

The Economic Value of Central Piedmont Community College



CENTRAL PIEDMONT COMMUNITY COLLEGE (Central Piedmont) creates value in many ways. The college plays a key role in helping students increase their employability and achieve their individual potential. The college retains students in the county, generating new dollars and opportunities for Mecklenburg County. Central Piedmont provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, Central Piedmont is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

Central Piedmont influences both the lives of its students and the county economy. The college supports a variety of industries in Mecklenburg County, serves county businesses, and benefits society as a whole in North Carolina from an expanded economy and improved quality of life. Additionally, the benefits created by the college extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by Central Piedmont on the business community and the benefits the college 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 college, for fiscal year (FY) 2019-20. Impacts on the Mecklenburg County 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 North Carolina are reported under the investment analysis.



MECKLENBURG COUNTY, NC

Central Piedmont influences both the **lives of its students** and the **county economy**.

ECONOMIC IMPACT ANALYSIS



Central Piedmont promotes economic growth in Mecklenburg County through its direct expenditures and the resulting expenditures of students and county businesses. The college serves as an employer and buyer of goods and services for its day-to-day and construction operations. The college's activities retain students in Mecklenburg County, whose expenditures benefit county vendors. In addition, the college is a primary source of higher education to Mecklenburg County residents and a supplier of trained workers to county industries, enhancing overall productivity in the county workforce.

Operations spending impact



Central Piedmont adds economic value to Mecklenburg County as an employer of county residents and a large-scale buyer of goods and services. In FY 2019-20, the college employed 2,819 full-time and part-time faculty and staff, 65% of whom lived in Mecklenburg County. Total payroll at the college was \$112.9 million, much of which was spent in the county for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the college spent \$76.2 million on day-to-day expenses related to facilities, supplies, and professional services.

Central Piedmont's day-to-day operations spending added \$139.9 million in income to the county during the analysis year. This figure represents the college's payroll, the multiplier effects generated by the in-county spending of the college and its employees, and a downward adjustment to account for funding that the college received from county sources. The \$139.9 million in added income is equivalent to supporting 3,022 jobs in the county.

Construction spending impact



Central Piedmont invests in construction each year to maintain its facilities, create additional capacities, and meet its growing educational demands. While the amount varies from year to year, these quick infusions of income and jobs have a substantial impact on the county economy. In FY 2019-20, Central Piedmont's construction spending generated \$35.6 million in added income, which is equivalent to supporting 429 jobs.

IMPACTS CREATED BY CENTRAL PIEDMONT IN FY 2019-20



Operations spending impact

\$139.9 million



Construction spending impact

\$35.6 million



Student spending impact

\$30.8 million



Alumni impact

\$621.4 million



TOTAL ECONOMIC IMPACT

\$827.7 million

OR

Jobs supported

11,274

Student spending impact



Some in-county students, referred to as retained students, would have left Mecklenburg County if not for the existence of Central Piedmont. While attending the college, these retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$30.8 million in added income for the county economy in FY 2019-20, which supported 588 jobs in Mecklenburg County.

Alumni impact



The education and training Central Piedmont provides for county residents has the greatest impact. Since its establishment, students have studied at Central Piedmont and entered the county workforce with greater knowledge and new skills. Today, hundreds of thousands of former Central Piedmont students are employed in Mecklenburg County. As a result of their education from Central Piedmont, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2019-20, Central Piedmont alumni generated \$621.4 million in added income for the county economy, which is equivalent to supporting 7,235 jobs.

Total impact

Central Piedmont added \$827.7 million in income to the Mecklenburg County economy during the analysis year, equal to the sum of the operations and construction spending impacts, the student spending impact, and the alumni impact. For context, the \$827.7 million impact was equal to approximately 0.7% of the total gross regional product (GRP) of Mecklenburg County. This contribution that the college provided on its own was nearly as large as the entire Utilities industry in the county.

