Reshoring U.S. Manufacturing:
A Wave of the Present

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EXECUTIVE SUMMARY

U.S. manufacturing is in a period of resurgence, and while it is too early to say if the positive momentum has staying power, the sector’s revival is being aided in part by the return of production to the United States that had been outsourced to lower-wage rate locations overseas, particularly China and developing Asian economies.

Known as reshoring, inshoring or insourcing, this wave of activity, though still too soon to be called a major trend, is seismic enough that it has caught the attention of economic development policymakers, economists, researchers and governments.

SOME KEY FACTS:

• After shedding some 7.5 million jobs and shrinking to 9 percent of the total nonfarm employment in 2010, the U.S. manufacturing sector has added 430,000 jobs since. A 2012 study concluded reshoring could add 2 million to 3 million jobs and an estimated $100 billion in annual output in a range of industries by the year 2015.

• The roster of companies returning production to the United States includes some of the nation’s largest manufacturing companies such as General Electric, Ford, Caterpillar and NCR.

• Surveys have found major companies either deciding to or actively considering reshoring. A Boston Consulting Group survey in April 2012 found more than one-third of U.S.-based manufacturing executives at companies with revenue greater than $1 billion planned to reshore production to the United States from China, or are at least considering it.

• A number of factors are driving the reshoring trend including rising wage rates in China, currency valuations and higher energy costs and their impact on shipping.

• Beyond cost considerations, other factors are also playing into reshoring decisions, including disadvantages from having research, engineering and design too far from production, supply chain disruption concerns and concerns over intellectual property.

• Reshored production favors such items as durable goods and heavy machinery that are expensive to ship relative to price, for example, expensive items subject to frequent changes in consumer demand such as high-end clothing and home furnishings and appliances, and products where safety concerns are vital, such as food products or baby formula.

• Openings for skilled manufacturing positions are up more than 150 percent from 2009. The production most likely to be returned to the United States will require highly trained workers and even more coordinated efforts between government, education and business on workforce development programs.

• While lower-cost labor states in the Southeast and Southwest would have an advantage in attracting reshored manufacturing, states that offer a highly skilled labor pool can also be competitive.

“A community without an existing seed or foundation of manufacturing has a shallow, hollowed-out economy built upon a house of cards.” – Dean Barber, Site Selection Consultant

The obituary for U.S. manufacturing has been written and under continuous revision since as far back as the late 1970s. From legacy industries such as steel, automobiles, tires to chemicals, apparel and sporting goods, U.S. manufacturers shed millions of jobs, often outsourcing manufacturing to lower-wage locales, first in Mexico and the Caribbean basin and then to Asia.
At its peak in mid-1977, the U.S. manufacturing sector numbered around 19.5 million jobs, 22 percent of all nonfarm employment. After that pivotal year, manufacturing employment began a steady erosion through the 1980s and 1990s before plummeting at the start of the 21st century. By 2010, U.S. manufacturing ebbed to under 12 million jobs and under 9 percent of the total workforce.

But before its obituary could be completed, manufacturing made a comeback in the United States. Not only is it no longer on life support, it is actually growing. A compelling part of its revival is linked to the decision by a number of U.S. companies to repatriate production to U.S. locations that had been done in foreign countries, particularly China.

If the numbers of announced jobs and investment are not enough to call reshoring a trend, perhaps the attention being given to it by politicians and policy makers is.

From the State of the Union address to presidential debates, reshoring has proved an increasingly popular topic. President Barack Obama met with executives from more than a dozen companies in 2012 to ask them how the United States can build on the reshoring momentum. New tax proposals on the table would reward companies for creating jobs in the United States and possibly eliminate tax advantages for moving them overseas.

What’s driving the momentum in reshoring? What will it take beyond the “Made in America” stamp to keep the reshoring momentum going? And how do communities, regions and states create the environment and infrastructure to encourage manufacturing investment and build reshoring strategies into their economic development initiatives.

**U.S. MANUFACTURING EMPLOYMENT**

In his 1982 best-seller *Megatrends*, author John Naisbitt predicted a transformational shift in the United States from an industrial society to an information society, which he predicted would erase national borders and create a truly global economy where things could be made and sold anywhere.

