

The Labor Market Returns to Community College Credits and Credentials in Virginia: A Summary of Study Findings

This is a summary of findings of a study that was presented in a chapter titled “Understanding the Relative Value of Alternative Pathways in Postsecondary Education: Evidence from the State of Virginia” (<https://doi.org/10.1016/B978-0-08-101921-4.00014-2>) by Di Xu and Jeffrey Fletcher that was published in *Bridges, Pathways and Transitions: International Innovations in Widening Participation*, edited by M. Shah and G. Whiteford (2017, Cambridge, MA: Chandos/Elsevier). The research reported here was undertaken through the Center for Analysis of Postsecondary Education and Employment (CAPSEE) and supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305C110011 to Teachers College, Columbia University. The opinions expressed are those of the author[s] and do not represent views of the Institute or the U.S. Department of Education.

A CAPSEE study conducted by Di Xu and Jeffrey Fletcher uses a Mincerian approach to estimate returns to credentials and credits attained among first-time-in-college credit-seeking students who enrolled in the Virginia Community College System (VCCS) in fall 2004 and spring 2005. VCCS has 23 community colleges that enrolled roughly 24,000 new students during that time. Unless otherwise indicated, numerical results provided below are significant at the 1% level.

Data and Method

The study uses administrative student data from VCCS that are matched with post-VCCS enrollment and graduation data from the National Student Clearinghouse (NSC). These data are further matched with Unemployment Insurance (UI) quarterly earnings records (converted to 2010 dollars) from Virginia and neighboring states to observe student earnings nine years after initial college enrollment. The study makes use of human capital theory as well as the signaling (or sheepskin) effects of credentials in analyzing the correlation between credentials earned and labor market earnings. The study controls for work experience and individual student characteristics, including race/ethnicity, financial aid eligibility, dual enrollment status, degree intent, remediation experience, and transfer program participation.

Findings

Returns to credits and credentials. The study estimates returns to various credentials for the 2004-05 cohort in 2013 based on three different model specifications. The main model provides an estimate of the total value of a credential, including the impacts derived from both human capital and signaling effects. It compares students who earned a credential with those who did not earn a credential but who may have earned some credits (on average, these students earned 23-24 credits). Higher credentials are found to be associated with higher labor market returns. Female and male bachelor’s degree recipients earned, on average, \$2,156 and \$2,344 more per quarter, respectively, than their counterparts who did not earn a credential. Associate degrees are associated with \$1,303 more per quarter for women and \$873 more for men. However, women and men whose highest award was a certificate did not have significantly higher earnings compared with their counterparts who did not earn a credential; indeed, female short-term certificate earners had lower earnings (-\$602 [$p < .1$]).

When adding indicators for accumulated human capital, the labor market impact for all credential types decreases. Each credit earned is associated with \$15 and \$19 more in earnings per quarter for women and men, respectively, suggesting that credit accumulation has a large impact on earnings. Yet, even when using this specification, bachelor’s degrees for men and both bachelor’s and associate degrees for women are still associated with significantly positive returns, which supports the signaling value of

these credentials. The study also finds that for women and men who did not earn an award, each additional credit earned improved quarterly earnings by \$19 and \$27, respectively.

Returns by field of study. The study finds considerable variation in returns to credits earned in different fields of study. For women, the highest returns are found in transportation (an average of \$145 more per quarter was earned for each additional credit earned), math and science (\$63), nursing (\$57), and allied health (\$26). For men, the highest returns are found in protective services (\$91), allied health (\$65), math and science (\$53), and information science (\$48). The results also suggest that while associate degrees in many fields have a signaling value to employers for both women and men, certificates do not seem to produce any significant signaling effects.

Returns by age. The study estimates quarterly earnings benefits for younger (less than 25 years old) and older (25 years old or older) students, using a model to disentangle the dual influence of human capital accumulation and signaling effects. For women, earning an associate degree or higher provided positive benefits across both age groups (\$422 for younger women; \$1,627 for older women). For men, both younger and older students benefited from a bachelor's degree or higher. Older students who earned a bachelor's degree appear to have benefited much more than their younger counterparts (\$2,239 vs. \$1,311 for women; \$3,304 [$p < .1$] vs. \$1,033 for men). The study also finds variation by age in returns to human capital accumulation. Younger students benefited from each credit earned (\$22 for women; \$23 for men), but the returns are not significant for older students. Conversely, the signaling effects of earning a bachelor's or an associate degree are much stronger for older students than for younger students.

Conclusion

Like other CAPSEE studies that use data from other states to undertake similar analyses, the current study finds consistent positive returns to students earning associate and bachelor's degrees, compared to students who enrolled in college but did not receive any credential. When accounting for the number of college credits accumulated, the study finds significant signaling effects associated with associate and bachelor's degrees but not certificates. Yet the study does substantiate the economic value of human capital accumulation even in the absence of earning a degree. When disaggregating the returns by field of study, the study finds that although none of the certificates had associated signaling effects, there were positive returns to accumulated credits in several fields of study, even for certificate earners.