Tariffs: Who Wins, Who Loses and Why It Matters

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What Is a Tariff?

- **A tariff is a tax on imports.**
- **A 10% tariff on all imports would mean that**
  - Whatever the foreign exporter charges for a product,
  - US buyers will pay an extra 10% to the US government.
- **Might the seller charge a lower price because of the tariff?**
  - Perhaps, but when Trump used tariffs in 2018 on steel and China, they did not.

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Outline

- US Tariff History
- Trump I Tariffs
- Tariff Effects in General
- Trump II Tariff Actions
- Effects of Trump II Tariffs

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US Tariff History

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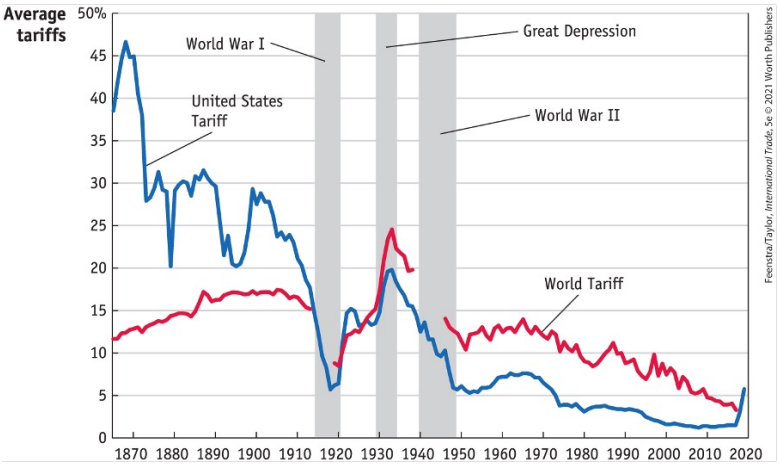
US Tariff History, 1860-2020



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Source: Feenstra/Taylor, International Trade, 5e

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Trump I Tariffs and the Trade War

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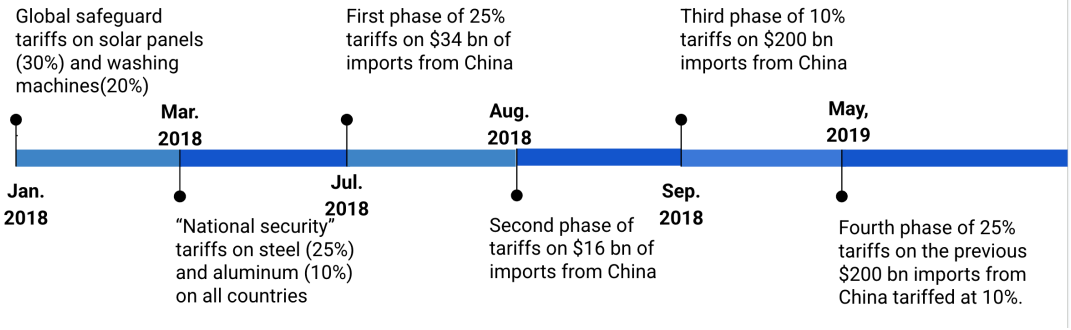
Trump I Tariffs & Trade War



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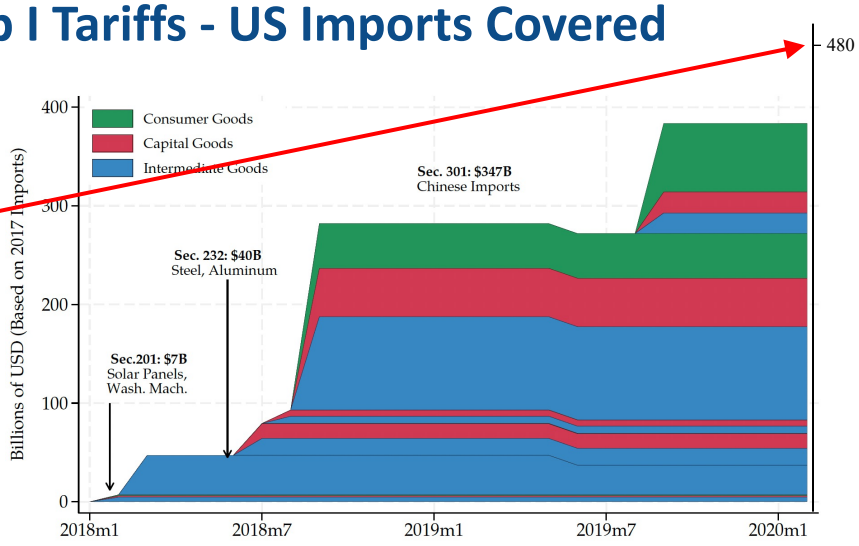
Trump I Tariffs - US Imports Covered

US imports from China in 2017, per World Bank: $480 billion



Source: Flaaen & Pierce 2020

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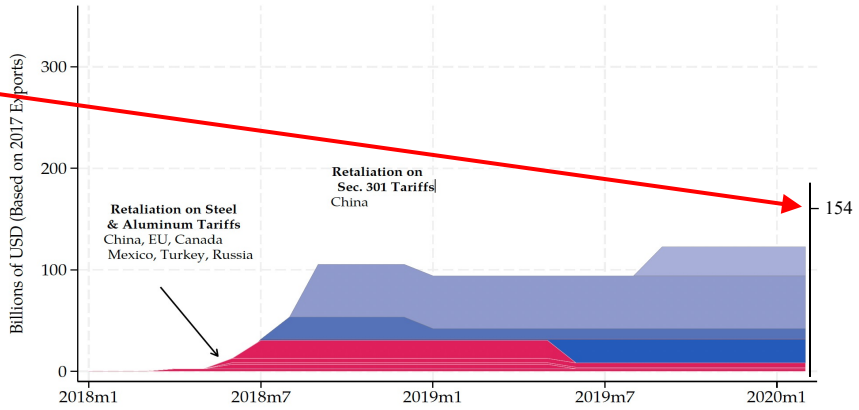
Trump I Tariff Retaliation - US Exports Covered

