

# EXECUTIVE SUMMARY

## Demonstrating the Value of the Ontario college sector

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 **14.3%** for the time and money they invest in an Ontario college education. In other words, for every \$1 they spend on their investment, students receive a cumulative **\$3.20** in higher net future earnings over the course of their working careers.
- The Ontario government receives an internal rate of return of **20.4%** on its investment in the Ontario colleges. The corresponding benefit-cost ratio is **\$5.20** in return for every \$1 in provincial government funding.

#### ECONOMIC IMPACT ANALYSIS

- Ontario received approximately **\$3.4 billion** in added income in 2012-13 due to the operations of the Ontario colleges and the spending of out-of-province students.
- Former students of the Ontario colleges who were active in the provincial workforce in 2012-13 generated another **\$39.3 billion** in added income through their higher earnings and increased productivity of their employers.
- Altogether, the Ontario colleges and their students added **\$42.8 billion** to the Ontario economy.

# INTRODUCTION

*The Ontario college sector creates value in many ways. This study investigates the benefits that the colleges generate in return for the investments made by their key stakeholder groups—students, society, and provincial government—and the economic impacts created by the Ontario colleges on the provincial economy.*

The results of the study reflect the 2012-13 analysis year. Data and assumptions are based on academic and financial reports from the colleges, 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 Colleges Ontario for a copy of the technical report.

In 2002, the Ontario government added applied research to its legislative mandate, leading the colleges 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.

The Ontario college sector plays a key role in helping students increase their employability and fulfil their individual potential. However, the contributions of the Ontario colleges consist 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 the Ontario colleges extend as far as the provincial government, in the form of increased tax revenues and public sector savings. The colleges also serve a range of industries in Ontario and supply 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 colleges.
- **Provincial economic impact analysis** measuring the income created by the colleges and their students in Ontario.

## 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, the Ontario colleges served 483,608 total students, including funded, international, Second Career, and other unfunded 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 students at the Ontario colleges in 2012-13 amounted to \$6.3 billion, equal to \$1.1 billion in out-of-pocket expenses plus \$5.2 billion in forgone time and money.

In return for their investment, students of the Ontario colleges develop the skills required for an increasingly globalized workplace and receive a stream of higher

If costs outweigh benefits, then the investment will lose money and is considered unprofitable. This study considers the Ontario colleges 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

**\$20,123,194**  
Benefits (thousands)

**\$6,307,533**  
Costs (thousands)

**\$13,815,661**  
Net present value (thousands)

**3.2**  
Benefit-cost ratio

**14.3%**  
Rate of return

### PROVINCIAL GOVERNMENT PERSPECTIVE

**\$10,758,065**  
Benefits (thousands)

**\$2,058,840**  
Costs (thousands)

**\$8,699,225**  
Net present value (thousands)

**5.2**  
Benefit-cost ratio

**20.4%**  
Rate of return

future 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 one of the Ontario colleges 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 \$538,564 in higher income.

The present value of the higher future wages that students at the Ontario colleges will receive over their working careers, net of income taxes, is \$20.1 billion. Dividing this value by the \$6.3 billion in student costs yields a benefit-cost ratio of 3.2. In other words, for every \$1 a student invests in the Ontario colleges in the form of out-of-pocket expenses and forgone time and money, the student receives a cumulative \$3.20 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 \$2.20 in benefits returned over and above every \$1 in costs.

The average annual internal rate of return for students is 14.3%. 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 students at the Ontario colleges 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 \$10.5 billion 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 \$223.8 million in savings to the provincial government.

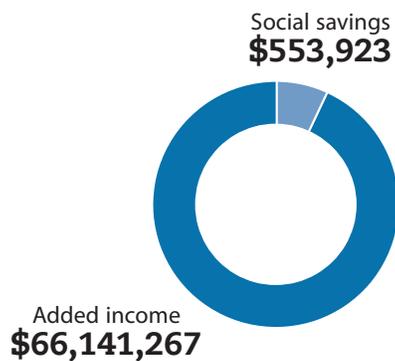
Total benefits to the Ontario government are \$10.8 billion, equal to the sum of the added taxes and public sector savings. Comparing this to the provincial government costs of \$2.1 billion—equal to the funding the Ontario colleges received from the provincial government during the analysis year, including provincial grants and capital costs of provincial loans—yields a benefit-cost ratio of 5.2. This means that for every \$1 of public money invested in the Ontario colleges, the Ontario government will receive a cumulative value of \$5.20 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 \$4.20 in addition to every \$1 paid. The internal rate of return is 20.4%, a solid investment that compares favourably with other long-term investments in both the private and public sectors.

## SOCIAL PERSPECTIVE

<b>\$66,695,190</b> Benefits (thousands)
<b>\$3,389,974</b> Costs (thousands)
<b>\$63,305,216</b> Net present value (thousands)
<b>19.7</b> Benefit-cost ratio
<b>n/a*</b> 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

The Ontario colleges aim 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 their students. As a result, society as a whole in Ontario benefits from the presence of the Ontario colleges 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 the Ontario colleges. 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. For example, 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 students at the Ontario colleges in 2012-13. Added income amounts to a present value of \$66.1 billion due to the increased lifetime incomes of students and associated increases in business output. Social savings amount to \$553.9 million. Altogether, total benefits to society equal \$66.7 billion (in present value terms).

