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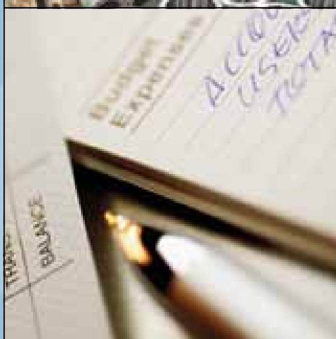

Manufacturing *Insider*

Insights & Observations for the Manufacturing Industry

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In This Issue

Backshoring...Reverse Globalization

Over the past couple of years we have begun to hear about and witness an emerging trend known as "backshoring" or "reshoring". Both terms can be defined as meaning the same; "the returning of manufactured product from an offshore location to the home country". Consider the following examples:

- Caterpillar Inc. recently announced the expansion of its U.S. operations with the construction of a new 600,000-square-foot hydraulic excavator manufacturing facility in Victoria, Texas.
- NCR Corp. stated that it was bringing back production of its ATMs to Columbus, Georgia, in order to decrease the time to market, increase internal collaboration, and lower operating costs.

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- Wham-O Inc. has returned 50 percent of its Frisbee production and its Hula Hoop production from China and Mexico to the U.S.
- Otis Elevator is moving production from Nogales, Mexico to a new plant in South Carolina.
- Buck Knives is moving a large portion of the company's production from China to Post Falls, Oregon.

It needs to be emphasized that the current level of backshoring would be classified as only a trickle but it is growing based the economic and deeply engrained problems facing businesses in countries such as China. What are the compelling issues? Rising wages, price inflation, TCP (total cost of production), lead time requirements, supply chain risks, industrial real estate costs and energy consumption/costs to name a few. This combination of economic forces is eroding the cost advantage that countries such as China have enjoyed.

An in-depth study by the Boston Consulting Group[1] identified that wage and benefit increases of 15 to 20 percent at the average Chinese factory will cut China's labor cost advantage, over lower cost states in the U.S., from 55 percent today to 39 percent by 2015 (Exhibit 1). The study concludes that within five years the total cost of production for many products will be only about 10 to 15 percent less in Chinese coastal cities than in some parts of the U.S. where factories are likely to be built (Exhibit 2). When all costs are considered, the report details that certain U.S. states, such as South Carolina, Alabama, and Tennessee, will turn out to be among the least expensive production sites in the industrialized world.

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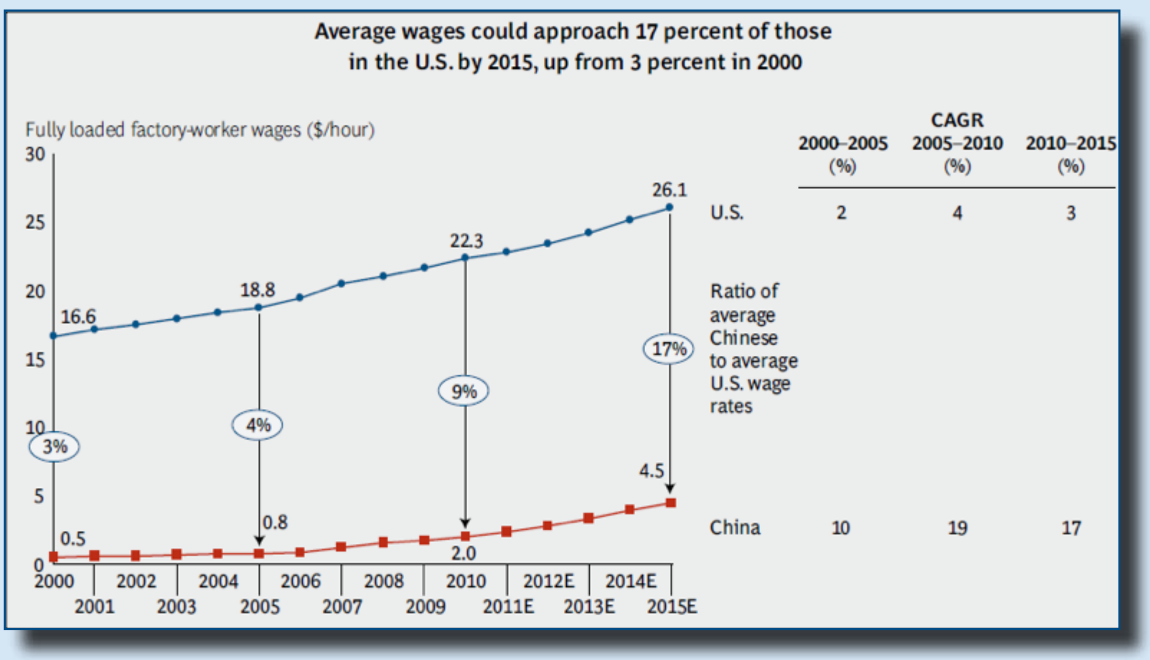

