



Reshoring by US Firms: What Do the Data Say?

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Author's Note: I thank Bill Cline, Brad Jensen, Barbara Kotschwar, Robert Lawrence, Ted Moran, Nicolas Véron, and Steve Weisman for helpful comments.

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The reshoring of manufacturing production by US firms has been getting a great deal of publicity lately. Reshoring occurs when firms reverse their previous offshoring decisions, shifting production back to the United States. In the past few years, newspapers have reported numerous cases of businesses returning operations to the United States for reasons such as rapid wage growth in China, slow wage growth in the United States, and lower costs of shipping goods from the United States to overseas destinations. In a May 2015 interview, Harry Moser, founder and president of the Reshoring Initiative, said, “The trend in manufacturing in the US is to source domestically. With 3 to 4 million manufacturing jobs still offshore, we see huge potential for even more growth.”¹ In his 2015 State of the Union address, President Barack Obama implied that reshoring may have been a contributing force to US job growth, saying, “We believed we could reverse the tide of outsourcing, and draw new jobs to our shores. And over the past five years, our businesses have created more than 11 million new jobs.”²

1. Andria Chen, “Record Number of Manufacturing Jobs Returning to America,” Marketwatch.com, May 1, 2015, www.marketwatch.com/story/us-flips-the-script-on-jobs-reshoring-finally-outpaced-offshoring-in-2014-2015-05-01.

2. Barack Obama, State of the Union, 2015, www.whitehouse.gov/the-press-office/2015/01/20/remarks-president-state-union-address-january-20-2015.

And yet without a detailed analysis of the data, it is not possible to know whether these accounts of reshoring represent a widespread trend or are limited to a small number of isolated incidents. How does the relative size of reshoring compare with the growth of new offshoring? Has the Reshoring Initiative focused only on one aspect of the increasingly complex flows of the global activities of multinational corporations (MNC), ignoring much larger offsetting trends? Can some of the recent job growth in the United States be directly linked to reshoring, or does it simply reflect the overall macroeconomic recovery?

This *Policy Brief* examines the most recent data on the global operations of US firms and concludes that although some companies have reversed their previous offshoring decisions, there is no evidence of a widespread reshoring trend. Global supply chains are still alive and well, and that is not likely to change

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anytime soon. Meanwhile, this situation should not be viewed as a threat to US workers or the US economy. On the contrary, the persistence of offshoring by US firms improves the overall competitiveness of the US manufacturing sector, which benefits US workers and US consumers. Previous research undertaken at the Peterson Institute for International Economics (PIIE) has shown that when US firms expand their foreign operations, the net effect is greater employment at home, not simply a substitution of growth from one location to another (Moran and Oldenski 2014). However, this does not mean that no one is hurt by offshoring. Some US workers do lose their jobs, but the creation of jobs more than offsets the losses. The important policy question is how to position US workers to take advantage of growing areas of the economy, not whether to limit offshoring. Moreover, the strictly defined manufacturing production that reshoring advocates focus on accounts for only 4.6 percent of total US employment. Such a narrow focus distracts from other important sources of growth in the US economy and overlooks the increasingly complex nature of US manufacturing.

EXAMPLES OF RESHORING

Reports of firms shifting production from low-wage countries back to the United States have appeared since at least 2009. For example:

- In 2009 General Electric decided to move the production of water heaters from China to Louisville, Kentucky. It also moved production of some high-end refrigerators from Mexico to the United States.³
- In 2010 Master Lock returned about 100 previously offshored jobs to Milwaukee, Wisconsin.⁴
- In 2012 Caterpillar opened a new plant in Victoria, Texas, to produce excavators.⁵
- In 2013 Whirlpool announced plans to move some of its washing machine production to a plant in Clyde, Ohio, from one in Monterrey, Mexico.⁶
- In 2014 General Motors announced that it would move production of the next-generation Cadillac SRX crossover SUV from Mexico to Spring Hill, Tennessee.⁷
- In 2015 Ford Motor Company announced it would produce its EcoBoost turbocharged engines at its Cleveland engine plant.⁸

These stories have caught the attention of some business and policy leaders who hope to perpetuate the trend. In 2010 Moser, former president of a machine tool manufacturer, founded the Reshoring Initiative, an organization that encourages US businesses to bring manufacturing back home. President Obama has since praised the initiative, raising its profile and press coverage. The initiative's website, www.reshorennow.org, publicizes successful cases of reshoring, lists a number of arguments in favor of bringing production back to the United States, and provides resources for firms considering reshoring.

Consulting firms have also weighed in on reshoring. In a series of studies, the Boston Consulting Group (BCG) has

3. National Public Radio, "As Overseas Costs Rise, More US Companies Are 'Reshoring,'" January 27, 2014.

4. White House, "President Obama Issues Call to Action to Invest in America at White House 'Insourcing American Jobs' Forum," press release, January 11, 2012, Washington.

5. *Economist*, "Reshoring Manufacturing: Coming Home," January 19, 2013.

