

JULY 2020



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## The Economic Value of the North Dakota Association of Tribal Colleges

# EXECUTIVE SUMMARY



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NORTH DAKOTA

**T**HE North Dakota Association of Tribal Colleges (NDATC)<sup>\*</sup> creates value in many ways. The colleges play a key role in helping students increase their employability and achieve their individual potential. The colleges attract students to the state and serves state residents, generating new dollars and opportunities for North Dakota. The colleges provide students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, the colleges are places for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

The NDATC influences both the lives of students and the state economy. The colleges support a variety of industries in North Dakota, serve state businesses, and benefit society as a whole in the nation from an expanded economy and improved quality of life. The benefits created by the NDATC even extend to the government through increased tax revenues and public sector savings.

This study measures the economic impacts created by the NDATC on the business community and the benefits the colleges generate in return for the investments made by their 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 colleges, for fiscal year (FY) 2018-19. Impacts on the North Dakota 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 as a whole are reported under the investment analysis.

<sup>\*</sup> The following colleges comprise the NDATC: Cankdeska Cikana Community College (CCCC), Nueta Hidatsa Sahnish College (NHS College), Sitting Bull College (SBC), Turtle Mountain Community College (TMCC), and United Tribes Technical College (UTTC).

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# Economic impact analysis

The NDATC promotes economic growth in North Dakota through the colleges' direct expenditures and the resulting expenditures of students and state businesses. The colleges serve as employers and buyers of goods and services for their day-to-day operations. The colleges' activities serve students from North Dakota and attract students from outside the state, whose expenditures benefit state vendors. In addition, the colleges are primary sources of higher education to North Dakota residents and suppliers of trained workers to state industries, enhancing overall productivity in the state workforce.

## Operations spending impact



The NDATC adds economic value to North Dakota as an employer of state residents and a large-scale buyer of goods and services. In FY 2018-19, the colleges employed 757 full-time and part-time faculty and staff, 93% of whom lived in North Dakota. Total payroll among the colleges was \$39.1 million, much of which was spent in the state for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the colleges spent \$29.5 million on day-to-day expenses related to facilities, supplies, and professional services.

The NDATC's day-to-day operations spending added \$55.5 million in income to the state during the analysis year. This figure represents the colleges' payroll, the multiplier effects generated by the in-state spending of the colleges and their employees, and a downward adjustment to account for funding that the colleges received from state sources. The \$55.5 million in added income is equivalent to supporting 925 jobs in the state.

## Student spending impact



Around 12% of students attending the NDATC originated from outside the state in FY 2018-19, and some of these students relocated to North Dakota to attend the colleges. These students may not have come to the state if the colleges did not exist. In addition, some in-state students, referred to as retained students, would have left North Dakota if not for the existence of the colleges. While attending the colleges, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. We also measure the increased spending of students who would have stayed in the state even if the colleges did not exist. Although some of their monies would have been added to the North Dakota economy regardless of the colleges, in-state students who would

IMPACTS CREATED BY  
THE NDATC IN FY 2018-19



**\$55.5 million**  
Operations Spending Impact



**\$5.1 million**  
Student Spending Impact



**\$84.5 million**  
Alumni Impact



**\$145.1 million**  
TOTAL IMPACT

- OR -

**1,995**  
JOBS SUPPORTED

have remained anyway spend more money while attending college due to the scholarships and grants they receive. This increased spending is an injection of new money into the state economy that is attributable to the NDATC. In total, the NDATC student spending generated \$5.1 million in added income for the state economy in FY 2018-19, which supported 114 jobs in North Dakota.

### Alumni impact



The education and training the colleges provide for state residents has the greatest impact. Since the colleges were established, students have studied at the NDATC and entered the state workforce with greater knowledge and new skills. Today, thousands of former NDATC students are employed in North Dakota. As a result of their NDATC educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2018-19, NDATC alumni generated \$84.5 million in added income for the state economy, which is equivalent to supporting 956 jobs.

### Total impact

The NDATC added \$145.1 million in income to the North Dakota economy during the analysis year, equal to the sum of the operations spending impact, the student spending impact, and the alumni impact. For context, the \$145.1 million impact was equal to approximately 0.3% of the total gross state product (GSP) of North Dakota. This contribution that the colleges provided on their own is nearly as large as the entire Arts, Entertainment, & Recreation industry in the state.