A popular notion, beginning in the early 1980s and continuing for the next couple decades, was that the U.S. didn’t need to be as concerned about its manufacturing sector because it held a dominating advantage in technology and innovation, and whatever it needed could be made cheaper someplace else.

No doubt, the nation has shifted to a knowledge economy. But there’s also no doubt that manufacturing is a key component of the knowledge economy and the nation is better off – and more secure – making things than not making things.
Manufacturing drives research and innovation. It promotes skills development. And it pays better than many other job classifications. The average hourly pay for a factory worker making durable goods was $20.15 in January, almost a dollar an hour more than the broad service category.

And now rapidly rising labor costs in what had been considered low-wage havens in China and elsewhere in Asia, lower real estate and construction costs in the United States, higher productivity from U.S. workers, and rising energy and transportation costs have prompted some companies to bring manufacturing operations back from overseas locations.

Mullican Flooring, for example, a major high-quality hardwood flooring manufacturer, decided in late 2011 to expand its manufacturing operations to a 309,000-square-foot facility in Johnson City, Tenn., replacing part of the company’s production capacity that was coming from Asia.

“We believe we’re on the leading edge of a trend by U.S. manufacturers to shift jobs back to American soil,” says Neil Poland, Mullican Flooring president.

Indeed, Mullican is just one example of a wave of companies that have reshored manufacturing that had been done overseas. Among those companies are some of the world’s best-known brands and products – such as appliances, outdoor equipment and sporting goods – thought to be facing extinction in the American manufacturing experience.

### SELECT RESHORING ANNOUNCEMENTS

<table>
<thead>
<tr>
<th>Company</th>
<th>Details</th>
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<tbody>
<tr>
<td>General Electric</td>
<td>The company announced in early 2012 that it was opening a water heater plant at Appliance Park in Louisville, the first new plant at the site in more than 50 years. Another plant has been retrofitted to make high-efficiency refrigerators. Eventually, GE plans to invest $800 million in Louisville, part of a $1 billion commitment to create 1,300 new jobs in the United States by 2014. Many of those jobs are being shifted from plants in China.</td>
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<td>Caterpillar</td>
<td>The heavy equipment manufacturer has picked a site near Athens, Ga., for a plant that will build small tractors and excavators, investing $200 million to shift some production from Japan.</td>
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<td>NCR</td>
<td>The venerable business machine company builds ATMs and self-service checkout systems at a Columbus, Ga., plant that opened in late 2009, and it plans to add another 370 jobs there by 2014, building products that were formerly made at plants in China, Hungary and Brazil.</td>
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<td>Coleman</td>
<td>The iconic outdoor equipment maker announced in 2012 that it’s moving production of its 16-quart plastic wheeled cooler from China to Wichita, Kan.</td>
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<td>Methanex</td>
<td>The Canadian-based company will relocate a methanol production plant from Chile to a 225-acre site in Geismar, La. The $550 million project will give the company its first U.S.-based methanol production facility in more than a decade.</td>
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<tr>
<td>Horton Archery</td>
<td>The archery and crossbow manufacturer expanded its domestic manufacturing facility and moved all its production to Kent, Ohio from China. “Being on site to answer the phone and hear feedback from the field was one thing that we felt couldn’t be done in China,” says CEO Gregg Ritz.</td>
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<td>Watts Water Technologies</td>
<td>The company and its Webster Valve subsidiary will make a multimillion dollar investment in a 30,000-square-foot plant complex in Franklin, N.H., that will bring an estimated 100 manufacturing jobs back from China.</td>
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<td>Farouk Systems</td>
<td>The manufacturer of hair dryers moved 1,500 jobs from China back to the United States.</td>
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<td>Chesapeake Bay Candle</td>
<td>The company, founded in 1994, opened a U.S. manufacturing operation in Maryland for its candles and home-fragrance products that had been made exclusively in China and Vietnam.</td>
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“While it still makes sense to manufacture in China for the booming local market, producing goods in China for the U.S. market is no longer a no-brainer.” – Harold Sirkin, The Boston Consulting Group

More U.S. companies might be catching the reshoring wave. A Boston Consulting Group survey in April 2012 found more than one-third of U.S.-based manufacturing executives at companies with revenue greater than $1 billion planned to reshore production to the United States from China, or are at least considering it. For companies with revenue of $10 billion or more, the planning or actively considering response rate was nearly 50 percent.