6. Dan Bigman, "Gathering Strength for U.S. Manufacturing: Whirlpool Moves Production of Washers to Ohio from Mexico," *Forbes*, February 20, 2013.

7. Associated Press, "GM Moving Cadillac SRX Production from Mexico to TN," August 27, 2014.

8. Alisa Priddle, "Ford Starts Building Newest Engines in Cleveland," *Detroit Free Press*, March 7, 2015.

argued that reshoring is an important trend that it expects to grow considerably. An online survey conducted by BCG in April 2012 found that 37 percent of manufacturers with sales of more than \$1 billion "plan to or are actively considering bringing back production from China to the US" (Sirkin et al. 2102). BCG released another study in April 2014 that ranked the United States second to China in manufacturing competitiveness using a proprietary index that focuses on four major factors: wages, productivity growth, energy costs, and exchange rates (Rose et al. 2014). In 2014 the global management consulting firm A. T. Kearney published a report designed to walk companies through the factors they should consider when deciding whether to reshore (Van den Bossche et al. 2014).

A FEW ANECDOTES DO NOT MAKE A TREND

In spite of the publicity received by a few high-profile cases, there is no evidence that reshoring is a widespread phenomenon. On the contrary, A. T. Kearney reports that there were only about 300 cases of reshoring to the United States in 2014, which was up from 210 in 2013, 104 in 2012, 64 in 2011, and 16 in 2010.⁹ These numbers are very small in view of the fact that US MNCs have more than 25,000 foreign affiliates and employ more than 36 million people worldwide.

More important, discussions of reshoring generally focus only on movements in one direction. Proponents of reshoring do not take into account the many firms that have expanded their offshoring over the same period, a substantial number of which are the same firms with highly publicized reshoring efforts. For example, although General Electric set up new plants in the United States in 2011, the company also built new factories in China, India, and elsewhere at the same time.¹⁰ Meanwhile, Ford has made highly publicized announcements about its reshoring plans, yet in April 2015 it also announced plans for \$2.5 billion in new manufacturing investments in Mexico. These investments, together with a \$1 billion investment by Toyota to build a new plant in Guanajuato, Mexico, could create as many as 6,000 jobs in Mexico.¹¹ It is unclear whether the expansion in Mexico represents a shift of jobs that had previously been performed in the United States or simply new capacity enabled by lower costs. In either case, however, it highlights the continued global nature of MNC production. To anyone familiar with the complexity of global decision making of multinational firms, these seemingly contradic-

9. A. T. Kearney 2014 Reshoring Index.

10. Mubin S. Khan, "US Manufacturing and the Troubled Promise of Reshoring," theguardian.com, July 24, 2013.

11. *Financial Times*, "Ford Investment Highlights Mexico's Booming Carmaking Sector," April 16, 2015.

tory announcements by Ford and General Electric are not at all strange or surprising. Firm structures are complex, and a strategy that makes sense for one aspect of production will not likely make sense for others. Indeed, firms that import the most are also the ones that export the most because global engagement rarely moves in only one direction. Thus it is important to consider the net effect of both offshoring and reshoring rather than looking at flows in only one direction.

Enthusiasm about the promise of reshoring has also been fueled by the recent increase in US manufacturing employment. But much of the increase is just a natural consequence of emerging from the Great Recession. It is true that in 2014, 341,000 more Americans were employed in the manufacturing sector than in 2009. But that comparison is misleading because it reflects business cycle patterns rather than a long-term trend. Even though the total number of US workers employed by the manufacturing sector has gone up in the last few years, it is still well below precrisis levels. In 2005, 14.2 million Americans worked in manufacturing, accounting for 10.6 percent of total employment. In 2014 US manufacturing workers totaled 12.2 million, making up only 8.8 percent of employment. The small increase in the total number of US manufacturing jobs during the recovery from the Great Recession is far from a reversal of the trend. Indeed, manufacturing employment as a share of total US employment has fallen every year since 1976, during both recessions and expansions.

As more time passes since the initial reshoring hype, additional anecdotes suggest that reshoring may not be as widespread as first thought. Morris Cohen of the Wharton School at the University of Pennsylvania and Hau Lee of Stanford University have begun a large-scale effort to survey firms on their actual reshoring behavior (Cohen and Lee 2015). So far, they have released the results of an initial survey of 38 companies, with plans to add companies in the future.

Although a survey of 38 companies is not very large, and it is not possible to generalize from this small sample, the main finding is that, among these firms, as much new offshoring is under way as reshoring. Some firms are exiting China, but just as many new firms are starting or expanding production there. In an interview, Cohen summarized the results by saying, “There is an unprecedented amount of restructuring going on. Companies are addressing the question of how and where to produce products, and they’re opening factories, they’re closing factories, they’re shifting employment. So, there’s just been a lot of change going on. . . . [T]hat change is not in one direction.”¹²

12. Morris A. Cohen, “Is the Reshoring of U.S. Manufacturing a Myth?” Wharton School, University of Pennsylvania, May 5, 2015, <http://knowledge.wharton.upenn.edu/article/offshoring-gets-a-rethink>.

