



ISSUE BRIEF : Q2 2021

RESHORING AMERICA

STEPS WASHINGTON CAN TAKE TO BOOST
MANUFACTURING IN THE HEARTLAND



**HEARTLAND
FORWARD**

AN INSTITUTE FOR ECONOMIC RENEWAL



**BUSINESSFORWARD
FOUNDATION**

INTRODUCTION

The U.S. relies too much on overseas production for critical supplies, and the pandemic proved how costly such dependence can be. Our inability to manufacture enough personal protective equipment for our frontline workers underscores the importance of domestic manufacturing.

This issue brief provides a topline understanding of U.S. manufacturing over the decades, highlights the shift caused by automation and lower cost markets, and speaks to why moving work offshore has lost its appeal. We also address how the Heartland has an advantage when reshoring manufacturing, thanks to findings from Heartland Forward (HF), a “think and do” tank, and its recent report called *Reshoring America—Can the Heartland Lead the Way?* This issue brief shows how reshoring can bring production home and pave the way for a manufacturing resurgence that benefits the economies and hardworking people of the Heartland.

ABOUT BUSINESS FORWARD FOUNDATION

The Business Forward Foundation is an independent research and education organization that takes a business-minded look at policy issues affecting America’s economic competitiveness. Our work combines insights and advice from business leaders across the country with rigorous policy analysis.

TOPLINE

1. For decades, the U.S. lost manufacturing jobs to countries with lower costs of production, mostly due to our high labor costs.
2. In practice, offshoring was never as good a bargain as manufacturers expected, due to higher shipping costs, lost IP protection, and quality control issues.
3. Recently, wages in countries like China have risen, reducing the labor cost gap. Meanwhile, automation has reduced labor costs' importance relative to other costs, such as shipping.
4. Because automation tends to eliminate low-skill jobs, the jobs likely to come back will be demanding and potentially better paying.
5. Heartland states are well positioned to attract new manufacturing investment, because their labor, real estate, shipping and other costs are lower than in most coastal states. Reshoring manufacturing jobs could help rebalance these Heartland economies.
6. This past year, COVID-19 demonstrated a new level of global supply chain risk, and 70% of firms that have offshored manufacturing are likely to reshore in the future.¹ But short-term costs of moving production back home could discourage reshoring despite its long-term benefits.
7. We can compensate for these short-term costs and bring manufacturing jobs back to the U.S. by training our workforce, modernizing our infrastructure, boosting manufacturing R&D, and targeting high growth sectors like communications equipment and strategic metals.

KEY FACTS

10-30%

of manufacturing projects being considered for offshoring would be cheaper here in the U.S.²

400K

jobs created by reshoring activity from 2010-2019³

From 2010 to 2019, reshored jobs accounted for

5%

of total U.S. industrial employment⁴

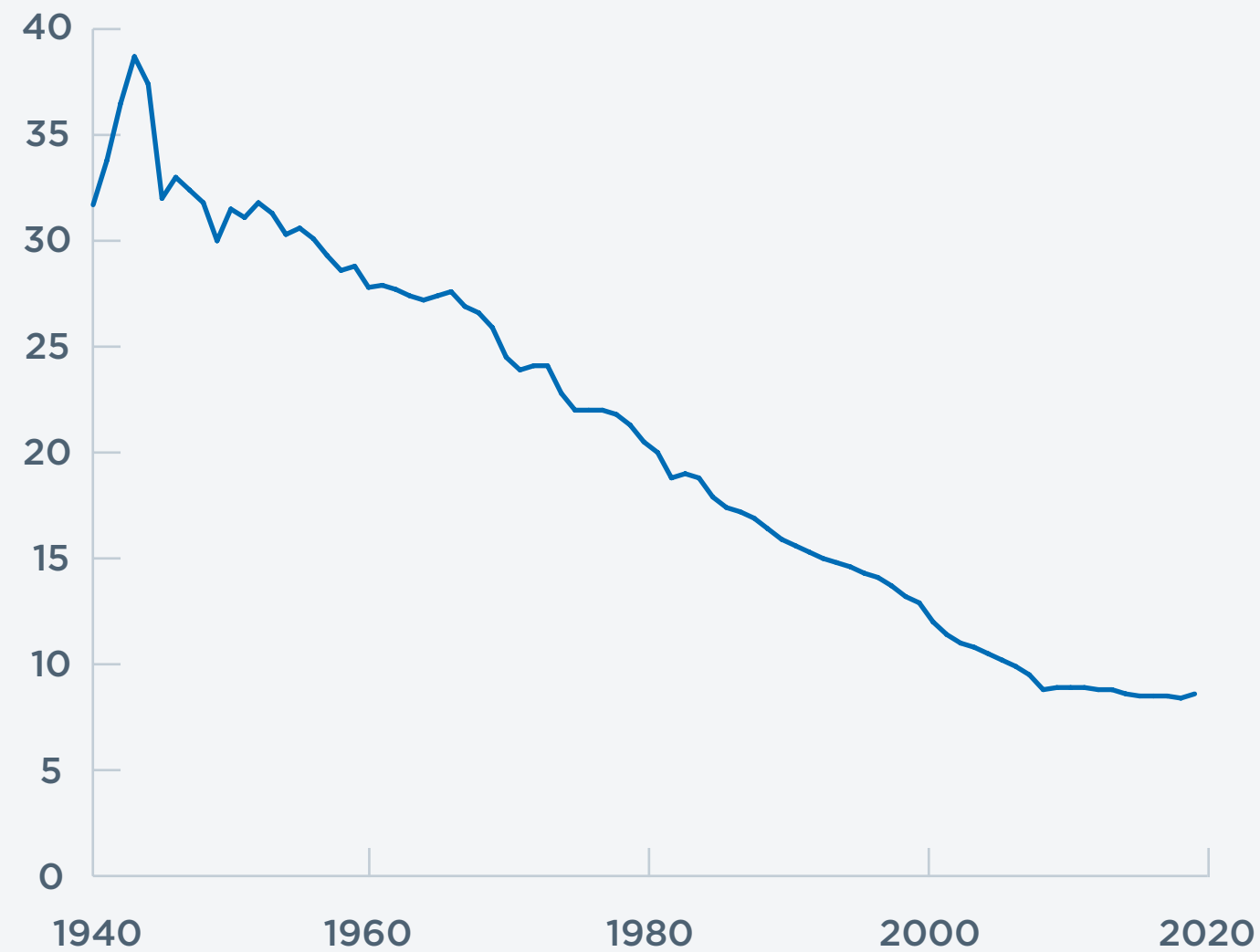
U.S. MANUFACTURING'S DECLINE DRIVEN BY (1) AUTOMATION AND (2) SHIFT TO LOWER COST MARKETS

