Osher Lifelong Learning Institute, Fall 2025

Contemporary Economic Policy

University of Minnesota

Host: Geoffrey Woglom, Ph.D.
Director, National Economic Education Delegation

Course Schedule

The Economics of Public Policy Issues

- Week 1 (10/20): Economic Update & Central Bank Independence Geoffrey Woglom, Amherst College
- Week 2 (10/27): Climate Change Economics Sarah Jacobson, Williams College
- Week 3 (11/3) AI and Inequality Geoffrey Woglom, Amherst College
- Week 4 (11/10): Health Care Economics, Robert Rebelein, Vassar College
- **Week 5 (11/17): Trade and Globalization, Adina Ardelan, Santa Clara University**

Submitting Questions

- **Submit questions in the chat or by raising your digital hand.**
  - I will try to handle them as they come up.
- **We will do a verbal Q&A once the material has been presented.**
- **Slides will be available from the NEED website tomorrow (https://needelegation.org/delivered_presentations.php).**

Globalization and Trade

OLLI, University of Minnesota
November 17 , 2025

Adina Ardelean, Ph.D.

Outline

- Globalization
- The Benefits and Costs of Trade and Offshoring
- Trade Policies

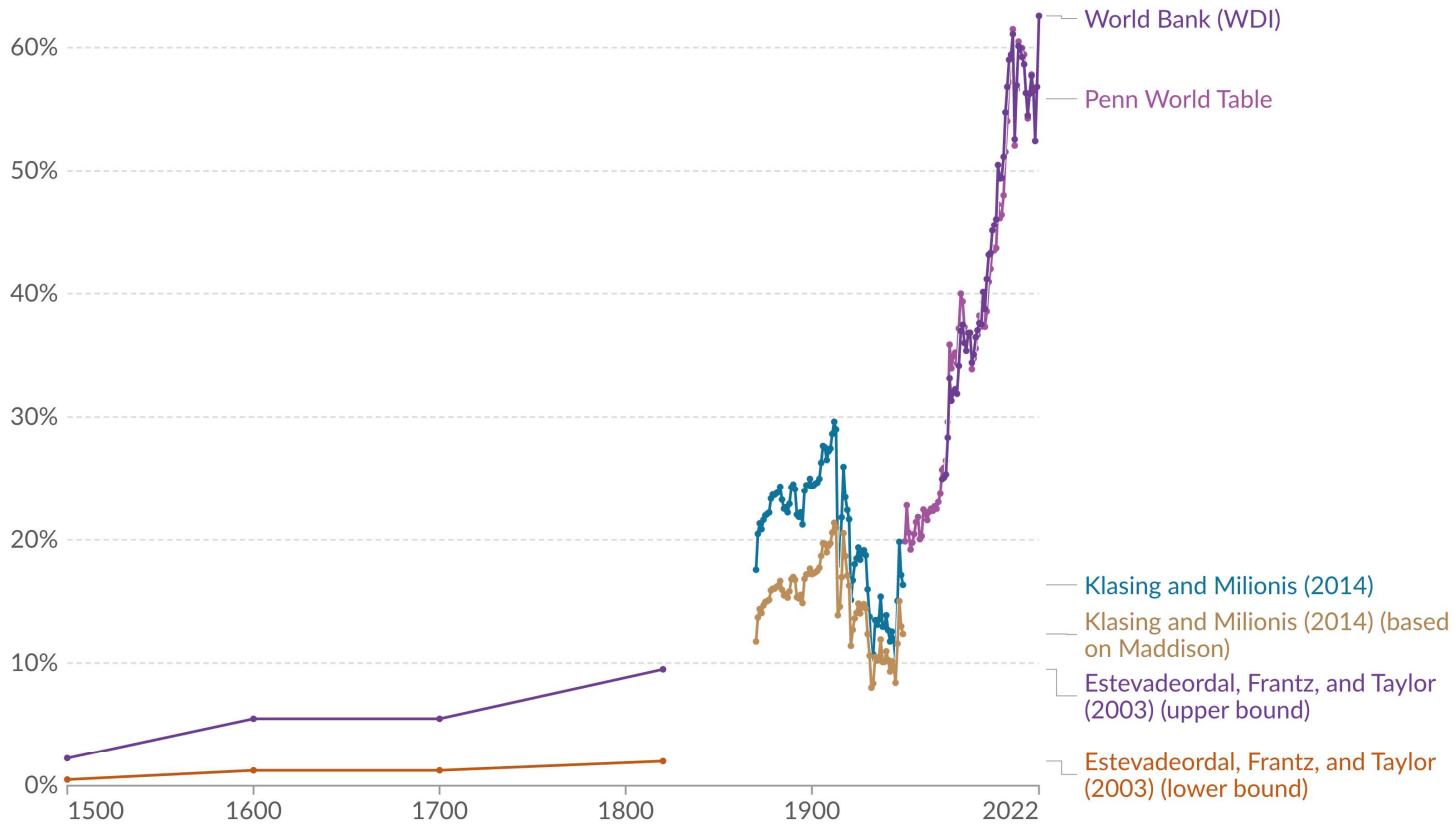
What is Globalization?

- **The growing interdependence of the world's:**
  - Economies
  - Cultures
  - Populations

- **Brought about by cross-border flows of:**
  - Goods and services
  - Technology
  - Investment
  - People
  - Information

Globalization over 5 centuries

Shown is the "trade openness index". This index is defined as the sum of world exports and imports, divided by world GDP. Each series corresponds to a different source.



Data source: Klasing and Milionis (2014) and other sources

OurWorldinData.org/trade-and-globalization | CC BY

NATIONAL ECONOMIC EDUCATION DELEGATION

Source: https://ourworldindata.org/international-trade

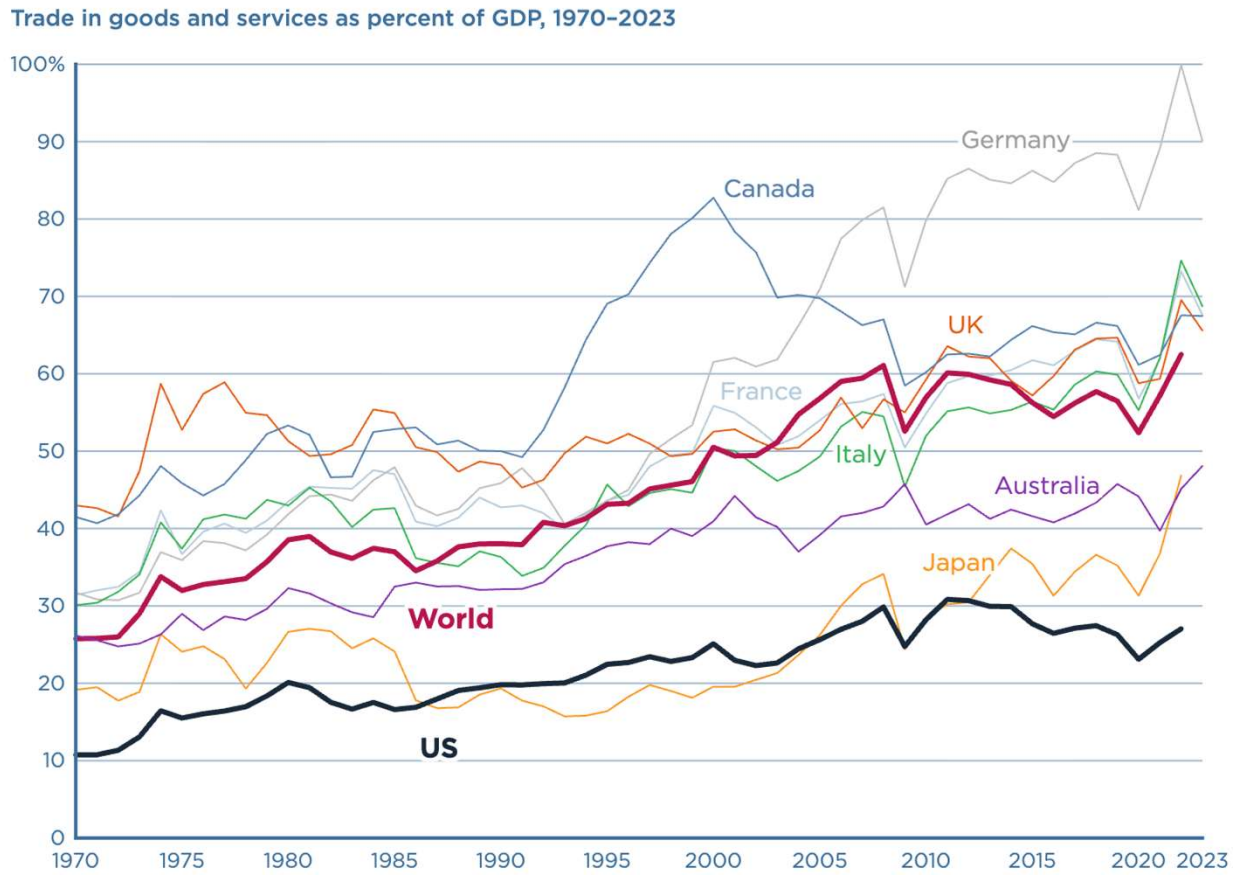
What Drives Globalization?

