



The Economic Value of the
University of New Brunswick

EXECUTIVE SUMMARY



THE University of New Brunswick (UNB) has a significant positive economic and social impact in New Brunswick. It is the province's national comprehensive, and as such is a key part of the postsecondary education environment in New Brunswick and Atlantic Canada as a whole. One of the oldest universities in North America, UNB is a modern institution with a long history of meeting the needs of its students and its community by providing the high-quality education students need to succeed. Furthermore, UNB is an engine for research and development across the province.

UNB influences both the lives of its students and the provincial economy. The university supports a variety of industries in New Brunswick, serves provincial businesses, and benefits the provincial government through increased tax revenues and public sector savings. The benefits created by UNB even extend to society as a whole in New Brunswick, which benefits from an expanded economy and improved quality of life.

This study measures the economic impacts created by UNB on the business community and the benefits the university generates in return for the investments made by its 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 university, for FY (fiscal year) 2018-19. Impacts on the New Brunswick 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 New Brunswick are reported under the investment analysis.

UNB influences both the lives of its students and the provincial economy.



Economic impact analysis

UNB ANNUAL IMPACTS
FY 2018-19

UNB promotes economic growth in New Brunswick through its direct expenditures and the resulting expenditures of visitors, students, and provincial businesses. The university serves as an employer and buyer of goods and services for its day-to-day, research, and construction operations. Seventy start-up and spin-off companies have formed and are currently active in the province as a result of programs and knowledge at UNB. The university's reputation and activities attract visitors and students from outside New Brunswick, whose expenditures benefit provincial vendors. In addition, UNB is a primary source of postsecondary education to New Brunswick residents and a supplier of trained workers to provincial industries, enhancing overall productivity in the provincial workforce.



Operations spending impact

UNB adds economic value to New Brunswick as an employer of provincial residents and a large-scale buyer of goods and services. In FY 2018-19, the university employed faculty and staff equivalent to 1,872 full-time employees (not including research employees), virtually all of whom lived in New Brunswick. Total payroll at UNB was \$172 million (excluding payroll from research employees), much of which was spent in the province for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the university spent \$111.5 million on day-to-day expenses related to facilities, supplies, and professional services (excluding research expenditures).

UNB's day-to-day operations spending added \$224.9 million in income to the province during the analysis year. This figure represents the university's payroll, the multiplier effects generated by the in-province spending of the university and its employees, and a downward adjustment to account for funding that the university received from provincial sources. The \$224.9 million in added income is equivalent to supporting 2,421 jobs in the province.

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, UNB received 60 invention disclosures, filed 42 new patent applications, and produced 47 licenses.

UNB RESEARCH DEVELOPMENTS

	Inventions	Patents	Licenses
2015-16	20	7	12
2016-17	21	12	14
2017-18	8	11	14
2018-19	11	12	7
Total	60	42	47

Source: UNB



\$224.9 million
Operations Spending Impact



\$43.6 million
Research Spending Impact



\$6.7 million
Construction Spending Impact



\$125.5 million
Start-up and Spin-off Company Impact



\$8.6 million
Visitor Spending Impact



\$45.9 million
Student Spending Impact



\$1.4 billion
Alumni Impact



\$1.8 billion
TOTAL IMPACT

- OR -

20,915
JOBS SUPPORTED

In FY 2018-19, UNB spent \$23.6 million on payroll to support research activities. This, along with \$23.1 million in other research spending, created a net total of \$43.6 million in added income for the provincial economy. This added income is equivalent to supporting 499 jobs.

Construction spending impact



UNB spends millions on construction each year to maintain its facilities, create additional capacities, and meet its growing educational demands. While the amount varies from year to year, this spending generates a short-term infusion of spending and jobs in the provincial economy. The quick infusion of income and jobs that occurred in the provincial economy as a result of this construction spending is considered short-term due to the one-time nature of such projects. Nonetheless, the university's construction spending had a substantial impact on the provincial economy in FY 2018-19, equal to \$6.7 million in added income and equivalent to supporting 57 jobs.

