



TEXAS A&M
UNIVERSITY®

Executive Summary

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The Economic Value to Texas of Texas A&M University

Fiscal year of analysis 2021-22

TEXAS A&M UNIVERSITY (Texas A&M) 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 and company developments and also draws students and visitors to the state, generating new dollars and opportunities for Texas. This analysis covers all university components in Texas, including the Galveston Branch Campus, School of Law, and all Health Science Center activities. Texas A&M provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, Texas A&M is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

Texas A&M influences both the lives of its students and the state economy. The university supports a variety of industries in Texas, serves state businesses, and benefits society as a whole in Texas from an expanded economy and improved quality of life. Additionally, the benefits created by Texas A&M extend to the state and local government through increased tax revenues and public sector savings.

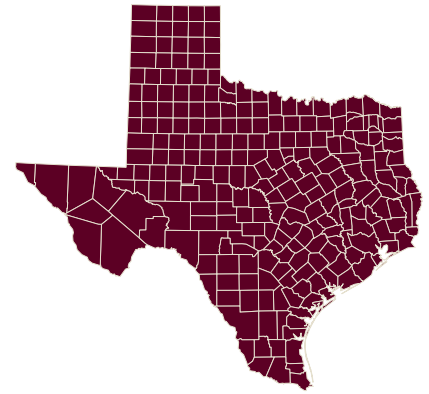
This study measures the economic impacts created by all university components of Texas A&M excluding the Qatar campus, on the business community and the benefits the university generates in return for the investments made by its key stakeholder groups—students, taxpayers, and society. The following two analyses are presented:

Economic impact analysis

Investment analysis

All results reflect employee, student, and financial data, provided by the university, for fiscal year (FY) 2021-22 (September 1, 2021 to August 31, 2022). Impacts on the Texas 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 Texas are reported under the investment analysis. An electronic version of the executive summary and fact sheet are available at economicimpact.tamu.edu.

Figure 1: Map of Texas



Economic impact analysis



Texas A&M promotes economic growth in Texas through its direct expenditures and the resulting expenditures of students, visitors, and state businesses. The university serves as an employer and buyer of goods and services for its day-to-day, research, and construction operations. Numerous start-up and spin-off companies have formed as a result of programs and knowledge at the university. The university's reputation and activities attract students and visitors from outside Texas, whose expenditures benefit state vendors. In addition, Texas A&M is one of the primary sources of higher education to Texas residents and a supplier of trained workers to state industries, enhancing overall productivity in the state workforce.

Operations spending impact

Texas A&M adds economic value to Texas as an employer of state residents and a large-scale buyer of goods and services. In FY 2021-22, the university employed 15,246 full-time and part-time faculty and staff (excluding research employees), 96% of whom lived in Texas. Total payroll at Texas A&M was \$847.6 million (excluding payroll from research employees), much of which was spent in the state for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the university spent \$881.5 million on day-to-day expenses related to facilities, supplies, and professional services (excluding research and construction expenditures).

Texas A&M's day-to-day operations spending added \$1.2 billion in income to the state during the analysis year. This figure represents the university's payroll, the multiplier effects generated by the in-state spending of the university and its employees, and a downward adjustment to account for funding that the university received from state sources. The \$1.2 billion in added income is equivalent to supporting 16,132 jobs in the state.

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, Texas A&M received 704 invention disclosures, filed 832 new patent applications, and produced 237 licenses. Texas A&M also generated license income over the same four-year time period, with \$34.9 million in license income in FY 2021-22.

In FY 2021-22, Texas A&M spent \$476.7 million on payroll to support research activities. This, along with \$494.3 million in other research spending (excluding indirect costs),

Table 1: Impacts created by Texas A&M in FY 2021-22

Operations spending impact	\$1.2 billion
Research spending impact	\$1.1 billion
Construction spending impact	\$115.1 million
Start-up & spin-off company impact	\$4.5 billion
Student spending impact	\$299.9 million
Visitor spending impact	\$203.1 million
Total income	\$7.5 billion
OR	
Total jobs supported	64,634
Former student impact	\$13.3 billion
Grand total income	\$20.8 billion
OR	
Grand total jobs supported	244,647



created a net total of \$1.1 billion in added income for the state economy. This added income is equivalent to supporting 15,195 jobs.

Table 2: Texas A&M research developments

Fiscal year	Inventions	Patents	Licenses
2018-19	161	179	75
2019-20	182	219	56
2020-21	177	268	59
2021-22	184	166	47
Total	704	832	237

Source: Texas A&M.

