

THE EFFECTS OF POST-SECONDARY EDUCATIONAL ATTAINMENT IN

Massachusetts

ANNUAL STATE GDP

For each additional post-secondary graduate, the
annual GDP of Massachusetts will increase by approximately



\$176,272 ▲

LIFETIME STATE GDP IMPACT PER GRADUATE



The average increase in the
Massachusetts state GDP over the
lifetime of the graduate will exceed

\$2.0 million
in present value dollars.

8.9
JOBS



For each additional post-secondary graduate,
an additional 8.9 support jobs will be generated
throughout the Massachusetts economy.



\$209,666 HIGHER
HOME VALUES

In addition, household incomes and expenditures will change as
more individuals graduate from post-secondary schools. Home
values of the graduate are expected to be \$209,666 higher, on
average, than for those with a high school diploma.



BROADER TAX BASE

Each post-secondary graduate will
expand the tax base by an average
of \$3,952 annually, paying back the
state portion of post-secondary
expenses within **6.3 working years**,
thus reducing the pressure on tax
rate increases.

\$3,952



Reduced pressure on tax
rate increases each year



Post-secondary graduates are more likely to
invest in capital assets, which will increase the
long-run growth rate of the state economy.

IMPROVED INCOMES AND LIFESTYLES associated with
college graduates will increase **automotive and transportation
spending** by \$3,681 annually per graduate relative to a
comparable individual without a postsecondary degree.



\$3,681 ▲



Increased automotive and
transportation spending per year

UNDERSTANDING THE RESEARCH

METHODOLOGY

Traditionally GDP is not reported on an educational basis, the way earnings or unemployment metrics are. However, it is important to understand how education contributes to economic activity and the link between education and GDP is known to exist, though not regularly reported. We want to show the direct economic consequence of post-secondary graduates to each state's economy. To do this we match the GDP-industry data, the industry-to-occupation data, and the occupation-to-education data for each state. After those mappings are compiled, we adjust the GDP, earnings, and tax data to account for known biases (e.g., ability biases) in the data. The result is the direct annual contributions to GDP resulting from the education of post-secondary graduates. It is best to interpret the results as average differences in economic activity between the state's graduates and non-graduates. Those differences are forecasted and then discounted to present value terms to estimate the additional lifetime contributions to GDP from each graduate.

It is also important to understand that graduates often rely on the support of other graduates and non-graduates. CEOs and Accountants need staff, and we all need and depend on retail clerks, garbage handlers, etc. Because support occupations play an important role, we report the average number of support jobs necessary for per graduate. Lastly, as a metric of improved lifestyle we show the increased annual spending of graduates on housing and transportation. These spending categories represent proxies for additional disposable income to graduates.

With the exception of the support jobs, the results of the fact sheet should be viewed as marginal gains to both the average post-secondary graduate and society as a whole.

DATA SOURCES

Data utilized for this study were as follows and sources for the lifetime earnings trajectory and bias corrections came from various journal articles.

Unemployment and Earnings by Educational

Attainment: Current Population Survey, U.S. Department of Labor, U.S. Bureau of Labor Statistics

Educational Attainment by Occupation: American Community Survey Public Use Microdata, U.S. Department of Commerce, U.S. Census Bureau

Industry Occupation Staffing Matrix: Employment Projections, U.S. Bureau of Labor Statistics

Gross State Product and Taxes by Industry and State:

Bureau of Economic Analysis, Lightcast, Department of Commerce, and Census of Governments, and IMPLAN

Annual Expenditures by Education Level: Consumer Expenditure Survey, U.S. Bureau of Labor Statistics

State Higher Education Funding and Degrees

Conferred: U.S. Department of Commerce, Census Bureau, Governmental Finances and U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System

ADDITIONAL RESOURCES

For those seeking a more detailed explanation of the methodology and intermediate steps for generating the results of the fact sheet please contact NCAN.

