EXECUTIVE SUMMARY

Demonstrating the Value of St. Lawrence College of Applied Arts and Technology

MAY 2014

Analysis of the Return on Investment and Economic Impact of Education

STUDY HIGHLIGHTS

INVESTMENT ANALYSIS

- Students receive an internal rate of return of **18.9%** for the time and money they invest in an education at St. Lawrence. In other words, for every $1 they spend on their investment, students receive a cumulative **$4.40** in higher net future earnings over the course of their working careers.
- The Ontario government receives an internal rate of return of **16.6%** on its investment in St. Lawrence. The corresponding benefit-cost ratio is **$4.00** in return for every $1 in provincial government funding.

ECONOMIC IMPACT ANALYSIS

- The Eastern Ontario Region received approximately **$95.2 million** in added income in 2012-13 due to the operations of St. Lawrence and the spending of out-of-region students.
- Former St. Lawrence students who were active in the regional workforce in 2012-13 generated another **$766.1 million** in added income through their higher earnings and increased productivity of their employers.
- Altogether, St. Lawrence and its students added **$861.3 million** to the Eastern Ontario Region economy.

INTRODUCTION

St. Lawrence College of Applied Arts and Technology creates value in many ways. This study investigates the benefits that the college generates in return for the investments made by its key stakeholder groups—students, society, and provincial government—and the economic impacts created by St. Lawrence on the regional economy.

St. Lawrence College of Applied Arts and Technology (St. Lawrence) plays a key role in helping students increase their employability and fulfil their individual potential. However, the contribution of St. Lawrence consists of more than just influencing the lives of students. Society as a whole in Ontario benefits from an expanded economy and improved quality of life. The benefits created by St. Lawrence extend as far as the provincial government, in the form of increased tax revenues and public sector savings. The college also serves a range of industries in the Eastern Ontario Region and supplies local businesses with skilled workers.

The following two analyses are presented:

- **Investment analysis** weighing the benefits to students, provincial government, and society in return for the costs of supporting the college.
- **Regional economic impact analysis** measuring the income created by the college and its students in the Eastern Ontario Region.

The results of the study reflect the 2012-13 analysis year. Data and assumptions are based on academic and financial reports from the college, Colleges Ontario, Ontario College Application Service (OCAS), the Ontario Ministry of Training, Colleges, and Universities, as well as industry and employment data from Statistics Canada, outputs of EMSI's Canadian regional input-output model, and a variety of studies and surveys relating education to social behaviour. 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, please contact the college for a copy of the technical report.

In 2002, the Ontario government added applied research to its legislative mandate, leading the college to implement and provide expanded applied research and consulting services. The result has led to increased numbers of entrepreneurs and employees in Ontario who have provided innovative solutions for developing new and improved products, production processes, and so forth. While these specific benefits are not explicitly captured in the analysis, it is recognized that they lead to increased economic benefits.

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.

STUDENT PERSPECTIVE

In 2012-13, St. Lawrence served approximately 12,415 total individual learners, including funded, international, Second Career, apprenticeship, and other unfunded part-time students. 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 St. Lawrence's students in 2012-13 amounted to $132.2 million, equal to $19.4 million in out-of-pocket expenses plus $112.8 million in forgone time and money.

In return for their investment, St. Lawrence's students develop the skills required for an increasingly globalized workplace and receive a stream of higher future

If costs outweigh benefits, then the investment will lose money and is considered unprofitable. This study considers St. Lawrence as an investment from the perspectives of students, society, and the provincial government. The backdrop for the analysis is the entire Ontario economy.

STUDENT PERSPECTIVE

$583,167	Benefits (thousands)
$132,183	Costs (thousands)
$450,984	Net present value (thousands)
4.4	Benefit-cost ratio
18.9%	Rate of return

PROVINCIAL GOVERNMENT PERSPECTIVE

$267,273	Benefits (thousands)
$66,234	Costs (thousands)
$201,039	Net present value (thousands)
4.0	Benefit-cost ratio
16.6%	Rate of return

wages that will continue to grow throughout their working lives. This results in an increase in mean income levels at the midpoint of the average-aged worker's career as people achieve higher levels of education. For example, the average two-year diploma completer from St. Lawrence will see an increase in net earnings of $13,500 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 $541,413 in higher income.