The NDATC’s total impact can also be expressed in terms of jobs supported. The \$145.1 million impact supported 1,995 state jobs, using the jobs-to-sales ratios specific to each industry in the state. In addition, the \$145.1 million, or 1,995 supported jobs, stemmed from different industry sectors. Among non-education industry sectors, NDATC’s spending and alumni in the Health Care & Social Assistance industry sector supported 162 jobs in FY 2018-19. These are impacts that would not have been generated without the colleges’ presence in North Dakota.

#### NDATC IMPACTS BY INDUSTRY (JOBS SUPPORTED)





# 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 the NDATC as an investment from the perspectives of students, taxpayers, and society.

## Student perspective



In FY 2018-19, the NDATC served 2,163 credit and 1,109 non-credit students. In order to attend the colleges, the students paid for tuition, fees, books, and supplies. They also gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by the NDATC's students in FY 2018-19 amounted to a present value of \$15.7 million, equal to \$7.1 million in out-of-pocket expenses and \$8.6 million in forgone time and money.

In return for their investment, the NDATC's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average NDATC associate degree graduate from FY 2018-19 will see annual earnings that are \$7,500 higher than a person with a high school diploma or equivalent working in North Dakota. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$300 thousand in higher earnings per graduate. The present value of the cumulative higher future earnings that the NDATC's FY 2018-19 students will receive over their working careers is \$53.9 million.

### STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN THE NDATC



16.2%

Average annual return for NDATC students



9.9%

Stock market 30-year average annual return

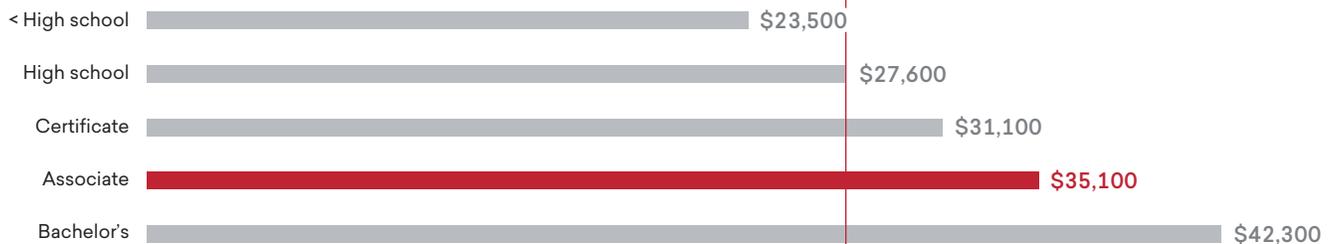


0.8%

Interest earned on savings account (National Rate Cap)

Source: Forbes' S&P 500, 1989-2018. FDIC.gov, 6-2019.

The average associate degree graduate from the NDATC will see an increase in earnings of **\$7,500** each year compared to a person with a high school diploma or equivalent working in North Dakota.



Source: Emsi employment data.

The students' benefit-cost ratio is 3.4. In other words, for every dollar students invest in an education at the NDATC, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$3.40 in higher future earnings. Annually, the students' investment in the NDATC has an average annual internal rate of return of 16.2%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 9.9%.

## Taxpayer perspective



The NDATC generates more in national tax revenue than it takes. These benefits to taxpayers consist primarily of taxes that the government will collect from the added revenue created in the nation and state. As NDATC 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. At the national level, the government will have collected a present value of \$65.7 million in added taxes by the end of the FY 2018-19 students' working lives. At the state level, North Dakota will have collected a present value of \$13.1 million in added taxes.

Benefits to taxpayers also consist of savings generated by the improved lifestyles of NDATC students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The education students receive at NDATC colleges will generate savings in three main categories: 1) healthcare, 2) crime, and 3) income assistance. Improved health will lower students' demand for national 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 victim costs. NDATC 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 NDATC for a copy of the main report. Altogether, the present value of the benefits associated with an NDATC education will generate \$4.9 million in savings to taxpayers. Taxpayers in North Dakota will experience \$2.3 million in government savings.

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*For every dollar of public money invested in the NDATC, national taxpayers will receive a cumulative value of **\$1.10** over the course of the students' working lives.*

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\* 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.



