



The Economic Value of the University of Houston to the Greater Houston Region

Executive Summary



THE University of Houston (UH) 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 visitors and students to the region, generating new dollars and opportunities for the Greater Houston Region. UH provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, UH is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

UH influences both the lives of its students and the regional economy. The University supports a variety of industries in the Greater Houston Region,¹ serves regional businesses, and benefits society as a whole in Texas from an expanded economy and improved quality of life. The benefits created by UH even extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by UH 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) 2017-18. Impacts on the Greater Houston Region 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.

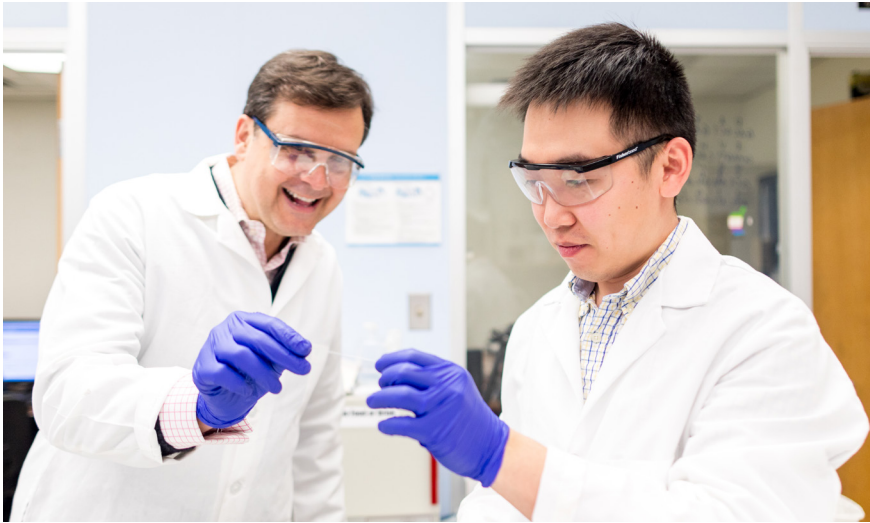
*The value of UH influences both
the **lives of its students** and the
regional economy.*

¹ For the purposes of this analysis, the Greater Houston Region is comprised of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties.



Economic impact analysis

IMPACTS CREATED BY UH
IN FY 2017-18



UH promotes economic growth in the Greater Houston Region 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 and research operations. Numerous start-up companies have formed as a result of programs and knowledge at UH. The University's reputation and activities attract visitors and students from outside the Greater Houston Region, whose expenditures benefit regional vendors. In addition, UH is a primary source of higher education to the Greater Houston Region residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

Operations Spending Impact



UH adds economic value to the Greater Houston Region as an employer of regional residents and a large-scale buyer of goods and services. In FY 2017-18, the University employed 4,673 full-time and part-time faculty and staff (not including research employees), 97% of whom lived in the Greater Houston Region. Total payroll at UH was \$493.3 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 \$288.8 million on day-to-day expenses related to facilities, supplies, and professional services (excluding research expenditures).

UH's day-to-day operations spending added \$717.6 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 \$717.6 million in added income is equivalent to supporting 7,139 jobs in the region.



\$717.6 million

Operations Spending Impact



\$198.6 million

Research Spending Impact



\$102 million

Construction Spending Impact



\$30.7 million

Start-up Company Impact



\$7.6 million

Visitor Spending Impact



\$140.1 million

Student Spending Impact



\$5.2 billion

Alumni Impact



\$6.4 billion

TOTAL IMPACT

- OR -

61,751

JOBS SUPPORTED

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, UH received 279 invention disclosures, filed 213 new patent applications, and produced 26 licenses.

In FY 2017-18, UH spent \$81.3 million on payroll to support research activities. This, along with \$96.6 million in other research spending, created a net total of \$198.6 million in added income for the regional economy. This added income is equivalent to supporting 2,073 jobs.

Construction Spending Impact



UH commissioned contractors to build or renovate its facilities in FY 2017-18. The quick infusion of income and jobs that occurred in the regional economy as a result of this construction spending is considered short-term due to the one-time nature of such projects. Nonetheless, the University's construction spending had a substantial impact on the regional economy in FY 2017-18, equal to \$102 million in added income and equivalent to supporting 1,377 jobs.

