

Support HB17-1180: Tuition Assistance For Certificate Programs

Patrick William Buhr
Department of Economics, University of Colorado at Boulder

In 2015, the Colorado General Assembly passed HB15-1275, creating a tuition assistance program for students enrolled in career and technical education certificate programs. The intent of this program was to create a “talent pipeline” to address worker shortages in industries key to Colorado’s economic success. The primary goal of this program was to address the many students meeting the income eligibility requirements of the federal Pell Grant, but who may not meet the credit hour requirements for federal aid.

Current eligibility for these programs, as with Pell Grant eligibility, is determined through a FAFSA application. However, students are unlikely to complete this application if they are only enrolled in short-term certificate programs. Without this information, participating institutions were unable to direct funds to otherwise eligible students: last year, nearly half of allocated funds were reverted due to an inability to find eligible students.ⁱ This bill expands the eligibility for the tuition assistance program to include students meeting a CCHE income eligibility standard, thereby bypassing the need for a FAFSA application.

While workers have private incentives to pursue education, the persistent number of unfilled middle-skill jobs indicates the existence of a market failure. Existing evidence indicates that additional funding toward certificate and technical education will raise wages for workers, providing a strong private incentive. Recent economic research has estimated that participation in a career or technical education program will increase wages by 12% in the first year after graduation, and over 8% over a seven years after controlling for pre-high school test scores, family background, and college attendance.ⁱⁱ

This increase has a significant effect on the annual salary of the recipient. In 2008, the hourly wage for a journeyman was estimated to be \$23.94/hour—translating to \$49,795 annually. This level greatly exceeds the minimum poverty threshold for a family of four (\$10.55/hour) while also exceeding the threshold needed for self-sufficiency (\$21.11/hour).ⁱⁱⁱ Given the significant benefits associated with completing these degrees, workers should have incentives to complete these programs independent of government intervention.

Likewise, there is evidence that there are significant opportunities for workers that have completed certificate degrees. These programs prepare students for what are referred to as ‘middle skill’ industries—careers that require any post-secondary education below a bachelor’s degree from a four-year college. In Colorado, these industries are experiencing a severe need for additional workers—a recent Denver Post article estimated as many as 16,000 advanced manufacturing jobs go unfilled each year which could be filled by certificate workers.^{iv}

This worker shortage is expected to grow. The 2017 report by the National Skills Coalition found that 45% of job openings in Colorado between 2015 and 2025 will require middle-skill training.^v According to projections based on the Bureau of Labor Statistics, around half of all jobs in Colorado required middle-skill education, but only 40% of workers are adequately trained for these careers.

This problem, by itself, does not necessitate government action. The increase in wages experienced after completing a career or technical education program should provide private incentive for workers to pursue these programs without government assistance. Likewise, as the number of middle-skill job openings is expected to grow relative to available middle-skill workers, the wages for these jobs should also be expected to rise to incentivize additional workers. Finally, it is a common practice for specific industries themselves to provide training to current employees

to match industry demands.^{vi} In theory, workers should have sufficient incentive to pursue these programs absent government action.

However, as evidenced by the continued inability of employers to find qualified workers, the market has been unable to reach equilibrium. By focusing on assistance to low-credit students, HB17-1180 corrects for this market failure. In idealized economic theory, the decision to pursue further education would be based on the increase in future lifetime earnings relative to the cost of tuition and the temporary loss of income while pursuing a degree.

For many students—particularly low-income students—the decision to further education contains more substantial obstacles. This is referred to in economic theory as a ‘market failure’—students for whom the profits of pursuing further education outweigh the expenses nevertheless elect against further education due to the high upfront costs.

The most notable driver of this market failure are the financial restrictions preventing low-income workers from pursuing additional education. Low-income workers face constraints in financing the high up-front costs of education, as they are unlikely to have savings or liquid assets sufficient to cover the cost of these programs.

One option may be to finance education through a private loan. Low-income students, however, may face difficulties in borrowing to finance education, as these workers may not be able to provide sufficient collateral to guarantee a loan.^{vii} Because lenders are unable to forecast the worker’s future earnings to perfect accuracy, the decision to provide a loan necessitates an element of risk.

