trade costs, respectively. For this investigation, these represent column 1 and column 2 ad valorem equivalent tariff rates, respectively.⁶⁹¹
- **Rewrite the model in changes:** Set up a system of equations based on equations (1) through (6) that describe how the proportional changes in costs, prices, and trade flows are linked together across countries and sectors.
- **Solve the counterfactual model:** Using an iterative algorithm, solve the model for the proportional change in all variables given the proportional change in trade costs from step 2 and other model parameters, updating each variable in turn until the system converges.
- **Recover outcomes:** Apply these proportional changes to the baseline data to obtain levels of counterfactual outcomes for trade, production, and prices by country and industry and in the aggregate.

The model produces counterfactual changes for trade, production, and prices by country and by industry. To report economy-wide effects, industry-level changes must be aggregated to the economy-wide level. For prices, the industry-level price indices (for both consumers and producers) are weighted by industry expenditure shares to obtain an economy-wide price index.⁶⁹² As described in step 5 of the solution procedure above, for trade and production, predicted changes at the importer-exporter-industry level are used to convert baseline trade and shipment values to counterfactual trade and shipment values.⁶⁹³ Baseline and counterfactual values are then summarized to the desired level of aggregation, and percentage changes are recomputed from these summarized baseline and counterfactual values.

⁶⁹¹ For more information on how the Commission computes ad valorem equivalent tariff rates for column 1 and column 2 rates of duty, see [appendix F](#).

⁶⁹² The industry-level price indexes are constructed as shown in equation (2) and can be thought of as trade-weighted sums over the delivered prices of imported and domestic varieties. A similar aggregation approach is used to produce broad sectoral price indices (e.g., agriculture, mining and energy, manufacturing, and services), in which the expenditure shares are defined as the expenditure in an industry as a share of total expenditure in a broad sector.

⁶⁹³ Total industry production is the sum of these importer-exporter-industry cells across exporter (including the domestic market), and total economy-wide production is the sum of these cells across exporter and industry. Total domestic shipments are defined as the importer-exporter-industry cells in which the importer and exporter are the same country.

Appendix E: Partial Equilibrium Modeling Framework

Introduction

This appendix provides a technical description of the economic simulation models used to estimate the impact of phased-in tariff increases on imports of six specific national security products (NSPs), the results for which are presented in [chapter 4](#).⁶⁹⁴ It also includes an analysis of the sensitivity of model estimates to underlying modeling assumptions.

Description of the Economic Models

The analysis in [chapter 4](#) is based on six separate industry-specific, partial equilibrium models, calibrated to the baseline value in 2024 of domestic shipments, imports from China, and imports from all other sources for each of the NSPs.⁶⁹⁵ Each model assumes that demand for the NSPs differentiates between varieties from the United States, China, and an aggregate of all other trading partners. Demand has a conventional constant elasticity of substitution form. The elasticity of substitution is econometrically estimated and is greater than one.⁶⁹⁶ The elasticity of substitution is a measure of the price responsiveness of demand. Specifically, it is the percentage change in relative demands of products from different sources for a percentage change in their relative prices.

The econometric estimates are based on 2024 data for U.S. imports of the NSP from USITC DataWeb/Census and the econometric methodology that the U.S. International Trade Commission used in its 2023 investigation on the economic impact of section 232 and section 301 tariffs.⁶⁹⁷ Production combines capital and variable factors of production, which include labor and intermediate inputs. The production function has a conventional Cobb-Douglas form, which means that each input accounts for a constant share of the cost of production. The capital share of production costs is calibrated to industry data and from the model's first-order conditions for the U.S. firms' pricing, using the econometric estimate of the elasticity of substitution and industry data on revenues and costs from the 2022 Economic Census.⁶⁹⁸

The model treats the costs of own-industry manufactured inputs (inputs in the same 6-digit North American Industry Classification System (NAICS) code as the NSP) as endogenous variables, captured by the constant elasticity of substitution (CES) price index for the industry. It treats the costs of cross-industry manufactured intermediate inputs (inputs in different 6-digit NAICS codes than the NSP) as exogenous variables. These cost shares (i.e., the intermediate input costs as a share of total production costs) are calibrated to the 2017 Bureau of Economic Analysis (BEA) use table for the industry, which is the latest year available at the requisite level of detail.⁶⁹⁹ The model makes a proportionality assumption that the sourcing shares of intermediates are the same as the sourcing shares of final goods, for the NSP

⁶⁹⁴ The six NSP-producing industries are (1) batteries, (2) broadcast and wireless communications equipment, (3) electronic computers, (4) certain motors and generators, (5) ball and roller bearings, and (6) speed changer, industrial high-speed drive, and gear manufacturing.

⁶⁹⁵ USITC DataWeb/Census, domestic exports and imports for consumption, accessed March 6, 2026; Census, "2022 Economic Census," accessed June 22, 2026.

⁶⁹⁶ Elasticity of substitution in PE models measures the sensitivity of relative demand to relative price changes.

⁶⁹⁷ USITC, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries*, March 2023.

⁶⁹⁸ The data are publicly available at Census, "2022 Economic Census," accessed June 22, 2026.

⁶⁹⁹ The data are from BEA, "Input-Output (Before Redefinitions) Interactive Data Application. Make-use imports (before redefinitions), the use of commodities by industry, before redefinitions (producers' prices)," accessed March 27, 2026.

and its inputs.⁷⁰⁰ A Cobb-Douglas cost function aggregates across domestic and import sources of each intermediate input except for the own-industry intermediates, which have the more general CES cost function with the NSP-specific econometric estimate of the elasticity of substitution.

U.S. producers set their prices, taking the industry price index as given, as if each producer had a small share of the domestic industry.⁷⁰¹ The model assumes a fixed number of U.S. firms and no new entries or exits.

The capital stock (total value of physical assets) of U.S. producers can expand, but with adjustment lags ([table E.1](#)). In the short run before capital adjusts, expansion of U.S. production is more limited as the industry increases variable inputs in response to the tariff increase. U.S. production is determined in the model by the first-order condition for the firms' pricing decisions, conditional on the capital stock in place. As the capital stock adjusts with a lag that reflects the time that it takes to plan and then implement new capital investments, U.S. production expands further. The eventual increase in the capital stock of the U.S. producers is determined by the first-order conditions for the firms' capital decisions. These investments to expand U.S. production are forward-looking with perfect foresight, meaning that capital investment decisions within the model are based on an accurate prediction of future tariff rates and future demand.

Table E.1 Overview of national security product-producing industries

In percentages and years.

NSP-producing industry description	Tariff increase (%)	Increase in production costs due to tariffs on inputs (%)	Time to build (years)
Batteries	36.6	0.46	3
Broadcast and wireless communications equipment	35.0	1.68	2
Electronic computers	35.0	0.42	2
Motors and generators	32.8	0.68	3
Ball and roller bearings	53.4	0.62	3 to 5
Speed changer, industrial high-speed drive, and gears	30.8	0.98	3

Source: Orca Lean Digital Solutions, "How Long Would It Really Take," June 2, 2025; USITC, *Harmonized Tariff Schedule of the United States (2023)*, December 30, 2022; BEA, "Input-Output (Before Redefinitions) Interactive Data Application. Make-use imports (before redefinitions), the use of commodities by industry, before redefinitions (producers' prices)," accessed March 27, 2026.

Note: For detailed description of ad valorem equivalent rates calculation methodology see [appendix F](#). The cost shares of the intermediate inputs are calibrated to the 2017 BEA use table for the NSP. The effects on two NSPs are not modeled because the national security elements of the NSPs are distinct from the industry they are classified in (graphite in miscellaneous nonmetallic mineral products, and personal protective equipment in surgical appliances and supplies). See the "[Personal Protective Equipment](#)" and "[Synthetic Graphite](#)" sections in [chapter 4](#) for more details.

The simulations reported in [chapter 4](#) model two alternative tariff scenarios. One is an immediate full increase in tariff rates from Harmonized Tariff Schedule of the United States (HTS) column 1 rates to column 2 rates, with no phasing-in of the tariff changes. The second is a more gradual, phased-in tariff

⁷⁰⁰ Proportionality assumption here means that the import penetration rates overall are the same in each use of an input.

⁷⁰¹ Formally, the model assumes monopolistic competition, which has been a common assumption in models of international trade since the late 1970s.

increase to column 2 rates, with one-fifth of the total tariff increase spread evenly over the first five years. The simulations assume a common phase-in schedule for tariff increases for the NSP and its manufactured good inputs: The tariffs on its manufactured intermediate inputs either are increased immediately to column 2 rates along with the tariff on the NSP (the first scenario) or are increased gradually to column 2 rates along with the tariff on the NSP (the second scenario).

Full Model Results

The following tables include the full set of simulated effects for the six NSPs that are modeled.

Table E.2 Batteries with tariffs gradually phased in: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	2.1	4.4	-14.3	7.3
Year 2	3.8	8.0	-26.5	13.6
Year 3	5.2	11.1	-36.8	19.2
Year 4	4.9	16.9	-48.1	18.1
Year 5	5.7	19.5	-55.5	21.0
Year 6	5.7	19.5	-55.5	21.0

Source: USITC estimates.

Table E.3 Batteries with immediate tariff increase: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	7.4	15.7	-52.9	28.1
Year 2	7.4	15.7	-52.9	28.1
Year 3	7.4	15.7	-52.9	28.1
Year 4	5.7	19.5	-55.5	21.0
Year 5	5.7	19.5	-55.5	21.0
Year 6	5.7	19.5	-55.5	21.0

Source: USITC estimates.

Table E.4 Batteries with tariffs gradually phased in: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	1,742	-2,746	1,004
Year 2	3,200	-5,082	1,882
Year 3	4,418	-7,062	2,644
Year 4	6,727	-9,227	2,500
Year 5	7,751	-10,649	2,898
Year 6	7,751	-10,649	2,898

Source: USITC estimates.

Table E.5 Batteries with immediate tariff increase: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	6,274	-10,149	3,875
Year 2	6,274	-10,149	3,875
Year 3	6,274	-10,149	3,875
Year 4	7,751	-10,649	2,898
Year 5	7,751	-10,649	2,898
Year 6	7,751	-10,649	2,898

Source: USITC estimates.

Table E.6 Broadcast and wireless communications equipment with tariffs gradually phased in: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relation status revocation

In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	2.3	6.1	-22.9	14.5
Year 2	4.0	10.2	-41.2	26.3
Year 3	4.9	25.8	-56.3	32.9
Year 4	5.8	30.0	-67.0	39.4
Year 5	6.4	32.8	-75.0	44.2
Year 6	6.4	32.8	-75.0	44.2

Source: USITC estimates.

Table E.7 Broadcast and wireless communications equipment with immediate tariff increase: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	6.9	15.0	-74.3	48.2
Year 2	6.9	15.0	-74.3	48.2
Year 3	6.4	32.8	-75.0	44.2
Year 4	6.4	32.8	-75.0	44.2
Year 5	6.4	32.8	-75.0	44.2
Year 6	6.4	32.8	-75.0	44.2

Source: USITC estimates.

Table E.8 Broadcast and wireless communications equipment with tariffs gradually phased in: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	1,111	-11,756	10,645
Year 2	1,858	-21,195	19,337
Year 3	4,720	-28,958	24,238
Year 4	5,482	-34,469	28,986
Year 5	5,994	-38,572	32,578
Year 6	5,994	-38,572	32,578

Source: USITC estimates.

Table E.9 Broadcast and wireless communications equipment with immediate tariff increase: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	2,742	-38,221	35,479
Year 2	2,742	-38,221	35,479
Year 3	5,994	-38,572	32,578
Year 4	5,994	-38,572	32,578
Year 5	5,994	-38,572	32,578
Year 6	5,994	-38,572	32,578

Source: USITC estimates.

Table E.10 Electronic computers with tariffs gradually phased in: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	1.7	8.2	-29.8	12.4
Year 2	2.8	13.4	-51.2	21.4
Year 3	3.5	25.3	-66.1	27.5
Year 4	4.0	28.8	-76.4	31.8
Year 5	4.4	31.0	-83.3	34.7
Year 6	4.4	31.0	-83.3	34.7

Source: USITC estimates.

Table E.11 Electronic computers with immediate tariff increase: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	4.4	19.4	-83.3	34.9
Year 2	4.4	19.4	-83.3	34.9
Year 3	4.4	31.0	-83.3	34.7
Year 4	4.4	31.0	-83.3	34.7
Year 5	4.4	31.0	-83.3	34.7
Year 6	4.4	31.0	-83.3	34.7

Source: USITC estimates.

Table E.12 Electronic computers with tariffs gradually phased in: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	88	-10,157	10,069
Year 2	145	-17,471	17,326
Year 3	274	-22,568	22,293
Year 4	312	-26,050	25,737
Year 5	336	-28,427	28,090
Year 6	336	-28,427	28,090

Source: USITC estimates.

Table E.13 Electronic computers with immediate tariff increase: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	211	-28,420	28,210
Year 2	211	-28,420	28,210
Year 3	336	-28,427	28,090
Year 4	336	-28,427	28,090
Year 5	336	-28,427	28,090
Year 6	336	-28,427	28,090

Source: USITC estimates.

Table E.14 Motors and generators with tariffs gradually phased in: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	0.5	1.6	-21.7	2.9
Year 2	1.0	2.7	-38.3	5.1
Year 3	1.3	3.5	-51.0	6.9
Year 4	1.5	4.9	-60.9	7.9
Year 5	1.7	5.3	-68.5	9.0
Year 6	1.7	5.3	-68.5	9.0

Source: USITC estimates.

Table E.15 Motors and generators with immediate tariff increase: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	1.7	4.4	-68.4	9.4
Year 2	1.7	4.4	-68.4	9.4
Year 3	1.7	4.4	-68.4	9.4
Year 4	1.7	5.3	-68.5	9.0
Year 5	1.7	5.3	-68.5	9.0
Year 6	1.7	5.3	-68.5	9.0

Source: USITC estimates.

Table E.16 Motors and generators with tariffs gradually phased in: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	128	-687	559
Year 2	217	-1,212	995
Year 3	278	-1,615	1,337
Year 4	388	-1,930	1,541
Year 5	424	-2,170	1,746
Year 6	424	-2,170	1,746

Source: USITC estimates.

Table E.17 Motors and generators with immediate tariff increase: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	348	-2,167	1,818
Year 2	348	-2,167	1,818
Year 3	348	-2,167	1,818
Year 4	424	-2,170	1,746
Year 5	424	-2,170	1,746
Year 6	424	-2,170	1,746

Source: USITC estimates.

Table E.18 Ball and roller bearings with tariffs gradually phased in: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	1.0	1.8	-20.4	3.2
Year 2	1.7	3.1	-36.0	5.7
Year 3	2.2	4.1	-47.9	7.6
Year 4	2.7	4.9	-57.2	9.1
Year 5	2.7	7.2	-64.8	9.1
Year 6	2.7	7.2	-64.8	9.1

Source: USITC estimates.

Table E.19 Ball and roller bearings with immediate tariff increase: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	3.0	5.4	-64.5	10.3
Year 2	3.0	5.4	-64.5	10.3
Year 3	3.0	5.4	-64.5	10.3
Year 4	3.0	5.4	-64.5	10.3
Year 5	2.7	7.2	-64.8	9.1
Year 6	2.7	7.2	-64.8	9.1

Source: USITC estimates.

Table E.20 Ball and roller bearings with tariffs gradually phased in: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	51	-183	132
Year 2	88	-322	234
Year 3	116	-429	313
Year 4	136	-512	375
Year 5	203	-580	377
Year 6	203	-580	377

Source: USITC estimates.

Table E.21 Ball and roller bearings with immediate tariff increase: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	152	-577	425
Year 2	152	-577	425
Year 3	152	-577	425
Year 4	152	-577	425
Year 5	203	-580	377
Year 6	203	-580	377

Source: USITC estimates.

Table E.22 Speed changer, industrial high-speed drive, and gears with tariffs gradually phased in: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	0.5	0.9	-20.6	2.7
Year 2	0.9	1.5	-36.6	4.9
Year 3	1.2	1.9	-49.0	6.6
Year 4	1.3	3.5	-59.0	7.3
Year 5	1.5	3.7	-66.7	8.4
Year 6	1.5	3.7	-66.7	8.4

Source: USITC estimates.

Table E.23 Speed changer, industrial high-speed drive, and gears with immediate tariff increase: estimated percentage change of U.S. prices, domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In percentages.

Year since baseline	Price index	Domestic shipments	Imports from China	Imports from all other sources
Year 1	1.6	2.1	-66.5	9.1
Year 2	1.6	2.1	-66.5	9.1
Year 3	1.6	2.1	-66.5	9.1
Year 4	1.5	3.7	-66.7	8.4
Year 5	1.5	3.7	-66.7	8.4
Year 6	1.5	3.7	-66.7	8.4

Source: USITC estimates.

Table E.24 Speed changer, industrial high-speed drive, and gears with tariffs gradually phased in: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation
In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	18	-132	114
Year 2	30	-234	204
Year 3	37	-314	277
Year 4	69	-378	309
Year 5	73	-427	354
Year 6	73	-427	354

Source: USITC estimates.

Table E.25 Speed changer, industrial high-speed drive, and gears with immediate tariff increase: estimated change in the value of U.S. domestic shipments, imports from China, and imports from all other sources, following permanent normal trade relations status revocation

In millions of dollars.

Year since baseline	Domestic shipments	Imports from China	Imports from all other sources
Year 1	42	-425	383
Year 2	42	-425	383
Year 3	42	-425	383
Year 4	73	-427	354
Year 5	73	-427	354
Year 6	73	-427	354

Source: USITC estimates.

Appendix F: Ad Valorem Equivalent Estimates

This appendix describes the method for construction of the ad valorem equivalent tariff rates (AVEs) used in chapters 2, 3, and 4 of this report. Construction of AVEs relies on the *Harmonized Tariff Schedule of the United States* (HTS) at the 8-digit level, aggregated to the level of analysis of each model used in the report. To match data used in the (general equilibrium model (used in chapters [2](#) and [3](#)), estimates are based on 2023 HTS tariff rates; for the partial equilibrium model (featured in [chapter 4](#)), estimates are based on 2024 HTS tariff rates.⁷⁰²

AVEs for the 153 International Trade and Production Database for Estimation (ITPD-E) goods sectors were calculated as a trade-weighted average of the AVEs among all products at the 8-digit level composing each sector, using a concordance between ITPD-E and HTS 6-digit level constructed by the U.S. International Trade Commission (Commission or USITC).⁷⁰³ Because ITPD-E sectors do not directly concord with products at the 8-digit level, AVEs among these products were first aggregated to their respective 6-digit level.

For all products at the 8-digit level, AVEs for HTS column 1 rates and column 2 rates were constructed by calculating implied tariff revenue based on statutory duty rates, then dividing this revenue by the customs value of imports. Although column 1 AVEs could be calculated more directly by dividing duties collected by import value, that approach is not feasible for the unobserved column 2 rates. Therefore, statutory column 1 and column 2 tariff formulas are applied to observed imports to provide the closest possible comparison.⁷⁰⁴ The ad valorem rate is already available for products with zero or ad valorem tariffs, but this method is necessary to compute tariff rates for products whose duties depend on quantity rather than value. Computation of tariff revenue differs depending on the statutory tariff formula specified by the HTS for each individual product.⁷⁰⁵ The HTS divides tariffs into nine rate-type codes according to each tariff's duty computation method, with codes and duty computation methods discussed below.⁷⁰⁶

- 0 (no tariff): Products at the 8-digit level with rate type code 0 are free, so the AVE is therefore zero, and no computation is necessary.
- 1 (specific tariff): Tariff revenue for products at the 8-digit level with rate type code 1 is obtained by multiplying the specific tariff rate by the first unit of quantity. The first unit of quantity is an amount, such as kilograms or number of items, rather than a value.
- 2 (specific tariff): Tariff revenue for products at the 8-digit level with rate type code 2 is calculated using the same method as tariff revenue for products at the 8-digit level with rate type code 1, but the specific rate is multiplied by the second unit of quantity rather than the first. The second unit of quantity is also an amount rather than a value; the USITC DataWeb/Census data record multiple units of quantity for some products.

⁷⁰² USITC DataWeb/Census, imports for consumption, HTS chapters 1–97, accessed April 10, 2025.

⁷⁰³ Borchert, et al., “Industry List,” in “ITPD-E Guide,” May 2020.

⁷⁰⁴ Because column 1 and column 2 AVEs were both calculated using observed total import data, column 2 AVEs represent imputed tariff levels in a hypothetical situation where imports remain at their observed values but are charged column 2 tariffs.

⁷⁰⁵ For example, for a specific tariff rate-type code 1, the AVE is calculated as a product of specific rate times import quantity, all divided by the customs value of imports.

⁷⁰⁶ For more information, see USITC, “Tariff Database Code Key,” accessed May 6, 2026.

- 3 (compound tariff): Tariff revenue for products at the 8-digit level with rate type code 3 is given by the specific rate multiplied by the first unit of quantity plus the “other” rate multiplied by the second unit of quantity. The “other” rate is a second specific tariff rate provided for products whose imports are recorded using two different units of quantity.
- 4 (compound tariff): Tariffs for products at the 8-digit level with rate type code 4 have a specific component and an ad valorem component. Tariff revenue is therefore the sum of a specific rate multiplied by the first unit of quantity and an ad valorem rate multiplied by the value.
- 5 (compound tariff): Tariff revenue calculations for products at the 8-digit level with rate type code 5 proceed in the same manner as with rate type code 4, but with the second unit of quantity instead of the first.
- 6 (compound tariff): Tariffs for products at the 8-digit level with rate type code 6 have three components: a specific rate, an “other” rate, and an ad valorem rate. Tariff revenue is therefore the sum of the specific rate multiplied by the first unit of quantity, the “other” rate multiplied by the second unit of quantity, and the ad valorem rate multiplied by the customs value.
- 7 (ad valorem tariff): Imports of products at the 8-digit level with rate type code 7 are charged ad valorem tariffs, so the AVE is simply the given tariff rate.
- 9: See below for more details.
- K: These 8-digit subheadings represent imports of cane/beet sugar whose tariff revenues depend on the degrees of polarity exhibited by the sugar.⁷⁰⁷ Tariffs are equal to the maximum of R_1 cents/kg minus R_2 cents/kg for every degree of polarity under 100, or alternatively R_3 cents/kg, where $R_3 < R_1$ and R_1, R_2 , and R_3 are specific rates. Data on degrees of polarity for imported sugar were not available, so calculations assume an average import polarity of 96 degrees.
- X: Calculations of tariff revenues are different for every good. See below for more details.
- T: Revenues need to be calculated using data on 10-digit statistical reporting numbers. See below for more details.

Rate type codes 9, X, and T require calculations that are more detailed than those others outlined above. Calculations of AVEs for products with rate type codes 9, X, or T require multiple assumptions given limitations in the data. As a robustness check, aggregated tariff rates at the ITPD-E sector level were also calculated after dropping rate type codes 9, X, and T from consideration.⁷⁰⁸ This adjustment did not change any of the estimated AVEs significantly. AVE methodologies for these rate type codes and the associated HTS subheadings are featured below.

Rate Type Code 9

- Subheadings 2106.90.52, 2106.90.54, 2202.99.36, 2202.99.37: These subheadings represent preparations of juices and are assigned the rate applicable to the natural juice in HTS

⁷⁰⁷ The term “polarity” in reference to sugar is an indicator of the sugar’s purity. Industry analysts have stated that the standard for “raw value” sugar is 96 degrees of polarity.

⁷⁰⁸ Rate type codes 9, X, and T accounted for only 1.24 percent of the total customs value of imports from China in 2023.

heading 2009. Because information on the types of juice composing each juice preparation is not available, the AVE for products under these subheadings is given by the total tariff revenue across all 8-digit products composing heading 2009, divided by the total customs value across that heading.

