

Reviving the Manufacturing Sector in the United States
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For at least 30 years, many economists and economic development specialists have been concerned about the decline in manufacturing in the United States. From 1980 to 2000, the decline was largely relative to the growth in the rest of the economy. The actual number of manufacturing jobs did not fall all that much – from 19 million to 17 million. However, today, fewer than 12 million workers are employed in manufacturing.

Concern over the decline in manufacturing focuses on two issues. Manufacturing provides relatively high wage employment for workers who lack college degrees. Additionally, some are concerned that loss of production capacity will undermine U.S. leadership in research and development. In essence, they argue that there is a lot of learning by doing in the production process and that giving up doing risks ceasing to be on the cutting edge of learning.

How then might one revive manufacturing?

Workforce

Rather surprisingly, in light of dramatic job losses in manufacturing in the past decade, reports prepared by Deloitte Consulting for the New England Council ([*Reexamining advanced manufacturing in a networked world: Prospects for a resurgence in New England*](#), December 2009) and by the Dukakis Center for Urban and Regional Planning at Northeastern University ([*Staying Power: the Future of Manufacturing in Massachusetts*](#), July 2008) argue that a high priority must be developing the skills needed for a manufacturing workforce and attracting more young people into manufacturing.

Given job losses, one might think that there would be plenty of former manufacturing workers available to work in the sector. But surveys and interviews with manufacturing executives indicate that is not the case. Admittedly, these interviews took place before the recent Great Recession, but even before then, manufacturing employment had been falling.

Some of the problem may be a skills mismatch, with successful manufacturers requiring higher skills than those displaced possess. However, the Northeastern report found that most manufacturers felt that a high school degree is sufficient for a majority of their workers. That said, workers still need strong vocational skills and the manufacturers interviewed think that young people are being discouraged from taking vocational training because so much emphasis is placed on college. While a college degree is associated with a substantial boost to earnings, many young adults, increasingly men, do not succeed in acquiring a degree.

Recruiting skilled craftsmen is especially difficult. Often, these individuals have acquired their skills through on-the-job experience; so there may be a large industry or even firm specific component to their knowledge. Further, since many more highly skilled manufacturing workers are older, they may prefer retirement to making the adjustments that a new firm might require.

Nevertheless, to this writer, it seems likely that the shrinkage of the manufacturing sector and a loss of critical mass are also factors. The pool of workers with manufacturing experience is simply not as deep as it once was and referral networks are thin. Further, manufacturing today tends to be located in suburban locations, where many young people do indeed aspire to careers requiring college degrees and may regard manufacturing as an unappealing option. At the same time, less advantaged young people in city locations who might be attracted to manufacturing may have difficulty learning about and accessing these jobs.

A project at the Federal Reserve Bank of Boston on the challenges facing the city of Springfield, Massachusetts, highlights some of the issues. Springfield-area [employers were asked in a survey and interviews](#) about their experience hiring entry-level workers. These employers included manufacturers, but they were not limited to this sector. The employers did not face a shortage of candidates. However, many candidates were not ready to work. Attendance problems and poor work attitudes were common. Although the employers generally did not require more than a high school degree or a GED, many candidates lacked the skills such credentials should confer. In response, employers placed high premiums on prior work experience and on referrals from existing workers. This reliance on prior experience and referrals put potential job candidates in Springfield's downtown neighborhoods at a disadvantage in competing for these openings since employment rates in these neighborhoods were low. They were less likely to have prior experience or to know someone who could refer them. Transportation to work was also a problem. A car was needed, since entry-level openings are often on off-shifts.

The basic point is that with manufacturing accounting for only 10 percent of employment rather than 20 or 30 percent, traditional ways of recruiting or looking for jobs – often reliant on friends and family members – are not going to work as well as the once did. Thus, part of a strategy to revitalize manufacturing has to involve recruitment and training.

Networks

The New England Council study, which focused on advanced manufacturing, stressed the importance of networks as an important competitive advantage of the New England region. Larger manufacturers are able to draw upon a web of smaller suppliers of components, parts and services located in the region. These networks, the report argues, help develop products faster and at lower cost. The web of inter-

connections tends to be self-sustaining, since re-creating those relationships in a different location would be difficult.

However, while networks can be self-sustaining, it also follows that the loss of critical elements of the networks can have ramifications far beyond the individual firms. Most obviously, if the large manufacturer at the center re-locates, it will have adverse consequences for all its regional suppliers. But additionally, the loss of several important suppliers in a network might be the tipping point for a large firm that was contemplating alternatives.

More generally, networks mean that once the productive capacity is gone, rebuilding will be very difficult. It is not just one firm that must be recruited or re-created, but many.

Thus, a strategy to revitalize manufacturing in a field where networks are important must keep these linkages in mind. Developing inventories of high quality suppliers, making introductions and helping smaller firms market themselves to potential customers may be part of the answer. Cooperation among neighboring states seems essential to developing a sufficiently large network of suppliers.

Furthermore, for small and medium-sized family-owned firms, succession planning can be an issue. Helping to find potential buyers for family-owned businesses could help preserve important elements of the network.

Branding/Marketing/Listening

Both the New England Council and Northeastern reports place considerable emphasis on the importance of marketing manufacturing and branding New England and Massachusetts respectively as manufacturing friendly places. To a large degree, the argument for branding is linked to workforce challenges. Public perceptions of manufacturing as a dirty and declining industry make recruiting workers, particularly younger workers, difficult. Manufacturing CEOs seem to think that negative or, at best, passive governmental attitudes towards manufacturing have contributed to this image and they would like to see a more positive portrayal of their sector.

The Northeastern report observes an additional phenomenon, however. Manufacturing CEOs resent what they perceive as a lack of respect or interest from government officials. They feel they are being written off in favor of other, more glamorous sectors – like the life sciences or financial services. Compared to the direct costs of doing business and difficulties attracting workers, it seems doubtful that perceptions of government attitudes could have a major effect on the future of manufacturing in the region. But CEOs are people and at the margin, a sense of being unappreciated could tip the balance towards relocating or expanding

elsewhere. And certainly, perceptions of hostility or indifference on the part of government officials could kill off any consideration of moving into an area.

One interesting observation in the Northeastern report was that business CEOs may persist in holding their own negative views even after concerns have been addressed. In their survey of manufacturing CEOs, the Northeastern researchers found that workers compensation was ranked very high as a problem, even though the state had made major changes that had greatly reduced costs. This suggests that frequent interactions between government officials and business leaders may be important. Not only might such forums address CEOs' views that business does not receive sufficient respect, but they might also provide an opportunity to confront mis-perceptions about the true state of affairs.

The Northeastern report also suggests a note of caution. Business leaders, especially those from smaller firms, do not take advantage of training and other opportunities. One cannot assume that if one offers forums that they will come – at least not without aggressive outreach. This should not be so surprising. Smaller manufacturers have thin management staffs and their time is devoted to running the business. But it makes outreach difficult.