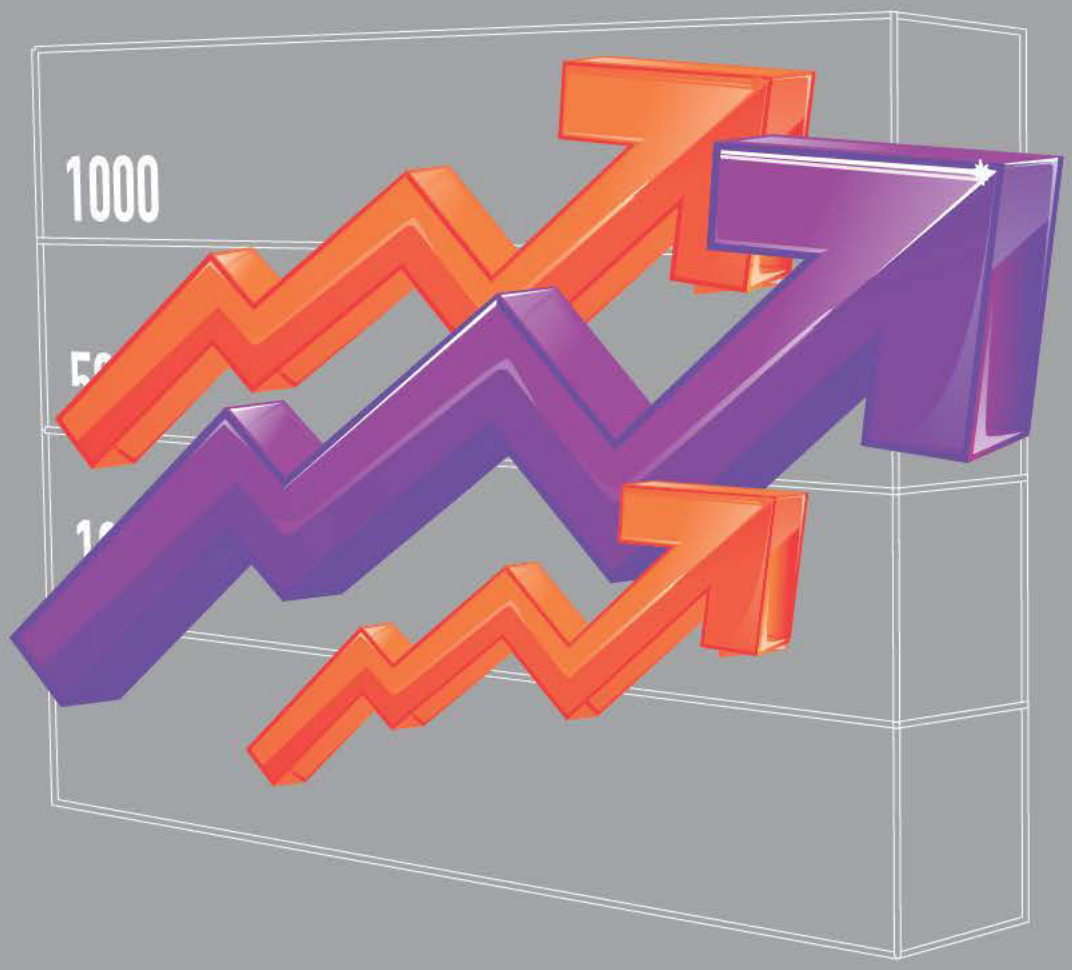
Community College Contributions

Christopher M. Mullin and Kent Phillippe



AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

AACC Policy Brief 2013-01PB
January 2013

ACKNOWLEDGMENTS

We appreciate the input we received on earlier versions of the manuscript. We take responsibility for the final product, however; any errors are our own. We would also like to thank Lumina Foundation for their support of prior policy briefs.

ABOUT THE AUTHOR

Christopher M. Mullin is the program director for policy analysis at the American Association of Community Colleges.

Kent Phillippe is the associate vice president for research and student success at the American Association of Community Colleges.

PREFERRED CITATION

Mullin, C. M., & Phillippe, K. (2013, January). *Community college contributions* (Policy Brief 2013-01PB). Washington, DC: American Association of Community Colleges.

For more information, contact

Christopher M. Mullin
Program Director for Policy Analysis
American Association of Community Colleges
One Dupont Circle, NW, Suite 410
Washington, DC 20036
Phone: 202-728-0200, ext. 258
E-mail: cmullin@aacc.nche.edu

COPYRIGHT

CONTENTS

Executive Summary 4

Introduction 5

Creative Destruction Leads to a Churn of Skills Needed by the Workforce 5

The Wage Premium Associated with Educational Attainment Continues to Increase, on Average 5

Low-Income Students Have an Increasingly Tough Road to Economic Stability 6

Employer-Provided Training May be Hard to Access 6

The Role Community Colleges Play in Filling the Need for College-Educated workers 6

The Launching Pad 7

The (Re)Launching Pad: On-Demand Knowledge and Skills 12

A Local Commitment 13

Aligning Funding for the Future Workforce 14

Moving Forward 16

Notes 17

References 19

Appendix 23

Community College Contributions

EXECUTIVE SUMMARY

The "jobs gap"—or number of jobs needed to return to pre–Great Recession levels—stood at 11.3 million in late 2012, while 12.8 million Americans were unemployed. Carnevale, Smith, and Strohl (2010), however, estimated 46.8 million new jobs will need to be filled by 2018, of which 13.8 million will be new jobs and 33 million will be jobs open due to retirement. The types of industries expected to grow will shift in occupational expectations toward those needing abilities associated with greater levels of educational attainment, so these jobs will require college-educated workers. Factors contributing to the need for college-educated workers include creative destruction leading to a churn of skills needed by the workforce, a continuing increase in the wage premium associated with differences in educational attainment, the increasingly tough road to economic stability for low-income students, and the training provided in internal labor markets for workers that are more educated. Together these trends suggest that access to not only a job, but also to the training to keep that job, is augmented by higher levels of educational attainment.

Simply put, America's community colleges are the brokers of opportunity for a stronger middle class and more prosperous nation. The value of community colleges has repeatedly been detailed in broad brushstrokes. Belfield and Bailey (2012) reviewed twenty studies on the earnings effects of a community college, concluding, "[T]his review affirms that there are strong positive earnings gains from community college attendance and completion, as well as progression to a 4-year college" (p. 60). In addition, the latest national estimate of the return on investment to state and local governments from investing in community colleges in 2007 was 16.1%.

While these broad-brush pictures of the community college contribution are important, the community college is an intricate institution offering pathways to credentials, degrees, and retraining opportunities for those with and without college credentials; they operate as engines of economic development. To date, the multifunctional nature of the community college mission has limited our ability to understand these colleges' role in sustaining the nation's general welfare. This brief provides a better opportunity to understand community colleges' role, and frames private and public economic returns of the community college movement in three ways:

1. *The community college as a launching pad.* Community colleges serve as a starting point for students in terms of educational progression—the lockstep mentality that dominates considerations of educational attainment. They also accelerate learning through early college experiences and transfer opportunities.

2. *The community college as a (re)launching pad.* Community colleges serve as providers of knowledge and skills to members of the community when they need them, and in ways that they need them, often for those who have already been successful in college.

3. *The community college as a local commitment.* Community colleges serve local purposes, focusing on the needs and demands of the communities they serve.

As mentioned above, the workforce of the future will increasingly rely on occupations that require college-educated workers, and many of those workers will need the education and training provided at the subbaccalaureate level to enter a field, and in some cases to maintain job tenure. Given that there are numerous public and private returns associated with educational attainment, it is therefore prudent to align fiscal resources with the workforce of the future.

It is unfortunately the case that community colleges are funded in a way that allows them to spend less than a third of the amount of education and general funds that a private research university is able to spend on a student. In fact, while community colleges serve nearly half of undergraduates, they have historically received approximately 20% of state tax appropriations for higher education. Not surprisingly, research has shown that educational attainment rates improve with increases in state fiscal support. If increasing educational attainment is a true state priority, commensurate fiscal support must follow.

Community colleges are not the only institutions of higher education to suffer from large disinvestments in higher education by the state. Overall, state fiscal support for public higher education has been on a long-term downward slope; in 2011 educational appropriations per full-time-equivalent student were at their lowest in at least two decades.

This brief provides a framework and supporting data to detail some of the public and private benefits to the various community college missions. In order to continue to provide these benefits and fill-in where other opportunities for education and training once stood, public investments in the education and training community colleges provide need to equalize and stabilize, if not increase.

Community College Contributions

Introduction

Projections of the future workforce indicate the need for a more-educated cadre of workers. Carnevale, Smith, and Strohl (2010), for example, estimate 46.8 million new jobs will need to be filled by 2018, of which 13.8 million will be new jobs and 33 million will be jobs open due to retirement. Sixty-three percent of these jobs will require college-educated workers, in part because the types of industries expected to grow will shift in occupational expectations toward those needing abilities associated with greater levels of education, and in part for other reasons.

Creative Destruction Leads to a Churn of Skills Needed by the Workforce

As the economy continues to evolve, so will the types of jobs that become available. Workers will have to retrofit their current skills, acquire and apply interdisciplinary knowledge and skills, or be able to engage in activities that require an expanded foundation of knowledge (Wagner, 2011).