### STUDENT PERSPECTIVE

**\$53.9 million**  
Present value benefits

**\$15.7 million**  
Present value costs

**\$38.2 million**  
Net present value

Benefit-cost ratio      Rate of return

3.4

16.2%



### TAXPAYER PERSPECTIVE

#### NATIONAL TAXPAYERS

**\$70.6 million**  
Present value benefits

**\$64.2 million**  
Present value costs

**\$6.4 million**  
Net present value

Benefit-cost ratio      Rate of return

1.1

2.2%

#### STATE TAXPAYERS

**\$15.4 million**  
Present value benefits



### SOCIAL PERSPECTIVE

**\$262.7 million**  
Present value benefits

**\$78.4 million**  
Present value costs

**\$184.3 million**  
Net present value

Benefit-cost ratio      Rate of return

3.4

n/a\*

Total national taxpayer benefits amount to \$70.6 million, the present value sum of the added taxes and public sector savings. National taxpayer costs are \$64.2 million, equal to the amount of local, state, and federal government funding the NDATC received in FY 2018-19. These benefits and costs yield a benefit-cost ratio of 1.1. This means that for every dollar of public money invested in the NDATC in FY 2018-19, taxpayers in the U.S. will receive a cumulative value of \$1.10 over the course of the students' working lives. In other words, the NDATC generates more benefits for national taxpayers than it costs to support. Although it is not recommended to directly compare benefit-cost ratios between institutions since many factors influence them, any benefit-cost ratio above 1.0 is significant and indicates the institution generates a surplus of benefits. Additionally, the average annual internal rate of return for taxpayers is 2.2%, which compares favorably to other long-term investments in the public and private sectors. From the state perspective, North Dakota taxpayer benefits amount to \$15.4 million, which will accrue in the future as long as the FY 2018-19 student population of the NDATC remains in the state workforce.

**Social perspective**



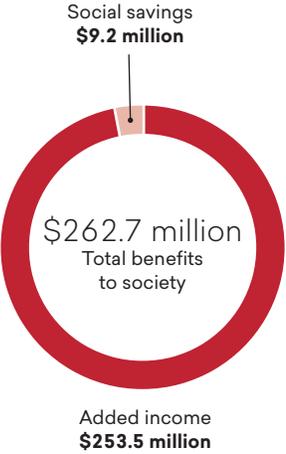
Society benefits from the presence of the NDATC in two major ways. Primarily, society benefits from an increased economic base in the nation. This is attributed to higher student earnings and increased business output, which raise economic prosperity in the U.S.

Benefits to society also consist of the savings generated by the improved lifestyles of NDATC 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, drug abuse, and depression. Savings related to crime include reduced security expenditures and insurance administration, lower victim costs, and reduced expenditures by the criminal justice system. Income assistance savings include reduced welfare and unemployment claims. For a list of study references, contact the NDATC for a copy of the main report.

Altogether, the social benefits of the NDATC equal a present value of \$262.7 million. These benefits include \$253.5 million in added income through students' increased lifetime earnings and increased business output, as well as \$9.2 million in social savings related to health, crime, and income assistance. Society invested a present value total of \$78.4 million in the NDATC in FY 2018-19. The cost includes all the colleges and student costs.

The benefit-cost ratio for society is 3.4, equal to the \$262.7 million in benefits divided by the \$78.4 million in costs. In other words, for every dollar invested in

SOCIAL BENEFITS FROM THE NDATC



the NDATC, people across the nation will receive a cumulative value of \$3.40 in benefits. The benefits of this investment will occur for as long as the NDATC's FY 2018-19 students remain employed in the workforce.

## Summary of investment analysis results

The results of the analysis demonstrate that the NDATC 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 an NDATC education. At the same time, national taxpayers' investment in the NDATC returns more to government budgets than it costs and creates a wide range of social benefits throughout the nation. Lastly, taxpayers in North Dakota will receive benefits throughout the students' working lifetimes in the form of added tax revenues and government savings.



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# Conclusion

The results of this study demonstrate that the NDATC creates value from multiple perspectives. The colleges benefit state businesses by increasing consumer spending in the state and supplying a steady flow of qualified, trained workers to the workforce. The NDATC enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The colleges benefit taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, the NDATC benefits society as a whole in the U.S. 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 the colleges, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Emsi's Multi-Regional 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 economic impact and investment effectiveness. For a full description of the data and approach used in the study, please contact the NDATC for a copy of the main report.

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