DECLINE IN EMPLOYMENT

From 1943 to 2019, manufacturing's share of the U.S. employment fell by 77%.⁵

From 2000 through 2016 alone, the U.S. lost nearly 5 million manufacturing jobs.⁶

PERCENT OF AMERICANS WORKING IN MANUFACTURING⁷ (1940-2020)



AUTOMATION

Many of these jobs were lost to automation, but thousands were shipped to other countries (notably China and Mexico) by companies looking to reduce their cost of production.



CASE STUDY: STEEL

From 1972 to 2014, approximately

1/2

of global steel jobs were automated out of existence (while steel output rose).⁸

FOREIGN MARKETS

These companies were drawn to foreign markets by low labor costs.

From 1993-2011, multinational-owned establishments accounted for 41% of the aggregate manufacturing employment decline in the US.⁹

Further, newly multinational establishments in the U.S. experienced job losses, while their parent firms increased input imports from abroad.

From 2016 to 2018, trade wars and tax policies encouraged U.S. manufacturers to offshore another 247,000 jobs.¹⁰

US CORPORATIONS CONTINUE SENDING JOBS ABROAD DURING PANDEMIC¹¹

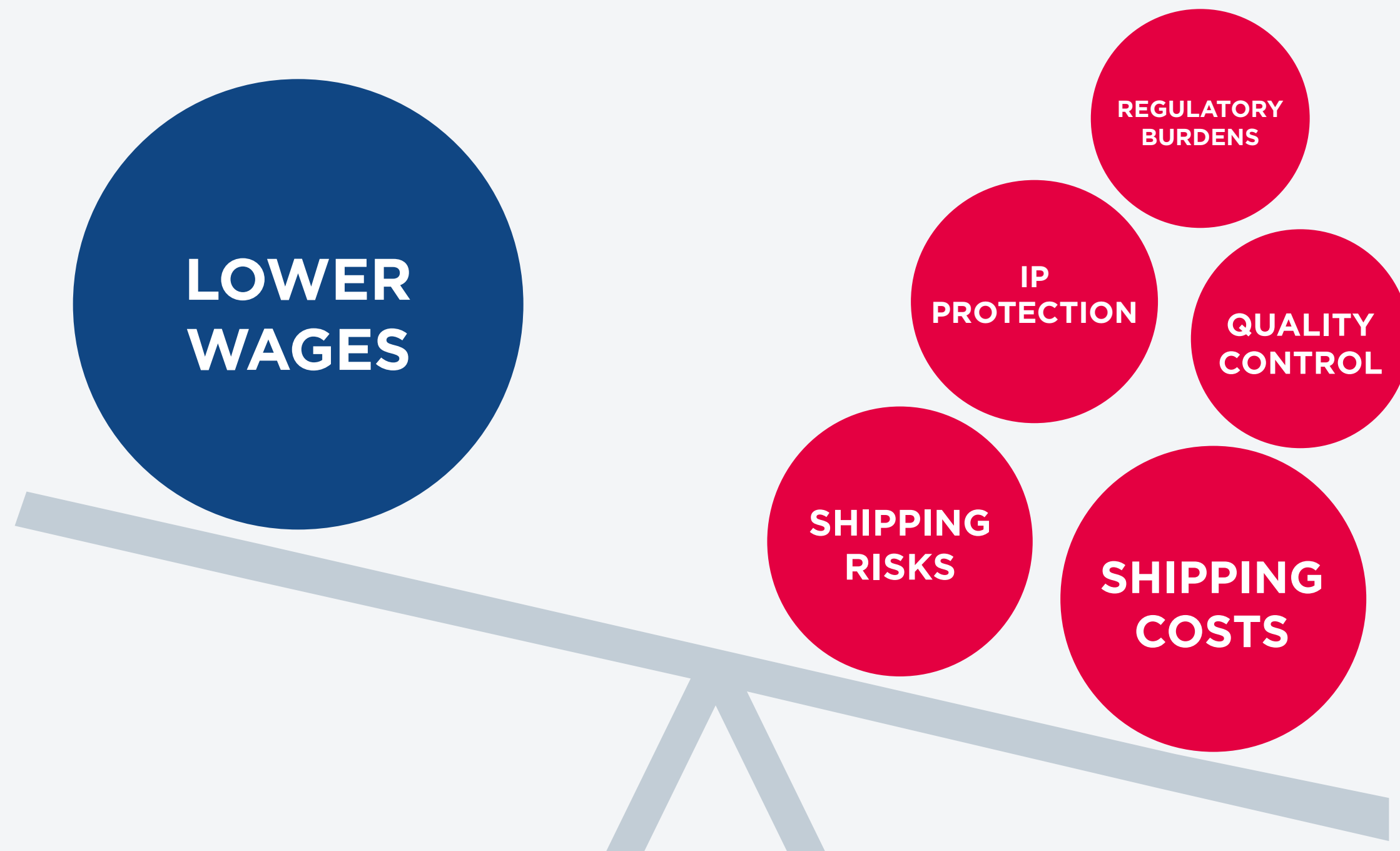
