



Research

Sector-specific Tariffs: Estimating the Costs

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Executive Summary

- Although President Trump paused his April 2 “Liberation Day” tariffs for 90 days, he continues to threaten imposing sector-specific tariffs in the near future.
- The threatened sectors include pharmaceuticals, copper, lumber, chemicals and minerals, semiconductors, and energy, which combined account for roughly 20-percent of U.S. imports.
- This research estimates that if the Trump Administration places a 25-percent tariff on these six product categories, U.S. firms will pay an additional \$79.7 billion in taxes within the first year of implementation.

Introduction

Although President Trump has paused his April 2 “Liberation Day” tariffs for 90 days, he continues to [threaten](#) imminent sector-specific tariffs. The threatened sectors include pharmaceuticals, copper, lumber, semiconductors, chemicals and minerals, and energy, which combined account for roughly 20-percent of U.S. imports and include most products initially exempted from “Liberation Day” tariffs. These new sector-wide tariffs would mirror the administration’s implementation of 25-percent tariffs on steel, aluminum, and automobiles.

This research estimates that if the Trump Administration places a 25-percent tariff on these six product categories, U.S. firms will pay an additional \$79.7 billion in taxes within the first year of implementation. Pharmaceutical consumers would have one of the highest exposures to increased costs, alongside homebuilders, electricians, and computer hardware suppliers.

“Liberation Day” Exemptions and Sector Tariffs

President Trump’s April 2 [executive order](#) created sweeping “reciprocal” tariffs on approximately [80 percent](#) of imported goods from every U.S. trade partner, with a weighted average of 17.5 percent. Yet Trump has lowered these “reciprocal” tariffs to 10 percent for a 90-day negotiation period for all countries except for China, which now faces a 145 percent tariff rate. The remaining 20 percent of U.S. goods fit under 1,039 exempted [product categories](#), which includes pharmaceuticals, lumber, copper, semiconductors, chemicals and minerals, and energy. While these categories have avoided increased tariffs for now, the Trump Administration has threatened sector-specific tariffs on many of these products.

Some of these products were initially exempted because they are already subject to Section 232 tariffs. This includes [steel and aluminum](#), which were subject to tariffs under Trump’s first term and have faced new 25-percent rates since February 11, and [automobiles](#), which received 25-percent tariffs on March 26. These rates remain unchanged despite the 90-day pause.

Cost Estimate of Sectoral Tariffs

President Trump has [threatened tariffs](#) on copper, lumber, chemicals and minerals, [pharmaceuticals](#), and [semiconductors](#). All of these industries have seen prices fluctuate as importers [brace](#) for industry-specific tariff rates. The future of sector-level tariffs on energy is uncertain, but the administration has begun taxing electricity from [Canadian grid partners](#), indicating further protectionism may be in store for the energy industry.

If the administration places a 25-percent tariff on each of these products, a plausible scenario, the total tax liability would be \$79.7 billion in the first year. A lower tariff of 10 percent would result in \$36.2 billion in additional costs, while a higher rate of 50 percent would result in \$132.8 billion in additional taxes. See Figure 1 for the various tariff scenarios for each threatened sector.

Figure 1: Estimated Tax Liability from Sector-Specific Tariffs (billions)

Commodity	Total Imports	10% Tariff Estimate	25% Tariff Estimate	50% Tariff Estimate
Lumber & Wood Products	\$17.38	\$1.01	\$2.22	\$3.69
Copper	\$17.48	\$1.01	\$2.23	\$3.71
Minerals and Chemicals	\$54.44	\$3.15	\$6.94	\$11.57
Pharmaceuticals	\$248.21	\$14.39	\$31.65	\$52.75
Semiconductors	\$45.53	\$2.64	\$5.81	\$9.68
<i>Energy & Oil Products*</i>	\$241.69	\$14.01	\$30.82	\$51.36
Total	\$624.74	\$36.21	\$79.65	\$132.76

**Energy and oil products have not seen explicit tariff threats, but there are signs the Trump Administration is willing to impose tariffs in the future.*

Source: [U.S. International Trade Commission's DataWeb database](#)

Setting aside the financial costs, there will likely be downstream impacts to U.S. employment in sectors reliant on many of these product-categories for inputs. For example, lumber and wood are an input for homebuilders, furniture makers, and even sports equipment. Raising the cost for downstream industries inevitably reduces competitiveness via lower sales (higher costs for consumers) or lower profit margins (costs are absorbed by the business). While the protected lumber sector, for instance, may see limited job growth and increased profitability, downstream sectors are likely to see cuts to jobs, investment, or research and development in order to address cost challenges.

