Are Manufacturing Workers Hard to Find?
And What to Do
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Studies of the challenges facing U.S. manufacturers often highlight difficulties finding appropriately skilled workers. At one time, I was skeptical of such claims. Given the precipitous fall-off in U.S. manufacturing employment since 2000 and in New England manufacturing since 1990, it seems that there should be plenty of manufacturing workers available to fill any openings. Nevertheless, in recent years, I have become more sympathetic to the argument. The sharp decline in manufacturing employment may have discouraged workers with versatile skills from pursuing jobs in manufacturing. Additionally, I think that the decline in manufacturing has resulted in a loss of critical mass and a disruption of networks that historically were a source of suitable applicants. This breakdown has made traditional recruiting approaches, especially heavy reliance on referrals, less effective.

Below are my impressions of challenges facing manufacturers seeking to find workers. The problems seem different for different categories of workers - executives and professionals, skilled production workers, and semi-skilled and unskilled workers. So the responses required probably differ as well.

Executives and professionals

Surveys of manufacturing executives suggest that finding executives and professionals is not the most pressing hiring challenge. Nevertheless, some manufacturers do report difficulties; and if U.S. manufacturing is to compete more effectively in global markets than it has in the past decade, it is important that manufacturers be able to attract top-quality executives and professionals. Yet these are the individuals with the most options. In particular, young people with the education and skills to work in many fields are likely to find manufacturing's recent history a deterrent to seeking a career in this sector. Arguments that this time is different and that today's manufacturers are much more competitive than those of the past are not all that persuasive; the same arguments were used before by firms that are no longer with us. Nor should manufacturers take much comfort in the fact that the typical manufacturing plant is not the dirty, noisy place of the past; working environments in other industries have improved as well.

While manufacturing's image may be tarnished, manufacturing continues to have positive attractions. It offers the allure of making tangible products and it provides opportunities to solve problems in ways that can have concrete results in new and better goods and more efficient production processes.

In recruiting executives and professionals, I think manufacturers have to do more themselves to address the picture of an industry in decline. This image is not something that government can fix. Either individually or through trade

associations, manufacturers should be recruiting at colleges and universities and making the case that they see a positive future for manufacturing – both for their individual firms and the sector in general. Trade associations and prominent manufacturers also have to strike a balance in their lobbying efforts on tax, regulatory and other issues between their characterization of the criticality of the issue in question and their portrayal of the health of the industry. While conveying a sense of crisis may win votes, it may reinforce the picture of manufacturing decline.

One area where government, especially state and local governments, can be helpful is in ensuring that students in the k-12 system are well grounded in science, technology, engineering and math (STEM), and thus, have the foundation to pursue more advanced occupations in manufacturing. My impression is that many states are seeking to do this already.

Skilled production workers

Finding skilled production workers is the big challenge. Further, since many of today's skilled workers are close to retirement age, this is likely to become a greater problem in the future. Manufacturers say that young people are not being trained to take the place of current workers. Vocational education, now called career and technical education (CTE), carries a stigma; and young people are steered towards college even when their interests lie elsewhere and even when many college students are failing to earn their degrees. Among high school students who are concentrating on career and technical education, manufacturing-related occupational courses have fallen somewhat in popularity. Some manufacturers also say that high school training programs are not state-of-the-art.

I suspect that these difficulties have intensified in more advanced manufacturing activities, where skills are increasingly sophisticated. The decline in manufacturing may be an aggravating factor. With the loss of manufacturing clusters, manufacturers must look further and further afield for workers with the necessary skills. And even when job titles are the same, a skilled production worker from, say, Syracuse may possess a somewhat different body of knowledge than what is typical for a skilled worker in, say, Worcester. While jobs are likely to differ even for firms within the same industry and geographic area, one probably has a better sense of what a prospective hire who worked at the plant down the street knows than one from 200 miles away. In an environment in which manufacturing has lost its critical mass, greater use of standardized manufacturing credentials appears to offer considerable promise.