WHAT DO THE DATA SAY?

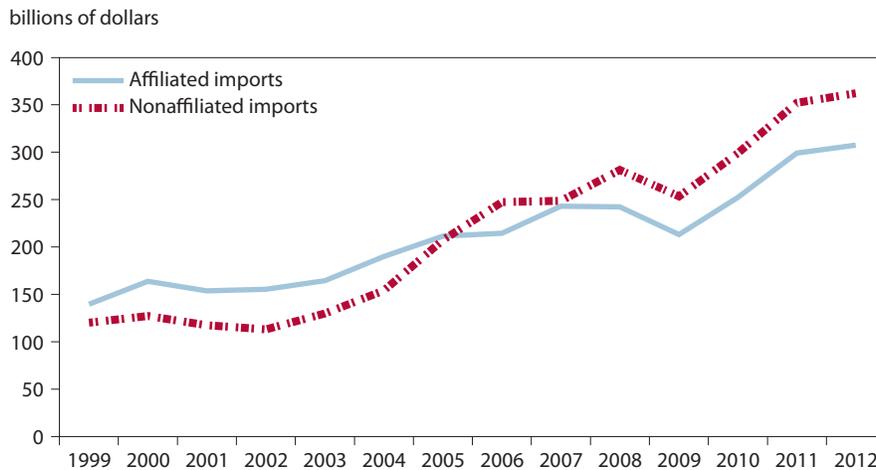
Anecdotes are entertaining stories, but they are not very useful for identifying widespread trends. To understand whether reshoring really has outpaced offshoring, one must look at more comprehensive data. One attempt to create an objective measure of reshoring was made by A. T. Kearney in its 2014 Reshoring Index. Year-over-year changes in US manufacturing imports relative to gross output were used to generate the index. According to this index, the growth in US manufactured goods, offshore imports has exceeded the growth in US domestic manufacturing gross output in 9 of the last 10 years, suggesting that any reshoring has been outweighed by increases in offshoring.¹³

It is also possible to delve more deeply into official US data on offshoring by all US multinational firms to determine whether they show a sharp reversal that would be consistent with a widespread reshoring trend. Correctly defining offshoring is important for this task. According to official data sources, US multinational firms have been expanding their hiring abroad more quickly than in the United States. However, that fact alone is not enough to refute reshoring claims. The majority of this foreign expansion has been to take advantage of new markets and to sell to customers in developing countries that previously had not had access to or a demand for goods produced by US firms (Barefoot and Mataloni 2011). A better measure of offshoring is the volume of goods produced abroad by US-based MNCs that are then sold back to the United States. This captures the “Made in China” label stamped inside US brand-name clothing bought by US customers. It also captures the parts of a Ford or GM car that were produced in other countries. Thus offshoring is defined as manufactured goods, either intermediate inputs or final consumer goods, that are produced abroad for sale back to the United States.

Figure 1 shows imports by US-based MNCs from 1999 to 2012, as reported by the US Bureau of Economic Analysis (BEA). The solid line represents imports by US-based MNCs from their foreign affiliates. This is a good measure of offshoring because it captures goods (primarily intermediate parts and components) that are produced abroad by US-based MNCs but then shipped back to the United States for final assembly or sale. The dot-dash line represents imports by US-based MNCs from firms with whom they are not affiliated, often referred to as foreign outsourcing or arm’s-length trade. The BEA data are available only through 2012, but up to that point neither of these types of offshoring shows any sign of a trend reversal because both increased substantially from 2009 to 2012. There was a slight dip in 2009, which may have been taken as an encouraging sign by the early proponents of reshoring. Taken in

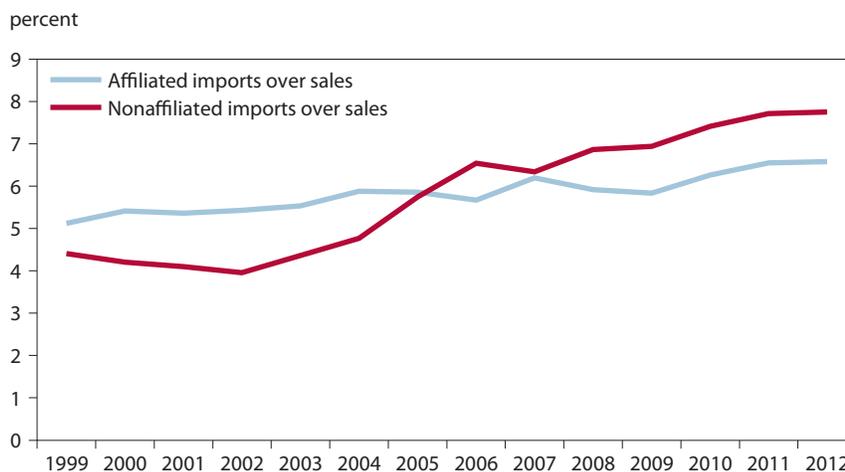
13. A. T. Kearney 2014 Reshoring Index.

