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Testimony before the U.S.-China Economic and Security Review Commission

Hearing on “U.S.-China Competition in Global Supply Chains”

Panel II: U.S. Policies to Bolster Supply Chain Resilience

## Summary

- Reshoring is feasible and with FDI has already brought back about 1 million manufacturing jobs.
- The Chinese factory price is, on average, 30% lower than the U.S. price.
- There are two basic reshoring strategies. Both should be followed.
  - Change perspectives: Educate companies to source based on Total Cost, not just factory price.
  - Level the playing field: Reduce the actual factory price gap.
- The simplest measure of bolstered resilience is broad reduction of the trade deficit.
- Recommended government actions and policy changes will achieve balanced trade and increase U.S. manufacturing by 40 to 50% spread over 20 to 30 years, mainly limited by workforce availability.
- China has been the source of 44% of reshoring and is especially vulnerable now due to the perceived risk of decoupling and the rapid rise in Chinese wages.

## Introduction

The purpose of this statement is to demonstrate that reshoring, especially from China, is essential, is already substantial and can be further accelerated by the recommended industrial policies.

The development of effective reshoring policy recommendations requires a clear understanding of the causes of offshoring. Companies source products and site their factories at least 70% based on FOB price/manufacturing cost (“price”) comparisons of the offshore and domestic alternatives. (Appendix 1) Many of the chart’s smaller categories are driven by price, e.g. the product is unavailable here because our industry was eliminated by low priced imports. U.S. price averages about 40% higher than Chinese price (Appendix 2) and about 15% higher than most other developed countries. Faced with domestic and offshore competitors accessing those lower prices, U.S. companies aggressively offshored, starting with Japan and Mexico, followed by S. Korea, India, S.E Asia and China. As long as that huge price differential remains, our trade imbalance and weak supply chain will not improve. To subsidize enough domestic production to overcome our \$1.1 trillion 2021 goods trade deficit would cost about \$330 billion/year. Probably more, since other countries would respond with more aggressive pricing.

There are two basic ways to attack the underlying lack of price competitiveness. The simplest should be to change perceptions, to educate companies to use [Total Cost of Ownership \(TCO\)](#) to quantify all of the costs and risks associated with offshoring. By switching to TCO, companies will see that about 20% of what they now import from China can be sourced domestically without raising prices or cutting profits. Appendix 10 shows the China price, TCO and TCO including a 15% Section 301 tariff for 180 cases comparing China sources to U.S. sources. The U.S. win rate goes from 8% to 32% to 46% just by doing the math correctly. A 20% reduction in imports would cut the goods trade deficit by 50%<sup>i</sup>. A more basic, certain approach would be to reduce the price differential, to level the playing field by instituting an industrial policy, including: massive transfer of resources from liberal arts university education to engineering, apprenticeships and credentials; 20 to 30% lower USD; not raising the corporate income tax; and implementing a well-designed border adjustment tax (BAT). Appendices 3 & 4 show how employment would respond to a mix of these actions. This policy would make the U.S. more like Germany that has equally high wage rates but achieved a 2020 trade balance of about +5.7% of GDP vs. U.S. -3.1%<sup>ii</sup>. Balancing trade would increase U.S. manufacturing by 40 to 50%, requiring 5 to 6 million more manufacturing employees at current levels of U.S. productivity.

Subsidies of a few essential industries such as chips and rare earth minerals are necessary because the U.S. has fallen so far behind. We applaud the administration for these actions. In the longer-term, subsidized industries will fail if they and their domestic customer industries are not price competitive.

It is essential to level the playing field vs. all or most countries, not just vs. China. Otherwise, work will flow from China to SE Asian factories, often owned by the same Chinese companies. China will be hurt moderately. The U.S. will be less dependent on China, but still vulnerable to disruption and militarization of the western Pacific and U.S. manufacturing will not be strengthened. Balancing our trade deficit with most countries will increase our manufacturing output and investment faster, providing the needed critical mass and productivity increases. Increasing our manufacturing broadly and quickly will eliminate supply chain gaps, reducing our dependence on China. Much stronger U.S. manufacturing is essential to achieve defense industry capabilities, reduced budget deficits enabling higher defense expenditures, improved income equality, and climate goals. The only way to increase manufacturing's share of the GDP is to import less (reshore) or export more. It is far easier to import less because importing/exporting adds 20 to 25% to the Total Cost of a product.

### **Trend, Drivers and Impact**

Reshoring by U.S. headquartered companies plus foreign direct investment (FDI) by foreign headquartered companies has surged from about 6,000 jobs per year in 2010 to about 260,000/year in 2021. We forecast 400,000/year in 2022. (Appendix 5). No one tracks offshoring. We believe that new offshoring (closing U.S. factories and replacing with either factories or outsourcing offshore) has fallen dramatically since around 2010. The best evidence is the trend in manufacturing employment, consistent with an increased rate of reshoring and reduced rate of new offshoring. (Appendix 6). Dec. 31, 2021 employment was about six million higher than would have been projected before the Great Recession. Because of this positive trend, the goods trade deficit stayed flat at about 4% of GDP from 2010 to 2019 prior to an import surge driven by COVID. (Appendix 7).

The primary driver of offshoring is lower prices available offshore, especially in LLC countries but also in most developed countries. The lower LLC prices are

primarily driven by lower wages. The difference in FOB prices is consistent with the wage differential and labor's share of manufacturing cost. Initially, very low wages attracted work to China. Today, China's faster response times and increasing technology and productivity also play a role. U.S. factories in China also sold to a rapidly growing middle class. A strong reshoring effort, coupled with China's slowing economic growth and shrinking population will help convince companies to shift more of their investment to the U.S.

U.S. government policies, or the lack of appropriate policies, have been the major cause of the trade deficit. These policies include: prioritizing degrees over skills training, allowing the USD to stay at uncompetitive levels, high corporate tax rates and regulations, high medical insurance expense paid by the employer, low duty rates, etc. A large goods trade deficit is not pre-ordained for the U.S. In contrast to the U.S., many of the top developed countries have trade surpluses: Germany, Ireland, Netherlands, Italy, S. Korea, Australia, Singapore, Switzerland, Belgium, etc.

Our resulting uncompetitive price structure drove offshoring, hollowing out U.S. manufacturing, reducing investment in automation and reducing the appeal of manufacturing careers. Until about 1980 the U.S. had at least balanced trade and was self-sufficient in a broad range of products and industries. Now, our trade profile looks more like that of a developing country than the Arsenal of Democracy. (Appendix 8). The U.S. has trade surpluses in a few high-tech categories such as aircraft and semiconductor manufacturing machinery, but mainly in commodities like minerals and agricultural products. The U.S. has large trade deficits in most manufactured products including most high-tech products. The U.S. lacks the industrial infrastructure to respond timely to a catastrophe such as COVID or to provide the increased materiel for an extended war. Defense Department reports show a growing list of needed raw materials and components that cannot be sourced domestically.