SEPTEMBER 12, 2020
MICHAEL SAINATO

The
Guardian

BUT OFFSHORING HASN'T BEEN THE DEAL MANUFACTURERS EXPECTED

Offshoring was never the bargain these companies hoped for, because the savings they realized on labor costs were offset by higher expenses, like shipping.

OFFSHORING TRADE-OFFS



OFFSHORING COMPANIES UNDERESTIMATED PRODUCTION COSTS IN CHINA BY 20%¹²

COST GAP

The majority of manufacturers still use simple cost models to make sourcing decisions. But their calculations ignore 20-30% of total costs that make offshoring less attractive.¹³

The Reshoring Initiative helps manufacturers make the best possible sourcing decisions with their Total Cost of Ownership Estimator. It accounts for offshoring's hidden costs, such as shipping risks, quality control, inventory issues, political instability, and regulatory conditions.

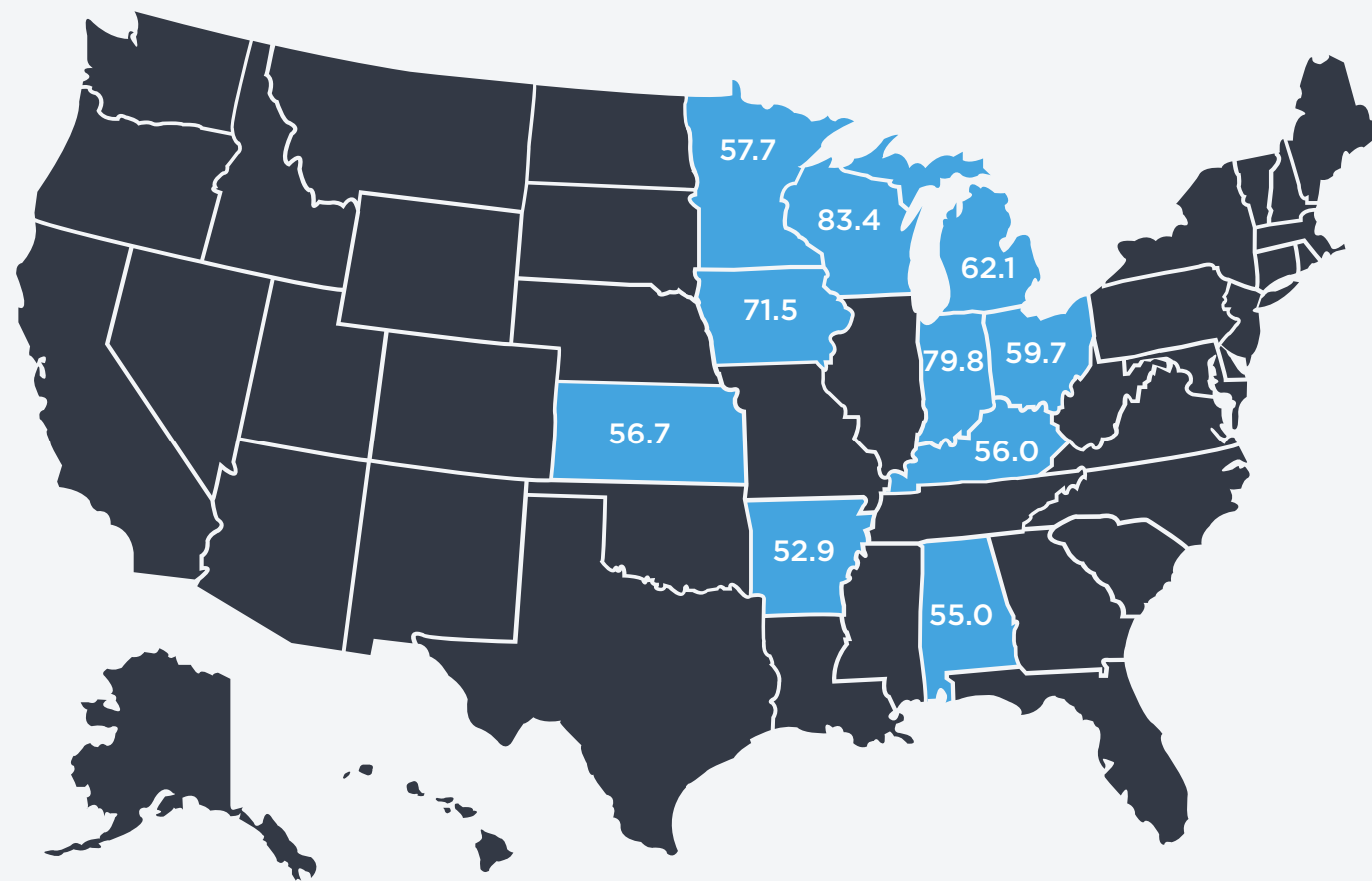
The initiative found that after considering total costs, the percentage of products the U.S. can competitively manufacture jumps from 8% to 32%.¹⁴ And companies could reshore 25% of offshore manufacturing to improve their bottom line.¹⁵

