Financial Returns on a Graduate Degree

Master's Degree vs. Bachelor's Degree

For students who have successfully earned a bachelor's degree in their chosen field, there is celebration but there can also be a question of, *what's next?* Do they go straight into the workforce and begin building their career? Or do they pursue an advanced degree? The demand for graduate education by employers has grown over the past two decades and is projected to continue to grow, with 16% of jobs estimated to require a graduate degree by 2031. At the same time, the promise of higher earnings and career advancement have made graduate degrees increasingly attractive to students. But do graduate degrees pay off?

The Georgetown University Center on Education and the Workforce (CEW), looking at data from the U.S. Census Bureau and the Bureau of Labor Statistics, found that 86% of master's degree holders are employed, a small premium over baccalaureates (82%) and more than ten points higher than adults overall (75%). The median earnings of those with a master's degree was $92,000 while the median for baccalaureates was $78,000, an 18% return. This premium, like median wages for both bachelor's and master's degree holders, has remained relatively flat over the last three decades (Gulish, Morris, Cheah, & Strohl, 2024, pp. 23, 27-29).

A recent paper from The University of Texas System explored the post-graduation earnings outcomes of UT System baccalaureates who earned no advanced degrees compared to those UT System baccalaureates who went on to earn either a master's or doctoral degree from any U.S. institution. This brief highlights some of the findings for master's degrees. The full paper and related materials are available online at https://www.utsystem.edu/offices/institutional-research-and-analysis/reports-and-policy-papers.

Counts by Highest Degree Level, Years after Baccalaureate Degree and Institution of Bachelor's Degree

2006 – 2018 Exiting Baccalaureate Cohorts

	Within Five Years of Baccalaureate Degree		Within Ten Years of Baccalaureate Degree	
Baccalaureate Institution	# Highest Degree = Master's	# Highest Degree = Bachelor's	# Highest Degree = Master's	# Highest Degree = Bachelor's
UTA	8,885	42,492	6,434	17,584
UTAUS	10,147	56,107	9,060	25,510
UTD	4,906	19,058	3,268	8,550
UTEP	4,358	21,322	3,906	9,976
UTPB	811	5,301	659	2,435
UTRGV	5,824	31,901	5,451	15,807
UTSA	5,166	34,518	4,464	16,581
SFA	2,088	9,759	852	2,186
UTT	1,815	10,422	1,520	4,863

Wages are impacted by experience, education, location, industry, and, most critically, occupation. This study is focused on the education factor and accounts for experience or, at least, for potential years in the workforce. Although the study population is limited to those found working in Texas, which addresses location in a broad way, there are still going to be wide variations in wages within the state. Although we do have data on the industry where graduates are working, and have explored earnings by industry in previous work, industry is not included as part of this study. Occupation is a critical determinant of earnings, but that data element is unfortunately not available. So, this analysis is limited in that at least some differences in wages studied here would be attributed to occupation and detailed location differences.

Key Findings

- Each UT System academic institution shows increased wages for those UT baccalaureates who earned a master's versus those who did not both five and ten years after baccalaureate degree.
- In general, the master's degree is most likely in the same area as the baccalaureate. For those areas where that is not the case, the master's degree is most often in Business, Education, or Health.
- Examining the broad area of study categories for UT baccalaureates, the top five areas by median wage for both baccalaureates and master's degree holders working in Texas—and at all three points in time (5, 10, 15 years post-bachelor's degree)—are architecture and engineering; computers, statistics, and mathematics; health; business; and physical sciences. All that changes is the order.
    - However, the median annual earnings for a UT baccalaureate in computers, statistics, and math who never earned a master's degree is significantly higher than for those who did.
    - UT baccalaureates in agriculture and natural resources and architecture and engineering who never earned a master's degree have slightly higher median annual wages than those who did at five and ten years after bachelor's degree (but not at fifteen years).
- There are five areas of baccalaureate study that show an earnings differential—the difference between the earnings of UT baccalaureates working in Texas who go on to earn a master's degree versus those who do not—of at least 10% at five, ten, and fifteen years: biology and life sciences; business; health; industrial arts, consumer services, and recreation; and legal, public policy, and social work.
    - A master's degree in communications and journalism showed very little return compared to bachelor's degree at five, ten, and fifteen years.
    - Only one area showed consistent a consistent negative earnings differential: computers, statistics, and mathematics.
- Both male and female UT baccalaureates with master's degrees experience at least a 10% earnings differential over those with only a bachelor's degree. Although the earnings differential for men who earn master's degrees is not significantly higher than for women, the difference in actual earnings widens.
- In general, Asian American graduates see the highest return on their master's degree at both five and ten years. In addition to seeing the highest returns on earning a master's degree, Asian American graduates see the highest salaries for both bachelor's and master's degree-holders at five and ten years after graduation.
- Hispanic graduates see the lowest returns on earning a master's degree at both five and ten years, as well as having the lowest median wages for both bachelor's and master's degree-holders.

