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RESHORING AMERICA: CAN THE HEARTLAND LEAD THE WAY?

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ACKNOWLEDGEMENTS

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ABOUT HEARTLAND FORWARD

Heartland Forward's mission is to improve economic performance in the center of the United States by advocating for fact-based solutions to foster job creation, knowledge-based and inclusive growth and improved health outcomes. We conduct independent, data-driven research to facilitate action-oriented discussion and impactful policy recommendations.

TABLE OF CONTENTS

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The COVID-19 pandemic has had overwhelming impacts on our economy, not to mention the impact on lives and personal wellness.

The critical lack of medical equipment to treat and protect those affected highlights the over-reliance of United States manufacturing sector on overseas production. The offshoring issue extends beyond current pandemic concerns, however, reaching far larger and more permanent concerns over industrial supply chains, worker training and even national security.

Reshoring is the relocation of production facilities to, or the creation of new ones in, the United States. Many domestic and foreign companies are recognizing the strategic advantages of locating in the United States, such as protecting intellectual property, shortening supply chains and shrinking wage differentials[1] between the United States, China and other overseas locations. Some estimates suggest that firms fail to accurately estimate the costs of production in other countries by as much as 20 percent. Considering these additional costs, experts suggest that 10-30 percent of projects considering locating production outside of the U.S. would find that it would be cheaper to remain or expand within the country. As a result, jobs stemming from reshoring activity are estimated to have reached over 400,000 in 2019, and that number is expected to grow.

The U.S. Heartland stands to benefit the most from reshoring activity. Because of its historic dependence on manufacturing, there remains a culture, skilled labor pool and training programs, as well as infrastructure to support production facilities. The presence and diversity of existing manufacturing throughout the region also supports reshoring activity, since domestic suppliers are available and proximate. The growth of financial and professional services in the Heartland also make it a desirable place for manufacturers, given the shift within the industry toward out-sourcing these aspects of the business.

Bipartisan support for reshoring has never been stronger in Washington. We have seen that reshoring activity will require more than tariffs and renegotiation of trade agreements. Instead, policies encouraging the behavior will also be needed, so that carrots and sticks are an integral part of the policy framework. To truly be successful, priority should be given to sectors and companies with growth potential, such as critical supply chain gaps that impact national security. Furthermore, infrastructure improvements and enhancements are needed to ensure that the U.S. remains competitive in the broader global economy.

Washington, DC
cityscape at dusk

INTRODUCTION

"Why can't the greatest economy in the history of the world produce swabs, face masks and ventilators in adequate supply?"

Lawrence Summers[2], the former head of President Obama's Economic Council, on Twitter, March 21, 2020.

The COVID-19 pandemic has brought in its wake numerous tragedies, deaths and enormous economic dislocation. But it has also provided another stark warning—seen in the critical lack of medical equipment—concerning the country's disastrous over-reliance on overseas production. It has demonstrated that without a strong, self-reliant industrial base, this country's ability to forge a healthful, prosperous future will be severely compromised.

But Americans, particularly in the Heartland—20 states[3] located largely between the Appalachian Mountains and the Rockies, now the country's industrial hotbed—are increasingly taking steps to address these shortages.

> I see COVID-19 creating a new business," suggests Alan Stockmeister[4], a real estate and steel industry veteran who helped launch Phoenix Quality Manufacturing this fall, a 50-person facility designed to produce masks and other protective equipment. "The key is to assemble the suppliers for all the parts here in the Midwest. It's time we got off our butts."

The reshoring issue extends beyond current pandemic concerns, however, reaching far larger and more permanent concerns over industrial supply chains, worker training and even national security.

The trend includes major companies[5], like Black and Decker[6], who moved production to a new facility in Fort Worth, Texas, as part of its reshoring strategy. Appliance giant Whirlpool[7] reshored over 2,000 jobs, along with General Electric, Apple, Caterpillar, Goodyear[8], General Motors, and Polaris. This means new opportunities for smaller U.S. firms who supply larger firms, becoming part of what could be seen as America's "industrial commons."

President Trump's tariffs may not have made the significant impact[9] that was promised, but the annual rate of jobs coming from offshore, suggests the Reshoring Initiative[10], has increased from 6,000 in 2010 to over 400,000 in 2019. Cumulative jobs brought back represent about 5% of total U.S. industrial employment. In 2019, for the first time in a decade, the percentage of U.S. manufacturing goods that were imported dropped, notes a recent Kearny study[11], with much of the shift coming from east Asia. Yet, there remains a resistance to reshoring among many companies; most companies with strong Chinese supply links are reluctant to make the move.[12]

Clearly, a larger shift from overseas will be difficult and not all industries may be amenable to such a shift. Identifying the industries that could benefit most from reshoring is beyond the scope of this work, but would be valuable information for stakeholders.

