

## Skills gap for US manufacturing workers mostly a myth, paper says

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Despite the outcry from employers over the dearth of job-ready workers, three-quarters of US manufacturing plants show no sign of hiring difficulties for job vacancies, says new research from Andrew Weaver, a professor of labor and employment relations at Illinois. Credit: Photo by L. Brian Stauffer

For years, employers, pundits and policymakers alike have bemoaned

the lack of qualified workers available to fill vacant manufacturing jobs in the U.S.

Despite the prominence of the [skills](#)-gap debate, a new paper co-written by a University of Illinois expert in labor economics and workforce policy finds that the demand for higher-level skills in U.S. manufacturing jobs is generally modest.

Three-quarters of U.S. manufacturing plants show no sign of hiring difficulties for open positions, says new research from Andrew Weaver, a professor of labor and employment relations at Illinois.

"Not a week goes by without someone declaring that a huge skills gap exists in the U.S. workforce," he said. "A lot of ink has been spilled on this topic, but it's frequently without evidence. The popular sentiment encourages people to think that employers have high skill demands, but U.S. workers just aren't up to snuff, and that's why manufacturing work is being outsourced overseas."

However, the results show that U.S. manufacturers are generally able to hire the skilled workers they seek.

"We estimate an upper bound of job vacancies due to a potential skills gap of 16 to 25 percent of manufacturing establishments - a finding that sharply contrasts with other surveys that have reported figures of more than 60-70 percent," Weaver said.

The paper, which will be published in the journal *ILR Review*, is the first nationally representative survey to measure the precise skills manufacturers are looking for in conjunction with hiring outcomes and organizational characteristics. According to Weaver, "non-representative surveys from trade associations and consulting firms" have driven the conversation to date.

"The claims and the data sets that are out there often don't involve the direct measurement of skills, so people are looking at vacancy rates across the entire economy or all manufacturers," he said. "There's very little data in which people go in at the plant level and measure what skills U.S. workers need to have."

Weaver and co-author Paul Osterman of the Massachusetts Institute of Technology found the demand for higher-level math and reading skills is a significant predictor of long-term vacancies, but the demand for computer skills and other critical-thinking or problem-solving skills is not.

"What fits with conventional wisdom is higher-level math skills being predictive of having a higher level of long-term vacancies. The other predictive skill demand, surprisingly enough, is higher-level reading skills," Weaver said. "This debate frequently gets framed as a pure science-, technology-, engineering- and math-skills shortage, but it turns out reading also is a robust predictor of longer-term hiring difficulty. It certainly gives a more nuanced picture of skill challenges in manufacturing, and it really cuts against many of the prevailing narratives about the American workforce."

The data also show manufacturing plants that are members of "clusters," or that demand highly specialized skills, have the greatest probability of incurring long-term vacancies.

"One of the things that makes clusters competitive is that they give rise to sophisticated labor markets with skilled employees who can serve the niche demands of high-tech manufacturers," he said. "So you would expect that being a member of a cluster would give you a lower level of hiring difficulty. You would think it would be the manufacturing plant that's off by itself in the middle of nowhere that doesn't have access to a pool of skilled labor - but it didn't turn out that way."

The problem with being part of a cluster is "because you have so many disaggregated firms, you no longer have the internal economies of scale for training," Weaver said. "You can't afford a training department when you're a smaller shop that may hire only one or two people per year. And those same firms don't have the pull that, say, Kodak did in its heyday, when it employed 63,000 workers in Rochester, New York. They could go to the local community college and say, 'We need you to teach these skills.'"

The results indicate that it's important to think about factors that complicate the interaction of supply and demand - labor market "frictions" such as disaggregation and communication and coordination failures - rather than simply focusing on an inadequate labor pool, Weaver said.

"Overall, the picture that emerges is one in which what matters for the smooth operation of the labor market is the connection between the demand and supply sides," he said. "It's not so much that skill demands have spiked and American workers didn't get the memo. It's misleading to say that low-quality labor supply is the problem. Instead, there are these factors that complicate how the supply and demand of the [labor market](#) interact with each other.

"So rather than beating up U.S. workers, we need to realize that there is a need for intermediaries such as community colleges and trade associations that help knit the supply and demand sides of the market together, and get them all on the same page. That way of thinking about the problem is much more constructive than bemoaning the quality of the American workforce."

**More information:** "Skill Demands and Mismatch in U.S. Manufacturing" *ILR Review*, 2016.

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