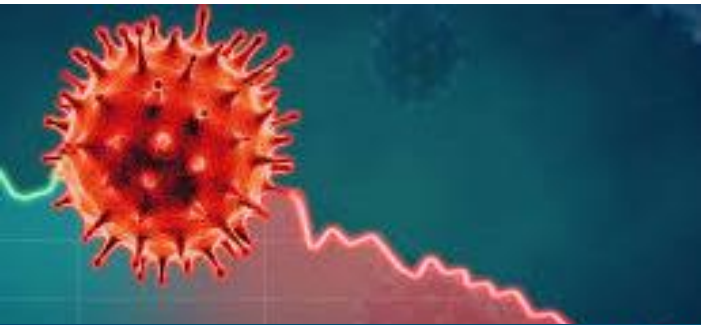


Reshoring Initiative

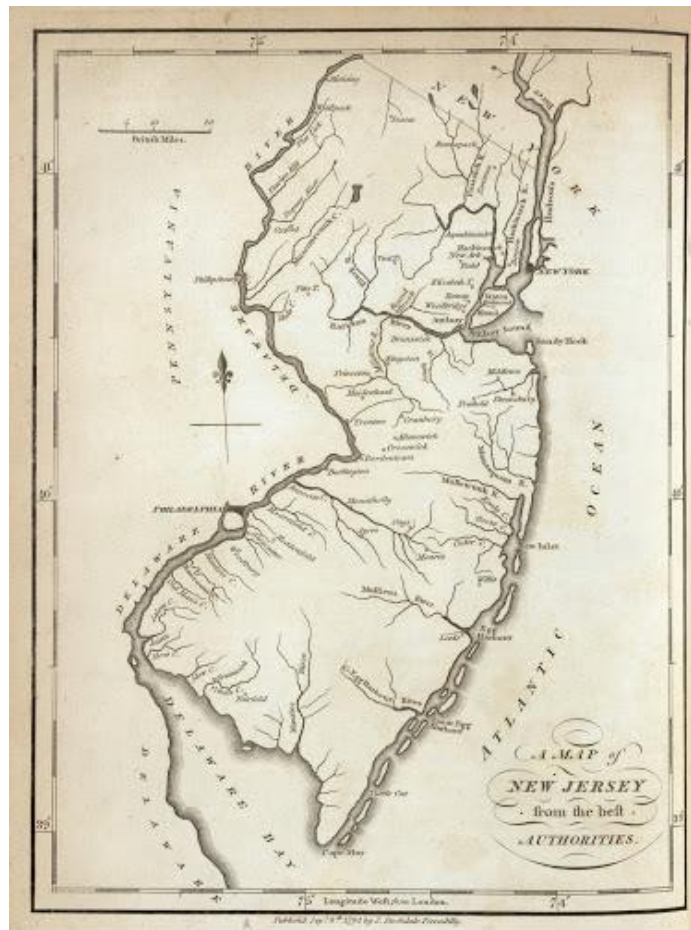
Bringing Manufacturing Back Home



Supply Chain Lessons from COVID-19

Gardner Business Media

Harry **Crane** Moser
Founder & President
Reshoring Initiative

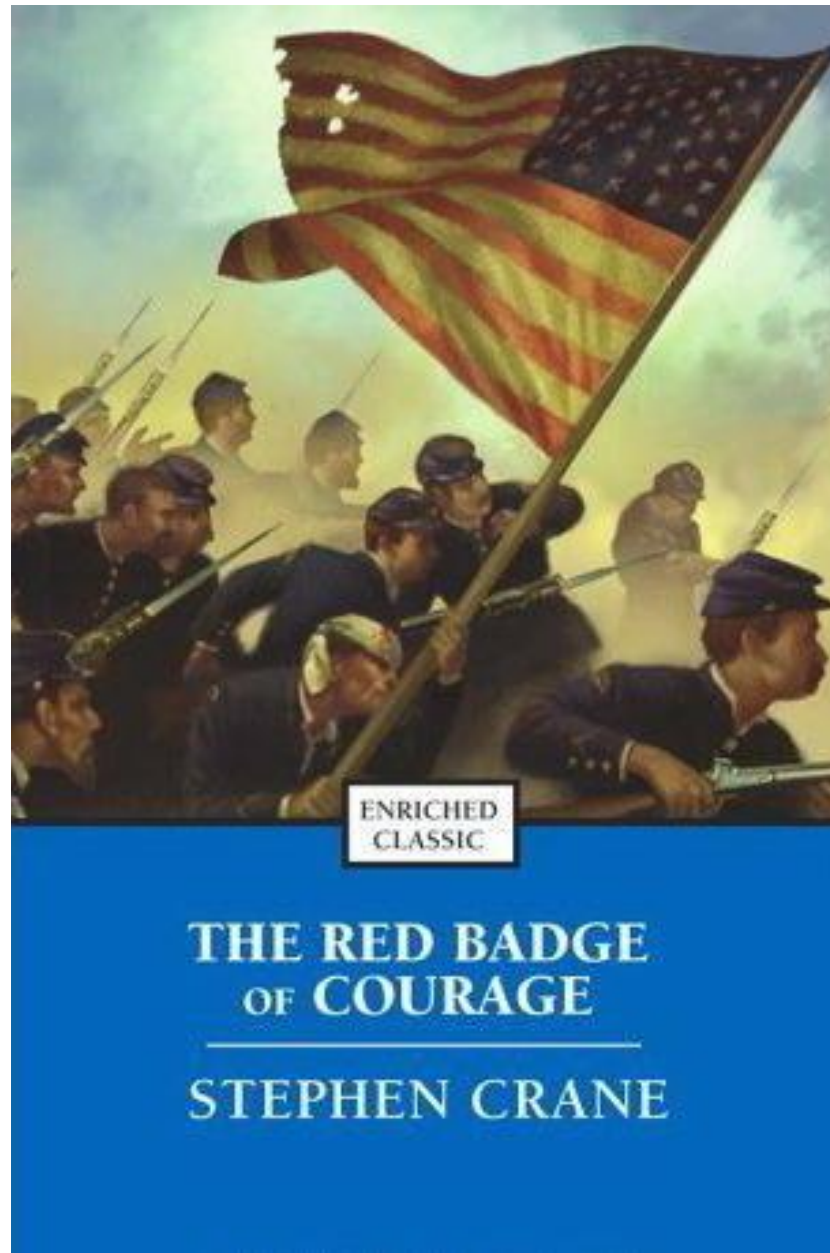


New Jersey 1794. Name. Publisher: J. Stockdale. Earmsey Collection. www.old-maps.com

