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What's the Value of Higher Education in Connecticut?

Insights for State and Institutional Leaders, Part 1 in Series

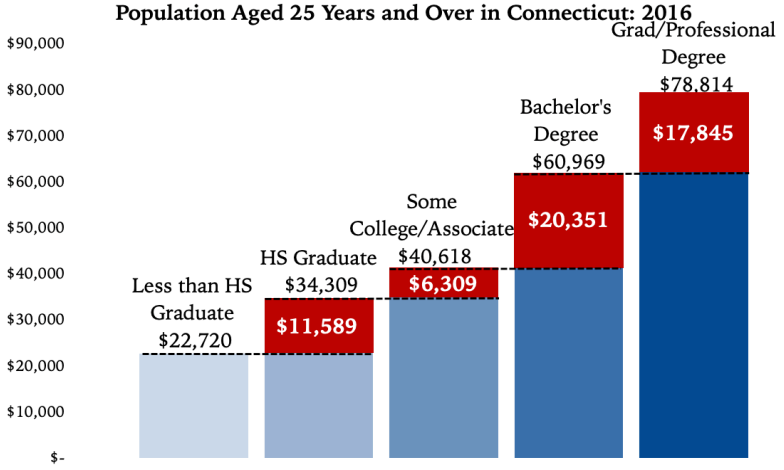
Overview

Public investments in higher education are valuable for individuals and the public because postsecondary credentials tend to grant people greater access to better, higher-paying jobs and more opportunities for stability and advancement within their chosen career track. According to the state's Department of Economic and Community Development, the fastest growing industries in Connecticut include, among others, advanced manufacturing, aerospace and defense, bioscience and healthcare, green energy, and technology innovation.[1] About 22% of all jobs in Connecticut typically require a bachelor's degree, and a high concentration of these occupations are actuaries, aerospace engineers, and marketing managers.[2]

Annual Earning Potential of a Degree

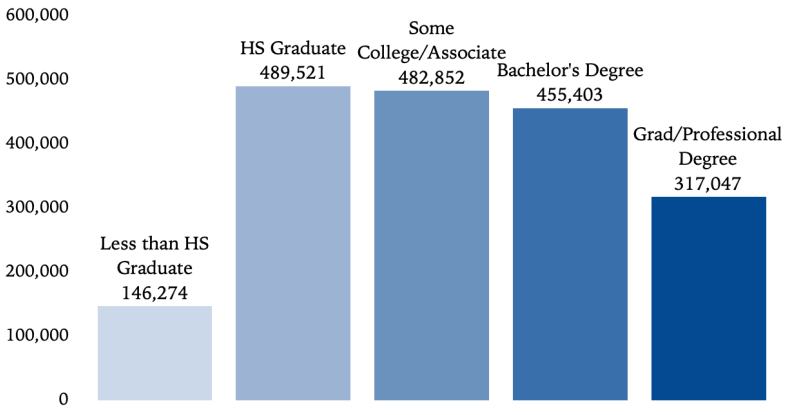
- In Connecticut, the average individual with an associate degree can expect to earn **$6,309 (18%)** more annually than someone with a high school diploma (or equivalency) only and **$17,898 (79%)** more per year than someone without a high school diploma.
- The premium is significantly higher for a four-year degree. The average bachelor's degree holder in Connecticut can anticipate earning **$20,351 (50%)** more annually than someone with an associate degree, **$26,660 (78%)** more per year than someone with a high school diploma only, and **$38,249 (168%)** more annually than someone who has not earned a high school diploma.
- Across Connecticut, approximately **635,000 adults** between ages 25 and 64 do not have any postsecondary experience (some college/associate degree or higher). This number reflects a "sunk cost" for the region in terms of lost wages. If about half of these individuals (317,000) earned an associate degree, this would mean an **additional $2 billion annually in taxable wages**. If the same number earned a bachelor's degree, it would amount to **an added $6.5 billion annually in taxable wages.**

Median Annual Earnings By Educational Attainment for the Population Aged 25 Years and Over in Connecticut: 2016



Source: U.S. Census Bureau, *American Community Survey*

Population of Residents Aged 25-64 at Each Level of Educational Attainment in Connecticut: 2017



Source: Lumina Foundation, *A Stronger Nation: Learning Beyond High School Builds American Talent*

1. https://portal.ct.gov/ChoosCT/Why-CT/Growing-Industries
2. U.S. Bureau of Labor Statistics, Occupational Employment Statistics survey and Employment Projections program.

