



# The Economic Impact of Higher Education in New York State

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## Highlights

- New York's higher education institutions employed 266,110 people in 2009. New York had the third-largest higher education sector among the 50 states, accounting for 7.7 percent of the nation's higher education employment.
- New York has the largest private higher education sector in the nation, with 167,450 jobs in 2009—more than 40 percent larger than second-ranked California. New York accounts for 14.4 percent of all private higher education jobs in the nation.
- The State Comptroller estimates that in 2009, college and student spending directly and indirectly provided 495,100 jobs and generated \$62.2 billion of economic activity in the State.
- The Princeton Review recently found that New York had 37 of the nation's 286 colleges (nearly 13 percent) with above-average commitments to environmental responsibility.
- New York's colleges and universities spent more than \$4 billion on science and engineering research—nearly 8 percent of such spending in the nation. The majority (65 percent) was used for research in the life sciences.
- New York State provides support to research centers at higher education institutions around the State to help make New York a national leader in high-tech academic research and economic growth.
- In surveys by the Association of University Technology Managers, New York consistently ranks among the top three states in the nation in leveraging technology to create economic growth.
- In FY 2008, licensing of technologies generated more than \$380 million for New York schools, and 42 start-up companies were formed to use technology licensed from New York schools.
- New York has 15 medical schools, located across the State, which can apply the benefits of their research within their local communities.

In New York State, higher education is a major industry. The State's 269 degree-granting colleges and universities employed 266,110 people and paid out \$13.2 billion in wages in 2009. This was the third-largest higher education sector among the 50 states, accounting for 7.7 percent of all such employment in the nation. Including the impact of student spending, higher education directly and indirectly (through multiplier effects) generated \$62.2 billion in economic activity in New York in 2009. The sector has grown rapidly during both good and bad economic times, and has continued to expand during the current recession.

Total enrollment in New York's higher education institutions exceeded 1.2 million students in the fall of 2009—an increase of 21.4 percent since the fall of 2000. New York ranked third among all states for total enrollment in colleges and universities, and had the highest enrollment in private institutions. Nearly one-fifth of the students in New York were enrolled in advanced degree programs (including graduate, law, medical, and theological degree students), one of the largest concentrations in the country.

Higher education institutions contribute to the quality of life in their communities, providing services such as medical facilities, research centers, libraries, sports, arts, and cultural events. In many parts of the State, these schools account for a significant portion of local economic activity.

Higher education institutions also act as catalysts for economic growth. By fostering environments that are intellectually stimulating and diverse, colleges and universities fuel the creation of new technologies and ideas, and help build a skilled workforce. Through partnerships with private companies and investors, schools also seek to convert their research into new products and businesses that generate jobs and income for their communities.

## Employment

New York’s education sector is a major source of jobs. Combined, the State’s public and private colleges and universities provided 266,110 jobs in 2009, or 3.2 percent of all employment in the State. Employees include faculty, administrators, nonteaching professional staff, and technical, clerical, and maintenance staff.

Among the states, New York had the third-largest higher education employment in the nation, accounting for 7.7 percent of all such jobs nationwide in 2009 (see Figure 1).

New York has the largest private higher education sector in the nation. The State’s private colleges and universities provided 167,450 jobs in 2009—over 40 percent more than second-ranked California. Nationwide, 14.4 percent of all private higher education jobs are in New York.

New York State also has significant employment at its public colleges and universities. In 2009, New York’s public higher education sector provided 98,650 jobs, which ranked third among all states and accounted for 4.3 percent of all jobs at the nation’s public colleges and universities.

**Figure 1**  
**Higher Education Employment in 2009**  
**Top Ten States**

State	Rank	Total Jobs	Private Higher Ed. Jobs	Public Higher Ed. Jobs
California	1	421,550	116,950	304,610
Texas	2	269,130	41,190	227,940
<b>New York</b>	<b>3</b>	<b>266,110</b>	<b>167,450</b>	<b>98,650</b>
Pennsylvania	4	164,350	112,560	51,790
Illinois	5	155,850	65,640	90,210
Florida	6	138,440	45,390	93,060
Massachusetts	7	119,980	87,490	32,490
North Carolina	8	119,100	30,430	88,670
Michigan	9	118,030	20,540	97,490
Ohio	10	111,810	36,880	74,930

Sources: U.S. Bureau of Labor Statistics; OSC analysis

The number of jobs in higher education has been growing more rapidly than employment in the rest of the economy. During the 2003-2007 economic expansion, higher education employment in New York grew by 4.8 percent, compared to job growth of 4 percent in the rest of the economy.

