United States
International Trade Commission

Economic Impact of Section 232 and 301 Tariffs on U.S. Industries

Corrected May 2023
March 2023
Publication Number: 5405
Investigation Number: 332-591

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Errata

For the United States International Trade Commission, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries*, Investigation No. 332-591, USITC Publication 5405, March 2023.

- In table ES.2 (page 24) and table 6.4 (page 148), the column header for import values from China has been corrected to say "Tariff-inclusive value of imports from China" rather than "Nontariff-inclusive value of imports from China." For these tables, the last sentence of the table note was corrected to reflect that the column displays tariff-inclusive values instead of nontariff-inclusive values.
- In footnote 122 (page 60), a misnumbered reference to a *Federal Register* notice was corrected from "Proclamation No. 9711, 83 Fed. Reg. 13361" to "Proclamation No. 9710, 83 Fed. Reg. 13355".
- In table 6.4 (page 148), an unintended "+" was removed from the NAICS industry group column, replacing "+3343" with "3343".
- In tables 6.7, 6.11, 6.15, 6.19, 6.23, 6.27, 6.31, 6.35, 6.39, and 6.43 (pages 151–69), the table notes have been corrected to say, "Imports from China are tariff-inclusive estimates" instead of "Imports from China are nontariff-inclusive estimates."
- In appendix D, names and summaries of written submissions of several interested parties have been added.

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Abbreviations and Acronyms

Item	Definition
AD	antidumping
AUV	average unit value
BEA	U.S. Bureau of Economic Analysis
BF	blast furnace
BIS	U.S. Bureau of Industry and Security
BLS	U.S. Bureau of Labor Statistics
BOF	basic oxygen furnace
Census	U.S. Census Bureau
Commission	U.S. International Trade Commission
Committees	U.S. House of Representatives and Senate Committees on Appropriations
COVID-19	Coronavirus disease 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
CRS	Congressional Research Service
CVD	countervailing duty
EAF	electric arc furnace
EC	European Commission
EU	European Union
Fed. Reg.	*Federal Register*
GAE	General Approved Exclusion
GATT	General Agreement on Tariffs and Trade
HS	Harmonized Commodity Description and Coding System
HTS	Harmonized Tariff Schedule of the United States
LME	London Metal Exchange
mt	metric ton(s)
mmt	million metric ton(s)
NAICS	North American Industry Classification System
OECD	Organisation for Economic Co-operation and Development
PPI	producer price index
ROO	rule(s) of origin
Secretary	U.S. Secretary of Commerce
Trade Representative	The U.S. Trade Representative
TRQ	tariff-rate quota
USDOC	U.S. Department of Commerce
USGS	U.S. Geological Survey
USITC	U.S. International Trade Commission
USMCA	U.S.-Mexico-Canada Agreement
USTR	The Office of the U.S. Trade Representative
WTO	World Trade Organization

Executive Summary

This report provides a retrospective analysis of U.S. trade, production, and prices in the industries directly and most affected by any section 232 or section 301 tariffs that were active as of the date of enactment (March 15, 2022) of the Consolidated Appropriations Act, 2022. Section 232 and section 301 tariffs active as of March 15, 2022 comprise tariffs implemented pursuant to two sets of investigations: (1) national security investigations pursuant to section 232 on steel and aluminum and (2) a section 301 investigation concerning China's acts, policies, and practices related to technology transfer, intellectual property, and innovation. The U.S. International Trade Commission (Commission or USITC) prepared the report in response to an explanatory statement accompanying the Act that directed the Commission to conduct an investigation and provide its report no later than March 15, 2023.

Consistent with the explanatory statement's direction, the report estimates the effects of section 232 tariffs on the U.S. steel and aluminum industries and downstream industries that intensively consume steel and aluminum and the effects of section 301 tariffs on industries in the United States that produce the products subject to section 301 tariffs. Because of the breadth of section 301 duties and the one-year timeframe for its completion, the report does not include estimated effects of section 301 tariffs on downstream industries that consume products subject to section 301 tariffs. It also does not examine upstream industries or service industries that support the steel and aluminum industries. The estimates concern effects on trade, production, and prices. The report does not estimate the tariffs' effects on other factors, including investment, their contribution to the national security, or intellectual property protection concerns that led to the tariffs' imposition, for example. Because this analysis is not forward looking, it focuses on short-term effects during 2018–21 and does not address long-term effects. The report is not an assessment of the complete, economy-wide impacts of the tariffs under sections 232 and 301 and cannot be used to draw broad conclusions about whether the tariffs under sections 232 and 301 produced a net benefit for the U.S. economy overall. The analysis in this report is, by design, not intended to address those questions.

Tariffs under Sections 232 and 301[1] [2] [3]

Section 232

President Trump imposed section 232 tariffs on imports of steel and aluminum products on March 23, 2018. This followed investigations and receipt of reports containing findings and recommendations from Secretary of Commerce Wilbur Ross (Secretary). The Secretary initiated the respective investigations, which examined the effects that imported steel and aluminum have had on national security, in April 2017 under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. § 1862). In the steel investigation, the Secretary found that the present quantities of imports (at the time of the investigation) were weakening the domestic market and threatened to impair national security.

Following receipt of the Secretary's report, President Trump imposed an additional 25 percent ad valorem tariff on steel articles imported from all but a select number of countries. These tariffs went into effect on March 23, 2018. The investigation of aluminum imports reported similar findings and recommendations. The President subsequently imposed a 10 percent additional tariff on aluminum imports, which also went into effect on March 23, 2018.[4] Since the imposition of the steel and aluminum tariffs, several countries have been fully or partially exempted from the tariffs, with many top U.S. suppliers—including Canada and Mexico—fully or partially exempt from the tariffs for much of the life of the tariffs. In most cases, the specifics of these alterations differed across countries and the two tariff actions. Numerous steel and aluminum products were also granted exclusions on a case-by-case basis.

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[1] Commissioner Kearns believes that additional context for the implementation of the section 232 and 301 tariffs is critical to understanding and assessing the costs and benefits of these actions. In his additional views, he endeavors to provide a more complete picture of the U.S. trade relationship with China vis-à-vis global steel overcapacity and highlights some of the benefits of the actions as described by parties appearing before the Commission. See Additional Views of Commissioner Jason E. Kearns.

[2] Chairman Johanson, Commissioner Karpel, and Commissioner Schmidtlein do not share Commissioner Kearns' concerns regarding the report. As Commissioner Kearns acknowledges in his Additional Views, the Commission conducted an economic analysis of the section 232 and 301 tariffs consistent with the direction in the explanatory statement provided by the House and Senate Committees on Appropriations, in particular by focusing on the effect of the tariffs on trade, production, and prices in the directly and most affected industries. Commissioner Kearns joins the Commission's report, and thus does not appear to take issue with the Commission's reporting of the effects it did analyze. Commissioner Kearns, however, contends that the report is incomplete because it does not analyze other effects of the tariffs (or the effects of "inaction"), but such an analysis would go well beyond the request of Congress and would therefore be inappropriate in the context of this investigation. It is also not clear that the analysis advocated in the Additional Views is appropriate or even possible (depending on the issue) given the ITC's mission, expertise, and access to data. Commissioner Kearns additionally finds the report incomplete because it does not in his view include a fulsome enough discussion of events preceding imposition of the tariffs. The Commission's report, however, does detail the facts leading up to imposition of the tariffs as reflected in the respective official reports of the 232 and 301 investigations.

[3] Commissioner Stayin is recused from this investigation.

[4] Although an estimate for the total value of affected trade was not provided in the presidential proclamations announcing section 232 tariffs on steel and aluminum, the Commission estimates that the total value of affected annual trade was between $22.3 billion and $25.9 billion for steel and between $3.1 billion and $3.9 billion for aluminum. Estimates are based on 2016 and 2017 imports from all countries, excluding Canada and Mexico.

Section 301

Beginning in July 2018, U.S. Trade Representative Robert Lighthizer imposed a series of additional tariffs on a large range of products imported from China. These actions followed an investigation initiated by the Trade Representative at the direction of the President in August 2017. The investigation was initiated under section 301 of the Trade Act of 1974 (19 U.S.C. §§ 2411–20). It sought to determine whether acts, policies, and practices of the government of China related to technology transfer, intellectual property, and innovation were unreasonable or discriminatory and burdened or restricted U.S. commerce. Following the investigation, the Trade Representative reported a series of findings regarding foreign ownership restrictions, technology regulations, investment practices, intellectual property, and sensitive commercial information. The Trade Representative also determined that appropriate action in response included the imposition of additional tariffs.

Beginning on July 6, 2018, additional tariffs were imposed on products imported from China under 874 tariff subheadings with an approximate annual trade value of $34 billion (tranche 1). The coverage of these tariffs expanded with the imposition of tariffs on products imported under 292 additional subheadings in August 2018, with an approximate annual value of $16 billion (tranche 2); 5,918 additional subheadings and 11 partial subheadings in September 2018, with an approximate annual value of $200 billion (tranche 3); and 3,821 additional subheadings and 12 partial subheadings in September 2019, with an approximate annual value of $300 billion (tranche 4, lists 1 and 2).[5] However, of the subheadings covered by tranche 4, only the 3,279 subheadings and 4 partial subheadings of list 1 went into effect. The 542 subheadings and 8 partial subheadings of list 2 were suspended indefinitely.

Trade, Production, and Prices in the U.S. Steel and Aluminum Industries

The U.S. steel market has exhibited changes in trade, production, and prices since the imposition of tariffs under sections 232 and 301, affecting both U.S. producers of these products and downstream businesses that rely on them. Imports of steel decreased in the years following the imposition of the tariffs, declining 17.2 percent from 2017 to 2021. U.S. production of steel fluctuated in recent years, but it remained about 5 percent higher in 2021 than in 2017. The steel industry's capacity utilization increased as well from 2017 to 2021, with capacity utilization at a 14-year high in 2021. Many domestic steel producers announced plans to invest in and greatly expand domestic steel production in the coming years. The prices of U.S. steel products have increased in recent years as well. Between December 2017 and December 2021, average monthly prices for hot-rolled steel (a common steel product frequently used to track steel prices) increased from $697 per metric ton to $1,855 per metric ton, an increase of 166.1 percent. Although prices have increased globally since 2018, the increase has been much higher in the United States than elsewhere, despite fluctuations during that period. These changes in imports, production, and prices have had impacts on downstream industries such as construction and automotive manufacturing that rely extensively on steel inputs.

[5] Approximate trade values were estimated by USTR and provided in the *Federal Register* notices accompanying the announcements of each tranche.

The aluminum market has similarly experienced changes in trade, production, and price trends. Imports of aluminum have generally been lower since the imposition of the tariffs, declining by 19.0 percent from 2017 to 2021. However, import volumes have exhibited large variations over the period. U.S. production of aluminum has fluctuated since the imposition of the tariffs. Some plants have expanded production, but others have temporarily or permanently shut down. Despite these fluctuations, aluminum production was higher across all industry segments from 2017 to 2021, with increases ranging from 11.5 to 22.5 percent. Smelter capacity utilization also fluctuated but was about 15 percentage points higher in 2021 than 2017. Aluminum prices increased significantly following the imposition of the tariffs in 2018 but fell steadily in the following years. Prices spiked again beginning in June 2020, representing an overall increase of 45.0 percent between December 2017 and December 2021, and reaching their highest levels in 13 years in October 2021. The gap between U.S. prices and those throughout the rest of the world remains larger than it was in the period preceding the imposition of the tariffs. These changes in imports, production, and prices have had effects on the many downstream industries, including transportation, construction, and packaging, that use aluminum as major inputs to their own products.

In recent years, several factors other than the tariffs under sections 232 and 301 have also affected trade, production, and prices in the U.S. steel and aluminum industries. These factors include the COVID-19 pandemic, supply chain disruptions, antidumping and countervailing duty (AD/CVD) orders, a surge in energy prices, global responses to the tariffs, and Russia's invasion of Ukraine. Although both steel and aluminum markets have exhibited changes in import, production, and price trends since the imposition of the tariffs, other factors have also contributed to those changes. To help disentangle the effects of the tariffs from these other factors, the Commission developed specialized economic models that estimate the effects of the tariffs distinct from other factors. This results in a clearer picture of the stand-alone effects of the tariffs under sections 232 and 301.

Estimated Economic Effects of Tariffs under Sections 232 and 301 on Trade, Production, and Prices

To estimate the effects on trade, production, and prices of section 232 tariffs, the Commission developed a specialized partial equilibrium model of the U.S. steel, aluminum, and downstream industries. The model estimates the economic effects of section 232 tariffs in place in each year modeled from 2018 to 2021. The model estimates the direct effect of the tariffs on these industries but does not capture the indirect effects or long-term factors (such as investment). The model estimates that section 232 tariffs reduced imports of steel and aluminum products covered by section 232 tariffs by an estimated 24.0 percent and 31.1 percent on average, respectively, during this period (table ES.1). Also, as a result of the tariffs, U.S. production of steel and aluminum increased by 1.9 percent and 3.6 percent on average, respectively, during this period. In dollar terms, U.S production of steel and aluminum was $1.5 billion and $1.3 billion higher each year, respectively, than it would have been absent the tariffs, on average. The tariffs are estimated to have increased the average price of steel and aluminum in the United States by 2.4 percent and 1.6 percent, respectively. They are estimated to have increased prices of domestically produced steel and aluminum by about 0.7 percent and 0.9 percent on

average and the prices of imported steel and aluminum products subject to the duties by about 22.7 percent and 8.0 percent, respectively. With regard to trends in trade, production, and prices, tariffs appear to explain a relatively large portion of the declines in steel and aluminum imports during 2018–21. Meanwhile, the tariffs explain relatively small portions of the observed increases in prices and domestic production.

For downstream industries, the effects are largely negative but differ in magnitude across industries. The average annual decrease in production values for these industries was $3.4 billion during 2018–21. The most negatively impacted industries, as classified by the North American Industry Classification System (NAICS), include Industrial Machinery Manufacturing; Cutlery and Handtool Manufacturing; Motor Vehicle Steering, Suspension Components and Brake Systems; Other General Purpose Machinery; Agriculture, Mining, and Construction Manufacturing; and Other Fabricated Metal Products. U.S. production quantities in these industries decreased by up to nearly 3 percent and U.S. production values in some industries decreased by up to $469 million in 2021. Given the rise in prices for imported steel and aluminum products, many downstream industries shifted some of their sourcing away from foreign sources to domestic producers. The largest shifts were seen in Architectural and Structural Metal Manufacturing and Boiler, Tank, and Shipping Container Manufacturing, which both increased their domestic sourcing by more than $200 million each in 2021.

Table ES.1 Estimated effects of section 232 steel and aluminum tariffs on U.S. steel and aluminum production, prices, and imports
In percentage changes.

Variable	Impact in 2018	Impact in 2019	Impact in 2020	Impact in 2021	Average effect
Quantity of covered steel imports	−23.8	−23.6	−24.7	−24.0	−24.0
Quantity of covered aluminum imports	−30.3	−29.8	−32.2	−32.0	−31.1
Delivered price of covered steel imports	22.8	22.8	22.7	22.7	22.7
Delivered price of covered aluminum imports	8.0	8.1	7.9	7.9	8.0
Price of domestically produced steel	0.81	0.87	0.52	0.75	0.74
Price of domestically produced aluminum	1.02	1.10	0.67	0.71	0.87
Average steel price in U.S.	2.7	2.8	1.6	2.5	2.4
Average aluminum price in U.S.	1.8	1.9	1.2	1.3	1.6
Quantity of domestic steel production	2.0	2.2	1.3	1.9	1.9
Quantity of domestic aluminum production	4.2	4.5	2.7	2.9	3.6

Source: USITC estimates.
Note: Economic effects reported in this table are calculated as the percent change between actual economic outcomes in each year and a counterfactual scenario in which no section 232 tariffs were in place. Steel products are aggregated in the model. The delivered price of covered imports is the average price paid for U.S. imports of steel products. The average steel price in the United States is a weighted average of the price of domestically produced steel and covered steel imports. The same is true for aluminum products. Covered imports are imports of steel and aluminum subject to section 232 tariffs.

Section 301 tariffs were imposed on a wide range of imports from China. Following the imposition of these tariffs beginning in 2018, imports of affected products from China declined from about $311 billion in 2017 to $265 billion in 2021. However, as with steel and aluminum product imports, other major factors also contributed to these changes. To disentangle the effects of section 301 tariffs, the Commission developed an econometric model that examined U.S. trade patterns with China and the

rest of the world. The model estimates the extent to which the tariffs affected trade and import prices while controlling for—and therefore separating—other influential factors. The Commission's econometric model estimates that tariffs under sections 232 and 301 resulted in a nearly one-to-one increase in prices of U.S. imports following the tariffs. This implies that a 10 percent ad valorem tariff raised the price of U.S. imports from China by about 10 percent. This nearly complete pass-through (meaning that prices received by exporters were largely unaffected and prices paid by U.S. importers increased by the same amount as the tariffs) is unusual but has been similarly found by other recent studies, which conclude that U.S. importers have borne almost the full burden of section 301 tariffs. The model also estimates that for every 1 percent increase in these tariffs, imports from China of products covered by the tariffs have decreased by about 2 percent in value and quantity. Notably, the magnitude of this response has slowly increased over time, likely because U.S. importers have adjusted and found new sources.

The model estimates the economic effects on trade, production, and prices of section 301 tariffs in place in each year modeled from 2018 to 2021. Across all sectors that include products covered by section 301 tariffs, the Commission's model estimates that tariffs decreased imports from China by 13 percent on average during 2018 to 2021. Meanwhile, the tariffs increased the price of domestically produced products and the value of domestic production by 0.2 percent and 0.4 percent on average, respectively, during the period. Compared to observed trends, the estimated impacts of the tariffs appear to explain a relatively large portion of the recent changes in import values of these products.

To identify the specific effects on trade, production, and prices of section 301 tariffs on the directly affected industries, the Commission's analysis estimates the impacts of the tariffs on the 10 industries in the United States that had the largest volumes of trade in affected products immediately before the imposition of the tariffs. These industries include apparel, various types of electronics equipment, automotive parts, and a variety of other manufactured products. These tariffs are estimated to have significantly reduced imports from China in 2021 compared to a scenario in which the tariffs were not in place. Within this group of industries, the estimated reduction in imports ranges from 5 percent for Computer Equipment to 72 percent for Semiconductors and Other Electronic Components. Prices of imports from China in 2021 are estimated to be higher with the tariffs in place—up to 22–25 percent for Semiconductors and Other Electronic Components, Household and Institutional Furniture and Kitchen Cabinets, and Audio and Video Equipment. Prices of domestically produced goods are estimated to have increased by up to 3–4 percent in some industries. On average, across both imports and domestically produced products, prices in these sectors increased by up to 7.1 percent for Household and Institutional Furniture and Kitchen Cabinets in 2021. The value of U.S. production is also estimated to have increased, by up to nearly 8 percent for Semiconductors and Electronic Components in 2021. The individual estimated effects for the five largest affected industries are presented in table ES.2.

Table ES.2 Effect of section 301 tariffs by industry group on domestic prices and value in 2021
In percentage changes.

NAICS industry group	Description	Price of imports from China	Price of domestically produced products	Average price in the United States	Tariff-inclusive value of imports from China	Value of U.S. production
3152	Cut and Sew Apparel Manufacturing	14.5	3.1	4.3	−39.1	6.3
3344	Semiconductors and Other Electronic Components	25.0	3.1	4.1	−72.3	6.4
3341	Computer Equipment	1.5	0.6	0.8	−5.3	1.2
3371	Household and Institutional Furniture and Kitchen Cabinets	22.4	3.7	7.1	−25.4	7.5
3363	Motor Vehicle Parts	24.5	1.5	2.3	−50.1	3.0

Source: USITC estimates.
Note: Economic effects reported in this table are calculated as the percent change between actual economic outcomes in 2021 and a counterfactual scenario where no section 301 tariffs were in place. The change in average price in the United States is a weighted average that considers the estimated substitutability between products from different sources. The percentage change in "tariff-inclusive value" refers to the change in the value of imports from China including the value of the section 301 duties themselves.

Finally, the Commission's investigation prompted extensive interest from external stakeholders, resulting in a three-day public hearing with witnesses representing 89 organizations, and 362 written submissions from 195 organizations. The comments received from producers that compete with affected imports generally wrote or spoke in support of the tariffs. Those that relied on affected imports as inputs typically wrote or spoke in opposition to them.

 This page has been changed to reflect corrections to the original publication.

Chapter 1
Introduction

The U.S. International Trade Commission (Commission or USITC) has prepared this report in response to a direction in an explanatory statement accompanying the Consolidated Appropriations Act, 2022, enacted on March 15, 2022. The explanatory statement directed the Commission to conduct an investigation and provide a report containing a retrospective analysis of any section 232 or section 301 tariff active as of the date of enactment of the Act. The explanatory statement directed the Commission to provide its report to the House and Senate Committees on Appropriations (Committees) within a year of enactment of the legislation. The term "section 232 tariff" refers to tariffs proclaimed by the President under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. § 1862) (safeguarding national security), and "section 301 tariff" refers to tariffs proclaimed under sections 301–10 of the Trade Act of 1974 (19 U.S.C. § 2411–20) (enforcement of U.S. rights under trade agreements and response to certain foreign trade practices). Tariffs were active as of March 15, 2022, pursuant to two sets of investigations: (1) national security investigations pursuant to section 232 on steel and aluminum and (2) a section 301 investigation concerning China's acts, policies, and practices related to technology transfer, intellectual property, and innovation.

More specifically, the explanatory statement provided as follows:

> Trade Enforcement Analysis.—ITC is directed to conduct an investigation and retrospective economic analysis of any section 232 or 301 tariff that is active as of the date of enactment of this Act. Within a year of enactment of this Act, ITC shall provide a report to the Committees with detailed information, to the extent practicable, on U.S. trade, production, and prices in the industries directly and most affected by active tariffs under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) and section 301 of the Trade Act of 1974.[6]

This report responds to the direction and provides to the Committees detailed information on U.S. trade, production, and prices in the industries directly and most affected by the tariffs under sections 232 and 301.

Section 232 of the Trade Expansion Act of 1962 provides for investigations by the Secretary of Commerce to determine the effects on national security of imports of articles and for the President's determination regarding the appropriate action with respect to such imports.[7]

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[6] Explanatory Statement submitted by Rosa DeLauro on March 9, 2022, 117th Cong., 2d sess., *Congressional Record* 168, H1801. See also Explanatory Statement for Commerce, Justice, and Science and Related Agencies Appropriations Bill 2023, Staff of the Senate Committee on Appropriations, 117th Congress, 2022: "The Committee continues to be concerned about the impact of active tariffs under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) and section 301 of the Trade Act of 1974 (19 U.S.C. 2232). The Committee looks forward to receiving the report on the effects of these tariffs, as directed by the joint explanatory statement accompanying Public Law 117–103 under the heading 'Trade Enforcement Analysis.'"

[7] 19 U.S.C. § 1862.

Section 301 of the Trade Act of 1974 is designed to address unfair foreign practices affecting U.S. commerce. Section 301 may be used to enforce U.S. rights under bilateral and multilateral trade agreements or to respond to unreasonable, unjustifiable, or discriminatory foreign government practices that burden or restrict U.S. commerce.[8]

Scope

The Committees directed that the report provide an economic analysis with detailed information on U.S. trade, production, and prices in the industries directly and most affected by the tariffs under sections 232 and 301 that were active on March 15, 2022. The Commission interpreted this request as applying to the tariffs that were imposed under: (1) section 232, on steel and aluminum articles resulting from the investigations titled *The Effects of Imports of Steel on the National Security* and *The Effects of Imports of Aluminum on the National Security* and (2) section 301, on a wide range of products from China resulting from the investigation titled *Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*.[9] The tariffs in effect are defined as temporary tariffs set out in subchapter III of chapter 99 of the 2022 *Harmonized Tariff Schedule of the United States (Basic Edition), Revision 2* (HTS). Specifically, section 232 tariffs apply to articles described under HTS subheadings 9903.80.01 through 9903.81.80 and 9903.85.01 through 9903.85.44. Section 301 tariffs apply to articles described under HTS subheadings 9903.88.01, 9903.88.02, 9903.88.03, 9903.88.04, and 9903.88.15.

Several other recent actions under section 301, such as those relating to the European Union (EU) large civil aircraft dispute and digital services taxes in 11 jurisdictions, were suspended or terminated as of March 15, 2022, and were not considered "active" as of that date for the purposes of this report.

As a result of bilateral negotiations with certain affected countries, quotas or tariff-rate quotas (TRQs) have replaced some tariffs imposed under section 232. Although these alternative restrictions still function under the scope of section 232 actions, the Commission has interpreted the direction in the explanatory statement to conduct an economic analysis of section 232 tariffs to not include the impacts of these quotas and TRQs and therefore largely did not include them as part of the scope of its assessment in its economic modeling.[10] This report does consider the implementation of section 232 quotas and TRQs in its data collection and assessment of imports that have paid section 232 tariffs, but it does not directly assess the effect of import volumes being constrained by the quotas and TRQs.

In addition, some individual products and countries within the scope of the initial actions were excluded, exempted, or otherwise relieved from the tariffs, either temporarily or permanently. Tariff rates on

[8] Section 301 refers to sections 301–10 of the Trade Act, which are codified at 19 U.S.C. §§ 2411–20.
[9] USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018; USDOC, BIS, *The Effect of Imports of Aluminum on the National Security*, January 17, 2018; USTR, *Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, March 22, 2018.
[10] Trying to include imports subject to quotas or TRQs also presented data challenges. Filtering imports by U.S. Census Bureau's rate provision codes as described in the "Data Availability and Limitations" section below allows for the separation of imports subject to section 232 tariffs from nonsubject imports, but it does not allow for the separation of imports subject to quotas and TRQs from other nonsubject imports, such as imports that were subject to a product exclusion.

certain groups of products subject to these tariffs also changed over time. When possible, the report considers these modifications in its retrospective analysis. The report assesses the effect of tariffs under sections 232 and 301 in place in each year from 2018 to 2021, pursuant to the specific section 232 and 301 investigations cited above for which tariffs were active as of March 15, 2022.

Approach

The Commission used a variety of analytical approaches in its economic analysis of the tariffs under sections 232 and 301 that were active as of March 15, 2022. The approaches include the presentation of relevant data, economic modeling, and qualitative analysis of impacts. Together, these approaches provide a detailed depiction of the impacts of these tariffs on the U.S. industries directly and most affected.

Chapters 3, 4, and part of chapter 6 present multiple data series that show how U.S. trade, production, and prices have changed since tariffs under sections 232 and 301 were imposed, beginning in 2018. These data series provide a detailed view of how economic conditions have changed in the months and years following each of the tariff changes. It is important to note, however, that these trends were affected by many factors other than tariffs. Perhaps most notable was the COVID-19 pandemic, which began in March 2020, and the supply chain disruptions and inflation that followed. These additional factors also have had a considerable impact on U.S. trade, production, and prices in recent years, and should not be overlooked when interpreting these data.

This report also uses economic modeling (in chapters 5 and 6) to help disentangle the effects of the tariffs under sections 232 and 301 from the effects of other influential factors occurring simultaneously. The economic models also provide information about trade, production, and prices where data are unavailable, by estimating impacts that otherwise may be poorly recorded or difficult to observe.

Finally, the data analysis and economic modeling are complemented with qualitative analysis. This additional analysis draws on historical information, industry interviews, public statements, economic literature, and other sources and provides valuable context. Combined, these three approaches provide an economic analysis of the tariffs under sections 232 and 301 on the U.S. industries directly and most affected.

As requested, the Commission's analysis is retrospective, looking at changes that occurred after the tariffs under sections 232 and 301 were imposed. In most cases, the analysis considers the period between 2016 and 2021 to provide information about trends prior to the imposition of these tariffs and after. The analysis ends with 2021 because that was the latest year with available data at the time of writing. This report does not consider the likely future effects of the tariffs or the likely effects of removing them. For this reason, the findings in the report should be viewed as an assessment of the impacts that occurred, which may or may not be indicative of their effects in the future.

When interpreting the findings of this report, the scope of the analyses that it presents is important. As directed, the Commission focused on the impacts of the tariffs on the industries that were directly and most affected. The Commission's analysis should not be considered an assessment of the complete, economy-wide impacts of the tariffs under sections 232 and 301. Many costs and benefits are not fully captured in the Commission's analysis. For example, because the Commission did not assess the

economy-wide impact of the tariffs, the analysis may not fully capture all the possible connections between affected industries. Similarly, with the exception of the analysis of the economic effect of 232 tariffs on downstream industries, the estimates do not capture the impacts on indirectly connected parties, such as consumers of final goods, or producers of products or services that were not affected by tariffs but were indirectly impacted by changes in purchasing patterns, prices, or other factors. It also did not consider the uses of the additional tariff revenues, nor does it fully address the effects of the tariffs on long-term factors such as investment, capacity changes, inventory storage, or supply chain adjustments. For this reason, readers should be cautious about drawing broad conclusions about whether the tariffs under sections 232 and 301 produced a net benefit for the U.S. economy overall. The analysis in this report is, by design, not intended to address those questions.

Data Availability and Limitations

Trade

U.S. import and export data are derived from the U.S. Census Bureau, via USITC DataWeb. To estimate the value and volume of goods subject to tariffs under sections 232 or 301, the Commission used data on imports covered under HTS statistical reporting numbers and from countries that were subject to these tariffs. For goods subject to section 301 tariffs, these data allowed the Commission to capture changing product coverage, including imports which had been granted a product exclusion.[11] When estimating goods subject to tariffs, the data were often further refined by including only goods where the U.S. Census Bureau rate provision codes were equal to 69 or 79.[12] These data capture only imports of products that paid a tariff under a trade provision provided for in HTS chapter 99 and therefore do not capture goods entering under a quota, the duty-free portion of a TRQ, or a product exclusion. No

[11] Some Section 301 product exclusions that were granted on products more specific than the full HTS statistical reporting number in which they are imported under could not be excluded. The Commission does not expect this to have a significant impact on the overall analysis because the exclusions are generally very narrowly defined as only parts of select statistical reporting numbers. As a result, the value of products subject to an exclusion is expected to be very small compared to the value of covered products.

[12] U.S. Census rate provision codes 69 and 79 are applied to imports that were "dutiable at rates prescribed in Rates of Duty columns of HTS chapter 99." Chapter 99 of the HTS provides for products for which temporary tariff modifications apply pursuant to trade legislation such as sections 232 and 301, among other provisions. Thus, rate provision codes 69 and 79 can be used to examine imports that paid an additional duty pursuant to sections 232 and/or 301. Goods entering under an exclusion, quota, or the duty-free portion of a TRQ would generally not be dutiable at rates prescribed in HTS chapter 99 and therefore are not recorded under rate provision codes 69 and 79. However, between 2018 and 2021, rate provision codes 69 and 79 do apply to a small share of imports of aluminum from Argentina that are subject to a quota under section 232. Imports of aluminum from Argentina comprise less than 1 percent of total imports subject to section 232 tariffs, depending on the year. Additionally, a small subset of goods may enter under dutiable rates that are prescribed in chapter 99 related to measures other than the 232 and 301 tariffs, and therefore may be recorded as imports under rate provision codes 69 and 79. For example, these rate provision codes could also be applied to imports subject to a reduced tariff (rather than zero rate) under the Miscellaneous Tariff Bill or to imports subject to an additional tariff resulting from a safeguard action. The Miscellaneous Tariff Bill, which expired as of December 31, 2020, provided temporary duty suspension or reductions for certain products selected according to public petitions from importers. Safeguards may include duties imposed by the President to provide import relief. In both cases, these instances are minimal and have been excluded from the data presented in this report where possible.

publicly available data specifically reflect the value of products subject to exclusion under section 232 or 301. However, this report endeavors to separate products subject to an exclusion from those subject to the tariffs as described above, capturing in many respects the exclusions' influence on the effects of the tariffs.

In addition, both modeling chapters in this report have concorded U.S. import data with North American Industry Classification System (NAICS) 4- or 6-digit industry sectors using concordances provided by the U.S. Census Bureau.

Production

Steel production data by volume, presented in chapter 4, were obtained from the World Steel Association and the American Iron and Steel Institute. Aluminum production data by volume, presented in chapter 4, were obtained from the Aluminum Association and Refinitiv World Bureau of Metal Statistics. For both the steel and aluminum industries, disaggregated production data by product are not publicly available. For the economic modeling presented in chapter 5, steel and aluminum production data by value were derived from the U.S. Census Annual Survey of Manufactures. Because these production data by value were available through only 2020, the Commission used the production data for 2020 in both the 2020 and 2021 estimates and adjusted them, as required. The economic modeling also uses the U.S. Bureau of Economic Analysis (BEA) 2012 Use Tables and Import Matrices to estimate the share of steel and aluminum inputs used in production for downstream consuming industries. The modeling in chapter 6 also uses gross output by sector from the BEA for industries affected by section 301 duties, which includes 94 of 98 NAICS industry sectors.

Prices

Hot-rolled steel coil prices presented in chapter 4 were obtained from CRU Group data published by the U.S. Department of Commerce.[13] These prices are believed to be representative of price trends in other steel products and in the industry in general. Domestic aluminum prices presented in chapter 4 are from the Platts Midwest Premium price series, sourced from Fastmarkets.[14] Global aluminum prices presented in chapter 4 are from the London Metal Exchange global price series, sourced from the World Bank's Commodity Markets webpage. All aluminum prices presented in chapter 4 are for primary unwrought aluminum; prices for secondary aluminum (aluminum recycled from aluminum scrap) and conversion prices for wrought aluminum products are not publicly available. In chapter 6, U.S. producer price indexes for NAICS 4-digit industry groups are from the U.S. Bureau of Labor Statistics. Prices paid by U.S. importers, which are inferred from import values inclusive of tariffs, are used to evaluate import prices.

[13] CRU Group is a private, subscription-based business intelligence company focused on the mining, metals, and fertilizer industries.
[14] Fastmarkets is a private, subscription-based commodity price reporting agency.

Views of Interested Parties

In its notice of investigation and hearing published in the *Federal Register*, the Commission invited interested parties to furnish information relevant to the investigation, including in the form of written submissions, prehearing and posthearing briefs, and testimony at the Commission's public hearing. This request generated significant engagement and extensive information from a wide variety of parties, including representatives of firms, labor unions, industry associations, and public interest groups. The hearing took place over three days on July 20–22, 2022, and included testimony from U.S. Representative Frank Mrvan, Burak Güreşci of Turkey's Ministry of Trade, and witnesses representing 89 organizations. A schedule of the hearing with a list of witnesses is provided in appendix C. The Commission also received 362 written submissions from 195 persons and organizations, including some that appeared at the hearing.

Persons and organizations appearing at the hearing and filing written submissions presented a broad range of views on how tariffs under sections 232 and 301 had affected U.S. industries. Many producers and importers of the steel and aluminum products covered by section 232 tariffs—in addition to organizations representing workers in those industries—as well as numerous businesses affected by section 301 tariffs provided their views. As evidence of the breadth of section 301 tariffs coverage, the Commission received comments from producers and retailers on an extensive range of products including automotive parts, tooling, electronics, apparel, home and building supplies, and food products.

In general, domestic producers of products subject to the tariffs and labor unions expressed support for the tariffs. These producers and unions stated that the tariffs provided important relief for their businesses and have helped with the recovery and preservation of these industries. Many reported that the tariffs have improved market conditions and allowed them to invest in and expand their operations. Firms that rely on imports, on the other hand, generally expressed opposition to the specific tariffs on the products they import. Firms expressing opposition frequently stated that the tariffs had increased their costs, lowered their margins, introduced supply shortages, and required them to raise their prices. Notably, many of the firms whose imports were covered by section 301 tariffs expressed support for the tariff actions overall but requested relief from the tariffs for the specific products they import. The Commission also received comments from public advocacy groups and think tanks that expressed similarly diverse views on the tariffs.

The information that the Commission received from these interested parties is reflected in this report in several ways. The Commission's analysis throughout the following chapters drew on and referenced information shared in the hearing and written submissions. A full list of parties that provided public comments is included in appendix D. Written summaries of each party's views are included in this appendix when the party provided them. All these party views, including hearing transcripts and written submissions, are available on the Commission's website.[15]

[15] Views of interested parties can be accessed via the Commission's Electronic Document Information System (EDIS) at https://edis.usitc.gov.

Report Organization

The remainder of the report is organized into five chapters. Chapter 2 provides background information on sections 232 and 301 and the initial actions taken under those provisions that are covered by this report. It includes a summary of the findings and recommendations of the Secretary of Commerce and the President relating to actions taken under section 232, and by the U.S. Trade Representative (Trade Representative) for actions taken under section 301 at the direction of the President. This chapter also includes a brief summary of the international responses to the U.S. implementation of tariffs under sections 232 and 301, such as the introduction of a large number of retaliatory tariffs on U.S. exports.

Chapter 3 describes the scope of the tariff actions under sections 232 and 301, including the product coverage and countries impacted. It presents information on the change in tariff coverage in terms of the number and value of products, as well as the change in overall tariff rates and the imposition of quotas or tariff rate quotas (TRQs) with respect to certain countries subject to section 232 tariffs. It also describes the various country exemptions and product exclusions that have altered the original coverage of the tariffs.

Chapter 4 examines the U.S. steel and aluminum industries. Imports of steel and aluminum are the only imports subject to the tariffs under both sections 232 and 301. The analysis presents detailed information about trade, production, and price trends in these industries leading up to and following the imposition of the tariffs under sections 232 and 301. The chapter also highlights trends in selected upstream and downstream industries that may also have been affected by the tariffs and may also have impacted supply and demand for steel and aluminum.

Chapter 5 examines the effects of section 232 tariffs on steel, aluminum, and downstream industries. It presents the findings produced by a custom-built economic model of these industries, which is used to estimate the effects of these tariffs on trade, production, and prices. The economic model is able to control for and separate other factors that have influenced these economic outcomes, thereby providing a clearer picture of the effects of these tariffs absent these other influences.

Chapter 6 examines the effects of section 301 tariffs on U.S. imports on directly affected industries. The chapter presents detailed data and discussion of recent trends in trade, production, and prices for the more than 10,000 products affected by these tariffs. It also presents the findings from an econometric model and a series of partial equilibrium models that estimate the effects of these tariffs and seek to disentangle them from all other factors that have impacted trade, production, and prices.

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Chapter 2
History of Statutory Provisions and Recent Investigations under Sections 232 and 301

Section 232 of the Trade Expansion Act of 1962 provides for investigations by the Secretary of Commerce (Secretary) to determine the effects of imports on national security, reports to the President by the Secretary, and determinations and actions by the President to adjust imports so that such imports will not threaten to impair national security.

Section 301 of the Trade Act of 1974 provides for investigations by the U.S. Trade Representative (Trade Representative) and is designed to address unfair foreign practices affecting U.S. commerce. It may be used to enforce U.S. rights under bilateral and multilateral trade agreements or to respond to unreasonable, unjustifiable, or discriminatory foreign government practices that burden or restrict U.S. commerce.

Both sections 232 and 301 had seen relatively limited use in recent decades. Since 2017, however, the level of activity under both authorities has increased, including the actions that are the subject of this report. Investigations under section 232 on steel and aluminum focused on global overcapacity, import levels in the United States, and the impact of those imports on domestic industries deemed important to national security. An investigation under section 301 into technology transfer, intellectual property, and innovation issues focused on the acts, policies, and practices of the government of China. Each of these proceedings resulted in import restraints intended to address longstanding concerns.

This chapter begins with an overview of section 232 of the Trade Expansion Act of 1962 and section 301 of the Trade Act of 1974. It then describes the investigations that led to the actions taken under those provisions that are the subject of this report, providing context for their implementation. Finally, this chapter summarizes responses to the U.S. actions taken by U.S. trading partners.

Section 232 of the Trade Expansion Act of 1962

The Trade Expansion Act of 1962 included provisions for temporary tariff reduction as well as trade adjustment assistance and tariff-based import relief. Section 232 of the Trade Expansion Act of 1962, as amended, provides for investigations by the Secretary of Commerce to determine the effects on national security of imports of articles and for the President's determination regarding the appropriate action with respect to such imports.[16]

[16] Section 232 of the Trade Expansion Act of 1962, 19 U.S.C. § 1862. Between 1962 and 1973, the administering authority for section 232 was the Director of the Office of Emergency Planning/Preparedness. Between 1973 and

Description

Section 232(b) of the Act requires the Secretary of Commerce, upon request of the head of any department or agency, upon application of an interested party, or upon the Secretary's own motion, to initiate an appropriate investigation to determine the effects on the national security of imports of the article that is the subject of the request, application, or motion.[17] In the course of any investigation, the Secretary of Commerce must consult with the Secretary of Defense and other officers of the United States and, if appropriate, hold public hearings or otherwise afford opportunities for interested parties to present information and advice relevant to such investigation.[18]

The Secretary of Commerce must submit a report to the President within 270 days of initiating an investigation. The report must include the Secretary's findings "with respect to the effect of the importation of such article in such quantities or under such circumstances upon the national security" and recommendations for action or inaction. The statute also requires that if the Secretary finds that the imported article "is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security," the Secretary must so advise the President in the report.[19] Within 90 days of receiving such a report from the Secretary, the President must determine whether they concur with the finding of the Secretary, and if the President concurs, must determine the nature and duration of the action that must be taken to adjust imports of the article and its derivatives so that such imports will not threaten to impair the national security.[20]

Past Investigations by the Secretary of Commerce

As presented in table 2.1, since January 2, 1980, when the Secretary of Commerce (Secretary) became the administering authority for section 232 investigations, the Secretary has initiated 22 investigations.[21] Fourteen were initiated between 1981 and 2001, including four relating to imports of oil and one

1980, the administering authority for section 232 was the Secretary of the Treasury. Since 1980, the Secretary of Commerce has been the administering authority for section 232, pursuant to Executive Order 12188, January 2, 1980. BIS, *Section 232 Investigations Program Guide*, June 2007, 16–20 (referencing Executive Order 12188, 45 Fed. Reg. 989, January 2, 1980).

[17] 19 U.S.C. § 1862(b)(1)(A).

[18] 19 U.S.C. § 1862(b)(2)(A).

[19] 19 U.S.C. § 1862(b)(3)(A).

[20] 19 U.S.C. § 1862(c)(1)(A). See also USITC, *The Year in Trade 2021*, August 2022, 81–82.

[21] 44 Fed. Reg. 69274 (December 3, 1979).

relating to imports of iron ore and semifinished steel—specifically ingots, slabs, blooms, and billets of all grades (carbon, stainless, and alloy).[22]

Following more than a decade of inactivity, since 2017 the Secretary has initiated eight section 232 investigations, including the two that are part of the subject of this report. Of these eight investigations, two (automobiles and automobile parts; and vanadium) resulted in no action; four (uranium; titanium sponge; transformers and transformer components—focusing on grain-oriented electrical steel, or GOES; and neodymium-iron-boron [NdFeB] permanent magnets) resulted in other types of actions, such as consultation, negotiation, monitoring, creation of a working group, or those related to the broader supply chain; and two (aluminum and steel) resulted in actions to adjust imports, specifically through increases in tariffs and other measures.[23]

[22] The U.S. Department of Commerce (USDOC) was unable to conclude that imports of iron ore and semifinished steel threaten to impair the national security of the United States or to recommend to the President that he take action under section 232 to adjust the level of imports. USDOC found no weapons system to be dependent upon foreign steel; noted that demand of critical industries can be "readily satisfied" by domestic production; stated that the U.S. industry currently has, and anticipates continuing to have in the future, "sufficient human resources, products, raw materials, and other supplies and services" needed for production; observed that imports are from diverse and "safe" foreign suppliers such as Canada, Mexico, and Brazil; and reasoned that although domestic manufacturers "clearly are enduring substantial economic hardship, there is no evidence that imports of these items (20 percent of U.S. iron ore and 7 percent of semifinished steel consumption) fundamentally threaten to impair the capability of U.S. industry to produce the quantities of iron ore and semifinished steel needed to satisfy national security requirements, a modest proportion of total U.S. consumption." USDOC, BIS, *The Effect of Imports of Iron Ore and Semi-Finished Steel on The National Security*, October 2001, 1–2.

[23] Proclamation No. 9704, 83 Fed. Reg. 11619 (March 15, 2018) and Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018). USITC, *The Year in Trade 2021,* August 2022, 82–87. See also USTR, *USTR Statement on Successful Conclusion of Steel Negotiations with Mexico*, November 5, 2020 (noting that "Mexico will establish a strict monitoring regime for exports of electrical transformer laminations and cores made of non-North American GOES."); USDOC, *FACT SHEET: Biden-Harris Administration Announces Further Actions to Secure Rare Earth Element Supply Chain*, September 21, 2022, accompanying USDOC, BIS, *The Effect of Imports of Neodymium-Iron-Boron (NdFeB) Permanent Magnets on the National Security*, September 21, 2022.

Table 2.1 Investigations initiated by the Secretary of Commerce under section 232 of the Trade Expansion Act of 1962, 1981–present

Proceedings	Report publication years
Neodymium-Iron-Boron (NdFeB) Permanent Magnets	2022
Vanadium	2021
Transformers and Transformer Components	2020
Titanium Sponge	2019
Uranium	2019
Automobiles and Automobile Parts	2019
Steel	2018
Aluminum	2018
Iron Ore and Semifinished Steel	2001
Crude Oil	1999
Crude Oil and Petroleum Products	1994
Ceramic Semiconductor Packaging	1993
Gears and Gearing Products	1992
Crude Oil and Petroleum Products	1989
Plastic Injection Molding	1989
Uranium	1989
Antifriction Bearings	1988
Crude Oil from Libya	1982
Nuts, Bolts, and Large Screws	1983
Metal-Cutting and Metal-Forming Machine Tools	1983
Chromium, Manganese and Silicon Ferroalloys and Related Materials	1981
Glass-Lined Chemical Processing Equipment	1981

Source: USDOC, BIS, "Section 232 Investigations: The Effect of Imports on the National Security," accessed October 3, 2022.
Note: The year in which these investigations were initiated is in some cases different than the year the corresponding reports were published.

Findings by the Secretary of Commerce Regarding Imports of Steel

On April 19, 2017, Secretary of Commerce Wilbur Ross initiated an investigation under section 232 to determine the effects on the national security of imports of steel and provided notice to the Secretary of Defense.[24] Following a public hearing, submission of comments, and interagency consultations, the Secretary submitted a report to President Trump setting out his findings and supporting information in the investigation, *The Effect of Imports of Steel on the National Security,* on January 11, 2018.[25] Table 2.2 summarizes the major findings and the support for those findings as set out in the Secretary's report.

[24] Notice Request for Public Comments and Public Hearing on Section 232 National Security Investigation of Imports of Steel, 82 Fed. Reg. 19205 (April 26, 2017).
[25] USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018, 5 and 18–20.

Table 2.2 Findings and items that support findings regarding imports of steel as provided in the Secretary's report

Finding	Support
Steel is important to U.S. national security	1. National security includes projected national defense requirements for the U.S. Department of Defense. 2. National security also encompasses U.S. critical infrastructure sectors including transportation systems, the electric power grid, water systems, and energy generation systems. 3. Domestic steel production is essential for national security applications. Statutory provisions illustrate that Congress believes domestic production capability is essential for defense requirements and critical infrastructure needs, and ultimately to the national security of the United States. U.S. Government actions on steel across earlier Administrations further demonstrate domestic steel production is vital to national security. 4. Domestic steel production depends on a healthy and competitive U.S. industry. The principal types of mills that produce steel are integrated mills with basic oxygen furnaces (BOFs); mini-mills using electric arc furnaces (EAFs); re-roller/converter; and metal coater facilities. Basic oxygen furnaces convert raw materials into steel, and remain critical for continued innovation in steel technology. Covered in this report are five categories of steel products that are used for national security applications: flat, long, semi-finished, pipe and tube, and stainless. 5. The Department found that demand for steel in critical industries has increased since the Department's last investigation in 2001. The 2001 Report determined that there was 33.68 million tons of finished steel consumed in critical industries per year in the United States based on 1997 data. The Department updated that analysis for this report using 2007 data (the latest available) and determined that domestic consumption in critical industries has increased significantly, with 54 million metric tons of steel now being consumed annually in critical industries.
Imports in such quantities as are presently found adversely impact the economic welfare of the U.S. steel industry	1. The United States is the world's largest steel importer. In the first ten months of 2017 steel imports have increased at a double-digit rate over 2016, accounting for more than 30 percent of U.S. consumption. Notwithstanding numerous anti-dumping and countervailing duty orders, which are limited in scope, imports of most types of steel continue to increase. 2. Import penetration levels for flat, semi-finished, stainless, long, and pipe and tube products continue on an upward trend above 30 percent of domestic consumption. 3. Imports are nearly four times U.S. exports. 4. Imports are priced substantially lower than U.S. produced steel. 5. Excessive steel imports have adversely impacted the steel industry. Numerous U.S. steel mill closures, a substantial decline in employment, lost domestic sales and market share, and marginal annual net income for U.S.-based steel companies illustrate the decline of the U.S. steel industry.

Finding	Support
Displacement of domestic steel by excessive quantities of imports has the serious effect of weakening our internal economy	1. As steel imports have increased, U.S. steel production capacity has been stagnant and production has decreased. 2. Since 2000, foreign competition and the displacement of domestic steel by excessive imports have resulted in the closure of six basic oxygen furnace facilities and the idling of four more (which is more than a 50 percent reduction in the number of such facilities), a 35 percent decrease in employment in the steel industry, and caused the domestic steel industry as a whole to operate on average with negative net income since 2009. 3. The declining steel capacity utilization rate is not economically sustainable. Utilization rates of 80 percent or greater are necessary to sustain adequate profitability and continued capital investment, research and development, and workforce enhancement in the steel sector.
Global excess steel capacity is a circumstance that contributes to the weakening of the domestic economy	1. In the steel sector, free markets globally are adversely affected by substantial chronic global excess steel production led by China. The world's nominal crude steelmaking capacity reached about 2.4 billion metric tons in 2016, an increase of 127 percent compared to the capacity level in 2000, while steel demand grew at a much smaller rate. In 2016 there was a 737 million metric ton global gap between steelmaking capacity and steel crude demand, which means there is unlikely to be any market-driven reduction in steel exports to the United States in the near future. 2. While U.S. steel production capacity has remained flat since 2001. Other steel producing nations have increased their production capacity, with China alone able to produce as much steel as the rest of the world combined. Such excess capacity means that U.S. steel producers, for the foreseeable future, will face increasing competition from imported steel as other countries export more steel to the United States to bolster their own economic objectives and offset loss of markets to Chinese steel exports.

Source: USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018, 2–5.
Note: The table above presents the specific language as provided in the BIS report. Items in the Findings column reflect the primary findings as presented in the executive summary of the BIS report. Items in the Support column reflect the sub-findings as presented in the executive summary of the BIS report.

Although data appearing in *The Effect of Imports of Steel on the National Security* focused on a period since 2011, the Secretary's 2018 report also highlighted events and trends stretching back to the end of the 20th century. For example, citing an earlier OECD report, the Secretary's report noted that U.S. steel capacity had remained stagnant from 2006–2016. The report also noted that between 1975 and 2016, the number of BOF facilities in the United States decreased from 38 to 13. Of the remaining BOFs, 33 percent were idled at the time of the investigation.[26]

The Secretary's report recommended that the President adjust import levels through quotas or tariffs with the goal of reducing import penetration to 21 percent of the U.S. market, which would enable U.S. steel producers to operate at 80 percent or better of available capacity.[27] In explaining this recommendation, the Secretary noted that "[p]rior significant actions to address steel imports using quotas and/or tariffs were taken under various statutory authorities by President George W. Bush,

[26] USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018, 41–44.
[27] Given that capacity utilization in 2016 was estimated to be 69.4 percent, in order to have achieved 80 percent capacity utilization of the projected 2017 import levels, a reduction of imports would have been required, from 36 million metric tons to 23 million metric tons. USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018, 58–59.

President William J. Clinton (three times), President George H. W. Bush, President Ronald W. Reagan (three times), President James E. Carter (twice), and President Richard M. Nixon, all at lower levels of import penetration than the present level, which is greater than 30 percent."[28]

On March 8, 2018, President Trump issued Proclamation 9705, *Adjusting Imports of Steel into the United States*, imposing a 25 percent ad valorem tariff on steel articles,[29] effective March 23, 2018.[30] The proclamation provided for the removal, modification, or adjustment of the tariff on the basis of national security considerations and the continuation of ongoing discussions with Canada and Mexico while exempting steel articles imports from those countries from the tariff, "at least at this time."[31] By one estimate, U.S. imports of steel articles covered by these tariffs accounted for $29.0 billion in trade in 2017.[32]

Findings by the Secretary of Commerce Regarding Imports of Aluminum

On April 26, 2017, Secretary of Commerce Wilbur Ross initiated an investigation under section 232 to determine the effects on the national security of imports of aluminum.[33] Following a public hearing, submission of comments, and interagency consultations, the Secretary submitted a report to President Trump, setting out his findings and supporting information in the investigation *The Effect of Imports of Aluminum on the National Security*.[34] Table 2.3 summarizes the major findings and the support for those findings as set out in the Secretary's report.

Table 2.3 Findings and items that support findings regarding imports of aluminum as provided in the Secretary's report

Finding	Support
Aluminum is essential to U.S. national security	1. Aluminum is needed to satisfy requirements for the U.S. Department of Defense (USDOD) for maintaining effective military capabilities including armor plate for armored vehicles, aircraft structural parts and components, naval vessels, space and missile structural components, and propellants. 2. Aluminum is needed to satisfy requirements for critical infrastructure sectors that are central to the essential operations of the U.S. economy and government, including power transmissions, transportation systems, manufacturing industries, construction, and others.

[28] USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018, 58–61.
[29] An ad valorem tariff represents additional duties applied to the appraised customs value of the imported good.
[30] Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018).
[31] Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018). Exemptions from section 232 tariffs on imports from Canada and Mexico were not continued beginning June 1, 2018. These exemptions were reinstated on May 20, 2019. Tariff coverage has been adjusted for various other countries since the tariffs' initial imposition, and some countries have later become subject to quotas or TRQs in lieu of the tariffs. For more information on country exemptions and tariff chronology, see chapter 3.
[32] CRS, Section 232 Steel and Aluminum Tariffs: Potential Economic Implications, May 3, 2018, 1–3.
[33] Notice of Request for Public Comments and Public Hearing on Section 232 National Security Investigation of Imports of Aluminum, 82 Fed. Reg. 21509 (May 9, 2017).
[34] USDOC, BIS, *The Effect of Imports of Aluminum on the National Security*, January 17, 2018, 5 and 18–19.

Finding	Support
The U.S. government does not maintain any strategic stockpile	1. The USDOD does not keep any type of aluminum product, including armor plate, in the U.S. government's national stockpile. 2. Limited commercial stockpiles (of high performance aluminum) located in the United States are not likely to be sufficient to support USDOD aluminum requirements in a time of a major war.
The present quantity of imports adversely impacts the economic welfare of the U.S. aluminum industry	1. Imports and global aluminum production overcapacity, caused in part by foreign government subsidies—particularly in China, have had a substantial negative impact on the economic welfare and production capacity of the U.S. primary aluminum industry. The decline in U.S. production has occurred despite growing demand for aluminum both in the United States and abroad. 2. In 2016, the United States imported five times as much primary aluminum on a tonnage basis as it produced; the import penetration level was about 90 percent, up from 66 percent in 2012. 3. U.S. primary aluminum production in 2016 was about half of what it was in 2015, and output further declined in 2017. U.S. smelters are now producing at 43 percent of capacity and at annual rate of 785,000 metric tons. As recently as 2013, U.S. production was approximately 2 million metric tons per year. 4. Since 2012, six smelters with a combined 3,500 workers have been permanently shut down, totaling 1.13 million metric tons in lost production capacity per year. 5. The loss of jobs in the primary aluminum sector has been precipitous between 2013 and 2016, falling 58 percent from about 13,000 to 5,000 employees. 6. The United States currently has five smelters remaining, only two of which are operating at full capacity. Only one of these five smelters produces high-purity aluminum required for critical infrastructure and defense aerospace applications, including types of high performance armor plate and aircraft-grade aluminum products used in upgrading F-18, F-35, and C-17 aircraft. Should this one U.S. smelter close, the United States would be left without an adequate domestic supplier for key national security needs. The only other high-volume producers of high-purity aluminum are located in the UAE and China (internal use only). 7. The impact so far has been greatest on the primary (unwrought) aluminum sector. Now, however, the downstream aluminum sector also is threatened by overcapacity and surging imports. 8. Imports accounted for 64 percent of U.S. consumption of aluminum (primary and downstream mill products combined) in 2016. 9. U.S. imports in the aluminum categories subject to this investigation totaled 5.9 million metric tons in 2016, up 34 percent from 4.4 million metric tons in 2013. In the first 10 months of 2017, aluminum imports rose 18 percent above 2016 levels on a tonnage basis. 10. In the downstream aluminum sectors of bars, rods, plates, sheets, foil, wire, tubes, and pipes, imports rose 33 percent from 1.2 million metric tons in 2013 to 1.6 million metric tons in 2016. 11. Overall in 2016, for the aluminum product categories covered by this investigation, the United States ran a trade deficit of $7.2 billion.

Finding	Support
Global excess aluminum capacity is a circumstance that contributes to the weakening of the U.S. aluminum industry and the U.S. economy	1. A major cause of the recent decline in the U.S. aluminum industry is the rapid increase in production in China. Chinese overproduction suppressed global aluminum prices and flooded into world markets. 2. China's aluminum production is largely unresponsive to market forces. China produced approximately one million metric tons of excess supply in 2016. This excess alone exceeds the total U.S. 2016 production of primary aluminum of 840,000 metric tons. 3. China's industrial policies encourage development and domination of the entire aluminum production chain. These policies are further intended to stimulate the export of aluminum processed into sheets, plates, rods, bars, foils and other semimanufactures and to target development of increasingly sophisticated and high-value product sectors such as automotive and aerospace. 4. China imposes an excise tax that creates a disincentive for the export of primary aluminum ingots and billets. It provides tax rebates on exports of semifinished or finished aluminum products. Thus, U.S. imports of aluminum from China are not in the form of unwrought aluminum but primarily semifinished downstream aluminum products. 5. As imports make further inroads into the higher value-added, more sophisticated downstream sectors, U.S. downstream companies supporting the defense sector will be increasingly impacted.

Source: BIS, *The Effect of Imports of Aluminum on the National Security*, January 17, 2018, 2–5.
Note: The table above presents the specific language as provided in the BIS report. Items in the Findings column reflect the primary findings as presented in the executive summary of the BIS report. Items in the Support column reflect the sub-findings as presented in the executive summary of the BIS report, with the exception of the Support provided for the Finding in the second row regarding the strategic stockpile, for which there were no support sub-findings in the executive summary and the points provided in the table therefore were taken from the main text of the BIS report.

Although data appearing in *The Effect of Imports of Aluminum on the National Security* focused on a period since 2013, the report also highlighted events and trends stretching back to the end of the 20th century. For example, the report notes that "in 1981, the U.S. produced 30 percent of the world's primary aluminum and it remained the world's largest producer until 2000, when there were 23 smelters in operation. In 2016, the U.S. accounted for just 1.5 percent of global production. In the same timeframe, production of primary aluminum in China grew from less than 15 percent of global production in 2000 to about 55 percent in 2016."[35]

The Secretary recommended that the President use quotas or tariffs to adjust import levels so as to help enable U.S. producers to utilize 80 percent of their production capacity.[36] Moreover, in recommending import adjustments through tariffs and quotas, the report also provided information regarding prior actions to investigate and address aluminum import levels, including a general factfinding investigation requested of the U.S. International Trade Commission by the U.S. House of Representatives Committee on Ways and Means; a World Trade Organization (WTO) trade enforcement complaint concerning

[35] USDOC, BIS, *The Effect of Imports of Aluminum on the National Security,* 44, January 17, 2018.
[36] USDOC, BIS, *The Effect of Aluminum on the National Security*, January 17, 2018, 107–09. Various options, each designed to restrict aluminum imports sufficiently to allow U.S. primary aluminum producers to increase production by about 669,000 metric tons, included a worldwide quota limiting imports to 86.7 percent of 2017 import levels, a global tariff rate of 7.7 percent on imports of unwrought aluminum and the other aluminum product categories, or a tariff rate of 23.6 percent on imports of aluminum products from China, Hong Kong, Russia, Venezuela, and Vietnam.

China's subsidies to certain producers of primary aluminum and USTR's subsequent requests for consultations; and antidumping and countervailing duty investigations conducted by the USDOC and the USITC.[37]

On March 8, 2018, President Trump issued Proclamation 9704, *Adjusting Imports of Aluminum into the United States*, imposing a 10 percent ad valorem tariff on aluminum articles, effective March 23, 2018.[38] The proclamation provided for the removal, modification, or adjustment of the tariff, using national security considerations and ongoing discussions with Canada and Mexico as grounds while exempting aluminum imports from these countries from the tariff, "at least at this time."[39] By one estimate, U.S. imports of aluminum products covered by these tariffs accounted for $17.4 billion in trade in 2017.[40]

Section 301 of the Trade Act of 1974

In early 1975, President Ford signed the Trade Act of 1974.[41] The Act authorized certain multilateral trade negotiations, extended authority to address adverse or discriminatory foreign trade actions, and enhanced trade adjustment assistance. Section 301 of the Trade Act of 1974 (19 U.S.C. §§ 2411–20)[42] specifically addresses unfair foreign practices affecting U.S. commerce. Section 301 authority may be used to enforce U.S. rights under both bilateral and multilateral trade agreements.[43] It can also be used for responding to unjustifiable, unreasonable, or discriminatory foreign government practices that burden or restrict U.S. commerce.[44] Interested parties may petition the Trade Representative to investigate foreign government policies or practices, or the Trade Representative may initiate an investigation.[45]

[37] USDOC, BIS, *The Effect of Imports of Aluminum on the National Security*, January 17, 2018, 6 and appendix D. See also USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 44–46.
[38] Proclamation No. 9704, 83 Fed. Reg. 11619 (March 15, 2018).
[39] Proclamation No. 9704, 83 Fed. Reg. 11619 (March 15, 2018). Exemptions from section 232 tariffs on imports from Canada and Mexico were not continued beginning June 1, 2018. These exemptions were reinstated on May 20, 2019, though once more Canada's exemptions were not continued between August 16 and September 1, 2020. Tariff coverage has been adjusted for various other countries since the tariffs' initial imposition, and some countries have later become subject to quotas or TRQs in lieu of the tariffs. For more information on country exemptions and tariff chronology, see chapter 3.
[40] CRS, *Section 232 Steel and Aluminum Tariffs: Potential Economic Implications*, May 3, 2018, 1–3.
[41] Pub. L. No. 93-618, 88 Stat. 1978.
[42] Section 301 refers to sections 301–10 of the Trade Act, which are codified at 19 U.S.C. §§ 2411–20.
[43] 19 U.S.C. § 2411(a).
[44] 19 U.S.C. § 2411(b).
[45] 19 U.S.C. § 2412(a) and (b). USITC, *The Year in Trade 2021*, August 2022, 64 (citing USTR, 2022 *Trade Policy Agenda and 2021 Annual Report*, March 2022, 62–63). The Section 301 Committee, which consists of a USTR-designated Chair and members from agencies with an interest in the issues, conducts section 301 investigations. The Committee operates under the auspices of the USTR-led interagency Trade Policy Staff Committee. See 15 C.F.R. § 2002.3; see also CRS, *Section 301 of the Trade Act of 1974: Origin, Evolution, and Use*, updated December 14, 2020, 6–8.

Description

In each investigation under section 301, the Trade Representative is required to seek consultations with the foreign government involved.[46] If the matter is not resolved, the Trade Representative must determine whether the practices in question fulfill any of three conditions: (1) they deny U.S. rights under a trade agreement; (2) they are unjustifiable and burden or restrict U.S. commerce; or (3) they are unreasonable or discriminatory and burden or restrict U.S. commerce.[47] If the practices fulfill either of the first two conditions, the Trade Representative generally must take action.[48] If the practices are unreasonable or discriminatory and burden or restrict U.S. commerce, the Trade Representative determines whether action is appropriate and, if so, what action to take.[49] Section 301 authorizes a wide range of actions, including the suspension of trade agreement concessions, the imposition of duties or other restrictions on the imports of goods or services, and any agreement to eliminate the offending practice or provide the United States with compensatory benefits.[50] Moreover, if a country fails to comply with such an agreement, or to implement a World Trade Organization (WTO) recommendation, the Trade Representative must determine what further action should be taken under section 301.[51]

Past Investigations by the Trade Representative

Since 1999, the Trade Representative has initiated six section 301 investigations (table 2.4). After initiating an investigation on European Union (EU) beef in 1999, no new investigations were initiated until 2017. Since 2017, the Trade Representative has initiated five investigations, including the one at issue in this report.

Table 2.4 Investigations conducted pursuant to section 301 of the Trade Act of 1974, 1999–present

Investigations	Years
Vietnam Currency	2020
Vietnam Timber	2020
Digital Services Taxes in 11 jurisdictions	2019–20
EU Large Civil Aircraft Dispute	2019
China's Technology Transfer Policies and Practices	2017
EU Beef	1999

Source: USTR, Section 301 Investigations, accessed October 3, 2022.
Note: Before 1999, section 301 proceedings were more common, including two prior investigations regarding China's treatment of intellectual property that resulted in bilateral agreements between the United States and China in 1992 and 1995. See, e.g., USTR, "Special 301 Report Section 306," May 1, 2003. Between 1975 and 1997, a total of 116 section 301 proceedings were undertaken. USTR, "Archive: Trade Agreements, Monitoring, and Enforcement," accessed October 3, 2022.

[46] 19 U.S.C. § 2413.
[47] 19 U.S.C. § 2414(a)(1).
[48] 19 U.S.C. § 2411(a)(1) but see 19 U.S.C. § 2411(a)(2)(describing circumstances where action is not required).
[49] 19 U.S.C. § 2411(b).
[50] 19 U.S.C. § 2411(c).
[51] 19 U.S.C. § 2416(b); see also USITC, *The Year in Trade 2021*, August 2022, 64–65.

USTR Findings Regarding China's Technology Transfer Policies and Practices

At the direction of President Trump,[52] effective August 18, 2017, the Trade Representative initiated a section 301 investigation to determine whether acts, policies, and practices of the government of China related to technology transfer, intellectual property, and innovation are actionable.[53] Following a public hearing and submission of comments, USTR issued *Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974* on March 22, 2018,[54] subsequently updated on November 20, 2018.[55] The Office of the USTR released the following statement regarding these findings:

> "Using the information obtained and the advice of the Section 301 Committee, the Trade Representative determined that the acts, policies, and practices covered in the investigation were unreasonable or discriminatory and burden or restrict U.S. commerce and, in particular, that:
>
> - China uses foreign ownership restrictions, such as joint venture requirements and foreign equity limitations, and various administrative review and licensing processes, to require or pressure technology transfer from U.S. companies;
> - China's regime of technology regulations forces U.S. companies seeking to license technologies to Chinese entities to do so on nonmarket-based terms that favor Chinese recipients;
> - China directs and unfairly facilitates the systematic investment in, and acquisition of, U.S. companies and assets by Chinese companies to obtain cutting-edge technologies and intellectual property and generate the transfer of technology to Chinese companies; and
> - China conducts and supports unauthorized intrusions into, and theft from, the computer networks of U.S. companies to access their sensitive commercial information and trade secrets."[56]

The Trade Representative characterized these concerns as "longstanding" in the description of steps taken to address those concerns. Specifically, the Trade Representative stated that "[c]oncerns about a wide range of unfair practices of the Chinese government (and the Chinese Communist Party (CCP)) related to technology transfer, intellectual property, and innovation are longstanding. USTR has pursued these issues multilaterally, for example, through the WTO dispute settlement process and in WTO committees, and bilaterally through the annual Special 301 review. These issues also have been raised in

[52] See Addressing China's Laws, Policies, Practices, and Actions Related to Intellectual Property, Innovation, and Technology/Memorandum for the U.S Trade Representative, 82 Fed. Reg. 39007 (August 17, 2017).
[53] Initiation of Section 301 Investigation; Hearing; and Request for Public Comments: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 82 Fed. Reg. 40213, August 24, 2017.
[54] USTR, *Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, March 22, 2018.
[55] USTR, *Update Concerning China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, November 20, 2018.
[56] Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 14906, 14907 (April 6, 2018).

bilateral dialogues with China, including the U.S.-China Joint Commission on Commerce and Trade (JCCT) and U.S.-China Strategic & Economic Dialogue, to attempt to address some of the U.S. concerns."[57]

As discussed in greater detail in chapter 3, USTR proposed a list of products to be subject to increased tariffs.[58] It estimated the value of the list to be approximately $50 billion in 2018 trade value and concluded that "[t]his level is appropriate both in light of the estimated harm to the U.S. economy, and to obtain elimination of China's harmful acts, policies, and practices."[59] The initial actions resulted in the imposition of an additional ad valorem duty of 25 percent on imports under approximately 1,000 tariff subheadings.[60] Subsequent rounds of actions led to the imposition of additional ad valorem duties of varying rates on imports under approximately 10,121 tariff subheadings, as described in chapter 3. To address the second bulleted finding on China's discriminatory licensing policies, the United States initiated a WTO dispute by requesting consultations with the government of China.[61]

In a November 2018 report providing an update on the section 301 investigation and subsequent actions, USTR stated that "[d]espite repeated U.S. engagement efforts and international admonishments of its trade technology transfer policies, China did not respond constructively and failed to take any substantive actions to address U.S. concerns," and that "China fundamentally has not altered its acts, policies, and practices related to technology transfer, intellectual property, and innovation, and indeed appears to have taken further unreasonable actions in recent months," and stated the intent to continue efforts to monitor any new developments and actions in this area.[62]

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[57] USTR, *Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, March 22, 2018, 4. See also USTR Releases 2022 Special 301 Report on Intellectual Property Protection and Enforcement, April 27, 2022 (characterizing the report as "an annual review of the global state of IP protection and enforcement" and noting that it is conducted pursuant to Section 182 of the Trade Act of 1974, as amended by the Omnibus Trade and Competitiveness Act of 1988 and the Uruguay Round Agreements Act). The report places China among other countries on the Priority Watch List. Countries on the Priority Watch List present the most significant concerns regarding insufficient intellectual property protection or enforcement or actions that otherwise limit market access for persons relying on intellectual property protections. USTR, 2022 Special 301 Report, April 27, 2022. China's IPR policies have been highlighted as an area of concern in Special 301 reports for decades. See e.g., USTR, 2003, Special 301 Report, May 1, 2003.

[58] Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 14906, 14910–14954 (April 6, 2018).

[59] Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 14906, 14907 (April 6, 2018).

[60] Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 28710 (June 20, 2018) (announcing the imposition of duties on 818 tariff subheadings), and Notice of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 40823 (August 16, 2018) (announcing the imposition of duties on further 279 tariff subheadings).

[61] 83 Fed. Reg. 14906, 14907 (April 6, 2018). WTO, DS542: China—Certain Measures Concerning the Protection of Intellectual Property Rights, accessed January 30, 2023.

[62] USTR, *Update Concerning China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, November 20, 2018, 5, 49.

Global Responses and Retaliatory Tariffs

This section gives a brief overview of the retaliatory tariffs imposed by foreign trade partners in response to section 232 tariffs on steel and aluminum articles and section 301 tariffs on imports from China.[63] It also notes WTO disputes that have been initiated in response to tariffs under sections 232 and 301. Although the impacts of these retaliatory actions are not explicitly examined in this report, their description here offers background information about global trading conditions in recent years.

Trade Partner Responses to Section 232 Actions

Several trade partners imposed retaliatory tariffs and filed WTO disputes in response to the U.S. section 232 tariffs on imports of steel and aluminum articles.[64] Claiming that these tariffs were inconsistent with U.S. obligations under several articles of GATT 1994, including Article XIX and the WTO Safeguards Agreement (WTO Agreement), Canada, China, the EU, India, Mexico, Russia, Turkey, and the United Kingdom (UK) filed WTO disputes and imposed retaliatory tariffs on imports of certain products originating in the United States.[65] Canada, the EU, Mexico, and the UK subsequently withdrew their retaliatory tariffs and, along with the United States, withdrew their respective WTO disputes after reaching mutually agreed solutions.[66] Norway and Switzerland did not impose retaliatory tariffs but filed WTO disputes.[67]

China's Responses to Section 301 Actions

Claiming that section 301 tariffs violate not only various WTO rules and obligations but also the consensus attained from bilateral consultations, China's Customs Tariff Commission responded to each section 301 action with successive additional ad valorem tariffs of its own upon imports of products originating in the United States among the HTS subheadings enumerated in each of the four section 301 product tranches. China also filed a WTO dispute (DS543) on April 4, 2018, alleging that section 301 tariffs violated U.S. WTO obligations.[68] On September 15, 2020, the WTO panel found the imposition of

[63] For further details about the chronology of U.S. trade partner responses to section 232 steel and aluminum tariffs and section 301 China tariffs, see USDOC, ITA, "Foreign Retaliations Timeline," March 29, 2022.
[64] For further information about specific ongoing WTO panel dispute actions, see: USTR, "Dispute Settlement Proceedings," accessed November 3, 2022; WTO, "Dispute Settlement: The Disputes, Follow Disputes and Create Alerts," accessed November 3, 2022.
[65] Compiled from individual "Immediate Notice Under Article 12.5 of the Agreement on Safeguards" documents provided to the WTO Council for Trade in Goods, Committee on Safeguards. USDOC, ITA, "Current Foreign Retaliatory Actions," January 6, 2020; USDOC, ITA, "Foreign Retaliation Timeline," accessed October 3–12, 2022.
[66] For information on the WTO disputes filed by the United States in response to these retaliatory tariffs, see WTO, "DS557: Canada—Additional Duties on Certain Products from the United States," accessed November 3, 2022; WTO, "DS559: European Union - Additional Duties on Certain Products from the United States," accessed November 3, 2022; and WTO, "DS560: Mexico—Additional Duties on Certain Products from the United States," accessed November 3, 2022.
[67] WTO, "DS552: United States—Certain Measures on Steel and Aluminium Products," accessed November 3, 2022; WTO, "DS556: United States—Certain Measures on Steel and Aluminium Products," accessed November 3, 2022.
[68] WTO, "DS543: United States—Tariff Measures on Certain Goods from China," accessed November 3, 2022.

section 301 tariffs to be inconsistent with rules under the GATT.[69] As of December 29, 2022, the panel report is currently under appeal by the United States.

[69] The WTO published the following summary of the panel findings on its website:

> "The Panel concluded that the United States had not provided an explanation demonstrating how the imposition of additional duties on the selected imported products in List 1 and List 2 was apt to contribute to the public morals objective invoked, and, following on from that, how they were necessary to protect public morals . . . [T]he Panel recalled that the Government of the United States had not, up to the present time, initiated action under the WTO DSU with respect to measures that China had imposed in response to the United States measures at issue in this dispute."

WTO, "DS543: United States—Tariff Measures on Certain Goods from China," Panel report circulated 15 September 2022, accessed December 20, 2022.

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World Trade Organization (WTO). "Dispute Settlement: The Disputes, Follow Disputes and Create Alerts," accessed November 3, 2022. https://www.wto.org/english/tratop_e/dispu_e/find_dispu_cases_e.htm.

Chapter 3
Tariffs under Sections 232 and 301

This chapter details the products and countries covered by section 232 tariffs imposed on U.S. imports of steel and aluminum articles and section 301 tariffs imposed on U.S. imports of certain products originating in China as well as the applicable duty rates. This chapter identifies the products and countries for which tariffs under sections 232 and 301 were in effect as of March 15, 2022, which remain the same as of the writing of this report, except as noted.[70]

Steel articles imported under 306 HTS subheadings from all U.S. trade partners other than Australia, Canada, and Mexico (with duty exemptions), and Argentina, Brazil, and South Korea (with duty-free quotas) were subject to section 232 tariffs since March 23, 2018. Steel articles under these subheadings from EU member countries became subject to tariff-rate quotas (TRQs) on January 1, 2022, and therefore in-quota amounts became exempt from section 232 tariffs. Aluminum articles imported under 42 HTS subheadings from all U.S. trade partners other than Australia, Canada, and Mexico (with duty exemptions) and Argentina (with duty-free quotas) were also subject to section 232 tariffs since March 23, 2018. Aluminum articles under these subheadings from EU member countries became subject to TRQs on January 1, 2022, and therefore in-quota amounts became exempt from section 232 tariffs. Likewise, section 232 tariffs were applied to derivative steel articles imported under nine HTS subheadings and derivative aluminum articles imported under six HTS subheadings from all U.S. trade partners not otherwise provided with duty exemptions, duty-free quotas, or duty-free in-quota amounts under TRQs. Products originating in China and subject to section 301 tariffs were imported under 10,121 HTS subheadings.

Between 2018 and 2021, the monthly value of imports subject to tariffs under sections 232 or 301 ranged between $9.9 billion, at their lowest, and $25 billion, at their highest.[71] Since their imposition, imports subject to section 301 tariffs in tranches 3 and 4 consistently accounted for the largest share of imports subject to section 232 or 301 tariffs. U.S. imports subject to section 232 tariffs, which accounted for the smallest share of imports subject to section 232 or 301 tariffs, decreased in value in recent years as more countries have become exempt and more articles have become subject to exclusions (see figure 3.1). Between March 2018 and December 2021, the total value of imports subject to section 232 tariffs was $37.4 billion for steel and $27.2 billion for aluminum. The total value of imports subject to section 301 tariffs was $62.8 billion for tranche 1, $24.8 billion for tranche 2, $369.4 billion for tranche 3, and $213.5 billion for tranche 4.

[70] Beginning April 1, 2022, tariffs on steel imports from Japan were not continued and instead imports from Japan became subject to a TRQ. Beginning June 1, 2022, the United Kingdom, which had previously been exempt from the tariffs, also became subject to a TRQ for both steel and aluminum imports. Also beginning June 1, 2022, tariffs on steel imports from Ukraine were temporarily suspended for a period of one year. Beginning March 10, 2023, the section 232 tariff rate on imports of aluminum and derivative aluminum articles from Russia was raised to 200 percent. See 87 Fed. Reg. 19351, (April 1, 2022); 87 Fed. Reg. 33407, (June 2, 2022); 87 Fed. Reg. 33583, (June 3, 2022); 87 Fed. Reg. 33591, (June 3, 2022); 88 Fed. Reg. 13267 (March 2, 2023).
[71] See figure 3.1.