US exports to China in 2017, per World Bank: $154 billion



Source: Flaaen & Pierce 2020

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Tariffs on Washing Machines

- The **price of washing machines** increased in the U.S. by 12% the next month.
- The **price of dryers** (bundled with washing machines) also increased by 12%, even if they were not subjected to tariffs.
- Consumers lost $1.5 billion annually.
- Annual **tariff revenue** increased by about $82 million.
- 1,800 **new jobs** reported
- The consumer cost per job "created" was about $817,000 per year.
- Coincides with LG and Samsung opening plants in the U.S.
  - LG: Clarksville, Tennessee in 2019: 600 new jobs
  - Samsung: Newberry, South Carolina, 2018: 1,500 new jobs

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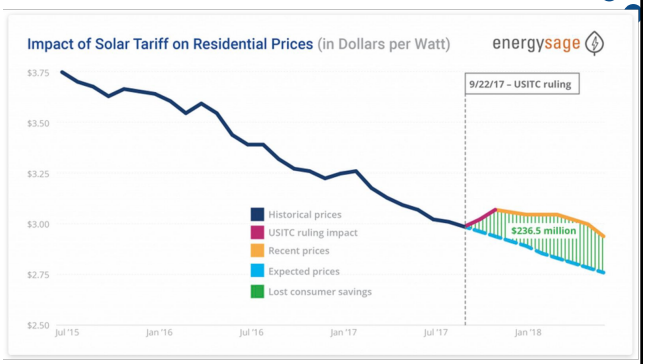
Tariffs on Solar Panels

- Consumers were hurt by higher **prices of solar panels**:
  - Solar prices increased by 43-57% compared to the global average.
- U.S.-based companies that supported the tariffs:
  - First Solar (U.S.), Suniva (Chinese owned), SolarWorld Americas (acquired by SunPower, San Jose, CA)
- According to the Solar Energy Industries Association:
  - 62,000 workers were laid off or never hired
  - 10.5 gigawatts of solar capacity lost
  - $19 billion in private sector investment lost
- Foreign companies build factories in the U.S.:
  - Hanwha (South Korea) in Whitfield County, GA
  - JinkoSolar (China) in Jacksonville, FL



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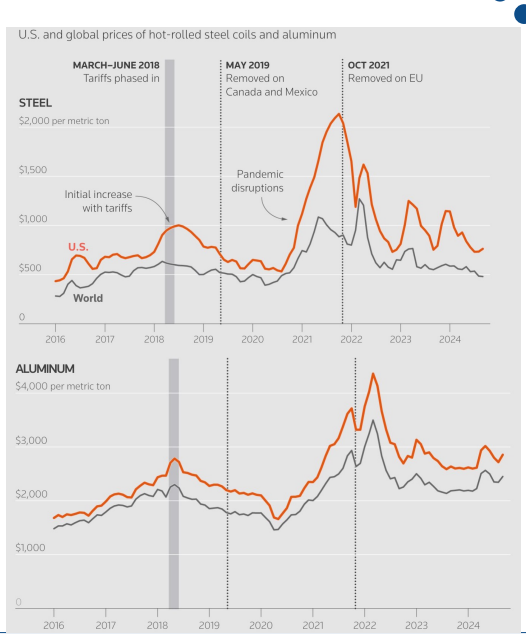
Tariffs on Metals

- The **price of steel and aluminum** increased shortly after the tariff.
- The **domestic production** increased (steel production increased by 6 million metric tons and aluminum by 350,000 metric tons in 2019 compared to 2017).
- The **number of jobs** in iron, steel and aluminum mills rose temporarily by 6% and 5%, respectively from 2017 to 2019.
- **Downstream industries** (e.g. auto) faced higher input costs.
- Several studies estimated that the increased costs driven by tariffs may have resulted in 75,000 fewer manufacturing jobs.



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Tariffs on Metals - Retaliation

- The EU, Canada, Mexico, and China have retaliated with tariffs proportionate to their U.S. exports of steel & aluminum
- US industries targeted by foreign retaliation:

Industry	Countries
Pork (reliant on foreign markets)	China, Mexico
Apples	China, Mexico, India
Fruits and Nuts	China, India
Whiskies (e.g. KY bourbon)	EU, Canada, Mexico
Mineral water, coffee, ketchup	Canada
Motorboats, yachts, motorcycles (Harley-Davidson)	EU

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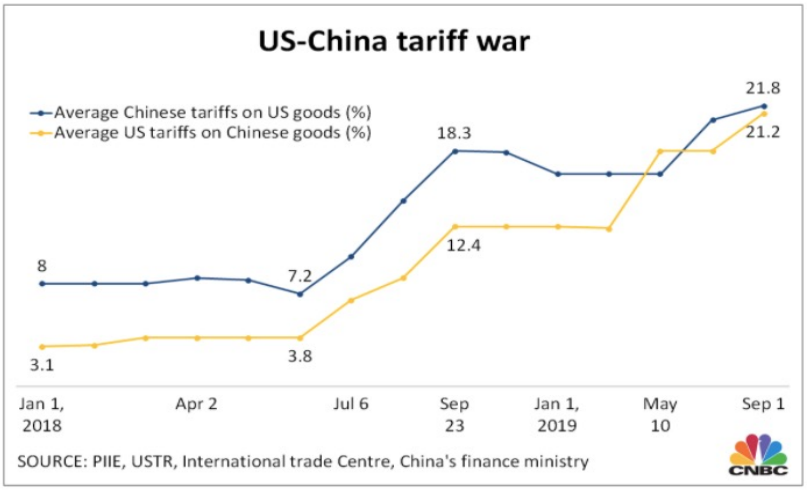
US-China Tariff War – Tariff Rates



Source: CNBC.com

The first trade salvo was fired by the U.S. in early 2018, but the bilateral trade war between the U.S. and China really kicked into a higher gear in July 2018.