Lifetime Earning Potential of a Degree in Connecticut

Over a 40-year career, a college degree pays off even more. In Connecticut, the expected career earnings at each level of attainment is:

High school diploma (or equivalency): $2,698,859

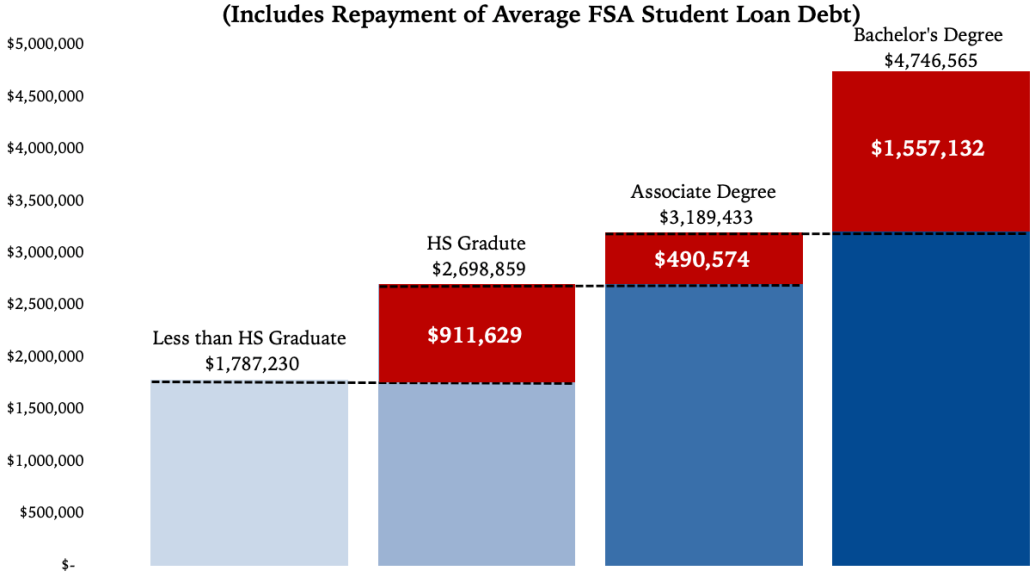
Associate degree: $3,189,433

This figure is **$490,574 (18%)** more than the expected lifetime earning of an individual with a high school diploma only. Someone with an associate degree in Connecticut can expect to earn $293,877 more in their career than the average associate degree holder in New England.

Bachelor's degree: $4,746,565

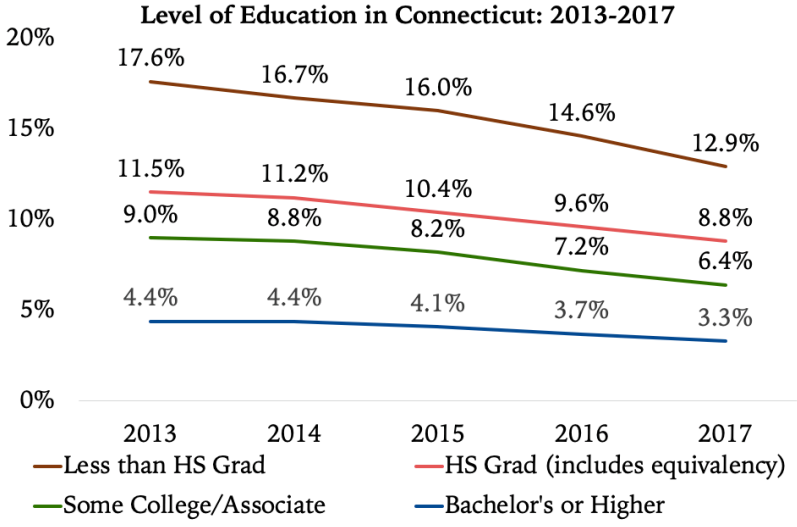
This figure is **$1,557,132 (49%)** more than the expected lifetime earning of an individual with an associate degree and **$2,047,706 (76%)** more than for someone with a high school diploma only. A bachelor's degree holder in Connecticut can expect to earn $494,161 more over the course of their career than the average individual with the same degree in New England.

Total Expected 40-Year Career Earnings in Connecticut by Level of Education (Includes Repayment of Average FSA Student Loan Debt)



Source: NEBHE analysis of information from the Federal Reserve, U.S. Census Bureau, TICAS, and Community College Review. For methodology, see Appendix.

Unemployment Rate for Population Aged 25-64 by Level of Education in Connecticut: 2013-2017



Source: U.S. Census Bureau, *American Community Survey*; Margin of error: +/-0.1

Unemployment Rates by Attainment Level

Those who have a postsecondary credential enjoy a significantly reduced risk of unemployment. As of January 2017, the average rate of unemployment in Connecticut for an individual with a bachelor's degree or higher was 3.3% (New England: 2.9%), compared with 6.4% for individuals with some college or an associate degree (New England: 5.4%), 8.8% for those with a high school diploma and no college (New England: 7.4%), and 12.9% for those with less than a high school diploma (New England: 10.8%).

