EXECUTIVE SUMMARY

Where Value Meets Values: The Economic Impact of Community Colleges

ANALYSIS OF THE ECONOMIC IMPACT & RETURN ON INVESTMENT OF EDUCATION

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AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

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EXECUTIVE SUMMARY

America's community colleges create value in many ways. This study investigates the economic impacts created by community colleges on the national economy and the benefits that the colleges generate in return for the investments made by their key stakeholder groups—students, society, and taxpayers.

America's community colleges play a key role in helping students increase their employability and achieve their individual potential. However, the contributions of community colleges consist of more than just influencing the lives of students. The colleges serve a range of industries in the U.S. and supply businesses with skilled workers. Society as a whole benefits from an expanded economy and improved quality of life. The benefits created by community colleges extend as far as the national treasury, in the form of increased tax revenues and public sector savings.

The following two analyses are presented:

- Economic impact analysis
- Investment analysis

Impacts on the national economy are reported under the economic impact analysis, and the return on investment to students, society, and taxpayers is reported under the investment analysis. Both analyses are described more fully in the following sections.

ECONOMIC IMPACT ANALYSIS

America's community colleges promote economic growth in the U.S. in a variety of ways. The colleges are a primary source of education to U.S. residents and suppliers of trained workers to business and industry. In addition, community colleges attract new monies to the U.S. through the expenditures of international students.

The economic impact analysis examines the impact of America's community colleges and their students on the national economy in 2012. Results are measured in terms of added income and are organized according to the following effects:

1. Impact of the increased productivity of former community college students employed in the U.S. workforce, and;
2. Impact of international student spending.

IMPACT OF STUDENT PRODUCTIVITY

The greatest impact of America's community colleges results from the education and training they provide to U.S. residents. Since the colleges were established, students have studied at the colleges and entered the workforce with new skills. Today millions of former students are employed in the U.S workforce.

During the analysis year, former students of America's community colleges generated $806.4 billion in added income in the U.S. economy. This figure represents the higher wages that students earned during the year,

INCOME CREATED BY AMERICA'S COMMUNITY COLLEGES IN 2012

$806.4 billion	Effect of student productivity
$2.6 billion	Effect of international student spending
$809 billion	Total effect

JOB EQUIVALENTS BASED ON INCOME

Job equivalents are a measure of the average-wage jobs that a given amount of income can potentially support. They are calculated by dividing added income by the average income per worker in the U.S.

Overall, the added income created in the U.S. through increased student productivity and the spending of international students supported **15.5 million** job equivalents in 2012.

the increased output of the businesses that employed the students, and the multiplier effects that occurred as students and their employers spent money at other businesses.

IMPACT OF INTERNATIONAL STUDENT SPENDING

Approximately 1.3% of students attending America's community colleges in 2012 were international students. These students paid approximately $1.2 billion to the community colleges to cover the cost of tuition, fees, books, and supplies. The colleges in turn injected these monies into the U.S. economy through their payroll and purchases. The net impact of these transactions was $1.5 billion in new income added to the U.S. economy.

The living expenses of international students also supported U.S. businesses. In 2012, international students spent $1.2 billion to purchase groceries, rent accommodation, pay for transportation, and so on. The net impact of these expenses was $1.1 billion in added income.

Altogether, international student spending added a total of $2.6 billion in income to the U.S. economy.

TOTAL IMPACT

The overall effect of America's community colleges on the national economy in 2012 amounted to $809 billion, equal to the sum of the student productivity effect and the international student spending effect. This added income is equal to approximately 5.4% of the nation's Gross Domestic Product.

INVESTMENT ANALYSIS

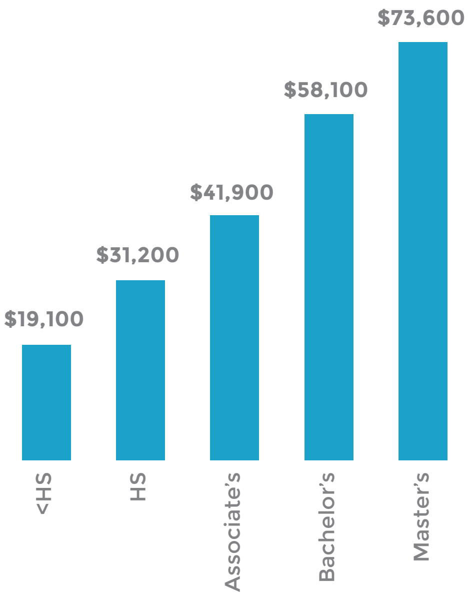
Investment analysis is the process of evaluating total costs and measuring these against total benefits to determine whether or not a proposed venture will be profitable. If benefits outweigh costs, then the investment is worthwhile. If costs outweigh benefits, then the investment will lose money and is considered unprofitable. This study considers America's community colleges as an investment from the perspectives of students, society, and taxpayers. The backdrop for the analysis is the entire U.S. economy.