This circumstance produces two effects. First, viewing the high costs and uncertain returns, loan providers may simply refuse to provide credit. Second, those lenders willing to provide funding must add a risk premium to protect against the possibility of default. These interest rates

will be especially high for low-income students with few assets or little outside support. These interest rates also increase given the high dropout rate in community colleges—last year, only 39% of students entering community college graduated within six years, and a quarter of students do not progress past their first semester.^{viii} Even with high expected future returns for completing these degrees, the high costs of securing funding will dissuade students from pursuing further education.^{ix}

While some students may offset these costs through Pell Grants and federal loans, the students targeted through this program simply cannot dedicate the time to meet the minimum credit eligibility for federal assistance.^x This bill increases assistance for low-credit certificate programs that offer a practical alternative to full-time enrollment. By eliminating the need for cumbersome requirements, this bill effectively diminishes the effect of this market failure.

Completion of career and technical education also has significant externalities for the worker's family and community. Increases in family income are positively associated with better educational outcomes among children, including lower likelihood of dropping out of high school and an improved probability of attending college.^{xi} Although secondary to the increased family income, these improved educational outcomes carry significant positive social externalities. For example, there is also evidence that further education reduces criminal activity and generates a substantial social effect.^{xii} Likewise, further education allows individuals to more effectively participate in the political process.^{xiii} Thus, the improved education outcomes experienced by the children of assisted students has been shown to produce positive social externalities.

This bill expands eligibility for a program shown to increase wages for low-income workers, create positive externalities for families and local communities, and helps workers overcome barriers to education. These benefits, however, are only realized if the student continues

to graduation. Given the high dropout rates associated with community college programs, it is advisable that the CCHE include a satisfactory academic standing requirement similar to that required by federal Pell Grants. Given these changes, the passage of HB17-1180 is highly encouraged.

ⁱ Weaverm Kachina. "The Colorado Department of Higher Education supports HB17-1180." *Colorado Department of Higher Education*. 22 February 2017.

ⁱⁱ Mane, Ferran, and John Bishop. "The Impacts of Career-technical Education on High School Labor Market Success." *Economics of Education Review*, Aug. 2004. Web. 24 Feb. 2017.

ⁱⁱⁱ Altstadt, David. *Improving Access to Apprenticeship: Strengthening State Policies and Practices*. Rep. N.p.: Working Poor Families Project, 2011. Print.

^{iv} Whaley, Monte. "Colorado Students Find Niche in Tech and Hands-on School Programs." *The Denver Post*. N.p., 22 Dec. 2016. Web. 24 Feb. 2017.

^v *Colorado's Forgotten Middle*. Issue brief. Washington, DC: National Skills Coalition, 2017. Print.

^{vi} Stern, David, and Jozef Ritzén. "Market Failure in Training?" *Studies in Contemporary Economics* (2012).

^{vii} Oosterbeek, Hessel. "An Economic Analysis of Student Financial Aid Schemes." *European Journal of Education*. 1998.

^{viii} Shapiro, D., Dundar, A., Yuan, X., Harrell, A. & Wakhungu, P.K. (2014, November). *Completing College: A National View of Student Attainment Rates – Fall 2008 Cohort* (Signature Report No. 8). Herndon, VA: National Student Clearinghouse Research Center.

^{ix} Ball, Stephen. "Lass Strategies and the Education Market." *Routledge*. 2003.

^x Kelchen, Robert. "Analyzing Trends in Pell Grant Recipients and Expenditures." *Brookings*. Brookings, 29 July 2016. Web. 24 Feb. 2017.

^{xi} Acemoglu, Daron, and Jorn-Steffen Pischke. "Changes in the Wage Structure, Family Income, and Children's Education." *European Economic Review* (2000)

^{xii} Lochner, Lane and Enrico Moretti. "The Effect of Education on Criminal Activity: Evidence from Prison Inmates, Arrests and Self-Reports." *American Economic Review* (1994)

^{xiii} Friedman, Milton. "Capitalism and Freedom" *University of Chicago Press*. (1962)