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Testimony of

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**Committee on Small Business
Subcommittee on Economic Growth, Tax and Capital Access
U.S. House of Representatives**

Hearing on

**Made in the USA:
Small Businesses and a New Domestic Manufacturing Renaissance**

March 13, 2014

Chairman Rice and members of the House Subcommittee on Economic Growth, Tax and Capital Access, thank you for inviting me to speak today.

My name is Shirley Mills. I am a director and senior analyst for the Opportunistic Value Team at The Boston Company Asset Management. My responsibilities include investment analysis of U.S. industrial, utility and consumer companies. I graduated from Harvard Business School and *magna cum laude* from Columbia University, where I studied economics. I have been involved with investments in U.S.-based industrial companies for almost 15 years. As a result of investing mostly in small- and mid-cap companies, I meet frequently with a wide variety of industrial management teams and discuss their capital allocation and growth strategies. I am a member of the Boston Economic Club and Boston Security Analysts Society, for which I co-chair a committee leading BSAS's financial literacy partnerships. I also chair the board of Compass Working Capital, a nonprofit that provides innovative financial coaching programs for working low-income families.

Thank you for the opportunity to offer my perspective on the reshoring of manufacturing to the United States as it relates to small business. It is an honor to be here and brings back memories, as I spent the summer of 1997 working here at a foundation.

I'd first like to focus on the dynamics that drove manufacturing activity to leave the U.S. and grow abroad, which have now reversed and may be encouraging manufacturing growth in the U.S. Then I will address whether these trends are likely durable, and follow with some policy perspective.

I use the term reshoring to encompass any decision made to invest in capacity in the U.S. instead of offshore. Please note that manufacturing of specific products by specific companies doesn't need to "return" in order for the U.S. economy to benefit broadly from a stronger manufacturing economy and employment base driven by a broad-based trend toward manufacturing here.

Several years ago, I published a white paper citing a number of reasons for a potential shift of manufacturing capacity back to the U.S. The reasons that I highlighted then remain the case today. I'd like to quickly address each.

Share of manufacturing: Between 1970 and 2010, the U.S. share of global manufacturing shrank from 27% to 20%. That share remained constant in 2010-2012, as a result of 7% cumulative manufacturing output growth for the U.S. and world. China's share continued to increase as its output rose 18% between 2010 and 2012. The laggards were Japan, Italy, France and the U.K., rather than the U.S., indicating that the relative position of the U.S. globally is no longer deteriorating. This is very good news for your constituents and U.S. small business. *Please refer to Figure 1.*

U.S. manufacturing employment: This has continued to improve in tandem with the economic recovery. It has remained flat as a proportion of total employment over the past five years — an outcome that hasn't happened since the mid-1970s. This is more good news and provides evidence of manufacturing strength in the U.S. *Please refer to Figure 2.*

The dollar: A weaker dollar has played a role in making the U.S. more competitive, and it has remained relatively low, indicating no prospective change to competitiveness from currency dynamics for now. This supports ongoing manufacturing strength in the U.S. *Please refer to Figure 3.*

Wages: Wage differentials have narrowed between the U.S. and other key manufacturing economies and have remained relatively low, which explains why U.S. manufacturing has been growing more rapidly than European manufacturing in recent years. Additionally, wages in China have continued to climb, according to *The Economist*.¹ This looks set to continue, supporting ongoing manufacturing strength in the U.S. *Please refer to Figure 4.*

Energy costs: Due in large part to U.S. innovation and entrepreneurialism, natural gas prices have declined in the U.S. relative to global levels. The spread between U.S. and global natural gas prices remains wide, and the spread between U.S. crude oil prices against global benchmarks has begun to widen as well. This supports ongoing manufacturing strength in the U.S., as well as expansion of capacity by U.S. chemical and refining companies. *Please refer to Figure 5.*

Transportation costs: In recent years, global supply chains have become slower, more expensive and, in some ways, riskier. In part because of high crude prices, transportation costs have remained elevated, supporting manufacturing growth in the U.S. *Please refer to Figure 6.*

Conditions exist for reshoring, and it is happening

I believe that U.S. manufacturing is indeed growing more rapidly as a result of these changes.

Recent analysis by *The Economist* cites 100 firms that have reshored manufacturing, from appliances to high-tech devices.²

The Wall Street Journal recently highlighted a number of yarn companies that are spending millions of dollars on new capacity in North Carolina textile country and hiring hundreds of people.³ None of the companies mentioned is based in the U.S., but this expansion will create opportunities for nearby small businesses.

Sometimes it is difficult to see significant trends in aggregate data, so it is worth noting that manufacturing employment is improving rapidly in areas that are benefiting more directly from lower energy prices. *Please refer to Figure 7.*

The cited willingness of large companies to invest in new capital spending in the U.S. is improving, which is very positive for the manufacturing employment outlook. According to consultancy ISI Group, willingness to invest in capacity in the U.S. has been improving for the past few years. *Please refer to Figure 8.*

Small business will benefit – not just manufacturers

I published my white paper in part because I heard investors frequently pointing to U.S.-based global manufacturers as beneficiaries of an improvement in U.S. manufacturing competitiveness. While those companies will benefit, their profitability is already at all-time highs, partly as a result of offshoring. I believe the more significant beneficiaries will be relatively smaller manufacturing companies that are not yet global. This is because they remain disproportionately U.S.-focused and will therefore benefit more from improved U.S. competitiveness.

I believe the most significant benefits of manufacturing reshoring will accrue to U.S.-located component suppliers, transportation companies such as truckers and railways, construction companies, raw-material producers, and utilities.

Secondary beneficiaries include manufacturing job growth, which is particularly positive for the U.S. labor force, given the employment multiplier associated with manufacturing activity. For every

manufacturing job created, one or two are created in other industries.⁴ Improved employment in recovering manufacturing regions will also likely benefit some regional retailers and regional banks.

In addition, federal, state and local government budgets may improve, helped by higher tax revenues from economic growth and incremental investment.

Policies that can encourage this reshoring trend

Many drivers of improved U.S. manufacturing competitiveness that I have cited are beyond the scope of your committee; I will try to limit discussion of my policy perspective to factors that can support the externally driven trends.

Policy consistency and simplicity: Constant change in the regulatory and tax environment creates a headwind to decisions of any sort, particularly investment decisions. The industrial management teams I meet with often cite policy uncertainty as one reason they are investing so little in the U.S. Comments about the level of policy and regulatory uncertainty felt by management teams are so frequent that they seem clichéd.

Energy export policy: This area will become increasingly important to U.S. manufacturing in coming years. As I am sure you are aware, the U.S. now has minimal exports of LNG and crude oil for a variety of economic and regulatory reasons. If exports increase, the global price differential that I mentioned should narrow. That would weaken U.S. manufacturing momentum, particularly in industries with high input costs. It would therefore hurt small businesses, and the key beneficiaries would be producers and/or exporters – larger companies. Unfortunately, I do not see a “win-win” opportunity here, but rather tradeoffs and different beneficiaries depending on which decision is made.