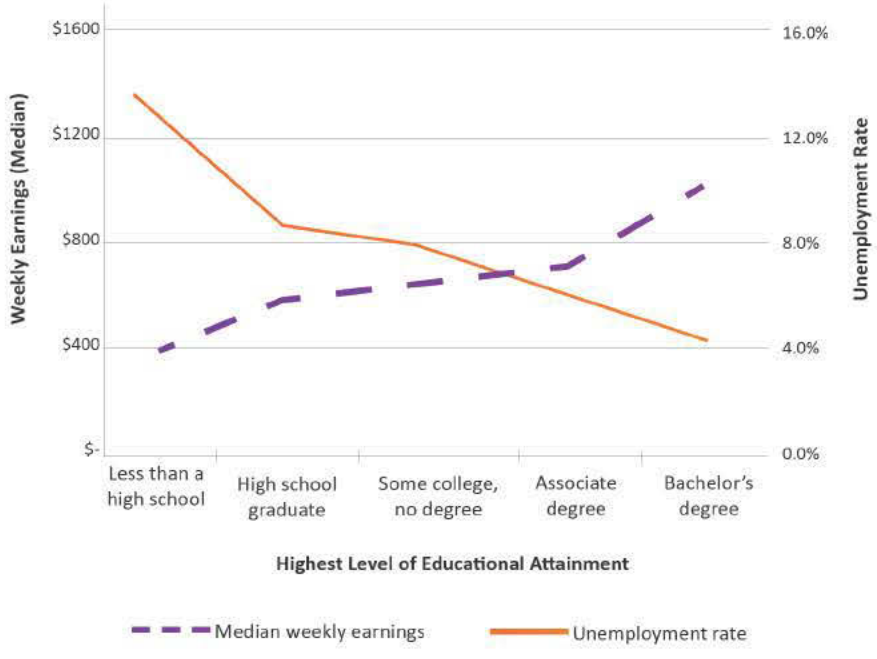
In 2010, employee tenure (the median number of years with a current employer) for wage and salaried workers over the age of 25 was 5.2 years (Bureau of Labor Statistics [BLS], 2010). Evidence of employment churn may be understood by examining the experiences of persons born in the latter years of the baby boom (1957–1964). A Bureau of Labor Statistics (BLS, 2012b) analysis of a sample from this cohort found the average worker held eleven jobs between the ages of 18 and 46.[1] Farber (2006) found there has consistently been a high level of turnover for workers under the age of 30. Furthermore, after the age of 30 men tend to not settle into long-term jobs, whereas women tend to stay in their jobs.

The Wage Premium Associated with Education Attainment Continues to Increase, on Average

On average, the higher one's level of educational attainment, the more one earns (Figure 1). Data from the Bureau of Labor Statistics, for example, indicate that a worker with a bachelor's degree earned 65% more than a worker with a high school diploma in 2011. A wage premium for skilled workers (those with a bachelor's degree or higher) increased between 1950 and 2005 from 37% to 81%, respectively (Carnevale & Rose, 2011).

Figure 1

Median Weekly Earnings and Unemployment Rate by Highest Level of Educational Attainment



Source: BLS (2012a).

Low-Income Students Have an Increasingly Tough Road to Economic Stability

There is an intergenerational aspect to social mobility. A study of industrialized countries shows a correlation of 0.50 (scale 0 to 1, with 1 the strongest) for intergenerational earnings (the amount of earnings associated with one's parents) in the United States as compared to 0.15 in Denmark (Carville & Greenberg, 2012). Furthermore, wealth makes a difference in one's level of educational attainment. Academically advanced students from low-income backgrounds are less likely to earn a bachelor's degree than are academically disadvantaged students from high-income backgrounds (Roy, 2005). In addition, if a low-income student has to borrow money to attend college, his or her monthly repayment will lower disposable income compared to a wealthy student who does not need to take out or repay a loan.

Employer-Provided Training May be Hard to Access

In 1980, entry-level employees received 2.5 weeks of training on the job. The last time the U.S. Department of Labor examined employer-provided training, it found that employers provide training for 90% of those with a bachelor's degree or higher as compared to 70% for those with some college (associate degree, certificate, or college without a credential), a finding echoed by Carnevale, Smith, and Strohl in 2010.

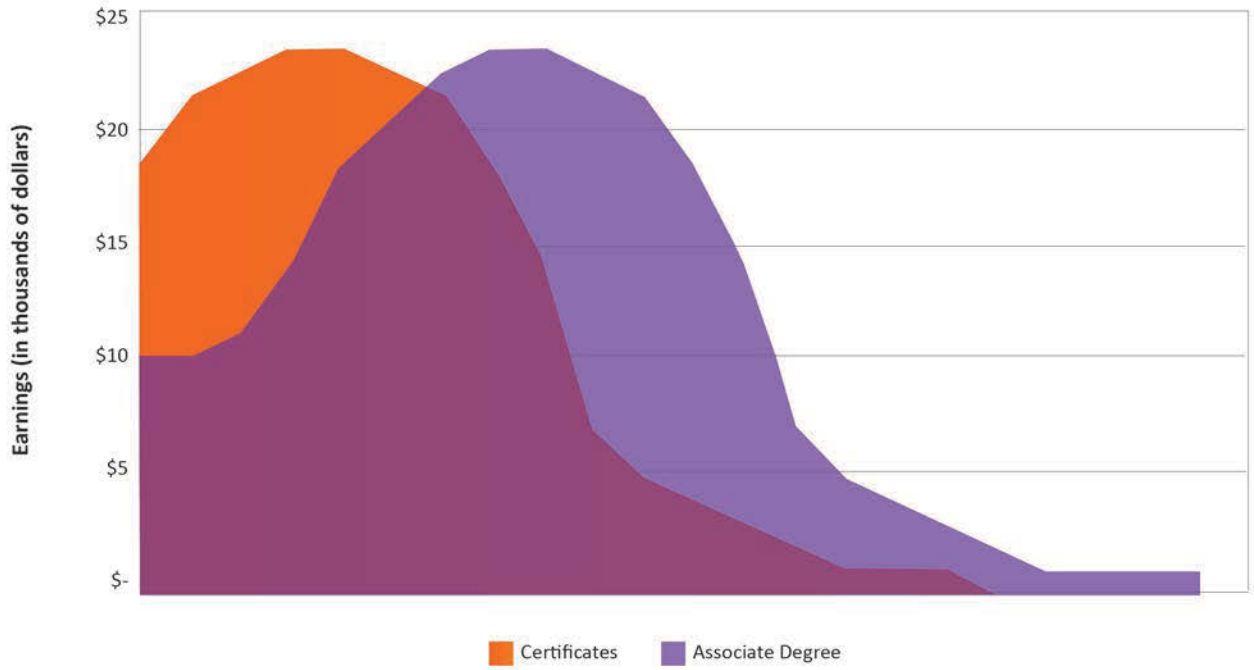
The findings presented herein suggest that the churn associated with an economy fueled by creative destruction places the workforce of the future in the position of continually having both to gain the education and training needed to enter the job and to progress within a career. While workforce-oriented opportunities are available in other sectors of postsecondary education, they are especially available at community colleges.

The Role Community Colleges Play in Filling the Need for College-Educated Workers

Community colleges enrolled 8 million students in fall 2011 in credit-bearing courses (43% of all undergraduate students), in addition to an estimated 5 million students in noncredit courses. Community colleges also contribute to building and revitalizing local communities. Simply put, America's community colleges are the brokers of opportunity (American Association of Community Colleges [AACC], 2012b) for a stronger

Figure 2

Example of How Earnings Distributions for Certificate and Associate Degree Holders May Overlap



Source: For illustration purposes only, and not based on actual data. For estimates of lifetime earnings overlaps by educational attainment levels, see Carnevale, Rose, & Cheah (2011).

middle class and more prosperous nation. Furthermore, while 30.3 million workers have attained as their highest level of education a subbaccalaureate credential (certificate or associate degree) by 2010, some 37.3 million workers have a bachelor's degree, master's degree, professional degree, or doctoral degree. Clearly, the workforce comprises workers that community colleges educate and train.[2] (This is not to mention the other roles community college play in retraining and upskilling, as will be discussed later in this brief.)

While data may be used to support suggestions that community colleges are not dropout factories, they often portray only part of the picture. For example, graduation rates of a small cohort of beginning students are often used to drive perceptions of community colleges: namely, that roughly 20% of students graduate within 2 years of entering. A more complete examination portrays a much different picture (see below, Table 2). Specifically, 62% of those students are successful after 6 years: 43.8% had earned a credential and 18.6% were still enrolled.

The labor market and nonlabor market value of education has repeatedly been detailed in broad brushstrokes (Baum, Ma, & Payea, 2010; Greenstone, Harris, Li, Looney, & Pataschnik, 2012; U.S. Department of Treasury, 2012; Zaback, Carlson, & Crellin, 2012). Our knowledge, however, is becoming increasingly refined. Take, for example, median earnings that, while informative, do not reflect the distribution associated with any set of earnings data; the distribution of earnings matter. If we took two distributions, one for associate degrees and another for certificates, and graphed them together, what we would find is two overlapping bell curves (see Figure 2). In other words, it is a reality that a portion of those with credentials requiring a lesser level of postsecondary education attainment may have higher fiscal returns than will their more-educated peers. To be specific, 23% of bachelor's degree holders earn less than those with a license or certificate but not an associate degree, and 25% of those with bachelor's degrees earn less than those with associate degrees (Carnevale, Rose, & Cheah, 2011). Earnings differences are largely due to differences in college majors, the industry of employment, gender, and race or ethnicity (Carnevale, 2011).