Looking to the 2018 steel tariffs for reference, as many as [8,700 jobs](#) were created within the steel industry at the expense of roughly [75,000 manufacturing jobs](#) that were lost as an unintended consequence. This is because for every [one steelworker](#), there are [over 140 jobs](#) directly reliant on steel as an input, with many more indirectly affected throughout the supply chain. Many of the sectors listed above will have similar, if not greater, downstream input uses that impact tens of millions of U.S. jobs. Tariffs on these sectors could therefore lead to a significant impact on U.S. employment, amounting to tens of thousands of net job

losses.

Lumber and Wood Products

The first Trump Administration in 2017 placed an [anti-dumping tariff](#) on Canadian softwood lumber imports in retaliation for a federal land licensing scheme that the administration saw as subsidization. In August 2024, the Biden Administration [hiked](#) these tariff rates from 8.05 percent to 14.54 percent, and on April 5 President Trump raised the rate to 34.45 percent.

The Trump Administration started a [Section 232 investigation](#) on March 1 to investigate the entire lumber industry. For reference, [Section 232](#) allows the Commerce Department to launch investigations into imports with national security importance and enact trade barriers. The fact the Trump Administration has already begun placing tariffs on Canadian lumber products indicates broader sector-level tariffs may begin soon.

The new anti-dumping duty rate, combined with the new tariffs that will likely result from the Commerce Department's Section 232 investigation, will raise the cost of lumber. The initial "Liberation Day" tariffs increased the cost to build an average new home by [\\$7,500–\\$10,000](#) in non-lumber expenses. Lumber accounts for [6.5–8 percent](#) of the total cost of building new homes, meaning lumber tariffs will add several thousand more dollars to the total cost of building a new home.

According to [Zillow](#), the average national cost of building a home is just over \$468,000 when all commission, lot, and other expenses are factored in. A 25-percent lumber tariff could add between \$3,800–\$4,750 in additional construction costs on top of any tariffs already put in place.

Copper

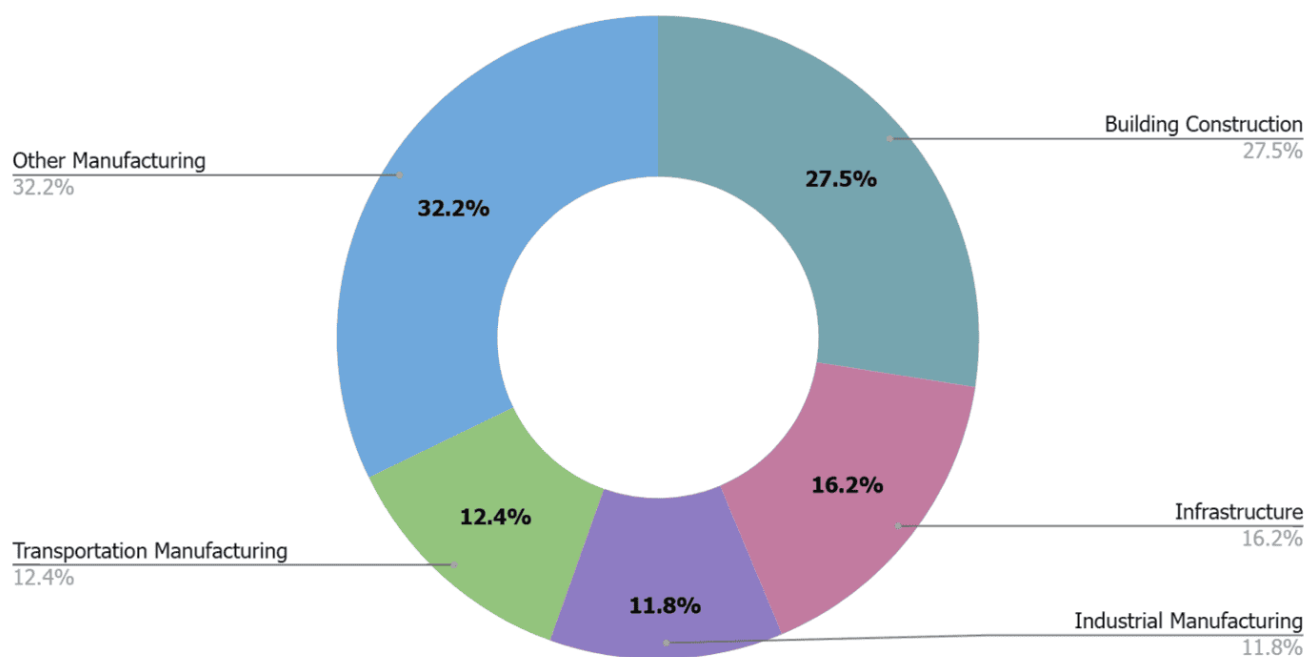
The Trump Administration has also launched a [Section 232 investigation](#) into copper and copper derivatives. The administration cited worries that a "single foreign producer," meaning China, controls most of the world's smelting and refining. It is true that China controls [44 percent](#) of global refined copper production and that Chinese companies maintain [numerous](#) projects around the world through the [Belt and Road Initiative](#). Yet a tariff would not address concerns of Chinese copper dominance because the United States is a [net exporter](#) of copper products to China and has almost no exposure to the Chinese copper supply chain. For raw copper, the United States primarily relies on Chile and Mexico, which together have [over 100 years](#) of reserves. There are no major Chinese firms mining copper in either [Mexico](#) or [Chile](#).