- Subheadings 5810.91.00, 5810.92.10, 5810.92.90, 5810.99.10, 5810.99.90: These subheadings represent embroidery products, and additional U.S. notes 1–5 to HTS chapter 58 describe tariff rates for these products. AVEs for products under these subheadings are set by the rates described in columns 1 and 2 of the additional notes, ignoring any indicated caveats.
- Subheadings 6103.22.00–6103.29.20; 6104.22.00–6104.29.20; 6203.22.30–6203.29.30; 6204.21.00–6204.29.40: These subheadings relate to clothing ensembles and are charged the rate applicable to each garment in the ensemble if separately entered. The AVE for products under these subheadings is given by the weighted average tariff rate of every item in the relevant clothing ensemble; total tariff revenue across all products at the 8-digit level in the given ensemble is divided by total customs value across all products at the 8-digit level in the ensemble. A men’s suit, for example, would consist of jacket, shirt, and pants.
- Subheading 8205.90.60: This subheading includes sets of tools comprising one or more items in HTS heading 8205, and the tariff rate is the rate of duty applicable to that article in the set of tools with the highest rate of duty. Because information on the types of tools composing each tool set in subheading 8205.90.60 is not available, AVEs are calculated as the weighted average tariff rate across all 8-digit subheadings in heading 8205.
- Subheading 8206.00.00: This subheading includes tools of two or more headings of headings 8202 through 8205 put up in sets for retail sale. AVE calculations proceed in the same manner as for subheading 8205.90.60, but across all items from headings 8202 through 8205.
- Subheading 8211.10.00: This subheading includes sets of knives. AVE calculations proceed in the same manner as for subheading 8205.90.60, but across all items in heading 8211.
- Subheading 8215.10.00: Sets of assorted kitchenware, of which at least one item is plated with precious metal. AVE calculations proceed in the same manner as for subheading 8205.90.60, but across all products in subheading 8215.91.
- Subheading 8215.20.00: Sets of assorted kitchenware where no items are plated with precious metal. AVE calculations proceed in the same manner as for subheading 8205.90.60, but across all items in subheading 8215.99.
- Subheading 9005.90.40: Parts and accessories for binoculars, monoculars, optical telescopes, or astronomical instruments. These products are included in subheadings 9005.10.00, 9005.80.40, and 9005.80.60, and AVEs are calculated as a weighted average tariff rate across these three subheadings.
- Subheading 9005.90.80: Parts and accessories incorporating parts not included in subheading 9005.90.40. AVEs are calculated using the same method as AVEs for subheading 9005.90.40.
- Subheading 9017.90.01: Parts and accessories for drawing, marking-out or mathematical calculating instruments, and for hand-held instruments for measuring length. AVEs are calculated as a weighted average across subheadings 9017.20.40 and 9017.20.80.

- Subheading 9110.11.00: Complete watch movements, unassembled or partly assembled. AVEs are calculated as a weighted average tariff rate across all 8-digit subheadings included in heading 9108. Note that some of these subheadings have tariff code T and so were calculated according to the process described in the T section below.
- Subheading 9110.90.20: Complete clock movements, unassembled or partly assembled. Same process as for subheading 9110.11.00, but under heading 9109.
- Subheading 9608.50.00: Sets of pens, mechanical pencils, etc. from two or more subheadings within subheadings 9608.10–9608.40. AVEs are calculated as a weighted average tariff rate across all 8-digit subheadings composing subheadings 9608.10, 9608.20, 9608.30, and 9608.40.
- Subheading 9620.00.15: Accessories of heading 9005, charged the rate applicable to the article of which it is an accessory. Tariff rate is the aggregate tariff rate of all subheadings in heading 9005.
- Subheading 9620.00.30: Same as subheading 9620.00.15, but with goods under heading 9015.

Rate Type Code X⁷⁰⁹

- Subheading 7801.10.00: Unwrought refined lead, charged 2.5 percent on the value of the lead content. Information on the value of lead content is not available, so this product is simply assigned an ad valorem tariff rate of 0.025.
- Subheading 9114.90.30: Assemblies and subassemblies for clock movements consisting of two or more pieces or parts fastened or joined inseparably together. Imports under this subheading are charged 6 percent + 2.3 cents/jewel + 0.2 cents for each other piece or part, but if consisting in part of a plate or a set of plates the total duty shall not exceed the duty for the complete movement. Tariff revenue for this product was calculated as the sum of 6 percent multiplied by the customs value and 2.3 cents multiplied by the total quantity.

Rate Type Code T

Import data provide all the information necessary to calculate AVEs for these goods, but doing so requires data on imports under HTS 10-digit statistical reporting numbers.⁷¹⁰ For example, imports under subheading 9101.11.40, a subheading for wrist watches, are charged 51 cents per item plus 6.25 percent on the case and strap, band, or bracelet and 5.3 percent on the battery. U.S. import data for subheading 9101.11.40 are divided into four 10-digit statistical reporting numbers corresponding to the movement; case; strap, band, or bracelet; and battery of the watch, so these subproducts are matched with their appropriate tariff rates to construct aggregate tariff revenue. Aggregate tariff revenue is then divided by the customs value of imports under subheading 9101.11.40 to construct an AVE.

⁷⁰⁹ Several other product subheadings with rate type code X are not discussed in this section because the United States did not import products under those subheadings in 2023.

⁷¹⁰ USITC DataWeb/Census, Imports for consumption, HTS chapters 1–97, accessed April 10, 2025.

Appendix G: Data Tables for Figures

Table G.1 U.S. imports and exports of goods and services with China, 2000–2025In billions of US dollars. Corresponds to [figure 1.2](#).

Year	U.S. exports to China	U.S. imports from China
2000	21.8	103.2
2001	24.9	105.6
2002	28.1	129.1
2003	34.4	156.4
2004	42.1	202.3
2005	50.6	250.6
2006	65.3	296.5
2007	77.6	331.8
2008	86.4	348.7
2009	85.7	305.9
2010	112.4	376.4
2011	129.4	412.0
2012	140.4	439.1
2013	157.0	455.0
2014	165.3	483.4
2015	162.7	498.8
2016	169.0	479.0
2017	186.1	523.3
2018	178.9	557.4
2019	166.1	469.0
2020	165.7	448.7
2021	191.7	525.8
2022	196.7	561.7
2023	195.3	446.5
2024	198.3	462.2
2025	162.6	331.9

Source: USITC DataWeb/Census, accessed June 5, 2026. U.S. Department of Commerce, Bureau of Economic Analysis, table 3.3, “U.S. International Trade in Services by Area and Country, Not Seasonally Adjusted Detail,” accessed June 5, 2026.

Table G.2 U.S. imports and exports of manufactured goods with China, 2000–2025In billions of US dollars. Corresponds to [figure 1.3](#).

Year	U.S. exports to China	U.S. imports from China
2000	13.8	97.3
2001	16.4	99.7
2002	19.1	122.1
2003	21.9	148.6
2004	26.6	192.1
2005	32.6	237.7
2006	42.3	280.8
2007	49.4	313.6
2008	51.8	328.9
2009	49.0	289.1
2010	64.1	356.9
2011	71.4	390.6
2012	73.2	417.4
2013	86.7	432.1
2014	91.1	459.2
2015	88.8	473.9
2016	86.5	453.5
2017	95.3	495.4
2018	98.2	527.8
2019	87.3	437.9
2020	89.1	421.0
2021	104.3	492.6
2022	103.8	523.7
2023	98.3	415.0
2024	101.7	426.4
2025	92.6	290.6

Source: USITC DataWeb/Census; NAICS 31, 32, and 33; accessed June 5, 2026.

Table G.3 Change in U.S. producer and consumer price indexes relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.1](#).

Years from baseline	Producer prices	Consumer prices
Year 1	0.57	0.84
Year 2	0.66	0.92
Year 3	0.73	0.98
Year 4	0.78	1.01
Year 5	0.80	1.02
Year 6	0.80	1.02
Long run	0.55	0.68

Source: USITC estimates.

Table G.4 Change in U.S. intermediate input price index relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.2](#).

Years from baseline	Intermediate price
Year 1	1.03
Year 2	1.10
Year 3	1.15
Year 4	1.17
Year 5	1.17
Year 6	1.16
Long run	0.75

Source: USITC estimates.

Table G.5 Change in U.S. total shipments and real output relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.3](#).

Years from baseline	Total shipments	Real output
Year 1	0.12	-0.44
Year 2	0.24	-0.42
Year 3	0.33	-0.39
Year 4	0.40	-0.37
Year 5	0.44	-0.35
Year 6	0.46	-0.34
Long run	0.35	-0.20

Source: USITC estimates.

Table G.6 Change in U.S. imports from China relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.4](#).

Years from baseline	Percentage change (%)
Year 1	-6.5
Year 2	-11.3
Year 3	-16.5
Year 4	-21.6
Year 5	-26.3
Year 6	-30.8
Long run	-73.8

Source: USITC estimates.

Table G.7 Change in total U.S. imports relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.5](#).

Years from baseline	Percentage change (%)
Year 1	-0.04
Year 2	-0.08
Year 3	-0.16
Year 4	-0.26
Year 5	-0.38
Year 6	-0.49
Long run	-1.79

Source: USITC estimates.

Table G.8 Change in U.S. imports relative to 2023 baseline

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.6](#).

Years from baseline	Imports from China	Imports from all other sources
Year 1	-29.6	28.1
Year 2	-51.8	48.5
Year 3	-75.6	69.0
Year 4	-98.7	88.1
Year 5	-120.5	105.4
Year 6	-140.9	121.1
Long run	-337.9	266.4

Source: USITC estimates.

Table G.9 Change in U.S. shipments relative to 2023 baseline

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.7](#).

Years from baseline	Domestic shipments	Exports
Year 1	49.6	-2.3
Year 2	98.7	-5.0
Year 3	141.7	-9.0
Year 4	171.7	-13.6
Year 5	192.2	-18.4
Year 6	205.9	-23.3
Long run	216.3	-77.6

Source: USITC estimates.

Table G.10 Change in U.S. consumer prices by sector relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.8](#).

Years from baseline	Manufacturing	Services	Agriculture	Mining and energy
Year 1	2.13	0.51	0.55	0.54
Year 2	2.15	0.60	0.65	0.63
Year 3	2.16	0.67	0.72	0.71
Year 4	2.14	0.72	0.77	0.75
Year 5	2.11	0.74	0.79	0.77
Year 6	2.07	0.75	0.80	0.78
Long run	1.30	0.52	0.55	0.52

Source: USITC estimates.

Table G.11 Change in real output by sector relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 2.9](#).

Years from baseline	Agriculture	Mining and energy	Manufacturing	Services
Year 1	-0.43	-0.43	-0.43	-0.43
Year 2	-0.43	-0.43	-0.43	-0.43
Year 3	-0.43	-0.43	-0.43	-0.43
Year 4	-0.43	-0.43	-0.43	-0.43
Year 5	-0.43	-0.43	-0.43	-0.43
Year 6	-0.43	-0.43	-0.43	-0.43
Long run	-0.43	-0.43	-0.43	-0.43

Source: USITC estimates.

Table G.12 Value of U.S. domestic shipments, imports, and exports of games and toys, 2022–2025

In billions of dollars. Corresponds to [figure 3.1](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	0.8	1.0	28.9	5.8
2023	0.7	1.0	23.4	5.9
2024	0.7	1.1	21.1	5.8
2025	0.8	1.0	11.8	10.2

Sources: USITC DataWeb/Census, Domestic exports and imports for consumption, NAICS 339930, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 339930, December 2024; Census, Manufacturers' Shipments, Inventories, & Orders - Historical Data, Value of shipments, 39S, February 23, 2026.

Note: Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Table G.13 Estimated value of U.S. domestic shipments and imports of games and toys as a result of PNTR status revocation

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Corresponds to [figure 3.2](#).

Years from baseline	Domestic shipments	Imports from China	Imports from all other sources
Baseline (2023)	0.7	23.4	5.9
Year 1	0.7	23.4	5.9
Year 2	0.7	23.2	6.1
Year 3	0.8	22.6	6.5
Year 4	0.8	22.0	7.0
Year 5	0.9	21.3	7.5
Year 6	0.9	20.6	8.0
Long run	2.0	8.3	17.0

Sources: USITC estimates; USITC DataWeb/Census, Domestic exports and imports for consumption, NAICS 339930, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 339930, December 2024; Census, Manufacturers' Shipments, Inventories, & Orders - Historical Data, Value of shipments, 39S, February 23, 2026.

Note: Baseline values are from 2023 in order to maximize consistency with the data used in the gravity model simulation described in [chapter 2](#) and [appendix D](#). Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports. The figure depicts trade and domestic shipments in the first year following PNTR revocation when there are few immediate adjustments in supply. The figure also shows how trade and domestic shipments are estimated to adjust after the sixth year following PNTR revocation and over the long run.

Table G.14 Change in total shipments, real output, and employment in the U.S. games and toys industry relative to 2023 baseline as a result of PNTR status revocation

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. Corresponds to [figure 3.3](#).

Years from baseline	Total shipments	Real output	Employment
Year 1	0.3	-0.4	0.1
Year 2	1.5	0.7	1.2
Year 3	4.4	3.6	4.1
Year 4	7.5	6.5	7.0
Year 5	10.6	9.6	10.1
Year 6	13.8	12.8	13.3
Long run	73.3	72.2	72.6

Source: USITC estimates.

Table G.15 Value of U.S. domestic shipments, imports, and exports of technical textiles, 2022–2025

In billions of dollars.

Corresponds to [figure 3.4](#).

Year	Domestic Shipments	Exports	Imports from China	Imports from all other sources
2022	7.5	4.0	0.8	4.0
2023	6.9	3.9	0.7	3.7
2024	6.6	3.9	0.8	4.0
2025	6.7	3.7	0.6	3.9

Sources: USITC DataWeb/Census, Domestic exports and imports for consumption, NAICS 313220, 313230, and 313320, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 313220, 313230, and 313320, December 2024; Census, Manufacturers' Shipments, Inventories, & Orders - Historical Data, Value of shipments, 13S, February 23, 2026.

Note: Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Table G.16 Estimated value of U.S. domestic shipments and imports of technical textiles as a result of PNTR status revocation

In billions of dollars. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 3.5](#).

Years from baseline	Domestic shipments	Imports from China	Imports from all other sources
Baseline (2023)	6.9	0.7	3.7
Year 1	6.9	0.7	3.7
Year 2	6.9	0.7	3.8
Year 3	7.0	0.6	3.8
Year 4	7.0	0.5	3.8
Year 5	7.1	0.5	3.8
Year 6	7.1	0.5	3.9
Long run	7.4	0.1	4.1

Sources: USITC estimates; USITC DataWeb/Census, Domestic exports and imports for consumption, NAICS 313220, 313230, and 313320, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 313220, 313230, and 313320, December 2024; Census, Manufacturers' Shipments, Inventories, & Orders - Historical Data, Value of shipments, 13S, February 23, 2026.

Note: Baseline values are from 2023 in order to maximize consistency with the data used in the gravity model simulation described in [appendix D](#). Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Table G.17 Change in total shipments, real output, and employment in the U.S. technical textiles industry relative to 2023 baseline as a result of PNTR status revocation

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change.

Corresponds to [figure 3.6](#).

Years from baseline	Total shipments	Real output	Employment
Year 1	0.2	-0.6	0.1
Year 2	0.4	-0.4	0.2
Year 3	0.8	-0.1	0.5
Year 4	1.2	0.2	0.8
Year 5	1.5	0.5	1.0
Year 6	1.7	0.8	1.3
Long run	3.3	2.6	2.9

Source: USITC estimates.

Table G.18 Value of U.S. domestic shipments, imports, and exports of machine tools and power tools, 2022–25

In billions of dollars. Corresponds to [figure 3.7](#).

Year	Domestic Shipments	Exports	Imports from China	Imports from all other sources
2022	13.6	13.6	13.6	13.6
2023	13.6	13.6	13.6	13.6
2024	13.6	13.6	13.6	13.6
2025	13.6	13.6	13.6	13.6

Sources: USITC DataWeb/Census, Domestic exports and imports for consumption, NAICS 333517, 333991, and 333992, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 333517, 333991, and 333992, December 2024; Census, Manufacturers' Shipments, Inventories, & Orders - Historical Data, Value of shipments, 33A, 33C, 33D, 33G, 33H, 33I, 33M, and 33S, February 23, 2026.

Note: Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Table G.19 Estimated value of U.S. domestic shipments and imports of machine tools and power tools as a result of PNTR status revocationIn billions of dollars. Corresponds to [figure 3.8](#).

Years from baseline	Domestic shipments	Imports from China	Imports from all other sources
Baseline (2023)	13.5	2.7	13.3
Year 1	13.5	2.7	13.3
Year 2	13.5	2.7	13.3
Year 3	13.6	2.6	13.4
Year 4	13.7	2.5	13.5
Year 5	13.7	2.4	13.6
Year 6	13.8	2.3	13.6
Long run	14.7	1.1	14.6

Sources: USITC estimates; USITC DataWeb/Census, Domestic exports and imports for consumption, NAICS 333517, 333991, and 333992, accessed March 6, 2026; Census, 2022 Economic Census, Sales, value of shipments, or revenue, NAICS 333517, 333991, and 333992, December 2024; Census, Manufacturers' Shipments, Inventories, & Orders - Historical Data, Value of shipments, 33A, 33C, 33D, 33G, 33H, 33I, 33M, and 33S, February 23, 2026.

Note: Baseline values are from 2023 in order to maximize consistency with the data used in the gravity model simulation described in [appendix D](#). Domestic shipments are the U.S. industry's shipments to other facilities in the United States. U.S. domestic shipments are estimated as the difference between total shipments and U.S. exports.

Table G.20 Change in total shipments, real output, and employment in the machine tools and power tools industry relative to 2023 baseline as a result of PNTR status revocationIn percentages. Corresponds to [figure 3.9](#).

Years from baseline	Total shipments	Real output	Employment
Year 1	0.2	-0.5	0.1
Year 2	0.3	-0.5	0.0
Year 3	0.5	-0.4	0.1
Year 4	0.6	-0.3	0.2
Year 5	0.8	-0.1	0.4
Year 6	0.9	0.0	0.5
Long run	2.5	1.9	2.2

Source: USITC estimates.

Table G.21 Change in prices in year 1 between immediate and phased-in tariff increase relative to 2024 baselineIn percentages. Corresponds to [figure 4.1](#).

NSP-producing industry	Phased-in tariff increase	Immediate tariff increase
Battery	2.1	7.4
Communications equipment	2.3	6.9
Electronic computer	1.7	4.4
Motor and generator	0.5	1.7
Ball and roller bearing	1.0	3.0
Speed changer, industrial high-speed drive, and gear	0.5	1.6

Source: USITC estimates.

Table G.22 U.S. domestic shipments, imports, and exports of batteries by value, 2022–25In billions of dollars. Corresponds to [figure 4.2](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	24.1	4.1	11.0	11.5
2023	38.2	5.3	15.3	12.5
2024	41.3	8.8	17.4	13.3
2025	50.7	6.8	12.2	14.9

Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 33591, accessed March 2, 2026; U.S. Census Bureau, “Shipments,” 2022 Economic Census, December 2024; U.S. Census Bureau, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers’ Shipments, Inventories, & Orders - Historical Data, January 29, 2026.

Table G.23 Estimated value of U.S. domestic battery shipments following PNTR revocationIn billions of dollars. Corresponds to [figure 4.3](#).

Year	Shipments
Baseline	41,319.8
Phased-in year 1	43,125.5
Phased-in year 2	44,637.8
Phased-in year 3	45,902.1
Phased-in year 4	48,294.6
Phased-in year 5	49,356.5
Phased-in year 6	49,356.5
Immediate year 1	47,823.5
Immediate year 2	47,823.5
Immediate year 3	47,823.5
Immediate year 4	49,356.5
Immediate year 5	49,356.5
Immediate year 6	49,356.5

Source: USITC estimates.

Table G.24 Change in the average price of batteries in the U.S. market relative to 2024 baseline
In percentages. Corresponds to [figure 4.4](#).

Year	Phased-in tariff increase	Immediate tariff increase
Year 1	2.1	7.4
Year 2	3.8	7.4
Year 3	5.2	7.4
Year 4	4.9	5.6
Year 5	5.7	5.7
Year 6	5.7	5.7

Source: USITC estimates.

Table G.25 U.S. domestic shipments, imports, and exports of communications equipment by value, 2022–25
In billions of dollars. Corresponds to [figure 4.5](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	20.0	12.3	63.5	63.0
2023	18.5	14.0	54.3	64.4
2024	19.6	13.8	50.2	72.9
2025	18.6	17.6	30.2	122.9

Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 334220, accessed March 2, 2026; U.S. Census Bureau, “Shipments,” 2022 Economic Census, December 2024; U.S. Census Bureau, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers’ Shipments, Inventories, & Orders - Historical Data, January 29, 2026.

Note: Shipment data in 2022 are taken from 2022 Economic Census at the NAICS 6-digit level. For 2023 to 2025, shipment data are estimated based on changes seen in a more aggregated sector of Communications (34X).

Table G.26 Estimated value of U.S. domestic shipments and imports of communications equipment following PNTR revocationIn billions of dollars. Corresponds to [figure 4.6](#).

Year	Shipments
Baseline	19.6
Phased-in year 1	20.8
Phased-in year 2	21.6
Phased-in year 3	24.7
Phased-in year 4	25.5
Phased-in year 5	26.1
Phased-in year 6	26.1
Immediate year 1	22.6
Immediate year 2	22.6
Immediate year 3	26.1
Immediate year 4	26.1
Immediate year 5	26.1
Immediate year 6	26.1

Source: USITC estimates.

Table G.27 Change in the average price of communications equipment in the U.S. market relative to 2024 baselineIn percentages. Corresponds to [figure 4.7](#).

Year	Phased-in tariff increase	Immediate tariff increase
Year 1	2.3	6.9
Year 2	4.0	6.9
Year 3	4.8	6.3
Year 4	5.7	6.3
Year 5	6.3	6.3
Year 6	6.3	6.3

Source: USITC estimates.

Table G.28 U.S. domestic shipments, imports, and exports of electronic computers by value, 2022–25In billions of dollars. Corresponds to [figure 4.8](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	3.9	7.9	50.1	48.5
2023	5.7	8.1	37.6	49.4
2024	1.8	14.6	33.5	80.5
2025	-1.8	20.8	10.3	207.1

Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 334111, accessed March 2, 2026; U.S. Census Bureau, “Shipments,” 2022 Economic Census, December 2024; U.S. Census Bureau, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers’ Shipments, Inventories, & Orders - Historical Data, January 29, 2026

Table G.29 Estimated value of U.S. domestic electronic computer shipments and imports following PNTR revocationIn billions of dollars. Corresponds to [figure 4.9](#).

Year	Shipments
Baseline	1.76
Phased-in year 1	1.90
Phased-in year 2	1.99
Phased-in year 3	2.20
Phased-in year 4	2.26
Phased-in year 5	2.30
Phased-in year 6	2.30
Immediate year 1	2.10
Immediate year 2	2.10
Immediate year 3	2.30
Immediate year 4	2.30
Immediate year 5	2.30
Immediate year 6	2.30

Source: USITC estimates.

Table G.30 Change in the average price of electronic computers in the U.S. market relative to 2024 baselineIn percentages. Corresponds to [figure 4.10](#).

Year	Phased-in tariff increase	Immediate tariff increase
Year 1	1.7	4.4
Year 2	2.8	4.4
Year 3	3.5	4.4
Year 4	4.0	4.4
Year 5	4.4	4.4
Year 6	4.4	4.4

Source: USITC estimates.

Table G.31 U.S. domestic shipments, imports, and exports of motors and generators by value, 2022–25In billions of dollars. Corresponds to [figure 4.11](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	8.5	5.3	2.8	13.7
2023	8.2	7.5	2.3	14.3
2024	8.1	7.6	2.5	18.8
2025	7.9	8.0	2.2	20.4

Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 335312, accessed March 2, 2026; U.S. Census Bureau, “Shipments,” 2022 Economic Census, December 2024; U.S. Census Bureau, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers’ Shipments, Inventories, & Orders - Historical Data, January 29, 2026.

Table G.32 Estimated value of U.S. domestic shipments of motors and generators following PNTR revocation

In billions of dollars. Corresponds to [figure 4.12](#).

Year	Shipments
Baseline	8.06
Phased-in year 1	8.19
Phased-in year 2	8.28
Phased-in year 3	8.34
Phased-in year 4	8.45
Phased-in year 5	8.48
Phased-in year 6	8.48
Immediate year 1	8.41
Immediate year 2	8.41
Immediate year 3	8.41
Immediate year 4	8.48
Immediate year 5	8.48
Immediate year 6	8.48

Source: USITC estimates.

Table G.33 Change in the average price of motors and generators in the U.S. market relative to 2024 baseline

In percentages. Corresponds to [figure 4.13](#).

Year	Phased-in tariff increase	Immediate tariff increase
Year 1	0.5	1.7
Year 2	1.0	1.7
Year 3	1.3	1.7
Year 4	1.4	1.6
Year 5	1.6	1.6
Year 6	1.6	1.6

Source: USITC estimates.

Table G.34 U.S. domestic shipments, imports, and exports of bearings, by value, 2022–25In billions of dollars. Corresponds to [figure 4.14](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	2.9	2.9	0.9	3.8
2023	2.8	3.0	0.7	3.7
2024	2.8	3.2	0.7	3.9
2025	2.9	3.2	0.6	4.0

Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 332991, accessed March 2, 2026; U.S. Census Bureau, “Shipments,” 2022 Economic Census, December 2024; U.S. Census Bureau, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers' Shipments, Inventories, & Orders - Historical Data, January 29, 2026.