In terms of economic, labor-market returns for students attending community colleges specifically, Belfield and Bailey (2012) reviewed twenty studies on the earnings effects of a community college education, concluding, "[T]his review affirms that there are strong positive earnings gains from community college attendance and completion, as well as progression to a 4-year college" (p. 60). In addition, the latest national estimate of the return on investment to state and local governments from investing in community colleges in 2007 was 16.1%.[3]

While broad-brush pictures of the community college contribution are important, the community college is an intricate institution offering pathways to credentials, degrees, and retraining opportunities for those with and without college credentials; they operate as engines of economic development. To date, the multifunctional nature of the community college mission limited our ability to understand these colleges' role in sustaining the nation's general welfare. This brief provides a better opportunity to understand community colleges' role, and frames private and public economic returns of the community college movement in three ways:

1. *The community college as a launching pad.* Community colleges serve as a starting point for students in terms of educational progression—the lockstep mentality that dominates considerations of educational attainment. They also accelerate learning through early college experiences and transfer opportunities.

2. *The community college as a (re)launching pad.* Community colleges serve as providers of knowledge and skills to members of the community when they need them, and in ways that they need them, often for those who have already been successful in college.

3. *The community college as a local commitment.* Community colleges serve local purposes, focusing on the needs and demands of the communities they serve.

The Launching Pad

For 43% of all undergraduates, the plurality of minority students and the majority of low-income students, community colleges serve as a launching pad for greater educational attainment and related benefits of social mobility and economic security (AACC, 2012a). This section outlines two ways community colleges propel student and community prosperity.

Progression of Educational Attainment

Success in postsecondary education is often measured as a bachelor's degree. However, there are viable college-level outcomes prior to the bachelor's degree including, but not limited to, certificates and associate degrees (see Figure 3).[4]

Figure 3
The Progression of Educational Attainment

It is a mistake to invalidate the success of students, many of whom overcome substantial risk factors for success, if it does not directly match the reader's conception of what a college education represents (i.e., a bachelor's degree). At the same time it is inconsistent with the role community colleges play in economic mobility and social justice to assert that continual educational attainment is not an important component of a family-sustaining wage and intergenerational opportunity; all students must be prepared to embark on the next step of educational attainment should they choose to pursue it.

Table 1

Changes in Weekly Earnings, Estimated Taxes Paid, and Unemployment Associated with Each Change in Educational Attainment

Highest Level of Attainment	Weekly Earnings (2011)		Estimated Annual Taxes Paid (2011)		Unemployment Rate (2011)
	Median	% increase from prior level	Amount	% increase from prior level	
Less than High School	$451		$ 4,679		14.1%
High School or Equivalent	$638	41%	$ 7,330	54%	9.4%
Certificate/Some College	$719	13%	$ 8,949	18%	8.7%
Associate Degree	$768	7%	$ 9,435	8%	6.8%
Bachelor's Degree	$1053	37%	$ 13,527	45%	4.9%

Source: Baum, Ma, & Payea (2010); BLS (2012a).

Note: Annual taxes paid were estimated by determining taxes as a percent of earnings for data presented in Figure 1.1 of Baum, Ma, & Payea (2010). The rates were then applied to median weekly earnings in 2011 reported by the Bureau of Labor Statistics (BLS, 2012a) after earnings were annualized (by multiplying by 52). These data present best estimates, tax rates may have changed.

This section outlines the value, in terms of private and social returns, associated with each level of attainment along the educational progression continuum. We focus on the progression of educational attainment to underscore the importance of completion at each stage of educational attainment.

Earning a High School Credential. By 2018, 28% of all jobs will require a high school diploma (Carnevale, Smith, & Strohl, 2010). In fall 2010, 7.4% of adults aged 18 to 24 did not have a high school diploma or its equivalent (Snyder & Dillow, 2012). In addition, approximately 93 million adults in the United States lack basic literacy and numeracy skills (Kanter, 2012).[5]

There is a need to increase the attainment of those without a high school credential. The first step is a high school diploma or its equivalent.

For those students who initially enrolled in a community college in the 2003–04 academic year without having earned a high school credential, only one in five earned a credential or was still enrolled after 6 years. Conversely, and unsurprisingly, students who entered a community college with a high school diploma fared much better in college: 35.5% earned a credential and 19.6% were still enrolled after 6 years (see Table 2).

While the low success rates of students who enter college without a high school diploma, certificate, or equivalency is not surprising, it is also not acceptable. There are efforts under way, such as Washington's Integrated Basic Education and Skills Training (I-BEST) and Minnesota's FasTRAC program to increase success by contextualizing learning for students who show an ability to benefit from postsecondary education. Elementary and secondary schools have made the admirable

commitment to implement common core standards and have partnered with higher education institutions to reconceptualize the way instruction can be delivered to close persistent attainment and achievement gaps. Additionally, 691,296 students took the General Educational Development (GED; GED Testing Service, 2012) test in 2011, many at community colleges. The reasons a student takes the GED test are numerous, but the three most frequently cited are for personal satisfaction (47.8%), to get a better job (38.6%), and to attend a community college (31.0%; GED Testing Service, 2012).

There are substantial economic returns to increasing an individual's level of attainment to obtaining a high school equivalency. Data indicate the financial impact of becoming a high school graduate, or its equivalent, on the student is a 41% increase in median weekly earnings compared to those without a high school diploma, a decrease in unemployment from 14.1% to 9.4%, and a 54% increase in taxes paid (see Table 1).

The Impact of Earning a Certificate. In 2018, 17% of all jobs will require a certificate or some college (Carnevale, Smith, & Strohl, 2010). Certificates have a substantial place in the postsecondary education landscape. Community colleges, and higher education in general (Horn & Li, 2009), have witnessed a substantial increase in certificates earned by students of color. In 2009–10, community colleges awarded more than 425,000 certificates, constituting 40% of all credentials they awarded (Mullin, 2011). In terms of all postsecondary education, community colleges awarded 38% of all certificates in 2009–10.[6]

Regrettably, estimating the economic contribution of certificates is difficult. Reasons for this include, but are not limited to, that they are not currently included in international comparisons of educational attainment (Mullin, 2010) and only one government survey contains information on certificate attainment (Carnevale, Rose, & Hanson, 2012).[7] An analysis by Carnevale, Rose, and Hanson (2012) suggests that our nation's educational attainment would increase 5% if certificates (with earnings 20% above those of the average high school graduate) were counted. Additionally, like other forms of educational attainment, certificates may not be the "highest level attained" and therefore may have been earned but are trumped by subsequent levels of education.

An estimate of the financial impact on the student of earning a certificate, by equating it to the level of "some college," is a 13% increase in median weekly earnings compared to those with a high school diploma, a decrease in unemployment from 9.4% to 8.7%, and an 18% increase in taxes paid (see Table 1).[8] The economic returns of these awards may be substantial: 23% of bachelor's degree holders earn less than those with a license or certificate but not an associate degree (Carnevale, Rose, & Cheah, 2011).

Community colleges, however, are not the only sector that awards certificates. A study published by the National Center for Education Statistics (NCES; Ifill & Radford, 2012) examined workforce outcomes for students who started at community colleges, for-profits, and private institutions. It found median earnings for certificate completers starting at community colleges were the highest of all comparable sectors of higher education (see appendix, Table A1). Furthermore, certificate completers were the most likely to believe their education helped them advance in their career, be satisfied with their job, and believe they had opportunities to apply their education at work.

The Impact of Earning an Associate Degree. The next step on the path of educational progression is the associate degree. On average, the benefits of continued educational progression accrue to the individual and society on earning an associate degree after having earned a certificate. By 2018, 12% of all jobs will require an associate degree.

Associate degrees are an unsung hero of postsecondary education. In fact, between 1970 and 2005 associate degrees were the fastest-growing type of degree earned (Hauptman, 2011), growing at twice the rate of bachelor's degrees. Furthermore, 25% of those with bachelor's degrees earn less than those with associate degrees (Carnevale, Rose, & Cheah, 2011). More than 630,000 associate degrees were awarded by community colleges in 2009–10 (Mullin, 2011), representing 76% of all associate degrees in 2009–10.

There is financial impact of earning an associate degree on the student and on society. In 2011, median weekly earnings increased 7%, unemployment decreased from 8.7% to 6.8%, and taxes paid increased 8% increase when students moved from earning a certificate to earning an associate degree (see Table 1).

Like certificates, community colleges do not monopolize the associate degree market. A recent study published by the NCES (Ifill & Radford, 2012) found associate degree earners who started at a community college, compared to other institution types, earned

more, and were the most likely to believe their education helped them advance in their career and to be satisfied with their job (see appendix, Table A2).

The Impact of Earning a Bachelor's Degree. As demand for postsecondary education increases and the capability of institutions in other sectors to meet the need diminishes, community colleges are again stepping in to meet the needs of their communities. In 2009–10, public community colleges awarded 8,466 bachelor's degrees.

The financial impact of earning a bachelor's degree on the student is a 37% increase in median weekly earnings, a decrease in unemployment from 8.7% to 6.8%, and a 45% increase in taxes paid as compared to associate degree earners (see Table 1).

The data provided in this section demonstrate the private and social economic benefits associated with reaching each level of attainment.[9] In addition to the economic rewards, it may be worth noting that success breeds success, and the act of acknowledging success through the awarding of a credential signifies the value of the student and validates his or her efforts. While the goal is to provide the opportunity for all students to excel at all levels of education, waiting to validate the effort and experiences of students with multiple risk factors associated with completion until they earn a bachelor's degree many years later is outdated and invalidating.