- Transportation
- Technology
- International Cooperation

International Trade

Exports and Imports

Trade Openness Across Countries



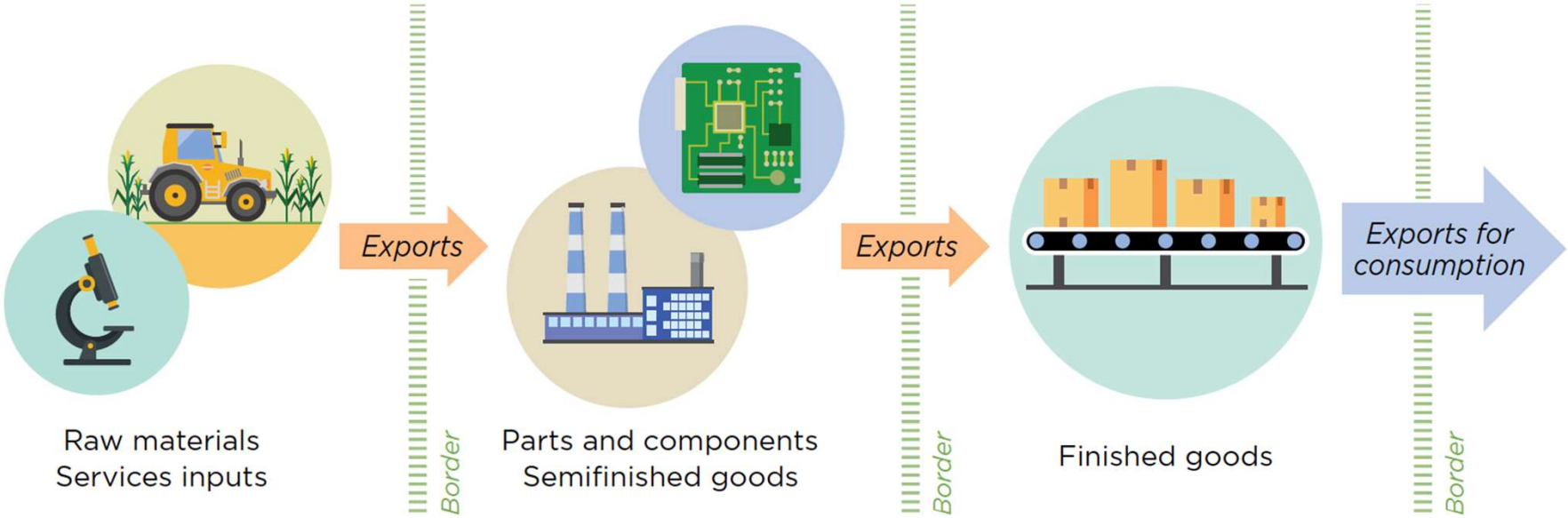
NATIONAL ECONOMIC EDUCATION DELEGATION

Source: https://www.piie.com/microsites/globalization/what-is-globalization

Global Value Chains (Offshoring)

What is Offshoring?

A global value chain breaks up the production process across countries. Firms specialize in a specific task and do not produce the whole product.



Source: World Development Report, 2020

Growth of Global Value Chains

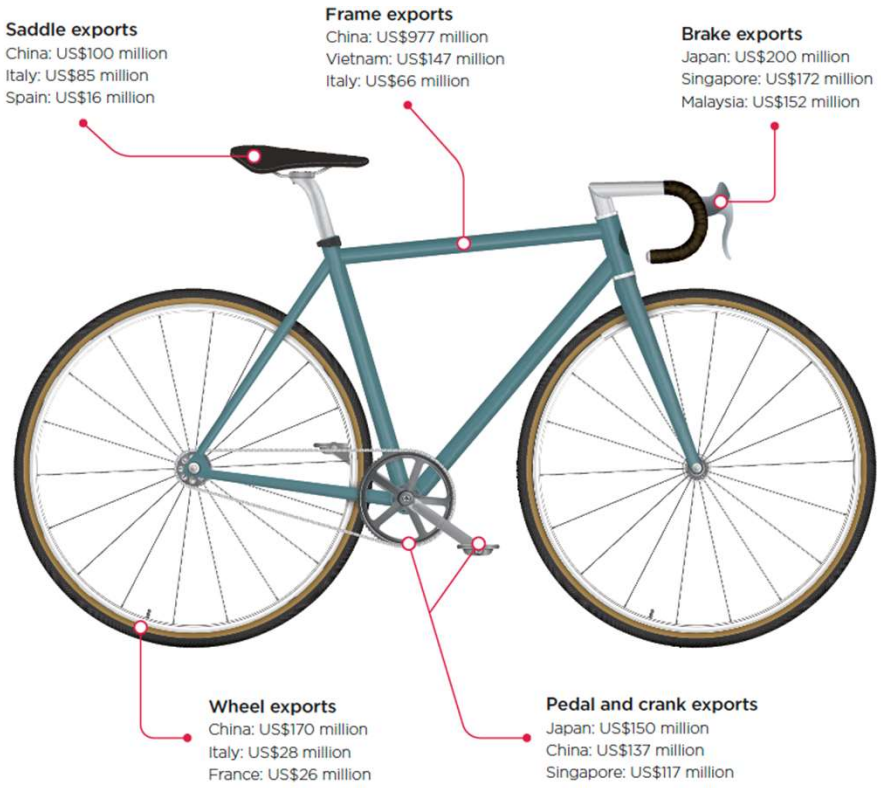
PIIE

Source: World Bank, World Development Report 2020: Trading for Development in the Age of Global Value Chains.

NATIONAL ECONOMIC EDUCATION DELEGATION

Source: https://www.piie.com/microsites/globalization/what-is-globalization

An Example: Bicycles

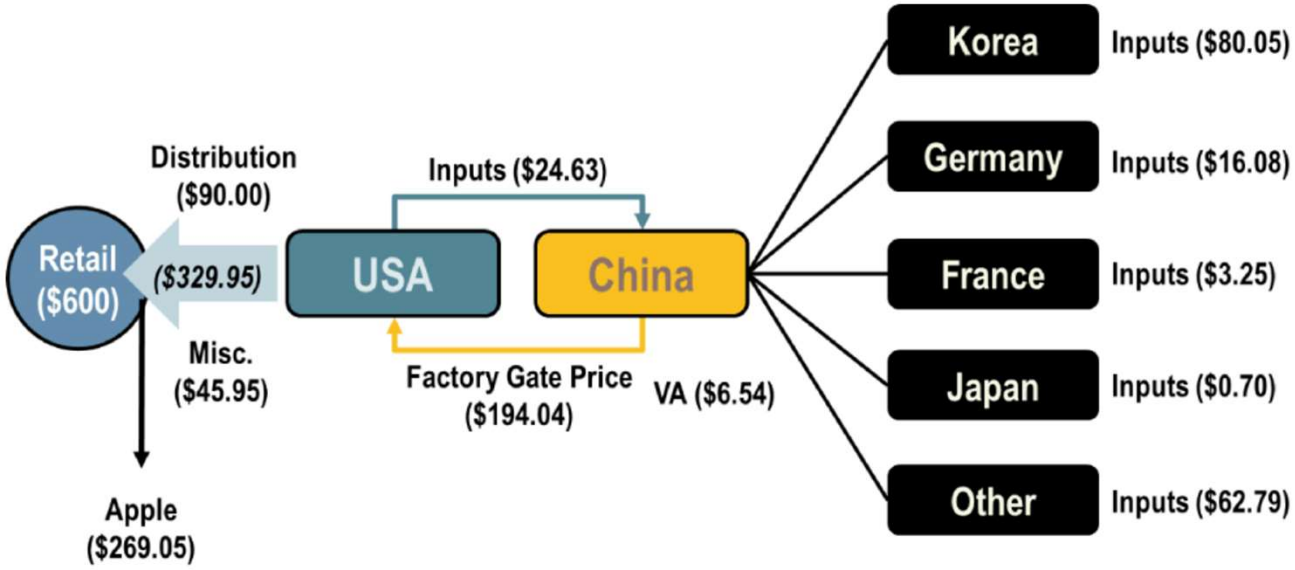


Source: WDR 2020 team, using data from UN Comtrade database. See appendix A for a description of the databases used in this Report.