Students, taxpayers, and provincial society as a whole invested \$3.4 billion in the Ontario colleges during the analysis year. This funding was then spent by the colleges for their operations. For every dollar the colleges spent, society as a whole in Ontario will receive a cumulative value of \$19.70 in benefits, equal to the \$66.7 billion in benefits divided by the \$3.4 billion in costs. These benefits will occur for as long as the 2012-13 student population at the Ontario colleges remain employed in the provincial workforce.

	STUDENTS:	PROVINCIAL GOVERNMENT:	SOCIETY:
For every \$1 spent by...	<b>\$3.20</b> Returned in lifetime income for STUDENTS	<b>\$5.20</b> Returned in added taxes and public sector savings for PROVINCIAL GOVERNMENT	<b>\$19.70</b> Returned in added provincial income and social savings for SOCIETY

# PROVINCIAL ECONOMIC IMPACT ANALYSIS

*Provincial economic impact analysis measures the net added income created by the Ontario colleges in the provincial economy through the spending of the colleges and their students and the enhanced productivity of the workforce. The backdrop for the analysis is Ontario.*

The Ontario colleges promote economic growth in Ontario in a variety of ways. The colleges are employers and buyers of goods and services, and the living expenses of students from outside of the province benefit local businesses. In addition, the Ontario colleges are primary sources of education to local residents and suppliers of trained workers to local industry.

Results of the provincial 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 province, and;
3. Impact of the increased productivity of former students employed in the provincial workforce during the analysis year.

## IMPACT OF COLLEGE OPERATIONS

The Ontario colleges are important employers in Ontario. In 2012-13, the colleges employed faculty and staff equivalent to 27,311 full-time employees. Of these, 98% lived in Ontario. Total payroll at the Ontario colleges was \$2.1 billion, much of which was spent in the province for groceries, eating out, clothing, and other household expenses.

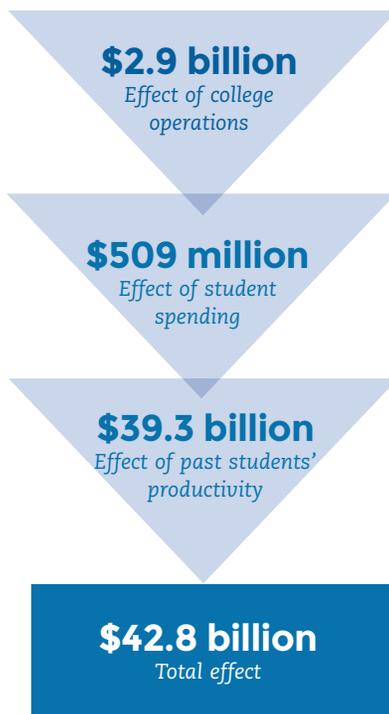
The Ontario colleges are large-scale buyers of goods and services. In 2012-13, the colleges spent \$1.3 billion to cover their expenses for facilities, professional services, and supplies.

The total income that the Ontario colleges created during the analysis year as a result of their day-to-day operations was \$2.9 billion. This figure represents the colleges' payroll, the multiplier effects generated by the spending of the colleges and their employees, and a downward adjustment to account for funding that the colleges received from local sources.

## IMPACT OF STUDENT SPENDING

Approximately 47,656 students relocated to Ontario to attend one of the Ontario colleges in 2012-13, including international students. While attending, these students spent \$750.8 million to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the province, generating \$509 million in new income in the economy during the analysis year.

**Added income created by the Ontario colleges in 2012-13**



### 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 province. Based on the added income created by the Ontario colleges, the job equivalents are as follows:

Effect of college operations =  
**62,071** job equivalents

Effect of student spending =  
**10,875** job equivalents

Effect of past students' productivity =  
**840,457** job equivalents

Overall, the added income created by the Ontario colleges and their students supported **913,403** job equivalents.

## IMPACT OF PAST STUDENTS' PRODUCTIVITY

The greatest impact of the Ontario colleges results from the education and training they provide for local residents. Since the colleges were established, students have studied at the Ontario colleges and entered the workforce with newly acquired skills. Today, thousands of former students are employed in Ontario.

During the analysis year, former students of the Ontario colleges generated \$39.3 billion in added income in the province. 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 the Ontario colleges on the provincial economy during the analysis year amounted to \$42.8 billion, 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 7.8% of the province's Gross Domestic Product.

## CONCLUSION

### About EMSI

Economic Modeling Specialists International, a CareerBuilder company, is a leading provider of economic impact studies and labour market data to educational institutions, workforce planners, and regional developers in North America and the UK. Since 2000, EMSI has completed over 1,200 economic impact studies for educational institutions. For more information about EMSI and its products and services, visit [www.economicmodeling.com](http://www.economicmodeling.com).

The results of this study demonstrate that the Ontario colleges create value from multiple perspectives. The colleges benefit local businesses by increasing consumer spending in the province and supplying a steady flow of qualified, trained workers into the workforce. They enrich the lives of students by raising their lifetime incomes and helping them achieve their individual potential. They benefit 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, they benefit the provincial government through increased tax receipts across the province and a reduced demand for government-supported social services.