The success of community colleges may be told in terms of credential attainment, as this section has done, but that is only one part of the diverse community college mission. A less-acknowledged function of community colleges is the way by which they accelerate student success.

Accelerating Success

There is a pressing interest to get students to postsecondary credentials more quickly (Complete College America, 2011) to avoid having life get in the way and to optimize the long-term economic benefits realized with educational attainment (Bosworth, 2010). A student who earns a college credential at the age of 22 has greater lifetime earnings and public contributions than does a student who earns the same college credential at the age of 40. While community colleges are engaged in innovating a number of ways to reduce time to degree within their institutions, they also support other sectors of education to accelerate student success.[10] The supportive role of the community college is operationalized primarily in two ways: through engaging students in high school, and through the transfer function of the community college.

Engaging Students in High School. Community colleges offer opportunities for high school students to engage in college-level work in a number of ways including, but not limited to, dual credit, dual enrollment, and early college high schools. Early college enrollments are becoming a larger part of community college student bodies. In fall 1993, 1.6% of the community college student body was under the age of 18, compared to 7% in fall 2011 (Mullin, 2012b).[11] Assuming each student took only one course at a community college in fall 2011, the 850,000 students enrolled in community colleges represent a savings of $253 million to students.[12]

Taking college-level courses in high school not only saves money, but also contributes to college completion. A greater percentage of students who earned credits in high school and began at a community college attained a postsecondary credential within 6 years after high

Table 2

6-Year Outcomes for Students Beginning at Community Colleges in Fall 2003, by Enrollment Intensity, High School Credential Type, and Students Who Earned College Credits in High School

	Student outcome after 6 years						Total (%)
	Attained bachelor's degree (%)	Attained associate degree (%)	Attained certificate (%)	No degree, enrolled at 4-year (%)	No degree, enrolled at less than 4-year (%)	No degree, not enrolled (%)	
Enrollment intensity[a]							
Total	11.6	14.4	8.5	6.7	12.9	46.0	100
Full-time	18.1	18.8	6.9	7.6	11.0	37.6	100
Part-time	7.0	12.5	9.3	6.1	14.4	50.7	100
High school credential type[b]							
High school diploma	12.5	14.8	8.2	6.8	12.8	45.0	100
GED	—	11.2	11.7	5.1	14.2	56.7	100
No high school diploma or certificate	—	—	—	—	—	80.5	100
Earned any college-level credits in high school							
No	12.2	15.2	6.8	8.5	13.5	43.7	100
Yes	24.1	15.8	7.0	6.4	11.4	35.3	100

Source: Authors' analysis of Beginning Postsecondary Student Longitudinal Study 04/09 (NCES, 2012b).

Note:
a. Enrollment intensity reflects behavior in fall 2003 semester.
b. — denotes an unstable estimate.

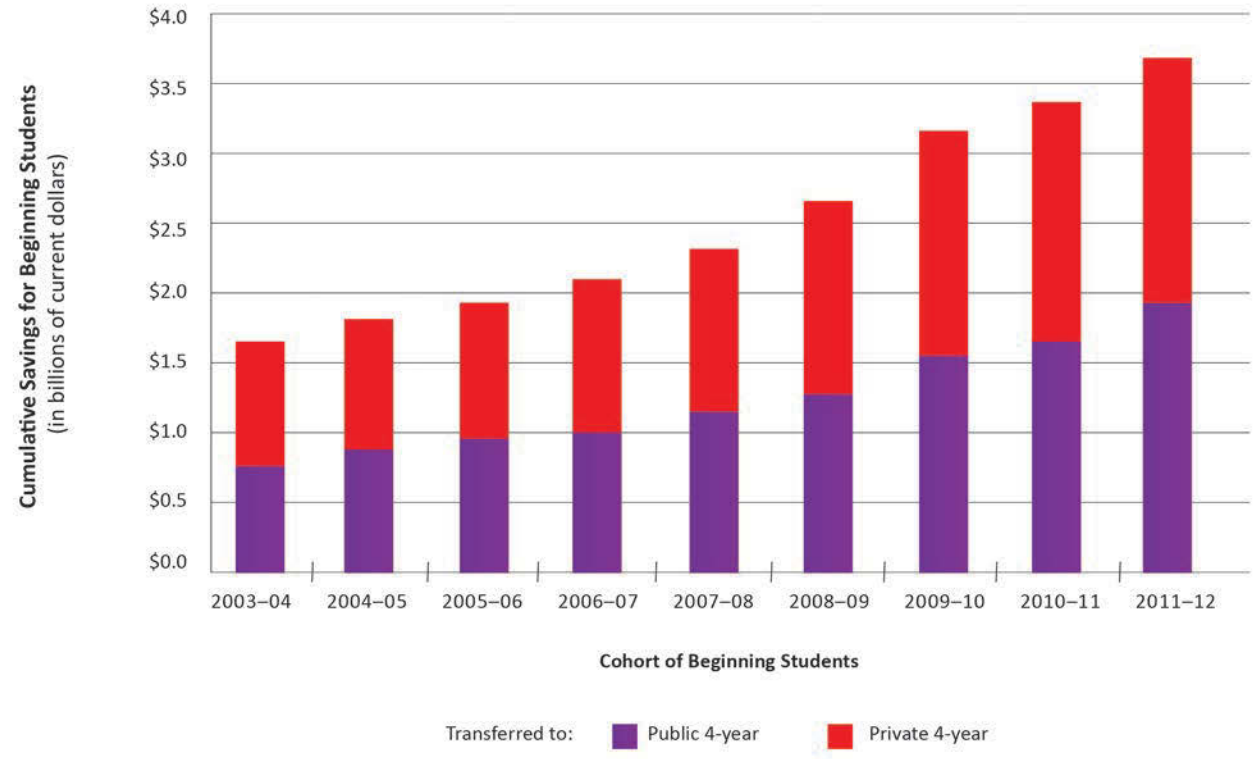
school than those who did not earn credits in high school (see Table 2).

Return-on-investment studies for this population vary (Palaich, Augenblick, Foster, Anderson, & Rose, 2006), and we are unaware of a national study. Still, it is safe to say the long-term financial payoff will be larger for this population than it will be for other similar credentialed populations simply because the sooner an individual reaches a level of educational attainment associated with increased earnings, the longer the time span for increases of lifetime earnings.

The Transfer Function of the Community College. Community colleges play a substantial role in bachelor's degree attainment.[13] Consider these facts: 28% of bachelor's degree earners started at a community college and 47% took at least one course at a community college (Cataldi et al., 2011).[14] Many narratives about community college students focus on the academic deficiencies of the students; it is worth noting that these colleges also serve as a starting point for academically advanced students aspiring to transfer.[15] It is therefore no surprise to learn that students who start at a community college and transfer are as successful as are native students (students who start at the receiving institution).[16] The complementary role of the community college serving as a launching pad to a 4-year college is supported by public opinion: 71% of the public believes it is sometimes better to start at a community college than at a 4-year college (Associated Press, 2010).

While not all of the costs to the student—and public through related student aid programs—associated with transfer can be determined, it is possible to estimate the savings accrued to those students who start at a community college and subsequently transfer to a 4-year institution. A conservative savings estimate for the 203,000 students who started at a community college in 2003–04 and transferred to a public 4-year institution was $943 million in inflation-adjusted (2011) dollars. Assuming transfer behaviors of the entering class of 2003–04 did not change for ensuing cohorts, savings reach $1.9 billion for the 2011–12 cohort, as illustrated in Figure 4. These values reflect only those students who transferred to public institutions. An additional $1.7 billion in savings were garnered by students starting at a community college in 2011 who had credits accepted by private nonprofit institutions after transfer. For methodological reasons, an estimate for for-profits was not

Figure 4
Cumulative Tuition and Fee Savings for Students Who Began at a Community College and Transferred to a Public or Private Nonprofit 4-year Institution, Multiple Cohorts



Source: Mullin (2012a).

determined. In total, students who started at a community college over the past 9 years and transferred to either a public or private nonprofit 4-year institution are estimated to have saved $22.5 billion ($24.3 billion in inflation adjusted [2011] dollars; Mullin, 2012a).

Some critics and colleagues assert that there is a penalty for students who start at a community college in the form of decreased likelihood of obtaining a bachelor's degree during the period observed, compared to similarly qualified students who start their postsecondary educations in 4-year colleges. They rarely examine the role that the 4-year colleges play in transfer student success, and to what extent their posttransfer success is due to the actions of the receiving institution. However, Doyle (2006) provides an example of the impact that the policies of 4-year colleges can have on community college transfers. He found that when all of a community college student's credits were accepted by a 4-year receiving institution, 82% earned a bachelor's degree in the period observed, compared with 42% when only some of a community college student's credits were accepted.[17] This factor, then, appears to be a critical dimension of transfer success. Additionally, Cheslock (2005) notes that 4-year institutions with high levels of former community college students are inclined to have, among other traits, high attrition rates and fewer financial resources, which almost by definition would lower the success rates of community college transfers.