Higher education employment has also been less affected by economic downturns. Demand for educational services remains strong during

recessions, as workers seek to learn new skills and students who cannot find jobs remain in school to earn advanced degrees. During the 2001-2003 recession, higher education employment rose by 5.8 percent in New York while jobs in the rest of the State’s economy declined by 2.6 percent. The State’s growth in higher education exceeded the nation’s (5 percent) during that period. More recently, higher education employment in New York grew by 2.7 percent between 2007 and 2009.

Most of the growth in higher education employment this decade has been at private colleges and universities. Between 2001 and 2009, total higher education employment in New York increased by 32,470 jobs, of which 27,990 jobs were in private colleges and universities (a gain of 20.1 percent). Employment in public higher education rose by 4,480 jobs (4.8 percent) during this period. A similar pattern occurred nationwide: private higher education employment rose by 23.4 percent during this period, compared to a gain of 11.9 percent for public education jobs.

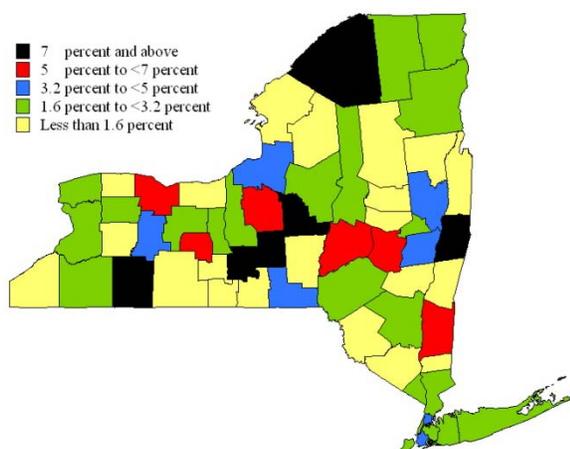
In many counties of New York—primarily upstate—higher education accounted for a much larger share of local employment than it did statewide (see Figure 2). In Tompkins County (home to Cornell University, Ithaca College, and Tompkins-Cortland Community College), one-third of all jobs were at higher education institutions, the highest concentration of any county in the State.

The next highest concentrations—just over 10 percent—were in Allegany and Madison counties (home to SUNY Alfred, Alfred University, Houghton College, Morrisville State College, Colgate University, and Cazenovia College). In three other counties—Rensselaer, St. Lawrence, and Cortland—higher education accounted for more than 7 percent of local employment (large institutions in these counties include Hudson Valley Community College, Rensselaer Polytechnic Institute, SUNY Potsdam, Clarkson University, and SUNY Cortland).

In six additional counties (Dutchess, Monroe, Onondaga, Otsego, Schoharie, and Yates), higher education accounted for more than 5 percent of all local jobs.

The largest absolute number of higher education jobs—nearly 68,000—were located in Manhattan (New York County) in New York City.

**Figure 2**  
**Higher Education Employment as a Share of Total Employment**



Sources: New York State Department of Labor; OSC analysis

## Wages and Salaries

Between 2001 and 2009, total wages paid by colleges and universities in New York rose by 38.5 percent to reach \$13.2 billion. This exceeded the wage growth in the rest of the economy (22.3 percent). As with employment, wage growth in New York during this period was driven by gains at private institutions.

The average wage for all higher education jobs in New York (including administrators, faculty, and nonprofessional staff) grew from \$40,860 in 2001 to \$49,675 in 2009. The increased use of lower-paid part-time faculty has slowed the growth in average salary. In 2009, the average salary for higher education jobs in New York ranked 13th in the nation.

## Economic Development

Higher education plays a significant role in revitalizing and diversifying New York's economy. Higher education spending—both on and off college campuses, for staff, capital projects, research, medical facilities, arts and cultural events, equipment, food, and supplies—produces direct and indirect benefits (through multiplier effects) for local communities. In addition, higher education provides long-term benefits, such as the value of learned skills that enable students to increase their lifetime earning potentials.

In 2009, spending by higher education institutions directly supported 266,110 jobs, \$13.2 billion in wages, and \$21.3 billion in economic activity in New York State's economy. In addition, students contribute to the local economy when they rent off-campus housing; dine out and socialize; or purchase electronics, books, clothing, and other supplies (student spending on tuition, room, and board is accounted as an input that becomes part of the spending by the educational institutions). Similarly, family and friends who come to visit generate additional spending in local communities. Using information from a College Board study, the State Comptroller estimates that direct off-campus spending by college students and visitors totaled \$17.6 billion in New York State in 2009.