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U.S - China Trade War

- Tariffs were fully-passed through to US import prices, but only partially to retail prices: retail margins decreased, and American consumers still paid **higher prices**.
- Net decrease in **manufacturing employment** due to tariffs (the negative effects of higher input prices and retaliatory tariffs outweighed the benefits to protected industries)
- Overall lower **aggregate real income** in both U.S. and China (small magnitudes relative to GDP)
- A 2024 study found that the tariffs failed to provide economic help to the heartland: import tariffs had " neither a sizable nor a significant effect on US employment in regions with newly-protected sectors" and foreign retaliation "by contrast had clear negative employment impacts, particularly agriculture."

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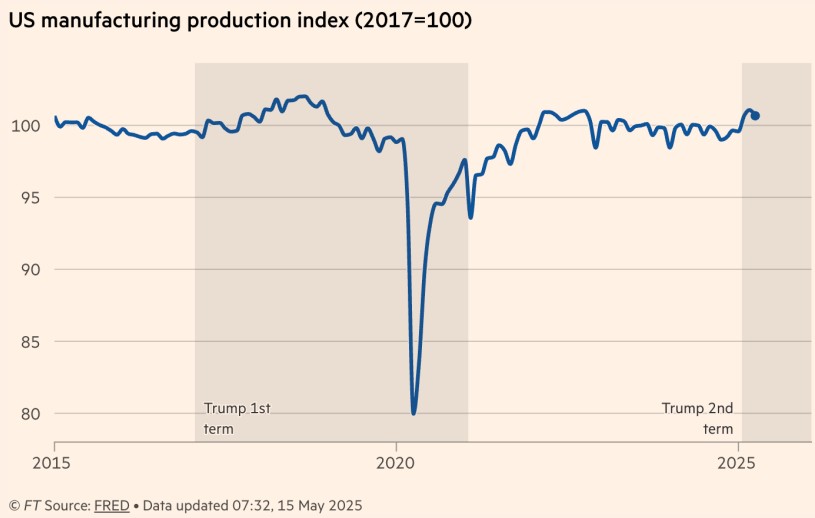
U.S Manufacturing Production



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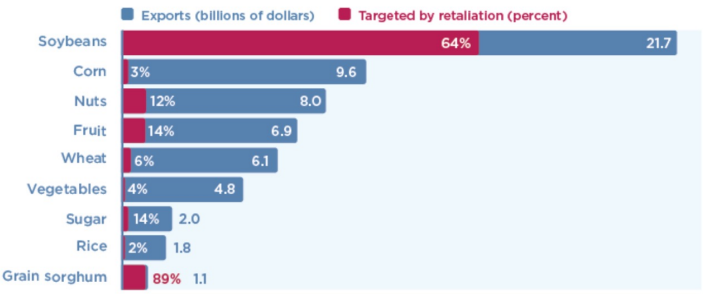
Subsidies to American Farmers

Figure 2 US exports of major crops, 2017



- $12 billion subsidy to help American farmers for their lost export sales.

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Trump Tariff Exemptions

- **Both the metals tariffs and the China tariffs permitted certain products and product categories to be exempted, through an application process to Commerce (metals) and USTR (China), if certain criteria are satisfied.**
  - Whether tariffs would impose significant harm on American business interests
  - Whether substitute products were available outside China
  - Whether the products were “strategically important” to China”

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Trump Tariff Exemptions

- **Requests for exemption**
  - Metals tariffs: "Commerce Department received nearly 500,000 exclusion requests"
  - China tariffs: USTR "fielded more than 50,000 requests"
- **Lobbying Congress on trade issues increased once Mr. Trump took office**
- **Biden maintained Trump's tariffs, but it**
  - gradually wound down the exclusions for China tariffs
  - continued to grant them for tariffs on steel and aluminum.

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Trump Tariff Exemptions

- **Trump administration's decisions on exclusions were mysterious and arbitrary.**
  - "Tariff exemptions were given
    - to Bibles but not to textbooks,
    - to salmon but not to pollock,
    - to children's car seats but not to baby cribs.
  - The decisions were not subject to appeal."

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Trump Tariff Exemptions

- **Issues with the exemptions**
  - "Firms hiring lobbyists were less likely to have steel tariff exemptions approved."
  - Study found:
    - Contributions to Republicans made China exemptions more likely
    - Contributions to Democrats made China exemptions less likely
    - Author quoted as saying the exclusion process was "a very effective spoils system"
  - Renewal of exemptions were uncertain and came late enough to create uncertainty.

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Tariff Effects

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Economic Effects of a Tariff

- **A tariff is a tax on imports. It causes**
  - A rise in the price of the imported good in the importing country
  - A fall in the price of the imported good in the exporting country
  - The quantity imported to fall
  - Revenue for the tariff-levying government
- **Almost always: the rise at home is much larger than the fall abroad**
  - That's especially true if importing country is small
  - But it's also true if importing country is as large as the U.S.
    - We learned this from Trump's tariffs in 2018.
    - Example: Trump's tariffs caused US prices to rise, with hardly any perceptible fall in prices abroad.

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Effects of a Tariff

- **The rise in price in the importing country causes**
  - A rise in price of competing goods produced there
  - Benefits to those producers
  - Harm to buyers of both the import and the competing goods
    - Including producers that use the higher-priced goods as inputs
      - Their prices also rise, hurting their buyers
  - Employment changes:
    - Increase in the protected industry
    - Decrease in industries that use the protected product as inputs

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Effects of a Tariff

- **Economists' cost-benefit analysis quantifies these and shows that**
  - Unless there are market distortions, the costs of a tariff always exceed the benefits
  - Even when distortions give potential for tariff to be net beneficial
    - It is just as likely to be net harmful
    - And there does exist another policy, not a tariff, that would be better
  - But
    - Costs of tariffs are spread over many buyers, and are small for each
    - Benefits of tariffs are concentrated for domestic producers and are large for each
    - That's often why we
      - Get tariffs
      - Find them very hard to remove

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Possible Economic Arguments for Tariffs

- **Possible arguments for tariffs**
  - National Defense – strategic resource. Do we need the capacity to make our own computer chips, just in case?
  - "Infant" Industry
  - Unfair trade practices of exporting countries

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Effects of a Tariff

- **Politics of tariffs**
  - Political forces favor tariffs
  - Tariffs were reduced during 1934-1995 only by slow reciprocal negotiation among countries