Construction spending impact

Texas A&M 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 state economy. In FY 2021-22, Texas A&M's construction spending generated \$115.1 million in added income, which is equivalent to supporting 1,717 jobs.

Start-up and spin-off company impact

Texas A&M creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of Texas A&M start-up and spin-off companies created in the state. Start-up companies, created specifically to license and commercialize Texas A&M technology or knowledge, have a strong and clearly defined link to Texas A&M. Spin-off companies, created and fostered through university programs by faculty or former students, have less direct link to Texas A&M. The number of companies reported by Texas A&M includes faculty whose primary residence is in the Bryan-College Station area and who have joint appointments at Texas A&M and at Texas A&M System agencies.

In FY 2021-22, Texas A&M start-up and spin-off companies added \$4.5 billion in income to the Texas economy, which is equivalent to supporting 23,130 jobs. Of this added income, \$185.2 million was due to the start-up companies, with the remainder due to spin-off companies.

Student spending impact

Around 14% of credit-bearing students attending Texas A&M originated from outside the state in FY 2021-22, and most of these students relocated to Texas to attend Texas A&M. These students may not have come to the state if the university did not exist. In addition, some in-state students, referred to as retained students, would have left Texas if not for the existence of Texas A&M. While attending the university, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$299.9 million in added income for the state economy in FY 2021-22, which supported 4,886 jobs in Texas.

Visitor spending impact

Hundreds of thousands of visitors from outside the state were attracted to Texas A&M during the analysis year to attend commencement, sports events, and other activities sponsored by Texas A&M. These visitors stayed an average of three nights. While in the state, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the university's out-of-state visitors generated a net impact of \$203.1 million in added income for the state economy in FY 2021-22. This \$203.1 million in added income is equivalent to supporting 3,574 jobs.

Total Texas A&M impact on the Texas economy

The total economic impact of all statewide components of Texas A&M on the Texas economy amounted to \$7.5 billion in added income. This stems from Texas A&M's spending on operations, research, and construction, its entrepreneurial activities, and the spending of its students and visitors. This \$7.5 billion in added income is equivalent to supporting 64,634 jobs.

Former student impact

Since Texas A&M was established, students have studied at the university and entered the state workforce with greater knowledge and new skills. Today, hundreds of thousands of former Texas A&M students are employed in Texas. As a result of their education from Texas A&M, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2021-22, Texas A&M former students generated \$13.3 billion in added income for the state economy, which is equivalent to supporting 180,012 jobs.

Grand total impact on the Texas economy

Texas A&M added \$20.8 billion in income to the Texas 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 student and visitor spending impacts; and the former student impact. For context, the \$20.8 billion impact was equal to approximately 0.9% of the total gross state product (GSP) of Texas. This contribution that the university provided on its own is larger than the entire Agriculture, Forestry, Fishing & Hunting industry in the state.

Texas A&M's total impact can also be expressed in terms of jobs supported. The \$20.8 billion impact supported 244,647 state jobs, using the jobs-to-sales ratios specific to each industry in the state. This means that one out of every 78 jobs in Texas is supported by the activities of Texas A&M and its students. In addition, the \$20.8 billion, or 244,647 supported jobs, stemmed from different industry sectors. For instance, among non-education industry sectors, the activities of Texas A&M and its former students in the Accommodation & Food Services industry sector supported 36,986 jobs in FY 2021-22. If the university did not exist, these impacts would not have been generated in Texas.

Table 3: Top impacts of Texas A&M by industry (jobs supported)

Industry	Jobs supported
Accommodation & Food Services	36,986
Retail Trade	33,026
Other Services (except Public Administration)	18,928
Administrative & Waste Services	18,069
Professional & Technical Services	14,386



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 evaluates Texas A&M as an investment from the perspectives of students, taxpayers, and society in Texas.

Student perspective

In FY 2021-22, Texas A&M served 75,152 credit-bearing and 11,919 non-credit 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 Texas A&M's students in FY 2021-22 amounted to a present value of \$1.9 billion, equal to \$854.3 million in out-of-pocket expenses (including future principal and interest on student loans) and \$1 billion in forgone time and money.

In return for their investment, Texas A&M's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average Texas A&M bachelor's degree graduate from FY 2021-22 will see annual earnings that are \$33,200 higher than a person with a high school diploma or equivalent working in Texas. Over a working lifetime, the benefits of the bachelor's degree over a high school diploma will amount to an undiscounted value of \$1.4 million in higher earnings per graduate. The present value of the cumulative higher future earnings that Texas A&M's FY 2021-22 students will receive over their working careers is \$10.1 billion.