The Manufacturing Institute, an affiliate of the National Association of Manufacturers (NAM), has been promoting the adoption of manufacturing credentials that would provide employers with assurance that a prospective employee has acquired certain skills. The basic credential is the National Career Readiness Certificate (NCRC) developed by ACT, Inc. – better known for its college

admission tests. The NCRC provides an assessment of work-related mathematical and reading ability, the capacity to absorb and interpret information, as well as an evaluation of soft skills. Building on the NCRC is the NAM-endorsed Manufacturing Skills Certification System, which provides certifications in various specific manufacturing competencies. The Certified Production Technician certification ensures that employees are knowledgeable about such matters as safety, quality assurance and manufacturing processes, whereas more advanced certifications confirm that workers have both hands-on and theoretical knowledge in specific skill areas. Even when the certifications do not match exactly the needs of the recruiting manufacturer, they should make it easier to identify where additional training is needed.

Widespread adoption of common standards is key to their effectiveness in matching workers and employers. Many occupations currently require a formal credential of some sort, and many educational institutions offer credentials intended to show competence in those occupations. But to the degree that these credentials differ – or seem to differ – from one another, comparing prospective credentialed employees is more difficult. Accordingly, the Manufacturing Institute and ACT are trying to promote widespread use of their credentialing system among manufacturers in hiring and promotion decisions, while at the same time they are trying to persuade community colleges and vocational high schools to integrate the awarding of such certificates into their manufacturing-oriented programs.

Realistically, firms' best chance of success in finding highly specialized skilled workers may lie in training their own – starting with current workers with lower level skills but who have proved their reliability and intellectual capacity and offering those workers the training to take the next step. In this they may be able to enlist the help of community colleges. Clearly, larger manufacturers with more potential trainees have an advantage in doing so; but smaller manufacturers may be able to work with local industry associations to put together the necessary numbers and develop the appropriate programs. On-the-job apprenticeships are also a time-honored approach that many companies still employ with success. Firms can take some small comfort that the loss of manufacturing clusters means that they are less likely to lose their newly upgraded workers to a competitor down the street.

Semi-skilled and unskilled workers

With respect to semi-skilled and unskilled workers, I think the problem is less a shortage of applicants than a shortage of applicants with the appropriate expectations and work ethic. As part of a project on job opportunities for lower-income residents in Springfield, Massachusetts, the Federal Reserve Bank of Boston conducted interviews and a survey of firms, including manufacturers, that regularly hire entry-level workers. According to these firms, job applicants were relatively plentiful, but many applicants were not prepared for the demands of the job. Failures of pre-hire drug tests were common, and attendance and tardiness problems were frequently encountered among new hires. Firms relied heavily on

employees' referrals in recruiting and hiring and they looked to past work experience as the best indicator of likely success.

Thus, here again, the decline in manufacturing and the breaking up of manufacturing clusters may make hiring more difficult, because manufacturers cannot look as much to referrals, particularly of workers who have had manufacturing experience, to fill vacancies. Back when manufacturing accounted for 15 to 20 percent of total employment and considerably more in some communities, a manufacturing firm seeking to hire could look to its existing workforce to spread the word about vacancies and make recommendations. Current employees would often have acquaintances with suitable experience or at least aptitude and interest. And the applicants they referred would know about the nature of the job in advance and whether it was something they were willing and able to do. If hired, they probably felt some peer pressure to live up to the positive words of those who recommended them. And the employees who made the referrals would have an interest in making sure that the new hires succeeded. Today, with the manufacturing sector so reduced in size, current workers may not know people with the relevant experience.

Use of standardized credentials may help compensate for the breakdown in referral networks. The National Career Readiness Certificate is specially designed to provide some assurance about the work readiness and cognitive skills of entry-level workers. Cultivating relationships with local community colleges and vocational high schools is another, complementary approach. These relationships will require some effort on the employer's part. Occasional requests for a recommendation are unlikely to yield much. To build trust one needs an on-going relationship. The school or college needs to know in some depth the nature of the work done at the manufacturer and the type of worker required. This, in turn, may require some involvement in developing curriculum. But establishing a continuing relationship with an educational institution that provides training in manufacturing production processes may be a good method of finding suitable to new employees.