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Effects of a Tariff

- **If a tariff is on exports of only one country (e.g., China), then**
  - Some imports shift to another country
  - Price rises by less, to that other country's higher cost

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Other effects of a Tariff

- **Income distribution**
  - Tariffs, especially on China, raise prices of the products disproportionately bought by low-income consumers, hurting them more than high-income consumers
- **Retaliation**
  - Other countries place tariffs on US exports
  - Trade war that started in 2018 continues and gets worse
- **Corruption**
  - Historically, tariffs prompted both smuggling and bribes to customs officers
  - Today, in the US, those are less likely.
  - But requests for exemptions from tariffs may be accompanied by favors or political contributions

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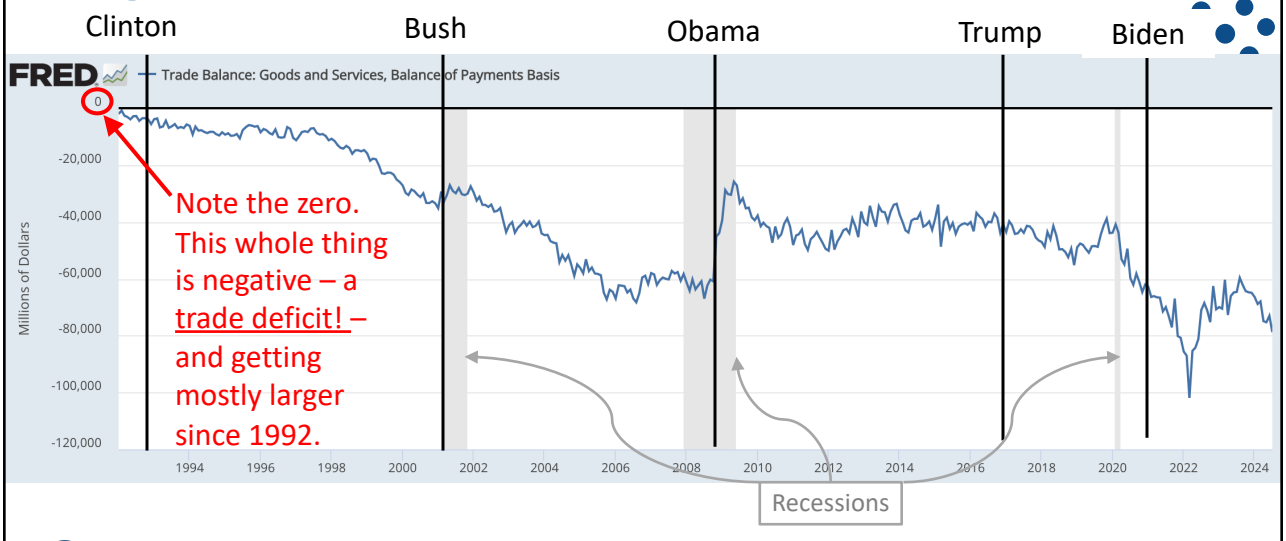
US Trade Balance = Exports minus Imports



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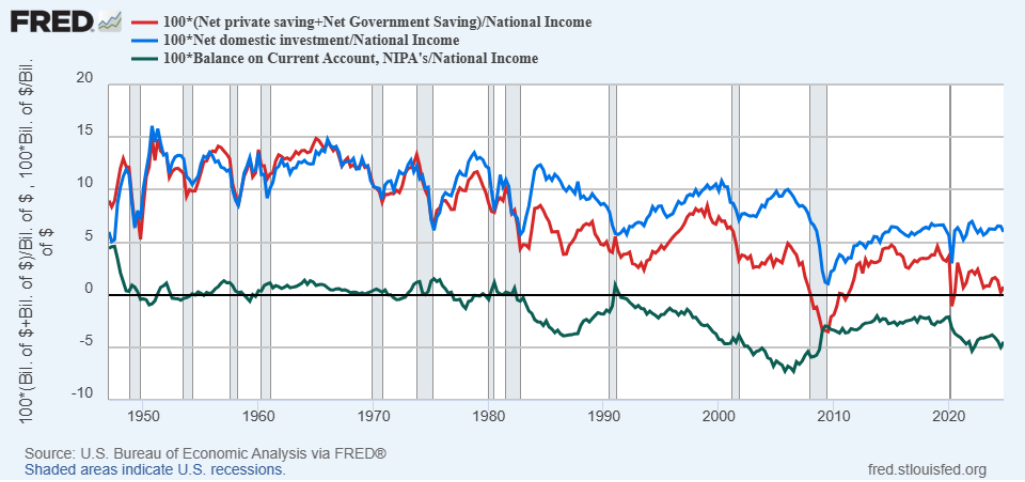
History of Saving, Investment and Trade Balance



Persistent Trade Deficits Start in the 1980s

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US Trade Balance with China and the World

Deficit

Source:
FT 1/4/25

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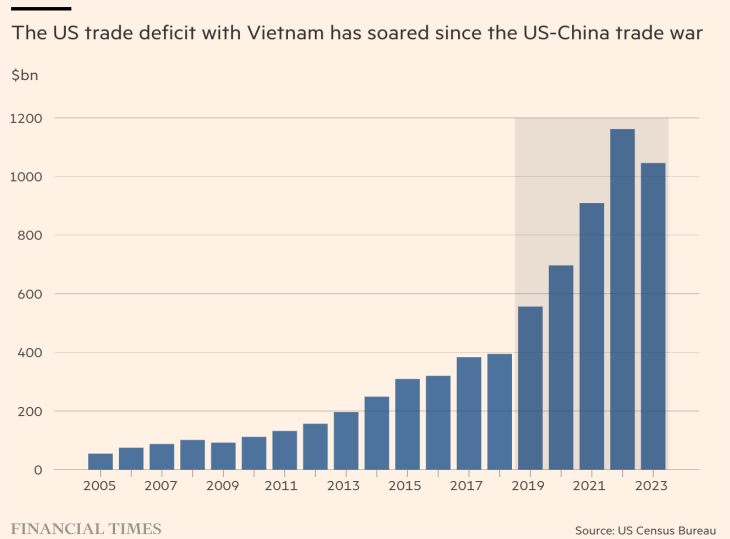
US Trade Balance with Vietnam