The current supply chain structure puts U.S. consumers at risk for availability of most goods other than food and at risk for their jobs. A disruption such as China decoupling would be economically devastating for the months or years it took companies to create or find alternate sources.

## **Reshoring, Nearshoring, Friend Shoring and FDI**

The U.S. supply chain can be strengthened by any of four processes. In priority order: reshoring, FDI, nearshoring and friend shoring.

- **Reshoring:** Always the best choice, if economically feasible. Optimal impact on manufacturing, economy and domestic supply chain. Example: Two huge nitrile glove factories (PPE) funded by the U.S.: United Safety Technology, Inc. and Renco Corporation. Reshoring also increases U.S. purchases of raw materials and components from our trading partners, providing diplomatic advantage.
- **FDI:** Achieves the same benefit in terms of manufacturing and self-sufficiency, but more of the profits are lost to offshore and engineering is less likely to be here. About 50% of the 1.3 million jobs brought from offshore since 2010 have been due to FDI. FDI is often the best source of product and process technology when filling supply chain gaps. For example, the large FDI automotive assembly plants (BMW, Toyota, Mercedes, etc.) brought with them many of their suppliers from their native countries. Many EV battery plants have been either pure FDI or joint ventures with auto companies here. Example: GM and LG.
- **Nearshoring:** Essentially means Canada and Mexico, which are friends, so nearshoring is a sub-set of friend shoring. The biggest driver of jobs to the U.S. is proximity to the market, so nearshoring is more feasible than other friend shoring. Exports to the U.S. from Mexico are reported to contain 40% U.S. content vs. 5% for exports from China. Mexican wages are lower than Chinese wages. U.S. jobs are offshored to Mexico for the saving in wages and due to the availability of labor. Nearshoring from Asia to Mexico increases U.S. exports and makes supply accessible. Longer term, the nearshoring raises Mexican wages, reduces new offshoring to Mexico, and stabilizes our neighbor's economy. Canada is an excellent source, but offers little economic advantage vs. reshoring except for certain minerals and electricity intense manufacturing. Mexico is an excellent source for apparel and other assembly operations, including aerospace and automotive.
- **Other friend shoring:** Far better than sourcing from China but less preferable than any of the first three processes. Much offshoring has resulted from the U.S. providing privileged access to its market, sacrificing U.S. manufacturing to achieve its diplomatic and humanitarian goals: spreading democracy, pulling countries out of poverty, geo-politics, etc. via Most Favored Nation status and other favors. For example, China's Most

Favored Nation status contributed to our loss of millions of jobs. So, friend shoring should be with friends without added benefits.

Reshoring is optimal if:

- The work can be done here profitably, based on TCO.
- Workforce can be made available.
- The needed technology and components can be available.

From a company's perspective, the industries/products best suited for substantial reshoring are those for whom the Total Cost of Ownership (TCO) for the products is lower here or can be made lower via workforce training, automation and product redesign for manufacturability. The characteristics of such products include:

- Low labor content, e.g. plastic injection molding, populating printed circuit boards and high volume machining of standard workpieces such as bar stock.
- High offshore freight cost and time vs. labor content, e.g. machinery (CAT has reshored production to new plants in Texas and Georgia) and commodity materials.
- A supply chain gap large enough that a new U.S. factory could be large and automated enough to compete with the imports.
- Section 301 25% tariffs apply. 50% of such products can be sourced domestically w/o raising prices or reducing profits if companies use TCO.
- Frequent product design changes.
- Volatile demand, e.g. some apparel.
- Risk of IP loss.

A good estimate of what products can be reshored is what have been reshored. Appendix 9 shows the mix of jobs reshored and FDI'd by NAICS code industry.

From the nation's perspective the characteristics of such products include:

- Competitive TCO and thus profitability, as above. Otherwise, the subsidies will be unsustainable.
- Filling a supply chain gap eliminates a bottleneck, enabling a flood of additional reshoring in the downstream and upstream supply chain, especially for growing markets, e.g. batteries for EVs. Steve Jobs was asked

why Apple does not assemble products in the U.S. He answered that almost all of the components are produced in Asia.

- The product is essential for health and defense and not dependably available from a close-by friend shore, e.g. rare-earth minerals, PPE, pharmaceuticals.
- The product is sourced primarily from China.

Ideally, the industries and companies should not need to be approached to reshore. A well-designed, permanent industrial policy would level the playing field enough that the companies would decide to reshore in their own self-interest. In the short-term it is necessary to select and subsidize specific critical industries such as chips. In the longer-run the subsidized industries will fail if their manufacturing costs are not competitive and they do not find a growing domestic market. In a few years there will be an oversupply of chips since so many foundries have been announced worldwide. The U.S. is at risk of going from being dependent on China and Taiwan for chips to being dependent on China to buy our overpriced chips to assemble into infotainment systems, medical devices and servers to ship to us. The solution is to level the broad industrial playing field, to have a tide that lifts all, or most, U.S. industries.

China has played a huge role in offshoring, 33% of our goods trade deficit, and in jobs brought back, about 44% of reshoring and 15% of FDI during 2010 to 2021<sup>iii</sup>. Since China is an adversary, it is especially unwise to be dependent on them and to fund their growth and military via our consumer and industrial spending. China got a big head-start by devaluing its currency, especially in 2003 to 2013. China has subsidized industries and stolen IP. Balance with China must be restored. China is concerned by U.S. supply chain actions. I was interviewed May 27 by a Beijing reporter for Caijing, a leading Chinese business and economics magazine. The reporter asked me to show how the U.S. could reshore, especially chips, despite our “70% higher cost” and skilled labor and engineering shortages. A recent article by noted geo-political expert, George Friedman, observed that China has not yet reached the critical mass needed to grow based on domestic consumption instead of exports<sup>iv</sup>. The U.S. needs to reshore more from China while it is still our choice to reshore rather than wait till China chooses to decouple.

However, the other 67% of our trade deficit has similar negative impact on our economy. The U.S. has a trade deficit with 9 of our top 10 trading partners, all except the United Kingdom<sup>v</sup>. Balancing our Chinese trade deficit would leave a \$700+ billion deficit. Getting out of China is essential, but is just the first priority in eliminating our deficit.

Congress and the administration are currently placing a high priority on reducing the rate of inflation. Delaying reshoring is not a logical conclusion. About 30% of goods now imported from China ( $0.3 \times \$506B = \$152B$  in 2021<sup>vi</sup>) can individually be sourced in the U.S. without raising prices or cutting profits (Appendix 10) if companies acted and priced based on [TCO](#). If companies continue to source and price based on FOB prices, CPI would increase about 0.1% one time. If all or most of the 30% is reshored immediately prices will temporarily rise because the country lacks the capacity to increase manufacturing by about 8%. Factories can be added in a few years. Recruiting and training the engineering and technical workforce is the larger, longer-term, problem.