The Crane House: 1670



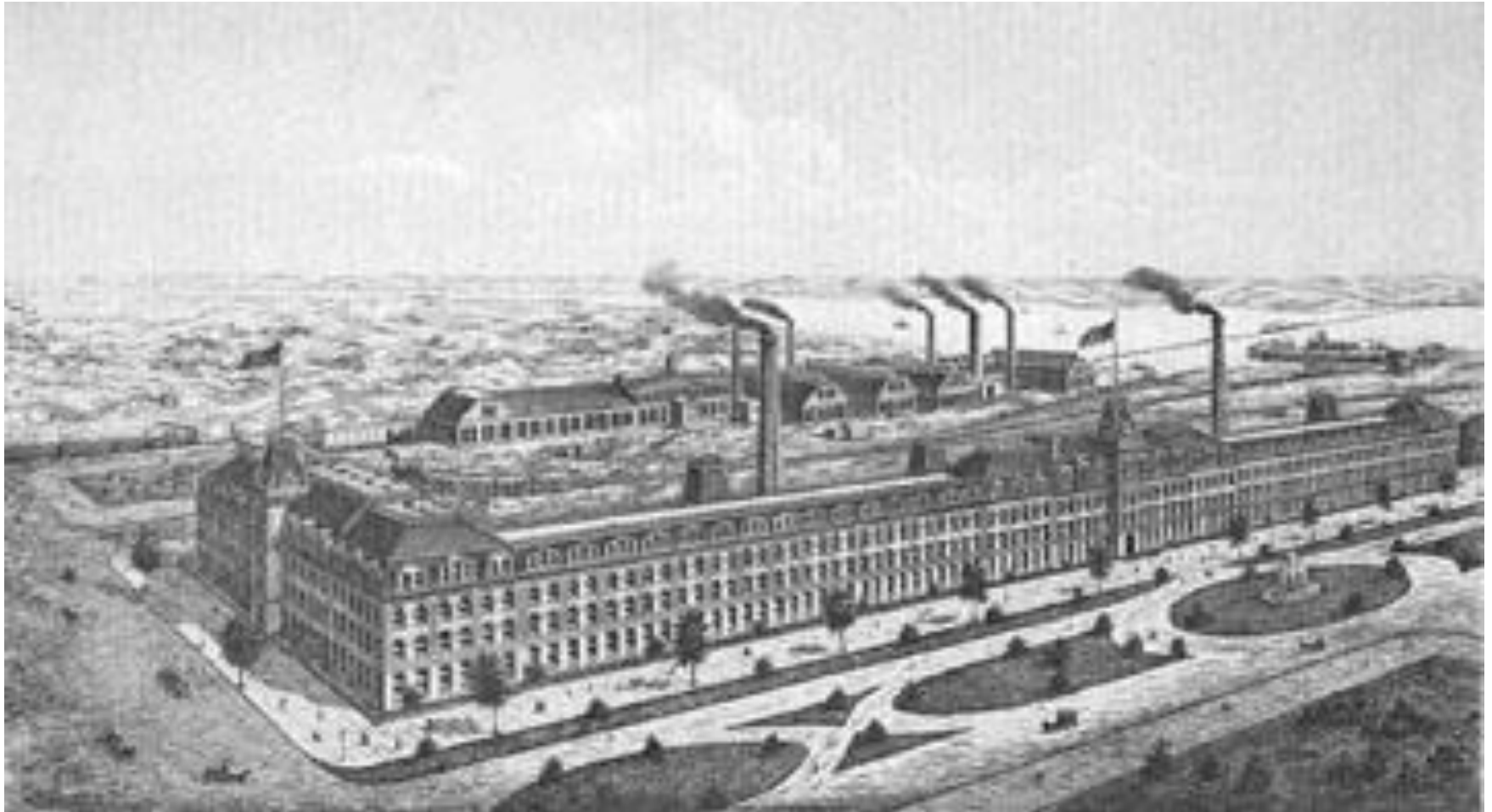
Stephen Crane



Grandpa Crane



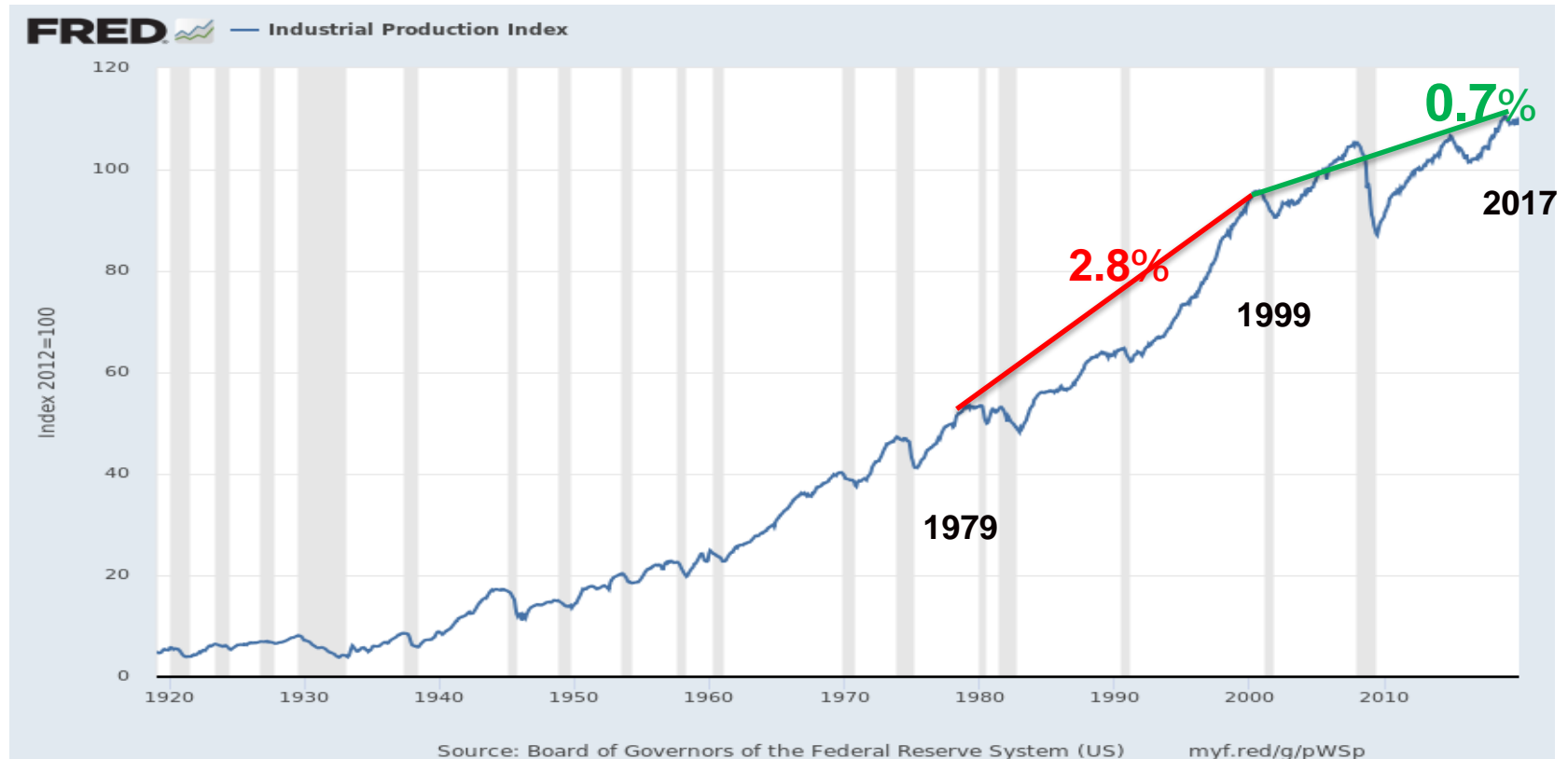
Singer Sewing Machine Co.



