The Economic Contribution of

Capital Community College
State of Connecticut

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and
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Economic Growth Analysis
Investment Analysis

May-08
Students enjoy an attractive 26% annual return on their investment of time and money.

For every $1 students invest in CCC, they receive a cumulative $8.30 in higher future income over the course of their working careers.

Taxpayers see a real money return of 9% on their annual investments in CCC.

The State of Connecticut benefits from improved health and reduced welfare, unemployment, and crime, saving the public some $1.4 million per year each year that students are in the work force.

The CCC impact region economy receives roughly $315.5 million in regional income each year due to CCC and its students. This figure amounts to roughly 1.0% of the area’s total annual income.
Executive Summary

Introduction

How do the CCC impact region economy and the State of Connecticut benefit from the presence of Capital Community College (CCC)?

In this study, EMSI applies a comprehensive economic model designed to quantify the economic benefits of community and technical colleges and translate these into common sense benefit/cost and investment terms. The study includes two major analyses:

1. **Regional Economic Growth Analysis**: Measures added regional income due to the daily activities of the college, student spending, and the cumulative effects of the college’s past students in the work force.

2. **Investment Analysis**: Treats education funding as an investment, calculating all measurable returns and comparing them to costs, from the perspectives of students, taxpayers, and society as a whole.

The economic impact model has been subjected to peer review and field-tested to generate more than 800 studies for community and technical colleges in the United States, Canada, and the United Kingdom. Model results are based on solid economic theory, carefully drawn functional relationships, and a wealth of national and local education-related data.

The Results

For an in-depth discussion of the results, the reader is encouraged to consult the Main Report, “The Economic Contribution of Capital Community College.”

**Economic Growth Analysis**

CCC affects the local economy in three ways: 1) through its local purchases and wages paid to faculty and staff, 2) through the spending of students who come from outside the region, and 3) through a productivity effect stemming from an increase in the skill base of the local work force. These effects break down as follows:

- **CCC Operations Spending**
  
  CCC creates regional income through the earnings of its faculty and staff, as well as through its own operating and capital expenditures. Adjusting for taxes and other monies withdrawn from the local economy in support of CCC, it is estimated that the present-day CCC impact region economy receives roughly $23.5 million in labor and non-labor income each year due to CCC operations and capital spending.

- **Student Spending**
  
  CCC students who commute to the CCC impact region from outside the area purchase books and
supplies, thereby bringing monies that would not have otherwise entered the local economy. These expenditures create jobs and income for local businesses. After adjusting for leakage, it is estimated that the spending of CCC’s out-of-region students generates around $56,000 in added regional income in the CCC impact region each year.

Past Student Productivity
Each year students leave CCC and join or rejoin the local work force. Their added skills translate to higher income and a more robust CCC impact region economy. Based on current enrollment, turnover, and the growth of instruction over time, the regional work force embodies an estimated 759,500 credits of past and present instruction. The accumulated contribution of CCC instruction adds approximately $292.0 million in regional income to the current economy of the CCC impact region.

In sum, CCC contributes a total of $315.5 million in regional labor and non-labor income to the CCC impact region economy each year.

Investment Analysis

Student Perspective
Benefits of higher education are most obvious from the student perspective: students sacrifice current earnings (as well as money to pay for college expenses) in return for a lifetime of higher earnings. For every credit completed, CCC students earn, on average, $205 more per year each year they are in the work force. Compared to someone with high school diploma, Associate Degree graduates see an increase in income of approximately $487,700 over the course of a working lifetime. Aggregate higher income for exiting students amount to some $15.0 million per year for each year they remain in the work force.

From an investment standpoint, CCC students enjoy a 26% rate of return on their investments of time and money. This compares favorably with returns on other investments, e.g., long-term return on U.S. stocks and bonds. The corresponding benefit/cost ratio is 8.3, i.e., the cumulative
added value attached to each $1 students invest in CCC education will have a present value of $8.30 in higher future income by the end of their their working careers. This is a real return that accounts for any discounting that occurs during the entire period. The payback period is 6 years.

**Social Perspective**

From the perspective of society as a whole, the benefits of education accrue to different pub-lics, whether students, homeowners, businesses, or taxpayers. For example, students benefit from higher earnings, while the public at large enjoys benefits associated with an expanded economic base. In addition, the public benefits from a variety of external social benefits such as reduced sub-stance abuse, lower welfare and unemployment, and reduced crime.

In terms of added income, students expand the economic base of the state economy through their added skills, which serve to make them and the businesses that employ them more productive. *It is estimated that the activities of CCC’s current students contribute a sum total of $14.8 million in taxable income to the Connecticut economy each year (in the aggregate).*

Persons with higher education are also less likely to smoke or abuse alcohol, draw welfare or un-employment benefits, or commit crimes. This translates into associated dollar savings (avoided costs) amounting to some $20 per credit per year, counted as an indirect benefit of CCC education. *When aggregated across all exiting students, the State of Connecticut benefits from $1.4 million worth of avoided costs per year, each year that stu-dents are in the work force.* Social savings break down as follows.

**Improved Health:** Employers in the State of Con-necticut see health-related absenteeism decline by 1,900 days per year, with a corresponding annual dollar savings of approximately $258,700. The state benefits from health-related savings of roughly 90 fewer smokers and 20 fewer alcohol abusers. Corresponding dollar savings are $270,900 and $162,100 per year, now and into the future (these savings include insurance premiums, co-payments and deductibles, and withholding for Medicare and Medicaid).