Exhibit 1

Imagine a company...	...with the following choices of location			2000	2015E
• U.S.-based auto parts supplier • Most customers are U.S. OEMs that manufacture in the U.S.	U.S., selected southern states	• Flexible unions/ workforce • Minimal wage growth • High worker productivity	Wage rate ($/hour)	15.81	24.81
			Productivity (%)	100	100
			Labor cost/part ($)	2.11	3.31
• Parts require eight minutes of labor, on average, in the U.S. • Labor represents one-quarter of the total cost of the part	China, Yangtze River Delta	• Scarce labor • Rapidly rising wages • Low productivity relative to the U.S.	Wage rate ($/hour)	0.72	6.31
			Productivity (%)[1]	13	42
			Labor cost/part ($)	0.74	2.00
			Labor cost savings (%)	**65**	**39**
			Total cost savings before transportation, duties, and other costs (%)	**16**	**10**

Exhibit 2

What's next for U.S. manufacturers?

Over the past several decades, our U.S. manufacturing industry has faced a dramatic loss of market share in several industries such as televisions, computer chips and equipment and steel. We have faced the manufacturing growth of Japan, South Korea, Taiwan, China, India and now emerging low cost countries such as Thailand, Vietnam, Indonesia and Cambodia. The U.S. offset? Productivity, flexibility, wage controls and the dollars position in the global currency market are all merging to position our U.S. manufacturing industry to absorb what is anticipated to be an increasing wave of backshoring opportunities.

Companies need be prepared to take advantage of backshoring opportunities and understand how to truly be a global competitor. A recent article by Strategy Business[2] presents the case that a company needs to establish business imperatives that incorporate:

- **Customization.** Establishing capabilities to produce and deliver products and services in a locally competitive way. That means they must satisfy the needs and wants of diverse customers, in terms of features, affordability and cultural affinities.

- **Competencies.** Aligning your company to ensure a common core purpose, a body of proprietary world-class knowledge and the competencies that distinguish your company from others.

- **Effectiveness.** Reducing costs by finding less expensive materials, manufacturing processes, logistics systems, funds sourcing or infrastructure. Many companies have addressed this tactically, by offshoring. This is generally a defensive or reactive move, rather than a well-considered strategy.

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UHY has been actively working with a number of manufacturing clients to help them position their business operations for backshoring opportunities. As with any initiative, this requires a comprehensive plan with business commitments that incorporate a well-defined business strategy, market placement and competitive landscape understanding, awareness of industry trends and actively seeking to position the company to be visible to companies that are seeking to backshore previously offshored product. A proactive backshoring plan will require the following fundamental actions:

1. Determine your business strengths and weaknesses:
   a. What drives your economic engine?
   b. Where your business is positioned on the Innovation Curve?
   c. From a market perspective, how strategically is your current customer base positioned?
   d. How you are strategically aligned with your key customers?
   e. How strategic is your supplier base?
   f. What advanced employee skills have your established?
2. Position your Company where backshoring knowledge and opportunities can be gained:
   a. Look into trade organizations such as the National Tooling and Manufacturing Association (NTMA). Check out and attend NTMA's Purchasing Fair on June 13-14, 2012: http://purchasingfair.com/eweb/StartPage.aspx
   b. Understand the idea of Total Cost of Ownership (TOC) as developed and available on the Reshoring Now website: http://www.reshorenow.org/
3. Develop a backshoring goods and services matrix to identify various supply bases for the categories of goods and services that your company can supply.
4. Establish a market segmentation "Heat Map" to identify and analyze current and potential new markets and products.
5. Identify online opportunities to introduce your company and your capabilities, including:
   a. MFG.com: http://www.mfg.com/en/
   b. Customer Parts Online: http://www.custompartsonline.com/
   c. To Bit It: http://tobidit.com/
   d. Contract Auction: http://contractauction.com/
6. Tap into UHY's resources to determine and understand the complexities of a global economy and what issues companies may experience in doing business throughout the world.
   a. UHY's international capabilities: http://www.uhyadvisorsus.com/uhy/Services/InternationalServices/tabid/844/Default.aspx
   b. UHY's "Doing Business Guides" for foreign countries: http://www.uhy.com/pages/resources/doing-business-guides.php

Businesses who have previously adopted offshoring initiatives to make exports for sale in the U.S. are being forced to take a hard look at the total costs. Because of productivity, wages and state and regional incentives in the U.S., the cost advantages of previously lower-cost countries such as China might not be substantial enough to offset the added expense, time and complexity of doing business offshore.

Manufacturing will most likely continue thrive in low-cost countries. However, a growing number of companies are still either scaling down their factory operations or moving them out of locations such as China. While the continued growth of China remains a dominating factor, the country's one-child policy means they will have fewer laborers available to join their workforce leading to a pending Chinese Labor Shortage…but that's another article.

Article written by Alan Lund (Farmington Hills, MI)

1 Boston Consulting Group: http://www.bcg.com/documents/file84471.pdf

2 Strategy Business: http://www.strategy-business.com/article/11308?gko=aaf83

Bringing manufacturing back to the U.S. from China: How did we lose it and how do we bring it back?

Manufacturing in China is certainly cheaper than manufacturing here at home in the States. However, according to President Obama's plan, as per his Union address on January 24, 2012, with the right tax policies in place we may be able to increase the level of U.S. manufacturing over time. Is this a reality or a pie in the sky? Let's take a look at some facts and statistics before anyone contemplates this possible.

First, let's consider the U.S. versus China. In 2000, manufacturing workers in China were paid on average around 50 cents per hour and Americans receiving an average of about $16.60 per hour[1]. That means labor costs in China were 3% of that in the U.S. (and this is even before we take into account that the Chinese currency was artificially cheaper as compared to the States).

So how did the U.S. lose such grip on the manufacturing industry? Primarily speaking we can say it happened between 2001 and 2004 whereas, even though the Chinese workers were not as skilled as workers in the States, the enticement by the Chinese companies with government subsidies and the cheap labor was sufficient enough for the U.S. companies to make the move. From 2001 to 2004 the U.S. imports from China grew at a rate of around 20% per year—an astonishing increase. Slowly but surely that rate started to reduce around 2005. By 2010 it had fallen down to approximately 4%[2]. Let's not kid ourselves, Americans are still consuming plenty of "Made in China" products, but we're starting to get full.

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Bringing manufacturing back to the U.S. from China *Continued from Page 1...*

What's been happening in China is that people have gotten richer and inflation started to take hold of the economy. The average Chinese worker is now projected to earn around $4.50 an hour by 2014—this is nine times more than what was being earned in 2000. To put that in perspective, if the American manufacturing worker experienced the same rate of wage growth, the hourly salary would be around $150 an hour by 2014[3]. So the good news, if there is any, is that the wage gap is closing but not enough for U.S. companies to come back to the States.