Institution Awarding Baccalaureate

Median Annual Wages: Master's Degree versus Baccalaureate Degree, by Institution of Bachelor's Degree

	Within Five Years of Baccalaureate Degree				Within Ten Years of Baccalaureate Degree			
Baccalaureate Institution	Bachelor's – Median $	Master's – Median $	% Difference	$ Difference	Bachelor's – Median $	Master's – Median $	% Difference	$ Difference
UTA	$70,300	$81,600	16%	$11.3K	$77,500	$94,300	22%	$16.8K
UTAUS	68,000	75,700	11%	7.7K	90,800	98,200	8%	7.4K
UTD	67,700	76,600	13%	8.9K	81,700	96,800	18%	15.1K
UTEP	57,000	62,500	10%	5.5K	64,500	71,700	11%	7.1K
UTPB	62,900	68,800	9%	5.8K	68,600	74,400	8%	5.8K
UTRGV	57,000	62,900	10%	5.8K	64,100	72,100	12%	8.0K
UTSA	60,900	64,600	6%	3.7K	70,100	74,600	6%	4.5K
SFA	58,300	65,400	12%	7.1K	64,900	70,200	8%	5.3K
UTT	62,200	66,600	7%	4.4K	70,600	80,100	14%	9.6K
	Scale:	>=20	10 thru 19	5 thru 9	-4 thru 4	-9 thru -5	-10 thru -19	<= -20

Each UT System academic institution shows increased wages for those UT baccalaureates who earned a master's versus those who did not both five and ten years after baccalaureate degree. Institutional differences in median earnings will be impacted by factors such as program mix.

- Looking at UT institutions where graduates earned their bachelor's degree, after five years, the increase in wages for those who went on to earn a master's degree varies from $3.7K (6%) at UT San Antonio (UTSA) to $11.3K (16%) at UT Arlington (UTA). That difference is 10% or greater at UTA, UT Austin, UTD, UT El Paso (UTEP), UT Rio Grande Valley (UTRGV), and Stephen F. Austin University (SFA).
- At ten years, the increase for master's degree holders ranged from $4.5K (6%) for those who earned their bachelor's from UTSA to $16.8K (22%) for those who earned their bachelor's at UTA. That difference is 10% or greater for those who earned a bachelor's from UTA, UTD, UTEP, UTRGV, and UT Tyler (UTT).

Baccalaureate Area of Study

Throughout this study, we refer to "Area" or "Area of Study" where we have collapsed majors into 15 broad categories. The area always refers to the area of study for the bachelor's degree earned at a UT institution. In two-thirds of the areas of study, the master's degree is most frequently in the same area as the baccalaureate. For those areas where it is not, the master's degree is most often in Business, Education, or Health. For baccalaureates from architecture and engineering; business; computers, statistics, and mathematics; education; health; and legal services, public policy, and social work at least half of those who earned master's degrees remain in-field.

Percent of Those Whose Highest Degree is Master's Who Received their Master's in the Same Area as their Bachelor's Degree*	
Agriculture and natural resources	49.2
Architecture and engineering	65.3
Arts	45.7
Biology and life sciences	23.7
Business	75.7
Communications and journalism	27.8
Computers, statistics, and mathematics	50.8
Education	73.5
Health	78.4
Humanities and liberal arts	24.2
Industrial arts, consumer services, and recreation	17.3
Legal services, public policy, and social work	73.8
Physical sciences	47.0
Psychology	26.4
Social sciences	16.1
among those with a known area of master's degree	

There is little surprising about the areas of study with the highest median annual earnings. Examining the broad area of study categories for UT baccalaureates, the top five areas by median wage for both baccalaureates and master's degree holders working in Texas—and at all three points in time (5, 10, 15 years post-bachelor's degree)—are architecture and engineering; computers, statistics, and mathematics; health; business; and physical sciences. All that changes is the order. However, it is worth noting that at all three points in time, the median annual earnings for a UT baccalaureate in computers, statistics, and math who never earned a master's degree is significantly higher than for those who did. UT baccalaureates in agriculture and natural resources and architecture and engineering who never earned a master's degree have slightly higher median annual wages than those who did at five and ten years after bachelor's degree.