HEARTLAND STATES HAVE AN ADVANTAGE

HIGHER VALUE WORKFORCE

Historic concentration of manufacturing (OEM, suppliers) creates efficiencies of scale and supports a trained workforce across the Heartland.

10 STATES WITH THE HIGHEST CONCENTRATION OF MANUFACTURING JOBS PER MILLION RESIDENTS¹⁶



U.S. AVERAGE: 38.7

LOWER COST OF LIVING

Heartland states have lower costs of living than coastal states - which helps attract talent and lower labor costs.

LOWEST RANKED COST OF LIVING ACROSS THE HEARTLAND¹⁷



PROXIMITY TO MAJOR MARKETS

Proximity to major markets - such as the U.S. itself - helps companies save on shipping costs.

COVID-19 demonstrated that proximity to markets is also important for quickly supplying products (such as PPE) to meet demand.

CASE STUDY: CHINA VS. U.S.

Goods shipped from China take about:¹⁸



14 DAYS
to reach the
West Coast



30 DAYS
to reach the
East Coast

Ohio's shippers can get to 60% of the U.S. and Canadian population within:¹⁹



24 HOURS

THE OPPORTUNITY: MANUFACTURING JOBS LEFT REQUIRE SKILLS AND PAY WELL

DELOITTE PROJECTS A SHORTAGE OF 2.4 MILLION SKILLED MANUFACTURING JOBS BY 2028.²⁰

2.7M

JOB OPENINGS CREATED BY RETIREMENT

+

1.9M

JOB OPENINGS CREATED BY NATURAL GROWTH

= 4.6M

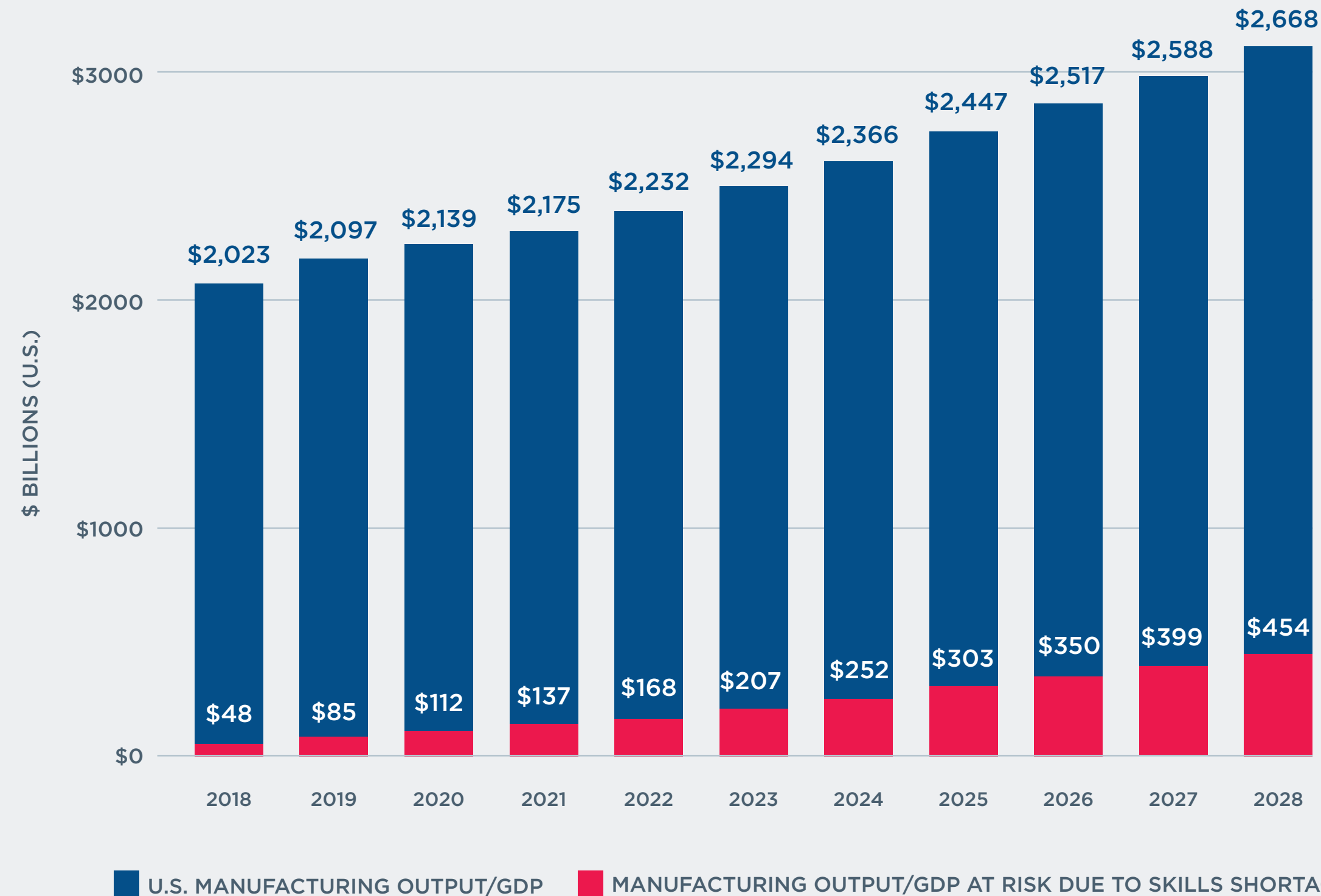
MANUFACTURING JOBS TO FILL BETWEEN 2018-2028