**Reduced Crime:** Incarceration drops with each year of higher education. In the State of Con-necticut, about 30 fewer individuals will be incar-cerated, resulting in annual savings of $228,200 (combined savings from reduced arrest, prosecu-tion, jail, and reform costs). Reductions in victim costs (e.g., property damage, legal expenses, lost workdays, etc.) result in savings of $73,200 per year. Finally, that people are employed rather than incarcerated adds $153,700 of earnings per year to the economy.

**Reduced Welfare/Unemployment:** There will be about 140 fewer people on welfare and 40 fewer drawing unemployment benefits per year, saving approximately $234,200 and $58,500 per year, respectively.

Note that all benefits, whether added income or avoided social costs, occur as a result of the educa-tional achievements of students during the single analysis year. These benefits will continue to occur year after year as long as students remain in the work force and contribute to the growth and development of the state economy. Under the social perspective, all benefits stemming from college activities are projected into the future, discount-ed back to the present, and weighed against the $20.6 million that state taxpayers spent during the analysis year to support the college.

Following this procedure, it is estimated that CCC provides a benefit/cost ratio of 15.4, i.e.,
The Economic Contribution of Capital Community College

Executive Summary

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Economic Modeling Specialists, Inc. (EMSI)

The Economic Contribution of Capital Community College

Investment Analysis at a Glance

Annual Benefits

<table>
<thead>
<tr>
<th>Benefit Type</th>
<th>Annual Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Higher Earnings</strong></td>
<td></td>
</tr>
<tr>
<td>Aggregate (all students)</td>
<td>$15,019,400</td>
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<tr>
<td>Per credit-hour equivalent (CHE)</td>
<td>$205</td>
</tr>
<tr>
<td>Per full-time equivalent (FTE) student</td>
<td>$6,160</td>
</tr>
<tr>
<td><strong>Social Savings</strong></td>
<td></td>
</tr>
<tr>
<td>Aggregate (all students)</td>
<td>$1,439,500</td>
</tr>
<tr>
<td>Per credit-hour equivalent (CHE)</td>
<td>$20</td>
</tr>
<tr>
<td>Per full-time equivalent (FTE) student</td>
<td>$590</td>
</tr>
</tbody>
</table>

Investment Summary

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Rate of Return</th>
<th>Benefit/Cost</th>
<th>Payback (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>26.0%</td>
<td>8.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Social (Broad) Perspective</td>
<td>NA</td>
<td>15.4</td>
<td>NA</td>
</tr>
<tr>
<td>Taxpayer (Narrow) Perspective</td>
<td>8.6%</td>
<td>1.9</td>
<td>13.6</td>
</tr>
</tbody>
</table>

Source: See “Volume 1: Main Report” and “Volume 2: Detailed Results”

every dollar of state tax money invested in CCC today returns a cumulative of $15.40 to the public at large over the course of the students’ working careers, in terms of added income and avoided social costs. This is a “real” return, meaning that it reflects current year dollars. The unadjusted, or “nominal,” return would be significantly higher.

Taxpayer Perspective

Under the taxpayer perspective, the benefits generated by the college and its students are restricted to those that accrue to state and local government budgets, namely, increased tax collections and reduced government expenditures. For example, in place of total increased income, the narrow perspective includes only the increased state and local tax receipts from those higher incomes. Similarly, in place of overall crime, welfare, unemployment and health savings, the narrow perspective includes only those portions that translate to reductions in state and local government expenditures. Note here that it is normal for the state government to undertake activities wanted by the public, but which are unprofitable in the marketplace. This means that positive economic returns are generally not expected from government investments. From the narrow taxpayer perspective, therefore, even a small positive return (a benefit/cost ratio equal to or just greater than 1, or a rate of return equal to or just greater than the 4% discount rate used in this analysis) would be a favorable outcome. For CCC, the narrow perspective results greatly exceed the minimum expectations. The results indicate strong and positive returns: a rate of return of 9% and a benefit/cost ratio of 1.9 (every dollar of state or local tax money invested in CCC today returns $1.90).
Conclusion
The results of this study demonstrate that CCC is a sound investment from multiple perspectives. The college enriches the lives of students and increases their lifetime incomes. It benefits taxpayers by generating increased tax revenues from an enlarged economy and reducing the demand for taxpayer-supported social services. Finally, it contributes to the vitality of both the local and state economies.

About the Full Study
This short summary is one of ten documents that comprise the full impact study. The long report ("Volume 1: Main Report"), intended for economists and college institutional researchers, lays out the detailed assumptions and analysis. Another report ("Volume 2: Detailed Results") provides detailed tabular results by gender, ethnicity, and entry levels of education. Several fact sheets highlight the results from key perspectives: General Overview, Business Perspective, Social Perspective, Taxpayer Perspective, Broad vs. Narrow Taxpayer Perspective, and Student Perspective. Lastly, a PowerPoint presentation shows the main results in a brief, conference-friendly format.

About EMSI
EMSI is a leading provider of socioeconomic impact and strategic planning tools to community and technical colleges in the United States and Canada. Visit us at www.economicmodeling.com for more information. To see full documentation of the study, please contact the college.
Socioeconomic Impact (SEIM) Study

What are the measurable benefits of higher education?

Is education a worthwhile public investment?

Can students increase their earning potential by taking college courses?

Who benefits more from higher education: the students or the general public?

This report summarizes the results from “The Economic Contributions of Capital Community College” detailing the role that the college plays in promoting economic development, enhancing students’ careers, and improving quality of life. Data sources include, but are not limited to, (1) 2006-07 academic and financial reports from Capital Community College, (2) industry and employment data from the Bureau of Labor Statistics, and (3) demographic and earnings data from the US Census Bureau. The study follows standard practice using only the most recognized indicators of investment effectiveness.

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