Start-up Company Impact



UH creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of UH start-up companies created in the region. Start-up companies are created specifically to license and commercialize UH technology or knowledge. In FY 2017-18, UH start-up companies added \$30.7 million in income to the Greater Houston Region economy, which is equivalent to supporting 86 jobs.

Visitor Spending Impact



Thousands of visitors from outside the region were attracted to UH during the analysis year to attend commencement, sports events, and other activities sponsored by the University. While in the region, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the University's out-of-region visitors generated a net impact of \$7.6 million in added income for the regional economy in FY 2017-18. This \$7.6 million in added income is equivalent to supporting 138 jobs.

Student Spending impact



Around 19% of credit students attending UH originated from outside the region in FY 2017-18, and some of these students relocated to the Greater Houston Region to attend UH. 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 Greater Houston Region if not for the existence of UH. While attending the University, these relocated and retained students spent money on groceries,

UH RESEARCH DEVELOPMENTS

	Inventions	Patents	Licenses
2014-15	85	68	8
2015-16	58	42	5
2016-17	66	46	5
2017-18	70	57	8
Total	279	213	26

Source: UH.

accommodation, transportation, and other household expenses. This spending generated \$140.1 million in added income for the regional economy in FY 2017-18, which supported 3,222 jobs in the Greater Houston Region.

Alumni Impact



The education and training UH provides for regional residents has the greatest impact. Since its establishment, students have studied at UH and entered the regional workforce with greater knowledge and new skills. Today, hundreds of thousands of former UH students are employed in the Greater Houston Region. As a result of their UH educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2017-18, UH alumni generated \$5.2 billion in added income for the regional economy, which is equivalent to supporting 47,716 jobs.

Total Impact

UH added \$6.4 billion in income to the Greater Houston Region economy during the analysis year, equal to the sum of the operations, research, and construction spending impacts, the start-up company impact, the visitor and student spending impacts, and the alumni impact. For context, the \$6.4 billion impact was equal to approximately 1.2% of the total gross regional product (GRP) of the Greater Houston Region. This contribution that the University provided on its own is twice as large as the entire Arts, Entertainment, & Recreation industry in the region.

UH’s total impact can also be expressed in terms of jobs supported. The \$6.4 billion impact supported 61,751 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. This means that one out of every 67 jobs in the Greater Houston Region is supported by the activities of UH and its students. In addition, the \$6.4 billion, or 61,751 supported jobs, impacted regional industries in different ways. Among non-education industry sectors, UH supported the most jobs in the Professional & Technical Services industry sector – supporting 8,920 jobs in FY 2017-18. These are impacts that would not have been generated without the University’s presence in the Greater Houston Region.

TOP INDUSTRIES IMPACTED BY UH (JOBS SUPPORTED)



One out of every 67 jobs in the Greater Houston Region is supported by the activities of UH and its students.



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 UH as an investment from the perspectives of students, taxpayers, and society in Texas.

Student perspective



In FY 2017-18, UH served 51,132 credit and 3,759 non-credit students.² 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 UH's students in FY 2017-18 amounted to a present value of \$1.1 billion, equal to \$432.9 million in out-of-pocket expenses (including future principal and interest on student loans) and \$716.2 million in forgone time and money.

In return for their investment, UH's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average UH bachelor's degree graduate from FY 2017-18 will see an increase in earnings of \$34,700 each year compared to 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 \$1.5 million in higher earnings per graduate. Altogether, UH's FY 2017-18 students will receive \$4.8 billion in higher future earnings over their working lives, as a result of their education and training at UH.