The (Re)Launching Pad: On-Demand Knowledge and Skills

In the history of the community college movement, a strand of thought and action developed that places value on knowledge and skill acquisition: some students desire and need further learning experiences, not necessarily credential attainment. In commenting on the recalibration of focus to access and success, Dr. Edmund Gleazer, who oversaw the evolution and development of the community college movement from mostly private colleges to public institutions and systems as president of the American Association of Community and Junior Colleges from 1958 to 1972, notes that community colleges were designed to be like public libraries, where students could check out the knowledge they needed when they needed it (personal communication, March 2012).

Currently, this is not a popular position, and it does not fit in the lock-step mentality of the traditional college experience, but it is reality. Consider the following data: approximately one-quarter of community college students previously earned a postsecondary credential; 8% have already earned a bachelor's degree (see Table 3).

Reasons students may enroll at a community college include, but are not limited to, retraining and upskilling for a new job or to keep pace with changing work requirements, or to gain any of the economic returns depicted thus far. Most adults aged 25 or older take continuing education classes for reasons of existing work or a new job (Gwynn, 2000).

National data for the impact of community college classes on these workers are harder to come by and to generalize, but some research has been completed. For example, Jacobson, LaLonde, and Sullivan (2005) found 1 year of community college education for displaced workers increased long-term earnings by 7% for men and 10% for women. Kolesnikova (2009) found individuals who attended a community college and left without completing a degree earned between 9% and 13% more than did those with only a high school diploma.

When a company closes a business, community colleges often step in to retrain affected workers. For example, when Food Lion closed a distribution center in Clifton, Tennessee, Roane Community College created a 7-week training program for laid-off workers to transition to a new job (Dembicki, 2012). The ability of community colleges to skillfully train dislocated workers has been acknowledged by the creation of the Trade Adjustment Assistance Community College and Career Training Grant Program (The Health Care and Education Reconciliation Act of

Table 3

Percent of Students at Public, 2-year Colleges with Previous Postsecondary Credentials, by Type: 2007–08

Credential Type	Percent of Community College Students
First professional degree	0.9%
Doctoral degree	0.1%
Master's degree	1.7%
Bachelor's degree	8.0%
Associate degree	8.0%
Undergraduate certificate	11.8%
TOTAL	26.4%

Source: AACC analysis of the 2007–08 National Postsecondary Student Aid Survey (NCES, 2012b).

Note: Near identical findings were observed for 2003–04 academic year, suggesting these findings do not represent a new trend.

2010). This program authorized $2 billion for colleges to develop, offer, or improve educational or career training programs for workers who are eligible for training under the Trade Adjustment Assistance for Workers program.

Community colleges also upskill workforce necessary to local business and industry. At Columbus State Community College in Ohio, the Logistics Attract and Retrain Talent (ART) program provides professional development opportunities for incumbent workers to transition to supervisory positions. In New Jersey, two community colleges partnered to form the Merrimack Valley Partners for Progress in response to the need for education and training needed by business and industry in the region they serve.

There are two other points to consider from an economic perspective. First, upskillers may not necessarily see a bump in earnings but may keep their job, a reality that is very hard to quantify.[18] Second, of those students who began college in 2003–04, 12% who had not expected to complete a degree or certificate wound up earning a college credential, reaping unexpected economic returns for themselves and their community (Skomsvold, Radford, & Berkner, 2011).

A Local Commitment

Community colleges have service areas that cover virtually every square inch of the country. This local orientation makes them unique in postsecondary education in that they have a strong commitment to their community.

Maintaining, Expanding, and Reshaping Local Economies

The discussion thus far has focused on how increasing educational attainment can maintain local economies through the supply of an educated workforce. Community colleges—and higher education in general—maintain economies by partnering with existing business and industry. For example, the partnership between Western Nebraska Community College and the headquarters of international retailer Cabela kept the company located in Sidney, Nebraska, with a population of approximately 6,500 (Shaffer & Wright, 2010). Yet community colleges—and higher education in general—not only maintain local economies, but also expand and reshape them.

As businesses continue to grow, they need to expand to better serve their customers. A vital part of expansion is the preparation of skilled workers by community colleges. For example, when New Belgium Brewing decided to expand to Asheville, North Carolina, they partnered with Asheville-Buncombe Community and Technical College to develop the workforce they needed. This partnership built on similar partnerships with industry such as the partnership that Rockingham Community College in Wentworth, North Carolina, has with MillerCoors. The expansion of new breweries to the area and historical partnerships between breweries and community colleges contributed to the development of a new statewide curriculum program that includes many options for students who wish to learn to brew alcohol, to grow crops to make alcohol, or to run a brewing or distilling facility.

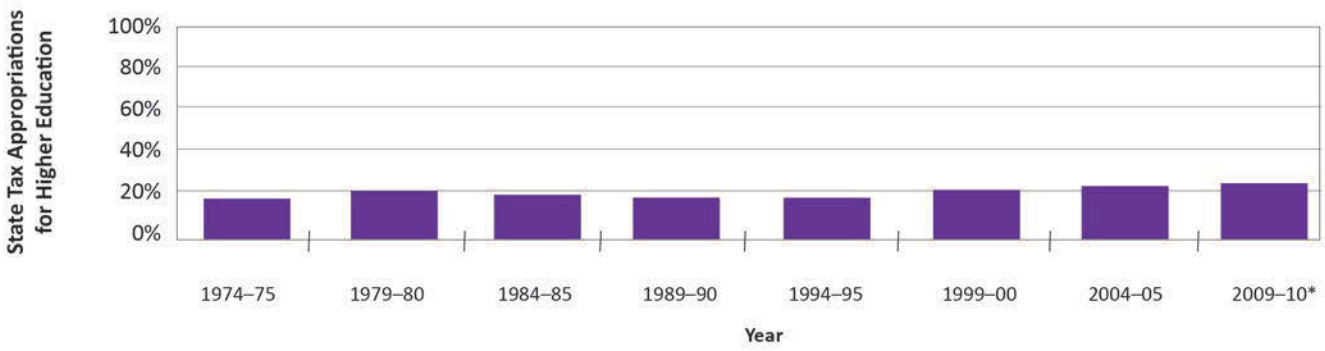
There is also room for community colleges to be front and center in the reshaping of local economies. For example, the leadership of Indian River State College in Florida recognized it could no longer rely on tourism, citrus, and housing to maintain its state and local economy. In response, the college worked with partners to develop the Research Coast, including opportunities provided in the Knight Center for Emerging Technologies to enhance the communities' profile of high-tech industry, and in the Brown Center for Innovation and Entrepreneurship to enhance energy-related fields. Walla Walla Community College in Washington State provides another example: the Center for Enology and Viticulture has contributed to revamping the local community and contributes to the college continually receiving national recognition.

The entrepreneurial spirit is also fostered in students through programs at community colleges that support and spur small business growth. The Kauffman Index of Entrepreneurial Activity (Fairlie, 2012) for students at all levels of educational attainment indicates an almost equal score for new business creation. In fact, one-fifth of all small business development centers are located on community college campuses.[19] A small business development center at Lansing Community College in Michigan, for example, counseled and trained 2,014 people in 2011, resulting in thirty-eight new businesses and $16.5 million in total capital formation.[20]

Gathering Returns

Locally committed students attend community colleges. Researchers conducting a study in Oregon, for example, estimated that 87% of former community college students had stayed in the region 30 years after leaving college (Robison & Christophersen, 2006). Also, 75.5% of those who became registered nurses through associate degree programs continued to reside in the state in which they were educated, compared with 65.2%

Figure 5
Percentage of State Tax Appropriations for Higher Education Distributed to Community Colleges: Selected Years, 1974–75 to 2009–10

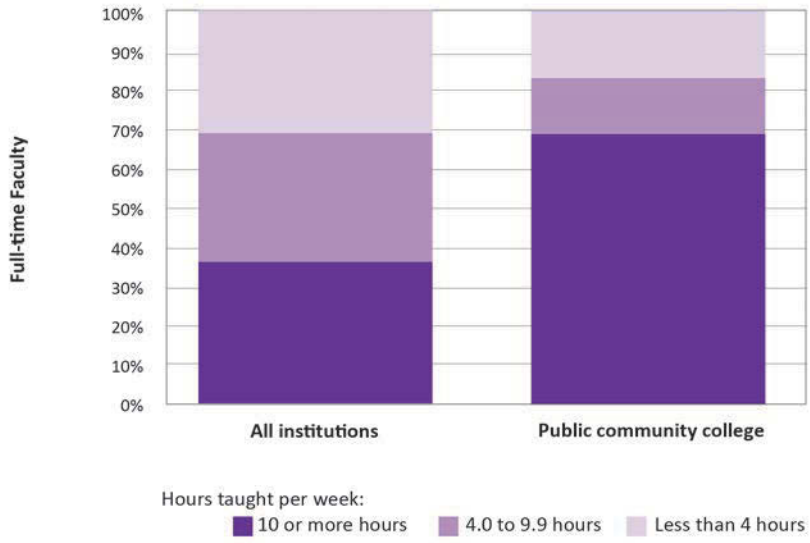


Source: Palmer (2012).
* = estimated

of those who became registered nurses through bachelor's degree programs (Health Resources and Services Administration, 2010). Even for those students who go on to complete a bachelor's degree, attending a community college increases the proportion of students who stay in the state in which the degree was earned: 64% of bachelor's degree earners who did not attend a community college stayed in state compared to 79% of bachelor's degree earners who did attend a community college.[21]

Eighty-four percent of community college students work, contributing to both the tax base and the local economy through consumption taxes, rents, and procurement of goods and services. Finally, community colleges provide jobs for faculty, administration, and staff, as well as their nuclear families, all of whom contribute to the tax base (National Association of State Universities and Land Grant Colleges, 2001). Yet, analysis by Bivens and Shierholz (2012) indicates that public sector job growth after the most recent recession is far behind growth after previous recessions.