There is encouraging evidence of consumer support for this move. Despite the much-ballyhooed consumer benefits of low-cost imports, the vast majority of Americans[13] seem willing to pay higher prices that could come from moving production away from China, a fact that has encouraged retailers such as Walmart[14] to seek out more domestic suppliers.

This is not to suggest that all the old jobs will return; likely, due to automation and other process improvements, many industries may become more competitive[15] and employ fewer people. Despite this,the jobs would be technically more demanding and potentially better paying.[16] [17] [18] [19] When counting nonwage benefits, manufacturing workers earn 13 percent more in hourly compensation than comparable workers elsewhere in the private sector.[20] In 2016, manufacturing[21] accounted for more than one-fifth of all blue-collar professions paying more than $15 an hour, twice its share of the overall workforce. Critically, these reshoring activities will spark growth in other sectors by bringing dollars back to their communities, acknowledging that manufacturing tends to have multiple linkages to other local industries such that it typically has one of the highest multiplier values in a region.
To vet the potential for reshoring manufacturing in the United States, we first examine the economic development opportunity reshoring presents. Then we discuss why the United States and the Heartland region specifically

stand to benefit most from this strategy. We conclude with a discussion of the political capital available and policies necessary to enhance reshoring activity.

Cargo container
ship carrying U.S. goods

RE·SHOR·ING:

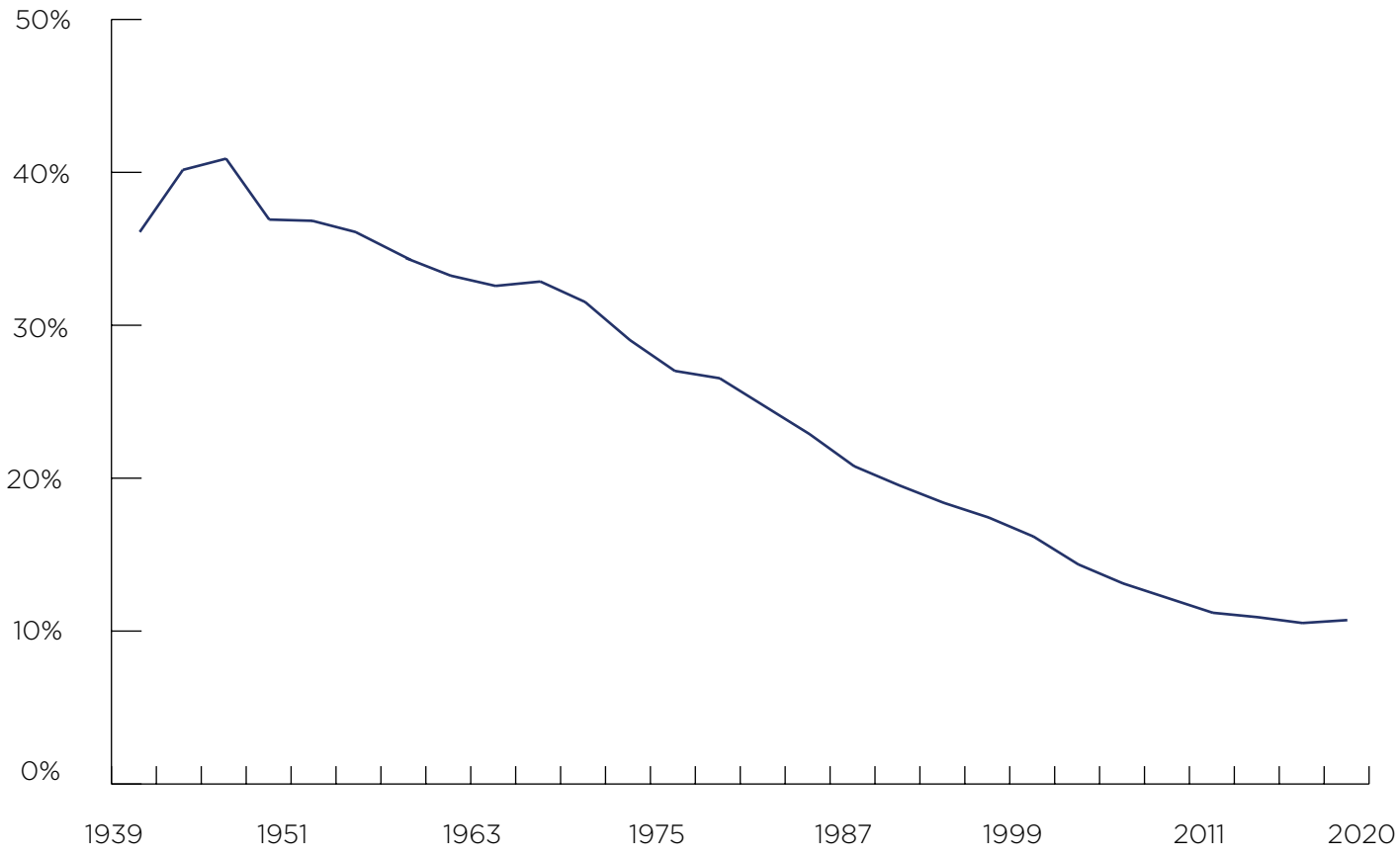
The return of manufacturing, outsourced personnel and services from overseas back to the United States where the products and services are sold.