### **Enabling Companies to Reshore**

There are a range of actions companies should take and information they need to be able to accelerate reshoring:

- Develop the skilled workforce: Much more aggressively recruit and train the skilled workforce which is needed to increase output, productivity and competitiveness.
- Adopt TCO: About 60% of companies make sourcing decisions based on wage rates, FOB (factory) price or Landed Cost (price plus duty and freight). By doing so, instead of sourcing based on Total Cost of Ownership (TCO: Landed Cost plus carrying cost of inventory; risk of IP loss, disruption and stocking out; travel cost; etc.) companies ignore about 20% of relevant costs and risks. By switching to TCO, companies will see that about 20% of what they now import from China can be sourced domestically without raising prices or cutting profits. Companies also use TCO to convince customer companies to stop importing and buy from them. (Example: Morey Corp used TCO to win a \$60M order for PCBs vs. China)



- Obtain Information: TCO calculation requires two types of information that are not readily available. Making the data available would accelerate the use of TCO and reshoring:
  - Company data that is not sorted by product or supplier. For example: quality and warranty costs, travel, inventory carrying cost, engineering support. ERP system providers such as Oracle or SAP could incorporate TCO and collection of needed data in their systems. One company excuse would be eliminated.
  - Risks, especially geo-political risks. It is almost impossible for the procurement staff to estimate risks, e.g. the probability of decoupling by China, one of the largest factors driving reshoring today. If professional estimates of the probabilities of the most impactful risks could be publicly, readily available, ideally from non-governmental sources, companies would be able to justify including the risks as factors in their decisions. The Reshoring Initiative is including expected value calculations of the impacts of these risks in the revised, free, online TCO Estimator but does not have a source for such probabilities. (Example: Geopolitical Futures recently published the results of a Taiwanese population survey of the probability of war with China. Seven percent strongly agreeing there will be war and 21% partially agreeing<sup>vii</sup>.) For many companies, China decoupling would be either devastating or existential. If companies accept that decoupling is possible, they will be much more likely to reshore, nearshore or friend shore.
- Invest in automation: Take a longer-term focus, investing more in automation. S. Korea and China invest more in robots than does the U.S. despite their lower wage rates. China invests 3X as much in CNC machine tools as does the U.S. To be competitive despite high wages, the U.S. needs to be more productive than our LLC country competitors. Chinese productivity has been rising at 6 to 8%/year. U.S. productivity at less than 1%/year. As the reshoring surge continues, capacity utilization will rise above 80% and investment should accelerate. Companies will have the demand to justify investment and the cash to afford it.
- Fill supply chain gaps: Understand the existing large supply chain gaps so they can evaluate the feasibility of filling those gaps.
- Reduce cost and time to quote and deliver: Adopt lean, [Critical Manufacturing Path Time \(MCT\)](#) and [Quick Response Manufacturing \(QRM\)](#)

methods that have the potential to reduce manufacturing costs by 10% and delivery times by 50%. Some companies claim that they can get product from China by ocean freight faster than from local U.S. suppliers. There are cases of Chinese companies providing prototypes before the U.S. competitor provided a quote.

- Achieve efficient assembly: Find domestic suppliers that can efficiently produce assemblies. Many companies shut their U.S. assembly plants when they offshored, often to contract manufacturers. It is easy to find U.S. machine shops and foundries that make components. It is much more difficult to find automated assembly shops. (Example: RE: Build Manufacturing's strategy is to offer complete solutions for reshoring<sup>viii</sup>.)

### **Recommendations for Government Action**

The biggest obstacles to reshoring are the same forces that drove offshoring: Uncompetitive manufacturing cost (Appendix 2), shortage of skilled workforce and failure of companies to source based on TCO. As explained, the objective should be to reshore a broad range of industries by reducing these obstacles. This is a “teach them to fish” opportunity. With incentives, companies will need incentives forever. With a level playing field, companies will reshore in their own self-interest. We recommend the following actions, highest priorities first:

- U. S. government: The U.S. is still the largest market in the world. If the government were as clearly committed long-term to solving our supply chain imbalance as the Fed was to achieving stability during COVID, companies would rush to reshore. The federal government needs an industrial policy instead of what has been, in effect, a deindustrialization policy. Specific policy changes needed:
  - Skilled workforce. National Association of Manufacturers (NAM) forecasts a shortage of 2.1 million manufacturing employees by 2030<sup>ix</sup>. Accelerated reshoring could double that number. Aggressive action is needed now to increase the quantity and productivity of our workforce:
    - The largest barrier to having a strong workforce is recruitment of quantities of competent trainees. Massively shift resources from liberal arts post-secondary degrees to engineering degrees and apprentice programs. Create apprentice loans so the apprentice can borrow \$5 or \$10/hour worked, allowing

the apprentice wage paid by the company to be low enough so that the company does not lose money on training the apprentice. Smaller companies believe they lose money and then lose the graduate apprentice to big OEMs that can afford to pay more. Have the employer pay off the loan over 5 years after the apprenticeship if the worker stays. For roughly what the U.S. should write off on college loans each year the country could enable a world class manufacturing apprenticeship program.

- Accurately display the career advantages of apprenticeship vs. degrees. There are many postings on the Departments of Education and Labor websites extolling the unique value of degrees. Example<sup>x</sup>. The postings show income rising with number of degrees and often have headings such as “Bachelor’s degree yields \$1 million more lifetime income than a high school degree.” The figures never show that apprentice graduates have incomes comparable to bachelor’s degree holders. You have to dig into footnotes to find that about half of the “\$1 million” goes away if you adjust for family socio-economic status, being able to start earning 4 or 5 years sooner and avoiding tuition costs. This government data is the basis for guidance counselors, articles, advertisements, politicians and studies encouraging more students to attend universities. In reality, about 30% of university graduates (primarily with liberal arts degrees) are in jobs that do not need a degree, while severe shortages of skilled tool makers, welders, precision machinists, etc. limit our ability to achieve self-sufficiency by reshoring or FDI.
  - Increase immigration of engineers and skilled technicians.
- Reduce the value of the USD. It is generally agreed that the USD is consistently 20 to 30% overvalued since it is the primary reserve currency<sup>xi</sup>. Eliminating that overvaluation would dramatically reduce the price competitiveness gap, driving reshoring, FDI and exports. The Market Access Charge (MAC), developed by Dr. John Hansen and the basis for Senators Tammy Baldwin and Josh Hawley’s *The Competitive Dollar for Jobs and Prosperity Act* introduced in 2019, is one means to this end.