Ray Moser



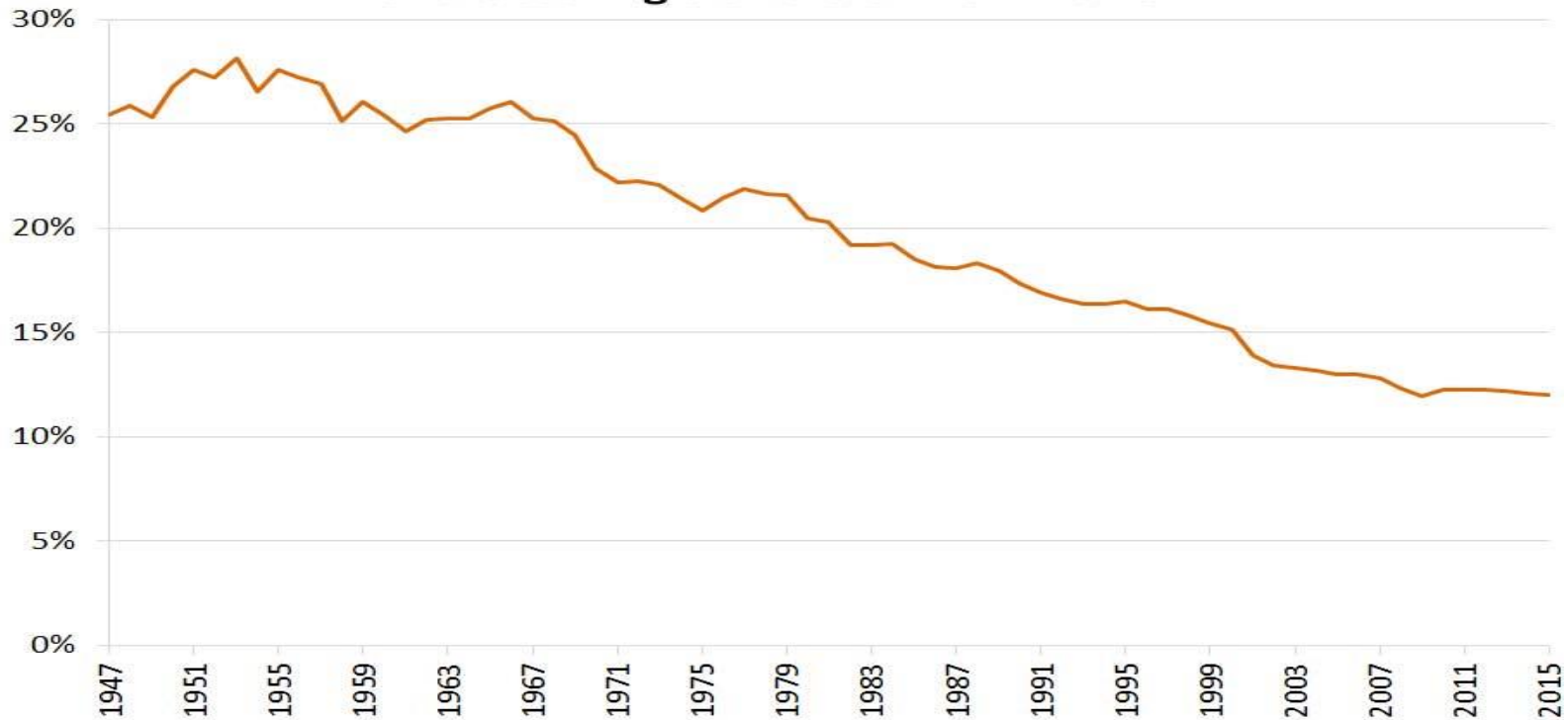
Manufacturing Output Plateauing



<https://fred.stlouisfed.org/series/INDPRO/>

Mfg. Share of GDP Down 50%

Manufacturing's Share of Nominal GDP

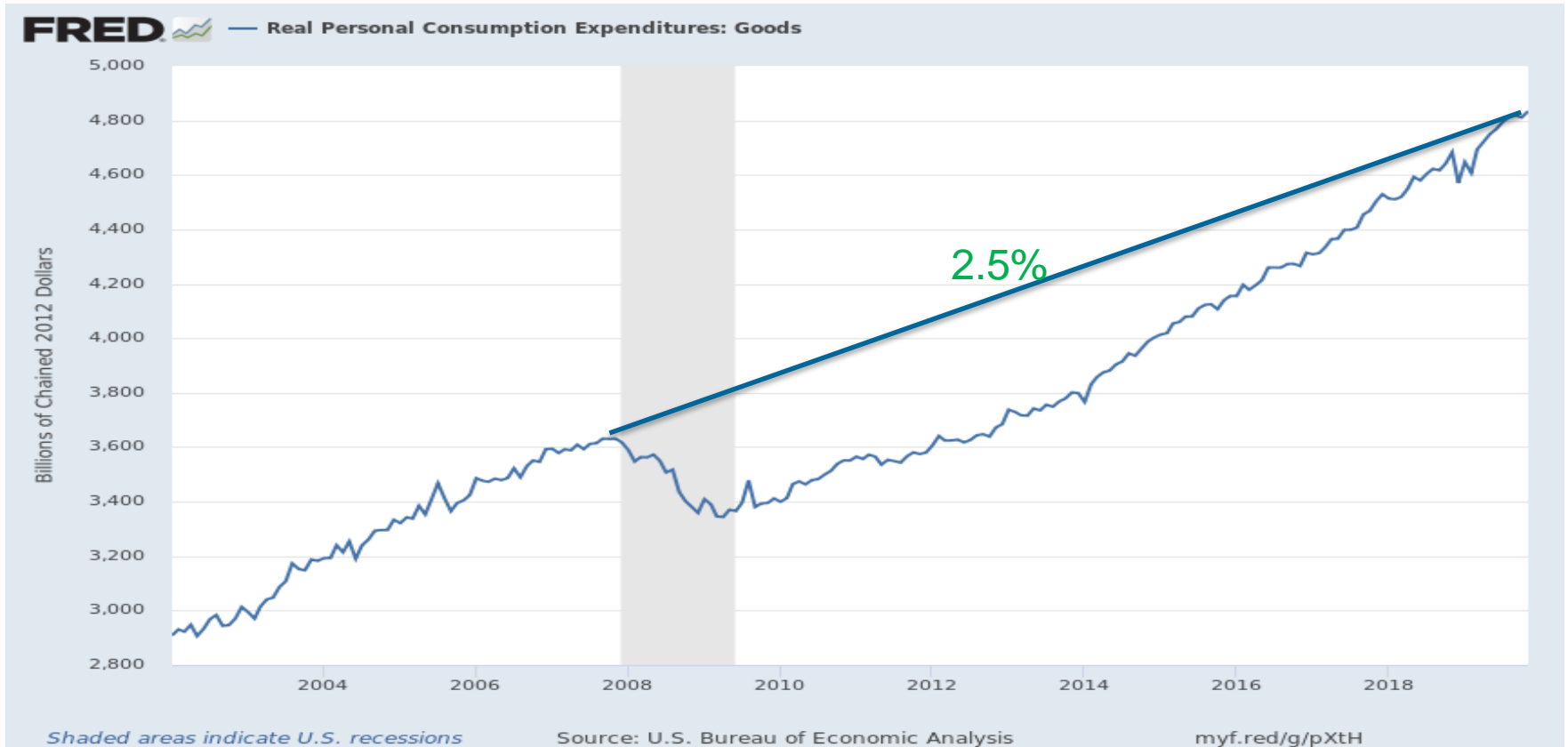


SOURCE: Bureau of Economic Analysis.

FEDERAL RESERVE BANK of ST. LOUIS

<https://www.stlouisfed.org/on-the-economy/2017/april/us-manufacturing-really-declining>

