

The economic impact of

NDSU NORTH DAKOTA
STATE UNIVERSITY

STUDENT FOCUSED • LAND GRANT • RESEARCH UNIVERSITY

Study consists of...

INVESTMENT
ANALYSIS

ECONOMIC
GROWTH
ANALYSIS

The study addresses two primary areas of socioeconomic impact:

- 1) Return on investment for students and taxpayers, and;
- 2) Economic growth in the regional economy.

INVESTMENT ANALYSIS

Student perspective

Social perspective

Taxpayer perspective

The investment analysis focuses on benefits and costs that accrue to students, taxpayers, and the public at large.

1. From the student perspective, the study examines the higher earnings of students relative to their costs (i.e., tuition, fees, and opportunity cost).
2. From the social perspective, the study analyzes a broad collection of external benefits that accrue to the public.
3. From the taxpayer perspective, the study measures the cost of funding the University against the returns generated by the University's educational activities.

STUDENT PERSPECTIVE

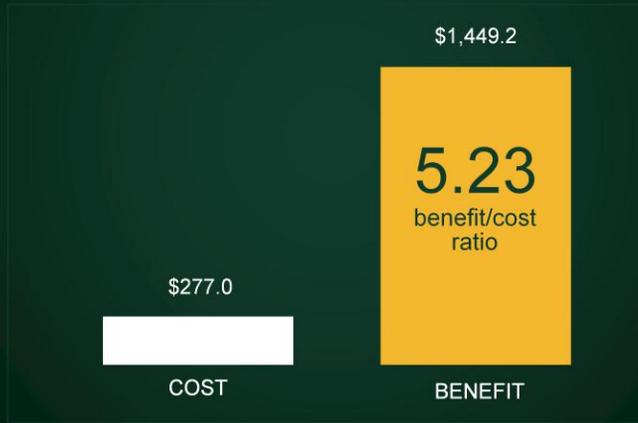
Benefits—present value of increased future income

Costs—tuition and fees, books and supplies, and opportunity cost of time

Students give up time and forgo earnings to attend the University. In return, students benefit from a lifetime of higher earnings relative to what they would have been earning had they not chosen to go to the University.

STUDENT PERSPECTIVE

NDSU STUDENT BENEFITS AND COSTS, \$ MILLIONS



Costs comprise the total of tuition, fees, and earnings forgone. Benefits comprise the higher earnings of students as a result of their education.

Investment Analysis

STUDENT PERSPECTIVE

14.4%

RETURN ON INVESTMENT

NDSU NORTH DAKOTA
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The internal rate of return is the earning power of the money used over the life of the investment. The threshold value from the student perspective is 4% - any number greater than that indicates a positive investment.

STUDENT PERSPECTIVE

AVERAGE INCOME IN NDSU SERVICE AREA AT CAREER MIDPOINT



Students who achieve a degree can expect a lifetime of higher earnings.

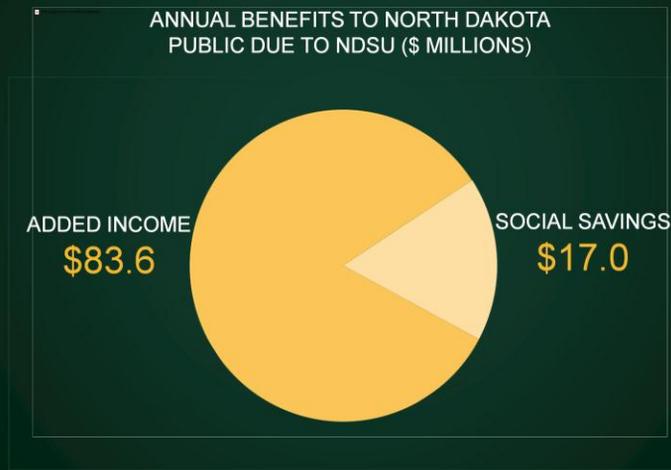
SOCIAL PERSPECTIVE

- **Added income**—higher earnings and increased property income
- **Social savings**—reduced medical costs, lower crime rates, and reduced income assistance

Higher earnings to students and increased business and property income expand the state's tax base.

Students who attend the University are also statistically less likely to incur medical costs, commit crimes, or claim income assistance. This translates into savings to the public.