- Do not raise the corporate income tax rate, at least on manufacturers.
- Keep immediate expensing of capital investments, at least for manufacturers. Automation is key to achieving competitive price and delivery. The country will lose more jobs to Chinese automation if it does not invest than it will to U.S. automation if it does.
- Make the Section 301 tariffs permanent. The 25% tariff makes about 15% of imports from China more profitably sourced here based on Landed Cost and over 50% based on TCO. Reshoring will accelerate if the tariffs are made permanent. Cancelling the tariffs would not make a measurable difference on inflation. Inflation lagged over a year behind the tariffs. The total revenue from the tariffs is less than 0.3% of U.S. personal consumer expenditures<sup>xii</sup>.
- Alternatively, implement a border adjustment tax (BAT) on all imports. Regressive impacts can be minimized by funding the repeal of state and local sales taxes and using any balance to fund Social Security and Medicare.
- Take a clear role in enabling reshoring:
  - Appoint an office to be responsible for reshoring. Around 1019 Commerce's SelectUSA started to assume that role but seems to now be focusing only on FDI.
  - Commerce developed the ACE (Assess Costs Everywhere) Toolkit around 2012<sup>xiii</sup>. The site contains useful tools and data to motivate reshoring. Needs updating, expanding and promoting. The site says "Last updated: 03/20/2018." Much of the relevant data is from 2012. Provide access to non-government estimates of relevant risks, such as of decoupling by China, as discussed earlier.
  - Promote cases of reshoring. Free national publicity would motivate more companies to act.
- Cooperate with Mexico and Canada to attract work from Asia to N. America. Mexico had a \$92 billion trade deficit with China in 2021 despite having lower wages. Help Mexico reduce its deficit with China rather than increase its \$165 billion trade surplus with the U.S.<sup>xiv</sup> Doing so will also make Mexico a more resilient part of our supply chain.

- Fill supply chain gaps: Identify large gaps. Invite domestic companies and current foreign suppliers to fill the gaps. Great role for SelectUSA. The Reshoring Initiative can help.
- Mandate the use of TCO within the government and by all government contractors.
- Get the consumer involved. Require country of origin labeling (COOL) on all products in stores or offered on the internet. Consumers strongly prefer U.S. products. Make it easy to turn preference into action.
- The Labor and Commerce Departments' Trade Adjustment Assistance (TAA) programs help workers and companies who have been hurt by imports. Broaden TAA's mandate to help the companies proactively use TCO for sourcing and selling before the jobs are lost.
- EB-5: Make reshoring a preference under the EB-5 Immigration Investor Program. Since 2008, the EB-5 Program has generated about \$30 billion in capital investment. However, only 1.6 percent of the investment money goes into manufacturing. The biggest share goes into housing, restaurants, hotels, and other non-tradable services that are already generally in good supply. The program would do much more for the U.S. economy if the qualifying investments were limited, or at least prioritized, to manufacturing, especially to filling supply chain gaps.
- ESG: Take advantage of the strong trend towards ESG (Environmental, Social and Governance.) The SEC is working on regulations for funds claiming to be ESG or climate change focused. The SEC should require that such funds require companies to disclose where products sold in the U.S. are manufactured. Our study shows that supplying aluminum die castings from China to the U.S. generated at least 25% more emissions than sourcing in the U.S. Recognition of the environmental impact of offshoring would open companies to reshoring.
- Medical costs: In the U.S. medical costs are extremely high, largely paid by the employer, and raise the company burden rate/overhead, contributing to our lack of price competitiveness. The average employer cost for family insurance in 2021 was over \$16,000/year, about \$8/hour, which is higher than average Chinese wage rate<sup>xv</sup>. Start reducing medical costs by controlling malpractice litigation and

by negotiating pharmaceutical prices. Achieve lower healthcare costs and reshoring. That's a twofer!

- Encourage aggregation of demand to drive the domestic supply chain. Example: Companies want to source castings here instead of from China. Having local castings will enable local product assembly. U.S. casting prices are high and capacity not available. Foundries will not expand for one middle-size customer. We are seeking to aggregate demand commitments for similar castings to motivate a foundry to invest in a modern, automated facility. Manufacturing Extension Partnerships (MEPs) could assist in the effort. Similar actions could work in other product categories.
- State and local governments:
  - Drive skills training programs.
  - Support reshoring: Utah just announced the \$10 million [Manufacturing Modernization Grant](#) program to enable reshoring and other manufacturing investments.
- Trade associations:
  - Document reshoring successes and promote reshoring.
    - American Foundry Society (AFS) on May 27, 2022 posted a training session to help its members convince customers to reshore<sup>xvi</sup>.
    - Association for Manufacturing Technology (AMT) has funded a large program *Supply Chain Reinforcement* including *Rebuilding and Reshoring the Supply Chain* to motivate its members and customers to reshore. AMT is also a lead sponsor of the annual National Metalworking Reshoring Award<sup>xvii</sup>.

## Conclusion

Companies have already reshored or FDI'd about one million jobs, demonstrating feasibility. Nevertheless, the U.S. supply chain is unsustainable. This statement recommends actions by government and companies to accelerate the trend and make the U.S., once again, self-sufficient. Substantial policy and behavioral changes are required.