> RESHORING WILL HELP US CREATE NEW JOBS IN THE U.S., REBALANCE LOCAL ECONOMIES AND CUT OUR TRADE DEFICIT.

DAVE SHIDELER
CHIEF RESEARCH OFFICER AT HEARTLAND FORWARD

Manufacturing's share of employment peaked in 1943 at 39 percent. By 2010, its share had stabilized at less than 10 percent.[22]

Manufacturing's Share of Employment



Between 2000 and 2007 alone, the United States[23] hemorrhaged 3.4 million manufacturing jobs, about 20 percent of its total. It lost a further 1.5 million manufacturing jobs between 2007 and 2016.

Several reasons explain the decline in manufacturing's employment share during the 20th century:

1. Relocation of production to foreign countries (or offshoring)
2. New foreign competition
3. Technological advances within the industry leading to widespread use of computerized numerical control (CNC) machines and other forms of automation
4. Public perception that manufacturing jobs are dirty and dangerous
5. A widespread belief that a college education was necessary to achieve the American Dream[29]

Of these, research points to trade and globalization as primarily responsible for the declines during the 1980s and early 2000s.[24] Federal Reserve Bank of Cleveland Economist Daniel Carroll[25] and collaborator Sewon Hur find that increased trade activity in the United States influences households in two ways: labor market adjustments and reduced prices for goods and services. The impact each of these has on a household varies based upon the adaptability of workers' skills to new employment. Other research[26] notes that productivity did not significantly increase during the 2000s, implying that manufacturing employment losses since 2000 were more the result of trade than automation; in fact, some evidence[27] demonstrates that automation can increase employment. Thus, offshoring of manufacturing for many companies reduced production costs by taking advantage of low-cost labor, and a looser regulatory environment, among other things. However, despite these declines, Heartland states continue to be those with the most concentrated employment in manufacturing industries.

Reshoring is the reversal of these trends. Specifically, it is the relocation of production facilities to, or the creation of new ones in, the United States. Michael Spence, Nobel laureate in economics, identifies a shift in factors influencing contemporary location decisions. Instead of focusing on low-cost labor, "capital-intensive digital technologies … will … move towards final markets, which will increasingly be found not just in advanced countries, but also in emerging economies as their middle classes expand."[28] Spence's point is that firms' cost-minimizing behavior is no longer driven by labor. Increasing capital-intensity (i.e., mechanization and automation) makes product development and distribution more significant factors in location decision-making; access to final demand markets becomes more important than labor costs. The Heartland provides the easiest access to most major markets, creating an opportunity to bring some manufacturing back to the United States.

Additionally, many U.S. based companies, and foreign corporations, have recognized the strategic advantages of locating in the United States, with benefits including protecting intellectual property, shortening supply chains and shrinking wage differentials[30] between the U.S., China and other overseas locations. Strengthening the protection of U.S. corporations' intellectual property rights in China was a key element of the Trump administration's Phase 1 trade deal with China[31]. In 2016, Oxford Economics[32] estimated that wages in China had risen to reduce the wage gap between the United States and China to only four percent. (Increased worker productivity, as well as a stronger value of the yuan currency in China relative to the United States dollar, have induced rising wages for Chinese workers.) Based upon a review of studies estimating these "hidden costs" of doing business offshore, including estimates from their own Total Cost of Ownership calculator, Reshoring Initiative[33] estimates that cost estimates underestimate production costs in China by about 20 percent, and that 10-30 percent of imports would be cheaper to produce in the United States if they accounted for these additional costs.