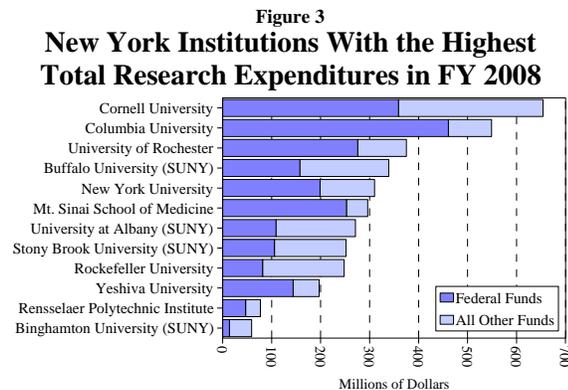
Direct spending by higher education institutions, students, and visitors generates additional benefits for the State's economy—through expanded production by businesses to provide products and services to colleges and universities and their students, as well as through increased household incomes and higher personal spending due to the creation of additional jobs to provide those services. Using IMPLAN, a well-established economic input-output model, the State Comptroller estimates that college, student, and visitor spending in 2009 directly and indirectly provided a total of 495,100 jobs that paid wages of \$23.5 billion—generating a total of \$62.2 billion of economic activity in New York.

Studies of the economic impact of higher education institutions around the State have found they have similar direct and indirect impacts on their regional economies. A study by the University at Buffalo of the 22 higher education institutions in Western New York found that through multiplier effects, \$2 billion in combined direct spending by the schools, students, and visitors generated \$3.2 billion in economic activity and more than 32,000 jobs in FY 2006. Similarly, a study by Cornell University found that \$898 million in direct payroll and construction spending upstate generated \$1.7 billion in regional economic activity and 20,160 jobs in FY 2007.

## Research and Innovation

Colleges and universities provide research facilities that create new technologies and businesses. The National Science Foundation's FY 2008 Survey of Research and Development Expenditures at Universities and Colleges found that New York's higher education institutions spent more than \$4 billion on science and engineering research—nearly 8 percent of all such expenditures in the nation. The majority of this spending (65 percent) was used for research in the life sciences, followed by engineering (14 percent) and the physical sciences (8 percent). The balance was in math and computer sciences, environmental sciences, and social sciences.

In FY 2008, there were 12 higher education institutions in New York that each spent more than \$50 million on science and engineering research (see Figure 3). Combined, these 12 schools spent \$3.6 billion on research—accounting for nearly 90 percent of all higher education science and engineering research spending in the State. More than 60 percent of the research was funded by the federal government; the balance came from the schools, State and local governments, and business partnerships.



Note: These institutions each spent more than \$50 million on research in 2008.  
Sources: National Science Foundation; OSC analysis

Public and private partnerships are a means to promote economic development through applied research and innovation. New York, through the New York State Foundation for Science, Technology, and Innovation (NYSTAR), has created programs and initiatives at research centers around the State with specializations in computer science, electronic devices, and information technology; environmental and energy systems; life sciences; materials and material

processing; nanotechnology and microelectronics; and optics, photonics, imaging, and sensors. The goals of these centers are: to help businesses become more competitive through technology, to leverage public and private partnerships for technology development, to enhance the research capabilities of the State's schools, to support the development of a skilled workforce, and to recommend policies to take advantage of the State's technology and research assets.

NYSTAR reports that New York has more than 80 business incubators, with one-third of these facilities located at higher education institutions. Significant incubators are operated by the Rensselaer Polytechnic Institute, the Polytechnic Institute of NYU, Columbia University, the Rochester Institute of Technology, and SUNY. Within SUNY, major technology-related incubators are located at the Albany, Buffalo, and Stony Brook campuses.

Research conducted at higher education institutions helps develop new technology, products, and services. Schools then patent new products and license them to companies, which brings in licensing income.

According to a survey conducted by the Association of University Technology Managers (AUTM), New York's higher education institutions had 1,622 license agreements that generated more than \$380 million in licensing income (i.e., from the rights to drugs, medical devices, and other intellectual property) during FY 2008. Overall, New York schools have received more than 27 percent of the cumulative licensing income earned by universities nationwide from 1999 through 2008. In 2008, New York schools were also issued 262 new patents, or 9 percent of the total issued to higher education institutions in the nation.

In FY 2008, the AUTM reported that 42 start-up companies were formed to use technology licensed from New York schools—representing 8 percent of start-ups formed at schools nationwide. Two-thirds of these start-ups had their primary place of business in New York. New York consistently ranks among the top three states in the nation across most of the AUTM's measures of how higher education institutions leverage technology to create economic growth, such as the creation of start-up companies.

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