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Make It Count: Lessons for Upskilling in Times of Uncertainty

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Introduction

It is commonly understood that education is one of the most reliable paths to economic security—particularly for Black and Latinx people and for people from low-wealth families.[1] But it is less well known that the greatest unmet labor market demand is for workers with "middle skills," who have some postsecondary training but not a 4-year degree.[2]

In the throes of an economic downturn, such as the fallout associated with COVID-19, people from all walks of life may find themselves in search of reemployment and additional training.[3] This brief summarizes findings from a recent study on the relative return to two training pathways to middle skills—credit-bearing and non-credit-bearing credentialing. Findings indicate that credit-bearing credentials yield significantly improved earnings of about $5,500 per year.

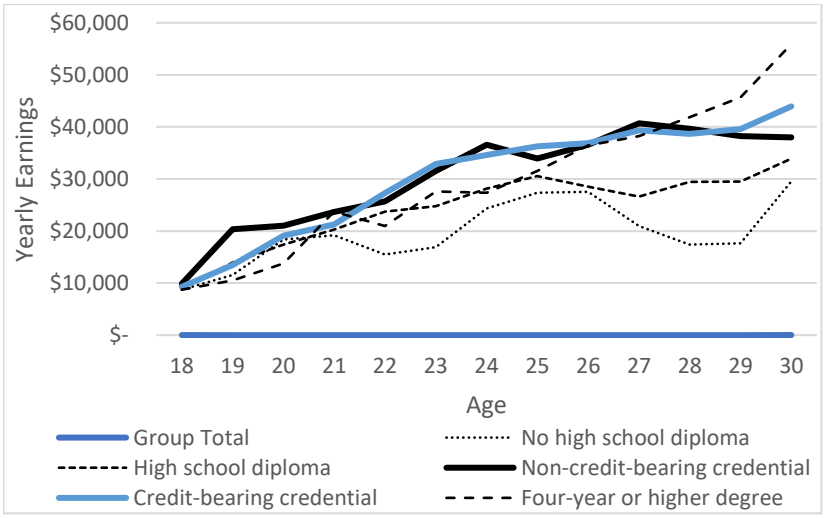
What Are Credit- and Non-Credit-Bearing Credentials?

This brief summarizes findings from a study that contrasted two potential paths to middle-skills training: (a) credit-bearing certification, including associate degree programs, and (b) non-credit-bearing certification, including certificate and licensure programs. Because the credit-bearing and non-credit-bearing programs often are in similar fields, such is the case for nurse's aide or computer operations programs, the main difference between credit and noncredit programs are that noncredit programs are terminal in the sense that they are not designed to build toward an associate's degree or a bachelor's degree.

The appeal of some noncredit programs is that they are shorter, occasionally less expensive, and even sometimes provided through an employer. The appeal of the credit-based programs is that they are more portable or have a flexible nature such that students can earn credits that will follow them from one program to the next and more easily from one employer to the next across time.

The earnings profiles of individuals who attain credit and non-credit-bearing credentials are similar through their mid-twenties. But by age 30, the earnings of credit-bearing program completers exceed those of non-credit-bearing program completers (Exhibit 1). Because research indicates that earnings differences tend to accelerate after age 30, it is likely that these initially small differences continue to grow.[4,5]

Exhibit 1. Earnings by Age and Highest Education Attainment



Note. Profiles are based on respondents' highest educational attainment for 6,093 survey respondents. The sample excludes individuals who attain a 4-year degree within 6 years of graduating high school.

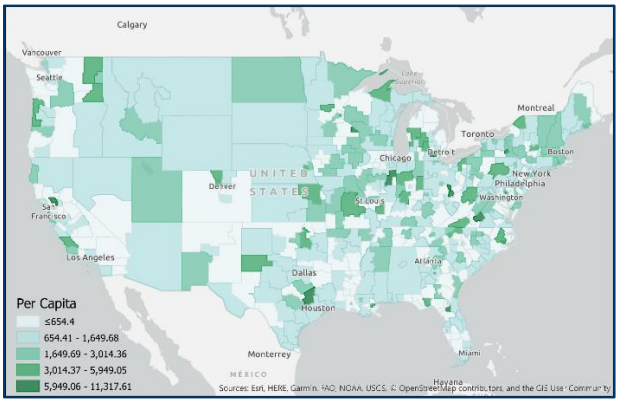
The Landscape of Middle-Skill Training

Because training access is not random, descriptive findings such as those presented in Exhibit 1 are insufficient to uncover the impact of a career training program on lifetime earnings. Consider, for example, child rearing: People are more likely to enroll in a training program that they perceive to be more challenging when they do not have children. And, the presence of children may reduce an individual's earnings unrelated to their training.[6]