Manufacturing Location Quotients: June 2020

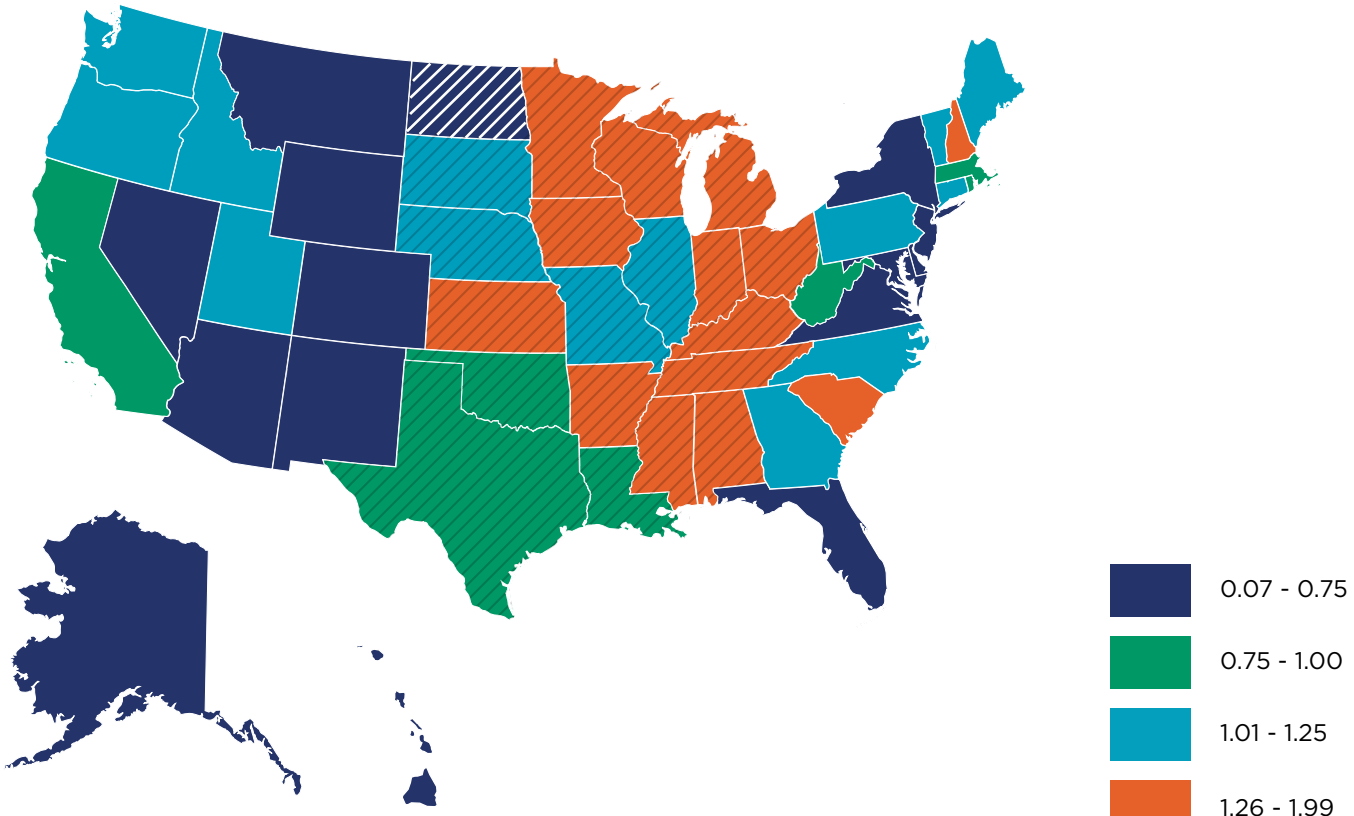
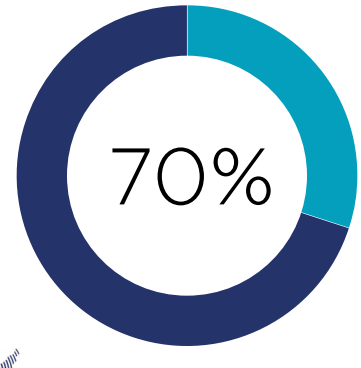


Figure: Concentration of employment in manufacturing by state, as measured by location quotient. Source: JobsEQ, 2020Q2

The COVID-19 pandemic is highlighting this economic development strategy in earnest. By creating economy-wide impacts, ranging from limited manufacturing production due to sick workers (or to protect them from sickness,) to cargo and travel embargoes to limit the transmission of COVID-19 between countries, the pandemic caused many to express a need for shortened and redundant supply chains through reshoring activities. "The pandemic revealed that many countries depend on China for the bulk of their PPE, and China's decision to block exports[34] of these goods led to widespread shortages," observes Richard Haass, President of the Council on Foreign Relations.[35] "There is also the concern that an increasingly assertive China might seek to exploit the world's dependence on it for political purposes." Camille Farhat, CEO of Marquette, MI-based RTI Surgical[36], hopes the pandemic will convince other business leaders to stop "destroying the supply ecosystem" that makes production possible. "To stay safe, you have to do contingency planning. You have to restore the network and maintain surplus production capacity. Hopefully, we are learning that lesson."

McKinsey and Company[37] surveyed supply chain executives and found that nearly all respondents agree that their supply chains are too vulnerable. They are seeking to improve their resiliency, and many would do so even if it reduced profitability. Reiterated by JR Turner, general manager of the Lainiere Health and Wellness' Troy, Ohio facility, "Critical to the process is rebuilding the supply chain to not be dependent on Chinese inputs. We used to have to source these materials from China, but now we are producing it here. You can make it happen."

