

Syracuse University

Analysis of the Economic Impact and Return on Investment of Education

THE ECONOMIC VALUE OF SYRACUSE UNIVERSITY
SU SERVICE REGION [5-COUNTY] ECONOMY

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EXECUTIVE SUMMARY

 Emsi

Executive summary

Syracuse University (SU) creates value in a variety of ways. The university improves higher education delivery throughout the region and helps students increase their employability and potential. The university facilitates new research and company developments and also draws visitors to the region, generating new dollars and opportunities for the SU Service Region [5-County].

The value of SU influences both the lives of students and also the regional economy. The university serves a range of industries in the SU Service Region [5-County], supports regional businesses, and benefits society as a whole in New York from an expanded economy and improved quality of life. The benefits created by SU extend as far as the state and local government through increased tax revenues and public sector savings. The region SU serves is defined as the SU Service Region [5-County] and consists of Cayuga, Cortland, Madison, Onondaga, and Oswego Counties.

This study investigates the economic impacts created by SU on the business community and the benefits that the university generates in return for the investments made

by its key groups—students, taxpayers, and society. The following two analyses are presented:

- **Economic impact analysis**
- **Investment analysis**

All results reflect student and financial data for Fiscal Year (FY) 2015-16. Impacts on the regional business community are reported under the economic impact analysis. Results are measured in terms of added income. The return on investment to students, taxpayers, and society are reported under the investment analysis. Both analyses are described more fully in the following sections.



Economic impact analysis

SU promotes economic growth in the SU Service Region [5-County] through its direct expenditures and resulting expenditures of students, visitors, and regional businesses. The university serves as an employer and buyer of goods and services for its operations. Numerous start-up and spin-off companies have formed through programs and knowledge at SU. The university's reputation and activities attract students and visitors from outside the SU Service Region [5-County], whose expenditures benefit regional vendors. In addition, SU is a primary source of education to the SU Service Region [5-County] residents and a supplier of trained workers to the regional industries, increasing overall productivity in the regional workforce.

OPERATIONS SPENDING IMPACT

SU is an important employer in the SU Service Region [5-County]. In FY 2015-16, the university employed 6,045 full-time and part-time faculty and staff (less research employees). Of these, 85% lived in the SU Service Region [5-County]. Total payroll at SU was \$513.5 million (excluding payroll from research employees), much of which was spent in the region for groceries, dining out, clothing, and other household expenses.

SU is itself a large-scale buyer of goods and services. In FY 2015-16, the university spent \$280.7 million to cover its expenses for facilities, professional services, and supplies, excluding research expenditures.

SU added \$701.1 million in income to the region during the analysis year as a result of its day-to-day operations. This figure represents the university's payroll, the multiplier effects generated by the spending of the university and its employees, and a downward adjustment to account for funding that the university received from state and local sources. The \$701.1 million in added income is equivalent to supporting 8,652 jobs.

RESEARCH SPENDING IMPACT

Research activities impact the economy by employing people and requiring the purchase of equipment and other supplies and services. In FY 2015-16, SU spent \$32.9 million on payroll to support research activities, creating a net total of \$64.3 million in added income for the regional economy. This added income is equivalent to supporting 851 jobs.

TABLE 3: Impacts created by SU in FY 2015-16

ADDED INCOME	JOBS
\$701.1 million	8,652
Operations spending impact	
\$64.3 million	851
Research spending impact	
\$1 million	11
Start-up company impact	
\$104 million	1,886
Student spending impact	
\$98.5 million	2,355
Visitor spending impact	
\$154.1 million	1,725
Alumni impact	
\$1.1 billion	15,481
Total impact	

START-UP AND SPIN-OFF COMPANY IMPACT

SU creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of SU start-up and spin-off companies created in the region. Start-up companies, created specifically to license and commercialize SU technology or knowledge, have a strong and clearly defined link to SU. Spin-off companies, created and fostered through university programs or faculty and alumni, have a clear but weaker link to SU.

In FY 2015-16, SU start-up companies added \$991.7 thousand in income to the SU Service Region [5-County] economy, which is equivalent to supporting 11 jobs.

Since spin-off companies have a much weaker connection to the university, they are not included in the total impact of SU. However, we still measure the impact to be \$2.3 billion, which is equivalent to supporting 14,826 jobs.

STUDENT SPENDING IMPACT

Around 84% of students attending SU originated from outside the region in FY 2015-16, and some of these students relocated to the SU Service Region [5-County] to attend SU. These students would not have come to the region if the university did not exist. In addition, a number of in-region students would have left the area for other education opportunities if not for the existence of SU. While attending the university, these relocated and retained students spent \$148.9 million to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the region, generating \$104 million in added income in the regional economy during the analysis year, which is equivalent to supporting 1,886 jobs.

VISITOR SPENDING IMPACT

Thousands of visitors from outside the regional were attracted to SU during the analysis year to attend commencement, sports events, and other activities sponsored by the university. While in the region, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the university's out-of-region visitors generated a net impact of \$98.5 million in added income for the regional economy in FY 2015-16. This \$98.5 million in added income is equivalent to supporting 2,355 jobs.