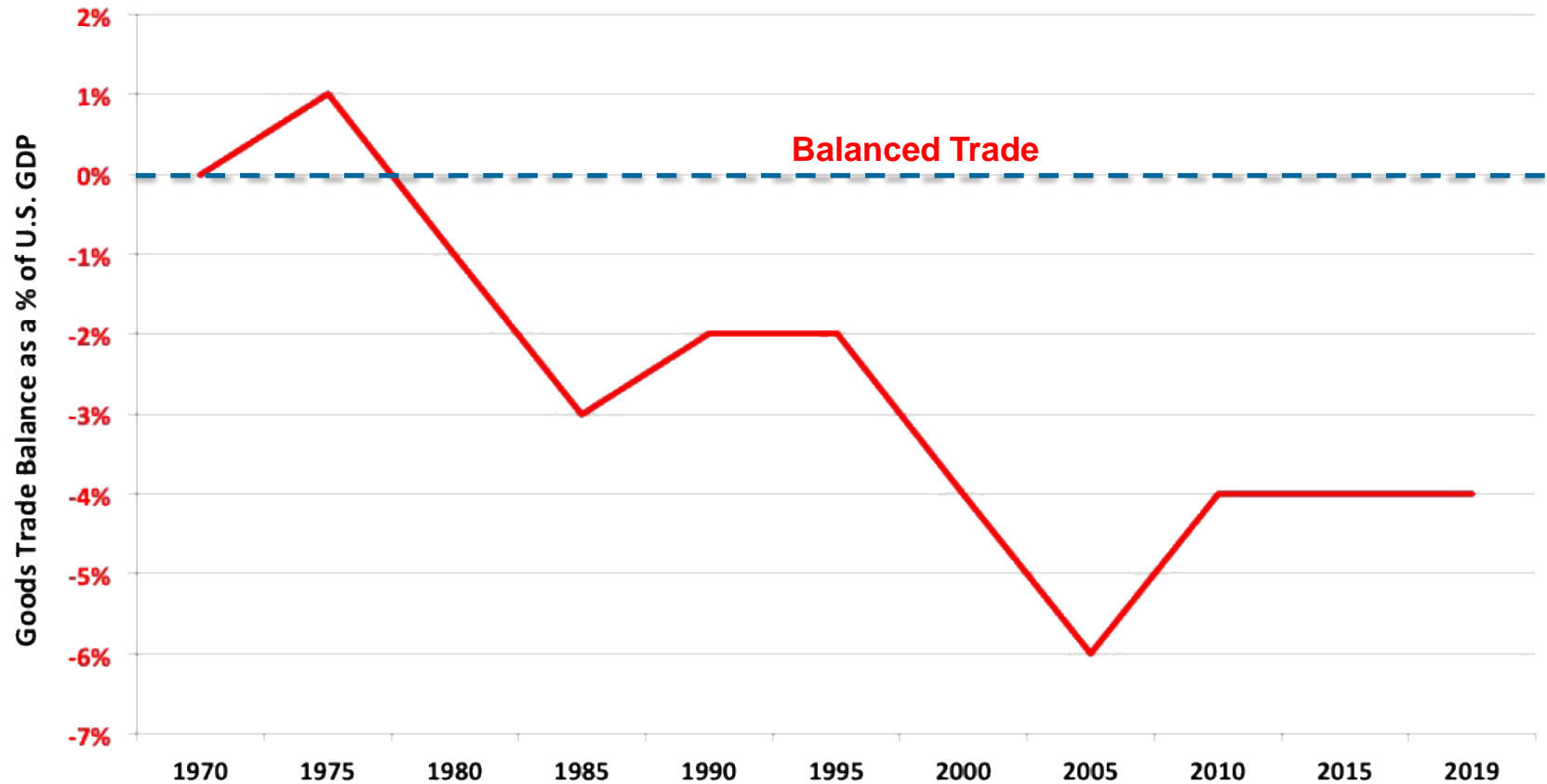
Personal Consumption of Goods



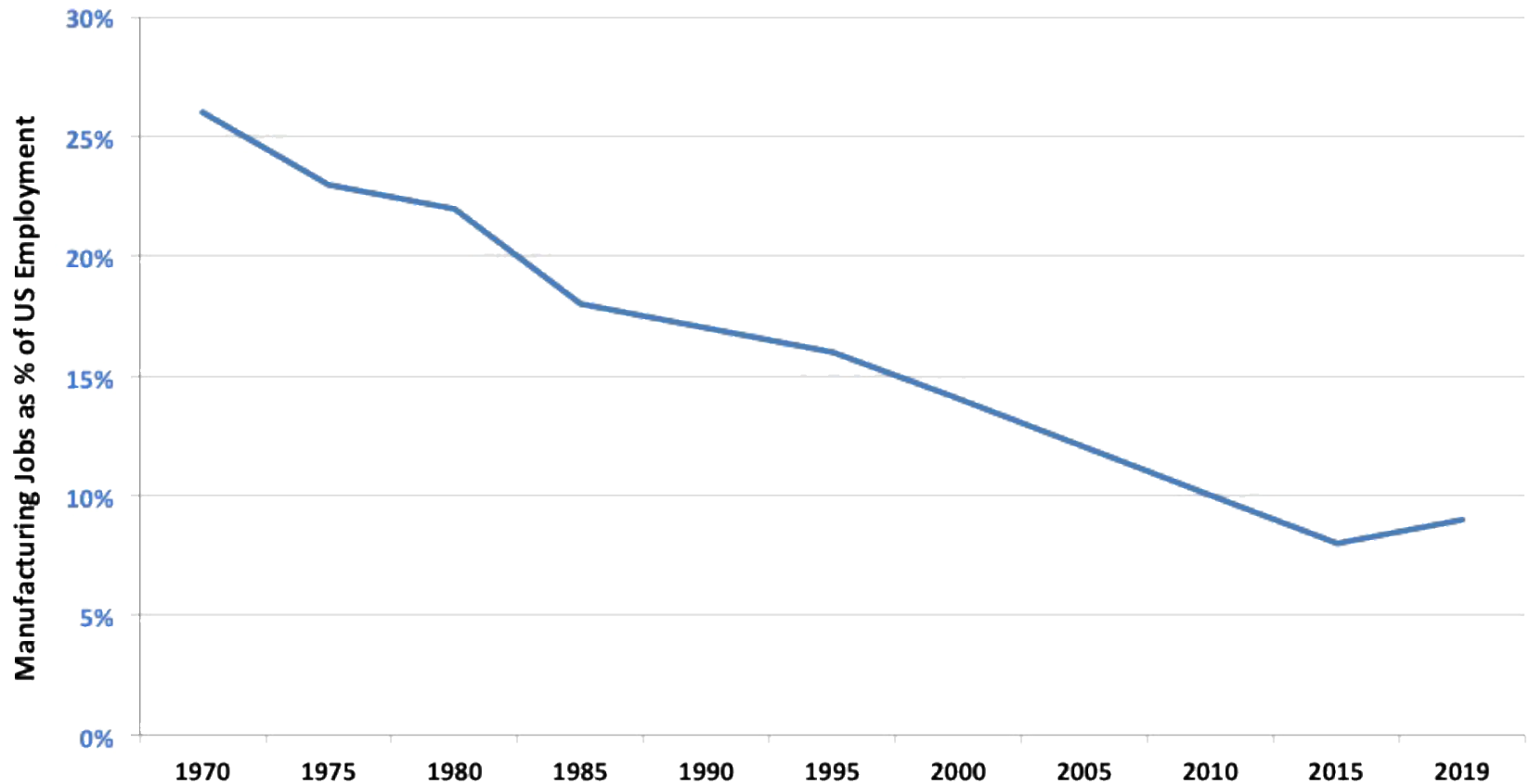
<https://fred.stlouisfed.org/series/DGDSRX1>

Trade Deficits since 1979

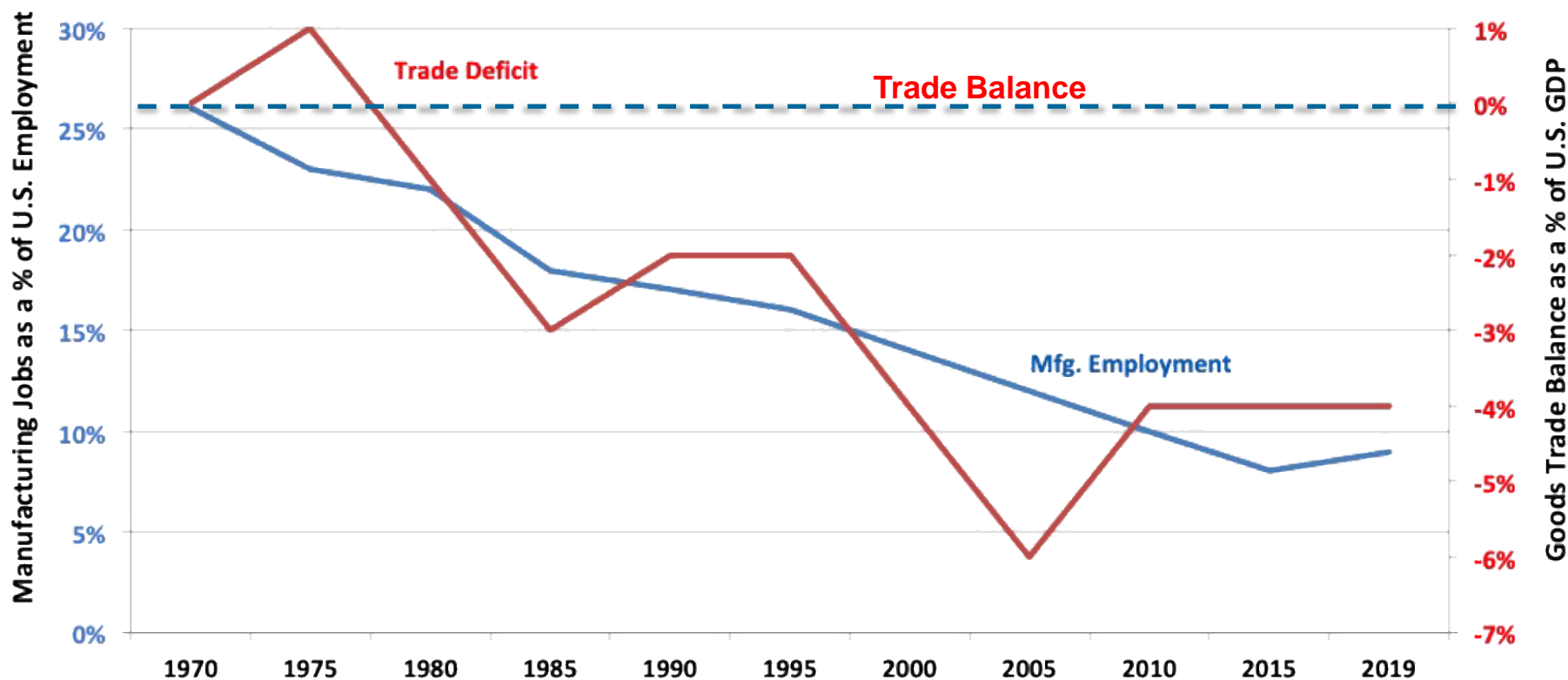
**Goods Trade Balance as a % of U.S. GDP
1970-2019**



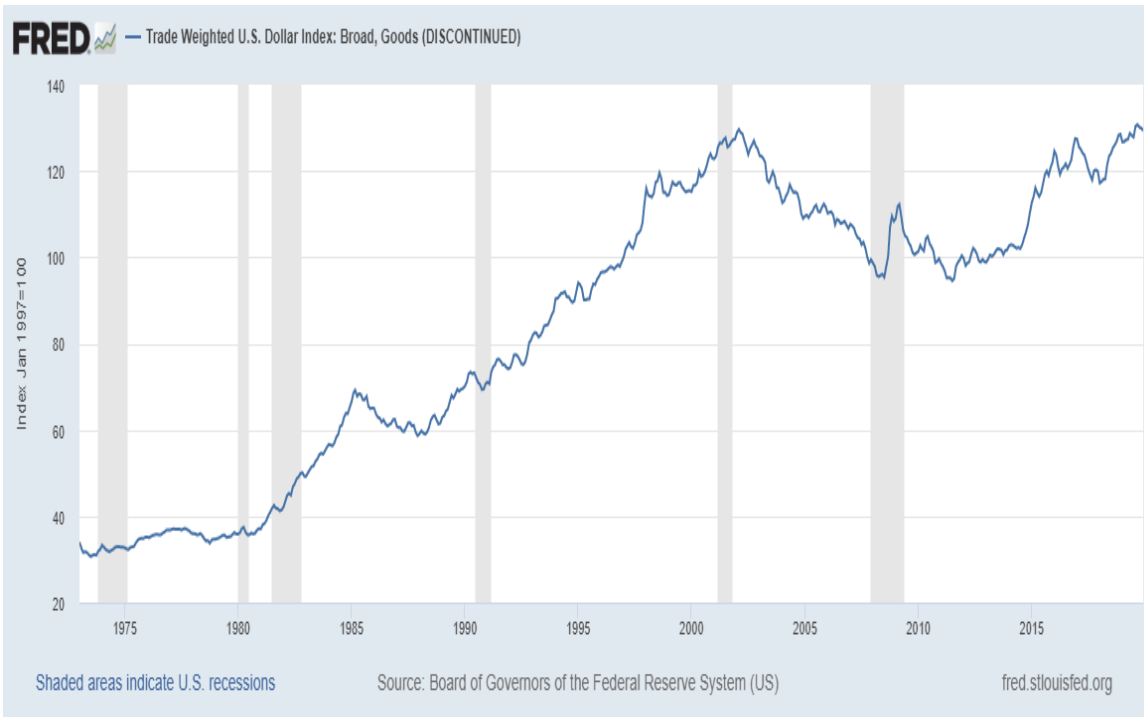
Manufacturing Jobs as % of US Employment 1970-2019



U.S. Goods Trade Balance and Manufacturing Jobs 1970-2019



USD +300% in 40 years



Weak Apprenticeship System



Starting to Restore Balance

- **Reshoring/Onshoring:** U.S. companies bringing back manufacture of products that will be sold or assembled here.
- **FDI (Foreign Direct Investment):** Similar logic. Different owner.
- **Localization:** Producing near the consumer.
- **Nearshoring:** Mexico or Canada.