Furthermore, there seems to be a major flaw about the labor cost in China versus the U.S. and that is that a worker in the States appears to be more productive compared to their Chinese counterparts. When you factor in the productivity, a Chinese worker is really costing approximately $15 per hour compared to approximately $25 per hour for a worker in the Southern U.S. Although this is still a big gap, when you factor in duties and shipping it starts to make sense for manufactures to do the same work at home versus abroad.

To really sweeten the deal and make U.S. companies want to come back home, it would appear that President Obama's proposed tax breaks may make the difference. Essentially, the plan would be to give U.S. companies tax breaks if they manufacture at home and take away tax breaks that give them an incentive to go abroad.

To give some real life examples[4] of the shift that has started to happen and hope that it will continue to happen in the future, Caterpillar Inc., the world's largest maker of excavators and bulldozers, has been shifting some of its excavator production from abroad to Texas. Additionally, Caterpillar announced last year the expansion of its U.S. operations with the construction of a new 600,000 square-foot hydraulic excavator manufacturing facility in Victoria, TX. Once fully operational, the plant is expected to employ more than 500 people and will triple the company's U.S.-based excavator capacity. As another example, NCR Corp. announced in late 2009 that it was bringing back production of its ATMs to Columbus, GA in order to decrease the time to market, increase internal collaboration and lower operating costs. Lastly, toy manufacturer Wham-O Inc. last year returned 50 percent of its Frisbee production and its Hula Hoop production from China and Mexico to the U.S. Workers and unions are more willing to accept concessions to bring jobs back to the U.S.

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According to the report by Accenture, a global management consulting company, some 61% of manufacturing executives surveyed by the consultancy said they were considering more closely matching supply location with demand location by re-shoring manufacturing and supply[5]. One should note that this manufacturing movement back to the U.S. is likely to happen in a trickle effect as opposed to waves. Products that are more labor intensive such as apparel and textiles will likely continue to be made overseas.

It's important not to lose sight of how powerful the U.S. manufacturing industry still is when compared against China and the rest of the world. Let's take a quick look at the numbers. According to United Nations data, the U.S. is still the largest manufacturing country in the world. In 2009, U.S. manufacturing output (in real terms) was nearly $2.2 trillion[6]. That's about 45% larger than China's—which was just under $1.5 trillion. Though China of course is growing very quickly, the U.S. has also maintained its global share of manufacturing at 20% in 2009 compared to just over 22% in 1980. What's even more important is that manufacturing in the States is becoming more productive. In 2009, productivity in U.S. manufacturing increased by 7.7% which is more than any other country followed by the Bureau of Labor Statistics[7].

Article written by Anthony Tomaro (New York City, NY)

1, 2 Sanati, Cyrus. "Will Tax Breaks Bring Manufacturing Jobs Back to the US?" 25 Jan 2012 <http://www.mint.com/blog/trends/31627-12012/>.

3 Tseng, Nin-Hai. "Made (again) in the USA: The return of American manufacturing." 29 June 2011 <http://finance.fortune.cnn.com/2011/06/29/return-of-american-manufacturing/>.

4 "BCG Press Release: Made in the USA, Again: Manufacturing Is Expected to Return to America as China's Rising Labor Costs Erase Most Savings from Offshoring" 5 May 2011 <http://www.bcg.com/media/PressReleaseDetails.aspx?id=tcm:12-75973>.

5 Ferreira, John and Mike Heilala. "Manufacturing's Shifting Secret: Gaining Competitive Advantage by Getting Closer to the Customer." 2011 <http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture_Manufacturings_Secret_Shift.pdf>.

6 National Accounts Main Aggregates Database

7 U.S. Bureau of Labor Statistics, International Comparisons of Manufacturing Productivity and Unit Labor Cost Trends, 2010

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