



UNIVERSITY OF CALIFORNIA
MERCED

The Economic Value of the University of
California, Merced on the San Joaquin Valley

EXECUTIVE SUMMARY



THE University of California, Merced (UC Merced) creates value in many ways. The university plays a key role in helping students increase their employability and achieve their individual potential. The university facilitates new research developments and draws visitors and students to the region, generating new dollars and opportunities for the San Joaquin Valley.¹ Its student volunteers support the regional economy through the output and employment generated by regional vendors. UC Merced provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, UC Merced is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

UC Merced influences both the lives of its students and the regional economy. The university supports a variety of industries in the San Joaquin Valley, serves regional businesses, and benefits society as a whole in California from an expanded economy and improved quality of life. The benefits created by UC Merced even extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by UC Merced 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 fiscal year (FY) 2018-19. Impacts on the San Joaquin Valley 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 California are reported under the investment analysis.

¹ For the purposes of this analysis, the San Joaquin Valley is comprised of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties.

UC Merced influences both the lives of its students and the regional economy.



THE SAN JOAQUIN VALLEY



Economic impact analysis

IMPACTS CREATED BY UC
MERCED ON THE SAN JOAQUIN
VALLEY IN FY 2018-19

UC Merced promotes economic growth in the San Joaquin Valley through its direct expenditures and the resulting expenditures of visitors, students, and regional businesses. The university serves as an employer and buyer of goods and services for its day-to-day, research, and construction operations. The university's reputation and activities attract visitors and students from outside the San Joaquin Valley, whose expenditures benefit regional vendors. UC Merced encourages its students to volunteer in the local community, helping businesses and organizations grow. In addition, UC Merced is a primary source of higher education to San Joaquin Valley residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

Operations spending impact



UC Merced adds economic value to the San Joaquin Valley as an employer of regional residents and a large-scale buyer of goods and services. In FY 2018-19, the university employed 1,421 full-time and part-time faculty and staff (excluding research employees), 87% of whom lived in the San Joaquin Valley. Total payroll at UC Merced was \$194.7 million (excluding payroll from research employees), much of which was spent in the region for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the university spent \$77.6 million on day-to-day expenses related to facilities, supplies, and professional services (excluding research expenditures).

UC Merced's day-to-day operations spending added \$206.7 million in income to the region during the analysis year. This figure represents the university's payroll, the multiplier effects generated by the in-region spending of the university and its employees, and a downward adjustment to account for funding that the university received from regional sources. The \$206.7 million in added income is equivalent to supporting 1,576 jobs in the region.

Research spending impact



Research activities impact the economy by employing people and requiring the purchase of equipment and other supplies and services. In FY 2018-19, UC Merced spent \$23.1 million on payroll to support research activities. This, along with \$21.8 million in other research spending, created a net total of \$38.6 million in added income for the regional economy. This added income is equivalent to supporting 394 jobs.



\$206.7 million
Operations Spending Impact



\$38.6 million
Research Spending Impact



\$199.8 million
Construction Spending Impact



\$0.5 million
Visitor Spending Impact



\$33.5 million
Student Spending Impact



\$0.5 million
Volunteerism Impact



\$35 million
Alumni Impact



\$514.6 million
TOTAL IMPACT

- OR -

5,560
JOBS SUPPORTED

Construction spending impact



UC Merced 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 regional economy. In FY 2018-19, UC Merced's construction spending generated \$199.8 million in added income, which is equivalent to supporting 2,573 jobs.

Visitor spending impact



Thousands of visitors from outside the region were attracted to UC Merced during the analysis year to attend commencement, new student orientations, and other activities sponsored by the university.² While in the region, visitors spent money for food, transportation, and other personal expenses. The off-campus expenditures of the university's out-of-region visitors generated a net impact of \$549.3 thousand in added income for the regional economy in FY 2018-19. This \$549.3 thousand in added income is equivalent to supporting 13 jobs.

Student spending impact



Around 65% of students attending UC Merced originated from outside the region in FY 2018-19, and some of these students relocated to the San Joaquin Valley to attend UC Merced. These students may not have come to the region if the university did not exist. In addition, some in-region students, referred to as retained students, would have left the San Joaquin Valley if not for the existence of UC Merced. While attending the university, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$33.5 million in added income for the regional economy in FY 2018-19, which supported 644 jobs in the San Joaquin Valley.