Figure 6
Distribution of Hours Taught Per Week by Full-Time Faculty at Public Community Colleges and All Other Institutions



Source: Snyder & Dillow (2012).

Aligning Funding for the Future Workforce

As we mentioned at the outset, the workforce of the future will increasingly rely on occupations that require college-educated workers; many of those workers will need the education and training provided at the subbaccalaureate level to enter a field, and in some cases to maintain job tenure. Having demonstrated the numerous public and private returns associated with educational attainment, it is therefore prudent to align fiscal resources with the workforce of the future.

It is widely known that community colleges have the lowest tuition and fee structures, and thus allow broad access to higher education. What is less well known is that community colleges, while serving 43% of undergraduates, have

received approximately 20% of state tax appropriations for higher education (see Figure 5).

It is unfortunately the case that community colleges are funded in a way that allows them to spend less than a third of the amount of education and general funds that a private research university is able to spend on a student (Derochers & Wellman, 2011). Inequitable funding is purposeful in some places. For example, public funds in Maryland are allocated to community colleges via the Cade formula, which stipulates that, for FY 2014, community colleges shall receive "an amount that is the greater of 19.7% of the State's General Fund appropriation per full-time-equivalent student to the 4-year public institutions of higher education in the State" [emphasis added] (Annotated Code of Maryland, 2012). When New York was developing the State University of New York (SUNY) system, it decided to adopt the perspective of John E. Burton, then director of budget for New York State and member of the commission that developed the SUNY system. Burton stated, "While recognizing that there was a place in our system for community colleges, I could not quite see why community colleges should be placed, as proposed, at the very core of our system of higher education. The community college would thus become the major recipient of the state's higher education funds . . . we should strengthen the state's private universities and colleges through an expanded scholarship program" (cited in Carmichael, 1955, p. 170).

Importantly, when community colleges have fiscal resources, they spend it on instruction. Community colleges spent 41.2% of education and general funds on instruction compared to 36.3% at public 4-year institutions in 2009–10.22 Furthermore, faculty focus more on teaching than is the case at other sectors of higher education (see Figure 6).

The mounting pressure on states to budget for Medicaid, corrections, and elementary and secondary

Figure 7

State Tax Appropriations for Higher Education as a Percentage of Total State Expenditures: 1974–2010

Source: Palmer (2012); U.S. Census Bureau (2012).

education has contributed to the disinvestment in public postsecondary education in general and especially in community colleges. Community college were the only sector of public institutions to have lower total operating revenues per student at the end of the first decade of the twenty-first century than they had at the beginning of that decade (Kirshstein & Hurlburt, 2012). Not surprisingly, research has shown that educational attainment rates improve with increases in state fiscal support (Zhang, 2008). If increasing educational attainment is a true state priority, commensurate fiscal support must follow.

Community colleges are not the only institutions of higher education to suffer from large disinvestments in higher education by the state. Overall, state fiscal support for public higher education has been on a long-term downward slope; in 2011 educational appropriations per full-time-equivalent student were at their lowest point in the past 25 years (data were not presented for more than 25 years ago; State Higher Education Executive Officers, 2012). State disinvestment in public higher education decreased most sharply in the early 1990s, when the percentage of state revenues devoted to higher education decreased from 7.0% in 1989 to 5.4% in 1993 to 3.7% in 2010 (see Figure 7).[23]

Moving Forward

This brief provides a framework and supporting data to detail some of the public and private benefits to the various community college missions. Clearly, community colleges are a vital partner in creating a knowledgeable populace for work and the sustainability of our democracy. In order to continue to provide these benefits and fill-in where other opportunities for education and training once stood, public investments in the education and training community colleges provide need to equalize and stabilize, if not increase.

Notes

[1] These data reflect an analysis of the National Longitudinal Survey of Youth in 1979 (BLS, 2012b).

[2] These data reflect native-born workers. When foreign-born workers are included, the resulting workforce increases by 3.5 million subbaccalaureate workers and 6.5 million workers with a bachelor's degree or higher. These data come from the U.S. Bureau of Labor Statistics (BLS, 2011).

[3] This is the most recent national estimate EMSI (2007) has conducted. There are other economic impact studies that may have different results, which is a reflection of the difficulty differentiating a causal connection and a mere association.

[4] Ewell (2007) defined meaningful progress outcomes on the way to degree attainment that include momentum points and milestone events in addition to traditional credential attainment.

[5] The estimate was derived from a National Assessment of Adult Literacy (NAAL) First Look report published by the NCES (Kutner, Greenberg, & Baer, 2006).

[6] These data come from an AACC analysis of Integrated Postsecondary Education Data System data (NCES, 2012a).

[7] This issue has been under examination by a federal interagency workgroup since the winter of 2009. The Expert Panel to Support Federal Measures of Workforce Education and Credentialing was created to further facilitate this work; Mullin is affiliated with this panel (see.nces.ed.gov/surveys/gemena)

[8] Carnevale, Rose, & Hanson (2012) found certificates holders earned 20% more, on average, than high school–educated workers. Because their analyses do not include the metrics discussed in this section, we apply the more conservative estimate reflected by "some college" in this brief.

[9] There are any number of ways to calculate economic benefits, each way containing its own analytical assumptions and limitations. The methods presented in this brief are the most straightforward and commonly cited, albeit reframed as educational progression rather than being independent of each other. Readers interested in a more complex analysis of economic modeling for labor market and nonlabor market returns to postsecondary education are referred to McMahon (2009).

[10] Strategies include intrusive counseling, mini-semesters, priority enrollment, eliminating late registration, mandatory orientation sessions, student success courses, self-paced math modules, automatic graduation, removing graduation fees, early alert programs, refresher courses or programs, reengaging students close to graduating who have left the institution, and implementing student success plans to receive federal student aid.

[11] The cited source presents data through the fall of 2009. An unpublished AACC analysis of fall 2011 enrollment data by age indicates that 7% of the community college student body was under the age of 18.

[12] The exact nature of funding early college high schools is not fully known outside of case-by-case examples. This requires some assumptions and limitations including, but not limited to, the following two points: (1) It is generally the case that the student is not charged for college opportunities in high school. (2) There are circumstances where the college contributes to covering some costs of the program or course. Working from these points, it is reasonable to estimate savings to the student, but not to society directly. (The case can be made that increased efficiencies are created when students earn college credit in high school by reducing staffing resources, for example. The data for these estimates were not available to the authors.) It should also be acknowledged that some of the beneficiaries of college opportunities in high school will have qualified for governmental grants that also would be governmental expenses (in some states lottery-funded scholarship programs support dual enrollees, for example). Furthermore, it is reasonable to assume that some students took more than one course at a community college. We were not able to address these limitations in this analysis. Because we are not able to obtain a national estimate of the distribution of courses taken, we rely on a conservative

estimate of just one course. To create this estimate, we obtained the tuition and fee price used in this analysis ($2,959) from the College Board (2012); it reflects enrollment-weighted values. To arrive at a cost per course, we divided the full-year tuition and fee value of $2,959 by 10 (the number of courses, assuming three credits per course) to arrive at $296. We then took the number of students under the age of 18 in fall 2011 (551,553) and estimated the 12-month unduplicated equivalent by taking the ratio of fall to 12-month unduplicated headcounts (1.55) to arrive at 854,907 students. Multiplying the cost per course ($296) times the number of estimated students (854,907) results in a total savings to students of $253,052,472.

[13.] This section was extracted in part from a policy brief published by AACC (Mullin, 2012a) titled "Transfer: An Indispensible Part of the Community College Mission." It is available from www.aacc.nche.edu/briefs and the ERIC database.

[14.] These data come from my analysis of Baccalaureate and Beyond data retrieved using the PowerStats web tool (NCES, 2012b).

[15.] Two numbers are often presented to quantify remediation, 42% and 60%. The 42% value comes from the 2011 version of the Condition of Education report released by the U.S. Department of Education's National Center for Education Statistics (NCES, 2011). Specifically, NCES notes, "In 2007–08, some 42% of first-year undergraduate students at public 2-year institutions (typically community colleges) reported having ever taken a remedial college course." The 60% number comes from the 2004 version of the Condition of Education report released by the U.S. Department of Education's National Center for Education Statistics (cited in Wirt et al., 2004). Specifically, NCES shows that 38.9% of 1992 high school twelfth graders who enrolled in postsecondary education had not taken remedial coursework by the year 2000. (The inverse of 38.9% is 61%, or roughly 60%, which represents the number that took a remedial course.) The latter covers a longer period and results in a larger number because some students delay taking remedial courses.

[16.] It is worth noting that the success of transfer students relative to native students may be similar, but they may still be low if the receiving institution has a low rate of success.

[17.] An attempt was made to replicate this analysis with a more recent Beginning Postsecondary Student Longitudinal Survey cohort, but alterations to variables did not allow for an exact replication. The new, slightly different, analysis did show a comparatively higher completion rate when some credits were accepted (47.8%) and a comparatively lower 6-year completion rate when all credits were accepted (60.7%). What was also interesting to note was that the percent of students earning an associate degree increased from 2.4% in Doyle's analysis to 15.9% in Mullin's (2012a) analysis.