ONLY 2.2 MILLION WORKERS CAPABLE OF FILLING THESE JOBS.

= 2.4M

JOB GAP

IF WE CAN'T FILL THESE JOBS, OUR ECONOMY COULD LOSE \$2.5 TRILLION IN OUTPUT BY 2028²¹



! PERSISTENT SKILLS SHORTAGES COULD COST THE U.S. \$85 BILLION THIS YEAR, AND COULD RISK \$2.5 TRILLION IN ECONOMIC OUTPUT OVER THE NEXT DECADE²²

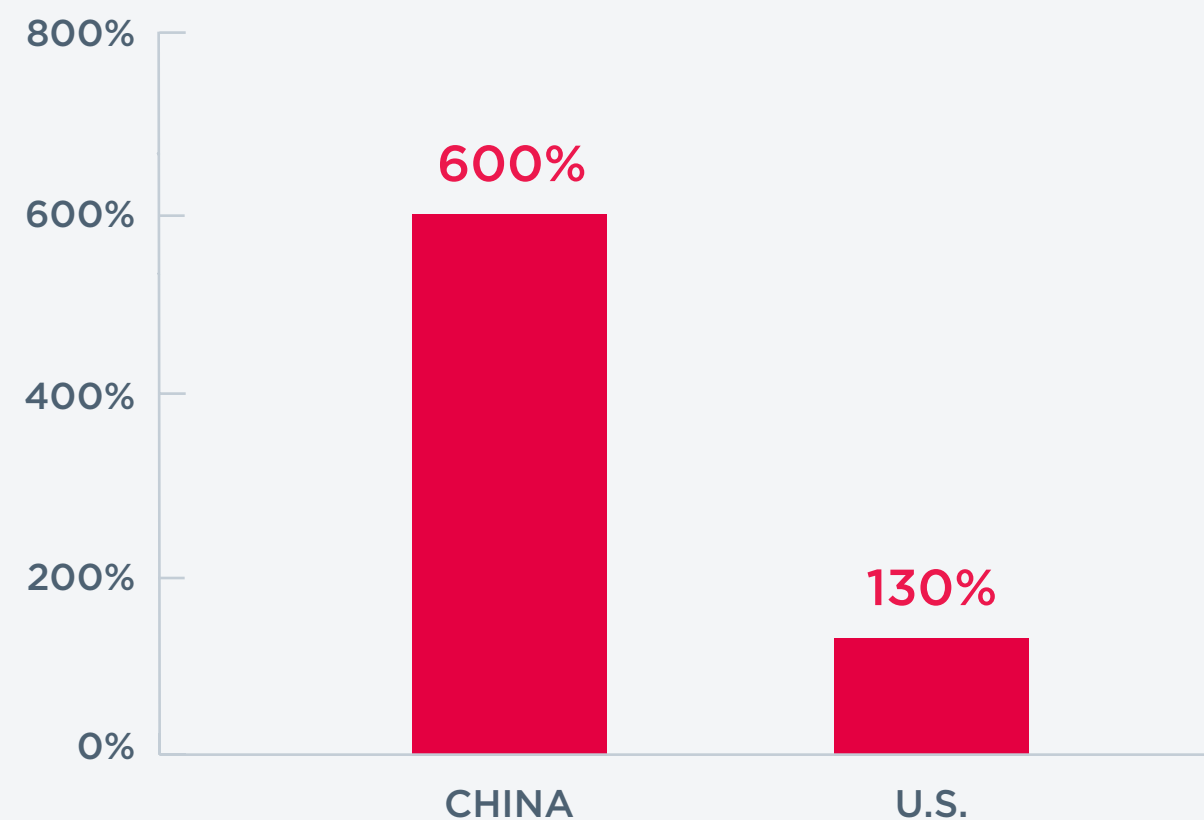
COST DIFFERENCE IS SHRINKING AND WILL CONTINUE TO SHRINK

SHRINKING LABOR COST GAP

As manufacturing has grown more automated, America's labor cost disadvantage has shrunk.