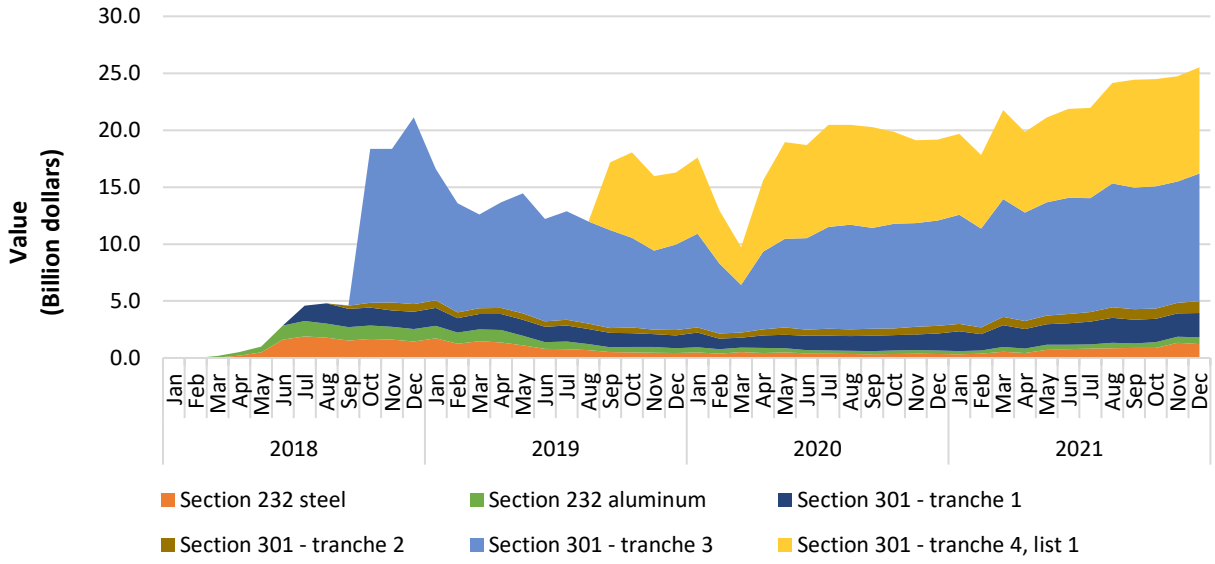
Section 232 tariffs cover steel and aluminum articles, and section 301 tariffs cover a much broader group of products. For section 301, agricultural products account for the largest share of covered subheadings, with 22.4 percent. Chemicals and related products account for the second-largest share of covered subheadings at 16.7 percent, followed by textiles and apparel at 15.9 percent. Other major industry-commodity groups covered by section 301 tariffs include electronic products, machinery, and forest products.

U.S. Imports

Section 232 steel and aluminum tariffs were imposed in March 2018.[72] Section 301 tariffs were imposed in four successive tranches of subject products: tranche 1 in July 2018; tranche 2 in August 2018; tranche 3 in September 2018; and tranche 4, list 1 in September 2019.[73] Figure 3.1 depicts the trade value of imports subject to section 232 and 301 tariffs, delineated by tariff actions, which reached a high of more than $25 billion by the end of 2021.

Figure 3.1 Monthly value of imports subject to tariffs under sections 232 and 301, January 2018–December 2021

By value in billions of dollars. Underlying data for this figure can be found in appendix E, tables E.1 and E.2.



Source: Compiled from USITC DataWeb/Census, accessed September 27, 2022.
Note: This figure uses rate provision codes to determine the share of imports that were subject to tariffs under sections 232 and 301. For more information on this methodology, see "Data Availability and Limitations" in chapter 1. To avoid duplicative coverage, certain steel and aluminum articles also subject to section 232 tariffs are not included among the products in the section 301 tranches.

[72] Section 232 steel and aluminum tariffs were extended to derivative articles of these metals, effective February 2020. The HTS subheadings for the derivative articles are included with those for the steel and aluminum articles in figure 3.1. Proclamation No. 9980, 85 Fed. Reg. 5281 (January 29, 2020).
[73] The tranche 4, list 2 of subject products is not shown in figures 3.1 and 3.2, being announced, amended, and suspended before ever entering into effect.

Section 232 Tariffs on Steel and Aluminum

As discussed in chapter 2, the President cited the Secretary of Commerce's (Secretary's) respective steel and aluminum import investigation reports in his determinations that such imports threaten national security.[74] The President subsequently issued proclamations imposing additional ad valorem tariffs upon both steel and aluminum imports, effective March 23, 2018, under section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. § 1862).[75]

Steel

Steel Articles

Product Coverage and Tariff Rates

The President's initial proclamation imposed an additional tariff of 25 percent ad valorem on U.S. imports of covered steel articles, except those originating in Canada and Mexico, effective March 23, 2018. The steel articles subject to these higher tariffs included: iron and nonalloy steel mill products (provided for in HTS subheadings 7206.10 through 7216.50, 7216.99, and 7217.10 through 7217.90); stainless steel mill products (provided for in HTS subheadings 7218.10 through 7223.00); alloy steel mill products (provided for in HTS subheadings 7224.10 through 7229.90); sheet piling (provided for in HTS subheading 7301.10), railway rails (provided for in HTS subheading 7302.10), and certain railway track accessories (provided for in HTS subheadings 7302.40 through 7302.90); and tubes, pipes, and hollow profiles (provided for in HTS subheadings 7304.10 through 7306.90). The proclamation provided that any subsequent revisions to these HTS classifications would be included.[76]

Country Exemption and Tariff Chronology—by Country and Region

Before the effective date of the tariffs under section 232 (March 23, 2018), the President issued another proclamation that also exempted steel imports originating in Argentina, Australia, Brazil, EU member countries, and South Korea because of important security relationships with such countries and pending the results of ongoing discussions to find alternative ways to address national security concerns related to imports from them.[77] In subsequent presidential proclamations, some of these exemptions were either not continued or replaced by quotas or tariff-rate quotas (TRQs). Steel articles originating in countries subject to quotas are exempted from section 232 tariffs, but the cumulative amount allowed to enter is limited by the quota. Steel articles originating in countries subject to TRQs are also exempted from section 232 tariffs for the cumulative amount entering within the quota, but any additional

[74] See USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018; USDOC, BIS, *The Effect of Imports of Aluminum on the National Security*, January 17, 2018.
[75] Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018); Proclamation No. 9704, 83 Fed. Reg. 11619 (March 15, 2018).
[76] Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018).
[77] Proclamation No. 9711, 83 Fed. Reg. 13361 (March 28, 2018). The President's initial proclamation exempted imports of steel from Canada and Mexico and invited countries with which the United States had security relationships to discuss "alternative ways" to address the impairment of national security posed by imports originating in such countries. Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018).

amounts above these quotas are subject to these tariffs. The United States continued the initial exemptions, either with or without quotas or TRQs, of trade partners for which it reached agreement on various measures, for example, to reduce the trade partner's excess steel production and capacity, raise U.S. capacity utilization, counter transshipments, or avoid import surges to mitigate threatened impairment of national security caused by imports.[78] Section 232 measures applicable to imports of steel from specific U.S. trade partners can be summarized as follows:

- Argentina and Brazil are subject to quotas, effective June 1, 2018, after previously being initially exempted from tariffs, effective March 23, 2018.[79]
- Australia is the only U.S. trade partner for which imports have been continuously exempted from tariffs since its initial exemption, effective March 23, 2018, and not otherwise subject to quotas or TRQs.[80]
- Canada's and Mexico's initial exemptions from tariffs were not continued, effective June 1, 2018, but they were reinstated, effective May 20, 2019.[81]
- The initial exemptions from tariffs for EU member countries were not continued, effective June 1, 2018.[82] Effective January 1, 2022, each EU member country became subject to individual TRQs for two years. EU member countries are also subject to a "melt and pour" requirement that the raw molten steel must be produced entirely within an EU member country for the resulting products to qualify for duty-free in-quota treatment.[83]
- South Korea is subject to quotas, effective June 1, 2018, after initially being exempted from tariffs, effective March 23, 2018.[84]
- The tariff rate for Turkey was temporarily doubled to 50 percent ad valorem, effective August 13, 2018, but was reduced to 25 percent, effective May 21, 2019.[85]
- The United Kingdom (UK) became subject to tariffs as an EU member country when the EU's exemptions were not continued, effective June 1, 2018.[86] After its withdrawal from EU

[78] Presidential proclamations announcing continued exemptions, either with or without quotas, for individual trade partners, cited below.
[79] Proclamation No. 9759, 83 Fed. Reg. 25857 (June 5, 2018); Proclamation No. 9711, 83 Fed. Reg. 13361 (March 28, 2018); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018).
[80] Proclamation No. 9711, 83 Fed. Reg. 13361 (March 28, 2018); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018); Proclamation No. 9772, 83 Fed. Reg. 40429 (August 15, 2018).
[81] Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018); Proclamation No. 9759, 83 Fed. Reg. 25857 (June 5, 2018) (ending exemptions for Canada and Mexico); Proclamation No. 9894, 84 Fed. Reg. 23987 (May 23, 2019) (reinstating exemptions).
[82] Proclamation No. 9711, 83 Fed. Reg. 13361 (March 28, 2018) (initial exemptions); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018); Proclamation No. 9759, 83 Fed. Reg. 25857 (June 5, 2018) (ending exemptions).
[83] The President's proclamation also notes that ". . . the United States and the EU will seek to conclude, by October 31, 2023, negotiations on global steel and aluminum arrangements to restore market-oriented conditions and support the reduction of carbon intensity of steel and aluminum across modes of production." Proclamation No. 10328, 87 Fed. Reg. 11 (January 3, 2022). For further information, see the "Steel and Aluminum U.S.-EU Joint Statement," issued October 31, 2022.
[84] Proclamation No. 9705, 83 Fed. Reg. 11625 (March 15, 2018); Proclamation No. 9711, 83 Fed. Reg. 13361 (March 28, 2018); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018) (announcing establishment of quotas with South Korea).
[85] Proclamation No. 9772, 83 Fed. Reg. 40429 (August 15, 2018); Proclamation No. 9886, 84 Fed. Reg. 23421 (May 21, 2019).
[86] Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018).

membership, effective January 31, 2020, the UK remained subject to these tariffs while negotiating with the United States to mutually remove their respective retaliatory and national security tariffs.[87]

Quota and Tariff-Rate Quota Provisions

The President provided Argentina, Brazil, and South Korea with annual quotas on U.S. imports of steel articles originating in those countries, effective June 1, 2018.[88] However, the President also required that the imported amount in any single quarter from those three countries cannot exceed 30 percent of the respective total annual quota amounts (the "30 percent rule"), effective July 1, 2018.[89] The U.S. Customs and Border Protection (CBP) monitors quarterly imports of steel articles within 54 quota categories (HTS subheadings 9903.80.05–9903.80.58), which are concorded across those three countries.[90] For the first quarter of 2022, CBP issued the following quotas (aggregated across all quota categories) of 54,258 metric tons for steel articles originating in Argentina, 1,260,352 metric tons for Brazil, and 791,316 metric tons for South Korea.[91] According to CBP data, at the end of 2022, South Korea filled 96.5 percent of its total annual aggregated quota volume for all product categories. Brazil and Argentina filled 56.7 percent and 47.0 percent, respectively.[92]

The President provided EU member countries with separate annual TRQs on U.S. imports of steel articles originating in the individual EU member countries, totaling 3,300,170 metric tons, effective January 1, 2022. Quarterly quotas are initially set at 25 percent of the annual quotas, with the unfilled portion carried over to subsequent quarters of the year.[93] CBP monitors quarterly imports of steel articles within 54 quota categories (HTS subheadings 9903.80.65–9903.80.99 and 9903.81.01–9903.81.19), which are divided among all EU member countries, with each assigned a specific TRQ amount in each quota category.[94] In 2022, EU countries filled approximately 59.1 percent of their total annual aggregated TRQ volume for all product categories.[95]

[87] EU, "Agreement on the Withdrawal of the United Kingdom," January 31, 2020.
[88] Proclamation No. 9759, 83 Fed. Reg. 25857 (June 5, 2018); Proclamation No. 9740, 83 Fed. Reg. 20683 (May 7, 2018).
[89] Proclamation No. 9759, 83 Fed. Reg. 25857 (June 5, 2018).
[90] Once a quota category reaches the limit within any quarter, it is closed until reopening again in the following quarter. Fourth-quarter quotas are managed according to the 30 percent rule but will be either (1) the remaining annual balance if less than 30 percent or (2) 500,000 kilograms if the remaining annual balance is less than that amount.
[91] CBP, "QB 22-601 2022 First Quarter Absolute Quota for Steel Mill Articles of Argentina, Brazil and South Korea," May 22, 2022.
[92] CBP, 2022 Year-End Quota Status Report, February 10, 2023.
[93] Any unfilled portion of the first quarter can be carried over to the third quarter of the year and any unfilled portion of the second quarter can be carried over to the fourth quarter of the year. Proclamation No. 10328, 87 Fed. Reg. 11 (January 3, 2022).
[94] CBP, "QB 22-613 2022 First Quarter Tariff Rate Quota (TRQ) for Steel Mill Articles of European Union (EU) Member Countries," August 9, 2022.
[95] CBP, 2022 Year-End Quota Status Report, February 10, 2023.

Derivative Steel Articles

In the initial proclamation on steel imports, the President also directed the Secretary to monitor imports of steel articles and report any circumstances that might indicate need for further action.[96] Subsequently, in 2020, the President stated that he found that domestic steel producers' capacity utilization did not stabilize over the time period and did not attain the threshold level that the Secretary identified in his report as necessary to remove the threatened impairment to national security. Likewise, the President also noted the Secretary's assessment that foreign producers increased their shipments of derivative steel articles to the United States to circumvent the national security tariffs on steel articles.[97] For these reasons, the President extended the scope of the existing section 232 tariffs to include certain derivative steel articles, effective February 8, 2020. Derivative steel articles (enumerated in annex II to the Proclamation) subject to the 25 percent ad valorem tariffs include the following: nonthreaded fasteners (HTS subheading 7317.00.30 and HTS statistical reporting numbers 7317.00.5503, 7317.00.5505, 7317.00.5507, 7317.00.5560, 7317.00.5580, and 7317.00.6560); bumper stampings for certain motor vehicles (HTS subheading 8708.10.30); and body stampings for agricultural tractors (HTS subheading 8708.29.21). Derivative steel articles (HTS subheading 9903.80.03) originating in Argentina, Australia, Brazil, Canada, Mexico, and South Korea were specifically exempt from these additional tariffs, effective February 8, 2020, and EU member countries were subsequently exempt from these duties, effective January 1, 2022.[98]

Product Exclusions

The President's initial proclamation granted to the Secretary the authority to exclude specific steel articles from section 232 tariffs either because of a lack of domestic production or for specific national security considerations.[99] The President also authorized the Secretary to grant exclusions for specific steel articles from quantitative limitations using the same standards applicable to exclusions from the tariffs.[100] The U.S. Department of Commerce's Bureau of Industry and Security (BIS) issued four interim final rules on:

- March 19, 2018, to establish the section 232 exclusions process ("March 19 rule")[101]
- September 11, 2018, to amend the March 19 rule in response to comments received as well as experience in administering the exclusion process ("September 11 rule")[102]

[96] Proclamation No. 9705, 83 Fed. Reg. 11625, 11628 (March 15, 2018).
[97] For further information about the conditions necessary to determined that an article is a "derivative" of a steel article, see Proclamation No. 9980, 85 Fed. Reg. 5281 (January 29, 2020).
[98] Proclamation No. 9980, 85 Fed. Reg. 5281 (January 29, 2020); Proclamation No. 10328, 87 Fed. Reg. 11 (January 3, 2022).
[99] Proclamation No. 9705, 83 Fed. Reg. 11625, 11627 (March 15, 2018).
[100] Proclamation No. 9777, 83 Fed. Reg. 45025 (September 4, 2018).
[101] USDOC, BIS, "Requirements for Submissions Requesting Exclusions From the Remedies Instituted in Presidential Proclamations," 83 Fed. Reg. 12106 (March 19, 2018).
[102] USDOC, BIS, "Submissions of Exclusion Requests and Objections to Submitted Requests for Steel and Aluminum," 83 Fed. Reg. 46026 (September 11, 2018).

- June 10, 2019, to allow the public to submit new exclusion requests and comments through the BIS Section 232 Exclusions Portal ("June 10 rule")[103]
- December 14, 2020, to announce further revisions to the section 232 exclusion process and initiate General Approved Exclusions (GAEs) ("December 14 rule")[104]

Effective December 14, 2020, Supplement No. 2 was added to Part 705 of the BIS's regulations—the "General Approved Exclusions (GAEs) for Steel Articles under the Section 232 Exclusions Process." The December 14 rule identified 108 steel articles approved for import under a GAE, which may be used by any importer.[105] Previous rules only approved exclusions for the requesting importer and could not be used by any other importer. An update to Supplement No. 2 lists 82 HTS statistical reporting numbers as GAE entries; 26 others were removed from inclusion as GAEs for no longer meeting the December 14 rule criteria, effective December 27, 2021.[106]

Quota exclusion entries are not counted toward the annual quota for the TRQs assigned to EU member countries.[107] Conversely, they are counted toward the quarterly and annual quotas for the quotas assigned to Argentina, Brazil, and South Korea.[108] The BIS offers its "Section 232 Steel and Aluminum, Published Exclusion Requests" portal for importers to submit exclusion requests, which if granted, are valid for one year for the specific importer and steel article.[109]

Aluminum

Aluminum Articles

Product Coverage and Tariff Rates

The President imposed an additional tariff of 10 percent ad valorem in his initial proclamation on U.S. imports of aluminum articles, except those originating in Canada and Mexico, effective March 23, 2018. The HTS tariff classifications for the aluminum articles subject to these national security tariffs included

[103] USDOC, BIS, "Implementation of New Commerce Section 232 Exclusions Portal," 84 Fed. Reg. 26751 (June 10, 2019). The BIS offers its "Section 232 Steel and Aluminum, Published Exclusion Requests" portal for importers to submit exclusion requests, which if granted, are valid for one year for the specific importer and steel article. The requested exclusion is often for a steel article more specific than described under the HTS statistical reporting number. USDOC, BIS, "Section 232 Steel and Aluminum, Published Exclusion Requests," accessed September 30, 2022.
[104] USDOC, BIS, "Section 232 Steel and Aluminum Tariff Exclusions Process," 85 Fed. Reg. 81060 (December 20, 2020).
[105] USDOC, BIS, "Section 232 Steel and Aluminum Tariff Exclusions Process," 85 Fed. Reg. 81060, 81075–81083 (December 20, 2020) (codified at 15 C.F.R. Part 705 Supplement No. 2).
[106] USDOC, BIS, "Removal of Certain General Approved Exclusions (GAEs) Under the Section 232 Steel and Aluminum Tariff Exclusions Process," 85 Fed. Reg. 70003 (December 9, 2021).
[107] Proclamation No. PP 10328, 87 Fed. Reg. 11 (January 3, 2022); CBP, "QB 22-613 2022 First Quarter Tariff Rate Quota (TRQ) for Steel Mill Articles of European Union (EU) Member Countries," August 9, 2022.
[108] Proclamation No. 9777, 83 Fed. Reg. 45025 (September 4, 2018); CBP, "QB 22-601 2022 First Quarter Absolute Quota for Steel Mill Articles of Argentina, Brazil and South Korea," May 22, 2022.
[109] The requested exclusion is often for a steel article more specific than the description under the HTS statistical reporting number. USDOC, BIS, "Section 232 Steel and Aluminum, Published Exclusion Requests," accessed September 30, 2022.

unwrought aluminum (HTS heading 7601), semifinished wrought aluminum (HTS headings 7604 through 7608), aluminum fittings (HTS heading 7609), and aluminum castings (HTS statistical reporting number 7616.99.5160) and aluminum forgings (HTS statistical reporting number 7616.99.5170), including any subsequent revisions to these HTS classifications.[110]

Country Exemption and Tariff Chronology—By Exempted Country and Region

Before the effective date of the tariffs under section 232 (March 23, 2018), the President issued another proclamation that also exempted aluminum imports from Argentina, Australia, Brazil, EU member countries, and South Korea because of important security relationships with these countries and pending the results of ongoing discussions with them.[111] In subsequent proclamations, the President either discontinued these initial exemptions or replaced them with quotas or TRQs. Imports of aluminum articles originating in countries subject to quotas are exempted from section 232 tariffs, but the amount allowed to enter is limited by the quota. Imports of aluminum articles originating in countries subject to TRQs are exempted from section 232 tariffs for the cumulative amount entering within the quota, but any additional amounts are subject to these tariffs. The United States continued the initial exemptions, either with or without quotas or TRQs, of trade partners for which it reached agreement on various measures, for example, to reduce the trade partner's excess aluminum production and capacity, raise U.S. capacity utilization, counter transshipments, or avoid import surges to mitigate threatened impairment of national security caused by imports.[112] Section 232 measures applicable to imports of aluminum from specific U.S. trade partners are summarized as follows:

- Argentina is subject to quotas, effective June 1, 2018,[113] after previously being exempted from tariffs, effective March 23, 2018.[114]
- Australia is the only U.S. trade partner for which imports have been continuously exempted from tariffs and quotas since its initial exemption, effective March 23, 2018, and not otherwise subject to quotas or TRQs.[115]
- After their initial exemptions, Brazil and South Korea became subject to tariffs, effective June 1, 2018, for Brazil[116] and May 1, 2018, for South Korea.[117]
- Canada's and Mexico's initial exemptions from tariffs were not continued, effective June 1, 2018.[118] Following an agreement reached with these countries, their exemptions were

[110] Proclamation No. 9704, 86 Fed. Reg. 11619 (March 15, 2018). The initial proclamation exempted imports of aluminum from Canada and Mexico and invited countries with which the United States had a security relationship to discuss alternative means of addressing concerns over imports. Proclamation No. 9704, 86 Fed. Reg. 11619, 11620 (March 15, 2018).
[111] Proclamation No. 9710, 83 Fed. Reg. 13355 (March 28, 2018).
[112] Presidential proclamations announcing continued exemptions, either with or without quotas, for individual trade partners, cited below.
[113] Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018).
[114] Proclamation No. 9710, 83 Fed. Reg. 13355 (March 28, 2018).
[115] Proclamation No. 9710, 83 Fed. Reg. 13355 (March 28, 2018); Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018); Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018).
[116] Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018).
[117] Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018).
[118] Proclamation No. 9704, 86 Fed. Reg. 11619 (March 15, 2018); Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018); Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018).

reinstated, effective May 20, 2019,[119] but Canada's exemption was again revoked with respect to imports of nonalloyed unwrought aluminum, effective August 16, 2020.[120] An agreement to decrease such imports of nonalloyed unwrought aluminum was subsequently reached, and these imports from Canada were again exempted from tariffs, effective September 1, 2020.[121]

- After their initial exemptions, each EU member country became subject to tariffs, effective June 1, 2018.[122] Effective January 1, 2022, each EU member country became subject to individual TRQs for two years. EU member countries are also required to provide certificates of analysis to qualify for duty-free in-quota treatment.[123]
- President Trump proclaimed an exemption from tariffs for the United Arab Emirates after an agreement on quotas was reached, effective February 3, 2021.[124] By revoking President Trump's proclamation, President Biden maintained this tariff after finding that doing so would be more effective for national security than an untested quota.[125]
- The UK became subject to tariffs as an EU member country when the EU's exemptions were not continued, effective June 1, 2018.[126] After completing its withdrawal from EU membership, effective January 31, 2020, the UK remained subject to these tariffs while negotiating with the United States to mutually remove their respective national security and retaliatory tariffs.[127]

Quota and Tariff-Rate Quota Provisions

The President provided Argentina with annual quotas on U.S. imports of aluminum articles originating in that country, effective June 1, 2018. The imported amount in any single quarter also follows the "30 percent rule" of not exceeding that share of the total annual quota.[128] CBP monitors quarterly imports of aluminum articles within separate quota categories for unwrought aluminum (HTS subheading 9903.85.05) and for semifinished wrought aluminum (HTS subheading 9903.85.06). For the first quarter of 2022, CBP issued quotas (aggregated across all quota categories) for 50,898 metric tons of unwrought

[119] Proclamation No. 9893, 84 Fed. Reg. 23983 (May 23, 2019).
[120] Proclamation No. 10060, 85 Fed. Reg. 49921 (August 14, 2020).
[121] Proclamation No. 10106, 85 Fed. Reg. 68709 (October 30, 2020).
[122] Proclamation No. 9710, 83 Fed. Reg. 13355 (March 28, 2018) (initial exemption); Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018); Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018) (ending exemption).
[123] A certificate of analysis provides information about the source(s) of raw material inputs, compositional analysis, and technical specifications for the aluminum article. Although not specifying the purpose or contents of a certificate of analysis, the President authorized the Secretary of Commerce, in consultation with the Secretary of Homeland Security and the U.S. Trade Representative, to undertake the actions necessary to assure compliance with this requirement. The President's proclamation also notes that ". . . the United States and the EU will seek to conclude, by October 31, 2023, negotiations on global steel and aluminum arrangements to restore market-oriented conditions and support the reduction of carbon intensity of steel and aluminum across modes of production." Proclamation No. 10327, 87 Fed. Reg. 1 (January 3, 2022).
[124] Proclamation No. 10139, 86 Fed. Reg. 6825 (January 25, 2021).
[125] Proclamation No. 10144, 86 Fed. Reg. 8265 (February 4, 2021).
[126] Proclamation No. 9739, 83 Fed. Reg. 20677 (May 7, 2018); Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018).
[127] EU, "Agreement on the Withdrawal of the United Kingdom," January 31, 2020.
[128] Proclamation No. 9758, 83 Fed. Reg. 25849 (June 5, 2018).

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and 3,384 metric tons of wrought aluminum articles originating in Argentina.[129] According to CBP data, at the end of 2022, Argentina had used 77.3 percent of its annual quota for unwrought aluminum and 75.3 percent of its annual quota for semifinished wrought aluminum.[130]

The President also provided EU member countries with separate annual TRQs on U.S. imports of aluminum articles originating in individual EU member countries totaling 18,000 metric tons of unwrought aluminum and 366,040 metric tons of semifinished wrought aluminum, effective January 1, 2022. Semiannual quotas are set relative to the annual quotas.[131] CBP monitors imports of aluminum articles within 2 quota categories for unwrought aluminum (HTS subheadings 9903.85.27 and 9903.85.29) and 14 quota categories for semifinished wrought aluminum (HTS subheadings 9903.85.31–9903.85.44). Each EU member country is assigned specific TRQ amounts in each quota category.[132] In 2022, EU countries filled approximately 65.1 percent of their total annual aggregated TRQ volume for all product categories.[133]

Derivative Aluminum Articles

In the initial proclamation on aluminum imports, the President also directed the Secretary to monitor imports of aluminum articles and report any circumstances that might indicate need for further action.[134] Subsequently, in 2020, the Secretary reported that domestic aluminum producers' capacity utilization remained below the minimum threshold level necessary to remove the threatened impairment of the national security. Likewise, the Secretary reported that foreign producers increased their shipments of derivative aluminum articles to the United States to circumvent the national security tariffs on aluminum articles.[135] For these reasons, the President stated that he found it necessary and appropriate to extend the scope of the existing section 232 tariffs to include certain derivative aluminum articles, effective February 8, 2020.[136] Derivative aluminum articles (enumerated in annex I to the Proclamation) subject to the 10 percent ad valorem tariffs include: stranded wires, cables, and plaited bands (HTS subheadings 7614.10.50, 7614.90.20, 7614.90.40, and 7614.90.50); bumper stampings for certain motor vehicles (HTS subheading 8708.10.30); and body stampings for agricultural tractors (HTS subheading 8708.29.21). Derivative aluminum articles originating in Argentina, Australia, Canada, and Mexico were exempt from these duties, and EU member countries were also subsequently exempted from these additional tariffs (HTS subheading 9903.85.03).[137]

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[129] CBP, "QB 22-701 2022 Aluminum Absolute Quota First Quarter Argentina," May 22, 2022.
[130] CBP, "2022 Absolute Steel and Aluminum Quarter Usage," January 30, 2023; CBP, 2022 Year-End Quota Status Report, February 10, 2023.
[131] An EU member country cannot fill more than 60 percent of the TRQ for a quota category during the first half of the year. Proclamation No. 10327, 87 Fed. Reg. 1 (January 3, 2022).
[132] CBP, "QB 22-711 2022 First and Second Period Tariff Rate Quota (TRQ) for Aluminum Articles of European Union," September 16, 2022.
[133] CBP, 2022 Year-End Quota Status Report, February 10, 2023.
[134] Proclamation No. 9704, 83 Fed. Reg. 11619, 11621 (March 15, 2018).
[135] For further information about the conditions necessary to determined that an article is a "derivative" of an aluminum article, see Proclamation No. 9980, 85 Fed. Reg. 5281 (January 29, 2020).
[136] Proclamation No. 9980, 85 Fed. Reg. 5281 (January 29, 2020).
[137] Proclamation No. 9980, 85 Fed. Reg. 5281 (January 29, 2020); Proclamation No. 10327, 87 Fed. Reg. 1 (January 3, 2022).

Product Exclusions

The President's initial proclamation granted to the Secretary the authority to exclude specific aluminum articles from section 232 tariffs due to either a lack of domestic production in sufficient and reasonably available quantities or of satisfactory quality, following specific national security considerations.[138] The President subsequently authorized the Secretary to grant exclusions for specific aluminum articles from quantitative limitations, following the same standards applicable to exclusions from the tariffs.[139]

Effective December 14, 2020, Supplement No. 3 was added to Part 705 of the BIS's regulations—the "General Approved Exclusions (GAEs) for Aluminum Articles under the Section 232 Exclusions Process." The December 14 rule identified 15 aluminum articles approved for import under a GAE, which may be used by any importer.[140] Previous rules only approved exclusions for the requesting importer and could not be used by any other importer. The supplement was subsequently reduced to 11 HTS statistical reporting numbers as GAE entries after the BIS issued an amendment removing 4 GAEs, effective December 27, 2021.[141]

For the quotas assigned to Argentina, quota exclusion entries are counted against the quarterly limit at the time of entry and count towards the annual limit.[142] For the TRQs assigned to EU member countries, quota exclusion entries are counted against the annual aggregate limit.[143] The BIS offers its "Section 232 Steel and Aluminum, Published Exclusion Requests" portal for importers to submit exclusion requests, which if granted, are valid for one year for the specific importer and aluminum article.[144]

Section 301 Tariffs

Following the initiation of its investigation on August 18, 2017,[145] the Trade Representative announced his determination, on April 6, 2018, ". . . that the acts, policies, and practices of the Government of China related to technology transfer, intellectual property, and innovation covered in the investigation

[138] Proclamation No. 9704, 83 Fed. Reg. 11619 (March 15, 2018).
[139] Proclamation No. 9776, 83 Fed. Reg. 45019 (September 4, 2018).
[140] USDOC, BIS, "Section 232 Steel and Aluminum Tariff Exclusions Process," 85 Fed. Reg. 81060 (December 20, 2020) (codified at 15 C.F.R. Part 705 Supplement No. 3).
[141] USDOC, BIS, "Removal of Certain General Approved Exclusions (GAEs) Under the Section 232 Steel and Aluminum Tariff Exclusions Process," 85 Fed. Reg. 70003 (December 9, 2021); CBP, "QB 22-601 2022 First Quarter Absolute Quota for Steel Mill Articles of Argentina, Brazil and South Korea," May 22, 2022; CBP, "QB 22-613 2022 First Quarter Tariff Rate Quota (TRQ) for Steel Mill Articles of European Union (EU) Member Countries," August 9, 2022.
[142] Proclamation No. 9776, 83 Fed. Reg. 45019, (September 6, 2018); CBP, "QB 22-701 2022 Aluminum Absolute Quota First Quarter Argentina," May 22, 2022.
[143] Proclamation No. 10327, 87 Fed. Reg. 1 (January 3, 2022);CBP, "QB 22-711 2022 First and Second Period Tariff Rate Quota (TRQ) for Aluminum Articles of European Union," September 16, 2022.
[144] The requested exclusion is often for an aluminum article more specific than the HTS statistical reporting number. USDOC, BIS, "Section 232 Steel and Aluminum, Published Exclusion Requests," accessed September 30, 2022.
[145] USTR, "Initiation of Section 301 Investigation; Hearing; Request for Public Comments," 82 Fed. Reg. 40213 (August 24, 2017).

are unreasonable or discriminatory and burden or restrict U.S. commerce."[146] The Trade Representative imposed additional ad valorem tariffs upon an initial group (tranche) and three subsequent tranches of imported products originating in China, under section 301 of the Trade Act of 1974, as amended (19 U.S.C. § 2411 et seq.).

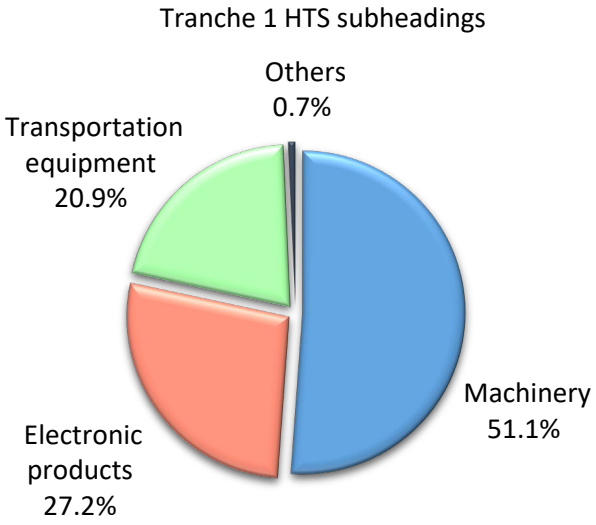
Product Coverage

The Trade Representative initially imposed additional ad valorem duties of 25 percent on approximately $34 billion of imports classifiable under 818 HTS subheadings (tranche 1), effective July 6, 2018.[147] As of March 15, 2022, the number of subheadings in tranche 1 had increased to 874 because of changes to the HTS.[148] For U.S. imports in March 2022, the HTS subheadings included in tranche 1 (figure 3.2) were predominantly for machinery (especially for metal cutting machine tools; electric motors, generators, and related equipment; and miscellaneous machinery); electronic products (especially for measuring, testing, and controlling instruments; medical goods; and navigational instruments and remote control apparatus); and transportation equipment (especially for motor vehicles and construction and mining equipment).[149] These HTS subheadings did not include any steel or aluminum articles subject to section 232 tariffs.

[146] USTR, "Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301," 83 Fed. Reg. 14906 (April 6, 2018).
[147] USTR, "Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301," 83 Fed. Reg. 28710 (June 20, 2018).
[148] USITC, *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022, 99-III-18–22.
[149] For a list of HTS subheadings classified in these industry-commodity sectors (and their corresponding groups), see the supplementary, interactive data table accompanying USITC, *Shifts in U.S. Merchandise Trade, 2021*, June 2021, available at https://www.usitc.gov/system/files/research_and_analysis/tradeshifts/2021/files/sectors_digest_table.html.

Figure 3.2 Share of HTS subheadings subject to section 301 tariffs, tranche 1: by industry-commodity category, March 2022

Underlying data for this figure can be found in appendix E, table E.3.



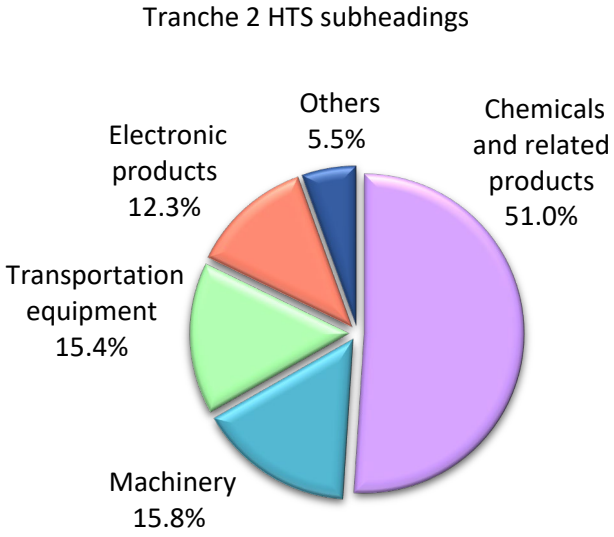
Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

The Trade Representative imposed a second tranche of tariffs on imports valued at approximately $16 billion annually that were classifiable under 279 HTS subheadings (tranche 2), effective August 23, 2018.[150] As of March 15, 2022, the number of subheadings in tranche 2 had increased to 292 because of changes to the HTS.[151] The HTS subheadings included in tranche 2 in March 2022 (figure 3.3) were predominantly for chemicals and related products (especially for miscellaneous plastic products and for other plastics in primary forms); machinery (especially for electric motors, generators, and related equipment and for farm and garden machinery and equipment); transportation equipment (especially for railway locomotives and rolling stock); and electronic products (especially for measuring, testing, and controlling instruments and for semiconductors and integrated circuits). Only one of these HTS subheadings, for a derivative aluminum article, is subject to section 232 tariffs.[152]

[150] USTR, "Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301," 83 Fed. Reg. 28710 (June 20, 2018) (proposing additional tranche encompassing 284 HTS subheadings); USTR, "Notice of Action Pursuant to Section 301," 83 Fed. Reg. 40823 (August 16, 2018) (modifying the second tranche to 279 HTS subheadings following review of public comments).
[151] USITC, *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022, 99-III-23–25.
[152] Aluminum stranded wires, cables, and plaited bands (HTS subheading 7614.90.20).

Figure 3.3 Share of HTS subheadings subject to section 301 tariffs, tranche 2: by industry-commodity category, March 2022

Underlying data for this figure can be found in appendix E, table E.4.



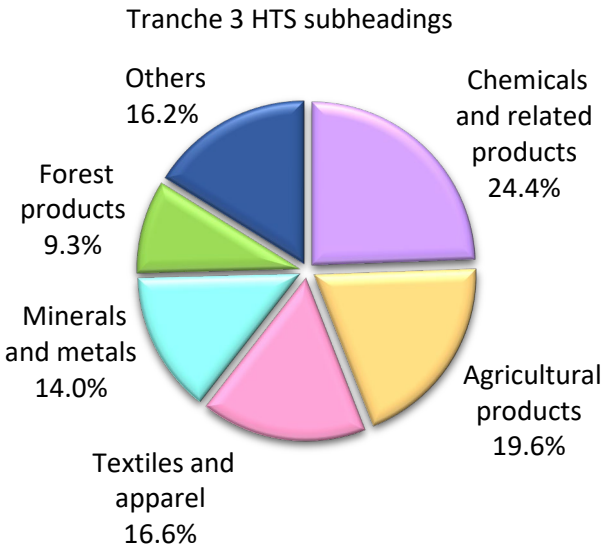
Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Citing China's failure to remove the discriminatory acts, policies, and practices, the Trade Representative subsequently imposed additional tariffs on imports classified under additional HTS subheadings in two successive tranches. The next tranche included imports valued at approximately $200 billion annually that were classifiable under 5,745 full or partial HTS subheadings (tranche 3), effective September 24, 2018.[153] As of March 15, 2022, the number of subheadings in tranche 3 had increased to 5,918 subheadings and parts of 11 additional subheadings because of changes to the HTS.[154] The HTS subheadings included in tranche 3 in March 2022 (figure 3.4) were predominantly for chemicals and related products (especially for organic specialty chemicals, miscellaneous inorganic chemicals, and certain organic chemicals); agricultural products (especially for fresh or frozen fish; prepared or preserved vegetables, mushrooms, and olives; and shellfish); textiles and apparel (especially for fabrics and fibers and yarns, except raw cotton and raw wool); minerals and metals (especially for cement, stone, and related products; nonpowered hand tools; miscellaneous products of base metal; and copper and related articles); and forest products (especially for wood veneer and wood panels, industrial papers, and paperboards). Several of these HTS subheadings for derivative steel and aluminum articles are subject to section 232 tariffs.[155]

[153] "Full" HTS subheadings do not exclude any corresponding HTS statistical reporting numbers. By contrast, partial HTS subheadings specifically excluded certain HTS statistical reporting numbers.
[154] USITC, *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022, 99-III-26–50.
[155] Steel nonthreaded fasteners (HTS subheadings 7317.00.30, 7317.00.55, and 7317.00.65), steel or aluminum bumper stampings for certain motor vehicles (HTS subheading 8708.10.30), and steel or aluminum body stampings for agricultural tractors (HTS subheading 8708.29.21).

Figure 3.4 Share of HTS subheadings subject to section 301 tariffs, tranche 3 by industry-commodity category, March 2022

Underlying data for this figure can be found in appendix E, table E.5.



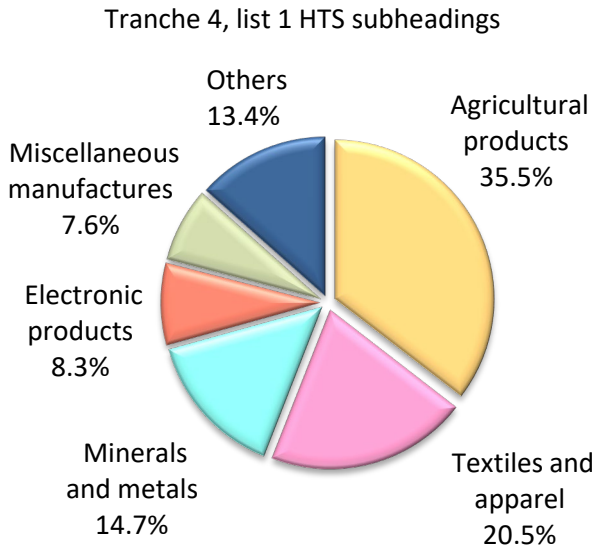
Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

The Trade Representative announced additional tariffs on a fourth tranche of imports in two separate lists totaling approximately $300 billion annually. As of March 15, 2022, the number of subheadings covered by tranche 4, list 1 included 3,279 subheadings and parts of 4 additional subheadings because of changes to the HTS.[156] Products classifiable under the HTS subheadings in tranche 4, list 1 (effective September 1, 2019) in March 2022 (figure 3.5) were predominantly for agricultural products (especially for dairy products); textiles and apparel (especially for apparel); minerals and metals (especially for steel mill products); electronic products (especially for watches and clocks and consumer electronics); and miscellaneous manufactures (especially for works of art and miscellaneous manufactured goods, sporting goods, and musical instruments and accessories). These HTS subheadings include 298 subheadings for certain steel articles and 35 subheadings for certain aluminum articles that were subject to section 232 tariffs.[157] As discussed below, tariffs on subheadings in tranche 4, list 2 were announced but subsequently suspended before their effective date.

[156] USITC, *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022, 99-III-86–99.
[157] Nonalloy steel articles (HTS subheadings 7206.10.00–7216.50.00, 7216.99.00, and 7217.10.10–7217.90.50); stainless steel articles (HTS subheadings 7218.10.00–7223.00.90); alloy steel articles (HTS subheadings 7224.10.00–7229.0.90); sheet piling (HTS subheading 7301.10.00); railway rails and track accessories (HTS subheadings 7203.10.10–7302.10.50 and 7302.90.10–7302.90.90); and tubes, pipes, and hollow profiles (HTS subheadings 7304.11.00–7306.90.50). Unwrought aluminum (HTS subheadings 7601.10.30–7601.20.0) and semifinished wrought aluminum (HTS subheadings 7604.10–7608.20.00 and 7609.00.00).

Figure 3.5 Share of HTS subheadings subject to section 301 tariffs, tranche 4, list 1 by industry-commodity category, March 2022

Underlying data for this figure can be found in appendix E, table E.6.

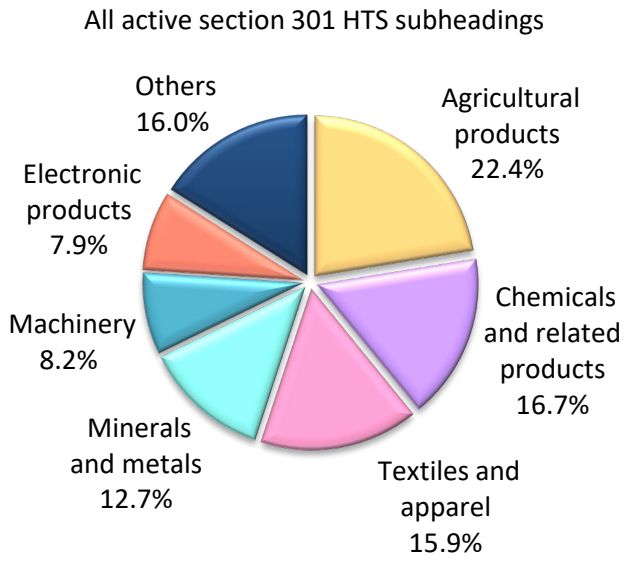


Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Across all four tranches, the HTS subheadings for U.S. imports subject to section 301 tariffs in March 2022 (figure 3.6) were predominantly for agricultural products, chemicals and related products, textiles and apparel, and minerals and metals. More than two-thirds (67.8 percent) of those HTS subheadings were among these four leading industry-commodity categories.

Figure 3.6 Share of HTS subheadings subject to all tranches of section 301 tariffs, by industry-commodity category, March 2022

Underlying data for this figure can be found in appendix E, table E.7.



Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Tariff Rates

Section 301 tariff rates applicable to imports originating in China in each tranche are summarized as follows:[158]

- Products covered by the HTS subheadings in tranche 1 and tranche 2 are subject to an additional 25 percent ad valorem duty, effective July 6, 2018, and August 23, 2018, respectively.[159]
- Products covered by the HTS subheadings in tranche 3 are subject to 25 percent ad valorem duty, effective May 10, 2019.[160] Initially, a rate of 10 percent ad valorem was imposed, effective September 24, 2018, but raised to 25 percent on May 10, 2019.[161]
- Products covered by HTS subheadings in tranche 4, list 1 were initially subject to a 10 percent ad valorem duty.[162] This duty was increased from the initial 10 percent ad valorem to 15 percent, effective September 1, 2019.[163] The duty rate was then reduced from 15 percent to 7.5 percent ad valorem on February 14, 2020, after the United States and China signed the bilateral Phase One trade deal and remained at that rate thereafter.[164]

[158] Rates presented remain the same as of the writing of this report.
[159] USTR, "Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301," 83 Fed. Reg. 28710 (June 20, 2018);USTR, "Notice of Action Pursuant to Section 301," 83 Fed. Reg. 40823 (August 16, 2018).
[160] USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 20459 (May 9, 2019).
[161] USTR, "Notice of Modification of Section 301 Action," 83 Fed. Reg. 47974 (September 21, 2018); USTR, "Notice of Modification of Section 301 Action," 83 Fed. Reg. 65198 (December 19, 2018); USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 7966 (March 5, 2019); USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 20459 (May 9, 2019); USTR, "Implementing Modification to Section 301 Action," 84 Fed. Reg. 21892 (May 15, 2019); USTR, "Additional Implementing Modification to Section 301 Action," 84 Fed. Reg. 26930 (June 10, 2019).
[162] USTR, "Notice of Modification of Section 301 Action," 85 Fed. Reg. 3741 (January 22, 2020); USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 43304 (August 20, 2019). The Trade Representative initially proposed additional duties of 25 percent ad valorem on imports under 3,805 full and partial HTS subheadings. USTR, "Request for Comments Concerning Proposed Modification of Action Pursuant to Section 301," 84 Fed. Reg. 22564 (May 17, 2019). Following review of comments received, the Trade Representative modified the subheadings included in this action and also reduced the additional duties to 10 percent ad valorem and effective dates for subheadings staggered over two dates. For this tranche 4 tariff action, list 1 included 3,229 full HTS subheadings and 4 partial HTS subheadings (annex A). List 2 included 542 full HTS subheadings and 8 partial HTS subheadings (annex C). USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 43304 (August 20, 2019).
[163] USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 45821 (August 30, 2019).
[164] USTR, "Notice of Modification of Section 301 Action," 85 Fed. Reg. 3741 (January 22, 2020). On December 13, 2019, the United States and China concluded negotiations to reach an enforceable Phase One trade deal, which requires China to undertake structural reforms and other changes to its economic and trade regime for intellectual property, technology transfer, agriculture, financial services, and currency and foreign exchange. The technology transfer chapter includes binding and enforceable obligations on China to address several unfair technology transfer practices identified by USTR's section 301 investigation. USTR, "Economic and Trade Agreement Between the United States of America and the People's Republic of China," January 15, 2020.

- The Trade Representative suspended the additional ad valorem duty on products enumerated among the HTS tariff lines in tranche 4, list 2 before these tariffs were implemented.[165]

Product Exclusions

When imposing additional duties on successive tranches of products originating in China, the Trade Representative also established processes for U.S. stakeholders to request exclusions from these additional duties for specific products classifiable within a covered HTS subheading. Among the required information to be provided by requestors is the relevant HTS statistical reporting number covering the specific product and the rationales for considering their exclusion request, specifically whether:

- The product is available only from China or, in cases where a comparable product is available, from either U.S. or third-country sources;
- The imposition of additional duties on the product would cause severe economic harm to either the requestor or other U.S. interests; and
- The product is strategically important or related to "Made in China 2025" or other Chinese industrial programs.

Product exclusions are effective starting on the effective date for each tariff action and will extend for one year after publication of the exclusion determination in the *Federal Register* for products in the first three tranches or one year from September 1, 2019, for products in tranche 4:

- Tranche 1—July 6, 2018;[166]
- Tranche 2—August 23, 2018;[167]
- Tranche 3—September 24, 2018;[168] and
- Tranche 4, list 1—September 1, 2019.[169]

As of March 15, 2022, the Trade Representative had granted nearly 3,000 product exclusion requests, covering nearly 200 HTS statistical reporting numbers and parts of almost 2,800 additional HTS statistical reporting numbers.[170] However, most of these exclusions have expired. The remaining exclusions

[165] USTR, "Notice of Modification of Section 301 Action," 84 Fed. Reg. 69447 (December 18, 2019). The Trade Representative had also previously announced that when duties for HTS subheadings in tranche 4, list 2 went into effect, they would be for 15 percent ad valorem rather than 10 percent. USTR, "Notice of Modification of Section 301 Action, 84 Fed. Reg. 45821 (August 30, 2019).
[166] USTR, "Procedures To Consider Requests for Exclusion of Particular Products From the Determination of Action Pursuant to Section 301," 83 Fed. Reg. 32181 (July 11, 2018).
[167] USTR, "Procedures To Consider Requests for Exclusion of Particular Products From the Determination of Action Pursuant to Section 301," 83 Fed. Reg. 47236 (September 18, 2018).
[168] USTR, "Procedures To Consider Requests for Exclusion of Particular Products From the Determination of Action Pursuant to Section 301," 84 Fed. Reg. 29576 (June 24, 2019).
[169] USTR, "Procedures To Consider Requests for Exclusion of Particular Products From the Determination of Action Pursuant to Section 301," 84 Fed. Reg. 57144 (October 24, 2019).
[170] U.S. notes 20(h), 20(i), 20(j), 20(k), 20(m), 20(n), 20(o), 20(p), 20(q), 20(v), 20(w), 20(x), 20(y), 20(ll), 20(mm), 20(nn), 20(oo), 20(pp), 20(qq), 20(rr), 20(ss), 20(tt), 20(uu), 20(vv), 20(ww), 20(xx), 20(yy), 20(zz)20(aaa), 20(bbb), 20(ccc), 20(ddd), 20(eee), 20(fff), 20(ggg), 20(hhh), 20(iii), 20(jjj), 20(kkk), 20(lll), 20(mmm), 20(nnn), 20(ooo), 20(ppp), 20(qqq), 20(rrr), 20(sss). USITC, *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022, 99-III-50–52–85, 99-III-104–223.

covered 83 full and partial HTS statistical reporting numbers and were set to expire on June 1, 2022.[171] These remaining exclusions primarily covered a variety of medical goods. On March 28, 2022, the Trade Representative announced 352 additional product exclusions, which were made retroactively effective from October 12, 2021, to December 31, 2022.[172]

Products Affected by Tariffs under Sections 232 and 301

Imports of steel and aluminum articles were uniquely subject to both tariffs under sections 232 and 301. Imports of these articles from China were therefore subject to the combined duties under each provision. Table 3.1 presents the tariff coverage for these products.

Table 3.1 Sections 232 and 301 tariff coverage of steel and aluminum imports

Products	HTS headings/subheadings/statistical reporting numbers	232 tariff rate (percentage)	301 tariff rate (percentage)
Steel mill products	7206, 7207, 7218, 7224, 7208, 7209, 7210, 7211, 7212, 7213, 7214, 7215, 7216 (except for 7216.61.00, 7216.69.00, and 7216.91.00), 7217, 7219, 7220, 7221, 7222, 7223, 7225, 7226, 7227, 7228, 7229, 7301.10.00, 7302.10, 7302.40.00, 7302.90.00, 7304, 7305, 7306	25	7.5 or 25
Derivative steel articles	7317.00.30, 7317.00.5503, 7317.00.5505, 7317.00.5507, 7317.00.5560, 7317.00.5580, 8708.10.3020, 8708.29.2120	25	25
Unwrought aluminum	7601	10	7.5
Wrought aluminum products	7604, 7605, 7606, 7607, 7608, 7609, 7616.99.5160, 7616.99.5170	10	7.5 or 25
Derivative aluminum articles	7614.10.50, 7614.90.20, 7614.90.40, 7614.90.50, 8708.10.3030, 8708.29.2130	10	25

Source: USITC, *Harmonized Tariff Schedule of the United States (2022), Revision 2*, February 2022.
Notes: Tariff rates are ad valorem. Section 301 tariff rates reflect rates in effect on March 15, 2022.

[171] These remaining exclusions are listed in U.S. note 20(sss). USITC, *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022, 99-III-219–23, 99-III-265.
[172] USTR, "Notice of Reinstatement of Certain Exclusions: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation," 87 Fed. Reg. 17380 (March 28, 2022).

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Chapter 4
Trade, Production, and Prices in the U.S. Steel and Aluminum Industries

This chapter presents the observable changes in trade, production, and prices for the steel and aluminum industries from 2016 to 2021. This time period covers the two years preceding the year section 232 and 301 tariffs were imposed on imports of steel and aluminum and the years since, through the end of 2021. This chapter also highlights other factors impacting the steel and aluminum industries during this time period, such as the COVID-19 pandemic and AD/CVD duties on steel and aluminum products. This chapter presents trends and offers perspectives from participants in the steel and aluminum industries regarding the impact of the tariffs on the industries. It does not attempt to disentangle the effects of section 232 and 301 tariffs from these other factors impacting trade, production, and prices during the relevant period. Rather, economic modeling presented in chapter 5 undertakes this effort for section 232 tariffs, and appendix F does so for the combined impacts of sections 232 and 301. Finally, this chapter highlights major upstream and downstream industries that may also be impacted by the tariffs.

Overview of Key Findings

Steel

- Annual U.S. imports of steel decreased by 17.2 percent between 2017 (the year before the tariffs' implementation) and 2021.
- Annual domestic production of steel fluctuated throughout the period, remaining about 5 percent higher in 2021 than in 2017.
- Although domestic steel capacity utilization was growing before the tariffs, it increased more rapidly beginning in 2018, reaching a 14-year high in 2021.
- Investment announcements from a variety of producers since the imposition of the tariffs indicate that production and capacity will likely continue to increase in the coming years.
- Prices have fluctuated over the period. The gap between global and domestic prices has widened since the imposition of the tariffs, and both global and domestic steel prices were much higher at the end of 2021 than in 2017.
- The leading downstream consumers of steel, the construction and automotive industries, faced challenging operating environments, especially during 2020, and this had an impact on steel usage.
- Total domestic steel consumption fluctuated from 2017 to 2021; the share of consumption accounted for by imports trended downward.

Aluminum

- The total volume of annual U.S. imports of aluminum decreased by 19.0 percent between 2017 and 2021. Unwrought aluminum imports decreased by 25.2 percent; wrought imports decreased by 4.8 percent.
- U.S. aluminum production has fluctuated throughout the period but increased overall, with the largest increase (22.5 percent) occurring in the primary segment, followed by 15.4 percent in the wrought segment and 11.5 percent in the secondary segment.
- Primary aluminum smelter capacity utilization increased by more than 20 percentage points between 2017 and 2019. Although it has fallen somewhat since then, it was still about 15 percentage points higher in 2021 than pre-tariff levels.
- Similar to steel, investment announcements from producers in all three aluminum segments since the imposition of the tariffs indicate that production and capacity utilization will likely continue to increase in the coming years.
- Aluminum prices spiked to a seven-year high in May 2018, shortly after the imposition of section 232 tariffs. Despite fluctuating over the period since then, prices at the end of 2021 were much higher than in 2017, and the gap between the U.S. price and global price has widened.
- The transportation, construction, and packaging sectors are the leading downstream consumers of aluminum. These sectors faced challenging operating environments during 2017–21 but also saw increased demand, which led to increased overall domestic consumption of aluminum. The share of aluminum consumption accounted for by imports has trended downward.

Overall, the data generally show a decrease in imports and an increase in production and prices since the imposition of section 232 and 301 tariffs. However, when observing the data on a more granular level, trade, production, and prices for both steel and aluminum display many unexpected fluctuations for several reasons. First, purchasers may not have been able to immediately switch suppliers in response to the tariffs, because they often have long-term contracts in place with suppliers or require particular product specifications to which a new supplier would not be able to adhere right away. Second, industry representatives claim that uncertainty regarding how long tariffs under sections 232 and 301 would remain in effect led to slower response times in terms of investing in and increasing domestic capacity.[173] Finally, several other factors have impacted the steel and aluminum industry in recent years. These other factors have likely, in some cases, had larger impacts on steel and aluminum markets than the tariffs.

Other Factors Impacting the Domestic Steel and Aluminum Industries

In recent years, several factors other than the tariffs under sections 232 and 301 have affected trade, production, and prices in the U.S. steel and aluminum industries. These factors, and their impacts, are summarized below and underline the difficulty of using trends in trade, production, and prices—without engaging in an economic model that can make efforts to disentangle the effects of the tariffs from other

[173] USITC, hearing transcript, July 20, 2022, 88–89 (testimony of Matt Aboud, Century Aluminum).

factors as in chapter 5 for section 232 duties and appendix F of this report—to draw conclusions about the impact of section 232 and 301 duties.

COVID-19 Pandemic (including recovery and related supply chain issues): Between March and April 2020, several steel blast furnaces, wrought aluminum mills, and secondary aluminum smelters reduced production or were temporarily idled because of decreased demand from downstream consumers who had shut down or reduced production in response to the pandemic.[174] The majority of these shutdowns lasted only a few months, but both the steel and aluminum industries saw longer-term impacts from the supply chain issues and demand shifts that followed. Capacity utilization at U.S. steel mills dropped significantly in 2020 owing to COVID-19-pandemic-related shutdowns, and stakeholders in the steel market observed that the COVID-19 pandemic and related recession produced significant supply chain dislocations.[175] Beginning in late 2020, both industries saw significant increases in demand as downstream industries recovered. The higher demand and temporary supply constraints during this period led to higher prices for steel, aluminum, and other commodities.[176]

Surging Energy Prices: As a result of rising global economic activity and various weather-related and other supply disruptions, global energy prices surged in 2021.[177] For the energy-intensive steel industry, this led to increased costs. Steel industry representatives stated that energy is one of the three primary costs of steel production (along with raw materials and labor) and that rising energy costs contributed to increased steel prices in 2021.[178] Higher energy prices also increased the costs of raw material inputs used to produce steel, further driving up production costs and leading to higher steel prices.[179] For the aluminum industry, which is also energy intensive, surging energy prices led to idled capacity and decreased production in China, Europe, and the United States.[180] Decreased supply, along with increased demand, led to tighter supplies and higher delivered costs for aluminum across the globe, including in the United States.[181] According to industry representatives, because the price of aluminum is globally set, producers were unable to respond to higher energy costs by raising prices and therefore were forced to idle production instead.[182]

Russia's Invasion of Ukraine: U.S. steel producers cited the conflict in Ukraine as a driving force behind steel prices that increased following the invasion.[183] Russia and Ukraine are significant producers of steel inputs and steel mill products, and the conflict created uncertainty for U.S. purchasers of such products.

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[174] USGS, *Mineral Commodity Summaries 2021: Aluminum*, January 2021; USGS, *Mineral Commodity Summaries 2022: Aluminum*, January 2022.
[175] AISI, USITC prehearing brief, July 8, 2022, 5, 8.
[176] For more information on commodity price surges affecting steel and aluminum, see USITC, *The 2021 Commodity Price Surge*, June 2022.
[177] USITC, *The 2021 Commodity Price Surge*, June 2022; Fernández Alvarez and Molnar, "What Is Behind Soaring Energy Prices and What Happens Next?" accessed October 28, 2022.
[178] U. S. Steel prehearing brief, July 8, 2022, 32, 35.
[179] USITC, hearing transcript, July 20–21, 2022, 234, 365 (testimonies of Tim Brightbill, ALPPA, and Benjamin Blase Caryl, U. S. Steel).
[180] USITC, *The 2021 Commodity Price Surge*, June 2022; Century Aluminum, "Century Aluminum to Temporarily Idle Hawesville Smelter," June 22, 2022.
[181] USITC, *The 2021 Commodity Price Surge*, June 2022.
[182] For example, see USITC, hearing transcript, July 20, 2022, 68 (testimony of Matt Aboud, Century Aluminum). For additional information on how aluminum prices are set, see the Aluminum section below.
[183] U. S. Steel prehearing brief, July 8, 2022, 23.

For example, pig iron, a raw form of the metal used in the production of steel, was in short supply in the weeks following Russia's invasion of Ukraine. Two-thirds of the pig iron imported by the United States in 2021 came from Russia and Ukraine; however, the conflict brought Ukrainian shipments to a halt, and U.S. importers stopped ordering from Russia.[184] Industry observers have claimed that Ukraine, historically one of the world's leading producers and exporters of steel, has lost about 40 percent of its production capacity since the Russian invasion.[185] Similarly, although the United States only sources a small share of its aluminum imports from Russia, Russia accounts for 5.4 percent of global production of unwrought aluminum and produces several key mill products as well.[186] The Russian invasion of Ukraine has led to supply disruptions and exacerbated surging global aluminum prices. In addition, already surging energy prices have continued to spike because of the conflict, creating higher input costs for aluminum producers.[187]

Antidumping and Countervailing Duty Investigations: Steel and aluminum products have been the subject of numerous antidumping and countervailing duty (AD/CVD) investigations in recent years. Since 2016, 142 AD/CVD orders have been imposed on steel mill products from 34 countries. In addition, several more steel orders imposed before 2016 have been continued. As of January 2022, 311 AD/CVD orders were in force on iron and steel mill products, accounting for 47 percent of existing AD/CVD orders on all products.[188] Some industry observers have identified AD/CVD orders on steel imports as a reason that domestic steel producers have recaptured market share and improved profitability.[189] Furthermore, industry observers stated that these orders helped shield domestic producers from unfair foreign competition by limiting the volume of imports into the U.S. market.[190] In the aluminum industry, 29 AD/CVD petitions have been filed since 2016 on common alloy aluminum sheet, aluminum wire and cable, and aluminum foil.[191] These petitions resulted in the issuance by the U.S. Department of Commerce (USDOC) of AD/CVD orders on imports from 21 countries. According to industry

[184] Tita, "Ukraine War Drives Shortage in Pig Iron, Pushing Steel Prices Higher," April 12, 2022.
[185] Smolienko, "Producers Say Ukraine Lost 40% of Its Steel Industry Due to Russian Invasion," September 6, 2022.
[186] Van Veen, "Russia and Aluminum Supply Chains," June 2022.
[187] USITC, hearing transcript, July 20, 2022, 68 (testimony of Matt Aboud, Century Aluminum). See also World Bank Group, "The Impact of the War in Ukraine on Commodity Markets," April 2022.
[188] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022, 6.
[189] For example, according to Nucor, a leading U.S. steel producer, section 232 actions played an important role in the steel industry's recovery from the 2008–09 financial crisis. However, Nucor believes that the most important trade remedy toolkit is the U.S. antidumping and countervailing duty laws. The firm maintains that these laws offset the effects of unfair trade and allow them to compete on an even playing field. Nucor also stated that the series of antidumping and countervailing duty orders issued in 2016 and 2017 were the most important driver of the industry's improvement since then. USITC, hearing transcript, July 21, 2022, 298 (testimony of Chris Bedell, Nucor).
[190] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022, 6.
[191] See USITC, *Aluminum Foil from China, Inv. Nos. 701-TA-570 and 731-TA-1346 (Final)*, April 2018; *Common Alloy Aluminum Sheet from China, Inv. Nos. 701-TA-591 and 731-TA-1399 (Final)*, January 2019; *Aluminum Wire and Cable from China, Inv. Nos. 701-TA-611 and 731-TA-1428 (Final)*, December 2019; *Common Alloy Aluminum Sheet from Bahrain, Brazil, Croatia, Egypt, Germany, India, Indonesia, Italy, Oman, Romania, Serbia, Slovenia, South Africa, Spain, Taiwan, and Turkey, Inv. Nos. 701-TA-639 and 641-642 and 731-TA-1475-1479 and 1485-1492 (Final)*, April 2021; USITC, *Aluminum Foil from Armenia, Brazil, Oman, Russia, and Turkey, Inv. Nos. 701-TA-658-659 and 731-TA-1538-1542 (Final),* October 2021. In addition, AD/CVD orders were continued in Certain Aluminum Extrusions from China in November 2022. See 87 Fed. Reg. 66128 (November 2, 2022).

representatives, the imposition of AD/CVD orders on products from these countries has encouraged domestic investment and increased business certainty.[192]

Other: According to industry representatives, a focus on carbon policy and sustainability concerns is also increasing demand for aluminum, particularly secondary (recycled) aluminum.[193] In addition, several countries imposed retaliatory tariffs on imports of certain steel and aluminum articles from the United States in response to the imposition of tariffs under section 232, which may have decreased demand for U.S. exports to those countries. As discussed below, both steel and aluminum exports have declined since 2017.[194]

Steel

Background

Iron and steel have been referred to as the basic metals of any industrial society and as vital to the United States for its national security and economic well-being.[195] According to a study commissioned by the American Iron and Steel Institute, the U.S. iron and steel industry accounted for more than $520 billion in economic output and nearly 2 million jobs in 2017, when considering the direct and indirect impacts.[196] The U.S. industry supplies the vast majority of the domestic market for steel, accounting for nearly 80 percent of the total domestic market in 2021 (figure 4.5).

The United States steel industry has evolved during the past several decades. Steel mills in the United States primarily produce steel via two distinct production methods that use different types of furnaces as well as raw inputs. The more "traditional" method occurs at large, vertically integrated mills, which use ovens to heat coal into coke, combine the coke with iron ore in a blast furnace to produce pig iron, and then melt the pig iron in a basic oxygen furnace to produce liquid steel. This process is commonly known as the blast-furnace/basic oxygen furnace (BF-BOF) method. Alternatively, production facilities known as "minimills" use electric arc furnaces (EAFs) to melt steel scrap and, in some instances, iron pellets to produce liquid steel. Minimills do not require coke ovens or blast furnaces.[197] In 2021, as much as 29 percent of domestic steel output was produced by only three companies, which operated integrated steel mills in 11 U.S. locations. The remaining 71 percent of domestic steel production was produced by 50 companies, which operated 101 minimills.[198]

Once steel is produced in its liquid state, it is cast into rectangular slabs (long billets a few inches thick) or other shapes and left to cool. Rolling mills then shape the semifinished steel into a variety of

[192] USITC, hearing transcript, July 20, 2022, 20, 88–89 (testimonies of Henry Gordinier, Tri-Arrows Aluminum, and Charles Johnson, Aluminum Association).
[193] USITC, hearing transcript, July 20, 2022, 89–90 (testimony of Matt Aboud, Century Aluminum).
[194] For more information on retaliatory tariffs, see chapter 3 section titled "Global Responses and Retaliatory Tariffs."
[195] USGS, *Mineral Commodity Profiles—Iron and Steel*, 2005.
[196] American Iron and Steel Institute, "The Economic Impact of the American Iron and Steel Industry," May 23, 2018.
[197] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022.
[198] USGS, *Mineral Commodity Summaries 2022: Iron and Steel*, January 2022.

products, generally classified as either "flat" products (plate and coils of steel sheet) or "long" products (bars, rails, wire rods).

Steel Mill Products

Steel mills produce a range of products that can be classified into general categories: flat, long, pipe and tube, and semifinished. All these products can be produced using various steel types (e.g., carbon, alloy, and stainless). In terms of volume, flat and long products account for the majority of U.S. steel mill production. Most of these products are sold to distributors, machinery manufacturers, and secondary steel manufacturers. A brief description of the main steel mill product groups follows.

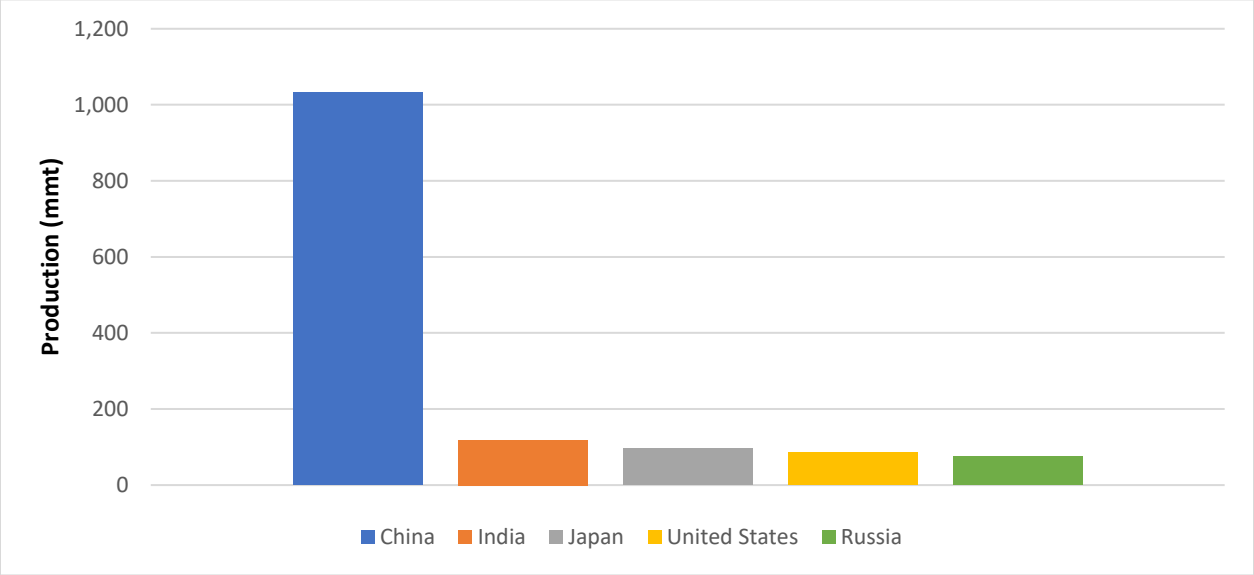
> **Flat products:** Hot-rolled and cold-rolled steel sheets and strips. Hot-rolled flat steel is the primary product made by U.S. steel mills. Processors typically further process the steel into products usable by the construction, machinery manufacturing, and automotive industries.[199]
>
> **Long products:** Includes reinforcing steel bars, rails, rods, and beams. Steel bars are frequently used as tension devices in reinforced concrete and other masonry structures. Steel bar consumption is closely linked to demand from residential and nonresidential construction.
>
> **Pipe and tube:** Either seamless or welded pipe and tube. These products are most commonly used in construction and energy sectors.[200]
>
> **Semifinished products:** The intermediate solid forms of molten steel, to be reheated and further forged, rolled, shaped, or otherwise worked into finished steel products. Includes blooms, billets, slabs, ingots, and steel for castings.[201]

In terms of scale on a global basis, the United States produced 85.8 million metric tons (mmt) of raw steel (steel in the first solid state after melting, suitable for further processing or for sale) in 2021, making it the fourth-leading producer in the world, behind China (1,032.8 mmt), India (118.2 mmt), and Japan (96.3 mmt) (Figure 4.1).[202] The U.S. iron and steel industry produced raw steel in 2021 with an estimated value of about $110 billion, a 31.0 percent increase from $84 billion in 2017. Total raw steel production capacity in the United States in 2021 was about 106 million metric tons.[203]

[199] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022.
[200] USDOC, ITA, *Global Steel Report 2019*, accessed October 13, 2022, 15.
[201] USDOC, ITA, *Global Steel Report 2019*, accessed October 13, 2022, 15.
[202] World Steel Association, "World Steel in Figures 2022," 2022.
[203] USGS, *Mineral Commodity Summaries 2022: Iron and Steel*, January 2022.

Figure 4.1 Top five leading global producers of raw steel, by country, in 2021

In millions of metric tons (mmt). Underlying data for this figure can be found in appendix E, table E.8.



Source: World Steel Association, "World Steel in Figures 2022," 2022.

Relatively large on a global scale, the U.S. steel industry is also highly concentrated, with the four largest firms accounting for 71.5 percent of industry revenue.[204] Consolidation primarily evolved through considerable industry restructuring and merger activity from 2010 to 2022. This consolidation was attributed to increasing global competition and volatile input costs, combined with fewer smaller firms entering the market.[205] One reason that steel makers may be pursuing consolidation and vertical integration is to reduce production costs. Larger and more diversified operations are able to reduce production costs through economies of scale and mitigate the risk of negative product or market segment conditions.[206]

In addition to consolidation, another notable industry trend has been the shift in steel production methods in the United States. A growing share of domestic production comes from minimills that melt steel scrap in EAFs, continuing the long-term shift away from large, integrated mills that rely on blast furnaces. The minimill sector maintains lower capital and energy costs per ton produced than the integrated mill sector. This transition to minimill steel production coincided with a 10 percent increase in labor productivity at iron and steel mills in the United States from 2011 to 2021.[207]

The U.S. government has imposed AD/CVD duties on steel imports to offset foreign subsidies and remedy unfair import pricing (dumping). Since at least 1978, when the OECD created the Steel Committee, the U.S. has also led and participated in numerous multilateral negotiations to address global excess steel capacity.[208] The United States has also made increased use of domestic preference

[204] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022.
[205] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022.
[206] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022.
[207] BLS, "Labor Productivity for Manufacturing: Iron and Steel Mills and Ferroalloy Production (NAICS 331110) in the United States," September 15, 2022.
[208] For a summary of these negotiations, see U. S. Steel, written submission to the USITC, attachment 5, 1-3, July 8, 2022.

(e.g., "Buy American") laws to require that iron and steel used in many federal projects and those funded by federal grants be produced in the United States.[209]

As reviewed in more detail in chapter 3, section 232 tariffs cover nearly all steel products, including semifinished steel and the major steel mill products. Section 232 tariffs on U.S. imports of these products went into effect on March 23, 2018.[210] Beginning on January 24, 2020, these tariffs also applied to several "derivative steel articles," which include certain nails, tacks (other than thumb tacks), drawing pins, motor vehicle bumper stampings of steel, and steel body stampings for tractors.[211] Section 301 tariffs on imports from China apply to all the aforementioned products, as well as other articles of iron and steel (e.g., pipe fittings and connectors). Nearly all section 301 tariffs on steel products were included in either tranche 3, which was effective beginning September 24, 2018, or tranche 4, list 1, effective September 1, 2019. In addition, many downstream products produced from steel are subject to section 301 tariffs.[212]

Representatives of the U.S. steel industry, including U.S. workers, have been largely supportive of tariffs under sections 232 and 301. These representatives state that these actions provide important relief to the domestic iron and steel industry by applying to the full range of semifinished and finished steel imports from the largest sources of global steel overcapacity. Industry representatives credit these tariffs, in conjunction with AD/CVD orders, for returning the U.S. steel industry to sustainable operating levels, allowing the industry to make needed investments in new technology, reversing years of declining employment, and supporting more and better jobs for the next generation of advanced iron and steel manufacturing.[213] Conversely, many downstream consumers of steel have stated that they were affected adversely by tariffs under sections 232 and 301 as a result of the increased prices of domestic and imported steel.[214] Downstream manufacturers and trade groups that represent them claim that steel prices rose because of both the high demand for manufactured goods and the tariffs on imported steel that were implemented by the Trump administration and continue under the Biden administration.[215]

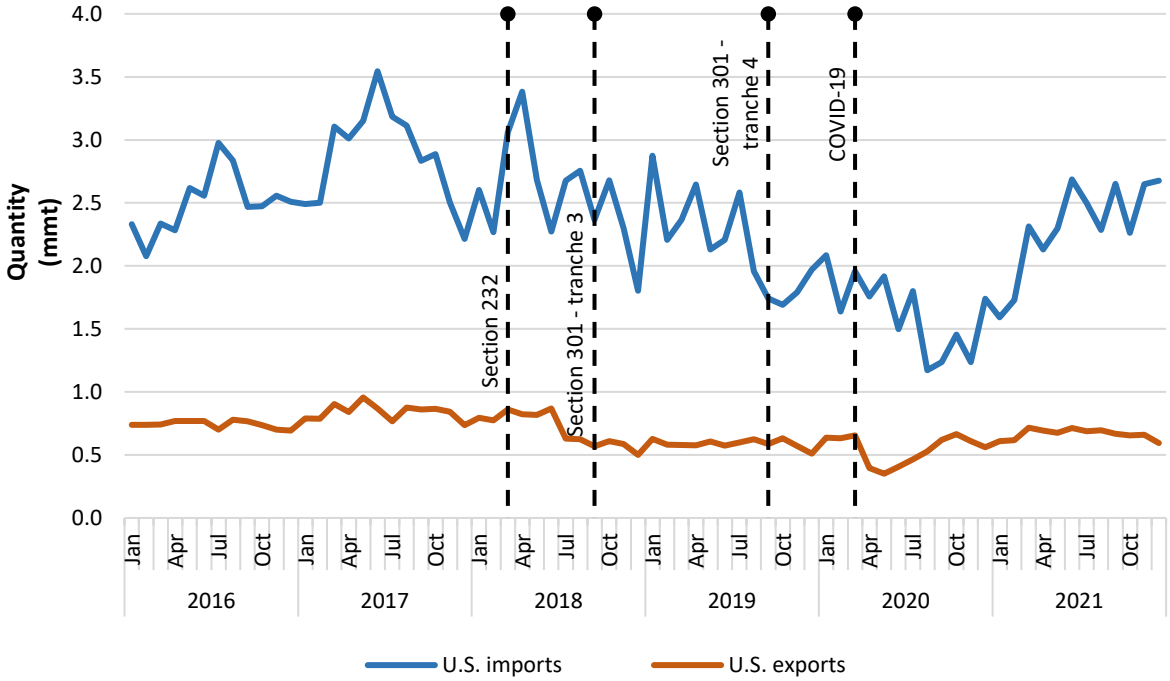
Trade

U.S. steel imports have exceeded exports for several years, although the volume of annual U.S. imports of steel mill products decreased by 17 percent from 2017 to 2021; corresponding exports declined as well during that period (figure 4.2 and table 4.1).

[209] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022, 1.
[210] 83 Fed. Reg. 11625 (March 15, 2018).
[211] 85 Fed. Reg. 5281 (January 29, 2020).
[212] For more information on section 301 tariff coverage, see chapter 3.
[213] See USITC, hearing transcript, July 22, 2022, panel 4 testimonies.
[214] USITC, hearing transcript, July 20, 2022, 95–97, 216–17 (testimonies of David Klotz, Precision Metal forming Association, and Paul Nathanson, Coalition of American Metal Manufacturers and Users).
[215] Hufford, "High Steel Prices Have Manufacturers Scrounging for Supplies," September 15, 2021; USITC, hearing transcript, July 20, 2022, 263 (testimony of Steve Hawkins, American Concrete Pipe Association).

Figure 4.2 U.S. trade of steel mill products, by month and year, 2016–21

In millions of metric tons (mmt). Underlying data for this figure can be found in appendix E, table E.9.



Source: USDOC, U. S. Steel Executive Summary, August 2022, HTS subheadings 7206.10 through 7216.50, 7216.99 through 7301.10, 7302.10, 7302.40 through 7302.90, and 7304.10 through 7306.90.
Note: This figure does not include derivative steel articles.

Imports were generally volatile from 2016 to 2021 but, following a surge in 2017, trended downward thereafter before rebounding in 2021 (figure 4.2 and table 4.1). Industry representatives have attributed the decline in steel imports to section 232 quotas and tariffs, in combination with AD/CVD orders.[216]

In terms of product-level imports, in 2021, flat products (e.g., sheet and plate) accounted for the largest share of U.S. steel imports at 39 percent, or 11.2 mmt. Semifinished products (e.g., slab and billet) accounted for 26 percent, or 7.5 mmt, followed by long products (e.g., wire rod and bar) at 17 percent (4.8 mmt), pipe and tube products at 14 percent (4.0 mmt), and stainless products at 4.0 percent (1.1 mmt).[217]

[216] American Iron and Steel Institute, prehearing brief, July 8, 2022, 4.
[217] USDOC, "Steel Imports Report: United States," accessed September 30, 2022, 4.