Start-up and spin-off company impact



UNB creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of UNB start-up companies created in the province. Start-up companies are created specifically to license and commercialize UNB technology or knowledge. Spin-off companies, created and fostered through the university's programs or faculty and alumni, have clear but weaker links to UNB.

In FY 2018-19, UNB start-up and spin-off companies added \$125.5 million in income to the New Brunswick economy, which is equivalent to supporting 1,090 jobs. Of this added income, \$77.2 million was due to the start-up companies, with the remainder due to spin-off companies.

Visitor spending impact



Thousands of visitors from outside the province were attracted to UNB during the analysis year to attend commencement, sports events, and other activities sponsored by the university. While in the province, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the university's out-of-province visitors generated a net impact of \$8.6 million in added income for the provincial economy in FY 2018-19. This \$8.6 million in added income is equivalent to supporting 180 jobs.

Impact of International Students

International students are an important part of the UNB community. In FY 2018-19, UNB served 1,150 international students, all of whom relocated to New Brunswick. These students brought new money to the provincial economy through their spending on housing, food, and other living expenses. International student spending in FY 2018-19 generated \$13.9 million in added income for the provincial economy.

It is estimated that 15% of international students remain in the province after finishing their time at UNB. Today, thousands of these students are employed in New Brunswick, receiving higher earnings and increasing the productivity of the businesses that employ them. In FY 2018-19, these active alumni generated \$34.9 million in added income for the economy.

COMPANIES RELATED TO UNB ACTIVE IN THE PROVINCE IN FY 2018-19

	# of Companies	# of Employees
Start-up Companies	60	339
Spin-off Companies	10	206

Source: UNB

Student spending impact



Around 29% of credit students attending UNB originated from outside the province in FY 2018-19, and some of these students relocated to New Brunswick to attend UNB. These students may not have come to the province if the university did not exist. In addition, some in-province students, referred to as retained students, would have left New Brunswick if not for the existence of UNB. While attending the university, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$45.9 million in added income for the provincial economy in FY 2018-19, which supported 657 jobs in New Brunswick.

Alumni impact



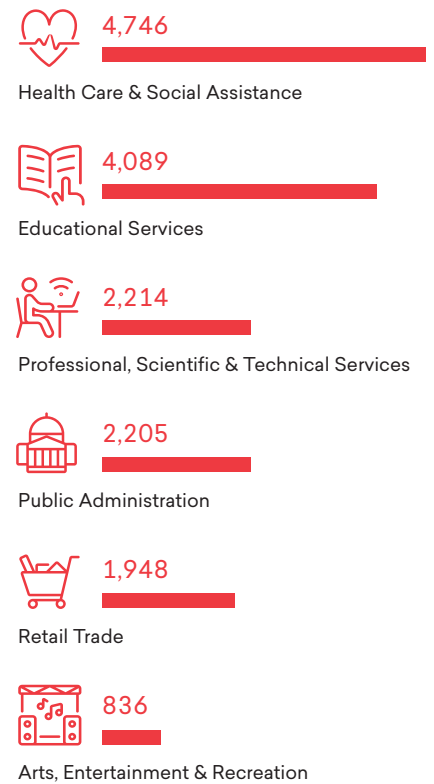
The education and training UNB provides for provincial residents has the greatest impact. Since its establishment, students have studied at UNB and entered the provincial workforce with greater knowledge and new skills. Today, thousands of former UNB students are employed in New Brunswick. As a result of their UNB educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2018-19, UNB alumni generated \$1.4 billion in added income for the provincial economy, which is equivalent to supporting 16,011 jobs.

Total impact

UNB added \$1.8 billion in income to the New Brunswick economy during the analysis year, equal to the sum of the operations, research, and construction spending impacts, the start-up and spin-off company impact, the visitor and student spending impacts, and the alumni impact. For context, the \$1.8 billion impact was equal to approximately 5.2% of the total gross provincial product (GPP) of New Brunswick. This contribution that the university provided on its own is nearly as large as the entire Professional, Scientific, & Technical Services industry in the province.

