GRADUATED SUCCESS:
Sustainable Economic Opportunity Through One- and Two-Year Credentials
ABOUT DĒMOS

Dēmos is a non-partisan public policy research and advocacy organization. Headquartered in New York City, Dēmos works with advocates and policymakers around the country in pursuit of four overarching goals: a more equitable economy; a vibrant and inclusive democracy; an empowered public sector that works for the common good; and responsible U.S. engagement in an interdependent world.

Dēmos was founded in 2000.

Miles S. Rapoport, President
Tamara Draut, Vice President of Policy and Programs

ABOUT THE PROJECT

A Better Deal: Expanding Opportunity for a New Generation

The A Better Deal: Expanding Opportunity for a New Generation project at Dēmos is a major new policy and advocacy initiative. It is designed to address the declining economic opportunity and security facing a new generation of young people as they complete their education, enter the labor market, become parents and attempt to save for retirement and their children’s educations. Through research, publications and events, the project will raise awareness of the key challenges confronting low-income young people and families; build state and national commitment to renewing the social contract in ways that reflect the new needs of this and subsequent generations; and engage young people themselves in the effort to re-imagine the social contract so that we create sustainable opportunity and security for generations to come.

Graduated Success is the second report in the project’s Postsecondary Success Series, which will examine a range of issues affecting the ability of young people to access higher education and to complete a degree or other credential.

ABOUT THE AUTHORS

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Jennifer Wheary’s research and writing focuses on the future middle class, demographic change, educational access, economic opportunity, and the strategic development of human capital for the 21st century. Her articles have appeared in the New York Daily News, Newsday, and other newspapers around the country.

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Viany’s previous work has focused on program evaluation and drug policy, as a research analyst at MDRC and as a research assistant at the Drug Policy Alliance. She has a B.A. in political science from UC Berkeley and a Masters in Pubic Affairs from Princeton University.
ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

We often assume that a higher degree guarantees earning a higher salary and having greater economic opportunity. This assumption is not always the case. One- and two-year credentials can represent a viable path to economic prosperity, particularly for those graduates who, for whatever reason, do not earn more advanced degrees.

Eight years after graduating from high school, 43 percent of certificate holders earn a median annual salary that is higher than that earned by someone holding an associates degree. Twenty-seven percent earn more than someone holding a bachelors degree. In a similar vein, 31 percent of associates degree holders earn more than someone holding a bachelors degree. In particular, one- and two-year credentials in engineering and in health care can deliver higher salaries than bachelors degrees in other fields.

Those holding engineering certificates earn an average annual salary of nearly $47,000, a figure higher than the average annual salary of associates degree holders in the areas of liberal arts, the social and natural sciences and education. Health care certificate holders can earn a median salary of about $46,000. The salaries of engineering and health care certificate holders are relatively close to what bachelors degree holders in the social or natural sciences might earn, and are actually more than what someone holding a bachelors degree in education earns.

In addition, from a salary and opportunity standpoint, earning a one-year credential or associates degree is often better than failing to complete a four-year degree.1 Among graduates in Florida, students who are awarded certificates earn median annual salaries that are 27 percent greater (about $8,000 a year more) than those who leave school with no post-secondary awards. Students who receive associates degrees earn 8 percent more (or $2,300 a year) than those who have no post-secondary education.

There is now more evidence than ever before that one- and two-year credentials, particularly in specific fields, can lead to economic prosperity. This evidence underscores the importance of degree completion as much as the type of degree selected. It also emphasizes the importance of addressing barriers that impede students in completing one- and two-year credentials. Two of the most formidable barriers are high costs that force a large number of students to finance their education through working part- or full-time while attending school and a lack of academic preparation in math and science that limits students’ ability to successfully complete credentials in high pay-off fields such as engineering and health care.

Much of the evidence supporting the link between one- and two-year credentials and economic opportunity focuses on the first 10 years of a career. In order to have the greatest impact, students, researchers, policymakers and potential students alike need to take a broader, long-range perspective on what defines economic opportunity. This perspective must take a range of factors into account, including short- and long-term salary, career progression and satisfaction, job security, flexibility, and the evolution of skills and opportunities. Much of the data does not exist to do this yet, but it is clearly an endeavor that needs to be pursued.
INTRODUCTION

Advocates, educators and students often make the assumption that more education is always better, that a bachelors or graduate degree is always superior in terms of providing additional economic opportunity. This is not always the case.