Table 4.1 Quantity of U.S. imports for consumption of steel mill products, by product type and year, 2016–21

In thousand metric tons (mt) and number of items in thousands (no.).

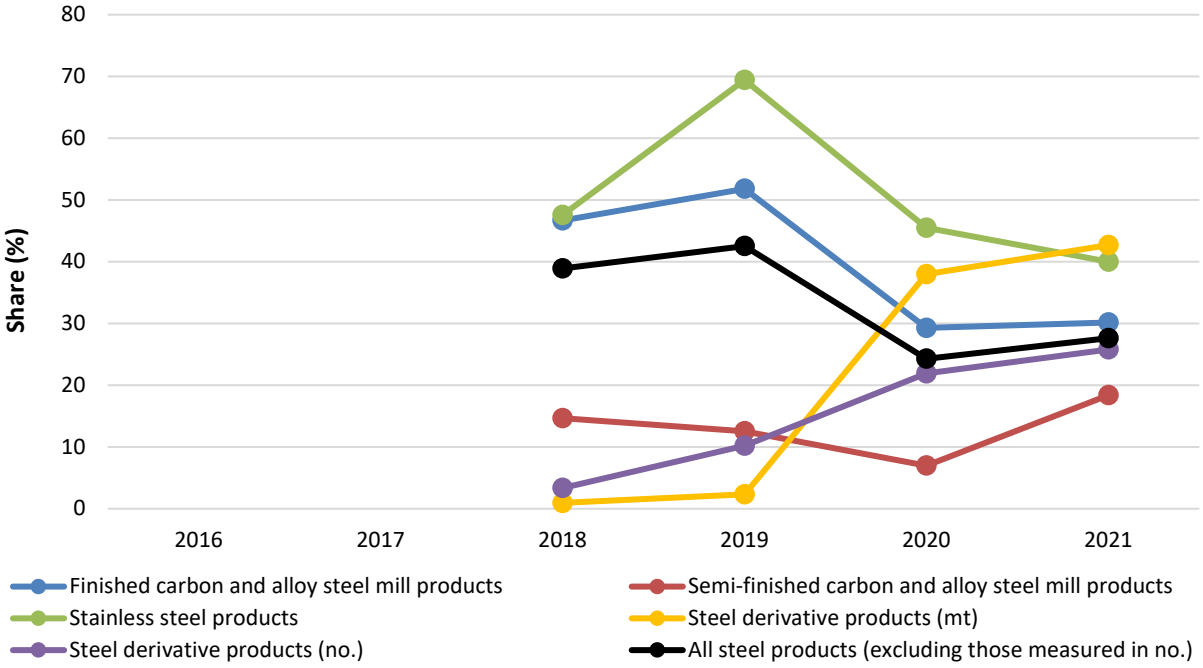
Category	2016	2017	2018	2019	2020	2021
Finished steel mill products, carbon and alloy (mt)	23,094.5	26,014.2	22,547.5	18,473.8	14,144.4	19,904.1
Semifinished, carbon and alloy (mt)	6,004.8	7,500.0	7,157.6	6,041.1	5,147.9	7,510.5
Stainless steel products (mt)	918.3	1,108.5	962.4	768.3	695.3	1,143.2
Steel derivatives (mt)	224.5	222.0	266.4	264.9	251.3	286.3
Steel derivatives (no.)	14,701.0	11,715.1	13,378.8	12,150.8	8,088.2	8,856.0
All steel products (excluding derivative products measured in no.) (mt)	30,242.1	34,844.8	30,933.9	25,548.1	20,238.8	28,844.2

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: Flat products are composed of imports under HTS subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53, 7208.54, 7208.90, 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27, 7209.28, 7209.90, 7210.11, 7210.12, 7210.20, 7210.30, 7210.41, 7210.49, 7210.50, 7210.61, 7210.69, 7210.70, 7210.90, 7211.13, 7211.14, 7211.19, 7211.23, 7211.29, 7211.90, 7212.10, 7212.20, 7212.30, 7212.30, 7212.40, 7212.50, 7212.60, 7225.11, 7225.19, 7225.30, 7225.40, 7225.50, 7225.91, 7225.92, 7225.99, 7226.11, 7226.19, 7226.91, 7226.92, 7226.99, 7226.93, and 7226.94. Steel long products are composed of imports under HTS subheadings 7213.10, 7213.20, 7213.91, 7213.99, 7214.10, 7214.20, 7214.30, 7214.91, 7214.99, 7215.10, 7215.50, 7215.90, 7216.10, 7216.21, 7216.22, 7216.31, 7216.32, 7216.33, 7216.40, 7216.50, 7216.99, 7217.10, 7217.20, 7217.30, 7217.90, 7226.20, 7227.10, 7227.20, 7227.90, 7228.10, 7228.20, 7228.30, 7228.40, 7228.50, 7228.60, 7228.70, 7228.80, 7229.20, 7229.90, 7301.10, 7302.10, 7302.40, 7225.20, and 7229.10. Steel pipe and tube is composed of imports under HTS subheadings 7304.19, 7304.23, 7304.29, 7304.31, 7304.39, 7304.51, 7304.59, 7304.90, 7305.11, 7305.12, 7305.19, 7305.20, 7305.31, 7305.39, 7305.90, 7306.19, 7306.29, 7306.30, 7306.50, 7306.61, 7306.69, 7306.90, 7304.10, 7304.21, 7306.10, 7306.20, and 7306.60. Stainless steel is composed of imports under HTS subheadings 7218.10, 7218.91, 7218.99, 7219.11, 7219.12, 7219.13, 7219.14, 7219.21, 7219.22, 7219.23, 7219.24, 7219.31, 7219.32, 7219.33, 7219.34, 7219.35, 7219.90, 7220.11, 7220.12, 7220.20, 7220.90, 7221.00, 7222.11, 7222.19, 7222.20, 7222.30, 7222.40, 7223.00, 7304.11, 7304.22, 7304.24, 7304.41, 7304.49, 7306.11, 7306.21, and 7306.40. Steel derivatives are composed of imports under HTS statistical reporting numbers 7317.00.3000, 7317.00.5503, 7317.00.5505, 7317.00.5507, 7317.00.5560, 7317.00.5580, 7317.00.6560, 8708.10.3020, and 8708.29.2120. Imports under HTS statistical reporting numbers 8708.10.3020 and 8708.29.2120 are recorded in number of items rather than metric tons.

Figure 4.3 Share of the quantity of U.S. steel imports subject to tariffs under sections 232 and 301, by product type and year, 2016–21

In percentages. mt = measured in metric tons; no. = measured in number of items. Underlying data for this figure can be found in appendix E, tables E.10 through E.15.



Source: USITC DataWeb/Census, accessed August 16, 2022.

Figure 4.3 illustrates that, overall, since 2018 less than half of U.S. steel imports were subject to tariffs under sections 232 or 301, and this share has declined in recent years.

The top 10 source countries for U.S. steel imports represented 81.9 percent of the total steel import volume in 2021, at 24.3 mmt. Canada accounted for the largest share of U.S. imports at 24.0 percent (7.1 mmt), followed by Mexico at 18.1 percent (5.3 mmt), Brazil at 13.4 percent (4.5 mmt), South Korea at 8.6 percent (2.5 mmt), Russia at 5.0 percent (1.5 mmt), Germany at 3.9 percent (1.1 mmt), Japan at 3.3 percent (0.99 mmt), Turkey at 3.1 percent (0.92 mmt), Vietnam at 2.9 percent (0.85 mmt), and Taiwan at 2.8 percent (0.80 mmt).[218]

Import sources varied by product types and many of the leading sources were either completely exempt from section 232 tariffs (e.g., Canada and Mexico) or exempt under quotas (e.g., Brazil and South Korea) for much of 2018–21. By 2021, many leading import sources were no longer subject to section 232 tariffs, though import volumes continued to be constrained for quota countries. The United States imported the largest share of flat products from Canada in 2021, at 36.3 percent, followed by South Korea at 11.8 percent. Canada was also the largest source for long product imports, at 23.7 percent, and Mexico was the second-largest supplier of long products, at 19.7 percent. The United States imported 22.4 percent of its pipe and tube imports from South Korea, followed by Canada at 17.1 percent. The majority of U.S. imports of semifinished steel in 2021 came from Brazil, at 47.3 percent. Mexico and Russia were also major sources of semifinished steel, at 22.6 percent and 17.2 percent, respectively.

[218] USDOC, "Steel Imports Report: United States," accessed September 30, 2022, 4.

Germany was the largest source of imported stainless products, at 30.3 percent, followed by Taiwan at 15.4 percent.[219] In addition to country exemptions, the share of imports subject to tariffs under sections 232 and 301 also decreased in 2020 and 2021 as more product exclusions were granted and importers were able to switch their sourcing.

Production

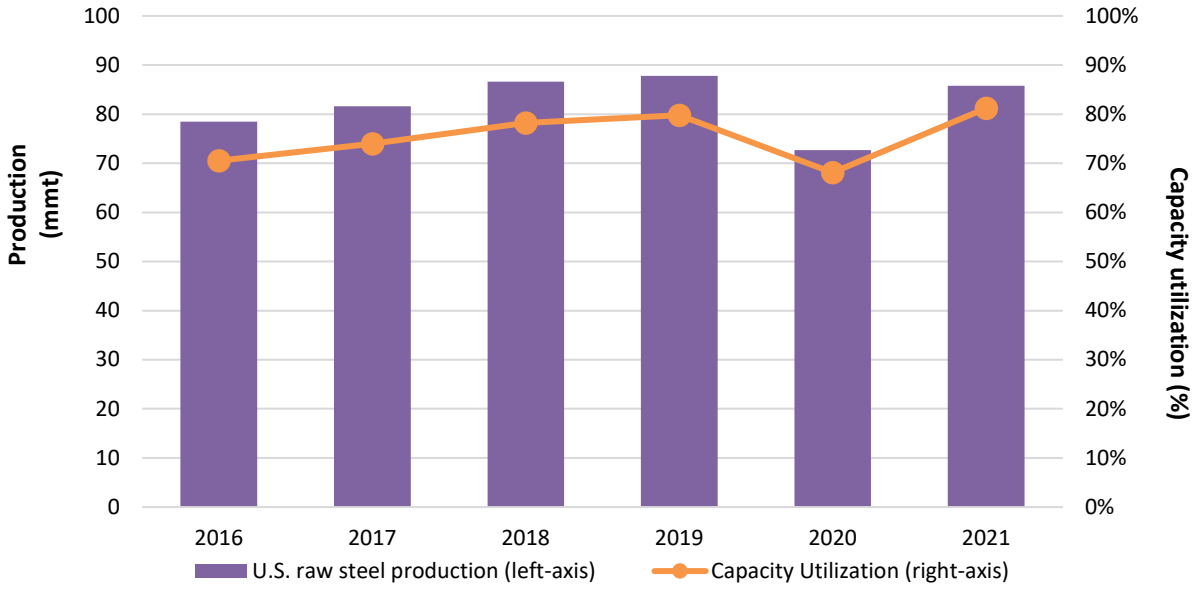
Production Trends

Between 2016 and 2021, domestic annual raw steel production fluctuated between roughly 70 and 90 mmt (figure 4.4), generally increasing since 2016 with the exception of a low point coming amid COVID-19-pandemic-related production curtailments in 2020. U.S. steel production in 2021 was 5.1 percent higher than in 2017, before section 232 tariffs were implemented. Capacity utilization in the steel industry had been trending upward since 2016 (excluding a drop in 2020), increasing from 71 percent to 81 percent from 2016 to 2021, with 2 percentage points of the increase occurring from 2018 to 2019 coinciding with the imposition of section 232 tariffs in 2018.[220] In 2021, 81.1 percent of U.S. steel production capacity was utilized, the highest level since 2007.[221] The USDOC identifies an 80 percent capacity utilization rate in steel production as a minimum threshold for long-term financial viability of the industry and cites industry sources that attribute a jump in earnings when utilization rates increase from 80 percent to 85 percent.[222] According to U.S. Census Bureau data, U.S. steel producers recorded $29.6 billion in profits in 2021 compared with $5.5 billion in 2017, before the imposition of tariffs under sections 232 and 301, as capacity utilization reached the highest level since the early 2000s.[223] Some market participants attributed this increased profitability to the impact of section 232 tariffs.[224]

[219] For more information on top importers of specific steel products, see appendix E, table E.29. USDOC, *Steel Imports Report: United States*, accessed September 30, 2022.
[220] Tranche 3 of section 301, which covered steel products was also imposed in 2018.
[221] American Iron and Steel Institute, prehearing brief, July 8, 2022, 6.
[222] USDOC, BIS, *The Effect of Imports of Steel on the National Security*, January 11, 2018, 48.
[223] Census, From the Quarterly Financial Report database: "Iron, Steel, and Ferroalloys: U.S. Total—Not Seasonally Adjusted Income (Loss) from Operations [Millions of Dollars], Business and Industry: Time Series/Trend Charts," accessed September 30, 2022.
[224] An industry representative stated that "they benefited from section 232 tariffs that increased the price of imports, allowing them to increase their own prices and the higher effective import prices have increased demand for domestic production. This has allowed us to operate more efficiently, increasing our production capacity. Prior to 2017, we were forced to accept orders for low volume and low yield products to fill our books. The growing demand for domestic product permitted us to focus on higher volume and higher yield orders. By doing so, we improved our production capacity for cold rolled without any physical capacity expansions." USITC, hearing transcript, July 21, 2022, 304 (testimony of Tamara Weinert, Outokumpu Business Area Americas). Some other market participants have cited the cumulative effects of the broader section 232 tariffs and more narrowly focused AD/CVD orders as factors that benefited U.S. producers. One industry representative also noted that the economic recovery following the COVID-19 pandemic increased demand for steel, also contributing to increased profitability. USITC, hearing transcript, July 21, 2022, 362 (testimony of Tamara Weinert, Outukumpu Business Area Americas). See also USITC, hearing transcript, July 21, 2022, 298, 330–331, 419–420 (testimonies of Chris Bedell, Nucor; Philip Bell, Steel Manufacturers Association; and Scott N. Paul, Alliance for American Manufacturing).

Figure 4.4 U.S. steel production and capacity utilization, by year, 2016–21

In million metric tons (mmt) and percentages. Underlying data for this figure can be found in appendix E, table E.16.



Source: World Steel Association and American Iron and Steel Institute, prehearing brief, July 8, 2022, 6.

Some steel producers have transitioned to harder-to-make steel products, such as advanced high-strength steel or lightweight steel for automotive uses, to better compete in the domestic market and lessen the impact of cheaper steel imports.[225]

Additional Restarts and Investments

A significant development in the U.S. steel industry during the past few years has been an influx in capital investment. Specifically, many U.S. steel producers have announced plans for new mills, expansions, and restarts of idled plants. The investments currently underway are expected to significantly add to industry steelmaking capacity and are focused principally on minimills, continuing the longstanding shift away from integrated production. According to the American Iron and Steel Institute, the imposition of section 232 tariffs incentivized new capital spending by domestic steel makers, with announced investments of nearly $22 billion in new, expanded, or restarted production since March 2018. Since then, approximately 20 mmt of steelmaking capacity has either come online or been announced. Much of the new capacity is expected to come online between 2022 and 2024.[226] Some of this additional steel production capacity will replace outdated capacity that was taken offline in previous years.[227] Industry observers also noted the multiple announcements of capital investment projects that are expected to add domestic steelmaking capacity in the future were influenced by the

[225] USDOC, "U.S. Steel Downstream Monitor," accessed September 30, 2022.
[226] USITC, hearing transcript, July 21, 2022, 313–14 (testimony of Kevin Dempsey, American Iron and Steel Institute).
[227] OECD, *Latest Developments in Steelmaking Capacity-2021*, September 22, 2021, 22; Verret, "New Steel Capacity Unlikely to Depress Prices," May 18, 2022.

higher domestic steel prices and government initiatives such as the recently enacted Infrastructure Investment and Jobs Act.[228]

A variety of new investments from a breadth of producers could lead to significant growth in U.S. steelmaking capacity in the coming years (table 4.2).[229] For example, Nucor Corporation commissioned a new EAF facility in December 2020 in Frostproof, Florida, and obtained permits for a new electric arc furnace (EAF) mill in Brandenburg, Kentucky, which opened in 2022. In addition, Nucor expanded its steelmaking capacity in Ghent, Kentucky, as announced in September 2020.[230] Since 2018, Cleveland Cliffs has made multiple acquisitions and invested an additional $2 billion to expand and upgrade its production facilities.[231] Big River Steel started a new EAF in November 2020, expanding steelmaking capacity at its Arkansas mill by about 1.5 mmt, and the United States Steel Corporation (U. S. Steel) also expanded capacity, starting a new EAF facility at its Fairfield Works plant in Alabama in October 2020.[232]

Furthermore, Australia's BlueScope Steel's subsidiary North Star started construction of a new EAF in Delta, Ohio, in early 2020, completing it by mid-2022.[233] Steel Dynamics is building a new EAF mill with a capacity of about 3.0 mmt in Sinton, Texas. ArcelorMittal/Nippon Steel Calvert will build a new EAF in Alabama that is expected to open in 2023.[234] Nucor and U. S. Steel are both planning significant new EAF projects in 2024, each adding more than 3 mmt of steel production capacity.[235]

[228] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022, 1.
[229] For example, Nucor cited section 232 tariffs in combination with AD/CVD orders on steel imports as factors that allowed it to invest in domestic steel production. Nucor has invested nearly $4 billion in new, expanded, or improved facilities since 2017. USITC, hearing transcript, July 21, 2022, 298 (testimony of Chris Bedell, Nucor).
[230] OECD, *Latest Developments in Steelmaking Capacity-2021*, September 22, 2021, 22.
[231] According to Cleveland Cliffs, section 232 tariffs, together with the AD/CVD orders on imports, allowed them to make major capital investments. USITC, hearing transcript, July 21, 2022, 325 (testimony of Patrick Bloom, Cleveland Cliffs).
[232] OECD, *Latest Developments in Steelmaking Capacity-2021*, September 22, 2021, 22.
[233] North Star BlueScope Steel, *North Star Facility Expansion Boosts Production,* May 13, 2022.
[234] OECD, *Latest Developments in Steelmaking Capacity-2021*, September 22, 2021, 22.
[235] OECD, *Latest Developments in Steelmaking Capacity-2021*, September 22, 2021, 22.

Table 4.2 Existing and planned new iron and steelmaking capacity, by starting year and company, since 2018

In million metric tons (mmt).

Projected starting year	Firm	Location	Additional capacity (mmt)
2018	Commercial Metals	Durant, OK	0.4
2020	Nucor	Sedalia, MO	0.4
2020	Big River Steel	Osceola, AR	1.5
2020	Nucor	Frostproof, FL	0.4
2020	U. S. Steel	Fairfield, AL	1.6
2021	JSW	Mingo Junction, OH	1.5
2022	Steel Dynamics	Sinton, TX	3.0
2022	Nucor	Ghent, KY	1.4
2022	North Star BlueScope	Delta, OH	0.9
2022	Nucor	Brandenburg, KY	1.2
2023	ArcelorMittal/Nippon Steel	Calvert, AL	1.7
2023	Commercial Metals	Mesa, AZ	0.5
2024	Nucor	Weirton, WV	3.0
2024	Nucor	TBA	0.6
2024	U. S. Steel	Osceola, AR	3.0
TBA	Nucor	Lexington, NC	0.4

Source: American Iron and Steel Institute, prehearing brief, July 8, 2022, 7.

Prices

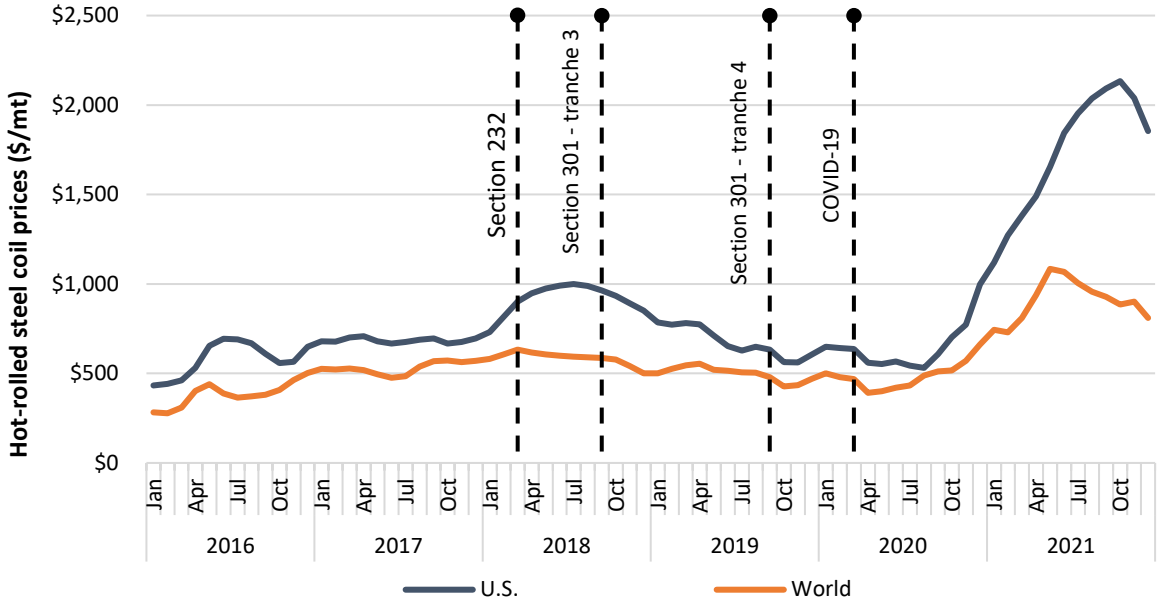
U.S. steel prices increased at a relatively steady rate from 2016 to 2018. Steel prices increased 54 percent from January 2016 to January 2017. Prices continued to increase in 2017, then increased more rapidly starting in January–February 2018 just before the imposition of section 232 duties in March 2018. Prices continued to increase through mid-2018, then declined though the end of the year and in 2019. This trend continued into the first half of 2020, owing to falling demand for steel stemming from the slowdown in economic activity during the COVID-19 pandemic. However, the downturn in prices was relatively brief; many steelmakers quickly cut their production levels in response to the drop in demand and overall uncertainty during that period. Prices subsequently increased in all regional markets, starting in the latter half of 2020, driven by the relatively quick recovery in China's steel demand, followed by a similar rebound in other major steel-consuming countries. Coinciding with the price increases that began during the second half of 2020, U.S. prices of hot-rolled steel coil (a common steel product frequently used to track steel prices) experienced an increase that was considerably larger than corresponding increases in other regions around the world (figure 4.5).

In the first quarter of 2021, steel prices increased 30–90 percent year on year compared to the first quarter of 2020, depending on product and market, followed by further gains in the second quarter. The United States, where steel demand recovered strongly, recorded the largest price increases in 2021, ending the year 85 percent higher than at yearend 2020 (figure 4.5). The prices of hot-rolled steel coil in the U.S. at the end of 2021 were more than quadruple those at the beginning of 2016. Asian and European steel prices also posted multiyear highs. Other factors that contributed to the price increases included supply chain disruptions and constraints (notably in shipping containers as well as energy

supplies) and speculation about possible reductions in China's steel output.[236] Global steel prices have trended downward since late 2021, but the divergence between U.S. steel prices and those in other regions has lingered.[237]

Figure 4.5 U.S. and world prices of hot-rolled steel coil, by month and year, January 2016–December 2021

In dollars per metric ton (mt). Underlying data for this figure can be found in appendix E, table E.17.



Source: USDOC, "Steel Executive Summary" August 2022, 4. https://www.trade.gov/data-visualization/us-steel-executive-summary.

Consumption and Downstream Industries

Steel is a major component of many consumer and industrial products, including vehicles, farm machinery, and appliances, as well as in commercial and residential construction.[238] Industry observers noted that "demand for steel is highly cyclical, coming overwhelmingly from interest rate-sensitive sectors, such as construction and automotive manufacturing."[239] Apparent consumption of domestic finished steel mill products (calculated as production plus imports minus exports) was 97.1 mmt in 2021, up 21.4 percent from 2020—when the COVID-19 pandemic led to temporary shutdowns of auto plants—but well below the peak of 107 mmt in 2014 and 99.8 mmt in 2018 (figure 4.5).[240] The two largest end markets for steel in 2021—construction and automotive—accounted for 47 percent and 25

[236] EIU, *Commodity Forecast: Steel*, September 1, 2022, 8.
[237] EIU, *Commodity Forecast: Steel*, September 1, 2022, 8. Many participants at the Commission's hearing mentioned that section 232 and 301 duties contributed to U.S. steel prices remaining higher than prices in other regions. For example, see USITC, hearing transcript, July 20, 2022, 135–36 (testimony Scott Buehrer, B. Walter & Company).
[238] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022, 1.
[239] CRS, *Domestic Steel Manufacturing: Overview and Prospects*, May 17, 2022, 1.
[240] World Steel Association, "Steel Statistical Yearbook 2021," December 14, 2021, 82; World Steel Association, "World Steel in Figures 2022," 2022.

percent of consumption, respectively. They were followed by machinery and equipment, 9 percent; appliances and energy, 5 percent each; and other applications, 9 percent.[241]

Construction: Construction represents the largest market for steel products, and this segment was expected to generate 40 percent of sector revenue in 2022. Steel is widely used in nonresidential buildings, and as companies increase investment in this sector, demand and revenue generated from such products is expected to increase.[242] The state of the construction industry is often tied to the broader economic environment, and this can lead to volatility in this sector as evidenced by the steep decline in new construction during most of 2020 owing to the COVID-19 pandemic.[243] Overall, construction spending has trended upward in recent years as nonresidential construction activity in particular picked up, helping boost steel demand from this segment.[244] According to hearing testimony from one industry representative, section 232 tariffs have increased demand for domestically produced steel in industries that had previously relied on imports. They explained that, because the construction sector often is required to purchase American-made steel in order to be in compliance with domestic content laws, the increased demand for domestically produced steel from other sectors has negatively impacted supply of steel to the construction sector, resulting in delays in major infrastructure projects.[245]

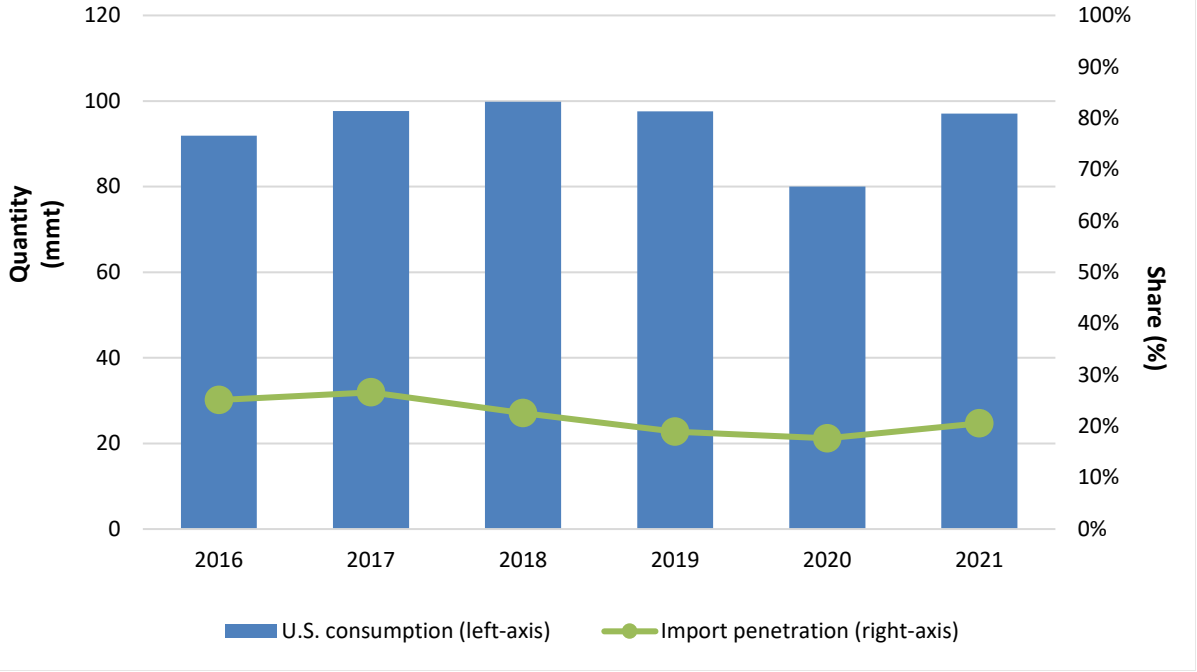
Automotive: Automotive manufacturing is the second-largest steel consumer, accounting for 25 percent of sector revenue in 2022.[246] Similar to the construction industry, demand from this segment has been volatile as a result of the COVID-19 pandemic, as auto sales are closely tied to the overall economic environment. This segment has declined as a share of steel revenue during the past five years, especially as manufacturers of new vehicles substitute aluminum for steel in an attempt to reduce vehicle weight in order to meet new fuel efficiency standards, while also facing supply chain issues and semiconductor chip shortages.[247] According to several industry representatives who participated in the hearing, section 232 tariffs on steel have led to decreased supplies of automotive steel products and increased input costs for automotive manufacturers. They also recount that, in some cases, limited availability of steel inputs has created longer lead times for automotive manufacturers.[248]

Import penetration (the ratio of imports to apparent consumption) in the U.S. steel market has generally trended downward since 2017, coinciding with the increases in capacity utilization and declines in U.S. imports (figure 4.6). Import penetration levels following the imposition of section 232 tariffs in 2018 were generally lower than they had been before tariffs were imposed.

[241] USGS, *Mineral Commodity Summaries 2022: Iron and Steel*, January 2022.
[242] Statista, Year-on-year growth forecast of nonresidential building spending in the United States from 2023 to 2024, by type of building, February 7, 2023..
[243] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022, 19.
[244] Census, Annual Rate for Total Construction Spending, 2016–21, Seasonally Adjusted, accessed September 30, 2022; IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022, 19.
[245] USITC, hearing transcript, July 20, 2022, 190–194 (testimony of Steve Hawkins, American Concrete Pipe Association).
[246] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022, 19.
[247] IBISWorld, *Iron and Steel Manufacturing in the US*, February 2022, 19.
[248] USITC hearing transcript, July 20, 2022, 96–97, 110–111, 124 (testimonies of David Klotz, Precision Metalforming Association, Mark Vaughn, Vaughn Manufacturing, and Dan Walker, Industrial Fasteners Institute).

Figure 4.6 U.S. apparent consumption and import penetration of finished steel mill products, by year, 2016–21

In million metric tons (mmt) and percentages. Underlying data for this figure can be found in appendix E, table E.18.



Source: World Steel Association, "World Steel in Figures 2022," 2022; USITC DataWeb/Census, accessed August 16, 2022.

The recent changes in production and import penetration are also likely to have positive impacts on domestic demand for upstream materials used to make steel mill products, but the extent of that impact is unclear owing to the U.S. steel industry's shift in production technology. The primary raw materials used in the production of steel are iron ore in the case of integrated steel mills, and steel scrap in the case of minimills, which are refined into crude steel.[249] In the United States, both iron ore and steel scrap are typically mined or processed by the steel producers themselves, so they are easily able to translate increased demand for steel into increased production of upstream inputs. Domestic iron ore production was estimated to be 47.5 mmt in 2021, a slight decrease from 47.9 mmt in 2017.[250] In 2021, however, significant increases were reported in domestic iron ore production and shipments compared with 2020, when production was lower than normal because of the COVID-19 pandemic. Despite an increase between 2020 and 2021, overall domestic iron ore production has trended downward since 2018 because more domestic steel is produced in minimills, which primarily use scrap as feed, instead of integrated mills, which process iron ore to make steel.[251] While the direct impact of section 232 tariffs on upstream production is not clear, at the Commission's hearing a leading steel producer stated that section 232 tariffs combined with AD/CVD orders and decarbonization initiatives had incentivized the

[249] USGS, *Minerals Yearbook 2018: Iron and Steel [Advance Release]*, October 2021, 37.1.
[250] USGS, *Minerals Industry Survey December 2021: Iron Ore*, March 2022.
[251] USGS, *Mineral Commodity Summaries 2022: Iron Ore, January 2022*.

firm to invest over $1 billion to build new capacity and upgrade facilities that produce upstream steel products.[252]

Aluminum

Background

Aluminum, known for its light weight, high strength, and recyclability, is the world's second most consumed metal, after steel. It is used in numerous applications across several sectors.[253] The aluminum industry is divided into three segments: primary unwrought, secondary unwrought, and wrought products. Primary unwrought aluminum is produced by mining and refining bauxite ore and smelting aluminum oxide (alumina). Secondary unwrought aluminum is produced by recycling and remelting aluminum scrap. Output of primary and secondary unwrought production is principally semifinished forms, such as ingot, billet, and slab. These semifinished forms of unwrought aluminum—whether of primary or secondary origin—are converted into wrought aluminum products via mechanical processes, including rolling, drawing, extruding, and forging. The wrought aluminum segment includes several products such as aluminum bars, rods, and profiles; plate, sheet, and strip; foil; aluminum wire; pipes and tubes; and castings and forgings.[254]

The global aluminum industry is largely divided into two groups of countries—countries with a competitive advantage in primary unwrought production—largely due to low-cost electricity sources—and countries with a longstanding competitive advantage in secondary unwrought and wrought production.[255] With approximately 93.3 percent of its total aluminum production belonging to the secondary and wrought segments in 2021, the United States belongs to the latter group.[256] Although global production statistics on these segments are not publicly available, the Commission's 2017 study on *Aluminum: Competitive Conditions Affecting the U.S. Industry* found that the United States was the world's largest secondary unwrought producer and second-largest producer of wrought aluminum.[257] The United States accounted for only 1.3 percent of global primary unwrought production in 2021.[258]

Many countries have expanded primary aluminum production in recent years, leading to overall growth in global production, but the United States has seen a contraction in this segment.[259] The USDOC found that this decline in domestic production of aluminum had occurred despite growing demand.[260] According to one domestic producer, 18 of the 23 U.S. primary aluminum smelters closed between 2000

[252] USITC hearing transcript, July 21, 2022, 406–7 (testimony of Patrick Bloom, Cleveland-Cliffs, Inc.).
[253] See "Consumption" section for more details on aluminum applications.
[254] USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 49–50.
[255] USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 65.
[256] Primary and secondary production statistics provided by the Aluminum Association. Wrought production data provided by Refinitiv World Bureau of Metal Statistics, 2022 Yearbook. Note that wrought production may be underreported because it does not include aluminum castings.
[257] USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 72–73.
[258] USGS, *Mineral Commodity Summaries 2022: Aluminum*, January 2022.
[259] From 2001 to 2015, global primary aluminum production increased by 137 percent and U.S. production fell by 40 percent. USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 67.
[260] USDOC, BIS, *The Effect of Imports of Aluminum on the National Security*, January 17, 2018, 2–3.

and 2017.[261] Furthermore, between 2011 and 2017, annual U.S. primary unwrought aluminum production fell from nearly 2 million metric tons to 741,000 metric tons.[262] Although it has increased somewhat since the imposition of tariffs under sections 232 and 301, domestic primary production is still less than half of what it was a decade ago. Meanwhile, secondary unwrought and wrought production have grown steadily over the past decade.[263]

As reviewed in more detail in chapter 3, section 232 tariffs cover nearly all aluminum products, including unwrought aluminum (whether primary or secondary) and all the major wrought aluminum products. Section 232 tariffs on imports of these products went into effect on March 23, 2018.[264] Beginning on January 24, 2020, these tariffs also applied to several "derivative aluminum articles," which include stranded wire, cables, plaited bands and similar articles of aluminum, motor vehicle bumper stampings of aluminum, and aluminum body stampings for tractors.[265] Section 301 tariffs apply to all the aforementioned products, as well as aluminum waste and scrap (inputs in the production of secondary aluminum) and aluminum flakes and powders.[266] Nearly all section 301 tariffs on aluminum products were included in either tranche 3, which went into effect on September 24, 2018, or tranche 4, list 1, effective September 1, 2019.[267] In addition, many downstream products produced from aluminum are subject to section 301 tariffs.[268]

U.S. aluminum industry representatives have generally expressed support for tariffs under sections 232 and 301, which they say have had positive impacts when imposed in conjunction with AD/CVD orders.[269] However, the level of support varies between unwrought primary producers, who reportedly have seen larger benefits from the price increases associated with the tariffs, and wrought and secondary producers, who often see higher input costs.[270] In general, although the U.S. aluminum industry claims that section 301 tariffs have had a smaller impact than section 232 tariffs, section 301 tariffs appear to have gained more support in the aluminum industry. This is likely because the aluminum industry is globally integrated and many U.S. companies have plants in other countries (outside of China) that are

[261] USITC, hearing transcript, July 20, 2022, 10 (testimony of Matt Aboud, Century Aluminum).
[262] USGS, *Mineral Commodity Summaries 2016–22: Aluminum*.
[263] For years 2011–15, see USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 151–52. For 2016–21, see table 4.5.
[264] 83 Fed. Reg. 11619, March 15, 2018.
[265] 85 Fed. Reg. 5281, January 29, 2020.
[266] Aluminum flakes and powders are used in a variety of applications from makeup to fireworks.
[267] HTS subheading 7614.90.20 (covering certain derivative aluminum products) was included in tranche 2, which became effective on August 23, 2018. All other subheadings within the derivative aluminum articles category are included in tranche 3. HTS subheading 7616.99.51 (covering certain wrought aluminum products, including castings and forgings) was also included in tranche 3. All other subheadings covering wrought aluminum products and unwrought aluminum were included in tranche 4, list 1.
[268] For more information on section 301 tariff coverage, see chapter 3.
[269] See USITC, hearing transcript, July 20, 2022, panel 1 testimonies; industry representatives, interviews by USITC staff, June 15, 2022, and October 6, 2022.
[270] See USITC hearing transcript, July 20, 2022, panel 1 testimonies; industry representatives, interviews by USITC staff, October 6, 2022.

subject to section 232 tariffs.[271] In addition, industry representatives have stated that uncertainty regarding the longevity of tariff actions under sections 232 and 301 has made it difficult to increase investment in response to these actions.[272] Some have also noted that unilateral trade actions in general are not sufficient in addressing global overcapacity and unfair market practices coming from China.[273] Moreover, industry representatives cite the numerous product exclusions, which they claim allow some foreign imports to enter at a lower price than domestic like products.[274]

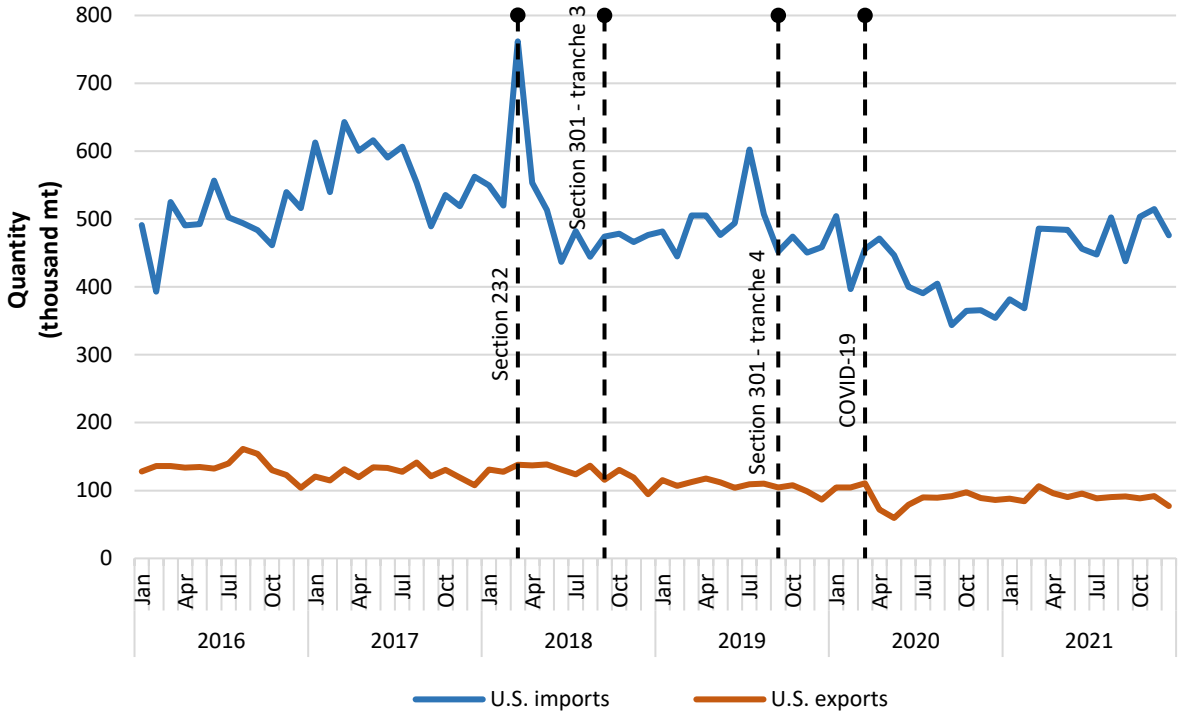
Trade

The United States was the world's largest aluminum importer in 2021, with the vast majority of its imports being unwrought aluminum. It was also the seventh-largest global exporter. Wrought aluminum accounted for 87.8 percent of aluminum exports in 2021.[275] In general, aluminum imports and exports have both decreased since the imposition of the tariffs. Imports have been a bit more volatile; exports have seen a steadier, but much smaller, decrease (figure 4.7).

[271] Industry representatives, interview by USITC staff, October 6, 2022. Industry representatives also note that section 301 tariffs target the main source of global overcapacity, China, and encourage China to address the unfair subsidies which have led to this overcapacity issue. Industry representatives, interview by USITC staff, June 15 and October 6, 2022. See also USITC, hearing transcript, July 20, 2022, 17 (testimony of Charles Johnson, Aluminum Association).
[272] USITC, hearing transcript, July 20, 2022, 88–89 (testimony of Matt Aboud, Century Aluminum); industry representatives, interviews by USITC staff, July 11, 2022, and October 6, 2022.
[273] Industry representatives, interview by USITC, June 15, July 11, and October 6, 2022. See also USITC, hearing transcript, July 20, 2022, 22 (testimony of Buddy Stemple, Aluminum Association).
[274] Industry representatives, interviews by USITC staff, October 6, 2022.
[275] USITC, DataWeb/Census, accessed September 20, 2022. Export share does not include aluminum scrap and waste, which accounts for the largest share of all aluminum-based exports.

Figure 4.7 U.S. aluminum imports and exports, by month and year, 2016–21

In thousand metric tons. Underlying data for this figure can be found in appendix E, table E.19.



Source: USITC DataWeb/Census, HTS headings 7601, 7604, 7605, 7606, 7607, 7608, 7609, and HTS statistical reporting numbers 7616.99.5160 and 7616.99.5170, accessed September 20, 2022.
Note: This figure does not include derivative aluminum articles.

In March 2018, imports spiked by approximately 46.6 percent, compared to the month before.[276] According to one news source, this spike was due to consumers making larger purchases to avoid the extra cost of the impending section 232 tariffs.[277] Imports fell sharply for the three months following the imposition of the tariffs, before beginning to level out in July 2018. Another spike in imports occurred in July 2019, coinciding with reinstated section 232 exemptions for the largest import suppliers of aluminum: Canada and Mexico. Subsequently, imports declined through February 2021, before increasing again as demand grew following the COVID-19 pandemic recovery.[278]

[276] USITC, DataWeb/Census, accessed September 20, 2022.
[277] Long, "Foreign Suppliers are Flooding the U.S. Market," March 1, 2018.
[278] USITC, *Trade Shifts 2021: The 2021 Commodity Price Surge*, June 2022.

Table 4.3 Quantity of U.S. imports for consumption of aluminum, by product type and year, 2016–21
In thousand metric tons (mt) and number of items in thousands (no.).

Category	2016	2017	2018	2019	2020	2021
Unwrought aluminum (mt)	4,267.4	4,876.9	4,180.0	3,801.6	3,279.6	3,648.9
Wrought aluminum (mt)	1,679.1	1,991.4	1,976.3	2,050.7	1,618.9	1,895.3
Derivate aluminum articles (mt)	8.1	6.7	9.4	15.2	13.3	25.6
Derivate aluminum articles (no.)	14,701.0	11,715.1	13,378.8	12,150.8	8,088.2	8,856.0
All aluminum (mt)	5,954.6	6,875.0	6,165.7	5,867.5	4,911.8	5,569.7

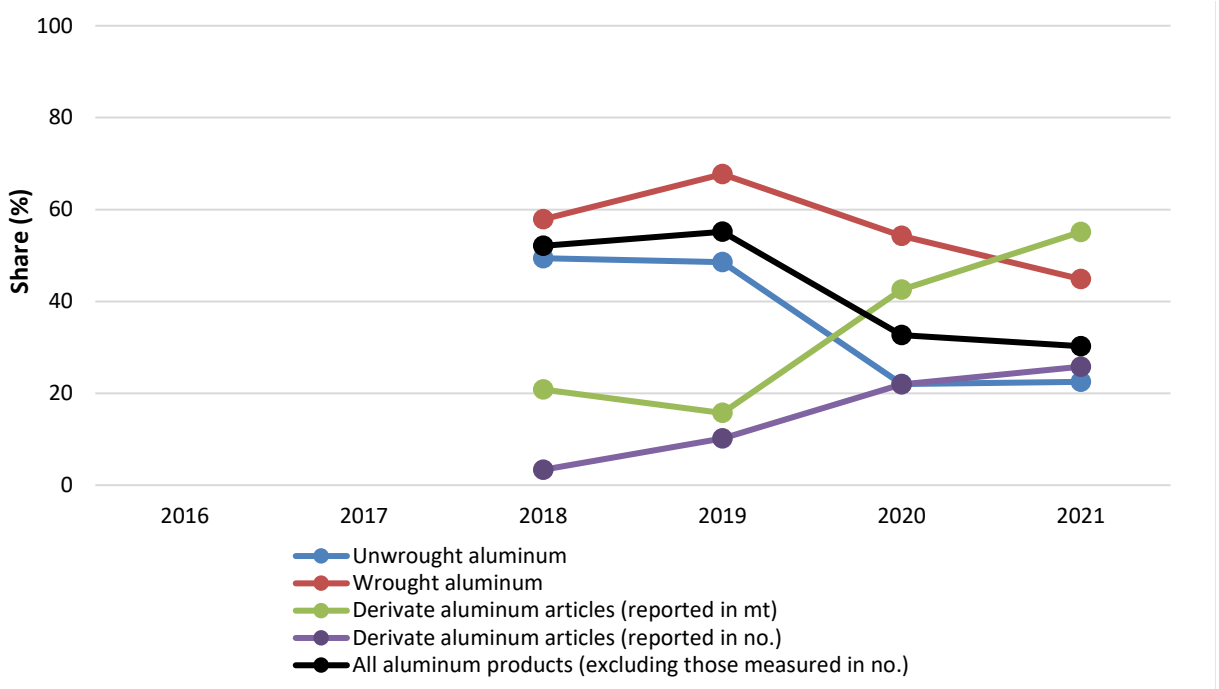
Source: USITC DataWeb/Census, accessed September 9, 2022.
Notes: Unwrought aluminum is composed of imports under HTS heading 7601. Wrought aluminum is composed of imports under HTS headings 7604, 7605, 7606, 7607, 7608, 7609, and HTS statistical reporting numbers 7616.99.5160 and 7616.99.5170. Derivative aluminum articles are composed of imports under HTS subheadings 7614.10.50, 7614.90.20, 7614.90.40, and 7614.90.50 and statistical reporting numbers 8708.10.3030 and 8708.29.2130. Imports under HTS statistical reporting numbers 8708.10.3030 and 8708.29.2130 are recorded in number of items rather than metric tons.

Import volumes for nearly all aluminum segments (with the exception of derivative aluminum articles) fell since section 232 tariffs went into effect (table 4.3). Figure 4.8 shows that, overall, less than 60.0 percent of aluminum imports were subject to tariffs under sections 232 or 301 since 2018, and the share of imports subject to the tariffs within each segment, other than derivative aluminum articles, has also decreased.[279] The same pattern can be observed in import values. Although section 232 covers nearly all aluminum products, major sources of imported aluminum such as Canada, Mexico, and EU countries have been either exempted completely or subject to quotas, and these exemptions have grown over time.[280] Product exclusions also account for some of the decreasing tariff coverage in many cases, but the largest share of the decrease in coverage is due to country exemptions. In addition, because of the prevalence of contracts and purchase orders that fix sourcing decisions in the short term, domestic purchasers were more likely able to shift sourcing to exempted countries in later years. For example, Canada, which became exempt from section 232 tariffs in May 2019, accounted for 69.7 percent of U.S. imports of unwrought aluminum in 2021. The same pattern can be observed for wrought products where Canada and Mexico (which also became exempt in May 2019) are among the top five import sources for several wrought products such as bars, rods, and profiles and pipe, tube, and fittings. Argentina, which is exempt from the tariffs but subject to quotas, is also a top source of wire imports.[281]

[279] Imports of derivative aluminum articles do not follow the same trend as other aluminum imports. Section 232 tariffs on these articles did not go into effect until nearly two years later, in February 2020. As of yet, no mechanism exists to apply for tariff exclusions for imports of derivative aluminum articles.

Figure 4.8 Share of the quantity of U.S. aluminum imports subject to tariffs under sections 232 and 301, by product type and year, 2016–21

In percentages. mt = measured in metric tons; no. = measured in number of items. Underlying data for this figure can be found in appendix E, tables E.20 through E.24.



Source: USITC DataWeb/Census, accessed August 16, 2022.

Production

As discussed above, in the United States, wrought production is the largest of the three production segments, followed by secondary unwrought production. Many producing firms make up both wrought and secondary unwrought domestic production. Primary unwrought production, the smallest segment, comprises only three producers who operated six smelters in 2021.[282]

Table 4.4 U.S. aluminum production by segment, by year, 2016–21

Production in thousand metric tons.

Type	2016	2017	2018	2019	2020	2021
Primary unwrought production	818	741	897	1,126	1,027	908
Secondary unwrought production	4,244	4,464	4,298	4,535	4,715	4,976
Total unwrought production	5,062	5,205	5,195	5,661	5,742	5,884
Wrought production	8,022	7,792	8,888	8,799	7,896	8,995

Source: The Aluminum Association, email message to USITC staff, November 2, 2022; Refinitiv World Bureau of Metal Statistics, 2022 Yearbook, 2022.

Note: Wrought production may be underreported as it does not include aluminum castings.

[282] USGS, *Mineral Commodity Summaries 2022: Aluminum*, January 2022.

Primary Unwrought Production

Primary unwrought aluminum production is capital intensive, with high fixed costs and continuous production cycles, i.e., 24 hours a day, 7 days a week. As a result, during periods of weak demand or low aluminum prices, firms may select individual production lines (potlines) to either operate at near capacity or shut down completely, rather than run them at reduced capacity. Primary unwrought production is also energy intensive and, therefore, highly reliant on affordable electricity.[283]

Table 4.5 U.S. aluminum primary production, smelter capacity and capacity utilization, by year, 2016–21

Production and year-end capacity in thousand metric tons. Capacity utilization in percentages.

Type	2016	2017	2018	2019	2020	2021
Primary unwrought production	818	741	897	1,126	1,027	908
Primary smelter year-end capacity	2,000	1,830	1,790	1,790	1,790	1,640
Smelter capacity utilization (%)	40.9	40.5	50.1	62.9	57.4	55.4

Source: The Aluminum Association, email message to USITC staff, November 2, 2022; USGS Mineral Commodity Summaries, 2016–22.
Note: Smelter capacity utilization calculated as primary unwrought production divided by primary smelter year-end capacity. This may be slightly overreported or underreported depending on capacity changes throughout the year.

Primary unwrought production and smelter capacity utilization began increasing in 2018, when section 232 tariffs went into effect (table 4.5). Century Aluminum, a primary unwrought producer, claims it invested more than $160 million to restart several idled production lines at both its smelters in Mount Holly, South Carolina, and Hawesville, Kentucky, and expanded billet production at a third smelter right after the tariffs were imposed.[284] That same year, Alcoa also ramped up production to reach full capacity at its smelter in Evansville, Indiana, and Magnitude 7 Metals restarted 100,000 metric tons per year of capacity at its smelter in New Madrid, Missouri. However, overall U.S. capacity decreased in 2018 as a result of the permanent shutdown of 38,000 metric tons per year of capacity at Alcoa's smelter in Wenatchee, Washington.[285]

Production and capacity utilization growth continued into 2019; that same year, in September, additional section 301 tariffs were imposed on unwrought imports. Production fell incrementally in 2020, coinciding with reduced demand during the initial COVID-19 outbreak,[286] and then decreased again—more significantly—in 2021. According to industry representatives, despite rising demand and prices for unwrought aluminum in 2021, U.S. primary aluminum producers also faced high energy costs, which likely led to decreased production.[287] This issue has continued to impact domestic production in 2022, with Century Aluminum announcing in July that it would temporarily idle its smelter in Hawesville, Kentucky, because of "soaring energy prices."[288]

[283] USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 54–55.
[284] USITC, hearing transcript, July 20, 2022, 11 (testimony of Matt Aboud, Century Aluminum).
[285] USGS, *2018 Minerals Yearbook: Aluminum*, August 2021, 5.3.
[286] USGS, *Mineral Commodity Summaries 2021: Aluminum*, January 2021. It is possible that Canada's reinstated exemption from the tariffs in mid-2019 also led to decreased demand for domestically produced aluminum in 2020.
[287] Industry representative, email message to USITC staff, September 15, 2022. See also, USITC, hearing transcript, July 20, 2022, 55 (testimony of Jeffrey Henderson, Aluminum Extruders Council).
[288] Century Aluminum, "Century Aluminum to Temporarily Idle Hawesville Smelter," June 22, 2022. See also, USITC, hearing transcript, July 20, 2022, 12 (testimony of Matt Aboud, Century Aluminum).

Secondary Unwrought Production

Secondary unwrought production is far less capital and energy intensive and has lower fixed costs than primary production. Competitiveness in the secondary aluminum segment is reliant on access to cheap and reliable scrap supplies.[289]

Secondary unwrought production, which was increasing before the tariffs, saw decreased production in 2018 followed by three consecutive years of increasing production from 2019 through 2021 (table 4.4). According to industry representatives, demand for secondary aluminum is growing rapidly because of a rising consumer interest in "greener" products and recycled content. Secondary production is cheaper and also helps firms meet commitments to reduce their carbon footprints.[290] In addition, original equipment manufacturers (OEMS) and other consumers of aluminum are interested in closed-loop production systems in which their scrap can be sold back to the aluminum firms they purchase from.[291] In October 2019, Novelis broke ground in Greensboro, Georgia, for a $36 million expansion of its recycling plant to meet this increased demand.[292] Additional investments in secondary production are expected to come online in 2023 and 2024.[293]

Wrought Production

Wrought aluminum includes a wide variety of products, some of which compete according to quality or performance differentiations while others are more standardized and compete largely on price. In general, wrought production is less capital intensive and has lower fixed costs than primary production. However, costs are highly dependent on the cost and availability of unwrought aluminum inputs. Proximity to end users and the ability to produce high-value-added and differentiated products are also major factors of competitiveness for domestic wrought producers.[294]

Domestic wrought production saw a 14.1 percent increase between 2017 and 2018, and, aside from a dip in 2020, production has remained fairly level (table 4.4). Wrought producers note that, although section 232 tariffs have been beneficial, they have had limited impacts on production, which is mainly driven by demand trends in downstream consuming industries. In addition, these producers claim that the various exclusions on imports of wrought aluminum have made similar domestic products less competitive.[295] However, as noted in the sections below, significant investments in new production capacity for wrought product indicate U.S. production will likely increase in the coming years.

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[289] USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 53.
[290] Industry representatives, interviews with USITC staff, June 15 and October 6, 2022, and email message to USITC staff, October 24, 2022. See also, USITC, hearing transcript, July 20, 2022, 90 (testimony of Charles Johnson, Aluminum Association).
[291] Industry representatives, interview with USITC staff, October 6, 2022.
[292] Novelis, "Novelis Invests $36 Million to Expand, Upgrade Aluminum Recycling Capabilities," October 30, 2019.
[293] Hydro Aluminium, "Hydro on Track to Build New State-of-the-Art Recycling Plant," November 18, 2021; Gränges, "Gränges to Enable Near-Zero Aluminium Solutions by USD 52 Million Investment in Expanded Recycling and Casting Centre," April 13, 2022.
[294] USITC, *Aluminum: Competitive Conditions Affecting the U.S. Industry*, June 2017, 55, 105–7.
[295] Because wrought imports do not include the Midwest premium in their prices, they see a significant price advantage over domestic products when excluded from the additional tariffs. Industry representatives, interview by USITC staff, October 6, 2022. See Prices section on the following page for additional details.

Additional Restarts and Investments

According to industry representatives, restarting capacity or investing in new capacity requires a sustained period of improved market conditions and stability. Therefore, it is often a lengthy process in which increased production may not be seen for several years. In addition, industry representatives claim that uncertainty about how long section 232 tariffs would remain in effect contributed to slower response times in terms of investing and increasing capacity.[296] Numerous capacity investments have been made or announced since the imposition of the tariffs and are expected to come online in the near future.

According to the Aluminum Association, its members have announced approximately $5.2 billion worth of domestic investments since 2018, including $3.5 billion between August 2021 and August 2022. The association claims that this $3.5 billion amount is greater than total investments over the prior 10 years.[297] Although many of these investments focus on expanding capacity in the secondary unwrought and wrought segments, the primary segment has seen small developments as well. For example, a coalition of environmental groups and labor unions, backed by Blue Wolf Capital Partners, has been in negotiations to reopen Intalco Works (Ferndale, Washington), a primary smelter formerly owned by Alcoa. The smelter would focus on producing low carbon-emission aluminum.[298] In addition, the domestic aluminum industry is also investing in research and development for lower carbon-emitting production processes and in expanded recycling capacity.[299]

Prices

Unwrought aluminum pricing is typically based on trading prices at the London Metal Exchange (LME), a metal futures trading market. The LME price acts as a global reference price, but major consuming regions also often have regional premiums that are added on top of the LME price. One example of this is the Midwest Premium, which serves as the benchmark price for unwrought aluminum in the Midwest United States. U.S. purchasers of both domestic and imported unwrought aluminum pay the Midwest premium. Therefore, a higher Midwest premium benefits domestic unwrought producers because it allows them to charge a higher price for their products without increasing the competitiveness of imports.

Wrought products have a slightly different price structure. They include a conversion premium, which accounts for producers' costs to convert the unwrought aluminum into a wrought product. Prices for domestically produced wrought products include the Midwest premium, while wrought imports do not include the Midwest premium. Thus, when the Midwest premium for unwrought aluminum is far above the global LME price, domestic wrought production incurs higher input costs. According to industry analysts, the additional tariffs on imported wrought products do not fully offset the higher domestic

[296] USITC, hearing transcript, July 20, 2022, 12, 88–89 (testimony of Matt Aboud, Century Aluminum); industry representative, interview by USITC staff, July 11, 2022.
[297] Aluminum Association, written submission to the USITC, August 12, 2022, 2–3.
[298] Bernton, "Will Federal Climate Legislation Help Reopen a WA Aluminum Plant?," August 17, 2022.
[299] Aluminum Association, written submission to the USITC, August 12, 2022, 2–3.

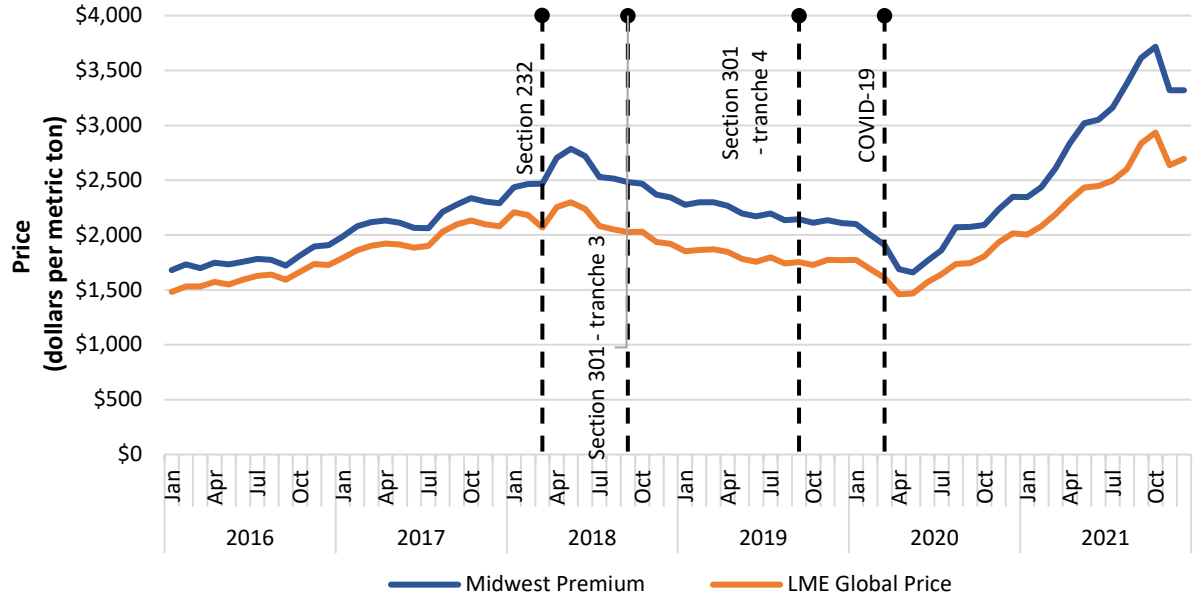
prices. The price difference is even greater for products that have been granted an exclusion from the additional tariffs.[300]

Aluminum prices spiked to a seven-year high in May 2018, shortly after the imposition of section 232 tariffs. This spike also coincided with U.S. sanctions on Rusal, one of the world's largest aluminum producers, which were announced in April 2018.[301] Between June 2018 and December 2019, prices fell steadily, then decreased more sharply in 2020 as COVID-19 pandemic-related shutdowns and production curtailments began to occur in China and later in the rest of the world.[302] Prices began increasing again in June 2020 and reached a 13-year high in October 2021.[303] The effects of the COVID-19 pandemic (and related supply disruptions and demand recovery), along with the global spike in energy prices, were significant factors affecting prices in the aluminum industry, challenging efforts to pinpoint the effects of the additional tariffs during this period. However, as seen in figure 4.9, the gap between U.S. prices and global prices widened following the implementation of the additional tariffs and remained that way through most of the period.

[300] Industry representatives, interview with USITC staff, October 6, 2022.
[301] Imbert, "Aluminum Prices Surge to Highest Level Since 2011," April 16, 2018. Rusal was placed on the Specially Designated Nationals and Blocked Persons List pursuant to Executive Orders 13661 and 13662 for being owned or controlled by EN+ GROUP PLC, which was determined to be subject to Executive Orders 13661 and 13662. These orders placed sanctions on persons or entities contributing to the situation in Ukraine. 83 Fed. Reg. 19138 (May 1, 2018); Exec. Order No. 13661, 79 Fed. Reg. 15533 (March 19, 2014); Exec. Order No. 13662, 79 Fed. Reg. 16167 (March 24, 2014).
[302] According to news sources, the steady fall in prices through 2019 is largely attributed to a global economic slowdown causing weakened demand and expectations that supply from China would continue growing. Trefis, "Aluminum Prices: 15-Year Price Analysis," accessed September 27, 2022; AlCircle, "Recap 2019: Slow Demand and Price Downtrend Crippled Primary Aluminium Sector," December 18, 2019.
[303] Fastmarkets, Aluminum P1020A all-in price, delivered Midwest US, US cents/lb, accessed July 27, 2022; World Bank, Commodity Price Data (The Pink Sheet), accessed July 27, 2022.

Figure 4.9 Average monthly U.S. and global prices for primary unwrought aluminum, by year and month, 2016–21

In U.S. dollars per metric ton. Underlying data for this figure can be found in appendix E, table E.25.



Source: Fastmarkets, Aluminum P1020A all-in price, delivered Midwest US, US cents/lb, accessed July 27, 2022; World Bank, Commodity Price Data (The Pink Sheet), accessed July 27, 2022.

Consumption and Downstream Industries

Although aluminum is used in a wide variety of industries and applications, the transportation, construction, and packaging sectors accounted for the largest share of domestic aluminum consumption during 2016–21.[304] Other major consuming industries included electrical, consumer durables, and machinery.[305] Some industries do not consume a significant share of aluminum by volume, but aluminum makes up a large share of their production costs. These industries include soft drink and ice manufacturing, for which aluminum accounts for 18.4 percent of the cost of production; metal can, box, and other metal container (light gauge) manufacturing (46.5 percent); and household nonupholstered furniture (14.3 percent).[306] The section below describes some of the largest aluminum-consuming industries and factors affecting demand for aluminum in these industries in recent years. As demonstrated in chapter 5, these downstream consuming industries are also likely to be impacted by additional tariffs on steel and aluminum.

[304] USGS, *Mineral Commodity Summaries 2022: Aluminum*, January 2022. According to hearing testimony from one industry representative, all three of these sectors have historically been predominantly served by the U.S. market and have been increasing demand for domestically produced aluminum in recent years. USITC hearing transcript, July 20, 2022, 44,77 (testimony of Charles Johnson, Aluminum Association).
[305] USGS, *Mineral Commodity Summaries 2017–22: Aluminum*.
[306] USITC calculations using the Bureau of Economic Analysis' (BEA's) 2012 Use Table and 2012 Import Matrix. For more information, see chapter 5.

Transportation: Transportation accounted for 35 percent of domestic aluminum consumption in 2021.[307] Aluminum is used in several transportation applications, including truck and vehicle bodies, engines, wiring, aerospace bodies and parts, and railway freight cars. In recent years, demand for aluminum in the transportation industry has increased, particularly in vehicles, because it serves as a lightweight alternative to steel. The lighter weight allows for several performance improvements, including improved fuel economy (or longer range for electric cars) and lower emissions.[308] The share of aluminum inputs in motor vehicles has increased; however, overall domestic motor vehicle production has decreased since 2018 and declined significantly in 2020 because of pandemic-related closures.[309] According to one industry representative, shipments from wrought aluminum producers to auto producers saw a large decrease in mid-2020 as a result of these closures.[310]

Representatives from the transportation sector have had mixed opinions on the impacts of additional tariffs on aluminum. Boeing suggested that despite the high value and volume of aluminum inputs in aircrafts, the tariffs would have "little to no discernable effect on major suppliers".[311] According to the Motor & Equipment Manufacturer's Association, the removal of tariffs and the imposition of tariff-rate quotas on imports from EU countries, the UK, and Japan under Section 232 have been beneficial to the automotive industry in recent years.[312]

Construction: Aluminum's high strength-to-weight ratio, airtightness, and durability are among the characteristics that make it suitable for a variety of construction applications, including architectural and window frames, doors, siding, air conditioning systems, and solar protection. During 2016–21, annual construction spending increased by 32.9 percent, likely increasing demand for aluminum from this sector.[313] One industry representative claimed that, although some commercial construction projects stopped in early 2020 because of COVID-19 pandemic, the pandemic actually boosted aluminum demand in the construction sector as a result of growth in housing market demand and an increase in home renovations.[314]

Packaging: Aluminum's physical and chemical properties allow it to maintain food temperatures and protect food from light, liquid, and bacteria. In addition, aluminum beverage containers are lower carbon-emitting than glass beverage containers and are more recyclable than plastic beverage containers. Rising consumer interest in "greener" packaging in recent years—as well as the growing popularity of craft beers, hard seltzers, and other beverages increasingly being offered in cans—has significantly increased demand for aluminum in the packaging industry.[315] According to one industry

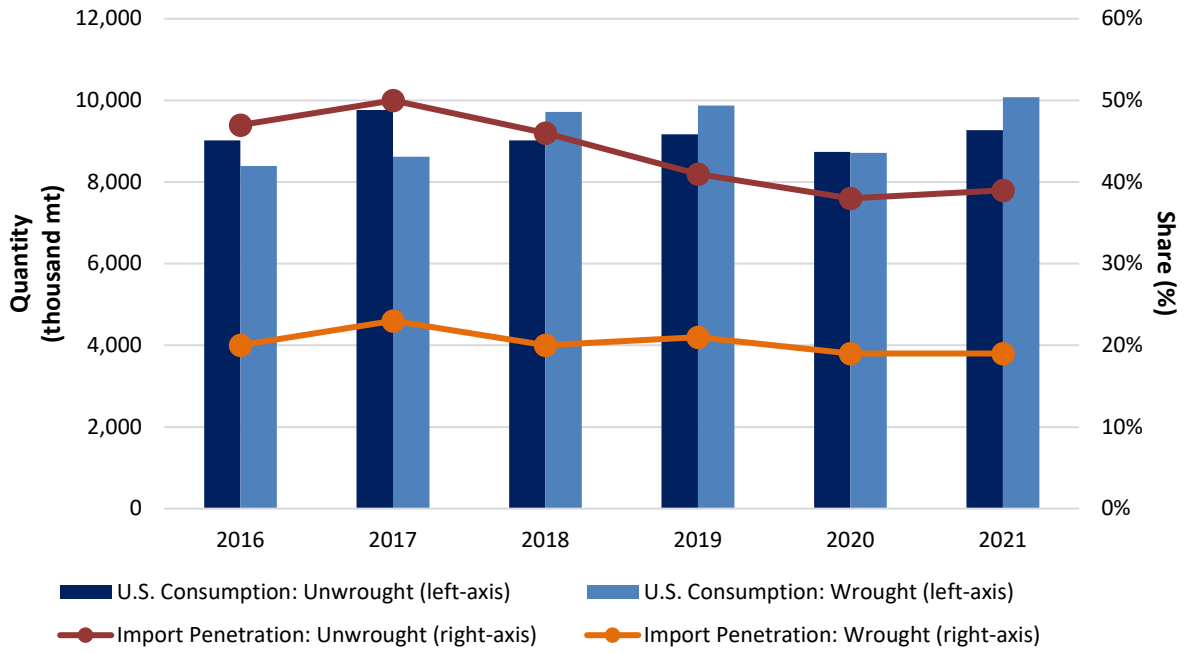
[307] USGS, *Mineral Commodity Summaries 2022: Aluminum*, January 2022.
[308] Montijo, "Aluminum in Cars," July 7, 2021.
[309] OICA, "Motor Vehicle Production Statistics," accessed November 3, 2022.
[310] Industry representative, interview with USITC staff, October 6, 2022.
[311] Leeham News, "Insignificant Impact on Boeing from Aluminum Tariff," March 2, 2018.
[312] USITC, hearing transcript, July 21, 2022, 182 (testimony of Bill Frymoyer, MEMA). While most hearing testimony from automotive representatives focused on the increasing costs of steel inputs, it is likely that the costs of some aluminum inputs have also increased. See chapter 5.
[313] Census, "Annual Rate for Total Construction Spending, 2016–21, Seasonally Adjusted," accessed September 30, 2022.
[314] Industry representative, interview with USITC staff, October 6, 2022.
[315] USITC, *Trade Shifts 2021: The 2021 Commodity Price Surge*, June 2022.

representative, section 232 tariffs have raised production costs and inhibited investment in the beer industry as a result of the high cost of aluminum packaging.[316]

Apparent U.S. consumption of aluminum has increased overall since 2017, although consumption of unwrought aluminum decreased slightly over the period. At the same time, import penetration of both wrought and unwrought aluminum has decreased compared to 2017 (figure 4.10). Supply and demand shifts in downstream consuming industries are the main reason for changes in consumption.

Figure 4.10 U.S. apparent consumption and import penetration of unwrought and wrought aluminum, by year, 2016–21

In thousand metric tons and percentages. Underlying data for this figure can be found in appendix E, table E.26.



Source: The Aluminum Association, Refinitiv World Bureau of Metal Statistics, 2022 Yearbook; USITC DataWeb/Census, accessed September 9, 2022.
Notes: Apparent consumption is calculated as production plus imports minus exports. Import penetration is calculated as imports divided by consumption. Unwrought aluminum is composed of imports and exports in HTS heading 7601. Wrought aluminum is composed of imports and exports in HTS headings 7604, 7605, 7606, 7607, 7608, 7609, and HTS statistical reporting numbers 7616.99.5160 and 7616.99.5170.

While literature and hearing testimony on section 232 tariffs tended to focus on impacts to the aluminum industry and downstream consumers, the aforementioned changes in production and import penetration are also likely to have positive impacts on domestic demand for upstream materials used to make aluminum products. However, it is difficult to discern the isolated impact of the tariffs, owing to a major shift in production technology. The major raw materials used in the production of aluminum are bauxite, which is refined into alumina to produce primary aluminum, and aluminum scrap and waste, which are used to produce secondary aluminum. The United States does not produce a significant volume of bauxite. However, domestically refined alumina accounted for approximately 43.3 percent of apparent consumption in 2021. Domestic alumina production has been declining since 2018, with one

[316] USITC, hearing transcript, July 20, 2022, 31 (testimony of Mary Jane Saunders, The Beer Institute).

refinery closing in 2020.[317] The United States is a major producer of aluminum scrap, supplying the vast majority of domestic consumption as well as significant exports.[318] In the United States, aluminum scrap is typically processed by the aluminum producers themselves, so they are easily able to translate increased demand for aluminum into increased production of upstream inputs. Although public data on domestic scrap recovery are not available, several investments have been made in expanding scrap collection and recycling since the implementation of the additional tariffs.[319] In recent years, the aluminum industry has shifted to increasing production of secondary aluminum, which is likely a major reason for increasing scrap investment and decreasing alumina production.

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[317] USGS, *Mineral Commodity Summaries 2021: Bauxite and Alumina,* January 2021; USGS, *Mineral Commodity Summaries 2022: Bauxite and Alumina,* January 2022.
[318] USGS, *Mineral Commodity Summaries 2022: Aluminum*, January 2022.
[319] Aluminum Association, written submission to the USITC, August 12, 2022, 2–3.

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Chapter 5
Economic Effects of Section 232 Tariffs on Trade, Production, and Prices in Most-Affected Industries

This chapter provides a modeling-based quantitative analysis of the economic impacts of section 232 tariffs on U.S. trade, production, and prices for the industries directly and most affected. This analysis estimates the economic effects of section 232 tariffs in place in each year modeled from 2018 to 2021.[320] To estimate the economic effects of section 232 tariffs on the U.S. steel industry, U.S. aluminum industry, and most-affected downstream industries, the analysis employs a customized partial equilibrium model of the U.S. market. The model has both primary industries and downstream industries, defined using the North American Industry Classification System (NAICS), where primary industries include the U.S. steel- and aluminum-producing industries and downstream industries include user U.S. industries whose total steel or aluminum cost shares were greater than 5 percent.

Overview of Key Findings

- The increase in tariffs on steel (25 percent) and aluminum (10 percent) imports increased the relative price of imports and led consumers of steel and aluminum to increase sourcing from domestic suppliers. This increase in demand for domestic steel and aluminum resulted in higher prices of steel and aluminum and an expansion of domestic production. However, higher prices of steel and aluminum translated into higher costs for production inputs for downstream industries.
- From 2018 to 2021, section 232 tariffs are estimated to have increased the price of domestically produced steel by about 0.7 percent, on average, and increased the quantity of steel production by about 1.9 percent. During the same time period, section 232 tariffs are estimated to have increased the price of domestically produced aluminum by 0.9 percent, on average, and increased the quantity of domestic production by about 3.6 percent. The increases in production quantity in the steel and aluminum industries translated to an increase of about $2.25 billion in 2021 for these industries combined.
- The increases in the prices of imported steel and domestically produced steel led to a weighted-average steel price increase of about 2.4 percent. The increases in the prices of imported aluminum and domestically produced aluminum led to a weighted-average aluminum price increase of about 1.6 percent.
- The economic effects on downstream industries were all negative but varied in magnitude across industries. In 2021, the top three downstream industries most negatively affected by

[320] Because of insufficient data for 2022, the analysis does not estimate the effects of the tariffs in 2022. Also, as described in chapter 1, this analysis does not directly assess the effect of import volumes being constrained by the quotas and TRQs.

section 232 steel and aluminum tariffs, in terms of percentage decline in the quantity of their downstream domestic production, were Industrial Machine Manufacturing (NAICS 3332); Cutlery and Handtool Manufacturing (NAICS 3322); and Motor Vehicle Steering, Suspension Components, and Brake Systems (NAICS 336330 and 336340).

- In terms of the decline in the absolute dollar value of their downstream domestic production, the downstream industries experienced a decline of about $3.48 billion in 2021 because of the steel and aluminum tariffs. The top three industries most negatively affected by section 232 steel and aluminum tariffs were Other General Purpose Machinery (NAICS 3339); Agricultural, Mining, and Construction Machinery Manufacturing (NAICS 3331); and Other Fabricated Metal Products (NAICS 3329).
- Additionally, the steel and aluminum tariffs on imports were estimated to have shifted some sourcing of inputs from imports to domestically produced products. The top three industries that shifted steel sourcing in 2021, by value, were Architectural and Structural Metals Manufacturing (NAICS 3323); Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331); and Other General Purpose Machinery (NAICS 3339). The top three industries that increased their domestic aluminum sourcing in 2021, by value, were Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324); Soft Drink Manufacturing (NAICS 312110); and Architectural and Structural Metals (NAICS 3323).

Description of the Analytical Approach

The steel and aluminum model developed for this analysis is a multi-industry partial equilibrium model of the U.S. market that is calibrated to available data.[321] The benefit of constructing a structural model to analyze the impacts of section 232 tariffs is that the model can isolate the effect of this policy from other market changes. In contrast, analysis of trade data alone, without the aid of a structural model, cannot distinguish the effects of section 232 tariffs from the combined effects of other industry changes, such as rising global energy costs, section 301 tariff effects, changes in AD/CVD orders, Russia's invasion of Ukraine, and the COVID-19 pandemic. A partial equilibrium framework can be customized to fit the unique details of an industry using available data and estimate the direct effects of a specific policy.

The model has two primary industries and many downstream industries. The primary industries include a detailed representation of both the U.S. steel and U.S. aluminum industries. Domestic production of steel and aluminum, along with imports, flows to a number of downstream industries that consume steel or aluminum intensively. The primary and downstream industries are linked, so a change in costs in the primary industry, such as an increase in tariffs, will affect the downstream industries as a cost of production. Downstream domestic industries use a combination of U.S. steel, imported steel, U.S. aluminum, imported aluminum, and all other production inputs. Imported steel and aluminum are disaggregated into those products that are subject to section 232 tariffs and those that are not.[322]

[321] Note that this model was developed specifically for this report and has not been used in any past Commission factfinding reports. The model has similar elements to modeling analyses in other Commission studies, but the design is specific to this analysis.

[322] As described in the data inputs section, imports that received exclusions from 232 tariffs are included in the non-subject import group. Therefore, the impact of the tariffs on production, prices, and imports factors exclusions into the analysis.