Volunteerism impact



UC Merced encourages its students to volunteer in the San Joaquin Valley, where students can work with local businesses and organizations to help meet their goals. The work of these student volunteers allows businesses and organizations to grow, increasing their output and impacting the economy at large. Using the value per volunteer hour for California as provided by the Independent Sector,³ UC Merced student volunteers added



² Emsi worked with UC Merced to estimate the number of visitors from outside the region. These estimates are conservative.

³ Value per volunteer hour per state was provided by Independent Sector (see https://independentsector.org/resource/vovt_details/).

\$243.9 thousand in earnings to the regional economy. However, in terms of actual impact to the regional economy, UC Merced student volunteers generated an impact of **\$484.4 thousand** in added income for the region in FY 2018-19, equivalent to supporting **17 jobs**.

Alumni impact



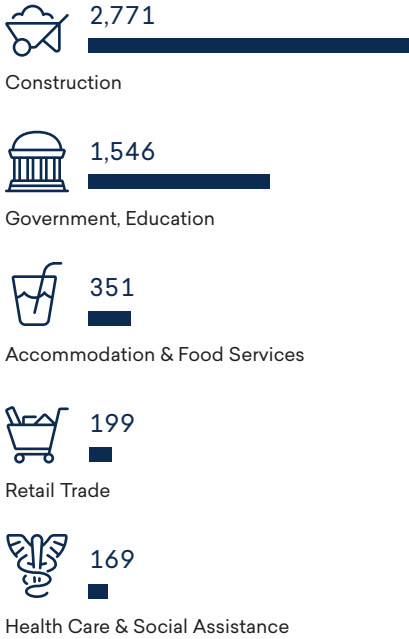
Since its establishment, students have studied at UC Merced and entered the regional workforce with greater knowledge and new skills. Today, thousands of former UC Merced students are employed in the San Joaquin Valley. As a result of their UC Merced educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2018-19, UC Merced alumni generated \$35 million in added income for the regional economy, which is equivalent to supporting 342 jobs.

Total impact

UC Merced added \$514.6 million in income to the San Joaquin Valley economy during the analysis year, equal to the sum of the operations, research, and construction spending impacts, the visitor and student spending impacts, the volunteerism impact, and the alumni impact. For context, the \$514.6 million impact was equal to approximately 0.3% of the total gross regional product (GRP) of the San Joaquin Valley.

UC Merced’s total impact can also be expressed in terms of jobs supported. The \$514.6 million impact supported 5,560 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. In addition, the \$514.6 million, or 5,560 supported jobs, stemmed from different industry sectors. UC Merced’s spending and alumni in the Construction industry sector supported 2,771 jobs in FY 2018-19. These are impacts that would not have been generated without the university’s presence in the San Joaquin Valley.

UC MERCED 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 UC Merced as an investment from the perspectives of students, taxpayers, and society in California.

Student perspective



In FY 2018-19, UC Merced served an unduplicated annual headcount of 8,956 students. In order to attend the university, the students paid for tuition, fees, books, and supplies. They also took out loans and will incur interest on those loans. Additionally, students gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by UC Merced's students in FY 2018-19 amounted to a present value of \$177.3 million, equal to \$91.2 million in out-of-pocket expenses (including future principal and interest on student loans) and \$86.1 million in forgone time and money.

In return for their investment, UC Merced's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average UC Merced bachelor's degree graduate from FY 2018-19 will see annual earnings that are \$31,000 higher than a person with a high school diploma or equivalent working in California. Over a working lifetime, the benefits of the bachelor's degree over a high school diploma will amount to an undiscounted value of \$1.5 million in higher earnings per graduate. The present value of the cumulative higher future earnings that UC Merced's FY 2018-19 students will receive over their working careers is \$725.1 million.

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN UC MERCED



14.9%

Average annual return for UC Merced students



9.9%

Stock market 30-year average annual return

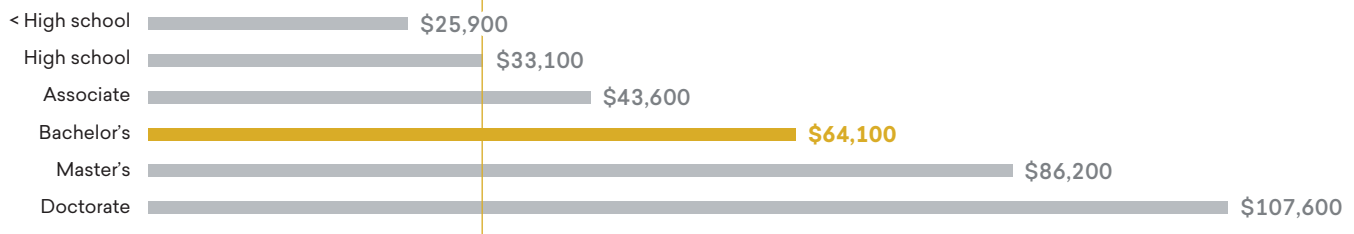


0.8%

Interest earned on savings account (National Rate Cap)

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

The average bachelor's degree graduate from UC Merced will see an increase in earnings of **\$31,000** each year compared to a person with a high school diploma or equivalent working in California.