Attention to success: As an equity investor, I constantly observe both the madness of crowds and the importance of compelling stories. The dominant story of the 1980s-2000s was offshoring. In some cases, it made economic sense for manufacturers. But in others, managers simply followed the herd, assuming that lower labor costs would mean lower total costs, although that was not always the case. According to a recent Harvard Business School survey, managers still believe that “wages are lower” in China.⁵ That is strictly true, but according to my conversations with management teams, it may no longer always be the case on a productivity-adjusted basis. I have heard stories in which a narrow focus on labor costs has backfired because of quality-control difficulties, transport costs, working capital needs, intellectual property risks and even eminent domain. The dominant narrative matters because management teams do tend to follow the herd. Publicize examples of offshoring pitfalls and reshoring success. Changing the narrative will be an important part of changing these decisions.

A focus on likely candidates: Some products are more likely to be reshored successfully than others, and policy should be emphasized in these areas. Products with a higher likelihood of successful reshoring may have one or more of these characteristics:

- Expensive shipping costs (usually relatively heavy, bulky and low-value)
- High demand seasonality
- Significant needs for reliable, inexpensive energy or electricity
- A low proportion of costs from direct labor (whether through low labor content or high automation)
- A need for rapid product development or innovation

For example, appliances may be successfully reshored; holiday ornaments less so.

Clustering: Michael Porter of Harvard University has written extensively on what he calls clustering. I believe one implication of his work is that historically strong regional clusters are likely still areas of opportunity. Textile and furniture regions in the Carolinas may once again house more production, and the same may be true for high-end electronics in California. Memphis and Louisville could benefit from their central location and trade hub status. Regions with strength in defense manufacturing (which often has *had* to remain in the U.S.) may retain the knowledge to manufacture components that, for other industries, have gone abroad. I know a small-business entrepreneur who began manufacturing mugs in Ohio after importing them for two decades from China. He is from California, but found the existing infrastructure from the region's prior strength as a ceramics manufacturing hub helpful. Strengthening and building on existing infrastructure will make the decision to reshore easier for companies.

Encouragement of expansion: It is exciting to trumpet brand-new facilities, but encouraging investment that leverages existing facilities is more likely to have a significant impact in favor of the U.S. Expansion is often an easier decision than building anew because of existing property infrastructure, transportation infrastructure and workforce awareness. For example, I recently toured a plant in my home state of New Hampshire, where a midsized manufacturer expanded its capacity at a plant that had been in operation for decades, bringing some components directly back from a plant in China that had been manufacturing them.

Innovation: The reshoring trend is due in part to hydraulic fracturing, in part to automation and other technological innovations that have allowed for greater U.S. productivity, and potentially even in part to 3D manufacturing, which can improve prototyping productivity for the types of near-to-the-customer products that are already candidates for reshoring. Innovation is a strong differentiator for our economy and should continue to be encouraged. The government must play its key role in basic science research, as the private-sector emphasizes rapid commercialization at the expense of fundamental discoveries. Effective immigration for the highly skilled and educated is also necessary if we are to make the most of our innovative potential.

Employee development: Access to a flexible, skilled labor force has become a barrier to U.S. manufacturing, as offshoring caused a generation to miss out on on-the-job apprenticeship training. More formal job-training support should be a key focus area, again building on pockets of existing expertise and incentivizing companies rather than setting up inflexible centralized training programs. In some depressed regions, expanded social services may be needed to help the long-term unemployed adapt and re-enter the workforce.

Incentives and tax reform: When companies consider shifting manufacturing locations, they often mention negotiated financing and tax incentives, which should be considered on a case-by-case basis, particularly because they are often part of an incentive package abroad. Smaller, more domestically focused companies have higher effective tax rates than global corporations, which can use sophisticated tax planning to optimize their tax obligations. According to *The Economist*, in the current tax system, "The losers are smaller companies, which have less room for manoeuvre."⁶ Appropriate corporate tax reform and simplification could improve the relative competitiveness of U.S. manufacturing versus other locations and of smaller companies versus larger companies.

Capital access: For larger companies, various data indicate that capital access has improved. For smaller companies of the size this committee represents, access to capital is still frequently mentioned as a constraint to expansion. Some have told the press that they were better able to access expansion

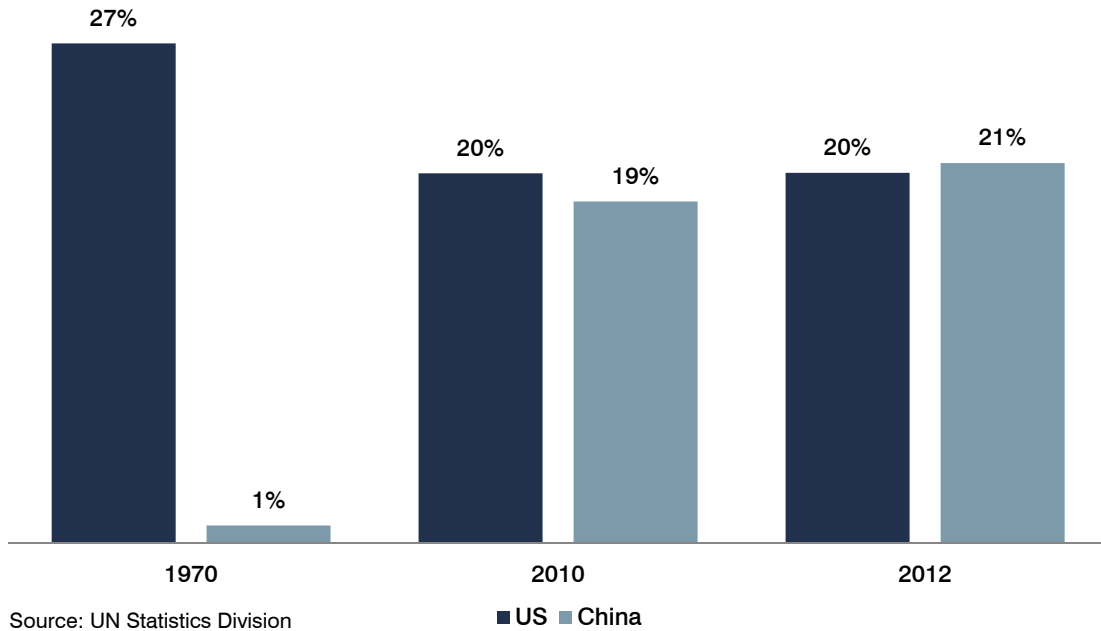
financing in China than in the U.S. Though this could be changing as China has its own troubles now, this factor could be addressed from a policy perspective.⁷

Regulatory environment: The regulatory burden for small companies is significant in the U.S., and according to the World Economic Forum, our global rank in the burden of government regulation is deteriorating.⁸ Although the U.S. is continually ranked one of the best places from an overall ease-of-business perspective (for example in the World Bank's ranking) its rank has been falling.⁹ This is important to small-business prospects because larger companies are better equipped to navigate complex regulatory environments and may encourage regulations that favor large companies. According to *The Economist*, "since lobbying is mostly confined to large, established companies, the question is whether it discriminates against small, innovative groups. Complex regulations act as a barrier to entry."¹⁰ Actions like the Regulatory Flexibility Improvements Act will be important for small businesses to remain competitive with larger U.S. and foreign companies. Effective antitrust regulation is also key, to prevent creation of concentrated supply chains and/or monopolistic powers that exclude potential new entrants and associated innovation.