- **Parts and components from suppliers all over the world:**
  - China
  - Japan
  - Italy, France, Spain
  - Malaysia
  - …

Source: World Development Report, 2020

An Example: The iPhone 4



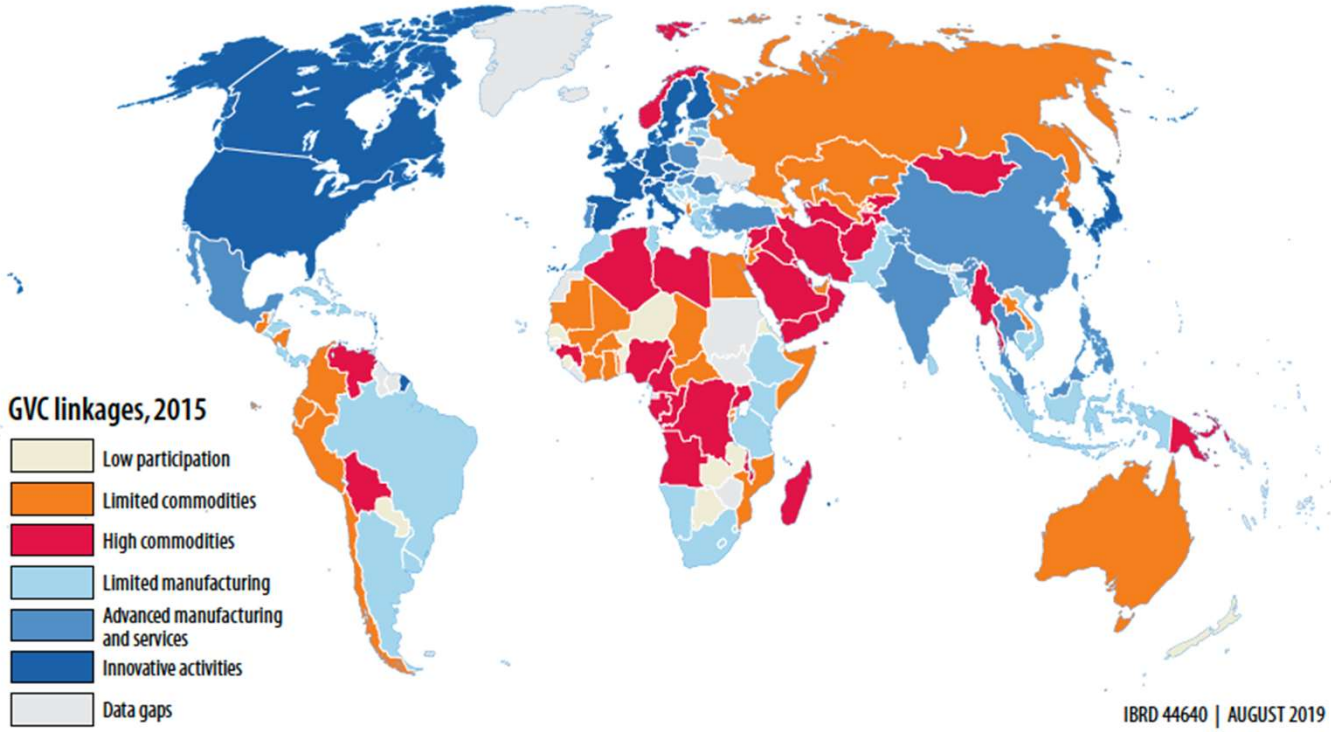
Value Creation and Capture, iPhone 4

Source: adapted from OECD (2011) "Global Value Chains: Preliminary Evidence and Policy Issues", Organization for Economic Co-operation and Development, DSTI/IND(2011)3, Paris, 2011.

Source: The Geography of Transport Systems, 5th edition by Jean-Paul Rodrigue

How Much Offshoring Has Happened?

Map 1.1 All countries participate in GVCs—but not in the same way



Source: WDR 2020 team, based on the GVC taxonomy for 2015 (see box 1.3).

Source: World Development Report, 2020

What are the Gains From Trade?

- **Mutually Beneficial Trade through Comparative Advantage:**
  - Scarce resources: can't produce unlimited amounts of goods
  - Produce and export goods where production advantage largest (or disadvantage weakest)
  - All countries can consume more and thus gains from trade.
- **Other Sources of Gains from Trade:**
  - Scaled up businesses
  - Lower prices through increased competition
  - Wider set of product varieties available and better quality
  - Efficient supply chains
  - Learning about foreign technology, business practices, etc.
  - Innovation

Why is the public turning against trade?

- **Gains from trade are very large for the economy, BUT**
  - Not always noticeable by consumers. Why are prices lower at WalMart?
  - Not always that large per consumer: consumers might save $50/year on some imported goods
  - For 300 million consumers, $50/year would be $15 billion per year savings to the country!
- **Costs of trade are very high for some workers, regions, and groups, and these costs have not been sufficiently appreciated or addressed by policymakers (or economists!)**

Costs of Trade

- **Economic:**
  - When trade expands (or contracts)
    - Some firms lose market share or shut down
    - Other firms supplying inputs to those firms shrink or shut down
    - Workers in both lose jobs
    - And their **communities** lose customers
  - Macroeconomic cost: Vulnerability to foreign recession/inflation
  - Dependence on other countries' willingness to trade
  - Vulnerability to trade disruption
    - Crisis induced (earthquake, flood, disease, war)
    - Policy induced (sanctions, tariffs, export bans)
- **Non-economic**
  - Loss of cultural differences
  - Spread of invasive species and plant disease
  - Spread of human disease