U.S. industries are included in the downstream segment of the model if their total steel or aluminum cost shares of production were higher than 5 percent in 2012,[323] indicating that the industry uses these products intensively.[324] Examples of these industries include Motor Vehicle Metal Stamping; Other Motor Vehicle Parts industries; Architectural and Structural Metals manufacturing; Spring and Wire manufacturing; and Boiler, Tank, and Shipping Container manufacturing. Some additional industries, such as Aircraft Manufacturing, had cost shares below 5 percent but were included in the model because they were identified in the hearing and through Commission research as substantial users of steel or aluminum inputs.[325] Most downstream industries are defined at the NAICS 4-digit industry group level; however, some industries are defined at the NAICS 6-digit level to capture additional detail about certain most-affected industries. Table 5.1 lists all 33 downstream industries in the model.

[323] As discussed below, 2012 data were the latest available at the time of writing.
[324] Russ and Cox, "Will Steel Tariffs Put U.S. Jobs at Risk?," February 26, 2018.
[325] USITC, hearing transcript, July 20, 2022, 123 (testimony of Dan Walker, Industrial Fasteners Institute).

Table 5.1 Downstream industries analyzed in the model

NAICS code	Industry name
2110	Oil and Gas Extraction
312110	Soft Drink Manufacturing
3149	Other Textile Product Mills
3322	Cutlery and Handtool Manufacturing
3323	Architectural and Structural Metals
3324	Boiler, Tank, and Shipping Containers
3325	Hardware
3326	Springs and Wires
3327	Machine Shop Turned Product and Screws, Nuts, and Bolts
3328	Coating, Engraving, Heat Treating, and Allied Activities
3329	Other Fabricated Metal Products
3331	Agriculture, Construction, and Mining Machinery
3332	Industrial Machines
3334	Ventilation, Heating, Air-conditioning, and Commercial Refrigeration Equipment
3335	Metalworking Machinery
3336	Engines and Turbines
3339	Other General Purpose Machinery
3351	Electric Lighting Equipment
3352	Household Appliances
3353	Electrical Equipment
3359	Other Electrical Equipment and Components
336212	Truck Trailers
336214	Travel Trailers and Campers
336350	Motor Vehicle Transmission and Power Train Parts
336370	Motor Vehicle Metal Stamping
336390	Other Motor Vehicle Parts
336330, 336340	Motor Vehicle Steering, Suspension, and Brake Systems Manufacturing
336411	Aircraft Manufacturing
3365	Railroad Rolling Stock
3366	Ships and Boats
3369	Other Transportation Equipment
3372	Office Furniture
3399	Other Miscellaneous Manufacturing

Source: USITC compiled.

To generate accurate and realistic economic effect estimates, the model is designed as follows. First, the elasticity of substitution model parameters are econometrically estimated using a panel of U.S. import data (see data inputs section below). Then, the model is calibrated to actual production and import data from 2018 to 2021, a period that captures economic outcomes that are inclusive of section 232 tariffs. The model takes the econometrically estimated parameters and actual production and import data as inputs to set up the equations. Then, the model simulation estimates what prices and quantities would have looked like if section 232 tariffs were not in place for each year from 2018 to 2021.[326] Then, the estimated economic effects are calculated and reported as the effects of the tariffs, comparing actual market outcomes with the simulated counterfactual. The steel and aluminum tariffs are changed

[326] This analysis estimates the economic effects of actual section 232 tariffs in place in each year modeled from 2018 to 2021. Because of insufficient data for 2022, the analysis does not estimate the effects of the tariffs in 2022.

concurrently to simulate their combined effect, capturing spillover effects across industries that consume both steel and aluminum. Additional details about the modeling approach can be found in the technical modeling appendix.

The degree to which the tariffs pass-through from foreign producers into U.S. prices is an important question and a key element impacting the model's results. This model includes two types of pass-through that can be measured. First, the tariffs can pass through at the point of entry into U.S import prices of steel and aluminum. The second point of pass-through occurs in the downstream consumer prices, after the steel or aluminum has been used in the production of the downstream products. Pass-through at the point of entry in this model is largely a function of the estimated demand and supply elasticities.[327] The second point of pass-through into downstream consumer prices in this model is largely a function of the cost shares of steel and aluminum used in downstream production.

Data Inputs

The model is calibrated to data from several sources. U.S. imports and exports data for 2018–21 were obtained from USITC DataWeb.[328] Imports were disaggregated into covered and non-covered groups, depending on whether a duty was paid. Imported steel and aluminum products that were subject to a section 232 tariff and paid a duty were included in the subject group. Meanwhile, imports of these products that did not pay an additional duty—such as those subject to product exclusions, country exemptions, or were within quota limits—were included in the non-covered group.[329] The use of steel and aluminum by downstream industries, from both foreign and domestic sources, was calculated using the Bureau of Economic Analysis (BEA) 2012 Use Table and 2012 Import Matrix.[330] Domestic production data for 2018–20 were obtained from the U.S. Census Annual Survey of Manufactures (ASM 2020) or estimated by the Commission's industry analysts using available production data from industry sources,

[327] See "Data Inputs" section below for more details.
[328] USITC, "DataWeb/Census," accessed September 28, 2022.
[329] Chapter 99 of the HTS provides for products for which temporary tariff modifications apply pursuant to trade legislation such as sections 232 and 301, among other provisions. U.S. Census rate provision codes 69 and 79 indicate which imports enter as "dutiable at rates prescribed in Rates of Duty columns of HTS chapter 99" and therefore apply to imports subject to tariffs under sections 232 and 301. Covered imports therefore were limited to imports recorded under these rate provision codes. Goods entering under an exclusion, quota, or TRQ would generally not be dutiable at rates prescribed in HTS chapter 99 and therefore are not recorded under rate provision codes 69 and 79. Those imports are factored into the non-covered group. However, between 2018 and 2021, rate provision codes 69 and 79 do apply to a small share of imports of aluminum from Argentina that are subject to a quota under section 232. Imports of aluminum from Argentina comprise less than 1 percent of total imports subject to section 232 tariffs, depending on the year. Additionally, a small subset of goods may enter under dutiable rates that are prescribed in chapter 99 related to measures other than the 232 and 301 tariffs and therefore may be recorded as imports under rate provision codes 69 and 79. For more information on this approach, see chapter 1.
[330] BEA, "Input-Output Accounts Data," accessed October 17, 2022. For a detailed explanation on how the downstream industry use shares of semifinished steel, unwrought aluminum, and aluminum and steel mill products were calculated, see technical appendix F.

if not available from the ASM.[331] Domestic exports were subtracted from domestic production data to isolate U.S. apparent consumption of domestic supply in a given year.

The elasticity of substitution between foreign and domestically sourced varieties is estimated for both primary and downstream products using variation in international trade costs, such as freight costs and tariffs, and a panel of U.S. import values from 2016 to 2021 obtained from DataWeb.[332] Additionally, each downstream industry has a separate elasticity of substitution estimate at the NAICS 4-digit and 6-digit product levels. Primary industry import supply elasticities were calibrated to the steel- and aluminum-specific pass-through results in the chapter 6 econometric analysis.[333] Finally, domestic supply elasticities for steel and aluminum were estimated using information from Commission staff reports of recent AD/CVD investigations, as well as available capacity utilization data.[334]

Model Limitations

With respect to the share of primary steel and aluminum inputs used by the 33 downstream industries, the Commission relies on the 2012 BEA Use Table and Import Matrix to estimate these values (shares) from both domestic and foreign sources. However, because the latest available year for these data is 2012, it is possible that the data are not reflective of current aluminum and steel use in one or more downstream industries. To mitigate this limitation, the steel and aluminum input shares were reviewed by Commission industry analysts and updated using available industry information.[335]

Additionally, the covered imports used in the model are steel and aluminum articles imported under chapter 99 for which duties were paid, in which one or more of the provisions in chapters 1 through 98 are temporarily amended or modified. This includes imports subject to section 232 tariffs, section 301

[331] Census, "Annual Survey of Manufactures," accessed October 17, 2022. Production data in the ASM are available only up to 2020. The production data for 2020 are used in both the 2020 and 2021 estimates and adjusted as required by industry analysts. Production values for 2021 were adjusted using available industry data sources, for example using monthly spot prices for crude to estimate production in the oil and gas extraction industry.
[332] Svendsen, "Aluminum Continues Unprecedented Growth in Automotive Applications," October 20, 2020. More information about the econometric model used to estimate the elasticity of substitution for each product can be found in technical appendix F.
[333] The section 301 modeling analysis in chapter 6 found nearly 100 percent pass-through of the tariffs into U.S. import prices for the steel and aluminum industries. This finding was estimating using tariff changes under both sections 232 and 301, so it can be appropriately used to describe how importers pass both sets of tariffs through to U.S. prices during the investigation windows. This finding is used in the section 232 modeling analysis to calibrate the steel and aluminum import supply elasticities. In other words, the import supply elasticities were chosen such that nearly 100 percent of the tariff passed through into steel and aluminum import prices. See appendix F for additional details.
[334] USITC, *Cut-to-Length Carbon-Quality Steel Plate from India, Indonesia, Italy, Japan, and Korea*, December 2011; USITC, *Hot-Rolled Flat-Rolled Carbon-Quality Steel Products from Brazil, Japan, and Russia*, June 2011; USITC, *Certain Hot-Rolled Steel Flat Products from Australia, Brazil, Japan, Korea, the Netherlands, Turkey, and the United Kingdom*, July 2016; USITC, *Cold-Rolled Steel Flat Products from China and Japan*, July 2016; Bown and Russ, "Biden and Europe Remove Trump's Steel and Aluminum Tariffs, but It's Not Free Trade," November 11, 2021.
[335] For example, the use of steel and aluminum inputs by the motor vehicle industry has changed substantially. Since 2012, the industry has significantly increased its use of aluminum as demand for lighter-weight materials, among other factors, has increased. Svendsen, "Aluminum Continues Unprecedented Growth in Automotive Applications," October 20, 2020.

tariffs, and other temporary modifications.[336] For U.S. imports of steel and aluminum imported under chapter 99, the majority are assumed to be subject to section 232 tariffs. However, these data may include values imported under other tariff actions, such as section 301 tariffs in the case of steel and aluminum imports from China. It is assumed that the value of these imports of steel and aluminum not subject to section 232 tariffs is small. The model estimates the direct economic effects of tariffs on semifinished steel, steel mill products (also known as finished steel products), unwrought aluminum, and aluminum mill products (also known as wrought aluminum products), but it does not assess the economic effects on the group of derivative products defined in the tariff declaration that are also subject to section 232 tariffs.[337] Derivative products were not modeled because they are narrowly defined and would require significantly more disaggregated data, which were not available. The defined derivative products represent a small share of total imports of all steel and aluminum products subject to section 232 tariffs. In 2021, for example, the share of derivative product imports of total imports was 2.3 percent for steel and 2.7 percent for aluminum by value.[338] In addition, the model does not assess the economic effects on upstream raw materials used to produce steel and aluminum. Major raw materials used in the production of steel and aluminum include iron ore, steel scrap, bauxite, alumina, and aluminum scrap. For more information on upstream industries, see chapter 4.

For the downstream industries, the model estimates the effects of direct use of primary steel and aluminum products. However, a downstream industry may also be indirectly affected by steel and aluminum tariffs if any of its other intermediate inputs directly use a sizable share of primary steel/aluminum products. The model does not capture these indirect effects, which could have an additional impact on downstream producer costs.

The partial equilibrium models are static, meaning that each year is examined in isolation, and run using each year's respective data inputs. Within each year, the model compares a counterfactual scenario (the absence of section 232 tariffs) to the actual data (the presence of section 232 tariffs). The model has no dynamic links across years, meaning that it does not fully address the effects of the tariffs on long-term factors such as investment, capacity changes, inventory storage, or supply chain adjustments.

[336] It is not possible to separate imports under section 232 tariffs from imports under section 301 tariffs in the chapter 99 data. However, the chapter 99 data along with information on tariff rates by statistical reporting number were used to estimate the share of imports subject to 232 tariffs, and the model estimates the effect of only the 232 tariffs.

[337] Steel derivative articles (enumerated in annex II) subject to the 25 percent ad valorem tariffs include: non-threaded fasteners (HTS subheading 7317.00.30 and HTS statistical reporting numbers 7317.00.5503, 7317.00.5505, 7317.00.5507, 7317.00.5560, 7317.00.5580, and 7317.00.6560); bumper stampings for certain motor vehicles (HTS subheading 8708.10.30); and body stampings for agricultural tractors (HTS subheading 8708.29.21). Derivative aluminum articles (enumerated in annex I) subject to the 10 percent ad valorem tariffs include: stranded wires, cables, and plaited bands (HTS subheadings 7614.10.50, 7614.90.20, 7614.90.40, and 7614.90.50); bumper stampings for certain motor vehicles (HTS subheading 8708.10.30); and body stampings for agricultural tractors (HTS subheading 8708.29.21). For and in-depth discussion of derivative products subject to section 232 tariffs, see chapter 3.

[338] USITC estimates.

Estimated Economic Effects of Section 232 Steel and Aluminum Tariffs on Trade, Production, and Prices in the U.S. Market

In the sections below, modeling results are presented for the U.S. steel industry, U.S. aluminum industry, and most-affected downstream industries from 2018 to 2021. Model results show the economic effects of the 25 percent steel tariff and 10 percent aluminum tariff on trade, production, and prices.[339] Both the section 232 steel tariff and section 232 aluminum tariff were added to the model concurrently. This means that direct and indirect effects are present in the model results. For example, the domestic steel industry directly benefitted from the steel 232 tariff as steel imports became less competitive with domestic production. At the same time, this direct benefit was partially offset by the indirect negative effect of the aluminum 232 tariff on the steel industry. The increased cost of aluminum inputs as a result of the aluminum 232 tariffs lowered downstream domestic production, thus lowering demand for all steel. The separate effects of each tariff are provided in a sensitivity analysis in the technical appendix F.

The increase in tariffs on steel and aluminum imports increased the relative price of imports and led consumers of steel and aluminum to increase sourcing from domestic suppliers. This increase in demand for domestic production of steel and aluminum resulted in increases in the price of domestically produced steel and aluminum and the quantity of domestic steel and aluminum production in these industries. However, the higher prices of steel and aluminum translated into higher costs of production inputs for downstream industries. This effect negatively impacted the downstream industries that purchase steel and aluminum because costs increase per unit of production. As a result, downstream industries were buying a greater share of domestic steel and aluminum inputs but decreasing the quantity produced of downstream products.

Estimated Effects on the U.S. Steel Industry

The increases in prices of imported steel and domestically produced steel led to a weighted-average steel price increase of about 2.4 percent each year from 2018 to 2021 (table 5.2). Effects on prices of steel in the United States are small, in part, because imported steel is a relatively small share of the total U.S. market, with U.S.-produced steel representing more than two-thirds of total consumption of steel. Section 232 tariffs increased the delivered price of covered steel imports in the U.S. market by a little more than 22 percent per year on average (table 5.2).[340] The delivered price of covered steel imports increasing by nearly the full value of the tariff is consistent with the chapter 6 econometric results and the academic literature, which both estimate that tariffs under sections 232 and 301 passed through fully into U.S. importer prices.[341] Demand for domestic steel rose, increasing the price of domestic steel

[339] This analysis estimates the economic effects of actual section 232 tariffs in place in each year modeled from 2018 to 2021. Due to a lack of sufficient data for 2022, this analysis does not estimate the effects of the tariffs in 2022.
[340] The model is not able to perfectly represent full pass-through of the tariffs but was parameterized to represent as close to full pass-through as possible.
[341] See chapter 6 for a discussion of the economic literature on this topic.

by about 0.7 percent per year on average. Domestic production of steel increased by about 1.9 percent, or $1.5 billion, per year on average.[342] Non-covered imports also increased as they became relatively less expensive alternatives to imports subject to the tariff.

Table 5.2 Estimated effects of section 232 steel and aluminum tariffs on U.S. steel production, U.S. steel prices, and U.S. steel imports
In percentage changes.

Variable	Impact in 2018	Impact in 2019	Impact in 2020	Impact in 2021	Average effect
Price of domestically produced steel	0.81	0.87	0.52	0.75	0.74
Producer price of covered steel imports	−1.80	−1.78	−1.87	−1.81	−1.81
Delivered price of covered steel imports	22.75	22.77	22.66	22.74	22.73
Non-covered import prices	0.21	0.22	0.13	0.19	0.19
Average steel price in U.S.	2.68	2.80	1.62	2.47	2.39
Quantity of domestic steel production	2.04	2.19	1.30	1.90	1.86
Quantity of covered steel imports	−23.82	−23.62	−24.66	−23.98	−24.02
Quantity of non-covered steel imports	3.14	3.41	2.00	2.93	2.87

Source: USITC estimates.
Note: Economic effects reported in this table are calculated as the percentage change between actual economic outcomes in each year and a counterfactual scenario where no section 232 tariffs were in place. The producer price of covered imports is the price that the foreign producer receives for the imported steel products subject to the duties. The delivered price of covered imports is the price that the U.S. downstream industry pays for imported steel subject to the duties.

Comparing effects across years by percentage change, economic effects on U.S. producers are larger in the first two years after section 232 tariffs were implemented. Percentage changes are larger in the first two years because the share of covered imports in total imports is larger. Covered imports of steel were 45 percent in 2018 and 31 percent in 2021. This is attributable to a few factors. First, the COVID-19 pandemic that began in 2020 significantly changed the market.[343] As shown in the steel profile in chapter 4, total imports of applicable steel products decreased from $37 billion in 2018 to $21 billion in 2020. Also, because of the prevalence of contracts and purchase orders that fix sourcing decisions in the short term, domestic purchasers were more likely able to shift sourcing to domestic production in the later years of the modeling window, resulting in lower covered imports in 2020 and 2021. Another factor is the timing of product exclusions.[344] A first round of general approved exclusions went into effect in December 2020, followed by another round in December 2021.[345] Economic effects on U.S. imports are similar across the four years modeled because of the estimated nearly full pass-through of the 25 percent steel tariff to consumer prices. See figure G.1 in appendix G for steel and aluminum pass-through estimates.

[342] The estimated increases in the value of domestic steel production were $1.90 billion in 2018, $1.86 billion in 2019, $0.92 billion in 2020, and $1.33 billion in 2021.
[343] See chapter 4 for a detailed discussion on the impact of the COVID-19 pandemic on the steel and aluminum industries. Note that the analysis does not attempt to estimate the impact of the COVID-19 pandemic on the industries modeled. It does, however, take into account how the COVID-19 pandemic affected the impact of the tariffs, through changing market sizes and market shares.
[344] See chapter 4, figure 4.2, which shows the share of steel imports subject to section 232 tariffs decreasing in 2020 and 2021.
[345] For more information on general approved exclusions and other section 232 product exclusions, see chapter 3.

Estimated Effects on the U.S. Aluminum Industry

The increases in the prices of imported aluminum and domestically produced aluminum led to a weighted-average aluminum price increase of about 1.6 percent (table 5.3). Effects on domestic prices are small in part because imported aluminum is a relatively small share of the total U.S. market, with U.S.-produced aluminum representing more than two-thirds of total consumption of aluminum. The delivered price of covered aluminum imports increased by 8.0 percent per year on average after the implementation of section 232 tariffs (table 5.3).[346] This led to an increase in the price of domestic aluminum by about 0.9 percent per year on average. Increased demand for domestically produced aluminum following the relative price increase of imports led to increases in domestic aluminum production of 3.6 percent per year, or $1.3 billion, on average.[347] It also led to an increase in demand for non-covered aluminum imports of 7.3 percent per year on average. Similar to the estimated effects on the U.S. steel industry, the domestic impact was greater in the first two years modeled, when the share of imports covered by the tariffs was larger. Covered imports of aluminum were 54 percent in 2018 and 31 percent in 2021.

Table 5.3 Estimated effects of section 232 steel and aluminum tariffs on U.S. aluminum production, U.S. aluminum prices, and U.S. aluminum imports

In percentage changes.

Variable	Impact in 2018	Impact in 2019	Impact in 2020	Impact in 2021	Average effect
Price of domestically produced aluminum	1.02	1.10	0.67	0.71	0.87
Producer price of covered aluminum imports	−1.79	−1.76	−1.92	−1.91	−1.84
Delivered price of covered aluminum imports	8.04	8.07	7.89	7.90	7.97
Non-covered import prices	0.41	0.44	0.27	0.28	0.35
Average aluminum price in the United States	1.82	1.94	1.18	1.27	1.55
Quantity of domestic aluminum production	4.15	4.46	2.72	2.86	3.55
Quantity of covered aluminum imports	−30.25	−29.83	−32.17	−32.00	−31.06
Quantity of non-covered aluminum imports	8.57	9.22	5.58	5.85	7.30

Source: USITC estimates.

Note: Economic effects reported in this table are calculated as the percentage change between actual economic outcomes in each year and a counterfactual scenario where no section 232 tariffs were in place. The producer price of covered imports is the price that the foreign producer receives for the imported aluminum products subject to the duties. The delivered price of covered imports is the price that the U.S. downstream industry pays for imported aluminum subject to the duties.

Comparing the differential effects on the steel and aluminum industries, the larger steel tariff (25 percent) had a greater effect on the delivered price of covered imports compared to the 10 percent tariff on aluminum imports. However, because the elasticity of substitution between sources of steel is significantly smaller than the elasticity of substitution between sources of aluminum, the tariffs had a smaller relative effect on domestic production of steel. In other words, compared to aluminum, domestic producers of steel were less able to take advantage of the increase in covered import price of steel because consumers of steel cannot shift sourcing from imports to domestically produced products as easily.

[346] The model is not able to perfectly represent full pass-through of the tariffs but was parameterized to represent as close to full pass-through as possible.

[347] The estimated increases in the value of domestic aluminum production were $1.74 billion in 2018, $1.72 billion in 2019, $0.88 billion in 2020, and $0.92 billion in 2021.

Estimated Effects on Downstream U.S. Industries

Next, model results are presented for the top 10 most-impacted downstream industries in the model.[348] Downstream industries are ranked by the magnitude of the impacts of section 232 tariffs on each model outcome. Therefore, the most-impacted industries are defined as industries that have the biggest estimated: (1) dollar value change in inputs, (2) percentage change in quantity of output, and (3) dollar value change in output. The results in the sections below are ordered according to the economic narrative that section 232 tariffs first affect the primary steel and aluminum industries that compete with imports directly affected, which then affects the price of primary steel and aluminum inputs purchased by the downstream industries, and ultimately affects the price and quantity of downstream outputs.

The magnitude of economic effects—and ranking order of industries—depends on several key factors. First, the steel and aluminum cost shares of production are an important factor. If the downstream industry has a high cost share of affected products, then additional tariffs of 10 percent and 25 percent on aluminum and steel, respectively, will have a larger impact on downstream prices and output. The second factor is the share of steel and aluminum inputs in downstream production that is sourced from imports. If an industry has a large steel cost share, but nearly all its steel is purchased from domestic suppliers, then it is less affected by a 25 percent tariff on imports than if it sourced inputs from imports. Another important factor is the elasticity of substitution across sources of steel and across sources of aluminum. A higher elasticity of substitution implies that downstream purchasers can more easily switch primary steel and aluminum sources—from imports to domestic production—leading to larger percentage increases in domestic prices of steel and aluminum.

The first set of downstream results shows the impact of section 232 tariffs on the cost of inputs into downstream production. The steel and aluminum tariffs on imports are estimated to have shifted some sourcing of inputs from imports to domestically produced products. The Architectural and Structural Metals Manufacturing (NAICS 3323) industry is estimated to have the largest dollar value increase in domestic steel sourcing at $213.5 million in 2021 (table 5.4). This increase is primarily due to the substantial size of domestic production ($96.3 billion in 2021) and steel cost share (more than 10 percent). Other top industries include Agriculture, Construction, and Mining Machinery Manufacturing ($119.1 million) and Other General Purpose Machinery ($104.2 million).

[348] A full set of model results can be found in appendix F.

Table 5.4 Estimated increase in domestic sourcing of steel in 2021 as a result of section 232 tariffs for the top 10 ranked industries
In millions of dollars.

NAICS code	Industry name	Estimated increase in domestic sourcing of steel (millions of $)
3323	Architectural and Structural Metals	213.52
3331	Agriculture, Construction, Mining Machinery Manufacturing	119.11
3339	Other General Purpose Machinery	104.22
2110	Oil and Gas Extraction	102.07
336370	Motor Vehicle Metal Stamping	93.29
3329	Other Fabricated Metal Manufacturing	86.57
3327	Machine Shops Turned Product and Screw, Nut, Bolt Manufacturing	86.54
3328	Coating, Engraving, Heat Treating	61.04
336390	Other Motor Vehicle Parts	54.41
3324	Boiler, Tank, and Shipping Containers	53.56

Source: USITC estimates.
Note: Economic effects reported in this table are calculated as the dollar value change (in millions of dollars) between actual economic outcomes and a counterfactual scenario where no section 232 tariffs were in place.

With regard to increases in domestic aluminum inputs, the Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324) industry is the highest dollar value increase, an estimated $204.1 million increase in domestic aluminum purchasing (table 5.5). This industry, which includes the production of aluminum cans for beverages, had the largest aluminum cost share of all downstream industries at 20.3 percent in 2021, a sizeable share of which was from imports. Other notable industries with large increases in domestic aluminum purchasing include Soft Drink Manufacturing ($200.9 million) and Architectural and Structural Metals ($74.3 million).[349]

[349] Soft drink manufacturing (NAICS 312110) includes manufacturing of soft drinks by companies such as PepsiCo and Coca-Cola. Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324) includes manufacturing of metal cans and lids by companies such as Ball and Mauser. Some companies buy the aluminum cans already made for use (NAICS 3324); others produce the cans during the manufacturing of their soft drink product (NAICS 312110).

Table 5.5 Estimated increase in domestic sourcing of aluminum in 2021 as a result of section 232 tariffs for the top 10 ranked industries

NAICS code	Industry name	Estimated increase in domestic sourcing of aluminum (millions of $)
3324	Boiler, Tank, Shipping Containers	204.11
312110	Soft Drink Manufacturing	200.88
3323	Architectural and Structural Metals	74.33
336370	Motor Vehicle Metal Stamping	68.00
3329	Other Fabricated Metal Manufacturing	42.78
3327	Machine Shops Turned Product and Screw, Nut, Bolt Manufacturing	40.66
336390	Other Motor Vehicle Parts	39.62
3339	Other General Purpose Machinery	29.90
336212	Truck Trailer Manufacturing	27.76
3334	Ventilation, Heating, Air-Conditioning	21.75

Source: USITC estimates.
Note: Economic effects reported in this table are calculated as the dollar value change (in millions of dollars) between actual economic outcomes and a counterfactual scenario where no section 232 tariffs were in place.

Downstream domestic prices increased by 0.2 percent per year on average, with the largest price increase of 0.9 percent in 2018 (see appendix F, tables F.5–F.8 for results by industry). The Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324) industry consistently had the largest price changes for each year in the modeling period. This is unsurprising, given that this industry has an aluminum cost share of about 20 percent. Spring and Wire Manufacturing (NAICS 3326), Motor Vehicle Metal Stamping (NAICS 336370), and Cutlery and Handtool Manufacturing (NAICS 3322) also all consistently rank at the top of the list in terms of highest downstream price changes.

The model estimates the pass-through of section 232 tariffs from primary industries to downstream industries. Based on the econometric analysis performed in chapter 6 that estimated the degree of section 232 and 301 tariff pass-through, the import supply elasticities in this model were chosen so that the 25 percent steel tariff nearly all passed through into the steel import price (23 percent increase). The same is true for the 10 percent aluminum tariff (8 percent increase). However, the 25 percent and 10 percent tariffs on steel and aluminum, respectively, do not translate to a 25 percent and 10 percent increase in downstream prices. This is because steel and aluminum only make up a fraction of downstream total costs. The degree to which the tariffs pass through into the downstream prices depends on the cost shares and import shares of production inputs. As shown in appendix tables F.5–F.8, the model estimates that the tariffs have a relatively minor effect on downstream prices, with the largest price increases at less than 1 percent.

Downstream domestic production in the most affected industries in the model decreased by 0.6 percent per year on average, with the largest annual industry-specific percentage decrease in production of 3.2 percent in 2018 in Cutlery and Handtool Manufacturing (NAICS 3322) (table 5.6). Cutlery and Handtool Manufacturing (NAICS 3322), Motor Vehicle Steering and Suspension Components (NAICS 3363A0), and Industrial Machine Manufacturing (NAICS 3332) consistently rank as the industries with the largest decreases in domestic production as a result of section 232 tariffs. The determinants of these large effects differed by industry. Many industries like Cutlery and Handtool Manufacturing exhibit large impacts because of large cost shares of steel and aluminum. For Cutlery and Handtool Manufacturing,

the combined cost share is more than 37 percent. Other industries have large impacts because of their relatively small domestic sales where even modest impacts can translate into large percentage changes. For example, Industrial Machine Manufacturing—an industry that includes semiconductor, paper, and food machinery manufacturing—is quite large overall ($36.1 billion in 2021) but only about 15 percent of production remains in the domestic market and the rest is exported.

Table 5.6 Top 10 most-affected downstream industries each year based on change in production quantity due to estimated effects of section 232 steel and aluminum tariffs, by industry and year, 2018–21

In percentage changes. MV = motor vehicle; AG = agricultural machinery.

Top industries impacted in 2018 (NAICS code)	Change in domestic quantity in 2018 (%)	Top industries impacted in 2019 (NAICS code)	Change in domestic quantity in 2019 (%)	Top industries impacted in 2020 (NAICS code)	Change in domestic quantity in 2020 (%)	Top industries impacted in 2021 (NAICS code)	Change in domestic quantity in 2021 (%)
Cutlery/Handtool (3322)	−3.18	Cutlery/Handtool (3322)	−2.90	Cutlery/Handtool (3322)	−1.35	Industrial Machine (3332)	−2.98
MV Steering, Suspension (3363A0)	−1.68	MV Steering, Suspension (3363A0)	−1.64	MV Steering, Suspension (3363A0)	−0.84	Cutlery/Handtool (3322)	−2.56
Industrial Machine (3332)	−1.52	Spring/Wire (3326)	−1.47	Spring/Wire (3326)	−0.79	MV Steering, Suspension (3363A0)	−1.57
Spring/Wire (3326)	−1.40	Industrial Machine (3332)	−1.14	Industrial Machine (3332)	−0.67	Spring/Wire (3326)	−1.37
Other Fabricated Metal (3329)	−1.23	Other Fabricated Metal (3329)	−1.11	Engines and Turbines (3336)	−0.59	Engines and Turbines (3336)	−1.25
Boiler, Tank, Shipping Container (3324)	−1.17	Boiler, Tank, Shipping Container (3324)	−1.07	Boiler, Tank, Shipping Container (3324)	−0.53	AG, Construction, Mining Machinery (3331)	−1.03
AG, Construction, Mining Machinery (3331)	−1.11	AG, Construction, Mining Machinery (3331)	−0.94	Other Fabricated Metal (3329)	−0.47	Other Fabricated Metal (3329)	−0.92
Electrical Equipment (3353)	−1.00	Engines and Turbines (3336)	−0.92	AG, Construction, Mining Machinery (3331)	−0.47	Other Transportation Equipment (3369)	−0.91
Household Appliance (3352)	−0.98	Electrical Equipment (3353)	−0.88	Other Transportation Equipment (3369)	−0.46	Other General Purpose Machinery (3339)	−0.88
Other General Purpose Machinery (3339)	−0.98	Other Transportation Equipment (3369)	−0.86	Other General Purpose Machinery (3339)	−0.44	Boiler, Tank, Shipping Container (3324)	−0.80

Source: USITC estimates.

Notes: This table lists the top 10 industries the model indicates were most affected each year from 2018 to 2021 in terms of the estimated percentage decrease in domestic production as a result of section 232 steel and aluminum tariffs. Industry names are shortened for brevity. Economic effects reported in this table are calculated as the percentage change between actual economic outcomes in each year and a counterfactual scenario where no 232 tariffs were in place.

The largest dollar value decrease in the value of downstream domestic production was in Other General Purpose Machinery (NAICS 3339), which experienced a decrease of $557 million (table 5.7) in 2018. This

is, in part, due to the size of that industry, with domestic production valued at more than $110.3 billion in 2018. After Other General Purpose Machinery, Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331); Other Fabricated Metal Product Manufacturing (NAICS 3329); and Motor Vehicle Steering and Suspension Components Manufacturing (NAICS 3363A0) consistently rank as the industries with the largest decreases in the value of domestic production as a result of section 232 tariffs. Across all industries included in the model, downstream U.S. producers are estimated to have produced $3.4 billion less on average each year between 2018 and 2021, as a result of section 232 tariffs.[350]

[350] The estimated decreases in the value of downstream production were $4.2 billion in 2018, $3.9 billion in 2019, $1.8 billion in 2020, and $3.5 billion in 2021.

Table 5.7 Top 10 most-affected downstream industries each year based on change in value of production due to estimated effects of section 232 steel and aluminum tariffs, by industry and year, 2018–21

In millions of dollars. MV = motor vehicle; AG = agricultural machinery; misc. = miscellaneous.

Top industries impacted in 2018 (NAICS code)	Change in value in 2018 (millions of $)	Top industries impacted in 2019 (NAICS code)	Change in value in 2019 (millions of $)	Top industries impacted in 2020 (NAICS code)	Change in value in 2020 (millions of $)	Top industries impacted in 2021 (NAICS code)	Change in value in 2021 (millions of $)
Other General Purpose Machinery (3339)	−557.34	Other General Purpose Machinery (3339)	−502.97	Other General Purpose Machinery (3339)	−238.68	Other General Purpose Machinery (3339)	−468.91
AG, Construction, Mining Machinery (3331)	−496.53	AG, Construction, Mining Machinery (3331)	−452.05	AG, Construction, Mining Machinery (3331)	−197.55	AG, Construction, Mining Machinery (3331)	−440.13
Other Fabricated Metal (3329)	−423.23	Other Fabricated Metal (3329)	−381.94	Other Fabricated Metal (3329)	−161.71	Other Fabricated Metal (3329)	−321.47
Electrical Equipment (3353)	−218.63	Electrical Equipment (3353)	−202.31	Electrical Equipment (3353)	−93.74	Electrical Equipment (3353)	−171.52
Other Electrical Equipment (3359)	−207.29	Other Electrical Equipment (3359)	−197.07	Oil and Gas (2110)	−91.73	Cutlery/Handtool (3322)	−159.45
Cutlery/Handtool (3322)	−197.76	Cutlery/Handtool (3322)	−181.66	Other Electrical Equipment (3359)	−91.15	Other Electrical Equipment (3359)	−159.40
Oil and Gas (2110)	−180.97	Oil and Gas (2110)	−174.69	Cutlery/Handtool (3322)	−85.18	Engines and Turbines (3336)	−154.23
Other Misc. Manufacturing (3399)	−174.89	Engines and Turbines (3336)	−168.52	Engines and Turbines (3336)	−83.13	Industrial Machine (3332)	−144.04
MV Steering, Suspension (3363A0)	−172.56	MV Steering, Suspension (3363A0)	−159.43	MV Steering, Suspension (3363A0)	−72.70	Oil and Gas (2110)	−138.51
Engines and Turbines (3336)	−168.13	Other Misc. Manufacturing (3399)	−159.09	Other MV Parts (336390)	−70.77	Other Misc. Manufacturing (3399)	−136.12

Source: USITC estimates.

Notes: This table lists the top 10 industries most affected each year from 2018 to 2021 by dollar value change of domestic production. Industry names are shortened for brevity. Economic effects reported in this table are calculated as the dollar value change (in millions of dollars) between actual economic outcomes in each year and a counterfactual scenario where no 232 tariffs were in place.

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Chapter 6
Economic Effects of Section 301 Tariffs on Trade, Production, and Prices in Directly Affected Industries

This chapter addresses how section 301 tariffs impacted trade, production, and prices in directly affected U.S. industries.[351] It focuses on imports of the affected products from China because section 301 tariffs applied only to such products. In the aggregate, prices paid by U.S. importers for goods from China increased as a result of the tariffs but the exporter prices received by Chinese firms were mostly unchanged. As the importer prices rose for Chinese products, the quantity of such imports fell leading to a significant decline in their import value. These changes led to increases in production and prices in U.S. industries that were competing with the imports.

Background

The first section 301 tariffs on Chinese products were imposed in July 2018. Additional tranches of tariffs were imposed in August and September 2018, and later in September 2019.[352] The analysis in this chapter is conducted at the HTS statistical reporting number level. Section 301 tariffs covered 13,591 HTS statistical reporting numbers, comprising imports with an average value of $291.6 billion in 2016 and 2017 (before the imposition of tariffs, table 6.1).

[351] Given the large number of industries affected by section 301 tariffs, it was not possible to present the estimated impacts on every affected industry so as to determine the "most affected" industries as done in chapter 5. Instead, this chapter presents the estimated impacts for industries directly affected by the tariffs. Industries directly affected by the tariffs are industries for which imports of products falling under HTS statistical reporting numbers were covered by section 301 tariffs but does not include industries that were only indirectly affected by the tariffs, for example, by being consumers of such products.
[352] See chapter 3 for a detailed chronology and description of section 301 tariffs.

Table 6.1 Section 301 tariff coverage, by tariff action
In percentages and billions of dollars.

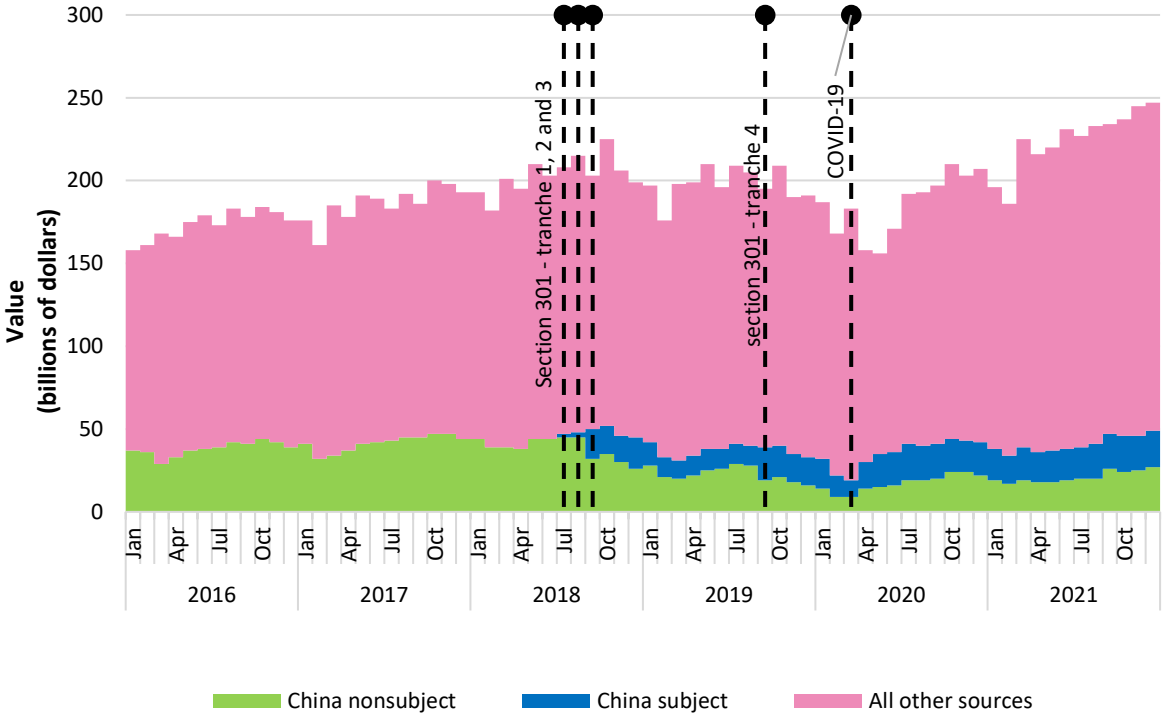
301 tariff action	Date of tariff action	HTS statistical reporting numbers affected	301 tariff rate in 2021 (%)	Average annual import value of affected products in 2016 and 2017 ($)	Annual import value of affected products in 2021 ($)
Tranche 1	July 6, 2018	1,481	25	30	24
Tranche 2	August 23, 2018	395	25	13	10
Tranche 3	September 24, 2018	7,265	25	146	120
Tranche 3	September 24, 2018	42	25	6	6
Tranche 4, list 1	September 1, 2019	4,408	7.5	98	105

Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC.
Note: The number of statistical reporting numbers affected is based on 2016 and 2017 trade and therefore does not include statistical reporting numbers that were targeted by the tariffs but had zero imports from China in both years. Section 301 tariffs were almost entirely implemented at the subheading level. Imports from China subject to section 301 duties under tranche 3 were originally subject to 10 percent tariffs before the rate increased to 25 percent on May 10, 2019. Duties on imports under tranche 4, list 1 were reduced from 15 percent to 7.5 percent on February 14, 2020. For more information on the chronology of section 301 tariff actions and the individual tranches, see chapter 3.

Section 301 tariffs were only implemented for imports from China, but information on imports from the rest of the world is reported throughout this chapter and is included in the analysis. Use of these other imports provides important context and allows affected trade to be compared with trade that was not subject to additional section 301 tariffs. This comparison helps to separate the effect of section 301 tariffs from the effects of the COVID-19 pandemic, supply chain disruptions, and other events occurring during the same time period. Figure 6.1 gives a snapshot of all imports for consumption, showing that by 2020, about half of all import value from China came from statistical reporting numbers that were subject to a section 301 tariff. Table 6.2 shows imports of products, regardless of source, classified under the HTS statistic reporting numbers that are subject to section 301 tariffs when imported from China. In 2017, imports from China accounted for about 17 percent of the value of total imports of these products from the world. By 2021, this share decreased to about 12 percent (table 6.2).

Figure 6.1 U.S. imports for consumption, by month and whether they were subject to section 301 tariffs, 2016–21

Underlying data for this figure can be found in appendix E, table E.27.



Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC.
Note: "Subject" in the figure legend specifically refers to products that are subject to section 301 tariffs.

Table 6.2 U.S. imports for consumption of products classified under HTS statistic reporting numbers subject to section 301 tariffs if imported from China, by source and period, 2016–21

In billions of U.S. dollars

Source	2016	2017	2018	2019	2020	2021
China	271.7	311.3	345.4	270.5	243.4	265.1
All other sources	1,191.6	1,521.6	1,669.4	1,705.1	1,562.0	1,942.8
All sources	1,463.3	1,832.9	2,014.8	1,975.7	1,805.3	2,207.9

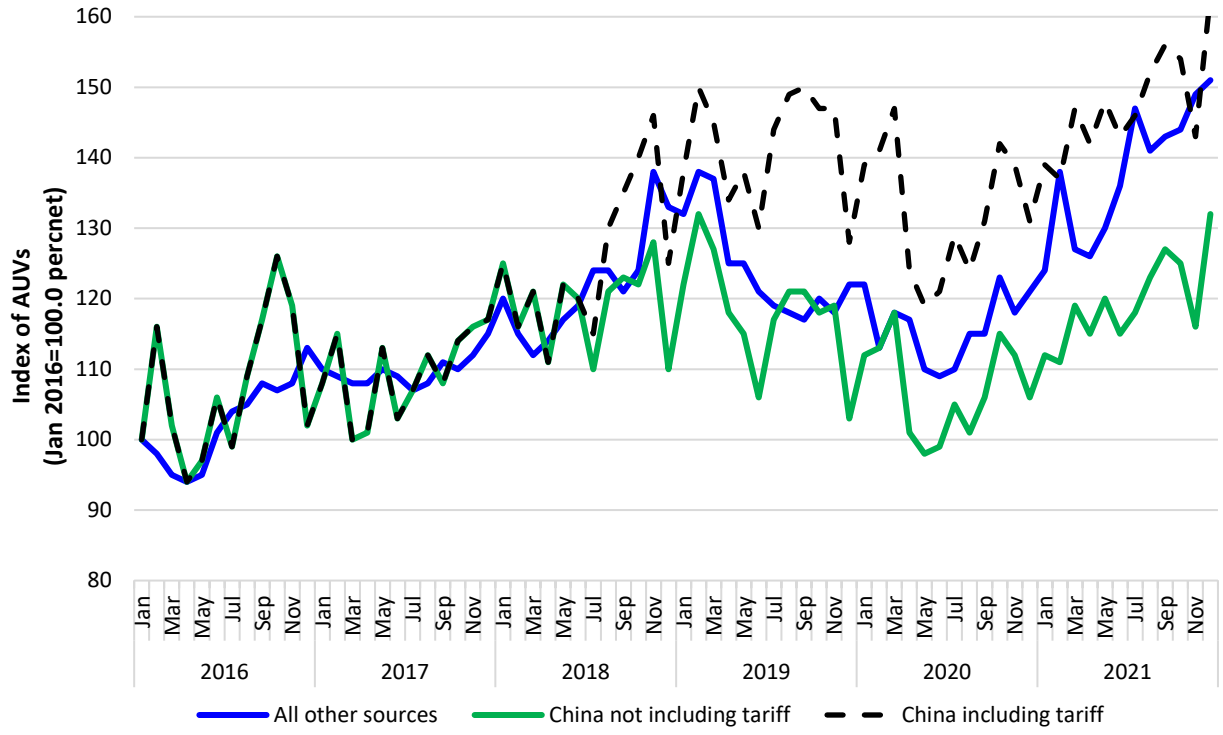
Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC.
Note: These values are for all 10-digit HTS statistical reporting numbers that were at some point targeted by section 301 tariffs. Only imports from China were targeted, and only in 2018 and later.

Tariffs can impact prices, production, and trade in several ways. Exporter and importer prices reflect the most direct effect. When a tariff is imposed, it creates a "wedge" between the price received by sellers (the exporter price) and the price paid by buyers (the importer price). When a tariff is imposed, economic theory predicts that the foreign exporter price will fall or the domestic importer price will rise, or some combination of the two. The extent to which the importer price rises as a result of the tariff is considered the extent of the "pass-through" of the tariff. Under full pass-through, prices for Chinese exporters would not be significantly affected while prices paid by U.S. importers would rise 1-to-1 with the imposed tariffs. For purposes of the analysis presented in this chapter, the extent of the pass-

through of section 301 tariffs was analyzed by comparing U.S. import average unit values (AUVs) not inclusive of the tariff for products from China with those from other sources. U.S. import nontariff-inclusive AUVs in the trade data follow similar trends for products from China and other sources, which is generally suggestive of a full pass-through effect. However, nontariff-inclusive AUVs from China are generally a little lower than AUVs from the rest of the world in 2018 and onward, which could indicate less-than-full pass-through (figure 6.2). The modeling results in this chapter control for nontariff-related events that also impact prices and ultimately find evidence of full pass-through of section 301 tariffs. This is consistent with the literature on section 301 tariffs as presented later in this chapter.[353]

Figure 6.2 Index of average unit values (AUVs) of U.S. imports for consumption, by source, period, and whether they were subject to section 301 tariffs

Underlying data for this figure can be found in appendix E, table E.28.



Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC.
Note: Only statistical numbers with positive import values from China at some point during the time series are included here. The average unit value under each statistical reporting number is normalized to 100 in the first month that it is imported in the sample period by country. Average unit values for the rest of world and China, not including tariffs, are calculated as customs value divided by quantity. Average unit values including tariffs are calculated by multiplying the average unit value by one plus the section 301 tariff rate. To be consistent with the event study analysis later in this chapter, tariff-inclusive values are approximated at the HTS 10-digit statistical reporting number rather than using rate provision code information. Subsequent values are normalized according to that first value. The figure shows the trade-value-weighted average of the normalized prices after dropping outliers outside of the 5th and 95th percentile by month.

The methods used in this chapter estimate the pass-through of the tariff to importer prices but do not estimate the subsequent pass-through of increased importer costs to final buyers and consumers. Section 301 tariffs may have had an effect on downstream industries and other related goods, but oral

[353] A list of related studies from the literature is provided in appendix H.

and submitted hearing testimony suggests that many importers largely absorbed the higher importer prices through decreased profit margins without substantially increasing prices for final consumers.[354] That lack of pass-through to final retail prices is also observed in Cavallo et al. (2021).[355] Therefore, the modeling and analysis in this chapter, by covering the industries most directly affected by section 301 tariffs, likely captures the most significant impacts of these tariffs in the short run.

Some effects of section 301 tariffs would likely be delayed. It may take time for importers to change their supply chain to import from other sources or find domestic producers. Investment in additional domestic production, if necessary, would take time to come online but would eventually increase domestic production and reduce the price of the domestic good. These effects would all increase the longer-run impact of section 301 tariffs, particularly if importers and domestic producers anticipated the tariffs remaining in place long enough to make these costly changes worthwhile.

The effects of section 301 tariffs may be influenced by the perceived uncertainty regarding the tariffs. For example, if importers and exporters believe that the tariffs may be temporary, their response to these tariffs may be muted. The uncertainty would delay the effects of tariffs because the importers and exporters would wait to see if the tariffs remain, increase, or decrease in the future. The methodology used in this section does not separate the impact of uncertainty from the overall impact of tariffs.

Given the large number of industries affected by section 301 tariffs, it is not possible to present the estimated impacts on each affected industry individually. Therefore, we present the estimated impacts on the 10 most directly affected industries individually and the estimated aggregate impact on all directly affected industries.[356]

The rest of this chapter provides a modeling-based quantitative analysis of the economic impacts of section 301 tariffs on U.S. trade, production, and prices for industries directly affected by these tariffs. The analysis in this chapter is similar to the analysis of the steel and aluminum industries in chapter 5 but forgoes downstream analysis in order to analyze a broader variety of affected industries.

Overview of Key Findings

- An econometric model shows full pass-through of section 301 tariffs to prices paid by importers.
- Import quantities and import values of products subject to section 301 duties were negatively affected, each decreasing by about 2 percent for affected products for each percentage point of the tariffs.
- A model of aggregate effects finds for directly affected industries an overall increase in the value of domestic production by 0.4 percent on average each year from 2018 to 2021, with part of

[354] Some testimony indicated more substantial pass-through of costs to consumer prices. The testimony related to absorbing the costs are the following: USITC, hearing transcript, July 20, 2022, 144 (testimony of Laurin Baker, Industrial Fasteners Institute), 150 (testimony of Mark Vaughn, Vaughn Manufacturing Company); USITC, hearing transcript, July 21, 2022, 444–45 (testimony of Bill Hanvey, Auto Care Association), 460–61 (Deanne Hix, California Manufacturing and Engineering Co.).
[355] Cavallo et al., "Tariff Pass-through at the Border and at the Store," March 2021, 19–34.
[356] The 10 most directly affected industries are the industries with the highest volume of imports in 2016 and 2017, before the imposition of section 301 tariffs, for products classified under HTS statistical reporting numbers covered by the section 301 tariffs.

that value increase coming from a 0.2 percent increase in the price of affected products that are domestically produced. It also estimates a 13 percent decline in the value of U.S. imports from China in sectors affected by section 301 duties.

- A set of industry-specific models show that the impact on a domestic industry depends on the average tariff on imports from China in that industry and the estimated substitutability between the Chinese and U.S. goods. For the 10 industries with the highest value of imports covered by section 301 tariffs, the models estimate that the value of U.S. production rose between 1.2 percent and 7.5 percent in 2021 as a result of section 301 tariffs.

Description of the Analytical Approach

Economic theory suggests that the tariffs would raise prices paid by U.S. importers and decrease quantities of imports and import values from China. The magnitude of the declines would depend on how easy it is for buyers (importers) to substitute the tariff-affected goods with goods from domestic or other foreign sources. Demand for domestically produced substitutes would rise, resulting in increased prices and production for the domestic good.

On the other hand, increasing the price of intermediate goods (directly through the tariff or indirectly through the increase in the demand for domestic substitutes) would increase the cost and lower the domestic production of downstream goods. An example of that effect is seen in Cigna et al. (2020), which found that most of the affected goods were intermediate goods and that Chinese exporters accounted for a high market share in those goods, which would make it hard for importers to substitute in the short run.[357] Because of the wide variety of products considered in this chapter, this report estimates only the direct effect of section 301 tariffs on targeted products and does not estimate the impact on upstream or downstream products.

This chapter uses two types of economic modeling to estimate the impact of section 301 tariffs on directly affected industries overall and for the 10 most directly affected industries individually. In both cases, the methodologies focus on direct effects—how section 301 tariffs impacted prices, production, and trade for products that are subject to section 301 tariffs as well as domestic sectors that compete directly with those imports. The two complementary methodologies are used to take advantage of the highly detailed trade data that are available and estimate the impact of section 301 tariffs on affected domestic industries. The modeling in this chapter does not capture the impact on upstream or downstream industries or indirect effects on the economy.

The first type of modeling is an econometric approach that uses detailed trade data to estimate the impacts of section 301 tariffs on Chinese exporter and U.S. importer prices, import quantities, and import values at different time horizons after the tariffs were first imposed. A similar methodology has been used in several recent publications to estimate the impacts of section 301 tariffs and other recent tariff actions.[358] A primary benefit of this approach is that it takes advantage of the rich trade data available and allows for a detailed month-by-month analysis of the impact of the tariffs on prices paid by U.S. importers and quantities of imports, without imposing structural assumptions like a specific

[357] Cigna et al., "The Impact of US Tariffs against China on US Imports," January 2022, 162–73.
[358] Amiti, Redding, and Weinstein, *Who's Paying the US Tariffs?*, January 2020; Fajgelbaum et al., "The Return to Protectionism," February 1, 2020, 1–55.

functional form for demand. However, this approach can only estimate the impact of section 301 tariffs on imports from China and cannot estimate the impacts on the domestic market or other sources of imports. The econometric model estimates the effects of section 301 tariffs using monthly trade data that reflect trade patterns and tariffs during that month.

The second type of modeling is a set of partial equilibrium models that link section 301 tariffs to domestic prices and production in each of the sectors with the highest value of imports covered by section 301 duties. In this chapter, the partial equilibrium models are systematically applied to a set of 10 North American Industry Classification System (NAICS) 4-digit industry groups. Most of the model parameters for the partial equilibrium model are econometrically estimated using trade and domestic data, with the parameter measuring substitutability between sources being estimated separately for each modeled sector. An aggregate version of this model is applied to the aggregate of all affected sectors to estimate total impacts. The model simulations estimate what prices and quantities would have looked like if section 301 tariffs were not in place for each year from 2018 to 2021. Then, the estimated economic effects are calculated and reported as the effects of increasing the tariffs, comparing actual market outcomes with the simulated counterfactual.

Lacking sufficient data for 2022, the partial equilibrium model does not analyze the effects of the tariffs that may have been in effect on March 15, 2022, but were not in effect as of December 31, 2021. However, the model results for 2021 are reflective of the likely effects of section 301 tariffs that were active on that date because changes in section 301 tariffs between those dates were limited to narrowly defined product exclusions that likely had only minor impacts on overall import volumes.

Similar models have been used in many Commission reports, and the simplicity and flexibility of the partial equilibrium structure is well suited for analysis of specific sectors.[359] The partial equilibrium models in this chapter are also similar to the partial equilibrium model used in chapter 5 of this report. A similar demand structure is used for models in both chapters, and the same methods are used for the estimation of most model parameters. However, while the chapter 5 modeling includes downstream effects, the model used in this chapter covers only direct effects. A more detailed comparison between the modeling in each chapter is included in appendix G.

Data Inputs

The trade data used in both types of modeling come from official U.S. import statistics. The data are monthly U.S. imports for consumption from all trading partners from January 2017 through December 2021.[360] The data for the econometric analysis are at the HTS 10-digit statistical reporting number level, which is the most disaggregated publicly available trade data. The partial equilibrium modeling

[359] Some USITC reports that extensively used partial equilibrium models similar to the ones in this chapter include *Squash: Effect of Imports on U.S. Seasonal Markets, with a Focus on the U.S. Southeast, Inv. 332-584*; *Cucumbers: Effect of Imports on U.S. Seasonal Markets, with a Focus on the U.S. Southeast, Inv. 332-583; Caribbean Basin Economic Recovery Act: Impact on U.S. Industries and Consumers and on Beneficiary Countries*; *Raspberries for Processing: Conditions of Competition between U.S. and Foreign Suppliers, with a Focus on Washington State, Inv. 332-577*; and *U.S.-Mexico-Canada Trade Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors, Inv. TPA-105-003*.

[360] The econometric model used to determine the pass-through of the tariffs and to directly assess the effects of the tariffs on imports employed data through March 2022.

employed trade data aggregated up to the NAICS 4-digit industry group level, using annual concordances from the U.S. Census Bureau. These data also include additional port of entry information to estimate some model parameters.

Tariff data were compiled by USITC staff from *Federal Register* notices and the *Harmonized Tariff Schedule*. These data were combined with the monthly trade data.

Annual domestic production data used in the partial equilibrium modeling are gross domestic output at the NAICS 6-digit national industry level from the Bureau of Economic Analysis (BEA), which are then aggregated to the NAICS 4-digit industry group.

The end of the chapter includes price-level information for imports and domestic production. The exporter and importer price levels are calculated using the same trade data as above. The domestic price levels use the Producer Price Index from the Bureau of Labor Statistics (BLS) for each industry group. These price levels are not used as an input for the modeling, which only requires value or expenditure data, but the models do include changes in prices as an output. The price data are reported for each of the included industry groups to give context for those model price changes.

The sector-specific results focus on the sectors that had the highest import value covered by section 301 tariffs. Specifically, these are the NAICS 4-digit industry groups that are associated with the HTS statistical reporting numbers that had the highest dollar import value from China in 2016 and 2017 (the last two full years before any section 301 tariffs were imposed) that were later subject to these tariffs. Using the years before the implementation of section 301 tariffs ensures that sectors with a large drop in imported goods as a result of the tariffs are not excluded, as could be the case if the criteria used the import values in 2018 or later.

Table 6.3 lists these 10 industries, using the criteria described above as well as the average dollar value of imports from China in 2016 and 2017 for products in these sectors that would subsequently be covered by section 301 tariffs. It also includes the average dollar value of the total imports from China in 2016 and 2017 for the sector and the average section 301 tariff rate applied to products associated with the sector in 2020.[361] Additional tables at the end of this chapter show more information about each sector by year.

[361] This average section 301 tariff rate was calculated by computing the mean applicable additional tariff rate for all products (at the HTS statistical reporting number level) falling within a sector/industry identified as most directly affected. For products falling within the sector but not subject to section 301 tariffs, the additional tariff rate was set at zero.

Table 6.3 Industries with highest import values before implementation of section 301 tariffs

NAICS 4-digit industry group	Description	Average value of subsequently affected imports from China in 2016 and 2017 ($B)	Average value of all imports from China in 2016 and 2017 ($B)	Average 301 tariff in 2020
3152	Cut and Sew Apparel Manufacturing	21.9	22.6	14.7
3344	Semiconductors and Other Electronic Components	19.9	19.9	25.0
3341	Computer Equipment	16.1	54.7	1.9
3371	Household and Institutional Furniture and Kitchen Cabinets	15.7	16.7	22.4
3363	Motor Vehicle Parts	13.0	13.0	24.5
3359	Other Electrical Equipment and Components	11.2	11.5	22.2
3399	Miscellaneous Manufactured Commodities	10.9	35.0	4.5
3343	Audio and Video Equipment	10.2	12.0	10.2
3339	Other General Purpose Machinery	8.8	10.2	19.0
3261	Plastics Products	8.3	11.9	13.2

Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC.
Note: The list of selected industry groups is based on import data from 2016 and 2017, the last two full years before section 301 tariffs.

For some of these industries, like Motor Vehicle Parts (NAICS 3363) or Household and Industrial Furniture and Kitchen Cabinets (NAICS 3371), almost all associated products imported from China were covered by section 301 tariffs. For others, like Computer Equipment (NAICS 3341), most associated products were not covered by these tariffs, but the import value of the affected products was sufficiently high to put the industry in the list of selected sectors.

Model Limitations

The biggest limitation of the modeling in this chapter comes from the level of aggregation of the domestic data. The trade data provide information for specific products, but domestic price and quantity data are only systematically available at aggregated industry levels. This aggregation means that the domestic and import data are imperfectly linked. This hides the fact that some specific products within an industry could experience impacts that differ from those of the industry overall.

The model estimates the elasticity of various trade statistics at different time horizons using variation in both section 301 tariffs and section 232 tariffs on steel and aluminum. This was necessary because the imposition of tariffs under each of these trade actions occurred over the same time period. Because the estimation results are elasticities, the implicit assumption is that the statistics—especially for products subject to tariffs under both trade actions—responded similarly to a tariff increase of the same magnitude imposed under either tariff action. For example, the results assume that a 10 percentage point increase in the tariff rate had the same impact on import quantities regardless of whether that increased rate came from section 301 tariffs or section 232 tariffs. Appendix G includes an alternate specification that performs a similar analysis only on products covered by section 232 tariffs (including products that are also covered by section 301 tariffs).

The partial equilibrium models are static, meaning that each year is examined in isolation and modeled using each year's respective data inputs. Within each year, the model compares a counterfactual scenario (the absence of section 301 tariffs) to the actual data (and the presence of section 301 tariffs).

The model has no dynamic links across years, meaning that it does not fully address the effects of the tariffs on long-term factors such as investment, capacity changes, inventory storage, or supply chain adjustments.

As explained in chapter 3, some product exclusions are applied to imports at a more detailed level. These exclusions cause a downward bias of the estimated impact of the tariffs for imports coming in under that particular HTS statistical reporting number because the actual average tariff would be lower than the tariff used to estimate the models, making the tariffs appear to have smaller effects in percentage terms. The econometric estimates of the tariff effects are essentially lower bounds on the magnitude of the effects if a product is covered and reflect upper bounds on the number of products that are covered.

The analysis presented here focuses on impacts to imports from China and U.S. domestic industries. Section 301 tariffs may have impacted imports from other countries, but these effects are not considered in this chapter.

Additional model details, including a discussion of technical limitations and caveats, are included in appendix G.

Estimated Sensitivity of U.S. Trade Statistics to Section 301 Tariffs

The direct effects of section 301 tariffs are on U.S. imports that are covered by those tariffs. A statistical model was used to estimate the effects of section 301 tariffs on prices, quantities, and values of imports. In addition to the results presented in this section, these estimates are also used as an input to the partial equilibrium models later in this chapter, which expand the analysis to consider the impact of section 301 tariffs on the prices and production of goods produced in the United States.

Because section 301 tariffs could have impacts that change over time, the impact of section 301 tariffs on prices, quantities, and values of imports is estimated at different monthly horizons after each product was first affected by section 301 tariffs.

The impacts of section 301 tariffs on prices, quantities, and values of imports are estimated as elasticities, which measure the sensitivity of one variable to another. In this case, the elasticity is the percentage change in the trade statistic (e.g., import quantity) given a percentage change in the section 301 tariff rate. Figure 6.3 shows the average sensitivity of exporter price, importer price, import value, and import quantity to section 301 tariffs at different time horizons. The results show that the elasticity of the exporter price with respect to section 301 tariffs is consistently close to zero, which indicates that the tariffs did not have a significant impact on the price received by Chinese exporters. On the other hand, the elasticity of the importer price with respect to the tariffs is close to one, indicating that

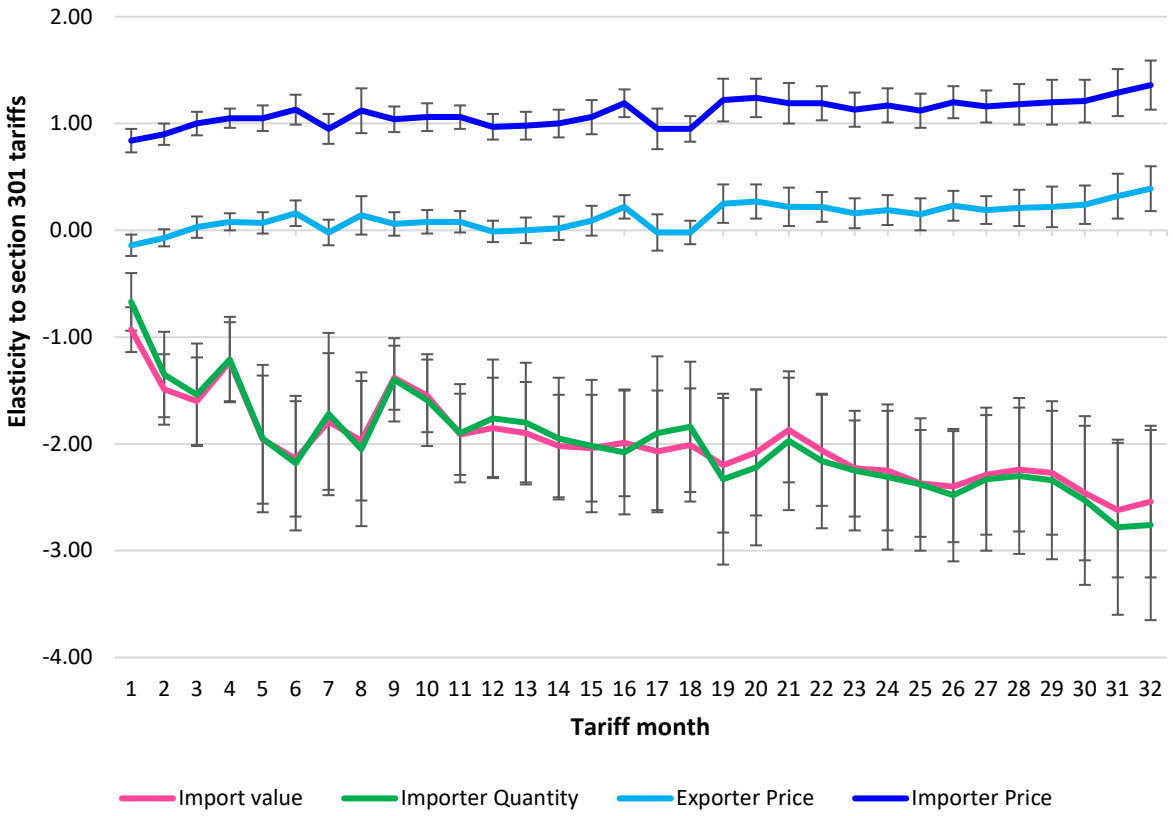
importer prices rose about 1 to 1 in response to the tariff increase.[362] This is consistent with the recent work of Amiti et al. (2019), Fajgelbaum et al. (2020), Carvallo et al. (2021), and Jiao et al. (2022), who also largely estimate full pass-through of recent tariff actions from exporters to importers.[363] These findings consistently indicate that the cost of section 301 tariffs have been borne almost entirely by U.S. importers. Chinese exporters have largely maintained the same prices and U.S. importers have absorbed the costs of the tariffs through a combination of less-favorable margins for sellers and higher prices for consumers or downstream buyers.

[362] One unexpected result is that after about the 18th month, the estimated elasticity for importer price is greater than 1 and the estimated elasticity for exporter price is greater than 0. These results are inconsistent with typical economic theory, which implies that the importer price elasticity should be between 0 and 1 and the exporter price elasticity should be between 0 and −1. The current estimates suggest that after 18 months prices in the United States rose beyond the value of the tariffs and prices received in China increased as well. One likely explanation is that these econometric estimates may be capturing additional factors in these later periods that are closely correlated with the tariffs but are not being fully controlled for elsewhere in the model. Alternatively, these later estimates may imply that some of the longer-term reactions to the tariffs were stronger than basic economic theory would predict.

[363] Notably, these studies have arrived at comparable results using different approaches and data samples, underlining the robustness of the findings. Fajgelbaum et al., "The Return to Protectionism," February 1, 2020, 26; Amiti, Redding, and Weinstein, "The Impact of the 2018 Tariffs on Prices and Welfare," November 1, 2019, 197**;** and Jiao et al., "The Impacts of the U.S. Trade War on Chinese Exporters," 2022, 2–3.

Figure 6.3 Estimated sensitivity of import trade statistics to section 301 tariffs

Underlying data for this figure can be found in appendix E, table E.29.



Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC.
Note: The I-beams for each line show the 95 percent confidence interval of the estimated elasticity. The elasticity estimates presented in this figure include tariff rates that come from section 232 tariffs on steel and aluminum in addition to section 301 tariffs. This was necessary because the tariff actions occurred during the same time period. A detailed explanation of the regressions that produced this figure and the input variables to that regression are described in appendix G.

The elasticities of import value and import quantity to section 301 tariffs track closely, with an elasticity of about −2 for each. That means that for every 1 percent increase in the tariff rate, import value and import quantity are estimated to fall by about 2 percent. This effect is stronger (that is, the estimated value is more negative) farther out from the first imposition of section 301 tariffs. This could be the result of importers adjusting their supply chain to either import from other sources or buy from domestic sources. Both are longer-term responses to the initial tariff rate change and could take months or years to be observed in the trade data. This result is consistent with the fact that elasticities tend to be higher in the long run compared to the short run.

Estimated Economic Effects of Section 301 Tariffs on Trade, Production, and Prices in the U.S. Market

The previous section looked at all imports that were directly affected by section 301 tariffs and this section looks at the effects on all industries affected by these tariffs. It also looks at the 10 most directly affected sectors but expands the analysis to include effects of section 301 tariffs on additional economic variables that are not reflected in trade data.

Section 301 Tariff Effects on the 10 Most Directly Affected Industries

Estimating the effects of section 301 tariffs on the 10 most directly affected industries is done through sector-specific partial equilibrium models that relate imports from China and other sources to production that occurred in the United States. These models are estimated using data on both trade and domestic production and also take into account the full pass-through result observed in the previous section.

The sector-specific model results hold constant all other events that occurred during each year in order to isolate the estimated impact of section 301 tariffs on Chinese products. For products covered by both section 301 and section 232 tariffs, section 232 tariffs are implicitly accounted for in the actual data and the results therefore show the effect of section 301 tariffs while keeping section 232 tariffs in place. Table 6.4 summarizes the main results of the partial equilibrium modeling by sector in 2021, the last full year considered in this report with section 301 tariffs in effect. The results are expressed as percentage changes in prices and values for imports from China and U.S. domestic production that occurred because of these tariffs. The model results indicate that section 301 tariffs increased the value of domestic production by between 1.2 percent for Computer Equipment and 7.5 percent for Household and Institutional Furniture and Kitchen Cabinets in 2021. Later sections have additional results for 2017 through 2021 for each sector.

Table 6.4 Effect of section 301 tariffs on prices and value of U.S. imports from China and U.S. production in 2021
In percentage changes.

NAICS industry group	Description	Price of imports from China	Price of domestically produced products	Average price in the United States	Tariff-inclusive value of imports from China	Value of U.S. production
3152	Cut and Sew Apparel Manufacturing	14.5	3.1	4.3	−39.1	6.3
3344	Semiconductors and Other Electronic Components	25.0	3.1	4.1	−72.3	6.4
3341	Computer Equipment	1.5	0.6	0.8	−5.3	1.2
3371	Household and Institutional Furniture and Kitchen Cabinets	22.4	3.7	7.1	−25.4	7.5
3363	Motor Vehicle Parts	24.5	1.5	2.3	−50.1	3.0
3359	Other Electrical Equipment and Components	21.2	3.4	5.5	−37.7	7.0
3399	Other Miscellaneous Manufacturing	4.3	1.2	1.7	−11.7	2.4
3343	Audio and Video Equipment	10.6	3.2	4.0	−37.8	6.4
3339	Other General Purpose Machinery	19.2	2.6	3.8	−47.6	5.3
3261	Plastics Products	12.4	1.4	2.3	−23.7	2.8

Source: Calculation by USITC. For a complete description of the model details and inputs, see appendix G.
Note: These values are calculated from the model estimates of 2021, the latest year for which data were available. Results for other years and for other sources are summarized at the end of the chapter. The change in average price is a weighted average that considers the estimated substitutability between products from different sources. The percentage change in "tariff-inclusive value" refers to the change in the value of imports from China, including the value of the section 301 duties themselves but not the value of any other duties.

Aggregate Section 301 Tariff Effects

The section above presents the impact of section 301 tariffs on the 10 most directly affected industries. This section shows the effects on all industries affected by these tariffs. As discussed in chapter 3, these tariffs cover a wide range of goods produced by many industries. When considering NAICS 4-digit industries (as in the above section), most U.S. industries in the agriculture, mining, and manufacturing sectors had products that were subject to section 301 tariffs (94 of 98 NAICS 4-digit industries in sectors 11, 21, 31, 32, and 33 include products that were covered).[364]

[364] Sector 11 is Agriculture, Forestry, Fishing and Hunting; sector 21 is Mining, Quarrying, and Oil and Gas Extraction; and sectors 31–33 are Manufacturing.

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The methodology for obtaining aggregate effects of section 301 tariffs is similar to the industry-specific partial equilibrium model used for individual industries. It uses a structural model to connect the change in the tariffs to domestic effects. The partial equilibrium model is estimated using aggregate data on trade and domestic production instead of data on specific industries. The data sources are the same as in the previous section. The same limitations apply, but many are mitigated here by the fact that this is an aggregate analysis. The estimates reflect the impact of section 301 tariffs in each year relative to a counterfactual in which the tariffs were not in place, averaged across years from 2018 to 2021.

The model estimates that section 301 tariffs resulted in a 13 percent drop in the value of U.S. imports from China on average in sectors affected by the tariffs.[365] The model also estimates a 0.2 percent average increase in the price of covered products that are produced domestically and a 0.4 percent average increase in the value of domestic production (shipments) of those products.[366] The 0.4 percent increase in domestic production value is an average effect for all products affected by the tariffs, but, as described earlier in this section, some sectors and products are affected more than others.

Sector-Specific Data and Model Results

The following sections contain data and modeling results for each of the ten NAICS 4-digit industry groups that had the highest import value covered by section 301 tariffs as measured by 2016 and 2017 levels. For each of these 10 most directly affected industries, tables show recent U.S. production output; nontariff-inclusive import values from China and other sources; and nontariff-inclusive price indices for products sourced from the United States, China, and other sources. These tables reflect observable trends and do not address the effect of section 301 tariffs or other factors affecting trade or prices during the time period observed, 2016–21. For each sector, this section then presents the estimated impacts of section 301 tariffs on U.S. imports and gross output, according to the partial equilibrium modeling results.

The data on imports use the same underlying dataset as the data described throughout this chapter, aggregated from HTS statistical reporting numbers to NAICS industry groups. Exporter prices are inferred from nontariff-inclusive AUVs, which means that changes in prices and import values are closely related. The gross output and price data for U.S. production come from the BEA and the BLS, respectively.

In addition to observable data and counterfactual model results, the subsections also reference relevant testimony and written submissions from the Commission's hearing. These references provide additional context for the results, in some cases supporting the quantitative results and in other cases highlighting important modeling caveats.

Because no section 301 tariffs were imposed before 2018, the model results always have zero estimated impact in 2016 and 2017. Because of the model parameterization, the change in importer prices for

[365] Sectors affected by the tariffs include any sector that includes products falling within the HTS statistical reporting numbers subject to section 301. However, in most cases, these sectors also include products that are not covered by section 301 tariffs. As a result, the effects of the tariffs on the sectors presented in this section are often smaller than those estimated in the "Estimated Sensitivity of U.S. Trade Statistics" section because the tariffs were only applied to the portion of products within each sector that were covered by the tariffs.
[366] Affected products refers to products, which if imported from China, would be subject to section 301 duties.

imports from all other sources besides China are estimated to be zero and are omitted from the results tables. The model prices presented are section 301 tariff-inclusive prices paid by U.S. importers.

Cut and Sew Apparel Manufacturing

Trade, Production, and Price Trends

Table 6.5 U.S. nontariff-inclusive import value and domestic gross output of Cut and Sew Apparel Manufacturing
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	11.2	10.6	10.4	11.1	9.2	12.4
Nontariff-inclusive U.S. imports from China	20.7	24.4	25.0	22.5	13.3	17.2
U.S. imports from all other sources	41.7	51.8	55.3	58.5	48.3	61.2

Source: BEA, accessed September 29, 2022 (domestic gross output), USITC DataWeb/Census, accessed July 7, 2022 (imports), and calculations by USITC.
Note: Domestic gross output uses NAICS 315 because the BEA gross output does not break out NAICS 3152 separately.

Imports of Cut and Sew Apparel Manufacturing (3152) from China decreased from about $25 billion in 2018 to about $17 billion in 2021 (table 6.5).[367] Most of these tariffs on Cut and Sew Apparel Manufacturing went into effect with tranches 3 and 4, in September 2018 and 2019, respectively. Imports of these goods from China declined but imports from the rest of the world grew over the time period, with the exception of 2020. Production of apparel in the United States has stayed between about $9 billion and $12 billion since 2016.[368] The price of Cut and Sew Apparel Manufacturing imported from China declined by about 13.5 percent between 2016 and 2021 (table 6.6). The prices of domestic U.S. apparel and U.S. imports of Cut and Sew Apparel Manufacturing from the rest of the world rose in recent years by about 4–7 percent compared to 2016.

Table 6.6 U.S. normalized price levels of imports and domestic production of Cut and Sew Apparel Manufacturing

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	100.9	101.7	103.5	103.9	104.3
Nontariff-inclusive price of U.S. imports from China	100.0	99.2	100.7	99.4	88.5	86.5
Price of U.S. imports from all other sources	100.0	101.3	103.5	106.0	104.7	106.8

Source: BLS (domestic U.S. producer price index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022, and calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

[367] There are 2,035 HTS statistical reporting numbers associated with this industry group, including various types of trousers, shirts, and coats.
[368] As noted by table 6.5, the U.S. domestic production gross output described here is for the NAICS 3-digit subsector 315 rather than the NAICS 4-digit industry group 3152. This is due to data limitations.

During the Commission's hearing, several organizations testified about the impacts that section 301 tariffs have had on the apparel industry. The American Apparel & Footwear Association, U.S. Fashion Industry Association, and National Retail Federation all indicated that these tariffs have raised costs and made apparel items more expensive for consumers.[369] The organizations also noted the difficulty and slow speed with which sourcing can be shifted away from China, because alternative suppliers are not available in many cases, which hindered importers' ability to mitigate the costs of the tariffs.

Model Findings

Table 6.7 Estimated impact of section 301 tariffs on value of imports and production of Cut and Sew Apparel Manufacturing (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	0.0	1.9	6.2	6.3
Impact on U.S. imports from China	—	—	−0.2	−14.7	−39.9	−39.1
Impact on U.S. imports from all other sources	—	—	0.1	7.1	24.8	25.2

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates a sizable decline in Cut and Sew Apparel Manufacturing imports from China of up to almost 40 percent in 2020 and 2021, resulting from section 301 tariffs (table 6.7). U.S. production is estimated to have increased by up to 6.3 percent in 2021 in response. The model estimates that U.S. imports of Cut and Sew Apparel Manufacturing shifted toward other sources, with an increase of up to 25.2 percent in 2021 in imports from the rest of the world. This substitutability of these products, and therefore the model-estimated shift in sources of U.S. imports, may be exaggerated for this sector as a result of the aggregated nature of the data—as noted above, industry representatives stated that some apparel from China did not have close substitutes from other sources.[370] These changes also result in increases in the price of imports from China and U.S.-produced apparel of about 15 and 3 percent, respectively, in 2020 and 2021 (table 6.8).

[369] USITC, hearing transcript, July 21, 2022, 510–18 (testimony of Jonathan Gold, National Retail Federation), 518–24 (testimony of Stephen Lamar, American Apparel & Footwear Association), 524–29 (testimony of Julie Hughes, U.S. Fashion Industry Association).
[370] The method used to estimate the substitutability between sources in the analysis for this sector and all other selected sectors is described in appendix G.