According to March 2020's Thomas Industrial Survey[38], COVID-19 supply chain disruptions resulted specifically in an acceleration of appetite for locally-sourced materials and services, as up to 70% of firms surveyed said they were "likely" or "extremely likely" to reshore in the coming years. Similarly, a UBS study revealed that of U.S. firms now producing in China, 76% have moved or are planning to move capacity out of China, with one-third planning to move in the near future. Including Asian and other foreign firms, UBS[39] projects 20 to 30 percent of all China capacity moving, which on $2.5 trillion of Chinese exports would imply $500-750 billion shifting elsewhere, notably to the big market of North America.



70% of firms surveyed said they were "likely" or "extremely likely" to reshore in the coming years.

The relevance of recapturing the supply chain extends beyond medical equipment and the pandemic. Executives at GE Appliances, owned by China's Haier group, were instituting major supply chain changes before the pandemic, allowing them to more effectively meet surging demand for appliances during the second half of the year. The increased demand was driven by greater sales of dishwashers and washing machines that came after the initial pandemic-caused decline in sales.

Extreme Trucking, producers of transportation equipment, has started shifting its factories back to the United States from China and other developing countries. Based in Redwood City, California, the company makes truck panels, and has shifted sourcing from firms located in Ohio, North Carolina, Pennsylvania, and Arizona. Company President Daniel Burrows cites several reasons for the move: the threat of trade wars and tariffs, rising costs in China and the need to be close to his primary customers, who are clustered in North America. Although this process started before the pandemic, the disruptions made the shift in how to supply customers even more critical. Notes Burrows:

> **The simplification of our supply chain and logistics cannot be overestimated, especially in our current COVID-19 environment. The pandemic demands fast and strategic decisions in the face of uncertainty. We can still serve our customers if a plant in Mexico is shut down because we have a supplier in Ohio up and running."**

Even before the pandemic, reshoring benefits were being realized and acted upon. Still, the pandemic necessitated the strategy to be spotlighted as firms pivoted to produce necessary medical and personal protective equipment. It is not a coincidence that much of the success from reshoring is located in the United States Heartland.

THE HEARTLAND'S INDUSTRIAL EDGE

The old manufacturing regions are particularly attractive for reshoring due to the deep concentration of necessary skills, a central location for shipping products and, for the most part, business-friendly administrations.

"Midwesterners have a long history of working with their hands and making things, and it has got the best geography of shipping goods. It has the workforce and reliable energy, which is key to automation," suggests Michelle Comerford[40], a Cleveland-based site selection consultant.

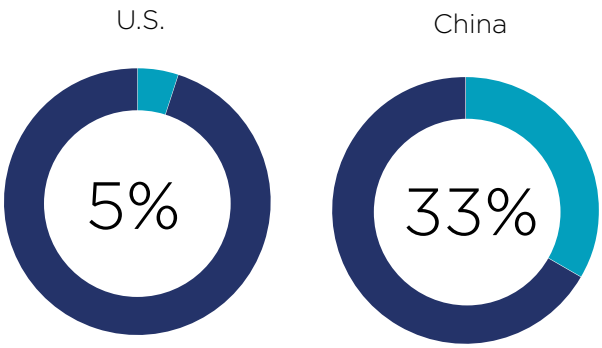
This notion is widely supported. A recent business climate assessment by Chief Executive Magazine Foundation[41] ranks Heartland states Indiana, Ohio, and Texas at the top in business friendliness. Particularly in the aftermath of the pandemic and the civil unrest of the last summer, notes Jay Garner, President of Site Selectors Guild[42], companies are looking increasingly at locating in smaller cities and even rural locations rather than in the big core cities. Indeed seven of the top ten mid-sized cities[43] preferred for new investments, including Columbus, Indianapolis and Kansas City, are located in the region. All top five states ranked by business climate[44], including Ohio, are either in the Heartland or the southeast.

Yet, it's not only a matter of costs. It is also a matter of critical skills. Six of the top eleven public engineering schools[45] are located in the Heartland region. (see sidebar: "The Training Imperative") "It's a lot easier to do [steel forging] in Michigan than in California or Arizona," suggests Dane Moxlow, Director of Market/Process Innovation at Trenton Forging in the Detroit suburbs. "This is a part of the world that values hard work and where it is rewarded with a middle-class lifestyle. This helps you get the hard-to-find people, since this is where they tend to be. There's a real knowledge base here that's hard to duplicate."

