



APPRENTICESHIP PROGRAMS IN THE UNITED STATES:

Apprenticeship programs have begun to extend beyond the traditional skilled trades.

WE NEED MORE

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By now, the refrain is quite common. Construction firms cannot secure enough skilled craftspeople, resulting in rising compensation costs, postponed retirements, slower construction, frustrated clients, attenuated disaster recoveries, greater legal liability, shrunken profit margins, and growing fears of the future.

According to the National Federation of Independent Business, 45 percent of businesses report suffering difficulty finding qualified people to fill their job openings.¹ The Federal Reserve Bank reports similar findings, but construction industry leaders hardly need analysts to tell them what they already know.²


The loss of skilled talent in the United States has been simply remarkable. When Marco Rubio said, “We need more welders and less philosophers” during a campaign debate, he wasn’t kidding.³ In 1988, there were approximately 570,000 welders in the United States compared to 360,000 by 2012. The American Welding Society has estimated a deficit of 290,000 welders by 2020.⁴

There are certainly many other occupational categories associated with growing skill shortfalls. A 2016 study of more than 400 union and nonunion electricians found that 47 percent are unnerved by the rapid rate of retirement among their ranks. One out of every five electricians indicates that the most significant concern over the next five to ten years is that too many electricians are leaving the industry.⁵

Part of the reason for these departures is concern regarding job availability over the next decade. That may seem counterintuitive in the context of the current construction employment cycle and the consensus that the future will be associated with too few electricians and other skilled construction tradespeople. However, with more high-tech installations, including smart homes and dependency on high-tech electron-

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ics, the industry is experiencing dynamic change.⁶ In other words, technologists are helping people deal with the shortage of skilled talent by developing new products that bypass the need for so many workers.

However, the emergence of new technologies and techniques will create another set of jobs in the United States. This is hardly unique to construction. Industries like manufacturing, retail, and finance have been utterly transformed by technology in recent decades, and construction is on the verge of experiencing faster change going forward than it has in recent decades, in large measure because of the imperatives created by expanding skilled worker shortfalls.

One might be tempted to think that the problem centers around money or a general lack of resources to produce the construction workers of the future. However, to a large extent, the issue is not money. Plenty of money is spent on the education of young people. The problem is largely cultural and institutional.

At the heart of the problem is that many families have become convinced that there is only one pathway to prosperity in the United States — a four-year college degree. In fact, for many people, a four-year college degree represents a major asset. Recent forecasts supplied by the Bureau of Labor Statistics regarding the possible job situation in 2026 indicate that a growing fraction of jobs will require a college degree a decade from now.⁷

However, there are other paths to prosperity, including working in the skilled trades. As many people are aware, many college graduates end up landing jobs that do not require a college degree. For instance, out of 41.7 million working college graduates in 2010, 48 percent (or more than 20 million people) held jobs that required less than a bachelor's degree. Meanwhile, 37 percent held jobs that required no more than a high school diploma.⁸ The Center for College Affordability and Productivity conducted the analysis.

This group of young, underemployed people may have been much better off had they entered the skilled trades. How-

ever, the U.S. system of high-stakes testing has pushed shop class and many other experiences out of schools. The result is an emerging labor force that has very little idea of the opportunities available to build a middle-income existence or better.

One could argue that even this state of affairs could be addressed by businesses. Given rampant underemployment, it is at least theoretically possible that businesses could lure young people into their training programs, thereby crafting the workforce of the future.

Here, too, there is a problem. Businesses have a systemic tendency to underinvest in training. This is not because they necessarily lack foresight or do not care for their employees. Rather, there is a tremendous disincentive to train in the context of free-riding competitors.

This is the issue. A firm that invests heavily in training will ultimately produce a great workforce. The problem is there is no guarantee that those workers will stay with the firm. In fact, by investing so heavily in training, the firm has rendered its workers more marketable, which may serve to reduce retention. The firm, therefore, has effectively trained its competitors' workforces.

There is an obvious way to counter-veil the free-rider problem — apprenticeship programs. The programs are supported by industry and government as opposed to by a single employer. The result is that more skilled workers will become available to all businesses, which will compete for these workers along the dimensions of compensation, working environment, and quality of life.