UNB's total impact can also be expressed in terms of jobs supported. The \$1.8 billion impact supported 20,915 provincial jobs, using the jobs-to-sales ratios specific to each industry in the province. This means that one out of every 17 jobs in New Brunswick is supported by the activities of UNB and its students. In addition, the \$1.8 billion, or 20,915 supported jobs, stemmed from different industry sectors. Among non-education industry sectors, UNB's activity and alumni in the Health Care & Social Assistance industry sector supported 4,746 jobs in FY 2018-19. These are impacts that would not have been generated without the university's presence in New Brunswick.

TOP INDUSTRY IMPACTS (JOBS SUPPORTED)



One out of every 17 jobs in New Brunswick is supported by the activities of UNB and its students.



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 UNB as an investment from the perspectives of students, taxpayers, and society in New Brunswick.

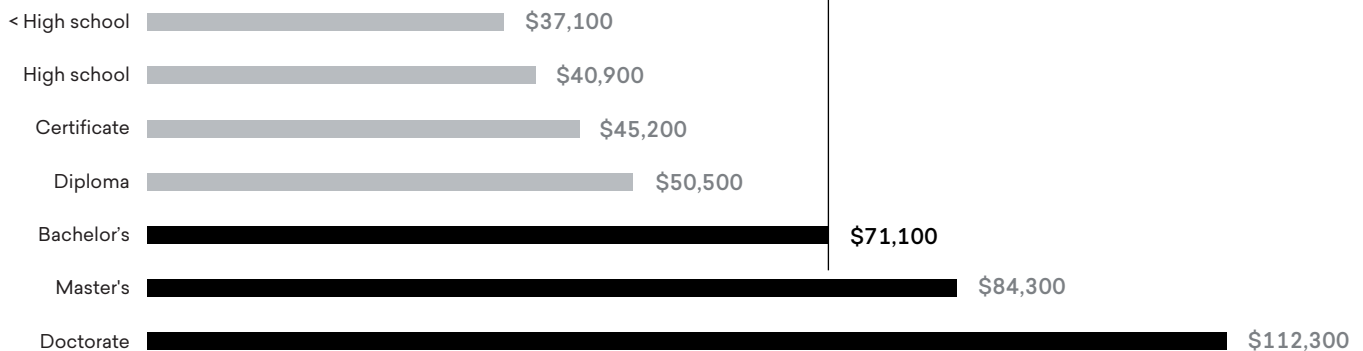
Student perspective



In FY 2018-19, UNB served 9,550 credit and 4,840 non-credit students. In order to attend the university, the students paid for tuition, fees, books, and supplies. Additionally, students gave up money they would have otherwise earned had they been working instead of attending university. The total investment made by UNB's students in FY 2018-19 amounted to a present value of \$275.9 million, equal to \$85.2 million in out-of-pocket expenses and \$190.7 million in forgone time and money.

In return for their investment, UNB's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average UNB bachelor's degree graduate from FY 2018-19 will see annual earnings **\$30,200** higher than a person with a high school diploma or equivalent working in New Brunswick. Over a working lifetime, the benefits of the bachelor's degree over a high school diploma will amount to an undiscounted value of \$1.3 million in higher earnings per graduate. Altogether, UNB's FY 2018-19 students will receive \$698.3 million in higher future earnings over their working lives, as a result of their education and training at UNB.

The average bachelor's degree graduate from UNB will see annual earnings **\$30,200** higher than a person with a high school diploma or equivalent working in New Brunswick.



Source: Emsi employment data.

The students' benefit-cost ratio is 2.5. In other words, for every dollar students invest in UNB, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$2.50 in higher future earnings. Annually, the students' investment in UNB has an average annual internal rate of return of 15.6%.

Taxpayer perspective

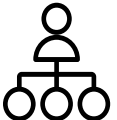


UNB is a profit centre for New Brunswick. These benefits to taxpayers consist primarily of taxes that the provincial government will collect from the added revenue created in the province. As UNB students earn more, they will make higher tax payments throughout their working lives. Students' employers will also make higher tax payments as they increase their output and purchases of goods and services. By the end of the FY 2018-19 students' working lives, the provincial government will have collected a present value of \$605.4 million in added tax revenue.