Time doesn't roll backwards. For U.S. manufacturing and its workforce, the world is much more competitive than it once was. It can be tempting to talk about "jobs coming back," but that is not quite accurate. Rather, incremental investment in American manufacturing may create new and different jobs. They may be higher-skilled and higher-paid than those that were lost, but there will probably be fewer of them. The broader benefit to U.S. employment — particularly lower-skill employment — will come from associated services, such as trucking, distribution, retail and banking. Efforts to recreate what once was are likely to fail.

Thank you for the opportunity to offer my perspective on the reshoring of manufacturing to the U.S. as it relates to small business.

Figure 1: Share of Global Manufacturing Output: U.S. and China



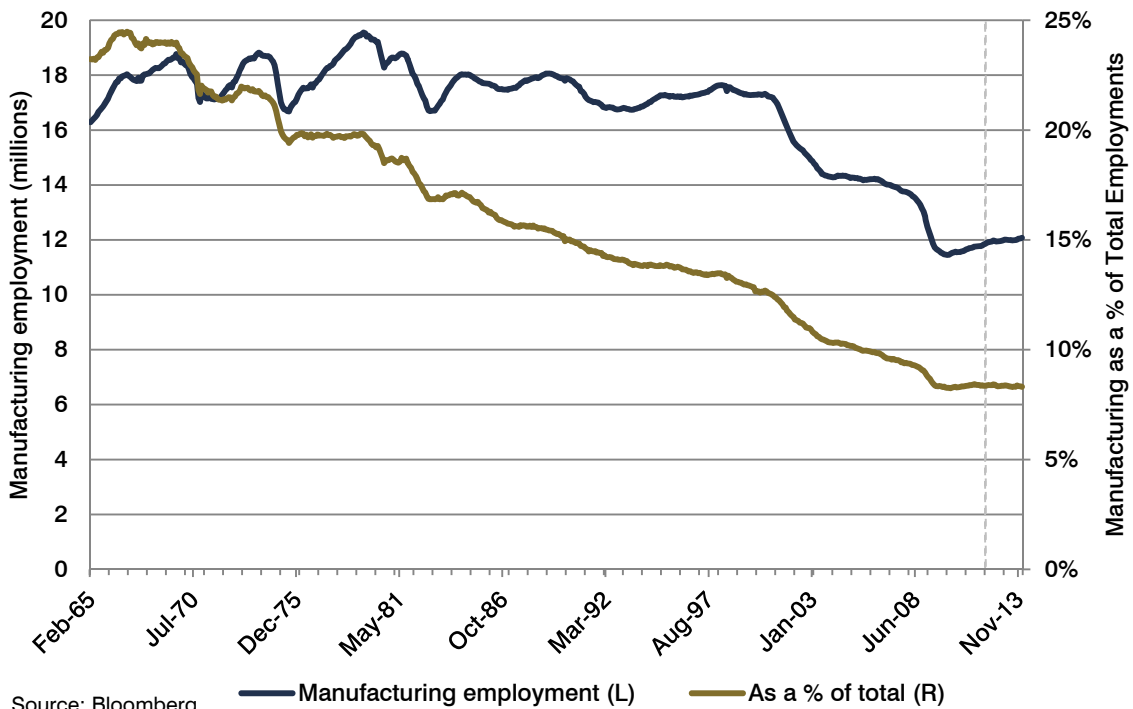
Source: UN Statistics Division

■ US ■ China

*Prior to 2005, China did not report Manufacturing, so China is based on Mining, Manufacturing, and Utilities.

* 2010 data were most current when *Potential Beneficiaries of a Manufacturing Renaissance* was published.

Figure 2: U.S. Manufacturing Employment, 1965–2014

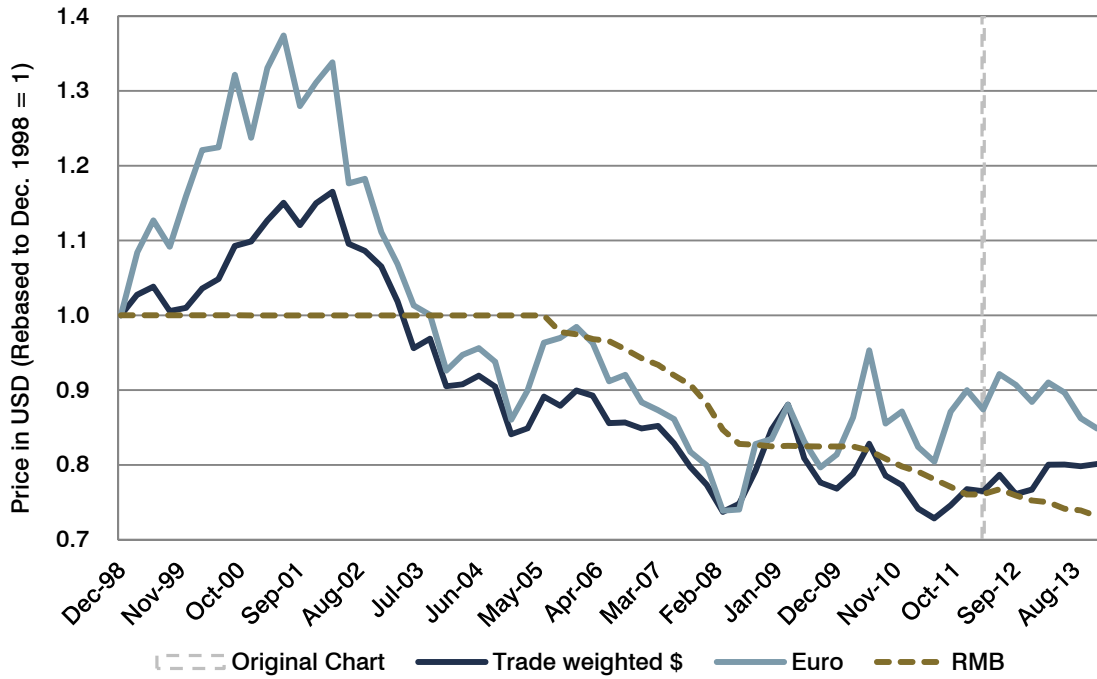


Source: Bloomberg

— Manufacturing employment (L) — As a % of total (R)

* Vertical line indicates chart's end as of publication of *Potential Beneficiaries of a Manufacturing Renaissance*

