



# The Economic Value of Connecticut State Colleges and Universities

## EXECUTIVE SUMMARY



**C**ONNECTICUT State Colleges and Universities (CSCU) create value in many ways. The institutions play a key role in helping students increase their employability and achieve their individual potential. The institutions facilitate new research development and draw visitors and students to the state, generating new dollars and opportunities for Connecticut. The institutions provide students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, the institutions are places for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

CSCU influences both the lives of students and the state economy. The institutions support a variety of industries in Connecticut, serve state businesses, and benefit society as a whole in Connecticut from an expanded economy and improved quality of life. The benefits created by CSCU even extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by CSCU on the business community and the benefits the institutions generate in return for the investments made by their key stakeholder groups—students, taxpayers, and society. The following two analyses are presented:



### Economic impact analysis



### Investment analysis

All results reflect employee, student, and financial data, provided by the CSCU, for fiscal year (FY) 2016-17. Impacts on the Connecticut economy are reported under the economic impact analysis and are measured in terms of added income. The returns on investment to students, taxpayers, and society in Connecticut are reported under the investment analysis.

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*The value of CSCU influences both the **lives of its students** and the **state economy**.*

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# Economic impact analysis

IMPACTS CREATED BY CSCU  
IN FY 2016-17

CSCU promotes economic growth in Connecticut through direct expenditures and the resulting expenditures of visitors, students, and state businesses. The institutions serve as employers and buyers of goods and services for their day-to-day and research operations. The institutions' activities attract visitors and students from outside Connecticut, whose expenditures benefit state vendors. In addition, the institutions are primary sources of higher education to Connecticut residents and suppliers of trained workers to state industries, enhancing overall productivity in the state workforce.

## Operations Spending Impact



CSCU adds economic value to Connecticut as an employer of state residents and a large-scale buyer of goods and services. In FY 2016-17, the institutions employed 10,644 full-time and part-time faculty and staff (excluding research employees), 93% of whom lived in Connecticut. Total payroll at CSCU was \$871.5 million (excluding payroll from research employees), much of which was spent in the state for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the institutions spent \$342.4 million on day-to-day expenses related to facilities, supplies, and professional services (excluding research expenditures and capital depreciation).

CSCU's day-to-day operations spending added \$980.1 million in income to the state during the analysis year. This figure represents the institutions' payroll, the multiplier effects generated by the in-state spending of the institutions and their employees, and a downward adjustment to account for funding that the institutions received from state and local sources. The \$980.1 million in added income is equivalent to supporting 12,264 jobs in the state.

## Research Spending Impact



Research activities impact the economy by employing people and requiring the purchase of equipment and other supplies and services.

Over the last four years, CSCU received three invention disclosures and filed one new patent application.

In FY 2016-17, CSCU spent \$3.5 million on payroll to support research activities. This, along with \$2.4 million in other research spending, created a net total of \$5.3 million in added income for the state economy. This added income is equivalent to supporting 60 jobs.



**\$980.1 million**  
Operations Spending Impact



**\$5.3 million**  
Research Spending Impact



**\$29.4 million**  
Construction Spending Impact



**\$5.6 million**  
Visitor Spending Impact



**\$137.9 million**  
Student Spending Impact



**\$9.9 billion**  
Alumni Impact



**\$11.1 billion**  
TOTAL IMPACT

- OR -

**123,000+**  
JOBS SUPPORTED

## Construction Spending Impact



CSCU commissioned contractors to build or renovate facilities in FY 2016-17. The quick infusion of income and jobs that occurred in the state economy as a result of this construction spending is considered short-term due to the one-time nature of such projects. Nonetheless, the institutions' construction spending had a substantial impact on the state economy in FY 2016-17, equal to \$29.4 million in added income and equivalent to supporting 465 jobs.

## Visitor Spending Impact



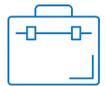
An estimated almost 75,000 visitors from outside the state were attracted to the institutions during the analysis year to attend commencement, sports, cultural, and arts events along with other activities. While in the state, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the institutions' out-of-state visitors generated a net impact of \$5.6 million in added income for the state economy in FY 2016-17. This \$5.6 million in added income is equivalent to supporting 127 jobs.

## Student Spending impact



Around 3% of credit students attending CSCU originated from outside the state in FY 2016-17, and some of these students relocated to Connecticut to attend the institutions. These students may not have come to the state if the institutions did not exist. In addition, some in-state students, referred to as retained students, would have left Connecticut if not for the existence of CSCU. While attending the institutions, these relocated and retained students spent money on entertainment, groceries, accommodation, transportation, and household expenses. This spending generated \$137.9 million in added income for the state economy in FY 2016-17, which supported 2,222 jobs in Connecticut.

## Alumni Impact



The education and training the institutions provide for state residents has the greatest impact. Since the institutions were established, students have studied at CSCU and entered the state workforce with greater knowledge and new skills. Today, hundreds of thousands of former CSCU students are employed in Connecticut. As a result of their CSCU educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2016-17, CSCU alumni generated \$9.9 billion in added income for the state economy, which is equivalent to supporting 108,215 jobs.