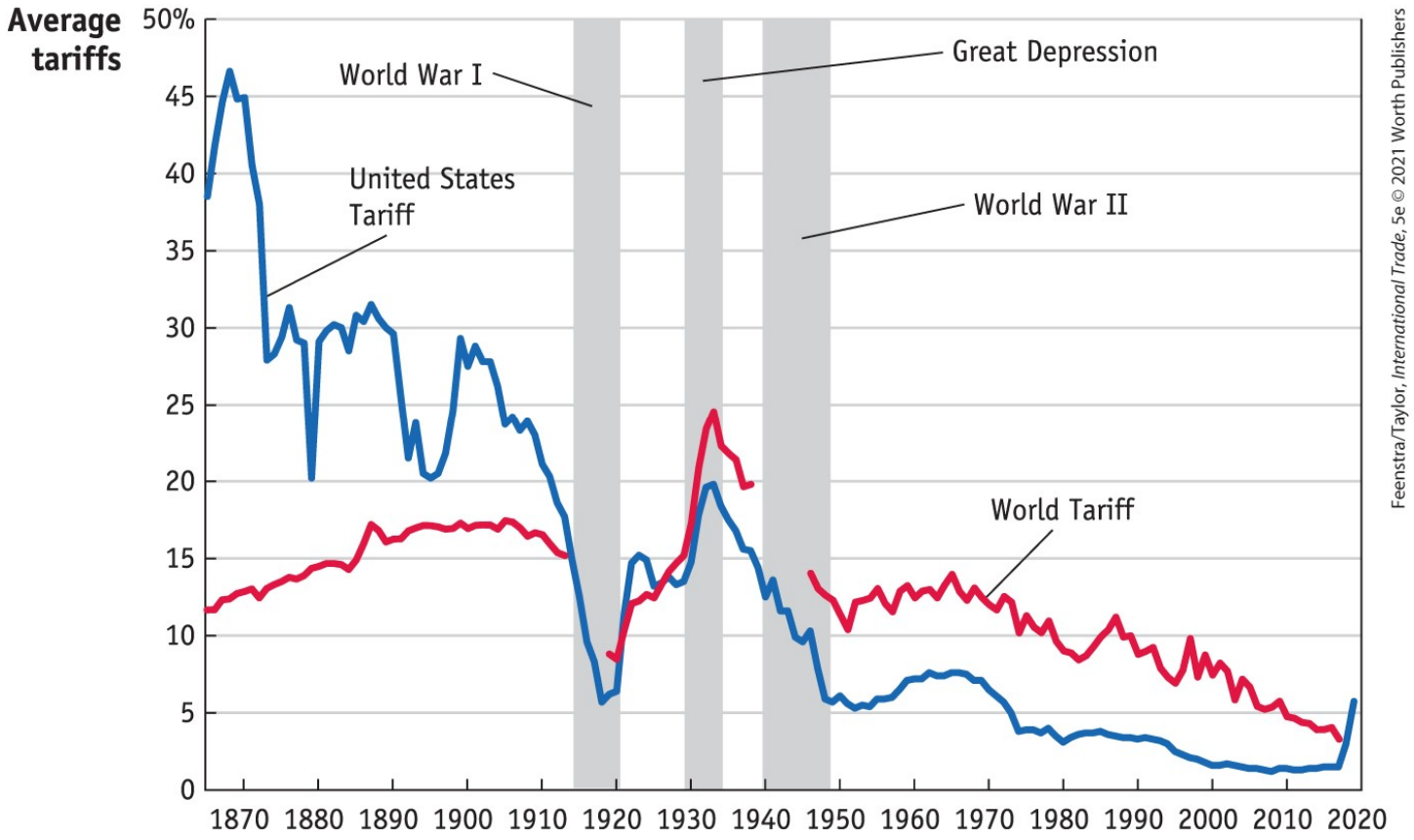
Trade Policy

Trade Policies that Affect Globalization

- **Policies that Encourage It**
  - Tariff Reductions
  - Trade Agreements
  - Other
- **Policies that Discourage It**
  - Tariffs
  - Trade War

Tariff Reductions

Tariffs, 1860-2019



Source: International Economics, 5e | Feenstra/Taylor, Worth Publishers

The Role of Trade Agreements

- **Promote trade by**
  - Reducing tariffs
  - Blocking policies that discriminate against imports
- **They also do more, mostly to serve business interests:**
  - Permit anti-dumping duties to deter unfair competition
  - Protect intellectual property
  - Allow investor action against governments
- **Trade Agreements:**
  - EU, USMCA, Mercosur, AfCFTA, CPTPP, RCEP
- **There trade agreements have proliferated:**
  - The number of regional trade deals has grown dramatically, from only a few dozens in 1990 to hundreds in force today.

Institutions that Encourage Globalization

- **IMF/World Bank**
  - Policy advice to open markets (the ”Washington Consensus”)
  - Loans to countries conditional on
    - Reducing trade barriers
    - Permitting capital flows
- **GATT/WTO (World Trade Organization)**
  - Negotiate reciprocal trade liberalization
  - Settlement of trade disputes (usually about interfering with trade)
- **Bilateral Investment Treaties**
  - Better treatment of multinational corporations

- **Multilateral Trade Agreement**
  - 166 member countries
  - Headquarters: Geneva, Switzerland
- **First established in 1947 as G.A.T.T. (23 member countries)**
- **Last completed round of negotiations: Uruguay Round in 1994.**
- **Recently WTO is at ”crossroads”:**
  - Dispute settlement paralysis
  - Rulebook is outdated for 21st century trade
  - Geopolitical tensions
  - The erosion of US leadership
  - The rise of regionalism

Tariff Effects

Economic Effects of a Tariff on Prices

- **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.

Effects of a Tariff on the Economy

- **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

Effects of a Tariff on the Economy

- **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

Effects of a Tariff

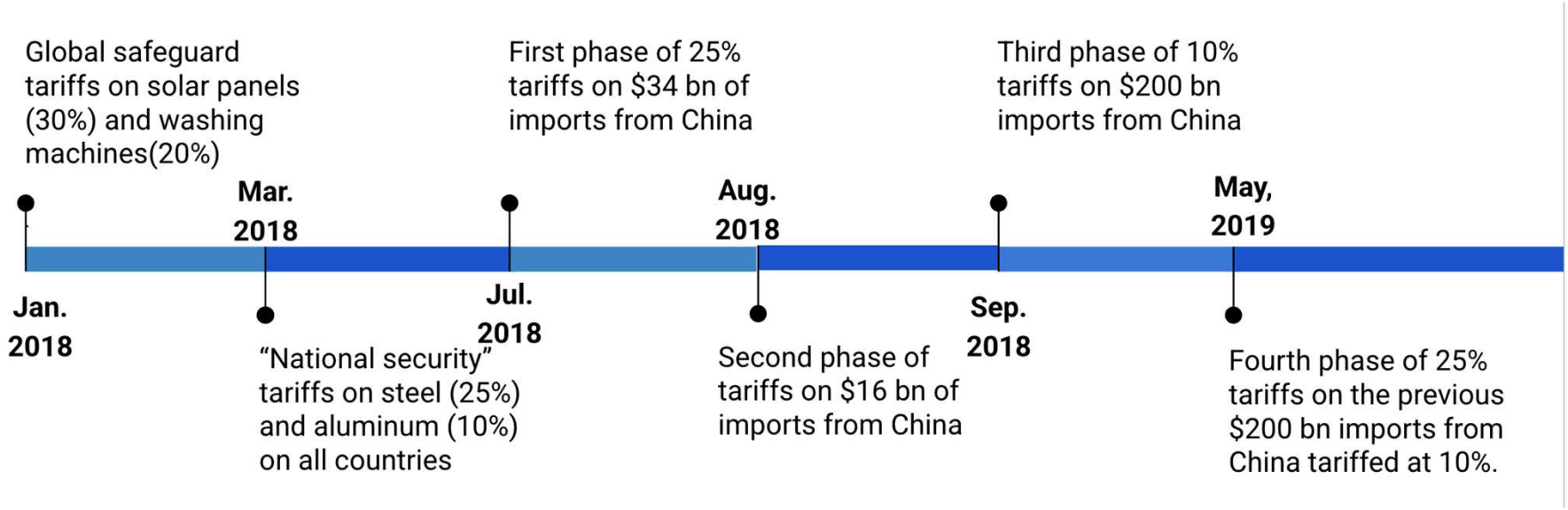
- **If a tariff is on exports of only one country (e.g., China), then**
  - Some imports shift to another country
  - Price rises by less, to that other country's higher cost
- **Retaliation**
  - Other countries place tariffs on US exports
  - Trade war that started in 2018 continues and gets worse
- **Politics of tariffs**
  - Political forces favor tariffs
  - Tariffs were reduced during 1934-1995 only by slow reciprocal negotiation among countries

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

Trump I Tariffs and the Trade War

Trump I Tariffs & Trade War



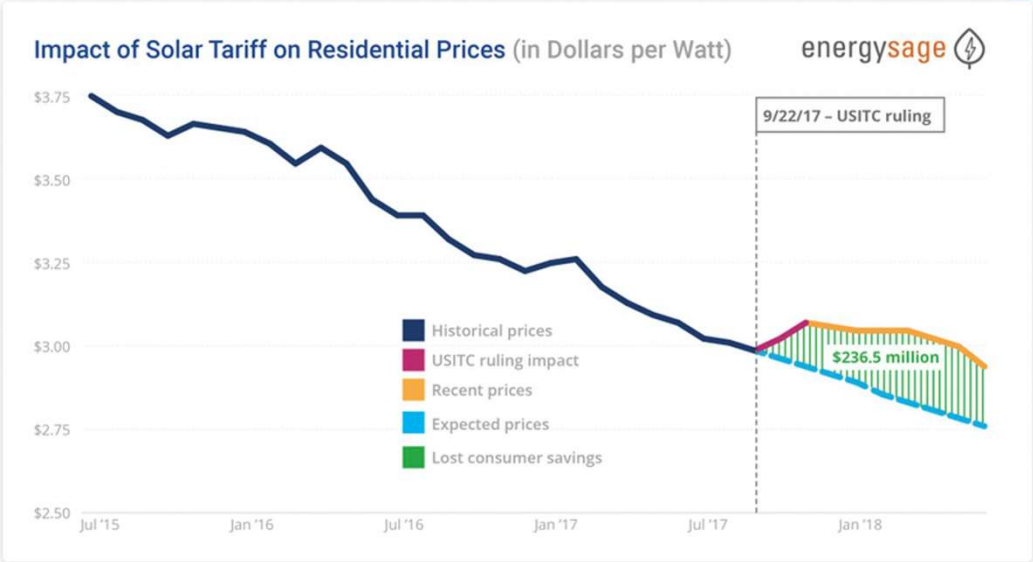
Tariffs on Washing Machines

- 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

Source: Flaaen, Hortacsu and Tinterlnot (2020) “The Production Relocation and Price Effects of US Trade Policy: The Case of Washing Machines”, American Economic Review, 110(7)