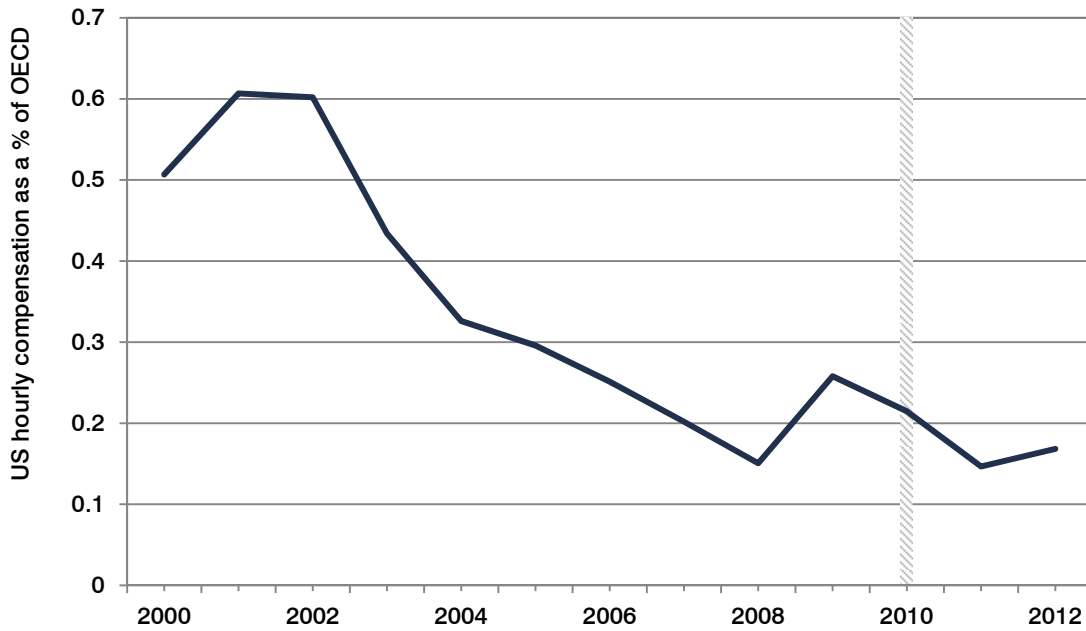
Figure 3: U.S. Dollar Decline, 1998–2013



Source: Bloomberg

* Vertical line indicates chart's end as of publication of *Potential Beneficiaries of a Manufacturing Renaissance*

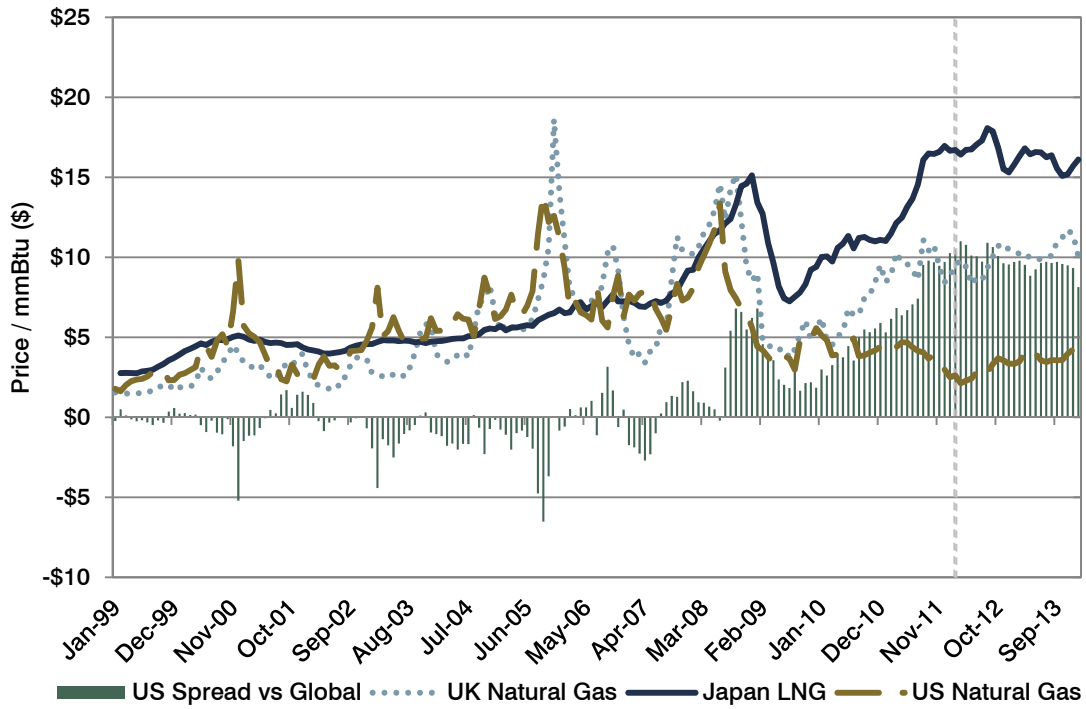
Figure 4: U.S. Hourly Manufacturing Compensation: Premium to OECD Average, 2000–2012



Source: The Conference Board Inc.

* Vertical line indicates chart's end as of publication of *Potential Beneficiaries of a Manufacturing Renaissance*

Figure 5: Global and U.S. Natural Gas Prices and the Spread Between Them



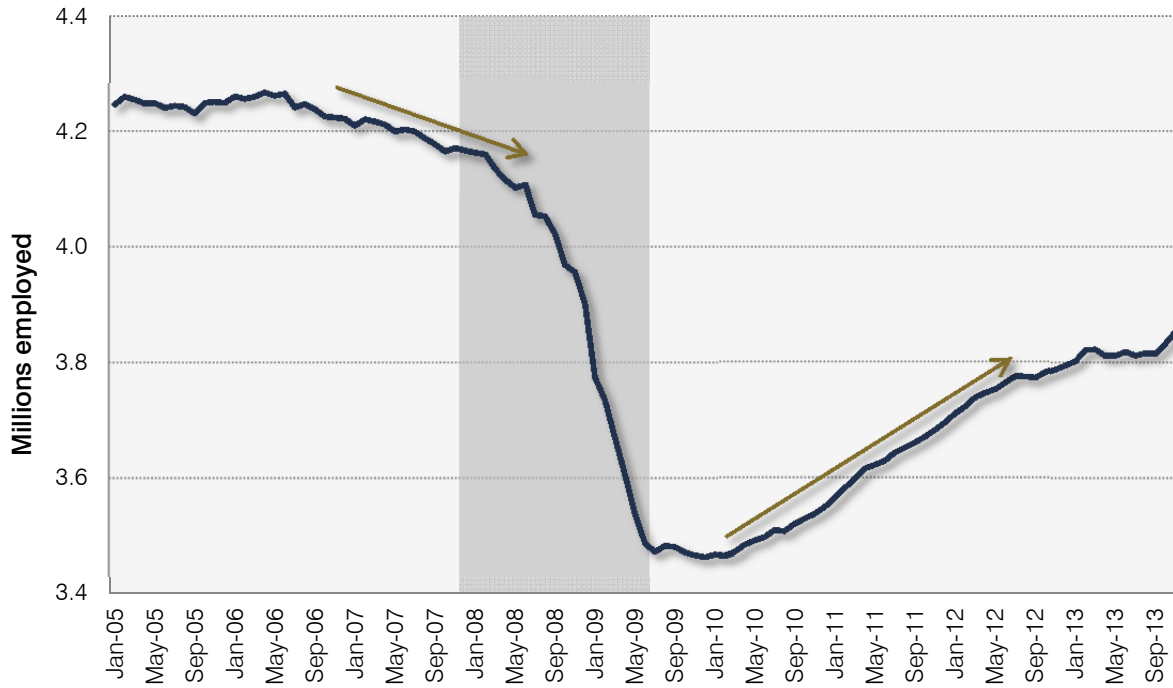
Source: Bloomberg
 Vertical line indicates chart's end as of publication of *Potential Beneficiaries of a Manufacturing Renaissance*