[18.] One way to do so would be to examine pre- and post-earnings measures for those who complete courses and stay in the same occupation after exiting without a postsecondary credential. Another way would be to examine the counterfactual, where sufficiently similar workers who enrolled with the same occupation and earnings completed the same courses with the same grades and one became unemployed while the other continued to work. One can see how it would be challenging to find the data needed to conduct this type of analysis, and how anecdotes from campuses across the country fill the void for this population of student.

[19.] These unpublished data were obtained from the Association of Small Business Development Centers and analyzed by the authors.

[20.] These data were provided in an unpublished report for the 2011 calendar year by Lansing Community College staff.

[21.] This is from an AACC analysis of Baccalaureate and Beyond database of the U.S. Department of Education using the PowerStats data tool (NCES, 2012b). Variables used were ATT2PUB and B1SMSTAT.

[22.] This is from an AACC analysis of IPEDS data (NCES, 2012a). Education and general funds include categories of instruction, research, public service, academic support, student services, institutional support, operations and maintenance, and net scholarships and fellowships (Wellman et al., 2009).

[23.] Percentages were derived using methodology from Kane and Orzag (2002); however, due to revisions in the Grapevine database made by Palmer (2012), derived values vary slightly from those reported by Kane and Orzag.

References

American Association of Community Colleges (AACC). (2012a). *Community college fact sheet.* Washington, DC: Author Available from http://www.aacc.nche.edu/AboutCC/Pages/fastfacts.aspx

American Association of Community Colleges (AACC). (2012b, April). *Reclaiming the American dream: Community colleges and the nation's future.* Washington, DC: Author. Available from http://www.aacc.nche.edu/21stCenturyReport/index.html

Annotated Code of Maryland. (2012). Sec. 16-305. Available from http://mgaleg.maryland.gov/webmga/frmStatutesText aspx?article=ged&section=16-305&ext=html&session=2013RS&tab=subject5

Associated Press (AP). (2010, October 5). *AP–Stanford University education poll.* New York: Author. Available from http:// surveys.ap.org/data%5CSRBI%5CAP-National%20Education%20Poll%20Topline%20100410_1st%20release.pdf

Baum, S., Ma, J., & Payea, K. (2010). *Education pays 2010: The benefits of higher education for individuals and society* (Trends in Higher Education Series). Washington, DC: College Board, p. 11.

Belfield, C. R., & Bailey, T. (2012). *The benefits of attending a community college: A review of the evidence.* Community College Review, 39(1), 46–60.

Bivens, J., & Shierholz, H. (2012, July 6). *Three years into recovery, just how much has state and local austerity hurt jobs?* Washington, DC: The Economic Policy Institute, Working Economics blog. Available from http://www.epi.org/blog/years-recovery-state-local-austerity-hurt/

Bosworth, B. (2010, December). *Certificates count: An analysis of subbaccalaureate certificates.* Washington, DC: Complete College America and FutureWorks. Available from www.completecollege.org/docs/Certificates%20Count%20FINAL%2012-05.pdf

Bureau of Labor Statistics (BLS). (2010, September 14). *Employee tenure in 2010* (News Release, USDL-10-1278). Washington, DC: U.S. Department of Labor. Available from http://www.bls.gov/news.release/pdf/tenure.pdf

Bureau of Labor Statistics (BLS). (2011, May). *Labor force characteristics of foreign-born workers* (News Release USDL-11-0763). Washington, DC: Department of Labor. Available from www.bls.gov/news.release/forbrn.toc.htm

Bureau of Labor Statistics (BLS). (2012a, March). *Education pays . . . Washington, DC: U.S. Department of Labor.* Available from http://www.bls.gov/emp/ep_chart_001.htm

Bureau of Labor Statistics (BLS). (2012b, July 25). *Number of jobs held, labor market activity, and earnings growth among the youngest baby boomers: Results from a longitudinal survey.* Washington, DC: U.S. Department of Labor. Available from http://www.bls.gov/news.release/pdf/nlsoy.pdf

Carmichael, O. C. Jr. (1955). *New York establishes a state university: A case study in the processes of policy formation.* Nashville, TN: Vanderbilt University Press.

Carnevale, A. P. (2011, August). *Postsecondary education and jobs.* Conference paper presented at the Congressional Program of The Aspen Institute, Washington, DC.

Carnevale, A. P., & Rose, S. J. (2011) *The undereducated American.* Washington, DC: Georgetown University, Center on Education and the Workforce.

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011, August). *The college payoff: Education, occupations, lifetime earnings.* Available from http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/collegepayoff-complete.pdf

Carnevale, A. P., Rose, S. J., & Hanson, A. R. (2012, June). *Certificates : Gateway to gainful employment and college degrees.* Washington, DC: Georgetown University, Center on Education and the Workforce.

Carnevale, A. P., Smith, N., & Strohl, J. (2010, June). *Help wanted: Projections of jobs and education requirements through 2018.* Washington, DC: Georgetown University, Center on Education and the Workforce.

Carville, J., & Greenberg, S. (2012). *It's the middle class, stupid!* New York: Blue Rider Press.

Cataldi, E. F., Green, C., Henke, R., Lew, T., Woo, J., Shepherd, B., & Siegel, P. (2011). *2008–09 Baccalaureate and Beyond Longitudinal Study (BB:08/09): First look* (NCES 2011-236). U.S. Department of Education. Washington, DC: National Center for Education Statistics (NCES).

Cheslock, J. J. (2005). *Differences between public and private institutions of higher education in the enrollment of transfer students.* Economics of Education Review, 25, 263–274.

College Board. (2012). *Trends in higher education* [Database]. Washington, DC: Author. Available from trends.collegeboard.org

Complete College America (CCA). (2011, Fall). *Time is the enemy.* Washington, DC: Author. Available from http://www.completecollege.org/docs/Time_Is_the_Enemy.pdf

Dembicki, M. (2012, February 12). *White House bus tour spotlights top-notch partnerships.* Community College Times. Available from http://www.communitycollegetimes.com/Pages/Workforce-Development/White-House-bus-tour-spotlights-top-notch-partnerships.aspx

Derochers, D. M., & Wellman, J. V. (2011). *Trends in college spending: 1999–2009.* Washington, DC: Delta Cost Project.

Doyle, W. (2006, May/June). *Community college TRANSFERS and college graduation: Whose choices matter most?* Change, 38(3), 56–58.

EMSI. (2007). *Engines of prosperity: America's community and technical colleges.* Moscow, ID: Author.

Ewell, P. (2007). *Community college bridges to opportunity initiative: Joint state data toolkit.* Austin: Bridges to Opportunity Initiative and Community College Leadership Program, University of Texas at Austin.

Fairlie, R. W. (2012, March). *Kauffman Index of Entrepreneurial Activity: 1996–2011*. Kansas City, MO: Ewing Marion Kauffman Foundation. Available from http://www.kauffman.org/uploadedFiles/KIEA_2012_report.pdf

Farber, H. S. (2006). *"Is the company man an anchronism? Trends in long-term employment in the U.S., 1973–2006."* In S. Danziger and C. E. Rouse (eds.), The price of independence: The economics of early adulthood (pp. 56–83). New York: Russell Sage Foundation.

GED Testing Service (2012). *2011 Annual statistical report on the GED test.* Washington, DC: American Council on Education. Available from http://www.gedtestingservice.com/uploads/files/8df0860dd59e38aa74c8d44eaee97cec.pdf

Greenstone, M., Harris, M., Li, K., Looney, A., & Patashnik, J. (2012, September). *A dozen economic facts about K–12 education.* Washington, DC: Brookings Institution, The Hamilton Project. Available from http://www.brookings.edu/~/media/research/files/papers/2012/9/27%20education%20facts/thp_12edfacts.pdf

Gwynn, P. (2000). *Lifelong learning trends: A profile of continuing learning trends* (6th ed.). Washington, DC: University Continuing Education Association.

Hauptman, A. (2011, February). *Increasing higher education attainment in the United States: Challenges and opportunities.* Paper presented at the American Enterprise Institute conference, Washington, DC.

Health Care and Education Reconciliation Act of 2010, The. PL No. 111-152, 19 USC 2372–2372a.

Health Resources and Services Administration. (2010). The registered nurse population: Initial findings from the 2008 National Sample Survey of Registered Nurses. Washington, DC: U.S. Department of Health and Human Services. Available from http://bhpr.hrsa.gov/healthworkforce/rnsurveys/rnsurveyinitial2008.pdf

Horn, L., & Li, X. (2009, November). *Changes in postsecondary awards below the bachelor's's degree: 1997 to 2007* (NCES 2010-167). Available from http://nces.ed.gov/pubs2010/2010167.pdf

Ifill, N., & Radford, A. W. (2012, January). *Beginning subbaccalaureate students' labor market experiences: Six years later in 2009* (Web Tables, NCES 2012-273). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES). Available from http://nces.ed.gov/pubs2012/2012273.pdf

Jacobson, L., LaLonde, R. J., & Daniel Sullivan (2005, April). *The impact of community college retraining on older displaced workers: Should we teach old dogs new tricks?* Industrial and Labor Relations Review, 58(2): 398–415.

Kane, T. J., & Orzag, P. R. (2002, October 14). *Use of state general revenue for higher education declines* Washington, DC: Tax Policy Center.

Kanter, M. (2012, June 12). *Remarks.* Presented at the 2012 conference of the National Center for Postsecondary Research. New York: Teachers College, Columbia University.