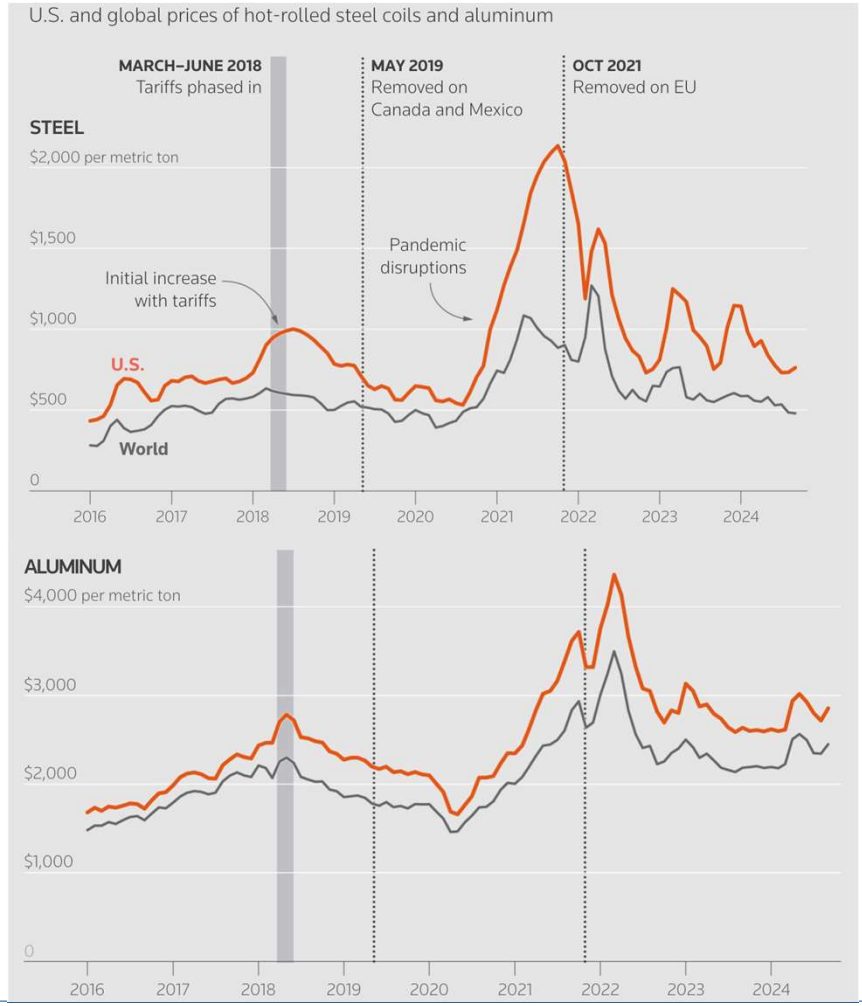
Tariffs on Solar Panels

- 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



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.



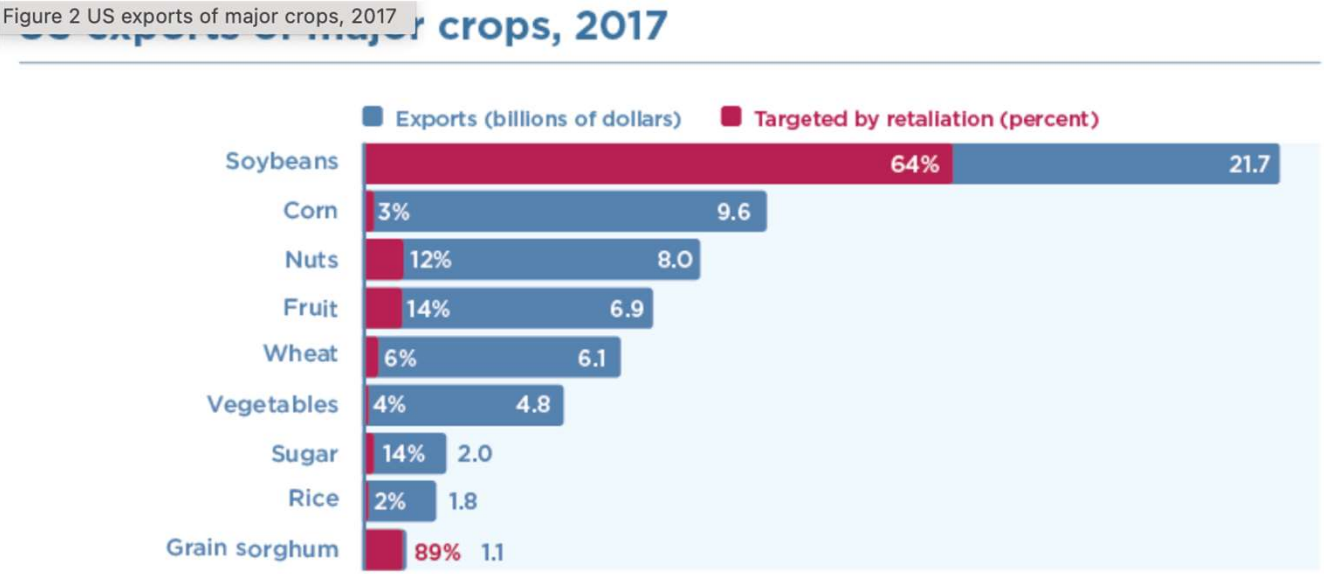
Tariffs on Metals - Retaliation

- 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	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

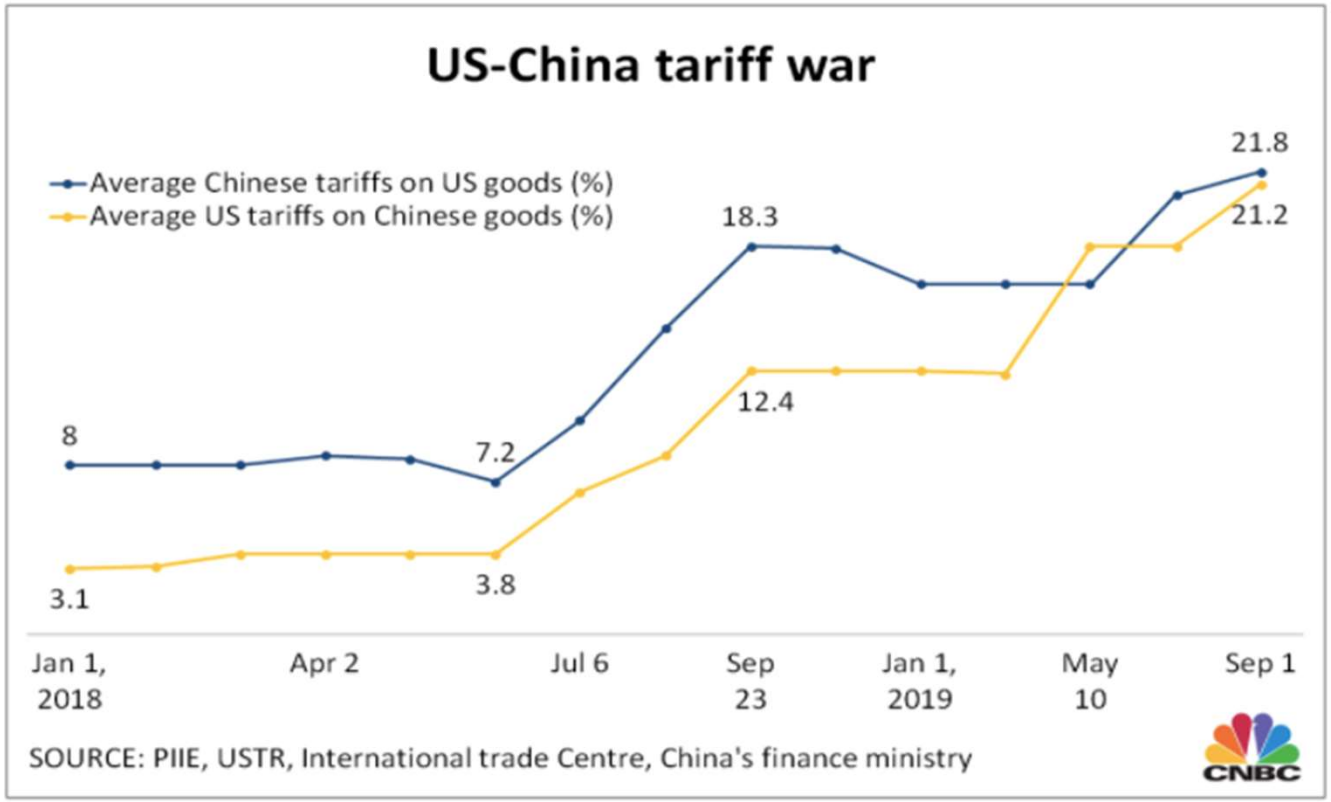
Subsidies to American Farmers

Figure 2 US exports of major crops, 2017



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

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.