The Training Imperative

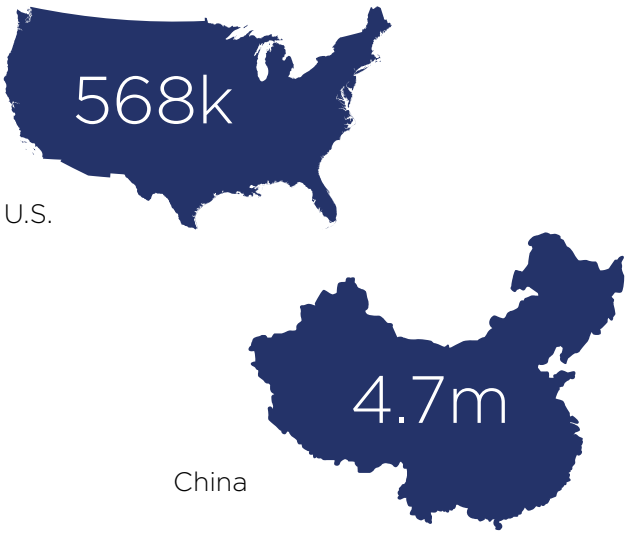
Perhaps the greatest barrier to reshoring, and American industrial growth, lies in the workforce. For a generation, we have de-emphasized skills training in favor of a single-minded emphasis on four-year colleges. Even there the emphasis on engineering and technical skills, considered critical for innovation and economic growth, has been far less than seen in competitors like China.[46]

Engineering Majors by Country



Only 5% of American college students major in engineering, compared with 33% in China.

STEM Students by Country



As of 2016, China graduated 4.7 million STEM students versus 568,000 in the United States as well as six times as many students with engineering and computer science bachelor's degrees.

The problems may be even more profound on the factory floor. JobsEQ projects a shortage of 450,000 production workers (SOC 51) over the next 10 years. Flexible training programs that are limited in scope and duration, following the successful approaches employed in European countries like Germany[47], Sweden[48] and Denmark[49], may be a way to fill the skills gap.

With lower densities and congestion, the Heartland is ideal for the logistical challenge of shipping goods, which has been remarkably evident during the pandemic. The region is canvased with transportation hubs across rail, water, air and land modes, and logistics industry leaders like DHL Supply Chain, FedEx, JB Hunt Transport Services, Lineage Logistics, C.H. Robinson Worldwide, and Geodis are located within the Heartland.

Even as the pandemic shuttered some sectors, growth in medical products, including personal protective equipment (PPE) like gowns, gloves, masks and materials for protective barriers like plexiglass, helped manufacturing grow by 700,000 jobs by June after hitting a decade-long low earlier in the pandemic. Much of this activity was concentrated in the Heartland.[50]

France-based Chargeurs' newest division, United States-based Lainiere Health & Wellness, oversees the distribution, marketing, and sales of all United States-manufactured PPE, including consumer-grade and medical-grade three-ply and N95 respirator masks, creating more than 50 new jobs in the state. "Chargeurs has invested significant capital in retooling our Ohio factory to reshore production of PPE to America," said Angela Chan, CEO and President of Chargeurs*PCC Fashion Technologies. "We have been supplying raw materials to the PPE market for years, so it made perfect sense to pivot manufacturing these products in the USA, especially given the severe shortages of this equipment our country has seen since the start of the pandemic."

Having manufacturing operations already in Ohio made it easier to gather the skills and suppliers. "We had the space and the skills already there. It also provides a more secure supply of masks and protective gear," Chan adds. Much of the gear made in China, she asserts, is not tested, while those made here go through extensive testing. "We have to make our mark with better quality and reliability," she adds.

The manufacturing legacy in the U.S. Heartland presents benefits beyond healthcare supplies. Being close to raw materials—notably the shale revolution—also has expanded opportunities for local firms. Cheaper energy, notes Mt. Vernon, Ohio-based Ariel Corporation President Karen Wright, which employs more than 2,000 workers, has made operating in places like Ohio much easier and has also created an enormous market for the gas compressors she manufactures. "Reshoring industry is a big win for us, " she notes, "since we're 100% American made."

We also see a migration back to the United States among products that were headed to China and other countries for years. In some cases, these companies are China-based as well. Omec Smart Card[51], a leading manufacturer of products that serve municipal, governmental, industrial and enterprise customers worldwide, is now planning to hire 200 employees at a new facility in northeastern Ohio. This kind of expansion may now become more common for Chinese firms.

Boxes in a manufacturing plant ready to meet demand

Equally as important, many American firms long dependent on imports are looking for domestic alternatives. Little Tikes, a major toymaker based in Hudson, Ohio, has started shifting production out of China and back to Ohio.[52] Executive Vice President and Worldwide General Manager Thomas Richmond said that the company's decision to manufacture more of its toys at its northeast Ohio plant instead of overseas has made it easier to meet demand quickly. When Little Tikes started making toys for young children more than 40 years ago, everything was made in the United States. However, some production moved to China in the '80s and '90s when the country's manufacturing sector began to take off, he said. "Now, the wheel is kind of coming full circle," Richmond said .