## Total Impact

CSCU added \$11.1 billion in income to the Connecticut economy during the analysis year, equal to the sum of the operations, research, and construction spending impacts, the visitor and student spending impacts, and the alumni impact. For context, the \$11.1 billion impact was equal to approximately 4.1% of the total gross state product (GSP) of Connecticut. This contribution that the institutions provided on their own is nearly as large as the entire Real Estate & Rental & Leasing industry in the state.

CSCU's total impact can also be expressed in terms of jobs supported. The \$11.1 billion impact supported over 123,000 state jobs, using the jobs-to-sales ratios specific to each industry in the state. This means that one out of every 19 jobs in Connecticut is supported by the activities of the institutions and their students. In addition, the \$11.1 billion, or over 123,000 supported jobs, impacted state industries in different ways. CSCU supported the most jobs in the Health Care & Social Assistance industry sector – supporting 26,981 jobs in FY 2016-17. These are impacts that would not have been generated without the institutions' presence in Connecticut.

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### TOP INDUSTRIES IMPACTED BY CSCU (JOBS SUPPORTED)





# Investment analysis

An investment analysis evaluates the costs associated with a proposed venture against its expected benefits. If the benefits outweigh the costs, then the investment is financially worthwhile. The analysis presented here considers CSCU as an investment from the perspectives of students, taxpayers, and society in Connecticut.

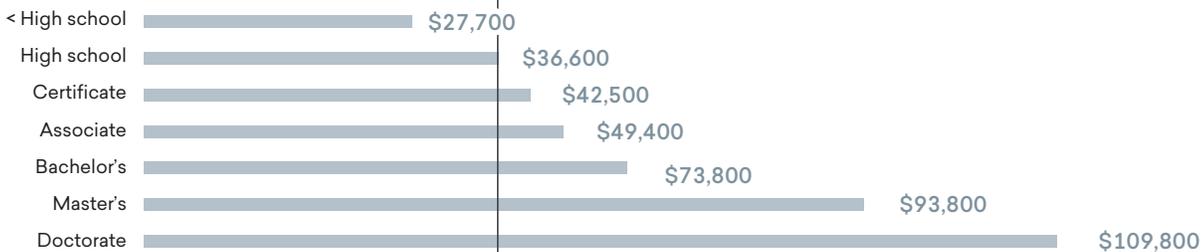
## Student perspective



In FY 2016-17, CSCU's 12-month enrollment included 118,605 credit and at least 23,000 non-credit students. In order to attend the institutions, the students paid for housing, tuition, fees, books, and supplies. They also took out loans and will incur interest on those loans. Additionally, students gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by CSCU students in FY 2016-17 amounted to a present value of \$1 billion, equal to \$418 million in out-of-pocket expenses (including future principal and interest on student loans) and \$631.4 million in forgone time and money.

In return for their investment, CSCU's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For the certificate, associate and bachelor's degree earners at CSCU this translates to an increase in earnings of \$5,900, \$12,800 and \$37,200 each year, respectively, compared to a person with a high school diploma or equivalent working in Connecticut. Over a working lifetime, the benefits of an associate degree and bachelor's degree over a high school diploma will amount to an undiscounted value of \$500 thousand and \$1.5 million in higher earnings per graduate, respectively.

The average certificate, associate, and bachelor's degree graduate from CSCU will see an increase in earnings of **\$5,900**, **\$12,800**, and **\$37,200** each year, respectively, compared to a person with a high school diploma or equivalent working in Connecticut.



Source: Emsi complete employment data.

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN CSCU



22.2%

Average Annual Return for CSCU Students



10.1%

Stock Market 30-year Average Annual Return\*



0.8%

Interest Earned on Savings Account (National Rate Cap)\*\*

\* Forbes' S&P 500, 1987-2016.

\*\* FDIC.gov, 7-2016.

The students' benefit-cost ratio is 6.6. In other words, for every dollar students invest in an education at CSCU, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$6.60 in higher future earnings. Annually, the students' investment in CSCU has an average annual internal rate of return of 22.2%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%. It can also be said that students at CSCU see, on average, a payback period of 5.9 years, meaning 5.9 years after their initial investment of foregone earnings and out-of-pocket costs, they will have received enough higher future earnings to fully recover those costs.

## Taxpayer perspective



CSCU generates more in tax revenue than it takes. These benefits to taxpayers consist primarily of taxes that the state and local government will collect from the added revenue created in the state. As CSCU students will earn more, they will make higher tax payments throughout their working lives. Students' employers will also make higher tax payments as they increase their output and purchases of goods and services. By the end of the FY 2016-17 students' working lives, the state and local government will have collected a present value of \$2.2 billion in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of CSCU students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' education will generate savings in three main categories: 1) health-care, 2) crime, and 3) income assistance. Improved health will lower students' demand for national health care services. In addition, students will be less likely to interact with the criminal justice system, resulting in a reduced demand for law enforcement and victim costs. CSCU students will be more employable, so their reduced demand for income assistance such as welfare and unemployment benefits will benefit taxpayers. For a list of study references, contact CSCU for a copy of the main report. Altogether, the present value of the benefits associated with a CSCU education will generate \$191 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$2.4 billion, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$629 million, equal to the amount of state and local government funding CSCU received in FY 2016-17. These benefits and costs yield a benefit-cost ratio of 3.8. This means that for every dollar of public money invested in CSCU in FY 2016-17, taxpayers will receive a cumulative value of \$3.80 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 9.4%, which compares favorably to other long-term investments in the public and private sectors. Given returns well above what taxpayers invest in CSCU, CSCU not



