



Analysis of the Return on Investment and Economic Impact of Education

THE ECONOMIC VALUE OF
OF QUINCY COLLEGE

September 2016



EXECUTIVE SUMMARY

Executive summary

Quincy College creates value in many ways. The college plays a key role in helping students increase their employability and achieve their individual potential. It provides students with the skills they need to have a fulfilling and prosperous career. Further, it supplies an environment for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

The value of Quincy College influences both the lives of students and also the regional economy. The college serves a range of industries in the Quincy College Service Area, supports local businesses, and benefits society as a whole in Massachusetts from an expanded economy and improved quality of life. The benefits created by Quincy College even extend to the state government through increased tax revenues and public sector savings.

The purpose of this study is to investigate the economic impacts created by Quincy College on the business community and the return on investment for students and the benefits for Massachusetts taxpayers and society. The region the college serves is defined as the Quincy

College Service Area and consists of Norfolk, Plymouth, and Suffolk Counties. The following two analyses are presented:

- **Economic impact analysis**
- **Benefits analysis**

All results reflect student and financial data for Fiscal Year (FY) 2014-15. Impacts on the regional business community are reported under the economic impact analysis. Results are measured in terms of added income. The benefits to students, taxpayers, and society are reported under the benefits analysis. Both analyses are described more fully in the following sections.



Economic impact analysis

Quincy College promotes economic growth in the Quincy College Service Area in a variety of ways. The college is an employer and buyer of goods and services, and the living expenses of students benefit local businesses. In addition, Quincy College is a primary source of education to the service area residents and a supplier of trained workers to the service area industries.

OPERATIONS SPENDING IMPACT

Quincy College is an important employer in the Quincy College Service Area. In FY 2014-15, the college employed 482 full-time and part-time faculty and staff. Of these, 80% lived in the Quincy College Service Area. Total payroll at Quincy College was \$21.5 million, much of which was spent in the region for groceries, rent, dining out, clothing, and other household expenses.

Quincy College is itself a large-scale buyer of goods and services. In FY 2014-15 the college spent \$8 million to cover its expenses for facilities, professional services, and supplies.

Quincy College added \$25.9 million in added income to the region during the analysis year as a result of its day-to-day operations. This figure represents the college’s payroll, the multiplier effects generated by the spending of the college and its employees, and a downward adjustment to account for funding that the college received from state sources. The \$25.9 million in added income is equivalent to supporting 522 jobs.

IMPACT OF STUDENT SPENDING

Around 14% of students attending Quincy College originated from outside the region in FY 2014-15, and some of these students relocated to the Quincy College Service Area to attend Quincy College. These students would not have come to the region if the college 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 Quincy College. While attending the college, these relocated and retained students spent \$17.5 million to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the region, generating \$10.5 million in added income in the regional economy during the analysis year, which is equivalent to supporting 235 jobs.

TABLE 1: Impacts created by Quincy College in FY 2014-15

| ADDED INCOME | JOBS |
|----------------------------|--------------|
| \$25.9 million | 522 |
| Operations spending impact | |
| \$10.5 million | 235 |
| Student spending impact | |
| \$383.4 million | 4,381 |
| Alumni impact | |
| \$419.7 million | 5,138 |
| Total impact | |



ALUMNI IMPACT

The education and training Quincy College provides for region residents results in the greatest impact. As shown in Figure 1, since the college was established, students have studied at Quincy College and entered the regional workforce with new skills. Today, thousands of former students are employed in the Quincy College Service Area.

During the analysis year, past and present students of Quincy College generated \$383.4 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 \$383.4 million in added income is equivalent to supporting 4,381 jobs.

TOTAL IMPACT

The overall impact of Quincy College on the local business community during the analysis year amounted to \$419.7 million in added income, equal to the sum of the operations spending impact, the student spending impact, and the alumni impact. The \$419.7 million in added income was equal to approximately 0.2% of the GRP of the Quincy College Service Area.

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 \$419.7 million impact supports 5,138 jobs.

A portion of the \$419.7 million is broken out in Table 2 into an industry-by-industry impact ordered by added income. Because industries have different jobs-to-sales ratios, the associated jobs supported by the Quincy College impact differ by industry. Nonetheless, these are impacts that would not have been generated without the college's presence.