A more nuanced picture of the connection between credentials and economic opportunity is emerging. Policymakers and students alike should pay attention to these nuances because the pathways to opportunity may be more varied and more attainable than previously thought.

Postsecondary credentials can take several forms. Among these forms are occupational certificates that can take between several months and several years to finish, associates degrees that typically take two years to finish, and four-year bachelors degrees. Occupational certificates and associates degrees are a large and growing segment of post-secondary education. In 2007, nearly 40 percent of the undergraduate credentials awarded in the U.S. were of this type. Nearly 1.5 million certificates or credentials were awarded in 2007, up more than 28 percent since 2002. The number of bachelors degrees awarded in the same time frame also increased, but by the lower rate of 18 percent. In 2008 nearly one out of two (47 percent) of all undergraduates were enrolled in certificates or associates degree programs.

Occupational certificates cover a wide range of fields and are increasingly common among professionals in all walks of life. Most of us interact with occupational certificate holders any time we undertake an activity such as having our hair cut, getting our tires rotated, or having our blood drawn by a lab technician.

The emerging credentials picture shows that when comparing occupational certificates, associates degrees and bachelors degrees, more time spent in school does not always bring higher earnings. This is particularly the case when comparing more vocationally-oriented certificates and degrees with general studies or social science-oriented ones. In fact one- and two-year health care and engineering credentials can deliver higher salaries than bachelors degrees in other fields.

Credential completion is as important to economic opportunity as the type of field studied. In fact, from an earnings and opportunity standpoint, completion of a one- or two-year certificate is often preferable to failure to complete a four-year degree. Likewise, completion of a one-year vocational certificate is often favorable to non-completion of an associates degree.

Given the opportunities available and the importance of degree completion, addressing barriers that impede more students in earning one- and two-year credentials continues to be one of the most strategic efforts we can undertake in developing both a skilled workforce and wider spread economic prosperity. Two of the most formidable barriers are educational costs that force a large number of students to finance their education through working part- or full-time while attending school and a lack of academic preparation in math and science that limits students' ability to successfully complete credentials in high pay-off fields such as engineering and health care.

While associates degrees and one- to two-year certificates can deliver substantial economic gains in the initial years after graduation, there is more to judging a job than just starting salary or salary through the first eight years of employment. To understand which credentials offer long-term, sustainable economic opportunity, we need to consider a range of factors. These include short- and long-term salary, career progression and satisfaction, job security, flexibility, and the evolution of skills and opportunities.

HIGHER DEGREES DO NOT ALWAYS BRING HIGHER EARNINGS

National data analyzed by the Center on Education and the Workforce (CEW) at Georgetown University gives further support to the claim that certificates can provide significant economic opportunity to graduates. In fact, when taking field of study into account, Jeff Strohl and his fellow CEW coauthors were able to pinpoint specific fields where certificates deliver greater salary benefits than associates degrees and where one- and two-year credentials deliver greater salary prospects than four-year degrees.
They found that eight years post-high school, 43 percent of those who hold a certificate as their highest degree earn a median annual salary that is higher than that earned by someone holding an associates degree. In fact, 27 percent earn more than someone whose highest degree is a bachelors. In a similar vein, 31 percent of associates degree holders earn more than someone holding a bachelors degree.\(^6\)

**Percent of Certificate Holders Earning a Median Annual Salary That is Higher Than That of:**

<table>
<thead>
<tr>
<th>Associates Degree Holder</th>
<th>Bachelors Degree Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>43%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Source: Center on Education and the Workforce, *Valuing Certificates*, Presentation 2009.

A large portion of the difference in earnings between certificate and associates degree holders is related to the type of credential held. Certificate holders tend to train for specific occupations, often earning health-related or other types of professional degrees. Jobs held by humanities, social science and non-specific degree holders, which represent a good portion of bachelors degree graduates, tend not to deliver the same salary dividends.