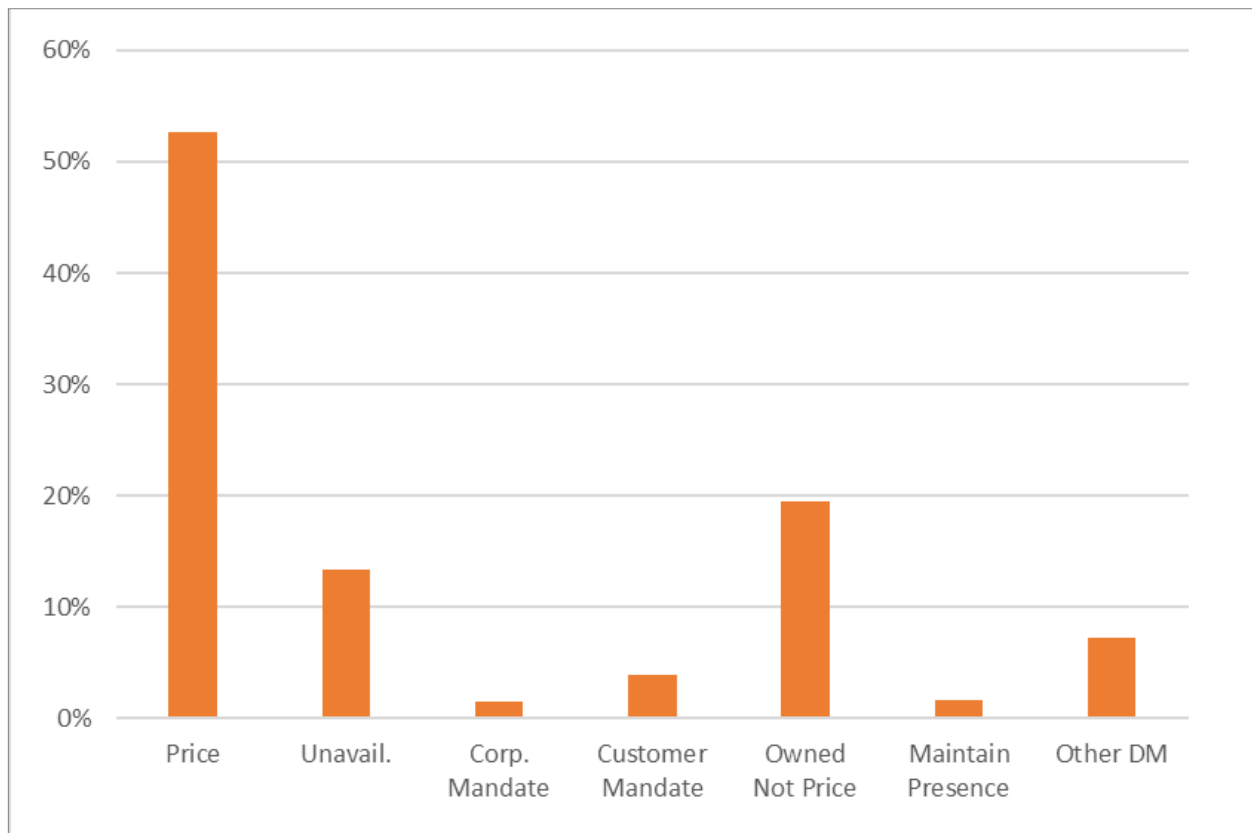
## Reshoring Initiative

The non-profit [Reshoring Initiative](#) drives U.S. reshoring and FDI by documenting and promoting the trend. We also provide tools to help companies find and convert reshoring opportunities into domestic manufacture. We work with EDOs, MEPs, SelectUSA, trade associations and companies. Sue Helper, then Commerce Chief Economist, now at NEC, described us as the seminal force in reshoring.

## Appendices to Harry Moser’s Testimony at the 6/9/22 Hearing on

### “U.S.-China Competition in Global Supply Chains”

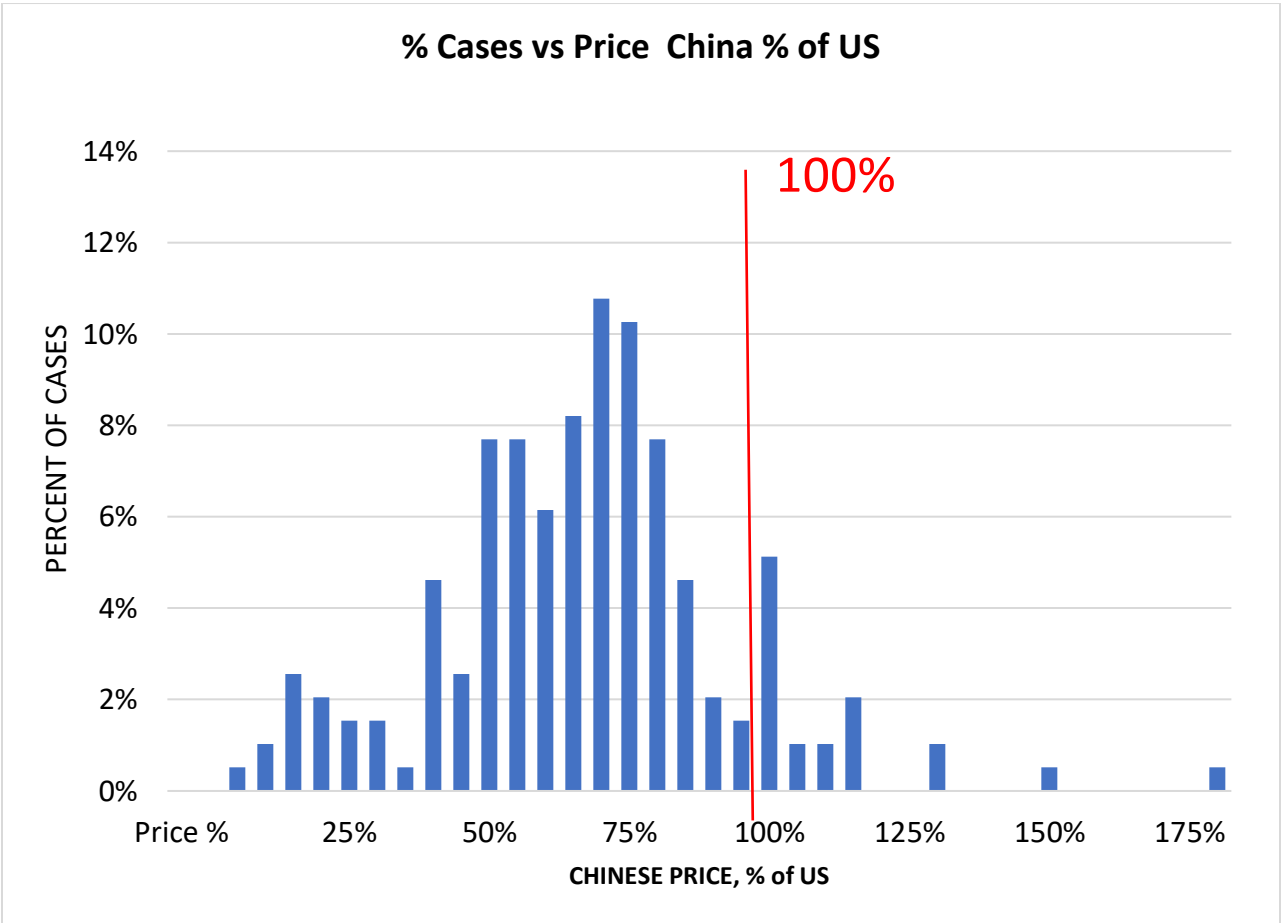
#### APPENDIX 1: Price Drives Offshoring



Source: Plante Moran/ Reshoring Initiative survey of manufacturers and distributors, 1Q2018



# APPENDIX 2: China FOB Price % of US



Source: Reshoring Initiative

### APPENDIX 3: For the Government: Competitiveness Toolkit

Policy	Model	$\Delta$ Price Advantage	Time to Implement, Years
Skilled Workforce	Germany and Switzerland	5%	10 - 20
15% Corp. Tax rate	Ireland	2%	1
15% BAT	$\approx$ the World	15%	1
\$ Down 20%	$\approx$ the World	10%	3
Less Regulations	?	3%	5
Healthcare Costs Down 30%	Germany	3%	15
100% use TCO		10%	4
Make duty rates =		3%	3
Innovate / Automate			
Total		51%	