The Heartland's dependence on industry has at times seemed a burden, but new economic realities—particularly post-COVID-19—may prove more promising. The region demonstrated that manufacturing is not merely a legacy, showing that it stands ready to support a new era of reshored manufacturing activity. However, federal action is required to ensure this new era persists.

NEEDED: A BIPARTISAN LOBBY FOR AMERICA'S RESURGENT INDUSTRY

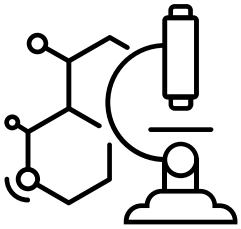
However tragic the circumstances, the pandemic has spurred the federal government[53] to bring medical production back home.

Legislation pushing this had bipartisan support, as evidenced in bills developed by United States Senators Rob Portman (R-OH) and Gary Peters (D-MI), which aim to guarantee long-term procurement of American-made medical equipment.[54] Senator Sherrod Brown (D-OH) has also sponsored legislation to address this issue.[55]

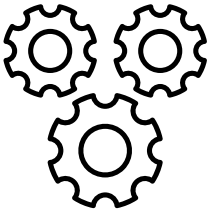
If not fully effective, the Trump administration[56] placed great public emphasis on saving industrial jobs and addressing what is perceived as unfair competition from abroad, notably from China. The new administration has also announced plans to bolster U.S. industrial production under its 'build it better' rubric.[57] It has pledged a "buy America" program that would mandate that government-funded infrastructure projects use domestically manufactured products.[58] Figures influential in the new administration have openly suggested that the rule of what is widely known as neo-liberalism no longer works in the current economic framework led by "authoritarian capitalist" China.[59]

The Biden plan would spend $300 billion on R&D to revitalize American industrial competitiveness and invest in alternatives to four-year colleges, including apprenticeships and community colleges. Biden has also promised to use the Defense Production Act to re-shore some manufacturing and to spend $400 billion in government procurement for domestic industrial products. A more ambitious part of the plan involves the use of taxes, subsidies, and public-private partnerships to encourage companies to retain the capacity to make critical supplies during a national emergency.[60] A Biden administration is likely to rally allies to balance China in the security and economic realm, rejecting Trump's unilateral approach.[61]

The Biden Plan:



300 billion on R&D to revitalize American industrial competitiveness and invest in alternatives to four-year colleges, including apprenticeships and community colleges.



A promise to use the Defense Production Act to re-shore some manufacturing and to spend $400 billion in government procurement for domestic industrial products.

Such an approach has considerable bipartisan support. Democrats like New York Governor Andrew Cuomo, Senators Sherrod Brown of Ohio and Gary Peters of Michigan joined Trump and GOP stalwarts such as Senators Rob Portman of Ohio and Josh Hawley of Missouri to call out our ruinous dependence on Chinese medical supplies.[62] [63] There is also growing bipartisan concern about reliance on Beijing for high-tech gear.[64]

The reshoring of industry *should not* be a partisan issue. As we have seen with the response to the production of critical medical supplies, there is a broad-based bipartisan coalition to promote such policies. For businesses and consumers, attempts to shift out of China could cost as much as $1 trillion, 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.[65]

Overall, regional economic development strategies, particularly in the Heartland, should prioritize small, traded sector firms capable of major growth and preserve or attract existing large firms in traded industries. This emphasis should not be confused with a bias against small businesses. In a flourishing biological ecosystem, large trees provide shelter under which smaller trees can grow, along with bushes and food sources for various organisms. Similarly, large firms in a region can provide a healthy environment for local firms of all sizes and provide a consumer for their goods and services.

Reviving America's Industrial Legacy

A policy of support for industry has long been a critical part of American economic policy. Infrastructure investment played a leading role. The Erie Canal, for example, stimulated the growth of Great Lake ports, enabling Chicago to became the most important hub in the continental railroad system.[66] After World War II, communities sprang up at the intersection of new highways.[67] High-speed internet represents the latest twist on this, supporting employment growth particularly in industries that heavily use information technology and are located in less urban places.[68]

Historically, America's pro-industry policy produced spectacular results. Therefore, we should look to what has strongly supported the development of infrastructure critical to economic growth[69], assisting manufacturing and protecting critical, strategic markets like communications equipment[70] or the strategic metals[71] that these technologies and many others depend on.