The Center on Education and the Workforce found that an engineering certificate holder earns an average annual salary of nearly $47,000, a figure higher than the average annual salary of associates degree holders in the areas of liberal arts, the social and natural sciences and education. This $47,000 figure is relatively close to what a bachelors degree holder in the social or natural sciences might earn, and actually more than what someone holding a bachelors degree in education earns.\(^7\)

<table>
<thead>
<tr>
<th>Common Perceptions about Degrees</th>
<th>The Reality About Certificates*</th>
</tr>
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<tbody>
<tr>
<td>Higher degrees always imply higher earnings potential.</td>
<td>Certificates give many people access to growth and opportunities in incremental steps.</td>
</tr>
<tr>
<td>Certificates are a poor substitute for associates and bachelors degrees in today’s knowledge economy.</td>
<td>Provide access to the earnings power commonly associated with traditional degrees.</td>
</tr>
<tr>
<td>Can add value well above a high school diploma.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Center on Education and the Workforce, *Valuing Certificates*, Presentation 2009.

\(^6\) Based on National Income Data.

**Earnings of an Engineering Certificate vs. Other Fields and Degree Levels**

\[46,596 \text{ (Average Yearly Earnings of Someone with an Engineering Vocational Certificate)} \quad > \quad \text{Average Yearly Earnings of Holders of Bachelors in Education and Associates in Business, Computers, Liberal Arts, Social Science, Natural Science and Education} \]

Source: Center on Education and the Workforce, *Valuing Certificates*, 2009.
Looking at median annual salaries five years after graduation in Florida, researchers Louis Jacobson and Christine Mokher found that the connection between field of study and earnings is also visible when comparing certificates and associates degrees to each other. Their findings point to the value of health care- related credentials. Those finishing a degree in this field earn a median annual salary of nearly $46,000—well above their classmates in other fields.

These findings suggest that for certain students one- or two-year credentials represent a potential route for maximizing earnings. This is particularly the case when students are unlikely, unable, or uninterested in completing a four-year degree. It is especially the case when comparing salaries earned with credentials in specific, vocational fields and salaries earned with more general ones or social science degrees.

| Median Annual Earnings of Those Holding a Certificate or Associates Degree, by Major |
|---------------------------------|------------------|
| Health-Related                  | $45,968          |
| Professional                    | $35,188          |
| Vocational—Technical            | $33,476          |
| Science, Technology, Engineering, Math (STEM) | $30,922 |
| Social Science                  | $28,528          |
| Humanities                      | $26,812          |


It is important to note that these findings do not imply that all students should pursue one- or two-year degrees by default. Nor do they imply that students should pursue fields of study that are unappealing to them—forsaking, perhaps a desire to be a teacher in order to earn a higher salary in health care. Just as a four-year degree is not for everyone, neither is a one- or two-year credential or an engineering or health care degree.

These findings also do not imply that policymakers should focus all of their attention and efforts on community colleges and trade schools. What these findings do reveal however, is that policymakers and students alike have additional avenues to encourage economic opportunity. An important question is what factors are most important to encouraging success.

**COMPLETION, COMPLETION, COMPLETION**

In comparing salaries and degree completion rates through a longitudinal analysis of Florida graduates at all levels of postsecondary education, Jacobson and Mokher concluded that, “Certificates from two-year colleges also lead to well-paid careers, particularly among low-performing students.”

A key component of earning a higher salary, the researchers found, is completion of whatever course of study is undertaken: “Course-for-course the returns to community college and four-year college attendance are comparable...Attaining a four-year degree typically raises earnings twice as much as attaining a two-year degree mainly because attaining a four-year degree requires completing twice as many courses.” However, “students who complete a community college credential tend to have higher earnings than four-year college students who do not graduate.”

Jacobson and Mokher’s study of graduates in Florida found that students who were awarded certificates earned median annual salaries that were 27 percent greater than those who left school with no post-secondary awards. This translates to about $8,000 a year more in earnings. Students who received associates degrees earned 8 percent more (or $2,300 a year) than those who had no post-secondary education. Bachelors degree holders earned an average of 35 percent more (about $12,000 per year).
Barriers to Completion

Nearly four out of 10 (38 percent) of those who enroll in occupational certificate programs fail to earn a credential of any type within six years. Nearly six out of 10 (58 percent) of students seeking an associate degree in an occupational field fail to obtain a credential of any type within six years of starting their studies.\(^{11}\)

These alarming statistics emphasize the importance of addressing barriers that impede more students in completing one- and two-year credentials. Two of the most formidable barriers are high costs that force a large number of students to finance their education through working part- or full-time while attending school and a lack of academic preparation in math and science that limits students’ ability to successfully complete credentials in high pay-off fields such as engineering and health care.

