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Some answers, more questions on manufacturing certifications

By [Elyse Ashburn](#)

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Manufacturing is chaotic. New technologies are emerging fast, and there's stiff competition between vendors serving up the latest in machinery, manufacturing methods, and training. That can make it tough for companies to keep workers' skills up to date, and to help new people break into the industry.

The big idea: Certifications—short, highly-specific training—are both an answer to and part of the challenge. A decade ago, the National Association of Manufacturers was a big champion of them, encouraging both employers and policymakers to invest.

But then its leaders took a step back: What value were specific credentials adding?

Turns out, they weren't really sure. And as certifications continued to proliferate, it was only getting harder for companies, workers, and state agencies to make heads or tails of the market.

"In many cases, states are subsidizing these credentials, and you've got to decide who is on that list," said Gardner Carrick, vice president of strategic initiatives for The Manufacturing Institute at the National Association of Manufacturers. "How are states making this decision?"

So the group launched what would turn into a five-year project to begin to answer the value question. **Ultimately, the group is hoping to build a model for assessing short-term credentials that could extend into fields beyond manufacturing.**

What they did: The Manufacturing Institute specifically looked at outcomes for a set of popular certifications from [NIMS](#) and the [Manufacturing Skill Standards Council](#) designed

for jobs in production, assembly, machining, and metalworking. What they found was that people who earned at least one of those certifications:

- **Saw substantial wage gains in the next five years**—in many cases reversing what had been a downward trend.
- And **were more likely to stay in or move into manufacturing after earning a certification**, although 6 in 10 completers still worked outside that industry.

Interestingly, the earnings of completers increased whether or not they ended up working in manufacturing. Given the highly-specific nature of these certifications, the earnings data appear to be capturing not just the impact of the training itself but also the impact of motivation or some other X factor.

“Just the decision to do something about your skill set, even if you don’t apply it in your next job, appears to change your trajectory,” said Carrick.

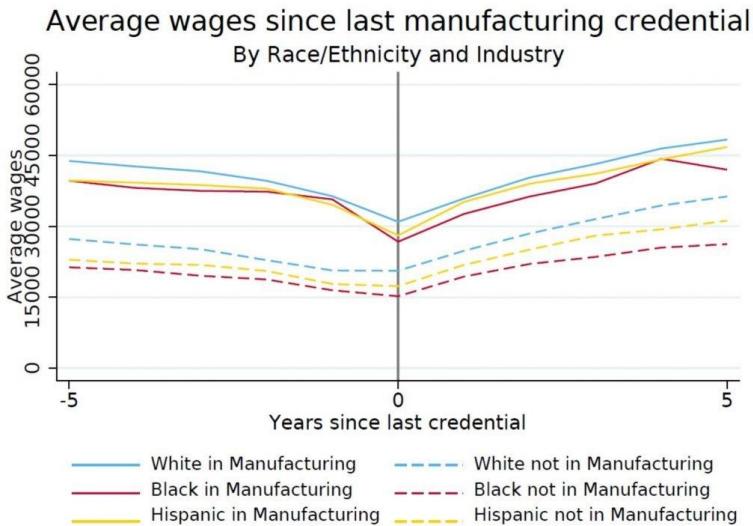
Zeroing in on manufacturing

The details: As with much research, the study raised new questions even as it answered others.

It looked at more than 120,000 people who earned at least one entry-level certification from [NIMS](#) or the [Manufacturing Skill Standards Council](#). The records were from 2005 to 2018, with more than 90 percent from after 2012.