SOCIAL PERSPECTIVE



TAXPAYER PERSPECTIVE

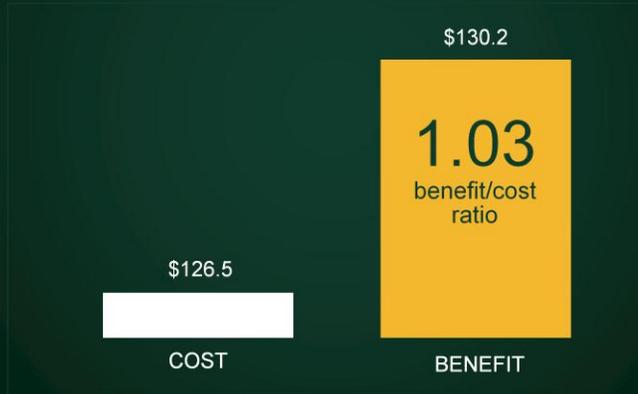
Benefits—added tax revenue
and avoided costs to
government

Costs—state government
funding

The taxpayer perspective weighs government funding of the University against benefits that result in actual monetary gain to state and local governments, whether in the form of added tax revenue or reduced government expenditures.

TAXPAYER PERSPECTIVE

BENEFITS AND COSTS TO STATE AND LOCAL TAXPAYERS DUE TO NDSU (\$ MILLIONS)



Costs comprise funding received by the University from state government.

Benefits include added tax revenue stemming from the higher earnings of students, plus avoided social costs to the government for health, crime, and income assistance.

Investment Analysis

TAXPAYER PERSPECTIVE

3.1%

RETURN ON INVESTMENT

NDSU NORTH DAKOTA
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A rate of return that exceeds the assumed 3% discount rate from the taxpayer perspective indicates a positive investment.

ECONOMIC GROWTH ANALYSIS

University operations
Student spending
Visitor spending
Student productivity

The economic growth analysis comprises four main components:

1. Impact of university operations spending, including the income effect of university payroll and purchases for supplies and services;
2. Income effect generated by the off-campus spending of students from outside the region;
3. Income effect generated by the off-campus spending of non-local visitors;
4. Productivity effects due to the higher earnings and increased output of past and present students who are still active in the regional workforce.

North Dakota State University
SERVICE AREA



NDSU NORTH DAKOTA
STATE UNIVERSITY

UNIVERSITY OPERATIONS EFFECT

- Direct income of faculty and staff
- Associated multiplier effects
- Adjustment for alternative uses of funds

The impact of university operations spending is calculated by summing faculty and staff wages and salaries to determine the direct effect on regional income, and then applying multiplier impacts to determine the indirect effect as staff salaries and the University's purchases for supplies and services are spent in the economy.

Unlike most multiplier analyses, however, the study adjusts the gross impacts of university spending to take into account local monies withdrawn from the economy to support the University. These monies could have been used for alternative purposes if the University did not exist, and are thus not credited to the existence of the University.

Economic Growth

UNIVERSITY OPERATIONS EFFECT

\$201.2 million

NET CONTRIBUTION TO REGIONAL INCOME

NDSU NORTH DAKOTA
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STUDENT SPENDING EFFECT

- Direct off-campus income effects of spending by students from outside the region
- Associated multiplier effects

Students from outside the region spend money that would not have otherwise entered the local economy. To maintain the conservative nature of the results, direct off-campus expenditures of non-local students are adjusted downward to account for leakage and then converted to income to determine the net impact on income growth.

Economic Growth

STUDENT SPENDING EFFECT

\$25.1 million

NET CONTRIBUTION TO REGIONAL INCOME

NDSU NORTH DAKOTA
STATE UNIVERSITY

VISITOR SPENDING EFFECT

- Direct off-campus income effects of spending by non-local visitors
- Associated multiplier effects

As with the student spending effect, direct off-campus expenditures of non-local visitors are adjusted downward to account for leakage and then converted to income to determine the net impact on income growth.

Economic Growth

VISITOR SPENDING EFFECT

\$2.9 million

NET CONTRIBUTION TO REGIONAL INCOME

NDSU NORTH DAKOTA
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STUDENT PRODUCTIVITY EFFECT

- Higher income of former students who are still active in the regional workforce
- Associated multiplier effects

Each year students study at the University and enter the local workforce, bringing with them skills they acquired while in attendance. Over time these skills build up and accumulate, steadily increasing the training level and experience of the workforce. This sparks a chain reaction in which the higher earnings of students generate additional rounds of consumer spending, while new skills and training translate to increased business output and higher property income, causing still more consumer purchases and local multiplier spending. The sum of these direct and indirect effects comprises the total impact of past and present student productivity on regional income.

Economic Growth

STUDENT PRODUCTIVITY EFFECT

\$655.4 million

NET CONTRIBUTION TO REGIONAL INCOME

NDSU NORTH DAKOTA
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SO WHAT
DOES ALL THIS
MEAN?

- Enriches the lives of students
- Increases students' lifetime income
- Generates government revenue
- Reduces the demand for social services
- Contributes to the growth of the economy

The results of the study demonstrate that the University is a sound investment from multiple perspectives. It enriches the lives of students and increases their lifetime incomes. It benefits taxpayers by generating increased tax revenues from an enlarged economy and reducing the demand for taxpayer-supported social services. Finally, it contributes to the vitality of both the local and state economies.