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Table 6.8 Estimated impact of section 301 tariffs on prices of Cut and Sew Apparel Manufacturing (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.0	0.9	3.1	3.1
Impact on price of U.S. imports from China	—	—	0.1	4.4	14.7	14.5

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Semiconductors and Other Electronic Components

Trade, Production, and Price Trends

Table 6.9 U.S. nontariff-inclusive import value and domestic gross output of Semiconductors and Other Electronic Components
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	107.1	110.3	116.7	117.7	122.1	130.9
Nontariff-inclusive U.S. imports from China	16.7	23.2	24.3	8.9	9.2	8.8
U.S. imports from all other sources	27.0	57.9	61.6	63.7	65.3	85.9

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output), and calculations by USITC.

Imports of Semiconductors and Other Electronic Components (3344) from China decreased significantly after 2018 (table 6.9).[371] This decline followed several years of annual growth. U.S. production and imports sourced from the rest of the world increased steadily between 2016 and 2021. U.S. production increased by about $24 billion between 2016 and 2021 (about a 22 percent increase during that time), but imports sourced from the rest of the world, other than China, tripled during that time period.

The prices of these products, relative to prices in 2016, have varied during this time period as well (table 6.10), which would have contributed to the fluctuations in the import value trends. As of 2021, the price of U.S.-produced products was about 45 percent lower than in 2016 while the price of imports from China was 8 percent higher and the price of imports from the rest of the world was more than 50 percent higher. The price of imports from China increased by up to 125 percent from 2016 to 2018. The rapid upward trend began in 2017.[372]

[371] There are 234 HTS statistical reporting numbers associated with NAICS industry group 3344, including semiconductor devices, circuit assemblies, and solar cells.
[372] Note that a global semiconductor shortage beginning in 2020 has also likely impacted U.S. trade, production, and prices in recent years. For more information, see Max, "Understanding the Current Global Semiconductor Shortage," August 19, 2022.

Table 6.10 U.S. normalized price levels of imports and domestic production of Semiconductors and Other Electronic Components

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	56.8	56.0	55.3	54.8	54.6
Nontariff-inclusive price of U.S. imports from China	100.0	169.8	225.1	119.3	97.6	108.2
Price of U.S. imports from all other sources	100.0	128.0	151.0	136.6	144.4	156.2

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

Model Findings

Table 6.11 Estimated impact of section 301 tariffs on value of imports and production of Semiconductors and Other Electronic Components (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	1.2	5.9	7.8	6.4
Impact on U.S. imports from China	—	—	−15.4	−66.2	−70.6	−72.3
Impact on U.S. imports from all other sources	—	—	5.5	29.4	40.3	32.2

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model of Semiconductors and Other Electronic Components estimates a large decrease in imports from China as a result of section 301 tariffs, up to 72 percent in 2021 (table 6.11). U.S. production of these products is estimated to have increased by as much as 7.8 percent in 2020 in response. Imports from the rest of the world increased as well, ranging from almost 6 percent of all imports in 2018 to 30–40 percent in recent years. Prices inclusive of section 301 tariffs on imports from China were estimated to rise by as much as 25 percent in 2020 and 2021; prices of U.S.-produced products rose by about 3–4 percent (table 6.12).

Table 6.12 Estimated impact of section 301 tariffs on prices of Semiconductors and Other Electronic Components (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.6	2.9	3.8	3.1
Impact on price of U.S. imports from China	—	—	3.2	21.1	25.0	25.0

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Computer Equipment

Trade, Production, and Price Trends

Table 6.13 U.S. nontariff-inclusive import value and domestic gross output of Computer Equipment
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	36.1	33.4	36.2	34.2	35.8	39.0
Nontariff-inclusive U.S. imports from China	50.9	58.4	61.3	54.2	60.0	68.9
U.S. imports from all other sources	34.2	38.5	46.4	50.9	55.8	61.0

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Computer Equipment (3341) from China mostly grew between 2016 and 2021 but exhibited a modest decline in 2019 that has since rebounded (table 6.13).[373] U.S. production of Computer Equipment has fluctuated between about $33 billion and $39 billion during that time period but has tended toward higher levels in recent years. Imports from the rest of the world have grown steadily since 2016 but remain lower than total imports from China. Prices of foreign imports have grown compared to 2016, but prices for U.S.-produced Computer Equipment have dropped during that time period (table 6.14).

Table 6.14 U.S. normalized price levels of imports and domestic production of Computer Equipment

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	98.2	97.7	94.0	91.7	92.4
Nontariff-inclusive price of U.S. imports from China	100.0	108.8	113.8	103.0	108.2	110.9
Price of U.S. imports from all other sources	100.0	108.7	126.9	98.4	111.7	116.2

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

According to testimony from the Commission's hearing, many Computer Equipment products such as information and communication technology devices, some of which may be included in this NAICS industry group, have complex supply chains because of strict specification and prequalification requirements from purchasers, making it difficult to switch sourcing in response to section 301 tariffs. Consumer demand for Computer Equipment grew significantly during the COVID-19 pandemic. This

[373] There are 48 HTS statistical reporting numbers associated with this NAICS industry group, including printers, cash registers, disk drives, storage units, data processing units, automated teller machines, and other similar devices.

increase in demand further exacerbated supply chain challenges during that time, including—according to at least one industry representative—some challenges created by section 301 tariffs.[374]

Model Findings

Table 6.15 Estimated impact of section 301 tariffs on value of imports and production of Computer Equipment (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	0.3	1.3	1.5	1.2
Impact on U.S. imports from China	—	—	−1.3	−5.9	−6.7	−5.3
Impact on U.S. imports from all other sources	—	—	1.5	6.3	7.5	6.0

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates a 5–7 percent decline in imports of Computer Equipment from China as a result of section 301 tariffs (table 6.15). Domestic production saw an increase of slightly more than 1 percent as a result of the tariffs. Imports from the rest of the world are estimated to have increased by about 6.0–7.5 percent between 2019 and 2021 in response to section 301 tariffs. Similar to the Apparel model, the level of U.S. imports that could have switched between China and other sources as a result of the aggregated level of the estimation is hard to identify. Prices for imports from China are estimated to have increased by about 1–2 percent, and prices of U.S.-produced equipment are estimated to have risen by less than 1 percent (table 6.16).

Table 6.16 Estimated impact of section 301 tariffs on prices of Computer Equipment (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.2	0.6	0.8	0.6
Impact on price of U.S. imports from China	—	—	0.4	1.6	1.9	1.5

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

[374] USITC, hearing transcript, July 21, 2022, 821 (testimony of Naomi Wilson, Information Technology Industry Council).

Household and Institutional Furniture and Kitchen Cabinets

Trade, Production, and Price Trends

Table 6.17 U.S. nontariff-inclusive import value and domestic gross output of Household and Institutional Furniture and Kitchen Cabinets
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	39.1	39.0	40.7	38.5	39.9	44.7
Nontariff-inclusive U.S. imports from China	15.2	18.3	18.2	15.0	13.1	15.8
U.S. imports from all other sources	11.3	12.8	13.4	16.3	19.2	24.8

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Household and Institutional Furniture and Kitchen Cabinets (3371) (hereafter "furniture") from China declined in the years after 2018 by about $3–5 billion (table 6.17).[375] U.S. production of this furniture has remained steady at about $40 billion per year but experienced an increase in 2021 to $44.7 billion. Imports of furniture from the rest of the world have grown steadily from $11.3 billion in 2016 to $24.8 billion in 2021. Notably, this growth appears to have accelerated considerably since 2018. Prices for furniture from China, the United States, and the rest of the world have increased since 2016 and rose significantly from 2020 to 2021 (table 6.18). Although the highest price increase has been for imports from the rest of the world, Chinese and U.S. furniture experienced similar levels of increase in 2021.

Table 6.18 U.S. normalized price levels of imports and domestic production of Household and Institutional Furniture and Kitchen Cabinets

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	101.1	102.9	105.5	107.0	114.1
Nontariff-inclusive price of U.S. imports from China	100.0	92.7	107.8	111.6	107.5	117.7
Price of U.S. imports from all other sources	100.0	101.3	115.2	116.2	108.0	130.1

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

According to one institutional furniture company at the hearing, section 301 tariffs have raised prices on imports, and sourcing outside of China can be more expensive. Purchasers of institutional furniture often budget years in advance, making it difficult for domestic sellers to raise prices in response to the

[375] There are 127 HTS statistical reporting numbers associated with this NAICS industry group, including beds, cribs, seats, and other furniture made out of wood, metal, or other materials.

additional costs incurred by the tariffs.[376] Industry analysts also note demand for home furnishings and office furniture for at-home uses increased significantly during the COVID-19 pandemic.[377]

Model Findings

Table 6.19 Estimated impact of section 301 tariffs on value of imports and production of Household and Institutional Furniture and Kitchen Cabinets (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	1.2	6.4	7.4	7.5
Impact on U.S. imports from China	—	—	−3.8	−19.7	−25.4	−25.4
Impact on U.S. imports from all other sources	—	—	2.4	13.9	16.2	16.3

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates a decrease in furniture imports from China of about 25 percent in recent years as a result of section 301 tariffs (table 6.19). Also because of the tariffs, U.S. production is estimated to have increased by about 7.5 percent and imports from the rest of the world grew by about 16 percent, showing a shift from Chinese-sourced furniture to U.S. and other foreign sources. Prices of furniture from China are estimated to have increased by about 22 percent in response to the tariffs (table 6.20). The prices for U.S. produced furniture increased by a little less than 4 percent. Effects on the prices of imports from elsewhere are estimated to be not significant.

Table 6.20 Estimated impact of section 301 tariffs on prices of Household and Institutional Furniture and Kitchen Cabinets (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.6	3.2	3.7	3.7
Impact on price of U.S. imports from China	—	—	2.9	17.3	22.4	22.4

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

[376] USITC, hearing transcript, July 21, 2022, 537–38 (testimony on Christian Curt, Home Furnishings Resource Group).
[377] Bhattarai, "Booming Furniture Sales Mean 'Unprecedented' Delays for Sofas and Desks," March 8, 2021.

Motor Vehicle Parts

Trade, Production, and Price Trends

Table 6.21 U.S. nontariff-inclusive import value and domestic gross output of Motor Vehicle Parts
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	268.0	263.4	275.5	268.5	228.7	250.2
Nontariff-inclusive U.S. imports from China	12.8	13.2	15.2	12.2	9.5	12.3
U.S. imports from all other sources	95.0	93.5	101.0	100.8	86.0	104.9

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Motor Vehicle Parts (3363) from China have dipped somewhat (about $3–5 billion) compared to 2018; however, import values in 2019 and 2021 are similar to those for 2016 and 2017 (table 6.21).[378] U.S production of vehicle parts has also declined in recent years from a high of $275.5 billion to $250.2 billion in 2021. Imports of vehicle parts from the rest of the world have grown slightly in recent years to $104.9 billion in 2021. Since 2016, prices of imports from China and the rest of the world have risen by about 34 percent and 25 percent, respectively (table 6.22). The price of U.S.-produced parts increased by a more modest 5 percent by 2021.

Table 6.22 U.S. normalized price levels of imports and domestic production of Motor Vehicle Parts

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	99.9	101.2	101.5	101.8	105.2
Nontariff-inclusive price of U.S. imports from China	100.0	107.8	119.3	119.0	126.9	133.6
Price of U.S. imports from all other sources	100.0	106.4	109.0	111.8	118.4	125.1

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

Several Motor Vehicle Parts associations and manufacturers were represented at the Commission's public hearing. According to the Auto Care Association, many of its members—which work extensively with suppliers in China—have reported price increases of more than 25 percent and reduced profitability.[379] Webb Wheel Products, a manufacturer of motor vehicle parts, testified in support of section 301 tariffs, which they say contributed to increased demand for domestically produced parts and have led to increased profitability and capacity investments.[380] Aside from section 301 tariffs, reduced domestic production of motor vehicles between 2018 and 2020 may have led to decreased domestic

[378] There are 176 HTS statistical reporting numbers associated with this NAICS industry group, including engines, wheels, bodies, furniture, and other components for vehicles.
[379] USITC, hearing transcript, July 21, 2022, 444 (testimony of Bill Hanvey, Autocare Association).
[380] USITC, hearing transcript, July 21, 2022, 447–49 (testimony of Jonathon Capps, Webb Wheel Products).

output of parts during those years.[381] More recently, the semiconductor shortage has led to shortages in numerous automotive parts.[382] In addition, the United States-Mexico-Canada Agreement (USMCA) Automotive Rules of Origin (ROOs), established in 2019, increased regional value content requirements and also required 70 percent of vehicle manufacturers' steel and aluminum purchases to originate in North America. It is possible that these new rules led to a reduction in imports of motor vehicle parts from China. These rules were also expected to increase domestic production of automotive parts.[383] According to a recent USTR report on USMCA Automotive ROOs, the rules have been effective in incentivizing investment in domestic production.[384]

Model Findings

Table 6.23 Estimated impact of section 301 tariffs on value of imports and production of Motor Vehicle Parts (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	0.3	2.0	2.8	3.0
Impact on U.S. imports from China	—	—	−9.6	−42.5	−50.3	−50.1
Impact on U.S. imports from all other sources	—	—	0.8	5.7	8.0	8.5

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates that section 301 tariffs had a large impact on imports of Motor Vehicle Parts from China, reducing values by more than 50 percent in 2020 and 2021 (table 6.23). The model also estimates that domestic production and imports from other sources rose by about 3 percent and 8 percent, respectively because of section 301 tariffs. Prices for Chinese parts were estimated to have increased by nearly 25 percent and those for U.S. parts to have increased by about 1.5 percent (table 6.24) because of the tariffs. The prices of other imports were not significantly affected by the tariffs according to model estimates.[385]

[381] OICA, "Motor Vehicle Production Statistics," accessed November 3, 2022.
[382] Coffin et al., "The Roadblocks of the COVID-19 Pandemic in the U.S. Automotive Industry," June 2022.
[383] USTR, "USMCA Fact Sheet: Automobiles and Automotive Parts," accessed November 7, 2022.
[384] USTR, "*Report to Congress on the Operation of the United States-Mexico-Canada Agreement with Respect to Trade in Automotive Goods*," July 1, 2022.
[385] Note that the model counterfactual estimates the impact of section 301 tariffs only. Section 232 tariffs are not explicitly considered in the model, but they factor into the baseline values and contributed to the estimation of model parameters. That is, the model results show the effect of removing section 301 tariffs and keeping applicable section 232 tariffs in place.

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Table 6.24 Estimated impact of section 301 tariffs on prices of Motor Vehicle Parts (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.2	1.0	1.4	1.5
Impact on price of U.S. imports from China	—	—	3.1	18.8	24.5	24.5

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Other Electrical Equipment and Components

Trade, Production, and Price Trends

Table 6.25 U.S. nontariff-inclusive import value and domestic gross output of Other Electrical Equipment and Components
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	49.7	48.8	51.7	52.2	50.1	58.5
Nontariff-inclusive U.S. imports from China	10.2	12.7	15.1	11.9	11.0	14.5
U.S. imports from all other sources	17.0	22.4	25.9	30.0	32.4	40.5

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Other Electrical Equipment and Components (3359) (hereafter "electrical equipment") from China grew steadily from 2016 to 2018, then dipped after 2018 (table 6.25).[386] However, imports from China largely rebounded in 2021 and were only slightly lower than the peak imports values of 2018. Domestic production of electrical equipment grew overall between 2016 and 2021, with small declines in 2017 and 2020. Imports from the rest of the world have grown steadily since 2016. Prices of Chinese- and U.S.-produced electrical equipment have increased since 2016, with especially large growth for both in 2021 (table 6.26). The prices of imports from the rest of the world have declined.

[386] There are 201 HTS statistical reporting numbers associated with this NAICS industry group, including batteries and other electrical equipment like conductors, resistors, terminals, power supplies, and some types of related electronics.

Table 6.26 U.S. normalized price levels of imports and domestic production of Other Electrical Equipment and Components

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	101.9	108.6	110.3	109.9	122.9
Nontariff-inclusive price of U.S. imports from China	100.0	88.7	92.7	87.6	110.1	132.7
Price of U.S. imports from all other sources	100.0	94.7	98.5	104.5	101.7	91.5

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

Several associations and manufacturers of electrical equipment were represented at the Commission's public hearing. Many of these witnesses noted the ways in which section 301 tariffs have increased prices and complicated supply chains because of the inability to source many of these items in adequate numbers from other countries. In particular, they highlighted these impacts for batteries (in this NAICS industry group).[387]

Model Findings

Table 6.27 Estimated impact of section 301 tariffs on value of imports and production of Other Electrical Equipment and Components (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	1.4	5.7	7.0	7.0
Impact on U.S. imports from China	—	—	−9.4	−33.1	−39.4	−37.7
Impact on U.S. imports from all other sources	—	—	3.7	16.1	20.1	20.1

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The Commission's model estimates a relatively large decline in imports of electrical equipment from China of up to nearly 40 percent in 2020 and 2021 (table 6.27) because of section 301 tariffs. U.S. production is estimated to have increased by about 7 percent, and imports from the rest of the world have increased by more than 20 percent because of the tariffs. Prices for imports from China and U.S.-produced electrical equipment increased by more than an estimated 22 percent and 3 percent, respectively, because of section 301 tariffs (table 6.28).

[387] USITC, hearing transcript, July 21, 2022, 438–43 (testimony of Patrick Tripple, Inventus). Although not in this NAICS industry group, the same impacts were highlighted for communications equipment. USITC, hearing transcript, July 22, 2022, 805–11 (testimony of Ed Brzytwa, Consumer Technology Association).

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Table 6.28 Estimated impact of section 301 tariffs on prices of Other Electrical Equipment and Components (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.7	2.8	3.4	3.4
Impact on price of U.S. imports from China	—	—	4.0	17.5	22.2	21.2

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Other Miscellaneous Manufacturing

Trade, Production, and Price Trends

Table 6.29 U.S. nontariff-inclusive import value and domestic gross output of Other Miscellaneous Manufacturing
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	65.2	64.7	68.3	68.2	65.4	68.0
Nontariff-inclusive U.S. imports from China	34.1	35.8	37.8	36.3	34.8	48.4
U.S. imports from all other sources	47.5	47.6	50.4	48.5	42.0	63.5

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Other Miscellaneous Manufacturing (3399) (hereafter manufactured commodities) from China have grown since 2016 but did experience a dip in 2019 and 2020 (table 6.29).[388] With the exception of 2020, U.S. production of these commodities has remained largely the same since 2018. Imports from the rest of the world exhibited trends similar to imports from China—steady growth except for a small decline in 2019 and 2020. Prices for imports from China declined by about 15 percent in 2020 and 2021 compared to 2016 (table 6.30). The price of U.S. manufactured commodities and U.S. imports from the rest of the world increased by about 12 percent and 26 percent, respectively, in 2021, relative to 2016. The high price of U.S. imports from the rest of the world corresponded to the high U.S. import value from the rest of the world in 2021.

[388] There are 541 HTS statistical reporting numbers associated with this NAICS industry group, including toys, balls and other sports equipment, pinball and arcade machines, instruments, lighters, pipes and pipe bowls, burial caskets of wood, diamonds and gemstones for various purposes, illuminated signs, and many other products.

Table 6.30 U.S. normalized price levels of imports and domestic production of Other Miscellaneous Manufacturing

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	101.1	102.4	106.6	108.6	112.0
Nontariff-inclusive price of U.S. imports from China	100.0	96.9	100.6	100.0	86.2	83.0
Price of U.S. imports from all other sources	100.0	105.7	108.5	107.1	100.9	125.6

Source: BLS (domestic PPI) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

During the hearing, Vista Outdoor, a producer and retailer of sporting and outdoor goods, spoke about the ways in which section 301 tariffs have negatively affected its ability to import and sell bicycle helmets, sporting apparel, camping equipment, and multiple other products included in this manufacturing industry. As with others, it noted a lack of alternative producers outside of China.[389]

Model Findings

Table 6.31 Estimated impact of section 301 tariffs on value of imports and production of Other Miscellaneous Manufacturing (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	0.1	0.9	2.5	2.4
Impact on U.S. imports from China	—	—	−0.3	−5.1	−12.3	−11.7
Impact on U.S. imports from all other sources	—	—	0.2	3.0	9.0	8.7

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates an approximately 12 percent reduction in imports of manufactured commodities from China in 2020 and 2021 as a result of section 301 tariffs (table 6.31). U.S. production is estimated to have increased by about 2.5 percent in response to the tariffs. Imports from the rest of the world have increased by about 9 percent because of section 301 tariffs. Prices of imports from China and U.S.-manufactured products are estimated to increase by a little more than 4 percent and 1 percent, respectively, from the imposition of section 301 tariffs (table 6.32).

[389] USITC, hearing transcript, July 22, 2022, 823–27 (testimony of Fred Ferguson, Vista Outdoor).

Table 6.32 Estimated impact of section 301 tariffs on prices of Other Miscellaneous Manufacturing (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.0	0.4	1.3	1.2
Impact on price of U.S. imports from China	—	—	0.1	1.7	4.5	4.3

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Audio and Video Equipment

Trade, Production, and Price Trends

Table 6.33 U.S. nontariff-inclusive import value and domestic gross output of Audio and Video Equipment
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	3.0	2.7	3.0	3.7	4.8	8.1
Nontariff-inclusive U.S. imports from China	11.4	12.6	13.6	12.8	12.0	12.2
U.S. imports from all other sources	19.1	19.1	17.5	19.1	21.8	29.4

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Audio and Video Equipment (3343) from China declined in 2019–21 after a recent high of $13.6 billion in 2018 (table 6.33).[390] U.S. production and imports from the rest of the world have grown rapidly since 2018. Prices of imports from China were well above 2016 price levels in 2019 and later, ranging from 23 percent to 69 percent above 2016 prices. Prices of imports from the rest of the world mostly saw more modest increases until rising to 11 percent above 2016 prices in 2020 and jumping to almost 70 percent above 2016 prices in 2021 (table 6.34). Prices of domestically produced Audio and Video Equipment rose by less than 8 percent by 2021, which is less than the price increases for imports.

[390] There are 152 HTS statistical reporting numbers associated with this NAICS industry group, including microphones, speakers, headphones, sound and video recording equipment, music and video playing equipment, motor vehicle radios, video projectors, and video monitors and television parts.

Table 6.34 U.S. normalized price levels of imports and domestic production of Audio and Video Equipment

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	100.0	99.5	100.8	103.4	107.5
Nontariff-inclusive price of U.S. imports from China	100.0	106.5	102.7	123.1	169.2	143.3
Price of U.S. imports from all other sources	100.0	102.4	100.3	97.9	111.2	169.5

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

During the Commission's hearing, U.S. liquid crystal display (LCD) television manufacturer Element Electronics spoke about the difficulties it has faced since the imposition of section 301 tariffs. Although supportive of efforts to reshore U.S. production of televisions, Element Electronics argued that section 301 tariffs as implemented were ineffective at doing so. In their current form, the tariffs raised the costs of important television components from China and made it more cost effective to import fully assembled televisions from other foreign sources, increasing competition.[391] Industry analysts also note that the semiconductor shortage has impacted production of audio and video equipment since 2020.[392]

Model Findings

Table 6.35 Estimated impact of section 301 tariffs on value of imports and production of Audio and Video Equipment (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	0.2	2.8	7.3	6.4
Impact on U.S. imports from China	—	—	−1.3	−15.8	−33.4	−37.8
Impact on U.S. imports from all other sources	—	—	1.0	14.4	40.7	35.4

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates that section 301 tariffs reduced imports of Audio and Video Equipment from China by 30–40 percent in recent years (table 6.35). Imports from the rest of the world are estimated to have increased by roughly the same percentage as Chinese import declines because of section 301 tariffs. Domestic production is estimated to have increased by about 6–7 percent because of section 301 tariffs. The tariffs are estimated to have increased the price of imports from China by a little more than 10 percent and the price of U.S. equipment by 3–4 percent (table 6.36).

[391] USITC, hearing transcript, July 22, 2022, 811–23 (testimony of David Baer, Element Electronics).
[392] Schmidt, "How the Global Chip Shortage Is Affecting Audio Visual Industry," May 28, 2022.

Table 6.36 Estimated impact of section 301 tariffs on prices of Audio and Video Equipment (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.1	1.4	3.6	3.2
Impact on price of U.S. imports from China	—	—	0.3	4.0	10.2	10.6

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Other General Purpose Machinery

Trade, Production, and Price Trends

Table 6.37 U.S. nontariff-inclusive import value and domestic gross output of Other General Purpose Machinery
In billions of U.S. dollars

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	97.2	102.9	109.5	112.0	101.3	111.9
Nontariff-inclusive U.S. imports from China	9.3	11.1	12.5	10.9	10.9	12.7
U.S. imports from all other sources	33.3	39.7	43.9	43.5	41.2	50.7

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.
Note: Domestic gross output in this table uses NAICS 3160 because the BEA gross output data do not break out NAICS 3162 separately.

Imports of Other General Purpose Machinery (3339) (hereafter other machinery) from China have generally grown since 2016 (table 6.37).[393] These imports experienced a dip in 2019 and 2020, but they rebounded in 2021. Imports from the rest of the world have grown as well but experienced a similar temporary decline in 2019 and 2020. The prices of imports from China and the rest of the world dipped in 2020 but have otherwise increased consistently since 2016, resulting in prices that were about 35 percent and 27 percent, respectively, above 2016 levels (table 6.38).

[393] There are 337 HTS statistical reporting numbers associated with this HTS industry group, including hydraulic motors and hydraulic pumps, vacuum pumps and air compressors, purification machines, machines for sealing and labeling, scales, jacks and hoists, machinery for welding and soldering, fork trucks and other work trucks, some types of hand tools, and some types of furnaces and ovens, as well as parts related to the listed types of machinery.

Table 6.38 U.S. normalized price levels of imports and domestic production of Other General Purpose Machinery

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	101.6	104.6	107.2	108.7	114.5
Nontariff-inclusive price of U.S. imports from China	100.0	104.2	117.5	129.2	123.4	135.4
Price of U.S. imports from all other sources	100.0	118.6	122.7	127.1	117.2	127.4

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

Model Findings

Table 6.39 Estimated impact of section 301 tariffs on value of imports and production of Other General Purpose Machinery (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	1.3	3.9	5.4	5.3
Impact on U.S. imports from China	—	—	−19.3	−42.1	−47.1	−47.6
Impact on U.S. imports from all other sources	—	—	4.3	13.5	18.9	18.8

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates that section 301 tariffs significantly reduced imports from China by about 42–48 percent per year (table 6.39). Imports from the rest of the world are estimated to have increased by up to about 19 percent in response to the tariffs. U.S. production of other machinery is estimated to have increased by a little more than 5 percent because of section 301 tariffs. The model estimates the tariffs also increased the price of machinery by 19 percent for Chinese other machinery and less than 3 percent for U.S. other machinery (table 6.40).

Table 6.40 Estimated impact of section 301 tariffs on prices of Other General Purpose Machinery (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.6	1.9	2.6	2.6
Impact on price of U.S. imports from China	—	—	5.7	15.6	19.0	19.2

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

Plastics Products

Trade, Production, and Price Trends

Table 6.41 U.S. nontariff-inclusive import value and domestic gross output of Plastics Products
In billions of U.S. dollars.

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. gross output	189.7	194.1	206.6	206.2	199.3	207.0
Nontariff-inclusive U.S. imports from China	10.2	13.6	15.9	15.6	17.7	21.1
U.S. imports from all other sources	14.4	18.6	20.2	21.2	22.1	27.7

Source: USITC DataWeb/Census, accessed July 7, 2022 (imports); BEA, accessed September 29, 2022 (domestic gross output); calculations by USITC.

Imports of Plastics Products (3261) from China have grown fairly consistently since 2016 to a recent high of $21.1 billion in 2021 (table 6.41), although significant fluctuations in price during that time period greatly affected the import value (table 6.42).[394] Imports from the rest of the world have followed a smaller upward trend but with lesser fluctuations in price. U.S. production of Plastics Products has shown some growth, but a distinct upward trend is less clear because values have tended to fluctuate year over year, with the largest production value (2021) corresponding to the highest price level. The price of Chinese imports has grown substantially in recent years, rising by 81 percent in 2021 relative to 2016 (table 6.42). The prices of U.S. products and those from the rest of the world have increased too, but by more modest amounts—20 percent and 6 percent, respectively, compared to 2016.

Table 6.42 U.S. normalized price levels of imports and domestic production of Plastics Products

Item	2016	2017	2018	2019	2020	2021
Domestic U.S. producer price index	100.0	102.2	105.9	106.2	105.4	119.7
Nontariff-inclusive price of U.S. imports from China	100.0	97.3	121.7	90.7	148.3	181.2
Price of U.S. imports from all other sources	100.0	79.5	95.5	82.2	90.1	106.0

Source: BLS (domestic Producer Price Index) and USITC DataWeb/Census (import prices), accessed July 7, 2022, and June 29, 2022; calculations by USITC.
Note: Price levels are normalized to be 100.0 in 2016.

[394] There are 171 HTS statistical reporting numbers associated with this NAICS industry group, including floor coverings, doors and decking, crates and boxes, sacks and bags, dishes, disposable nonmedical gloves, buckets, trays, and other articles and materials made out of plastic.

Model Findings

Table 6.43 Estimated impact of section 301 tariffs on value of imports and production of Plastics Products (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. gross output	—	—	0.3	1.6	2.8	2.8
Impact on U.S. imports from China	—	—	−3.9	−19.6	−25.3	−23.7
Impact on U.S. imports from all other sources	—	—	0.6	4.1	6.9	6.9

Source: USITC model estimates.
Note: Imports from China are tariff-inclusive estimates.

The model estimates that section 301 tariffs decreased imports of Plastics Products from China by as much as 25 percent compared to the baseline (table 6.43). Domestic production and imports from the rest of the world were estimated to have increased by about 3 percent and 7 percent, respectively, in response to the tariffs. The tariffs are estimated to have increased the price of imports from China by up to about 13 percent (table 6.44). Prices of U.S.-produced products are estimated to have increased by more than 1 percent because of section 301 tariffs.

Table 6.44 Estimated impact of section 301 tariffs on prices of Plastics Products (difference between actual and counterfactual as percentage of counterfactual)
— (em dash) = not applicable.

Item	2016	2017	2018	2019	2020	2021
Impact on domestic U.S. producer price index	—	—	0.1	0.8	1.4	1.4
Impact on price of U.S. imports from China	—	—	1.6	9.3	13.2	12.4

Source: USITC model estimates.
Note: Prices are tariff-inclusive estimates.

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Additional Views of Commissioner Jason E. Kearns

This report paints an incomplete picture, in my view. As directed,[395] this report addresses the short-term impact of the section 232 and section 301 tariffs on trade, production, and prices in some of the most affected industries in the United States. It does not describe where we have been or where we are going in our trade relations with China. But understanding that history and future is critical as we assess the costs and the benefits of the section 232 and 301 tariffs.

The report estimates the economic impact of the section 232 and 301 tariffs; it does not describe or estimate the impact of China's unfair trade practices that led to the imposition of those tariffs, nor does it describe the serious and persistent efforts over many years to persuade China to act more responsibly as a trading partner, nor how those efforts yielded paltry results. It describes the price increases that result from the tariffs; it does not describe how the extraordinarily low "China price"[396] is based on massive Chinese government subsidies and other trade-distorting policies, exploitative labor practices, and environmental degradation that "have helped keep the ordinary forces of a market economy at bay."[397] Nor does it describe how those artificially depressed prices contributed to the "China trade shock"[398] in the United States that forced many U.S. businesses to close their doors and move their factories to China and other low-cost countries to survive, resulting in the loss of millions of American jobs with a range of dire economic and social consequences.[399] It describes how the tariffs reduced imports from China of products like semiconductors; it does not address the potential long-term strategic geopolitical, economic, and national security benefits of these actions—to move us toward more resilient supply chains for such critical materials, making us less dependent on an unreliable trading partner with principles, values, and interests demonstrably different from our own.

In short, the report estimates some of the costs and benefits associated with the section 232 and 301 actions; it does not describe or estimate the considerable costs of inaction (in other words, the costs of

[395] Pursuant to 19 U.S.C. § 1332(g), the Commission shall conduct investigations as requested by the President, the Committee on Ways and Means of the House of Representatives, the Committee on Finance of the Senate, or either branch of Congress. Pursuant to 19 U.S.C. § 1332(b), the Commission also has broad power to conduct investigations on its own motion, including on the "conditions, causes, and effects relating to competition of foreign industries with those of the United States."
[396] Alexandra Harney, *The China Price: The True Cost of Chinese Competitive Advantage* (2008).
[397] *Id.* at chapter 9.
[398] *See* 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, vol. 103, 2121–68 (2013); *see also* Daron Acemoglu, David Autor, David Dorn, Gordon H. Hanson, and Brendan Price, "Import Competition and the Great US Employment Sag of the 2000s," Journal of Labor Economics, vol. 34, S141–S198 (2016) (estimating job losses in US manufacturing as a result of rising import competition from China during 1999–2011 in the range of 2.0–2.4 million).
[399] *See* Rana Foroohar, *Homecoming: The Path to Prosperity in a Post-Global World* (2022) at 125 ("The parts of the Midwest and the South that were most vulnerable to the China Shock were exactly where individuals took on the most debt. Unemployment rose, as did divorce and deaths of despair.").

failing to respond to China's trade-distorting policies and practices through such measures as the section 232 and 301 tariffs).

Concerns over China's trade policies and practices grew over time following its accession to the World Trade Organization (WTO) in 2001, but they reached a turning point as far back as 2005, when Deputy Secretary of State and former U.S. Trade Representative Robert B. Zoellick publicly urged China to start acting like a "responsible stakeholder" in the international system.[400] Shortly thereafter, in 2006, President George W. Bush and President Hu Jintao agreed to create a cabinet-level Strategic Economic Dialogue (SED), and the two sides held regular high-level meetings for the remainder of the Bush Administration.[401] After entering office in 2009, President Barack Obama and President Hu continued those high-level discussions, renaming the talks the U.S.-China Strategic and Economic Dialogue. (S&ED).[402] The discussions continued throughout President Obama's eight years in office. In 2017, President Donald Trump continued the dialogue, relabeled as the U.S.-China Comprehensive Economic Dialogue (CED).[403]

Those discussions attempted to address the issues that are the impetus for the section 232 tariffs (overcapacity) and the section 301 tariffs (intellectual property theft and forced technology transfers), as well as a wide range of many other serious trade and economic frictions.[404] Roughly 12 years (2006–18) of patient and persistent dialogue, however, failed to yield a satisfactory resolution of those issues.

I will spare the reader a full description of the long history of negotiations over each of the issues that provided the impetus for the section 232 and 301 actions. But a brief and partial history of the steel negotiations is illustrative.

[400] 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
[401] 2018 USTR Report to Congress on China's WTO Compliance at 51, box 1, https://ustr.gov/sites/default/files/2018-USTR-Report-to-Congress-on-China%27s-WTO-Compliance.pdf
[402] *Id.*
[403] *Id.* at 50.
[404] *Id.* at 51 ("By May 2018, the United States had proposed specific structural changes that China needed to make to re-orient its state-led, mercantilist trade regime and become more open and market-oriented. These included actions not only in the area of forced technology transfer, but also in areas such as trade deficit reduction, tariffs, non-tariff barriers, intellectual property rights protection and enforcement, {. . .} among other areas."); *see also* Reuters, "U.S., China disagreed on how to reduce trade deficit – official," July 19, 2017, https://www.reuters.com/article/uk-usa-trade-china-disagreements/u-s-china-disagreed-on-how-to-reduce-u-s-trade-deficit-official-idUKKBN1A42R0 ("The official {. . .} said that the disagreement covered most areas important to the United States, including access to China's financial services markets, steel overcapacity, trade in autos, Chinese requirements for data localization and ownership caps for foreign firms.").

The Long History of Chinese Steel Overcapacity, in Brief

Excessive steel capacity was already a serious global problem[405] when the United States granted China "permanent normal trade relations" upon the latter's entry into the WTO in 2001.[406] China committed to adhere to market-based rules when it joined the WTO, but it failed to honor the letter and the spirit of those rules in the two decades that followed. Consequently, this behavior diminished the centrality of the WTO in the global trade regime.[407] As a WTO member, for example, China promised to not "influence, directly or indirectly, commercial decisions on the part of state-owned or state-invested enterprises, including on the quantity, value or country of origin of any goods purchased or sold."[408] China broke that promise; its government ownership, control, and influence over its steel industry and many other industries only *increased* in the years after it joined the WTO.[409]

[405] *See* Steel: Global Safeguard Investigation, Inv. No. TA-201-73, USITC Publication 3479 (December 2001); *see also Report to the President, Global Steel Trade: Structural Problems and Future* Solutions, U.S. Department of Commerce, International Trade Administration (July 2000); Joint Statement of NAFTA Governments: Commitment to Take Action to Address Practices that Distort Steel Markets (December 19, 2002), https://www.oecd.org/newsroom/2487056.pdf ("NAFTA Member Governments call on all steel-producing countries to constructively engage in the OECD High Level Process on Steel by beginning to take concrete steps to address the adverse effects of government intervention in the global steel industry").

[406] Normal Trade Relations for the People's Republic of China, Pub. L. 106-286, 114 Stat. 880 (October 10, 2000).

[407] *See* Mark Wu, "The 'China, Inc.' Challenge to Global Trade Governance," *Harvard Int'l Law Journal*, vol. 57, 261–324 (Spring 2016); *see also* 2018 USTR Report at 5 ("When China acceded to the WTO in 2001, it voluntarily agreed to embrace the WTO's open-market-oriented approach and embed it in its trading system and institutions. Through China's commitments and representations, WTO members understood that China intended to dismantle existing state-led, mercantilist policies and practices, and they expected China to continue on its then-existing path of economic reform and successfully complete a transformation to a market oriented economy and trade regime. This did not happen {. . .} Last year, we reported that the United States had erred in supporting China's entry into the WTO on terms that have proven to be ineffective in securing China's embrace of an open, market-oriented approach to the economy and trade. {. . .}. 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.").

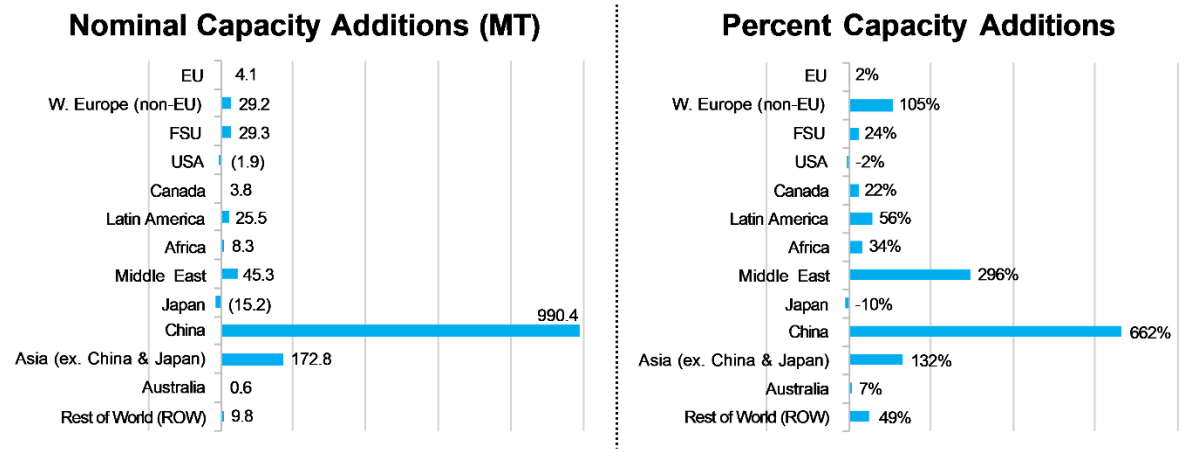
[408] Report of the Working Party on the Accession of China, World Trade Organization, WT/M1N(01) at par. 46 (November 10, 2001).

[409] *See* C. Fred Bergsten, Charles Freeman, Nicholas R. Lardy, and Derek J. Mitchell, *China's Rise: Challenges and Opportunities* (2009) at 9 ("We know we have to play the game your way now but in ten years we will set the rules!" Chinese ambassador to the WTO during China's negotiations to join the institution); *see also,* Richard McGregor, *The Party: The Secret World of China's Communist Rulers* (2010).

The result of China's massive market interventions—its model of "state capitalism"[410]—is that one country has dwarfed all others *combined* in its steelmaking capacity additions since 2000, accounting for more than 75 percent of those additions, as the chart below illustrates.[411]

Figure AV.1 Crude steel capacity additions by region, 2000–2014.

In metric tons (mt) and percentages. Underlying data for this figure can be found at the end of this chapter, in table AV.1.



Source: Duke CGGC, calculated from the German Steel Federation, *Statistische Jahrbuch der Stahlindustrie* (2015).

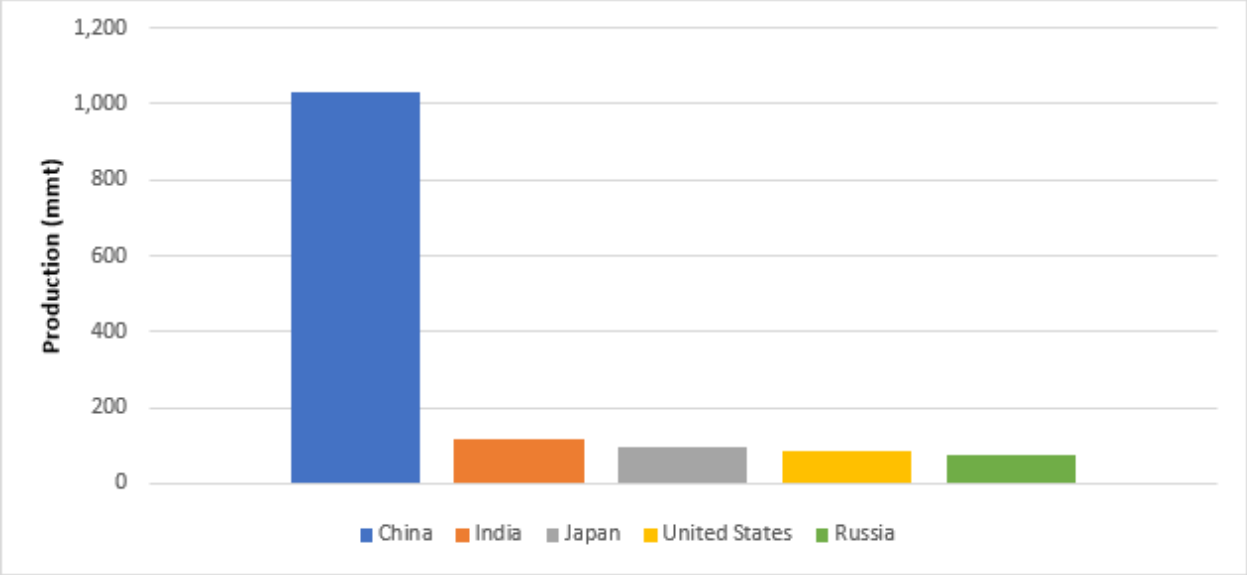
And, let us not forget there already was overcapacity in the global steel industry in 2000, before these additions were made. As a result of its steel overcapacity, China continued to be well ahead of the next four largest global producers of raw steel—India, Japan, the United States, and Russia—combined, in 2021:

[410] *See,* U.S. National Intelligence Council, "Global Trends 2025: A Transformed World," (2008) at 8–11 ("Today wealth is moving not just from West to East but is concentrating more under state control. . . . {T}he states that are beneficiaries of the massive shift of wealth—China, Russia, and Gulf states—are non-democratic and their economic policies blur distinctions between public and private. These states are not following the Western liberal model for self development but are using a different model—'state capitalism.'"); *see also* Ian Bremmer, *The End of the Free Market: Who Wins the War between States and Corporations?* (2010).

[411] Lukas Brun, "Overcapacity in Steel, China's Role in a Global Problem," Center on Globalization, Governance & Competitiveness, Duke University Global Value Chains Center (September 2016) at 11 (figure 3 reproduced above), https://www.americanmanufacturing.org/research/overcapacity-in-steel-chinas-role-in-a-global-problem/; *see also* Adam S. Hersh and Robert E. Scott, "Why Global Steel Surpluses Warrant U.S. Section 232 Import Measures," Economic Policy Institute, https://files.epi.org/pdf/218728.pdf.

Figure AV.2 Top five leading global producers of raw steel, by country, in 2021

In millions of metric tons (mmt). Underlying data for this figure can be found in appendix E, table E.8.



Source: World Steel Association, "World Steel in Figures 2022," 2022.

This overcapacity led to depressed global steel prices and job losses in the United States and other steel-producing countries. As a result, several Administrations engaged in bilateral and multilateral discussions to address the issue. At the Organisation for Economic Cooperation and Development (OECD), major steel-producing countries, including the United States and China, discussed the need to reduce or eliminate steel trade-distorting subsidies. Work progressed in mid-2004 on an advanced negotiating text for a steel agreement, but those negotiations were indefinitely paused without an agreement in 2005.[412]

That pause in OECD negotiations coincided with China's announcement, in July 2005, of a new Steel and Iron Industry Development Policy. That policy called for an *expansion in government control* in all aspects of the steel industry, including prescriptions for the number, size, location, and government financial support for its steel producers. As a U.S. Trade Representative (USTR) report later described it:

> China's 2005 steel policy is {} striking because of the extent to which it attempts to dictate industry outcomes and involve the government in making decisions that should be made by the marketplace. This high degree of government direction regarding the allocation of resources into and out of China's steel industry raises concerns not only because of the commitment that China made in its WTO accession agreement that the government would not influence, directly or indirectly, commercial decisions on the part of state-owned or state-invested enterprises, but also more generally because it represents another significant example of China reverting to a reliance on government management of market outcomes instead of moving toward a reliance

[412] *See, e.g.,* OECD Annual Report 2003, https://www.oecd.org/about/2506789.pdf; OECD Annual Report 2005, https://www.oecd.org/about/34711139.pdf; OECD Annual Report 2006 at 31, https://www.oecd-ilibrary.org/docserver/annrep-2006-en.pdf?expires=1675994706&id=id&accname=guest&checksum=E2ED70EE9CFC37F02A64392302C3437E ("participants in discussion on limiting subsidies agreed that it would be useful to pause the negotiations to provide participants with opportunities to explore the scope for narrowing differences").

> on market mechanisms. Indeed, it is precisely that type of regressive approach that is at the root of many of the WTO compliance concerns raised by U.S. industry.[413]

In 2006, to address these new, harmful measures, the United States and China began a new bilateral dialogue specific to the steel industry under the U.S.-China Joint Commission on Commerce and Trade (JCCT).[414] And, at the WTO, the United States expressed its concerns, including in the Committee on Import Licensing, the Trade-Related Investment Measures Committee, the Subsidies Committee, and the Council for Trade in Goods, with support from other members.[415]

These serious and continuing efforts led to new pledges by China to cut steel production and capacity through policy directives, including the 2009 Steel Adjustment and Revitalization Plan, the 2010 State Council Policy, and other industrial plans. Despite those pledges, China continued to target the steel industry for preferential government support, leading to further increases in overcapacity.[416]

Bilateral and multilateral negotiations to persuade China to reform continued for the following decade. (During that time, Chinese military hackers were indicted by the U.S. Department of Justice for economic espionage, stealing trade secrets of U.S. steel and other companies to give Chinese state-owned enterprises and other companies in China a competitive advantage.[417]) In 2016, President Obama launched the G-20 Global Forum on Steel Excess Capacity (GFSEC) in Hangzhou, China, recognizing a need for "steps to address excess capacity and encourage adjustments."[418] G-20 and OECD

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[413] 2009 USTR Report to Congress on China's WTO Compliance, at 69, https://ustr.gov/sites/default/files/2009%20China%20Report%20to%20Congress.pdf ("2009 USTR Report").
[414] *Id;* 2018 USTR Report at 51, box 1, https://ustr.gov/sites/default/files/2018-USTR-Report-to-Congress-on-China%27s-WTO-Compliance.pdf ("In 1983, the United States and China founded the JCCT. {. . .} From 2004 through 2016, the JCCT held annual plenary meetings, while numerous JCCT working groups and sub-dialogues met throughout the year in areas such as industrial policies, competitiveness, intellectual property rights, structural issues, steel. {. . .}"); *see also* "United States Welcomes Chinese Action on Key Trade Issues," Office of the U.S. Trade Representative (April 11, 2006), https://ustr.gov/archive/Document_Library/Press_Releases/2006/April/United_States_Welcomes_Chinese_Action_on_Key_Trade_Issues.html (China agreed to, *inter alia*, stepping up enforcement of intellectual property rights and launching a dialogue on the steel industry.).
[415] 2009 USTR Report at 69.
[416] *See* United Steelworkers, "Chinese Steel Overcapacity: A Legacy of Broken Promises" (April 2017), https://m.usw.org/testimony/OvercapacityReport_R1_review.pdf (Representing actual versus promised Chinese steel production: China pledged to cut output to 460 million tons, down from 521 million tons in 2008; instead, Chinese steel production increased to 577 million tons in 2009 and surpassed 700 million tons in 2011).
[417] U.S. Department of Justice press release "U.S. Charges Five Chinese Military Hackers for Cyber Espionage Against U.S. Corporations and a Labor Organization for Commercial Advantage: First Time Criminal Charges Are Filed Against Known State Actors for Hacking," (May 19, 2014), https://www.justice.gov/opa/pr/us-charges-five-chinese-military-hackers-cyber-espionage-against-us-corporations-and-labor.
[418] The White House, Office of the Secretary, "Fact Sheet: The 2016 G-20 Summit in Hangzhou, China," (September 5, 2016), https://obamawhitehouse.archives.gov/the-press-office/2016/09/05/fact-sheet-2016-g-20-summit-hangzhou-china.

negotiations continued, including at a meeting in Brussels of the G-20 member states and other members of the OECD, but without meaningful, concrete progress.[419]

In a report to Congress recounting China's lack of progress on these issues in 2017, USTR noted that China had announced new measures ostensibly "to reduce severe excess capacity in the steel and coal industries," but those measures did just the opposite, calling instead for "further state intervention and financial support, rather than a fuller embrace of market-based principles."[420]

That is the history that led the United States in 2018 to finally resort to section 232 tariffs on steel imports. (A similar history can be told with respect to section 232 tariffs on aluminum products[421] and to section 301 tariffs in connection with China's intellectual property and forced technology transfer policies.[422]) Although the section 232 tariffs initially applied to steel imports from all countries—before exceptions and exclusions were negotiated with some trading partners—USTR made clear that China was the root cause: "Because China had created a global crisis in steel, the United States was forced to adopt a global response, in the form of tariffs under Section 232 of the Tariff Expansion Act of 1962."[423]

In the G-20 GFSEC's last report, after China objected to an extension of the Forum's term and succeeded in forcing its expiration, the Chair's Report noted that excess steelmaking capacity, a global challenge that had become particularly acute in 2015, "depresses prices, undermines profitability, generates damaging trade distortions, jeopardizes the very existence of companies and branches across the world, creates regional imbalances, undermines the fight against environmental challenges and dangerously

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[419] *See* The European Commission, Press Release, "Steel: Commission welcomes new Global Forum to tackle root causes of overcapacity," (December 16, 2016), https://ec.europa.eu/commission/presscorner/detail/en/IP_16_4435; *see also* The U.S. Trade Representative, "USTR Statement on Meeting of the Global Forum on Steel Excess Capacity," USTR Press Releases, September 2018, https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/september/ustr-statement-meeting-global ("we have yet to see any concrete progress toward true market-based reform in the economies that have contributed most to the crisis of excess capacity in the steel sector").

[420] 2018 USTR Report at 21.

[421] *Id.* at 34. ("Similar {to steel}, primary aluminum production capacity in China increased by more than 50 percent between 2011 and 2015, despite a severe drop in global aluminum prices during that period. China's capacity has continued to grow in subsequent years. Large new facilities have been built with government support, and China's primary aluminum capacity now accounts for more than one-half of global capacity. As a consequence, China's capacity and production have contributed to imbalances and price distortions in global markets, harming U.S. plants and workers. Excess capacity in China – whether in the steel industry or other industries such as aluminum – hurts U.S. industries and workers not only because of direct exports from China to the United States, but also because its impact on global prices and supply make it difficult for even the most competitive producers to remain viable.").

[422] *Id.* at 21 ("In short, while China has sometimes shown a willingness to take modest steps to address isolated issues, it has consistently failed to follow through on significant commitments or to make fundamental changes to its trade regime. With these dialogues proving to be largely ineffective, in August 2017, in response to direction from President Trump, USTR initiated an investigation under Section 301 of the Trade Act of 1974 to address and limit the adverse effects of certain state-led, mercantilist and non-market policies and practices of the Chinese government. Specifically, this investigation was initiated to focus on policies and practices related to technology transfer, intellectual property and innovation.").

[423] *Id*.

destabilizes world trading relations," and "especially undermines income opportunities of employees."[424]

In my view, that history must be well understood as we try to assemble a complete picture of the costs and benefits of the section 232 and 301 tariffs—actions authorized by Congress, taken by one Administration and continued by another. It demonstrates that the United States could not have been more patient as it tried to persuade China to change course. But more concrete action was necessary to protect U.S. interests and possibly to achieve a mutually agreeable resolution somewhere down the road. Negotiations without much leverage were essentially going nowhere. Several witnesses appearing before the Commission described this history.[425]

Looking Ahead

An understanding of the future effects of these tariffs is equally critical. Following the supply chain disruptions caused by the COVID-19 pandemic, China's aggressive posture in the South China Sea and with Taiwan and Hong Kong, and Russia's war in Ukraine, the rapidly developing consensus among experts is that the United States needs more resilient and dependable supply chains that reduce our reliance on countries like China and Russia. It is not hyperbole to say that doing so will strengthen U.S. national security, in addition to providing a myriad of other important economic benefits, such as improving healthcare outcomes and avoiding volatile prices and supply shortages for U.S. consumers and businesses. All those benefits have tremendous value, and the section 232 and 301 tariffs provide an opportunity to help move our supply chains in that economic, social, and environmental direction.

At the hearings, I heard several witnesses speak to how U.S. industries, including steel and solar, benefitting from the section 232 and 301 tariffs are contributing to the United States' climate objectives by increasing investments in newer technologies. Specifically, this included testimony that the U.S. steel industry has the "lowest carbon intensity of the nine largest steel producing countries or regions" and that recent investments in the U.S. solar industry has created thousands of jobs for American workers in

[424] Global Forum on Steel Excess Capacity, Chair's Report (October 26, 2019), https://www.meti.go.jp/english/press/2019/pdf/191026_001-2.pdf. Unsurprisingly, the report, presented as a draft Ministerial Report at the GFSEC Ministerial meeting held in Tokyo in 2019, "did not attract a full consensus."

[425] *See, e.g.,* Hearing Tr. Day 1 at 241 (Cloutier) ("{Y}our question reminded me that some 20 years ago I got sent over to the U.S. Embassy in Beijing and one of my 14 primary tasks was to get the Chinese government to agree to attend the OECD steel meetings in Paris . . . that's how long this has been going on, and there has been very little progress. So I'm not sure what else we can do at this point except use the big stick."); *Id.* at 243 (Brightbill) ("One on the cost of inaction that you talked about 20 years ago, I believe 20 years ago China's total steel capacity was about 100 million tons and today it's 1.1 billion tons, and in the meantime, NAFTA's steel capacity has remained about the same. So that's the cost of inaction. And you see it in industry after industry."); *see also* Hearing Tr. Day 2 (Dempsey) ("The unfortunate reality is that while there was a lot of discussion and analysis on the scope of the over-capacity problem and a lot of reports written, there was no work done that actually sought to address it. As the situation became increasingly dire, I think that is an important context for why by the time you got to 2017, the incoming Trump administration studying a problem that has been documented for years without any successful resolution looked to new tools, and by considering also the national security implications of an overall weakened steel industry, found it necessary to take the trade action. So there's a strong record of that in that OECD and global forum documentation.").

clean energy technologies, assisting in our energy transition.[426] I also learned that the section 301 tariffs led to a significant reduction in the volume of Chinese seafood in the U.S. market, resulting in benefits to both the domestic commercial fishing industry and consumers by curbing support for the harmful environmental, biological, and labor practices in the Chinese seafood industry.[427] Further, U.S. workers spoke to us about how building new steel mills brings not only thousands of new jobs and new labor agreements but also roads, railroads, and economic improvements to some of the most depressed and underserved regions of the United States.[428]

This report, however, is limited in focus. It does not ask or answer additional questions about the real costs and benefits of the actions that were posed by the witness testimony described above—namely, it does not estimate the longer-term effect of the actions on increasing investments in clean energy technologies, building supply chain resiliency, or creating jobs in underserved communities. For example, the report finds that in 2021, imports of semiconductors—a linchpin in the U.S. and global economies for the foreseeable future—from China have declined by 71 percent and domestic production has increased by 6 percent as a result of the section 301 tariffs. It does not, however, address the implications of that finding. The decline in semiconductor imports from China may result in short-term supply gaps and increases in prices for semiconductors, as the report estimates, but I suspect

[426] Hearing Tr. Day 2 at 331–32 (Bell) ("The Section 232 response advances U.S. climate objectives by ensuring that this cleaner domestic production is not replaced by dirty, higher emission foreign imports. The gains from the need to be sustained over the course of the business cycle if they are to be locked in for the long term. This is especially true as the crisis of global overcapacity remains acute and the industry anticipates increasing investment costs related to decarbonization."); *id.* at 413 (Brightbill) ("The Section 301 tariffs on solar cells and modules together with other trade remedies on Chinese solar products are essential to the continued growth and success of the solar manufacturing industry in America. {. . .} Recent investments in domestic solar manufacturing have created thousands of good jobs for American workers in clean energy technologies that are critical to advance our country's response to the climate crisis and our energy transition"). *See also* Summary of Views of Interested Parties, appendix D, (Nucor Corporation) ("Steel producers have invested approximately $22 billion since the Section 232 measures went into effect, resulting in an expected 22 million tons of additional production capacity. These investments represent state-of-the-art facilities that are among the cleanest in the world and that will further the domestic industry's climate advantage over carbon-intensive foreign sources").

[427] Summary of Views of Interested Parties, appendix D (Southern Shrimp Alliance) ("the decline in the presence of Chinese seafood in this market has reduced health risks to American consumers and has discouraged the proliferation of antimicrobial resistant pathogens. Beyond the use of antibiotics in aquaculture, a decline in demand for Chinese seafood also has reduced unintentional American consumer support of environmentally-harmful practices and of labor abuse in the Chinese seafood sector.").

[428] *See*, *e.g.,* Hearing Tr. Day 3 at 611–12 (Ferry) ("Implemented in early 2018, the 25 percent tariffs were the trigger for an unprecedented period of growth and investment in the U.S. industry. A broad-based wave of capital investment followed the tariffs as major steelmakers committed more than $10 billion to build new mills in Florida, Arkansas, Texas, Arizona, and elsewhere. The new mills began hiring hundreds more steelworkers, mostly in depressed or rural regions of the country. The building of mills, the growth of supporting companies to service them, and the new roads, railroads, and other improvements around those mills have brought numerous economic benefits to these regions."); *id.* at 623–34 (Trinidad) ("Our mill has seen three major upgrades since 2019 totaling over $300 million. These investments keep our facility producing high-quality steel, maintaining over 3,500 good jobs and positioning us to remain competitive in the future. Furthermore, our frontline essential employees went from taking pay cuts in order to help provide needed critical monies to continue safe production to the restructuring of labor agreements and receiving profit-sharing checks.").

it is a very good thing in the long run for the U.S. economy, as domestic capacity for semiconductor production is on the upswing.[429]

Congress established the Commission more than 100 years ago because it recognized the need for an independent and bipartisan agency with trade expertise to shed light on the challenging issues of the day. China has presented—and continues to present—possibly the biggest challenge U.S. trade policymakers have faced in a generation, and the costs and benefits of taking action under sections 232 and 301 to address that challenge need to be better understood. Further, even if in principle the benefits of those tariffs outweigh their costs, those tariffs can surely be calibrated and applied to better optimize the benefits and reduce the costs. I believe the Commission can help address these issues. And by doing so, I believe, we can provide policymakers a more complete picture of how to approach the generational challenge of China's model of state capitalism.

[429] *See* The White House, Briefing Room, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth," 100-Day Reviews Under Executive Order 14017 (June 2021) at 9, https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf ("The U.S. share of global semiconductor production has dropped from 37 percent in 1990 to 12 percent today, and is projected to decline further without a comprehensive U.S. strategy to support the industry.").

Underlying Data for Figure AV.1

Table AV.1 Crude steel capacity additions by region, 2000–2014

Region	Nominal capacity additions (MT)	Percent capacity additions (%)
EU	4.1	2
W. Europe (non-EU)	29.2	150
FSU	29.3	24
USA	-1.9	-2
Canada	3.8	22
Latin America	25.5	56
Africa	8.3	34
Middle East	45.3	296
Japan	-15.2	-10
China	990.4	662
Asia (ex. China & Japan)	172.8	132
Australia	0.6	7
Rest of World (ROW)	9.8	49

Source: Duke CGGC, calculated from the German Steel Federation, *Statistische Jahrbuch der Stahlindustrie* (2015).

Appendix A
The Legislative Direction

See *Congressional Record*, page H1801, March 9, 2022:

> INTERNATIONAL TRADE COMMISSION SALARIES AND EXPENSES The agreement includes $110,000,000 for the International Trade Commission (ITC). Within the funds provided, the agreement supports an increase towards the ITC's information technology requirements. Trade Enforcement Analysis. — ITC is directed to conduct an investigation and retrospective economic analysis of any section 232 or 301 tariff that is active as of the date of enactment of this Act. Within a year of enactment of this Act, ITC shall provide a report to the Committees with detailed information, to the extent practicable, on U.S. trade, production, and prices in the industries directly and most affected by active tariffs under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) and section 301 of the Trade Act of 1974 (19 U.S.C. 2232).

STAFF OF S. COMM. ON APPROPRIATIONS, 117TH CONG., EXPLANATORY STATEMENT FOR COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES APPROPRIATIONS BILL, 2023 (Comm. Print 2022).

> Analysis of the Impacts of Trade Enforcement Actions.—The Committee continues to be concerned about the impact of active tariffs under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. § 1862) and section 301 of the Trade Act of 1974 (19 U.S.C. § 2232). The Committee looks forward to receiving the report on the effects of these tariffs, as directed by the joint explanatory statement accompanying Pub. L. 117–103 under the heading ''Trade Enforcement Analysis.''

Appendix B
Federal Register Notices

5:15 p.m., Wednesday, August 24, 2022. 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), as temporarily amended by 85 FR 15798 (March 19, 2020). Under that rule waiver, the Office of the Secretary will accept only electronic filings at this time. Filings must be made through the Commission's Electronic Document Information System (EDIS, *https://edis.usitc.gov*). No in-person paper-based filings or paper copies of any electronic filings will be accepted until further notice. Persons with questions regarding electronic filing should contact the Office of the Secretary, Docket Services Division (202–205–1802), or consult the Commission's Handbook on Filing Procedures.

Definitions of types of documents that may be filed; requirements: In addition to requests to appear at the hearing, this notice provides for the possible filing of four types of documents: prehearing briefs, oral hearing statements, post-hearing briefs, and other written submissions.

(1) Prehearing briefs refers to written materials relevant to the investigation and submitted in advance of the hearing, and includes written views on matters that are the subject of the investigation, supporting materials, and any other written materials that you consider will help the Commission in understanding your views. You should file a prehearing brief particularly if you plan to testify at the hearing on behalf of an industry group, company, or other organization, and wish to provide detailed views or information that will support or supplement your testimony.

(2) *Oral hearing statements (testimony)* refers to the actual oral statement that you intend to present at the public hearing. Do not include any confidential business information in that statement. If you plan to testify, you must file a copy of your oral statement by the date specified in this notice. This statement will allow Commissioners to understand your position in advance of the hearing and will also assist the court reporter in preparing an accurate transcript of the hearing (*e.g.,* names spelled correctly).

(3) *Post-hearing briefs* refers to submissions filed after the hearing by persons who appeared at the hearing. Such briefs: (a) Should be limited to matters that arose during the hearing, (b) should respond to any Commissioner and staff questions addressed to you at the hearing, (c) should clarify, amplify, or correct any statements you made at the hearing, and (d) may, at your option, address or rebut statements made by other participants in the hearing.

(4) *Other written submissions* refers to any other written submissions that interested persons wish to make, regardless of whether they appeared at the hearing, and may include new information or updates of information previously provided.

In accordance with the provisions of section 201.8 of the Commission's Rules of Practice and Procedure (19 CFR 201.8) the document must identify on its cover (1) the investigation number and title and the type of document filed (*i.e.,* prehearing brief, oral statement of (name), posthearing brief, or written submission), (2) the name and signature of the person filing it, (3) the name of the organization that the submission is filed on behalf of, and (4) whether it contains confidential business information (CBI). If it contains CBI, it must comply with the marking and other requirements set out below in this notice relating to CBI. Submitters of written documents (other than oral hearing statements) are encouraged to include a short summary of their position or interest at the beginning of the document, and a table of contents when the document addresses multiple issues.

Confidential business information: Any submissions that contain confidential business information must also conform to the requirements of 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 "non-confidential" version, and that the confidential business information is clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available for inspection by interested parties.

As requested by the Committees, the Commission will not include any confidential business information in its report. However, all information, including confidential business information, 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 purposes. The Commission will not otherwise disclose any confidential business information in a way that would reveal the operations of the firm supplying the information.

Summaries of written submissions: Persons wishing to have a summary of their position included in the report should include a summary with their written submission on or before August 24, 2022, 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 confidential business information. The summary will be published as provided if it meets these requirements and is germane to the subject matter of the investigation. The Commission will list the name of the organization furnishing the summary and will include a link to the Commission's Electronic Document Information System (EDIS) where the written submission can be found.

By order of the Commission.

Issued: May 5, 2022.

William Bishop,

Supervisory Hearings and Information Officer.

[FR Doc. 2022–10021 Filed 5–9–22; 8:45 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–1258]

Certain Smart Thermostat Systems, Smart HVAC Systems, Smart HVAC Control Systems, and Components Thereof; Notice of Request for Submissions on the Public Interest

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that on April 4, 2022, the presiding administrative law judge ("ALJ") issued a Final Initial Determination on Violation of Section 337. The ALJ also issued a Recommended Determination on remedy and bonding should a violation be found in the above-captioned investigation. The Commission is soliciting submissions on public interest issues raised by the recommended relief should the Commission find a violation. This notice is soliciting comments from the public only.

FOR FURTHER INFORMATION CONTACT: Houda Morad, Esq., Office of the General Counsel, U.S. International

KENTUCKY

Fulton County

Fulton Downtown Historic District, Part of Carr, Commercial, Lake, Main, and Walnut Sts., Fulton, AD03000710

RHODE ISLAND

Providence County

Woonsocket Company Mill Complex (Additional Documentation), 100–115 Front St., Woonsocket, AD73000005

UTAH

Summit County

Shields, John, House (Additional Documentation) (Mining Boom Era Houses TR), 416 Park Ave., Park City, AD84003997

(Authority: Section 60.13 of 36 CFR part 60)

Dated: May 4, 2022.

Sherry A. Frear,

Chief, National Register of Historic Places/National Historic Landmarks Program.

[FR Doc. 2022–09967 Filed 5–9–22; 8:45 am]

BILLING CODE 4312–52–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 332–591]

Economic Impact of Section 232 and 301 Tariffs on U.S. Industries

ACTION: Notice of investigation and scheduling of a public hearing.

SUMMARY: As directed by an explanatory statement related that accompanied the Consolidated Appropriations Act, 2022, enacted on March 15, 2022, the U.S. International Trade Commission (Commission) instituted Investigation No. 332–591, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries.* In the explanatory statement, the House and Senate Committees on Appropriations (Committees) directed that the Commission conduct a retrospective investigation and provide a report on the impacts in the U.S. industries most affected by the Section 232 and 301 tariffs that were active as of March 15, 2022.

DATES:

July 6, 2022: Deadline for filing requests to appear at the public hearing.

July 8, 2022: Deadline for filing prehearing briefs and statements.

July 14, 2022: Deadline for filing electronic copies of oral hearing statements.

July 21, 2022: Public hearing.

August 12, 2022: Deadline for filing posthearing briefs and statements.

August 24, 2022: Deadline for filing all other written submissions.

March 15, 2023: Transmittal of Commission report to Committees.

ADDRESSES: All Commission offices are in the U.S. International Trade Commission Building, 500 E Street SW, Washington, DC. Due to the COVID–19 pandemic, the Commission's building is currently closed to the public. Once the building reopens, 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.

FOR FURTHER INFORMATION CONTACT: Project Leader Peter Herman (*Peter.Herman@usitc.gov* or 202–205–3186) or Deputy Project Leader Kelsi Van Veen (*Kelsi.VanVeen@usitc.gov* or 202–205–3086) for information specific to this investigation. For information on the legal aspects of this investigation, contact William Gearhart of the Commission's Office of the General Counsel (*William.Gearhart@usitc.gov* or 202–205–3091). The media should contact Jennifer Andberg, Office of External Relations (*Jennifer.Andberg@usitc.gov* or 202–205–1819).

The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov.* General information concerning the Commission may also be obtained by accessing its website (*https://www.usitc.gov*). Hearing-impaired individuals may obtain information on this matter by contacting the Commission's TDD terminal at 202–205–1810.

SUPPLEMENTARY INFORMATION: As requested by the Committees, the Commission will include in its report detailed information on U.S. trade, production, and prices in the industries directly and most affected by active tariffs under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) and section 301 of the Trade Act of 1974 (19 U.S.C. 2232). The Commission has instituted the investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) to facilitate the receipt of public comments and for the purpose of including the Commission's report in an existing series of reports.

The tariffs covered in the report will be the additional tariffs on U.S. imports imposed under section 232 of the Trade Expansion Act of 1962 (19 U.S.C. 1862) and imposed under section 301 of the Trade Act of 1974 (19 U.S.C. 2411 *et seq.*) that were in effect as of March 15, 2022—as reflected in the 2022 Harmonized Tariff Schedule of the United States, Revision 2, USITC Pub. 5293. Additional information on the section 232 actions can be found under HTS numbers 9903.80.01 through 9903.81.80 and 9903.85.01 through 9903.85.44. Additional information on the section 301 actions can be found under HTS numbers 9903.88.01, 9903.88.02, 9903.88.03, 9903.88.04, and 9903.88.15.

The Committees requested that the Commission transmit its report no later than 12 months following the enactment of the Consolidated Appropriations Act. The Commission's report will be made available to the public.

Public hearing: A public hearing in connection with this investigation will be held beginning at 9:30 a.m. Eastern Time on Thursday July 21, 2022. Information about the place and form of the hearing, including about how to participate in and/or view the hearing, will be posted on the Commission's website at (*https://usitc.gov/research_and_analysis/what_we_are_working_on.htm*). Once on that web page, scroll down to Investigation No. 332–591, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries,* and click on the link to "Hearing Instructions." Interested parties should check the Commission's website periodically for updates.

Requests to appear at the public hearing should be filed with the Secretary to the Commission no later than 5:15 p.m., Wednesday, July 6, 2022, in accordance with the requirements in the "Written Submissions" section below. All prehearing briefs and statements should be filed not later than 5:15 p.m., Friday, July 8, 2022. To facilitate the hearing, including the preparation of an accurate written transcript of the hearing, oral testimony to be presented at the hearing must be submitted to the Commission electronically no later than noon on Thursday, July 14, 2022. All post-hearing briefs and statements should be filed no later than 5:15 p.m., Friday, August 12, 2022. Post-hearing briefs and statements should address matters raised at the hearing. For a description of the different types of written briefs and statements, see the "Definitions" section below.

In the event that, as of the close of business on July 6, 2022, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or nonparticipant should check the Commission website two paragraphs above for information concerning whether the hearing will be held.

Written submissions: In lieu of or in addition to participating in the hearing, interested parties are invited to file written submissions concerning this investigation. All written submissions should be addressed to the Secretary and should be received not later than

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The Commission vote for this determination took place on July 13, 2022.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Issued: July 13, 2022.

William Bishop,

Supervisory Hearings and Information Officer.

[FR Doc. 2022–15325 Filed 7–18–22; 8:45 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–1312]

Certain Mobile Electronic Devices; Notice of Commission Decision Not To Review an Initial Determination Granting in Part a Motion To Amend the Complaint and Notice of Investigation

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review an initial determination ("ID") (Order No. 5) of the presiding administrative law judge ("ALJ") granting in part a motion to amend the complaint and notice of investigation.

FOR FURTHER INFORMATION CONTACT: Houda Morad, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 708–4716. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov.* For help accessing EDIS, please email *EDIS3Help@usitc.gov.* General information concerning the Commission may also be obtained by accessing its internet server at *https://www.usitc.gov.* Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

SUPPLEMENTARY INFORMATION: On May 4, 2022, the Commission instituted this investigation under section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337 ("section 337"), based on a complaint filed by Maxell, Ltd. of Kyoto, Japan ("Complainant"). *See* 87 FR 26373–74 (May 4, 2022). The complaint, as supplemented, alleges a violation of section 337 based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain mobile electronic devices by reason of infringement of certain claims of U.S. Patent Nos. 7,199,821; 7,324,487; 8,170,394; 8,982,086; 10,129,590; and 10,244,284. The notice of investigation names Lenovo Group Ltd. of Beijing, China; Lenovo (United States) Inc. ("Lenovo US") of Morrisville, North Carolina; and Motorola Mobility LLC of Libertyville, Illinois (collectively, "Respondents"), as respondents in the investigation. *See id.* The Office of Unfair Import Investigations is also a party to the investigation. *See id.*

On May 6, 2022, Complainant filed a motion to amend the complaint and notice of investigation to: (1) remove domestic industry allegations based on the domestic activities of its licensee Apple Inc. ("Apple"); (2) add domestic industry allegations based on the domestic activities of respondent Lenovo US; and (3) amend the plain language description of accused products to include Lenovo-branded smartphones. On May 18, 2022, Respondents filed a response opposing in part Complainant's motion to amend. Specifically, while Respondents do not oppose the withdrawal of domestic industry allegations based on Apple's domestic activities, they oppose Complainant's motion to amend in all other respects. On May 23, 2022, Complainant filed a reply in support of its motion to amend.

On June 14, 2022, the ALJ issued the subject ID (Order No. 5) pursuant to Commission Rule 210.14(b) (19 CFR 210.14(b)), granting in part Complainant's motion to amend the complaint and notice of investigation. *See* ID at 2. Specifically, the ID grants Complainant's request to amend the complaint and notice of investigation to include Lenovo-branded smartphones in the plain-language description of the accused products. *See id.* at 11.

Order No. 5 also grants the motion with respect to Complainant's request to withdraw the assertions in the complaint regarding Complainant's reliance on Apple's domestic activities to satisfy the domestic industry requirement. *See id.* at 9. Order No. 5 also denies Complainant's request to amend the complaint to rely upon Lenovo US's domestic activities. *See id.* at 8–9. These aspects of Order No. 5 do not constitute an initial determination that is subject to review at this time and are therefore not currently before the Commission. 19 CFR 210.14(b); 19 CFR 210.42(c)(1).

No petition for review of the subject ID was filed.

The Commission has determined not to review the subject ID. In particular, the plain language description of the accused products in the complaint and notice of investigation is amended to recite "certain mobile electronic devices, *i.e., Lenovo-branded and* Motorola-branded smartphones."

The Commission's vote for this determination took place on July 14, 2022.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Issued: July 14, 2022.

William Bishop,

Supervisory Hearings and Information Officer.

[FR Doc. 2022–15380 Filed 7–18–22; 8:45 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 332–591]

Economic Impact of Section 232 and 301 Tariffs on U.S. Industries

ACTION: Notice; addition of two days for public hearing.

SUMMARY: Due to the large number of requests to appear at the Commission's public hearing in this investigation, the U.S. International Trade Commission (Commission) has added two additional days to the public hearing, July 20, 2022, and July 22, 2022. The public hearing originally was scheduled for one day, July 21, 2022. As rescheduled, it will be held on July 20–22, 2022. The Commission will post a schedule for the hearing on its website as soon as one is available at *https://usitc.gov/research_and_analysis/what_we_are_working_on.htm* (see Commission Investigation No. 332–591, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries*).

DATES:

July 6, 2022: Deadline for filing requests to appear at the public hearing.

July 8, 2022: Deadline for filing prehearing briefs and statements.

July 14, 2022: Deadline for filing electronic copies of oral hearing statements.

July 20–22, 2022: Public hearing.

August 12, 2022: Deadline for filing posthearing briefs and statements.

August 24, 2022: Deadline for filing all other written submissions.

March 15, 2023: Transmittal of Commission report to Appropriations Committees.

ADDRESSES: All Commission offices are in the U.S. International Trade Commission Building, 500 E Street SW, Washington, DC. Due to the COVID–19 pandemic, the Commission's building is currently closed to the public. Once the building reopens, 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.

FOR FURTHER INFORMATION CONTACT: Project Leader Peter Herman (*Peter.Herman@usitc.gov* or 202–205–3186) or Deputy Project Leader Kelsi Van Veen (*Kelsi.VanVeen@usitc.gov* or 202–205–3086) for information specific to this investigation. For information on the legal aspects of this investigation, contact William Gearhart of the Commission's Office of the General Counsel (*William.Gearhart@usitc.gov* or 202–205–3091). The media should contact Jennifer Andberg, Office of External Relations (*Jennifer.Andberg@usitc.gov* or 202–205–1819).

The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov.* General information concerning the Commission may also be obtained by accessing its website (*https://www.usitc.gov*). Hearing-impaired individuals may obtain information on this matter by contacting the Commission's TDD terminal at 202–205–1810.

SUPPLEMENTARY INFORMATION: The initial notice of institution of this investigation and scheduling of a public hearing was published in the **Federal Register** on May 10, 2022 (87 FR 28035). Except for the addition of two days for the public hearing, all other information included in that notice remains the same. Additional information about how to participate in and/or view the hearing, will be posted on the Commission's website at *https://usitc.gov/research_and_analysis/what_we_are_working_on.htm.* Once on that web page, scroll down to Investigation No. 332–591, *Economic Impact of Section 232 and 301 Tariffs on U.S. Industries,* and click on the link to ''Hearing Information.'' Interested parties should check the Commission's website periodically for updates.

By order of the Commission.

Issued: July 13, 2022.

William Bishop,

Supervisory Hearings and Information Officer.

[FR Doc. 2022–15323 Filed 7–18–22; 8:45 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 701–TA–560–561 and 731–TA–1317–1328 (Review)]

Carbon and Alloy Steel Cut-To-Length Plate From Austria, Belgium, Brazil, China, France, Germany, Italy, Japan, South Africa, South Korea, Taiwan, and Turkey; Scheduling of Full Five-Year Reviews

AGENCY: United States International Trade Commission.

ACTION: Notice.

SUMMARY: The Commission hereby gives notice of the scheduling of full reviews pursuant to the Tariff Act of 1930 (''the Act'') to determine whether revocation of the countervailing duty orders on carbon and alloy steel cut-to-length plate (''CTL plate'') from China and South Korea and the antidumping duty orders on CTL plate from Austria, Belgium, Brazil, China, France, Germany, Italy, Japan, South Africa, South Korea, Taiwan, and Turkey would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission has determined to exercise its authority to extend the review period by up to 90 days.

DATES: July 8, 2022.

FOR FURTHER INFORMATION CONTACT: Nayana Kollanthara (202–205–2043), Office of Investigations, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. 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. General information concerning the Commission may also be obtained by accessing its internet server (*https://www.usitc.gov*). The public record for these reviews may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov.*

SUPPLEMENTARY INFORMATION:

Background.—On March 7, 2022, the Commission determined that responses to its notice of institution of the subject five-year reviews were such that full reviews should proceed (87 FR 19121, April 1, 2022); accordingly, full reviews are being scheduled pursuant to section 751(c)(5) of the Tariff Act of 1930 (19 U.S.C. 1675(c)(5)). A record of the Commissioners' votes, the Commission's statement on adequacy, and any individual Commissioner's statements are available from the Office of the Secretary and at the Commission's website.