Figure 6: Bunker Fuel Prices, 1991–2014



Source: Bloomberg
 * Vertical line indicates chart's end as of publication of *Potential Beneficiaries of a Manufacturing Renaissance*

Figure 7: U.S. Manufacturing Employment: MI, ND, SD, WY, IN, ID, UT, WI, WA, SC, MT, TN, CO, IA, TX



Source: Cornerstone Macro

Figure 8: U.S. Share of Capex Intentions

Is the U.S. winning a greater share of your capex spending relative to recent history?	
	% Yes
May 2012	27%
Nov 2012	33%
Jun 2013	38%
Nov 2013	51%

Source: ISI Company Surveys

The statements and opinions expressed in this document are those of Shirley Mills, CFA, as of March 13, 2014, are subject to change as economic and market conditions dictate, and do not represent the views of The Boston Company Asset Management, LLC, or The Bank of New York Mellon.

¹ “Coming home: A growing number of American companies are moving their manufacturing back to the United States,” The Economist, Jan. 19, 2013. Web link accessed March 3, 2014. <http://www.economist.com/news/special-report/21569570-growing-number-american-companies-are-moving-their-manufacturing-back-united>

² Ibid.

³ Cameron McWhirter and Dinny McMahon, “Spotted Again in America: Textile Jobs,” The Wall Street Journal, Dec. 22, 2013. Web link accessed March 3, 2014.

<http://online.wsj.com/news/articles/SB10001424052702304202204579256120230694210>

⁴ Bivens, Josh. “Updated Employment Multipliers for the U.S. Economy,” Economic Policy Institute: August 2003.

⁵ “Coming home,” The Economist, Jan. 19, 2013.

⁶ “Plucking the geese: Traditional ways of raising tax do not work well in a globalized world,” The Economist, Feb. 22, 2014. Web link accessed March 6, 2014. <http://www.economist.com/news/special-report/21596672-traditional-ways-raising-tax-do-not-work-well-globalised-world-plucking-geese>

⁷ Robert Schoenberger, “Reshoring: Are manufacturing jobs coming back to the United States?” The Plain Dealer, March 9, 2013. Web link accessed March 3, 2014.

http://www.cleveland.com/business/index.ssf/2013/03/reshoring_conference_to_study.html

⁸ “Tangled: The rich world needs to cut red tape to encourage business,” The Economist, Feb. 22, 2014. Web link accessed March 6, 2014. <http://www.economist.com/news/special-report/21596673-rich-world-needs-cut-red-tape-encourage-business-tangled>

⁹ The World Bank, “Doing Business: Economy Rankings,” Accessed March 6, 2014. <http://www.doingbusiness.org/rankings>

¹⁰ “Grey Eminences: How companies try to influence governments,” The Economist, Feb. 22, 2014. Web link accessed March 6, 2014. <http://www.economist.com/news/special-report/21596674-how-companies-try-influence-governments-grey-eminences>



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Potential Beneficiaries of a U.S. Manufacturing Renaissance

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Executive Summary

Many incremental changes over the past decade have allowed U.S. manufacturing to become progressively more globally competitive. Recently, the cumulative effect of this improvement in competitiveness has reached a tipping point that may set the stage for a revival in U.S. manufacturing employment. Although much press and investor discussion identifies investment opportunities in multinational manufacturing giants as a result of this, our view is that the best opportunities lie elsewhere in the U.S. economy. A significant revival in manufacturing employment growth would be likely to substantially improve the employment and wage outlook for the American labor force. That, along with higher manufacturing and industrial activity occurring within the U.S., would lead to investment opportunities in small and midsize U.S.-based component suppliers, transportation companies, raw material producers, and regional retailers and banks.

Introduction

In recent months, the popular press has begun carrying stories of a “U.S. Manufacturing Renaissance.” Examples include a New York Times article titled “Natural Gas Signals a ‘Manufacturing Renaissance’”¹ and an Economist cover with the headline “The third industrial revolution.”

At The Boston Company Asset Management, LLC, we have been following this topic for almost two years, ever since we noticed a change in tone in our meetings with industrial management teams. After years of sending manufacturing capacity abroad, the managers were beginning to question the assumptions underlying that decision. Despite substantial excess capacity in the U.S., some began considering expanding their American manufacturing footprint for the first time in many years.

Despite all the latest talk of a U.S. manufacturing renaissance, we believe its potential impact on U.S. investment opportunities remains misunderstood. Our perspective is that if the U.S. is indeed a more competitive manufacturing location than it has been in a decade, manufacturing capacity will be added and manufacturing jobs will be created, which should drive U.S. economic wage growth.

The resulting investment opportunities will be found across the breadth of the U.S. economy, in small and midsize U.S.-focused industrial suppliers and in other sectors of the economy, such as banks and retail. Some investors suggest that large U.S.-based manufacturing companies will reap significant benefits, but many such global firms aren’t tightly tied to the health of the American manufacturing economy. At the top three U.S. manufacturers by market cap, domestic sales represent, on average, only 44%

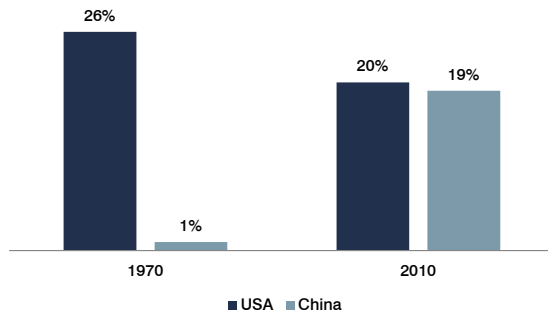
¹ “Natural Gas Signals a Manufacturing Renaissance,” New York Times, April 10, 2012.

of revenue, and their asset footprints are only slightly more tilted toward the U.S. than their revenue.²

The Decline of U.S. Manufacturing Employment

Over the past four decades, America has lost substantial market share of global manufacturing output. Since 1970, American share of global manufacturing output has declined to 20% from 26%. Meanwhile, China's share has risen to 19% from just 1% in the same time frame, gaining 6 points from the U.S., 7 from Germany, 4 from the U.K. and 2 each from Italy, France and Japan. (See Exhibit 1.)