And the survey found that 37 percent of the 106 respondents from a broad range of industries said they were actively considering or planned to reshore manufacturing.

**RESHORING WAVES**

- Executives at companies of more than $1 billion planning or considering reshoring
- Executives from more than 100 companies in a broad range of industries who said they were actively considering reshoring
- Executives at companies with revenue of $10 billion or more who are planning or actively considering reshoring

Source: Boston Consulting Group

In a March 2012 study, The Boston Consulting Group said reshoring could add 2 million to 3 million jobs and an estimated $100 billion in annual output in a range of industries by the year 2015. The study identified seven key industries in which the rising costs of producing in China would make it more economical to shift to the United States the manufacture of goods consumed in the United States.

According to the study, products that were more likely candidates for reshored manufacturing are:

- Appliances and electrical equipment including refrigerators and dishwashers, as well as lighting systems and small appliances such as microwaves
- Computers and electronics
- Transportation products, plastics and rubber
- Heavy machinery including air conditioning and heating systems, office machinery and agricultural equipment
- Expensive items subject to frequent changes in consumer demand or changes in color or style, like high-end clothing and home furnishings
- Products where safety concerns are vital including food products or baby formula.
In a September 2012 study (*A Homecoming for U.S. Manufacturing?*), PricewaterhouseCoopers honed in on six key areas influencing U.S. manufacturing trends:

1) Energy costs, the impact on transportation costs and protection against supply chain disruptions: As global energy demand has surged so have global energy prices, making it more expensive to ship products from greater distances. At the same time, companies that make products far away from their customer base risk supply chain lags and disruptions (such as with the tsunami that devastated Japan in March 2011.)

2) Currency fluctuations: The general depreciation of the U.S. dollar against other currencies has helped narrow the gap between domestic production and production in China. The effect can be seen in the value of U.S. exports, which rose nearly 29 percent between 2007 and 2011.

3) Market strength: The same factors that are drawing foreign direct investment to the United States are shaping investment decisions by U.S. companies for domestic manufacturing. The PWC study notes that while China and developing economies in Asia and elsewhere are mushrooming, they are still far outpaced by the United States on a per capita basis. “This difference in the relative standard of living, as well as the size of the United States market, supports decisions to invest in new domestic production of goods targeted for United States consumption,” the report notes.

4) Labor costs: Harold Sirkin, a Chicago-based senior partner at The Boston Consulting Group, notes that U.S. workers have much higher productivity rates than their Chinese counterparts. Writing on the Harvard Business Review blog in fall 2011, Sirkin says research found that labor costs in Shanghai and Tianjin may be around 30 percent lower than the lowest-cost U.S. states. Since wage rates typically account for 20 to 30 percent of a product’s costs, he says, this will make manufacturing in China just 10 to 15 percent cheaper than manufacturing in the United States. Rising currency values and increased inventory and shipping costs will put additional squeeze on the cost advantage. “While it still makes sense to manufacture in China for the booming local market, producing goods in China for the U.S. market is no longer a no-brainer,” he says.

5) Skills and talent: Despite improvements in higher education and skills training in China and emerging markets and an increase in U.S.-educated foreign workers returning to home countries to take advantage of growing economies, the United States still holds a major advantage in higher education and skills. Integrating workforce training programs into economic development strategies has given the United States a major advantage in this area.