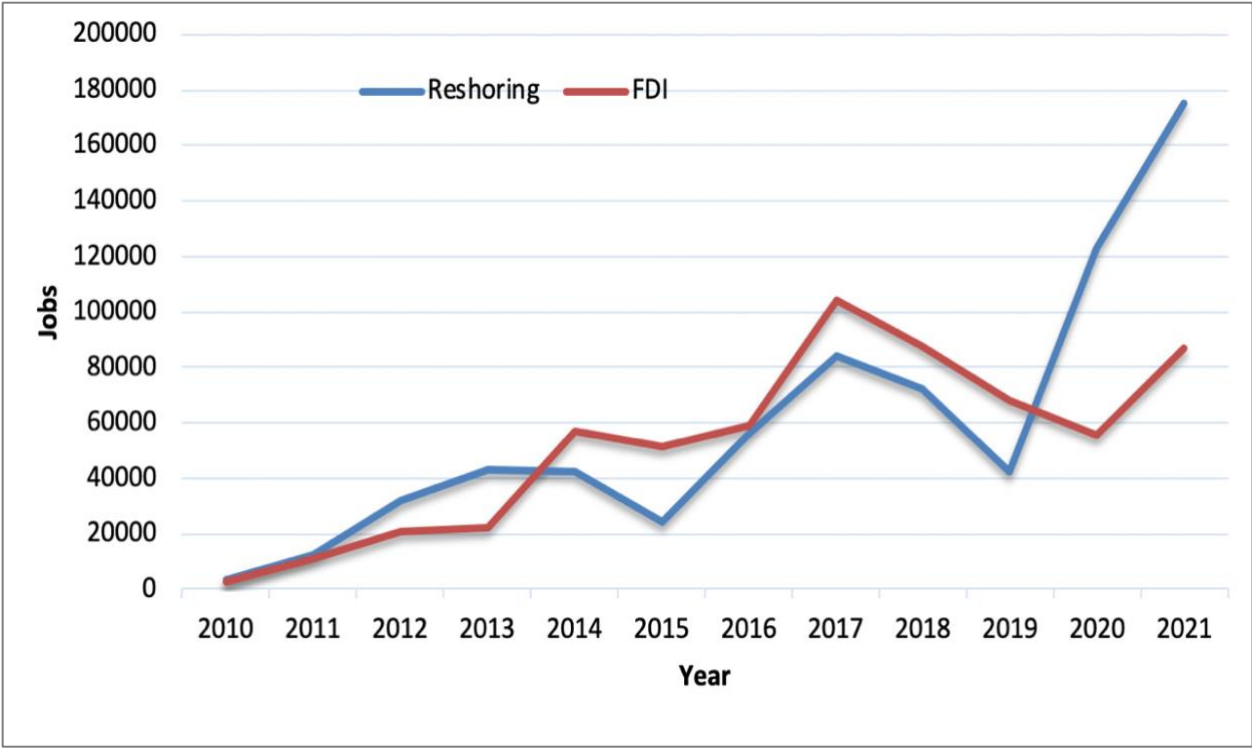
Source: Reshoring Initiative

## APPENDIX 4: 1% Price Reduction → > 150,000 Mfg Jobs.

Desired Goods Trade Deficit, % Reduction	Number of Mfg. Jobs Brought Back	Required $\Delta$ U.S. Price if Price Used	Required $\Delta$ U.S. Price if TCO Used	Time to Steady State, Years
20%	1 million	-10%	0%	10
40%	2 million	-15%	0%	15
60%	3 million	-20%	-5%	20
80%	4 million	-25%	-10%	25
100%	5 million	-30%	-15%	30