The present value of the higher future wages that St. Lawrence's students will receive over their working careers, net of income taxes, is $583.2 million. Dividing this value by the $132.2 million in student costs yields a benefit-cost ratio of 4.4. In other words, for every $1 a student invests in St. Lawrence in the form of out-of-pocket expenses and forgone time and money, the student receives a cumulative $4.40 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 $3.40 in benefits returned over and above every $1 in costs.

The average annual internal rate of return for students is 18.9%. This is a favourable 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.

PROVINCIAL GOVERNMENT PERSPECTIVE

From the Ontario government perspective, benefits consist primarily of the taxes the government will collect from the added income created in the province. As St. Lawrence's 2012-13 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 students' working careers, the provincial government will have collected a present value of $262.3 million in added taxes.

A portion of the savings enjoyed by society also accrues to the Ontario government. Students are more employable, so the demand for income assistance 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 $4.9 million in savings to the provincial government.

Total benefits to the Ontario government are $267.3 million, equal to the sum of the added taxes and public sector savings. Comparing this to the provincial government costs of $66.2 million—equal to the funding St. Lawrence received from the provincial government during the analysis year, including provincial grants and capital costs of provincial loans—yields a benefit-cost ratio of 4.0. This means that for every $1 of public money invested in St. Lawrence, the Ontario government will receive a cumulative value of $4.00 over the course of the students' working lives. In other words, the government fully recovers the cost of the original investment and also receives a return of $3.00 in addition to every $1 paid. The internal rate of return is 16.6%, a solid investment that compares favourably with other long-term investments in both the private and public sectors.

SOCIAL PERSPECTIVE

$1,660,269
Benefits (thousands)

$98,401
Costs (thousands)

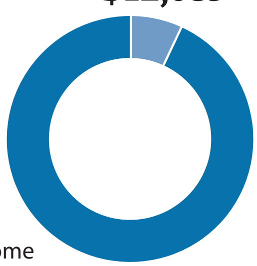
$1,561,868
Net present value (thousands)

16.9
Benefit-cost ratio

n/a*
Rate of return

* The internal 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.

Figure 1. Present value of added income and social savings in Ontario (thousands)



SOCIAL PERSPECTIVE

St. Lawrence aims to improve the socio-economic well-being of the local and provincial community by increasing students' earning potential and by positively influencing the health and lifestyle habits of its students. As a result, society as a whole in Ontario benefits from the presence of St. Lawrence in two major ways. The first and largest benefit to society is the added income created in the province. As discussed in the previous section, students earn more because of the skills they acquire while attending St. Lawrence. 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 province, thereby raising prosperity in Ontario 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: health, crime, and income assistance. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, and mental illness. Income assistance savings include the reduced demand for employment insurance benefits and employment-related social assistance.

Figure 1 shows the present value of the added income and social savings that will occur in Ontario over the working lifetimes of St. Lawrence's 2012-13 students. Added income amounts to a present value of $1.6 billion due to the increased lifetime incomes of students and associated increases in business output. Social savings amount to $12.1 million, the sum of health, crime, and income assistance savings in Ontario. Altogether, total benefits to society equal $1.7 billion (in present value terms).

Students, taxpayers, and provincial society as a whole invested $98.4 million in St. Lawrence during the analysis year. This funding was then spent by the college for its operations. For every dollar the college spent, society as a whole in Ontario will receive a cumulative value of $16.90 in benefits, equal to the $1.7 billion in benefits divided by the $98.4 million in costs. These benefits will occur for as long as St. Lawrence's 2012-13 students remain employed in the provincial workforce.

For every
$1
spent by...