Top 5 Areas of Study for UT Baccalaureates by Median Annual Earnings

	5 Years	10 Years	15 Years
Highest Degree = Bachelors	architecture and engineering $95,100	architecture and engineering $119,300	architecture and engineering $136,000
	computers, stats, and math $85,700	computers, stats, and math $105,600	computers, stats, and math $124,500
	health - $82,700	health - $87,100	physical science - $94,100
	business - $68,100	physical science - $84,100	business - $93,500
	physical science - $64,800	business - $83,900	health - $86,500
Highest Degree = Masters	health $95,800	architecture and engineering $118,800	architecture and engineering $148,300
	business - $87,400	business - $112,800	business - $124,200
	architecture and engineering $87,200	health $110,000	health $107,300
	computers, stats, and math $80,200	physical science $96,500	physical science $104,300
	physical science $70,300	computers, stats, and math $90,400	computers, stats, and math $101,600

Earnings Differential (Master's versus Bachelor's Degrees)

Actual values are important, but so is the earnings differential, or the difference between the earnings of UT baccalaureates working in Texas who go on to earn a master's degree versus those who do not. There are five areas of baccalaureate study that show an earnings differential of at least 10% at five, ten, and fifteen years: biology and life sciences; business; health; industrial arts, consumer services, and recreation; and legal, public policy, and social work. A master's degree in communications and journalism showed very little return compared to bachelor's degree at five, ten, and fifteen years. Only one area showed consistent a consistent negative earnings differential: computers, statistics, and mathematics.

Difference in Annual Wages: Master's Degree versus Baccalaureate Degree, by UT Baccalaureate Area of Study

	5 Years		10 Years		15 Years	
Area of UT Bachelor's Degree	%	$	%	$	%	$
Agriculture and natural res...	-3%	-$1.6K	-4%	-$3.1K	--	--
Architecture and engineering	-8%	-$7.9K	-0%	-$0.6K	9%	$12.4K
Arts	-2%	-$1.1K	8%	$5.1K	9%	$5.8K
Biology and life sciences	20%	$10.5K	15%	$10.6K	15%	$12.0K
Business	28%	$19.2K	34%	$28.9K	33%	$30.7K
Communications and journ...	4%	$2.3K	4%	$3.0K	3%	$2.3K
Computers, statistics, math	-6%	-$5.5K	-14%	-$15.1K	-18%	-$22.9K
Education	8%	$4.7K	9%	$6.0K	10%	$7.0K
Health	16%	$13.1K	26%	$22.9K	24%	$20.8K
Humanities and liberal arts	1%	$0.4K	7%	$4.3K	9%	$6.0K
Industrial arts, consumer ser...	10%	$5.7K	10%	$6.9K	10%	$7.1K
Legal, public policy, social...	13%	$6.8K	13%	$7.7K	14%	$9.1K
Physical sciences	9%	$5.5K	15%	$12.4K	11%	$10.3K
Psychology	11%	$5.1K	10%	$6.5K	9%	$6.2K
Social sciences	5%	$3.0K	6%	$4.6K	8%	$6.4K

Scale:	>=20	10 thru 19	5 thru 9	-4 thru 4	-5 thru -9	-10 thru -19	<= -20

Area + Institution

Heat Map: Percent Difference in Annual Wages: Master's Degree versus Baccalaureate Degree Within Ten Years, by UT Baccalaureate Area of Study and Institution

Area of UT Bachelor's Degree	UTA	AUS	UTD	UTEP	UTPB	UTRGV	UTSA	SFA	UTT	Overall
Agriculture and natural res...										-4
Architecture and engineering	0	1	6	5		6	-11		9	-0
Arts	1	4	9	11		13	10	-2	11	8
Biology and life sciences	19	11	20	5	12	19	13	10	-11	15
Business	23	20	25	23	24	19	20	17	21	34
Communications and journ...	10	2		16	-4	17	5	6		4
Computers, statistics, math	-3	-24	6	7	-0	11	-14		-14	-14
Education	7	8	7	8	9	9	10	15	13	9
Health	24	20	28	26		19	21	8	39	26
Humanities and liberal arts	5	5	3	7	9	10	6	2	14	7
Industrial arts, consumer ser...	12	15		8	8	4	4	8	16	10
Legal, public policy, social...	7	10	34	19		17	12	7	-3	13
Physical sciences	25	26	17	-3		2	7			15
Psychology	12	-4	7	18	10	20	10	3	25	10
Social sciences	15	7	6	11	5	10	11		-4	6
Overall	22	8	18	11	8	12	6	8	14	
# Areas < 5%	3	5	1	1	2	2	3	3	4	
# Areas >= 10%	8	6	5	7	3	10	8	3	7	

Scale:	>=20	10 thru 19	5 thru 9	-4 thru 4	-9 thru -5	-10 thru -19	<= -20

There are three areas of study for baccalaureates from all UT academic institutions with positive outcomes for graduates who earned a master's degree within ten years—business, education, and health. Again, only business yields returns greater than 10% for all institutions. Two-thirds of institutions have at six or more areas that have at least 10% returns.

