Financial Returns on a Graduate Degree

Key Findings

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?

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. Some of the key findings from that paper are summarized below. The full paper and related materials are available online at https://www.utsystem.edu/offices/institutional-research-and-analysis/reports-and-policy-papers.

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.

Master's Degrees vs. Bachelor's Degrees

- 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 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 percentage 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.

Doctoral Degrees vs. Master's Degrees

- In half of the UT baccalaureate areas of study, the doctoral degree is most frequently in the same broad area. For those areas where it is not, the doctoral degree is most commonly in health or legal services, public policy, and social work. For baccalaureates from five areas, at least 40% of those who earned doctoral degrees remain in-field.
- Examining the broad area of study for UT baccalaureates, the top five areas by median wage for both master's degree holders and doctorates working in Texas are more varied, including areas like social sciences and biology and life sciences.
- For those UT baccalaureates from all areas who earned a doctorate within either 10 or 15 years, the earnings are higher than for those whose highest degree is a master's.
- At ten years, the range of difference is $7,600 for computers, statistics, and mathematics to $49,000 for communications and journalism, with graduates from ten baccalaureate areas who go on to earn a doctorate having at least a $20,400 premium.
- At fifteen years, it ranges from $12,000 for bachelor's in computers, statistics, and mathematics to $82,200 for biology and life sciences, with graduates from seven baccalaureate areas who go on to earn a doctorate having at least a $31,600 premium over those with a master's degree.
- Female graduates with doctoral degrees see higher rates of return then male graduates, but their median wages are significantly below those for men with doctoral degrees at ten and fifteen years out, although women with a doctorate do have higher median annual earnings than men whose highest degree is a master's.
- For doctorates earned within ten years, Asian American graduates see the lowest rate of return (24%), but they have the highest median wage at nearly $135,000. Hispanic UT baccalaureates who went on to earn a doctoral degree had nearly a 40% earnings differential compared to those with only a master's degree at ten years, although the median wages of Hispanic doctorates are the lowest.

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. In the long run, with both the degree and time in their career, doctoral degree holders see strong returns on their investment. Like a master's degree, however, a doctoral degree for those who earned their bachelor's degree in computers, statistics, and mathematics does not appear to provide a positive financial gain on average. 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.

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. 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. Sources: 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