Rosie The Riveter

Traded sector firms are also critical to our international competitiveness. In 2019, the United States exported $2.53 trillion worth of goods and services combined. Of the total, only $875.8 billion, or about a third, consisted of services. In contrast, exports of goods totaled more than $1.65 trillion. Manufactured goods accounted for 45 percent of all exports. It is notable that intellectual property payments, like royalties to Silicon Valley tech companies and entrepreneurs, amounted to only $117.4 billion—13 percent of service exports and less than 5 percent of total exports of goods and services combined.[72]

Revitalizing our "industrial commons" requires bold new initiatives and measures that take a page out of our economic past, which has been rife with efforts, sometimes very successful, to spark industrial growth. Indeed, as two Harvard researchers have suggested, "Believing in the power of markets does not preclude the judicious use of appropriate government policies."[73]

Total U.S. Exports, 2019

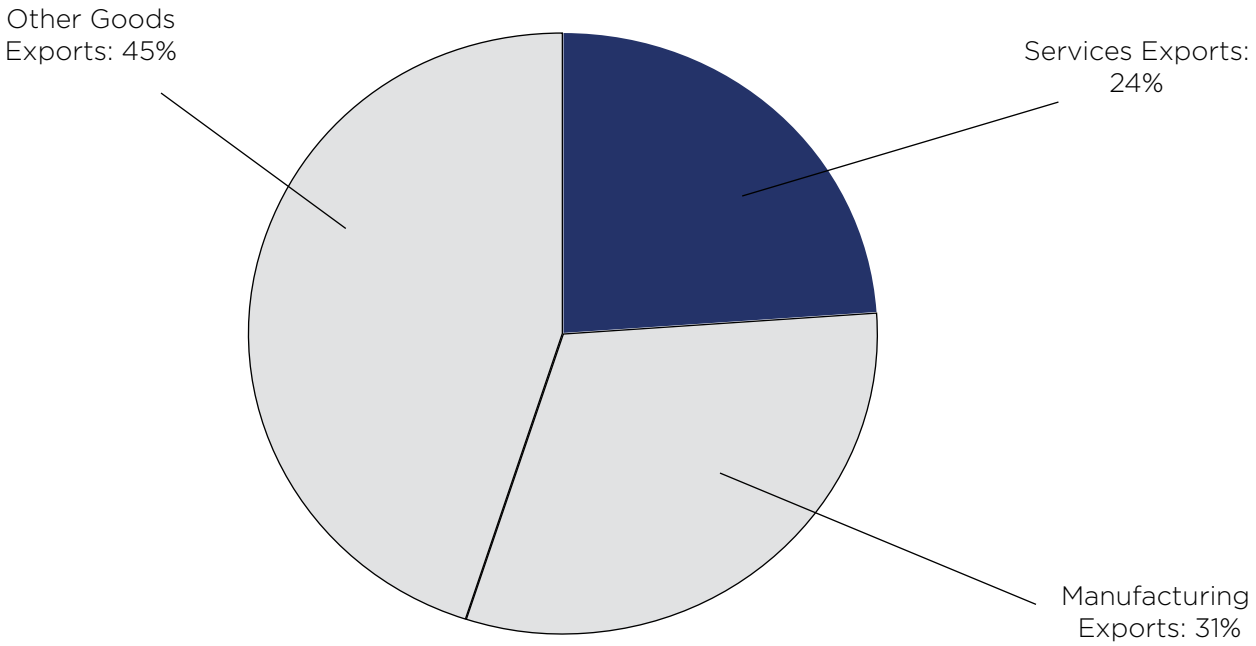


Figure: Manufacturing exports exceeded service exports and represented nearly half of all goods exported from the US in 2019.

Reshoring will require not just "sticks," like tariffs and bans, but also "carrots," such as tax policies that encourage such investments, loans and loan guarantees, grants, public-private partnerships, and supportive educational and physical infrastructure to promote such things as the development of critical rare metals here.[74] [75] One clear perspective would be to improve the logistical infrastructure, which would help identify producers of necessary inputs. "We can bring 20 to 30 percent of production back, if we make it easier for them to make more profits doing it," observes Harry Moser,[76] founder of the Reshoring Institute. "We have to be price competitive."

New initiatives in education, and a greater understanding of the role of tradeable sectors, can be implemented across the country, but most effectively in states with the logistical infrastructure and expertise, business climate and skills common in the Heartland.

A reshoring strategy would also include major investment in infrastructures like roads, bridges, and wireless networks, updating the government's role in the past. The federal government could also, alone or in collaboration with state and local governments, use instruments like federal loans, loan guarantees and grants under the Defense Production Act, the National Network of Manufacturing Institutes, and the Manufacturing Extension Partnership (MEP) of the National Institute for Standards and Technology (NIST), as well as new tax incentives for investment in high value-added traded sector industries, among other policies.[77]

Ultimately, this is about the American economy's future, particularly those parts of the country where production industries are most concentrated. In working toward a comeback of American manufacturing, we would also recommit ourselves to the task of rebuilding our productive capacity and, with it, the economic health of our communities. The Heartland is the logical place to start, and it is poised to lead this charge.

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