ALUMNI IMPACT

The education and training SU provides for regional residents results in the greatest impact. As shown in Figure 1, since the university was established, students have studied at SU and entered the regional workforce with new skills. Today, thousands of former students are employed in the SU Service Region [5-County].

FIGURE 1: SU alumni working in-region today

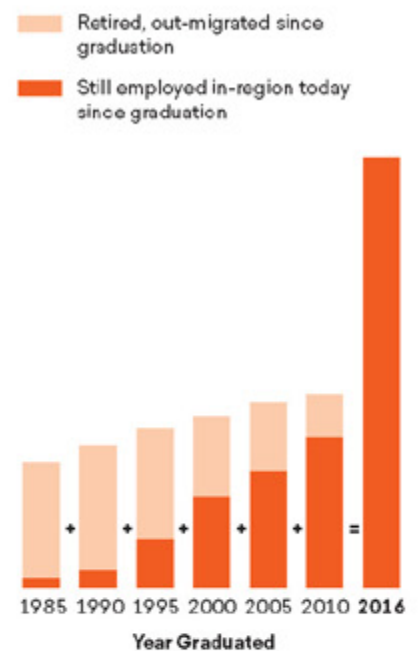


TABLE 2: Top industries impacted by SU

TOTAL INCOME (MILLIONS)	JOBS
\$138.6	2,884
Accommodation & Food Services	
\$78.8	1,705
Retail Trade	
\$73.7	950
Professional & Technical Services	
\$39.1	500
Construction	
\$37.6	282
Other Services (except Public Administration)	
\$755.2	9,158
All other industries	
\$1,123.0	15,481
Total impact	

During the analysis year, past and present students of SU generated \$154.1 million in added income for the region. This figure represents the higher earnings that students earned during the year, 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. This \$154.1 million in added income is equivalent to supporting 1,725 jobs.

TOTAL IMPACT

The overall impact of SU on the local business community during the analysis year amounted to \$1.1 billion in added income, equal to the sum of the operations spending impact, the research spending impact, the start-up company impact¹, the student spending impact, the visitor spending impact, and the alumni impact. The \$1.1 billion in added income was equal to approximately 2.8% of the GRP of the SU Service Region (5-County). By comparison, this contribution that the university provides on its own is larger than the entire Accommodation & Food Services industry in the region.

The total impact is also expressed in terms of the jobs supported by the added income; they are calculated by jobs-to-sales ratios specific to each industry. Overall, the \$1.1 billion impact supports 15,481 jobs.

A portion of the total \$1.1 billion is broken out into an industry-by-industry impact ordered by added income. Table 2 outlines the top industries impacted by SU. Because industries have different jobs-to-sales ratios, the associated jobs supported by SU impact differ by industry. Nonetheless, these are impacts that would not have been generated without the university's presence.



1 Spin-off company impact is not included in the total impact since there only exists a weak connection between the companies and the university.

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 SU as an investment from the perspectives of students, taxpayers, and society. The backdrop for the analysis is the entire New York economy.

STUDENT PERSPECTIVE

In FY 2015-16, SU served 24,203 credit students and 217 non-credit students. In order to attend the university, students paid for tuition, fees, books, and supplies. Additionally, students gave up money that they would have otherwise earned had they been working instead of attending the university. The total investment made by SU's students in FY 2015-16 amounted to \$912.9 million, equal to \$526.9 million in out-of-pocket expenses plus \$386 million in forgone time and money.

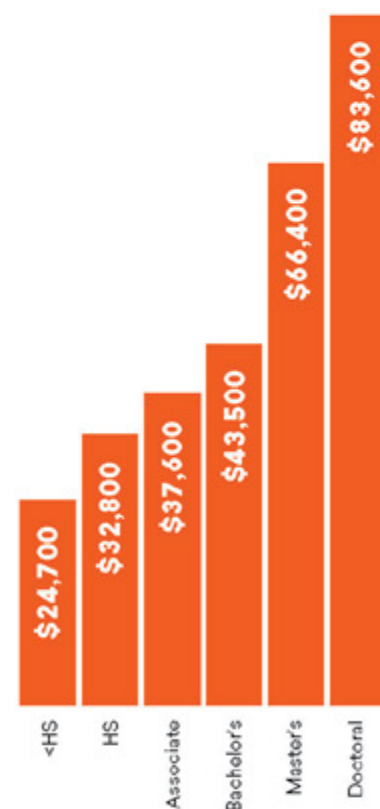
In return for their investment, SU's students will receive a stream of higher future wages that will continue to grow through their working lives. As shown in Figure 2, mean earnings levels at the midpoint of the average-aged worker's career increase as people achieve higher levels of education. For example, the average bachelor's degree completer from SU will see an increase in earnings of \$10,700 each year compared to someone with a high school diploma or equivalent working in New York. Over a working lifetime, this increase in earnings amounts to an undiscounted value of approximately \$1,478,400 in higher earnings.

The present value of the higher future wages that SU's students will receive over their working careers is \$1.9 billion. Dividing this value by the \$912.9 million in student costs yields a benefit-cost ratio of 2.1. In other words, for every \$1 students invest in SU in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$2.10 in higher future wages. The average annual rate of return for students is 8.4%. This is an impressive return, especially when compared to the 10-year average 7.2% return to the U.S. stock market (Figure 3).