Source: Emsi employment data.

The students' benefit-cost ratio is 4.1. In other words, for every dollar students invest in UC Merced, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$4.10 in higher future earnings. Annually, the students' investment in UC Merced has an average annual internal rate of return of 14.9%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 9.9%.

Taxpayer perspective



UC Merced 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 UC Merced 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 2018-19 students' working lives, the state and local government will have collected a present value of \$254.4 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of UC Merced students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' UC Merced educations 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. UC Merced 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 UC Merced education will generate \$69.2 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$323.6 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$171.3 million, equal to the amount of state and local government funding UC Merced received in FY 2018-19. These benefits and costs yield a benefit-cost ratio of 1.9. This means

*For every dollar of public money invested in UC Merced, taxpayers will receive a cumulative value of **\$1.90** over the course of the students' working lives.*



STUDENT PERSPECTIVE

\$725.1 million
Present value benefits

\$177.3 million
Present value costs

\$547.8 million
Net present value

Benefit-cost ratio	Rate of return
4.1	14.9%



TAXPAYER PERSPECTIVE

\$323.6 million
Present value benefits

\$171.3 million
Present value costs

\$152.3 million
Net present value

Benefit-cost ratio	Rate of return
1.9	4.5%



SOCIAL PERSPECTIVE

\$3.4 billion
Present value benefits

\$905.1 million
Present value costs

\$2.5 billion
Net present value

Benefit-cost ratio	Rate of return
3.8	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.

that for every dollar of public money invested in UC Merced in FY 2018-19, taxpayers will receive a cumulative value of \$1.90 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 4.5%, which compares favorably to other long-term investments in the public and private sectors.

Social perspective



Society as a whole in California benefits from the presence of UC Merced in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to higher student earnings and increased business output, which raise economic prosperity in California.

Benefits to society also consist of the savings generated by the improved lifestyles of UC Merced 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 university for a copy of the main report.

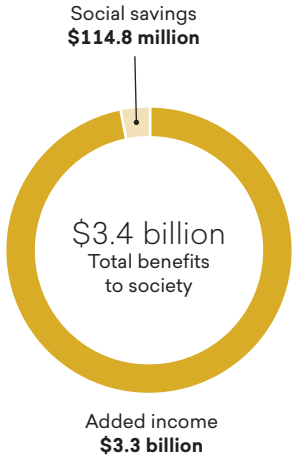
Altogether, the social benefits of UC Merced equal a present value of \$3.4 billion. These benefits include \$3.3 billion in added income through students' increased lifetime earnings and increased business output, as well as \$114.8 million in social savings related to health, crime, and income assistance in California. People in California invested a present value total of \$905.1 million in UC Merced in FY 2018-19. The cost includes all the university and student costs.

The benefit-cost ratio for society is 3.8, equal to the \$3.4 billion in benefits divided by the \$905.1 million in costs. In other words, for every dollar invested in UC Merced, people in California will receive a cumulative value of \$3.80 in benefits. The benefits of this investment will occur for as long as UC Merced's FY 2018-19 students remain employed in the state workforce.

Summary of investment analysis results

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

SOCIAL BENEFITS IN CALIFORNIA FROM UC MERCED



Conclusion

The results of this study demonstrate that UC Merced creates value from multiple perspectives. The university benefits regional businesses by increasing consumer spending in the region and supplying a steady flow of qualified, trained workers to the workforce. UC Merced enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The university benefits state and local taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, UC Merced benefits society as a whole in California 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 UC Merced, 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 university for a copy of the main report.

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multiple perspectives.



Emsi is a labor market analytics firm that integrates data from a wide variety of sources to serve professionals in higher education, economic development, workforce development, talent acquisition, and site selection. Emsi is a leading provider of economic impact studies and labor market data to educational institutions in the U.S. and internationally. Since 2000, Emsi has completed over 2,000 economic impact studies for institutions across three countries. For more information about Emsi's products and services, visit www.economicmodeling.com.