According to data supplied by the U.S. Department of Labor (DOL), in 2008 there were 442,000 active apprentices in more than 24,000 programs nationally. The number of apprentices dipped significantly thereafter, however, and was down to 357,000 by 2011. Since then there has been some meaningful momentum, with more than 21,000 registered programs training approximately 505,000 apprentices. The occupations associated with the largest numbers of apprentices are electricians (41,489); plumbers,

pipefitters, and steamfitters (23,094); and carpenters (20,159).⁹

The DOL reports that first-year apprentices can expect to earn up to \$15 per hour. As the individual progresses through the program, so does their rate of pay. Upon completion, fully proficient apprentices can earn up to \$60,000 per annum. Perhaps more importantly, apprentices can expect to earn significantly more over the course of their careers relative to their nonapprentice counterparts.¹⁰

Looking ahead

Intriguingly, apprenticeship programs have begun to extend beyond the traditional skilled trades. An article published in the *Chicago Tribune* last year reports that Accenture, a global management and consulting firm, has initiated an information technology apprenticeship program.¹¹ The company aims to have 25 apprentices complete the program annually for the next five years and will then pair these individuals with jobs. Accenture is hardly the only white collar firm embracing apprenticeships. Zurich North America, a large, highly capable insurance firm, has started its own apprenticeship programs.¹²

As with all things, there is the specter of politics. However, in this instance, the politics are decidedly bipartisan. President Obama championed apprenticeships during his time in office, and President Trump lists them as a priority. In June, President Trump signed an executive order doubling the amount of federal grants that apprenticeships receive.¹³ He has pressured the DOL to permit

third parties, such as trade groups, to set standards for government-funded programs. That is exactly what the United States requires: public-private partnerships informed and shaped heavily by the actual needs of U.S. business. ■

NOTES

¹ Dunkelberg, W.C. and Wade, H., "NFIB small business economic trends," National Federation of Independent Businesses (March 2017). Available at: <http://www.nfib.com/assets/SBET-Mar-2017.pdf>.

² "Beige book — September 6, 2017," Board of Governors of the Federal Reserve System. Available at: <https://www.federalreserve.gov/monetarypolicy/beigebook201709.htm>.

³ Weissmann, S., Rubio: We need more welders and less philosophers, *The Weekly Standard* (Nov 10, 2015). Available at: <http://www.weeklystandard.com/rubio-we-need-more-welders-and-less-philosophers/article/1062072>.

⁴ "What the skilled welder shortage means for the U.S. economy," R.O. Industries. Available at: <http://roi-ovens.com/2016/01/21/what-the-skilled-welder-shortage-means-for-the-us-economy>.

⁵ Knott, J., "Labor shortage among electricians seen as big problem," CEPro. Available at: https://www.cepro.com/article/labor_shortage_among_electricians_seen_as_big_problem.

⁶ *Ibid.*

⁷ "Employment projections — 2016-26," Bureau of Labor Statistics (Oct 24, 2017). Available at: <https://www.bls.gov/news.release/ecopro.nr0.htm>.

⁸ Bidwell, A., Millions of graduates hold jobs that don't require a college degree, report says, *The Chronicle of Higher Education* (Jan 28, 2013). Available at: <http://www.chronicle.com/article/Millions-of-Graduates-Hold/136879/>.

⁹ "Registered apprenticeship national results fiscal year (FY) 2016 (10/01/2015 to 9/30/2016)," United States Department of Labor. Available at: https://doleta.gov/oa/data_statistics.cfm.

¹⁰ *Ibid.*

¹¹ Elejalde-Ruiz, A., Apprenticeships come to insurance and financial services industries, *Chicago Tribune* (March 7, 2016). Available at: <http://www.chicagotribune.com/business/ct-insurance-apprenticeships-aon-zurich-0308-biz-20160307-story.html>.

¹² *Ibid.*

¹³ "Presidential executive order expanding apprenticeships in America," The White House Office of the Press Secretary (June 15, 2017) (press release). Available at: <https://www.whitehouse.gov/the-press-office/2017/06/15/presidential-executive-order-expanding-apprenticeships-america>.