Note: Shipment data in 2022 taken from 2022 Economic Census at the NAICS-6 digit level. For 2023 to 2025, shipment data are estimated based on changes seen in a more aggregated sector of Fabricated Metal Products (32G).

Table G.35 Estimated value of U.S. domestic shipments and imports of bearings following PNTR revocationIn billions of dollars. Corresponds to [figure 4.15](#).

Year	Shipments
Baseline	2.81
Phased-in year 1	2.86
Phased-in year 2	2.90
Phased-in year 3	2.92
Phased-in year 4	2.95
Phased-in year 5	3.01
Phased-in year 6	3.01
Immediate year 1	2.96
Immediate year 2	2.96
Immediate year 3	2.96
Immediate year 4	2.96
Immediate year 5	3.01
Immediate year 6	3.01

Source: USITC estimates.

Table G.36 Change in the average price of bearings in the U.S. market relative to 2024 baseline
In percentages. Corresponds to [figure 4.16](#).

Year	Phased-in tariff increase	Immediate tariff increase
Year 1	1.0	3.0
Year 2	2.2	3.0
Year 3	2.7	3.0
Year 4	3.0	3.0
Year 5	2.6	2.6
Year 6	2.6	2.6

Source: USITC estimates.

Table G.37 U.S. domestic shipments, imports, and exports of gears, speed changers, and drives, by value, 2022–25

In billions of dollars. Corresponds to [figure 4.17](#).

Year	Domestic shipments	Exports	Imports from China	Imports from all other sources
2022	1.9	2.2	0.7	3.7
2023	2.0	2.2	0.6	3.9
2024	1.9	2.2	0.5	4.0
2025	2.1	2.3	0.5	4.4

Sources: USITC DataWeb/Census, domestic exports and imports for consumption for NAICS 333612, accessed March 2, 2026; U.S. Census Bureau, “Shipments,” 2022 Economic Census, December 2024; U.S. Census Bureau, “Value of Manufacturers’ Shipments for Industry Groups,” Manufacturers’ Shipments, Inventories, & Orders - Historical Data, January 29, 2026.

Note: Shipment data in 2022 taken from 2022 Economic Census at the NAICS 6-digit level. For 2023 to 2025, shipment data are estimated based on changes seen in a more aggregated sector of Power Transmission (33K).

Table G.38 Estimated value of U.S. domestic shipments and imports of gears, speed changers, and drives following PNTR revocation

In billions of dollars. Corresponds to [figure 4.18](#).

Year	Shipments
Baseline	1.94
Phased-in year 1	1.96
Phased-in year 2	1.97
Phased-in year 3	1.98
Phased-in year 4	2.01
Phased-in year 5	2.01
Phased-in year 6	2.01
Immediate year 1	1.98
Immediate year 2	1.98
Immediate year 3	1.98
Immediate year 4	2.01
Immediate year 5	2.01
Immediate year 6	2.01

Source: USITC estimates.

Table G.39 Change in the average price of gears, speed changers, and drives in the U.S. market relative to 2024 baselineIn percentages. Corresponds to [figure 4.19](#).

Year	Phased-in tariff increase	Immediate tariff increase
Year 1	0.5	1.6
Year 2	0.9	1.6
Year 3	1.2	1.6
Year 4	1.2	1.4
Year 5	1.4	1.4
Year 6	1.4	1.4

Source: USITC estimates.

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Table H.1 Change in U.S. consumer price index by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.51	0.60	0.68	0.72	0.75	0.76	0.52
Rice (raw)	0.44	0.53	0.60	0.64	0.66	0.67	0.47
Corn	0.54	0.63	0.71	0.75	0.78	0.78	0.54
Other cereals	0.46	0.55	0.63	0.67	0.70	0.71	0.50
Cereal products	0.34	0.42	0.48	0.51	0.53	0.54	0.39
Soybeans	0.53	0.63	0.70	0.74	0.77	0.77	0.53
Other oilseeds (excluding peanuts)	0.43	0.52	0.59	0.63	0.65	0.66	0.47
Animal feed ingredients and pet foods	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Raw and refined sugar and sugar crops	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other sweeteners	0.26	0.32	0.37	0.40	0.41	0.42	0.31
Pulses and legumes, dried, preserved	0.47	0.57	0.64	0.70	0.73	0.74	0.60
Fresh fruit	0.45	0.56	0.65	0.70	0.73	0.75	0.54
Fresh vegetables	0.55	0.67	0.76	0.82	0.85	0.86	0.62
Prepared fruits and fruit juices	0.54	0.64	0.71	0.75	0.78	0.78	0.54
Prepared vegetables	0.30	0.40	0.49	0.55	0.59	0.61	0.49
Nuts	0.51	0.61	0.69	0.74	0.76	0.77	0.56
Live Cattle	0.43	0.60	0.73	0.80	0.85	0.87	0.66
Live Swine	0.27	0.38	0.47	0.53	0.57	0.59	0.45
Eggs	0.54	0.63	0.71	0.75	0.78	0.78	0.54
Other meats, livestock products, and live animals	0.34	0.41	0.46	0.49	0.51	0.51	0.41
Cocoa and cocoa products	0.06	0.08	0.11	0.12	0.14	0.15	0.14
Beverages, nec	0.14	0.20	0.28	0.33	0.37	0.40	0.37
Cotton	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Tobacco leaves and cigarettes	0.28	0.34	0.39	0.42	0.44	0.45	0.34
Spices	0.45	0.49	0.53	0.56	0.58	0.60	0.56
Other agricultural products, nec	3.57	3.61	3.58	3.46	3.35	3.23	1.82
Forestry	0.20	0.27	0.32	0.36	0.38	0.39	0.30
Fishing	0.19	0.27	0.33	0.37	0.39	0.40	0.31
Mining of hard coal	0.53	0.62	0.70	0.74	0.77	0.77	0.53
Mining of lignite	0.53	0.62	0.70	0.74	0.77	0.77	0.53
Extraction crude petroleum and natural gas	0.35	0.45	0.53	0.58	0.61	0.63	0.40
Mining of iron ores	0.44	0.52	0.58	0.62	0.64	0.64	0.45
Other mining and quarrying	0.57	0.66	0.73	0.77	0.79	0.80	0.55
Electricity production, collection, and distribution	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Gas production and distribution	0.73	0.82	0.88	0.92	0.93	0.93	0.62

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Processing/preserving of meat	0.76	0.84	0.90	0.93	0.95	0.94	0.63
Processing/preserving of fish	0.42	0.46	0.49	0.51	0.52	0.52	0.40
Processing/preserving of fruit & vegetables	0.88	0.96	1.02	1.05	1.06	1.06	0.75
Vegetable and animal oils and fats	0.67	0.75	0.81	0.84	0.85	0.86	0.57
Dairy products	0.78	0.86	0.92	0.95	0.96	0.96	0.64
Grain mill products	0.74	0.82	0.88	0.91	0.93	0.93	0.62
Starches and starch products	0.77	0.84	0.90	0.93	0.94	0.94	0.65
Prepared animal feeds	0.81	0.89	0.95	0.98	0.99	0.99	0.66
Bakery products	0.76	0.84	0.91	0.94	0.96	0.96	0.64
Sugar	0.69	0.77	0.84	0.87	0.89	0.89	0.60
Cocoa chocolate and sugar confectionery	0.77	0.85	0.91	0.94	0.96	0.96	0.65
Macaroni noodles & similar products	0.74	0.81	0.86	0.89	0.90	0.90	0.64
Other food products n.e.c.	0.79	0.86	0.92	0.95	0.96	0.96	0.65
Distilling rectifying & blending of spirits	0.57	0.67	0.74	0.78	0.80	0.81	0.56
Wines	0.62	0.69	0.74	0.77	0.78	0.78	0.52
Malt liquors and malt	0.73	0.83	0.91	0.95	0.97	0.97	0.65
Soft drinks; mineral waters	0.75	0.83	0.89	0.92	0.94	0.94	0.62
Tobacco products	0.79	0.87	0.93	0.97	0.98	0.98	0.65
Textile fibre preparation; textile weaving	1.48	1.51	1.53	1.53	1.51	1.48	0.89
Made-up textile articles except apparel	20.49	20.09	19.53	19.00	18.49	17.99	11.15
Carpets and rugs	1.98	1.98	1.97	1.94	1.90	1.85	1.07
Cordage rope twine and netting	4.27	4.33	4.23	4.11	3.98	3.84	2.15
Other textiles n.e.c.	4.01	4.02	3.92	3.80	3.67	3.55	1.97
Knitted and crocheted fabrics and articles	6.36	6.30	6.18	6.05	5.92	5.78	3.71
Wearing apparel except fur apparel	9.31	9.32	9.19	8.94	8.69	8.44	5.19
Dressing & dyeing of fur; processing of fur	3.01	3.04	2.97	2.89	2.81	2.73	1.63
Tanning and dressing of leather	0.50	0.56	0.61	0.64	0.65	0.65	0.44
Luggage handbags etc.; saddlery & harness	6.51	6.52	6.52	6.53	6.54	6.54	5.54
Footwear	5.82	5.80	5.78	5.77	5.77	5.76	5.35
Sawmilling and planing of wood	0.64	0.72	0.78	0.82	0.83	0.84	0.56
Veneer sheets plywood particle board etc.	0.88	0.96	1.02	1.05	1.06	1.06	0.72
Builders' carpentry and joinery	0.81	0.89	0.95	0.98	0.99	0.99	0.67
Wooden containers	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Other wood products; articles of cork/straw	2.35	2.42	2.47	2.49	2.47	2.44	1.79
Pulp paper and paperboard	0.67	0.75	0.81	0.84	0.86	0.86	0.57
Corrugated paper and paperboard	0.98	1.05	1.10	1.12	1.13	1.12	0.72

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Other articles of paper and paperboard	2.44	2.41	2.38	2.32	2.26	2.19	1.21
Publishing of books and other publications	0.73	0.81	0.87	0.91	0.92	0.92	0.61
Publishing of newspapers journals etc.	0.16	0.21	0.25	0.27	0.29	0.29	0.22
Publishing of recorded media	0.53	0.60	0.65	0.67	0.69	0.69	0.46
Other publishing	3.57	3.64	3.69	3.72	3.64	3.56	2.22
Printing	0.83	0.91	0.97	1.00	1.01	1.01	0.67
Service activities related to printing	0.77	0.85	0.91	0.94	0.96	0.96	0.63
Coke oven products	0.79	0.87	0.93	0.96	0.97	0.97	0.64
Refined petroleum products	0.78	0.86	0.92	0.95	0.96	0.96	0.63
Processing of nuclear fuel	0.13	0.15	0.16	0.17	0.18	0.18	0.13
Basic chemicals except fertilizers	1.30	1.34	1.37	1.38	1.37	1.34	0.85
Fertilizers and nitrogen compounds	0.57	0.64	0.69	0.73	0.74	0.74	0.50
Plastics in primary forms; synthetic rubber	0.99	1.05	1.09	1.10	1.10	1.08	0.67
Pesticides and other agro-chemical products	1.05	1.13	1.19	1.22	1.23	1.23	0.89
Paints varnishes printing ink and mastics	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Pharmaceuticals medicinal chemicals etc.	0.70	0.74	0.76	0.77	0.77	0.76	0.48
Soap cleaning & cosmetic preparations	1.39	1.39	1.39	1.36	1.33	1.29	0.72
Other chemical products n.e.c.	2.39	2.43	2.46	2.45	2.41	2.37	1.65
Man-made fibres	1.43	1.46	1.47	1.47	1.45	1.42	0.85
Rubber tyres and tubes	0.61	0.68	0.73	0.76	0.78	0.78	0.57
Other rubber products	2.15	2.16	2.16	2.13	2.09	2.04	1.25
Plastic products	4.01	3.95	3.85	3.74	3.62	3.50	1.94
Glass and glass products	3.48	3.49	3.44	3.38	3.31	3.23	2.03
Pottery china and earthenware	15.74	15.33	14.86	14.39	13.95	13.51	7.95
Refractory ceramic products	1.30	1.35	1.38	1.39	1.38	1.36	0.84
Struct.non-refractory clay; ceramic products	0.50	0.58	0.63	0.66	0.68	0.68	0.46
Cement lime and plaster	0.60	0.68	0.74	0.78	0.79	0.80	0.54
Articles of concrete cement and plaster	0.79	0.87	0.93	0.97	0.98	0.98	0.65
Cutting shaping & finishing of stone	2.69	2.73	2.71	2.67	2.62	2.57	1.68
Other non-metallic mineral products n.e.c.	0.87	0.94	1.00	1.03	1.03	1.03	0.66
Basic iron and steel	0.79	0.86	0.91	0.94	0.94	0.94	0.62
Basic precious and non-ferrous metals	0.54	0.60	0.65	0.68	0.69	0.69	0.47
Structural metal products	1.06	1.14	1.20	1.22	1.23	1.22	0.81
Tanks reservoirs and containers of metal	0.86	0.94	1.00	1.03	1.04	1.04	0.68

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Steam generators	1.38	1.44	1.48	1.48	1.47	1.45	0.92
Cutlery hand tools and general hardware	6.83	6.87	6.79	6.65	6.51	6.37	4.30
Other fabricated metal products n.e.c.	2.69	2.71	2.70	2.67	2.62	2.57	1.64
Engines & turbines (not for transport equipment)	0.84	0.90	0.94	0.95	0.95	0.94	0.59
Pumps compressors taps and valves	4.39	4.25	4.11	3.96	3.82	3.67	1.98
Bearings gears gearing & driving elements	2.39	2.35	2.31	2.26	2.19	2.12	1.18
Ovens furnaces and furnace burners	1.40	1.41	1.41	1.39	1.36	1.33	0.75
Lifting and handling equipment	2.11	2.09	2.06	2.01	1.96	1.90	1.05
Other general purpose machinery	2.80	2.79	2.77	2.73	2.68	2.61	1.61
Agricultural and forestry machinery	0.62	0.70	0.75	0.78	0.80	0.80	0.55
Machine tools	3.97	4.00	3.98	3.92	3.85	3.78	2.69
Machinery for metallurgy	0.83	0.90	0.96	0.99	1.00	1.00	0.65
Machinery for mining & construction	1.42	1.42	1.41	1.39	1.35	1.31	0.73
Food/beverage/tobacco processing machinery	2.27	2.28	2.27	2.23	2.19	2.15	1.37
Machinery for textile apparel and leather	3.39	3.30	3.21	3.11	3.00	2.90	1.58
Weapons and ammunition	1.13	1.19	1.23	1.26	1.27	1.26	0.87
Other special purpose machinery	1.97	1.96	1.93	1.90	1.86	1.81	1.08
Domestic appliances n.e.c.	8.52	8.23	7.95	7.67	7.40	7.13	3.93
Office accounting and computing machinery	9.89	9.40	8.94	8.50	8.08	7.68	3.64
Electric motors generators and transformers	3.12	3.12	3.09	3.04	2.98	2.91	1.86
Electricity distribution & control apparatus	2.18	2.26	2.28	2.28	2.25	2.22	1.50
Insulated wire and cable	4.47	4.28	4.10	3.92	3.74	3.56	1.74
Accumulators primary cells and batteries	14.04	13.58	13.15	12.74	12.34	11.96	7.05
Lighting equipment and electric lamps	6.55	6.59	6.51	6.40	6.28	6.16	4.29
Other electrical equipment n.e.c.	3.39	3.40	3.38	3.34	3.29	3.22	2.14
Electronic valves tubes etc.	1.55	1.61	1.66	1.67	1.66	1.64	1.15
TV/radio transmitters; line comm. apparatus	12.91	12.51	12.12	11.74	11.38	11.03	6.52
TV and radio receivers and associated goods	6.96	7.02	7.06	7.08	7.09	7.09	6.24
Medical surgical and orthopaedic equipment	1.76	1.74	1.71	1.66	1.60	1.54	0.82
Measuring/testing/navigating appliances etc.	1.58	1.59	1.58	1.55	1.52	1.47	0.82
Optical instruments & photographic equipment	6.30	6.05	5.81	5.58	5.36	5.14	2.70

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Watches and clocks	1.22	1.21	1.19	1.17	1.14	1.11	0.72
Motor vehicles	0.55	0.64	0.71	0.75	0.76	0.77	0.53
Automobile bodies trailers & semi-trailers	1.51	1.55	1.58	1.58	1.57	1.54	0.94
Parts/accessories for automobiles	1.36	1.41	1.45	1.46	1.46	1.44	0.92
Building and repairing of ships	0.61	0.68	0.73	0.76	0.78	0.78	0.51
Building/repairing of pleasure/sport. boats	0.81	0.88	0.94	0.96	0.97	0.97	0.63
Railway/tramway locomotives & rolling stock	1.11	1.17	1.22	1.23	1.23	1.22	0.78
Aircraft and spacecraft	0.56	0.62	0.66	0.68	0.69	0.69	0.44
Motorcycles	2.22	2.25	2.25	2.24	2.23	2.21	1.87
Bicycles and invalid carriages	3.79	3.83	3.82	3.79	3.74	3.69	2.75
Other transport equipment n.e.c.	2.32	2.33	2.32	2.29	2.25	2.20	1.33
Furniture	3.71	3.61	3.51	3.39	3.27	3.15	1.67
Jewellery and related articles	0.54	0.58	0.61	0.63	0.64	0.64	0.50
Musical instruments	5.73	5.72	5.61	5.48	5.36	5.23	3.47
Sports goods	8.06	8.08	8.09	8.09	8.09	8.08	6.72
Games and toys	37.81	37.43	36.74	36.09	35.46	34.84	24.27
Other manufacturing n.e.c.	8.27	8.26	8.06	7.86	7.65	7.45	4.71
Manufacturing services on physical inputs	0.52	0.62	0.69	0.74	0.76	0.77	0.53
Maintenance and repair services n.i.e.	0.44	0.52	0.59	0.63	0.65	0.66	0.45
Transport	0.57	0.66	0.72	0.76	0.78	0.78	0.53
Travel	0.57	0.67	0.74	0.78	0.80	0.80	0.55
Construction	0.69	0.78	0.85	0.88	0.90	0.90	0.60
Insurance and pension services	0.49	0.58	0.66	0.70	0.73	0.74	0.51
Financial services	0.47	0.57	0.64	0.69	0.71	0.72	0.50
Charges for use of intellectual property	0.46	0.55	0.62	0.66	0.68	0.69	0.47
Telecom, computer, information services	0.54	0.63	0.70	0.74	0.76	0.77	0.53
Other business services	0.48	0.57	0.65	0.69	0.72	0.72	0.50
Heritage and recreational services	0.52	0.62	0.70	0.74	0.76	0.77	0.53
Health services	0.46	0.56	0.64	0.69	0.71	0.72	0.50
Education services	0.33	0.43	0.52	0.57	0.61	0.62	0.44
Government goods and services n.i.e.	0.51	0.60	0.67	0.72	0.74	0.75	0.51
Services not allocated	0.45	0.54	0.61	0.65	0.67	0.68	0.47
Trade-related services	0.49	0.59	0.67	0.72	0.74	0.75	0.52
Other personal services	0.47	0.57	0.65	0.70	0.72	0.73	0.51

Source: USITC estimates.

Table H.2 Change in U.S. producer price index by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Rice (raw)	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Corn	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other cereals	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Cereal products	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Soybeans	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other oilseeds (excluding peanuts)	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Animal feed ingredients and pet foods	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Raw and refined sugar and sugar crops	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other sweeteners	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Pulses and legumes, dried, preserved	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Fresh fruit	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Fresh vegetables	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Prepared fruits and fruit juices	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Prepared vegetables	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Nuts	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Live Cattle	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Live Swine	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Eggs	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other meats, livestock products, and live animals	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Cocoa and cocoa products	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Beverages, nec	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Cotton	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Tobacco leaves and cigarettes	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Spices	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other agricultural products, nec	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Forestry	0.50	0.60	0.67	0.72	0.74	0.75	0.52
Fishing	0.53	0.63	0.70	0.75	0.77	0.78	0.53
Mining of hard coal	0.53	0.62	0.70	0.74	0.77	0.77	0.53
Mining of lignite	0.53	0.62	0.70	0.74	0.77	0.77	0.53
Extraction crude petroleum and natural gas	0.42	0.52	0.60	0.65	0.68	0.69	0.48
Mining of iron ores	0.54	0.64	0.71	0.76	0.78	0.79	0.54
Other mining and quarrying	0.57	0.66	0.74	0.78	0.80	0.81	0.55
Electricity production, collection, and distribution	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Gas production and distribution	0.73	0.82	0.88	0.92	0.93	0.93	0.62

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Processing/preserving of meat	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Processing/preserving of fish	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Processing/preserving of fruit & vegetables	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Vegetable and animal oils and fats	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Dairy products	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Grain mill products	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Starches and starch products	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Prepared animal feeds	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Bakery products	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Sugar	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Cocoa chocolate and sugar confectionery	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Macaroni noodles & similar products	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Other food products n.e.c.	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Distilling rectifying & blending of spirits	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Wines	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Malt liquors and malt	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Soft drinks; mineral waters	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Tobacco products	0.80	0.88	0.94	0.97	0.98	0.98	0.65
Textile fibre preparation; textile weaving	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Made-up textile articles except apparel	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Carpets and rugs	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Cordage rope twine and netting	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Other textiles n.e.c.	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Knitted and crocheted fabrics and articles	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Wearing apparel except fur apparel	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Dressing & dyeing of fur; processing of fur	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Tanning and dressing of leather	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Luggage handbags etc.; saddlery & harness	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Footwear	0.76	0.84	0.91	0.94	0.95	0.95	0.63
Sawmilling and planing of wood	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Veneer sheets plywood particle board etc.	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Builders' carpentry and joinery	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Wooden containers	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Other wood products; articles of cork/straw	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Pulp paper and paperboard	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Corrugated paper and paperboard	0.74	0.83	0.89	0.93	0.94	0.94	0.63

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Other articles of paper and paperboard	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Publishing of books and other publications	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Publishing of newspapers journals etc.	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Publishing of recorded media	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Other publishing	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Printing	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Service activities related to printing	0.74	0.83	0.89	0.93	0.94	0.94	0.63
Coke oven products	0.82	0.90	0.96	0.99	1.00	1.00	0.66
Refined petroleum products	0.82	0.90	0.96	0.99	1.00	1.00	0.66
Processing of nuclear fuel	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Basic chemicals except fertilizers	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Fertilizers and nitrogen compounds	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Plastics in primary forms; synthetic rubber	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Pesticides and other agro-chemical products	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Paints varnishes printing ink and mastics	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Pharmaceuticals medicinal chemicals etc.	0.63	0.72	0.79	0.83	0.85	0.85	0.58
Soap cleaning & cosmetic preparations	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Other chemical products n.e.c.	0.75	0.84	0.90	0.93	0.95	0.95	0.63
Man-made fibres	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Rubber tyres and tubes	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Other rubber products	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Plastic products	0.77	0.85	0.91	0.95	0.96	0.96	0.64
Glass and glass products	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Pottery china and earthenware	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Refractory ceramic products	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Struct.non-refractory clay; ceramic products	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Cement lime and plaster	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Articles of concrete cement and plaster	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Cutting shaping & finishing of stone	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Other non-metallic mineral products n.e.c.	0.72	0.80	0.87	0.90	0.92	0.92	0.61
Basic iron and steel	0.81	0.89	0.95	0.98	0.99	0.99	0.65
Basic precious and non-ferrous metals	0.81	0.89	0.95	0.98	0.99	0.99	0.65
Structural metal products	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Tanks reservoirs and containers of metal	0.73	0.81	0.88	0.91	0.93	0.93	0.62

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Steam generators	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Cutlery hand tools and general hardware	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Other fabricated metal products n.e.c.	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Engines & turbines (not for transport equipment)	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Pumps compressors taps and valves	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Bearings gears gearing & driving elements	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Ovens furnaces and furnace burners	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Lifting and handling equipment	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Other general purpose machinery	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Agricultural and forestry machinery	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Machine tools	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Machinery for metallurgy	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Machinery for mining & construction	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Food/beverage/tobacco processing machinery	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Machinery for textile apparel and leather	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Weapons and ammunition	0.75	0.83	0.89	0.93	0.94	0.94	0.63
Other special purpose machinery	0.73	0.81	0.88	0.91	0.93	0.93	0.62
Domestic appliances n.e.c.	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Office accounting and computing machinery	0.73	0.82	0.88	0.92	0.93	0.93	0.62
Electric motors generators and transformers	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Electricity distribution & control apparatus	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Insulated wire and cable	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Accumulators primary cells and batteries	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Lighting equipment and electric lamps	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Other electrical equipment n.e.c.	0.78	0.86	0.92	0.96	0.97	0.97	0.64
Electronic valves tubes etc.	0.74	0.82	0.89	0.92	0.94	0.94	0.62
TV/radio transmitters; line comm. apparatus	0.74	0.82	0.89	0.92	0.94	0.94	0.62
TV and radio receivers and associated goods	0.74	0.82	0.89	0.92	0.94	0.94	0.62
Medical surgical and orthopaedic equipment	0.71	0.79	0.86	0.89	0.91	0.91	0.61
Measuring/testing/navigating appliances etc.	0.74	0.82	0.89	0.92	0.94	0.94	0.62
Optical instruments & photographic equipment	0.74	0.82	0.89	0.92	0.94	0.94	0.62

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Watches and clocks	0.74	0.82	0.89	0.92	0.94	0.94	0.62
Motor vehicles	0.80	0.88	0.94	0.98	0.99	0.99	0.65
Automobile bodies trailers & semi-trailers	0.80	0.88	0.94	0.98	0.99	0.99	0.65
Parts/accessories for automobiles	0.80	0.88	0.94	0.98	0.99	0.99	0.65
Building and repairing of ships	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Building/repairing of pleasure/sport. boats	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Railway/tramway locomotives & rolling stock	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Aircraft and spacecraft	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Motorcycles	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Bicycles and invalid carriages	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Other transport equipment n.e.c.	0.76	0.84	0.90	0.94	0.95	0.95	0.63
Furniture	0.67	0.76	0.83	0.87	0.88	0.89	0.60
Jewellery and related articles	0.67	0.76	0.83	0.87	0.88	0.89	0.60
Musical instruments	0.67	0.76	0.83	0.87	0.88	0.89	0.60
Sports goods	0.67	0.76	0.83	0.87	0.88	0.89	0.60
Games and toys	0.67	0.76	0.83	0.87	0.88	0.89	0.60
Other manufacturing n.e.c.	0.67	0.76	0.83	0.87	0.88	0.89	0.60
Manufacturing services on physical inputs	0.52	0.62	0.69	0.74	0.76	0.77	0.53
Maintenance and repair services n.i.e.	0.52	0.62	0.69	0.74	0.76	0.77	0.53
Transport	0.61	0.70	0.78	0.82	0.84	0.84	0.57
Travel	0.61	0.70	0.77	0.81	0.83	0.84	0.57
Construction	0.69	0.78	0.85	0.88	0.90	0.90	0.60
Insurance and pension services	0.50	0.59	0.67	0.72	0.74	0.75	0.52
Financial services	0.50	0.59	0.67	0.72	0.74	0.75	0.52
Charges for use of intellectual property	0.52	0.62	0.69	0.74	0.76	0.77	0.53
Telecom, computer, information services	0.56	0.65	0.72	0.77	0.79	0.80	0.54
Other business services	0.50	0.60	0.68	0.72	0.75	0.76	0.52
Heritage and recreational services	0.53	0.62	0.70	0.74	0.76	0.77	0.53
Health services	0.46	0.56	0.64	0.69	0.71	0.72	0.50
Education services	0.33	0.43	0.52	0.58	0.61	0.62	0.45
Government goods and services n.i.e.	0.52	0.62	0.69	0.74	0.76	0.77	0.53
Services not allocated	0.52	0.62	0.69	0.74	0.76	0.77	0.53
Trade-related services	0.50	0.59	0.67	0.72	0.74	0.75	0.52
Other personal services	0.47	0.57	0.65	0.70	0.72	0.73	0.51

Source: USITC estimates.