Figure 1 Imports by US-based MNCs, 1999–2012



Source: US Bureau of Economic Analysis.

Figure 2 Imports by US-based MNCs as percent of total MNC sales, 1999–2012



Source: US Bureau of Economic Analysis.

context, however, that dip appears to have been purely cyclical, corresponding to the Great Recession.

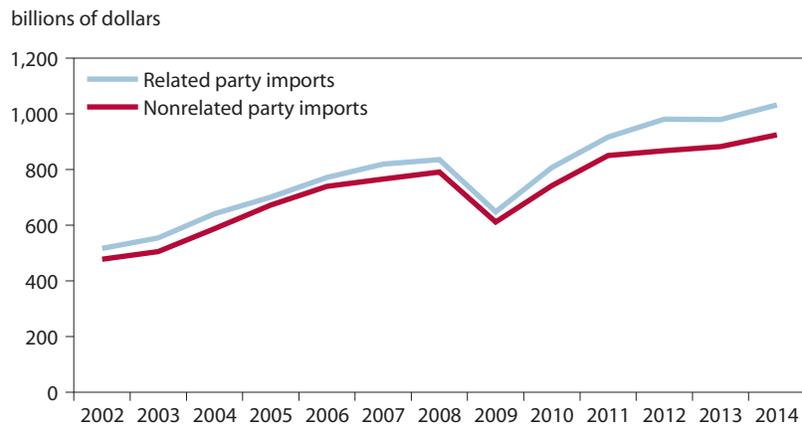
To adjust for the possibility that all activities of MNCs may be increasing, not just offshoring, figure 2 shows both offshoring measures relative to total sales by US-based MNCs. The pattern is similar, however, even when weighted by total firm sales. Moreover, when offshoring flows are adjusted for total sales volumes, the dip in 2009 disappears. It is also important to note that only a small share of the sales of MNCs is made up by imports from their affiliates. Figure 2 shows an increase from about 5 to 7 percent of total MNC sales. This finding suggests that large numbers of plants are not shutting down in the United States and moving abroad in order to continue to serve the US market. In other words, even though reshoring

does not seem to be a widespread trend, neither are runaway plants. Instead, MNCs are making use of complex global strategies that rely on capabilities in a number of different locations both in the United States and abroad.

Media reports of reshoring have been around at least since 2009, and the Reshoring Initiative was founded in 2010. Thus the import data in figures 1 and 2 should be recent enough to capture a reshoring trend if it exists. It is useful, however, to consider other sources of more recent data in the event the trend did not emerge until after 2012.

The US Census classifies import and export data based on whether the transaction is between related parties—that is, an MNC parent and one of its foreign affiliates. These data differ from the BEA data in several ways that make them less than

Figure 3 US manufacturing imports between related parties, 2002–14



Source: US Census Related Party Trade database.

ideal for studying offshoring by US firms. First, in addition to imports by US-based MNCs, they also contain information on trade between foreign MNCs and their affiliates located in the United States, for example, a Toyota plant in Indiana that imports parts from Japan or China. Also, they do not measure separately the arm's-length imports of intermediate inputs (i.e., outsourcing) by US-based MNCs that source internationally from suppliers they do not own. These purchases are simply lumped in with all US imports between unaffiliated parties. However, the Census data are available through 2014, so they are worth looking at despite these caveats. Figure 3 shows that, although related party imports in the manufacturing sector dipped during the 2009 recession, by 2014 they had expanded \$196 billion beyond their precrisis peak.

WHAT HAPPENS WHEN OFFSHORING COSTS RISE IN CHINA?

Much of the case for reshoring rests on arguments that rising costs in emerging markets are erasing many of the cost advantages of offshoring to those countries. Despite the lack of evidence on reshoring by US firms, it is clear that wages in China have been increasing rapidly, more than tripling from 2000 to 2010. According to China's National Bureau of Statistics, wages in China rose 12 percent in 2013 and 10 percent in 2014. As the costs of labor and other factors in China rise, should we expect to see a surge in reshoring? Not necessarily. Even as wages rise in China, firms continue to enjoy benefits from locating there. And even if offshoring to China becomes too costly, reshoring to the United States is not the only alternative.

Figure 4 reveals that offshoring to China, defined as imports by US-based MNCs from their foreign affiliates in China,

dipped slightly in 2011 and was the same in 2012 as it had been in 2010. But at the same time, offshoring to other countries such as Thailand, Brazil, and the Philippines increased. Figure 5 shows offshoring to Mexico over the same period. Mexico is shown in a separate graph because offshoring to Mexico by US firms is much larger than that to other countries, including China. From 2010 to 2012, although offshoring to China remained flat, offshoring to Mexico grew by 17 percent, representing an additional \$7.8 billion in offshoring by US firms.