STUDENT PERSPECTIVE

In 2012, America's community colleges served 11.6 million credit students. In order to attend college, students paid for tuition, fees, books, supplies, and interest on loans. They also gave up money that they would have otherwise earned had they been working instead of learning. The total investment made by community college students in 2012 amounted to $97.5 billion, equal to $18.7 billion in out-of-pocket expenses plus $78.7 billion in forgone time and money.

In return for their investment, community college students will receive a stream of higher future wages that will continue to grow through their working lives. As shown in Figure 1, mean income levels at the midpoint of the average-aged worker's career increase as people achieve higher levels of education. For example, the average associate's degree completer will see an increase in earnings of $10,700 each year compared to someone with a high school diploma or equivalent. Over a

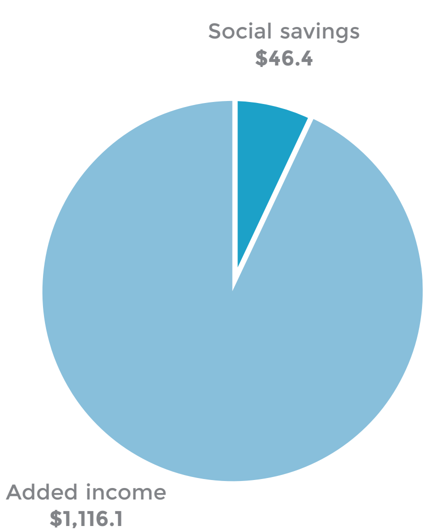
FIGURE 1. ANNUAL INCOME BY EDUCATION LEVEL AT CAREER MIDPOINT



STUDENT PERSPECTIVE

$469.3 Benefits (billions)	$97.5 Costs (billions)	$371.8 Net present value (billions)
4.8 Benefit-cost ratio	3.8 Return on investment	17.8% Rate of return

FIGURE 2. PRESENT VALUE OF ADDED INCOME AND SOCIAL SAVINGS IN THE U.S. (BILLIONS)



working lifetime, this increase in earnings amounts to an undiscounted value of approximately $470,800 in higher income.

The present value of the higher future wages that community college students will receive over their working careers is $469.3 billion. Dividing this value by the $97.5 billion in student costs yields a benefit-cost ratio of 4.8. In other words, for every $1 students invest in America's community colleges in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of $4.80 in higher future wages. The return on investment to students (i.e., the benefit-cost ratio less the cost of the original investment) thus comes to $3.80 for every $1 paid.

The internal rate of return for students is 17.8%. This is an impressive return compared, for example, to the less than 1% return per annum that is generally expected from saving money in today's standard bank savings accounts.

SOCIAL PERSPECTIVE

Society as a whole in the U.S. benefits from the presence of America's community colleges in two major ways. The first and largest benefit that society receives is the added income created in the nation. As discussed in the previous section, students earn more because of the skills they acquire while attending America's community colleges. Businesses also earn more because the enhanced skills of students make them more productive. Together, higher student wages and increased business output stimulate increases in income across the nation, thereby raising prosperity in the U.S. and expanding the economic base for society as a whole.

Benefits to society also consist of the savings generated by the improved lifestyles of students. Education is statistically correlated with a variety of lifestyle changes that generate social savings across three main categories: 1) health, 2) crime, and 3) unemployment. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, drug abuse, and mental disorders. Crime savings include reduced security expenditure and insurance administration, lower victim costs, and reduced criminal justice system expenditures. Unemployment savings include the reduced demand for income assistance and welfare benefits.