FIGURE 1: Quincy College alumni working in-region today

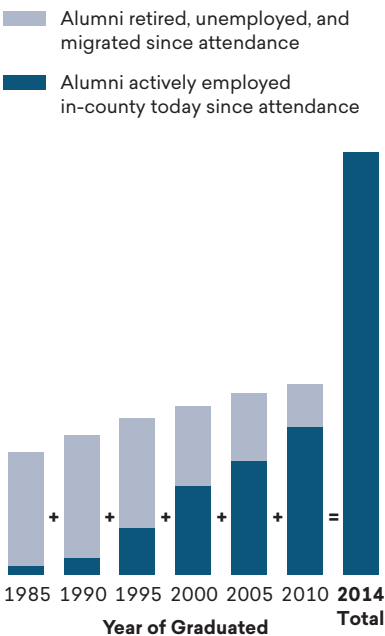


TABLE 2: Top industries impacted by Quincy College

| TOTAL INCOME (MILLIONS) | JOBS |
|---------------------------------------|-------|
| \$142.8 | 1,870 |
| Health Care & Social Assistance | |
| \$34.6 | 252 |
| Government, Non-Education | |
| \$33.1 | 135 |
| Finance & Insurance | |
| \$32.4 | 245 |
| Professional & Technical Services | |
| \$13.8 | 92 |
| Management of Companies & Enterprises | |
| \$163.1 | 2,544 |
| All other industries | |
| \$419.7 | 5,138 |
| Total impact | |

Benefits analysis

The benefits generated by Quincy College affect the lives of many people. Students benefit the most from the higher earnings and improved quality of life that they enjoy as a result of the education and training they receive from the college. Additionally, benefits accrue to other members of society, as students expand the state economy and generate a wide variety of savings. The benefits of Quincy College extend as far as state and local government, in the form of added tax revenues and a reduced dependency on government-funded social services.

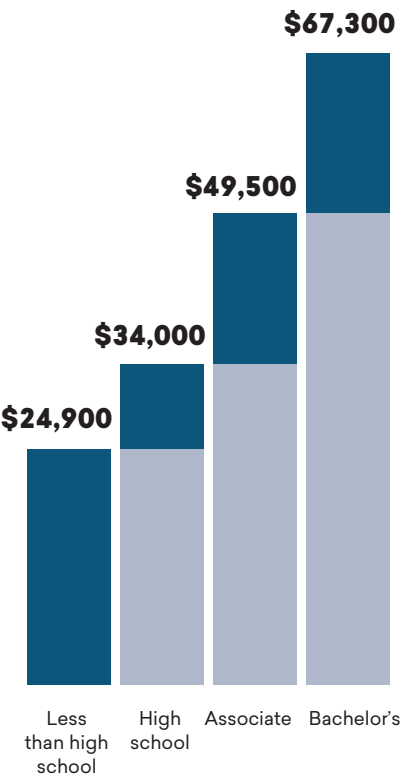
STUDENT PERSPECTIVE

In FY 2014-15, Quincy College served 7,484 credit students and 373 non-credit students (total unduplicated headcount for all semesters). In order to attend college, students paid for tuition, fees, books, and supplies. They also gave up money that they would have otherwise earned had they been working instead of attending college. The total investment made by Quincy College’s students in FY 2014-15 amounted to \$96.4 million, equal to \$24.5 million in out-of-pocket expenses plus \$71.8 million in forgone time and money.

In return for their investment, Quincy College’s students will receive a stream of higher future earnings 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 associate degree completer from Quincy College will see an increase in earnings of \$15,800 each year compared to someone with a high school diploma or equivalent. Over a working lifetime, this increase in earnings amounts to an undiscounted value of approximately \$604,500 in higher state earnings.

The present value of the higher future earnings that Quincy College’s students will receive over their working careers is \$322.9 million. Dividing this value by the \$96.4 million in student costs yields a benefit-cost ratio of 3.4. In other words, for every \$1 students invest in Quincy College in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$3.40 in higher future earnings. The average annual rate of return for students is 14.3%. This is an impressive return, especially when compared to the 10-year average 7.2% return to the US stock market (Figure 3).

FIGURE 2: Higher earnings by education level at career midpoint in Massachusetts



Source: Emsi complete employment data.

