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Is America Undergoing a Manufacturing Renaissance?

China's overwhelming manufacturing cost advantage over the U.S. is shrinking fast. Within five years, rising Chinese wages, higher U.S. productivity, a weaker dollar, and other factors will virtually close the cost gap between the U.S. and China for many goods consumed in North America.

Boston Consulting Group, Harold L. Sirkin, Michael Zinser, & Douglas Hohner – August, 2011

Over the past several years, a lively debate has sprung up among economists, consulting firms, politicians, and investors about the current trajectory of American manufacturing. The debate was launched in August, 2011 in a groundbreaking study by the prestigious Boston Consulting Group (BCG) entitled “*Made in America, Again: Why Manufacturing Will Return to the U.S.*” In this report, the authors made the case that China's overwhelming manufacturing cost advantage over the U.S. was shrinking fast, and that by 2016, increasing Chinese wages, higher U.S. productivity, and a weaker dollar would virtually close the cost gap between the U.S. and China for many goods consumed in the U.S. In 2013, several investment houses responded to the BCG study, indicating that they see no strong empirical data to suggest that manufacturing jobs are being “onshored” back to the U.S. This investment commentary examines the thesis that the U.S. is undergoing a manufacturing renaissance, weighing the evidence on both sides of the debate, as well as seeking to determine if there are sectors of U.S. industry which may provide good investment opportunities as a result.

The Decline of U.S. Manufacturing

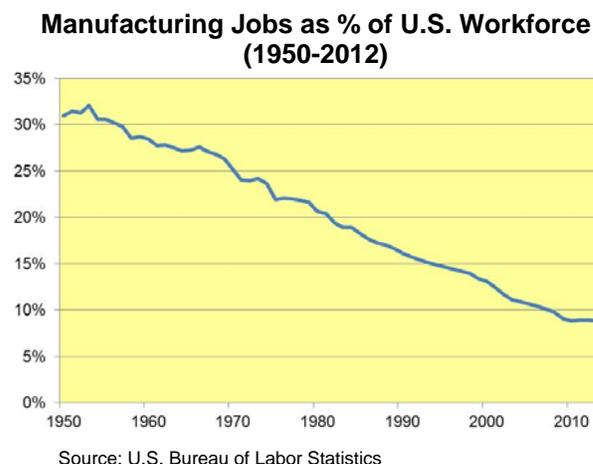
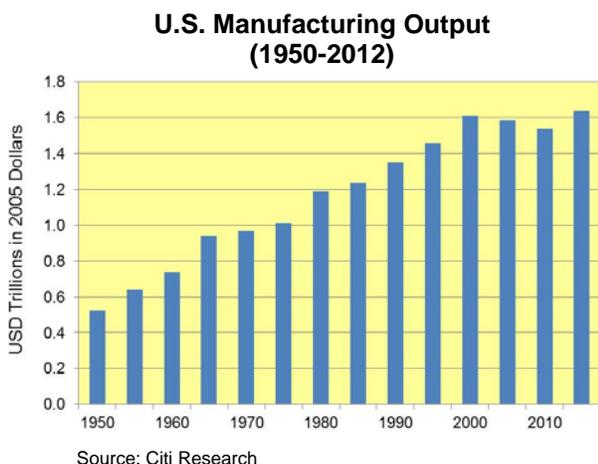
**U.S. Manufacturing as a Percent of GDP
(1950-2012)**



Source: Citi Research

The chart above shows the decline (and some would say fall) of American industry. As of early 2013, manufacturing accounted for only 12% of U.S. GDP – about one-third of what it was at the start of