Participation in the reviews and public service list.—Persons, including industrial users of the subject merchandise and, if the merchandise is sold at the retail level, representative consumer organizations, wishing to participate in these reviews as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, by 45 days after publication of this notice. A party that filed a notice of appearance following publication of the Commission's notice of institution of the reviews need not file an additional notice of appearance. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the reviews.

For further information concerning the conduct of these reviews and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A and B (19 CFR part 201), and part 207, subparts A, D, E, and F (19 CFR part 207).

Please note the Secretary's Office will accept only electronic filings during this time. Filings must be made through the Commission's Electronic Document Information System (EDIS, *https://edis.usitc.gov.*) No in-person paper-based filings or paper copies of any electronic filings will be accepted until further notice.

Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and BPI service list.—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in these reviews available to authorized applicants under the APO issued in the reviews, provided that the application is made by 45 days after publication of this notice. Authorized applicants must represent interested parties, as defined by 19 U.S.C. 1677(9), who are parties to the reviews. A party granted access to BPI following publication of the Commission's notice of institution of the reviews need not reapply for such access. A separate service list will be maintained by the

Appendix C
Calendar of Hearing Witnesses

CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing via videoconference:

Subject: Economic Impact of Section 232 and 301 Tariffs on U.S. Industries

Inv. No.: 332-591

Date and Time: July 20, 2022 - 9:30 a.m. (*Day 1)*

PANEL 1:

ORGANIZATION AND WITNESSES:

Wiley Rein LLP
Washington, DC
on behalf of

Century Aluminum Company ("Century")

Matt Aboud, Senior Vice President, Strategy and Business Development, Century Aluminum Company

Robert E. DeFrancesco III) – OF COUNSEL

The Aluminum Association
Arlington, VA

Charles Johnson, President and Chief Executive Officer

Lloyd ("Buddy") Stemple, Chief Executive Officer, Constellium Rolled Products Ravenswood, LLC; and Chair of Board of Directors, The Aluminum Association

Henry Gordinier, President and Chief Executive Officer, Tri-Arrows Aluminum Inc.; and Vice Chair of Board of Directors, The Aluminum Association

Aluminum Extruders Council ("AEC")
Wauconda, IL

Jeffrey S. Henderson, President

Beer Institute
Washington, DC

Mary Jane Saunders, Vice President and General Counsel

PANEL 2:

ORGANIZATION AND WITNESSES:

Bracewell LLP
Washington, DC
on behalf of

Precision Metalforming Association ("PMA")

David Klotz, President, Precision Metalforming Association

Paul Nathanson) – OF COUNSEL

Franklin Partnership, LLP
Washington, DC
on behalf of

Precision Machined Products Association ("PMPA")

Miles Free, Director of Industry Affairs, PMPA

Omar Nashashibi, Partner, Franklin Partnership, LLP

Franklin Partnership, LLP
Washington, DC
on behalf of

Smith & Richardson Inc.

William Richard Hoster III, President, Smith & Richardson Inc.

Omar Nashashibi, Partner, Franklin Partnership, LLP

Franklin Partnership, LLP
Washington, DC

on behalf of

Vaughn Manufacturing Company

Mark Vaughn, President, Vaughn Manufacturing Company

Omar Nashashibi, Partner, Franklin Partnership, LLP

Haas Automation, Inc.
Oxnard, California

Peter Zierhut, Vice President

Franklin Partnership, LLP
Washington, DC
on behalf of

Precise Tooling Solutions

Don Dumoulin, Chief Executive Officer and Owner,
Precise Tooling Solutions

Omar Nashashibi, Partner, Franklin Partnership, LLP

Industrial Fasteners Institute
Independence, OH

Dan Walker, Managing Director

Laurin Baker, Washington Representative

Bracewell LLP
Washington, DC
on behalf of

Tennsco LLC

Stuart Speyer, President, Tennsco LLC

Paul Nathanson) – OF COUNSEL

Bracewell LLP
Washington, DC
on behalf of

B. Walter & Co.

Scott Buehrer, President, B. Walter & Co.

Paul Nathanson) – OF COUNSEL

Panel 3:

ORGANIZATION AND WITNESSES:

American Concrete Pipe Association ("ACPA")
Irving, TX

Steven R. Hawkins, Sr., President

Wiley Rein LLP
Washington, DC
on behalf of

American Line Pipe Producers Association Trade Committee

Timothy C. Brightbill) – OF COUNSEL

Schagrin Associates
Washington, DC
on behalf of

ArcelorMittal Tubular; Bristol Metals; Bull Moose Tube; California Steel and Tube;
EXLTUBE; Felker Brothers Corporation; Maruichi American Corporation;
Nucor Tubular Products; Primus Pipe & Tube; PTC Liberty Tubulars;
Searing Industries; Vest, Inc.; Vallourec Star, LP; Welded Tube USA;
Welspun Tubular USA; and Zekelman Industries

Tom Modrowski, Chief Executive Officer, Bull Moose Industries

Tom Muth, Executive Vice President and Chief Operating Officer,
Zekelman Industries

Christopher T. Cloutier) – OF COUNSEL

Franklin Partnership, LLP

Washington, DC
on behalf of

Forging Industry Association ("FIA")

James R. Warren, President and Chief Executive Officer, FIA

Omar Nashashibi, Partner, Franklin Partnership, LLP

Morris, Manning & Martin LLP
Washington, DC
on behalf of

American Metals Supply Chain Institute ("AMSCI")

Richard Chriss, President, AMSCI

Donald B. Cameron)
) – OF COUNSEL
R. Will Planert)

Coalition of American Metal Manufacturers and Users ("CAMMU")
Washington, DC

Paul Nathanson, Executive Director

Franklin Partnership, LLP
Washington, DC
on behalf of

Trenton Forging

Chelsea Lantto, President, Trenton Forging

Omar Nashashibi, Partner, Franklin Partnership, LLP

-END (Day 1)-
CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing via videoconference:

Subject: Economic Impact of Section 232 and 301 Tariffs on U.S. Industries

Inv. No.: 332-591

Date and Time: July 21, 2022 - 9:30 a.m. *(Day 2)*

CONGRESSIONAL APPEARANCE:

The Honorable Frank J. Mrvan, U.S. Representative, 1st District, Indiana

FOREIGN GOVERNMENT WITNESS:

The Republic of Turkey
Ministry of Trade

Burak Güreşci, Head of Department, Directorate General for Imports

PANEL 4:

ORGANIZATION AND WITNESSES:

Wiley Rein LLP
Washington, DC
on behalf of

Gerdau

Adam Parr, Director, Communications and Public Affairs, Gerdau

John R. Shane) – OF COUNSEL

Wiley Rein LLP
Washington, DC
on behalf of

Nucor Corporation (“Nucor”)

Christopher J. Bedell, General Manager, Corporate Legal Affairs, Nucor

Alan H. Price) – OF COUNSEL

AMS Trade LLP
Washington, DC
on behalf of

Outokumpu Stainless USA, LLC ("Outokumpu")

Tamara Weinert, President and Chief Executive Office,
Outokumpu BA Americas

Stuart Holmes, Senior Vice President, Finance and Procurement
and Chief Financial Officer, Outokumpu BA Americas

Deanna Tanner Okun) – OF COUNSEL

Specialty Steel Industry of North America ("SSINA")
Washington, DC

Tracy Rudolph, President and Chief Operating Officer, Electralloy

American Iron and Steel Institute
Washington, DC

Kevin M. Dempsey, President and Chief Executive Officer

United States Steel Corporation ("U.S. Steel")
Washington, DC

Benjamin Blase Caryl, Associate General Counsel,
International Trade & Public Policy, U.S. Steel

King and Spalding LLP
Washington, DC
on behalf of

Cleveland-Cliffs Inc.

Patrick M. Bloom, Vice President, Government Relations,
Cleveland-Cliffs Inc.

Stephen P. Vaughn) – OF COUNSEL

Steel Manufacturers Association ("SMA")

Washington, DC

Philip K. Bell, President

ArentFox Schiff LLP
Washington, DC
on behalf of

Çelik İhracatçıları Birliği – Turkish Steel Exporters' Association

Jessica R. DiPietro) – OF COUNSEL

Sandler, Travis & Rosenberg, P.A.
Washington, DC
on behalf of

Magellan Corporation

Nicole Bivens-Collinson, President, International Trade
Government Relations, Sandler, Travis & Rosenberg, P.A.

Wiley Rein LLP
Washington, DC
on behalf of

Rebar Trade Action Coalition ("RTAC")
Commercial Metals Company ("CMC")

Billy Milligan, Vice President, Sustainability & Government
Affairs, CMC

John R. Shane) – OF COUNSEL

PANEL 5:

ORGANIZATION AND WITNESSES:

Wiley Rein LLP
Washington, DC
on behalf of

American Alliance for Solar Manufacturing ("the Alliance")

Timothy C. Brightbill)
) – OF COUNSEL
Laura El-Sabaawi)

Alliance for American Manufacturing ("AAM")
Washington, DC

Scott N. Paul, President

Barnes & Thornburg LLP
Washington, DC
on behalf of

North American Association of Food Equipment Manufacturers

Charlie Souhrada, Vice President, Regulatory & Technical Affairs,
North American Association of Food Equipment Manufacturers

Christine J. Sohar Henter) – OF COUNSEL

California Manufacturing and Engineering Co. ("MEC'")
Kerman, CA

Deanne Hix, Vice President of Sales Operations & Strategic Planning

Wiley Rein LLP
Washington, DC
on behalf of

Inventus Power ("Inventus")

Patrick Trippel, President and Chief Executive Officer, Inventus

Chris Turner, Chief Technical Officer, Inventus

Maureen E. Thorson) – OF COUNSEL

Auto Care Association
Bethesda, MD

Bill Hanvey, President and Chief Executive Officer

Webb Wheel Products, Inc. ("Webb")
Cullman, Alabama

Johnathon Capps, Vice President

Wiley Rein LLP
Washington, DC
on behalf of

JLG Industries, Inc. ("JLG")

Jeffrey Ford, Director of Global Strategy and Business Development, JLG

Timothy C. Brightbill)
) – OF COUNSEL
Laura El-Sabaawi)

Motor & Equipment Manufacturers Association ("MEMA")
Washington, DC

Bill Frymoyer, Vice President, Public Policy

PANEL 6:

ORGANIZATION AND WITNESSES:

Retail Industry Leaders Association ("RILA")
Washington, DC

Blake Harden, Vice President, International Trade

National Retail Federation
Washington, DC

Jonathan Gold, Vice President, Supply Chain and Customs Policy

American Apparel & Footwear Association ("AAFA")
Washington, DC

Stephen Lamar, President and Chief Executive Officer

Barnes & Thornburg LLP
Washington, DC
on behalf of

U.S. Fashion Industry Association

Julie Hughes, President, U.S. Fashion Industry Association

David M. Spooner) – OF COUNSEL

Holiday Ornament Holiday Occasion Coalition ("HoHo Coalition")
New York, NY

Cliff Adler, President, Kurt S. Adler, Inc.

The Mooney Law Firm, LLC
Tallahassee, FL
on behalf of

Home Furnishings Resource Group, Inc. ("HFRG")

Curt Christian, Chief Executive Officer, HFRG

Shannon Liang) – OF COUNSEL

Travel Goods Association
Princeton. NJ

Nate Herman, Director of Government Relations

JOANN Inc. and Subsidiaries (including Jo-Ann Stores, LLC)
(collectively "JOANN")
Hudson, OH

Edward Weinstein, Vice President, Tax and Government Affairs

American Chemistry Council ("ACC")
Washington, DC

Jason Bernstein, Director, Global Affairs

-END (Day 2)-
CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing via videoconference:

Subject: Economic Impact of Section 232 and 301 Tariffs on U.S. Industries

Inv. No.: 332-591

Date and Time: July 22, 2022 - 9:30 a.m. *(Day 3)*

PANEL 7:

ORGANIZATION AND WITNESSES:

Coalition for a Prosperous America
Washington, DC

Jeff Ferry, Chief Economist

Amanda Mayoral, Economist

AFL-CIO Industrial Union Council ("IUC")
Washington, DC

Brad Markell, Executive Director

United Steelworkers ("USW")
Washington, DC

Roxanne D. Brown, International Vice President At-Large

Pete Trinidad, Sr., President, USW Local 6787, Cleveland-Cliffs, Inc's. Steelmaking Facility in Burns Harbor, IN

Mark D. Lash, President, USW Local 1066, U.S. Steel Corporation's Steelmaking Facility in Gary, IN

Donneta Williams, President, USW Local 1025, Corning Inc.'s Optical Fiber Manufacturing Plant, Wilmington, NC

Housing Affordability Coalition for Trade

Washington, DC

Harlan Stone, Founding Member

PANEL 8:

ORGANIZATION AND WITNESSES:

Wiley Rein LLP
Washington, DC
on behalf of

Coalition for Fair Trade in Hardwood Plywood
and its individual members: Columbia Forest Products;
Commonwealth Plywood Inc.; States Industries Inc.; and
Timber Products Company
(collectively, "the Coalition")

Greg Pray, Chief Executive Officer and President,
Columbia Forest Products Company; and Chairman,
Coalition for Fair Trade in Hardwood Plywood

Timothy C. Brightbill)
Tessa V. Capeloto) – OF COUNSEL
Stephanie M. Bell)

Wiley Rein LLP
Washington, DC
on behalf of

American Manufacturers of Multilayered Wood Flooring
and its individual members: AHF Products, LLC; Mohawk Industries, Inc.;
Cahaba Veneer & Plywood; and Mullican Flooring, L.P.
(collectively, "AMMWF")

Neil Poland, President, Mullican Flooring, L.P.

Don Finkell, Vice President, AHF Products, LLC

Timothy C. Brightbill)
) – OF COUNSEL

Stephanie M. Bell)

Franklin Partnership, LLP
Washington, DC
on behalf of

American Mold Builders Association ("AMBA")

Kym Conis, Managing Director, AMBA

Omar Nashashibi, Partner, Franklin Partnership, LLP

Wiley Rein LLP
Washington, DC
on behalf of

American Vinyl Flooring Manufacturers Coalition (the "Coalition")

Jennifer Zimmerman, Chief Commercial Officer, AHF Products, LLC

Timothy C. Brightbill)
) – OF COUNSEL
Stephanie M. Bell)

Clark Hill, PLLC
Washington, DC
on behalf of

Cali Bamboo, LLC ("Cali")

Frank Carvajal, Vice President of Sales & Operations Planning

Matthew Goldstein) – OF COUNSEL

Barnes & Thornburg LLP
Washington, DC
on behalf of

Tile Council of North America ("TCNA")

Eric Astrachan, Executive Director, TCNA

David M. Spooner) – OF COUNSEL

The Mooney Law Firm, LLC
Tallahassee, FL
on behalf of

Life Saver Pool Fence Systems, Inc. ("Life Saver")

Eric Lupton, President, Life Saver

Shannon Liang) – OF COUNSEL

Wiley Rein LLP
Washington, DC
on behalf of

Metal Grating Coalition ("the Coalition")

Timothy C. Brightbill)
) – OF COUNSEL
Laura El-Sabaawi)

Wiley Rein LLP
Washington, DC
on behalf of

Coalition of American Millwork Producers ("CAMP")

Greg Easton, Vice President, Woodgrain, Inc.

Timothy C. Brightbill)
) – OF COUNSEL
Laura El-Sabaawi)

PANEL 9:

ORGANIZATION AND WITNESSES:

The Mooney Law Firm, LLC
Tallahassee, FL
on behalf of

J.M. Wechter & Associates, Inc. ("JM Wechter")

Maggie Walsh, Sr. Vice President, Production, JM Wechter

Shannon Liang) – OF COUNSEL

Schagrin Associates
Washington, DC
on behalf of

Novus International, Inc. ("Novus")

Dan Meagher, President and Chief Executive Officer,
Novus International, Inc.

Christopher T. Cloutier) – OF COUNSEL

Wiley Rein LLP
Washington, DC
on behalf of

Molycop USA

Jim Anderson, Chief Executive Officer, Molycop USA

Alan H. Price) – OF COUNSEL

Consumer Technology Association ("CTA")
Arlington, VA

Ed Brzytwa, Vice President of International Trade

Element Electronics
Winnsboro, South Carolina

David Baer, Chief Operating Officer and General Counsel

Information Technology Industry Council ("ITI")
Washington, DC

Naomi Wilson, Vice President for Policy, Asia

Vista Outdoor Inc.
Anoka, Minnesota

Fred C. Ferguson, Vice President, Public Affairs and Communications

Outdoor Industry Association ("OIA")

Washington, DC

Richard W. Harper, Jr., Director of Government Affairs

Stein Shostak Pollack & O'Hara, LLP
Los Angeles, CA
on behalf of

Pedego, Inc.

Don DiCostanzo, Chief Executive Officer, Pedego, Inc.

Kayla Owens) – OF COUNSEL

Medline Industries ("Medline")
Northfield, IL

Rob Calia, Vice President

National Fisheries Institute ("NFI")
McLean, VA

Robert A. DeHaan, Vice President for Government Relations

-END (Day 3)-

Appendix D
Summary of Views of Interested Parties

This appendix includes summaries of written submissions prepared by interested parties, provided that they met certain requirements set out in the notice of investigation, and the names of interested parties who filed written submissions in the investigation but did not file a written summary. The Commission has not edited the written summaries. A full copy of each written submission is available in the Commission's Electronic Document Information System (EDIS) (https://edis.usitc.gov). A public hearing was held for the investigation on July 20–22, 2022. Appendix C contains the calendar of the public hearing, which includes names of the persons who testified. The transcript of the hearing is available on EDIS.

Alcoa Corporation

No written summary. Please see EDIS for full submission.

Alliance for American Manufacturing

No written summary. Please see EDIS for full submission.

Aluminium Association of Canada

Recommendation: Should the United States revisit imposition of the 232 tariffs, Canadian aluminium must remain exempt of any 232 tariffs, because of its strategic role within North America's integrated industrial value chain.

> Canada has always been a trustworthy supplier of responsibly produced low CO2 aluminium, with stable supply of product to the U.S. while exposed to the ups and downs of the market. Canada's production capacity has remained the same over the past 15 years.

> China's subsidization of high-carbon aluminium has impacted the nature of the global aluminium market, leading to a downward pressure on global prices, discouraging new private investment and threatening the long-term viability of current production.

> As China increases its overwhelming share of aluminium production, by adding new capacity in primary and secondary, upstream and downstream, enabled by state subsidies of all forms, it progressively destroys existing privately owned competition in the rest of the world, while inhibiting market-driven expansion outside the country. This erosion is already weakening established domestic capacity around the world – most notable in NATO countries, the U.S., Canada and Europe – threatening our shared capacity to step up in times of special needs to supply our national security requirements.

> Responsible production should be brought into consideration in addition to the notion of carbon footprint, as we work towards reshoring industrial capacity around shared values coming out of a succession of supply chain shocks.

> We believe that the preservation and growth of the aluminium value chain should be grounded on responsible production and low carbon parameters, within existing trade agreements (ie USMCA).

> Using our recently renegotiated USMCA trade agreement to reference acceptable standards of responsible production and carbon pricing could provide an initial platform for treating incoming imports of aluminium in accordance with our trading ecosystem's values and expectations.

Aluminum Extruders Council

The Aluminum Extruders Council (AEC) consists of more than 120 member companies, representing aluminum extruders operating hundreds of extrusion presses in hundreds of plants in 35 states in the United States, employing more than 60,000 people directly and another 125,000 indirectly. AEC members include U.S. manufacturers of aluminum extrusion products, including critical products for automobiles; renewable energy production; defense, including fighter jets and armored vehicles; and critical infrastructure, such as for bridge and infrastructure projects, train bodies and rail cars, aviation, and vessels. Aluminum extrusions are used in the construction of commercial facilities, government facilities and critical manufacturing, as well as in emergency services and nuclear facilities. Despite some initial relief for the domestic extrusions industry that resulted from the Aluminum 232 and its original application to aluminum extrusions, the structure of the exclusions process later developed by the U.S. Department of Commerce (Commerce), including the adoption of General Approved Exclusions (GAEs) that do not require product-specific objections, has effectively gutted any relief for U.S. extrusion producers from imports of extrusions that the Aluminum 232 regime initially provided. As a result, despite the Aluminum 232, the domestic aluminum extrusion industry is once again at a severe competitive disadvantage compared to imported aluminum extrusions due to higher primary metal costs from the Section 232 tariffs, but with **no protection from imports of extrusions**. This competitive disadvantage our industry faces against imports of aluminum extrusions contributes to, and threatens to, worsen the supply chain crisis in many sectors of the economy, including the automobile and renewable energy sectors and other critical manufacturing sectors. In addition, this dynamic is encouraging domestic manufacturers to mover production facilities overseas – resulting in a loss of American jobs.

As the Commission looks at the impact of the Aluminum 232 on American companies and American workers, we respectfully request that the Commission recognize in its report that the current structure of the Aluminum 232 tariffs (incorporating the GAE), has put the AEC and its members in an untenable situation. Our foreign competitors can compete with us for domestic customers without having to pay the Aluminum 232 tariffs, while also not being subject to any Aluminum 232 on their raw material billets. Put simply, the structure of the existing Section 232 exclusion process is fundamentally flawed with respect to the unique nature of aluminum extrusions.

Therefore, the AEC respectfully requests that the Commission's report should:

- Recommend that Commerce revoke the GAEs;
- Recommend that Commerce fundamentally restructure the exclusion process for aluminum extrusions to one that reflects the commercial realities of the aluminum extrusions industry, granting U.S. extrusion producers the ability to participate in the process in a meaningful way; and
- Recommend that Commerce allow the AEC to file objections.

The current structure of the Aluminum 232 and its exclusion process (including the GAE), has put the AEC's members at a severe competitive disadvantage vis-a-vis our foreign competitors, and thus must be modified (including the revocation of the aluminum extrusion GAE).

American Alliance for Solar Manufacturing

The American Alliance for Solar Manufacturing supports and has benefited significantly from the Section 301 tariffs on Chinese solar imports. Together with existing antidumping and countervailing duty orders and Section 201 safeguard measures, these tariffs have had a positive economic impact on U.S. solar manufacturers by helping to discipline unfairly traded Chinese imports. From 2018 (when the Section 301 tariffs were imposed) to 2020, U.S. solar production grew by 370 percent, and capacity utilization increased by more than 15 percent.[1] Recent new investments in domestic solar manufacturing have created good jobs in clean energy technologies that are critical to advance our response to the climate crisis and our energy transition. These include major investments by Q CELLS, First Solar, Heliene and other U.S. solar producers. While challenges persist and the threat from unfairly traded imports has not disappeared, the United States is experiencing promising growth in solar manufacturing.

While the Section 301 tariffs have had a positive economic impact on U.S. solar producers, they have not contributed meaningfully to recent inflation levels (as shown by their timing, inflation's global impact and numerous economist reports). In fact, average solar prices have not changed meaningfully since their imposition.

Without the positive economic impact from disciplines like the Section 301 tariffs, large quantities of unfairly priced Chinese solar imports would likely result in U.S facility closures and the loss of thousands of U.S. manufacturing and related jobs, as they did in prior periods. As the Commission recently concluded, "there is enormous and growing cell and module production capacity in China and substantial unused capacity," and Chinese solar producers are "highly export-oriented."[2] Looking forward, the Chinese solar industry "will have increasing production capacity and reduced home market demand, which will create a significant incentive to increase export{s}."[3] Without the Section 301 tariffs and other measures, Chinese solar producers would intensify their targeting of the U.S. market, to the severe detriment of the domestic industry.

The continued imposition of the Section 301 tariffs is crucial to the continuation and further expansion of solar manufacturing, which ultimately will benefit the entire U.S. economy and the environment. Robust American solar manufacturing will decrease U.S. dependence on foreign energy supplies, substantially improving energy security. The United States cannot be beholden to China — with its unfair trade, highly polluting manufacturing practices, and state control — for its clean energy future. The Section 301 tariffs, in addition to other important trade measures like antidumping and countervailing duty orders, are helping significantly in the effort to grow U.S. solar manufacturing capabilities, and their continuation is essential to the future of the American solar industry.

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[1] Prehearing Report, *Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled Into Other Products*, Inv. No. TA-201-075 (Extension) (Oct. 20, 2021) at III-15.
[2] *Crystalline Silicon Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190, USITC Pub. 4874 (Mar. 2019) (Review) at 24.
[3] Id. At 25.

American Apparel & Footwear Association

Section 301 tariffs are taxes paid by U.S. importers. The process by which they were imposed and maintained was and is rife with problems. Section 301 tariffs on consumer products hold no strategic advantage for the U.S. China trade relationship and only make basic goods like clothes, shoes, and back to school backpacks more expensive. Their regressive nature means they hurt those American families hardest who can least afford them. Conversely, removing these tariffs – something President Biden can do rapidly, echoing the speed at which they were imposed – would be a targeted, effective, and quick way to reduce inflationary pressures for American families on products they need.

American Beverage Association

No written summary. Please see EDIS for full submission.

American Chemistry Council

No written summary. Please see EDIS for full submission.

American Feed Industry Association

Because animal feed ingredients, such as Vitamin B12 (HTS 2309.90.7000), Vitamin D3 (HTS 2309.90.9500), Inositol (HTS 2906.13.1000), Vitamin K (HTS 2914.79.4000) and Taurine (HTS 2921.19.6190), are primarily sourced from China with no alternative domestic suppliers, the U.S. animal food industry has been left with taking on the burden of paying more to import these vital ingredients and increases the cost of manufacturing feed in the U.S. Lifting the Section 301 tariffs from these products from China is paramount for U.S. animal food and animal producers to continue to meet the growing consumer demands without the threat of increased costs to the consumer.

American Iron and Steel Institute

The American steel industry serves as the backbone of the U.S. manufacturing sector and is essential to America's national and economic security, as both U.S. military programs and our critical infrastructure are dependent on U.S.-produced steel products. Furthermore, the steel industry in the United States has the lowest carbon dioxide emissions intensity among the world's largest steel-producing nations. In 2017, following repeated surges in imports fueled by global overcapacity in steel, the Secretary of Commerce undertook an investigation under Section 232 that found that steel imports threaten to impair U.S. national security and concluded that imports must be reduced to a level that would allow American steel mills to operate at 80 percent of their production capacity. Based on this report, the President in 2018 implemented a program of tariffs and quotas to limit steel imports.

 This page has been changed to reflect corrections to the original publication.

The Section 232 measures, in combination with a number of trade remedy orders, reduced both the volume of steel imports and the share of the market taken by imports. As steel imports fell, domestic steelmaking capacity utilization increased. The Section 232 program also incentivized new capital spending by domestic steelmakers, with announced investments of nearly $22 billion in new, expanded or restarted production since March 2018, and approximately 22 million net tons of steelmaking capacity have come on-line or been announced since that time. While the Section 232 measures had positive impacts on the steel industry, there has been no significant broad negative impact to the economy as a whole. The Economic Policy Institute examined the relationship between steel prices and the prices of steel containing goods and found that the Section 232 measures had no meaningful impact on prices of steel-consuming products.

However, the relief under Section 232 is discretionary and has been modified over time to allow more imports to enter the U.S. market free of tariffs. In 2019, the United States lifted the Section 232 tariffs on all steel imports from Canada and Mexico, which are among the largest exporters of steel to the U.S. More recently, the United States agreed to replace the Section 232 tariffs with tariff-rate quotas on steel imports from the EU, Japan and the United Kingdom, which permit a significant volume of steel to enter the U.S. duty-free. Significant volumes of steel products also have been excluded from the Section 232 tariffs through product-specific exclusions.

As demand recovered following the COVID-19 recession, steel imports significantly increased in 2021 and have continued to do so in 2022, taking the largest share of the U.S. market since the Section 232 measures were first implemented in 2018.Moreover, the global steel overcapacity crisis continues, with excess capacity estimated to be 544 million metric tons in 2021, more than six times total steel production in the United States. Many countries continue to increase significantly their steel capacity, including through Chinese cross-border investments into Southeast Asia. Given these developments, AISI believes the Section 232 program remains critically important for our national security.

American Line Pipe Producers Association Trade Committee

The members of the American Line Pipe Producers Association Trade Committee, an association of U.S. line pipe and structural pipe manufacturers, support and have benefited significantly from the Section 301 tariffs on Chinese imports. Together with existing antidumping and countervailing duty orders and the Section 232 measures, these tariffs have had a positive economic impact on U.S. pipe manufacturers by helping to discipline unfairly traded imports of Chinese steel pipe. Prior to the tariffs, Chinese imports of large diameter steel pipe ranged from approximately 21,000 to 52,000 short tons per year.[1] Once the Section 232 tariffs, Section 301 tariffs and antidumping and countervailing duty orders were imposed,

[1] *Large Diameter Welded Pipe from China and India*, Inv. Nos. 701-TA-593-594 and 731-TA-1402 and 1404, USITC Pub. 4859 (January 2019) (Final) ("USITC Pub. 4859") at IV-5 (Table IV-2).

Chinese pipe imports dropped considerably. In 2019, there were no imports of Chinese large diameter welded steel pipe, and they have remained at negligible levels since.[1]

While the Section 301 tariffs have had a positive economic impact on U.S. pipe producers, neither they nor the Section 232 measures have contributed meaningfully to recent inflation levels (as shown by their timing, inflation's global impact and numerous economist reports) or caused raw material availability concerns for manufacturers, which have multiple available sources for their raw material needs.

Without the positive economic impact from disciplines like the Section 301 tariffs, large quantities of unfairly priced Chinese imports of steel pipe would be likely to result in U.S facility closures and the loss of thousands of U.S. manufacturing and related jobs. In the recent trade cases, the Commission estimated that "mills in China accounted for approximately 70 percent of all global welded tube production in 2015."[2] Without the Section 301 tariffs and other measures, Chinese pipe producers would again target the U.S. market, to the severe detriment of the domestic industry. This would be especially damaging given the already extremely difficult market conditions faced by U.S. large diameter welded pipe producers, particularly line pipe producers, rendering them particularly vulnerable to the negative effects of a renewed surge in imports, were the tariffs to be lifted. Indeed, while the U.S. industry added jobs and production immediately after the Section 301 tariffs and trade remedy orders were put in place, these gains unfortunately eroded quickly in 2021 due to the cancellation of several major pipeline projects and a substantial decline in the market, particularly line pipe.

Steel pipe is essential to the building and maintenance of American infrastructure, including energy infrastructure, making it critical that domestic manufacturing capabilities for pipe are maintained. The Section 301 tariffs, in addition to other important measures like antidumping and countervailing duty orders, are helping significantly in the effort to maintain such capabilities, and their continuation is essential to the future of the American large diameter welded pipe industry.

American Manufacturers of Multilayered Wood Flooring

The Section 301 tariffs have had a significant positive economic impact on the domestic multilayered wood flooring (“MLWF”) industry. In combination with the antidumping and countervailing (“AD/CVD”) duty measures, the Section 301 tariffs have benefitted the U.S. MLWF industry and the U.S. economy as a whole by redressing unfair imports from China. In 2019, the first full year after the Section 301 duties went into effect, imports of Chinese MLWF decreased by more than half. While Chinese MLWF is still present in the U.S. market in significant volumes, the combination of the Section 301 and AD/CVD duties has given U.S. MLWF manufactures more stability to develop new product lines and bring additional

[1] Based on official U.S. import statistics from DataWeb for HTS statistical reporting numbers 7305.11.1030, 7305.11.1060,
7305.11.5000, 7305.12.1030, 7305.12.1060, 7305.12.5000, 7305.19.1030, 7305.19.1060, 7305.19.5000, and 7305.31.4000.
[2] USITC Pub. 4859 at II-6.

production capacity online. These investments, in turn, create good paying jobs across the United States.

U.S. trade measures are crucial to combating unfair and anticompetitive Chinese trade practices. The Chinese government continues to promote forced technology transfer and pursue other unfair practices that led the United States to impose Section 301 tariffs in the first place. The Government of China has identified the wood and wood products industry as fundamental to its national economy and taken measures to accelerate its development. This includes widespread subsidization in the form of direct government investment, reduction or elimination of certain fees, and low-interest loans, among others. These policies encourage the development of production that results in large volumes of dumped and subsidized products being sold in the U.S. market. While AD/CVD duties play a critical role in creating a level playing field, the Section 301 duties have an important and independent role. Section 301 duties apply consistently and comprehensively to Chinese wood flooring products, whereas AD and CVD duties vary year-byyear and producer-by-producer and fail to cover all Chinese imports. Section 301 duties also provide the domestic industry forward-looking and consistent duties that the retroactive AD/CVD duties do not.

Together with the AD/CVD orders, Section 301 tariffs have spurred the expansion of domestic production of MLWF. For example, Section 301 tariffs were a contributing factor to AHF's ability to acquire a new facility in Tennessee and expand an existing facility in Pennsylvania. Likewise, U.S. producer Mullican has made large capital investments based in part on sales projections that incorporate the continued effect of the Section 301 tariffs. These investments benefit the individuals working at these facilities, as well as the communities where these facilities are located. However, without the combined disciplines of the Section 301 tariffs and AD/CVD orders, these investments would be undermined, and U.S. facilities would be closed, resulting in the loss of thousands of U.S. manufacturing jobs. As such, continuation of the Section 301 tariffs is crucial to the future of the American wood flooring industry.

American Vinyl Flooring Manufacturers Coalition

The members of the American Vinyl Flooring Manufacturers Coalition support and have benefited from the Section 301 tariffs on imports of vinyl flooring products from China. The vinyl flooring industry supports more than 5,000 American jobs, including more than 350 individuals at the facilities of AVFMC's members. Since the Section 301 tariffs were imposed, numerous companies have made or announced investments in new vinyl flooring manufacturing facilities or expansions of existing facilities in the United States. These investments have created hundreds of U.S. jobs and will lead to even more jobs in the coming years.

Vinyl flooring is a resilient and dynamic flooring product that is increasingly popular in residential and commercial buildings. Demand for vinyl flooring has been growing substantially for the past ten years. However, U.S. producers have largely been shut out from benefiting from this increased demand because of highly export-oriented Chinese producers that are selling high volumes of vinyl flooring products at below the cost of U.S. production. Imports of Chinese vinyl flooring products increased 90%

from 2016 to 2018. This dramatic increase began to level off when Section 301 tariffs were put into place.

While imports from China remain at historic levels, the Section 301 tariffs have created the first step towards parity. Since the Section 301tariffs were put into place, at least eight new U.S. manufacturing facilities have been announced. For example, AHF Products has established new partnerships with domestic producers and acquired three new facilities, bringing its total to ten U.S. vinyl flooring production facilities. Textile Management Associates has embarked on an expansion project that will add significant new jobs. These investments strengthen communities all across America.

Notably, Section 301's economic benefits to the domestic industry and the U.S. economy have not contributed to overall inflation or significantly increased housing prices. Overall inflation, housing prices, and the price of residential construction inputs was relatively flat between 2018 (when the Section 301 duties were imposed) and early 2020 (when COVID disrupted the global economy and supply chain disruptions occurred worldwide).

Section 301 tariffs play a critical role in the continuation of the domestic vinyl flooring industry. Depending on market conditions, domestic vinyl flooring producers should be well-positioned to compete for growing demand with new investments and acquisitions. The stability of the Section 301 tariffs contributed significantly to decisions to take these actions. However, removing Section 301 tariffs would rapidly undermine recent and planned investments in domestic vinyl flooring production. The Section 301 tariffs greatly benefit U.S. vinyl flooring producers.

American Wire Producers Association

No written summary. Please see EDIS for full submission.

Americans for Free Trade

No written summary. Please see EDIS for full submission.

ArcelorMittal Tubular; Bristol Metals; Bull Moose Tube; California Steel and Tube; EXLTUBE; Felker Brothers Corporation; Maruichi American Corporation; Nucor Tubular Products; Primus Pipe & Tube; PTC Liberty Tubulars; Searing Industries; Vest, Inc.; Vallourec Star, LP; Welded Tube USA; Welspun Tubular USA; and Zekelman Industries

No written summary. Please see EDIS for full submission.

Archroma U.S., Inc.

There is limited sourcing of raw materials and inputs for U.S. producers', including Archroma's, OBA and paper dyes/chemicals business, with most of the inputs sourced from China and India. As such, the continuation of tariffs on inputs and feedstock places Archroma and other U.S. producers of OBA, dyes and chemicals for paper on an unlevel playing field with import competition from China, India and Taiwan. The OBA, dyes and chemicals producers in China, India and Taiwan are vertically integrated, have no tariff issues on their inputs or feedstock, and compete for market share within the U.S. This is the world in which U.S. paper OBA, dye and chemicals producers must compete. Therefore, every "tool in the toolbox" is absolutely necessary to maintain low production costs to remain globally and domestically competitive, and retain U.S. production, sales, revenue and the U.S. workforce. Tariffs have had detrimental impacts to the industry and exacerbated the need for a level playing field.

The current 301 Tariff policy does not consider the state of the paper OBA, and if it continues, this policy will allow foreign competitors from India, Taiwan, Indonesia, and China to replace domestic producers and U.S. workers for OBA for paper and dyes and chemicals production.[1] These negative effects are inconsistent with any Administration's, Congresses' goals and the purpose of U.S. trade policy in re-shoring and supporting U.S. industry, economic growth and manufacturing jobs.

Association of American Publishers

No written summary. Please see EDIS for full submission.

[1] The only other U.S. OBA producer is 3D located in Georgetown, South Carolina.

Association of Home Appliance Manufacturers

No written summary. Please see EDIS for full submission.

Auto Care Association

No written summary. Please see EDIS for full submission.

Ball Corporation

No written summary. Please see EDIS for full submission.

Beer Institute

No written summary. Please see EDIS for full submission.

Blue Sky the Color of Imagination, LLC

No written summary. Please see EDIS for full submission.

Boco Gear, LLC

No written summary. Please see EDIS for full submission.

BorgWarner Inc

No written summary. Please see EDIS for full submission.

Cali Bamboo, LLC

No written summary. Please see EDIS for full submission.

California Manufacturing and Engineering Co.

California Manufacturing and Engineering Co. (MEC), founded over 45 years ago and based in the rural, underserved community of Kerman, California is the fourth-largest domestic manufacturer of Mobile Elevating Work Platforms (MEWP) in the United States. As a small manufacturer in a space overwhelmingly dominated by large, publicly-traded corporations (i.e., JLG and Genie), MEC is forced to rely on global partnerships for subassemblies and unfinished, base models for some of our products in order to compete against the industry behemoths. Base models that we import (from China and elsewhere) are specially designed to exact specifications established by our highly-skilled, MEC engineers in Kerman, produced by our verified manufacturing partners, and then imported and finished in Kerman, to add our proprietary, patented, and patent pending, innovative solutions.

 This page has been changed to reflect corrections to the original publication.

The 301 tariffs imposed on imported lifts and parts from China impact all of the base models and subassemblies that MEC imports. These high tariff rates on the MEWP components and lifts manufactured at MEC's Kerman facility severely affect our financial position and our ability to invest capital for further growth of our business, our workers, and our rural community.

The significant negative impacts to MEC's business from the Section 301 tariffs directly translate to a loss of local jobs, putting hundreds of hardworking U.S. employees and their families at risk. Despite a prior finding that the lack of an exclusion would cause harm to an American company, the current Administration has not restored the lapsed exclusion, despite repeated participation by MEC in the exclusion request process. Thus, these Section 301 tariffs actually threaten the very population of underserved and rural communities that the Biden Administration recognizes is the focus of its worker-centric trade policy. In light of the significant economic impacts on our domestic operations, hard-working employees, and community, the Biden Administration should end the Section 301 tariffs applicable to MEWP products.

Indeed, MEC submits:

- Even if the 301 tariffs were effective in changing the Chinese government's behavior (which they have not been), the 301 tariffs are too blunt of an instrument, and are causing disproportionate harm to American manufacturing companies like MEC;
- The two largest domestic producers of MEWP (JLG and Genie) have advocated for the continuation of the 301 tariffs, claiming they have assisted their U.S. manufacturing operations. However, in fact neither has meaningfully expanding its U.S. operations, but instead continue to move a net negative number of manufacturing jobs out of the United States, while without tariffs MEC could have invested in triple the manufacturing operations; and
- That the China 301 tariffs overall have not resulted in any meaningful change in the Chinese government's behavior, and thus an alternative should be found like using tariff funds for re-investment in U.S. manufacturing.

If these tariffs are repealed, MEC will have the opportunity to grow rapidly through lower manufacturing costs and thus reverse the negative impact on inflation and the overall economy, just as we were doing before the tariffs were imposed.

Can Manufacturers Institute

No written summary. Please see EDIS for full submission.

Century Aluminum Company

Century Aluminum Company is a domestic producer of standard grade and value-added primary aluminum products, as well as high-purity aluminum. Century has smelters in Sebree, Kentucky; Hawesville, Kentucky; and Mt. Holly, South Carolina. Century accounts for a majority of U.S. primary aluminum production and possesses the last remaining commercial high-purity aluminum smelter in the United States, and the only one in a NATO country.

The import measures on aluminum imposed in 2018 pursuant to Section 232 of the Trade Expansion Act of 1962, as amended, saved what was left of the U.S. primary aluminum industry from total collapse and has allowed it to begin to stabilize. The tariffs allowed U.S. primary aluminum prices to return to levels that allowed the industry to operate profitably and begin to reinvest. The tariffs have achieved the goal of the program – leading to increased production, investment, and employment. As the primary industry has recovered, there has been growth in the semi-finished aluminum industries. The tariffs have not harmed downstream industries or demand.

The domestic industry is only beginning its recovery. The relatively low duty rate is also limiting the extent of the industry's recovery, especially in light of the current energy crisis. Whether through a tariff or a tariff rate quota, the measures must remain in place to control imports to maintain the price effect that has allowed the industry to begin to recover. The root cause of the problem–heavily subsidized excess production around the world–also remains unresolved. China is one of many countries providing significant subsidies to support their aluminum industries. These subsidies continue to support what would otherwise be uneconomic capacity and production that weighs on the global market price. The LME cash price (forming the base price for all primary aluminum globally) reflects total global supply and demand, regardless of where the aluminum is produced, sold, or stored. Addressing only Chinese imports will not address the depressive effect that global excess production both inside and outside of China has on the LME price.

The excess capacity in primary aluminum also forces itself downstream. There needs to be relief on the entire value chain. When the Commerce Department adopted General Approved Exclusions ("GAEs") removing products like alloyed slabs and aluminum extrusions, it negatively impacted those products and as a result downstream demand for the primary aluminum needed to produce them. Century supports eliminating the GAEs and reimposing tariffs on all products up and down the value chain, including alloyed slabs and aluminum extrusions.

The domestic industry's recovery has also been interrupted by the recent spike in energy prices caused by Russia's war in Ukraine. Century was forced to temporarily idle its Hawesville smelter. Without the program, the industry will not be able to continue its recovery. The recent improvements will be reversed, and the industry will again be in danger of disappearing. This would leave the United States completely dependent on unstable and insecure import sources to supply the aluminum necessary to defend itself and build its critical infrastructure.

Chemtrade Chemicals US LLC

No written summary. Please see EDIS for full submission.

Cleveland-Cliffs Inc.

No written summary. Please see EDIS for full submission.

Coalition for Fair Trade in Hardwood Plywood

The Coalition for Fair Trade in Hardwood Plywood ("Coalition") supports and has benefitted from the Section 301 tariffs on imports of Chinese plywood products. In combination with the antidumping and countervailing duty measures, the Section 301 tariffs provide positive benefit to the U.S. hardwood plywood ("HWPW") industry and the U.S. economy as a whole by redressing unfair imports from China. In 2019, the first full year after the Section 301 tariffs went into effect, imports of Chinese HWPW halved. While Chinese HWPW is still present in the U.S. market in significant volumes, the combination of the Section 301 tariffs and antidumping and countervailing ("AD/CVD") duties have given U.S. HWPW manufactures more stability to grow and maintain their facilities and workforces.

U.S. trade measures are crucial to combating unfair and anticompetitive Chinese trade practices. The Chinese government continues to promote forced technology transfer and pursue other unfair practices that led the United States to impose Section 301 tariffs in the first place. The Government of China has identified the wood and wood products industry as fundamental to its national economy and taken measures to accelerate its development. This includes widespread subsidization in the form of direct government investment, reduction or elimination of certain fees, and low-interest loans, among others. These policies encourage the development of production that results in large volumes of dumped and subsidized products being sold in the U.S. market.

While AD/CVD duties play a critical role in creating a level playing field, the Section 301 duties have an important and independent role. Section 301 duties apply consistently year-over-year and provide the domestic industry forward-looking duties that the retroactive AD/CVD duties do not. Section 301 duties also cover a broader range of products, which is critical as Chinese producers attempt to slightly rework their products to avoid AD/CVD duties.

The AD/CVD orders and Section 301 tariffs have together spurred investments in domestic production. For example, domestic HWPW producer Columbia Forest Products has doubled its capital investment to nearly $24 million partially due to the effects of the Section 301 tariffs. These investments benefit the individuals working at these facilities, as well as the communities where these facilities are located. However, without the combined disciplines of the Section 301 tariffs and AD/CVD orders, these investments would be undermined, and U.S. facilities would be closed, resulting in the loss of thousands of U.S. manufacturing jobs. As such, the Section 301's continuation is crucial to the future of the American HWPW industry.

Coalition of American Metal Manufacturers and Users

No written summary. Please see EDIS for full submission.

Coalition of American Millwork Producers

The members of the Coalition of American Millwork Producers (“CAMP”) support and have benefited significantly from the Section 301 tariffs on Chinese imports of wood mouldings and millwork products.

Together with recent antidumping and countervailing duty orders, these tariffs have had a positive economic impact on U.S. manufacturers by helping to discipline unfairly traded Chinese imports. From 2017 (the year prior to the imposition of the Section 301 tariffs) to 2021, U.S. imports of Chinese mouldings and millwork products decreased by 47 percent.[1] In fact, in the Commission's antidumping and countervailing duty investigation, U.S. importers specifically identified the Section 301 tariffs as a reason they had decreased their purchases of Chinese wood mouldings and millwork products.

This disciplining of unfair Chinese imports has allowed U.S. producers to hire additional workers, add new manufacturing equipment and increase production substantially. For example, last year, CAMP member Woodgrain Millwork announced a $17 million investment into the expansion of capacity at its Marion, Virginia facility and the purchase and expansion of the former Independence Sawmill in Grayson County, Virginia, in addition to $3 million investment in 2019 in its Fruitland, Idaho facility to add capacity. As another example, from 2018 until the most recent 12-month period, CAMP member Endura grew its wood processing business by 44 percent, added 140 employees, and made more than $8 million in capital expenditures.

While the Section 301 tariffs have had a positive economic impact on U.S. solar producers, they have not contributed meaningfully to recent inflation levels (as shown by their timing, inflation's global impact and economist reports). In fact, average wood mouldings prices did not increase as a result of the Section 301 tariffs.

Without the positive economic impact from disciplines like the Section 301 tariffs, large quantities of unfairly priced Chinese wood mouldings imports would likely result in U.S facility closures and the loss of thousands of U.S. manufacturing and related jobs, as they did in prior periods. Before the imposition of the antidumping and countervailing duty orders, the vast majority of Chinese wood mouldings producers' shipments were exported, and they primarily targeted the United States. Without the Section 301 tariffs and other measures, Chinese wood mouldings producers would intensify their targeting of the U.S. market, to the severe detriment of the domestic industry.

In sum, with their significant beneficial economic impacts for U.S. producers, the Section 301 tariffs on Chinese wood mouldings and millwork product imports are critical to ensuring the continued growth and strength of American wood product manufacturing. Wood products, like mouldings and millwork, are essential to the building and maintenance of American infrastructure, making it critical that domestic manufacturing capabilities are maintained. The Section 301 tariffs, in addition to the antidumping and countervailing duty orders, help significantly in the effort to maintain such capabilities, and their continuation is essential to the future growth and health of the American wood mouldings and millwork products industry.

Commercial Metals Company, Rebar Trade Action Coalition

No written summary. Please see EDIS for full submission.

[1] Based on U.S. import statistics for HTS 4409.10.4010, 4409.10.4090, 4409.10.4500, 4409.10.5000, 4409.22.4000, 4409.22.5000, 4409.29.4000, 4409.29.4100, 4409.29.5000, and 4409.29.5100.

Consumer Technology Association

No written summary. Please see EDIS for full submission.

DCL Corporation (BP), LLC

No written summary. Please see EDIS for full submission.

Domestic Carbon and Alloy Steel Wire Rod Industry

The Domestic Wire Rod Industry, consisting of Charter Steel, Commercial Metals Company, Liberty Steel USA, Nucor Corporation, and Optimus Steel, LLC, has benefitted from the imposition of the Section 232 tariffs on imports of steel wire rod and, accordingly, supports the continuation of the tariffs.

The long-term success of the domestic industry producing steel wire rod is essential because wire rod is critical to numerous end uses that contribute to U.S. infrastructure and industrial bases, including the construction, automotive, and aviation sectors. U.S. wire rod producers, however, have been plagued for decades by global excess steel capacity and surges of wire rod imports from numerous foreign countries. While the Domestic Wire Rod Industry has sought and obtained antidumping and countervailing duty (AD/CVD) orders on unfairly-traded imports, the industry also welcomed the imposition of the Section 232 tariffs in March 2018 as critical relief from the high volume of wire rod imports from around the world.

The Section 232 program has benefitted U.S. wire rod producers by allowing them to rebuild and expand capacity, increase production, and invest in creating more skilled U.S. manufacturing jobs and higher wages for those workers. For example, Optimus Steel has invested in expanding operations at its Beaumont, TX facility through capital projects totaling approximately $200 million. In 2018, Liberty acquired, reopened, and invested $10 million in the former ArcelorMittal USA wire rod mill in Georgetown, SC. Liberty also acquired the Keystone Consolidated Industries mill in Peoria, IL, in December 2018, where it has invested more than $20 million in capital projects in 2022, with nearly $100 million more slated for projects over the next three years to further expand production. After acquiring the former Gerdau steel mill in Jacksonville, FL, in March 2018, CMC reached an agreement with the city of Jacksonville to invest $30 million at the mill over five years. Since 2018, Nucor has expanded its rubber reinforcement wire rod product offerings, and in August 2022, Nucor announced an $100 million investment in its Kingman, AZ wire rod mill. And in 2019, Charter Steel opened a new special bar quality (SBQ) bar manufacturing line at its Cuyahoga Heights, OH facility after a $150 million investment.

A stable domestic supply of wire rod is essential for many key downstream industries that make up the U.S. manufacturing base and is critical to supporting the rebuilding of U.S. infrastructure. The orders addressing unfairly traded imports and the Section 232 tariffs have allowed the Domestic Wire Rod Industry to reinvest in the long-term growth of domestic wire rod manufacturing and the workers the industry employs, as intended when the tariffs were imposed. The continuation of the Section 232 tariffs on imports of wire rod is, therefore, imperative. The global oversupply of wire rod, driven by China, continues to direct wire rod imports, especially from multiple sources not subject to trade orders, to the United States. Removal of the Section 232 tariffs on wire rod imports would be devastating to the long-term health of U.S. wire rod manufacturing.

Economic Policy Institute

No written summary. Please see EDIS for full submission.

Element Electronics

No written summary. Please see EDIS for full submission.

European Aluminium

European Aluminium represents over 600 industrial operations in 30 European countries, covering all aspects of the aluminium value chain. Our more than 100 members include alumina refiners and primary aluminium producers, downstream manufacturers of extruded, rolled and cast aluminium, aluminium recyclers and national aluminium associations.

With over 15 multinationals operating in both the EU and US territory, European Aluminium is well positioned to take a holistic view on the impact of Section 232 on the global aluminium industry.

Farmers for Free Trade

U.S. agriculture has been caught in the crossfire of the trade wars beginning in 2018. As the U.S. imposed section 232 and section 301 tariffs on products from other countries, many of those countries retaliated with tariffs against U.S. food and agriculture products. Because of this, American farmers, ranchers, and food processors have witnessed the loss of critical export markets as our competitors have replaced us in markets that took us decades to build. In addition to limiting export opportunities for U.S. food and agriculture, tariffs raise the cost of imported farm inputs including products made from steel and aluminum (grain bins, tractors, fencing), tractor and equipment parts, and many farm chemicals.

The United States has historically led the world in food and agriculture exports, routinely running a trade surplus. American farmers, ranchers and consumers are the economic lifeblood of rural America and benefit greatly from free trade. Many states derive a large percentage of their total exports from

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agriculture. The food we export and agricultural products that we ship to other countries directly support over 1,000,000 U.S. jobs. Fully 20 percent of American farm revenue comes from our exports.

The long-term ramifications for the nation's agricultural economy are immense. Agriculture's financial health is deeply dependent on exports. Section 232 and 301 tariffs and concomitant retaliatory tariffs constrain American productivity – they are raising the cost of production and making it more difficult for American farmers, ranchers, and agriculture exporters to compete overseas. Nationally, direct U.S. agricultural export losses due to retaliatory tariffs totaled more than $27 billion during 2018 through the end of 2019. The elimination of Section 232 and 301 tariffs will increase access for U.S. food and agriculture exports and reduce costs for critical agriculture inputs. The sustainability of America's agricultural economy depends on it.

Footwear Distributors & Retailers of America

No written summary. Please see EDIS for full submission.

Forging Industry Association

No written summary. Please see EDIS for full submission.

Ganz

No written summary. Please see EDIS for full submission.

Gerdau Long Steel North America

The Section 232 duties and Section 301 duties affecting steel goods have had broad and significant benefits for the U.S. national security and the country's economy. The duties have allowed the U.S. steel industry, the backbone of the country's manufacturing sector, to increase production, capacity utilization, employment and profitability. The duties have greatly ameliorated the harms caused by global excess steelmaking capacity and unfair foreign trade practices. While the U.S. steel industry has also benefitted significantly over the past four years from trade remedy orders on imported steel goods, such orders are by their nature time-limited, and cover only narrowly-scoped products from individual foreign countries. The Section 232 duties and Section 301 duties on steel goods, by contrast, form a broader bulwark against imports that otherwise threaten the national security and that result from unfair foreign trade practices.

The duties have not only benefitted the U.S. steel industry, but the U.S. economy as a whole. The U.S. steel industry does not only support itself and its own workers; it provides crucial inputs into critical infrastructure sectors ranging from construction to transportation, power generation and supply, water systems, and the mining and processing of essential ores and minerals. Since the Section 232 duties and 301 duties on steel-intensive goods were imposed, U.S. steel companies have announced nearly $22 billion in new, expanded, or restarted production. As a result, downstream steel users now have access to a greater supply base than ever. Increased profits and investment in downstream industries such as

construction, automotive production, fabricated metals, and machinery production demonstrate the benefits of the tariffs.

Importantly, the duties do not cut off any purchaser's access to imported steel. They simply adjust the cost-calculus involved in purchasing decisions. They have not contributed to inflation, which first manifested years after the tariffs were imposed, and resulted most concretely from the post-COVID-19 economic bounce-back, as complicated by Russia's invasion of Ukraine.

Haas Automation

Thank you for the opportunity to testify on July 20th, regarding the impact of section 301 tariffs on CNC machine tool manufacturing. To recap my testimony, American manufacturer Haas Automation pays $15 million per year in part 301 tariffs on iron castings, putting Haas at a competitive disadvantage against foreign CNC machine producers.

Haas Automation advocates for immediate reimplementation of an exclusion process for tariffs on iron castings. Our reasoning is as follows.

1. Haas consumes 105 million pounds of cast iron each year and US suppliers meet less than 10% of our requirements, a limitation based on the lack of iron foundries that remain in the US.

2. The World Foundry Organization reported in May that China produces half the iron castings available worldwide and is increasing that capacity at the rate of 6% per year. Furthermore, foundries in all other major countries are declining in capacity and, in many cases, captive to only one specific customer.

3. A tariff exclusion process was previously made available to Haas for a 14-month period ending August 7, 2020. That exclusion was subsequently cancelled with no explanation. The exclusion process was specifically designed for cases such as Haas Automation's, in which little or no supply exists outside of China and additional time is required to develop new sources.

It's important to note that during testimony on July 20th, Haas was placed on a panel along with eight other manufacturers or associations, all speaking on steel and aluminum tariffs. I want to make it clear that we're focusing solely on cast iron, a commodity that has little supply in the US, especially for the large, complex shapes and high material quality standards required by Haas.

Thank you for your attention to this matter. We realize that the final report from USITC to the White House is not due until March 2023, but our hope is that we can succeed in securing badly needed exclusions sooner. Please let me know if there are any questions we can answer or additional information we can provide.

Holiday Ornament Holiday Occasion Coalition

No written summary. Please see EDIS for full submission.

Home Furnishings Resource Group, Inc.

Curt Christian, CEO of Home Furnishings Resource Group, Inc. ("HFRG"), testified before the U.S. International Trade Commission ("USITC") on July 21, 2022, regarding the deleterious effect the Section 301 tariffs have had on HFRG. On behalf of Mr. Christan and HFRG, we appreciate the opportunity to submit this posthearing statement to address Mr. Christian's remarks in response to Commissioner Kearns's question regarding competition from Chinese companies.

Following the testimonies of the members of Panel 6, Commissioner Kearns asked Mr. Christian what it was like to face competition from China back when he was manufacturing his products in the United States. Mr. Christian responded that his company was unable to compete with the Chinese products, even when he lowered his prices to compete with the prices of the Chinese products. Commissioner Kearns then asked whether Mr. Christian thought the United States should have implemented tariffs 17 or 18 years ago instead of only implementing them recently. Mr. Christian responded in the affirmative.

Although Mr. Christian answered that the United States should have taken action on China much earlier, his answer should not be construed to indicate that he supports the tariffs presently imposed. Mr. Christian strongly objects to the current tariffs primarily because they do not fulfill their purpose. More egregiously, they impose an undue burden on American companies and consumers.

In 2005, when Mr. Christian was forced to shut down his business, including his manufacturing operation in Los Angeles, he had a state-of-the-art plant and millions of dollars' worth of manufacturing equipment. Had tariffs been implemented at that time, he would have been able to survive, and likely thrive, by continuing to manufacture domestically. The same cannot be said about HFRG's situation today. The conditions are drastically different, not only for HFRG, but for many other American businesses that found themselves forced to turn to Chinese manufacturing. There is quite simply no domestic manufacturing alternative available currently, even after four (4) years of tariffs. Moreover, not for lack of effort, HFRG has yet to find another country that is capable of manufacturing its products with the same quality, efficiency, cost, and scale as China.

On behalf of HFRG, we thank the USITC for its consideration of this statement and for providing HFRG the opportunity to testify at the July 21, 2022, hearing.

Hydro Aluminum

No written summary. Please see EDIS for full submission.

ICL Specialty Products Inc.

No written summary. Please see EDIS for full submission.

Industrial Fasteners Institute

The Industrial Fasteners Institute (IFI) is a trade association which represents approximately 85% of fastener production capacity in North America. The U.S. fastener industry employs approximately 42,000 people working at roughly 850 different manufacturing facilities. Individual companies range in size, but many of them are family-owned, small to mid-sized businesses. Raw material costs are 50 to 60% of the cost of a fastener.

The fastener industry is critical to all segments of the U.S. manufacturing industrial base. Not a single military or commercial aircraft or their power plants can be assembled without metals like steel and aluminum and geometrically sophisticated fastener components. All automotive vehicles require many fasteners in their power train, structural assembly, steering, braking and control mechanisms, including electronics. Bridges, buildings, appliances, heavy trucks, off-road vehicles, consumer and military electronics, power generation, electrical grid, water and sewer infrastructure, oil and gas exploration and production, mining, rail, shipbuilding, medical products or almost any other segment you can name – all use fasteners, and lots of them.

The Section 232 tariffs caused severe negative economic impacts on the U.S. fastener industry when they were imposed in March 2018. There is a long history of the U.S. government placing restrictions, whether tariffs or quotas, on imports of basic raw materials such as steel in an effort to help U.S. metals producers. In every case, while the tariffs or quotas may have provided some short-term relief for metals producers, they did so at the expense of the downstream consumers of those metals.

Since 2018, IFI members have reported that the 232 tariffs caused significant increases in domestic raw material prices, while pushing out lead times substantially, and they were losing business as a result. The fastener business is highly competitive and price sensitive. U.S. fastener manufacturers are often pitted against global producers of fasteners and must constantly compete to gain or retain business. When U.S. steel prices are 40 to 50 percent higher than the global average, U.S. fastener manufacturers struggle to remain competitive. Customers do not have to accept price increases from domestic fastener manufacturers when they can buy fasteners from a foreign source that can purchase steel at global prices. These customer relationships took years to develop, and once business is lost overseas, it rarely comes back.

A report on the economic impact of the 232 tariffs is not complete without acknowledgement of the negative economic consequences of the broken 232 exclusion process. This process is supposed to allow companies to obtain exclusions to the tariffs if the product they need is not available in the U.S. in the quantities, quality or form needed in a “reasonably available” time. However, the process is lengthy and cumbersome and favors domestic steel producers over steel consumers regardless of whether they actually produce the product in question.

IFI appreciates the opportunity to participate in the Commission’s work on this report.

Information Technology Industry Council

No written summary. Please see EDIS for full submission.

International Imaging Technology Council

The International Imaging Technology Council (I-ITC) is pleased to submit comments to the U.S. International Trade Commission (USITC) as part of Investigation No. 332-591: Economic Impact of Section 232 and 301 Tariffs on U.S. Industries. The I-ITC supports the Section 301 China tariffs on Chinese compatible printer cartridges included in HTS Subheading 8443.99.20 because the cartridges harm the U.S. environment, domestic industry, and U.S. consumers.

The I-ITC is a § 501 (c) (6) trade organization that represents the North American companies in the industry that make their living remanufacturing imaging supplies, sometimes referred to as the aftermarket imaging supplies industry. The twenty-five-year-old nonprofit association represents its members' common business objectives, particularly the right to conduct business freely and fairly.

With the exception of Chinese aftermarket compatible cartridges, toner and ink jet cartridges can be given a useful life after their first use through remanufacturing, which includes restoring or replacing worn or exhausted parts so the final product performs like the original new one. The Section 301 tariffs on Chinese compatible printer cartridges help level the playing field for U.S. remanufacturers while protecting the U.S. environment and consumers.

Chinese compatible printer cartridges are imported under the HTS Codes 8443.99.2010 (Ink cartridges) and 8443.99.2050 (Other). These products are currently on List 1 and subject to an additional 25 percent tariff. The Section 301 tariffs should remain on Chinese compatible printer cartridges.

International Union, United Automobile, Aerospace & Agricultural Implement Workers of America (“UAW”)

On behalf of the more than one million active and retired members of the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW), I thank you for the opportunity to comment on the United States International Trade Commission’s investigation of the economic impacts of Section 232 and Section 301 tariffs.

We urge extreme caution when considering removal of tariffs or other trade remedies. Corporate driven “free trade agreements” pursued by past Administrations from both parties failed working people as promises of higher wages and more jobs produced the opposite result. Much lauded labor chapters in our trade agreements have proved toothless until very recently. In fact, prior to the Biden Administration, no Administration had ever utilized the labor provisions from a trade agreement to hold companies accountable for their employment practices.

It is important to examine this critical matter of trade enforcement in proper context. To be clear, global inflation primarily stems from the worse global pandemic in over a century. The COVID-19 pandemic contributed mightily to supply chain disruptions that harm auto workers to this day and their removal

will undermine our domestic supply chain.[1] We wholly reject the notion lifting or easing tariffs will stimulate the economy, address the global supply chain issues, or bring down inflation. The COVID-19 pandemic and these supply chain issues created a perfect storm that further empowered predatory governments such as China to play by another set of rules. Lifting tariffs on critical goods such as rare earths minerals is a direct contradiction of the historical trade issues we have had with China.

Section 232 and 301 tariffs were imposed as a remedy for global unfair trading practices. Anti-dumping and countervailing duty (AD/CVD) cases have proven the pervasiveness of illegal dumping and subsidization into the U.S. market. U.S. manufacturers and workers are directly impacted by this illegal theft of market share. China represents 222 trade enforcement cases, just over a third of the 640 orders in place currently.[2]

Bad trade deals, currency manipulation and granting China's Permanent Normal Trade Relations status has severely disadvantaged American made goods – specifically automobiles and auto parts. These imbalances have led to massive U.S. job losses. Over 900,000 people work in the auto and auto parts manufacturing sectors.[3] Of course, the economic impact of the auto industry reaches far beyond the workers employed at the plants and their families. According to the Center for Automotive Research, when jobs from other linked industries are considered, the auto industry is responsible for over 7.25 million jobs nationwide.[4] China's policies continue to disregard any accountability to global standards. Their disruptions of the supply chain have impacted all sectors globally. Yet as countries across the world are squeezed by these supply chain disruptions, China continues to report surges in their trade surplus.[5]

Domestically, American workers have been acutely impacted by China's increasing dominance in the global economy. From 2001-2018 the U.S. trade deficit with China eliminated 3.7 million American jobs. The manufacturing industry took the biggest hit; with 2.8 million jobs lost.[6] Since 2021, U.S. auto production has decreased by an estimated 1.7 million vehicles because of the supply chain issues. The lost production has resulted in employment disruptions for more than 750,000 workers in motor vehicle and parts manufacturing.[7]

[1] Tariff increases did not cause inflation, and their removal would undermine domestic supply chains. Economic Policy Institute. (January 19, 2022). Retrieved August 23, 2022, from https://www.epi.org/blog/tariff-increases-did-not-cause-inflation-and-their-removal-would-undermine-domestic-supply-chains/
[2] ADCVD proceedings. International Trade Administration | Trade.gov. (n.d.). Retrieved August 24, 2022, from https://www.trade.gov/data-visualization/adcvd-proceedings
[3] Bureau of Labor Statistics, "Automotive Industry: Employment, Earnings, and Hours", https://www.bls.gov/iag/tgs/iagauto.htm
[4] Hill, Kim, Deb Menk, Joshua Cregger, and Michael Schultz. "Contribution of the Automotive Industry to the Economies of All Fifty States and the United States." Center for Automotive Research. January 2015.
[5] Associated Press News. 1/13/2022. "China's trade surplus surges to record $676.4B in 2021": https://apnews.com/article/coronavirus-pandemic-health-business-global-trade-united-states-24da5cc5c27b824a9fc55adf9d4900dc
[6] Economic Policy Institute. 1/30/2020. "Growing China trade deficit cost 3.7 million American jobs between 2001 and 2018: Jobs Lost in every U.S. state and Congressional District": https://www.epi.org/publication/growing-china-trade-deficits-costs-us-jobs/
[7] IHS Markit Automotive, July 2022

Inventus Power

Inventus Power ("Inventus") is a Chicago-based producer and distributor of lithium-ion batteries, chargers, and power supplies. The company maintains manufacturing sites in multiple countries, including the United States and Mexico, where it assembles batteries for medical and defense applications. Like other North American battery assemblers, Inventus has been impacted by Section 301 tariffs on Chinese-origin products. These tariffs cover both finished lithium-ion batteries and lithium-ion battery cells, a principal input into finished lithium-ion batteries.

The tariff provision applicable to lithium-ion battery cells (8507.90.8000) is subject to a 25% Section 301 duty, while the provision for finished lithium-ion batteries not used for electric vehicles (8507.60.0020) is subject to a much lower, 7.5% Section 301 duty. China accounts for 75%-80% of global production capacity for lithium-ion battery cells. Cell production outside of China is captively consumed or, increasingly, has been retooled to focus on the electric vehicle market. These factors make supply outside of China increasingly tight for the smaller, commodity-type cells used outside of electric vehicle applications.

Although the 7.5% Section 301 tariffs on finished Chinese-origin batteries raise the prices of those batteries relative to where they would otherwise be, the relatively low level of these tariffs has proven insufficient to slow shipments by Inventus's Chinese competitors. Indeed, U.S. import statistics demonstrate that, since the Section 301 tariffs were first imposed, imports of complete lithium-ion batteries from China have skyrocketed. Meanwhile, American assemblers have little choice but to rely on Chinese cells, given the increasingly tight supply of cells made outside of China. But with Chinese-origin cells dutiable at a higher rate than fully Chinese-origin complete batteries, the tariffs' net effect as been to discourage North American battery assembly, while encouraging operations in China.

The tariffs also discourage near-shoring. U.S. Customs & Border Protection ("CBP") treats batteries assembled Canada and Mexico using Chinese cells as Chinese in origin, even if the value added in North America excuses the products from standard import tariffs under the United States-Mexico-Canada Agreement. This treatment discourages companies like Inventus from nearshoring assembly operations, because it is difficult to remain price-competitive against lithiumion batteries fully manufactured in China while paying the 7.5% Section 301 tariffs applicable to Chinese-origin batteries. Inventus accordingly supports CBP's 2021 proposal to simplify its origin treatment for goods imported from Canada and Mexico, at least until North America develops its own production capacity for lithium-ion cells for non-vehicle applications.

To meaningfully impact Chinese batteries that compete with U.S.-assembled batteries, Inventus believes that the tariff applied to such batteries will likely need to be increased to 25 or higher. In the meantime, the 25% Section 301 tariffs imposed on Chinese lithium-ion battery cells increase the costs for U.S. assemblers to obtain input cells, while encouraging further entrenchment of the global supply chain for lithium-ion batteries in China. To mitigate these issues, Inventus supports correction of the current tariff inversion, as well as other proposals that would benefit U.S. and nearshore assembly operations.

J.M. Wechter & Assoc. Inc.

No written summary. Please see EDIS for full submission.

JLG Industries, Inc.

JLG Industries, Inc., an U.S. manufacturer of mobile access equipment, supports and have benefited significantly from the Section 301 tariffs on Chinese imports. Together with recent antidumping and countervailing duty orders, these tariffs have had a positive economic impact on JLG by helping to discipline unfairly traded imports of Chinese mobile access equipment, including scissor lifts, boom lifts and telehandlers. The year after the Section 301 tariffs were imposed, imports of Chinese mobile access equipment into the United States decreased by 29 percent.[1] This disciplining of unfair Chinese imports, now with the additional discipline provided by antidumping and countervailing duties, has allowed U.S. producers to hire additional workers, add new manufacturing equipment and increase production substantially. For example, this March, JLG announced a major expansion of its manufacturing footprint with a 60,000-square foot facility in Jefferson City, Tennessee. JLG has also added new manufacturing lines at its Bedford and McConnellsburg, Pennsylvania-based plants to support the increased production of mobile access equipment, and other U.S. mobile access equipment manufacturers are expanding as well.

While the Section 301 tariffs have had a positive economic impact on U.S. pipe producers, neither they nor the Section 232 measures have contributed meaningfully to recent inflation levels (as shown by their timing, inflation's global impact and numerous economist reports) or caused raw material availability concerns for manufacturers, which have multiple available sources for their raw material needs.

Without the positive economic impact from disciplines like the Section 301 tariffs, large quantities of unfairly priced Chinese imports of mobile access equipment would be likely to result in U.S facility closures and the loss of thousands of U.S. manufacturing and related jobs. In the recent trade cases, the Commission found that "the Chinese {mobile access equipment} industry is large and growing substantially and this growth is likely to foster substantial exports to the United States in the imminent future."[2] In fact, Chinese mobile access equipment producers' capacity, as reported in the trade cases, more than doubled from 2018 to 2020.[3] Without the Section 301 tariffs and antidumping and countervailing duty orders, acting in conjunction, Chinese mobile access equipment producers would again target the U.S. market, to the severe detriment of the domestic industry.

In sum, with their significant beneficial economic impacts for U.S. producers, the Section 301 tariffs on Chinese mobile access equipment imports are critical to ensuring the continued growth and strength of American manufacturing. The Section 301 tariffs, in addition to other important measures like antidumping and countervailing duty orders, are helping significantly in the effort to maintain and

[1] *Certain Mobile Access Equipment and Subassemblies Thereof from China*, Inv. No. 701-TA-665, USITC Pub. 5242 (Dec. 2021) (Final) at 44 ("USITC Pub. 5242").
[2] *Id.*
[3] *Id.*

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expand U.S. manufacturing capabilities, and their continuation is essential to the future of the American mobile access equipment industry.

JOANN Inc.

JOANN Inc. and affiliates (collectively referred to as "JOANN or the "Company") represent a 79-year-old thriving and growing American business, employing American workers and serving middle income Americans by supplying well-priced sewing and crafting project component parts which enable them to create needed items for their families and their homes, their businesses and for charitable donations. These significant contributions to the U.S. economy, previously a regular and routine part of JOANN's day-to-day business, became far more challenging once the Trump Administration enacted the Section 301 tariffs, starting in 2018. JOANN, perhaps more than many other retailers of its size, has been hit especially hard by the Section 301 tariffs. These significant annual tariff charges represent a serious threat to the company's profitability and long-term viability.

Like other U.S. retailers which must import their goods based on limited availability within the U.S. marketplace, JOANN has had no choice but to pass on portions of the tariffs to consumers given that narrow retail margins preclude absorption of the tariff costs to the bottom line. These higher prices lead directly to inflation and the resulting stagnation of the U.S. economy. Additionally, JOANN and other importers have been forced to make difficult decisions -- limiting planned investments in its employees, stores and distribution centers and business infrastructure, including technology upgrades. In order to make sure that the strength of the U.S. economy is restored, the International Trade Commission (the "ITC") must, after completing its investigation, advise the President that the Section 301 tariffs on imports from China should be removed, in their entirety, immediately so that their inflationary impact is no longer a challenge for JOANN, other U.S. businesses and the economy as a whole. As an alternative, the ITC should recommend that a fully transparent product and tariff code exclusion process is established which includes granting of the specific requests (to be made by JOANN) broadly outlined in the brief.

Juvenile Products Manufacturers Association

No written summary. Please see EDIS for full submission.

KIK Consumer Products

No written summary. Please see EDIS for full submission.

Kurt S. Adler, Inc.

No written summary. Please see EDIS for full submission.

LIFE SAVER POOL FENCE SYSTEMS, INC.

No written summary. Please see EDIS for full submission.

Master's Lumber & Hardware, LLC and Orion Group, LLC

No written summary. Please see EDIS for full submission.

Medline Industries, LP

No written summary. Please see EDIS for full submission.

Meiko Electronics America

No written summary. Please see EDIS for full submission.

Metal Grating Coalition

No written summary. Please see EDIS for full submission.

Molycop USA

Molycop USA is the largest U.S. producer of steel grinding balls and other grinding media. Molycop USA represents approximately 50 percent of U.S. production capacity. We produce steel grinding balls at our facility in Kansas City, Missouri, which provides and supports critical manufacturing jobs in the U.S. steel sector. Steel grinding balls are an essential input to the U.S. mining industry. They are used in the copper, gold, iron ore, and other mining industries to breakup ore extracted from the ground to help liberate the constituent minerals. Molycop USA manufactures almost all its steel grinding balls from domestically produced high carbon, alloy steel bars for maximum abrasion resistance and hardness.

The Section 301 tariffs have provided necessary economic relief to the steel grinding media industry, including Molycop USA, by allowing it to increase production, capacity utilization, and regain market share lost to unfairly priced Chinese imports. Since the imposition of the Section 301 tariffs, Chinese imports of steel grinding balls have declined significantly, plummeting 86 percent from their peak in 2017. The Section 301 tariffs have also fostered an environment where Molycop USA has been able to invest more than $10 million in its Kansas City, Missouri plant, including investments targeted at reducing electrical power consumption and improving Molycop USA's carbon footprint. Moreover, since the imposition of the 301 tariffs, Molycop USA has continued to support the broader community as employment at the Missouri plant has increased more than 80 percent and workers are earning higher wages.

The Section 301 actions have been effective at redressing China's unfair acts, policies, and practices related to technology transfer, intellectual property, and innovation. Molycop USA has reason to believe

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that Chinese steel grinding ball producers acquired information on Molycop USA's business proprietary production processes, which allowed Chinese producers to quickly increase the quality of their grinding balls, achieving capabilities in a few years that took Molycop USA decades to develop. For example, a U.S. mine hired a Chinese national to manage the procurement of Chinese steel grinding balls as well as work with Chinese producers to improve their quality. The Chinese national subsequently hired a consultant with knowledge of Molycop USA's technology to gain technological know-how and provided such information to Chinese companies to help improve the quality of their steel grinding ball production. By 2010, Chinese steel grinding ball production technology was comparable with Molycop USA's technology, and imports of Chinese steel grinding balls grew rapidly in multiple countries and in the United States until USTR implemented the Section 301 tariffs.

In addition, China has significant production overcapacity for steel grinding balls. Molycop USA estimates that China now contains about 50 percent of global grinding media capacity and could meet about 90 percent of global demand for grinding media. Accordingly, the Section 301 tariffs have benefitted Molycop USA and the domestic industry by helping to level the playing field and furthering the United States' goal of combating China's unfair acts, policies, and practices related to technology transfer, intellectual property, and innovation.

Motor & Equipment Manufacturers Association

The Motor & Equipment Manufacturers Association (MEMA) represents more than 900 manufacturers of motor vehicle components and welcomes this opportunity to provide input on the impacts on American motor vehicle part companies and their workers of Section 301 China tariffs and Section 232 steel and aluminum tariffs.

Since first imposed in 2018, both sets of have generated significant adverse economic impacts for MEMA members and other U.S. manufacturers. MEMA commends the progress that the Biden Administration made in the past year when it placed tariff rate quotas on the Section 232 tariffs on key allies: the European Union (EU), Japan, and the United Kingdom. The next logical step would be a full phaseout of all steel and aluminum tariffs imposed on these and other allies.

Unfortunately, Section 301 on Chinese tariffs remain fully in place with no viable exclusion process. These tariffs increase costs for manufacturers and consumers alike. Given the increasingly enhanced U.S. competitive position, MEMA urges the U.S. to establish a robust Section 301 exclusion process, to phase out Section 301 tariffs, and to conclude the Section 232 process.

Since 2021, the Biden Administration and the U.S. Congress have successfully passed and signed legislation to restore the international competitive viability of the United States. Actions include:

• The bipartisan CHIPS and Science Act provides $52.7 billion in grants and loans to enable construction of FABS and research and development for U.S. semiconductor chip production;

• The Inflation Reduction Act (IRA) providing $369 billion in energy efficiency provisions to combat climate change including funding for manufacturing conversion and retooling for EV and for EV tax credits to consumers; and

• A bipartisan bill providing $1 trillion over five years in funding for critical infrastructure.

These initiatives underscore the need to move beyond using tariffs as a tool to promote U.S. competitiveness. Ending both sets of tariffs would allow the U.S. to reassume its role as a leader of global free trade. Additionally, economic tensions with other nations across the globe could be defused in the process. Participation with our key allies in agreements like the Indo-Pacific Economic Framework (IPEF) is a more proactive multilateral approach, particularly if market opening incentives can be included.

China's WTO-inconsistent and non-market approach to trade is a challenge to the global trading system and needs to be corrected. However, a broader, more transparent, and fairer China 301 exclusion process does not threaten these objectives. Reducing and eliminating 301 tariffs on imports from China and 232 steel and aluminum tariffs on allies further restores rational data-driven policy that is coordinated with U.S. allies. Progress on ending both sets of tariffs will restore multilateral efforts to pressure China toward a greater market orientation. That action will also eliminate competitive disadvantages in China that the U.S. faces with its allies.

