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Riding the New Wave in Manufacturing to More Jobs and a Better Economy

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What is the Issue?

Manufacturing is **NOT** dead. Manufacturing is still an important part of the U.S. economy. While recovery from the Great Recession has been painfully slow, U.S. manufacturing exports have shown a steady upward trend since 2008. U.S. counties reliant on manufacturing jobs have out-performed the national average in employment gains. A weak dollar, rising transport costs, design and quality control issues offshore, and more competitive wages and lower-cost energy here at home, have prompted manufacturers to reassess their location choices. How can New York State “ride the wave” of lower factor costs to build manufacturing employment, and how might manufacturing become a more secure part of the economy?

Recent Trends

For thirty years, declining U.S. manufacturing employment has been rationalized by some as an inevitable transition to a service economy. Reassured by the boom in housing and financial services, some policy makers bought into the idea that manufacturing in the U.S. was no longer necessary, and that manufacturing regions were in permanent decline. According to recent reports, however, U.S. factories added 250,000 jobs since the beginning of 2010—the first sustained increase in manufacturing employment since 1997¹ and the equivalent of 13% of the jobs lost during the recent recession. When the housing and financial services bubble burst, interest in a more diversified economy revived. A small wave of increasing manufacturing employment has now refocused attention on how manufacturing might contribute to job growth.

Among the conditions fostering new manufacturing opportunities are a weak dollar, and an anticipated increase in transportation costs—especially important to manufacturers of heavy goods. Manufacturers are also grappling with the quality problems attendant to offshore production and—especially in the case of China—intellectual property issues. And just as other costs associated with outsourcing are rising, U.S. manufacturing wages are at historic lows, including those for middle-skilled technical workers. Finally, the discovery of new shale gas supplies in the U.S. portends cheaper energy and inputs for industries such as chemical production that underpin other manufacturing endeavors. In combination, these factors have caused manufacturers, including non-U.S. manufacturers, to reconsider U.S.-based operations. In fact, foreign manufacturing investment in the U.S. increased 19% in 2008 alone.

The Current Manufacturing Jobs Agenda

The predominant economic analysis has emphasized “innovation” as a source of job creation. But in the U.S., innovation has been narrowed to extracting financial returns through the sale of start-ups or intellectual property², while investment in incremental design and process innovation that creates new products or enhances efficiency in manufacturing has dried up. The hopes invested in innovative new industries as a job creation

strategy have not been realized. The U.S. Bureau of Labor Statistics predicted in the 1990s that such industries would create 2.8 million jobs. Instead, the jobs number is in the tens of thousands.³

The primary government prescription for building manufacturing employment lies in addressing labor supply and “skill mismatch” problems by providing the unemployed with training to meet manufacturers’ need for higher-level skills. But since 2007, while effective unemployment has stood at its highest level since the Great Depression, there has been a continued shortage of “middle skill workers” able to fill advanced manufacturing jobs.

The other prescription is trade policy. Lifting export controls and opening markets for corporations that do most of their manufacturing *outside* the U.S. may be important for strategic reasons, but there is little evidence that such interventions create jobs in the U.S.

What is missing is a broader policy program that includes regional strategies to recapture jobs, and a differentiated approach to industries with varying technological intensity and input costs.

Why Regions Matter

To accelerate the development of U.S. manufacturing and manufacturing jobs, we must build on the remnants of supply chains and specialized knowledge in traditional manufacturing regions. Many metropolitan economies in New York and other Great Lakes states have fared relatively well during the recession. Rochester NY, for example, now ranks first among mid-size cities nationally for job growth, and Genesee County third in food processing industry growth (a low and middle skill job sector) according to *Business Facilities* magazine.⁴ These more resilient city-regions have diversified economies, including advanced manufacturing industries, strong educational and health institutions, and stable public sector jobs. Many have facilities that can be retrofitted, and access to rail and water (not just truck) transport. They lie within the geographic orbit of the major U.S. consumer and business markets. Although their manufacturing workforce has aged, there is still a reservoir of knowledge and skills to draw upon. And their educational institutions have technical training and engineering programs that can serve the needs of returning manufacturing enterprises and their suppliers.