China does import [the majority](#) of the world's copper for refinement. Mexico, for instance,

exports 94 percent of its copper to China and just 1 percent to the United States. If the United States seeks to increase its refinement capacity and challenge China's copper dominance, increased U.S. trade barriers are not the solution. The United States cannot easily mine more raw metal than copper-rich countries in Latin America and raising copper import duties will cause Chile and Mexico to send less raw copper to the United States for refinement.

Copper tariffs would, however, increase the cost to manufacture and build in the United States. Roughly 56.3 percent of copper used in 2020 went toward manufacturing, and the rest to construction and infrastructure projects. The average new home requires 439 pounds of copper, meaning a tariff could add between \$200–\$300 to the cost of a new home, depending upon the spot price.

Figure 2: End Use of Copper Content by Industry, 2020



Source: [International Wrought Copper Council](#)

Pharmaceuticals

While Trump spared drug consumers from the April 2 executive order, he has continued to promise biopharma tariffs even after walking back “Liberation Day” rates. Trump has previously claimed that pharmaceutical products will see a 25 percent or higher tariff rate. The industry has received criticism for years for its reliance on foreign production, meaning

pharmaceutical tariffs may face greater political scrutiny than other product categories.

Nearly **33 percent** of dollars spent on pharmaceuticals go toward imports, leaving the industry somewhat exposed to new tariffs. This number underestimates the impact of pharmaceutical tariffs on consumer welfare due to the unique pricing structure of the industry. Generic drugs account for **91 percent** of prescriptions but just 16 percent of revenue, and **90 percent of active ingredients** in U.S. generic drugs are imported. Many of these generic imports come from China, which is subject to a **145 percent** tariff, but the United States relies on a wide variety of countries for different pharmaceutical imports.

The pharmaceutical industry's global complexity also leaves it susceptible to trade disruptions. For example, **97 percent of antibiotics, 92 percent of antivirals, and 83 percent of the most popular generic drugs** contain at least one active ingredient that is manufactured abroad. In addition, the United States has almost no infrastructure for creating key starting materials, which is the step in the pharmaceutical supply chain before the creation of active ingredients. See Figure 3 for the most imported pharmaceutical goods and Figure 4 for the pharmaceutical imports that are most dependent on China. While the United States may be able to shift its imports from one country to another, an across-the-board tariff on pharmaceuticals and key ingredients would lead to price hikes for end consumers.