Kirshtein, R. J., & Hurlburt, S. (2012, December). *Revenues: Where does the money come from?* A Delta data update, 2000–2010. Washington, DC: American Institutes for Research.

Kolesnikova, N. (2009, March). *Community colleges: A route of upward economic mobility.* St. Louis, MO: Federal Reserve Bank of St. Louis.

Kutner, M., Greenberg, E., & Baer, J. (2006). *National Assessment of Adult Literacy* (NAAL): A first look at the literacy of America's adults in the 21st century (NCES 2006-470). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES). Available from http://nces.ed.gov/naal/pdf/2006470.pdf

McMahon, W. L. (2009). *Higher learning, greater good: The private and social benefits of higher education.* Baltimore, MD: Johns Hopkins University Press.

Mullin, C. M. (2010, June). *Rebalancing the mission: The community college completion challenge* (AACC Policy Brief 2010-02PBL). Washington, DC: American Association of Community Colleges.

Mullin, C. M. (2011, October). *The road ahead: A look at trends in educational attainment by community college students* (Policy Brief 2011-04PBL). Washington, DC: American Association of Community Colleges.

Mullin, C. M. (2012a, September). *Transfer: An indispensable part of the community college mission* (Policy Brief 2012-03PBL). Washington, DC: American Association of Community Colleges.

Mullin, C. M. (2012b, February). *Why access matters: The community college student body* (Policy Brief 2012-01PBL). Washington, DC: American Association of Community Colleges.

National Association of State Universities and Land Grant Colleges. (2001). *Shaping the future: The economic impact of public universities.* Washington, DC: Office of Public Affairs.

National Center for Education Statistics (NCES). (2011). *Condition of education statistics 2011.* Washington, DC: U.S. Department of Education, Institute for Education Sciences. Available from http://nces.ed.gov/programs/coe/indicator_rmc.asp

National Center for Education Statistics (NCES). (2012a). *Integrated postsecondary education data system* [Data files]. Available from http://www.nces.ed.gov/ipeds

National Center for Education Statistics (NCES). (2012b). *Powerstats* [Data file]. Available from http://nces.ed.gov/datalab/
Palaich, R., Augenblick, J., Foster, S., Anderson, A. B., & Rose, D. (2006, July). Return on investment in early college high schools. Boston, MA: Jobs for the Future.

Palmer, J. C. (2012). *Grapevine* [Database]. Normal, IL: Illinois State University, Center for the Study of Education Policy. Available from http://www.grapevine.ilstu.edu/index.shtml

Robison, M. H., & Christophersen, K. A. (2006, June 22). *The economic contribution of the community colleges of Oregon: An analysis of investment effectiveness and economic growth.* Moscow, ID: CCBenefits.

Roy, J. (2005, October 12). *Low income hinders college attendance for even the highest achieving students* (Economic snapshot). Washington, DC: Economic Policy Institute. Available from http://www.epi.org/publication/webfeatures snapshots_20051012/

Shaffer, D. F., & Wright, D. J. (2010, March). *A new paradigm for economic development: How higher education institutions are working to revitalize their regional and state economies.* Albany, NY: State University of New York, University at Albany, The Nelson A. Rockefeller Institute of Government.

Skomsvold, P., Radford, A. W., & Berkner, L. (2011, July). *Six-year attainment, persistence, transfer, retention, and withdrawal rates of students who began postsecondary education in 2003–04* (Web Tables; NCES 2011-152). Washington, DC: U.S. Department of Education, Institute for Education Sciences, National Center for Education Statistics (NCES).

Snyder, T. D., & Dillow, S. A. (2012, June). *Digest of education statistics: 2011* (NCES 2012-001). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES).

State Higher Education Executive Officers. (2012, March 24 [updated]). *State Higher Education Finance FY 2011*. Boulder, CO: Author. Available from http://www.sheeo.org/finance/shef/SHEF_FY11.pdf

U.S. Census Bureau. (2012). *2011 annual survey of state government finances* [Database]. Washington, DC: Author. Available from U.S. Census Bureau, http://www.census.gov/govs/state/

U.S. Department of Treasury. (2012). *New report from treasury, education departments: The economic case for higher education.* Washington, DC: author. Available from http://www.treasury.gov/press-center/press-releases/documents/the%20economics%20of%20higher%20education_report%20clean.pdf

Wagner, C. G. (2011, January–February). *70 jobs for 2030: Emerging jobs and how to create them.* The Futurist, pp. 30–33.

Wellman, J. V., Desrochers, D.M., Lenihan, C.M., Kirshstein, R.J., Hurlburt, S., & Honegger, S. (2009). *Trends in college spending: Where does the money come from? Where does it go?* Washington, DC: Delta Cost Project. Available from http://deltacostproject.org/resources/pdf/trends_in_spending-report.pdf

Wirt, J., Choy, S., Rooney, P., Provasnik, S., Sen, A., & Tobin, R. (2004, June). *The condition of education* (NCES 2004-077).

Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES). Available from http://nces.ed.gov/pubs2004/2004077_App1.pdf

Zaback, K., Carlson, A., & Crellin, M. (2012, December). The economic benefit of postsecondary degrees: A state and national level analysis. Boulder, CO: State Higher Education Executive Officers. Available from http://live.sheeo.gotpantheon.com/sites/default/files/publications/Econ%20Benefit%20of%20Degrees%20Report%20with%20Appendices.pdf

Zhang, L. (2008). Does state funding affect graduation rates at public four-year colleges and universities? Educational Policy, 23(5), 714–731.

Appendix

Table A1

Student Labor Market Experiences for Certificate Completers, by Initial Institution Type

Labor Market Experiences of Students Who Were Beginning Postsecondary Students in 2003–04	Initial Institution Type		
	Community Colleges	For-profit	Public <2 year
Experienced one or more unemployment spells by spring 2009[4.2]	21.0%	39.9%	23.5%
Employed in spring 2009[5.2]	82.1%	71.8%	80.3%
Employed (full-time) in spring 2009[5.2]	70.7%	58.6%	61.2%
Median Salary in spring 2009[7.2]	$30,300	$23,900	$28,000
Benefits offered by employer[8.2]			
Medical Insurance	80.4%	79.3%	79.6%
Retirement Benefits	74.6%	63.8%	72.3%
Life Insurance	72.4%	63.2%	60.0%
All three benefits offered	65.6%	53.4%	58.0%
Reported satisfaction with the pay and benefits of their job[10.2]			
Pay	69.6%	53.7%	65.3%
Fringe benefits	70.0%	63.3%	64.7%
Job security	84.4%	76.9%	81.4%
Promotion opportunities	66.6%	58.1%	61.8%
All four job-related aspects	45.2%	29.9%	30.8%
Reported their education helped them advance in their career[9.2]	69.5%	53.4%	64.1%
Reported satisfaction with aspects of their job[11.2]			
Importance and challenge	82.9%	77.2%	86.1%
Opportunities to use education	80.4%	67.9%	72.7%
Opportunities for future training	79.3%	65.5%	80.9%
Overall job satisfaction	83.8%	77.2%	86.6%

Source: Ifill & Radford (2012).

Note: Superscript numbers reference tables in the document from which the data were obtained. The for-profit classification includes all levels (4-year, 2-year, less than 2-year) due to data limitations associated with the small number of students in these institutions; this also contributed to large standard errors in some cases. The data are for initial institution type and experiences 6 years later. There is not a guarantee that the student graduated from the sector in which he or she started. The extent to which a student would transfer across these three sectors is unknown, but is assumed to be limited.

Table A2

Student Labor Market Experiences for Associate Degree Completers, by Initial Institution Type

Labor Market Experiences of Students Who Were Beginning Postsecondary Students in 2003–04	Initial Institution Type	
	Community Colleges	For-profit
Experienced one or more unemployment spells by spring 2009[13.2]	20.5%	35.5%
Employed in spring 2009[514.2]	84.5%	85.2%
Employed (full-time) in spring 2009[14.2]	69.8%	71.9%
Median Salary in spring 2009[16.2]	$30,000	$24,000
Benefits offered by employer[17.2]		
Medical Insurance	80.4%	87.5%
Retirement Benefits	71.6%	67.7%
Life Insurance	62.5%	62.7%
All three benefits offered	59.6%	53.6%
Reported satisfaction with the pay and benefits of their job[19.2]	61.5%	54.2%
Pay	63.5%	61.2%
Fringe benefits	65.6%	73.8%
Job security	77.6%	80.3%
Promotion opportunities	61.2%	51.6%
All four job-related aspects	37.3%	37.0%
Reported satisfaction with aspects of their job[20.2]		
Importance and challenge	78.2%	69.3%
Opportunities to use education	71.3%	70.9%
Opportunities for future training	73.5%	64.4%
Overall job satisfaction	77.1%	67.6%

Source: Ifill & Radford (2012).

Note: Superscript numbers reference tables in the document from which the data were obtained. The for-profit classification includes all levels (4-year, 2-year, less than 2-year) due to data limitations associated with the small number of students in these institutions; this also contributed to large standard errors in some cases. The data are for initial institution type and experiences 6 years later. There is not a guarantee that the student graduated from the sector in which he or she started. The extent to which a student would transfer across these three sectors is unknown, but is assumed to be limited.

One Dupont Circle, NW | Suite 410
Washington, DC 20036
T. 202-728-0200 | F. 202-833-2467
www.aacc.nche.edu

AACC MISSION

Building a Nation of Learners by Advancing America's Community Colleges