What is needed is a fresh look at these resources and how they can be adapted to the needs of contemporary, globally-oriented manufacturing firms who are looking at total costs, not just labor costs.

Learning the New Location Calculus

Although manufacturing companies will continue to look for local or state government location subsidies, other factors such as infrastructure, logistics and facilities, the quality of potential employees, and especially the efficiency, responsiveness and flexibility of the available supply chain of small and medium size companies (SMEs) are more important to their decisions.

¹Fletcher, M. 2011. “In Rust Belt Manufacturers Add Jobs But Pay Isn’t What It Used To Be.” The Washington Post, May 17. Downloaded May 17, 2011. Available at: http://www.washingtonpost.com/business/economy/in-rust-belt-manufacturers-add-jobs-but-factory-pay-isnt-what-it-used-to-be/2011/05/17/AFDmL55G_story.html?hpid=hp_hp-top-table-main-manufacturing:main%3Fhpid=hp_hp-top-table-main-manufacturing:main&hpid=hp_hp-top-table-main-manufacturing:main

²Andersson, T. P. Gleadle, C. Haslam and N. Tsitjanis. 2010. Bio-pharma: A financialized Business Model. *Critical Perspectives on Accounting*, Volume 21, Issue 7, October 2010, Pages 631-641.

³Mandel, Michael in the June 15, 2009 *BusinessWeek* cover story “The Failed Promise of Innovation in the U.S.” Available at: http://www.businessweek.com/magazine/content/09_24/b413500953288.htm.

⁴*Business Facilities / The Location Advisor*, 2011 Metro Rankings, July-August issue. Available at: <http://businessfacilities.com/special-report/2011-metro-rankings-report/>.

According to organizations that consult with manufacturing companies or have conducted studies to assess their thinking about location decisions:

Manufacturers are beginning to recognize that many of the factors they previously based their offshoring manufacturing and supply decisions on most heavily, such as component price and transportation costs, have dramatically increased over the last few years—and those seemingly initial cost savings are no longer so big.

The Manufacturing Institute, 2011⁵

Since wage rates account for 20%-30% of a product's total cost, manufacturing in China will be only 10%-15% cheaper than in the US—even before inventory and shipping costs are considered. After those costs are factored in, the total cost advantage will drop to single digits or be erased entirely.

The Boston Consulting Group, 2011⁶

Indeed, in an analysis of the full costs associated with location decisions, Mohawk Global Trade Advisors (2011) indicates that if companies look at the cost of offshoring under current conditions, it simply doesn't make sense for many of them.⁷

Consulting firms are developing sophisticated metrics and programs to assess total costs and help companies make choices about plant location and the sourcing of inputs. Economic development practitioners and public officials need to learn these tools for analyzing total costs so that they can have informed conversations with manufacturers about comparative costs, educate suppliers about the cost calculations of their larger customers, and help smaller companies assess their own sourcing alternatives.

What We Can Do Now

An effective job creation strategy should refocus on small and medium-size, privately held companies and what they need to expand employment. Among the most important of these needs are access to capital, assistance in product and process innovation, and more skilled workers.

The most immediate need is access to capital. With national and multi-national financial institutions restricting their lending, it's time for federal policy to support *local* and *regional* banks and credit unions with a commitment to lend to local businesses. The Small Business Administration's "Community Express" initiative supports lenders in making small business loans, and directs small business owners to management expertise.

To reorient innovation, existing industrial support programs such as Manufacturing Enterprise Partnerships (MEPs) and the Industrial Extension programs in land grant universities should be strengthened to give them a wider intermediary role in coordinating training, export promotion, and intra-industry networks that support design, product and process innovation.