Central Piedmont's total impact can also be expressed in terms of jobs supported. The \$827.7 million impact supported 11,274 county jobs, using the jobs-to-sales ratios specific to each industry in the county. This means that one out of every 85 jobs in Mecklenburg County is supported by the activities of the college and its students. In addition, the \$827.7 million, or 11,274 supported jobs, stemmed from different industry sectors. Among non-education industry sectors, Central Piedmont's spending and alumni in the Retail Trade industry sector supported 1,122 jobs in FY 2019-20. If the college did not exist, these impacts would not have been generated in Mecklenburg County.

CENTRAL PIEDMONT IMPACTS BY INDUSTRY (JOBS SUPPORTED)



One out of every 85 jobs in Mecklenburg County is supported by the activities of Central Piedmont and its students.



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 Central Piedmont as an investment from the perspectives of students, taxpayers, and society in North Carolina.

Student perspective



In FY 2019-20, Central Piedmont served 25,752 credit and 18,011 non-credit students. In order to attend the college, 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 Central Piedmont's students in FY 2019-20 amounted to a present value of \$219.5 million, equal to \$34.6 million in out-of-pocket expenses and \$185 million in forgone time and money.

In return for their investment, Central Piedmont's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average Central Piedmont associate degree graduate from FY 2019-20 will see annual earnings that are \$10,500 higher than a person with a high school diploma or equivalent working in North Carolina. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$399 thousand in higher earnings per graduate. The present value of the cumulative higher future earnings that Central Piedmont's FY 2019-20 students will receive over their working careers is \$826.8 million.

The students' benefit-cost ratio is 3.8. In other words, for every dollar students invest in Central Piedmont in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$3.80 in higher future earnings. Annually, the students' investment in the college has an average annual

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN CENTRAL PIEDMONT



Average annual return for Central Piedmont students
17.0%



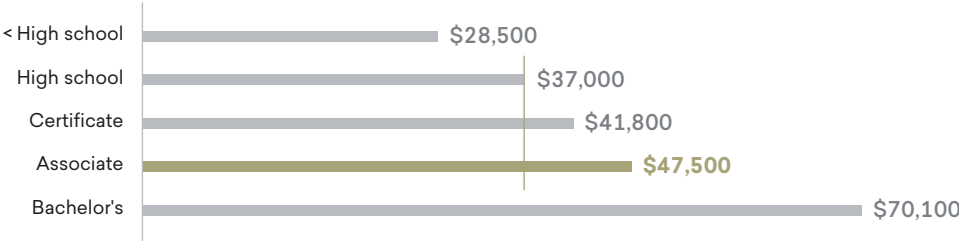
Stock market 30-year average annual return
10.6%



Interest earned on savings account (National Rate Cap)
0.8%

Source: Forbes' S&P 500, 1991-2020. FDIC.gov, 6-2021.

The average associate degree graduate from Central Piedmont will see an increase in earnings of **\$10,500** each year compared to a person with a high school diploma or equivalent working in North Carolina.



Source: Emsi Burning Glass employment data.

internal rate of return of 17.0%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.6%.

Taxpayer perspective



Central Piedmont generates more in tax revenue than it takes. These benefits to taxpayers consist primarily of taxes that the state and local government will collect from the added revenue created in the state. As Central Piedmont students will 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 2019-20 students' working lives, the state and local government will have collected a present value of \$252.9 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of Central Piedmont students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The educations that Central Piedmont students receive will generate savings in three main categories: 1) healthcare, 2) justice system, and 3) income assistance. Improved health will lower students' demand for national health care services. In addition, costs related to the justice system will decrease. Central Piedmont 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 college for a copy of the main report. Altogether, the present value of the benefits associated with a Central Piedmont education will generate \$14.6 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$267.6 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$194.2 million, equal to the amount of state and local government funding Central Piedmont received in FY 2019-20. These benefits and costs yield a benefit-cost ratio of 1.4. This means that for every dollar of public money invested in Central Piedmont in FY 2019-20, taxpayers will receive a cumulative present value of \$1.40 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 2.5%, which compares favorably to other long-term investments in the public and private sectors.

For every dollar of public money invested in Central Piedmont, taxpayers will receive a cumulative value of **\$1.40** over the course of the students' working lives.

Social perspective



Society as a whole in North Carolina benefits from the presence of Central Piedmont in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to the added income from students' increased lifetime earnings (added student income) and increased business output (added business income), which raise economic prosperity in North Carolina.