Figure 2 shows the present value of the added income and social savings that will occur the U.S. over the working lifetimes of the 2012 student population. Added income amounts to a present value of $1.1 trillion due to the increased lifetime incomes of students and associated increases in business output. Social savings amount to $46.4 billion, the sum of health, crime, and unemployment savings in the U.S. Altogether, total benefits to society equal $1.2 trillion (in present value terms).

U.S. taxpayers invested $44.9 billion in America's community colleges during the analysis year. For every dollar of this investment, society as a whole in the U.S. will receive a cumulative value of 25.9 in benefits, equal to the

SOCIAL PERSPECTIVE

$1,162.5 Benefits (billions)	$44.9 Costs (billions)	$1,117.6 Net present value (billions)
25.9 Benefit-cost ratio	n/a Return on investment*	n/a Rate of return*

* The return on investment and internal rate of return are not reported for the social perspective because the beneficiaries of the investment are not necessarily the same as the original investors.

TAXPAYER PERSPECTIVE

$304.9 Benefits (billions)	$44.9 Costs (billions)	$260.1 Net present value (billions)
6.8 Benefit-cost ratio	5.8 Return on investment	14.3% Rate of return

$1.2 trillion in benefits divided by the $44.9 billion in costs. These benefits will occur for as long the 2012 student population remains employed in the national workforce.

TAXPAYER PERSPECTIVE

From the taxpayer perspective, benefits consist primarily of the taxes that federal, state, and local governments will collect from the added income created in the U.S. As the 2012 students of America's community colleges earn more, they will make higher tax payments. Employers will also make higher tax payments as they increase their output and purchase more supplies and services. By the end of the students' working careers, federal, state, and local governments together will have collected a present value of $285.7 billion in added taxes.

A portion of the savings enjoyed by society also accrues to U.S. taxpayers. Students are more employable, so the demand for welfare and unemployment benefits reduces. Improved health habits lower the students' demand for national health care services. Students are also less likely to commit crimes, so the demand for law enforcement services reduces. All of these benefits will generate a present value of $19.2 billion in savings to taxpayers.

Total benefits to taxpayers equal $304.9 billion, equal to the sum of the added taxes and public sector savings. Comparing this to the taxpayer costs of $44.9 billion—equal to the funding that America's community colleges received from the public sector during the analysis year—yields a benefit-cost ratio of 6.8. This means that for every $1 of public money invested in America's community colleges, taxpayers receive a cumulative value of $6.80 over the course of the students' working lives. In other words, taxpayers fully recover the cost of the original investment and also receive a return of $5.80 in addition to every $1 they paid. The internal rate of return is 14.3%, a solid investment that compares favorably with other long-term investments in both the private and public sectors.

CONCLUSION

The results of this study demonstrate that America's community colleges create value from multiple perspectives. The colleges benefit U.S. businesses by increasing consumer spending and supplying a steady flow of qualified, trained workers into the workforce. They enrich the lives of students by raising their lifetime incomes and helping them achieve their individual potential. They benefit society as a whole in the U.S. by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students. Finally, they benefit federal, state, and local govenrments through increased tax receipts across the U.S. and a reduced demand for government-supported social services.

ABOUT THE STUDY

ABOUT EMSI

Economic Modeling Specialists International, a CareerBuilder company, is a leading provider of economic impact studies and labor market data to educational institutions, workforce planners, and regional developers in the U.S. and internationally. Since 2000, EMSI has completed over 1,200 economic impact studies for educational institutions in four countries. For more information about EMSI and its products and services, visit www.economicmodeling.com.

ABOUT AACC

Headquartered in Washington, D.C., the American Association of Community Colleges (AACC) is an advocacy organization proactively advancing the cause of more than 1,100 community colleges at the national and state level. AACC works closely with directors of state offices to inform state policy and has ongoing interaction with key federal departments and agencies including the U.S. Departments of Agriculture, Labor, Education, Energy, Homeland Security, Commerce, State, and the National Science Foundation.

This study was made possible by the American Association of Community Colleges (AACC) and was prepared by Economic Modeling Specialists International (EMSI). Data and assumptions used in the study are based on several sources, including the latest academic and financial reports from IPEDS, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of EMSI's Social Accounting Matrix (SAM) model, and a variety of studies and surveys relating education to social behavior. The study applies a conservative methodology and follows standard practice using only the most recognized indicators of economic impact and investment effectiveness. For a full description of the data and approach used in the study, please contact AACC for a copy of the technical report.