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)

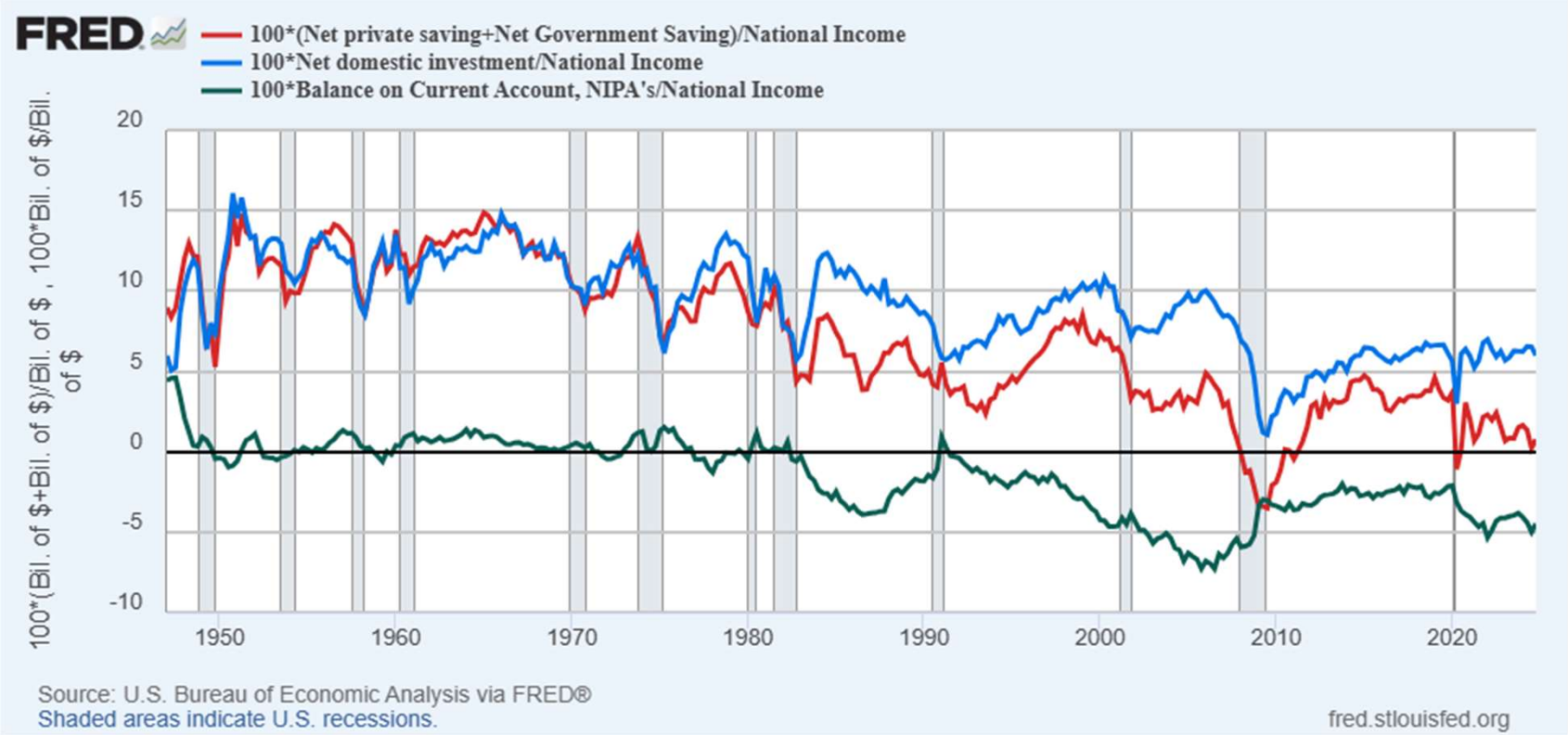
- A 2024 study found that the **tariffs failed to provide economic help to the heartland**:
  - import tariffs had " neither a sizable nor a significant effect on US employment in regions with newly-protected sectors" and foreign retaliation "by contrast had clear negative employment impacts, particularly agriculture."

US Trade Balance with China and the World

Deficit

Source:
FT 1/4/25

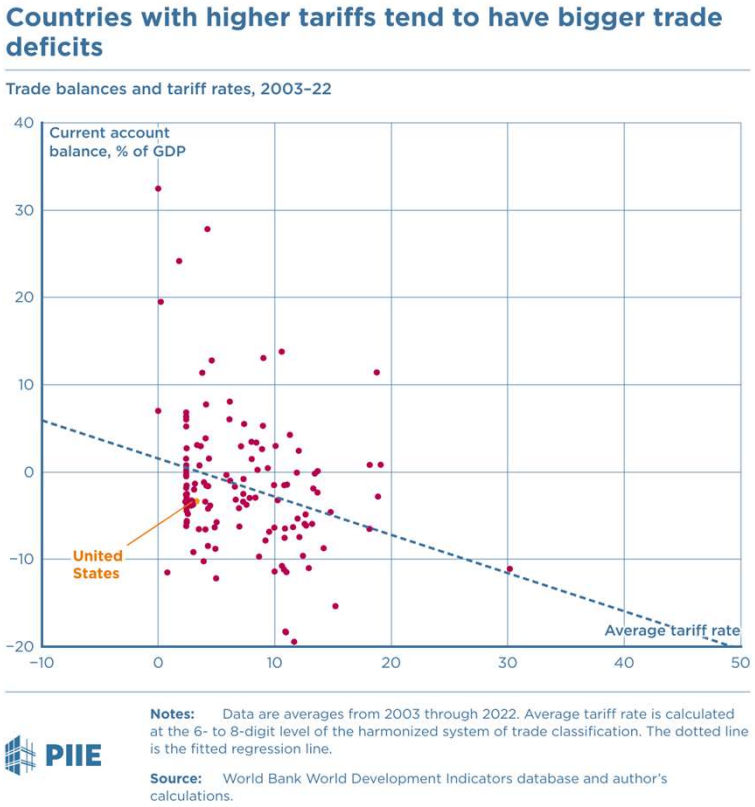
History of Saving, Investment and Trade Balance



Persistent Trade Deficits Start in the 1980s

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!



Source: Peterson Institute for International Economics (PIIE)