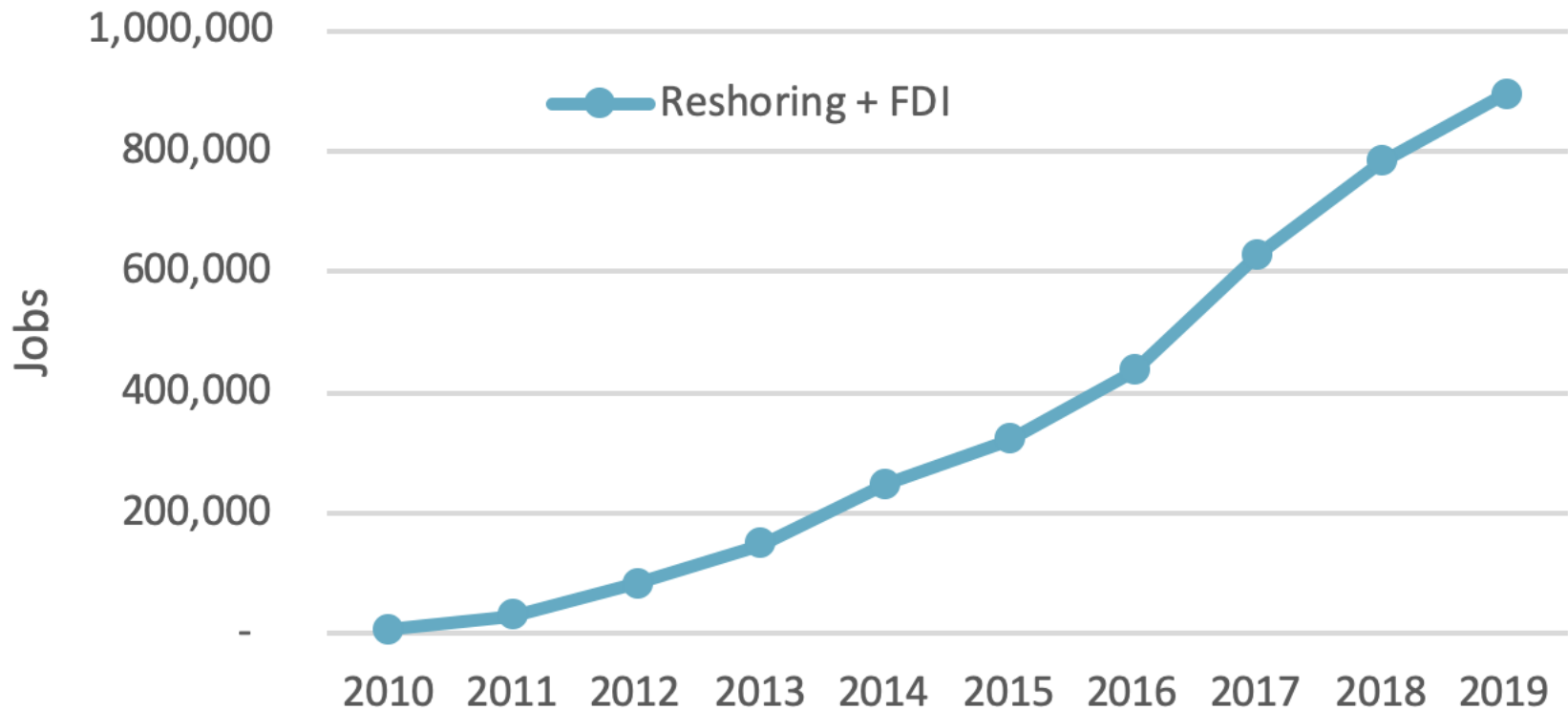


Some Trends Driving Reshoring

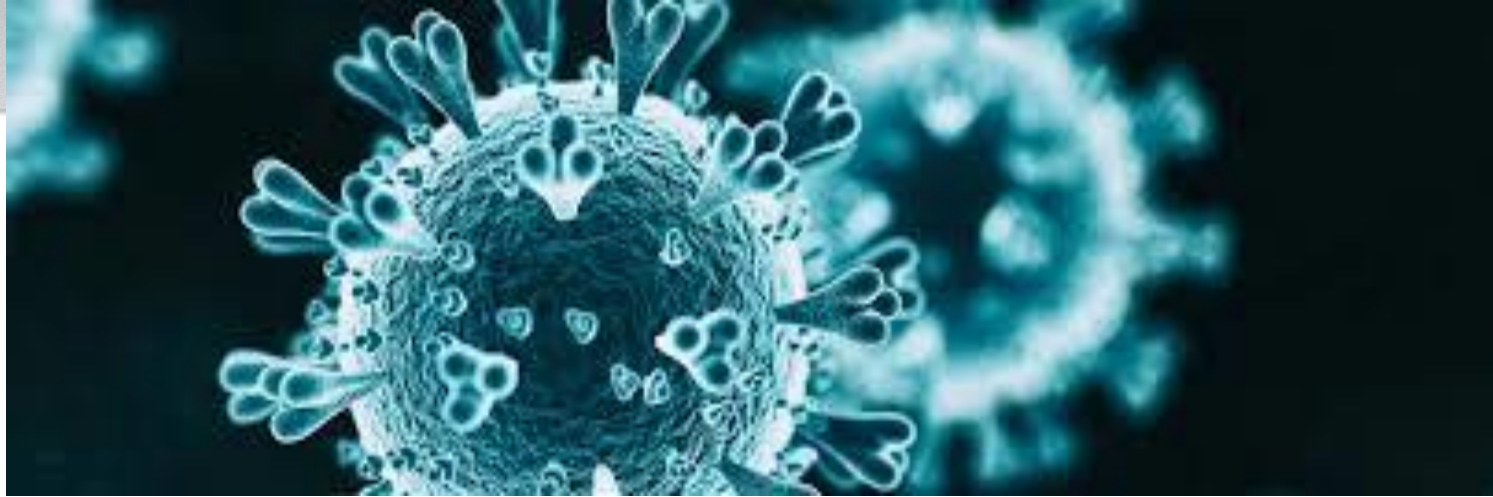
- **eCommerce:** Requires immediate replenishment
- **Advanced technologies:** Minimizes impact of higher wages. Lessens production time
- **Heavy retail discounting:** Requires lower inventory, smaller MOQ
- **Rising offshore wages:** Reduces the price gap
- **Preference for Made in USA:** Helps with volume/margin
- **Tariffs & trade barriers:** Some form will stay. Supported by both parties.
- **Lean:** Commitment to eliminating waste/bringing value

Reshoring + FDI

Cumulative Mfg. Job Announcements



- **Consumer economy feeding on cheap imports**
- **Tariffs in 2019:**
 - Intellectual appreciation of the trade deficit
 - Imports from China declined
- **Covid-19 in 2020:**
 - Emotion and fear
 - **Visceral: Lack of critical health products**
 - **Economy ravaged**
 - **Businesses failing**
 - **Massive unemployment**
 - **Commitment to reverse our dependencies**

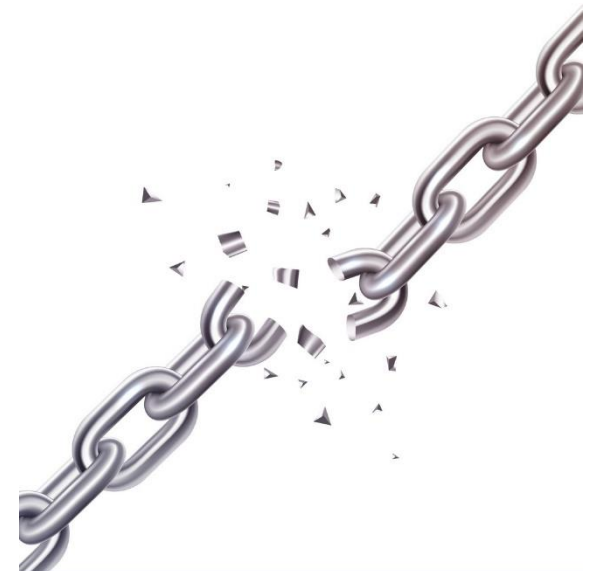
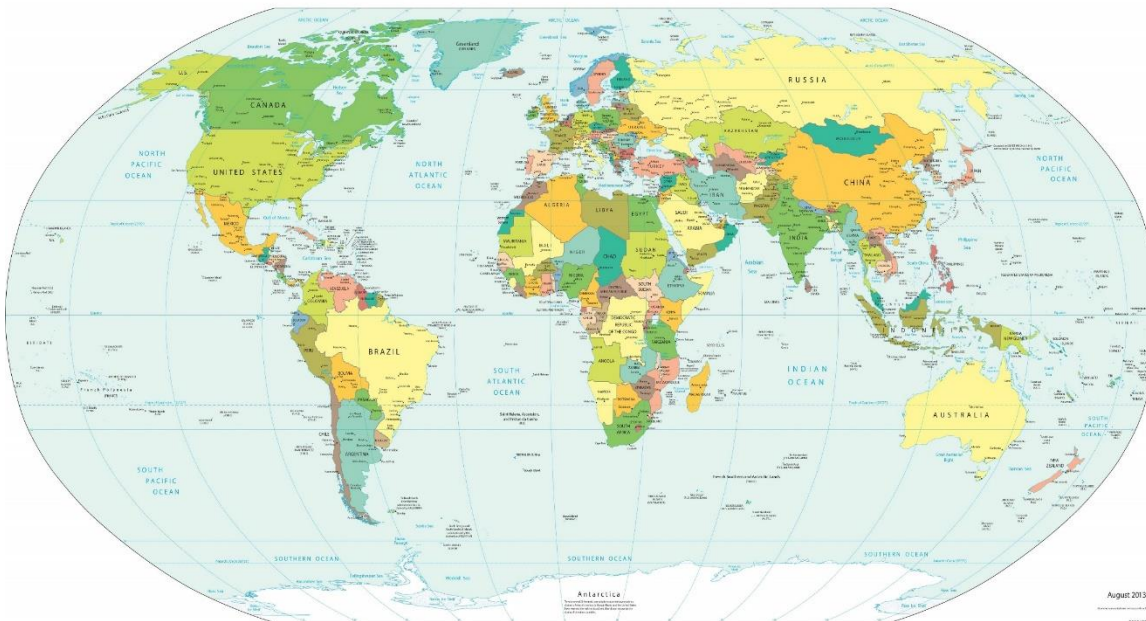