Cost of capital, equipment, and distribution is replacing labor in importance - and proximity to consumers is growing more important. Plus, wages in China and other markets are rising, as manufacturing jobs there require higher skills.

MANUFACTURING WAGE INCREASE AS A PERCENT OF INFLATION²³ (2000-2015)



OTHER CONSIDERATIONS

Meanwhile, IP and other risks have grown more important, which makes manufacturing in the U.S. more attractive.



POLITICAL AND SECURITY RISKS



REGULATORY ENVIRONMENT



QUALITY CONTROL & FLEXIBILITY IN MANUFACTURING

CASE STUDY: XSTREAM TRUCKING

In 2015, Daniel Burrows started XStream Trucking. They produce TruckWings - panels that seal the gap between a truck's tractor and trailer to improve aerodynamics and save fuel. Since 2018, they have brought back 60% of production requirements to the U.S.

“

China's advantages--a large workforce, low labor costs, efficient logistics, stable infrastructure--had already been shrinking prior to the [2018] trade war... We compared materials cost, shipping, operational complexities, and the risk of business disruptions... Reshoring has brought significant benefits to the company.²⁴

”

- DANIEL BURROWS
CEO AND FOUNDER
XSTREAM TRUCKING

COVID DEMONSTRATES DOWNSIDE OF GLOBAL SUPPLY CHAINS

SUPPLY CHAINS ARE INCREASINGLY GLOBAL AND COMPLEX

FOR AUTOMAKERS AND SUPPLIERS, SUPPLY CHAIN EXPENSES ARE

75%
OF TOTAL COSTS²⁵

CARS AND TRUCKS SOLD IN THE U.S. ARE MADE FROM AS MANY AS

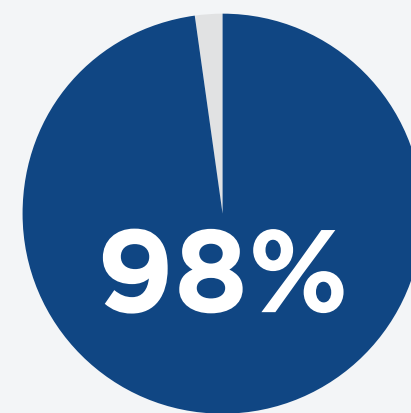
15,000
DIFFERENT PARTS²⁶

AN AUTOMAKER WITH PLANTS IN MICHIGAN AND ONTARIO COULD SEE SOME OF ITS PARTS CROSS THE U.S.-CANADA BORDER

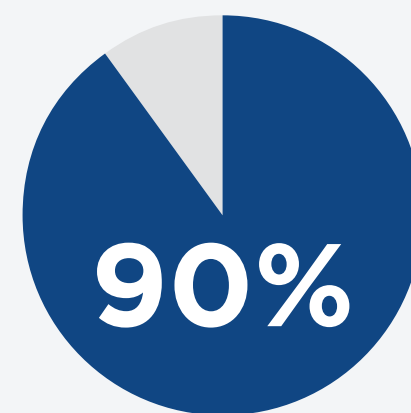
5-7X
BEFORE THEY ARE INSTALLED IN A FINISHED CAR OR TRUCK²⁷

RISK OF DISRUPTIONS

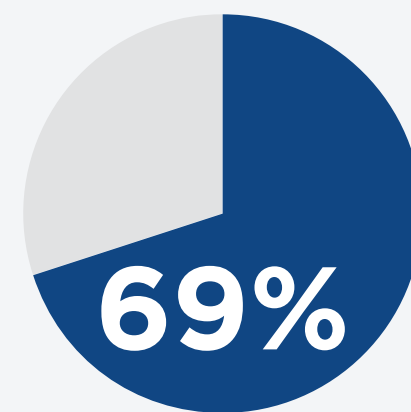
In 2020, supply chain resilience experts at Interos surveyed 450 senior decision-makers in the US.²⁸



OF THOSE SURVEYED SAID THEIR ORGANIZATION'S SUPPLY CHAIN WAS DISRUPTED BY THE PANDEMIC (SHORTAGES, DEMAND REDUCTION, PRICE FLUCTUATIONS)²⁹



OF COMPANIES EXPECT THE DISRUPTION OF GLOBAL SUPPLY CHAINS CAUSED BY THE PANDEMIC WILL HAVE LONG-LASTING EFFECTS ON THEIR BUSINESSES³⁰



OF MANUFACTURERS SAY THEY ARE LIKELY OR VERY LIKELY TO RESHORE IN FUTURE³¹

LONG-TERM BENEFITS

But moving operations back will be expensive: Short-term cost could discourage onshoring despite long-term benefits.