Trump I Tariffs & Trade War

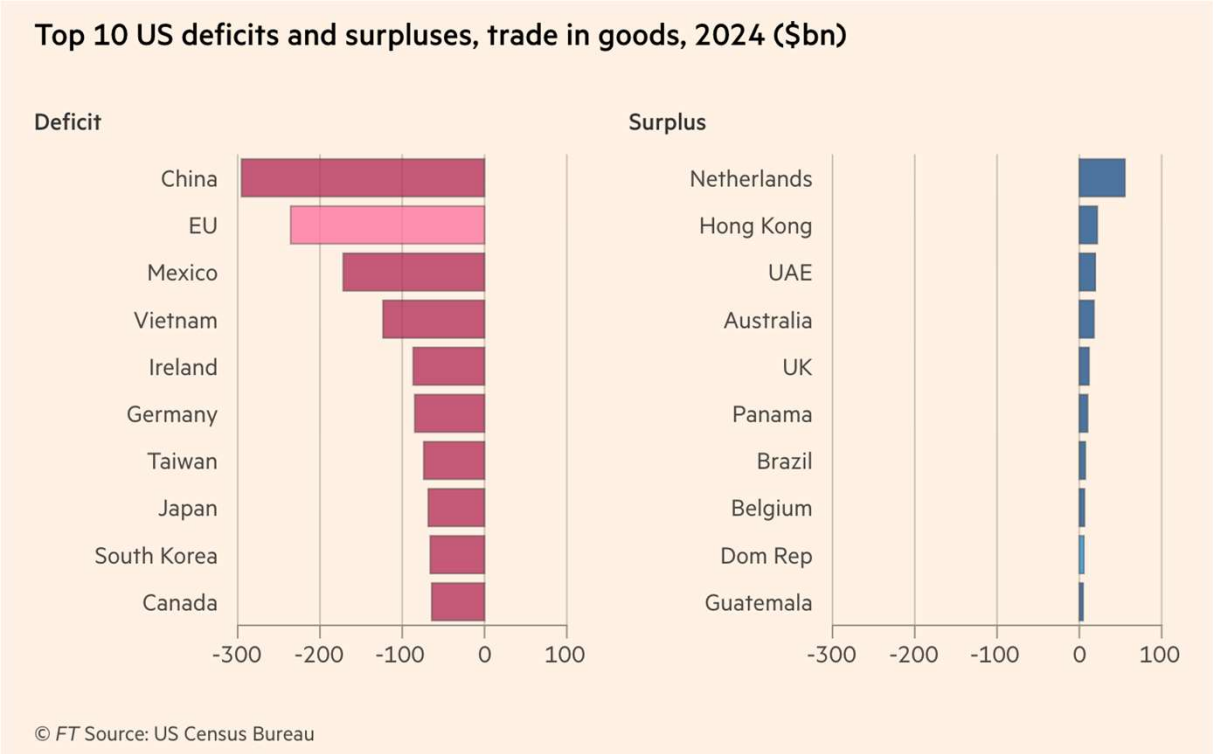
- **Summary**
  - Trump placed tariffs of 25% on steel and 10% on aluminum
  - Trump placed multiple tariffs on China exports, covering at least ¾ of their exports to US
  - On request, he exempted some products and firms
  - Imports from China fell while imports from others rose
  - US trade deficit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

Trump II Tariffs

Trump II Tariff Actions and Plans

- "To me the most beautiful word in the dictionary is 'tariff'"

Reciprocal Trade and Tariffs



- Trade deals with China, Vietnam, EU, South Korea, ,Japan

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%

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

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

Example, Switzerland

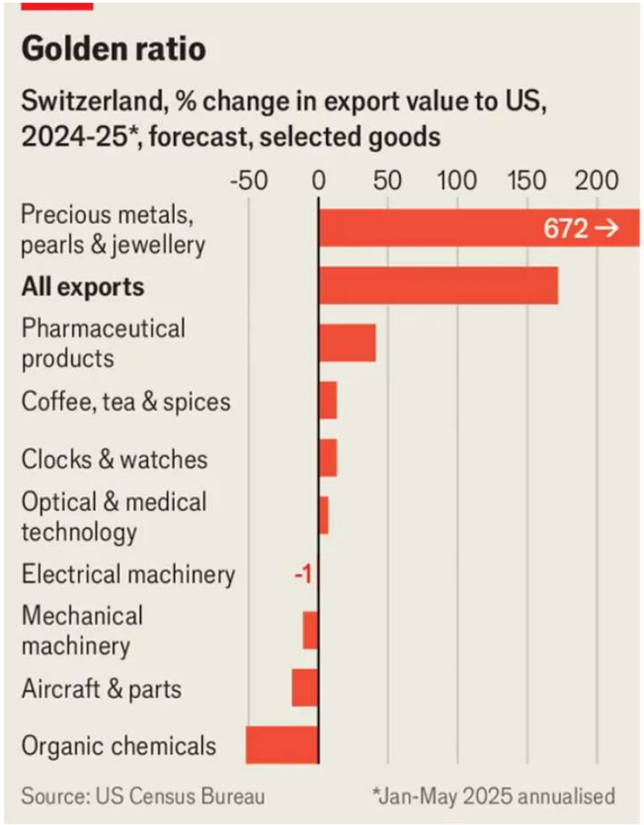


CHART: THE ECONOMIST

- **39% on all products except for gold and pharmaceuticals**

Facts:

Trade balance with the US in 2024: $48bn

Trade surplus increased to $54bn in 2025

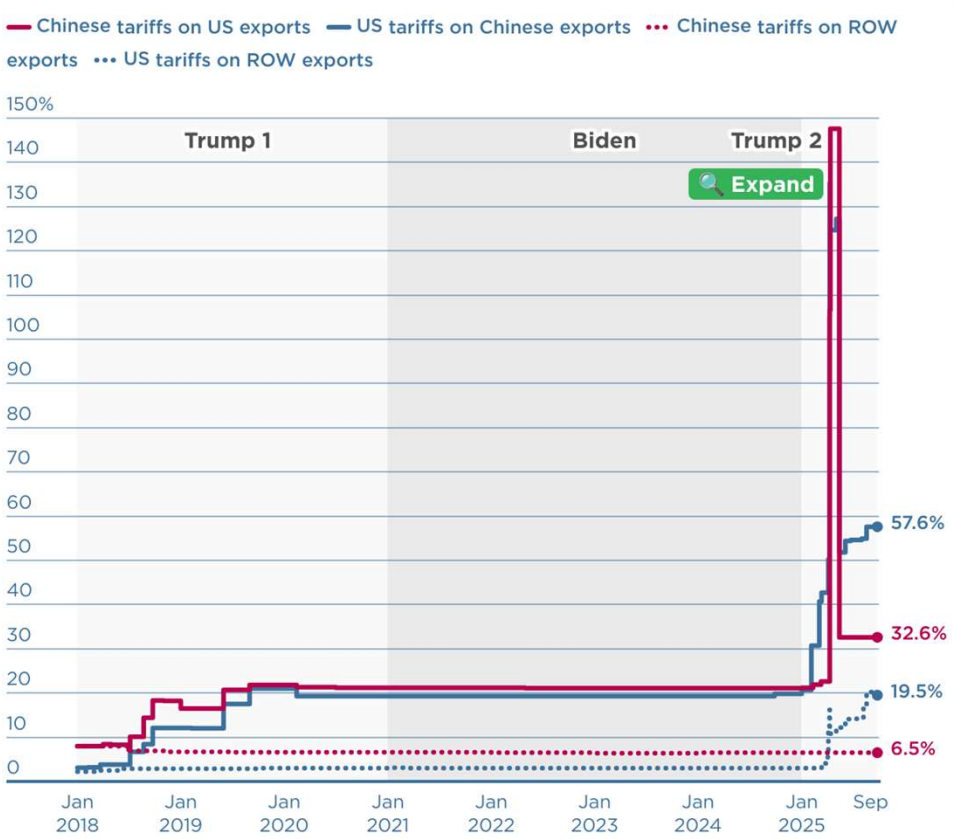
Zero tariffs on all industrial goods

Source: ”A tariff avalanche catches Switzerland unawares”, The Economist, Aug, 2025

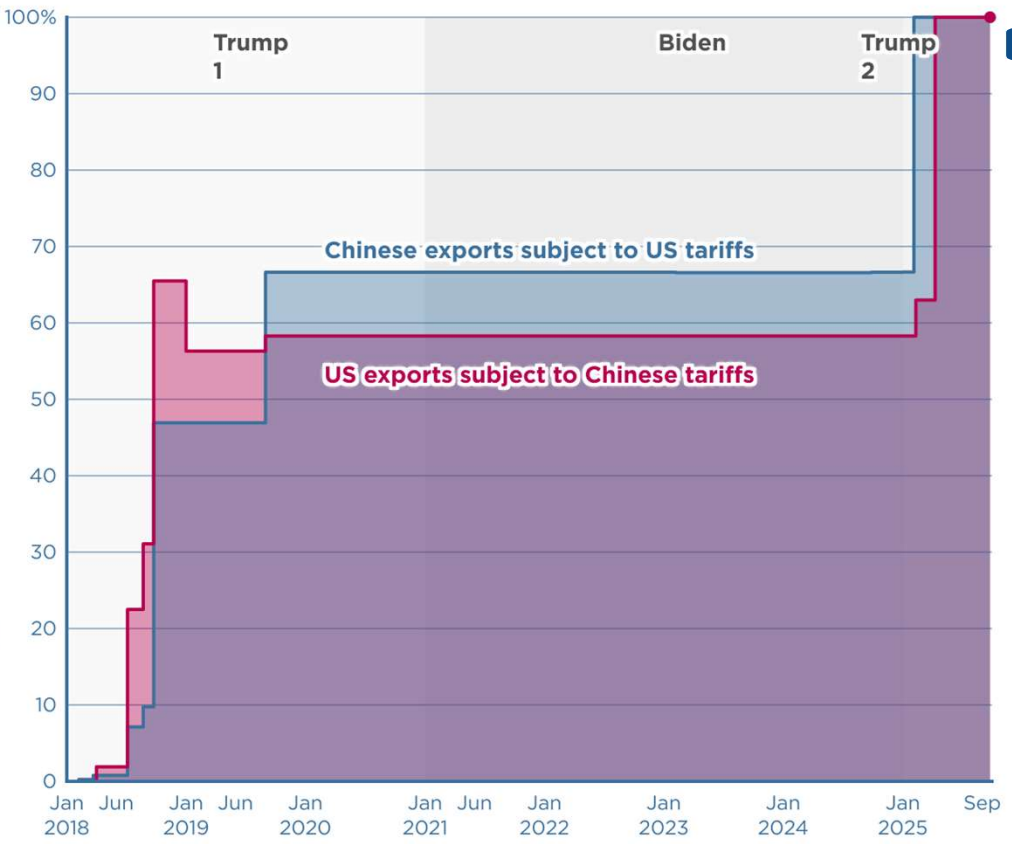
US-China trade war tariffs: An up-to-date chart