TAXPAYER PERSPECTIVE

SU received very little state and local taxpayer funding, yet taxpayers still receive a significant amount of benefits from SU. Benefits to taxpayers consist primarily of taxes that the state and local government will collect from the added revenue

FIGURE 2: Average earnings by education level at career midpoint in New York



Source: Emsi complete employment data.

created in the state. As SU students 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 FY 2015-16 students' working careers, the state and local government will have collected a present value of \$160.4 million in added taxes.

Benefits to taxpayers consist of the savings generated by the improved lifestyles of students and the proportionally reduced government expenditures. Education is statistically correlated with a variety of lifestyle changes that generate taxpayer savings across three main categories: 1) health, 2) crime, and 3) unemployment. 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 and criminal justice services is reduced (study references are available in the main report). Students are also more employable, so the demand for welfare and unemployment benefits, such as earnings assistance and welfare benefits, is reduced. For a list of study references to these statistical benefits, please contact the university for a copy of the main report. All of these benefits will generate a present value of \$94.1 million in savings to state and local taxpayers. Total benefits to taxpayers equal \$254.5 million, equal to the sum of the added taxes and public sector savings.

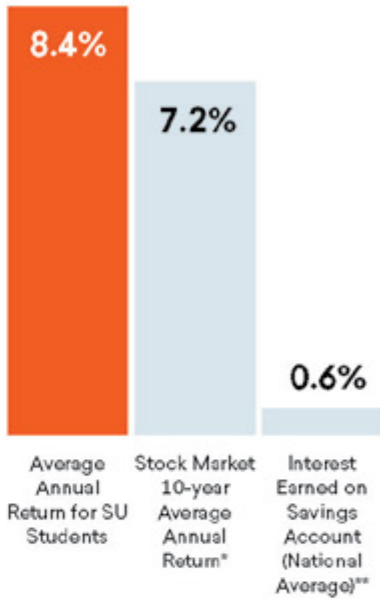
SOCIAL PERSPECTIVE

Society as a whole within New York benefits from the presence of SU in two major ways. The first and largest benefit that society receives is an increased state economic base. As discussed in the previous section, the higher student earnings and increased business output occurs across the state. This raises prosperity in New York and expands the economic base for society as a whole.

Benefits to society also consist of the savings generated by the improved lifestyles of students. Similar to the taxpayer section above, education is statistically correlated with a variety of lifestyle changes that generate social savings. Note that these costs are avoided by the consumers, and are distinct from the costs avoided by taxpayers outlined above. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, drug abuse, and mental disorders. Crime savings include reduced security expenditures and insurance administration, lower victim costs, and reduced criminal justice system expenditures. Unemployment savings include the reduced employer contributions towards unemployment claims. For a list of study references to these statistical benefits, please contact the university for a copy of the main report.

Figure 4 shows the present value of the higher earnings and social savings that will occur in New York over the working lifetime of the FY 2015-16 student population at SU. Higher earnings amounts to a present value of \$3.9 billion due to the increased lifetime earnings of students and associated increases in business output. Social savings amount to \$447.9 million, the sum of health, crime, and unemployment savings in New York. Altogether, total benefits to society equal \$4.3 billion (in present value terms).

FIGURE 3: Student rate of return



* Forbes' S&P 500, 1994-2014.
 ** FDIC.gov 12-2016.

FIGURE 4: Present value of higher earnings and social savings in New York



Society invested \$1.3 billion in SU educations during the analysis year. This includes all expenditures by SU, all student expenditures, and all student opportunity costs. For every dollar of this investment, society as a whole in New York will receive a cumulative value of \$3.30 in benefits, equal to the \$4.3 billion in benefits divided by the \$1.3 billion in costs. These benefits will occur for as long as SU's FY 2015-16 students remain employed in the state workforce.

SUMMARY OF INVESTMENT ANALYSIS RESULTS

Table 4 presents the results of the investment analysis for all three of SU's major stakeholder groups—students, taxpayers, and society. As shown, students receive great value for their educational investment. At the same time, the investment made by state and local taxpayers to the university creates a wide range of benefits to society and returns more to government budgets than it costs.

TABLE 3: Summary of investment analysis results*

	STUDENT PERSPECTIVE	TAXPAYER PERSPECTIVE	SOCIAL PERSPECTIVE
Benefits (millions)	\$1,916.9	\$0.3	\$4,321.4
Costs (millions)	\$0.9		\$1,291.5
Net present value (millions)	\$1,004		\$3,029.9
Benefit-cost ratio	2.1		3.3
Rate of return	8.4%		N/A*

* Because taxpayers experience very little costs associated with SU, measuring a benefit-cost ratio and rate of return is not appropriate for the taxpayer perspective. 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.

Conclusion

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

ABOUT THE STUDY

Data and assumptions used in the study are based on several sources, including the FY 2015-16 academic and financial reports from SU, 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 investment effectiveness and economic impact. For a full description of the data and approach used in the study, please contact SU for a copy of the technical report.



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