Although they receive less publicity than those reshoring, firms moving production from one developing country to another are still plentiful. For example, Coach has shifted production of its wallets and handbags from China to factories in Vietnam, Indonesia, Thailand, and the Philippines. By 2015 the company planned to reduce China's share of its production to about 50 percent from almost 80 percent in 2012.¹⁴ Casabella, a company that makes cleaning products and kitchen gadgets, recently moved its production back to Mexico after a decade of production in China. St. Louis-based Viasystems Group Inc., which makes industrial cabinets, also shifted some work back to Mexico from China.¹⁵

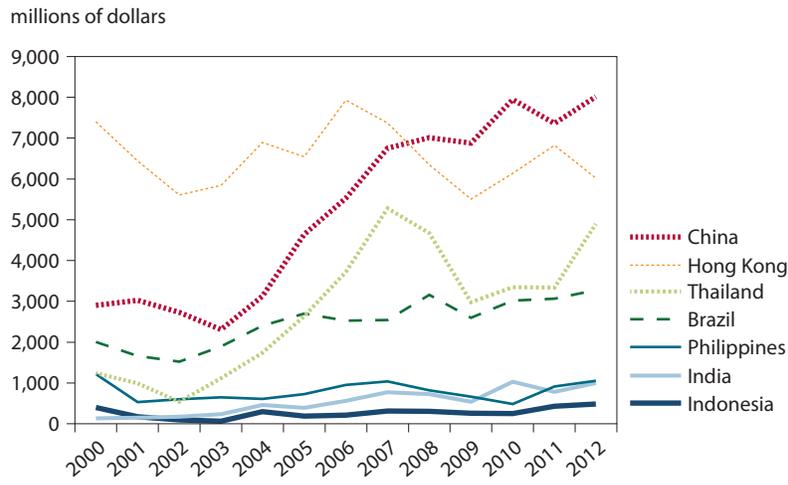
OTHER REASONS FOR RESHORING

Rising wages in China are not the only explanation given to support claims of a widespread reshoring trend. The 2014 A. T. Kearney study surveyed firms about their reasons for real or

14. David J. Lynch, "'Reshoring' of Jobs Looks Meager," *Bloomberg Businessweek*, July 05, 2012.

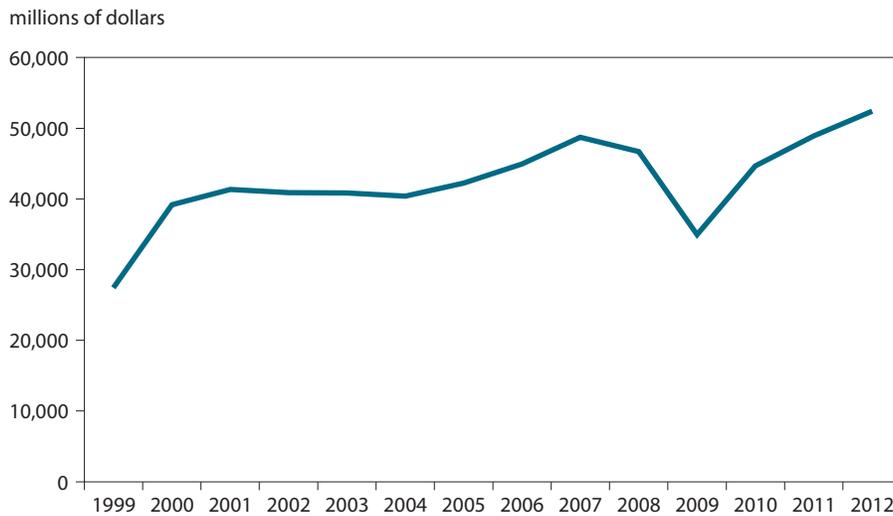
15. David Agren, "Some Manufacturers Say 'Adios' to China," *USA Today*, March 18, 2013.

Figure 4 Imports by US-based MNCs from their foreign affiliates in select countries, 2000–12



Source: US Bureau of Economic Analysis.

Figure 5 Imports by US-based MNCs from their foreign affiliates in Mexico, 1990–2012



Source: US Bureau of Economic Analysis.

potential reshoring (Van den Bossche et al. 2014). The most common answer was delivery time improvement, followed by total cost of ownership. Quality improvement was third, freight cost improvement fourth, and wages were only the fifth most common reason, tied with customer responsiveness improvement. Other motivations included image/brand (prefer US), higher productivity, innovation/product differentiation, and inventory improvement.

