

John J. Heldrich Center for Workforce Development

labor market outcome report

Employment Outcomes of Students in New Jersey's County Colleges

Introduction

New Jersey's 19 county colleges play a crucial role in preparing the state's residents for employment and further education, and for ensuring that the state has a world-class workforce with the skills the state's employers need. The county colleges enroll over 240,000 full- and part-time students in credit programs and another 125,000 in non-credit programs. All together, the county colleges had revenues of nearly \$770 million in FY 2006. Despite this substantial allocation of resources and the colleges' crucial role in training the workforce, knowledge about the post-college employment experiences of students enrolled in these institutions is quite limited.

To address this gap in knowledge, the John J. Heldrich Center for Workforce Development at Rutgers, The State University of New Jersey, with funding from the Fund for New Jersey, calculated employment outcomes for individuals in credit-granting programs at New Jersey's 19 county colleges for 2002-2006¹ using two existing administrative datasets.²

This project provides for the first time comprehensive information on the employment experiences of both county college graduates as well as the outcomes of those students who attend the colleges — and earn credits — but exit before earning a degree.

The analysis was guided by an advisory group consisting of representatives of the New Jersey Council of County Colleges, the New Jersey Commission on Higher Education, the State Employment and Training Commission, the New Jersey Department of Labor and Workforce Development, and the New Jersey Business and Industry Association. In addition, directors of institutional research at a number of county colleges provided valuable feedback during the project.

Based on its calculations, the Heldrich Center has prepared a series of summary tables for each county college that it is sharing with the Fund for New Jersey and with each individual college. This information can be used by college administrators to make important program and curriculum decisions.

This report summarizes the principal findings and recommendations of the study. It also provides background information and a literature review on community college and outcome evaluations, and then explains the data used in the analysis and the method of calculation. The Heldrich Center has developed a series of supplementary tables that summarize the results for each of the state's 19 community colleges.

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Principal Findings

Four principal findings emerged from the Heldrich Center's analysis.

Finding #1. Six in ten adult (25 or older at enrollment) county college students are employed **before** enrolling in credit programs, with an average annual wage of over \$34,000.

On average, between 2002 and 2006, 60% of adult county college students (age 25 or older at enrollment) were employed before enrolling in a credit program. Before enrollment, employed adult students earned an average annual wage of \$34,300, indicating that many students have significant work experience before attending college. Additionally, 4 in 10 students enrolled in credit programs at New Jersey community colleges are 25 or older when they first enroll.

Finding #2. While only 15% of county college graduates enroll in four-year colleges, 69% are employed in New Jersey after two years with average annual earnings of \$40,000.

Nearly 15% of county college graduates enroll in a public four-year college or university³ in New Jersey within three semesters of graduation. Of those students who do not continue their education in New Jersey, 69% are employed in the state two years after graduation.

In addition, two years after graduation, the average county college graduate has annual earnings of \$40,000. Although this is about \$6,000 less than the median per capita income for New Jersey residents (approximately \$46,000) in 2006 (New Jersey Department of Labor and Workforce Development, 2007), the county college graduates' income is being measured at the end of their second year after completing their degrees. Most graduates have many more years in the labor market and hence many years to accumulate more work experience and thus increase their earnings.

Finding #3. Students who were 25 or older at enrollment experienced a 55% increase in their earnings from two years before enrolling to two years after graduation.

Of the graduates, individuals who earned AAS degrees, which are geared toward preparing the student for the labor market, saw greater earnings gains than students who earned AA degrees. AAS graduates experienced an earnings increase of 67%.

Finding #4. Individuals who attend a county college without earning a degree earn, on average, \$26,000 annually, compared with graduates who earn \$40,000 per year.

For a variety of reasons, a significant number of individuals who enroll in community college programs do not complete their degrees. Those who leave college without a degree are less likely to be employed and earn substantially less than graduates.

Less than 6 in 10 individuals who leave county colleges without a degree are employed in New Jersey eight quarters after leaving school. By comparison, approximately 7 in 10 graduates are employed two years after graduation. Individuals who leave college without a degree are earning at a rate of \$26,000 a year in the eighth quarter after leaving college. This is significantly less than the earnings level of county college graduates (\$40,000 a year) in the eighth quarter after graduation.

Adults who exit without degrees experience earnings growth of almost 14% between the eighth quarter before they enroll and the eighth quarter after they leave a county college. While this is a positive outcome, adult graduates from 2006 experienced an earnings increase of 54% during the same time period.

However, for students who exit without earning a degree, there is no relationship between the number of course credits completed and their earnings after leaving college. Within this group of non-degree exiters, students

who earned just a few credits fare no differently in the labor market than students who earned many credits.

Recommendations

New Jersey's county colleges play a critical part in the state's talent pipeline by educating the state's residents and preparing the workforce of the future. In a knowledge-driven, global economy, it is critical that the state's county colleges prepare students with the knowledge, skills, and abilities they will need to have successful careers. Until this research was undertaken, little was known about the post-college experiences of either the more than 9,000 students who graduate from these colleges each year or the thousands more who are educated at the colleges but do not earn degrees.