Exhibit 1: U.S. and China Share of Global Manufacturing Output

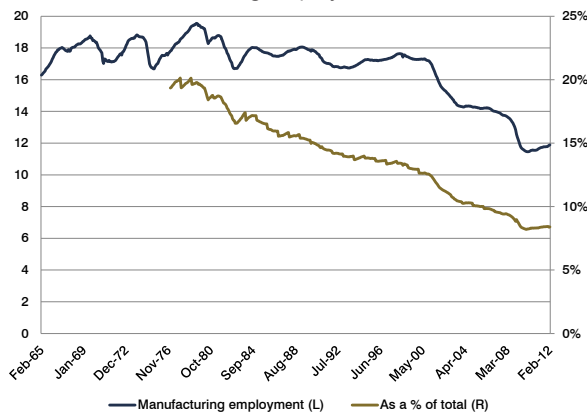


Source: UN Statistics Division, TBCAM

From 1970 to 1990, American manufacturing employment didn't decline, but rather lost share to rapidly growing services jobs. The number of manufacturing jobs fluctuated near 17 million between 1965 and 1998, but declined from 20% to 13% of total U.S. employment.

Then manufacturing employment began a rapid decline – 6 million American manufacturing jobs disappeared between 1998 and 2010. In today's labor force base of 142 million people,³ those jobs would reduce the unemployment rate by 4 percentage points. (See Exhibit 2.)

Exhibit 2: U.S. Manufacturing Employment, 1965-2012



Source: U.S. Bureau of Labor Statistics, TBCAM

² FactSet, The Boston Company Asset Management, LLC

³ Bloomberg, Bureau of Labor Statistics

Why did U.S. manufacturing jobs disappear so quickly? Much ink has been spilled trying to identify a single source, with most arguments centered on offshoring and productivity improvements. At that time, when management teams were deciding where to locate production, they most frequently concluded that it made more sense to send production abroad due to far lower labor costs, stable currencies, potentially lower raw material prices, ease of supply-chain implementation and low political risk.

A recent McKinsey report concluded that more job losses occurred due to productivity than offshoring, but nonetheless estimated that if the U.S. trade deficit were closed by improving the manufacturing trade balance, 2.2 million direct jobs would be created.⁴ However, these factors are hard to separate because accurately quantifying productivity improvements and separating them from technological advancements are very difficult.

The implications of the hollowing out of U.S. manufacturing employment spread far beyond the manufacturing sector. It created an excess supply of labor that has suppressed wages, as evidenced by the 7% decline in median U.S. real wages between 2000 and 2010.⁵ Painful though it has been for the country economically and politically, the decline in real wages may be one way in which the uncompetitive U.S. manufacturing sector of the early 2000s has healed itself.

Why Things May Be Different Now

Quite a few factors that caused the rapid loss of U.S. manufacturing jobs appear to be on the mend. None of these shifts is seismic on its own, but taken together, they are driving the change in tone we have heard from management teams and may herald the beginning of an improvement in U.S. manufacturing employment.

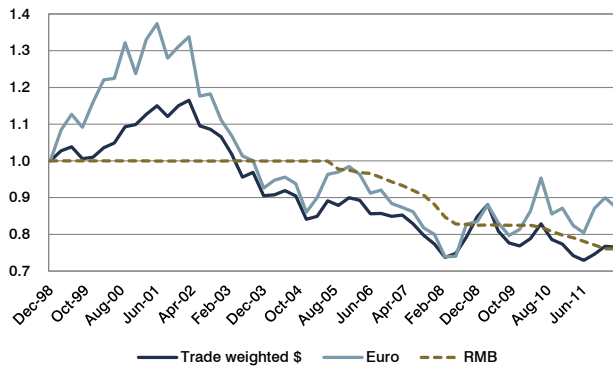
1. The dollar has weakened.

The decline of the U.S. dollar has reduced the relative cost of U.S. wages and inputs in comparison with other locations. The U.S. trade-weighted dollar index has fallen 30% since December 2000. The dollar has declined by 36% since its 2000s peak against the euro and 24% against the Chinese renminbi since the RMB began fluctuating in 2005. This is an important driver of the decline in U.S. labor costs relative to other countries and also makes U.S. exports more globally competitive. (See Exhibit 3.)

⁴ "Trading Myths," McKinsey Global Institute, May 2012: 2. Print.

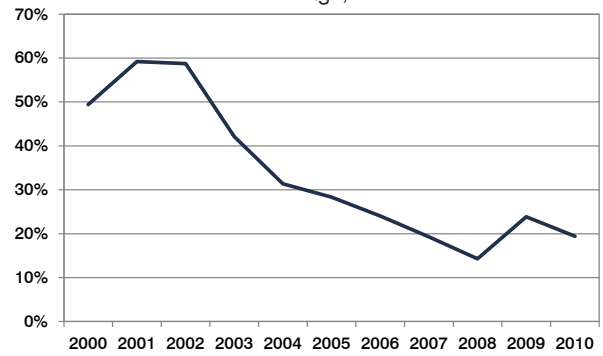
⁵ "Bleak News for Americans' Income," The Wall Street Journal, October 13, 2011.

Exhibit 3: U.S. Dollar Decline, 1998-2012



Source: Capital Markets Outlook Group; Bloomberg; TBCAM

Exhibit 4: U.S. Hourly Manufacturing Compensation: Premium to OECD Average, 2000-2010



Sources: ISI Group; Bureau of Labor Statistics; TBCAM

2. Wage differentials have narrowed between U.S. and key manufacturing economies.

Wages are an important factor for companies when deciding where to locate production. Although labor cost as a percentage of cost of goods sold for many manufactured goods is as low as 10%, wages receive a disproportionate amount of attention in any cost-benefit analysis because they can be so easily quantified.

In 2000, Chinese wages, according to Boston Consulting Group (BCG), were 3% of American levels. Companies that produced high-labor-content goods were simply able to arbitrage lower wage rates in China. This has been most visible in apparel, where labor represents a particularly high proportion of the cost structure and shipping is inexpensive: China's share of global apparel exports leapt from 17% in 2000 to 32% in 2009.⁶ In the past decade, as U.S. real wages have fallen in real terms and lagged productivity growth, Chinese wages have risen six-fold, substantially exceeding productivity growth.⁷ As a result, BCG estimates that for a typical auto component, U.S. labor content was 2.85 times more expensive than Chinese in 2000, but by 2015, it will be only 1.65 times as expensive. Therefore the labor cost savings narrows from 65% to 39%.

Competition with Chinese labor is a factor in how rapidly American manufacturing jobs are outsourced. More relevant to the potential for direct job creation is the differential between American and European wage levels. German dollar-denominated wages have increased significantly in the past decade, driving an improvement in relative U.S. competitiveness. We believe this may explain why many of the new plants announced in the American South are being built by European companies seeking to manufacture goods destined for the U.S. market. (See Exhibit 4.)

⁶ "Made in America, Again," Boston Consulting Group: August 2011. 9.
⁷ ISI Group, Financial Times

Automation is an important determinant of the labor content of manufactured goods. Plant automation has developed greatly in the past decade. This initially cost jobs, as is apparent in a joke that is frequently told in the Rust Belt: "Did you hear that the new plant in town is being run by one man and a dog? The man feeds the dog, and the dog keeps the man away from the machines."⁸ However, by having reduced the overall labor content in some goods, automation may bring incremental job growth to the U.S. by allowing for more goods to be made here.