As for increasing the supply of middle skilled workers, the immediate steps recommended by manufacturers, unions, educational institutions and intermediaries include "earn to learn" programs (which also stimulate employment) and apprenticeships, not just training. States should reorient community colleges as a source of job-oriented credentials, not just as a steppingstone to a four-year degree (and especially in New York, enable them to provide non-credit technical skills courses). Making those skills portable through "stackable" credentials and national credential systems will attract more workers and boost the capacity of U.S. manufacturing.⁸ Hiring incentives should target SMEs in potentially expanding manufacturing sectors. And as with innovation initiatives,

useful workforce development requires closer collaboration between post-secondary education institutions and regional associations of companies united by particular technologies, like the Rochester (NY) Regional Photonics Cluster.

Securing the Future

Rebuilding U.S. manufacturing capacity from the short-term wave of factor cost advantages would require tackling three major issues in the long term:

1. Focusing the innovation agenda on middle-technology industries.

U.S. university research priorities are biased toward research that leads to revenue from intellectual property sales, rather than research that leads to more productive manufacturing industries. We need incentives for universities to pay more attention to design, product and process innovation in middle-technology industries, and more cooperative efforts between research universities and organizations, such as technical institutes, with closer ties to industry.

2. Solving the health care cost problem.

The elephant in the room is rising health insurance and health care expenditures. Unless these are addressed, U.S. manufacturing will lose jobs to Canada because, despite higher wages and more stringent work rules, its national health care program lowers costs to firms.

3. Strengthening the effectiveness of SMEs in domestic supply chains, but also their reach into global markets.

Provision of technically trained workers is necessary, but not sufficient to rebuild U.S. manufacturing capacity over the long term. Small and medium-sized manufacturers have limited capacity to move beyond day-to-day pressures, inhibiting their ability to utilize information technology, analyze and move up the value chain, or develop global markets for their products. Meeting that challenge will mean the difference between a quick bump in manufacturing employment, and rebuilding an internationally competitive set of U.S. manufacturing industries that can continually re-invent themselves and adopt new technologies. To make the turnaround in manufacturing "stickier"⁹, we must build a regional and national infrastructure to support efficiencies that make outsourcing and offshoring for inputs both inconvenient and economically unattractive, create high-functioning technology-based supply chain "eco-systems" that serve multinationals, and develop SME-based industries capable of reaching global markets independently.¹⁰

Conclusion

Time is of the essence. Because longer-term initiatives require sustained public support and political will, we need to demonstrate the potential of manufacturing to create jobs now. Over the longer term, however, the U.S. hold on manufacturing must rely not just on a tenuous advantage in factor costs, but on better quality control, customer responsiveness and inter-firm efficiency.

If we have a slight wind at our back, then it is a good time to stop fixating on driving down factor costs further by attacking unions or undercutting environmental protections, and instead focus on reinforcing the upward trend in manufacturing with more innovative, systemic, long term initiatives. For too long, the U.S. was the "expensive" alternative for manufacturing, but that world is changing, and we need to change course to take advantage of new global conditions.

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⁵Manufacturing Institute. 2011. "Manufacturing's Secret Shift, Gaining Competitive Advantage by Getting Closer to the Customer". Washington: Manufacturing Institute.

⁶Sirkin, Harold L., M. Zinser, and D. Hohner. 2011. Made in America, Again: Why Manufacturing Will Return to the U.S. Boston Consulting Group, August.

⁷Miller, Chuck. 2011. Supply Chain Trends: The Business Case for Reshoring. Mohawk Global Trade Advisors, presentation to the Workforce Development Institute Manufacturing Symposium, May 12.

⁸Manufacturing Institute. 2011. "Manufacturing's Secret Shift, Gaining Competitive Advantage by Getting Closer to the Customer". Washington: Manufacturing Institute.

⁹Helper, S. 2008. Renewing US Manufacturing: Promoting a High Road Strategy. Washington: Economic Policy Institute.

¹⁰Tassey, G. 2010. "Rationales and Mechanisms for Revitalizing US Manufacturing R&D Strategies". *Journal of Technology Transfer* 35:283-333.