COVID-19

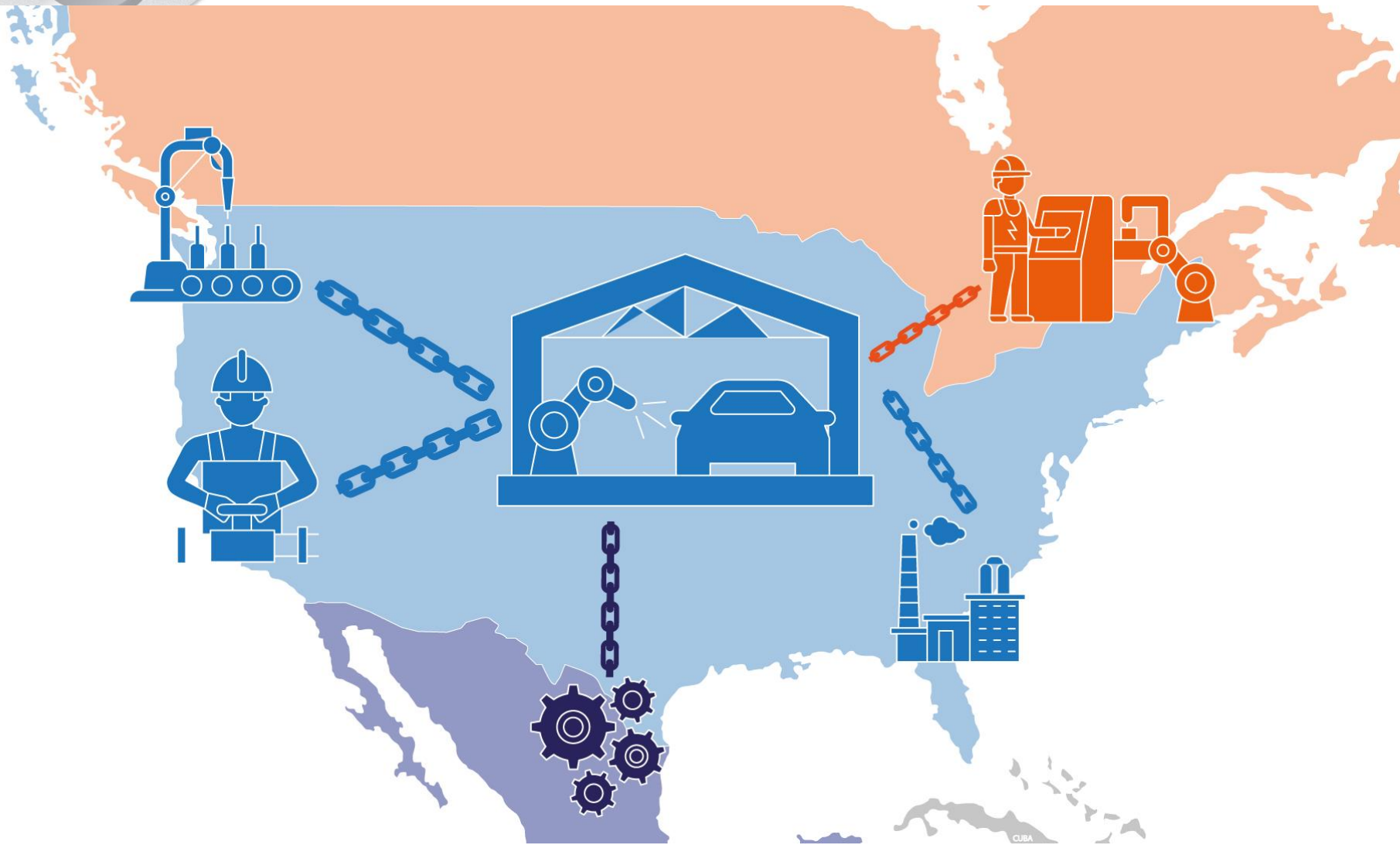


U.S. Global Supply Chains Have Failed

- 70 to 95% import dependent, primarily on China
- 70 of 195 countries have restricted exports
- Impossible to scale up here fast enough







Bills to Reduce Medical Supply Dependence

- Senators:

- Rubio (R-FL)
- Warren (D-MA)
- Cotton (R-AR) & Cruz (R-TX)
- Hawley (R-MO)
- Stevens (R-AK)
- Blackburn (R-TN) & Menendez, D-N.J.

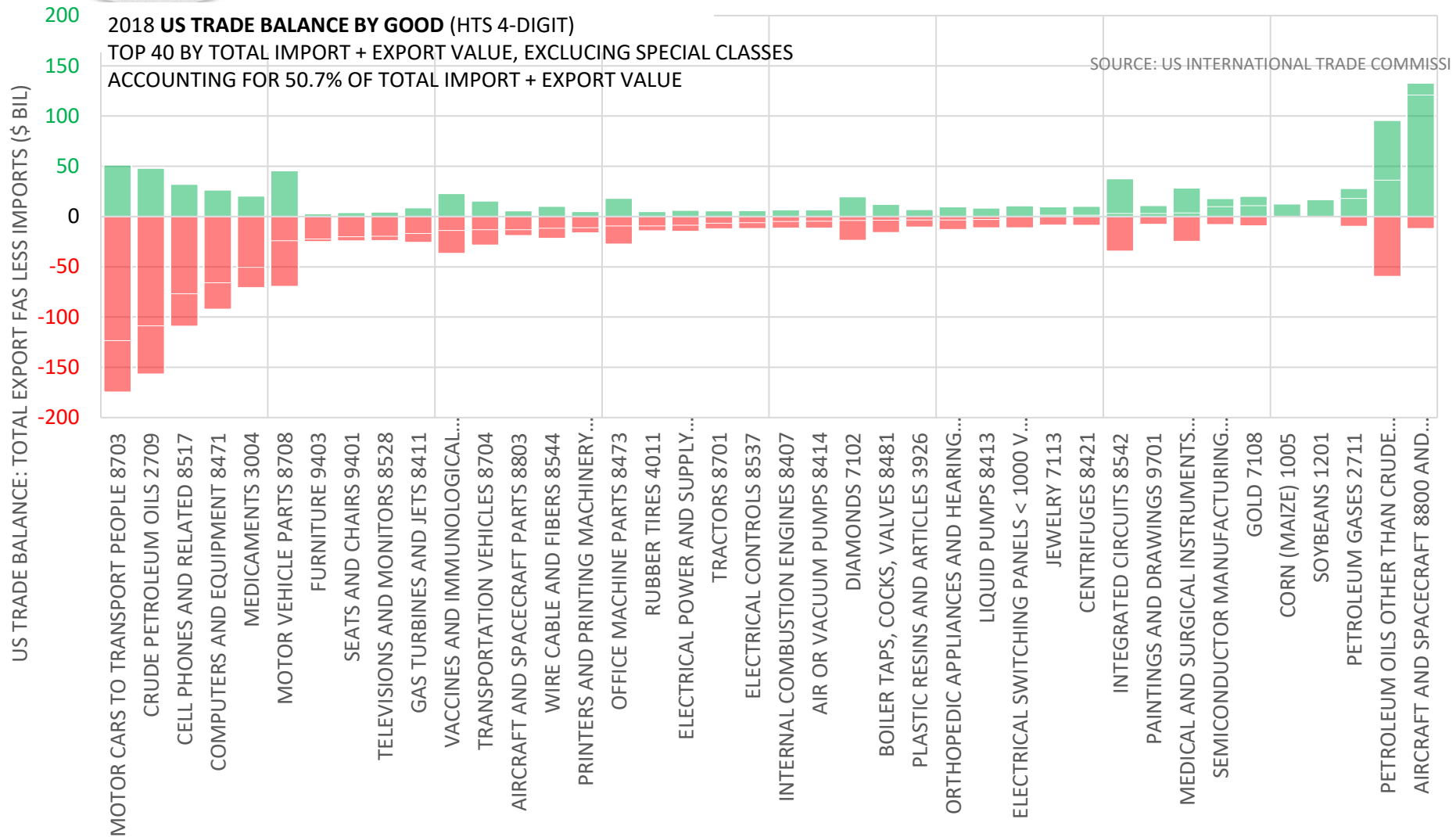
- Representatives:

- Slotkin (MI)
- Hartzler (R-MO) & Garamendi (D-CA)
- <https://www.foxnews.com/politics/sen-cotton-rep-gallagher-aim-to-cut-american-dependence-on-chinese-drugs-with-new-bill>