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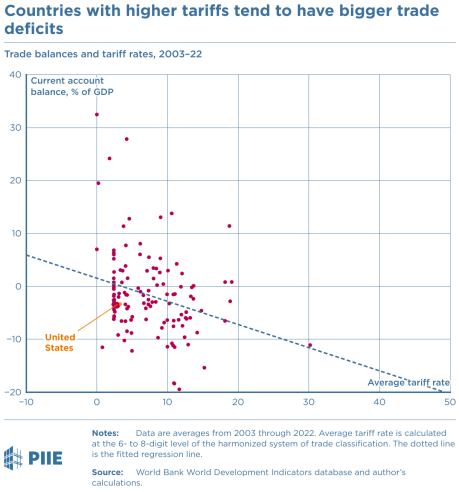
Effects of a Tariff

- **Do tariffs reduce a trade deficit?**
  - Trump thinks so, but the US deficit grew under him (see above)
  - A trade deficit equals **Expenditure minus Income or Savings minus Domestic Investment**
  - There is no reason for tariffs to reduce expenditure
  - And unless in a recession, also no reason for tariffs to raise income
  - Tariffs reduce imports but also reduce exports.
  - So NO!



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Source: Peterson Institute for International Economics (PIIE)

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Trump I Tariffs & Trade War

- **Summary**
  - Trump placed tariffs of 25% on steel and 10% on aluminum
  - Trump placed multiple tariffs on China exports, covering at least ¾ of their exports to US
  - On request, he exempted some products and firms
  - Imports from China fell while imports from others rose
  - US trade deficit did not shrink
  - Data show no fall in foreign export prices, so tariffs were paid by US buyers

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Trump II Tariffs

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Trump II Tariff Actions and Plans

- **"To me the most beautiful word in the dictionary is 'tariff'"**
- Fentanyl and Immigration (action on China, Canada, and Mexico)
- Steel and Aluminum (action on all countries)
- Copper (national security investigation)
- Lumber (national security investigation, biggest exporter is Canada)
- Reciprocal Trade and Tariffs (all countries)
- Tariffs on countries that impose digital services tax on American companies (targets EU countries, Turkey, UK, Canada)
- Autos and auto parts
- Pharmaceuticals, Semiconductors, Critical minerals, Trucks, Aircraft (national security investigations)

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Fentanyl and Immigration

Use of International Emergency Economic Powers Act

Feb 1: Announced tariffs of 25% on Canada and Mexico and 10% on China if they didn't stop flows of illegal people and drugs across the borders

- After talks with leaders, he postponed the tariffs on Canada and Mexico for one month
  - On Feb 24 "he said he is 'going forward' with the tariffs next week.
- The 10% additional tariff on China
  - Went into effect Feb 4
  - China retaliated with more tariffs, export controls on US (took effect on Feb.10)

Feb 1: Announced repeal of "de minimis" tariff-free policy on imports from China

- For years, imports under $800 have entered US tariff free
- Feb 5: Paused the repeal as packages piled up at customs
- May 2: Reinstated.

Mar 4: US tariffs go into effect on Mexico and Canada and are raised on Chinese imports to 20%

Mar 6: US exempts imports from Canada and Mexico under USMCA.

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Steel and Aluminum

Section 232 tariffs

Feb 10: Trump announced new 25% tariffs on steel and aluminum from all countries, to take effect on March 12.

Mar. 12: The tariff on steel and aluminum goes into effect.

Mar. 12: Canada announces plans to retaliate on Mar. 13 by imposing 25% tariffs on C$29.8 bn of US goods such as steel and aluminum products, tools, computer, display monitors, sport equipment, and cast-iron products.

Mar. 12: EU also announces plans to retaliate on $28bn worth of US goods such as whiskey, motorcycles, motorboats in the first phase and beer, poultry, beef, soybeans and produce in the second phase. Delayed to mid-April.

Apr. 9: EU member states agree on retaliatory tariffs but put on hold for 90 days.

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Reciprocal Trade and Tariffs

Apr. 2: US announces to impose baseline 10% tariff on all countries and additional "reciprocal" tariffs on countries that contribute to large, persistent US trade deficits.

Apr. 4: China announces a 34% retaliatory tariff and other measures.

Apr. 5: US imposes 10% tariffs on imports from nearly all countries.

Apr. 8: US announces an additional 50% tariffs on Chinese imports (84% + 20%)

Apr. 9:

- US imposes the additional country-specific tariffs (1-74%)
- China announces additional 50% tariff
- US pauses the country-specific tariffs for 90 days, increased tariffs on Chinese imports to 125%

Apr 11: Semiconductors, smartphones and consumer electronics are exempted.

Apr. 12: China increases its tariffs on American imports to 125%.

May 8 & 12: US-UK trade deal and a reduction of Chinese tariffs announced

To be Continued …

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Reciprocal Trade and Tariffs

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Example, Lesotho (2022 data)

(EX-IM)/EX=
($236m-$7m)/$236m=0.97
"Reciprocal" Tariff = 0.5(.97)= .485,
49% tariff rate (actually, 50%)

Facts about Lesotho:

GDP per capita =$1,073;

Population= 2.1 million

Trade balance= -$349 million

Average eff. tariff rate against US = 10%

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https://wits.worldbank.org/CountryProfile/en/USA

https://www.imf.org/en/Publications/WEO/weo-database/2024/October

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Auto Tariffs

Mar 26: US announces 25% tariffs (under section 232) on automobiles and certain auto parts (exemptions for USMCA-compliant auto and auto parts)

Apr. 3: The auto tariffs go into effect, but the auto part tariffs are delayed.

Apr. 3: Canada announces retaliations on non-USMCA compliant vehicles from the US and non-Canadian and non-Mexican content in the USMCA compliant vehicles.

Apr. 9: Canadian tariffs go into effect.