Table H.3 Change in U.S. total shipments by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.15	0.26	0.35	0.40	0.44	0.46	-0.02
Rice (raw)	0.16	0.30	0.44	0.55	0.60	0.63	-0.05
Corn	0.14	0.25	0.34	0.40	0.43	0.44	0.22
Other cereals	-0.06	-0.06	-0.05	-0.05	-0.05	-0.05	-0.26
Cereal products	0.14	0.20	0.21	0.18	0.14	0.10	-0.50
Soybeans	-0.07	-0.07	-0.08	-0.09	-0.11	-0.16	-0.69
Other oilseeds (excluding peanuts)	0.14	0.24	0.32	0.38	0.41	0.43	0.07
Animal feed ingredients and pet foods	0.12	0.23	0.33	0.40	0.44	0.46	0.35
Raw and refined sugar and sugar crops	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Other sweeteners	0.12	0.23	0.33	0.39	0.40	0.37	-0.25
Pulses and legumes, dried, preserved	0.21	0.33	0.42	0.49	0.53	0.55	0.23
Fresh fruit	0.13	0.22	0.29	0.33	0.36	0.36	0.21
Fresh vegetables	0.13	0.25	0.35	0.41	0.45	0.48	0.50
Prepared fruits and fruit juices	0.12	0.23	0.33	0.39	0.43	0.45	0.35
Prepared vegetables	0.06	0.13	0.20	0.21	0.19	0.17	-0.15
Nuts	0.09	0.15	0.21	0.24	0.23	0.20	-0.25
Live Cattle	0.27	0.41	0.52	0.58	0.61	0.63	0.44
Live Swine	-0.13	-0.20	-0.34	-0.48	-0.61	-0.73	-1.83
Eggs	0.13	0.24	0.34	0.41	0.44	0.47	0.35
Other meats, livestock products, and live animals	0.03	0.04	0.04	-0.04	-0.14	-0.25	-1.37
Cocoa and cocoa products	0.13	0.20	0.26	0.29	0.32	0.33	-0.30
Beverages, n.e.c.	0.17	0.28	0.36	0.36	0.34	0.30	-0.25
Cotton	0.11	0.23	0.32	0.39	0.42	0.44	0.31
Tobacco leaves and cigarettes	-0.05	-0.05	-0.04	-0.14	-0.27	-0.39	-1.82
Spices	0.14	0.23	0.30	0.34	0.38	0.34	-0.45
Other agricultural products, nec	0.15	0.22	0.25	0.22	0.16	0.09	-0.82
Forestry	-0.14	-0.22	-0.30	-0.41	-0.52	-0.61	-1.15
Fishing	-0.09	-0.13	-0.17	-0.22	-0.33	-0.43	-1.40
Mining of hard coal	0.11	0.22	0.31	0.37	0.41	0.43	0.31
Mining of lignite	0.12	0.23	0.33	0.39	0.43	0.46	0.35
Extraction crude petroleum and natural gas	0.04	0.04	0.02	-0.03	-0.10	-0.17	-1.58
Mining of iron ores	-0.01	-0.03	-0.08	-0.15	-0.24	-0.33	-1.39
Other mining and quarrying	0.12	0.23	0.32	0.37	0.40	0.41	0.25
Electricity production, collection, and distribution	0.10	0.22	0.31	0.37	0.41	0.43	0.30
Gas production and distribution	0.12	0.24	0.33	0.40	0.44	0.46	0.36

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Processing/preserving of meat	0.12	0.23	0.33	0.39	0.43	0.45	0.26
Processing/preserving of fish	0.07	0.15	0.21	0.25	0.27	0.29	-0.02
Processing/preserving of fruit & vegetables	0.12	0.24	0.33	0.40	0.44	0.46	0.46
Vegetable and animal oils and fats	0.13	0.24	0.34	0.40	0.44	0.47	0.18
Dairy products	0.12	0.24	0.34	0.40	0.44	0.46	0.31
Grain mill products	0.13	0.25	0.35	0.42	0.47	0.49	0.18
Starches and starch products	0.16	0.29	0.39	0.45	0.49	0.52	0.39
Prepared animal feeds	0.12	0.23	0.33	0.39	0.43	0.45	0.32
Bakery products	0.12	0.24	0.34	0.40	0.44	0.46	0.33
Sugar	0.13	0.24	0.34	0.41	0.45	0.47	0.30
Cocoa chocolate and sugar confectionery	0.13	0.24	0.34	0.40	0.43	0.44	0.28
Macaroni noodles & similar products	0.13	0.25	0.35	0.41	0.44	0.45	0.25
Other food products n.e.c.	0.12	0.23	0.31	0.35	0.37	0.38	0.15
Distilling rectifying & blending of spirits	0.13	0.23	0.32	0.37	0.40	0.42	0.04
Wines	0.12	0.23	0.32	0.39	0.42	0.45	0.21
Malt liquors and malt	0.12	0.24	0.34	0.40	0.44	0.47	0.36
Soft drinks; mineral waters	0.12	0.24	0.34	0.40	0.44	0.46	0.28
Tobacco products	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Textile fibre preparation; textile weaving	0.17	0.44	0.67	0.85	0.99	1.10	1.58
Made-up textile articles except apparel	0.27	2.01	4.51	6.93	9.28	11.58	39.67
Carpets and rugs	0.14	0.49	0.82	1.09	1.31	1.49	2.56
Cordage rope twine and netting	0.16	0.27	0.90	1.51	2.04	2.51	6.17
Other textiles n.e.c.	0.20	0.43	0.84	1.19	1.47	1.72	3.29
Knitted and crocheted fabrics and articles	0.20	0.68	1.39	2.04	2.63	3.19	8.96
Wearing apparel except fur apparel	0.19	0.30	0.95	2.02	3.00	3.92	13.46
Dressing & dyeing of fur; processing of fur	0.12	0.23	0.60	0.91	1.17	1.39	3.17
Tanning and dressing of leather	-0.34	-0.70	-1.11	-1.53	-1.93	-2.32	-5.97
Luggage handbags etc.; saddlery & harness	0.13	0.21	0.28	0.32	0.35	0.37	4.50
Footwear	0.10	0.17	0.22	0.26	0.28	0.30	2.19
Sawmilling and planing of wood	0.05	0.10	0.14	0.14	0.12	0.08	-0.48
Veneer sheets plywood particle board etc.	0.12	0.24	0.34	0.42	0.47	0.51	0.63
Builders' carpentry and joinery	0.12	0.25	0.36	0.44	0.49	0.52	0.58
Wooden containers	0.12	0.24	0.33	0.39	0.43	0.44	0.29
Other wood products; articles of cork/straw	0.14	0.25	0.35	0.48	0.75	1.00	3.87

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Pulp paper and paperboard	-0.02	-0.02	-0.05	-0.11	-0.18	-0.27	-1.29
Corrugated paper and paperboard	0.20	0.39	0.56	0.68	0.77	0.84	1.10
Other articles of paper and paperboard	1.16	1.81	2.37	2.84	3.24	3.58	5.53
Publishing of books and other publications	0.12	0.24	0.33	0.40	0.43	0.45	0.30
Publishing of newspapers journals etc.	-0.04	-0.10	-0.18	-0.27	-0.37	-0.48	-1.55
Publishing of recorded media	0.08	0.14	0.19	0.22	0.25	0.26	-1.44
Other publishing	0.11	0.19	0.26	0.30	0.61	0.89	3.51
Printing	0.13	0.27	0.38	0.47	0.53	0.57	0.66
Service activities related to printing	0.12	0.24	0.34	0.41	0.45	0.47	0.38
Coke oven products	0.04	0.09	0.12	0.11	0.09	0.05	-0.57
Refined petroleum products	0.09	0.17	0.23	0.26	0.26	0.25	-0.18
Processing of nuclear fuel	-0.11	-0.29	-0.49	-0.72	-0.93	-1.15	-3.18
Basic chemicals except fertilizers	0.22	0.38	0.49	0.55	0.59	0.61	0.49
Fertilizers and nitrogen compounds	-0.10	-0.15	-0.22	-0.32	-0.43	-0.54	-1.87
Plastics in primary forms; synthetic rubber	0.05	0.05	-0.01	-0.09	-0.19	-0.31	-1.72
Pesticides and other agro-chemical products	0.13	0.23	0.31	0.37	0.41	0.43	0.39
Paints varnishes printing ink and mastics	0.14	0.24	0.32	0.36	0.38	0.38	0.11
Pharmaceuticals medicinal chemicals etc.	-0.21	-0.39	-0.64	-0.92	-1.19	-1.45	-4.05
Soap cleaning & cosmetic preparations	0.35	0.51	0.61	0.65	0.66	0.63	-0.26
Other chemical products n.e.c.	0.15	0.22	0.27	0.25	0.17	0.09	-1.04
Man-made fibres	0.29	0.45	0.55	0.60	0.62	0.63	0.15
Rubber tyres and tubes	0.01	-0.01	-0.07	-0.16	-0.26	-0.37	-1.42
Other rubber products	0.33	0.67	0.95	1.17	1.35	1.51	2.56
Plastic products	0.16	0.74	1.36	1.90	2.37	2.78	5.77
Glass and glass products	0.14	0.50	0.98	1.40	1.78	2.11	5.24
Pottery china and earthenware	0.19	1.24	2.41	3.49	4.52	5.50	15.84
Refractory ceramic products	0.28	0.47	0.61	0.70	0.77	0.81	0.79
Struct.non-refractory clay; ceramic products	0.08	0.12	0.13	0.11	0.07	0.01	-0.83
Cement lime and plaster	0.12	0.24	0.34	0.40	0.44	0.45	0.20
Articles of concrete cement and plaster	0.14	0.27	0.39	0.47	0.53	0.57	0.61
Cutting shaping & finishing of stone	0.14	0.26	0.69	1.10	1.46	1.78	4.97
Other non-metallic mineral products n.e.c.	0.23	0.39	0.51	0.59	0.64	0.68	0.59

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Basic iron and steel	0.07	0.14	0.17	0.17	0.14	0.10	-0.55
Basic precious and non-ferrous metals	-0.52	-0.81	-1.15	-1.50	-1.84	-2.17	-5.24
Structural metal products	0.12	0.24	0.37	0.48	0.57	0.64	1.06
Tanks reservoirs and containers of metal	0.12	0.25	0.37	0.45	0.51	0.55	0.63
Steam generators	0.11	0.28	0.45	0.57	0.66	0.73	1.10
Cutlery hand tools and general hardware	0.19	0.30	0.66	1.13	1.56	1.96	6.51
Other fabricated metal products n.e.c.	0.15	0.56	1.01	1.41	1.76	2.07	4.97
Engines & turbines (not for transport equipment)	-0.06	-0.12	-0.24	-0.38	-0.53	-0.68	-2.44
Pumps compressors taps and valves	0.10	0.08	-0.01	-0.12	-0.26	-0.39	-2.03
Bearings gears gearing & driving elements	0.44	0.78	1.05	1.25	1.40	1.53	1.91
Ovens furnaces and furnace burners	0.22	0.31	0.33	0.30	0.24	0.16	-1.13
Lifting and handling equipment	0.76	1.21	1.56	1.84	2.06	2.24	2.85
Other general purpose machinery	0.22	0.62	0.96	1.24	1.48	1.69	3.39
Agricultural and forestry machinery	-0.27	-0.37	-0.52	-0.68	-0.86	-1.03	-2.60
Machine tools	0.18	0.28	0.45	0.65	0.81	0.94	2.52
Machinery for metallurgy	0.16	0.30	0.42	0.50	0.55	0.59	0.56
Machinery for mining & construction	0.54	0.71	0.80	0.82	0.81	0.77	-0.48
Food/beverage/tobacco processing machinery	0.13	0.34	0.56	0.74	0.88	1.00	2.00
Machinery for textile apparel and leather	0.39	0.62	0.77	0.87	0.92	0.95	0.56
Weapons and ammunition	0.11	0.19	0.25	0.29	0.32	0.32	0.06
Other special purpose machinery	0.12	0.19	0.20	0.17	0.12	0.06	-0.87
Domestic appliances n.e.c.	2.52	4.78	6.87	8.79	10.57	12.21	26.29
Office accounting and computing machinery	0.36	0.34	0.20	0.00	-0.22	-0.44	-3.60
Electric motors generators and transformers	0.15	0.50	0.88	1.20	1.48	1.73	4.05
Electricity distribution & control apparatus	0.18	0.30	0.52	0.70	0.85	0.97	2.15
Insulated wire and cable	1.37	1.93	2.34	2.64	2.87	3.03	2.80
Accumulators primary cells and batteries	1.82	3.83	5.71	7.50	9.20	10.83	28.26
Lighting equipment and electric lamps	0.17	0.28	1.10	2.08	3.01	3.88	14.45
Other electrical equipment n.e.c.	0.20	0.33	0.41	0.44	0.45	0.44	0.27

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Electronic valves tubes etc.	0.08	0.15	0.20	0.21	0.20	0.19	-0.05
TV/radio transmitters; line comm. apparatus	1.41	2.95	4.39	5.75	7.04	8.27	21.35
TV and radio receivers and associated goods	0.18	0.26	0.32	0.36	0.39	0.40	-0.33
Medical surgical and orthopaedic equipment	0.50	0.65	0.72	0.72	0.69	0.64	-0.66
Measuring/testing/navigating appliances etc.	0.25	0.34	0.37	0.35	0.30	0.24	-0.98
Optical instruments & photographic equipment	0.56	1.10	1.53	1.89	2.20	2.46	3.97
Watches and clocks	0.05	-0.02	-0.15	-0.30	-0.46	-0.62	-2.26
Motor vehicles	-0.17	-0.25	-0.35	-0.48	-0.62	-0.75	-2.24
Automobile bodies trailers & semi-trailers	0.31	0.62	0.89	1.10	1.28	1.43	2.27
Parts/accessories for automobiles	0.38	0.64	0.86	1.04	1.18	1.29	2.07
Building and repairing of ships	0.12	0.23	0.33	0.39	0.43	0.43	0.02
Building/repairing of pleasure/sport. boats	0.12	0.23	0.32	0.36	0.38	0.39	0.14
Railway/tramway locomotives & rolling stock	0.23	0.38	0.50	0.57	0.61	0.64	0.49
Aircraft and spacecraft	-0.58	-0.90	-1.25	-1.61	-1.95	-2.28	-5.30
Motorcycles	0.13	0.23	0.41	0.56	0.70	0.82	2.94
Bicycles and invalid carriages	0.15	0.26	0.80	1.36	1.89	2.39	8.74
Other transport equipment n.e.c.	0.21	0.71	1.16	1.55	1.89	2.18	4.48
Furniture	1.61	2.73	3.70	4.55	5.30	5.95	10.27
Jewellery and related articles	0.04	0.07	0.09	0.10	0.10	0.01	-1.03
Musical instruments	0.13	0.36	0.98	1.53	2.04	2.51	7.74
Sports goods	0.18	0.29	0.38	0.44	0.48	0.50	8.76
Games and toys	0.26	1.46	4.43	7.47	10.60	13.84	73.25
Other manufacturing n.e.c.	0.19	0.53	2.04	3.45	4.78	6.02	19.37
Manufacturing services on physical inputs	0.12	0.24	0.33	0.40	0.44	0.46	0.35
Maintenance and repair services n.i.e.	0.10	0.19	0.26	0.31	0.33	0.32	-0.05
Transport	0.12	0.23	0.32	0.39	0.42	0.44	0.23
Travel	0.12	0.24	0.33	0.39	0.42	0.43	0.22
Construction	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Insurance and pension services	0.12	0.23	0.33	0.40	0.43	0.46	0.34
Financial services	0.12	0.23	0.31	0.35	0.37	0.38	0.13
Charges for use of intellectual property	0.11	0.21	0.29	0.35	0.38	0.40	0.25
Telecom, computer, information services	0.12	0.23	0.33	0.39	0.43	0.45	0.29
Other business services	0.12	0.23	0.33	0.39	0.43	0.45	0.28

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Heritage and recreational services	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Health services	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Education services	0.11	0.22	0.31	0.37	0.40	0.42	0.26
Government goods and services n.i.e.	0.12	0.23	0.32	0.39	0.42	0.44	0.30
Services not allocated	0.12	0.22	0.31	0.36	0.38	0.37	-0.03
Trade-related services	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Other personal services	0.12	0.24	0.33	0.40	0.44	0.46	0.36

Source: USITC estimates.

Table H.4 Change in U.S. real output by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	-0.39	-0.38	-0.36	-0.35	-0.34	-0.32	-0.56
Rice (raw)	-0.38	-0.34	-0.27	-0.21	-0.17	-0.15	-0.58
Corn	-0.40	-0.39	-0.37	-0.35	-0.34	-0.34	-0.32
Other cereals	-0.60	-0.69	-0.76	-0.80	-0.82	-0.83	-0.79
Cereal products	-0.40	-0.43	-0.50	-0.57	-0.63	-0.68	-1.03
Soybeans	-0.60	-0.71	-0.79	-0.84	-0.88	-0.94	-1.22
Other oilseeds (excluding peanuts)	-0.41	-0.39	-0.39	-0.38	-0.37	-0.35	-0.47
Animal feed ingredients and pet foods	-0.42	-0.40	-0.38	-0.36	-0.34	-0.33	-0.19
Raw and refined sugar and sugar crops	-0.42	-0.40	-0.38	-0.36	-0.34	-0.32	-0.18
Other sweeteners	-0.42	-0.40	-0.38	-0.36	-0.38	-0.41	-0.78
Pulses and legumes, dried, preserved	-0.33	-0.31	-0.29	-0.27	-0.25	-0.23	-0.31
Fresh fruit	-0.41	-0.41	-0.42	-0.42	-0.42	-0.42	-0.33
Fresh vegetables	-0.41	-0.39	-0.36	-0.34	-0.32	-0.31	-0.04
Prepared fruits and fruit juices	-0.42	-0.40	-0.38	-0.36	-0.34	-0.33	-0.19
Prepared vegetables	-0.48	-0.50	-0.51	-0.55	-0.58	-0.61	-0.68
Nuts	-0.45	-0.48	-0.50	-0.51	-0.54	-0.58	-0.79
Live Cattle	-0.27	-0.22	-0.19	-0.17	-0.16	-0.16	-0.10
Live Swine	-0.67	-0.83	-1.04	-1.22	-1.38	-1.50	-2.35
Eggs	-0.42	-0.39	-0.37	-0.35	-0.33	-0.32	-0.19
Other meats, livestock products, and live animals	-0.51	-0.60	-0.67	-0.79	-0.92	-1.03	-1.90
Cocoa and cocoa products	-0.41	-0.44	-0.45	-0.46	-0.46	-0.45	-0.83
Beverages, nec	-0.38	-0.36	-0.35	-0.39	-0.44	-0.49	-0.79
Cotton	-0.43	-0.41	-0.38	-0.37	-0.36	-0.34	-0.23
Tobacco leaves and cigarettes	-0.59	-0.68	-0.75	-0.89	-1.04	-1.17	-2.34
Spices	-0.40	-0.41	-0.41	-0.41	-0.40	-0.45	-0.98
Other agricultural products, nec	-0.39	-0.41	-0.46	-0.54	-0.61	-0.69	-1.35