APPENDIX	
Career Life:	
Age at career start	25
Retirement Age	65
Annual Income by Attainment Level (Source: U.S. Census Bureau, American Community Survey):	
Anticipated starting annual income (Less than HS diploma, based on actual current median income in 2016):	
New England Average	$23,650
Connecticut	$22,721
Maine	$20,616
Massachusetts	$24,464
New Hampshire	$27,360
Rhode Island	$23,592
Vermont	$23,146
Anticipated starting annual income (HS Graduate, based on actual current median income in 2016):	
New England Average	$31,590
Connecticut	$34,309
Maine	$27,225
Massachusetts	$32,940
New Hampshire	$32,878
Rhode Island	$31,658
Vermont	$30,500
Anticipated starting annual income (Associate Degree, based on actual current median income in 2016):	
New England Average	$36,985
Connecticut	$40,618
Maine	$31,877
Massachusetts	$39,791
New Hampshire	$38,908
Rhode Island	$36,791
Vermont	$33,927
Anticipated starting annual income (Bachelor's Degree, based on actual current median income in 2016):	
New England Average	$51,179
Connecticut	$60,969
Maine	$41,992
Massachusetts	$58,534
New Hampshire	$51,835
Rhode Island	$52,030
Vermont	$41,716
Expected Wage Growth (NEBHE analysis of data from the U.S. Census Bureau):	
Anticipated Annual Salary Growth (all postsecondary attainment levels)	3%
Anticipated Student Loan Debt (Average Amount Borrowed at Graduation/Average Total Amount Paid After Interest)	
New England Average (Associate degree holder only, Source: Community College Review)	$12,500/$13,806
New England Average (Bachelor's Degree Holder only, Source, TICAS)	$32,433/$43,505
Connecticut Average (Associate degree holder only)	$5,500/$5,713
Connecticut Average (Bachelor's Degree Holder only)	$35,494/$49,458
Maine Average (Associate degree holder only)	$12,000/$12,748
Maine Average (Bachelor's Degree Holder only)	$31,295/$40,948
Massachusetts Average (Associate degree holder only)	$15,250/$17,155
Massachusetts Average (Bachelor's Degree Holder only)	$31,563/$41,902
New Hampshire Average (Associate degree holder only)	$14,052/$15,648

New Hampshire Average (Bachelor's Degree Holder only)	$36,367/$551,249
Rhode Island Average (Associate degree holder only)	$12,500/$13,806
Rhode Island Average (Bachelor's Degree Holder only)	$31,217/$41,274
Vermont Average (Associate degree holder only)	$16,000/$18,124
Vermont Average (Bachelor's Degree Holder only)	$28,662/$36,809
Student Loan Interest (Source: U.S. Department of Education)	
FSA Fixed Rate Compounded Daily	6.8%
Monthly Loan Payment (Source: U.S. Federal Reserve Bank)	
Average Monthly Loan Payment in U.S.	$393

Methodology and Notes:
Annual Salary: **PYS*(1+3%)**, where PYS is the prior year's annual salary.

Salary data in the calculations are disaggregated by educational attainment but not by age due to unavailability of the former. Median income at each level of attainment was taken as the starting salary, which may skew the figures somewhat higher. We also acknowledge that disaggregating the data for individuals with some college but no degree and for those with an associate degree would yield a more robust picture of postsecondary attainment, earnings, and unemployment. Unfortunately, the data sources include only the aggregated data.

Student Loan Debt: For the first monthly payment, the U.S. average loan payment was deducted from the base average loan balance (**Balance+Payment**).

For each subsequent monthly payment, accrued interest was factored into the equation: **(SUM(BPP:I)+Payment)**, where BPP is the remaining balance after the most recent loan payment and I is accrued interest.

Loan debt was assumed only for individuals with some college/associate degree and bachelor's degree. The average interest rate of federal student loans dating back to 1992 is 6.8% compounded daily.

Projected Career Earnings: We modified the methodology originally used in the 2002 Census report on lifetime earnings. Our approach is as follows: For the sake of simplicity, it was assumed that people's careers begin at age 25 and all workers retire at 65. Synthetic estimates of work-life earnings were created by using the one-year annual earnings for each working population at each level of educational attainment and summing their education-specific earnings for 40 years while estimating an average of 3% annual earnings growth. Then we subtracted the total anticipated amount that an individual would pay for their student loan debt after accrued interest and average monthly payments if they obtained a postsecondary degree: **(SUM(Y1:Y20))-TL)**, where Y1 is estimated salary at year one, Y20 is the estimated salary at year 20, and TL is the total student loan debt paid including accrued interest.

Individuals who enter the labor market at a low point in the economic cycle (i.e., during a recession) are more likely to earn less over the course of their careers than a comparable individual who enters the workforce at a peak point of the business cycle (see, e.g., Kahn, Lisa 2010. "The Long-Term Labor Market Consequences of Graduating from a Bad Economy." Labour Economics*, 17: 303-316.).*

Our calculation is an estimate and is not based on real careers. Actual careers are characterized by some degree of variability and unpredictability. For the sake of calculating a conservative projection, it was assumed that all variables were held constant. Our approach is also an approximation, as wage growth can vary over time. Actual salary growth varies by state, career field, economic cycle, and individual choices. According to management consulting firm Aon Hewitt, a 3% annual raise for 2017 represents a relatively flat increase from 2.8% in 2016. This is supported with numbers from human resource organization World at Work, which saw 2016 salaries grow by 3% for the third consecutive year. According to the U.S. Bureau of Labor Statistics, these figures tended to be higher in the 1990s, with the average annual pay increasing 5.2% from 1997 to 1998, and 5.4% from 1991 to 1992. Yet, we have extended the 3% number back to 1987 as a conservative estimate.