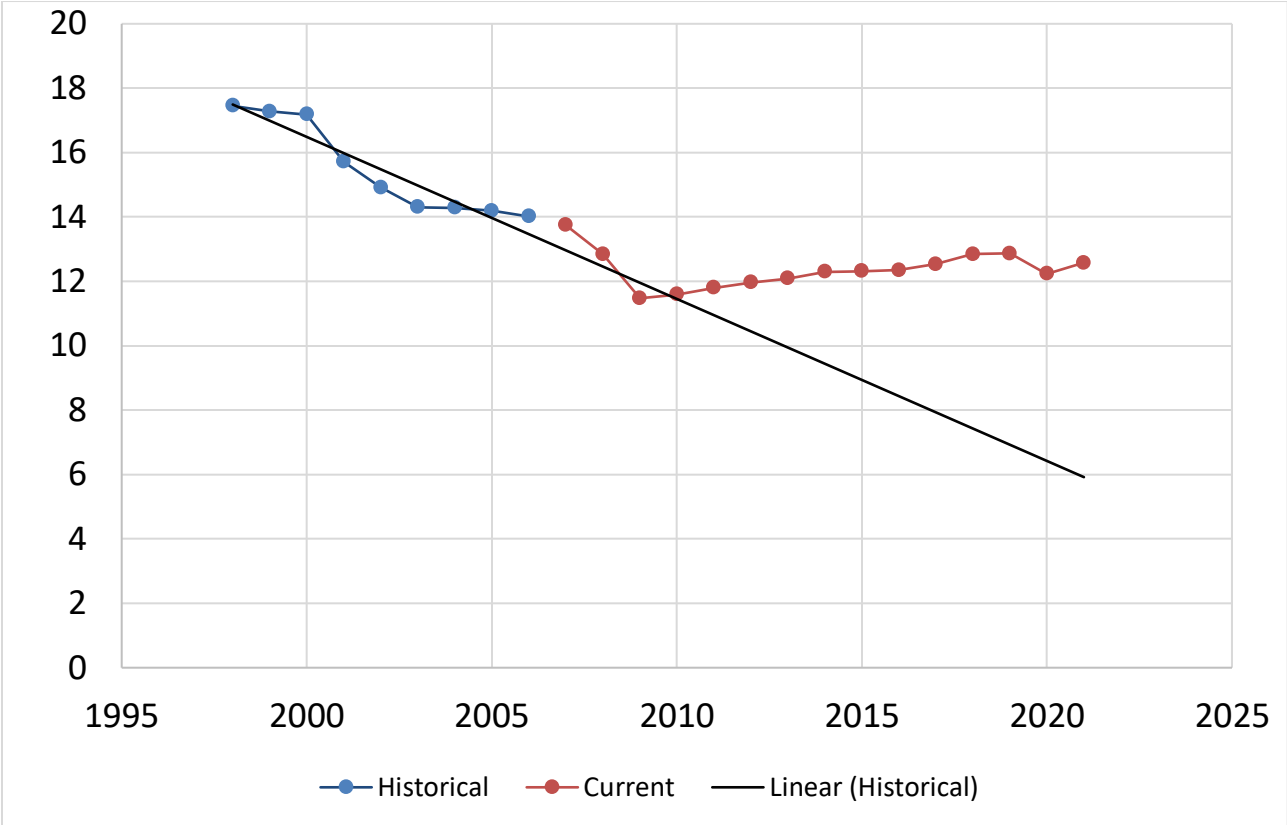
Source: Reshoring Initiative

# APPENDIX 5: Reshoring and FDI: Manufacturing Jobs/Year



Source: Reshoring Library Database

# APPENDIX 6: BLS Manufacturing Employment, Millions



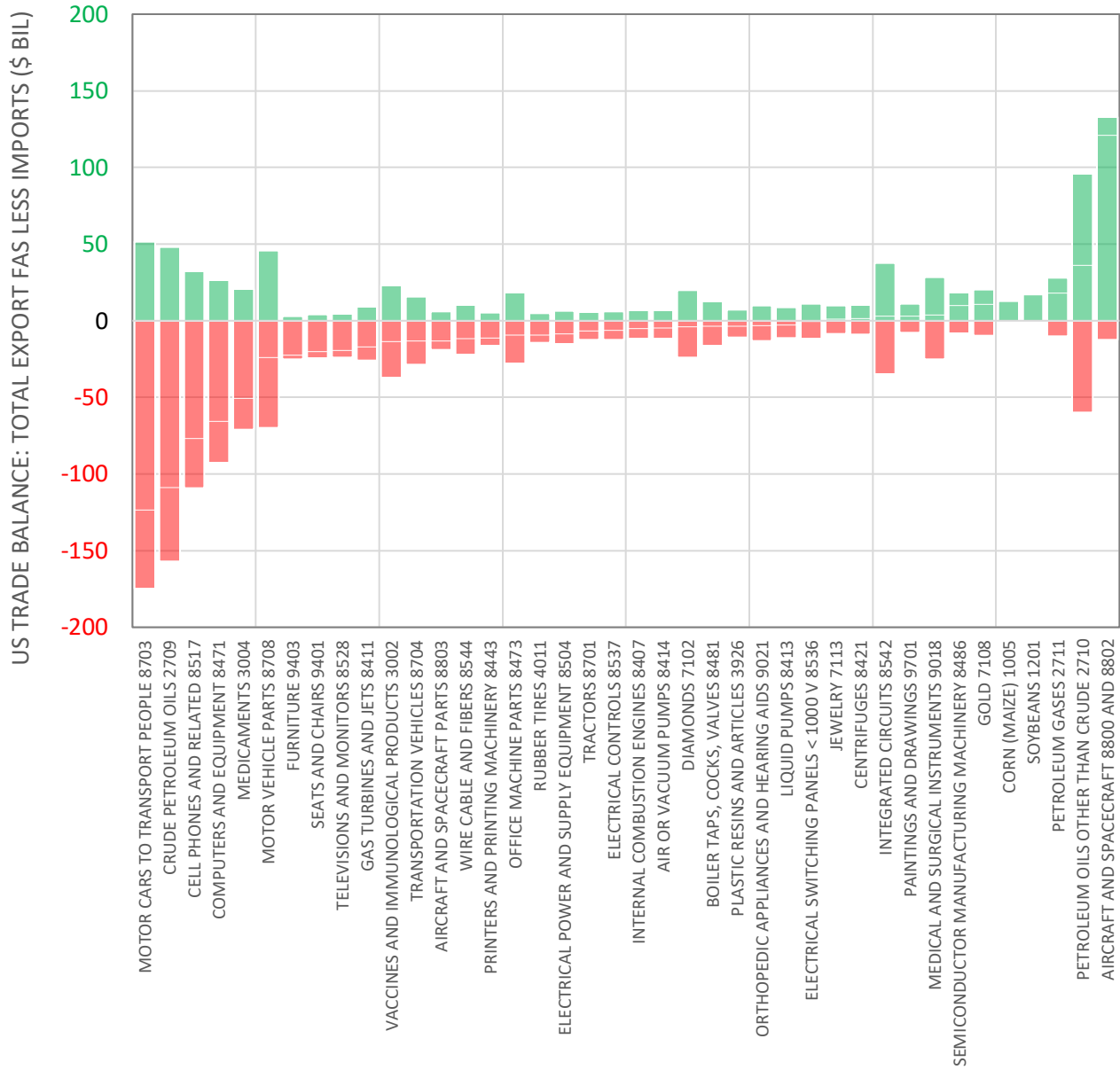
# APPENDIX 7: Good Trade Balance as a % of U.S. GDP (1970-2019)



Source: BEA trade data, FRED GDP data

# APPENDIX 8: U.S. Trade Balance by HS Good

**2018 US TRADE BALANCE BY GOOD (HTS 4-DIGIT)  
TOP 40 BY TOTAL IMPORT + EXPORT VALUE, EXCLUDING SPECIAL CLASSES  
ACCOUNTING FOR 50.7% OF TOTAL IMPORT + EXPORT VALUE**