This list of reasons suggests that the reshoring firms are not just responding to rising wages in China but also realizing that

there are benefits to being close to US customers and highly skilled US workers. Yet these are not new ideas. Putting jobs where workers are most qualified to do them and attempting to minimize transportation costs are fundamental considerations for any MNC. Using data on US-based MNCs in the 1990s and 2000s, previous research has shown that more abstract considerations, such as the complexity of production and importance of communication for a given firm, play a key role in where firms have chosen to locate their various stages of production (Oldenski 2012). Even as offshoring has been rising, US multi-

nationals continue to locate the majority of their production in the United States. If a single-minded search for the lowest wage location was the only factor driving these decisions, one would not see any production in the United States. Just because some individual firms may have experimented with offshoring decisions that they are now reversing does not indicate a widespread trend. It is more likely that a few firms jumped on the offshoring

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but this should not be considered a
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bandwagon without considering their delivery time, customer responsiveness needs, and need for highly skilled workers, and now they are rethinking their strategies. Firms make adjustments like this all the time; it does not imply that offshoring is a thing of the past.

The fact that offshoring decisions are not based solely on wages has been and will continue to be beneficial for the US economy. The country is still reeling from the sluggish employment growth in the wake of the Great Recession. However, wages in the United States are likely to rise as labor demand increases. The US Department of Labor has reported that US labor costs increased by 2 percent from 2012 to 2013 (bls.gov), and they are likely to continue to rise. But as surveys of firms' decision-making processes show, the availability of highly skilled workers and proximity to the large US consumer base will continue to be a big draw.

Another potential explanation for reshoring is that energy costs in the United States have been falling with the increasing availability of shale gas. At the same time, electricity prices in China have been rising at about 8 percent per year.¹⁶ But the long-term prospects for the US energy cost advantage are unclear. China has been actively pursuing greater energy supplies through foreign direct investment (FDI) and investments in renewable energy. China also has larger shale gas reserves than the United States, although they are more difficult to access. If these reserves are tapped successfully, China's electricity prices will grow slowly and may even fall.

One factor that has been and will likely continue to be a source of advantage for the United States is its research and development (R&D) capacity. In 2012, 84 percent of R&D spending by US-based MNCs took place within the United States. This share has remained virtually unchanged over the last decade. As long as the United States continues to foster an innovative culture, protect intellectual property rights, train

highly skilled workers, and promote high-skilled immigration, it will likely remain a hub for innovation into the future.

When it comes to manufacturing, no one size fits all. The manufacturing sector includes an extremely diverse range of products from textiles to aerospace. There is no reason to think that what makes sense for a company that makes refrigerators will also make sense for one that produces steel. Even the manufacture of a single product usually involves many stages that have very different labor, skill, and technology requirements. It is not surprising that companies like Ford would choose to produce their latest, most sophisticated engines in the United States, but move labor-intensive assembly to Mexico.

Reshoring is not a widespread trend, but this should not be considered a defeat for US competitiveness.

Taken together, the evidence strongly suggests that the so-called reshoring trend is just a myth. But this does not mean that the US manufacturing sector is being undermined. It is true that US multinationals continue to move operations offshore. But they also continue to grow stronger, producing more in their US operations and adding more to total US exports. The structure of US manufacturing has changed, but the ability to adapt to the changing nature of global business has been and will continue to be crucial to the continued growth of US manufacturing.

Figures 1 and 2 showed that offshoring by US-based MNCs has been increasing in recent years. Figure 6 reveals that this expansion in offshoring has not come at the cost of US production, but rather has been accompanied by an increase in US output by these same firms.

Figure 7 shows exports by US-based MNCs that originate in the United States. The graph depicts exports from US parent firms to their foreign affiliates as well as to unrelated parties. Exports clearly have been increasing along with offshoring.

In services, the growth of exports is even more striking. Growth in US exports of services has outpaced import growth in recent years, leading to a \$225 billion trade surplus in services (see figure 8). Services, especially in high-skilled areas such as engineering, legal, consulting, research, management, and information technology, will certainly continue to drive US growth into the future. And the complex interaction between manufacturing and services holds the key to the future of US manufacturing.

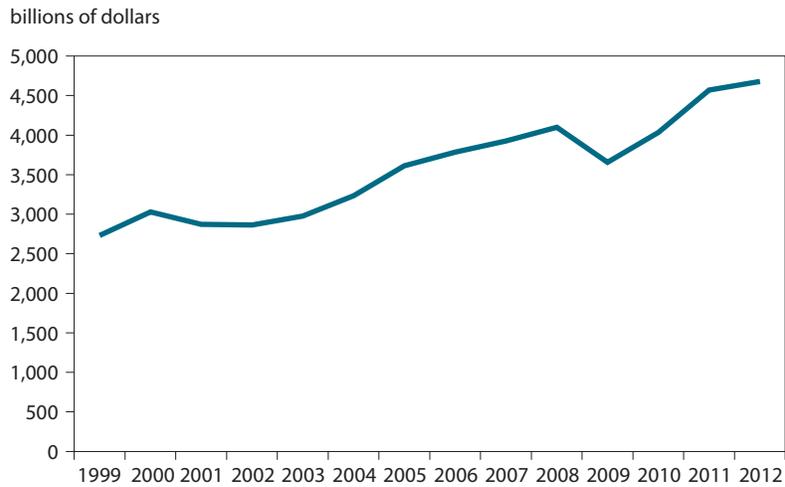
THE FUTURE OF US MANUFACTURING

US manufacturing has been growing stronger and is likely to continue to do so. However, the manufacturing of today is not the same as that of the past.