<table>
<thead>
<tr>
<th>Earnings Difference Between Credential Types, Highest Median Annual Salary 3-5 Years Post College</th>
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<tbody>
<tr>
<td>Earned Bachelors Degree</td>
</tr>
<tr>
<td>Earned Associates Degree</td>
</tr>
<tr>
<td>Earned Certificate</td>
</tr>
<tr>
<td>No Post-Secondary Credential</td>
</tr>
</tbody>
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Amounts in chart represent highest earnings in any quarter multiplied by four to determine annual earnings. Researchers examined a period of 5 years after graduation for associates degrees, certificates and no post-secondary credential groups. For bachelors degrees, researchers examined a period of 3-5 years.

Two Major Obstacles to Postsecondary Success

- Financing education and living expenses (through work) while keeping up with one’s studies
- Lack of necessary academic preparation

Working While Studying and Part-Time Enrollment

Students who have left college without earning a credential cite employment and finances as the main reasons for their departure. Among both certificate and associate degree seekers, the most common reason for leaving without a credential was job or financial demands, followed by family demands.\(^{12}\)

While tuition costs might not be as high at community colleges or private two-year colleges in comparison to four-year institutions, students must pay for books and other educational expenses in addition to their basic expenses—rent, utilities, food, health care, and transportation. Available financial aid, however, covers only a fraction of the costs incurred by these students. In academic year 2007-08, 99 percent of the lowest income students attending a community college for either a certificate or an associate degree had an average of $7,147 in unmet expenses after taking into account all the grants they received.\(^{13}\)

While the majority of students seeking an associate degree or certificate attend a public college (82 percent), private two-year colleges enroll 55 percent of occupational certificate seeking students.\(^{14}\) These private institutions charge higher tuitions on average, and therefore, students seeking certificates at these colleges face even higher costs.

To finance their educations, many certificate and associate degree seekers enroll in school only part time and/or work long hours. In 2001, 76 percent of certificate and associate degree seekers worked. Among these working students 39
percent worked full time. Occupational certificate seekers are the least likely students to enroll full time. While these strategies may temporarily ease their financial burdens, it interferes with their ability to spend more time on their studies and take advantage of other resources available at their schools. This dynamic decreases the likelihood that they will graduate.\textsuperscript{15}

Research discussed previously in this report shows that completing even a one-year credential can deliver more salary benefits than failing to complete a higher degree. Yet the inability to meet college costs, ongoing financial and familial obligations, and time constraints due to work and care giving responsibilities are key obstacles in preventing postsecondary success.

**Lack of Academic Preparation**

About four percent of students enrolled in community colleges in 2007-08 sought a degree in engineering. Eighteen percent of students majored in health care-related degrees. Lack of necessary academic preparation is a key reason why a significant portion of these students may not succeed in obtaining their associates degree or certificates. It is also a reason why many students who could do well in these fields never attempt to study them.

Nearly 60 percent of young community college students in either certificate or associates degree programs are required to take developmental coursework to make up for inadequate college preparation before they can enroll in college-level courses.\textsuperscript{16} If three out of five students need remedial help in basics in order to be able to start college, it is even more unlikely that entering students will have any of the skills in advanced math or science needed to hit the ground running in pursuit of health care or engineering-related credentials.

Across the U.S. only about one in two (53 percent) high schoolers took an upper-level math class in 2006. Less than one in three (31 percent) took an upper-level science class. Upper-level in this case is defined as having at least \textit{one} basic college-prep course on a student transcript, for example geometry, algebra 2, trigonometry, precalculus, or calculus (for math) or in the case of science, one chemistry, physics, second-year biology, AP biology, or second-year earth science course.\textsuperscript{17}

**LONG-TERM ECONOMIC OPPORTUNITY**

Not everyone can, should, or wants to earn a four-or-more-year credential. The encouraging news from recent research is that not everyone \textit{needs} to earn this type of credential in order to reap economic rewards. Associates degrees and one- to two-year certificates can deliver substantial economic gains. In terms of salary, research shows that completing a one- to two year-credential seems to be better than failing to complete a bachelors degree. In the case of health care and engineering, the salaries earned can be higher than those earned by even bachelors degree holders. Because one to two-year degrees often require less investment of time and money, they represent an attractive, approachable option for many high school graduates.