6) Capital, taxation and regulations: While U.S. capital markets are easing after the credit crunch of 2009, borrowing in China has become more difficult due to increased capital requirements for banks and tighter lending for exporters, PWC notes. “As a result, manufacturers may shy away from longer supply chains and the risks they carry including inventory tied up in transit, particularly in industries with shorter product cycles or high spoilage,” the report notes.
Speaking to the International Economic Development Council in September 2011, Barry Johnson, executive director of the U.S. Commerce Department’s SelectUSA initiative, says “the calculus used to arrive at (reshoring) decisions is often incomplete.” He notes a number of other factors beyond labor and transportation costs that he says companies often overlook in the decision-making to move manufacturing off shore. Among them:

- Quality control issues
- Disruptions that occur when engineering and development are separated physically from manufacturing. The PWC study noted that 70 percent of all R&D expenditures in the United States comes from the manufacturing sector. “It is noteworthy that companies that have moved production back to the United States – or are opening new production facilities there – have often cited R&D location as a factor,” the report says.
- The often lax oversight over intellectual property in many foreign nations.

Mark Barbash, former chief economic development officer for the Ohio Department of Development, says many executives are reluctant to be “second-guessed” on the factors that drove their offshore decisions in the first place. Research shows that 60 percent of manufacturers use “rudimentary total cost models” and ignore 20 percent of the hidden costs of offshoring.

Barbash urges economic development organizations to incorporate reshoring strategies into their overall economic development programs. He cites work being done by groups such as the Reshoring Initiative and encouraged economic development organizations to work with such groups to “understand what is not being measured.”

“We make the case on value and not on cost,” he says. “There is more to this decision than cost.”

With wage pressures in China driving up labor costs and rising energy prices making transportation more expensive, the competitive climate for U.S. manufacturing has become more favorable. Sirkin of The Boston Consulting Group predicts that rising currency rates will drop China’s cost advantage “to single digits after factoring in inventory and shipping costs, with productivity-adjusted labor costs effectively converging by 2015.”

That scenario would suggest growth opportunity for reshoring for lower-cost labor locations, especially Right to Work states such as Texas and Southeast states such as Alabama, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee that have already built strong manufacturing sectors.

At the same time, though, overall demand for skilled manufacturing workers is on the rise. An analysis in September 2012 by CNNMoney of Conference Board data on employment postings found that openings for skilled manufacturing jobs are up 38 percent since 2005 and more than 150 percent in the last three years.

Texas is a leader in that trend but so is traditionally more expensive labor location California and higher-wage and higher union membership states including Ohio, Michigan, Illinois and Indiana. All together, there were more than 209,000 manufacturing openings in August 2012, many with starting wages of more than $850 per week.

Analyzing research conducted by Pepperdine University demographer Joel Kotkin identified communities that are, in his words, leading a revival in U.S. manufacturing. While Texas cities took several slots on the list, so did cities such as Seattle, Cincinnati, Milwaukee and Warren-Troy, Mich., that are not considered low labor rate environments.
## TOP 10 MANUFACTURING GROWTH REGIONS

<table>
<thead>
<tr>
<th>Rank</th>
<th>Region</th>
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<tbody>
<tr>
<td>1.</td>
<td>Seattle-Bellevue-Everett, WA</td>
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<tr>
<td>2.</td>
<td>Oklahoma City, OK</td>
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<tr>
<td>3.</td>
<td>Salt Lake City, UT</td>
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<tr>
<td>4.</td>
<td>Houston-Sugar Land-Baytown, TX</td>
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<tr>
<td>5.</td>
<td>Warren-Troy-Farmington Hills, MI</td>
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<tr>
<td>6.</td>
<td>Cincinnati-Middletown, OH-KY-IN</td>
</tr>
<tr>
<td>7.</td>
<td>San Antonio-New Braunfels, TX</td>
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<tr>
<td>8.</td>
<td>Austin-Round Rock-San Marcos, TX</td>
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<tr>
<td>9.</td>
<td>Fort Worth-Arlington, TX</td>
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<tr>
<td>10.</td>
<td>Milwaukee-Waukesha-West Allis, WI</td>
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Source: joekotkin.com

While labor cost is a key factor in any location or investment decision, a number of other variables also play into the equation. When Caterpillar was exploring locations in early 2012 to bring manufacturing back from Japan, it weighed a number of variables before deciding on a site in Athens, Ga.

### WHAT INFLUENCED CAT’S DECISION:

**Workforce.** Caterpillar was impressed with the region’s pool of workers with manufacturing experience and Georgia’s QuickStart jobs training program. Administered through the Technical College System of Georgia, QuickStart delivers training to potential employees free of charge in classrooms, mobile labs or directly on the plant floor.