the Korean War in 1950. America's substantial market share of global manufacturing was largely due to the fact the U.S. was the only major industrial nation whose manufacturing capacity was not destroyed during World War II. As the Marshall Plan was implemented, however, Europe got back on its feet with its reconstructed industry, and several years later, Japan recovered from the war, becoming a fierce competitor. By the mid-1960s, U.S. manufacturing, as a percentage of GDP, dropped below 30%, experiencing a dramatic loss of market share in industries such as color TVs, steel, and cars. In the 1970s and 1980s, Japan became such a powerful force in manufacturing that there was much debate in the U.S. about the need to adopt a so-called "Japan, Inc." industrial strategy. Then came the challenge from the East Asian Tigers – Taiwan and South Korea – leading to the transfer of large amounts of production of labor-intensive goods such as toys, shoes, apparel, and consumer electronics to these countries. Finally, over the past 20 years, the U.S. met its most formidable competitive threat – the rise of China. Nevertheless, U.S. industry met these challenges with alacrity and flexibility, dominating the world in many high-value industries such as aerospace, pharmaceuticals, microprocessors, networking, and software. As the charts below indicate, U.S. manufacturing output grew more than threefold in constant U.S. dollars even as the number of employees in manufacturing dropped from 30%+ of the U.S. workforce to 9% in 2013. This was due to the remarkable increase in productivity of the American worker and the manufacturing processes employed:



China: No Longer the Default Option for Manufacturing

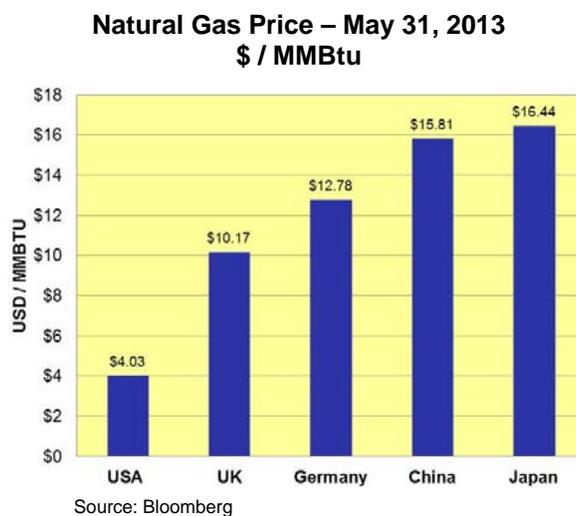
The BCG report concluded that for many products that have a high labor content and are destined for Asian markets, manufacturing in China would likely remain the best choice. But the report's main thesis was that China should no longer be treated as the default option for all manufacturing. Their monograph, as well as reports from other analysts, lists the following reasons for considering "onshoring" production to the U.S.:

- **Rising Chinese Wages:** While wages are still much lower than in the U.S., the gap is closing. For example, Fox International, with 920,000 workers in China, doubled its wages in 2010 at its huge Shenzhen campus following a number of employee suicides.
- **Appreciating Currency:** The Chinese yuan has appreciated over 20% against the dollar since 2007 and over 25% since 2003. This has driven up the price of Chinese exports to the U.S.
- **Increasing Land Prices:** The prices of industrial land in various Chinese coastal areas have risen to the point that industrial properties in U.S. states such as Alabama and South Carolina are less expensive.

- **Transportation Costs:** The cost of transportation as well as the shipping time to the U.S. (approximately 3 weeks) is a disadvantage for those companies who wish to manufacture near their suppliers and clients.
- **Disadvantages of Inland China:** While a good choice for manufacturing goods for the Chinese market, inland China has a poor transportation infrastructure and a shortage of skilled workers which makes it unattractive for U.S. multinationals.

Competitive Advantages of Manufacturing in America

In addition to the rising costs of doing business in China, there are three other factors promoting the return of manufacturing to the U.S.: declining U.S. real wages, strong worker productivity driven by technology, and lower energy costs. Over the past decade (and especially since the onset of the Great Recession), wages in the U.S., in inflation-adjusted terms, have declined in many industries. Labor costs in the U.S. are now lower than in most of Europe and Japan and competitive with China (productivity adjusted). This is especially true in non-union Southern states such as Alabama, South Carolina, and Tennessee, where many newly onshored jobs have been created. A second factor is that U.S. spending on R&D and technology has fueled rapid productivity, as can be seen in the output chart on the preceding page. Good examples are robotics and 3D printing. 3D printing – also called additive manufacturing – is a new U.S. technology that is fueling a fast-growing industry. 3D printing produces a three-dimensional solid object of virtually any shape from a digital model. Manufacturers like Pratt and Whitney (United Technologies) are using 3D printing to make metal parts that are not possible to fabricate in a traditional process. The U.S.’s third competitive advantage is the lower cost of energy, especially natural gas. The huge increase in the U.S. supply of natural gas from shale has led to rock bottom natural gas prices, as the chart below illustrates:



Low U.S. natural gas prices have enabled Nucor to rebuild in Louisiana a manufacturing plant that produces high-purity pellets called DRI, which, combined with scrap, make steel. This plant had previously been disassembled and moved to Trinidad.