Gender Differences

Both male and female UT baccalaureates with master's degrees experience at least a 10% earnings differential over those with only a bachelor's degree. At ten and fifteen years, males are experiencing higher returns.

The median wage after five years for females with only a bachelor's degree is $60,200 and for males $68,700. Female graduates who earned a master's degree within five years saw a 12% return, ending up with a median wage of $67,100—less than the male baccalaureate with no master's degree. For male graduates, it was a 10% return for a median wage of $75,600.

At fifteen years after earning a bachelor's degree, female baccalaureates have a median wage of $70,100, while those with a master's degree have a median wage of $78,300—a return of 12%. However, men without a master's degree have a median wage of $97,700, while those with a master's degree have a median wage of $112,000, a 15% earnings differential. At this point, men without master's degrees are making $19,400 more than their female counterparts, while for those with a master's degree, men are making nearly $34,000 more than women.

Median Annual Wages: Master's Degree versus Baccalaureate Degree, by Institution of Bachelor's Degree

	Female				Male			
	Bachelor's – Median $	Master's – Median $	% Difference	$ Difference	Bachelor's – Median $	Master's – Median $	% Difference	$ Difference
5 Years	$60,200	$67,100	12%	$7.0K	$68,700	$75,600	10%	$6.8K
10 Years	$67,000	$75,300	12%	$8.3K	$84,900	$97,000	14%	$12.1K
15 Years	$70,100	$78,300	12%	$8.2K	$97,700	$112,000	15%	$14.3K

Scale:	>=20	10 thru 19	5 thru 9	-4 thru 4	-5 thru -9	-10 thru -19	<= -20

Race/Ethnicity Differences

In general, Asian American graduates see the highest return on their master's degree at both five and ten years. In addition to seeing the highest returns on earning a master's degree, Asian American graduates see the highest salaries for both bachelor's and master's degree-holders at five and ten years after graduation. Hispanic graduates see the lowest returns on earning a master's degree at both five and ten years, as well as having the lowest median wages for both bachelor's and master's degree-holders.

Difference in Annual Wages: Master's Degree versus Baccalaureate Degree, by Race/Ethnicity

	Within Five Years of Baccalaureate Degree				Within Ten Years of Baccalaureate Degree			
Race/Ethnicity	Bachelor's – Median $	Master's – Median $	% Difference	$ Difference	Bachelor's – Median $	Master's – Median $	% Difference	$ Difference
African American	$61,600	$68,100	10%	$6,500	$70,200	$80,100	14%	$9,900
Asian American	$70,200	$81,500	16%	$11,300	$90,900	$109,100	20%	$18,200
Hispanic	$59,700	$64,700	8%	$5,000	$66,700	$73,600	10%	$6,900
White	$66,900	$74,700	12%	$7,800	$80,300	$90,800	13%	$10,400

Scale:	>=20	10 thru 19	5 thru 9	-4 thru 4	-5 thru -9	-10 thru -19	<= -20

Conclusion

For UT baccalaureates whose highest degree is a master's, the returns are generally positive compared to those with highest degree of bachelor's, but the results vary based on gender, race/ethnicity, and, most importantly, area of baccalaureate study. On average, for those who received a bachelor's degree in communications and journalism or computers, statistics, and mathematics, for example, there is limited or even negative outcomes to earning a master's degree.

Financial returns are not the only impact of a graduate degree, of course, but given rising program costs for students, they must be considered as part of a student's decision-making process.

Occupation or job title is missing from this analysis because it is not available in the data. Recent legislation has ordered an expansion in the required fields for Texas Workforce Commission Unemployment Insurance wage reports submitted to the state. These new fields will hopefully allow for a more nuanced analysis of employment outcomes, but these changes will take several years to roll out, be adopted, and then become available for study. Additionally, the new data will only be available going forward, so longitudinal analyses will be limited.

Methodology and Sources

The initial population is based on students exiting a UT System academic institution with a bachelor's degree between 2006 and 2018. This data is provided by the Texas Higher Education Coordinating Board (THECB) Graduation Report. Those students were then tracked across time using THECB data as well as data from the National Student Clearinghouse to look for students earning graduate degrees within five, ten, or fifteen years after earning their bachelor's degree. At five, ten, and fifteen years after exiting with their baccalaureate, individuals are put into one of three categories based on their highest degree at that point: bachelor's, master's, or doctorate. This degree data is at that point combined with earnings data, provided by the Texas Workforce Commission Unemployment Insurance wage data through a data sharing agreement with The University of Texas System. An individual's wage (if present) is included in the calculation of median wage.

- Texas Higher Education Coordinating Board Graduation Report (CBM 009)
- Texas Workforce Commission Unemployment Insurance wage data
- National Student Clearinghouse
- Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System