The students' benefit-cost ratio is 5.3. In other words, for every dollar students invest in Texas A&M in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$5.30 in higher future earnings. Annually, the students' investment in Texas A&M has an average annual internal rate of return of 16.5%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.5%.

Taxpayer perspective

Texas A&M generates more in tax revenue than it receives. 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 Texas A&M 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

Table 4: Texas earnings at career midpoint by education level

Education level	Annual earnings
High school diploma	\$40,600
Certificate	\$44,300
Associate degree	\$50,400
Bachelor's degree	\$73,800
Master's degree	\$91,500
Doctoral degree	\$111,800
Professional degree	\$149,900

Source: Lightcast employment data.

Table 5: Students see a high rate of return for their investment in Texas A&M

Investment area	Rate of return
Average annual return for Texas A&M students	16.5%
Stock market 30-year average annual return	10.5%
Interest earned on savings account (National Rate Cap)	0.8%

Source: Forbes' S&P 500, 1992-2021. FDIC.gov, 2-2022.



and services. By the end of the FY 2021-22 students' working lives, the state and local government will have collected a present value of \$3.5 billion in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of Texas A&M students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The education that Texas A&M 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. Texas A&M 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 Texas A&M Public Partnership and Outreach for a copy of the main report. Altogether, the present value of the benefits associated with an education from Texas A&M will generate \$583.4 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$4.1 billion, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$704.2 million, equal to the amount of state and local government funding Texas A&M received in FY 2021-22. These benefits and costs yield a benefit-cost ratio of 5.9. This means that for every dollar of public money invested in Texas A&M in FY 2021-22, taxpayers will receive a cumulative present value of \$5.90 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 13.0%, which compares favorably to other long-term investments in the public and private sectors.

Social perspective

Society as a whole in Texas benefits from the presence of Texas A&M 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 Texas.

Benefits to society also consist of the savings generated by the improved lifestyles of Texas A&M 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 Texas A&M Public Partnership and Outreach for a copy of the main report.

Altogether, the social benefits of Texas A&M equal a present value of \$55.4 billion. These benefits include \$34.8 billion in added student income, \$16.0 billion in added business income, \$2.9 billion in added income from university activities, as well as

Table 6: Social benefits in Texas from Texas A&M

Social savings	\$1.7 billion
Added student income	\$34.8 billion
Added income from university activities	\$2.9 billion
Added business income	\$16 billion
Total benefits to society	\$55.4 billion

Source: Lightcast impact model.

\$1.7 billion in social savings related to health, the justice system, and income assistance in Texas. People in Texas invested a present value total of \$4 billion in Texas A&M in FY 2021-22. The cost includes all the university and student costs.

The benefit-cost ratio for society is 13.8, equal to the \$55.4 billion in benefits divided by the \$4 billion in costs. In other words, for every dollar invested in Texas A&M, people in Texas will receive a cumulative value of \$13.80 in benefits. The benefits of this investment will occur for as long as Texas A&M's FY 2021-22 students remain employed in the state workforce.

Summary of investment analysis results

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

Table 7: Summary of investment analysis results

Student perspective		Taxpayer perspective		Social perspective	
Present value benefits		Present value benefits		Present value benefits	
\$10.1 billion		\$4.1 billion		\$55.4 billion	
Present value costs		Present value costs		Present value costs	
\$1.9 billion		\$0.7 billion		\$4.0 billion	
Net present value		Net present value		Net present value	
\$8.2 billion		\$3.4 billion		\$51.4 billion	
Benefit-cost ratio	Rate of return	Benefit-cost ratio	Rate of return	Benefit-cost ratio	Rate of return
5.3	16.5%	5.9	13.0%	13.8	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 Texas A&M creates value from multiple perspectives. The university benefits state businesses by increasing consumer spending in the state and supplying a steady flow of qualified, trained workers to the workforce. Texas A&M 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, Texas A&M benefits society as a whole in Texas 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 2021-22 academic and financial reports from Texas A&M, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Lightcast's Multi-Regional Social Accounting Matrix model, and a variety of studies and surveys relating education to social behavior. Lightcast's methodology for this study adheres to the Association of American Universities (AAU) and the Association of Public and Land-grant Universities (APLU) guidelines. 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 Texas A&M Public Partnership and Outreach for a copy of the main report.



Lightcast provides colleges and universities with labor market data that help 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 Lightcast to align programs with regional needs, drive enrollment, connect students with in-demand careers, track their former students' employment outcomes, and demonstrate their institution's economic impact on their region. Visit lightcast.io/solutions/education to learn more or connect with us.