Some Other Key Dependencies



U.S. Trade Balance by HS Good

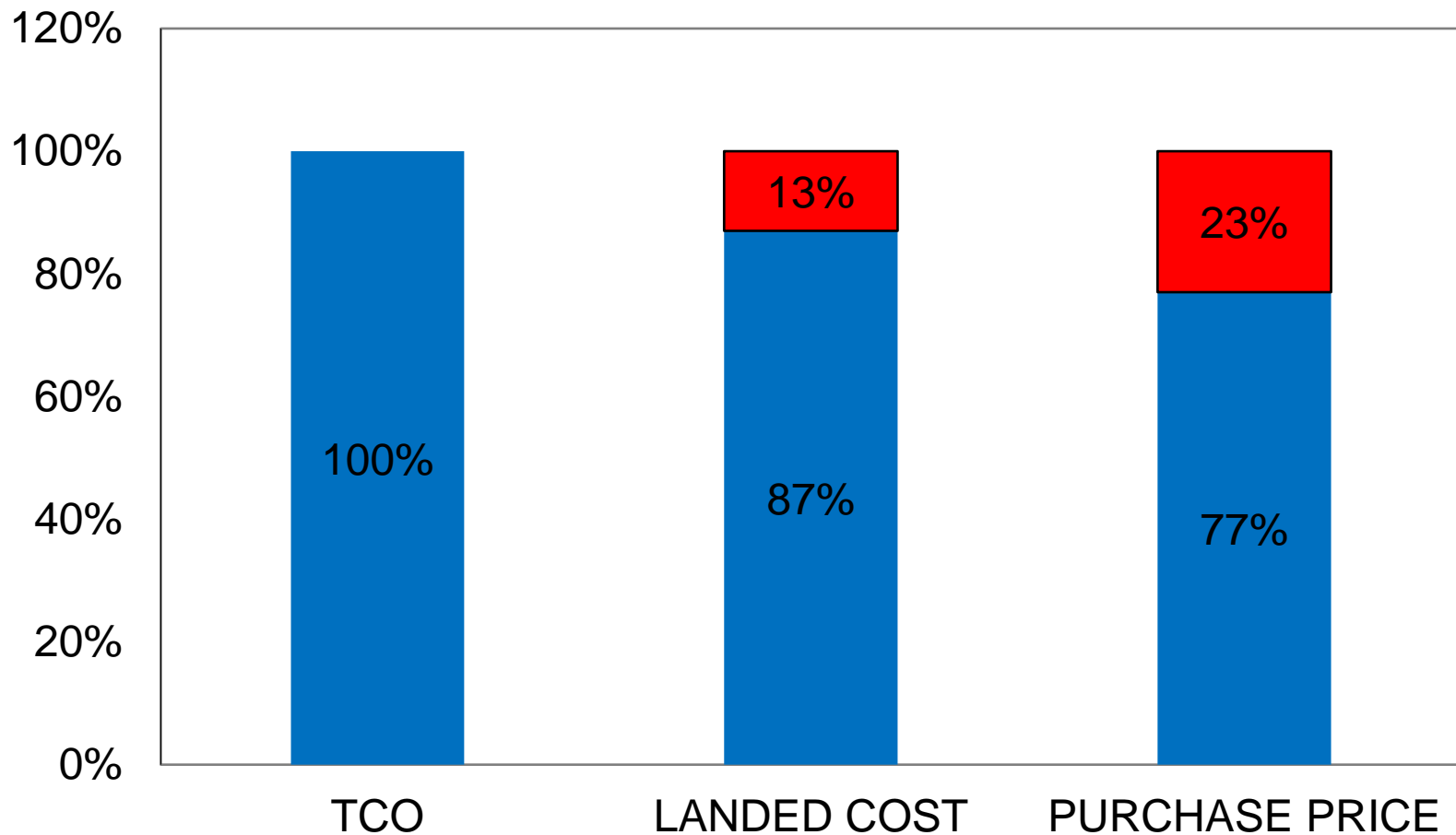


Societal Benefits of Balance



- **Increase manufacturing: 40% (5M jobs)**
- **Cut U.S. budget deficit. Provide materiel for defense**
- **Restore the middle-class and SME manufacturers**
- **Strengthen skilled workforce recruitment**
- **Provide careers for ex-retail employees**
- **Reduce global pollution / minimize wasteful transportation**
- **Increase capital investment by $\approx 20\%$ for 20 years**
- **Allow growth in productivity **and** mfg₂₇ employment**

60% of Companies Ignore about 20% Of Total Cost

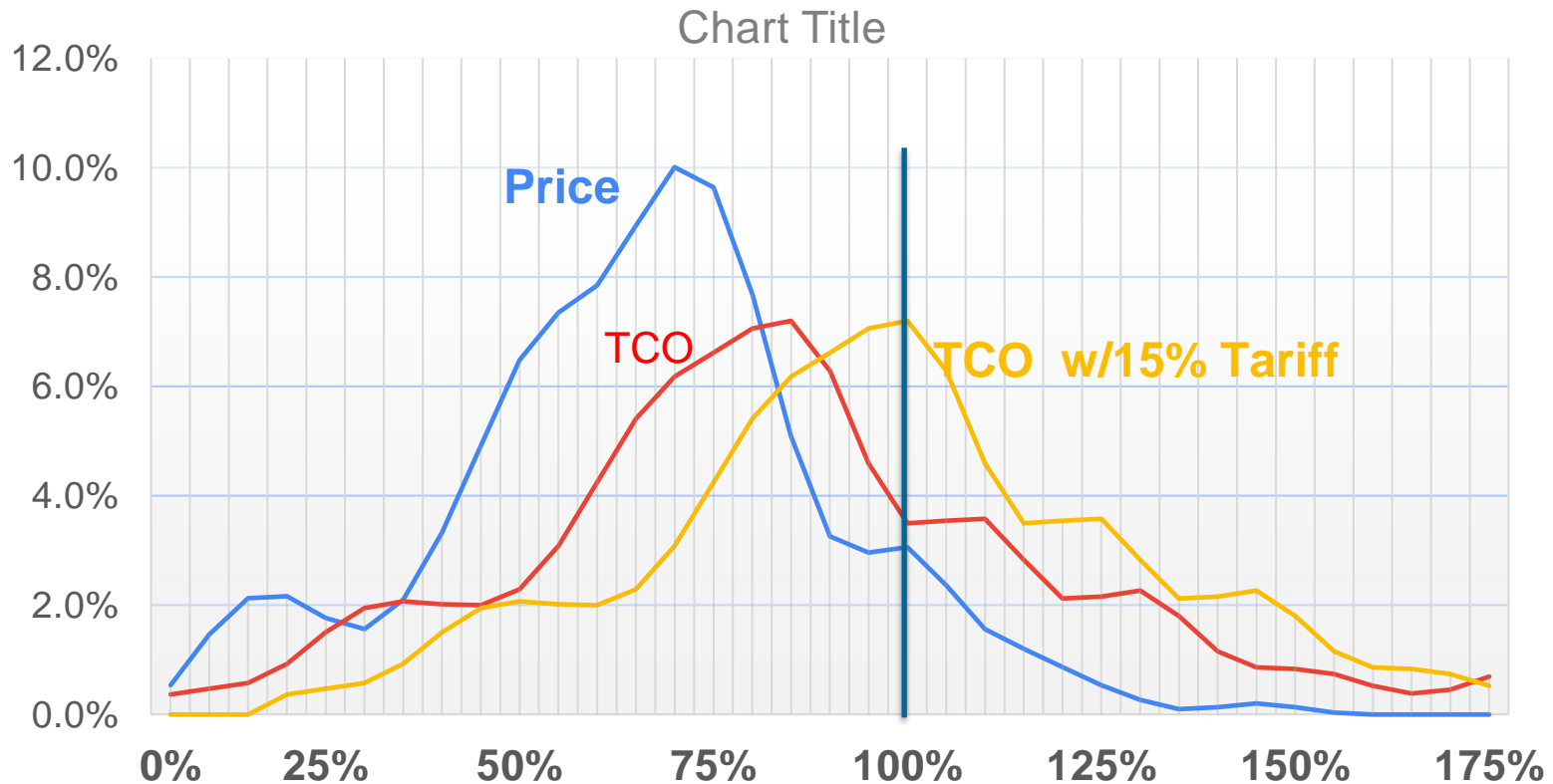


TCO Comparison Example

Present and Forecast US and China Price and TCO (US\$)