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN UH



15.1%

Average annual return for UH students



10.1%

Stock market 30-year average annual return

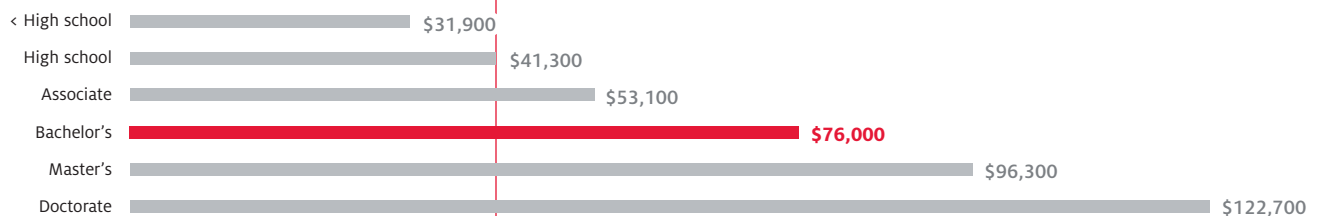


0.8%

Interest earned on savings account (National Rate Cap)

Source: Forbes' S&P 500, 1987-2016. FDIC.gov, 7-2016.

The average bachelor's degree graduate from UH will see an increase in earnings of **\$34,700** each year compared to a person with a high school diploma or equivalent working in Texas.



Source: Emsi complete employment data.

² Note that this is an annual enrollment for the entire academic year.

The students' benefit-cost ratio is 4.2. In other words, for every dollar students invest in UH, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$4.20 in higher future earnings. Annually, the students' investment in UH has an average annual internal rate of return of 15.1%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

Taxpayer perspective



UH 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 UH 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 2017-18 students' working lives, the state and local government will have collected a present value of \$1.5 billion in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of UH students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' UH 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. UH 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 UH education will generate \$224.4 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$1.8 billion, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$293.9 million, equal to the amount of state and local government funding UH received in FY 2017-18. These benefits and costs yield a benefit-cost ratio of 6.0. This means that for every dollar of public money invested in UH in FY 2017-18, taxpayers will receive a cumulative value of \$6.00 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 13.8%, which compares favorably to other long-term investments in the public and private sectors.

*For every dollar of public money invested in UH, taxpayers will receive a cumulative value of **\$6.00** over the course of the students' working lives.*



STUDENT PERSPECTIVE

\$4.8 billion

Present value benefits

\$1.1 billion

Present value costs

\$3.7 billion

Net present value

Benefit-cost Ratio

Rate of Return

4.2

15.1%



TAXPAYER PERSPECTIVE

\$1.8 billion

Present value benefits

\$293.9 million

Present value costs

\$1.5 billion

Net present value

Benefit-cost Ratio

Rate of Return

6.0

13.8%



SOCIAL PERSPECTIVE

\$25.5 billion

Present value benefits

\$2 billion

Present value costs

\$23.4 billion

Net present value

Benefit-cost Ratio

Rate of Return

12.6

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.

Social perspective



Society as a whole in Texas benefits from the presence of UH 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 Texas.

Benefits to society also consist of the savings generated by the improved lifestyles of UH 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.

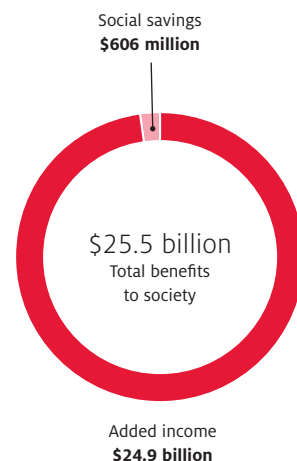
Altogether, the social benefits of UH equal a present value of \$25.5 billion. These benefits include \$24.9 billion in added income through students' increased lifetime earnings and increased business output, as well as \$606 million in social savings related to health, crime, and income assistance in Texas. People in Texas invested a present value total of \$2 billion in UH in FY 2017-18. The cost includes all the University and student costs.

The benefit-cost ratio for society is 12.6, equal to the \$25.5 billion in benefits divided by the \$2 billion in costs. In other words, for every dollar invested in UH, people in Texas will receive a cumulative value of \$12.60 in benefits. The benefits of this investment will occur for as long as UH's FY 2017-18 students remain employed in the state workforce.

Summary of investment analysis results

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

SOCIAL BENEFITS IN TEXAS
FROM UH



Conclusion

The results of this study demonstrate that UH 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. UH 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, UH 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.

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

About the Study

Data and assumptions used in the study are based on several sources, including the FY 2017-18 academic and financial reports from UH, 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.