TAXPAYER PERSPECTIVE

These benefits consist primarily of taxes that the state government will collect from the added revenue created in the state. As Quincy College 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 2014-15 students' working careers, the state government will have collected a present value of \$127.7 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 college for a copy of the main report. All of these benefits will generate a present value of \$5.1 million in savings to state taxpayers.

Total benefits to taxpayers equal \$132.8 million, equal to the sum of the added taxes and public sector savings.

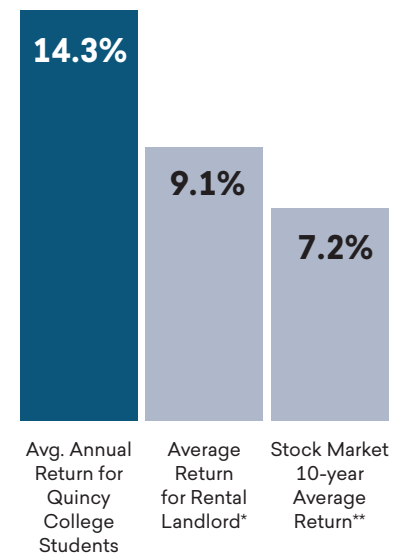
Because state and local taxpayers invest little in the college, except to the extent that they contribute student financial aid; the analysis only assesses taxpayer benefits without taking costs into account.

SOCIAL PERSPECTIVE

Society as a whole within Massachusetts benefits from the presence of Quincy College 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 Massachusetts 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

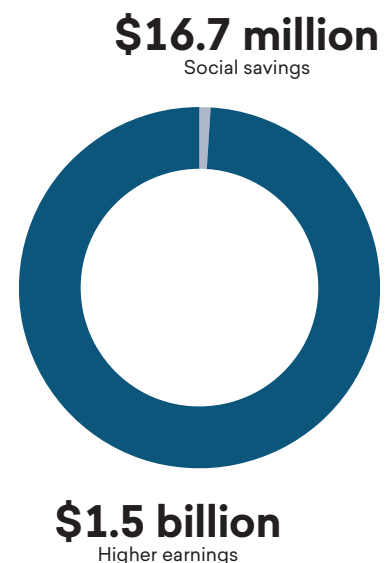
FIGURE 3: Student rate of return



* RealityTrac's Q3, 2014

** Forbes' S&P 500, 1994-2014.

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



reduced employer contributions towards unemployment claims. For a list of study references to these statistical benefits, please contact the college for a copy of the main report.

Figure 4 shows the present value of the higher earnings and social savings that will occur in Massachusetts over the working lifetime of the FY 2014-15 student population at Quincy College. Higher earnings amounts to a present value of \$1.5 billion due to the increased lifetime earnings of students and associated increases in business output. Social savings amount to \$16.7 million, the sum of health, crime, and unemployment savings in Massachusetts. Altogether, total benefits to society equal \$1.5 billion (in present value terms).

Society invested \$107.7 million in Quincy College educations during the analysis year. This includes all expenditures by Quincy College, all student expenditures, and all student opportunity costs. For every dollar of this investment, society as a whole in Massachusetts will receive a cumulative value of \$14.40 in benefits, equal to the \$1.5 billion in benefits divided by the \$107.7 million in costs. These benefits will occur for as long as Quincy College's FY 2014-15 students remain employed in the state workforce.

SUMMARY OF BENEFITS ANALYSIS RESULTS

Table 3 presents a summary of the benefits that accrue to all three of Quincy College's major stakeholder groups—students, taxpayers, and society. As shown, students receive great value for their educational investment. At the same time, the presence of Quincy College in the state expands the economy and creates a wide range of positive social benefits that accrue to taxpayers and to society as a whole in Massachusetts.

TABLE 3: Summary of investment analysis results

| | STUDENT PERSPECTIVE | TAXPAYER PERSPECTIVE | SOCIAL PERSPECTIVE |
|--------------------------------------|---------------------|----------------------|--------------------|
| Present value benefits (thousands) | \$322,934 | \$132,744 | \$1,549,613 |
| Costs (thousands) | \$96,353 | | \$107,747 |
| Net present value (thousands) | \$226,580 | | \$1,441,866 |
| Benefit-cost ratio | 3.4 | | 14.4 |
| Rate of return | 14.3% | | |

* 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 Quincy College creates value from multiple perspectives. The college 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 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 Massachusetts 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 2014-15 academic and financial reports from the college, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Emsi's 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 investment effectiveness and economic impact. For a full description of the data and approach used in the study, please contact the college for a copy of the technical report.