3. Natural gas prices have declined in America relative to global price levels.

The recent drop in U.S. natural gas prices from \$13 per million British thermal units in 2008 (and also 2005) to approximately \$2/MMBtu today is a truly significant change. Recent technological improvements allowing for more, inexpensive production of natural gas and natural gas liquids (NGLs) in the U.S. have led to a reduction in input prices for many manufacturing activities in America that has not occurred in other markets.

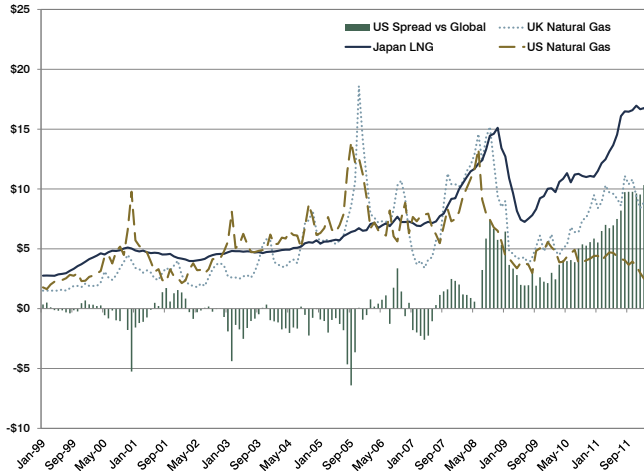
The decline in U.S. natural gas costs has broad implications, all of which lower manufacturing costs in the U.S.:

- Natural gas and associated NGLs are used as inputs in many energy-based industries such as petrochemicals, steel and fertilizers. These companies are more globally competitive due to increased natural gas production and lower prices in the U.S.
- Natural gas is used to generate electricity, which is a significant manufacturing input cost.
- Natural gas is already used as a transportation fuel for refuse trucks, and its use for large-scale trucking

⁸ "Making it in America," The Atlantic: January/February 2012.

is rapidly developing. The potential to displace high-priced oil as a transportation fuel has many positive implications for the U.S. consumer and U.S. trade deficit. (See Exhibit 5.)

Exhibit 5: Global and U.S. Natural Gas Prices and the Spread Between Them



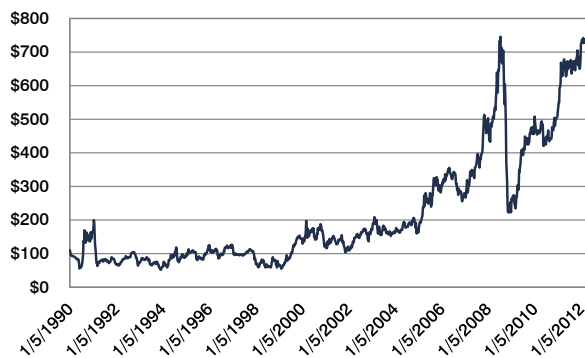
Sources: Bloomberg; TBCAM. Global prices estimated via Europe/Japan average.

4. Global supply chains have become slower and more expensive.

The cost of shipping goods around the globe has become more expensive due to higher fuel prices. A decade ago, the price of bunker fuel used to power ships that transport raw materials and finished goods worldwide was approximately 15% of its current level and had been flat for the previous decade.

Transport times have also lengthened due to port delays, container lines' implementation of slower speeds to minimize fuel costs, and the use of larger ships that take longer to load and unload. Longer transport times further increase costs by requiring excess stocks to be held or airfreight to be employed to rush goods to market. (See Exhibit 6.)

Exhibit 6: Bunker Fuel Prices, 1990-2012



Sources: Dahlman Rose; Clarksons; TBCAM

5. Various forms of volatility have become more apparent and thus a larger concern.

From fuel prices to financial markets, volatility has been the story of the past decade. This has made management teams much less willing to believe that factors such as wages, currency, and transportation costs and time will remain predictable. Recent years have shown management teams the risks they take when siting production abroad. Examples include nationalization (such as Argentina's recent vote to take over the country's largest oil company); local Chinese governments declaring eminent domain over manufacturing sites; and proliferation of various types of intellectual property theft, from simple fakes to unauthorized production that is then sold internationally.

Regarding China specifically, companies we speak with have expressed the sense that they were once treated as an important part of a national growth strategy 10 to 15 years ago. Now, however, the focus has shifted toward the development of "national champions," to which non-Chinese multinationals are beginning to play second fiddle.

6. Miscellaneous other factors point in the same direction: "nearsourcing."

Intellectual property has been and remains a key concern. Skilled labor and managerial talent have been described as often equally or more expensive in coastal China and Brazil than in America. We have heard the same about land, particularly in the Shenzhen area.

Quality control was expected to be quantifiable but turned out to be difficult to enforce, which has caused managerial headaches and sparked concerns about brand damage. Recent supply-chain disruptions have also raised the perceived risk of having production spread across the globe. In 2011 alone, the Japanese earthquake and tsunami disrupted the auto-parts supply chain, and severe flooding in Thailand disrupted the consumer electronics supply chain.

Jeffrey Immelt, chief executive officer of General Electric Co., summarized these dynamics in a recent article in Harvard Business Review in which he described a decision to bring appliance manufacturing back to an existing GE facility in Louisville, KY. He mentioned many of these factors as driving the decision. "Shipping and materials costs were rising; wages were increasing in China and elsewhere; and we didn't have control of the supply chain. The currencies of emerging markets added complexity.

Finally, core competency was an issue... Complex trade-offs have always been involved in location decisions, but as these trade-offs shifted, around 2008, we came to the conclusion that outsourcing was quickly becoming mostly outdated as a business model for GE Appliances.”⁹

What This Means for Investors

As equity investors, we are keenly aware that investment opportunity frequently occurs in times of change. One of our goals is to identify areas of potential change and their implications rapidly enough to take advantage of the opportunities they create. When we identify a potentially significant change, common sense and popular wisdom often treat it as impossible. Therefore, when we began discussing this topic, instead of taking a strong view before enough information was available to permit certainty, we asked ourselves (1) What do we expect to see if that change happens? and (2) If it does occur, what will be the best investment opportunities?

When we began asking ourselves those questions in relation to a U.S. manufacturing renaissance, our goal was to find stocks that would be worth significantly more if the hypothesis played out, yet had little downside if it did not. We believe that such risk/reward profiles are generally only available when evidence is still sparse, are willing to be early in such cases, and therefore initiated some positions prior to seeing substantial evidence confirming our hypothesis. We do now see evidence of our hypothesis in an increase in U.S. manufacturing activity and employment. Yet, despite the proliferation of discussion about a U.S. manufacturing renaissance, skepticism remains pervasive and we believe the investment opportunities remain misunderstood.

Signs we see that confirm this change is presently occurring:

When our firm began discussing this topic, we began watching for announcements about new plants or plant expansions in the U.S., as that would signal that our hypothesis was playing out. Anecdotally, we are seeing many headlines to support this.