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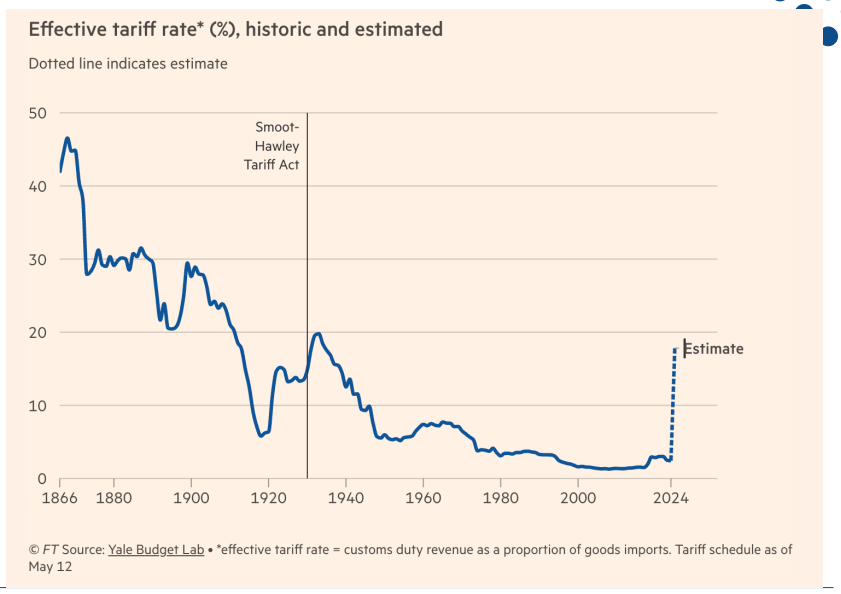
US Tariff Level



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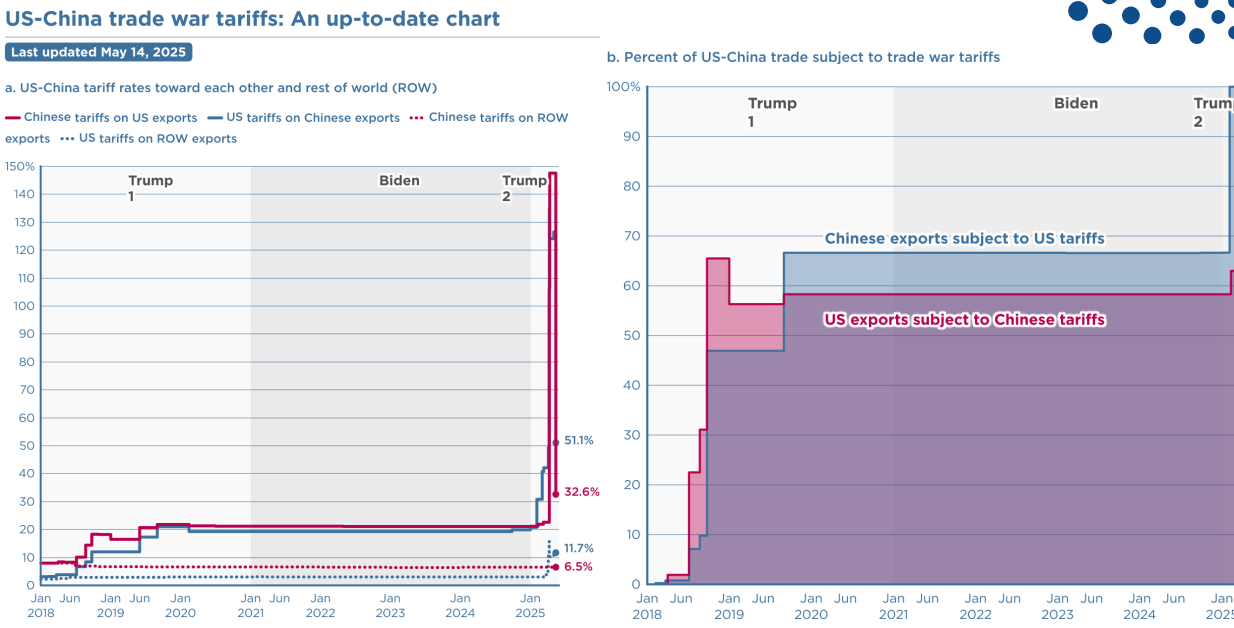

Source: Peterson Institute for International Economics (PIIE)

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Tariff Level Since January 20, 2025

US tariffs on

- Chinese imports increased 1.5 times, a jump of 30.4 percentage points.
- All goods imported from the rest of the world increased from 3% to 11.7%
- This is the highest average tariff level since the Great Depression of the 1930s.

Chinese tariffs on

- US imports increased by more than 50%, by 11.4 percentage points.
- All goods from the rest of the world are 6.5%.

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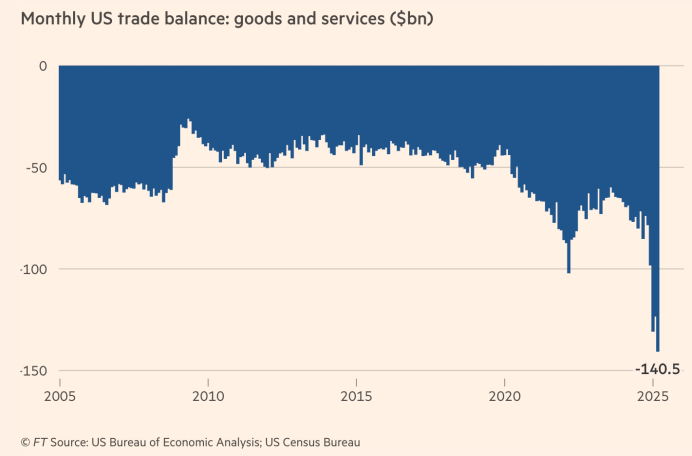
US Trade Deficit