Examples of Jobs Coming to America

In 2010, Intel announced plans to manufacture 22 nanometer microprocessors in Arizona and Oregon, investing \$6-\$8 billion in this initiative. Earlier this year, Apple announced that it would invest \$100 million in a factory in Texas to build a Mac product line. GE, Airbus, Lenovo, Rolls Royce, Nissan, Samsung, and Nucor have all committed new manufacturing initiatives in the U.S. Unfortunately, of

the 500,000 new manufacturing jobs created in the U.S. since 2010, only 50,000 can be attributed to jobs returning from abroad or from foreign companies building new manufacturing facilities in the U.S. This barely makes a dent in the 1.8 million U.S. manufacturing jobs lost between the end of 2007 and year-end 2012.

Problems with the “American Manufacturing Renaissance” Thesis

In April, Morgan Stanley released a 100-page report, throwing cold water on the U.S. manufacturing renaissance. While they agree that outsourcing U.S. manufacturing to China and other emerging markets has largely ended, they maintain that there is little empirical evidence thus far which supports the contention that jobs are returning to the U.S. They see two major obstacles: the U.S. corporate tax rate, which shares the distinction (along with Japan) of being at the highest level of any developed country – 10% or more above other competitor countries. This, they posit, will keep the onshoring of jobs to the U.S. down until corporate tax reform takes place, and they believe that the chances of this occurring in Washington currently are less than 50%. The other obstacle holding back greater American job creation by U.S. and foreign manufacturers is the low trend of real U.S. GDP growth. If the U.S. economy were to grow at 3.5% rather than the current 1.5%-2%, they believe that there would be much greater interest from multinationals in building industrial capacity in the U.S. A final issue of considerable importance (not mentioned in the Morgan Stanley report) is the strength of the U.S. dollar. Rather than depreciating against other major currencies as many had forecast during 2010-2011, the U.S. dollar has been appreciating dramatically in 2013 – especially against the Japanese yen and the currencies of emerging market nations. This worsens the terms of trade for U.S. manufacturers, and, if the trend continues, will hamper the growth of manufacturing jobs in America.

Summary

The death knell of American manufacturing has often been sounded over the past three or four decades, but has always been proved to be false. Despite the considerable drop in manufacturing employment from 1997 to 2008 caused by a large amount of outsourcing to China, the U.S. manufacturing sector *increased* output by one-third to \$1.65 trillion during this period due to the strongest productivity growth in the industrial world. It seems clear, too, that the trend of outsourcing manufacturing jobs to China and other emerging nations has largely been curtailed. On the other hand, there is little evidence that the onshoring of jobs to America has begun in earnest. However, at the margin, a new trend does seem to be underway. It is just a trickle so far – a mere 50,000 jobs in three years – but key opinion leaders such as Intel, Apple, Samsung, GE, and Rolls Royce, among others, are leading the way. It remains to be seen whether the obstacles of the highest corporate tax rate in the developed world, slow economic growth, and an appreciating currency will halt the trend in its infancy. For investors, there seem to be two main takeaways. First, U.S. technology is still a global leader, as the revolutionary unlocking of shale oil and gas in the U.S. has shown. Also, the U.S. continues to create new industries such as 3D printing. Both merit research for possible investment, although the shares of companies in 3D printing sell at very expensive valuations. Secondly, it is premature to count the U.S. economy down and out. In fact, despite all of its economic and political challenges, the U.S. appears to be a better place to invest currently than most developed and emerging nations, as evidenced by the strong U.S. stock market and currency in 2013.