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Forestry	-0.64	-0.81	-0.97	-1.13	-1.25	-1.35	-1.66
Fishing	-0.62	-0.76	-0.86	-0.96	-1.09	-1.20	-1.92
Mining of hard coal	-0.41	-0.40	-0.38	-0.37	-0.36	-0.34	-0.22
Mining of lignite	-0.41	-0.39	-0.36	-0.35	-0.33	-0.32	-0.18
Extraction crude petroleum and natural gas	-0.38	-0.47	-0.58	-0.68	-0.77	-0.85	-2.06
Mining of iron ores	-0.56	-0.66	-0.79	-0.90	-1.01	-1.11	-1.92
Other mining and quarrying	-0.45	-0.43	-0.42	-0.41	-0.40	-0.39	-0.30
Electricity production, collection, and distribution	-0.62	-0.60	-0.57	-0.54	-0.52	-0.50	-0.32
Gas production and distribution	-0.61	-0.58	-0.54	-0.51	-0.49	-0.47	-0.26
Processing/preserving of meat	-0.67	-0.64	-0.61	-0.58	-0.55	-0.53	-0.38
Processing/preserving of fish	-0.72	-0.72	-0.72	-0.72	-0.70	-0.69	-0.66
Processing/preserving of fruit & vegetables	-0.67	-0.63	-0.60	-0.57	-0.54	-0.52	-0.19
Vegetable and animal oils and fats	-0.67	-0.63	-0.59	-0.56	-0.53	-0.51	-0.47
Dairy products	-0.67	-0.63	-0.60	-0.56	-0.54	-0.51	-0.34
Grain mill products	-0.66	-0.62	-0.58	-0.54	-0.51	-0.49	-0.46
Starches and starch products	-0.63	-0.59	-0.55	-0.51	-0.49	-0.46	-0.26
Prepared animal feeds	-0.67	-0.64	-0.61	-0.58	-0.55	-0.53	-0.33
Bakery products	-0.67	-0.63	-0.60	-0.57	-0.54	-0.51	-0.31
Sugar	-0.67	-0.63	-0.59	-0.56	-0.53	-0.51	-0.35
Cocoa chocolate and sugar confectionery	-0.67	-0.63	-0.59	-0.56	-0.55	-0.54	-0.37
Macaroni noodles & similar products	-0.66	-0.62	-0.59	-0.55	-0.54	-0.53	-0.39
Other food products n.e.c.	-0.67	-0.64	-0.62	-0.61	-0.61	-0.60	-0.49
Distilling rectifying & blending of spirits	-0.66	-0.64	-0.62	-0.60	-0.57	-0.55	-0.60
Wines	-0.68	-0.64	-0.61	-0.58	-0.55	-0.53	-0.44
Malt liquors and malt	-0.67	-0.63	-0.59	-0.56	-0.53	-0.51	-0.28
Soft drinks; mineral waters	-0.67	-0.64	-0.60	-0.57	-0.54	-0.52	-0.37
Tobacco products	-0.67	-0.64	-0.60	-0.57	-0.54	-0.52	-0.29
Textile fibre preparation; textile weaving	-0.58	-0.40	-0.24	-0.09	0.03	0.14	0.94
Made-up textile articles except apparel	-0.49	1.16	3.57	5.93	8.25	10.52	38.79
Carpets and rugs	-0.62	-0.35	-0.08	0.15	0.35	0.53	1.91
Cordage rope twine and netting	-0.60	-0.57	0.00	0.56	1.07	1.54	5.50
Other textiles n.e.c.	-0.56	-0.41	-0.06	0.24	0.51	0.76	2.64
Knitted and crocheted fabrics and articles	-0.56	-0.17	0.48	1.09	1.66	2.21	8.27
Wearing apparel except fur apparel	-0.57	-0.54	0.05	1.07	2.03	2.94	12.74
Dressing & dyeing of fur; processing of fur	-0.63	-0.61	-0.30	-0.03	0.21	0.43	2.52
Tanning and dressing of leather	-1.09	-1.53	-2.00	-2.44	-2.86	-3.24	-6.56

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Luggage handbags etc.; saddlery & harness	-0.62	-0.62	-0.62	-0.61	-0.60	-0.58	3.84
Footwear	-0.66	-0.67	-0.68	-0.68	-0.67	-0.65	1.55
Sawmilling and planing of wood	-0.68	-0.71	-0.74	-0.77	-0.81	-0.84	-1.09
Veneer sheets plywood particle board etc.	-0.60	-0.57	-0.54	-0.50	-0.45	-0.42	0.01
Builders' carpentry and joinery	-0.61	-0.56	-0.52	-0.48	-0.44	-0.41	-0.05
Wooden containers	-0.61	-0.58	-0.54	-0.52	-0.50	-0.49	-0.33
Other wood products; articles of cork/straw	-0.59	-0.56	-0.53	-0.44	-0.18	0.06	3.22
Pulp paper and paperboard	-0.76	-0.84	-0.94	-1.03	-1.12	-1.20	-1.90
Corrugated paper and paperboard	-0.54	-0.43	-0.33	-0.25	-0.17	-0.10	0.47
Other articles of paper and paperboard	0.41	0.97	1.46	1.89	2.27	2.61	4.88
Publishing of books and other publications	-0.62	-0.59	-0.55	-0.53	-0.50	-0.49	-0.32
Publishing of newspapers journals etc.	-0.78	-0.92	-1.06	-1.19	-1.30	-1.40	-2.16
Publishing of recorded media	-0.66	-0.69	-0.70	-0.70	-0.69	-0.67	-2.06
Other publishing	-0.63	-0.63	-0.63	-0.62	-0.33	-0.05	2.87
Printing	-0.61	-0.56	-0.50	-0.45	-0.41	-0.37	0.03
Service activities related to printing	-0.62	-0.58	-0.54	-0.51	-0.49	-0.46	-0.25
Coke oven products	-0.77	-0.80	-0.83	-0.87	-0.90	-0.94	-1.22
Refined petroleum products	-0.72	-0.72	-0.72	-0.72	-0.73	-0.74	-0.83
Processing of nuclear fuel	-0.87	-1.13	-1.40	-1.65	-1.88	-2.09	-3.79
Basic chemicals except fertilizers	-0.54	-0.47	-0.42	-0.39	-0.36	-0.34	-0.14
Fertilizers and nitrogen compounds	-0.86	-0.99	-1.12	-1.25	-1.38	-1.49	-2.50
Plastics in primary forms; synthetic rubber	-0.71	-0.80	-0.91	-1.03	-1.14	-1.25	-2.34
Pesticides and other agro-chemical products	-0.64	-0.62	-0.59	-0.57	-0.55	-0.53	-0.25
Paints varnishes printing ink and mastics	-0.62	-0.60	-0.59	-0.58	-0.58	-0.57	-0.53
Pharmaceuticals medicinal chemicals etc.	-0.83	-1.10	-1.42	-1.73	-2.02	-2.29	-4.60
Soap cleaning & cosmetic preparations	-0.42	-0.33	-0.30	-0.29	-0.30	-0.32	-0.89
Other chemical products n.e.c.	-0.60	-0.61	-0.63	-0.68	-0.77	-0.85	-1.66
Man-made fibres	-0.47	-0.40	-0.36	-0.34	-0.33	-0.33	-0.48
Rubber tyres and tubes	-0.75	-0.85	-0.97	-1.09	-1.21	-1.32	-2.05
Other rubber products	-0.43	-0.18	0.04	0.22	0.39	0.54	1.91
Plastic products	-0.60	-0.11	0.44	0.94	1.39	1.80	5.10
Glass and glass products	-0.57	-0.30	0.12	0.50	0.85	1.18	4.59
Pottery china and earthenware	-0.52	0.43	1.53	2.57	3.57	4.54	15.13
Refractory ceramic products	-0.43	-0.33	-0.25	-0.20	-0.15	-0.11	0.17
Struct.non-refractory clay; ceramic products	-0.63	-0.67	-0.73	-0.79	-0.84	-0.90	-1.43

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Cement lime and plaster	-0.59	-0.56	-0.53	-0.50	-0.47	-0.46	-0.41
Articles of concrete cement and plaster	-0.58	-0.52	-0.47	-0.43	-0.39	-0.35	0.00
Cutting shaping & finishing of stone	-0.57	-0.54	-0.17	0.19	0.54	0.86	4.33
Other non-metallic mineral products n.e.c.	-0.48	-0.41	-0.36	-0.31	-0.27	-0.24	-0.02
Basic iron and steel	-0.73	-0.74	-0.77	-0.81	-0.84	-0.88	-1.20
Basic precious and non-ferrous metals	-1.32	-1.68	-2.08	-2.46	-2.81	-3.13	-5.86
Structural metal products	-0.60	-0.57	-0.51	-0.43	-0.35	-0.28	0.44
Tanks reservoirs and containers of metal	-0.60	-0.56	-0.50	-0.46	-0.41	-0.37	0.01
Steam generators	-0.61	-0.53	-0.43	-0.34	-0.27	-0.20	0.48
Cutlery hand tools and general hardware	-0.53	-0.51	-0.22	0.21	0.63	1.02	5.85
Other fabricated metal products n.e.c.	-0.57	-0.25	0.13	0.49	0.82	1.13	4.33
Engines & turbines (not for transport equipment)	-0.78	-0.93	-1.10	-1.28	-1.44	-1.59	-3.04
Pumps compressors taps and valves	-0.63	-0.73	-0.88	-1.03	-1.17	-1.31	-2.63
Bearings gears gearing & driving elements	-0.29	-0.03	0.17	0.33	0.47	0.59	1.28
Ovens furnaces and furnace burners	-0.50	-0.50	-0.54	-0.61	-0.68	-0.76	-1.74
Lifting and handling equipment	0.03	0.39	0.68	0.92	1.12	1.30	2.22
Other general purpose machinery	-0.51	-0.19	0.08	0.33	0.55	0.76	2.75
Agricultural and forestry machinery	-0.99	-1.17	-1.38	-1.58	-1.77	-1.94	-3.20
Machine tools	-0.55	-0.53	-0.42	-0.26	-0.12	0.02	1.89
Machinery for metallurgy	-0.57	-0.51	-0.46	-0.41	-0.37	-0.34	-0.06
Machinery for mining & construction	-0.19	-0.10	-0.08	-0.09	-0.12	-0.16	-1.09
Food/beverage/tobacco processing machinery	-0.60	-0.47	-0.31	-0.17	-0.05	0.07	1.37
Machinery for textile apparel and leather	-0.34	-0.19	-0.11	-0.05	-0.01	0.02	-0.06
Weapons and ammunition	-0.63	-0.63	-0.64	-0.63	-0.62	-0.62	-0.56
Other special purpose machinery	-0.60	-0.61	-0.67	-0.73	-0.80	-0.87	-1.48
Domestic appliances n.e.c.	1.72	3.89	5.89	7.76	9.50	11.13	25.48
Office accounting and computing machinery	-0.37	-0.47	-0.68	-0.91	-1.14	-1.36	-4.19
Electric motors generators and transformers	-0.63	-0.35	-0.04	0.24	0.51	0.75	3.38
Electricity distribution & control apparatus	-0.59	-0.55	-0.40	-0.26	-0.12	0.00	1.50
Insulated wire and cable	0.59	1.06	1.40	1.67	1.88	2.04	2.14
Accumulators primary cells and batteries	1.03	2.94	4.75	6.48	8.15	9.77	27.44
Lighting equipment and electric lamps	-0.60	-0.57	0.17	1.11	2.02	2.89	13.72
Other electrical equipment n.e.c.	-0.58	-0.52	-0.51	-0.51	-0.52	-0.52	-0.37

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Electronic valves tubes etc.	-0.65	-0.67	-0.68	-0.70	-0.72	-0.74	-0.67
TV/radio transmitters; line comm. apparatus	0.66	2.12	3.48	4.78	6.04	7.26	20.59
TV and radio receivers and associated goods	-0.56	-0.55	-0.56	-0.55	-0.54	-0.53	-0.95
Medical surgical and orthopaedic equipment	-0.20	-0.14	-0.14	-0.17	-0.21	-0.27	-1.26
Measuring/testing/navigating appliances etc.	-0.48	-0.47	-0.51	-0.57	-0.63	-0.69	-1.59
Optical instruments & photographic equipment	-0.18	0.27	0.64	0.96	1.25	1.51	3.33
Watches and clocks	-0.68	-0.84	-1.02	-1.21	-1.38	-1.54	-2.86
Motor vehicles	-0.97	-1.12	-1.28	-1.44	-1.59	-1.72	-2.87
Automobile bodies trailers & semi-trailers	-0.49	-0.26	-0.06	0.13	0.29	0.44	1.61
Parts/accessories for automobiles	-0.42	-0.24	-0.08	0.06	0.19	0.30	1.41
Building and repairing of ships	-0.63	-0.60	-0.57	-0.54	-0.51	-0.52	-0.61
Building/repairing of pleasure/sport. boats	-0.63	-0.60	-0.58	-0.57	-0.56	-0.56	-0.49
Railway/tramway locomotives & rolling stock	-0.52	-0.45	-0.40	-0.36	-0.33	-0.31	-0.15
Aircraft and spacecraft	-1.33	-1.72	-2.13	-2.52	-2.87	-3.20	-5.90
Motorcycles	-0.62	-0.60	-0.49	-0.37	-0.25	-0.13	2.30
Bicycles and invalid carriages	-0.61	-0.58	-0.11	0.42	0.93	1.42	8.06
Other transport equipment n.e.c.	-0.54	-0.12	0.26	0.61	0.93	1.22	3.82
Furniture	0.93	1.95	2.85	3.66	4.37	5.02	9.61
Jewellery and related articles	-0.63	-0.69	-0.74	-0.76	-0.78	-0.87	-1.62
Musical instruments	-0.54	-0.40	0.15	0.66	1.14	1.60	7.10
Sports goods	-0.49	-0.47	-0.44	-0.42	-0.40	-0.39	8.12
Games and toys	-0.41	0.69	3.57	6.55	9.64	12.84	72.23
Other manufacturing n.e.c.	-0.48	-0.23	1.20	2.56	3.86	5.09	18.67
Manufacturing services on physical inputs	-0.40	-0.38	-0.36	-0.34	-0.32	-0.31	-0.18
Maintenance and repair services n.i.e.	-0.42	-0.42	-0.43	-0.43	-0.43	-0.45	-0.58
Transport	-0.49	-0.47	-0.45	-0.43	-0.41	-0.40	-0.34
Travel	-0.48	-0.46	-0.44	-0.42	-0.41	-0.41	-0.34
Construction	-0.57	-0.54	-0.51	-0.48	-0.46	-0.44	-0.25
Insurance and pension services	-0.38	-0.36	-0.34	-0.32	-0.30	-0.29	-0.17
Financial services	-0.38	-0.36	-0.36	-0.36	-0.37	-0.37	-0.39
Charges for use of intellectual property	-0.41	-0.40	-0.40	-0.39	-0.38	-0.37	-0.28
Telecom, computer, information services	-0.44	-0.42	-0.39	-0.38	-0.36	-0.35	-0.25
Other business services	-0.38	-0.37	-0.35	-0.33	-0.32	-0.31	-0.24
Heritage and recreational services	-0.40	-0.38	-0.36	-0.34	-0.33	-0.31	-0.17
Health services	-0.34	-0.32	-0.31	-0.29	-0.28	-0.26	-0.15

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Education services	-0.22	-0.21	-0.21	-0.20	-0.20	-0.20	-0.18
Government goods and services n.i.e.	-0.40	-0.38	-0.37	-0.35	-0.34	-0.33	-0.22
Services not allocated	-0.40	-0.39	-0.38	-0.38	-0.38	-0.39	-0.55
Trade-related services	-0.37	-0.35	-0.33	-0.32	-0.30	-0.29	-0.16
Other personal services	-0.35	-0.33	-0.31	-0.30	-0.28	-0.27	-0.15

Source: USITC estimates.

Table H.5 Change in U.S. domestic shipments by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.12	0.23	0.33	0.40	0.44	0.46	0.33
Rice (raw)	0.12	0.23	0.33	0.40	0.43	0.43	0.19
Corn	0.12	0.24	0.33	0.40	0.44	0.46	0.35
Other cereals	0.12	0.23	0.33	0.40	0.44	0.46	0.30
Cereal products	0.12	0.22	0.26	0.27	0.25	0.22	-0.38
Soybeans	0.12	0.24	0.33	0.40	0.44	0.46	0.34
Other oilseeds (excluding peanuts)	0.12	0.23	0.33	0.40	0.44	0.46	0.24
Animal feed ingredients and pet foods	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Raw and refined sugar and sugar crops	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Other sweeteners	0.12	0.23	0.33	0.39	0.40	0.38	-0.24
Pulses and legumes, dried, preserved	0.12	0.23	0.33	0.40	0.44	0.46	0.47
Fresh fruit	0.11	0.21	0.29	0.35	0.38	0.40	0.35
Fresh vegetables	0.12	0.24	0.33	0.40	0.44	0.46	0.50
Prepared fruits and fruit juices	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Prepared vegetables	0.12	0.23	0.33	0.37	0.37	0.37	0.19
Nuts	0.12	0.24	0.33	0.40	0.43	0.46	0.41
Live Cattle	0.12	0.23	0.33	0.40	0.46	0.50	0.76
Live Swine	0.12	0.23	0.28	0.30	0.30	0.29	-0.04
Eggs	0.12	0.24	0.33	0.40	0.44	0.46	0.35
Other meats, livestock products, and live animals	0.12	0.23	0.33	0.35	0.35	0.32	-0.10
Cocoa and cocoa products	0.11	0.23	0.33	0.39	0.43	0.45	-0.27
Beverages, nec	0.11	0.23	0.33	0.33	0.30	0.27	-0.21
Cotton	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Tobacco leaves and cigarettes	0.12	0.23	0.33	0.35	0.33	0.29	-0.33
Spices	0.12	0.23	0.33	0.40	0.44	0.44	0.41
Other agricultural products, nec	0.15	0.26	0.61	1.17	1.66	2.09	5.46
Forestry	0.12	0.23	0.30	0.30	0.27	0.22	-0.49
Fishing	0.12	0.23	0.33	0.37	0.35	0.32	-0.32

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Mining of hard coal	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Mining of lignite	0.12	0.23	0.33	0.40	0.44	0.46	0.36
Extraction crude petroleum and natural gas	0.08	0.17	0.24	0.28	0.29	0.29	-0.44
Mining of iron ores	0.05	0.11	0.13	0.13	0.10	0.06	-0.59
Other mining and quarrying	0.12	0.24	0.33	0.39	0.43	0.45	0.35
Electricity production, collection, and distribution	0.11	0.22	0.32	0.38	0.41	0.43	0.32
Gas production and distribution	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Processing/preserving of meat	0.12	0.23	0.33	0.40	0.44	0.46	0.33
Processing/preserving of fish	0.11	0.23	0.33	0.39	0.43	0.45	0.20
Processing/preserving of fruit & vegetables	0.12	0.24	0.33	0.40	0.44	0.46	0.54
Vegetable and animal oils and fats	0.12	0.23	0.33	0.40	0.44	0.46	0.22
Dairy products	0.12	0.24	0.33	0.40	0.44	0.46	0.33
Grain mill products	0.12	0.23	0.33	0.40	0.44	0.46	0.30
Starches and starch products	0.12	0.23	0.33	0.40	0.44	0.46	0.36
Prepared animal feeds	0.12	0.24	0.33	0.40	0.44	0.46	0.38
Bakery products	0.12	0.23	0.33	0.40	0.44	0.46	0.35
Sugar	0.12	0.23	0.33	0.40	0.44	0.46	0.30
Cocoa chocolate and sugar confectionery	0.12	0.24	0.33	0.40	0.43	0.45	0.37
Macaroni noodles & similar products	0.12	0.23	0.33	0.40	0.43	0.44	0.33
Other food products n.e.c.	0.12	0.24	0.33	0.39	0.42	0.44	0.36
Distilling rectifying & blending of spirits	0.12	0.23	0.33	0.40	0.44	0.46	0.21
Wines	0.12	0.23	0.33	0.40	0.43	0.46	0.24
Malt liquors and malt	0.12	0.23	0.33	0.40	0.44	0.46	0.36
Soft drinks; mineral waters	0.12	0.23	0.33	0.40	0.44	0.46	0.30
Tobacco products	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Textile fibre preparation; textile weaving	0.15	0.45	0.71	0.92	1.09	1.22	1.98
Made-up textile articles except apparel	0.30	3.35	7.81	12.16	16.42	20.58	71.47
Carpets and rugs	0.13	0.51	0.87	1.16	1.41	1.61	2.88
Cordage rope twine and netting	0.15	0.27	0.99	1.68	2.29	2.84	7.15
Other textiles n.e.c.	0.15	0.48	1.24	1.90	2.49	3.01	7.00
Knitted and crocheted fabrics and articles	0.17	0.99	2.31	3.55	4.70	5.80	17.41
Wearing apparel except fur apparel	0.20	0.32	1.25	2.80	4.26	5.62	19.82
Dressing & dyeing of fur; processing of fur	0.14	0.26	0.80	1.25	1.65	2.00	4.91
Tanning and dressing of leather	0.00	0.00	-0.03	-0.10	-0.18	-0.27	-1.37
Luggage handbags etc.; saddlery & harness	0.17	0.29	0.39	0.45	0.49	0.51	9.17
Footwear	0.17	0.28	0.38	0.44	0.48	0.51	8.57

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Sawmilling and planing of wood	0.07	0.15	0.20	0.23	0.23	0.22	-0.18
Veneer sheets plywood particle board etc.	0.12	0.24	0.33	0.41	0.47	0.51	0.67
Builders' carpentry and joinery	0.12	0.25	0.36	0.44	0.50	0.53	0.60
Wooden containers	0.12	0.24	0.33	0.40	0.43	0.45	0.34
Other wood products; articles of cork/straw	0.13	0.25	0.35	0.48	0.75	1.01	3.92
Pulp paper and paperboard	0.06	0.13	0.18	0.20	0.20	0.19	-0.25
Corrugated paper and paperboard	0.20	0.39	0.56	0.68	0.77	0.84	1.12
Other articles of paper and paperboard	1.37	2.14	2.82	3.40	3.90	4.33	6.96
Publishing of books and other publications	0.12	0.24	0.33	0.40	0.44	0.45	0.32
Publishing of newspapers journals etc.	-0.23	-0.39	-0.60	-0.83	-1.06	-1.30	-3.67
Publishing of recorded media	0.12	0.23	0.33	0.39	0.43	0.46	0.07
Other publishing	0.15	0.26	0.36	0.42	0.85	1.25	4.94
Printing	0.13	0.27	0.39	0.47	0.53	0.57	0.67
Service activities related to printing	0.12	0.24	0.34	0.41	0.45	0.48	0.40
Coke oven products	0.10	0.21	0.29	0.34	0.37	0.38	0.18
Refined petroleum products	0.10	0.21	0.29	0.34	0.36	0.37	0.11
Processing of nuclear fuel	-0.15	-0.33	-0.55	-0.81	-1.09	-1.36	-4.05
Basic chemicals except fertilizers	0.34	0.63	0.87	1.07	1.23	1.36	2.20
Fertilizers and nitrogen compounds	-0.05	-0.04	-0.06	-0.11	-0.17	-0.25	-1.23
Plastics in primary forms; synthetic rubber	0.29	0.48	0.64	0.74	0.81	0.86	0.78
Pesticides and other agro-chemical products	0.12	0.24	0.34	0.40	0.44	0.46	0.79
Paints varnishes printing ink and mastics	0.12	0.25	0.35	0.42	0.46	0.49	0.44
Pharmaceuticals medicinal chemicals etc.	0.23	0.28	0.26	0.20	0.11	0.01	-1.28
Soap cleaning & cosmetic preparations	0.57	0.88	1.11	1.27	1.38	1.45	1.24
Other chemical products n.e.c.	0.13	0.25	0.35	0.55	0.82	1.06	3.66
Man-made fibres	0.54	0.89	1.18	1.42	1.60	1.76	2.53
Rubber tyres and tubes	0.03	0.07	0.08	0.06	0.02	-0.02	-0.32
Other rubber products	0.43	0.95	1.42	1.83	2.18	2.49	5.00
Plastic products	0.15	0.88	1.69	2.41	3.04	3.60	7.83
Glass and glass products	0.15	0.65	1.36	1.99	2.56	3.09	8.08
Pottery china and earthenware	0.26	3.28	6.80	10.17	13.39	16.47	49.34
Refractory ceramic products	0.41	0.73	1.01	1.23	1.41	1.56	2.53
Struct.non-refractory clay; ceramic products	0.08	0.13	0.14	0.13	0.09	0.04	-0.74
Cement lime and plaster	0.12	0.23	0.33	0.40	0.44	0.45	0.20
Articles of concrete cement and plaster	0.14	0.28	0.39	0.48	0.53	0.57	0.63