Benefits to society also consist of the savings generated by the improved lifestyles of Central Piedmont 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. Justice system savings include avoided costs to the government and society due to less judicial activity. Income assistance savings include reduced welfare and unemployment claims. For a list of study references, contact the college for a copy of the main report.

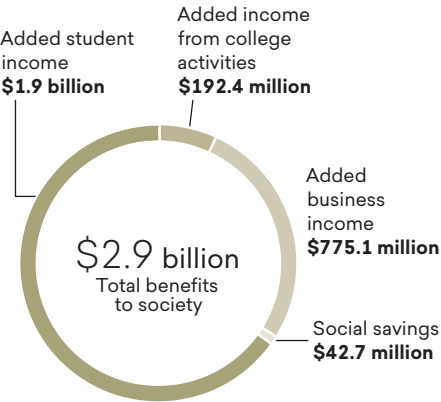
Altogether, the social benefits of the college equal a present value of \$2.9 billion. These benefits include \$1.9 billion in added student income, \$775.1 million in added business income, \$192.4 million in added income from college activities, as well as \$42.7 million in social savings related to health, crime, and income assistance in North Carolina. People in North Carolina invested a present value total of \$455.2 million in Central Piedmont in FY 2019-20. The cost includes all the college and student costs.

The benefit-cost ratio for society is 6.4, equal to the \$2.9 billion in benefits divided by the \$455.2 million in costs. In other words, for every dollar invested in Central Piedmont, people in North Carolina will receive a cumulative value of \$6.40 in benefits. The benefits of this investment will occur for as long as Central Piedmont’s FY 2019-20 students remain employed in the state workforce.

Summary of investment analysis results

The results of the analysis demonstrate that Central Piedmont 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 Central Piedmont education. At the same time, taxpayers’ investment in the college returns more to government budgets than it costs and creates a wide range of social benefits throughout North Carolina.

SOCIAL BENEFITS
IN NORTH CAROLINA
FROM CENTRAL PIEDMONT



Source: Emsi Burning Glass impact model.

| STUDENT PERSPECTIVE | | TAXPAYER PERSPECTIVE | | SOCIAL PERSPECTIVE | |
|--|-------|---|------|--|------|
| <div>Present value benefits</div> <div>\$826.8 million</div> <div>Present value costs</div> <div>\$219.5 million</div> <div>Net present value</div> <div>\$607.2 million</div> | | <div>Present value benefits</div> <div>\$267.6 million</div> <div>Present value costs</div> <div>\$194.2 million</div> <div>Net present value</div> <div>\$73.3 million</div> | | <div>Present value benefits</div> <div>\$2.9 billion</div> <div>Present value costs</div> <div>\$455.2 million</div> <div>Net present value</div> <div>\$2.5 billion</div> | |
| Benefit-cost ratio | 3.8 | Benefit-cost ratio | 1.4 | Benefit-cost ratio | 6.4 |
| Rate of return | 17.0% | Rate of return | 2.5% | Rate of return | n/a* |

* 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.

CONCLUSION

The results of this study demonstrate that Central Piedmont creates value from multiple perspectives. The college benefits county businesses by increasing consumer spending in the county and supplying a steady flow of qualified, trained workers to the workforce. Central Piedmont enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The college benefits state and local taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, Central Piedmont benefits society as a whole in North Carolina 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 2019-20 academic and financial reports from Central Piedmont, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Emsi Burning Glass'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 college for a copy of the main report.

The results of this study demonstrate that Central Piedmont creates value from **multiple perspectives.**



Emsi Burning Glass provides colleges and universities with labor market data that helps create better outcomes for students, businesses, and communities. Our data, which cover more than 99% of the U.S. workforce, are compiled from a wide variety of government sources, job postings, and online profiles and résumés. Hundreds of institutions use Emsi Burning Glass to align programs with regional needs, drive enrollment, connect students with in-demand careers, track their alumni's employment outcomes, and demonstrate their institution's economic impact on their region. Visit economicmodeling.com/higher-education to learn more or connect with us.