The Heldrich Center's analysis demonstrates for the first time that existing administrative databases, already maintained by the State of New Jersey for other purposes, can be used to produce comprehensive and useful information on the employment experiences of county college students and graduates. Such information can be used by the boards and academic leaders of county colleges to make decisions about their curricula and programs. This analysis has also generated a plethora of additional information for program decision-makers. By indicating the programs and majors at each college with the highest average earnings, the institution-specific reports can help colleges decide which programs to expand and which to contract. Information on the industries into which program graduates are becoming employed will also inform the colleges about whether graduates from specific programs are becoming employed in industries related to their academic studies.

This analysis can also be used by state policymakers who support and assist the county colleges through funding and policy decisions. For example, in light of the earnings disparity between graduates and non-graduates, the disparity in wage growth

between the two groups, and the historically low graduation rates of community colleges in New Jersey, state policymakers may want to work with the state's county colleges to heighten efforts to help students stay in school and complete their degrees.

County colleges and state policymakers should work together to build on the work of this initial project.

- County college leaders should review the data contained in their college's individual report, share that information with their key staff and faculty, and lead a dialogue about the implications of the data for the college's policies, programs, and curricula.
- The state and county colleges should work together to calculate these outcomes (and other appropriate measures) on an annual basis.
- State policymakers should consider working with the four-year colleges and universities to calculate similar outcomes for these institutions.

Background and Literature Review

The technological, economic, and political transformations of the past quarter-century have rewritten the requirements for global competition for both workers and firms. The growth in computer technology, telecommunications, and the Internet has revolutionized the workplace by transforming the job duties that workers in a range of occupations — from manufacturing and retail to accounting and medicine — must perform. Companies' expanding global ties mean that their workforces have become more international, with an increasing array of products produced overseas. The opening of national markets to international trade has created new markets and new competitors. These changes require American workers to work smarter and more efficiently. Now more than ever before, work-

er success depends on the ability to acquire and continuously upgrade the skills that companies demand, and firm success depends on having a highly skilled workforce.

The community college system is a critical link in the American skill-building system. It helps individuals to expand the knowledge and abilities they need to be productive workers in the global economy. Moreover, by providing lower-cost education in the face of escalating tuition at four-year institutions, community colleges offer educational opportunities to low-income and traditionally underrepresented groups, including minorities and immigrants.

Recognizing the important role that community colleges play in preparing the American workforce and in offering opportunity to a diverse citizenry, the federal government, through the American Recovery and Reinvestment Act, has allocated billions of dollars in additional funding to expand educational opportunities at community colleges around the nation.

Key Roles of Community Colleges

The county colleges play an especially vital role in New Jersey, where, in 2005, 47% of all college students attended county colleges, compared with 35% nationally (National Center for Education Statistics, 2005; New Jersey Commission on Higher Education, 2005). As of 2009, New Jersey's county colleges enrolled over 240,000 full- and part-time students in credit programs and another 125,000 in non-credit programs (New Jersey Commission on Higher Education, 2009; New Jersey Council of County Colleges, 2009). In FY 2006, New Jersey's 19 county colleges reported revenues of nearly \$770 million (New Jersey Council of County Colleges, 2008).

Community colleges, in New Jersey and across the nation, expand access to higher education, prepare students to earn degrees

from four-year institutions, and provide students the skills they need to succeed in the labor market, and promote economic development in communities and states.

Increase Access to Higher Education. The original purpose of the community college was “to increase access to higher education without compromising and burdening the existing four-year colleges” (Kane & Rouse, 1999). By offering a lower-cost alternative to four-year institutions, community colleges make college affordable to many students who might not otherwise be able to attend. Community colleges have traditionally enrolled greater proportions of minority and immigrant students — the individuals whom labor market changes are most likely to leave behind — than four-year schools. Closely tied to the mission of providing educational opportunity is the “transfer function”; namely, preparing students to transfer to four-year colleges before or after they complete their two-year degrees (Grubb, 1991).

Prepare the Workforce for the Labor Market. Since World War II, community colleges have become more central in vocational development, providing occupational skills training for high school graduates who were not ready for college (Grubb, in press). Changing skill requirements brought on by the technological changes of the past half-century have made it increasingly important for workers to engage in lifelong learning. The community colleges play a key role in helping workers upgrade their skills as they progress through, or change, careers (Grubb, in press).

Promote Local Economic Development. Over the past 20 years, community colleges have become increasingly involved in local economic development (Dougherty & Bakia, 1999). Community colleges serve as business incubators, assisting nascent small businesses in the initial stages of their development, and become more involved in local economic planning, working with local, regional, and state agencies to attract and retain industries.

Data and Methods

Despite the manifest importance of the community colleges in preparing local residents for employment and further education and the substantial resources invested in them, little is known about the employment and education experiences of students who attend the colleges.