There is more, however, to judging a job than just starting salary. Examining the careers of one- and two-year credential holders can give us insight into whether the jobs they attain provide things like a family-sustaining wage, health insurance, paid family and sick leave, and retirement benefits.

In addition to delivering respectable starting salaries and benefits, do these jobs enable economic opportunity that is sustainable over a career? An important aspect of sustainable economic opportunity is the opportunity to progress in a job track and to have the ability to adjust and be flexible as the labor market changes.

Those certificate and associates degree holders who earn higher salaries than their peers, and in some cases than bachelors holders, do so in large part because they are gaining specific skills for a particular job. Their level of specialization may put them at risk if the labor market shifts, if their employer moves, or conditions otherwise change.

As with any degree and career choice, there is no foolproof formula for selecting a situation that
guarantees perpetual immunity to any risk of job loss or the need to retool or retrain completely in the future. But are there combinations of credentials and careers that promote greater adaptability and professional advancement over time?

The professional advancement component also plays a role in affecting salary over time. As workers move from their mid-20s to their early 30s, the salaries of those with bachelors and associates degrees increase at a faster rate than those with only certificates. In the time span from 8 years post-high school to 12 years, bachelors degree holders see wage increases of 41 percent, on average. Those with associates degrees see average increases of 39 percent. Meanwhile those with certificates see increases of only 26 percent. So while certificate holders may start off earning a higher salary, their ability to increase their wages over time is not to be taken for granted.

Not all credentials are created equal in terms of leading to good jobs (the capital “G” kind with good salaries and benefits) and the sustainable economic opportunity enabled by access to career advancement and adaptability to changing conditions.

In order to have the greatest impact, students, researchers, policymakers and potential students alike need to consider short-term earnings, long-term growth and sustainability when evaluating the potential of one- and two-year credentials. In an ideal world, researchers would be able to track certificate, associates, and bachelors degree holders over the course of career and compare their trajectories across a variety of parameters, including salary, career progression and satisfaction, job security, flexibility, and the evolution of skills and opportunities. Much of the data does not exist to do this yet, but it is clearly an endeavor worth further investigation.
Note that while this is the established length of time for these programs, the actual time students take will vary according to their attendance status (full-time or part-time) and continuity of enrollment.

Certificates and associates degrees can be occupational or academic. The research in this paper focuses on occupational certificates and compares them to both occupational and academic associates and bachelors degrees. Occupational fields of study are those that focus on occupation-specific skills and knowledge such as business, communications, computers, education, engineering, health care and human services. Academic fields of study are generally based more in theory and disconnected from a particular career. These might include fine arts, humanities, mathematics, and social sciences.


Center on Education and the Workforce, Valuing Certificates.

Dr. Jeff Strohl, Center on Education and the Workforce Director of Research, personal communication.

Center on Education and the Workforce, Valuing Credentials.

Jacobson and Mokher, pg. 7.

Jacobson and Mokher, pg. 7.

Jacobson and Mokher, pg. 28.


Ibid, pg. 48.


Orozco and Cauthen.

Jacobson and Mokher, p.4.

Ibid, pg. 28.
RELATED RESOURCES

Work Less, Study More, & Succeed: How Financial Supports Can Improve Postsecondary Success
Viany Orozco & Nancy K. Cauthen
Demos, 2009

What Does the Recession Mean for Young People?
José García & Algernon Austin
Demos and the Economic Policy Institute, 2009

The Contract for College: A Policy Proposal to Increase College Access and Affordability
Caleb Gibson & Viany Orozco, 2009

The Plastic Safety Net: How Households are Coping in a Fragile Economy
José García & Tamara Draut, 2009

The Downslide Before the Downturn: Declining Economic Security Among Middle Class African Americans and Latinos, 2000-2006
Jennifer Wheary, Thomas M. Shapiro & Tatjana Meschede, 2009

Economic State of Young America
Tamara Draut, 2008

Strapped: Why America’s 20- and 30-Somethings Can’t Get Ahead
Tamara Draut (New York: Doubleday, 2006)

From Middle to Shaky Ground: The Economic Decline of America’s Middle Class, 2000-2006
Tamara Draut, Jennifer Wheary, Thomas M. Shapiro & Tatjana Meschede, 2008

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