Source: US International Trade Commission via Jack Kirr

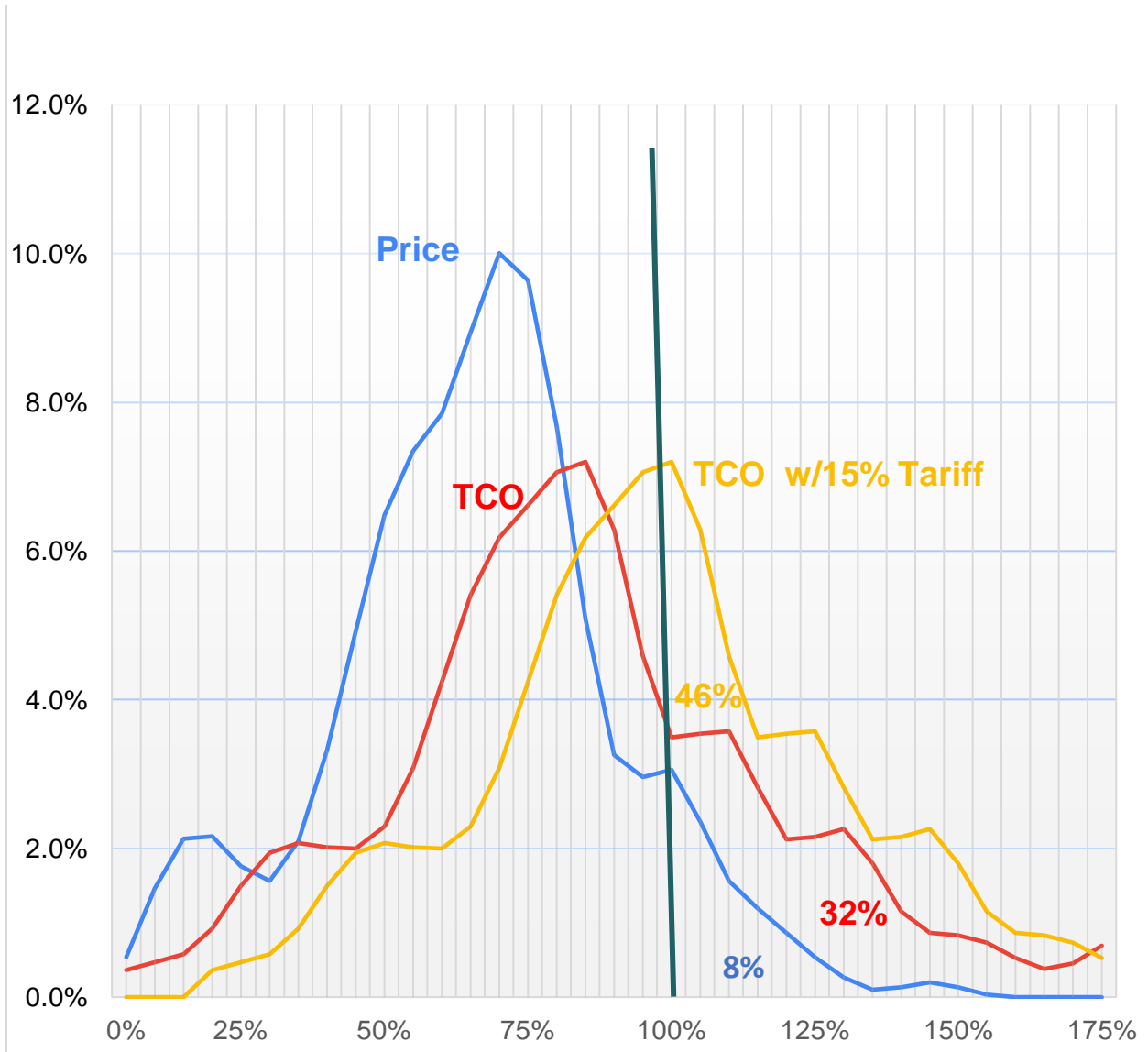




## APPENDIX 9: Reshoring & FDI by Industry 2010 to 2021

Rank	Industry	Jobs	Companies	% of Total Jobs
1	Transportation Equipment	368522	1285	27%
2	Computer & Electronic Products	184496	800	14%
3	Machinery	152659	893	11%
4	Medical Equipment & Supplies	139451	1191	10%
5	Furniture and Related Products	85416	685	6%
6	Primary Metal Products	78294	495	6%
7	Electrical Equipment, Appliances & Components	60434	611	4%
8	Apparel & Textiles	50797	826	4%
9	Chemicals	48326	587	4%
10	Plastic & Rubber Products	47766	184	4%

## APPENDIX 10: Chinese Price and TCO, % of U.S.



Source: Reshoring Initiative TCO user database

<sup>i</sup> Monthly U.S. International Trade In Goods And Services, March 2022, Census/BEA, [https://www.census.gov/foreign-trade/Press-Release/current\\_press\\_release/ft900.pdf](https://www.census.gov/foreign-trade/Press-Release/current_press_release/ft900.pdf), 5/30/22

<sup>ii</sup> Foreign Trade, Census, [https://www.theglobaleconomy.com/rankings/trade\\_balance/](https://www.theglobaleconomy.com/rankings/trade_balance/), 5/30/22

<sup>iii</sup> Reshoring Initiative 2020 Data Report, Reshoring Initiative, <https://reshorenow.org/blog/reshoring-initiative-2020-data-report/>

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- <sup>iv</sup> A New, Old Global Reality, Friedman, George, Geopolitical Futures, [https://ggc-mauldin-images.s3.amazonaws.com/uploads/pdf/20220527\\_OMS\\_Taiwan-Friedman.pdf](https://ggc-mauldin-images.s3.amazonaws.com/uploads/pdf/20220527_OMS_Taiwan-Friedman.pdf), 5/30/22
- <sup>v</sup> Top Trading Partners - March 2022, Census, <https://www.census.gov/foreign-trade/statistics/highlights/toppartners.html>, 5/30/22
- <sup>vi</sup> Trade in Goods with China, Census, <https://www.census.gov/foreign-trade/balance/c5700.html#2021,5/29/30>
- <sup>vii</sup> The Long Fight to Control Taiwan, Geopolitical Futures, [https://geopoliticalfutures.com/the-long-fight-to-control-taiwan/?tpa=NmE3MWM3ODA4ZmRiMmU1MjU1YTFiMDE2NTQ3ODg5MjU5OTFkNDc&utm\\_source=newsletter&utm\\_medium=email&utm\\_term=https://geopoliticalfutures.com/the-long-fight-to-control-taiwan/?tpa=NmE3MWM3ODA4ZmRiMmU1MjU1YTFiMDE2NTQ3ODg5MjU5OTFkNDc&utm\\_content&utm\\_campaign=PAID%20-%20Daily%20Digest,5/29/30](https://geopoliticalfutures.com/the-long-fight-to-control-taiwan/?tpa=NmE3MWM3ODA4ZmRiMmU1MjU1YTFiMDE2NTQ3ODg5MjU5OTFkNDc&utm_source=newsletter&utm_medium=email&utm_term=https://geopoliticalfutures.com/the-long-fight-to-control-taiwan/?tpa=NmE3MWM3ODA4ZmRiMmU1MjU1YTFiMDE2NTQ3ODg5MjU5OTFkNDc&utm_content&utm_campaign=PAID%20-%20Daily%20Digest,5/29/30)
- <sup>viii</sup> <https://www.rebuildmanufacturing.com/>
- <sup>ix</sup> 2.1 Million Manufacturing Jobs Could Go Unfilled by 2030, NAM, <https://www.nam.org/2-1-million-manufacturing-jobs-could-go-unfilled-by-2030-13743/?stream=workforce,5/28/22>
- <sup>x</sup> Education Pays, BLS, <https://www.bls.gov/emp/chart-unemployment-earnings-education.htm>, 5/28/30
- <sup>xi</sup> Scott, Robert, 11/24/20, Memorandum on U.S. trade and manufacturing policy, Economic Policy Institute, <https://www.epi.org/publication/memorandum-on-u-s-trade-and-manufacturing-policy/>
- <sup>xii</sup> Scott, Robert and Hersh, Adam, 1/19/22, Tariff increases did not cause inflation, and their removal would undermine domestic supply chains, Economics Policy Institute, <https://www.epi.org/blog/tariff-increases-did-not-cause-inflation-and-their-removal-would-undermine-domestic-supply-chains/>
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