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Cutting shaping & finishing of stone	0.14	0.25	0.70	1.12	1.49	1.82	5.11
Other non-metallic mineral products n.e.c.	0.27	0.46	0.61	0.72	0.80	0.86	0.97
Basic iron and steel	0.10	0.19	0.26	0.28	0.29	0.28	-0.12
Basic precious and non-ferrous metals	-0.26	-0.35	-0.47	-0.62	-0.77	-0.93	-2.43
Structural metal products	0.12	0.24	0.36	0.49	0.58	0.65	1.10
Tanks reservoirs and containers of metal	0.12	0.25	0.37	0.46	0.53	0.57	0.68
Steam generators	0.13	0.36	0.60	0.79	0.96	1.09	2.03
Cutlery hand tools and general hardware	0.18	0.29	1.08	2.24	3.32	4.35	16.17
Other fabricated metal products n.e.c.	0.14	0.60	1.14	1.62	2.05	2.44	6.10
Engines & turbines (not for transport equipment)	0.22	0.36	0.45	0.49	0.51	0.50	-0.05
Pumps compressors taps and valves	1.94	3.34	4.58	5.67	6.65	7.51	13.84
Bearings gears gearing & driving elements	0.71	1.34	1.89	2.35	2.74	3.07	5.16
Ovens furnaces and furnace burners	0.55	0.89	1.15	1.34	1.49	1.59	1.77
Lifting and handling equipment	0.98	1.59	2.11	2.54	2.89	3.19	4.80
Other general purpose machinery	0.27	0.94	1.55	2.09	2.57	3.01	6.84
Agricultural and forestry machinery	-0.09	-0.08	-0.11	-0.16	-0.23	-0.31	-1.03
Machine tools	0.15	0.27	0.72	1.36	1.94	2.49	9.02
Machinery for metallurgy	0.16	0.31	0.44	0.52	0.58	0.62	0.65
Machinery for mining & construction	0.93	1.30	1.58	1.79	1.93	2.03	1.86
Food/beverage/tobacco processing machinery	0.13	0.49	0.92	1.28	1.60	1.88	4.46
Machinery for textile apparel and leather	1.34	2.36	3.25	4.01	4.69	5.28	9.43
Weapons and ammunition	0.12	0.24	0.34	0.40	0.44	0.48	0.87
Other special purpose machinery	0.35	0.81	1.20	1.53	1.80	2.03	3.69
Domestic appliances n.e.c.	2.98	5.69	8.21	10.53	12.69	14.69	31.96
Office accounting and computing machinery	10.03	14.66	18.87	22.68	26.11	29.20	49.05
Electric motors generators and transformers	0.14	0.70	1.32	1.88	2.38	2.84	7.30
Electricity distribution & control apparatus	0.13	0.25	0.62	0.95	1.25	1.51	4.23
Insulated wire and cable	3.69	5.40	6.87	8.14	9.22	10.15	15.15
Accumulators primary cells and batteries	3.68	8.00	12.14	16.11	19.93	23.61	62.95
Lighting equipment and electric lamps	0.17	0.29	1.22	2.35	3.41	4.42	16.61
Other electrical equipment n.e.c.	0.20	1.01	1.76	2.44	3.07	3.66	9.83
Electronic valves tubes etc.	0.13	0.24	0.34	0.53	0.69	0.83	2.22
TV/radio transmitters; line comm. apparatus	3.41	7.38	11.18	14.82	18.31	21.65	56.97

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
TV and radio receivers and associated goods	0.18	0.30	0.39	0.46	0.50	0.52	7.23
Medical surgical and orthopaedic equipment	1.28	1.82	2.24	2.55	2.79	2.97	3.21
Measuring/testing/navigating appliances etc.	0.73	1.14	1.48	1.74	1.94	2.09	2.52
Optical instruments & photographic equipment	1.65	3.47	5.10	6.55	7.86	9.03	17.86
Watches and clocks	0.12	0.34	0.50	0.60	0.66	0.70	0.93
Motor vehicles	-0.11	-0.10	-0.12	-0.16	-0.22	-0.29	-1.09
Automobile bodies trailers & semi-trailers	0.32	0.65	0.95	1.19	1.40	1.57	2.61
Parts/accessories for automobiles	0.44	0.77	1.07	1.31	1.52	1.70	3.10
Building and repairing of ships	0.12	0.23	0.33	0.40	0.44	0.44	0.06
Building/repairing of pleasure/sport. boats	0.14	0.27	0.37	0.43	0.47	0.49	0.37
Railway/tramway locomotives & rolling stock	0.26	0.50	0.70	0.86	0.98	1.08	1.65
Aircraft and spacecraft	-0.23	-0.32	-0.46	-0.63	-0.81	-1.00	-3.06
Motorcycles	0.13	0.25	0.56	0.89	1.18	1.45	5.73
Bicycles and invalid carriages	0.15	0.26	0.86	1.50	2.09	2.65	9.78
Other transport equipment n.e.c.	0.21	0.74	1.21	1.62	1.98	2.30	4.80
Furniture	1.73	2.92	3.98	4.90	5.71	6.42	11.17
Jewellery and related articles	0.12	0.23	0.33	0.40	0.43	0.42	0.13
Musical instruments	0.17	0.56	1.70	2.76	3.74	4.66	14.87
Sports goods	0.19	0.31	0.40	0.47	0.51	0.53	10.27
Games and toys	0.43	3.42	11.08	18.98	27.15	35.57	187.75
Other manufacturing n.e.c.	0.19	0.55	2.19	3.72	5.15	6.51	21.03
Manufacturing services on physical inputs	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Maintenance and repair services n.i.e.	0.12	0.23	0.33	0.40	0.43	0.44	0.17
Transport	0.12	0.23	0.33	0.40	0.44	0.46	0.28
Travel	0.12	0.23	0.33	0.40	0.43	0.45	0.30
Construction	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Insurance and pension services	0.12	0.24	0.33	0.40	0.44	0.46	0.35
Financial services	0.12	0.23	0.33	0.38	0.42	0.43	0.26
Charges for use of intellectual property	0.12	0.23	0.33	0.40	0.44	0.46	0.32
Telecom, computer, information services	0.12	0.24	0.33	0.40	0.44	0.46	0.32
Other business services	0.12	0.24	0.33	0.40	0.44	0.46	0.32
Heritage and recreational services	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Health services	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Education services	0.12	0.24	0.33	0.40	0.44	0.46	0.35
Government goods and services n.i.e.	0.12	0.24	0.33	0.40	0.44	0.46	0.32

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Services not allocated	0.12	0.23	0.33	0.40	0.43	0.44	0.20
Trade-related services	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Other personal services	0.12	0.24	0.33	0.40	0.44	0.46	0.36

Source: USITC estimates.

Table H.6 Change in U.S. total imports by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.12	0.24	0.34	0.40	0.44	0.46	0.53
Rice (raw)	0.12	0.24	0.34	0.40	0.46	0.52	0.78
Corn	0.12	0.24	0.34	0.40	0.47	0.55	1.03
Other cereals	0.12	0.24	0.34	0.40	0.44	0.46	0.50
Cereal products	0.12	0.25	0.41	0.53	0.62	0.70	1.08
Soybeans	0.12	0.24	0.34	0.40	0.47	0.59	1.41
Other oilseeds (excluding peanuts)	0.12	0.24	0.34	0.40	0.44	0.46	0.60
Animal feed ingredients and pet foods	0.12	0.23	0.33	0.40	0.41	0.41	-0.46
Raw and refined sugar and sugar crops	0.12	0.24	0.33	0.40	0.44	0.47	0.11
Other sweeteners	0.12	0.24	0.34	0.40	0.46	0.51	0.70
Pulses and legumes, dried, preserved	0.12	0.24	0.33	0.40	0.44	0.46	0.31
Fresh fruit	0.13	0.27	0.39	0.46	0.51	0.54	0.36
Fresh vegetables	0.12	0.23	0.33	0.40	0.44	0.46	-0.03
Prepared fruits and fruit juices	0.12	0.26	0.40	0.52	0.62	0.69	0.39
Prepared vegetables	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Nuts	0.12	0.24	0.33	0.40	0.44	0.47	0.18
Live Cattle	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Live Swine	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Eggs	0.12	0.24	0.34	0.47	0.59	0.69	1.30
Other meats, livestock products, and live animals	0.12	0.24	0.33	0.40	0.44	0.46	0.37
Cocoa and cocoa products	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Beverages, nec	0.12	0.24	0.33	0.40	0.44	0.46	0.37
Cotton	0.12	0.24	0.34	0.49	0.62	0.74	1.51
Tobacco leaves and cigarettes	0.12	0.24	0.34	0.43	0.51	0.57	0.81
Spices	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Other agricultural products, nec	0.12	0.23	0.32	0.37	0.40	0.41	0.19
Forestry	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Fishing	0.12	0.24	0.33	0.40	0.44	0.46	0.38
Mining of hard coal	0.12	0.24	0.34	0.40	0.44	0.46	0.53
Mining of lignite	0.28	0.49	0.67	0.81	0.92	0.99	1.20

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Extraction crude petroleum and natural gas	0.18	0.34	0.49	0.60	0.68	0.74	1.67
Mining of iron ores	0.33	0.65	0.97	1.26	1.52	1.74	3.42
Other mining and quarrying	0.12	0.24	0.37	0.49	0.59	0.67	0.76
Electricity production, collection, and distribution	1.40	1.87	2.30	2.66	2.96	3.22	4.87
Gas production and distribution	0.50	0.92	1.36	1.76	2.12	2.45	5.17
Processing/preserving of meat	0.12	0.24	0.34	0.40	0.44	0.47	0.83
Processing/preserving of fish	0.12	0.24	0.34	0.40	0.44	0.46	0.42
Processing/preserving of fruit & vegetables	0.12	0.23	0.33	0.39	0.43	0.46	-0.40
Vegetable and animal oils and fats	0.12	0.24	0.34	0.40	0.44	0.46	0.86
Dairy products	0.12	0.24	0.34	0.40	0.44	0.47	1.13
Grain mill products	0.12	0.24	0.34	0.40	0.44	0.47	0.72
Starches and starch products	0.12	0.24	0.34	0.40	0.44	0.46	0.35
Prepared animal feeds	0.12	0.23	0.33	0.40	0.44	0.46	-0.24
Bakery products	0.12	0.24	0.34	0.40	0.44	0.46	0.44
Sugar	0.12	0.24	0.34	0.40	0.44	0.46	0.58
Cocoa chocolate and sugar confectionery	0.12	0.24	0.33	0.40	0.45	0.48	0.32
Macaroni noodles & similar products	0.12	0.24	0.34	0.40	0.45	0.50	0.42
Other food products n.e.c.	0.12	0.24	0.36	0.46	0.53	0.58	0.33
Distilling rectifying & blending of spirits	0.12	0.24	0.34	0.40	0.44	0.46	0.48
Wines	0.12	0.24	0.34	0.40	0.44	0.47	0.69
Malt liquors and malt	0.12	0.24	0.33	0.40	0.44	0.46	0.34
Soft drinks; mineral waters	0.12	0.24	0.34	0.40	0.44	0.49	0.93
Tobacco products	0.12	0.24	0.34	0.40	0.44	0.46	0.18
Textile fibre preparation; textile weaving	-0.05	-0.83	-1.50	-2.13	-2.70	-3.24	-7.50
Made-up textile articles except apparel	0.10	-0.09	-0.44	-0.82	-1.22	-1.62	-7.00
Carpets and rugs	0.09	-0.42	-0.95	-1.44	-1.89	-2.32	-5.72
Cordage rope twine and netting	0.02	0.13	-1.62	-3.43	-5.11	-6.66	-19.97
Other textiles n.e.c.	0.09	0.03	-0.45	-0.92	-1.35	-1.77	-5.43
Knitted and crocheted fabrics and articles	0.12	0.19	0.21	0.20	0.18	0.13	-0.69
Wearing apparel except fur apparel	0.11	0.23	0.25	0.18	0.09	-0.01	-1.40
Dressing & dyeing of fur; processing of fur	0.11	0.22	0.11	-0.02	-0.15	-0.29	-1.86
Tanning and dressing of leather	0.19	0.38	0.56	0.71	0.82	0.92	1.44
Luggage handbags etc.; saddlery & harness	0.11	0.23	0.33	0.39	0.43	0.46	-0.33
Footwear	0.12	0.23	0.33	0.40	0.44	0.46	0.19
Sawmilling and planing of wood	0.33	0.63	0.91	1.16	1.36	1.54	2.75
Veneer sheets plywood particle board etc.	0.11	0.23	0.33	0.32	0.25	0.18	-1.22

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Builders' carpentry and joinery	0.11	0.09	0.02	-0.08	-0.19	-0.31	-2.22
Wooden containers	0.12	0.24	0.34	0.42	0.52	0.59	0.87
Other wood products; articles of cork/straw	0.03	0.15	0.25	-0.03	-1.24	-2.43	-18.47
Pulp paper and paperboard	0.37	0.66	0.95	1.20	1.42	1.60	2.89
Corrugated paper and paperboard	-2.18	-4.14	-5.89	-7.48	-8.94	-10.28	-20.95
Other articles of paper and paperboard	-3.95	-5.99	-7.78	-9.39	-10.85	-12.15	-21.18
Publishing of books and other publications	0.13	0.24	0.34	0.41	0.52	0.69	2.31
Publishing of newspapers journals etc.	0.12	0.24	0.34	0.40	0.44	0.46	0.37
Publishing of recorded media	0.12	0.24	0.34	0.40	0.44	0.46	0.98
Other publishing	-0.05	0.07	0.17	0.23	-2.08	-4.32	-27.49
Printing	-0.35	-1.63	-2.83	-3.98	-5.09	-6.16	-18.28
Service activities related to printing	0.07	-0.32	-0.63	-0.92	-1.19	-1.44	-3.42
Coke oven products	0.51	0.93	1.34	1.72	2.05	2.35	4.77
Refined petroleum products	0.38	0.75	1.11	1.44	1.72	1.98	4.64
Processing of nuclear fuel	0.12	0.24	0.34	0.40	0.45	0.47	0.38
Basic chemicals except fertilizers	-0.60	-1.02	-1.39	-1.75	-2.08	-2.41	-5.55
Fertilizers and nitrogen compounds	0.44	0.77	1.09	1.37	1.62	1.83	3.45
Plastics in primary forms; synthetic rubber	-0.43	-0.54	-0.61	-0.67	-0.73	-0.78	-0.96
Pesticides and other agro-chemical products	0.10	0.22	0.32	0.38	0.42	0.44	-2.43
Paints varnishes printing ink and mastics	0.06	0.11	0.16	0.19	0.20	0.19	-0.42
Pharmaceuticals medicinal chemicals etc.	0.06	0.21	0.37	0.51	0.62	0.70	1.26
Soap cleaning & cosmetic preparations	-1.27	-1.76	-2.09	-2.33	-2.51	-2.63	-2.40
Other chemical products n.e.c.	0.12	0.23	0.33	0.39	0.41	0.41	0.11
Man-made fibres	-0.94	-1.40	-1.79	-2.15	-2.47	-2.78	-5.07
Rubber tyres and tubes	0.19	0.37	0.54	0.67	0.77	0.85	0.91
Other rubber products	-0.31	-0.76	-1.18	-1.58	-1.98	-2.35	-6.08
Plastic products	0.02	-1.76	-3.86	-5.79	-7.58	-9.22	-22.67
Glass and glass products	0.06	-0.62	-1.76	-2.86	-3.91	-4.91	-15.43
Pottery china and earthenware	0.10	-0.28	-0.75	-1.24	-1.74	-2.23	-7.87
Refractory ceramic products	-0.74	-1.21	-1.63	-2.02	-2.40	-2.76	-5.97
Struct.non-refractory clay; ceramic products	0.16	0.37	0.56	0.72	0.86	0.97	1.68
Cement lime and plaster	0.12	0.24	0.34	0.40	0.44	0.49	0.87
Articles of concrete cement and plaster	-0.25	-0.61	-0.93	-1.26	-1.58	-1.90	-5.28
Cutting shaping & finishing of stone	0.09	0.21	-0.12	-0.49	-0.86	-1.22	-5.48
Other non-metallic mineral products n.e.c.	-2.26	-3.13	-3.85	-4.50	-5.08	-5.60	-9.05

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Basic iron and steel	0.16	0.36	0.56	0.73	0.87	0.99	1.73
Basic precious and non-ferrous metals	0.37	0.62	0.86	1.06	1.23	1.37	2.19
Structural metal products	0.09	0.21	0.05	-0.41	-0.87	-1.31	-6.45
Tanks reservoirs and containers of metal	0.09	-0.09	-0.66	-1.20	-1.73	-2.23	-7.44
Steam generators	0.09	-0.34	-0.92	-1.48	-2.01	-2.52	-7.54
Cutlery hand tools and general hardware	0.10	0.22	0.09	-0.20	-0.50	-0.81	-4.80
Other fabricated metal products n.e.c.	0.05	-1.03	-2.46	-3.83	-5.13	-6.37	-19.46
Engines & turbines (not for transport equipment)	-0.07	0.01	0.12	0.22	0.31	0.38	1.10
Pumps compressors taps and valves	-0.03	-0.02	-0.02	-0.04	-0.08	-0.13	-0.76
Bearings gears gearing & driving elements	-0.64	-1.19	-1.67	-2.12	-2.53	-2.91	-5.83
Ovens furnaces and furnace burners	-0.34	-0.45	-0.52	-0.60	-0.67	-0.74	-1.13
Lifting and handling equipment	-0.86	-1.30	-1.68	-2.03	-2.35	-2.64	-4.68
Other general purpose machinery	-0.04	-0.50	-0.94	-1.37	-1.79	-2.20	-6.41
Agricultural and forestry machinery	0.64	1.03	1.44	1.80	2.11	2.38	3.85
Machine tools	0.11	0.23	0.25	0.20	0.12	0.03	-1.46
Machinery for metallurgy	-0.95	-1.57	-2.08	-2.55	-2.98	-3.37	-6.40
Machinery for mining & construction	-1.06	-1.32	-1.49	-1.63	-1.74	-1.83	-1.83
Food/beverage/tobacco processing machinery	0.10	0.00	-0.20	-0.41	-0.63	-0.84	-3.40
Machinery for textile apparel and leather	0.00	0.03	0.06	0.05	0.03	0.00	-0.51
Weapons and ammunition	0.12	0.23	0.33	0.40	0.43	0.44	-0.02
Other special purpose machinery	-0.02	-0.10	-0.17	-0.26	-0.35	-0.45	-1.57
Domestic appliances n.e.c.	-1.66	-3.15	-4.56	-5.90	-7.17	-8.38	-19.27
Office accounting and computing machinery	-0.04	0.01	0.05	0.05	0.04	0.01	-0.40
Electric motors generators and transformers	0.10	-0.07	-0.33	-0.60	-0.87	-1.14	-4.29
Electricity distribution & control apparatus	0.11	0.22	0.08	-0.10	-0.30	-0.50	-3.15
Insulated wire and cable	-1.20	-1.67	-2.08	-2.46	-2.81	-3.12	-5.11
Accumulators primary cells and batteries	-0.51	-1.14	-1.75	-2.38	-3.01	-3.63	-10.70
Lighting equipment and electric lamps	0.06	0.18	-0.62	-1.71	-2.78	-3.83	-17.23
Other electrical equipment n.e.c.	0.11	0.16	0.20	0.20	0.19	0.16	-0.54
Electronic valves tubes etc.	0.11	0.23	0.33	0.32	0.29	0.24	-0.74
TV/radio transmitters; line comm. Apparatus	-0.27	-0.62	-0.96	-1.32	-1.70	-2.07	-6.40
TV and radio receivers and associated goods	0.12	0.24	0.33	0.40	0.44	0.46	0.33

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Medical surgical and orthopaedic equipment	-1.11	-1.43	-1.67	-1.87	-2.04	-2.19	-2.65
Measuring/testing/navigating appliances etc.	-0.79	-1.12	-1.38	-1.60	-1.80	-1.98	-2.88
Optical instruments & photographic equipment	-0.45	-0.97	-1.45	-1.90	-2.33	-2.74	-6.18
Watches and clocks	0.12	0.23	0.33	0.39	0.43	0.45	0.33
Motor vehicles	0.29	0.50	0.68	0.83	0.94	1.03	1.47
Automobile bodies trailers & semi-trailers	-1.20	-2.55	-3.78	-4.92	-5.97	-6.94	-14.69
Parts/accessories for automobiles	-0.53	-0.84	-1.14	-1.43	-1.73	-2.02	-5.14
Building and repairing of ships	0.12	0.24	0.34	0.40	0.44	0.53	1.26
Building/repairing of pleasure/sport. Boats	0.05	0.13	0.21	0.27	0.32	0.34	0.32
Railway/tramway locomotives & rolling stock	-0.39	-0.68	-0.95	-1.21	-1.46	-1.71	-4.14
Aircraft and spacecraft	0.38	0.66	0.94	1.18	1.39	1.57	2.97
Motorcycles	0.11	0.23	0.24	0.20	0.14	0.06	-1.82
Bicycles and invalid carriages	0.07	0.19	-0.51	-1.35	-2.19	-3.02	-14.64
Other transport equipment n.e.c.	-0.81	-5.07	-8.97	-12.57	-15.91	-19.01	-46.60
Furniture	-2.15	-3.55	-4.80	-5.95	-6.99	-7.94	-14.88
Jewellery and related articles	0.12	0.24	0.33	0.40	0.44	0.46	0.37
Musical instruments	0.08	-0.04	-0.84	-1.62	-2.39	-3.14	-12.07
Sports goods	0.04	0.15	0.25	0.32	0.36	0.38	-11.28
Games and toys	0.10	0.06	-0.26	-0.63	-1.05	-1.49	-10.05
Other manufacturing n.e.c.	-0.03	-0.43	-3.57	-6.58	-9.48	-12.26	-43.10
Manufacturing services on physical inputs	0.12	0.24	0.34	0.40	0.47	0.57	1.30
Maintenance and repair services n.i.e.	0.12	0.24	0.34	0.40	0.46	0.54	1.08
Transport	0.12	0.24	0.34	0.40	0.44	0.49	1.16
Travel	0.12	0.24	0.34	0.41	0.50	0.57	0.89
Construction	0.12	0.24	0.34	0.40	0.44	0.47	1.06
Insurance and pension services	0.12	0.24	0.34	0.40	0.44	0.46	0.61
Financial services	0.12	0.24	0.44	0.62	0.78	0.92	1.97
Charges for use of intellectual property	0.12	0.24	0.34	0.40	0.44	0.46	0.57
Telecom, computer, information services	0.12	0.24	0.34	0.40	0.44	0.49	1.08
Other business services	0.12	0.24	0.34	0.40	0.44	0.46	0.96
Heritage and recreational services	0.12	0.24	0.34	0.40	0.44	0.46	1.03
Health services	0.12	0.24	0.38	0.48	0.56	0.61	0.73
Education services	0.12	0.25	0.41	0.54	0.66	0.76	1.34
Government goods and services n.i.e.	0.12	0.24	0.34	0.40	0.47	0.56	1.26

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Services not allocated	0.12	0.24	0.34	0.40	0.46	0.55	1.15
Trade-related services	0.12	0.24	0.34	0.40	0.44	0.46	1.11
Other personal services	0.12	0.24	0.34	0.40	0.47	0.56	1.24

Source: USITC estimates.