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FACT SHEET

The Economic Value of Quincy College | September 2016

Quincy College creates a significant positive impact on the business community and generates a variety of benefits to its major stakeholder groups—students, taxpayers, and society. Using a two-pronged approach that involves an economic impact analysis and a benefits analysis, this study calculates the benefits to each of these groups. Results of the analysis reflect Fiscal Year (FY) 2014-15.

IMPACTS CREATED BY QUINCY COLLEGE IN FY 2014-15

| ADDED INCOME | JOBS |
|----------------------------|--------------|
| \$25.9 million | 522 |
| Operations spending impact | |
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| Student spending impact | |
| \$383.4 million | 4,381 |
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| Total impact | |

IMPACT ON BUSINESS COMMUNITY

During the analysis year, Quincy College and its students added **\$419.7 million** in added income to the Quincy College Service Area economy, approximately equal to **0.2%** of the region's total GRP. The economic impacts of Quincy College break down as follows:

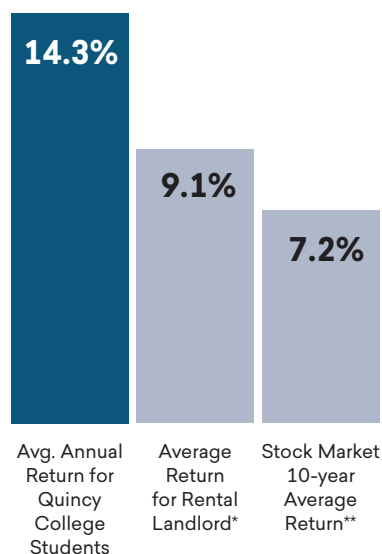
Operations spending impact

- Quincy College employed 482 full-time and part-time employees in FY 2014-15. Payroll amounted to **\$21.5 million**, much of which was spent in the Quincy College Service Area to purchase groceries, clothing, and other household goods and services. The college spent another **\$8 million** to support its day-to-day operations.
- The net impact of college payroll and expenses in the Quincy College Service Area during the analysis year was approximately **\$25.9 million** in added income.

Impact of student spending

- Around **14%** of students attending Quincy College originated from outside the region. Some of these students relocated to the Quincy College Service Area. In addition, a number of students would have left the region if not for Quincy College. These relocators and retained students spent money on groceries, transportation, rent, and so on at regional businesses.
- The expenditures of relocators and retained students during the analysis year added approximately **\$10.5 million** in added income to the Quincy College Service Area economy.

STUDENT RATE OF RETURN



* RealityTrac's Q3, 2014

** Forbes' S&P 500, 1994-2014.

PRESENT VALUE OF BENEFITS



Alumni impact

- Over the years, students have studied at Quincy College and entered or re-entered the workforce with newly-acquired skills. Today, thousands of these former students are employed in the Quincy College Service Area.
- The accumulated contribution of former students currently employed in the regional workforce amounted to **\$383.4 million** in added income during the analysis year.

BENEFITS TO STUDENTS, TAXPAYERS, AND SOCIETY

Student perspective

- Quincy College's FY 2014-15 students paid a total of **\$24.5 million** to cover the cost of tuition, fees, and supplies. They also forwent **\$71.8 million** in money that they would have earned had they been working instead of learning.
- In return for the monies invested in the college, students will receive a present value of **\$322.9 million** in increased earnings over their working lives. This translates to a return of **\$3.40** in higher future earnings for every \$1 that students invest in their education. The average annual return for students is **14.3%**.

Taxpayer perspective

- The present value of the added tax revenue stemming from the students' higher lifetime earnings and the increased output of businesses amounts to **\$127.7 million** in benefits to taxpayers.
- Savings to the public sector add another **\$5.1 million** in present value benefits due to a reduced demand for government-funded services in Massachusetts.

Social perspective

- The economic base in Massachusetts will grow by **\$1.5 billion** over the course of the students' working lives. Society will also benefit from **\$16.7 million** in present value social savings related to reduced crime, lower unemployment, and increased health and well-being across the state.
- For every dollar that society spent on Quincy College educations during the analysis year, society will receive a cumulative value of **\$14.40** in benefits, for as long as the FY 2014-15 student population at Quincy College remains active in the state workforce.