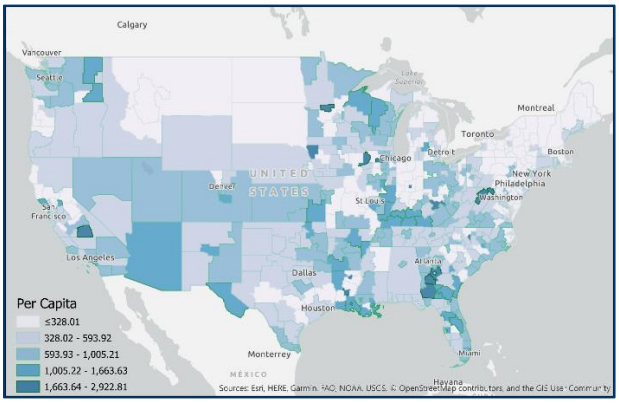
In addition, where you live can have a tremendous influence on training access and, in turn, on training completion. Exhibit 2 illustrates that credit-bearing program completion is more prominent on the coasts, relative to non-credit-bearing program completion. And the reverse (a relative prominence for non-credit-bearing program completion) occurs inland.

Exhibit 2. Program Completion Per Capita by United States Geography

Credit-Bearing Programs



Non-Credit-Bearing Programs



Source: An interactive map displaying the above is at http://public-air-national-map-ecmc.s3-website-us-east-1.amazonaws.com/; Data are from the Integrated Postsecondary Education Data System and Workforce Innovation and Opportunity Act Records.

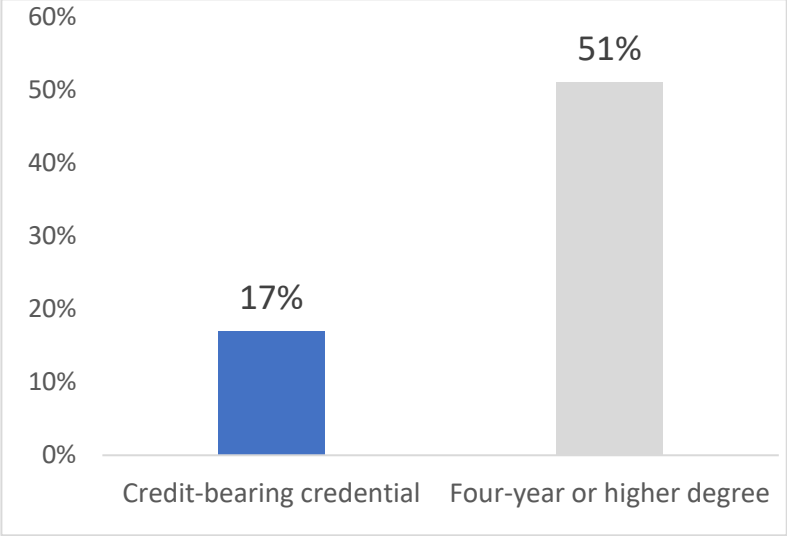
The Relative Impact of Credit-Bearing Versus Non-Credit-Bearing Training on Earnings

Data Used in This Study

This study analyzed data from the National Longitudinal Survey of Youth 1997 associated with individuals who were aged 18 to age 30 between 1997 and 2016. The study focused only on individuals who did not complete a 4-year degree within 6 years of finishing high school. Profiles presented in Exhibit 1 are based on respondents' highest educational attainment for 6,093 survey respondents.

The study on which this brief is based presents evidence on the impact of training on earnings, unrelated to geography and family status, as well as factors that remain constant across time. The findings indicate that overall, respondents who complete credit-bearing programs are employed at roughly the same rate as respondents who complete non-credit-bearing programs, but they earn about 17% more annually (Exhibit 3). This typically equates to about $5,500 more each year since respondents who completed non-credit-bearing programs typically earn about $33,000. We found that this increase in earnings is associated with both an increase in hours and hourly wage.

Exhibit 3. Percentage Change in Earnings Related to Credential Attainment Compared With Non-Credit-Bearing Attainment



Note. The sample excludes individuals who attain a 4-year degree within 6 years of graduating high school or attaining a General Educational Development certificate.

Analytical Details

The study used individual fixed effects to identify changes in earnings that accrue to respondents, accounting for persistent differences between individuals, such as components of ability or motivation that stay constant across time. In addition, the model includes controls for life circumstances that may change simultaneous with training program interest including concurrent work status, marital status, number of children, and age by race and gender fixed effects. Additional technical details are available from the study authors upon request.

How Can Policy Support More Credit-Bearing Credential Completion?

Study Limitations

The largest study limitation was the inability to randomly assign students to credit- and non-credit-bearing programs. Although study models controlled for observed factors that change across time (e.g., work status and child rearing) and systematic differences between individuals which are persistent across time (including those that are unobserved, such as some components of ability), there were no controls for unobserved differences that change across time.