Last updated September 25, 2025

a. US-China tariff rates toward each other and rest of world (ROW)

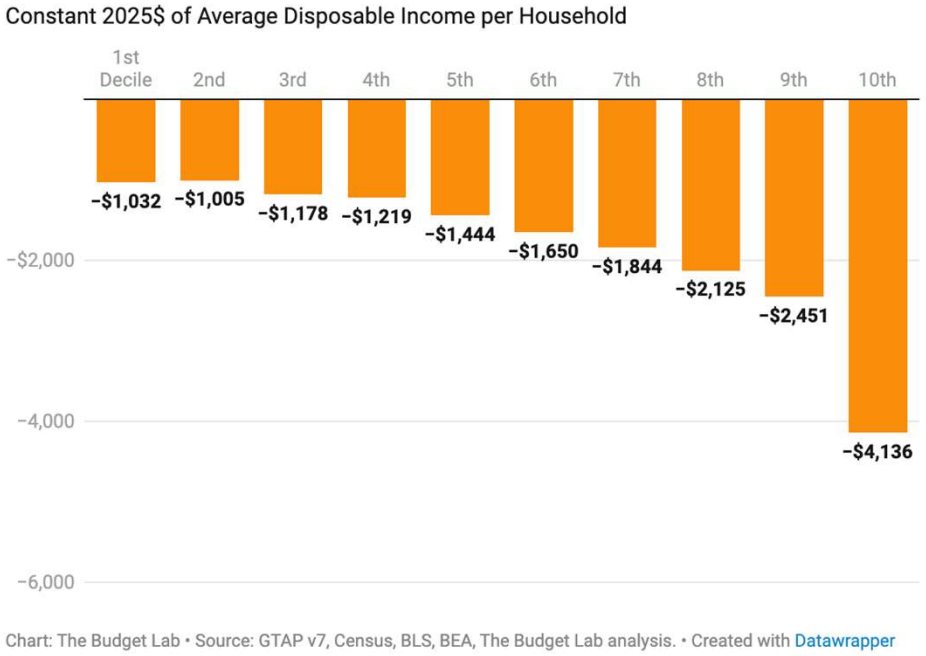


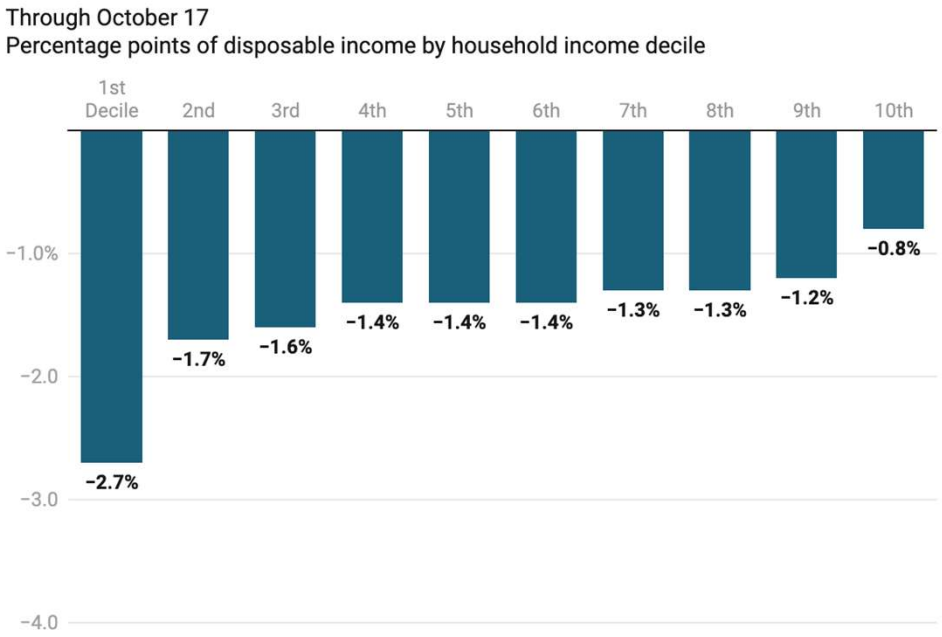
b. Percent of US-China trade subject to trade war tariffs



Source: Peterson Institute for International Economics (PIIE)

Effects of Tariffs on Households



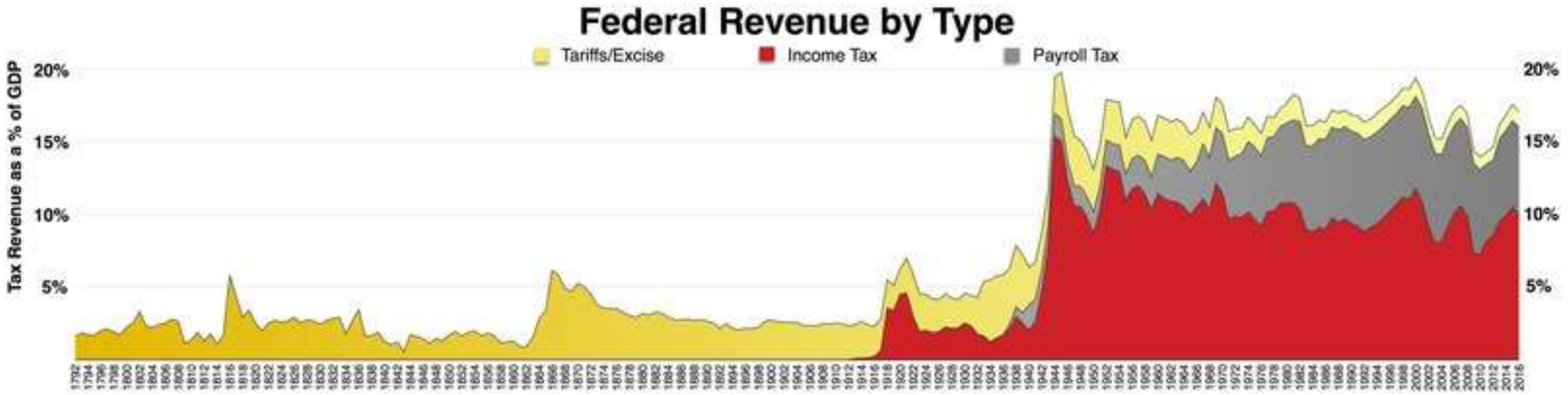


Source: Yale Budget Lab

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 about $2.7tr 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.

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

Summary

- Trade and growth are positively related.
- Gains from trade are large but spread thin across millions of consumers while losses are highly concentrated on a few workers, firms, and communities.
- Tariffs reduce trade overall, thus imposing widespread losses to both producers (who use imported inputs) and consumers (who buy lower-priced imported goods).
- More direct policies to help those hurt by trade can be more efficient and save gains from trade.

The Future of Globalization?

- **Geopolitics overrides Economics:**
  - Countries prioritize national security and strategic competition over free trade
  - The rules-based system of the World Trade Organization is being challenged.
- **The Rise of Regional Trade Blocs:**
  - We'll see trade expansion within regional blocs (e.g. North America, Europe, Southeast Asia) because of geopolitical tensions and a shift towards resilience of global supply chains.
- **New Technology Makes "Local" Possible:**
  - AI is revolutionizing manufacturing and design which will erode the old advantage of cheap labor making it possible to produce closer to the consumer.

Thank you!

Any Questions?

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