In this study, Heldrich Center researchers matched two State of New Jersey individual-level, administrative datasets — the Student Unit Record Enrollment System (SURE) and the Unemployment Insurance (UI) Wage Records — to track the labor market trajectories of county college graduates as well as of students who attend the colleges but exit before earning a degree. By using administrative records with a high degree of granularity, for the first time, this study provides comprehensive information on the labor market outcomes of both county college graduates as well as the students who attend the colleges without earning a degree.

- **Student Unit Record Enrollment System.** The New Jersey Commission on Higher Education maintains the SURE data system, which warehouses detailed information from colleges and universities in the state on students who enroll in and complete degree programs. All 19 of New Jersey’s county colleges report their enrollees and graduates to the SURE system. The SURE data file includes the following fields: the student’s social security number, basic demographic information, date and program of enrollment, date of completion, degree or certificate awarded, and program of study (by classification of instructional program).
- **Unemployment Insurance Wage Records.** Nearly all employers in the state report the wages of their employees on a quarterly basis to the State of New Jersey when they pay their UI payroll taxes. UI wage records include the following information for individuals who are employed:

the employee’s social security number, the quarterly earnings paid, the number of weeks worked during the quarter, the individual’s employer, and the industry of employment. New Jersey UI Wage Records contain more than four million records per quarter.

Graduates and Enrollees Who Exit Before Earning a Degree

Heldrich Center researchers calculated both employment and higher education outcomes for two different groups of students: graduates and students who enrolled in a county college but exited before earning a degree.

Identifying graduates is a straightforward task because the SURE system produces a separate “degrees conferred” file that includes only county college graduates. Significant numbers of community college students, however, never officially complete a degree program. Identifying students who exited before earning a degree is slightly more complicated. The key issue was to differentiate between students who had left school from students who were just taking a brief hiatus before eventually returning. For the purposes of this research, the Heldrich Center defined individuals as having exited without earning a degree if they had two or more consecutive semesters in which they were not enrolled. Since many students attend county colleges on a part-time basis, full-time and part-time students were included in the group of enrollees who exit without a degree.

Outcome Measures

Heldrich Center researchers calculated the following measures for both graduates with degrees and for students who exited the programs before earning their degrees. Researchers summarized these outcomes for each college and for every credit program that these colleges offered. To illustrate the extent to

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which the colleges' outcomes have changed over time, the researchers calculated outcomes for the 2002 and 2006 calendar years.

- **Pre-Enrollment Employment Rate.** Average employment rate in eighth quarter before enrollment for the age group 25 and over and average quarterly earnings in eighth quarter before enrollment for the age group 25 and over: these are for the purpose of comparing the employment and earning outcomes of students with employment experience before enrollment; to mitigate the possible exaggeration of unemployment/employment rate, researchers assume an eight-quarter time lag between the last employment and enrollment.
- **Four-Year College Enrollment.** Percentage of graduates enrolled at a public four-year university in New Jersey within three semesters of graduation: transferring to a four-year university is considered to be a positive educational outcome of community college; researchers assume a three-semester time lag between graduation from a county college and transfer to a four-year institution.
- **Post-College Employment Rate and Earnings.** Employment rate eighth quarter after graduation, quarterly earnings eighth quarter after graduation, quarterly change in earnings for the age group 25 and over (eighth quarter before enrollment vs. eighth quarter after graduation): these are the main measures researchers used in evaluating the employment outcomes of the students after attending school; researchers assume an eight-quarter time lag in order to capture a longer term effect of the education.
- **Industry of Post-College Employment.** Heldrich Center researchers calculate the industry that hires the most graduates for each program and the top three industries that hire most graduates from each school and New Jersey as a whole.

The Heldrich Center chose the eighth quarter before graduation and the eighth quarter after graduation as the benchmark quarters for examining student earnings. By the eighth quarter after graduation, individuals should have been able to settle into a new field and to have seen their earnings recover from any dip associated with entering a new job in a new field.

The Heldrich Center compared pre-enrollment and post-exit earnings only for students who were 25 years or older when they first enrolled at a county college. The eighth quarter before enrollment is used to try to minimize the problem of the pre-enrollment earnings dip — whereby individuals enter training soon after losing their jobs — which would upwardly bias estimates of the effect of education on earnings.⁴

In calculating employment outcomes, Heldrich Center researchers excluded from the calculations all students who were enrolled full time at a four-year college or university.

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End Notes

1. This period was selected to allow for the calculation of outcomes of students over a two-year period after they left college.
2. The project uses data from the New Jersey Commission of Higher Education's SURE system and from the Unemployment Insurance Wage Records maintained by the New Jersey Department of Labor and Workforce Development.
3. Only public colleges and universities are required to report their student records to the New Jersey Commission on Higher Education.
4. Since individuals enrolled and exited in different semesters, each individual's eighth calendar quarter before enrollment and eighth calendar quarter after exit is different. Therefore, for each individual, a variable was constructed that indicated the wages a person earned in each quarter relative to the first quarter of enrollment and the quarter of exit. All wages were adjusted for inflation, using an average of the New York and Philadelphia metropolitan area consumer price estimates from the Bureau of Labor Statistics.