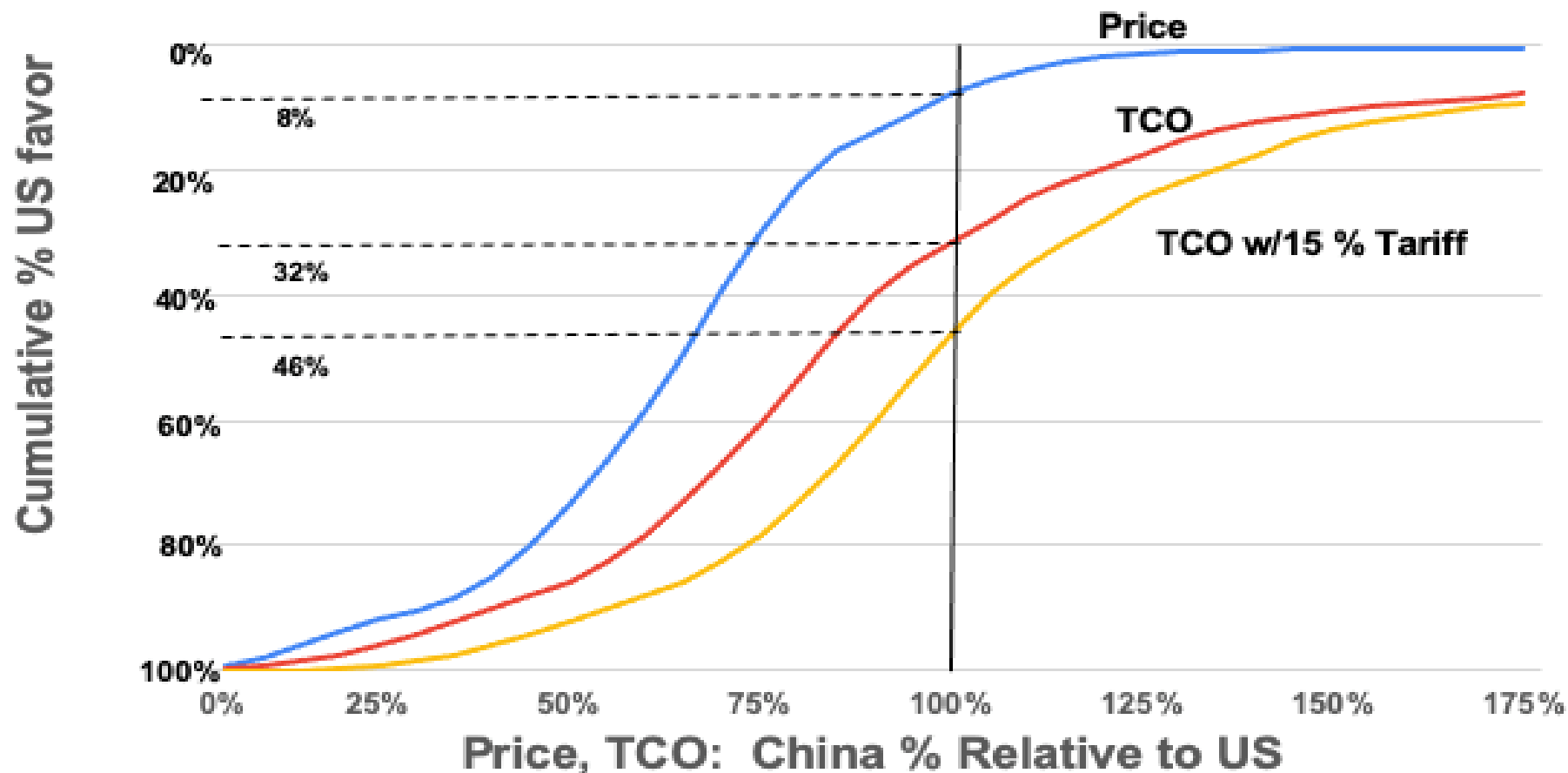


Chinese Price and TCO, % of U.S.



Source: TCO user database

Impact of TCO



Source: TCO user database

Some Total Costs other than Price

Hard



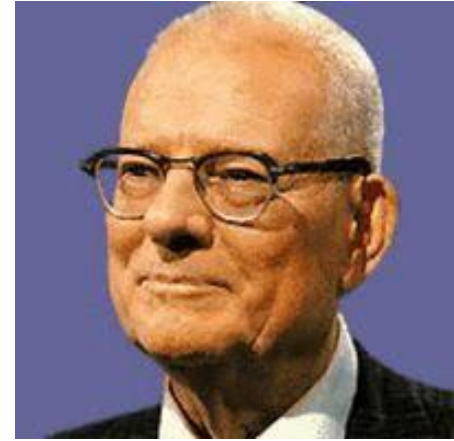
Risks &
Strategic



How Large are the Hidden Costs?

RESEARCHER/BASE	SIZE OF HIDDEN COSTS
Six U.K. manufacturers	25-50%
European auto industry re ICB (Boards)	15%+
Parker/Dewhurst	24%
Booze & Co.	17.5%
Prof. John Gray, Ohio State U.	More than price difference in cases studied
Reshoring Initiative	15-25%

Deming on Total Cost



“End the practice of awarding business on the basis of price tag. Instead, minimize **total cost.”**

Move Your Operations to China?

*Do some lean math first.**

- Describes many companies' math: price plus freight
- “Calculate the **true cost**”
- Lists 12 costs to consider.
- All are in the TCO Estimator

*Lean Enterprise Institute 2009

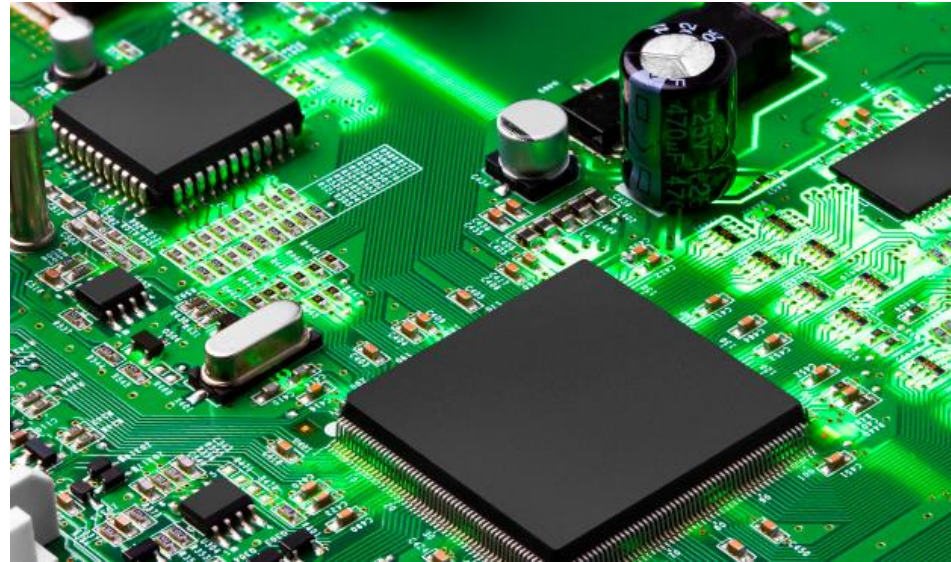


Walk the Whole Gemba!

- I believe most U.S. companies focus their lean efforts on domestic operations.
- A lean effort by an offshore supplier or factory will focus on internal issues, not question exporting to the U.S.
- By accepting the imports as a given and not using TC, lean practitioners are ignoring most of the gemba.
- **And...by not thinking how much cheaper US production would be if done in the best lean way, they are ignoring gemba!**



- Woodridge, IL
- Supplies heavy equipment companies
- Had quality issue with a Chinese component
- Found local IL source
- Result:
 - Quality problem fixed
 - Inventory cut by 94%
 - \$60M order



- Reshored production from China to PA and IL
- Brought contract work to Buck Co. (PA foundry) and Circle Gear (IL machine shop)
- Reasons:
 - Quality: 25% of gear boxes from China failed due to substandard metals used
 - Equivalent price: Cost about \$900 to produce gear boxes in US, and between \$800-\$900 to produce in China
 - Total cost

- **Had 100,000 ft² in Chennai, India**
- **Reshored to Westknoxville, TN**
- **60,000 sq. ft.**
- **Reasons:**
 - **Fast delivery vs. 5 wks on the water**
 - **Fewer supply chain problems**
 - **If a quality problem, no more bad units en-route**



- China to unionized facility in Louisville, KY
- 1300 jobs
- \$800 million invested to renovate facilities in Appliance Park
- Reasons:
 - Tax incentives
 - High-tech new model: IP risk
 - **Ease of design collaboration with workers:** retail price -20%
 - Chinese cost: -30% becomes +6% considering inventory and delivery problems

- Returned from China, India and Brazil to Columbus, GA
- 350,000 sq. ft. factory
- 900 employees
- Reasons:
 - Slow response from contract suppliers, esp. lower tiers
 - Chinese wages up
 - Eliminate silos by having mfg. near engineering and customers



- 50% of Frisbee production moved from China to CA
- Production of other plastic toys by Wham-O moved from China to MI
- 24 jobs added

Sell Smarter Against Imports

- Import Substitution Program – Substitute domestic production for imports
- We can provide data on importers of the products you produce or could produce domestically:

- Consignee company
- Address
- Product
- Tons/year
- ≈ \$/year
- Offshore supplier

- Train your team to sell using TC

US



SE ASIA

BEFORE

AFTER





Rebuilding the Domestic Supply Chain



IMTS2020

September 14 - 19, 2020 · McCormick Place · Chicago

- Award will be at IMTS 2020
- Ways you can “win”:
 - You reshore mfg.
 - Your supplier reshores
- New FDI also included, e.g. Toyota, Siemens.
- Deadline 5/31/20





Gardner Media/Reshoring Initiative Webinar Series

Supply Chain Lessons from COVID-19 A Series in Depth

- April 29 -- Overview Gardner Media/Reshoring Initiative Webinar
- May 6 – For OEMs Gardner Media/Reshoring Initiative Webinar
- May 13 – For Job Shops Gardner Media/Reshoring Initiative Webinar
- May 20 – Getting Started with TCO Gardner Media/Reshoring Initiative Webinar

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Simplify your Supply Chain!

Simplify your Customer's Supply Chain

Contact:

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Founder and President

847-867-1144

harry.moser@reshorennow.org

www.reshorennow.org

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