The study findings discussed in this brief indicate that credit-bearing training improves earnings significantly more than non-credit-bearing training. As such, these findings indicate that policymakers and educational institutions should consider ways to make credit-bearing credentials more accessible. Coupled with prior research evidence, the findings presented in this brief provide support for three strategies for improving students' outcomes[7]:

- Newly matriculating students may fare better with assistance in understanding how the evidence on different course-taking pathways best informs how they can meet their career goals and needs.
- Educational institutions and employers may consider enhancing the frequency and transparency of available messaging on the relative portability of various credentialing opportunities across educational institutions, states, industries, and employers.
- Industry associations and workforce regulation boards may look for opportunities to collaborate with educational institutions to increase the portability of trainings by creating competency benchmarks for courses and tying them to career pathways.[8]

There are also additional considerations that could be useful to understanding these findings. The relationship between credentialing pathway and an individuals' field of study, background, and long-term interests may serve as important co-determinants for the findings presented herein.

Employers, states, and workforce regulation boards should consider gathering ongoing evidence on the experiences and outcomes of diverse students' in a range of training programs to enhance their understanding of the ability for a range of programs to serve them well. These data should aim to include information on the roles that credit-bearing and non-credit-bearing training programs play in facilitating or impeding students' abilities to meet their education and career goals and succeed in life. Without careful data collection, evaluation, and support services, training programs and their stakeholders may undermine the longer-term successes of the students that they aim to provide.

Endnotes

[1] Hertz, T. (2006). *Understanding mobility in America.* Washington, DC: Center for American Progress. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.107.5196&rep=rep1&type=pdf; Hubbard, D. (2018, September). *The impact of local labor market shocks on college choice: Evidence from plant closings in Michigan*. Retrieved from https://www.aeaweb.org/conference/2019/preliminary/paper/Q67dtN77; Smith, T. M. (1997). *Minorities in higher education* (No. 9). Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics. Retrieved from https://nces.ed.gov/pubs97/97372.pdf

[2] Carnevale, A. P., Smith, N., & Strohl, J. (2013). *Recovery: Job growth and education requirements through 2020*. Washington, DC: Georgetown University, Center on Education and the Workforce. Retrieved from https://repository.library.georgetown.edu/bitstream/handle/10822/559311/Recovery2020.FR.Web.pdf?sequence=1; National Skills Coalition. (2017). *United States' forgotten middle.* Washington, DC: Author. Retrieved from https://www.nationalskillscoalition.org/resources/publications/2017-middle-skills-fact-sheets/file/United-States-MiddleSkills.pdf

[3] Barr, A., & Turner, S. (2015). Out of work and into school: Labor market policies and college enrollment during the Great Recession. *Journal of Public Economics, 124,* 63–73; Méndez, F., & Sepúlveda, F. (2012). The cyclicality of skill acquisition: Evidence from panel data. *American Economic Journal: Macroeconomics, 4*(3), 128–152.

[4] Böhm, M. J., Gaudecker, H. M. V., & Schran, F. (2019). *Occupation, growth, skill prices, and wage inequality* (IZA DP No. 12647). I Z A Institute of Labor Economics. Retrieved from http://ftp.iza.org/dp12647.pdf; Lazear, E. P. (1981). Agency, earnings profiles, productivity, and hours restrictions. *The American Economic Review*, *71*(4), 606–620.

[5] Because of the way the exhibit was constructed, respondents may or may not have earned the noted credential (certificate or degree) by age 24. Respondents are grouped by the highest level of education ever attained, and that level may have been attained at a later age.

[6] Gough, M., & Noonan, M. (2013). A review of the motherhood wage penalty in the United States. *Sociology Compass*, *7*(4), 328–342; Moore, K. A., & Waite, L. J. (1977). Early childbearing and educational attainment. *Family Planning Perspectives, 9*(5), 220–225; Sibulkin, A. E., & Butler, J. S. (2005). Differences in graduation rates between young Black and White college students: Effect of entry into parenthood and historically black universities. *Research in Higher Education*, *46*(3), 327–348.

[7] Van Noy, M., Jacobs, J., Korey, S., Bailey, T., & Hughes, K. L. (2008). *Noncredit enrollment in workforce education: State policies and community college practices.* Washington, DC: American Association of Community Colleges and Community College Research Center. Retrieved from https://files.eric.ed.gov/fulltext/ED503447.pdf

[8] Austin, J. T., Mellow, G. O., Rosin, M., & Seltzer, M. (2012). *Portable, stackable credentials: A new education model for industry-specific career pathways.* Columbus, OH: McGraw-Hill Research Foundation; Belfield, C., & Bailey, T. (2017). *The labor market returns to sub-baccalaureate college: A review* (CAPSEE Working Paper). New York, NY: Center for Analysis of Postsecondary Education and Employment; Bohn, S., & McConville, S. (2018). *Stackable credentials in career education at California community colleges.* San Francisco, CA: Public Policy Institute of California. Retrieved from https://www.ppic.org/wp-content/uploads/stackable-credentials-in-career-education-at-california-community-colleges-october-2018.pdf

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