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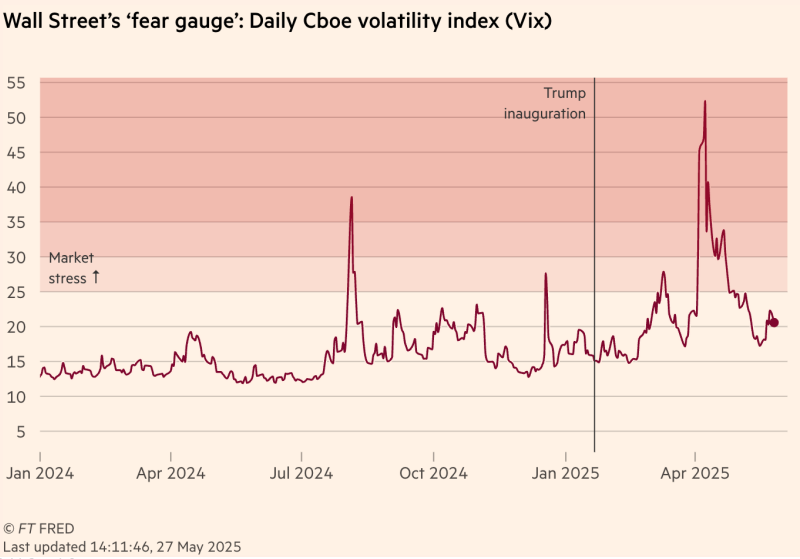
US Stock Market Volatility



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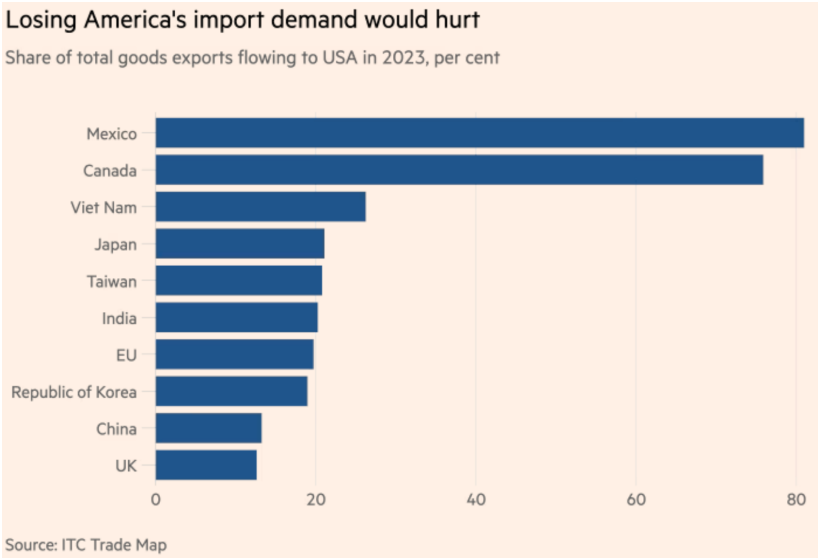
What Countries will Be Hurt?



Source:
Keynes, FT,
11/15/24

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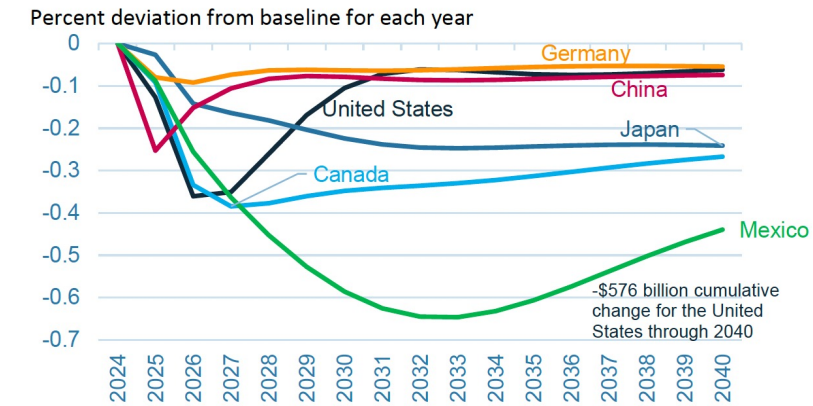
Effects of 10% Tariff on All US Imports



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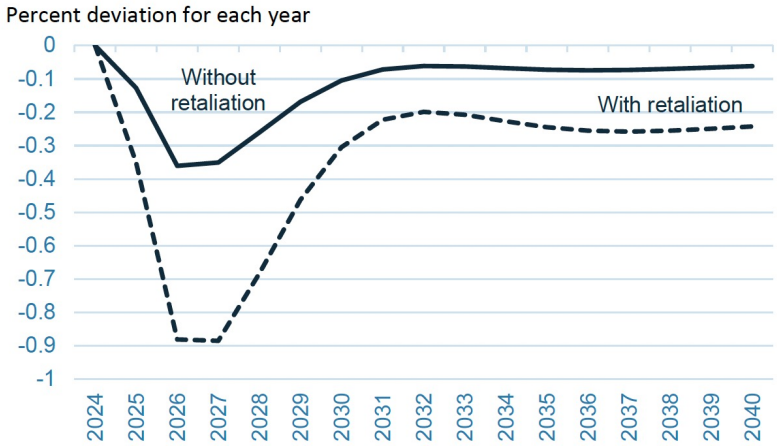
Effects of 10% Tariff on All US Imports

US GDP with and without Retaliation



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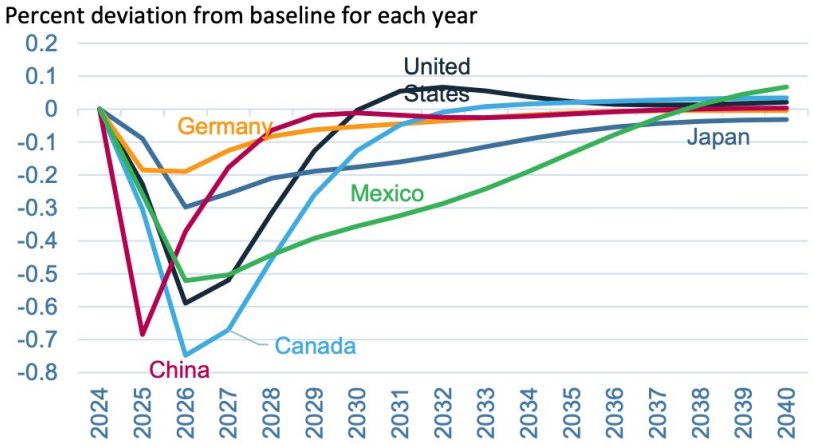
Effects of 10% Tariff on All US Imports