MEMA represents vehicle suppliers that develop innovative technologies and manufacture original equipment (OE) and aftermarket components and systems for use in passenger cars and commercial trucks.[1] Vehicle suppliers operate in all 50 states, directly employ over 907,000 Americans, and represent the largest sector of manufacturing jobs in the United States. Direct, indirect, and induced vehicle supplier employment accounts for over 4.8 million U.S. jobs and contributes 2.5 percent to U.S. GDP.[2]

Thank you for this opportunity to share our views on this important issue. Please contact Bill Frymoyer, Vice President, Public Policy at 202-309-0888 or bfrymoyer@mema.org if you have any questions.

NAFEM

No written summary. Please see EDIS for full submission.

National Association of Chemical Distributors

No written summary. Please see EDIS for full submission.

National Association of Music Merchants and Members of the Musical Instrument Legal Alliance (National Association of Music Merchants, Members of the Musical Instrument Legal Alliance, Yamaha Guitar

[1] MEMA represents its member companies through its four divisions: Automotive Aftermarket Suppliers Association (AASA); Heavy Duty Manufacturers Association (HDMA); MERA - The Association for Sustainable Manufacturing; and Original Equipment Suppliers Association (OESA).
[2] U.S. Labor and Economic Impact of Vehicle Supplier Industry, MEMA and IHS Markit. February 2021.

Group, Cordoba Music Group, John Cruz Custom Guitars, Moog Music Inc., Paul Reed Smith Guitars Limited Partnership)

On behalf of the National Association of Music Merchants (NAMM) and several members of the Musical Instrument Legal Alliance (MILA), we submit this summary to include in the public record. NAMM is the not-for-profit trade association with the mission to strengthen the $17 billion music products industry. NAMM has more than 7,000 member companies in the U.S. and represents all segments of the music products industry, including manufacturers, distributors and retailers. MILA is comprised of legal and compliance officers from U.S. musical instrument manufacturing companies.
MILA's members are members of NAMM, and the organizations work together to expand the music products market and music education opportunities.

Section 301 Tariffs – Impact on Musical Products Industry, Consumers
The tariffs impact businesses of all sizes, including product manufacturers, retailers, accessories and consumer technology products. The tariffs are an arbitrary tax on music products and consumers. Extra costs often fall to customers - musicians, orchestras, students, teachers, schools and others.
Most instruments and accessories subject to tariffs are on List 4A, including guitars, pianos, woodwinds, drums, music stands, strings, and bows. Although the 15% rate was reduced to 7.5%, the tariffs remain substantial. Tariffs also apply to music-related consumer technology products (i.e., amplifiers, synthesizers, digital mixers, recording interfaces, special effects pedals) and instrument cases. Musical instrument manufacturers report:

- Production cost increases ranging 5% to 30%. Companies are compelled to absorb these costs or increase product prices.
- Revenue losses from tariffs range 5% to 30%. Lower revenue and reduced profitability compel workforce reductions, hiring delays, and suspending salary increases, hurting retention.
- Significant price increases for consumer electronics. For example, the retail price for a brand name amplifier increased by 42%. These amplifiers, like many technology products, are subject to a 25% tariff.
- Tariffs impeding the ability to compete, invest in research and innovation, and creating disincentives to manufacture in the U.S.
- Administrative burdens to identify products not sourced in China, causing shipping delays and exacerbating supply chain problems.

Unintended Consequences - 301 Tariffs Reduce Music Education Resources
The tariffs have adverse consequences for school music programs. With higher instrument costs, resources will be spread thin and music education offerings may be reduced. Students – primarily in public schools – will have less access to music education and families will be unable to afford instruments. Higher costs have caused some manufacturers to reduce discounts and incentives for music educators, students, and school districts.
Reduced access to music education has implications for learning and a prepared workforce. Research studies demonstrate music education leads to greater academic, social, and emotional achievement for students. Moreover, studies show a lack of music education resources disproportionately impacts school districts with students of color, immigrants, and low-income communities.
Conclusion

The musical instrument manufacturing industry faces uncertainty due to the COVID-19 pandemic, supply chain disruptions, inflation and Section 301 tariffs. Extension of the tariffs will continue to inflict economic harm on the industry, music retailers, and aspiring musicians of all ages.

National Council of Textile Organizations

No written summary. Please see EDIS for full submission.

National Electrical Manufacturers Association

The Section 301 tariffs on imports from China and the Section 232 tariffs on steel and aluminum negatively impact strategically important U.S. industries. The electroindustry has a robust domestic manufacturing base and supports the fundamental goal of creating high-paying American jobs and shoring up domestic supply chains. However, these sustained tariffs unreasonably burden U.S. manufacturers as they endeavor to support domestic manufacturing and resilient supply chains.

Many products subject to Sec. 232 and 301 tariffs are used in manufacturing in the U.S. after being imported. Products such as printed circuit assemblies, cable assemblies for healthcare facility call systems, motor end shields made from stainless steel castings, and stainless steel conduit boxes are imported then used to manufacture critical healthcare, industrial, utility, transportation, and lighting equipment. The tariffs are raising the costs of components and materials used in domestic manufacturing, making U.S. manufactured goods less competitive in the global marketplace and putting domestic jobs at risk.

Further, NEMA members are directly or indirectly involved in one-third of the Bipartisan Infrastructure Law (BIL) funding. To meet the accelerated timelines outlined in the BIL, demand for critical electrical products is rising quickly. The tariffs raise the costs of components and materials electrical equipment manufacturers require as they enable the country's infrastructure improvement, potentially diluting the funding for critical infrastructure projects.

U.S. Customs and Border Protection has assessed over $162 billion in duties from the Sec. 232 and 301 tariffs over the past four years, during this time inflation has risen to historic levels. The 25% tariffs being paid on billions of dollars of products further exacerbate inflationary pressures U.S. consumers and businesses are facing.

Presently, there is no open process to apply for exclusions from the Sec. 301 tariffs on imports from China. An exclusions process was in place from 2018 to 2020 as well as a subsequent window to request exclusions for a narrow list of products in 2021. However, the exclusions process was not transparent, and the U.S. Trade Representative's office did not properly document its decision making procedures, according to a 2021 Government Accountability Office report. Manufactures found the exclusions process to be capricious and difficult to navigate. A new, fair, and transparent exclusions process for the Sec. 301 tariffs is needed to provide tariff relief, especially for components and materials used in domestic manufacturing.

The continuation of the Section 232 and 301 tariffs create significant challenges, costs, and uncertainty for U.S. businesses. Providing relief from these tariffs will assist companies as they reorient supply chains, manage inflationary pressures, and aid in the nation's infrastructure improvement.

National Fisheries Institute

The Section 301 tariffs aimed at China-sourced goods have harmed U.S. commercial seafood businesses in multiple ways.

First, the tariffs have raised costs for companies utilizing a variety of seafood species from China and from third countries, making it more difficult for those producers to provide an essential protein to U.S. consumers. These companies – the vast majority of them small businesses – have paid nearly $725 million (and counting) in Section 301 tariffs. The duties have made U.S. seafood processing and distribution workers less competitive and have punished lower- and middle-income families seeking affordable seafood options at a time of rampant food inflation. Second, because much U.S.-caught seafood is substantially processed in China and then shipped back to the U.S. for consumption, the Section 301 tariff applies to U.S.-harvested fish. Although USTR has excluded some such products at certain times, the mere fact that the tariff applies to a product caught by Americans in U.S. waters aboard U.S.-flagged vessels has created uncertainty and dampened demand in connection with a proceeding that is supposed to be about punishing the People's Republic of China, not American fishermen. Third, China's predictable retaliation against U.S. seafood exports in response to the U.S. duties has deprived American producers of competitive access to the world's largest seafood market, driving a decline in U.S. seafood exports not seen since 2011.

Abandoning China sourcing appears to be the easy solution but in fact is not. Shifting supply chains away from China was never the stated goal of the Section 301 tariff as applied to "List 3" consumer goods and in any event is easier said than done. Pandemic and lockdowns of course made such adjustments impossible for several years and still hamper global travel and coordination today, especially as compared to supply chains that took decades to establish and refine. Moreover, some species are found only in one or two countries, China among them, and therefore either must be sourced via existing supply chains or abandoned to other customers. Recent USTR proceedings aimed at other trade partners and potentially including seafood demonstrate that decoupling from China supply chains does not remove the Section 301 tariff threat.

Nor has imposition of these tariffs on seafood done anything to discipline China for the violations of U.S. and international trade law USTR identified in its March 2018 report. NFI is unaware of any evidence that semi-permanent application of a punitive, 25 percent tariff to food has persuaded responsible public and private sector actors in China to address allegations of illegal subsidies, cybertechnology crimes, forced technology transfers, or intellectual property theft. Proponents of the Section 301 tariff aimed at China offer nothing but conclusory assertions that the tariffs as applied to List 3 goods have worked to change China's conduct. There can be no doubt that this argument is as untrue as it is unsubstantiated, and that the Section 301 tariffs have harmed seafood companies and American seafood workers who should have been left out of the entire dispute in the first place.

National Foreign Trade Council

Between March 23, 2018, and August 3, 2022, U.S. Customs and Border Protection ("CBP) collected over $162 billion in duties assessed under Sections 232 and 301. The Section 232 and 301 tariffs have distorted the market for products subject to the tariffs and increased the price of goods for consumers in the U.S. The price of goods produced in the U.S. and third markets has risen as well. Higher prices from the 232 and 301 tariffs are making U.S.-produced goods less competitive than products from other markets. Coalition members noted lost sales to third markets because of higher materials costs in the U.S. The 232 and 301 tariffs are distorting the market and picking winners and losers. While primary metals producers may be enjoying higher prices under the 232 tariffs, this increase is coming at the expense of downstream industries and U.S. consumers.

In addition to price increases and competitiveness challenges, the 232 and 301 tariffs have had a range of other impacts that adversely affect Coalition members, including creating difficulty obtaining a consistent supply of products subject to the tariffs. Changing suppliers when materials are not available is not easy. For products that are highly regulated, the supplier is routinely specified in the contract based on testing performed to the customer's requirements. During the term of a contract, raw material suppliers typically cannot be changed without agreement from the customer and any potential new supplier must undergo a qualification testing and approval process that can take 12-18 months.

While some Chinese-origin inputs may be available from other countries, the total cost (price, quantity, quality) often is higher than the price available in China, even when the 301 tariff is added to the Chinese good. Goods subject to safety approvals like UL standards would be subject to retesting and relisting at great expense if the country of origin changed. As a result, a number of U.S. companies decided to pay the 301 tariffs, especially during the pandemic, rather than face the higher costs and uncertainty of realigning their supply chains. Several countries imposed retaliatory tariffs ranging from four to 70 percent on many U.S. exports in response to the Section 232 and 301 tariffs. In the agriculture sector alone, the retaliatory tariffs led to a reduction in U.S. agricultural exports to retaliating partners of more than $27 billion.

There is virtually no evidence that the Section 232 or 301 tariffs are having any effect on the problems they were intended to address. Rather, the burden of these tariffs is falling on US businesses and their customers who are being punished for problems they did not create and cannot solve. Neither the 232 nor 301 tariffs have been effective and the President should eliminate them. Eliminating the tariffs could also help the Administration in their effort to reduce inflation, with one study showing that trade liberalization could deliver a one-time reduction in consumer price index (CPI) inflation of around 1.3 percentage points amounting to $797 per US household.

National Presto Industries, Inc.

National Presto Industries, Inc. ("NPI") is writing to the U.S. International Trade Commission (USTIC) to express its deep concern with the impact of tariffs on U.S. imports under section 301 of the Trade Act of 1974 (19 U.S.C. 2232). The stated goal of implementing these tariffs was to punish China for policies harming American intellectual property rights, innovation or technology. Unfortunately, the USTR has implemented tariffs on numerous goods that have no correlation with protecting American intellectual

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property from the Chinese. Worse yet, the USTR has granted, without any explanation, specific exclusions from these overly broad tariffs for certain products that have resulted in a significant competitive disadvantage in the marketplace.

NPI has been in existence since 1905 and has manufactured pressure cookers and canners for over one hundred years. There is absolutely no link between imposing a tariff on parts for pressure cookers and canners and protecting American intellectual property from the Chinese. Yet the USTR has implemented tariffs on pressure gauges, relief valves, pressure regulators, air vents, vent pipes and gaskets. These parts are critical to the safe operation of pressure cookers and canners. The Chinese are not stealing any intellectual property or technological innovations relating to these parts because the technology is dated. There are simply no innovations or technology to be stolen. Implementing tariffs on these critical safety parts does not punish China. Instead the tariffs punish the American consumer by raising the cost of these replacement parts, thereby creating a disincentive to consumers to appropriately maintain their cookers and canners.

In addition to the USTR enacting unnecessarily broad tariffs on critical safety component parts, the USTR has granted haphazard exclusions that create a competitive disadvantage in the marketplace for products that compete with each other. One such field is with space heaters. Like pressure cookers, new technology is not an issue. The applicable technology has been in the public domain for literally decades. The USTR, without explanation, granted an exclusion to the 25% tariff applicable to space heaters with fans (HTSUS 8516.29.0030) but denied all exclusion requests for radiant space heaters (HTSUS 8516.29.0060). Prior to the tariffs, the fan operated and radiant space heaters competed head to head at near identical prices. The exclusion granted by the USTR for fan-operated space heaters has resulted in NPI and other U.S. marketers of radiant space heaters being placed at a significant competitive disadvantage as the fan-operated heaters now sell at a lower price. Given the state of the economy with respect to rising inflation, consumers look closely at prices when make their purchasing decision. The exclusions granted by the USTR have created an uneven competitive playing field that results in lopsided pricing that favors one type of space heater over the other.

The rationale used by the USTR to justify the tariffs was that they would target Chinese companies who were stealing U.S. technology and innovation and put an end to these unfair competitive practices. Unfortunately, the tariffs the USTR implemented largely fail to achieve that goal because they focus on products with technology that is in the public domain. Instead, they punish the U.S. consumers who wish to buy these products and the U.S. businesses that supply them. To avoid further harm to these consumers and businesses, the section 301 tariffs should be ended now.

National Retail Federation

NRF members have been on the front lines of having to manage the higher costs triggered by the Section 301 tariffs assessed on imports from China. The tariffs impact a wider range of consumer goods sold by retailers and have been universally disruptive to our businesses and our customers. They add directly to the cost of goods imported from China. In addition, a host of other indirect costs that the tariffs have imposed on U.S. importers add to their burden and have affected trade and prices. The tariffs moved much supply out of China to other countries largely in Asia, or Mexico, and only very small amounts to the United States. Higher costs were in many cases initially absorbed by importers and

retailers; however, today more and more of that additional cost burden associated with the tariffs is being passed on to the prices paid by final consumers — American families.

North American Die Casting Association

No written summary. Please see EDIS for full submission.

Novus International, Inc.

No written summary. Please see EDIS for full submission.

Nucor Corporation

The economic impact of the Section 232 and Section 301 measures has been overwhelmingly positive. As a necessary complement to antidumping and countervailing duty orders, the Section 232 program has helped to return the domestic steel industry to a more sustainable trajectory after years of pressure from global overcapacity and repeated surges of low priced imports. When the Section 232 investigation was initiated, low-priced, excess import supply had taken significant U.S. market share from domestic producers, preventing the industry's recovery from the global financial crisis. Because of persistent import competition, the domestic industry was operating unprofitably, shedding production and production capacity, and forgoing the critical investments needed for long-term sustainability.

Following a series of successful antidumping and countervailing duty cases, the Section 232 program created a comprehensive response to the global overcapacity crisis that frequently blunted the beneficial impact of trade remedy orders. With this combination of measures in place, the steel industry has recaptured market share, returned to more consistent profitability, ramped up existing production capacity, and made significant investments in new, improved, and expanded facilities. Steel producers have invested approximately $22 billion since the Section 232 measures went into effect, resulting in an expected 22 million tons of additional production capacity. These investments represent state-of-the-art facilities that are among the cleanest in the world and that will further the domestic industry's climate advantage over carbon-intensive foreign sources.

The Section 232 program has contributed to the domestic steel industry's recovery without causing harm to downstream industries or the broader economy. After the program went into effect, domestic producers quickly ramped up production, while supply chains adjusted. By 2019, domestic steel prices had returned to pre-Section 232 levels. Any recent supply disruptions or inflationary pressures are the result of the COVID-19 pandemic and Russia's invasion of Ukraine. There is simply no correlation between inflation, which is a global phenomenon, and any U.S. trade action, including the Section 232 program.

Steel accounts for a modest share of total costs in significant steel consuming downstream industries. Recent econometric analysis confirms that any increase in steel prices due to the Section 232 program had little if any impact on the strong performance of downstream producers.

The Section 301 measures have likewise had beneficial effects on the U.S. economy. In the steel industry, China, while not alone, is at the heart of the global overcapacity crisis. Key to its industrial

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policy initiatives has been channeling low-priced steel inputs into downstream value added manufacturing of both steel products and steel-intensive products like machinery and equipment. This has threatened U.S. value chains both in the steel industry and in key steel consuming industries. The Section 301 measures have encouraged reshoring of these industries to the United States and the return of robust and resilient manufacturing supply chains.

These measures should remain in place until the economic distortions they were designed to address have been resolved. Removing them prematurely would reverse the gains discussed above and would have detrimental effects, both economically and environmentally.

Occidental Chemical Corporation

No written summary. Please see EDIS for full submission.

Ohio Coatings Company

The imposition of trade remedies on steel imports under Section 232 of the Trade Expansion Act of 1962 has played a critical role in preserving and revitalizing America's steelmaking capabilities. However, the imposition of those trade remedies to restrict the import of tin mill blackplate -- when domestic tin mill blackplate is undeniably in short supply -- is contrary to both the spirit and letter of Section 232; and it has had the unintended consequence of actually reducing the American steel industry's tin plate market share.

During 2017, the year prior to imposition of Section 232 trade protection, the three domestic tinplate producers (U. S. Steel, ArcelorMittal, USA and OCC) supplied 60% of the America's tinplate needs. The remaining 40% of the domestic tinplate market was split between several foreign producers. In 2022, U. S. Steel, Cleveland Cliffs and OCC will account for less than 40% of the American tin plate market. That precipitous loss of domestic market share is attributable in significant measure to the impact of the misapplication of Section 232 tariffs and quotas to imported blackplate, and the consequent reduction in OCC's ability to fully participate in domestic tinplate production.

Old World Christmas

No written summary. Please see EDIS for full submission.

Optimus Steel, LLC

No written summary. Please see EDIS for full submission.

Outokumpu Stainless USA, LLC

Outokumpu Stainless USA (Outokumpu) welcomes the opportunity to expand upon its testimony to the Commission regarding the economic impact of the section 232 steel tariffs on its business as part of the U.S. International Trade Commission’s (ITC) retrospective investigation of the economic impacts in the

U.S. industries most affected by the section 232 tariffs.[1] Outokumpu Stainless USA is the second-largest stainless steel producer in the United States and a strong supporter of the section 232 steel duties, which have allowed the company to achieve its first profitable year in 2021 since beginning U.S. production over a decade ago. In addition, with the support of the section 232 and other trade remedy actions, Outokumpu has since 2017:

- increased its base prices;
- improved its capacity utilization by 6 percent;
- improved production efficiency, supporting a 7 percent increase in production capacity even without any physical capacity expansions; and
- most importantly, increased its domestic shipment volume by 34 percent.

Despite these substantial gains, the ITC heard from downstream steel producers that the steel section 232 actions were, alternately and hypocritically, either having no appreciable impact on domestic stainless steel producers or causing substantial detrimental impacts on the price and availability of stainless steel. As discussed below, Outokumpu and other stainless steel producers have responsibly raised base prices, increased and reoriented production to the U.S. market, and reinvested the profits further increasing production capacity. The ITC must reject downstream users' attempts to attributed market factors such as increasing raw materials and freight costs and pandemic supply chain impacts to the section 232 actions and find that the section 232 steel duties have strengthened the industry most affected by the section 232 actions: the U.S. steel industry.

Pedego, LLC

Until the implementation of the Section 301 tariffs, there was no duty on electric bicycles. As Don Di Costanzo, CEO of Pedego, explained during the public hearing for this investigation, when the 301 tariffs went into effect, U.S. owned and operated companies like Pedego were put at a competitive disadvantage with Chinese companies for two reasons:

1. De Minimis Exemption

If the total value of the imported goods equals $800 or less (known as the De Minimis/321 exemption), the goods are not subject to duty or taxes, including the 301 tariffs. Most electric bikes cost less than $800 to manufacture so companies in China are selling e-bikes for $799 direct to U.S. consumers. As a result, they pay no duty, no Section 301 tariffs, no sales tax, and no income tax in the United States. Pedego, like most other companies operating in the U.S., must pay these taxes, with the increased financial burden of the Section 301 tariffs. This exemption is unfair for U.S. companies and contradicts the purported purpose of the Section 301 Tariffs.

2. Direct Distributors

[1] Outokumpu focuses its comments on the impact of the section 232 duties because competitive imports from China (and therefore subject to section 301 duties) are minimal in the wake of its successful trade remedies petitions and the resulting imposition of antidumping and countervailing duties on imports of stainless steel sheet and strip from China, discussed further below.

Chinese owned and operated companies are setting up direct to consumer operations in the U.S. and importing e-bikes at their manufactured cost to minimize Section 301 tariffs. Again, this puts U.S. companies at a competitive disadvantage and negates the purpose of the tariffs.

Pinnacle Climate Technologies, Inc.

No written summary. Please see EDIS for full submission.

Plumbing Manufacturers International

No written summary. Please see EDIS for full submission.

Polaris Industries, Inc.

No written summary. Please see EDIS for full submission.

Power Solutions International

No written summary. Please see EDIS for full submission.

Rauch

No written summary. Please see EDIS for full submission.

Retail Industry Leaders Association

No written summary. Please see EDIS for full submission.

Silgan

The section 232 tariffs are a significant burden on our operations. Despite the protection afforded by the tariffs domestic manufacturers have withdrawn capacity from the tin mill steel market. The resulting domestic supply shortage threatens can and closure manufacturers in the United States and ultimately introduces significant risks for domestic food supply. The Department of Commerce should grant a generally approved exemption for tin mill steel to help address this critical need.

SNP Inc

I am pleased to submit comments to the USITC as part of Investigation No. 332-591: Economic Impact of Section 232 and 301 Tariffs on U.S. Industries.

I am writing to inform you of the substantial impact that the Section 301 China tariffs and the uncertainty surrounding the federal government's policy pertaining to the tariffs have had on behalf of my small, family-owned business, SNP, Inc., and the nine hardworking Americans that I employ. The last

four plus years have been incredibly challenging for our small business as we attempted to navigate the inconsistent and uncertain tariff policy and the exclusion process. These tariffs have impeded my business' ability to innovate and manufacture sustainable chemistries and have provided our foreign competitors with an advantage. SNP has survived to this point, but it has taken a financial and emotional toll that is much harder on small businesses.

We are proud to be the principal manufacturer and industrial supplier of alginic products in the U.S. SNP's line of natural sodium alginates is derived from kelp and is used in the manufacturing of paper coatings that are essential to prevent the deterioration paper products in labels, boxes, and packaging containing pharmaceutical, food, and industrial products.

We rely on a consistent supply of imported sodium alginate (HTS code 3913.10.0000), which is derived from brown algae. Brown algae and its derivatives cannot be artificially produced, and its commercial harvesting in the necessary quantities is limited to China.

The Section 301 tariffs have created a substantial financial burden on SNP, most notably a rise in costs that has harmed SNP's ability to compete against European rivals and forced U.S. manufacturers out of business. The fact that we have paid tariffs is especially galling when factoring in our consistent ability to secure tariff exclusions. Our tariffs paid should be $0. However, due to the federal government's inconsistent tariff and exclusion policies, we have, at times, found ourselves paying unnecessary tariffs with no recourse to claim refunds.

Though I was thankful that the exclusion on sodium alginate was reinstated, I was extremely disheartened that USTR made no provision to claim refunds on tariffs paid between January and October 2021, when it was deliberating its exclusion policy. USTR has repeatedly ruled that SNP should not be paying tariffs on imports of sodium alginate, but I was forced to pay tariffs on nine months' worth of shipments during peak harvest times.

Currently, there is no clarity as to whether I will have another opportunity to file for an exclusion extension before it expires this year.

This roller coaster ride would be difficult for any company to endure, but it is felt even more deeply in a small, family-owned business, like SNP. SNP asks for a permanent exclusion for sodium alginate imports from China. A permanent exclusion will provide certainty for our small business and allow SNP to better compete against foreign companies and continue to invest in innovative, sustainable, and green solutions.

Society of Chemical Manufacturers & Affiliates

SOCMA is the only U.S.-based trade association solely dedicated to the specialty and fine chemical industry – a $300 billion industry that is fueling high paying jobs in local economies across the United States. SOCMA members play an indispensable role in the global chemical supply chain, providing specialty chemicals to companies in markets ranging from aerospace and electronics to pharmaceuticals and agriculture.

SOCMA is not seeking the elimination of the Section 301 Tariffs, only the reopening of the tariff exclusion process. China’s unfair policies and practices towards intellectual property have had a range of

negative effects on the American economy and have significantly undermined American manufacturing. Many SOCMA members have been victimized by IP theft in China – theft that is particularly hurtful to an industry that thrives on innovation. We respect the administration's need for a full range of options to deal with China's unfair practices and understand that tariffs are an impactful tool that should remain at the Administration's disposal.

Nevertheless, the Section 301 tariffs have placed burdens on domestic specialty chemical manufacturers that have placed them at a competitive disadvantage. In many cases, China is the only or predominant source of inputs and raw materials for the specialty chemical industry and there is a need to alleviate the tariffs on those products.

SOCMA encourages a three-step approach to 301 tariff exclusions:

- Reopen the exclusion process for previously extended exclusions (already completed by USTR).
- Open the exclusion process for all previously granted, now expired exclusions.
- Re-open the exclusion process to all 301 tariffs.

SOCMA strongly believes any exclusion process must be transparent and inclusive for all stakeholders, apply consistent procedures and processes for all tariff exclusion applications, and base decisions on clear evidence and consistent criteria.

There are a number of reasons to re-open the exclusion process, not the least of which is that tariffs on products that are not competitively available outside of China have a compounding effect on the US economy of which the chemical industry is a net exporter. The tariffs that are being paid by US companies hinder their production and growth opportunities, and because it increases the cost of US products it makes them less competitive in the global market, which in turn inhibit reductions in the US trade deficit.

SOCMA and its members appreciate the opportunity to share this input on the China Section 301 tariffs and the need to reinstate and exclusion process.

Southern Shrimp Alliance

The imposition of Section 301 duties on imports of Chinese seafood has been beneficial for the U.S. market for seafood, providing boons to both the U.S. commercial fishing industry and to American consumers.

Official import data indicate that imports into the United States of Chinese seafood products covered by the Harmonized Tariff Schedule of the United States (HTSUS) codes included in List 3 of the Section 301 trade action declined from $2.8 billion in 2018 to $1.6 billion in 2021. Nevertheless, despite a 44 percent decline in the value of Chinese seafood imports since the imposition of Section 301 duties, there is little indication that American consumers were adversely impacted. This is because importers shifted sourcing away from China, as evidenced by the value of imports of these products from all other sources increasing from $19.0 billion in 2018 to $25.8 billion in 2021. This $6.8 billion increase from all sources but China over the last three years demonstrates that the decline in Chinese seafood in the U.S. market has been more than offset as Americans consume more imported seafood than ever.

The shift away from Chinese seafood has led to a significant reduction in the volume of antibiotic-contaminated seafood in this market. Numerous academic studies published after the imposition of Section 301 duties have continued to document the widespread abuse of antibiotics in Chinese aquaculture. These studies' findings are supported by the enforcement actions taken by the U.S. Food and Drug Administration, which reports that over 46 percent of all refusals of seafood entry lines for reasons related to veterinary drug residues since 2018 have been for products originating from China. Accordingly, the decline in the presence of Chinese seafood in this market has reduced health risks to American consumers and has discouraged the proliferation of antimicrobial resistant pathogens.

Beyond the use of antibiotics in aquaculture, a decline in demand for Chinese seafood also has reduced unintentional American consumer support of environmentally-harmful practices and of labor abuse in the Chinese seafood sector. In its recent investigation regarding imports of illegal, unreported, and unregulated (IUU) seafood, the Commission noted the central role played by wild-caught seafood in the production of fishmeal and fish oil used in aquaculture.

Separately, the U.S. Department of Labor, the U.S. Department of State, and U.S. Customs and Border Protection (CBP) have all publicly reported extensive documentation of forced labor practices in the Chinese seafood harvesting sector, with CBP additionally confirming the use of North Korean workers in the Chinese seafood processing sector.

These characteristics of the Chinese seafood industry, both individually and collectively, have forced U.S. commercial fishing industries to compete for sales in the U.S. market with a substantial volume of unfairly-traded goods. Insofar as the Section 301 duties have led to a sharp decline in Chinese seafood imports while not impacting overall seafood imports, the trade action has inured to the benefit of the domestic commercial fishing industry as well as American consumers.

Specialty Equipment Market Association

No written summary. Please see EDIS for full submission.

ST Paper, LLC

No written summary. Please see EDIS for full submission.

Strato Inc.

Strato Inc. opposes the continued imposition of the Section 301 tariffs on Chinese imports of freight rail couplers and components ("FRCs"), including coupler bodies, knuckles, and yokes, which are sold to original equipment manufacturers of railcars and as replacement parts to join together two freight railcars. The additional 25% tariffs on these imports, which are classified under HTSUS 8607.30.10, 8606.10.00, 8606.30.00, 8606.91.00, 8606.92.00, and 8606.99, have had a negative financial impact by causing downstream inflationary price increases in the U.S. Such increases have impacted Strato's domestic sales of FRCs and its end customer – the railroads – resulting in higher shipping rates for all goods sent by rail.

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Because the FRCs at issue are only produced by a small number of foundries, there are no readily available substitutes for the Chinese products subject to the additional tariffs. Only approximately 30% of an average year's North American railroad maintenance and new car build requirement is available from domestic suppliers, and no new steel foundry has opened in the United States since the Section 301 tariffs took effect in 2018. Instead, over eighty steel foundries have closed since 2002, with a reduction in capacity of more than 27%. At best, domestic capacity has remained steady despite the large increase in rail shipping and traffic since the fall of 2020. Though Strato always attempts to first source these FRCs from domestic suppliers, sufficient domestic capacity to manufacture these products simply does not exist.

This situation forces Strato, one of only the four companies approved by the Association of American Railroads to supply FRCs, to continue sourcing from China, despite the additional tariff. The 25% tariff thus serves no purpose with regard to FRCs except to inflate costs. Higher shipping rates have a cascading inflationary effect on all goods shipped by rail, including oil, consumer goods, automobiles, food, building materials, and many other types of products purchased and relied upon by American consumers. Surely, this is not the impact intended by the USTR in imposing the Section 301 tariffs.

We ask that the specific impact of the Section 301 tariffs on FRCs be considered by the International Trade Commission in its report and that this important industry servicing 140,000 miles of track and 1.6 million freight cars be spared from further negative economic impacts resulting from the additional tariffs.

StreetStrider

No written summary. Please see EDIS for full submission.

Sunval, Inc.

No written summary. Please see EDIS for full submission.

Tariff Reform Coalition

Between March 23, 2018, and August 3, 2022, U.S. Customs and Border Protection ("CBP) collected over $162 billion in duties assessed under Sections 232 and 301. The Section 232 and 301 tariffs have distorted the market for products subject to the tariffs and increased the price of goods for consumers in the U.S. The price of goods produced in the U.S. and third markets has risen as well. Higher prices from the 232 and 301 tariffs are making U.S.-produced goods less competitive than products from other markets. Coalition members noted lost sales to third markets because of higher materials costs in the U.S. The 232 and 301 tariffs are distorting the market and picking winners and losers. While primary metals producers may be enjoying higher prices under the 232 tariffs, this increase is coming at the expense of downstream industries and U.S. consumers.

In addition to price increases and competitiveness challenges, the 232 and 301 tariffs have had a range of other impacts that adversely affect Coalition members, including creating difficulty obtaining a consistent supply of products subject to the tariffs. Changing suppliers when materials are not available

is not easy. For products that are highly regulated, the supplier is routinely specified in the contract based on testing performed to the customer's requirements. During the term of a contract, raw material suppliers typically cannot be changed without agreement from the customer and any potential new supplier must undergo a qualification testing and approval process that can take 12-18 months.

While some Chinese-origin inputs may be available from other countries, the total cost (price, quantity, quality) often is higher than the price available in China, even when the 301 tariff is added to the Chinese good. Goods subject to safety approvals like UL standards would be subject to retesting and relisting at great expense if the country of origin changed. As a result, a number of U.S. companies decided to pay the 301 tariffs, especially during the pandemic, rather than face the higher costs and uncertainty of realigning their supply chains.

Several countries imposed retaliatory tariffs ranging from four to 70 percent on many U.S. exports in response to the Section 232 and 301 tariffs. In the agriculture sector alone, the retaliatory tariffs led to a reduction in U.S. agricultural exports to retaliating partners of more than $27 billion.

There is virtually no evidence that the Section 232 or 301 tariffs are having any effect on the problems they were intended to address. Rather, the burden of these tariffs is falling on US businesses and their customers who are being punished for problems they did not create and cannot solve.

Neither the 232 nor 301 tariffs have been effective and the President should eliminate them. Eliminating the tariffs could also help the Administration in their effort to reduce inflation, with one study showing that trade liberalization could deliver a one-time reduction in consumer price index (CPI) inflation of around 1.3 percentage points amounting to $797 per US household.

Tesla, Inc.

No written summary. Please see EDIS for full submission.

The Aluminum Association

No written summary. Please see EDIS for full submission.

The American Farm Bureau Federation

No written summary. Please see EDIS for full submission.

The Dental Trade Alliance

No written summary. Please see EDIS for full submission.

The Vision Council

No written summary. Please see EDIS for full submission.

Tile Council of North America

The Tile Council of North America (TCNA), the trade association of the North American tile industry, supports Section 301 tariffs on imports of ceramic tile from China. While the United States has a substantial ceramic tile industry, the industry has historically been threatened by the presence of unfairly traded Chinese imports in the marketplace. The inclusion of floor and wall tiles on USTR's China Section 301 retaliation list, therefore, has had broad-based, even universal, support among U.S. tile manufacturers and industry suppliers and has been justified on trade policy grounds.

Imports of Chinese floor and wall tiles have merited inclusion on the list of products subject to tariffs both because of mislabeling and because of intellectual property rights violations. Imports of Chinese tile have also historically undersold U.S.-made tile. This injurious underselling, a consequence of dumping and of massive Chinese government support for its ceramic tile industry, led to the imposition in 2020 of anti-dumping and countervailing duties, as outlined below.

The Section 301 tariffs have served as an appropriate means to redress mislabeling and intellectual property violations and have served and continue to serve their intended purpose. Indeed, imports of ceramic tile from China are now negligible. In 2018, China was the largest exporter to the United States (by quantity). In 2021, China was the 24th largest supplier. Surely, the steep drop in imports from China is primarily due to the U.S. Government's imposition of anti-dumping and countervailing duties on unfairly traded imports of tile from China in June 2020 (duties established as a consequence of the Commission's good work), but the Section 301 duties remain an appropriate and important way to address mislabeling and copying.

Meanwhile, the imposition of Section 301 duties on imports of Chinese tile has not negatively impacted consumers in the form of price increases. Per unit prices for U.S.-produced ceramic tile were $1.55 per square foot in the third quarter of 2018. In the first quarter of 2022, the price of domestically produced ceramic tile was $1.61 per square foot. The price of U.S.-made tile was $1.54 per square foot in the preceding quarter, the final quarter of 2021, a price decrease since imposition of the Section 301 tariffs.

Since the issuance of List 3, the U.S. Government has also applied anti-dumping and countervailing duties on imports of Chinese tile. These duties are much higher than the Section 301 tariffs. The price of domestic tile, therefore, has failed to increase, even after combined Section 301 and AD/CVD duties on imports of Chinese tile.

In part, the price of U.S.-made tile has failed to increase as a consequence of significant downward price pressure from non-Chinese suppliers. Countries such as Turkey and India are significant suppliers to the U.S. market with average unit values that are far lower than domestic average unit values. Clearly, Section 301 tariffs on imports of Chinese tile have not led to higher prices for U.S. consumers, in part because imports from other suppliers exert substantial downward price pressure.

Trinidad Benham Corporation

No written summary. Please see EDIS for full submission.

Turkish Steel Exporters' Association

The Turkish Exporters' Association, Çelik İhracatçıları Birliği, (the "Association") and its members have been negatively and disproportionately impacted by the Section 232 tariffs. First, the Section 232 tariffs have caused devastating costs and disruptions to the Turkish steel industry, while serving no national security purpose. Section 232 is meant to be specifically targeted to address national security threats, in this case global overcapacity driven by China. If properly implemented, Section 232 tariffs should differ from other trade enforcement tools, such as Section 201 and antidumping ("AD") and countervailing ("CVD") duties, which safeguard the U.S. industry from unfairly-traded imports. In reality, however, the current tariffs have functioned only as a protectionist measure to help the U.S. steel industry achieve business objectives, serving the exact same function as Section 201 and AD/CVD duties. Section 232 tariffs are not meant to create a framework that allows the U.S. industry to bypass trade remedy laws, as they have done here.

Second, the implementation of the additional tariffs has had a profound negative impact on U.S. purchasers of steel, and purchasers of Turkish steel in particular. For more than 9 months, the already high 25% tariff was doubled to 50% on Turkish steel only. This sudden, targeted action against Turkey was extremely disruptive to U.S. importers, resulting in diversion of shipments, placement of imports in expensive bonded warehouses, and other related losses totaling millions of dollars. Though more extreme, this real injury suffered by Turkish steel importers mirrors the experience of all importers, which have consistently reported cash flow issues, reduced funds for investment, staffing challenges, and other negative economic impacts since the tariffs took effect in 2018. The Section 232 tariffs have become unmoored from any rational national security purpose and have instead ironically become a deterrent to investment in and purchase of U.S. steel.

Finally, the Section 232 tariffs have had the unintended consequence of increasing calculated AD margins on imports covered by AD orders. Because Commerce treats special Section 232 tariffs as "ordinary customs duties," the full amount paid is deducted from the calculated U.S. price, resulting in a higher dumping margin. The practical result is that importers pay the 25% additional tariff twice – first at the time of import and again via calculation of higher dumping margins resulting from their payment. If foreign producers are shouldering the burden of the Section 232 tariffs, they are being penalized by Commerce. Inevitably the U.S. importer and downstream purchaser are impacted because producers cannot compete while also paying 25-50% in tariffs, plus an inflated AD rate. Commerce's treatment of the Section 232 tariffs is based on a conclusion that they have no remedial purpose. But, in reality, the tariffs are functioning in a manner such that their entire purpose is remedial – the tariffs exist to protect the domestic industry, even though they have ceased to do any such thing. The Commission should therefore report that the Section 232 tariffs have caused economic harm, including market uncertainty, disruptions, and increased costs.

U.S. Fashion Industry Association

The China Section 301 tariffs that have been in effect on apparel, home goods, and other fashion products since September 2018 ("List 3") and September 2019 ("List 4a) have negatively impacted American jobs created by USFIA's retail and apparel brand members. Indeed, 70 percent of the value of imported clothing remains here in the United States—even if the clothing is manufactured outside of

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the United States. The Section 301 tariffs have had the perverse impact of discouraging growth of these jobs at America's most innovative and iconic brands, 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 replace China.

Furthermore, these tariffs on clothing, footwear, and other fashion products constitutes a huge tax increase on U.S. consumers. As the U.S. faces the worst consumer inflation in decades, it makes little sense to burden struggling American families with higher prices on essential consumer goods such as clothing. USFIA agrees with Treasury Secretary Yellen's comments that tariffs tend to increase domestic prices and raise costs to consumers and businesses and that lowering U.S. and Chinese tariffs could help ease inflation. Section 301 tariffs compounded by other inflationary pressures, impose a significant burden on American businesses and families trying to recover from the effects of the pandemic.

The China Section 301 tariffs on apparel, home goods, and related products is not only a tax increase on American families, but a massive regressive tax increase. The Section 301 duties require families, in the face of the worst inflation in decades, to pay more for such things as back-to-school shoes and sweaters for the fall. 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 have hit struggling families more than anyone else.

In this respect, it is also worth mentioning that USTR historically has crafted Section 301 retaliation lists with an eye towards imposing tariffs on products that are of export interest to the country that was the target of the Section 301 investigation while avoiding tariffs that would cause disproportionate economic harm to U.S. consumers and industries. Basically, USTR traditionally works to craft Section 301 retaliation lists with an eye towards inflicting economic pain upon the offending trading partner while not "shooting ourselves in the foot." Here, the China Section 301 Lists 3 and 4a appear to have been prepared without regard to the impact of the tariffs on U.S. companies and consumers.

Meanwhile, imposing tariffs on imports of these fashion products has done nothing to solve the concerns about China's IP policies and practices outlined in USTR's March 2018 report. From the experience of USFIA member companies the best way to address these concerns is action at the multilateral level that includes other global trading partners – and USFIA's member companies are no stranger to IP violations.

United States Steel Corporation

Global steel overcapacity of over 500 million tons continues to significantly threaten the American iron and steel industry and, thus, U.S. national security, including not only national defense/military but also critical infrastructure.

China is the largest offender, but many other countries with massive overcapacity target the U.S. market, including trading partners with which the United States has essentially one-way steel trade (e.g., the United States imports 3 to 9 million tons per year from the European Union, United Kingdom, and Japan but exports virtually no steel to those economies), as well as Canada and Mexico, which surged steel into the United States after the Section 232 tariffs were lifted on imports from North America.

The Section 232 national security action on steel imports ("Steel 232," including Section 232 tariffs, quotas, and tariff rate quotas), China Section 301 tariffs ("China 301"), and strong antidumping and countervailing duty ("AD/CVD") enforcement work together to mitigate some of the negative impact of foreign overcapacity and imports on the American iron and steel industry. The Steel 232 has a substantial positive economic effect on the U.S. industry and continues to strengthen national security. The combined Steel 232, China 301, and AD/CVD measures have supported, and continue to support, the domestic industry's efforts to return to sustainable operating levels, invest in new technology, reverse years of declining employment, and support more and better jobs for the next generation of advanced manufacturing.

Since 2018, United States Steel Corporation has invested or plans to invest over $4 billion in new technology, facilities, and skilled workers for the next generation of iron and steelmaking to meet our goal of net-zero greenhouse gas emissions by 2050.

In addition to these benefits for the overall American steel industry, the Steel 232 and China 301 provide significant upstream support to the American iron industry, miners, and steelworkers that mine, melt, and make iron and steel in the United States.

Any perceived negative economic impact of the Steel 232 has been mitigated in three ways: (1) Steel 232 tariff coverage has declined to less than one third of steel imports—and much less for carbon and alloy semi-finished steel products like slabs and billets; (2) the Steel 232 exclusion process provides tariff relief for covered steel products that are neither domestically available nor a threat to national security; and (3) most illegal retaliation targeting U.S. exports has been eliminated. Finally, the Steel 232 tariffs do not have any meaningful impact on inflation: though inflation increased this year, steel prices have declined roughly 50 percent since September 2021.

China 301 tariffs (a) cover many iron, steel, and steel-intensive products not covered by the Steel 232, AD/CVD, or other import measures; (b) provide leverage to address China's discriminatory practices; and (c) provide relief from Chinese and global steel overcapacity throughout the domestic steel supply chain.

Until there are enforceable global solutions that address the root cause of steel overcapacity, the Steel 232, China 301, and AD/CVD orders must be continued and, ideally, strengthened.

United Steelworkers

No written summary. Please see EDIS for full submission.

Wallaroo Hat Company

No written summary. Please see EDIS for full submission.

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Webb Wheel Products, Inc.

Webb Wheel Products, Inc. ("Webb") has been a domestic manufacturer of brake drums, rotors, wheel hubs, and spoke hubs for commercial vehicles since 1946. Webb's products are used in a broad spectrum of critical commercial automotive uses, including military vehicles, fire trucks, school buses, fuel tankers, and commercial electric vehicles. Imports from China that compete against Webb's products and are subject to Section 301 tariffs ("the subject products") are classified as follows:

- Brake drums of vehicles of headings 8701 to 8705 (described in HTS 8708.30.5020).
- Brake rotors (discs) of vehicles of headings 8701 to 8705 (described in HTS8708.30.5030).
- Parts for trailers, semi-trailers, or other vehicles not mechanically propelled, nesoi (described in HTS 8716.90.5060).

The Section 301 tariffs on imports of the subject products have leveled the playing field against unfairly priced Chinese imports. Since the Section 301 tariffs on the subject products were established, Webb has been able to achieve significant sales growth from 2018 to 2021, amounting to a 44.73% revenue increase from brake drum sales (HTS 8708.30.5020); 1256.02% revenue increase from rotor sales (HTS 8708.30.5030); and 42.44% revenue increase from trailer hub sales (HTS 8716.90.5060).

The additional revenue from these tariffs has significantly enhanced Webb's ability to invest millions of dollars annually into domestic facilities and production equipment so that Webb can maintain efficient domestic operations and improve its performance in the domestic market. Since the establishment of the Section 301 tariffs on the subject products, Webb has been able to increase hourly employee headcount by 38% (from 154 to 212), increase production capacity by 17%, and expand production from a five-day work week to a continuous work week (24 hours per day, seven-days a week), all within the United States. Webb has also reinvested increased profits in its domestic manufacturing facilities – $5.8 million in 2021 and $9.8 million in 2022.

The Section 301 tariffs on the subject products have also increased the production of cast iron parts in the United States that used to be manufactured in China. The major input used to produce Webb's products are castings that we source from Waupaca Foundry, a domestic manufacturer of iron castings headquartered in Waupaca (WI) and operating six iron foundries located in Waupaca (WI), Marinette (WI), Tell City (IN) and Etowah (TN). Waupaca employs approximately 4,400 American workers.

The Section 301 tariffs are necessary for Webb's ability to continue this positive growth trajectory, continue to invest in and expand domestic production and employment, and reclaim U.S. market share from Chinese producers. If the Section 301 tariffs on the subject products are extended, Webb believes that it will be possible to meet domestic demand with a combination of domestic and non-Chinese production. On the other hand, failure to extend the Section 301 tariffs on the subject products would enable unfairly priced product from China to flood the U.S. market once again and result in a setback for Webb's efforts to continue to onshore domestic production in support of critical supply chains.

xMotion Technologies

Section 301 tariffs are in America's national security interests. Particularly automotive driveline products required for manufacturing Electric Vehicles (EVs). In total, auto parts manufacturing equates to $180

Billion in economic output — It's the fourth largest industry in the USA — China's illicit trade practices are meant to intentionally harm the auto industry by transferring intellectual property and cripple domestic suppliers through subsidizing exports. Much of this is done through U.S. registered shell companies, intentionally structured to usurp U.S. government regulation of foreign-controlled enterprises. Consequently, domestic suppliers of driveline technologies suffer from rampant intellectual property theft and a race-to-the-bottom price war against reverse engineered, Chinese-made product.

My company is making a stand here and now. We are domestically manufacturing our driveline products in the USA using U.S. Steel and we support any other automotive businesses wanting to bring supply chains back to the USA from overseas. We have the domestic capacity to produce over 1M driveline products per year, and the financial resources required to scale into additional product lines.

Driveline products are a 'carry over' category essential to EV powertrains. HTS codes 8708.99.6805, 8708.99.6890 and 8708.50.8500 are vital to producing EVs and the future of U.S. automotive manufacturing. Categories covered by HTS Code 8708 equal $2 billion in economic output growing at 25% per year for the U.S. automotive industry. Due to Chinese trade-practices, the entire U.S. automotive industry is forced to import these HTS categories from foreign-owned companies. In the aftermarket this includes: GSP (China), AIT/Wonh Industries/SurTrak (China), and ODM (China); who collectively supply 80% of the $200+ Million category for drive shafts. This is akin to the supply chain for OEMs, whose Tier-1 suppliers are all foreign: GKN (Germany), JTKT (Japan), Neapco (China), and Nexteer (China).

Chinese-owned U.S. Companies are sending their profits to China that are directly financing the expansion of the PRC and its' military vehicle capabilities. The Office of Foreign Asset Control (OFAC) and U.S. Commerce department are keenly aware of these illicit dealings. Sanctioning individual Chinese companies is like cutting the head off a hydra. Another one just takes its' place.

Look closely at Nexteer Automotive. Nexteer is majority-owned by AVIC, a Chinese state-owned conglomerate on the U.S. Sanctions list. Nexteer's Chairman of the Board, Mr. Jian WANG is a former senior executive of AVIC, a company with direct links supplying the Chinese military ("PLA"). How can the U.S. Government safeguard Nexteer's IP for steering, suspension, and driveline products from being shared with AVIC and the Chinese military.

The truth is U.S. innovation is being reverse engineered in China and sold back to the U.S. at a lower cost. Without the extension of Section 301 tariffs, the future of America's automotive industry, especially EV manufacturing won't merit financial investment. This impacts job creation, entrepreneurism, and economic security of businesses across the country.

Your vote to reinstate Section 301 Tariffs on China for HTS codes 8708 will send a clear and unequivocal message to Beijing that the future of the U.S. automotive industry is American made.

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Appendix E
Data Tables for Figures and Supplemental Data Tables

Data Tables for Figures

Table E.1 Cumulative monthly imports subject to additional duties under section 232, as of March 2022
In dollars. This table corresponds to figure 3.1.

Month	Section 232 steel	Section 232 aluminum	Aluminum without steel
January 2018	0	0	0
February 2018	0	0	0
March 2018	49,028,037	127,331,830	127,331,830
April 2018	205,789,853	300,436,991	300,436,991
May 2018	500,489,735	484,360,612	484,360,612
June 2018	1,609,935,676	1,252,967,146	1,252,967,146
July 2018	1,889,873,780	1,350,559,505	1,350,559,505
August 2018	1,795,150,776	1,221,051,959	1,221,051,959
September 2018	1,542,684,071	1,170,978,437	1,170,978,437
October 2018	1,680,938,535	1,181,689,920	1,176,824,924
November 2018	1,605,333,475	1,147,883,345	1,143,212,755
December 2018	1,452,877,854	1,105,653,219	1,100,302,335
January 2019	1,739,284,773	1,090,316,800	1,087,145,486
February 2019	1,243,010,700	982,870,566	980,347,045
March 2019	1,472,701,914	1,031,916,404	1,030,065,145
April 2019	1,375,189,856	1,086,364,945	1,084,018,112
May 2019	1,109,527,789	855,424,800	852,363,267
June 2019	807,013,483	594,682,826	592,780,735
July 2019	776,764,593	668,900,919	666,894,679
August 2019	682,154,552	552,418,446	551,294,574
September 2019	507,249,950	448,218,314	446,494,584
October 2019	485,587,381	476,435,724	475,319,608
November 2019	468,960,370	501,231,696	499,934,632
December 2019	421,892,087	426,217,358	424,768,061
January 2020	483,150,470	470,827,433	469,265,303
February 2020	377,164,482	384,674,831	382,021,427
March 2020	509,099,701	413,968,892	411,465,921
April 2020	446,032,024	428,887,971	425,163,016
May 2020	505,300,143	359,988,455	356,208,222
June 2020	414,012,114	290,801,769	286,188,989
July 2020	395,213,011	287,622,578	280,103,551
August 2020	354,532,882	295,188,340	289,409,656
September 2020	337,885,963	284,881,153	279,276,902
October 2020	351,425,886	304,831,826	299,032,951
November 2020	371,541,887	325,903,570	319,857,572
December 2020	339,216,122	327,902,976	322,258,756
January 2021	318,080,511	307,377,235	301,339,714
February 2021	375,714,149	280,489,199	275,316,613
March 2021	561,648,685	411,147,253	405,535,734
April 2021	443,004,196	382,836,580	376,791,979
May 2021	721,836,250	444,992,785	437,528,194
June 2021	764,088,437	407,556,932	399,957,891
July 2021	824,577,382	389,969,816	382,864,155
August 2021	855,033,302	491,289,065	484,410,641
September 2021	898,923,401	396,407,007	389,216,113

Month	Section 232 steel	Section 232 aluminum	Aluminum without steel
October 2021	885,737,174	504,478,949	496,161,825
November 2021	1,325,435,991	560,805,359	554,547,743
December 2021	1,224,590,378	592,498,482	585,581,596

Source: Compiled from USITC DataWeb/Census, accessed September 27, 2022.
Note: Some aluminum articles subject to tariffs under sections 232 and 301 are included under HTS subheadings that also cover subject steel articles. The "aluminum without steel" column is intended to remove potential overlap.

Table E.2 Cumulative monthly imports subject to additional duties under section 301, January 2018–December 2021
In dollars. This table corresponds to figure 3.1.

Month	Section 301 - tranche 1	Section 301 - tranche 2	Section 301 - tranche 2 without steel and aluminum	Section 301 - tranche 3	Section 301 - tranche 3 without steel and aluminum	Section 301 - tranche 4, list 1	Section 301 - tranche 4, list 1 without steel and aluminum
January 2018	—	—	—	—	—	—	—
February 2018	—	—	—	—	—	—	—
March 2018	—	—	—	—	—	—	—
April 2018	—	—	—	—	—	—	—
May 2018	—	—	—	—	—	—	—
June 2018	—	—	—	—	—	—	—
July 2018	1,353,497,870	—	—	—	—	—	—
August 2018	1,784,742,773	959,166	959,166	—	—	—	—
September 2018	1,595,173,135	297,040,945	297,040,945	4,809,494	405,528	—	—
October 2018	1,581,985,241	413,459,551	413,442,430	13,533,333,158	13,519,622,948	—	—
November 2018	1,424,853,649	701,368,817	701,200,867	13,498,162,801	13,485,606,051	—	—
December 2018	1,501,235,423	671,049,465	670,955,709	16,413,531,189	16,397,934,078	—	—
January 2019	1,574,634,422	668,378,641	668,378,641	11,540,693,574	11,529,007,969	—	—
February 2019	1,266,194,384	509,112,878	509,108,218	9,591,868,586	9,579,560,018	—	—
March 2019	1,351,972,089	527,603,841	527,590,446	8,226,434,613	8,217,529,491	—	—
April 2019	1,407,527,306	530,157,210	530,157,210	9,283,420,340	9,274,446,855	—	—
May 2019	1,409,735,853	540,759,056	540,759,056	10,553,190,472	10,543,180,409	—	—
June 2019	1,326,866,935	495,867,203	495,821,003	9,001,931,317	8,994,304,497	—	—
July 2019	1,402,225,678	516,363,366	516,336,119	9,524,198,860	9,514,706,656	—	—
August 2019	1,308,026,442	478,174,232	478,144,499	8,978,498,159	8,969,588,721	—	—
September 2019	1,248,336,256	429,198,018	429,198,018	8,601,609,677	8,593,732,283	6,047,777,093	5,966,752,503

Month	Section 301 - tranche 1	Section 301 - tranche 2	Section 301 - tranche 2 without steel and aluminum	Section 301 - tranche 3	Section 301 - tranche 3 without steel and aluminum	Section 301 - tranche 4, list 1	Section 301 - tranche 4, list 1 without steel and aluminum
October 2019	1,214,942,954	501,443,423	501,423,332	7,866,561,087	7,860,972,714	7,597,082,984	7,516,544,838
November 2019	1,111,877,057	415,839,892	415,839,892	6,926,395,214	6,921,113,740	6,616,020,008	6,548,385,739
December 2019	1,127,720,370	479,324,479	479,315,159	7,509,724,475	7,503,861,094	6,403,338,780	6,331,492,739
January 2020	1,281,819,041	459,596,439	459,596,439	8,236,675,014	8,230,015,437	6,774,149,550	6,680,682,453
February 2020	944,206,198	433,400,093	433,400,093	6,180,012,404	6,175,115,692	4,713,046,419	4,642,421,420
March 2020	867,284,461	432,740,220	432,740,220	4,207,141,526	4,204,511,088	3,353,288,726	3,295,431,648
April 2020	1,110,738,379	525,561,994	525,512,175	6,840,184,220	6,834,189,920	6,338,417,471	6,264,260,941
May 2020	1,185,498,720	632,074,369	631,980,221	7,785,999,559	7,778,737,855	8,582,931,122	8,503,842,022
June 2020	1,249,141,678	550,997,467	550,548,426	8,041,737,140	8,034,279,694	8,246,519,477	8,158,804,847
July 2020	1,285,603,340	612,636,620	612,636,620	8,939,135,182	8,928,923,274	9,071,881,892	8,970,006,127
August 2020	1,271,318,943	613,153,379	613,141,811	9,176,976,368	9,168,198,649	8,831,989,241	8,760,443,459
September 2020	1,337,361,885	628,843,093	628,843,093	8,858,634,212	8,849,414,203	8,911,754,466	8,852,723,965
October 2020	1,348,962,955	611,082,113	611,082,113	9,195,552,323	9,186,834,003	8,122,554,531	8,053,348,243
November 2020	1,383,666,163	668,848,170	668,830,774	9,116,853,118	9,108,230,546	7,361,441,316	7,278,887,250
December 2020	1,487,146,517	676,174,696	676,154,930	9,246,311,245	9,237,993,642	7,179,000,165	7,100,950,698
January 2021	1,735,723,504	647,811,873	647,725,110	9,586,861,429	9,577,556,369	7,173,410,317	7,102,604,170
February 2021	1,451,265,304	584,096,178	584,042,402	8,684,276,678	8,675,617,859	6,553,219,060	6,468,250,495
March 2021	1,911,399,015	740,319,867	740,319,867	10,332,232,462	10,323,031,954	7,931,185,898	7,830,499,826
April 2021	1,730,930,922	701,706,686	701,633,061	9,513,977,679	9,505,544,107	7,175,181,169	7,096,327,025
May 2021	1,807,814,756	772,617,760	772,615,547	9,947,792,475	9,938,402,177	7,548,981,922	7,443,676,737
June 2021	1,892,832,400	812,076,820	812,042,495	10,199,506,824	10,186,782,277	7,912,635,999	7,815,506,333
July 2021	1,988,005,117	831,540,522	831,528,420	10,011,269,704	10,000,733,270	8,042,835,116	7,935,927,944
August 2021	2,187,878,054	915,742,776	915,704,285	10,887,362,188	10,875,660,429	8,997,267,953	8,837,893,383
September 2021	2,085,500,867	911,648,719	911,648,719	10,700,834,529	10,688,643,760	9,580,800,984	9,447,601,490

Month	Section 301 - tranche 1	Section 301 - tranche 2	Section 301 - tranche 2 without steel and aluminum	Section 301 - tranche 3	Section 301 - tranche 3 without steel and aluminum	Section 301 - tranche 4, list 1	Section 301 - tranche 4, list 1 without steel and aluminum
October 2021	2,052,032,417	917,837,439	917,765,927	10,724,791,137	10,713,159,553	9,552,881,629	9,432,735,007
November 2021	2,042,875,830	923,948,401	923,944,043	10,665,468,168	10,655,133,105	9,376,535,060	9,235,683,360
December 2021	2,141,971,807	1,035,770,544	1,035,765,294	11,232,082,707	11,221,114,026	9,532,052,056	9,317,106,535

Source: Compiled from USITC DataWeb/Census, accessed September 27, 2022.
Note: "—" (em dash) denotes months preceding the imposition of the section 301 tariffs for each tranche, which were treated as 0 in figure 3.1.

Table E.3 Count of HTS subheadings subject to section 301 tariffs, tranche 1: by industry-commodity category, March 2022
This table corresponds to figure 3.2.

Category	Count of subheadings
Machinery	447
Electronic products	238
Transportation equipment	183
Others	6
Total tranche 1	874

Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Table E.4 Count of HTS subheadings subject to section 301 tariffs, tranche 2: by industry-commodity categories, March 2022
This table corresponds to figure 3.3.

Category	Count of subheadings
Chemicals and related products	149
Machinery	46
Transportation equipment	45
Electronic products	36
Others	16
Total tranche 2	292

Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Table E.5 Count of HTS subheadings subject to section 301 tariffs, tranche 3: by industry-commodity categories, March 2022
This table corresponds to figure 3.4.

Category	Count of subheadings
Chemicals and related products	1,446
Agricultural products	1,160
Textiles and apparel	980
Minerals and metals	828
Forest products	548
Others	956
Total tranche 3	5,918

Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Table E.6 Count of HTS subheadings subject to section 301 tariffs, tranche 4, list 1, by industry-commodity categories, March 2022

This table corresponds to figure 3.5.

Category	Count of subheadings
Agricultural products	1,164
Textiles and apparel	673
Minerals and metals	484
Electronic products	272
Miscellaneous manufactures	248
Others	441
Total tranche 4	3,282

Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Table E.7 Count of HTS subheadings subject to section 301 tariffs, all tranches, by industry-commodity categories, March 2022

This table corresponds to figure 3.6.

Category	Count of subheadings
Agricultural products	2,324
Chemicals and related products	1,733
Textiles and apparel	1,653
Minerals and metals	1,321
Machinery	849
Electronic products	824
Others	1,662
Total tranche 4	10,366

Source: Compiled from the *Harmonized Tariff Schedule of the United States (2022) Revision 2*, February 2022.

Table E.8 five leading producers of raw steel, by country, 2021

In million metric tons. This table corresponds to figures 4.1 and AV.2.

Country	Production
China	1,032.8
India	118.2
Japan	96.3
United States	85.8
Russia	75.6

Source: World Steel Association, "World Steel in Figures 2022," 2022.

Table E.9 U.S. steel mill product imports and exports, by month and year, 2016–21

In million metric tons. This table corresponds to figure 4.2.

Month	General imports	Total exports
January 2016	2.33	0.74
February 2016	2.08	0.74
March 2016	2.34	0.74
April 2016	2.28	0.77
May 2016	2.62	0.77
June 2016	2.56	0.77
July 2016	2.98	0.70
August 2016	2.84	0.78
September 2016	2.47	0.77
October 2016	2.47	0.74
November 2016	2.56	0.70
December 2016	2.51	0.69

Month	General imports	Total exports
January 2017	2.49	0.79
February 2017	2.50	0.79
March 2017	3.10	0.91
April 2017	3.01	0.84
May 2017	3.15	0.96
June 2017	3.54	0.87
July 2017	3.18	0.77
August 2017	3.11	0.88
September 2017	2.83	0.86
October 2017	2.89	0.87
November 2017	2.50	0.84
December 2017	2.21	0.74
January 2018	2.60	0.79
February 2018	2.27	0.77
March 2018	3.06	0.86
April 2018	3.38	0.82
May 2018	2.68	0.82
June 2018	2.27	0.87
July 2018	2.68	0.63
August 2018	2.75	0.62
September 2018	2.37	0.57
October 2018	2.68	0.61
November 2018	2.30	0.59
December 2018	1.80	0.50
January 2019	2.87	0.63
February 2019	2.21	0.58
March 2019	2.37	0.58
April 2019	2.65	0.58
May 2019	2.13	0.61
June 2019	2.21	0.57
July 2019	2.58	0.60
August 2019	1.96	0.62
September 2019	1.74	0.59
October 2019	1.69	0.63
November 2019	1.79	0.57
December 2019	1.97	0.51
January 2020	2.09	0.64
February 2020	1.64	0.63
March 2020	1.96	0.65
April 2020	1.76	0.40
May 2020	1.92	0.35
June 2020	1.50	0.41
July 2020	1.80	0.47
August 2020	1.17	0.53
September 2020	1.24	0.62
October 2020	1.45	0.66
November 2020	1.24	0.61
December 2020	1.74	0.56
January 2021	1.59	0.61
February 2021	1.73	0.62
March 2021	2.31	0.72

Month	General imports	Total exports
April 2021	2.13	0.69
May 2021	2.30	0.68
June 2021	2.69	0.71
July 2021	2.50	0.69
August 2021	2.29	0.70
September 2021	2.65	0.67
October 2021	2.26	0.65
November 2021	2.65	0.66
December 2021	2.68	0.59

Source: U.S. Department of Commerce, U.S. Steel Executive Summary, August 2022, HTS subheadings 7206.10–7216.50, 7216.99–7301.10, 7302.10, 7302.40–7302.90, and 7304.10–7306.90.

Table E.10 U.S. imports for consumption of finished carbon and alloy steel mill products, by duty status, 2016–21

Quantity reported in metric tons; shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.3.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	10,527,829	9,568,729	4,142,796	6,004,023
Not subject to additional duties	Quantity	23,094,515	26,014,220	12,019,687	8,905,060	10,001,561	13,900,085
All duty statuses	Quantity	23,094,515	26,014,220	22,547,516	18,473,789	14,144,357	19,904,108
Subject to additional duties	Share	0.0	0.0	46.7	51.8	29.3	30.2
Not subject to additional duties	Share	100.0	100.0	53.3	48.2	70.7	69.8
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	112.6	97.6	80.0	61.2	86.2

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: Finished carbon and alloy steel mill product are composed of imports under HTS subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53, 7208.54, 7208.90, 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27, 7209.28, 7209.90, 7210.11, 7210.12, 7210.20, 7210.30, 7210.41, 7210.49, 7210.50, 7210.61, 7210.69, 7210.70, 7210.90, 7211.13, 7211.14, 7211.19, 7211.23, 7211.29, 7211.90, 7212.10, 7212.20, 7212.30, 7212.30, 7212.40, 7212.50, 7212.60, 7225.11, 7225.19, 7225.30, 7225.40, 7225.50, 7225.91, 7225.92, 7225.99, 7226.11, 7226.19, 7226.91, 7226.92, 7226.99, 7226.93, 7226.94, 7213.10, 7213.20, 7213.91, 7213.99, 7214.10, 7214.20, 7214.30, 7214.91, 7214.99, 7215.10, 7215.50, 7215.90, 7216.10, 7216.21, 7216.22, 7216.31, 7216.32, 7216.33, 7216.40, 7216.50, 7216.99, 7217.10, 7217.20, 7217.30, 7217.90, 7226.20, 7227.10, 7227.20, 7227.90, 7228.10, 7228.20, 7228.30, 7228.40, 7228.50, 7228.60, 7228.70, 7228.80, 7229.20, 7229.90, 7301.10, 7302.10, 7302.40, 7225.20, 7229.10, 7304.19, 7304.23, 7304.29, 7304.31, 7304.39, 7304.51, 7304.59, 7304.90, 7305.11, 7305.12, 7305.19, 7305.20, 7305.31, 7305.39, 7305.90, 7306.19, 7306.29, 7306.30, 7306.50, 7306.61, 7306.69, 7306.90, 7304.10, 7304.21, 7306.10, 7306.20, and 7306.60.

Table E.11 U.S. imports for consumption of semifinished carbon and alloy steel mill products, by duty status, 2016–21

Quantity reported in metric tons; shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.3.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	1,049,186	756,176	359,143	1,380,528
Not subject to additional duties	Quantity	6,004,807	7,500,036	6,108,405	5,284,933	4,788,714	6,130,003
All duty statuses	Quantity	6,004,807	7,500,036	7,157,591	6,041,109	5,147,857	7,510,531
Subject to additional duties	Share	0.0	0.0	14.7	12.5	7.0	18.4
Not subject to additional duties	Share	100.0	100.0	85.3	87.5	93.0	81.6
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	124.9	119.2	100.6	85.7	125.1

Source: USITC DataWeb/Census, accessed August 16, 2022.
Note: Semifinished carbon and alloy steel mill products are composed of imports under HTS subheadings 7206.10, 7206.90, 7207.11, 7207.12, 7207.19, 7207.20, 7224.10, and 7224.90.

Table E.12 U.S. imports for consumption of stainless steel products, by duty status, 2016–21

Quantity reported in metric tons; shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.3.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	457,588	533,420	316,196	457,349
Not subject to additional duties	Quantity	918,302	1,108,537	504,856	234,902	379,107	685,898
All duty statuses	Quantity	918,302	1,108,537	962,445	768,323	695,303	1,143,247
Subject to additional duties	Share	0.0	0.0	47.5	69.4	45.5	40.0
Not subject to additional duties	Share	100.0	100.0	52.5	30.6	54.5	60.0
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	120.7	104.8	83.7	75.7	124.5

Source: USITC DataWeb/Census, accessed August 16, 2022.
Note: Stainless steel is composed of imports under HTS subheadings 7218.10, 7218.91, 7218.99, 7219.11, 7219.12, 7219.13, 7219.14, 7219.21, 7219.22, 7219.23, 7219.24, 7219.31, 7219.32, 7219.33, 7219.34, 7219.35, 7219.90, 7220.11, 7220.12, 7220.20, 7220.90, 7221.00, 7222.11, 7222.19, 7222.20, 7222.30, 7222.40, 7223.00, 7304.11, 7304.22, 7304.24, 7304.41, 7304.49, 7306.11, 7306.21, and 7306.40.

Table E.13 U.S. imports for consumption of steel derivatives reported in metric tons, by duty status, 2016–21

Quantity reported in metric tons; shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.3.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	2,545	6,130	95,488	122,228
Not subject to additional duties	Quantity	224,520	221,981	263,851	258,739	155,779	164,074
All duty statuses	Quantity	224,520	221,981	266,396	264,868	251,267	286,302
Subject to additional duties	Share	0.0	0.0	1.0	2.3	38.0	42.7
Not subject to additional duties	Share	100.0	100.0	99.0	97.7	62.0	57.3
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	98.9	118.7	118.0	111.9	127.5

Source: USITC DataWeb/Census, accessed August 16, 2022.
Note: Steel derivatives reported in metric tons are composed of imports under HTS statistical reporting numbers 7317.00.3000, 7317.00.5503, 7317.00.5505, 7317.00.5507, 7317.00.5560, 7317.00.5580, and 7317.00.6560.

Table E.14 U.S. imports for consumption of steel derivatives reported in number, by duty status, 2016–21

Quantity reported in number; shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.3.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	69,178	236,497	347,493	417,978
Not subject to additional duties	Quantity	3,495,855	2,918,418	3,840,569	3,617,323	441,902	197,409
All duty statuses	Quantity	3,495,855	2,918,418	3,909,747	3,853,820	789,395	615,387
Subject to additional duties	Share	0.0	0.0	1.8	6.1	44.0	67.9
Not subject to additional duties	Share	100.0	100.0	98.2	93.9	56.0	32.1
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	83.5	111.8	110.2	22.6	17.6

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: Steel derivatives reported in number are composed of imports under HTS statistical reporting numbers 8708.10.3010, 8708.10.3020, 8708.10.3030, 8708.10.3040, 8708.10.3050, 8708.29.2100, 8708.29.2120, 8708.29.2130, and 8708.29.2140. Data before 2021 are likely overstated as discontinued HTS statistical reporting numbers 8708.10.3010 and 8708.29.2100 include parts made from both steel and aluminum.

Table E.15 U.S. imports for consumption of all steel (excluding steel derivatives measured in number), by duty status, 2016–21

Quantity reported in metric tons; shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.3.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	12,037,148	10,864,455	4,913,623	7,964,128
Not subject to additional duties	Quantity	30,242,144	34,844,775	18,896,800	14,683,634	15,325,161	20,880,059
All duty statuses	Quantity	30,242,144	34,844,775	30,933,947	25,548,089	20,238,784	28,844,187
Subject to additional duties	Share	0.0	0.0	38.9	42.5	24.3	27.6
Not subject to additional duties	Share	100.0	100.0	61.1	57.5	75.7	72.4
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	115.2	102.3	84.5	66.9	95.4

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: Data encompass finished and semifinished carbon and alloy steel mill products, stainless steel products, and those steel derivative products reported in metric tons categories presented above.

Table E.16 U.S. steel production and capacity utilization by year, 2016–21

In thousands of metric tons. This table corresponds to figure 4.4.

Year	U.S. raw steel production	Capacity utilization
2016	78,500	71%
2017	81,600	74%
2018	86,600	78%
2019	87,800	80%
2020	72,700	68%
2021	85,800	81%

Source: World Steel Association and American Iron and Steel Institute, prehearing brief, July 8, 2022, 6.

Table E.17 U.S. and world prices of hot-rolled steel coil, by month and year, 2016–21
In dollars per metric ton. This table corresponds to figure 4.5.

Date	U.S.	World
January 2016	433	282
February 2016	442	278
March 2016	462	310
April 2016	532	402
May 2016	655	440
June 2016	694	388
July 2016	690	365
August 2016	670	372
September 2016	610	381
October 2016	558	408
November 2016	565	463
December 2016	650	503
January 2017	681	525
February 2017	677	522
March 2017	702	527
April 2017	709	519
May 2017	680	496
June 2017	667	477
July 2017	677	484
August 2017	689	539
September 2017	696	569
October 2017	667	572
November 2017	677	564
December 2017	697	571
January 2018	731	582
February 2018	816	606
March 2018	902	634
April 2018	948	617
May 2018	974	607
June 2018	991	600
July 2018	1,001	593
August 2018	989	591
September 2018	965	587
October 2018	934	578
November 2018	892	542
December 2018	852	500
January 2019	785	501
February 2019	773	526
March 2019	782	546
April 2019	775	554
May 2019	711	521
June 2019	652	515
July 2019	628	506
August 2019	649	504
September 2019	633	479
October 2019	564	427
November 2019	562	434
December 2019	607	470
January 2020	649	500

Date	U.S.	World
February 2020	643	480
March 2020	636	468
April 2020	560	392
May 2020	553	401
June 2020	567	420
July 2020	543	434
August 2020	532	488
September 2020	609	511
October 2020	703	518
November 2020	773	570
December 2020	998	663
January 2021	1,120	744
February 2021	1,271	730
March 2021	1,383	811
April 2021	1,490	938
May 2021	1,654	1,085
June 2021	1,844	1,068
July 2021	1,952	1,006
August 2021	2,037	957
September 2021	2,092	928
October 2021	2,134	885
November 2021	2,039	902
December 2021	1,855	810

Source: USDOC, "Steel Executive Summary" August 2022, 4.

Table E.18 U.S. apparent consumption and import penetration of finished steel mill products, 2016–21

In million metric tons and percentages. This table corresponds to figure 4.6.

Year	Imports	Domestic production	Import penetration
2016	23.1	91.9	25%
2017	26	97.7	27%
2018	22.5	99.8	23%
2019	18.5	97.6	19%
2020	14.14	80	18%
2021	20	97.1	21%

Sources: World Steel Association, USITC DataWeb/Census, accessed August 16, 2022.

Table E.19 U.S. aluminum imports and exports, by month and year, 2016–21

In thousand metric tons.

This table corresponds to figure 4.7.

Date	Imports for consumption	Exports
January 2016	490.9	128.2
February 2016	393.0	136.0
March 2016	525.2	136.1
April 2016	490.8	133.5
May 2016	492.5	134.7
June 2016	556.5	132.3
July 2016	502.4	140.0
August 2016	493.9	161.3
September 2016	483.7	153.8

Date	Imports for consumption	Exports
October 2016	461.3	129.7
November 2016	539.8	122.6
December 2016	516.2	104.0
January 2017	612.6	120.6
February 2017	539.9	114.7
March 2017	642.9	131.2
April 2017	600.3	119.4
May 2017	616.2	134.4
June 2017	590.7	133.0
July 2017	606.7	127.5
August 2017	553.4	141.2
September 2017	489.1	120.9
October 2017	535.3	130.5
November 2017	518.9	119.0
December 2017	562.5	108.0
January 2018	549.5	130.7
February 2018	519.7	127.5
March 2018	761.8	137.8
April 2018	553.3	137.1
May 2018	513.3	138.2
June 2018	436.9	130.7
July 2018	482.2	124.0
August 2018	444.3	136.4
September 2018	474.0	115.6
October 2018	478.6	130.6
November 2018	465.9	119.2
December 2018	476.6	94.6
January 2019	481.9	115.4
February 2019	445.1	106.8
March 2019	505.1	112.6
April 2019	505.3	117.7
May 2019	476.4	112.1
June 2019	493.8	104.0
July 2019	602.3	109.1
August 2019	507.4	110.1
September 2019	451.8	104.3
October 2019	474.1	107.6
November 2019	450.8	98.9
December 2019	458.4	86.6
January 2020	504.2	104.5
February 2020	396.9	104.6
March 2020	455.5	110.6
April 2020	471.3	72.0
May 2020	446.6	59.5
June 2020	399.9	79.1
July 2020	390.7	89.8
August 2020	404.6	89.3
September 2020	343.7	91.9
October 2020	364.6	97.5
November 2020	365.9	89.1

Date	Imports for consumption	Exports
December 2020	354.5	86.2
January 2021	381.8	87.8
February 2021	368.7	84.0
March 2021	486.1	106.4
April 2021	485.1	96.0
May 2021	483.9	90.3
June 2021	456.2	95.3
July 2021	448.0	88.3
August 2021	502.7	90.5
September 2021	437.8	91.1
October 2021	503.4	88.5
November 2021	514.5	91.9
December 2021	475.9	77.0

Source: USITC DataWeb/Census, HTS and HS headings 7601, 7604, 7605, 7606, 7607, 7608, 7609, and statistical reporting numbers 7616.99.5160 and 7616.99.5170, accessed September 20, 2022.

Table E.20 U.S. imports for consumption of unwrought aluminum, by duty status and period, 2016–21

Quantity reported in thousand metric tons (mt); shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.8.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	2,065	1,846	722	821
Not subject to additional duties	Quantity	4,267	4,877	2,115	1,956	2,558	2,828
All duty statuses	Quantity	4,267	4,877	4,180	3,802	3,280	3,649
Subject to additional duties	Share	0.0	0.0	49.4	48.6	22.0	22.5
Not subject to additional duties	Share	100.0	100.0	50.6	51.4	78.0	77.5
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	114.3	98.0	89.1	76.9	85.5

Source: USITC DataWeb/Census, accessed August 16, 2022.
Note: Unwrought aluminum is composed of imports under HTS heading 7601.

Table E.21 U.S. imports for consumption of wrought aluminum, by duty status and period, 2016–21

Quantity reported in thousand metric tons (mt); shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.8.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	1,144	1,388	878	850
Not subject to additional duties	Quantity	1,679	1,991	832	662	741	1,045
All duty statuses	Quantity	1,679	1,991	1,976	2,051	1,619	1,895
Subject to additional duties	Share	0.0	0.0	57.9	67.7	54.2	44.8
Not subject to additional duties	Share	100.0	100.0	42.1	32.3	45.8	55.2
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	118.6	117.7	122.1	96.4	112.9

Source: USITC DataWeb/Census, accessed August 16, 2022.
Note: Wrought aluminum is composed of imports under HTS headings 7604, 7605, 7606, 7607, 7608, 7609, and HTS statistical reporting numbers 7616.99.5166 and 7616.99.5170.

Table E.22 U.S. imports for consumption of derivative aluminum articles, by duty status and period, 2016–21

Quantity reported in thousand metric tons (mt); shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.8.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0.0	0.0	2.0	2.4	5.7	14.1
Not subject to additional duties	Quantity	8.1	6.7	7.4	12.8	7.6	11.5
All duty statuses	Quantity	8.1	6.7	9.4	15.2	13.3	25.6
Subject to additional duties	Share	0.0	0.0	20.8	15.7	42.6	55.1
Not subject to additional duties	Share	100.0	100.0	79.2	84.3	57.4	44.9
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	82.5	115.2	187.2	163.6	314.1

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: Derivative aluminum articles reported in metric tons are composed of imports under HTS subheadings 7614.10.50, 7614.90.20, 7614.90.40, and 7614.90.50.