Table H.7 Change in U.S. total exports by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.19	0.28	0.36	0.41	0.45	0.47	-0.39
Rice (raw)	0.21	0.39	0.59	0.75	0.85	0.91	-0.37
Corn	0.21	0.30	0.38	0.42	0.42	0.38	-0.33
Other cereals	-0.40	-0.61	-0.77	-0.89	-0.96	-1.01	-1.33
Cereal products	0.14	0.20	0.19	0.15	0.11	0.06	-0.54
Soybeans	-0.23	-0.36	-0.46	-0.53	-0.61	-0.72	-1.62
Other oilseeds (excluding peanuts)	0.17	0.25	0.31	0.34	0.36	0.37	-0.25
Animal feed ingredients and pet foods	0.00	0.00	-0.01	-0.01	-0.10	-0.21	-1.38
Raw and refined sugar and sugar crops	0.28	0.43	0.55	0.63	0.66	0.66	0.47
Other sweeteners	0.14	0.22	0.29	0.33	0.32	0.27	-0.39
Pulses and legumes, dried, preserved	0.23	0.34	0.44	0.50	0.55	0.57	0.18
Fresh fruit	0.24	0.28	0.29	0.26	0.21	0.16	-0.64
Fresh vegetables	0.26	0.41	0.52	0.59	0.64	0.66	0.46
Prepared fruits and fruit juices	0.16	0.13	0.05	-0.06	-0.19	-0.32	-1.78
Prepared vegetables	-0.03	-0.03	-0.01	-0.04	-0.08	-0.12	-0.66
Nuts	0.06	0.09	0.10	0.12	0.06	-0.01	-0.82
Live Cattle	0.27	0.42	0.52	0.58	0.62	0.63	0.43
Live Swine	-0.14	-0.21	-0.36	-0.50	-0.63	-0.75	-1.87
Eggs	0.32	0.48	0.60	0.66	0.69	0.70	0.17
Other meats, livestock products, and live animals	0.03	0.03	0.04	-0.05	-0.15	-0.25	-1.39
Cocoa and cocoa products	0.13	0.19	0.24	0.28	0.30	0.31	-0.30
Beverages, nec	0.21	0.31	0.39	0.39	0.36	0.32	-0.28
Cotton	-0.05	-0.06	-0.06	-0.15	-0.28	-0.41	-1.87
Tobacco leaves and cigarettes	-0.11	-0.15	-0.18	-0.32	-0.48	-0.64	-2.36
Spices	0.14	0.22	0.29	0.34	0.37	0.33	-0.47
Other agricultural products, nec	0.15	0.22	0.23	0.17	0.09	0.00	-1.13
Forestry	-0.14	-0.22	-0.30	-0.41	-0.52	-0.61	-1.15
Fishing	-0.11	-0.17	-0.21	-0.28	-0.39	-0.50	-1.49
Mining of hard coal	0.04	0.06	0.08	0.09	0.10	0.10	-0.17
Mining of lignite	-0.06	-0.16	-0.30	-0.45	-0.61	-0.76	-2.25

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Extraction crude petroleum and natural gas	-0.04	-0.16	-0.34	-0.53	-0.73	-0.92	-3.43
Mining of iron ores	-0.13	-0.27	-0.45	-0.65	-0.84	-1.02	-2.80
Other mining and quarrying	0.06	0.08	0.02	-0.08	-0.19	-0.31	-1.47
Electricity production, collection, and distribution	-1.00	-1.18	-1.37	-1.57	-1.76	-1.95	-3.60
Gas production and distribution	-0.01	-0.04	-0.10	-0.17	-0.25	-0.33	0.94
Processing/preserving of meat	0.14	0.21	0.27	0.30	0.32	0.33	-0.32
Processing/preserving of fish	-0.01	-0.01	-0.01	-0.02	-0.02	-0.03	-0.44
Processing/preserving of fruit & vegetables	0.18	0.27	0.34	0.39	0.42	0.43	-0.42
Vegetable and animal oils and fats	0.18	0.29	0.38	0.45	0.49	0.52	-0.09
Dairy products	0.24	0.35	0.44	0.49	0.53	0.55	-0.14
Grain mill products	0.21	0.36	0.51	0.62	0.70	0.74	-0.69
Starches and starch products	0.35	0.52	0.64	0.71	0.75	0.78	0.54
Prepared animal feeds	0.11	0.17	0.22	0.25	0.27	0.28	-0.56
Bakery products	0.23	0.36	0.46	0.53	0.57	0.59	0.02
Sugar	0.41	0.60	0.73	0.82	0.87	0.90	0.48
Cocoa chocolate and sugar confectionery	0.20	0.31	0.40	0.45	0.41	0.35	-0.55
Macaroni noodles & similar products	0.23	0.36	0.47	0.53	0.54	0.51	-0.32
Other food products n.e.c.	0.15	0.23	0.17	0.08	-0.03	-0.13	-1.43
Distilling rectifying & blending of spirits	0.15	0.23	0.29	0.33	0.35	0.37	-0.23
Wines	0.12	0.19	0.24	0.27	0.29	0.30	-0.18
Malt liquors and malt	0.35	0.52	0.66	0.75	0.80	0.84	0.50
Soft drinks; mineral waters	0.19	0.30	0.38	0.44	0.48	0.47	-0.26
Tobacco products	0.15	0.26	0.38	0.47	0.54	0.58	0.05
Textile fibre preparation; textile weaving	0.26	0.35	0.46	0.51	0.52	0.51	-0.34
Made-up textile articles except apparel	0.23	0.22	0.09	-0.09	-0.29	-0.50	-3.00
Carpets and rugs	0.25	0.27	0.22	0.13	0.01	-0.12	-1.80
Cordage rope twine and netting	0.19	0.28	0.20	0.08	-0.06	-0.21	-1.93
Other textiles n.e.c.	0.27	0.36	0.31	0.21	0.09	-0.05	-1.76
Knitted and crocheted fabrics and articles	0.24	0.29	0.24	0.15	0.04	-0.08	-1.63
Wearing apparel except fur apparel	0.16	0.25	0.22	0.09	-0.06	-0.22	-2.07
Dressing & dyeing of fur; processing of fur	0.08	0.13	0.04	-0.08	-0.20	-0.33	-1.81
Tanning and dressing of leather	-0.41	-0.84	-1.33	-1.82	-2.30	-2.74	-6.92
Luggage handbags etc.; saddlery & harness	0.08	0.12	0.16	0.18	0.19	0.19	-1.02
Footwear	0.07	0.11	0.14	0.17	0.19	0.20	-0.89
Sawmilling and planing of wood	-0.17	-0.39	-0.64	-0.91	-1.18	-1.44	-3.93
Veneer sheets plywood particle board etc.	0.28	0.43	0.54	0.55	0.50	0.44	-0.61

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Builders' carpentry and joinery	0.21	0.26	0.25	0.22	0.16	0.10	-0.79
Wooden containers	0.17	0.26	0.32	0.32	0.26	0.19	-0.72
Other wood products; articles of cork/straw	0.21	0.32	0.40	0.43	0.36	0.28	-0.79
Pulp paper and paperboard	-0.32	-0.60	-0.94	-1.28	-1.63	-1.96	-5.16
Corrugated paper and paperboard	0.32	0.45	0.55	0.59	0.61	0.61	0.24
Other articles of paper and paperboard	0.02	-0.01	-0.08	-0.19	-0.32	-0.46	-2.16
Publishing of books and other publications	0.16	0.24	0.30	0.34	0.32	0.25	-0.75
Publishing of newspapers journals etc.	-0.04	-0.10	-0.18	-0.27	-0.37	-0.48	-1.54
Publishing of recorded media	0.07	0.11	0.15	0.18	0.20	0.21	-1.85
Other publishing	-0.03	-0.05	-0.07	-0.09	-0.18	-0.27	-1.15
Printing	0.18	0.15	0.07	-0.04	-0.15	-0.28	-1.70
Service activities related to printing	0.31	0.36	0.37	0.35	0.31	0.26	-0.76
Coke oven products	-0.19	-0.37	-0.59	-0.82	-1.05	-1.28	-3.59
Refined petroleum products	-0.02	-0.13	-0.27	-0.44	-0.61	-0.79	-2.72
Processing of nuclear fuel	-0.11	-0.28	-0.49	-0.71	-0.93	-1.14	-3.15
Basic chemicals except fertilizers	-0.13	-0.36	-0.65	-0.95	-1.25	-1.55	-4.51
Fertilizers and nitrogen compounds	-0.33	-0.58	-0.88	-1.18	-1.47	-1.76	-4.49
Plastics in primary forms; synthetic rubber	-0.28	-0.55	-0.88	-1.22	-1.57	-1.90	-5.14
Pesticides and other agro-chemical products	0.13	0.21	0.27	0.31	0.34	0.35	-0.46
Paints varnishes printing ink and mastics	0.21	0.22	0.18	0.10	0.01	-0.09	-1.37
Pharmaceuticals medicinal chemicals etc.	-0.65	-1.07	-1.55	-2.03	-2.49	-2.92	-6.82
Soap cleaning & cosmetic preparations	-0.31	-0.59	-0.92	-1.25	-1.58	-1.89	-4.87
Other chemical products n.e.c.	0.15	0.21	0.26	0.23	0.12	0.01	-1.40
Man-made fibres	-0.27	-0.56	-0.89	-1.24	-1.59	-1.92	-5.21
Rubber tyres and tubes	-0.06	-0.26	-0.54	-0.85	-1.18	-1.51	-4.96
Other rubber products	0.11	0.02	-0.14	-0.33	-0.53	-0.74	-3.05
Plastic products	0.20	0.17	0.07	-0.07	-0.22	-0.38	-2.19
Glass and glass products	0.13	0.09	-0.04	-0.21	-0.39	-0.57	-2.58
Pottery china and earthenware	0.15	0.07	-0.09	-0.30	-0.52	-0.74	-3.21
Refractory ceramic products	-0.09	-0.27	-0.52	-0.79	-1.07	-1.35	-4.17
Struct.non-refractory clay; ceramic products	0.11	0.03	-0.09	-0.26	-0.44	-0.63	-2.90
Cement lime and plaster	0.24	0.37	0.47	0.54	0.58	0.59	0.03
Articles of concrete cement and plaster	0.12	0.12	0.09	0.04	-0.03	-0.10	-1.01
Cutting shaping & finishing of stone	0.18	0.29	0.29	0.25	0.18	0.11	-0.91
Other non-metallic mineral products n.e.c.	-0.42	-0.73	-1.09	-1.47	-1.84	-2.19	-5.54

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Basic iron and steel	-0.14	-0.25	-0.43	-0.64	-0.87	-1.10	-3.59
Basic precious and non-ferrous metals	-0.76	-1.24	-1.78	-2.32	-2.85	-3.34	-7.87
Structural metal products	0.22	0.35	0.40	0.37	0.32	0.26	-0.74
Tanks reservoirs and containers of metal	0.20	0.25	0.20	0.12	0.02	-0.08	-1.31
Steam generators	0.05	-0.04	-0.21	-0.39	-0.59	-0.78	-2.82
Cutlery hand tools and general hardware	0.21	0.31	0.30	0.22	0.12	0.01	-1.42
Other fabricated metal products n.e.c.	0.25	0.27	0.19	0.06	-0.08	-0.24	-2.15
Engines & turbines (not for transport equipment)	-0.36	-0.65	-0.98	-1.32	-1.65	-1.96	-5.03
Pumps compressors taps and valves	-0.12	-0.30	-0.54	-0.79	-1.05	-1.31	-3.86
Bearings gears gearing & driving elements	-0.02	-0.18	-0.38	-0.61	-0.85	-1.09	-3.59
Ovens furnaces and furnace burners	-0.23	-0.49	-0.81	-1.16	-1.50	-1.83	-5.17
Lifting and handling equipment	-0.11	-0.30	-0.56	-0.86	-1.16	-1.47	-4.69
Other general purpose machinery	0.13	0.03	-0.12	-0.30	-0.50	-0.70	-2.91
Agricultural and forestry machinery	-0.87	-1.36	-1.91	-2.46	-2.98	-3.47	-7.96
Machine tools	0.19	0.29	0.27	0.16	0.02	-0.12	-1.95
Machinery for metallurgy	-0.24	-0.55	-0.91	-1.29	-1.67	-2.02	-5.54
Machinery for mining & construction	-0.53	-0.92	-1.37	-1.84	-2.29	-2.72	-6.94
Food/beverage/tobacco processing machinery	0.12	0.08	-0.04	-0.18	-0.33	-0.49	-2.16
Machinery for textile apparel and leather	-0.03	-0.16	-0.33	-0.54	-0.76	-0.98	-3.40
Weapons and ammunition	0.11	0.16	0.20	0.22	0.24	0.22	-0.45
Other special purpose machinery	-0.04	-0.25	-0.50	-0.78	-1.06	-1.34	-4.09
Domestic appliances n.e.c.	-0.03	-0.21	-0.47	-0.78	-1.09	-1.41	-4.88
Office accounting and computing machinery	-0.59	-1.06	-1.63	-2.22	-2.79	-3.35	-8.75
Electric motors generators and transformers	0.16	0.11	-0.02	-0.19	-0.37	-0.55	-2.59
Electricity distribution & control apparatus	0.26	0.38	0.36	0.30	0.22	0.14	-1.06
Insulated wire and cable	-0.26	-0.51	-0.85	-1.22	-1.59	-1.96	-5.88
Accumulators primary cells and batteries	0.04	-0.14	-0.40	-0.70	-1.02	-1.34	-4.79
Lighting equipment and electric lamps	0.15	0.22	0.14	-0.02	-0.21	-0.40	-2.71
Other electrical equipment n.e.c.	0.20	0.11	-0.04	-0.22	-0.42	-0.62	-2.91
Electronic valves tubes etc.	0.04	0.06	0.07	-0.07	-0.22	-0.37	-2.03
TV/radio transmitters; line comm. apparatus	-0.07	-0.32	-0.62	-0.95	-1.29	-1.62	-4.97
TV and radio receivers and associated goods	0.18	0.26	0.32	0.36	0.38	0.40	-0.51

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Medical surgical and orthopaedic equipment	-0.46	-0.78	-1.15	-1.52	-1.88	-2.22	-5.40
Measuring/testing/navigating appliances etc.	-0.36	-0.69	-1.06	-1.44	-1.81	-2.16	-5.50
Optical instruments & photographic equipment	-0.12	-0.37	-0.66	-0.97	-1.28	-1.58	-4.57
Watches and clocks	0.03	-0.14	-0.36	-0.59	-0.83	-1.06	-3.32
Motor vehicles	-0.30	-0.52	-0.79	-1.08	-1.37	-1.65	-4.46
Automobile bodies trailers & semi-trailers	0.20	0.22	0.19	0.11	0.02	-0.09	-1.50
Parts/accessories for automobiles	0.11	0.08	0.00	-0.12	-0.27	-0.42	-2.25
Building and repairing of ships	0.17	0.26	0.32	0.37	0.39	0.32	-0.76
Building/repairing of pleasure/sport. boats	0.02	-0.03	-0.12	-0.22	-0.33	-0.44	-1.69
Railway/tramway locomotives & rolling stock	0.16	0.15	0.08	-0.02	-0.15	-0.28	-1.92
Aircraft and spacecraft	-0.68	-1.06	-1.48	-1.89	-2.28	-2.64	-5.94
Motorcycles	0.14	0.20	0.14	0.01	-0.12	-0.26	-1.81
Bicycles and invalid carriages	0.11	0.17	0.08	-0.06	-0.23	-0.40	-2.35
Other transport equipment n.e.c.	0.24	0.21	0.11	-0.04	-0.20	-0.38	-2.49
Furniture	0.03	-0.04	-0.16	-0.31	-0.47	-0.64	-2.51
Jewellery and related articles	0.02	0.03	0.03	0.03	0.02	-0.09	-1.31
Musical instruments	0.07	0.05	-0.10	-0.29	-0.49	-0.69	-2.84
Sports goods	0.12	0.19	0.23	0.27	0.28	0.30	-0.87
Games and toys	0.14	0.14	-0.05	-0.28	-0.54	-0.81	-3.90
Other manufacturing n.e.c.	0.15	0.21	0.08	-0.08	-0.27	-0.46	-2.77
Manufacturing services on physical inputs	0.12	0.17	0.20	0.22	0.21	0.15	-0.67
Maintenance and repair services n.i.e.	0.07	0.10	0.12	0.14	0.12	0.08	-0.49
Transport	0.10	0.15	0.19	0.22	0.23	0.22	-0.60
Travel	0.16	0.25	0.31	0.34	0.30	0.24	-0.50
Construction	0.15	0.23	0.28	0.31	0.33	0.34	-0.34
Insurance and pension services	0.11	0.17	0.22	0.25	0.26	0.27	-0.13
Financial services	0.09	0.14	0.08	-0.01	-0.10	-0.20	-1.26
Charges for use of intellectual property	0.09	0.13	0.16	0.17	0.18	0.18	0.00
Telecom, computer, information services	0.09	0.14	0.17	0.19	0.20	0.18	-0.60
Other business services	0.11	0.16	0.20	0.22	0.23	0.24	-0.38
Heritage and recreational services	0.07	0.10	0.13	0.14	0.15	0.16	-0.69
Health services	0.10	0.14	0.10	0.03	-0.05	-0.14	-1.05
Education services	-0.09	-0.15	-0.33	-0.53	-0.73	-0.93	-2.88
Government goods and services n.i.e.	0.04	0.06	0.07	0.08	0.07	0.03	-0.15
Services not allocated	0.13	0.18	0.21	0.23	0.22	0.14	-0.79

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Trade-related services	0.22	0.32	0.39	0.44	0.46	0.47	-0.03
Other personal services	0.10	0.15	0.18	0.19	0.18	0.11	-0.74

Source: USITC estimates.

Table H.8 Change in U.S. imports from China by industry relative to 2023 baseline

In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.10	0.22	0.32	0.38	0.42	0.45	-1.90
Rice (raw)	0.11	0.23	0.33	0.40	0.46	0.55	0.60
Corn	0.11	0.23	0.33	0.39	0.40	0.37	-1.67
Other cereals	0.09	0.21	0.31	0.38	0.42	0.44	-2.42
Cereal products	0.03	-0.48	-2.23	-3.93	-5.58	-7.22	-32.84
Soybeans	0.07	0.19	0.29	0.36	0.20	-0.30	-9.72
Other oilseeds (excluding peanuts)	0.10	0.22	0.32	0.38	0.42	0.45	-2.12
Animal feed ingredients and pet foods	0.03	0.15	0.25	0.32	-0.59	-1.68	-19.73
Raw and refined sugar and sugar crops	0.13	0.25	0.35	0.41	0.58	0.84	3.74
Other sweeteners	0.11	0.23	0.33	0.39	0.41	0.42	-0.73
Pulses and legumes, dried, preserved	0.05	0.17	0.27	0.33	0.37	0.40	-11.56
Fresh fruit	-0.16	-1.20	-2.10	-2.96	-3.81	-4.67	-21.28
Fresh vegetables	0.05	0.17	0.27	0.34	0.38	0.40	-10.97
Prepared fruits and fruit juices	0.03	-0.85	-1.60	-2.32	-3.03	-3.75	-18.44
Prepared vegetables	-0.14	-0.02	0.08	-3.36	-7.30	-11.07	-56.81
Nuts	0.12	0.24	0.34	0.41	0.59	0.80	2.68
Live Cattle	0.11	0.23	0.34	0.47	0.63	0.79	1.46
Live Swine	0.10	0.22	0.01	-0.16	-0.32	-0.48	-5.47
Eggs	0.12	0.24	0.34	0.50	0.69	0.88	1.93
Other meats, livestock products, and live animals	-0.02	0.10	0.20	-1.69	-3.81	-5.88	-35.98
Cocoa and cocoa products	0.12	0.24	0.34	0.41	0.45	0.47	2.05
Beverages, nec	0.12	0.24	0.34	0.58	0.87	1.16	4.72
Cotton	0.13	0.25	0.35	0.64	0.99	1.33	5.15
Tobacco leaves and cigarettes	0.04	0.16	0.26	-0.64	-1.71	-2.77	-20.41
Spices	0.09	0.21	0.31	0.38	0.42	0.23	-4.10
Other agricultural products, nec	-0.33	-0.22	-3.95	-11.82	-19.08	-25.77	-83.81
Forestry	0.10	0.22	0.25	0.18	0.11	0.05	-2.88
Fishing	0.12	0.24	0.34	0.48	0.74	1.00	4.13
Mining of hard coal	0.13	0.25	0.35	0.41	0.45	0.48	1.20
Mining of lignite	0.70	1.56	2.60	3.68	4.74	5.76	16.65
Extraction crude petroleum and natural gas	0.44	1.13	2.00	2.91	3.82	4.69	12.97

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Mining of iron ores	0.64	1.44	2.40	3.40	4.38	5.34	15.48
Other mining and quarrying	0.08	0.20	-0.24	-0.85	-1.46	-2.07	-14.08
Electricity production, collection, and distribution	3.29	5.72	8.51	11.32	14.08	16.74	45.68
Gas production and distribution	0.77	1.64	2.66	3.69	4.70	5.67	15.85
Processing/preserving of meat	0.09	0.21	0.31	0.37	0.41	0.43	-3.41
Processing/preserving of fish	0.10	0.22	0.32	0.38	0.42	0.45	-0.55
Processing/preserving of fruit & vegetables	-0.04	0.08	0.18	0.25	0.29	0.31	-23.88
Vegetable and animal oils and fats	0.05	0.17	0.27	0.33	0.37	0.40	-10.91
Dairy products	0.02	0.14	0.24	0.31	0.35	0.37	-14.84
Grain mill products	0.05	0.17	0.27	0.33	0.37	0.22	-12.60
Starches and starch products	0.04	0.16	0.26	0.32	0.36	0.38	-3.80
Prepared animal feeds	0.02	0.14	0.24	0.31	0.35	0.37	-14.88
Bakery products	-0.12	0.00	0.10	0.17	0.21	0.23	-35.26
Sugar	0.09	0.21	0.31	0.37	0.41	0.43	-3.14
Cocoa chocolate and sugar confectionery	-0.11	0.01	0.11	0.13	-3.12	-6.27	-47.35
Macaroni noodles & similar products	0.06	0.18	0.28	0.34	0.03	-0.68	-13.09
Other food products n.e.c.	0.01	0.13	-1.81	-3.84	-5.82	-7.77	-37.02
Distilling rectifying & blending of spirits	-0.01	0.11	0.21	0.27	0.31	0.34	-18.19
Wines	0.06	0.18	0.28	0.34	0.38	0.41	-4.46
Malt liquors and malt	0.05	0.16	0.26	0.33	0.37	0.39	-6.54
Soft drinks; mineral waters	0.10	0.22	0.32	0.38	0.42	0.36	-3.46
Tobacco products	-0.21	-0.09	0.01	0.07	0.11	0.14	-44.15
Textile fibre preparation; textile weaving	-1.67	-11.03	-19.44	-27.06	-33.98	-40.26	-89.56
Made-up textile articles except apparel	-0.07	-3.12	-7.73	-12.30	-16.82	-21.28	-76.43
Carpets and rugs	-0.26	-8.55	-17.07	-24.80	-31.84	-38.24	-89.00
Cordage rope twine and netting	-0.31	-0.19	-7.90	-15.74	-22.95	-29.59	-85.78
Other textiles n.e.c.	-0.28	-2.82	-11.23	-18.95	-26.04	-32.55	-86.86
Knitted and crocheted fabrics and articles	-0.14	-3.41	-9.23	-14.74	-19.97	-24.93	-77.05
Wearing apparel except fur apparel	-0.21	-0.09	-3.35	-9.24	-14.84	-20.18	-76.22
Dressing & dyeing of fur; processing of fur	-0.23	-0.22	-7.25	-13.81	-19.93	-25.65	-79.92
Tanning and dressing of leather	-7.18	-12.72	-17.83	-22.64	-27.18	-31.48	-76.69
Luggage handbags etc.; saddlery & harness	-0.08	0.04	0.14	0.20	0.24	0.27	-29.76
Footwear	0.02	0.14	0.24	0.31	0.35	0.37	-14.56
Sawmilling and planing of wood	-0.34	-0.36	-0.24	-0.12	-0.01	0.05	-4.41
Veneer sheets plywood particle board etc.	-0.18	-0.06	0.04	-3.07	-7.62	-11.97	-61.92
Builders' carpentry and joinery	-0.10	-3.88	-8.91	-13.66	-18.17	-22.46	-69.92

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wooden containers	-0.01	0.11	0.21	-0.56	-2.47	-4.35	-32.51
Other wood products; articles of cork/straw	-0.10	0.02	0.12	-0.73	-3.95	-7.09	-48.47
Pulp paper and paperboard	-12.45	-18.79	-24.56	-29.92	-34.92	-39.60	-84.09
Corrugated paper and paperboard	-9.68	-18.39	-26.18	-33.23	-39.62	-45.42	-90.69
Other articles of paper and paperboard	-17.59	-26.89	-35.10	-42.42	-48.97	-54.82	-94.85
Publishing of books and other publications	0.13	0.25	0.35	0.41	0.57	0.84	3.87
Publishing of newspapers journals etc.	0.35	0.87	1.52	2.18	2.82	3.45	9.89
Publishing of recorded media	0.13	0.25	0.35	0.41	0.45	0.47	2.51
Other publishing	-0.32	-0.20	-0.10	-0.03	-6.05	-11.88	-71.50
Printing	-1.77	-7.30	-12.42	-17.25	-21.82	-26.15	-73.09
Service activities related to printing	-0.81	-10.09	-18.43	-25.99	-32.85	-39.08	-88.77
Coke oven products	0.81	1.67	2.67	3.68	4.67	5.61	15.48
Refined petroleum products	0.42	1.00	1.70	2.41	3.11	3.76	9.44
Processing of nuclear fuel	0.06	0.29	0.60	0.93	1.24	1.53	3.25
Basic chemicals except fertilizers	-8.82	-15.95	-22.45	-28.46	-34.02	-39.18	-85.65
Fertilizers and nitrogen compounds	0.77	1.62	2.61	3.61	4.60	5.53	15.08
Plastics in primary forms; synthetic rubber	-19.81	-29.60	-38.12	-45.61	-52.22	-58.05	-95.72
Pesticides and other agro-chemical products	-0.07	0.05	0.15	0.21	0.25	0.27	-27.40
Paints varnishes printing ink and mastics	-3.50	-9.23	-14.54	-19.52	-24.22	-28.68	-75.55
Pharmaceuticals medicinal chemicals etc.	-20.71	-28.04	-34.59	-40.55	-46.00	-50.99	-91.42
Soap cleaning & cosmetic preparations	-29.87	-43.97	-55.21	-64.20	-71.41	-77.18	-99.54
Other chemical products n.e.c.	-0.17	-0.05	0.05	-2.39	-6.77	-10.97	-60.45
Man-made fibres	-14.71	-23.35	-31.05	-38.00	-44.27	-49.94	-92.49
Rubber tyres and tubes	-3.02	-4.94	-6.71	-8.43	-10.15	-11.86	-39.67
Other rubber products	-5.34	-12.60	-19.26	-25.42	-31.14	-36.46	-84.82
Plastic products	-0.25	-7.40	-15.74	-23.37	-30.35	-36.75	-88.61
Glass and glass products	-0.15	-3.94	-9.98	-15.65	-20.99	-26.04	-77.40
Pottery china and earthenware	-0.11	-4.80	-10.37	-15.78	-21.02	-26.09	-81.03
Refractory ceramic products	-11.00	-18.73	-25.71	-32.09	-37.96	-43.34	-88.68
Struct.non-refractory clay; ceramic products	-5.71	-15.09	-23.46	-31.00	-37.80	-43.94	-90.75
Cement lime and plaster	0.11	0.23	0.33	0.40	0.44	0.46	-0.39
Articles of concrete cement and plaster	-5.50	-12.59	-19.05	-25.03	-30.57	-35.73	-83.45
Cutting shaping & finishing of stone	-0.16	-0.04	-5.07	-10.29	-15.26	-19.97	-71.02
Other non-metallic mineral products n.e.c.	-20.71	-29.68	-37.54	-44.53	-50.76	-56.32	-94.74
Basic iron and steel	-14.49	-21.11	-27.11	-32.66	-37.82	-42.61	-86.36