COST FOR U.S. AND EUROPEAN COMPANIES TO MOVE MANUFACTURING OUT OF CHINA:

\$1 TRILLION
OVER 5 YEARS³²

“ But these shifts would make supply chains more reliable and allow firms to exit from the notorious high carbon supply chains in China, which now emit more GHG than in the United States and the European Union combined.³³ ”

- RESHORING AMERICA: CAN THE HEARTLAND LEAD THE WAY?
HEARTLAND FORWARD

STEPS WASHINGTON CAN TAKE TO REDUCE SHORT-TERM BARRIERS TO RESHORING

WE CAN MAKE IT EASIER FOR MANUFACTURERS

To make it easier for manufacturers to onshore, we can:

1 Invest in sectors most likely to reshore.

2 Boost STEM education and training in the U.S. Currently, 5% of students in the U.S. major in engineering compared to 33% of students in China.³⁴

3 Improve our infrastructure to reduce shipping and energy costs.

EARLY ACTIONS BY THE BIDEN ADMINISTRATION

\$300B

IN R&D TO REVITALIZE AMERICAN MANUFACTURING AND INVEST IN ALTERNATIVES TO 4-YEAR COLLEGES³⁵

\$400B

IN GOVERNMENT PROCUREMENT TO U.S. MANUFACTURERS THROUGH THE DEFENSE PRODUCTION ACT³⁶



PLAN TO REBUILD U.S. SUPPLY CHAINS THROUGH TAX POLICY, SUBSIDIES, AND PUBLIC PRIVATE PARTNERSHIPS TO ENCOURAGE COMPANIES TO RETAIN CAPACITY TO MAKE CRITICAL SUPPLIES DURING A NATIONAL EMERGENCY³⁷

PRIORITIES MOVING FORWARD

1 Compensate for short-term costs by encouraging small, traded sectors, such as communications equipment and strategic metals, that are capable of major growth.

2 Preserve and attract larger firms in traded industries through tax incentives, infrastructure improvements, and fair regulations.