In Moran and Oldenski (2014) we outlined the signs of strength in the US manufacturing sector. We found that

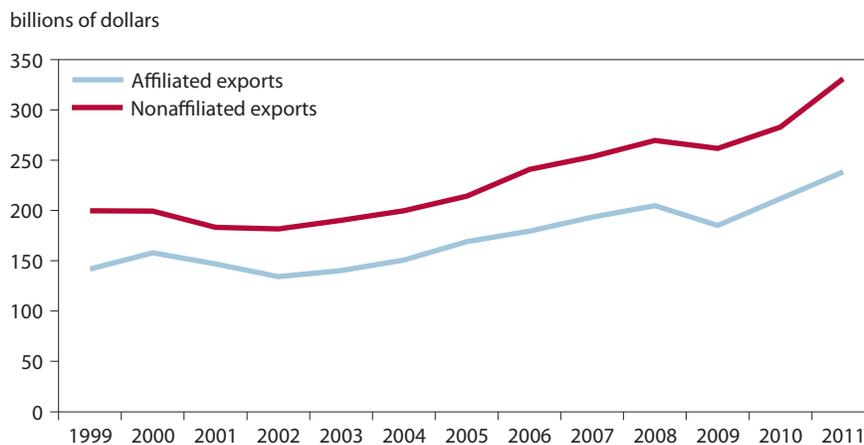
16. Enerdata China Prices time series, www.enerdata.net.

Figure 6 Sales by US MNCs originating in the United States, 1999–2012



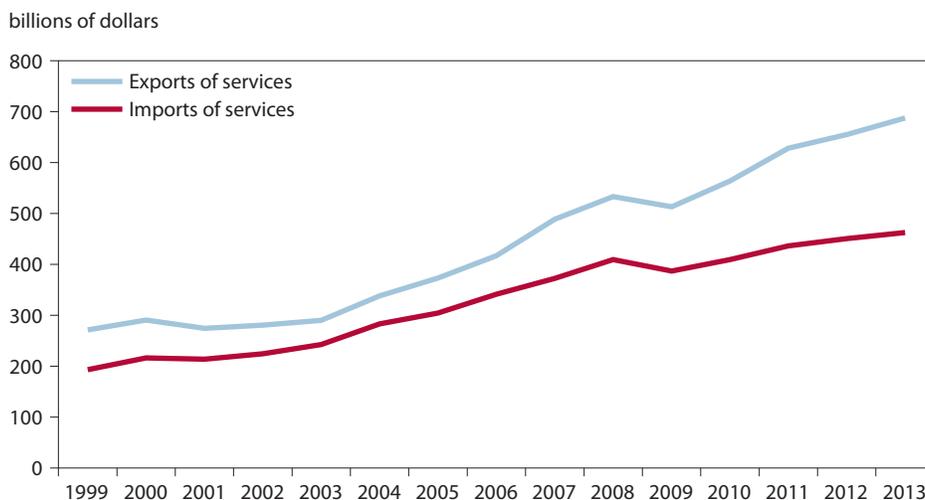
Source: US Bureau of Economic Analysis.

Figure 7 Exports by US MNCs originating in the United States, 1999–2011



Source: US Bureau of Economic Analysis.

Figure 8 US exports and imports of services, 1999–2013



Source: US Bureau of Economic Analysis.

although manufacturing employment has been falling, both US manufacturing output and output per worker have been growing relative to the outputs of other sectors of the US economy and of other countries. But reshoring is not the reason. We also found that US-based MNCs that do more offshoring have greater increases in their US employment, output, capital expenditures, and R&D spending relative to firms with lower volumes of offshoring. Other recent studies have shown that offshoring by US firms complements domestic production, allowing these firms to expand in all locations, both at home and abroad (Moran and Oldenski 2013; Desai, Foley, and Hines 2009). Thus US manufacturing and services are thriving, but not because of reshoring. On the contrary, offshoring is one of the factors that has allowed US firms to remain so competitive.

But what about employment? US manufacturing employment, both in absolute levels and as a share of total US employment, was falling long before the recent rise in offshoring began. Some of this decline is due to changing demand as US consumers shift their spending away from manufactured goods toward services. However, the largest factor is technological change, which has automated many basic manufacturing procedures and reduced the amount of labor required to produce many goods. In particular, technology is now a substitute for the most routine activities that can be easily performed by machines, and these activities are concentrated in middle and low-end manufacturing (Acemoglu and Autor 2011). Offshoring, then, is not the largest factor contributing to the decline of US manufacturing employment. Instead, it is a force that allows US firms to remain competitive against foreign rivals. By means of offshoring, firms can free up resources to focus on higher value-added activities such as R&D and related services. Indeed, evidence on offshoring firms reveals that the lower-skilled, more routine tasks are offshored, resulting in an expansion of higher value-added activities (Oldenski 2012).