Table E.23 U.S. imports for consumption of derivative aluminum articles, by duty status and period, 2016–21

Quantity reported in number in thousands (no); shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.8.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	69	236	31	25
Not subject to additional duties	Quantity	3,496	2,918	3,841	3,617	208	1
All duty statuses	Quantity	3,496	2,918	3,910	3,854	239	25
Subject to additional duties	Share	0.0	0.0	1.8	6.1	13.0	96.8
Not subject to additional duties	Share	100.0	100.0	98.2	93.9	87.0	3.2
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	83.5	111.8	110.2	6.8	0.7

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: Derivative aluminum articles reported in number are composed of imports under HTS statistical reporting numbers 8708.10.3030, 8708.29.2130, 8708.10.3010, and 8708.29.2100. Data before 2021 are likely overstated as discontinued HTS statistical reporting numbers 8708.10.3010 and 8708.29.2100 include parts made from both steel and aluminum.

Table E.24 U.S. imports for consumption of all aluminum (excluding aluminum derivatives measured in number), by duty status, 2016–21

Quantity reported in thousand metric tons (mt); shares reported as a percentage of total (i.e., all duty statuses); index reported as a share in percentage of 2016 data. This table corresponds to figure 4.8.

Duty status	Measure	2016	2017	2018	2019	2020	2021
Subject to additional duties	Quantity	0	0	3,211	3,236	1,606	1,685
Not subject to additional duties	Quantity	5,955	6,875	2,955	2,631	3,306	3,885
All duty statuses	Quantity	5,955	6,875	6,166	5,868	4,912	5,570
Subject to additional duties	Share	0.0	0.0	52.1	55.2	32.7	30.2
Not subject to additional duties	Share	100.0	100.0	47.9	44.8	67.3	69.8
All duty statuses	Share	100.0	100.0	100.0	100.0	100.0	100.0
All duty statuses	Index	100.0	115.5	103.5	98.5	82.5	93.5

Source: USITC DataWeb/Census, accessed August 16, 2022.

Note: All aluminum is composed of imports under HTS 4-digit headings 7601, 7604, 7605, 7606, 7607, 7608, and 7609 and HTS subheadings 7614.10.50, 7614.90.20, 7614.90.40, 7614.90.50, 7616.99.51, 8708.10.30, and 8708.29.21.

Table E.25 Average monthly U.S. and global prices for primary unwrought aluminum, January 2016–December 2021

In dollars per metric ton ($/mt). This table corresponds to figure 4.9.

Date	Midwest premium	LME global price
January 2016	1,680.6	1,481.1
February 2016	1,733.9	1,531.3
March 2016	1,698.4	1,531.0
April 2016	1,747.2	1,571.2
May 2016	1,734.2	1,550.6
June 2016	1,756.9	1,593.5
July 2016	1,782.2	1,629.1
August 2016	1,774.9	1,639.3
September 2016	1,722.5	1,592.4
October 2016	1,814.8	1,665.9
November 2016	1,895.8	1,737.1
December 2016	1,909.2	1,727.7
January 2017	1,985.5	1,791.2
February 2017	2,079.6	1,860.8
March 2017	2,117.8	1,901.5
April 2017	2,132.1	1,921.2
May 2017	2,112.5	1,913.0
June 2017	2,066.8	1,885.3
July 2017	2,061.1	1,903.0
August 2017	2,212.1	2,030.0
September 2017	2,279.8	2,096.5
October 2017	2,335.6	2,131.5
November 2017	2,304.5	2,097.4
December 2017	2,289.5	2,080.5
January 2018	2,435.9	2,209.7
February 2018	2,465.2	2,181.8
March 2018	2,466.5	2,069.2
April 2018	2,704.2	2,254.7
May 2018	2,784.4	2,299.7
June 2018	2,719.2	2,237.6
July 2018	2,529.8	2,082.2
August 2018	2,515.9	2,051.5
September 2018	2,483.9	2,026.5
October 2018	2,469.0	2,029.9
November 2018	2,369.1	1,938.5
December 2018	2,342.6	1,920.4
January 2019	2,275.2	1,853.7
February 2019	2,297.4	1,863.0
March 2019	2,297.4	1,871.2
April 2019	2,265.7	1,845.4
May 2019	2,196.9	1,781.3
June 2019	2,170.9	1,756.0
July 2019	2,196.2	1,797.0
August 2019	2,134.3	1,740.7
September 2019	2,145.3	1,753.5
October 2019	2,111.8	1,726.0
November 2019	2,136.7	1,774.8
December 2019	2,110.0	1,771.4

Date	Midwest premium	LME global price
January 2020	2,099.2	1,773.1
February 2020	2,001.6	1,688.1
March 2020	1,911.4	1,610.9
April 2020	1,689.0	1,459.9
May 2020	1,659.4	1,466.4
June 2020	1,763.7	1,568.6
July 2020	1,862.5	1,643.8
August 2020	2,072.1	1,737.3
September 2020	2,073.7	1,743.8
October 2020	2,090.9	1,806.1
November 2020	2,233.5	1,935.3
December 2020	2,349.5	2,014.7
January 2021	2,346.8	2,004.0
February 2021	2,434.8	2,078.6
March 2021	2,612.0	2,190.5
April 2021	2,835.1	2,319.4
May 2021	3,019.2	2,433.5
June 2021	3,051.0	2,446.7
July 2021	3,162.7	2,497.6
August 2021	3,383.2	2,603.0
September 2021	3,615.4	2,834.6
October 2021	3,716.3	2,934.4
November 2021	3,319.3	2,636.5
December 2021	3,320.4	2,695.5

Sources: Fastmarkets, Aluminum P1020A all-in price, delivered Midwest US, US cents/lb, accessed July 27, 2022; World Bank, Commodity Price Data (The Pink Sheet), accessed July 27, 2022.

Table E.26 Apparent domestic U.S. consumption and import penetration of unwrought and wrought aluminum, 2016–21

In thousand metric tons and percentages. This table corresponds to figure 4.10.

Measure	Category	2016	2017	2018	2019	2020	2021
Import Penetration (%)	Unwrought	47.0%	50.0%	46.0%	41.0%	38.0%	39.0%
Import Penetration (%)	Wrought	20.0%	23.0%	20.0%	21.0%	19.0%	19.0%
U.S. consumption (1,000 metric tons)	Unwrought	9,016.9	9,764.2	9,019.8	9,172.7	8,740.6	9,267.4
U.S. consumption (1,000 metric tons)	Wrought	8,391.3	8,624.1	9,718.2	9,874.3	8,717.3	10,080.7

Sources: Aluminum Association; Refinitiv World Bureau of Metal Statistics, 2022 Yearbook; USITC DataWeb/Census, accessed September 9, 2022.

Notes: Apparent consumption is calculated as production plus imports minus exports. Import penetration calculated as imports divided by consumption. Unwrought aluminum is composed of imports and exports in HTS and HS heading 7601. Wrought aluminum is composed of imports and exports in HTS and HS headings 7604, 7605, 7606, 7607, 7608, 7609 and HTS and HS subheadings 7616.99.5160 and 7616.99.5170.

Table E.27 U.S. Imports for consumption, by month and whether they were subject to section 301 tariffs

In billions of dollars. — (em dash) = not applicable. This table corresponds to figure 6.1.

Date	Rest of world	China nonsubject	China subject
January 2016	121	37	—
February 2016	125	36	—
March 2016	139	29	—
April 2016	133	33	—

Date	Rest of world	China nonsubject	China subject
May 2016	138	37	—
June 2016	141	38	—
July 2016	134	39	—
August 2016	141	42	—
September 2016	137	41	—
October 2016	140	44	—
November 2016	139	42	—
December 2016	137	39	—
January 2017	135	41	—
February 2017	129	32	—
March 2017	151	34	—
April 2017	141	37	—
May 2017	150	41	—
June 2017	147	42	—
July 2017	140	43	—
August 2017	147	45	—
September 2017	141	45	—
October 2017	153	47	—
November 2017	151	47	—
December 2017	149	44	—
January 2018	149	44	—
February 2018	143	39	—
March 2018	162	39	—
April 2018	157	38	—
May 2018	166	44	—
June 2018	159	44	—
July 2018	161	45	2
August 2018	167	45	3
September 2018	153	32	18
October 2018	173	35	17
November 2018	160	30	16
December 2018	154	26	19
January 2019	155	28	14
February 2019	143	21	12
March 2019	167	20	11
April 2019	165	22	12
May 2019	172	25	13
June 2019	158	26	12
July 2019	168	29	12
August 2019	165	28	12
September 2019	156	19	20
October 2019	169	21	19
November 2019	155	18	17
December 2019	158	16	17
January 2020	155	14	18
February 2020	146	9	13
March 2020	164	9	10
April 2020	128	14	16
May 2020	121	15	20
June 2020	135	16	20
July 2020	151	19	22

Date	Rest of world	China nonsubject	China subject
August 2020	153	19	21
September 2020	156	20	21
October 2020	166	24	20
November 2020	160	24	19
December 2020	165	22	20
January 2021	158	19	19
February 2021	152	17	17
March 2021	186	19	20
April 2021	180	18	18
May 2021	183	18	19
June 2021	193	19	19
July 2021	188	20	19
August 2021	192	20	21
September 2021	187	26	21
October 2021	191	24	22
November 2021	199	25	21
December 2021	198	27	22

Source: USITC DataWeb/Census, accessed July 7, 2022; calculations by USITC.

Table E.28 Index of average unit values of U.S. imports for consumption, by source, period, and whether they were subject to section 301 tariffs

Index values in percentages, January 2016 = 100.0 percent. This table corresponds to figure 6.2.

Date	Rest of world	China not including tariff	China including tariff
January 2016	100.0	100.0	100.0
February 2016	98.0	116.0	116.0
March 2016	95.0	102.0	102.0
April 2016	94.0	94.0	94.0
May 2016	95.0	97.0	97.0
June 2016	101.0	106.0	106.0
July 2016	104.0	99.0	99.0
August 2016	105.0	109.0	109.0
September 2016	108.0	117.0	117.0
October 2016	107.0	126.0	126.0
November 2016	108.0	119.0	119.0
December 2016	113.0	102.0	102.0
January 2017	110.0	108.0	108.0
February 2017	109.0	115.0	115.0
March 2017	108.0	100.0	100.0
April 2017	108.0	101.0	101.0
May 2017	110.0	113.0	113.0
June 2017	109.0	103.0	103.0
July 2017	107.0	107.0	107.0
August 2017	108.0	112.0	112.0
September 2017	111.0	108.0	108.0
October 2017	110.0	114.0	114.0
November 2017	112.0	116.0	116.0
December 2017	115.0	117.0	117.0
January 2018	120.0	125.0	125.0
February 2018	115.0	116.0	116.0
March 2018	112.0	121.0	121.0

Date	Rest of world	China not including tariff	China including tariff
April 2018	114.0	111.0	111.0
May 2018	117.0	122.0	122.0
June 2018	119.0	120.0	120.0
July 2018	124.0	110.0	115.0
August 2018	124.0	121.0	130.0
September 2018	121.0	123.0	135.0
October 2018	124.0	122.0	140.0
November 2018	138.0	128.0	146.0
December 2018	133.0	110.0	125.0
January 2019	132.0	122.0	138.0
February 2019	138.0	132.0	150.0
March 2019	137.0	127.0	145.0
April 2019	125.0	118.0	134.0
May 2019	125.0	115.0	138.0
June 2019	121.0	106.0	130.0
July 2019	119.0	117.0	144.0
August 2019	118.0	121.0	149.0
September 2019	117.0	121.0	150.0
October 2019	120.0	118.0	147.0
November 2019	118.0	119.0	147.0
December 2019	122.0	103.0	128.0
January 2020	122.0	112.0	139.0
February 2020	113.0	113.0	141.0
March 2020	118.0	118.0	147.0
April 2020	117.0	101.0	124.0
May 2020	110.0	98.0	119.0
June 2020	109.0	99.0	121.0
July 2020	110.0	105.0	129.0
August 2020	115.0	101.0	124.0
September 2020	115.0	106.0	131.0
October 2020	123.0	115.0	142.0
November 2020	118.0	112.0	139.0
December 2020	121.0	106.0	131.0
January 2021	124.0	112.0	139.0
February 2021	138.0	111.0	137.0
March 2021	127.0	119.0	147.0
April 2021	126.0	115.0	142.0
May 2021	130.0	120.0	148.0
June 2021	136.0	115.0	143.0
July 2021	147.0	118.0	146.0
August 2021	141.0	123.0	152.0
September 2021	143.0	127.0	156.0
October 2021	144.0	125.0	154.0
November 2021	149.0	116.0	143.0
December 2021	151.0	132.0	163.0

Source: USITC DataWeb/Census, accessed July 7, 2022; calculations by USITC.
Note: The average unit value of each statistical reporting number is normalized to 100 in the first month that it is imported in the sample period by country. Subsequent values are normalized according to that first value.

Table E.29 Estimated sensitivity of import trade statistics to section 301 and 232 tariffs

This table corresponds to figure 6.3.

Tariff Month	Import value	Importer Quantity	Exporter Price	Importer Price
1	−0.93	−0.67	−0.14	0.84
2	−1.49	−1.35	−0.07	0.90
3	−1.60	−1.54	0.03	1.00
4	−1.23	−1.21	0.08	1.05
5	−1.96	−1.95	0.07	1.05
6	−2.14	−2.18	0.16	1.13
7	−1.79	−1.72	−0.02	0.95
8	−1.97	−2.05	0.14	1.12
9	−1.38	−1.40	0.06	1.04
10	−1.55	−1.59	0.08	1.06
11	−1.91	−1.90	0.08	1.06
12	−1.85	−1.76	−0.01	0.97
13	−1.90	−1.80	0.00	0.98
14	−2.02	−1.95	0.02	1.00
15	−2.04	−2.02	0.09	1.06
16	−1.99	−2.08	0.22	1.19
17	−2.07	−1.90	−0.02	0.95
18	−2.01	−1.84	−0.02	0.95
19	−2.20	−2.33	0.25	1.22
20	−2.08	−2.22	0.27	1.24
21	−1.87	−1.97	0.22	1.19
22	−2.06	−2.16	0.22	1.19
23	−2.23	−2.25	0.16	1.13
24	−2.25	−2.31	0.19	1.17
25	−2.37	−2.38	0.15	1.12
26	−2.40	−2.48	0.23	1.20
27	−2.29	−2.33	0.19	1.16
28	−2.24	−2.30	0.21	1.18
29	−2.27	−2.34	0.22	1.20
30	−2.46	−2.53	0.24	1.21
31	−2.62	−2.78	0.32	1.29
32	−2.54	−2.76	0.39	1.36

Source: USITC calculations based on data from DataWeb/Census, accessed July 7, 2022.

Note: The I-beams for each line show the 95 percent confidence interval of the estimated elasticity. The elasticity estimates presented in this figure include tariff rates come from section 232 tariffs on steel and aluminum in addition to section 301 tariffs. This was necessary because the tariff actions occurred during the same time period. A detailed explanation of the regressions that produced this figure and the input variables to that regression are described in appendix G.

Supplemental Data Tables

Table E.30 U.S. steel imports by product type and source, 2021

In million metric tons; TRQ = tariff-rate quota.

Product category	Partner country	Status as of March 15, 2022	First unit of quantity
Flat Products	Canada	Exempt	4,056,797
Flat Products	South Korea	No additional tariffs under annual quota	1,321,341
Flat Products	Mexico	Exempt	1,011,044
Flat Products	Vietnam	Subject to section 232 tariffs	678,991
Flat Products	Taiwan	Subject to section 232 tariffs	555,774
Long Products	Canada	Exempt	1,131,734
Long Products	Mexico	Exempt	939,061
Long Products	Japan	Subject to section 232 tariffs	399,530
Long Products	Turkey	Subject to section 232 tariffs	384,241
Long Products	Algeria	Subject to section 232 tariffs	320,622
Pipe and Tube	South Korea	No additional tariffs under annual quota	886,440
Pipe and Tube	Canada	Exempt	675,363
Pipe and Tube	Mexico	Exempt	639,431
Pipe and Tube	Argentina	No additional tariffs under annual quota	154,536
Pipe and Tube	Russia	Subject to section 232 tariffs	144,705
Semifinished	Brazil	No additional tariffs under annual quota	3,555,163
Semifinished	Mexico	Exempt	1,695,399
Semifinished	Russia	Subject to section 232 tariffs	1,291,338
Semifinished	Canada	Exempt	420,732
Semifinished	Romania	TRQ	295,117
Stainless	Germany	TRQ	346,471
Stainless	Taiwan	Subject to section 232 tariffs	175,706
Stainless	India	Subject to section 232 tariffs	88,090
Stainless	Italy	TRQ	52,927
Stainless	China	Subject to tariffs under sections 232 and 301	50,169

Source: USITC DataWeb/Census, accessed September 9, 2022.

Note: Table only displays imports from the top five importers of each product category.

Table E.31 Top sources of U.S. wrought aluminum imports, by product, 2021
In thousand metric tons.

Type	Country	Status as of March 15, 2022	Imports for consumption
Bars, Rods, and Profiles	Canada	Exempt	100.1
Bars, Rods, and Profiles	Vietnam	Subject to section 232 tariffs	40.9
Bars, Rods, and Profiles	Mexico	Exempt	33.8
Bars, Rods, and Profiles	Indonesia	Subject to section 232 tariffs	20.6
Bars, Rods, and Profiles	Turkey	Subject to section 232 tariffs	20.6
Wire	Canada	Exempt	161.1
Wire	Bahrain	Subject to section 232 tariffs	50.5
Wire	India	Subject to section 232 tariffs	38.8
Wire	Russia	Subject to section 232 tariffs	28.5
Wire	Argentina	Subject to section 232 quota	8.7
Flat products	China	Subject to tariffs under sections 232 and 301	199.4
Flat products	Canada	Exempt	137.2
Flat products	Thailand	Subject to section 232 tariffs	101.5
Flat products	Oman	Subject to section 232 tariffs	97.5
Flat products	South Korea	Subject to section 232 tariffs	65.0
Pipe, tube, and fittings	Mexico	Exempt	12.5
Pipe, tube, and fittings	China	Subject to tariffs under sections 232 and 301	4.9
Pipe, tube, and fittings	Turkey	Subject to section 232 tariffs	3.1
Pipe, tube, and fittings	India	Subject to section 232 tariffs	3.0
Pipe, tube, and fittings	Canada	Exempt	2.6

Source: USITC DataWeb/Census, accessed September 9, 2022.
Note: Table only displays imports from the top five importers of each product category.

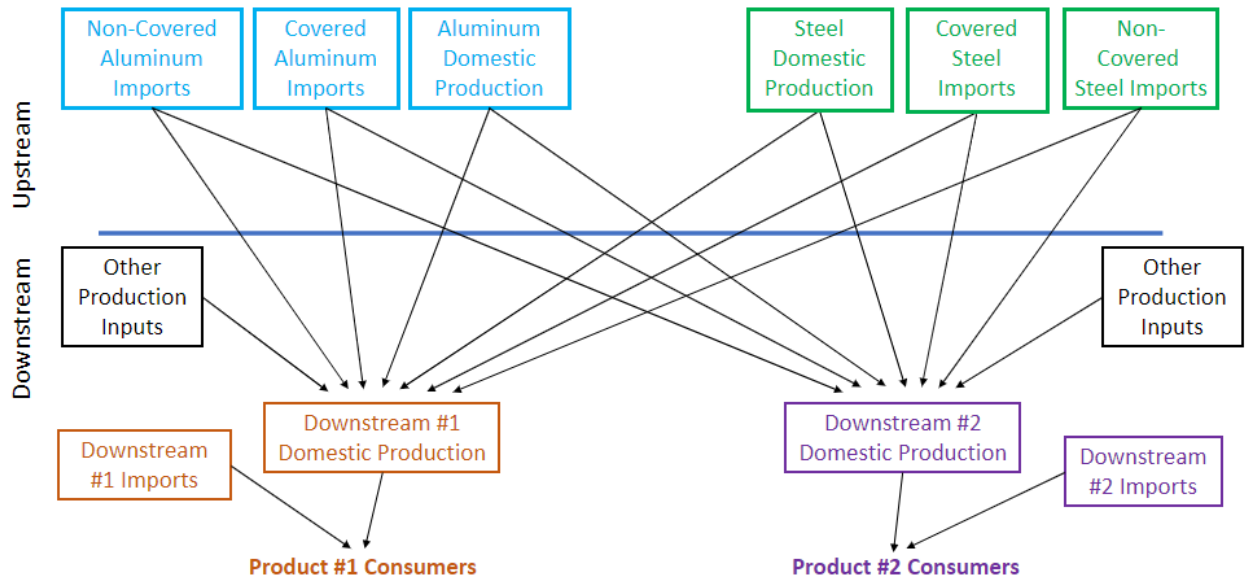
Appendix F
Technical Details of the Steel and Aluminum Model

This modeling appendix accompanies chapter 5 by providing a technical description of the economic model built to estimate the effects of section 232 steel and aluminum tariffs on most-affected industries. The first section describes the model's structural features. The second and third sections describe the data calculations and parameter inputs of the model, including the econometric estimation of the elasticity of substitution parameters. The fourth section provides extended model results to accompany the analysis in chapter 5. Finally, the fifth section adds a sensitivity analysis of the parameters used in the model.

Detailed Technical Description of the Model

The model presented in chapter 5 is a customized partial equilibrium model of the U.S. market. This model was developed specifically for this report and has not been used in any past factfinding reports. It has similar elements to modeling analyses in other USITC reports, but the design is specific to this investigation. The model has two primary industries—steel and aluminum—and several downstream industries for which steel or aluminum is a large share of each industry's total costs (figure F.1). Primary imports are disaggregated into imports subject to section 232 tariffs (covered imports) and imports not subject to section 232 tariffs (non-covered imports). The imports with tariff exclusions are included in the non-covered import category.

Figure F.1 Illustration of model structure with two downstream industries



Source: USITC illustration.

The primary industries are connected to several downstream industries that consume steel and aluminum. Each downstream industry uses domestic steel, imported steel, domestic aluminum, imported aluminum, and all other inputs in their production process. Production inputs—steel,

aluminum, and all other production inputs—are consumed in fixed proportions.[451] Downstream industries view different sources of steel (covered imports, non-covered imports, and domestic) as imperfectly substitutable, with a constant elasticity of substitution across the different sources of supply. The same is true for the aluminum production input; a constant elasticity of substitution exists across different sources of aluminum supply. Total cost factor parameters are calibrated to estimated cost share data from 2018–21 in the cost function.

Downstream consumers substitute between the domestically produced product and the imported variety. Consumers have constant elasticity of substitution (CES) demands for domestic and imported varieties. The price elasticity of total industry demand in each industry is negative one, indicating that total expenditures in each downstream industry are fixed as a share of aggregate expenditures (which the model takes as exogenous). The elasticity of substitution across downstream industries is also one, implying that industry demands are separable because their cross-price elasticities are zero.

In both the primary and the downstream industries, the model assumes there are a large number of producers who compete in perfectly competitive industries. In the primary industries, aluminum production, steel production, and import supply are governed by supply curves that are calibrated to import data from 2018–21, with a constant price elasticity of supply parameter. In the downstream industries, due to a lack of supply elasticity estimates, imports are assumed to be perfectly elastic, reflecting relatively large world markets.

Several data sources are used to calibrate the model in the baseline and econometrically estimate the elasticity of substitution parameters. These data inputs are described more in the next section. The data inputs in the model include the effects of section 232 tariffs; outcomes present in the data are a result of section 232 tariffs in effect. Then, the model simulates a counterfactual set of equilibrium prices and quantities if section 232 tariffs were not in place. Finally, economic effects are calculated as the difference between the outcomes present in the data and the modeled outcomes, so that the economic effects reported in the tables are the effect of the increase in tariffs on the market. The model is run four separate times, once for each year in the 2018–21 window with four different sets of data inputs. This model has no dynamic links between the four periods, like inventory storage or capacity changes.

The section 232 modeling release accompanying this report provides a full set of modeling equations.

Detailed Description of Data Inputs

Identifying the Most-Affected Downstream Industries

The Commission is tasked with estimating the impact of section 232 tariffs on the most-affected industries. The industries most affected would, first, be the primary steel and aluminum industries that are competing against imports subject to the tariffs and, second, downstream industries that use both domestic and foreign inputs of steel and aluminum. Downstream industries were considered most affected by the tariffs if their total steel or aluminum cost shares of production were higher than 5

[451] All other production inputs are exogenous in the model, so the prices of other inputs do not change after a change in the tariff rate.

percent, indicating that the industry uses these products intensively.[452] In order to calculate each industries' total steel and aluminum cost share, the Commission used the BEA's 2012 Use Table, which documents the value of goods and services that comprise each industries' production process.[453] Cost shares are estimated by taking the total value of steel and aluminum inputs in an industry divided by the total intermediate inputs for that industry.[454] Table F.1 provides the steel and aluminum cost shares for those industries with cost shares 5 percent or higher. Additionally, an industry was included if it fell below the 5 percent cut-off but was identified in the hearing or Commission research as being a substantial user of steel or aluminum inputs.[455]

[452] Russ and Cox, "Will Steel Tariffs Put U.S. Jobs at Risk?," February 26, 2018.
[453] BEA, "Input-Output Accounts Data," accessed October 17, 2022. The 2012 benchmark Use table is the latest table available that disaggregates industries to the level of detail required for this analysis.
[454] It should be noted that the cost shares are estimated from the direct use of primary steel and aluminum products by the industry. However, a downstream industry may also incorporate steel and aluminum products in their production process if any of their other intermediate inputs are composed of a sizable share of steel or aluminum. Additionally, these cost shares are based on data from 2012. As such, they may not be reflective of current industry use of steel and aluminum products. As they translate to model inputs, the use values were reviewed by analysts and were updated based on available information as warranted.
[455] For example, the aircraft manufacturing industry was included, even though its share of steel was 3.6 percent, because the total value of steel used in production was substantial ($2.4 billion in 2012).

Table F.1 Steel and aluminum cost shares, by downstream industry, 2012

NAICS code	NAICS description	Steel cost share	Aluminum cost share
211	Oil and Gas Extraction	4.29	0
31211	Soft Drink and Ice Manufacturing	0	18.38
3149	Other Textile Product Mills	7.00	0.00
3322	Cutlery and Handtool Manufacturing	27.48	10.07
3323	Architectural and Structural Metals	37.38	5.72
3324	Boiler, Tank, and Shipping Container Manufacturing	24.36	29.42
3325	Hardware Manufacturing	11.61	6.34
3326	Spring and Wire Manufacturing	41.90	1.33
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	15.15	7.43
3328	Coating, Engraving, Heat Treating and Allied Activities	28.83	0.86
3329	Other Fabricated Metal Product Manufacturing	18.97	9.19
3331	Agriculture, Construction and Mining Machinery Manufacturing	14.16	1.61
3332	Industrial Machine Manufacturing	6.55	2.77
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	7.98	3.48
3335	Metalworking Machinery Manufacturing	13.76	5.19
3336	Engine and Turbine Manufacturing	4.54	8.46
3339	Other General Purpose Machinery Manufacturing	14.20	4.22
3351	Electric Lighting Equipment Manufacturing	7.77	7.55
3352	Household Appliance Manufacturing	14.12	3.54
3353	Electrical Equipment Manufacturing	8.15	2.41
3359	Other Electrical Equipment and Component Manufacturing	6.39	2.83
336212	Truck Trailer Manufacturing	8.35	15.40
336214	Travel Trailer and Camper	7.96	4.48
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	8.40	9.84
336370	Motor Vehicle Metal Stamping	58.35	1.91
336390	Other Motor Vehicle Parts Manufacturing	11.71	5.06
3363A0 (336330, 336340)	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	11.97	6.85
336411	Aircraft Manufacturing	3.62	0.19
3365	Railroad Rolling Stock Manufacturing	11.02	3.09
3366	Ship and Boat Building	3.41	5.47
3369	Other Transportation Equipment Manufacturing	16.38	6.67
3372	Office Furniture	15.01	3.04
3399	Other Miscellaneous Manufacturing	5.20	1.42

Source: Bureau of Economic Analysis, Use Tables, 2012; USITC calculations.
Note: The aluminum group is composed of NAICS 331313, 331314, 331315, 331318, 331523, and 332112. The steel group is comprised of NAICS 331100, 331210, and 331222.

Calculating the Flow of Steel and Aluminum Products to Downstream Industries

Yearly data on the flow of steel and aluminum inputs, from both foreign and domestic sources to downstream industries, is generally not available. Estimates of these flows are derived using the BEA 2012 Use Tables and Import Matrices, 2018–21 trade and domestic production data, and judgments based on specific industry knowledge.[456] Several steps are required to estimate the share of steel and aluminum inputs (wrought and unwrought) subject to sections 232 tariffs used by the most affected downstream industries for 2018–21:

Step 1: The BEA 2012 Use Tables show the use of goods and services, from foreign and domestic producers, by domestic industries.[457] However, these use values are not separated by domestic and foreign supply. As such, the Commission uses the BEA 2012 Import Matrices, which show the value of imports of the same commodities used by each industry, to reduce the Use Table values by the value from the Import Matrix in order to isolate inputs used from both domestically produced sources and foreign produced sources.

Step 2: The BEA Use Table and Import Matrix data are reported using BEA industry codes, which are based on the North American Industry Classification System (NAICS).[458] The subheading levels range from 3-digit to 6-digit, but certain NAICS codes are also combined into BEA-specific groupings. As such, it was necessary to split some reported Use and Import values into separate NAICS headings. There is little reason to assume that Use and Import values in these groupings should be split equally across subheadings. Values from the Import Matrix were apportioned by each subheading's share of 2012 total imports in the respective larger NAICS grouping. Domestically produced inputs were apportioned by each subheading's share of total U.S. production in the respective larger NAICS grouping.

Step 3: Additionally, not all HTS products that fall under a particular NAICS category are subject to section 232 tariffs. Therefore, we used the Census NAICS-HTS concordance to identify in-scope and out-of-scope HTS tariff lines and calculate the share of steel and aluminum NAICS imports that are in scope (the share of trade coming in under HTS tariff lines that represent applicable products).

Step 4: Finally, we calculate the share that in-scope foreign and domestic inputs used by each downstream industry comprise of total industry commodity use: downstream industry use of in scope product (foreign and domestic)/total use of product (foreign and domestic). This share is then multiplied by current domestic shipment and import data to derive the total value of primary steel and aluminum products used by each downstream industry for 2018–21 (table F.2).

[456] BEA, "Input-Output Accounts Data," accessed October 17, 2022.
[457] Young et al., "Supply-Use Tables for the United States," 2015, 8.
[458] The North American Industry Classification System (NAICS) is a classification of businesses by economic activity.

Table F.2 Data inputs used in the chapter 5 modeling analysis, 2018–21
In millions of dollars and percentages.

	2018	2019	2020	2021
Total imports, aluminum (millions of dollars)	19,389.64	17,124.31	12,514.65	19,329.06
Total imports, steel (millions of dollars)	42,266.23	34,324.13	24,490.85	47,451.90
Share of covered imports, aluminum (percent)	54.13	57.28	36.90	30.99
Share of covered imports, steel (percent)	45.14	50.94	32.45	31.49
Total domestic production, aluminum (millions of dollars)	51,942.16	47,826.80	38,933.00	38,933.00
Total domestic production, steel (millions of dollars)	123,035.97	111,960.03	92,276.49	92,276.49

Sources: Imports data are from USITC DataWeb/Census, accessed September 28, 2022. Domestic production data are from the U.S. Census Annual Survey of Manufactures, accessed October 17, 2022.
Note: The aluminum group is composed of a subset of NAICS 331313, 331314, 331315, 331318, 331523, and 332112. The steel group is composed of a subset of NAICS 331100, 331210, and 331222. A full set of data inputs used in the model, including the value of steel and aluminum sent to each downstream industry, can be found in the model release that accompanies this report.

Detailed Description of Parameter Inputs

The model has two sets of parameters that are held constant across all years: the industry-specific constant elasticity of substitution parameters between foreign and domestic sources and the industry-specific price elasticity of supply parameters. The elasticity of substitution is estimated using the trade cost method and further described in the next section.

Import supply elasticities in the primary industries were calibrated to the industry-specific pass-through results from the chapter 6 modeling. The econometric analysis in chapter 6 found nearly 100 percent pass-through of the tariffs into U.S. import prices for the steel and aluminum industries after one year. The import supply elasticities in the chapter 5 analysis were chosen such that nearly 100 percent of the tariff passed through into steel and aluminum import prices (table F.3).

Domestic supply elasticities for semifinished steel and unwrought aluminum were estimated using information from Commission staff reports of recent antidumping and countervailing duty investigations, as well as available capacity utilization data. Capacity utilization data were obtained from the Peterson Institute.[459] Steel capacity utilization ranged from 70 to 85 percent from 2018 to 2021. Aluminum capacity utilization ranged from 45 to 65 percent. Because steel capacity utilization has been high since 2018, the upper bound of the elasticity range was used in the modeling. For the aluminum domestic supply elasticity, the midpoint value was used.

[459] USITC, *Cut-to-Length Carbon-Quality Steel Plate from India, Indonesia, Italy, Japan, and Korea*, December 2011; USITC, *Hot-Rolled Flat-Rolled Carbon-Quality Steel Products from Brazil, Japan, and Russia*, June 2011; USITC, *Certain Hot-Rolled Steel Flat Products from Australia, Brazil, Japan, Korea, the Netherlands, Turkey, and the United Kingdom*, July 2016; USITC, *Cold-Rolled Steel Flat Products from China and Japan*, July 2016; Bown and Russ, "Biden and Europe Remove Trump's Steel and Aluminum Tariffs, but It's Not Free Trade," November 11, 2021.

Table F.3 Price elasticity of supply estimates used in the model

Parameter name	Parameter value
Steel domestic supply elasticity	2.5
Aluminum domestic supply elasticity	4
Steel import supply elasticity	15
Aluminum import supply elasticity	20

Source: USITC estimates.

Description of Econometric Method to Estimate the Elasticities of Substitution

The elasticity of substitution is a model parameter that describes how consumers shift sourcing after a change in relative prices. A higher value means that the products are more substitutable, or less differentiated, leading to larger estimated effects of imports on the domestic market. It is an important parameter in trade policy models with CES demands because the magnitude can significantly impact model predictions.[460]

The substitution elasticities used in the model were estimated using the trade cost method described in Riker (2020).[461] The method assumes a non-nested CES structure with a single elasticity of substitution parameter for all sources of supply.[462] The method uses variation in international trade costs, such as freight costs and tariffs, to identify the elasticity of substitution across sources of imports. Annual panel import data from 2016–21 were obtained from the U.S. International Trade Commission's DataWeb and were disaggregated by product, source country, customs district of import entry, and year. The measure for international trade costs is the ratio between the landed duty-paid value of imports and the customs value, and includes international freight costs, tariffs, and other import charges. The estimation uses country-year and district-year fixed effects to control for variation in prices and other factors, including the price index, producer prices, and total expenditures. Table F.4 reports the substitution elasticity point estimate and standard error for each of the products modeled.

[460] For example, McDaniel and Balistreri (2002) show that the value of the elasticity of substitution can have a significant effect on welfare gains or losses in trade policy simulations. McDaniel and Balistreri, "A Review of Armington Trade Substitution Elasticities," 2003, 301–13.
[461] Riker, "A Trade Cost Approach to Estimating the Elasticity of Substitution," July 2020, 1–12.
[462] A nested structure could have been used if the domestic variety were believed to be significantly different than the imported varieties.

Table F.4 Elasticity of substitution point estimates and standard errors, primary and downstream industries

NAICS code	NAICS description	Point estimate	Standard error
331110; 331210; 331221; 331222	Primary steel products	1.49	0.36
331313; 331314; 331315; 331318; 331523; 332112	Primary aluminum products	6.05	0.36
211	Oil and Gas Extraction	5.42	1.01
31211	Soft Drink and Ice Manufacturing	2.42	0.44
3149	Other Textile Product Mills	6.33	0.66
3322	Cutlery and Handtool Manufacturing	9.54	0.93
3323	Architectural and Structural Metals	4.54	0.58
3324	Boiler, Tank, and Shipping Container Manufacturing	3.84	0.54
3325	Hardware Manufacturing	5.24	0.85
3326	Spring and Wire Manufacturing	5.51	0.61
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	4.22	0.69
3329	Other Fabricated Metal Product Manufacturing	5.74	0.61
3331	Agriculture, Construction and Mining Machinery Manufacturing	6.95	0.75
3332	Industrial Machine Manufacturing	7.80	0.84
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	9.27	0.86
3335	Metalworking Machinery Manufacturing	8.90	2.00
3336	Engines and Turbines	8.30	0.47
3339	Other General Purpose Machinery Manufacturing	7.02	0.75
3351	Electric Lighting Equipment Manufacturing	5.34	0.72
3352	Household Appliance Manufacturing	6.67	0.97
3353	Electrical Equipment Manufacturing	9.68	1.01
3359	Other Electrical Equipment and Component Manufacturing	7.82	0.74
336212	Truck Trailer Manufacturing	3.07	0.70
336214	Travel Trailer and Camper	4.83	0.61
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	6.48	0.77
336370	Motor Vehicle Metal Stamping	4.02	0.45
336390	Other Motor Vehicle Parts Manufacturing	4.28	0.36
3363A0 (336330, 336340)	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	6.44	0.53
3365	Railroad Rolling Stock Manufacturing	7.12	1.27
3366	Ship and Boat Building	7.51	0.65
3369	Other Transportation Equipment Manufacturing	7.16	0.81
3372	Office Furniture	4.27	0.41
3399	Other Miscellaneous Manufacturing	6.78	0.55

Source: USITC estimates.

The elasticity of substitution could not be estimated for aircraft manufacturing industry. The industry structure does not match the econometric model used in this analysis. Industry analysts qualitatively chose an estimate of 3 because of the significant amount of time to change suppliers on orders and multiyear backlogs.

Extended Results

This section presents the full set of downstream modeling results for all 33 industries. Table F.5 shows the effects of section 232 tariffs on downstream production output, downstream prices, and downstream total value. These tables accompany tables 5.4–5.7 in chapter 5.

Table F.5 Extended model results for all downstream industries, 2021
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.08	0.03	−0.05
312110	Soft Drink and Ice Manufacturing	−0.22	0.21	−0.01
3149	Other Textile Product Mills	−0.27	0.07	−0.20
3322	Cutlery and Handtool Manufacturing	−2.56	0.41	−2.16
3323	Architectural and structural metals	−0.38	0.30	−0.09
3324	Boiler, Tank, and Shipping Container Manufacturing	−0.80	0.56	−0.25
3325	Hardware Manufacturing	−0.57	0.16	−0.41
3326	Spring and Wire Manufacturing	−1.37	0.55	−0.83
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.25	0.19	−0.06
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.32	0.32	0.00
3329	Other Fabricated Metal Product Manufacturing	−0.92	0.30	−0.63
3331	Agriculture, Construction and Mining Machinery Manufacturing	−1.03	0.31	−0.72
3332	Industrial Machine Manufacturing	−2.98	0.45	−2.54
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.36	0.09	−0.27
3335	Metalworking Machinery Manufacturing	−0.74	0.18	−0.55
3336	Engine and turbine manufacturing	−1.25	0.23	−1.02
3339	Other General Purpose Machinery Manufacturing	−0.88	0.23	−0.65
3351	Electric Lighting Equipment Manufacturing	−0.48	0.13	−0.34
3352	Household Appliance Manufacturing	−0.66	0.13	−0.53
3353	Electrical Equipment Manufacturing	−0.77	0.13	−0.65
3359	Other Electrical Equipment and Component Manufacturing	−0.64	0.12	−0.52
336212	Truck Trailer Manufacturing	−0.36	0.24	−0.11
336214	Travel Trailer and Camper	−0.12	0.10	−0.02
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.30	0.14	−0.17
336370	Motor Vehicle Metal Stamping	−0.54	0.51	−0.04
336390	Other Motor Vehicle Parts Manufacturing	−0.50	0.20	−0.31
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.57	0.34	−1.23
336411	Aircraft manufacturing	−0.06	0.04	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.50	0.28	−0.22
3366	Ship and Boat Building	−0.08	0.05	−0.03
3369	Other Transportation Equipment Manufacturing	−0.91	0.26	−0.65
3372	Office Furniture	−0.29	0.16	−0.14
3399	Other Miscellaneous Manufacturing	−0.39	0.08	−0.32

Source: USITC estimates.

Table F.6 Extended model results for all downstream industries, 2020
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.10	0.04	−0.06
312110	Soft Drink and Ice Manufacturing	−0.19	0.18	−0.01
3149	Other Textile Product Mills	−0.21	0.04	−0.17
3322	Cutlery and Handtool Manufacturing	−1.35	0.24	−1.12
3323	Architectural and structural metals	−0.23	0.18	−0.05
3324	Boiler, Tank, and Shipping Container Manufacturing	−0.53	0.39	−0.14
3325	Hardware Manufacturing	−0.31	0.09	−0.21
3326	Spring and Wire Manufacturing	−0.79	0.35	−0.44
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.15	0.12	−0.03
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.17	0.17	−0.00
3329	Other Fabricated Metal Product Manufacturing	−0.47	0.17	−0.30
3331	Agriculture, Construction and Mining Machinery Manufacturing	−0.47	0.16	−0.31
3332	Industrial Machine Manufacturing	−0.67	0.12	−0.55
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.20	0.06	−0.14
3335	Metalworking Machinery Manufacturing	−0.38	0.10	−0.28
3336	Engine and turbine manufacturing	−0.59	0.12	−0.47
3339	Other General Purpose Machinery Manufacturing	−0.44	0.13	−0.32
3351	Electric Lighting Equipment Manufacturing	−0.31	0.09	−0.22
3352	Household Appliance Manufacturing	−0.36	0.08	−0.28
3353	Electrical Equipment Manufacturing	−0.41	0.07	−0.34
3359	Other Electrical Equipment and Component Manufacturing	−0.35	0.07	−0.28
336212	Truck Trailer Manufacturing	−0.24	0.18	−0.06
336214	Travel Trailer and Camper	−0.07	0.06	−0.01
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.17	0.09	−0.08
336370	Motor Vehicle Metal Stamping	−0.33	0.31	−0.02
336390	Other Motor Vehicle Parts Manufacturing	−0.27	0.12	−0.16
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−0.84	0.19	−0.64
336411	Aircraft manufacturing	−0.03	0.02	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.27	0.16	−0.11
3366	Ship and Boat Building	−0.05	0.03	−0.01
3369	Other Transportation Equipment Manufacturing	−0.46	0.16	−0.31
3372	Office Furniture	−0.17	0.09	−0.07
3399	Other Miscellaneous Manufacturing	−0.20	0.04	−0.16

Source: USITC estimates.

Table F.7 Extended model results for all downstream industries, 2019
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.12	0.05	−0.07
312110	Soft Drink and Ice Manufacturing	−0.38	0.36	−0.02
3149	Other Textile Product Mills	−0.27	0.08	−0.19
3322	Cutlery and Handtool Manufacturing	−2.90	0.52	−2.39
3323	Architectural and structural metals	−0.45	0.37	−0.08
3324	Boiler, Tank, and Shipping Container Manufacturing	−1.07	0.79	−0.28
3325	Hardware Manufacturing	−0.70	0.21	−0.50
3326	Spring and Wire Manufacturing	−1.47	0.64	−0.84
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.27	0.22	−0.06
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.33	0.33	0.00
3329	Other Fabricated Metal Product Manufacturing	−1.11	0.38	−0.74
3331	Agriculture, Construction and Mining Machinery Manufacturing	−0.94	0.31	−0.63
3332	Industrial Machine Manufacturing	−1.14	0.21	−0.93
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.43	0.13	−0.31
3335	Metalworking Machinery Manufacturing	−0.80	0.21	−0.59
3336	Engine and turbine manufacturing	−0.92	0.19	−0.73
3339	Other General Purpose Machinery Manufacturing	−0.86	0.25	−0.61
3351	Electric Lighting Equipment Manufacturing	−0.54	0.16	−0.38
3352	Household Appliance Manufacturing	−0.81	0.17	−0.63
3353	Electrical Equipment Manufacturing	−0.88	0.15	−0.73
3359	Other Electrical Equipment and Component Manufacturing	−0.82	0.17	−0.65
336212	Truck Trailer Manufacturing	−0.42	0.30	−0.12
336214	Travel Trailer and Camper	−0.15	0.13	−0.02
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.31	0.15	−0.15
336370	Motor Vehicle Metal Stamping	−0.57	0.54	−0.03
336390	Other Motor Vehicle Parts Manufacturing	−0.52	0.22	−0.30
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.64	0.38	−1.27
336411	Aircraft manufacturing	−0.06	0.05	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.46	0.26	−0.20
3366	Ship and Boat Building	−0.11	0.08	−0.03
3369	Other Transportation Equipment Manufacturing	−0.86	0.31	−0.55
3372	Office Furniture	−0.31	0.18	−0.14
3399	Other Miscellaneous Manufacturing	−0.46	0.10	−0.36

Source: USITC estimates.

Table F.8 Extended model results for all downstream industries, 2018
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.10	0.04	−0.06
312110	Soft Drink and Ice Manufacturing	−0.38	0.36	−0.02
3149	Other Textile Product Mills	−0.29	0.08	−0.21
3322	Cutlery and Handtool Manufacturing	−3.18	0.57	−2.63
3323	Architectural and structural metals	−0.49	0.40	−0.09
3324	Boiler, Tank, and Shipping Container Manufacturing	−1.17	0.85	−0.33
3325	Hardware Manufacturing	−0.72	0.21	−0.51
3326	Spring and Wire Manufacturing	−1.40	0.62	−0.80
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.28	0.22	−0.06
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.36	0.36	0.00
3329	Other Fabricated Metal Product Manufacturing	−1.23	0.41	−0.83
3331	Agriculture, Construction and Mining Machinery Manufacturing	−1.11	0.37	−0.74
3332	Industrial Machine Manufacturing	−1.52	0.27	−1.26
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.49	0.14	−0.35
3335	Metalworking Machinery Manufacturing	−0.81	0.21	−0.60
3336	Engine and turbine manufacturing	−0.84	0.19	−0.66
3339	Other General Purpose Machinery Manufacturing	−0.98	0.28	−0.70
3351	Electric Lighting Equipment Manufacturing	−0.55	0.16	−0.39
3352	Household Appliance Manufacturing	−0.98	0.21	−0.78
3353	Electrical Equipment Manufacturing	−1.00	0.17	−0.83
3359	Other Electrical Equipment and Component Manufacturing	−0.87	0.18	−0.69
336212	Truck Trailer Manufacturing	−0.44	0.31	−0.12
336214	Travel Trailer and Camper	−0.18	0.15	−0.03
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.34	0.17	−0.17
336370	Motor Vehicle Metal Stamping	−0.59	0.56	−0.03
336390	Other motor vehicle parts manufacturing	−0.53	0.23	−0.31
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.68	0.39	−1.30
336411	Aircraft manufacturing	−0.04	0.03	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.46	0.26	−0.20
3366	Ship and Boat Building	−0.12	0.08	−0.03
3369	Other Transportation Equipment Manufacturing	−0.97	0.34	−0.63
3372	Office Furniture	−0.34	0.19	−0.15
3399	Other Miscellaneous Manufacturing	−0.51	0.10	−0.41

Source: USITC estimates.

Sensitivity Analyses

This section presents steel and aluminum modeling results under alternate assumptions about the policy changes and some parameter inputs. In the first sensitivity analysis, section 232 tariffs on steel and aluminum imports are applied separately, rather than simultaneously, to isolate the direct effects on the

steel and aluminum industries. The second sensitivity analysis estimates the economic effects of both tariffs under sections 232 and 301 on the steel and aluminum industries.

Separate Effects

This first sensitivity analysis estimates the direct effects of section 232 tariffs on each industry individually. First, section 232 tariffs are only applied to steel imports with no section 232 tariff applied to aluminum imports (table F.9). After, section 232 tariffs are only applied to the aluminum imports with no section 232 tariff applied to steel imports (table F.10). Results in tables F.9 and F.10 show that the separate effects of section 232 tariffs on each industry are slightly higher than the main chapter results where steel and aluminum tariffs enter the model simultaneously. This is because of the spill-over effects of the steel tariff on the aluminum industry and the aluminum tariff on the steel industry.

Table F.9 Estimated separate effects of section 232 steel tariffs on U.S. steel production, U.S. steel prices, and U.S. steel imports
In percentage changes.

Variable	2018	2019	2020	2021	Average effect
Price of domestic steel production	0.86	0.92	0.54	0.79	0.78
Producer price of covered steel imports	−1.79	−1.77	−1.86	−1.80	−1.81
Delivered price of covered steel imports	22.77	22.79	22.67	22.75	22.74
Price of non-covered steel imports	0.22	0.24	0.14	0.20	0.20
Quantity of domestic steel production	2.17	2.32	1.36	1.98	1.96
Quantity of covered steel imports	−23.68	−23.49	−24.59	−23.88	-−23.91
Quantity of non-covered steel imports	3.34	3.59	2.10	3.06	3.02

Source: USITC estimates.
Note: The domestic steel price is the price paid for U.S. production of steel. The producer price of imports is the price that the foreign producer receives for the imported steel products. The delivered price of imports is the price that the U.S. downstream industry pays for imported steel.

Table F.10 Estimated separate effects of section 232 aluminum tariffs on U.S. aluminum production, U.S. aluminum prices, and U.S. aluminum imports
In percentage changes.

Variable	2018	2019	2020	2021	Average effect
Price of domestic aluminum production	1.11	1.17	0.71	0.78	0.94
Producer price of covered aluminum imports	−1.75	−1.73	−1.91	−1.88	−1.82
Delivered price of covered aluminum imports	8.07	8.10	7.90	7.93	8.00
Price of non-covered aluminum imports	0.44	0.47	0.29	0.31	0.38
Quantity of domestic aluminum production	4.50	4.78	2.88	3.17	3.83
Quantity of covered aluminum imports	−29.80	−29.43	−31.98	−31.61	−30.70
Quantity of non-covered aluminum imports	9.27	9.85	5.88	6.46	7.86

Source: USITC estimates.
Note: The domestic aluminum price is the price paid for U.S. production of aluminum. The producer price of imports is the price that the foreign producer receives for the imported aluminum products. The delivered price of imports is the price that the U.S. downstream industry pays for imported aluminum.

Section 232 and 301 Tariff Effects

The second sensitivity analysis estimates the effects of both of the tariffs under sections 232 and 301 on the U.S. steel and aluminum industries (tables F.11 and F.12). The model applies section 301 tariffs to

U.S. imports of steel and aluminum from China, in addition to section 232 tariffs applied in the main chapter 5 results. Both tariffs under sections 232 and 301 are applied simultaneously. This section also presents the full set of downstream modeling results for all 33 industries (tables F.13–F.16).

Comparing results in tables F.11 and F.12 with tables 5.7 and 5.8 in chapter 5, the economic effects on domestic prices and quantity of production are larger when both tariffs under sections 232 and 301 are applied in the model. As described in chapter 5, section 232 tariffs are estimated to have increased domestic steel prices by about 0.7 percent (table 5.2). The effect of both tariffs under sections 232 and 301 on domestic steel prices is a 1.0 percent increase, implying that section 232 tariffs had a larger effect (about three times larger) on steel outcomes than section 301 tariffs. This is not surprising given that section 232 tariffs are larger and that section 301 tariffs are applied to only imports of Chinese steel products in the model. The same patterns are found in the estimated effects on domestic aluminum production (table F.12).

Table F.11 Estimated effects of steel and aluminum tariffs under sections 232 and 301 on U.S. steel production, U.S. steel prices, and U.S. steel imports
In percentage changes.

Variable	2018	2019	2020	2021	Average effect
Price of domestic steel production	1.02	1.13	0.70	0.93	0.95
Producer price of covered steel imports (excluding China)	−2.09	−2.07	−2.17	−1.76	−2.02
Delivered price of covered steel imports (excluding China)	22.39	22.42	22.28	22.79	22.47
Producer price of steel imports from China	−1.75	−1.74	−1.81	−1.78	−1.77
Delivered price of steel imports from China	30.18	30.20	30.10	30.15	30.16
Price of non-covered steel imports	0.26	0.29	0.18	0.24	0.24
Quantity of domestic steel production	2.58	2.85	1.77	2.34	2.38
Quantity of covered steel imports (excluding China)	−27.17	−26.87	−28.07	−23.43	−26.39
Quantity of steel imports from China	−29.79	−29.56	−30.61	−30.11	−30.02
Quantity of non-covered steel imports	3.97	4.39	2.69	3.62	3.67

Source: USITC estimates.
Note: The domestic steel price is the price paid for U.S. production of steel. The producer price of imports is the price that the foreign producer receives for the imported steel products. The delivered price of imports is the price that the U.S. downstream industry pays for imported steel.

Table F.12 Estimated effects of steel and aluminum tariffs under sections 232 and 301 on U.S. aluminum production, U.S. aluminum prices, and U.S. aluminum imports
In percentage changes.

Variable	2018	2019	2020	2021	Average effect
Price of domestic aluminum production	1.31	1.41	0.97	0.96	1.16
Producer price of covered aluminum imports (excluding China)	−1.92	−1.89	−2.06	−1.81	−1.92
Delivered price of covered aluminum imports (excluding China)	7.88	7.93	7.74	8.01	7.89
Producer price of aluminum imports from China	−2.69	−2.66	−2.80	−2.81	−2.74
Delivered price of aluminum imports from China	14.36	14.40	14.23	14.23	14.30
Price of non-covered aluminum imports	0.52	0.56	0.39	0.38	0.46
Quantity of domestic aluminum production	5.34	5.76	3.95	3.90	4.74
Quantity of covered aluminum imports (excluding China)	−32.21	−31.67	−34.01	−30.83	−32.18
Quantity of aluminum imports from China	−49.20	−48.78	−50.57	−50.63	−49.80
Quantity of non-covered aluminum imports	11.01	11.89	8.05	7.96	9.73

Source: USITC estimates.
Note: The domestic aluminum price is the price paid for U.S. production of aluminum. The producer price of imports is the price that the foreign producer receives for the imported aluminum products. The delivered price of imports is the price that the U.S. downstream industry pays for imported aluminum.

Table F.13 Extended model results of the economic effects of steel and aluminum tariffs under sections 232 and 301 on downstream prices, quantities, and value, 2021
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.09	0.04	−0.05
312110	Soft Drink and Ice Manufacturing	−0.29	0.28	−0.02
3149	Other Textile Product Mills	−0.31	0.08	−0.23
3322	Cutlery and Handtool Manufacturing	−2.77	0.45	−2.33
3323	Architectural and structural metals	−0.43	0.34	−0.10
3324	Boiler, Tank, and Shipping Container Manufacturing	−0.94	0.65	−0.29
3325	Hardware Manufacturing	−0.63	0.18	−0.45
3326	Spring and Wire Manufacturing	−1.63	0.66	−0.98
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.28	0.22	−0.07
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.33	0.34	0.00
3329	Other Fabricated Metal Product Manufacturing	−1.00	0.33	−0.68
3331	Agriculture, Construction and Mining Machinery Manufacturing	−1.08	0.32	−0.76
3332	Industrial Machine Manufacturing	−3.35	0.51	−2.86
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.41	0.10	−0.30
3335	Metalworking Machinery Manufacturing	−0.80	0.20	−0.60
3336	Engine and turbine manufacturing	−1.38	0.25	−1.13
3339	Other General Purpose Machinery Manufacturing	−0.95	0.25	−0.70
3351	Electric Lighting Equipment Manufacturing	−0.57	0.16	−0.41
3352	Household Appliance Manufacturing	−0.71	0.14	−0.57
3353	Electrical Equipment Manufacturing	−0.84	0.14	−0.71
3359	Other Electrical Equipment and Component Manufacturing	−0.72	0.13	−0.59
336212	Truck Trailer Manufacturing	−0.44	0.30	−0.14
336214	Travel Trailer and Camper	−0.13	0.10	−0.02
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.34	0.16	−0.19
336370	Motor Vehicle Metal Stamping	−0.60	0.56	−0.04
336390	Other Motor Vehicle Parts Manufacturing	−0.55	0.22	−0.34
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.71	0.37	−1.34
336411	Aircraft manufacturing	−0.06	0.05	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.53	0.29	−0.24
3366	Ship and Boat Building	−0.09	0.06	−0.03
3369	Other Transportation Equipment Manufacturing	−0.99	0.29	−0.71
3372	Office Furniture	−0.32	0.17	−0.15
3399	Other Miscellaneous Manufacturing	−0.43	0.08	−0.34

Source: USITC estimates.

Table F.14 Extended model results of the economic effects of steel and aluminum tariffs under sections 232 and 301 on downstream prices, quantities, and value, 2020
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.14	0.06	−0.08
312110	Soft Drink and Ice Manufacturing	−0.28	0.26	−0.01
3149	Other Textile Product Mills	−0.28	0.06	−0.22
3322	Cutlery and Handtool Manufacturing	−1.59	0.28	−1.32
3323	Architectural and structural metals	−0.30	0.24	−0.06
3324	Boiler, Tank, and Shipping Container Manufacturing	−0.68	0.50	−0.17
3325	Hardware Manufacturing	−0.38	0.12	−0.26
3326	Spring and Wire Manufacturing	−1.24	0.56	−0.69
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.19	0.16	−0.04
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.20	0.20	0.00
3329	Other Fabricated Metal Product Manufacturing	−0.56	0.20	−0.36
3331	Agriculture, Construction and Mining Machinery Manufacturing	−0.53	0.18	−0.35
3332	Industrial Machine Manufacturing	−0.88	0.16	−0.72
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.25	0.07	−0.18
3335	Metalworking Machinery Manufacturing	−0.45	0.12	−0.33
3336	Engine and turbine manufacturing	−0.72	0.14	−0.58
3339	Other General Purpose Machinery Manufacturing	−0.52	0.15	−0.37
3351	Electric Lighting Equipment Manufacturing	−0.46	0.14	−0.32
3352	Household Appliance Manufacturing	−0.42	0.09	−0.33
3353	Electrical Equipment Manufacturing	−0.51	0.09	−0.42
3359	Other Electrical Equipment and Component Manufacturing	−0.44	0.09	−0.35
336212	Truck Trailer Manufacturing	−0.32	0.24	−0.08
336214	Travel Trailer and Camper	−0.07	0.06	−0.01
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.21	0.11	−0.10
336370	Motor Vehicle Metal Stamping	−0.39	0.37	−0.02
336390	Other Motor Vehicle Parts Manufacturing	−0.33	0.14	−0.19
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.00	0.23	−0.77
336411	Aircraft manufacturing	−0.04	0.03	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.31	0.18	−0.13
3366	Ship and Boat Building	−0.06	0.04	−0.02
3369	Other Transportation Equipment Manufacturing	−0.55	0.18	−0.36
3372	Office Furniture	−0.20	0.11	−0.09
3399	Other Miscellaneous Manufacturing	−0.24	0.05	−0.19

Table F.15 Extended model results of the economic effects of steel and aluminum tariffs under sections 232 and 301 on downstream prices, quantities, and value, 2019
In percentage changes.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.15	0.06	−0.09
312110	Soft Drink and Ice Manufacturing	−0.47	0.45	−0.02
3149	Other Textile Product Mills	−0.34	0.10	−0.24
3322	Cutlery and Handtool Manufacturing	−3.20	0.57	−2.64
3323	Architectural and structural metals	−0.53	0.44	−0.10
3324	Boiler, Tank, and Shipping Container Manufacturing	−1.23	0.92	−0.33
3325	Hardware Manufacturing	−0.80	0.23	−0.56
3326	Spring and Wire Manufacturing	−1.99	0.87	−1.13
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.32	0.26	−0.07
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.36	0.36	0.00
3329	Other Fabricated Metal Product Manufacturing	−1.23	0.42	−0.81
3331	Agriculture, Construction and Mining Machinery Manufacturing	−1.02	0.34	−0.68
3332	Industrial Machine Manufacturing	−1.34	0.25	−1.09
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.50	0.15	−0.35
3335	Metalworking Machinery Manufacturing	−0.89	0.23	−0.66
3336	Engine and turbine manufacturing	−1.04	0.22	−0.83
3339	Other General Purpose Machinery Manufacturing	−0.96	0.28	−0.68
3351	Electric Lighting Equipment Manufacturing	−0.69	0.21	−0.48
3352	Household Appliance Manufacturing	−0.89	0.19	−0.70
3353	Electrical Equipment Manufacturing	−1.00	0.17	−0.83
3359	Other Electrical Equipment and Component Manufacturing	−0.94	0.19	−0.75
336212	Truck Trailer Manufacturing	−0.50	0.36	−0.14
336214	Travel Trailer and Camper	−0.16	0.14	−0.02
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.36	0.18	−0.18
336370	Motor Vehicle Metal Stamping	−0.64	0.61	−0.03
336390	Other Motor Vehicle Parts Manufacturing	−0.59	0.25	−0.34
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.84	0.42	−1.43
336411	Aircraft manufacturing	−0.06	0.05	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.50	0.28	−0.22
3366	Ship and Boat Building	−0.13	0.09	−0.04
3369	Other Transportation Equipment Manufacturing	−0.95	0.34	−0.61
3372	Office Furniture	−0.35	0.20	−0.15
3399	Other Miscellaneous Manufacturing	−0.51	0.11	−0.40

Table F.16 Extended model results of the economic effects of steel and aluminum tariffs under sections 232 and 301 on downstream prices, quantities, and value, 2018
In percentage changes. NAICS = North American Industry Classification System.

NAICS	NAICS Sector	Percentage change domestic quantity	Percentage change domestic price	Percentage change in value
2110	Oil and Gas Extraction	−0.12	0.05	−0.07
312110	Soft Drink and Ice Manufacturing	−0.48	0.46	−0.02
3149	Other Textile Product Mills	−0.35	0.10	−0.25
3322	Cutlery and Handtool Manufacturing	−3.43	0.61	−2.84
3323	Architectural and structural metals	−0.55	0.45	−0.10
3324	Boiler, Tank, and Shipping Container Manufacturing	−1.33	0.97	−0.37
3325	Hardware Manufacturing	−0.80	0.24	−0.57
3326	Spring and Wire Manufacturing	−1.71	0.75	−0.97
3327	Machine Shops Turned Product and Screw, Nut, and Bolt Manufacturing	−0.32	0.25	−0.07
3328	Coating, Engraving, Heat Treating and Allied Activities	−0.38	0.39	0.00
3329	Other Fabricated Metal Product Manufacturing	−1.34	0.45	−0.90
3331	Agriculture, Construction and Mining Machinery Manufacturing	−1.18	0.39	−0.79
3332	Industrial Machine Manufacturing	−1.72	0.31	−1.42
3334	Ventilation, Heating, Air-conditioning, Commercial Refrigeration Equipment Manufacturing	−0.56	0.16	−0.40
3335	Metalworking Machinery Manufacturing	−0.89	0.23	−0.66
3336	Engine and turbine manufacturing	−0.94	0.21	−0.73
3339	Other General Purpose Machinery Manufacturing	−1.05	0.30	−0.75
3351	Electric Lighting Equipment Manufacturing	−0.66	0.19	−0.47
3352	Household Appliance Manufacturing	−1.07	0.22	−0.85
3353	Electrical Equipment Manufacturing	−1.10	0.19	−0.91
3359	Other Electrical Equipment and Component Manufacturing	−0.98	0.20	−0.78
336212	Truck Trailer Manufacturing	−0.52	0.37	−0.15
336214	Travel Trailer and Camper	−0.18	0.16	−0.03
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	−0.39	0.19	−0.19
336370	Motor Vehicle Metal Stamping	−0.65	0.62	−0.03
336390	Other Motor Vehicle Parts Manufacturing	−0.58	0.25	−0.34
336300	Motor Vehicle Steering, Suspension Component (except Spring), and Brake Systems Manufacturing	−1.84	0.42	−1.42
336411	Aircraft manufacturing	−0.04	0.04	−0.01
3365	Railroad Rolling Stock Manufacturing	−0.50	0.28	−0.22
3366	Ship and Boat Building	−0.13	0.09	−0.04
3369	Other Transportation Equipment Manufacturing	−1.05	0.37	−0.69
3372	Office Furniture	−0.37	0.20	−0.16
3399	Other Miscellaneous Manufacturing	−0.56	0.11	−0.44

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Appendix G
Technical Details of the Tariff Sensitivity Analysis and Section 301 Model

Model Descriptions

The following sections provide additional detail for the two methodologies described in chapter 6. The first is an econometric model that uses an event study framework to estimate the elasticity of various trade variables with section 301 tariffs. The second is a set of partial equilibrium models that is estimated to trade and domestic data and then used to simulate a counterfactual scenario where the tariffs are absent in a given year.

Event Study

The econometric model for the event study uses the following equation:

$$ln\, y_{ijt} = \alpha_{ij} + \alpha_{it} + \alpha_{jt} + \sum_{s=0}^{\overline{T}} \left(\beta_s I_{ijs} \ln \frac{1+\tau_{ijs}}{1+\tau_{ij0}} \right) + \epsilon_{ijt}.$$

The i subscripts denote country (exporter), the j subscripts denote an HTS statistical reporting number, and the t subscripts denote time in months. The subscript s denotes time in months relative to the implementation of the tariff where $s = 0$ is the last month prior to the implemented tariff. The variable y_{ijt} on the lefthand side can be exporter price p_{ijt}, importer price $(1+\tau_{ijt})p_{ijt}$, import quantity q_{ijt}, or import value $p_{ijt}q_{ijt}$. The coefficients α_{ij}, α_{it}, and α_{jt} are country-product, country-time, and product-time fixed effects that control for anything happening over this time period that is not an effect of the tariffs. The error term is ϵ_{ijt}. The tariff rates used for this regression are calculated by dividing the estimated duties collected by the customs value.

Event time (s in the regression) is defined so that event time zero is the last month that a country-product was not affected by section 301 tariffs or section 232 tariffs on steel and aluminum. Event time is restricted from zero until $\overline{T} \geq 1$ periods after the product is first covered. Event times greater than $\overline{T}$ are included in the last period. Even though section 301 tariffs are the emphasis of chapter 5, section 232 tariffs need to be included to avoid omitted variable bias. The indicator I_{ijs} is defined as 1 if product i from source j at time t is currently at event time s (that is, the product from that source is covered by section 301 tariffs or section 232 tariffs on steel and aluminum, and specifically that time t is the s^{th} month of the tariff being in place based on the event time definition above) and defined as zero otherwise. That means I_{ijs} is defined as zero for all s for country products ij that are never affected by the tariffs. For any given lefthand side variable, at most one I_{ijs} term on the righthand side can be equal to 1.

The tariffs on the righthand side of the regression are the monthly scaled tariffs described in the Data section of this appendix.

The coefficients of interest are the β_s terms, which can be interpreted as the elasticity of the lefthand side variable with respect to the total section 301 tariffs and section 232 tariff at the time horizon of s months after (or before, if s is negative) the tariff was implemented. This month-specific elasticity is pooled across all products that were covered by the described tariffs. These β_s terms are plotted in figure 6.3 and figure G.1 for each of the four lefthand side trade variables of interest.

Months with no imports of a product from a specific source are not included in the regressions. It is likely that the absolute value of the coefficients on logged import quantities and logged import values would be greater if the econometric model allowed for zeros to be included in the regression, but the regression would need to be done using Poisson pseudo maximum likelihood (PPML) or another regression model. However, exporter and importer prices do not make sense to consider as zero when missing and would therefore not be suitable for PPML. Because the pass-through of section 301 tariffs to price is one of the key results, and PPML cannot be used to estimate those values, the analysis of this report is restricted to the log linear regression described in this section.

This event study methodology is based closely on the approach used by Amiti et al. (2020) and has similarities to that of Fajgelbaum et al. (2020).[463] These other studies similarly use event study econometric methods to estimate monthly impacts of the recent tariff actions with comparable data. There are several minor differences in how regression variables are calculated and defined for this report. Most notably, pre-event variables are not included in this estimation, which instead focuses only on direct effects. However, the present version is able to take advantage of more recent data and estimate impacts over a longer time horizon following the imposition of the tariffs (32 months) than either of the other studies.

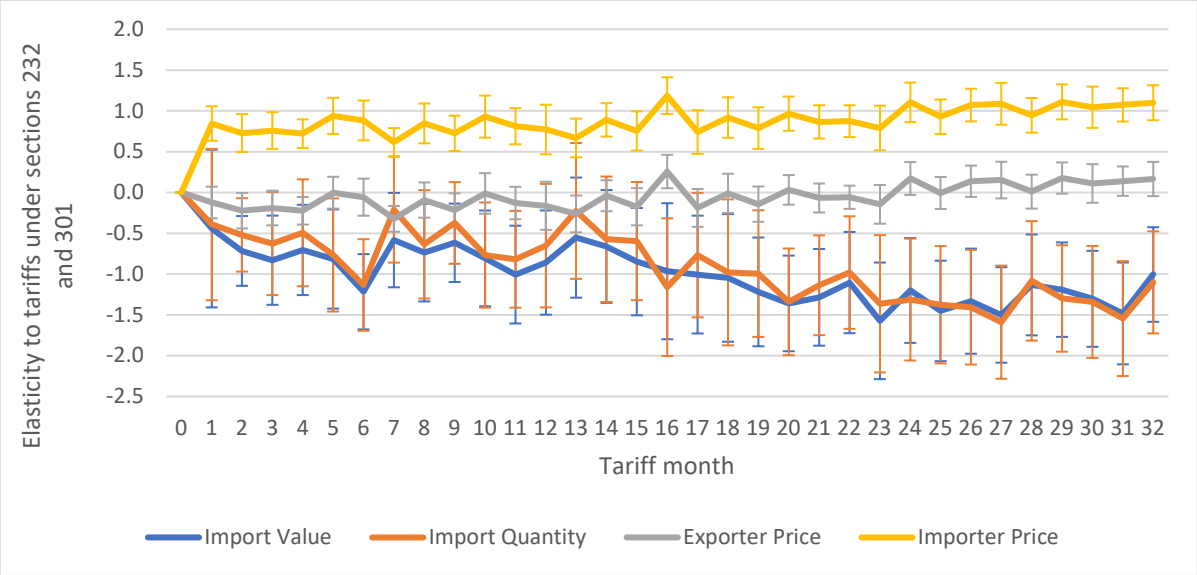
Steel and Aluminum Specification and Results

Chapter 5 of this report uses some elasticity estimates from an alternate specification of the event study that considers only steel and steel-related products affected by tariffs under sections 232 and 301. The methodology is exactly the same except that the data are reduced to the products that are covered by section 232 tariff actions related to steel or aluminum.

The estimation results for exporter and importer prices are similar to the main specification presented in figure 6.3 in chapter 6, with evidence of full pass-through of the tariffs to the importer price. The full pass-through result for steel and aluminum is actually closer to basic economic theory compared to the baseline results in chapter 6 since the estimated coefficients in the steel and aluminum specification do not statistically significantly rise above 0 or 1 for exporter or importer prices, respectively (figure G.1). The elasticities of import value and import quantity to the tariffs are smaller than the pooled estimates of all goods, indicating that steel and aluminum import quantities were less sensitive to the tariffs than products overall. Standard errors of the estimated coefficients were larger in the steel and aluminum specification than the standard errors in the main specification, which is likely due to the smaller sample size but could also be indicative that the impacts of the steel tariffs were less uniform across products or sources.

[463] Amiti, Redding, and Weinstein, "Who's Paying the US Tariffs?," January 2020; Fajgelbaum et al., "The Return to Protectionism," February 1, 2020.

Figure G.1 Estimated sensitivity of steel and aluminum trade statistics to tariffs under sections 232 and 301



Source: USITC DataWeb/Census, accessed July 7, 2022, and calculations by USITC. Estimating data only include HTS statistical reporting numbers that were affected by 232 tariffs on steel and aluminum at some point in the time series. Vertical whisker lines represent a 95 percent confidence interval around the point estimates.

Partial Equilibrium Section 301 Model

Separate partial equilibrium models are solved for each of the selected industry groups and each year. The models use constant elasticity of substitution (CES) demand functions to capture the substitutability between various imported and domestic sources.

The elasticities of substitution are estimated using a trade cost method based on Riker (2020), which is described in appendix F.[464] Each NAICS 4-digit industry group has a separately estimated elasticity of substitution (table G.1). The demand shifter parameters are calculated using the market share of each source. All sources are used in the elasticity estimation, but each model only has the United States, China, the top three non-China sources, and then an aggregated "rest of world" source. Model results tables further aggregate the top three non-China sources into the rest of world values.

The only demand parameter that is not estimated from the data is the total elasticity of demand that controls the aggregate expenditure on products from the North American Industry Classification System (NAICS) industry group. This demand parameter is set to be unit elastic, which means total expenditure in a given year will not change even though consumers may shift expenditure between sources.

The supply elasticities are set differently, whether the product is imported or produced domestically. Imported products have perfectly elastic supply. This is inferred from the complete pass-through seen in the econometric results. Two ways that complete price pass-through can occur are either perfectly inelastic demand or perfectly elastic supply. Because the estimated demand is nonzero (that is, not perfectly inelastic), the supply elasticity is set to be perfectly elastic. The domestic supply is set to be

[464] Riker, "A Trade Cost Approach to Estimating the Elasticity of Substitution," July 2020, 1–12.

unit elastic in the baseline model. The unit elasticity assumption is necessary because the domestic production data are not sufficient to estimate a data-based value. Assuming unit elastic supply means that percentage changes in the quantity of domestic production will exactly match the percentage changes in the price of the domestic good.

Table G.1 Elasticities of substitution between sources by NAICS 4-digit industry group

NAICS 4-digit industry group	Description	Elasticity of substitution	Standard error
3152	Cut and Sew Apparel Manufacturing	6.33	0.23
3344	Semiconductors and Other Electronic Components	8.01	0.48
3341	Computer Equipment	8.54	0.69
3371	Household and Institutional Furniture and Kitchen Cabinets	3.19	0.14
3363	Motor Vehicle Parts	4.55	0.29
3359	Other Electrical Equipment and Components	4.42	0.36
3399	Other Miscellaneous Manufacturing	5.95	0.24
3343	Audio and Video Equipment	8.73	0.58
3339	Other General Purpose Machinery	5.65	0.40
3261	Plastics Products	3.88	0.16

Source: USITC estimates.

Aggregate Section 301 Tariff Effects

The model used to estimate the effects of section 301 tariffs on all affected industries is a partial equilibrium model that is very similar to the model used for individual industries described above. It includes three sources of production: domestic, China, and other countries. The trade-weighted average change in the tariff rate on all U.S. imports from China is calculated to be 7.7 percent.

Comparison to Chapter 5 Partial Equilibrium Models

The partial equilibrium models in chapters 5 and 6 use similar frameworks and mostly use the same estimation strategies. Both types of models use CES demand, where buyers can imperfectly substitute between sources. Both types of models use the same strategy for estimating those substitution parameters and both types of model mostly focus on NAICS 4-digit industry groups, although the chapter 5 models sometimes break out more disaggregated information for specific industries. Market shares are calculated in the same way for both types of models, and both types of models assume a total elasticity of demand of −1 (i.e., constant total expenditure).

The models are similar but not identical on the supply side. Both types of models use the full pass-through results from the event study to infer perfectly elastic supply of imports. However, chapter 5 sets domestic elasticities of supply using the values found in AD/CVD cases for the related products but chapter 6 uses an assumption of unit elasticity as a relatively agnostic baseline for the wider variety of products considered in that chapter. The chapter 5 models also include upstream and downstream industries and therefore have additional parameters that are not used in the chapter 6 models.

Data Transformations

The constructed data set for the modeling in this chapter is mostly built upon trade data from the U.S. Census Bureau. The trade data have monthly imports for consumption by trading partner at the HTS 10-digit statistical reporting number level from January 2017 through March 2022. Aside from customs value, this trade data set also includes the first unit of quantity and estimated duties collected. Average unit values are constructed by dividing import value by the first unit of quantity. Another version of the data uses customs value and landed duty-paid value of annual imports for consumption by trading partner data at the NAICS 4-digit industry group level. These data include district information for the port of entry.

Individual statistical reporting numbers and trading partners were associated with specific trade policy actions (i.e., "tranches") by USITC staff, using *Federal Register* notices and the Harmonized Tariff Schedule. Those trade policy actions were then linked to changes in tariff rates for all months during the time frame of the trade data. A monthly tariff rate is calculated proportionally for each month considering how many days a tariff rate was imposed during the month and is used in the counterfactual partial equilibrium simulations. The econometric event study regression uses the monthly tariff rate calculated from estimated duties collected.

Event times, defined in the Event Study section of this appendix, are calculated using the date that the related tariff action was imposed, which means it is possible for "skipped" section 301 tariff months if products were not imported from China under a statistical reporting number in a particular month. Section 232 tariffs on steel and aluminum were imposed on many source countries, not just China, and the status of section 232 tariffs changed several times for many source countries. The tariff month for section 232 tariffs is still defined in the same manner as for section 301 tariffs, which means that the section 232 tariff rate for a given source can sometimes be zero even for positive tariff months.

A combined tariff is defined by adding section 301 and section 232 tariffs. Most statistical reporting numbers are only affected by one or the other, but some are affected by both. The tariff month (i.e., event time s in the regression described in the Event Time section of this appendix) variable is the maximum of the two tariff months, meaning the tariff month is based on whichever tariff was imposed first.

The trade data (using HTS statistical reporting numbers) were associated with NAICS 4-digit industry groups using yearly concordances from the U.S. Census Bureau. This concordance also includes end use information that is used in some of the alternate specification in this appendix. Observations with an end use classification starting with "5" (Other Goods) were dropped from the dataset. These accounted for 0.14 percent of the trade value that occurred during the time frame for subheading-country pairs that were targeted by section 301 tariffs or section 232 tariffs on steel and aluminum.

The partial equilibrium model also uses gross output by sector from the Bureau of Economic Analysis, which is scaled using the total value of imports associated with the industry group compared to the total value of imports associated with the sector, assuming that the ratio of total domestic value to import value is the same for all industry groups within the sector.

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Appendix H
Related Economic Publications

Several other publications have examined the impacts of recent tariff actions, both from the United States and other countries. The following lists a selection of these studies that assess the impacts of the tariffs under sections 232 and 301 on U.S. trade, production, and prices as at least part of their scope. Importantly, many of the estimates in these other studies reflect the impacts of factors beyond the recent tariffs under sections 232 and 301, such as U.S. safeguard actions and tariff actions in other countries, and therefore may not be directly comparable to the Commission's estimates.

- Amiti et al. (2019) "The Impact of the 2018 Tariffs on Prices and Welfare."[465]
- Carvallo et al. (2021) "Tariff Pass-through at the Border and at the Store: Evidence from US Trade Policy." [466]
- Cigna et al. (2022) "The Impact of US Tariffs against China on US Imports: Evidence for Trade Diversion?"[467]
- Fajgelbaum et al. (2020) "The Return to Protectionism."[468]
- Fajgelbaum and Khandelwal (2022) "The Economic Impacts of the US–China Trade War."[469]
- Jiao et al. (2022) "The Impacts of the U.S. Trade War on Chinese Exporters."[470]

[465] Amiti, Redding, and Weinstein, "The Impact of the 2018 Tariffs on Prices and Welfare," November 1, 2019.
[466] Cavallo et al., "Tariff Pass-through at the Border and at the Store: Evidence from Us Trade Policy," 2021.
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[468] Fajgelbaum et al., "The Return to Protectionism," February 1, 2020.
[469] Fajgelbaum and Khandelwal, "The Economic Impacts of the US–China Trade War," 2022.
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Jiao, Yang, Zhikuo Liu, Zhiwei Tian, and Xiaxin Wang. "The Impacts of the U.S. Trade War on Chinese Exporters." *The Review of Economics and* Statistics (July 26, 2022): 1–34. https://doi.org/10.1162/rest_a_01229.