**Incentives.** Caterpillar considered nearby sites in North Carolina, South Carolina and other parts of Georgia, but the $75 million state and local incentive package that came with the Athens deal was hard to beat. Much of the financial assistance came from the region’s consortium of communities and electric companies, known as the Electric Cities of Georgia.

**Business-friendly climate.** Athens has been trying to lure companies to the 900-acre megasite straddling the Athens-Clarke and Oconee county line since the 1970s. Local leaders were more than willing to invest in the Caterpillar operation, promising nearly $30 million in tax abatements and infrastructure construction and acquiring 265 acres of the site, with plans to transfer ownership to the company over the next 20 years.

“The best quality talent at the lowest cost, wherever it exists.”

— Thomas Friedman, Author

A resurgence in U.S. manufacturing is not being driven solely by repatriated production. From 2010 through March 2012, U.S. manufacturers added 470,000 jobs and enjoyed a rate of job growth 10 percent faster than the rest of the private economy, aided in part by an upturn in the auto industry, a surge in energy exploration and production, and foreign direct investment in the United States. Even with that good news is the grim reality that U.S. manufacturing lost 5.7 million jobs since 1997, and that 99 of the top 100 metros were still down in manufacturing employment in September 2011 compared to 2007, before the global economic downdraft.

Beyond that, broader decisions on capital investment are increasingly made with less regard for borders.
“Outsourcing,” notes author and New York Times columnist Thomas Friedman, “is a passe term for many CEOs, who view their business globally and are more concerned with accessing ‘the best quality talent at the lowest cost, wherever it exists.”

Make no mistake, the factors driving reshoring will do little to bring back low-skill manufacturing. The future of reshoring is parallel to the future of manufacturing in general, and that rests squarely with innovation, technology, and constant training and skills development at every level of the process and every link in the global supply chain – from creating, designing, and engineering products to manufacturing and distributing.

Many manufacturers already are struggling to find and train workers who have the technical skills needed to meet demand. Technology advances, experienced workers reaching retirement age, a decline in students pursuing technical and vocational careers, and a lack of resources for training among small- and mid-sized manufacturers are creating a workforce skills gap.

Linkages between government, education and business will have to be even stronger to close those gaps, promote U.S. manufacturing innovation in general and take advantage of the reshoring momentum.

Local colleges and universities are playing an increasingly influential role in building a trained, adaptable workforce and preparing students for careers. And government-driven workforce development programs, which often work in partnership with colleges, can be an integral part of manufacturing investment decisions.

Apprenticeships are another way companies can cultivate talent. Many employers are also recognizing the need to work closely with schools early on to encourage the study of science, technology, engineering and math – also known by the acronym STEM – and to entice youth to consider advanced manufacturing and other technical careers.

One example is in Dalton, Ga., where a group of floor covering manufacturers recognized a lack of skill and enthusiasm among local workers for jobs requiring more technical skill. The companies sponsored a summer career camp for middle school students to generate interest in opportunities available in their industry.

CONCLUSION

U.S. manufacturing is showing a renewed vitality that has been absent for the better part of three decades. While it is unlikely it will recapture all of the jobs lost since its peak in the mid-1970s, the manufacturing sector remains an integral part of the U.S. economy, providing well-paying jobs, driving research and innovation, and playing a key role in the security of the nation.

The reshoring trend demonstrates that U.S. workers and locations can compete in the global marketplace, and just as global forces impacted U.S. manufacturing in an adverse way for so long, they are now impacting it in a more positive way.

Policymakers need to understand the dynamics at work – labor costs, energy costs, transportation costs – that are making reshoring an option and position their region to take advantage of the opportunities. The communities that can offer the sweet spot of lower labor costs, attractive business costs, a favorable business environment and a pool of skilled workers will truly ride the reshoring wave the farthest.
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Bill McMeekin is director of content and Emily McMackin is managing editor of BusinessClimate.com, a national portal for economic development information and analysis for industry professionals and site selection specialists. Both authors are regular contributors to the BusinessClimate.com blog, which provides insight on industry trends, site selection and quality of place information.