REFERENCES

1. Hanno, Andrew. "Reshoring Is Creating Opportunities For North American Manufacturers." Thomasnet Industrial Marketing & Sales Blog. August 20, 2020. <https://blog.thomasnet.com/reshoring-creates-opportunities-for-manufacturers-in-2020>.
2. Kotkin, Joel, Michael Lind, & Dave Shideler. "Reshoring America: Can the Heartland Lead the Way?" Heartland Forward. February 2021. <https://heartlandforward.org/media/pages/reshoring-america-can-the-heartland-lead-the-way/3310172018-1611937100/reshoring-america-can-the-heartland-lead-the-way1.pdf>.
3. Ibid.
4. Moser, Harry. "Jobs Announced to Reach 1 Million by Year End, 2019 Data Updates and Forecasts for 2020." Reshoring Initiative. 2020. https://drive.google.com/file/d/1Kep8fBxSzWI_qyt511edi0Q9hPPHDT1q/view.
5. Lazete, M. P. "Manufacturing under Pressure." Federal Reserve Bank of Cleveland. March 18, 2020. <https://www.clevelandfed.org/en/newsroom-and-events/multimedia-storytelling/manufacturing.aspx>.
6. Charles, Kerwin Kofi, Erik Hurst, & Mariel Schwartz. "The Transformation of Manufacturing and the Decline in U.S. Employment." National Bureau of Economic Research. March 2018. https://www.nber.org/system/files/working_papers/w24468/w24468.pdf.
7. "All Employees, Manufacturing / All Employees, Total Nonfarm." Federal Reserve Bank of St. Louis. Accessed February 19, 2021. <https://fred.stlouisfed.org/graph/?g=cAYh>.
8. Fox, Justin. "Steel and Aluminum Jobs Don't Add Up to Much." Bloomberg. March 2, 2018. <https://www.bloomberg.com/opinion/articles/2018-03-02/steel-tariffs-talk-ignores-effects-on-manufacturing-jobs>.
9. Boehm, Christoph & Nitya Pandalai-Nayar. "How Offshoring by Multinational Corporations Contributed to the Decline of US Manufacturing." ProMarket: Stigler Center at the University of Chicago Booth School of Business. July 11, 2019. <https://promarket.org/2019/07/11/how-offshoring-by-multinational-corporations-contributed-to-the-decline-of-us-manufacturing/>.
10. Shapiro, Robert J. "Trump's Manufacturing Record Stinks, Newest Data Shows." Washington Monthly. September 22, 2020. <https://washingtonmonthly.com/2020/09/22/trumps-manufacturing-record-stinks-newest-data-shows/>.
11. Sainato, Michael. "US corporations continue sending jobs abroad during pandemic." The Guardian. September 12, 2020. <https://www.theguardian.com/business/2020/sep/12/us-corporations-sending-jobs-abroad-offshoring-pandemic>.
12. Moser, Harry. "Impact of Using TCO instead of Price." Reshoring Initiative. July 30, 2020. <https://reshorennow.org/blog/impact-of-using-tco-instead-of-price/>.
13. Schoenberger, Robert. "Returning jobs to the US, Reshoring Initiative expert Q&A with JM Performance Products. Today's Motor Vehicles. August 14, 2017. <https://www.todaysmotorvehicles.com/article/reshoring-qa-jm-performance-products-081417/>.
14. JM Performance Products Inc. "Reshoring Operations in the Age of COVID-19: Part Two." SME. November 5, 2020. <https://www.sme.org/technologies/articles/2020/november/reshoring-operations-in-the-age-of-covid-19-part-two/>.
15. Moser, Harry. "Why Should Companies Consider Producing and Sourcing More Products in the US?" IndustryWeek. May 27, 2016. <https://www.industryweek.com/the-economy/competitiveness/article/21973271/why-should-companies-consider-producing-and-sourcing-more-products-in-the-us>.
16. Carrick, Alex. "Series (1 of 7): Rankings of States by Industrial Subsector Jobs - Manufacturing." Construct Connect. January 14, 2019. <https://www.constructconnect.com/blog/economy/series-1-7-rankings-states-industrial-sub-sector-jobs-weight-concentration-maps-manufacturing>.
17. "Affordability Rankings." U.S. News. Accessed February 19, 2021. <https://www.usnews.com/news/best-states/rankings/opportunity/affordability>.
18. U.S. Department of Commerce: Assess Costs Everywhere. "Shipping." March 20, 2018. <https://acetoool.commerce.gov/cost-risk-topic/shipping>
19. Ohio Governor's Advisory Committee on Transportation Infrastructure. "Recommendation Report." February 15, 2019. <https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/021519>.
20. Giffi, Craig A., Paul Wellener, Ben Dollar, Heather Ashton Manolian, Luke Monck, & Chad Moutray. "The jobs are here, but where are the people?" Deloitte Insights. November 14, 2018. <https://www2.deloitte.com/us/en/insights/industry/manufacturing/manufacturing-skills-gap-study.html>.
21. Ibid.
22. Ibid.
23. U.S. Department of Commerce: Assess Costs Everywhere. "Labor Costs." March 20, 2018. <https://acetoool.commerce.gov/cost-risk-topic/labor-costs>.
24. Burrows, Daniel. "Why We're Reshoring Our Manufacturing: A CEO's View." IndustryWeek. November 3, 2020. <https://www.industryweek.com/leadership/strategic-planning-execution/article/21146695/why-were-reshoring-manufacturing-a-ceos-view>.
25. Business Forward Foundation. "Severe Weather and Autos." 2015. <https://www.businessfwd.org/wp-content/uploads/2017/09/2015-Auto-Report.pdf>.
26. Ibid.
27. Hulett, Sarah. "Windsor, Ontario, to Detroit: 'Reset and come out stronger'." Michigan Radio. August 13, 2013. <https://www.michiganradio.org/post/windsor-ontario-detroit-reset-and-come-out-stronger-0>.
28. Interos. "COVID Resilience Report: The Impact of COVID-19 on Supply Chains and How Businesses are Preparing for the Next Shock." 2020. <https://www.interos.ai/project/interos-2020-survey/>.
29. Ibid.
30. Ibid.
31. Hanno, Andrew. "Reshoring Is Creating Opportunities For North American Manufacturers." Thomasnet Industrial Marketing & Sales Blog. August 20, 2020. <https://blog.thomasnet.com/reshoring-creates-opportunities-for-manufacturers-in-2020>.
32. Saigol, Lina. "Getting out of China will cost U.S. and European firms \$1 Trillion, says BofA." MarketWatch. August 21, 2020. <https://www.marketwatch.com/story/getting-out-of-china-will-cost-us-and-european-firms-1-trillion-says-bofa-2020-08-19#:~:text=Even%20before%20the%20pandemic%2C%20the,real%20and%20structural%2C%20says%20BofA.&text=The%20cost%20for%20U.S.%20and,research%20from%20Bank%20of%20America>.
33. Kotkin, Joel, Michael Lind, & Dave Shideler. "Reshoring America: Can the Heartland Lead the Way?" Heartland Forward. February 2021. <https://heartlandforward.org/media/pages/reshoring-america-can-the-heartland-lead-the-way/3310172018-1611937100/reshoring-america-can-the-heartland-lead-the-way1.pdf>.
34. Goldman, David P. "Moving the Chains: 9 Strategies for Retaking Global Leadership in Industry and Innovation." American Compass. June 2020. <https://americancompass.org/in-focus/moving-the-chains/>.
35. Biden for President. "The Biden Plan to Ensure the Future is "Made in All of America" by All of America's Workers." Accessed February 19, 2021. <https://joebiden.com/made-in-america/>.
36. Ibid.
37. Biden for President. "The Biden Plan to Rebuild U.S. Supply Chains and Ensure the U.S. does not Face Future Shortages of Critical Equipment." Accessed February 19, 2021. <https://joebiden.com/supplychains/>.

INFO@BUSINESSFWD.ORG

BUSINESSFWD.ORG

1155 CONNECTICUT AVENUE NW
SUITE 1000
WASHINGTON, D.C. 20036

202.861.1270



**HEARTLAND
FORWARD**

AN INSTITUTE FOR ECONOMIC RENEWAL



BUSINESSFORWARD
FOUNDATION