Employment



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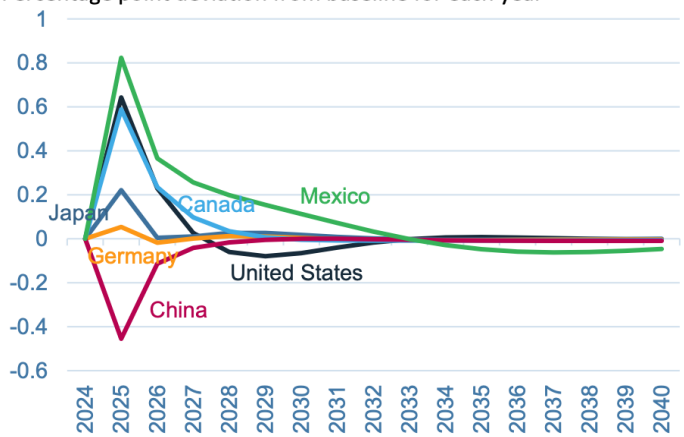
Effects of 10% Tariff on All US Imports

Inflation

Percentage point deviation from baseline for each year



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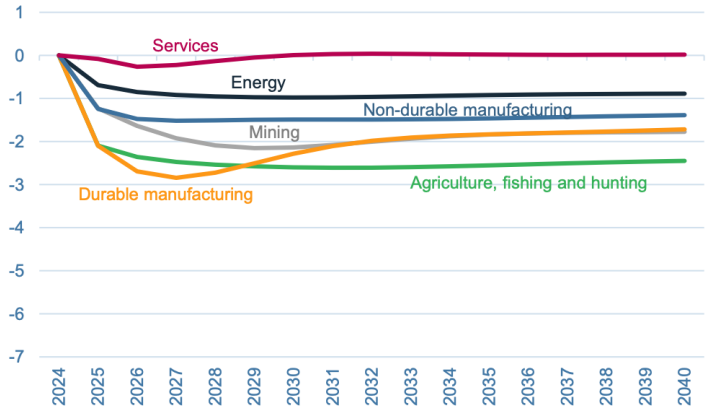
Effects of 10% Tariff on All US Imports

Sectoral Production

Percent deviation from baseline for each year



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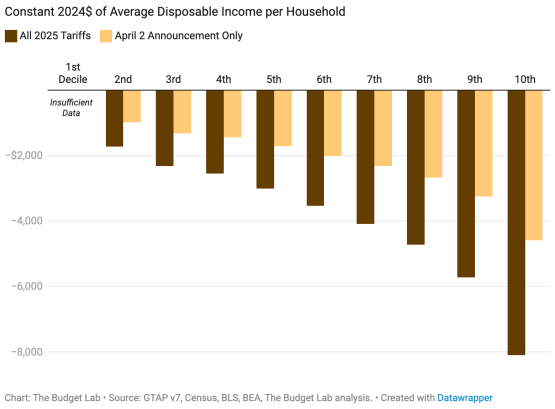
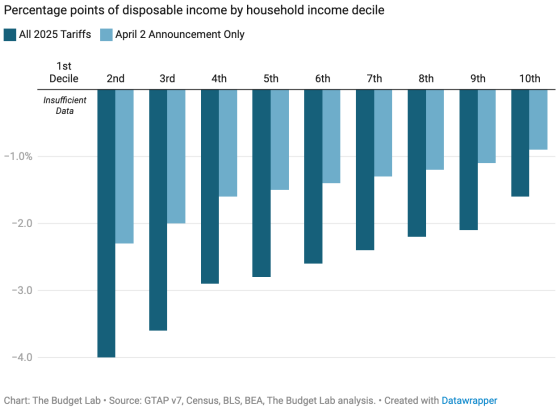
Effects of Tariffs on Households

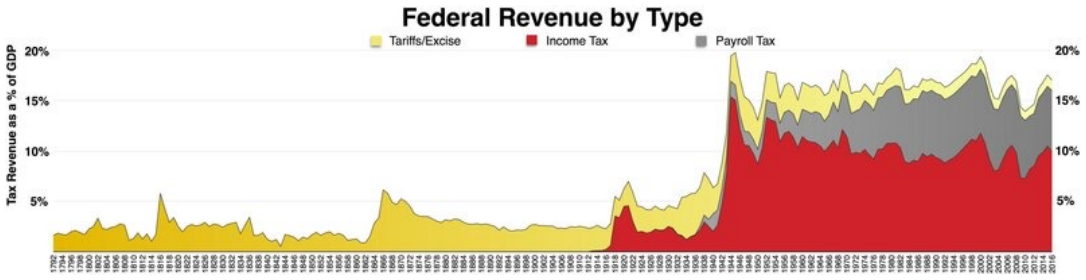




Effects of a Tariff

- **Government revenue**
  - Could Trump's proposed tariffs replace the US income tax?
  - NO!
  - Researchers estimates that all 2025 tariffs to date would raise between $3.1tr – $4.5 tr over 10 years if they stayed into effect.
  - US federal income tax revenue in 2023 was $2.18tr
  - So his tariffs would collect MUCH less than the income tax.
  - Tariff revenue can lower the budget deficit, raising national savings rate.

History of the Source of Federal Revenues



1913; Sixteenth Amendment. The Congress shall have the power to lay and collect taxes on incomes, from whatever source derived…
1930; Smoot Hawley Tariff.
1935; Social Security and Payroll taxes.

https://en.wikipedia.org/wiki/File:Federal_taxes_by_type.pdf

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Summary

Tariffs will:

- not eliminate the US trade deficit. Increase in national savings could reduce the trade deficit.
- decrease US manufacturing production and employment.
- Increase in prices for households, hurting the poor relatively the most.
- increase US government revenue, but not enough to offset other tax cuts.
- negatively impact US economic growth

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Thank you!

Questions?

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