- In auto, machinery and tire production, Nissan Motor Co., BMW AG, Maserati SpA, Kia Motors Corp., Caterpillar Inc., Michelin and Continental Tire have all announced plant investments.
- In Ohio, a series of investments are being made in steel production to support the shale gas industry, involving U.S. Steel Corp., Vallourec & Mannesmann and Timken Co.
- Chemicals expansions are occurring across the country due to competitively low input prices. Expansions or new plants have been announced by Dow Chemical Co., Chevron

Phillips Chemical Co., Sasol Ltd., Methanex Corp., TPC Group and Shell.

- GlobalFoundries Inc. is building a semiconductor manufacturing facility in Malta, N.Y.
- Watts Water Technologies Inc., a manufacturer of plumbing components, is expanding a New Hampshire plant to bring production back from China.
- Furniture makers are even shifting production back to the U.S., citing high transport costs.

In February 2012, U.S. manufacturing payroll employment grew 3.8% on a rolling two-year basis, more rapidly than payroll employment ex-manufacturing, which grew only 2.5%. This is the first time since the 1980s that manufacturing employment has grown faster than non-manufacturing. We believe that this is due to many of the dynamics outlined above. According to Deloitte,¹⁰ there are 600,000 jobs that can't be filled because American workers don't have the appropriate skills. As that changes, the growth rate of manufacturing jobs could accelerate further.

Some investment opportunities created by this change in the U.S. economic environment:

Given that the decade of the 2000s was one of rapid automating and offshoring of labor-intensive U.S. manufacturing activity, driving the destruction of 6 million American manufacturing jobs, what does it signify that those trends may be changing?

U.S. and non-U.S. companies are likely to open manufacturing facilities in the U.S., driving manufacturing job growth, which is particularly positive for the American labor force due to the employment multiplier associated with manufacturing activity.¹¹ For every manufacturing job created, one to two jobs are created in other industries. According to a supply-and-demand framework for labor, job creation should allow for better wage growth than recently experienced.

As this topic has become more frequently discussed, we've heard many investors indicating that these changes will be good news for U.S.-based multinational manufacturing companies. However, we believe those companies have benefited from the trends of the past decade. They have built globally optimized manufacturing footprints: If the U.S. becomes more competitive, those footprints may become a hindrance to profitability rather than a tailwind. In 2012, most U.S.-based multinationals are earning as much as they've ever earned before, on higher profit margins than ever before. Excluding a few companies that aren't representative due to spin-offs or excessive exposure to

⁹ Immelt, Jeffrey. "The CEO of General Electric On Sparking an American Manufacturing Renewal," Harvard Business Review, March 2012: 44. Print.

¹⁰ "Community Colleges: Restoration Drama," The Economist, April 28, 2012.

¹¹ Bivens, Josh. "Updated Employment Multipliers for the U.S. Economy," Economic Policy Institute: August 2003.

finance or defense, the top 10 U.S.-based manufacturers by market cap are expected to earn operating profits in 2012 that are 10% higher on average than their highest profit over the past decade.¹² These are not companies that are struggling alongside U.S. manufacturing.

Our perspective is that due to the strong multiplier effect of manufacturing jobs, the beneficiaries of a U.S. manufacturing renaissance will be found in small and midsize, U.S.-focused industrial suppliers and in other sectors of the economy. These include U.S.-based component suppliers, transportation companies, raw material producers, retailers and banks. Potential beneficiaries even include state and local government budgets: Michigan recently announced a surprise \$500 million budget surplus due to unanticipated revenue growth, after a decade of decline.¹³

Potential Winners

Growth in manufacturing production in the U.S. could increase the size of industrial markets, which could lead to positive operating leverage and therefore improved profitability and returns on capital for suppliers. Potential winners include small and midsize U.S.-based suppliers to manufacturing, U.S.-focused industrial distributors and U.S.-focused automation companies.

Manufacturing activity that occurs within North America could drive growth in U.S. freight volumes, because such activity tends to involve more intranational movements as components are transported around the country. This could benefit trucking companies that move more onshore freight than imports, railroads that move raw materials and long-haul shipments, and suppliers to those industries.

Lower natural gas prices could improve profitability and returns on capital of U.S. chemical companies, U.S. natural gas producers (provided they can capture some of the higher global prices through LNG or use of natural gas to displace oil as a transportation fuel), regulated electric utilities that may be able to earn regulated returns on new natural gas electricity plants, and unregulated electric utilities that generate electricity with highly efficient natural-gas-powered plants.

The benefits of more U.S. manufacturing production, higher manufacturing employment and lower natural gas prices are likely to be found in pockets of regional strength. This could create opportunity for small regional retailers, which may see higher sales and improved profitability; regional banks, which may see lower losses and better loan growth; construction companies, which may benefit from increased construction activity; and electric and other utilities, which may see accelerated demand growth.

¹² FactSet; TBCAM

¹³ Davey, Monica. "Surplus Surprises Michigan, but Is It Safe to Spend Again?" New York Times, February 8, 2012.

Potential Losers

Some transport companies have gained reputations as benefiting from "secular growth," which might decelerate if demand growth shifts from international shipments to intranational. Examples include container shipping lines, freight forwarders and potentially intermodal carriers.

Businesses for which selling prices decline along with natural gas but input costs do not are the most likely to be harmed by recent decline in natural gas prices. Examples include unregulated utilities that own inefficient or coal-burning plants and high-cost coal producers (coal prices may continue declining to reflect lower natural gas prices). Suppliers to these industries, such as manufacturers of coal railcars, may also be harmed by these trends.

Reasons a U.S. Manufacturing Renaissance Might Stall

The future is uncertain, and the idea of a U.S. manufacturing renaissance that improves the relative position of labor in the U.S. economy is still mostly just a hypothesis. Any substantial reversion of the dynamics we've identified could cause these trends to revert, in which case the late Apple Inc. CEO Steve Jobs will have been correct when he reportedly told President Barack Obama, "Those jobs aren't coming back."¹⁴

We believe the most likely factor to revert would be the euro-dollar exchange rate, due to the typical volatility of exchange rates and the ongoing sovereign-debt crisis in Europe. Anything that reduces the price differential of natural gas between the U.S. and the rest of the world is a significant risk, whether it comes from higher U.S. prices or lower prices abroad. Lastly, there are strong manufacturing clusters outside the U.S. — for example, in consumer electronics — that could keep some goods manufactured abroad for years to come.

¹⁴ Duhig, Charles, and Bradsher, Keith. "How the U.S. Lost Out on iPhone Work," New York Times, January 12, 2012.

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Shirley is a Senior Research Analyst supporting the US Opportunistic Value strategies. Her primary areas of coverage are the industrial and utility sectors.

Shirley joined The Boston Company and the Opportunistic Value Team in 2007. Shirley began her career as a generalist on a team-managed large-cap core equity portfolio at Goldman Sachs Asset Management. She then became an analyst and member of the Investment Committee at Steinberg Asset Management, where she covered small and mid cap stocks in the consumer, industrial, energy and financial sectors.

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