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Basic precious and non-ferrous metals	-9.76	-13.45	-16.85	-20.13	-23.31	-26.41	-66.31
Structural metal products	-0.19	-0.07	-2.61	-8.10	-13.28	-18.17	-70.27
Tanks reservoirs and containers of metal	-0.19	-3.01	-9.63	-15.79	-21.53	-26.89	-78.67
Steam generators	-0.19	-5.64	-12.60	-19.04	-25.02	-30.57	-81.96
Cutlery hand tools and general hardware	-0.13	-0.01	-2.84	-7.40	-11.79	-16.02	-66.32
Other fabricated metal products n.e.c.	-0.14	-4.68	-10.53	-16.02	-21.20	-26.09	-76.48
Engines & turbines (not for transport equipment)	-21.52	-31.29	-39.76	-47.20	-53.73	-59.49	-96.05
Pumps compressors taps and valves	-11.53	-19.73	-27.19	-34.02	-40.29	-46.03	-91.50
Bearings gears gearing & driving elements	-9.93	-18.94	-27.02	-34.31	-40.92	-46.90	-92.00
Ovens furnaces and furnace burners	-16.78	-26.40	-34.85	-42.34	-49.00	-54.93	-94.85
Lifting and handling equipment	-15.86	-25.22	-33.50	-40.89	-47.50	-53.41	-94.40
Other general purpose machinery	-1.78	-8.76	-15.20	-21.20	-26.81	-32.06	-82.06
Agricultural and forestry machinery	-4.87	-6.05	-7.02	-8.00	-9.03	-10.13	-34.71
Machine tools	-0.10	0.02	-2.39	-6.41	-10.29	-14.03	-60.27
Machinery for metallurgy	-11.43	-19.90	-27.47	-34.33	-40.55	-46.20	-90.68
Machinery for mining & construction	-26.92	-37.25	-46.07	-53.67	-60.23	-65.90	-97.73
Food/beverage/tobacco processing machinery	-0.14	-4.24	-10.09	-15.59	-20.77	-25.66	-76.01
Machinery for textile apparel and leather	-11.44	-20.03	-27.78	-34.82	-41.24	-47.08	-91.96
Weapons and ammunition	-0.26	-0.15	-0.05	0.02	0.06	-2.46	-56.22
Other special purpose machinery	-4.83	-12.44	-19.38	-25.80	-31.73	-37.22	-85.75
Domestic appliances n.e.c.	-7.97	-15.18	-21.92	-28.25	-34.20	-39.77	-89.06
Office accounting and computing machinery	-19.64	-28.48	-36.57	-43.97	-50.72	-56.82	-96.75
Electric motors generators and transformers	-0.14	-4.86	-10.67	-16.14	-21.30	-26.19	-76.60
Electricity distribution & control apparatus	-0.14	-0.02	-4.86	-9.69	-14.28	-18.66	-67.90
Insulated wire and cable	-23.17	-33.40	-42.32	-50.13	-56.97	-62.95	-97.53
Accumulators primary cells and batteries	-4.51	-9.88	-15.11	-20.22	-25.21	-30.04	-82.97
Lighting equipment and electric lamps	-0.10	0.02	-3.16	-7.29	-11.29	-15.17	-63.13
Other electrical equipment n.e.c.	-0.58	-6.20	-11.46	-16.44	-21.18	-25.68	-74.49
Electronic valves tubes etc.	-0.16	-0.04	0.06	-4.41	-8.85	-13.09	-62.27
TV/radio transmitters; line comm. apparatus	-4.75	-10.36	-15.77	-21.02	-26.11	-31.02	-83.46
TV and radio receivers and associated goods	-0.08	0.04	0.14	0.20	0.24	0.26	-21.67

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Medical surgical and orthopaedic equipment	-30.63	-42.27	-51.92	-59.98	-66.72	-72.36	-98.93
Measuring/testing/navigating appliances etc.	-20.76	-31.52	-40.77	-48.79	-55.76	-61.81	-97.10
Optical instruments & photographic equipment	-7.43	-15.79	-23.45	-30.51	-37.02	-43.00	-90.96
Watches and clocks	-0.10	-5.50	-10.78	-15.77	-20.50	-24.98	-72.93
Motor vehicles	-5.92	-8.69	-11.26	-13.76	-16.21	-18.64	-53.81
Automobile bodies trailers & semi-trailers	-8.20	-17.18	-25.22	-32.49	-39.08	-45.05	-91.01
Parts/accessories for automobiles	-10.30	-16.87	-22.88	-28.47	-33.67	-38.54	-84.30
Building and repairing of ships	0.04	0.16	0.26	0.32	0.36	-0.51	-16.15
Building/repairing of pleasure/sport. boats	-8.28	-15.72	-22.48	-28.69	-34.42	-39.71	-86.25
Railway/tramway locomotives & rolling stock	-9.18	-16.68	-23.48	-29.73	-35.49	-40.80	-87.03
Aircraft and spacecraft	-38.13	-49.02	-57.92	-65.27	-71.36	-76.40	-99.20
Motorcycles	0.03	0.15	-1.05	-2.56	-4.06	-5.55	-29.41
Bicycles and invalid carriages	-0.05	0.07	-2.71	-5.94	-9.08	-12.14	-53.12
Other transport equipment n.e.c.	-1.58	-9.46	-16.66	-23.29	-29.43	-35.10	-85.29
Furniture	-14.23	-23.71	-32.13	-39.68	-46.45	-52.52	-94.56
Jewellery and related articles	-0.08	0.04	0.14	0.21	0.00	-2.43	-36.42
Musical instruments	-0.12	-1.32	-6.26	-10.98	-15.52	-19.88	-69.90
Sports goods	-0.10	0.02	0.12	0.18	0.22	0.25	-30.06
Games and toys	0.01	-0.86	-3.38	-6.03	-8.79	-11.67	-64.27
Other manufacturing n.e.c.	-0.14	-0.90	-6.37	-11.61	-16.62	-21.41	-74.31
Manufacturing services on physical inputs	0.13	0.25	0.35	0.41	0.55	0.83	4.18
Maintenance and repair services n.i.e.	0.13	0.25	0.35	0.41	0.54	0.80	3.99
Transport	0.13	0.25	0.35	0.41	0.45	0.56	3.39
Travel	0.13	0.25	0.35	0.45	0.76	1.07	4.67
Construction	0.13	0.25	0.35	0.41	0.45	0.48	2.93
Insurance and pension services	0.13	0.25	0.35	0.41	0.45	0.48	2.27
Financial services	0.13	0.25	0.67	1.13	1.61	2.07	7.25
Charges for use of intellectual property	0.13	0.25	0.35	0.41	0.45	0.48	1.30
Telecom, computer, information services	0.13	0.25	0.35	0.41	0.45	0.55	3.46
Other business services	0.13	0.25	0.35	0.41	0.45	0.48	2.97
Heritage and recreational services	0.13	0.25	0.35	0.41	0.45	0.48	3.05
Health services	0.13	0.29	0.73	1.21	1.71	2.20	7.64
Education services	0.13	0.31	0.75	1.25	1.77	2.28	8.02
Government goods and services n.i.e.	0.13	0.25	0.35	0.41	0.54	0.82	4.15
Services not allocated	0.13	0.25	0.35	0.41	0.54	0.81	4.02

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Trade-related services	0.13	0.25	0.35	0.41	0.45	0.47	3.34
Other personal services	0.13	0.25	0.35	0.41	0.55	0.83	4.23

Source: USITC estimates.

Table H.9 Change in U.S. imports from all sources other than China by industry relative to 2023 baseline
In percentages. Long run = the time it takes for the economy to fully adjust to the effects of the policy change. The values in each column represent the counterfactual values in the year shown in column labels compared to the baseline. n.e.c. = not elsewhere classified; n.i.e. = not identified elsewhere.

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Wheat	0.12	0.24	0.34	0.40	0.44	0.46	0.53
Rice (raw)	0.12	0.24	0.34	0.40	0.46	0.52	0.79
Corn	0.12	0.24	0.34	0.40	0.47	0.55	1.03
Other cereals	0.12	0.24	0.34	0.40	0.44	0.46	0.50
Cereal products	0.12	0.25	0.41	0.53	0.63	0.70	1.11
Soybeans	0.12	0.24	0.34	0.40	0.48	0.59	1.46
Other oilseeds (excluding peanuts)	0.12	0.24	0.34	0.40	0.44	0.46	0.63
Animal feed ingredients and pet foods	0.12	0.24	0.34	0.40	0.50	0.58	1.14
Raw and refined sugar and sugar crops	0.12	0.24	0.33	0.40	0.44	0.47	0.11
Other sweeteners	0.12	0.24	0.34	0.40	0.46	0.51	0.70
Pulses and legumes, dried, preserved	0.12	0.24	0.34	0.40	0.44	0.46	0.66
Fresh fruit	0.13	0.27	0.39	0.47	0.52	0.54	0.39
Fresh vegetables	0.12	0.24	0.33	0.40	0.44	0.46	0.10
Prepared fruits and fruit juices	0.13	0.35	0.57	0.76	0.92	1.06	1.98
Prepared vegetables	0.12	0.24	0.33	0.40	0.45	0.47	0.42
Nuts	0.12	0.24	0.33	0.40	0.43	0.45	0.01
Live Cattle	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Live Swine	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Eggs	0.12	0.24	0.34	0.46	0.57	0.66	1.22
Other meats, livestock products, and live animals	0.12	0.24	0.34	0.42	0.49	0.53	0.77
Cocoa and cocoa products	0.12	0.24	0.33	0.40	0.44	0.46	0.36
Beverages, nec	0.12	0.24	0.33	0.40	0.44	0.46	0.33
Cotton	0.12	0.24	0.34	0.49	0.62	0.74	1.50
Tobacco leaves and cigarettes	0.12	0.24	0.34	0.43	0.51	0.57	0.83
Spices	0.12	0.24	0.34	0.40	0.44	0.48	0.82
Other agricultural products, nec	0.15	0.27	0.65	1.31	1.89	2.42	6.64
Forestry	0.12	0.24	0.34	0.40	0.44	0.47	0.42
Fishing	0.12	0.24	0.33	0.40	0.44	0.46	0.37
Mining of hard coal	0.12	0.24	0.34	0.40	0.44	0.46	0.50

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Mining of lignite	0.28	0.49	0.67	0.81	0.91	0.99	1.18
Extraction crude petroleum and natural gas	0.18	0.34	0.49	0.60	0.68	0.74	1.67
Mining of iron ores	0.33	0.65	0.97	1.26	1.52	1.74	3.42
Other mining and quarrying	0.12	0.24	0.41	0.58	0.72	0.85	1.74
Electricity production, collection, and distribution	1.40	1.87	2.30	2.66	2.96	3.22	4.87
Gas production and distribution	0.50	0.92	1.36	1.76	2.12	2.45	5.17
Processing/preserving of meat	0.12	0.24	0.34	0.40	0.44	0.47	0.84
Processing/preserving of fish	0.12	0.24	0.34	0.40	0.44	0.46	0.49
Processing/preserving of fruit & vegetables	0.13	0.24	0.34	0.40	0.44	0.47	1.10
Vegetable and animal oils and fats	0.12	0.24	0.34	0.40	0.44	0.46	0.90
Dairy products	0.12	0.24	0.34	0.40	0.44	0.47	1.14
Grain mill products	0.12	0.24	0.34	0.40	0.44	0.48	0.90
Starches and starch products	0.12	0.24	0.34	0.40	0.44	0.47	0.59
Prepared animal feeds	0.12	0.24	0.34	0.40	0.44	0.47	1.01
Bakery products	0.12	0.24	0.34	0.40	0.44	0.46	0.74
Sugar	0.12	0.24	0.34	0.40	0.44	0.46	0.59
Cocoa chocolate and sugar confectionery	0.12	0.24	0.34	0.40	0.52	0.61	1.22
Macaroni noodles & similar products	0.12	0.24	0.34	0.40	0.48	0.58	1.40
Other food products n.e.c.	0.12	0.24	0.46	0.66	0.83	0.98	2.13
Distilling rectifying & blending of spirits	0.12	0.24	0.34	0.40	0.44	0.46	0.57
Wines	0.12	0.24	0.34	0.40	0.44	0.47	0.69
Malt liquors and malt	0.12	0.24	0.33	0.40	0.44	0.46	0.35
Soft drinks; mineral waters	0.12	0.24	0.34	0.40	0.44	0.49	0.95
Tobacco products	0.12	0.24	0.34	0.40	0.44	0.46	0.49
Textile fibre preparation; textile weaving	0.18	0.67	1.12	1.52	1.87	2.18	4.51
Madeup textile articles except apparel	0.30	3.46	8.07	12.59	17.01	21.33	74.10
Carpets and rugs	0.14	0.67	1.22	1.71	2.14	2.53	5.50
Cordage rope twine and netting	0.16	0.28	1.11	1.93	2.66	3.33	8.71
Other textiles n.e.c.	0.16	0.52	1.41	2.20	2.91	3.55	8.65
Knitted and crocheted fabrics and articles	0.18	1.07	2.51	3.85	5.09	6.25	17.94
Wearing apparel except fur apparel	0.21	0.32	1.32	2.99	4.54	6.01	20.90

China PNTR

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Dressing & dyeing of fur; processing of fur	0.15	0.27	0.97	1.59	2.16	2.67	7.25
Tanning and dressing of leather	0.26	0.51	0.74	0.93	1.09	1.23	2.18
Luggage handbags etc.; saddlery & harness	0.18	0.30	0.39	0.46	0.50	0.52	9.76
Footwear	0.17	0.29	0.39	0.45	0.49	0.51	9.01
Sawmilling and planing of wood	0.34	0.64	0.92	1.16	1.37	1.55	2.79
Veneer sheets plywood particle board etc.	0.13	0.24	0.34	0.48	0.63	0.77	1.71
Builders' carpentry and joinery	0.12	0.34	0.58	0.78	0.95	1.09	2.07
Wooden containers	0.12	0.24	0.34	0.44	0.57	0.68	1.42
Other wood products; articles of cork/straw	0.14	0.26	0.35	0.51	0.87	1.20	4.87
Pulp paper and paperboard	0.51	0.88	1.24	1.55	1.82	2.06	3.86
Corrugated paper and paperboard	0.37	0.71	1.03	1.28	1.50	1.68	2.80
Other articles of paper and paperboard	1.71	2.68	3.55	4.30	4.96	5.54	9.38
Publishing of books and other publications	0.12	0.24	0.34	0.40	0.48	0.58	1.17
Publishing of newspapers journals etc.	0.12	0.23	0.33	0.39	0.43	0.45	0.33
Publishing of recorded media	0.12	0.24	0.34	0.40	0.44	0.46	0.98
Other publishing	0.15	0.27	0.37	0.43	0.92	1.37	5.66
Printing	0.17	0.43	0.66	0.84	0.98	1.10	1.61
Service activities related to printing	0.13	0.43	0.72	0.98	1.22	1.42	3.08
Coke oven products	0.51	0.93	1.34	1.71	2.04	2.34	4.75
Refined petroleum products	0.38	0.75	1.11	1.43	1.72	1.97	4.63
Processing of nuclear fuel	0.12	0.24	0.32	0.37	0.40	0.40	0.21
Basic chemicals except fertilizers	0.60	1.15	1.67	2.14	2.56	2.95	6.11
Fertilizers and nitrogen compounds	0.44	0.77	1.09	1.37	1.61	1.82	3.41
Plastics in primary forms; synthetic rubber	0.74	1.21	1.65	2.03	2.37	2.66	4.74
Pesticides and other agrochemical products	0.13	0.24	0.34	0.41	0.45	0.47	1.37
Paints varnishes printing ink and mastics	0.23	0.54	0.83	1.09	1.32	1.51	3.03
Pharmaceuticals medicinal chemicals etc.	0.99	1.48	1.94	2.35	2.71	3.02	5.41
Soap cleaning & cosmetic preparations	0.97	1.56	2.09	2.53	2.91	3.23	5.25
Other chemical products n.e.c.	0.14	0.26	0.36	0.61	0.99	1.33	4.98

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Manmade fibres	0.93	1.57	2.18	2.72	3.20	3.62	6.80
Rubber tyres and tubes	0.35	0.64	0.91	1.13	1.33	1.50	2.97
Other rubber products	0.54	1.24	1.88	2.45	2.96	3.41	7.23
Plastic products	0.16	0.99	1.94	2.78	3.53	4.21	9.48
Glass and glass products	0.15	0.72	1.53	2.27	2.94	3.56	9.43
Pottery china and earthenware	0.26	3.38	7.02	10.51	13.85	17.05	51.26
Refractory ceramic products	0.65	1.16	1.63	2.05	2.41	2.73	5.22
Struct.nonrefractory clay; ceramic products	0.18	0.40	0.62	0.79	0.94	1.07	1.88
Cement lime and plaster	0.12	0.24	0.34	0.40	0.44	0.49	0.87
Articles of concrete cement and plaster	0.24	0.52	0.78	0.99	1.16	1.30	2.11
Cutting shaping & finishing of stone	0.14	0.26	0.84	1.42	1.94	2.43	7.25
Other nonmetallic mineral products n.e.c.	0.77	1.23	1.68	2.07	2.42	2.72	5.01
Basic iron and steel	0.71	1.16	1.59	1.97	2.31	2.61	5.01
Basic precious and nonferrous metals	0.61	0.96	1.29	1.58	1.83	2.05	3.85
Structural metal products	0.13	0.24	0.41	0.62	0.79	0.94	2.07
Tanks reservoirs and containers of metal	0.12	0.30	0.54	0.73	0.90	1.04	2.03
Steam generators	0.13	0.45	0.83	1.15	1.43	1.68	3.61
Cutlery hand tools and general hardware	0.18	0.30	1.15	2.40	3.57	4.69	17.43
Other fabricated metal products n.e.c.	0.14	0.69	1.35	1.94	2.47	2.96	7.51
Engines & turbines (not for transport equipment)	0.73	1.18	1.61	1.99	2.33	2.62	4.72
Pumps compressors taps and valves	2.19	3.78	5.23	6.52	7.69	8.74	16.77
Bearings gears gearing & driving elements	0.90	1.76	2.54	3.24	3.85	4.40	8.50
Ovens furnaces and furnace burners	0.92	1.53	2.10	2.59	3.02	3.40	6.03
Lifting and handling equipment	1.31	2.16	2.93	3.60	4.19	4.71	8.31
Other general purpose machinery	0.30	1.09	1.81	2.45	3.02	3.55	8.15
Agricultural and forestry machinery	0.98	1.47	1.96	2.41	2.80	3.16	6.23
Machine tools	0.16	0.27	0.79	1.54	2.24	2.90	10.52
Machinery for metallurgy	0.44	0.85	1.27	1.64	1.98	2.28	4.72
Machinery for mining & construction	1.61	2.40	3.12	3.76	4.32	4.80	8.09
Food/beverage/tobacco processing machinery	0.14	0.60	1.19	1.72	2.21	2.65	6.82

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Machinery for textile apparel and leather	1.56	2.76	3.84	4.80	5.65	6.41	11.94
Weapons and ammunition	0.13	0.25	0.34	0.41	0.45	0.54	1.86
Other special purpose machinery	0.46	1.12	1.73	2.27	2.76	3.19	6.76
Domestic appliances n.e.c.	3.15	6.01	8.67	11.14	13.43	15.55	33.91
Office accounting and computing machinery	10.50	15.33	19.73	23.72	27.33	30.57	51.41
Electric motors generators and transformers	0.15	0.80	1.55	2.23	2.85	3.42	8.87
Electricity distribution & control apparatus	0.14	0.25	0.70	1.11	1.48	1.81	5.06
Insulated wire and cable	4.13	6.02	7.67	9.10	10.33	11.39	17.30
Accumulators primary cells and batteries	3.86	8.42	12.85	17.12	21.25	25.24	68.29
Lighting equipment and electric lamps	0.18	0.30	1.29	2.50	3.64	4.73	17.41
Other electrical equipment n.e.c.	0.22	1.13	1.97	2.73	3.43	4.08	10.69
Electronic valves tubes etc.	0.13	0.25	0.35	0.63	0.89	1.12	3.33
TV/radio transmitters; line comm. apparatus	3.54	7.69	11.66	15.47	19.12	22.61	59.29
TV and radio receivers and associated goods	0.18	0.30	0.40	0.46	0.50	0.52	7.32
Medical surgical and orthopaedic equipment	1.78	2.57	3.25	3.82	4.29	4.69	6.78
Measuring/testing/navigation appliances etc.	1.10	1.76	2.35	2.86	3.30	3.68	6.04
Optical instruments & photographic equipment	1.82	3.85	5.71	7.41	8.95	10.36	21.41
Watches and clocks	0.13	0.52	0.89	1.21	1.49	1.74	4.04
Motor vehicles	0.35	0.58	0.80	0.97	1.11	1.22	2.00
Automobile bodies trailers & semitrailers	0.42	0.84	1.19	1.47	1.70	1.90	3.00
Parts/accessories for automobiles	0.71	1.20	1.64	2.01	2.34	2.63	4.95
Building and repairing of ships	0.12	0.24	0.34	0.40	0.44	0.53	1.31
Building/repairing of pleasure/sport. boats	0.33	0.66	0.98	1.25	1.48	1.69	3.22
Railway/tramway locomotives & rolling stock	0.47	0.88	1.26	1.59	1.87	2.12	3.97
Aircraft and spacecraft	0.82	1.22	1.61	1.93	2.22	2.46	4.13
Motorcycles	0.14	0.26	0.67	1.13	1.55	1.95	7.47
Bicycles and invalid carriages	0.15	0.27	0.95	1.69	2.37	3.02	10.84
Other transport equipment n.e.c.	0.23	0.88	1.46	1.96	2.41	2.80	5.81
Furniture	1.92	3.23	4.40	5.41	6.29	7.07	11.93

Appendix H: Estimated Impacts for 170 ITPD-E Industries

Industry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Long run
Jewellery and related articles	0.12	0.24	0.34	0.40	0.45	0.52	1.13
Musical instruments	0.17	0.60	1.88	3.07	4.20	5.26	16.95
Sports goods	0.19	0.31	0.41	0.47	0.51	0.53	10.60
Games and toys	0.44	3.46	11.22	19.23	27.51	36.05	189.80
Other manufacturing n.e.c.	0.20	0.57	2.32	3.96	5.50	6.96	22.37
Manufacturing services on physical inputs	0.12	0.24	0.34	0.40	0.47	0.57	1.30
Maintenance and repair services n.i.e.	0.12	0.24	0.34	0.40	0.46	0.54	1.02
Transport	0.12	0.24	0.34	0.40	0.44	0.49	1.06
Travel	0.12	0.24	0.34	0.41	0.49	0.56	0.86
Construction	0.12	0.24	0.34	0.40	0.44	0.47	1.06
Insurance and pension services	0.12	0.24	0.34	0.40	0.44	0.46	0.60
Financial services	0.12	0.24	0.44	0.61	0.76	0.89	1.85
Charges for use of intellectual property	0.12	0.24	0.34	0.40	0.44	0.46	0.57
Telecom, computer, information services	0.12	0.24	0.34	0.40	0.44	0.49	1.05
Other business services	0.12	0.24	0.34	0.40	0.44	0.46	0.90
Heritage and recreational services	0.12	0.24	0.34	0.40	0.44	0.46	1.03
Health services	0.12	0.24	0.38	0.47	0.54	0.59	0.63
Education services	0.12	0.25	0.40	0.53	0.64	0.73	1.22
Government goods and services n.i.e.	0.12	0.24	0.34	0.40	0.47	0.56	1.26
Services not allocated	0.12	0.24	0.34	0.40	0.46	0.55	1.15
Trade-related services	0.12	0.24	0.34	0.40	0.44	0.46	1.02
Other personal services	0.12	0.24	0.34	0.40	0.47	0.56	1.24

Source: USITC estimates.