The nature of manufacturing has been changing so much that many firms associated with the production of manufactured goods do not show up in the official statistics on the US manufacturing industry. Andrew Bernard and Teresa Fort (2015) refer to these firms as “factoryless goods producers.” Their numbers have been on the rise for years, and many of them are well-known firms in important US industries. According to Bernard and Fort (2015),

The best-known example of a factoryless goods producer is Apple Inc. Apple designs, engineers, develops, and sells consumer electronics, software and computers. For the vast majority of its products including iPhones, iPads and Macbooks, Apple does none of the production and the actual manufacturing

is performed by other firms in China and elsewhere. While Apple is known for its goods and services and closely controls all aspects of a product almost none of Apple’s US establishments would be in the manufacturing sector.

The semiconductor industry is well-known to have factoryless goods producers in the form of “fables” firms. Mindspeed Technologies, a fabless semiconductor manufacturer in Newport Beach, CA designs, develops and sells semiconductor solutions for communications applications in wireline and wireless network infrastructure equipment. Mindspeed outsources all semiconductor manufacturing to other merchant foundries, such as TSMC, Samsung and others. Mindspeed’s establishments would not be in the manufacturing sector.

In a related paper, Andrew Bernard, Valerie Smeets, and Frederic Warzynski (2013) describe their study of Danish firms that were classified as manufacturers but at some point changed statistical classification from manufacturing to services. In 2007 employment at these firms was about 10 percent of Denmark’s total manufacturing employment. This finding implies that the actual fall in Danish manufacturing employment is much smaller than official statistics suggest once firms that shifted to specialize in services associated with manufacturing production are also included.

The reshoring push represents a desire to return to a previous state of US manufacturing in which a wide range of production stages all took place within the United States. But that desire overlooks many important changes taking place in the organization of manufacturing production, as well as the opportunities that go along with them. The word *manufacturing* should no longer conjure up an image of assembly line workers putting together physical products. Today, the growth in manufacturing employment—especially the growth in high-wage, high value-added jobs—is concentrated in areas such as product design, distribution, and supply chain management.

Table 1 shows the 10 largest occupational categories within manufacturing, ranked by the changes in their shares of total US manufacturing employment over the last decade. Even within manufacturing as strictly defined, the fastest-growing occupations are architecture and engineering, business and finance, management, computer and mathematical occupations, and sales. More traditional production occupations have declined the most and now make up about half of total employment in the manufacturing sector. The manufacturing sector as a whole accounts for only about 8.8 percent of total US employment, and the traditional production occupations

Table 1 Changes in occupational employment shares within the US manufacturing sector, 2005–14
(percent)

Occupational category	Change in employment share, 2005–14
Architecture and engineering	0.82
Business and financial operations	0.77
Management	0.70
Computer and mathematical	0.40
Sales and related	0.11
Installation, maintenance, and repair	-0.04
Construction and extraction	-0.31
Office and administrative support	-0.83
Transportation and material moving	-1.23
Production	-1.90

Source: Author's calculations using data from the US Bureau of Labor Statistics.

within manufacturing employ only about 4.6 percent of all US workers. Reshoring efforts that focus on this tiny fraction of the US workforce are a needless distraction from the many larger and more dynamic areas of the economy that will likely continue to fuel growth in the future.

CONCLUSION

In the coming years, more examples of reshoring will likely emerge as some firms reconsider their offshoring decisions and bring production back to the United States. But this does not

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mean that offshoring no longer makes sense for US firms. In a world of increasingly complex global production, MNCs will clearly always be shifting production between locations. But there is no evidence of a widespread reshoring trend. This does not represent a defeat for the US economy. The ability to harness global supply chains is an important source of competitiveness for US firms.

Policies that focus on reshoring, especially the reshoring of production in the manufacturing sector, are misplaced. Instead, the focus should be on building the areas in which the United States has its greatest strengths and thus the greatest potential for growth in an increasingly globalized world. The key to taking advantage of future opportunities is to ensure the presence of a workforce that is qualified to fill the jobs that are likely to expand in the United States. This means investing in education to build math, science, management, and communication skills for the service positions that are expanding within US firms and replacing the more traditional physical production and assembly positions. It also means expanding high-skilled visas to reinforce in the United States the abundance of highly qualified workers. In this way, the country can continue to serve as the milieu in which cutting-edge products are designed and managed rather than as the workroom that assembles them.

In an increasingly globalized world, US manufacturing need not become obsolete, even with continued growth in offshoring. The nature of US manufacturing has been changing for years, but this does not represent a net setback for US workers. The key is to look forward, not backward, for opportunities.

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This publication has been subjected to a prepublication peer review intended to ensure analytical quality. The views expressed are those of the author. This publication is part of the overall program of the Peterson Institute for International Economics, as endorsed by its Board of Directors, but it does not necessarily reflect the views of individual members of the Board or of the Institute's staff or management.

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