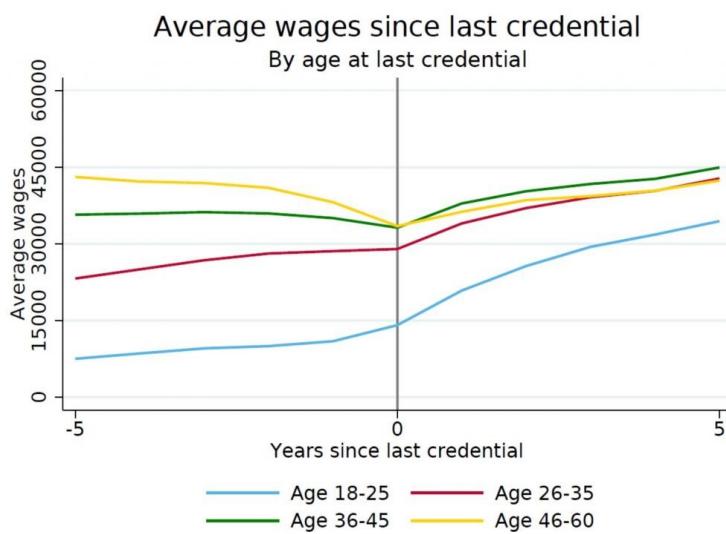
The institute worked with the U.S. Census Bureau and the National Student Clearinghouse Research Center to bring together the data. The Clearinghouse’s records only covered people in for-credit pathways at community colleges or other institutions, so the study doesn’t cover certification recipients who were in non-credit training programs. That’s about half of all trainees.

“We’ve got no visibility into what happens in non-credit,” Carrick said.



It also doesn't track outcomes for people who started but didn't complete a certification. Those are significant caveats, but the data are nevertheless revealing.

- For people in the study, their average annual wages increased by about \$15,000 in the five years after they earned their last certification, a reversal of what had been an overall downward trend in wages.
- And women, Black, and Latino workers saw gains similar to those of white men.



Source: Manufacturing Institute

People saw substantial gains regardless of whether or not they ultimately earned a degree, which the majority did not.

The trajectory change was particularly pronounced for older workers.

- Those age 46 to 60, for example, had seen a sharp decline in wages in the five years before earning a certification, and within five years of completing had almost fully recovered those losses.

“It really did allow individuals, even in mid-career, to get wage replacement and to get back to what they were earning,” Carrick said. “They were on a downward trajectory, and made the decision to re-enroll in school and get this training—and it made a world of difference. So those are really good signs.”

Leaky pipeline

Concerning to Carrick, however, was the fact that **only 41 percent of people who earned a manufacturing certification ended up employed in the industry. And the odds are much worse for Black and Latino workers**, at about 22 percent and 35 percent respectively.

That was the case even though the industry had between 250,000 and 500,000 jobs open at most points during the study period, according to data from the U.S. Bureau of Labor Statistics.

“Oh boy, we have an extremely leaky pipeline,” Carrick said. “In an industry that is frankly desperate for people right now, we can’t convert a majority of people who have self-selected into the field and earned a credential.”

That said, people were 14 percentage points more likely to work in manufacturing after completing a certification. “That’s significant where I come from,” said Jason Tyszko, vice president of the Center for Education and Workforce at the U.S. Chamber of Commerce Foundation.

That shows employers, he said, that specific certifications could be a viable tool for recruiting more people into manufacturing. The industry currently has almost 900,000 unfilled jobs, and researchers at NAM and Deloitte estimate that could grow to 2.1 million by 2030 if nothing changes.

“There’s some sort of relationship between people earning these credentials and staying in the pipeline—and that’s exciting,” Tyszko said.

What’s next?

More work is needed to understand exactly what that relationship is. Carrick and his colleagues at NAM are digging into that with new qualitative research. At the same time, the association and the National Student Clearinghouse are working to expand the number of certification providers—both in manufacturing and other industries—that report data to the Clearinghouse.

The goal is to better track outcomes, and to create unified records that workers can easily share on platforms like Credly and MyHub. “If people start to broadcast this,” Carrick said, “I can answer the question companies ask me, which is ‘Where can I find people that have earned these certifications?’”

Tyszko said that’s important work. “More and better information empowers my folks to make better decisions—for both upskilling and for sourcing new talent.”

That said, employers need systems that are more comprehensive and lend themselves to real-time analysis, he said. The U.S. Census Bureau can be an excellent resource for one-off research, but doesn’t readily share its data.

Data trusts are a promising way around that, Tyszko said. The Chamber Foundation is working to build such a data trust—the Jobs and Employment Data Exchange—which would allow employers and education providers to safely share and match information on credentials, employment, earnings, and other outcomes at a broad scale.

Parting thought: “This was good research to do,” Tyszko said, “And we need a scrappier, better way to do this kind of analysis moving forward—a way to do it faster, cheaper and to do it at scale.”