### STUDENT PERSPECTIVE

**\$7 billion**  
Present value benefits

**\$1 billion**  
Present value costs

**\$5.9 billion**  
Net present value

Benefit-cost Ratio	Rate of Return
6.6	22.2%



### TAXPAYER PERSPECTIVE

**\$2.4 billion**  
Present value benefits

**\$629 million**  
Present value costs

**\$1.8 billion**  
Net present value

Benefit-cost Ratio	Rate of Return
3.8	9.4%



### SOCIAL PERSPECTIVE

**\$25.3 billion**  
Present value benefits

**\$2.2 billion**  
Present value costs

**\$23.1 billion**  
Net present value

Benefit-cost Ratio	Rate of Return
11.7	n/a*

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

only pays its own way, but also generates a surplus that the state and local government can use to fund other programs.

### Social perspective



Society as a whole in Connecticut benefits from the presence of CSCU in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to higher student earnings and increased business output, which raise economic prosperity in Connecticut.

Benefits to society also consist of the savings generated by the improved lifestyles of CSCU students. As discussed in the previous section, education is statistically correlated with a variety of lifestyle changes that generate social savings. Note that these costs are avoided by the consumers but are distinct from the costs avoided by the taxpayers outlined above. Healthcare savings include avoided medical costs associated with smoking, alcohol dependence, obesity, drug abuse, and depression. Savings related to crime include reduced security expenditures and insurance administration, lower victim costs, and reduced expenditures by the criminal justice system. Income assistance savings include reduced welfare and unemployment claims. For a list of study references, contact CSCU for a copy of the main report.

Altogether, the social benefits of CSCU equal a present value of \$25.3 billion. These benefits include \$24.8 billion in added income through students' increased lifetime earnings and increased business output, as well as \$461.5 million in social savings related to health, crime, and income assistance in Connecticut. People in Connecticut invested a present value total of \$2.2 billion in CSCU in FY 2016-17. The cost includes all the institutions' expenditures and student costs.

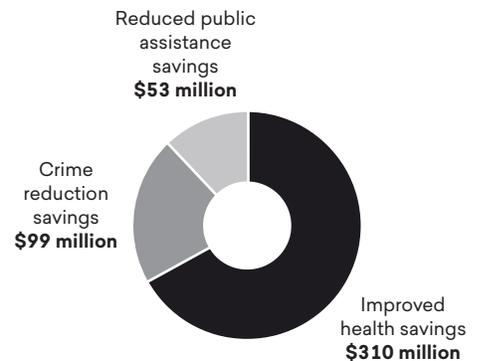
The benefit-cost ratio for society is 11.7, equal to the \$25.3 billion in benefits divided by the \$2.2 billion in costs. In other words, for every dollar invested in CSCU, people in Connecticut will receive a cumulative value of \$11.70 in benefits. The benefits of this investment will occur for as long as CSCU's FY 2016-17 students remain employed in the state workforce.

### Summary of investment analysis results

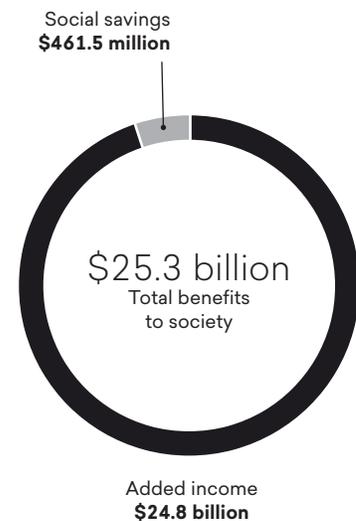
The results of the analysis demonstrate that CSCU is a strong investment for all three major stakeholder groups—students, taxpayers, and society. As shown, students receive a great return for their investments in a CSCU education. At the same time, taxpayers' investment in CSCU returns more to government budgets than it costs and creates a wide range of social benefits throughout Connecticut.

*For every dollar of public money invested in CSCU, taxpayers will receive a cumulative value of **\$3.80** over the course of the students' working lives.*

SOCIAL SAVINGS OF CSCU EDUCATION IN CONNECTICUT



SOCIAL BENEFITS IN CONNECTICUT FROM CSCU



# Conclusion

The results of this study demonstrate that CSCU creates value from multiple perspectives. The institutions benefit state businesses by increasing consumer spending in the state and supplying a steady flow of qualified, trained workers to the workforce. CSCU enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The institutions benefit state and local taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, CSCU benefits society as a whole in Connecticut by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students.

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## About the Study

Data and assumptions used in the study are based on several sources, including the FY 2016-17 academic and financial reports from CSCU, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Emsi's Multi-Regional Social Accounting Matrix 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 CSCU for a copy of the main report.



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