Figure 3: Most Impacted Pharmaceutical Imports by Trade Value

HTS Code	Trade Value (billions)	Shortened Import Description
3002150011	\$56.7	Diagnostic materials used to detect antibodies Ex. Flu, tests, COVID tests, ELISA kits, etc.
3004909215	\$26.0	Oncology and immunosuppressant drugs Ex. Chemotherapy drugs, post-transplant drugs, etc.
3002150091	\$15.6	General biologic/biosimilar products Ex. Allergy shots, interferons, etc.
3002140010	\$14.4	Advanced biologic products in bulk form Ex. Cancer drugs and immunosuppressants used in hospital supply or preparing for domestic fill and finish

3004909291	\$13.7	General small molecule drugs Ex. Various common drugs such as ibuprofen
3004909221	\$12.3	Cardiovascular medicines Ex. ACE inhibitors, beta blockers, statins, etc.
3004909239	\$9.6	Antidepressants/mental health medications Ex. SSRIs, benzodiazepines, etc.
3002410000	\$9.7	Vaccines Ex. Flu shots, MMR vaccines, etc.
3002120090	\$8.1	Blood-based products and medicines Ex. Immunoglobulins, clotting factors, antitoxins, etc.
3004390050	\$6.7	Drugs made with hormones with no antibiotics Ex. Insulin, prednisone, birth control, etc.

Source: [Dataweb](#)

Figure 4: Pharmaceutical Imports with Greatest Reliance on China

HTS Code	Share of Imports from China	Shortened Import Description
3003900160	100%	Non-retail antiprotozoals
3004909233	100%	Certain anti-inflammatory agents, aspirin
3004909225	97%	Retail Tolmetin Sodium
3005905010	96%	Laparotomy sponges
3004505010	95%	Single vitamins
3006500000	91%	First-aid boxes and kits
3001900110	72%	Dried liver
3002905220	68%	Antiallergenic preparations

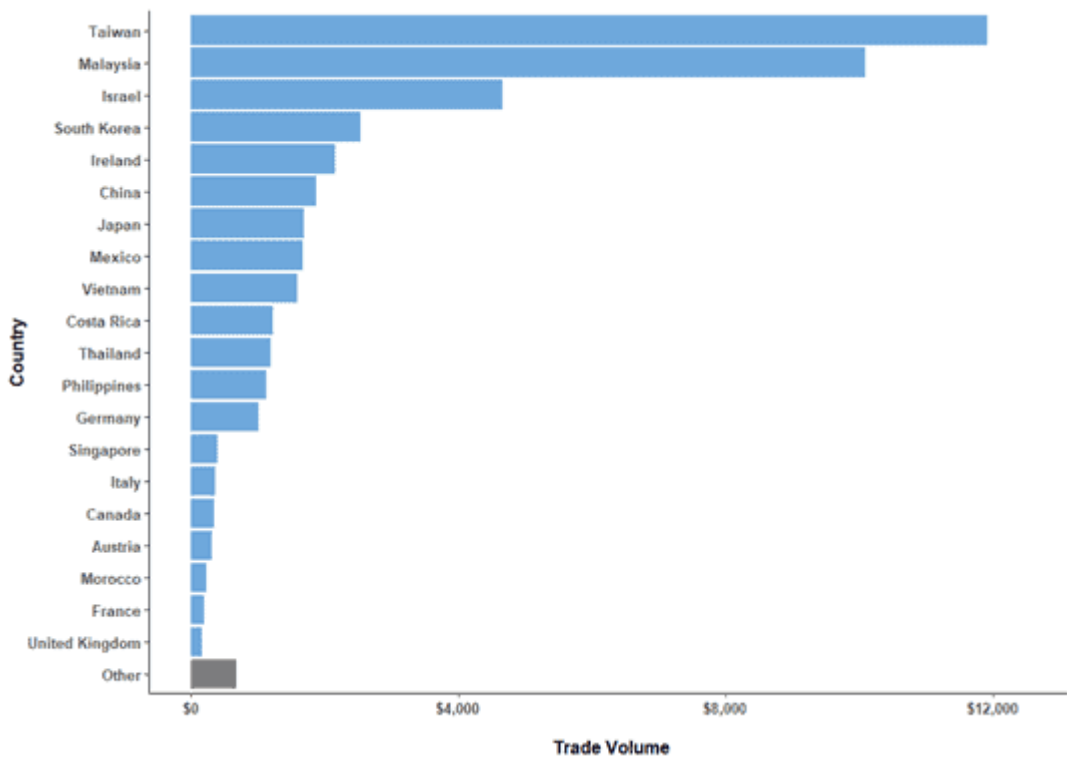
3003100000	64%	Medicaments containing penicillin
3004909202	61%	Certain retail antivirals
	Value: \$3.72 billion	