STUDENTS:
$4.40
Returned in lifetime income for STUDENTS

PROVINCIAL GOVERNMENT:
$4.00
Returned in added taxes and public sector savings for PROVINCIAL GOVERNMENT

SOCIETY:
$16.90
Returned in added provincial income and social savings for SOCIETY

REGIONAL ECONOMIC IMPACT ANALYSIS

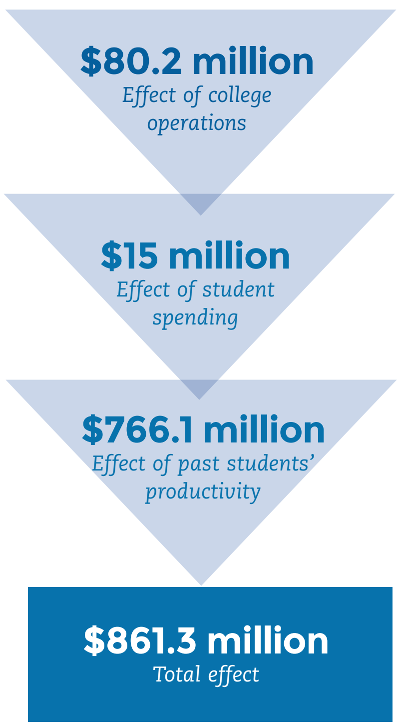
Regional economic impact analysis measures the net added income created by St. Lawrence in the regional economy through the spending of the college and its students and the enhanced productivity of the workforce. The backdrop for the analysis is the Eastern Ontario Region.

St. Lawrence promotes economic growth in the Eastern Ontario Region in a variety of ways. The college is an employer and a buyer of goods and services, and the living expenses of students from outside of the region benefit local businesses. In addition, St. Lawrence is a primary source of education to local residents and a supplier of trained workers to local industry.

Results of the regional economic impact analysis are organized according to the following three effects:

1. Impact of college operations;
2. Impact of the spending of students who relocated to the region, and;
3. Impact of the increased productivity of former students employed in the regional workforce during the analysis year.

Added income created by St. Lawrence in 2012-13



IMPACT OF COLLEGE OPERATIONS

St. Lawrence is an important employer in the Eastern Ontario Region. In 2012-13, the college employed faculty and staff equivalent to 765 full-time employees. Of these, 100% lived in the Eastern Ontario Region. Total payroll at St. Lawrence was $59.7 million, much of which was spent in the region for groceries, eating out, clothing, and other household expenses.

St. Lawrence is itself a large-scale buyer of goods and services. In 2012-13, the college spent $38.7 million to cover its expenses for facilities, professional services, and supplies.

The total income that St. Lawrence created during the analysis year as a result of its day-to-day operations was $80.2 million. 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 local sources.

IMPACT OF STUDENT SPENDING

Of the 5,040 students from outside the Eastern Ontario Region, approximately 2,831 relocated to region to attend college in 2012-13, including international students. While attending, these students spent $44.6 million to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the region, generating $15 million in new income in the economy during the analysis year.

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 income by the average annual wages per worker in the region. Based on the added income created by St. Lawrence, the job equivalents are as follows:

Effect of college operations = **1,902** job equivalents

Effect of student spending = **356** job equivalents

Effect of past students' productivity = **18,164** job equivalents

Overall, the added income created by St. Lawrence and its students supported **20,422** average-wage job equivalents.

IMPACT OF PAST STUDENTS' PRODUCTIVITY

St. Lawrence's greatest impact results from the education and training it provides for local residents. Since the college was established, students have studied at St. Lawrence and entered the workforce with newly acquired skills. Today, thousands of former students are employed in the Eastern Ontario Region.

During the analysis year, St. Lawrence's former students generated $766.1 million in added income in the region. This figure represents the higher wages 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.

TOTAL IMPACT

The overall effect of St. Lawrence on the regional economy during the analysis year amounted to $861.3 million, equal to the sum of the college operations effect, the student spending effect, and the past students' productivity effect. This added income was equal to approximately 5.9% of the region's Gross Regional Product.

CONCLUSION

The results of this study demonstrate that St. Lawrence 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 incomes and helping them achieve their individual potential. It benefits society as a whole in Ontario by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students. Finally, it benefits the provincial government through increased tax receipts across the province and a reduced demand for government-supported social services.

About EMSI

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