Benefits to taxpayers also consist of savings generated by the improved lifestyles of UNB students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' UNB educations will generate savings in three main categories: 1) healthcare, 2) crime, and 3) income assistance. Improved health will lower students' demand for 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 reduced victim costs. UNB 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 the university for a copy of the main report. Altogether, the present value of the benefits associated with a UNB education will generate \$7.8 million in savings to provincial taxpayers.

Total taxpayer benefits amount to \$613.2 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$141 million, equal to the amount of provincial government funding UNB received in FY 2018-19. These benefits and costs yield a benefit-cost ratio of 4.3. This means that for every dollar of public money invested in UNB in FY 2018-19, taxpayers will receive a cumulative value of \$4.30 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 23.8%, which compares favourably to other long-term investments in the public and private sectors.

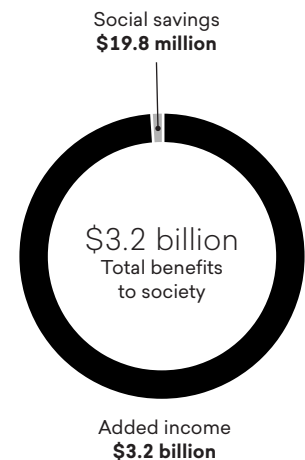
Social perspective



Society as a whole in New Brunswick benefits from the presence of UNB in two major ways. Primarily, society benefits from an increased economic base in the province. This is attributed to

*For every dollar of public money invested in UNB, taxpayers will receive a cumulative value of **\$4.30** over the course of the students' working lives.*

SOCIAL BENEFITS IN NEW BRUNSWICK FROM UNB



higher student earnings and increased business output, which raise economic prosperity in New Brunswick.

Benefits to society also consist of the savings generated by the improved lifestyles of UNB 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, and mental illness. Crime savings include reduced criminal justice system expenditures, lower victim costs, and increased productivity of individuals who are working rather than spending time in custody. Income assistance savings include the reduced demand for employment insurance benefits and employment-related social assistance. For a list of study references, contact the university for a copy of the main report.

Altogether, the social benefits of UNB equal a present value of \$3.2 billion. These benefits include \$3.2 billion in added income through students' increased lifetime earnings and increased business output, as well as \$19.8 million in social savings related to health, crime, and income assistance in New Brunswick. People in New Brunswick invested a present value total of \$525.8 million in UNB in FY 2018-19. These costs include all university and student costs.

The benefit-cost ratio for society is 6.0, equal to the \$3.2 billion in benefits divided by the \$525.8 million in costs. In other words, for every dollar invested in UNB, people in New Brunswick will receive a cumulative value of \$6.00 in benefits. The benefits of this investment will occur for as long as UNB's FY 2018-19 students remain employed in the provincial workforce.

Summary of investment analysis results

The results of the analysis demonstrate that UNB 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 UNB education. At the same time, taxpayers' investment in UNB returns more to government budgets than it costs and creates a wide range of social benefits throughout New Brunswick.



STUDENT PERSPECTIVE

\$698.3 million
Present value benefits

\$275.9 million
Present value costs

\$422.4 million
Net present value

Benefit-cost ratio Rate of return

2.5

15.6%



TAXPAYER PERSPECTIVE

\$613.2 million
Present value benefits

\$141 million
Present value costs

\$472.1 million
Net present value

Benefit-cost ratio Rate of return

4.3

23.8%



SOCIAL PERSPECTIVE

\$3.2 billion
Present value benefits

\$525.8 million
Present value costs

\$2.6 billion
Net present value

Benefit-cost ratio Rate of return

6.0

n/a*

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

Conclusion

The results of this study demonstrate that UNB has a significant positive economic and social impact in New Brunswick. The university benefits provincial businesses by increasing consumer spending in the province and supplying a steady flow of qualified, trained workers to the workforce. UNB enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The university benefits provincial taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, UNB benefits society as a whole in New Brunswick 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 2018-19 academic and financial reports from UNB, 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 investment effectiveness and economic impact. For a full description of the data and approach used in the study, please contact UNB for a copy of the main report.



*The results of this study show that UNB is a **major contributor to the economic prosperity of New Brunswick.***



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