Source: [Dataweb](#)

Semiconductors

Since the Covid-19 pandemic, there has been bipartisan consensus that the United States must onshore chip and semiconductor production. This political pressure stems both from the geopolitical risk of sourcing from Taiwan and from [pandemic-era supply shortages](#). Although the president has [criticized the Biden-era CHIPS Act](#) and sought to replace its funding apparatus, Trump has [expanded](#) his predecessor’s chip restrictions on China. He has also expressed an interest in placing [25-percent tariffs](#) on chips from other nations.

Figure 5: U.S. Semiconductor Imports by Country of Origin, 2024 (\$ billions)



Source: [U.S. International Trade Commission’s DataWeb database](#)

As displayed in Figure 5, the semiconductor imports spared from tariffs come primarily from

Taiwan (27 percent), Malaysia (22 percent), and Israel (11 percent). Advanced AI chip manufacturing, which accounts for [most of the industry's growth](#), is even more concentrated; Taiwan Semiconductor Manufacturing Company (TSMC) in Taiwan supplies [80-90 percent](#) of the world's advanced semiconductors. Currently, just [12 percent](#) of the world's chips are manufactured in the United States, and none are the most advanced variety.

This industry map is slowly changing. TSMC is set to open a [new Phoenix fabrication plant](#) this year, and a [SIA-BCG](#) report estimates that the United States will produce 28 percent of chips globally by 2032. It is possible that the Trump Administration is waiting until TSMC begins production to implement tariffs on chips.

These investments will likely limit the industry's long-term exposure to tariffs by moving more of the value chain to the United States, but they will not eliminate risks completely. Chips, like pharmaceutical products, have complex global supply chains. [Billions of dollars](#) in recent fabrication investment have gone toward purchasing semiconductor manufacturing equipment from Japan, which still has a 10-percent tariff. The dozens of material inputs to semiconductors are even more exposed to tariffs, including [30 goods](#) for which the United States relies on just one country for over half of its supply. If the president puts tariffs on semiconductors, domestic fabrication will likely increase but so will input costs.

Metals and Chemicals

Unlike the other sectors, it is difficult to predict how the administration will break rare earth metals, minerals, and chemicals into its various sector-specific tariff proposals. These products are used across a variety of industries, and the administration may select individual products based on their supply chains and industrial uses.

It is likely that tariff proposals targeting [pharmaceuticals](#), semiconductors, and other products will include some minerals and chemicals. Although the administration decided to forgo rare earth metals to [avoid damaging](#) U.S. manufacturers, President Trump has been talking about using tariffs to secure U.S. rare earth security [since his first term](#). Recent escalation with China indicates that these barriers [may come sooner than previously thought](#).

Energy and Oil Products

The administration created a large exemption for the energy sector, which imports \$242 billion in oil, electricity, natural gas, and other petroleum products annually. Unlike some of the other exempted commodities, the administration has not directly indicated that it plans

to tax energy imports. Although there are no concrete tariff proposals, the administration has [begun sparring](#) with Canada over electricity and briefly implemented a 15-percent tariff on Canadian oil. It is plausible that future protectionist measures are still on the table.

The United States has been a net oil exporter [since 2019](#), but the industry is still vulnerable to tariffs. One issue is that some areas of the United States have their electricity grids combined with Canada's, meaning cross-border tariffs would create upward pressure on prices, particularly in the Northeast and certain Midwest states. Another vulnerable industry is oil refining. About [36 percent](#) of U.S. energy exports are refined petroleum, and much of this is refined imported crude. This means that even export-oriented oil refineries would experience financial damage from an oil and gas import tariff.