

Partners for Prosperity: New Jersey and Higher Education

October 2012

Appleseed

Introduction

New Jersey's colleges and universities play a vital role in the economy of the Garden State. Each year they provide opportunities for nearly 600,000 students to acquire the skills that they need to succeed in an increasingly knowledge-driven economy. Research conducted at the state's colleges and universities provides a foundation for future economic growth – and helps address some of the most pressing problems affecting communities throughout New Jersey. Moreover, colleges and universities are also a major industry in themselves – major employers of New Jersey residents, buyers of goods and services from New Jersey companies, and sponsors of construction projects that are helping to build the state's future.

The value that colleges and universities provide to the people of New Jersey cannot, of course, be measured solely in jobs, or in dollars and cents. Higher education is also critical to meeting a broader set of cultural, scientific, civic and social goals. But at a time when New Jerseyans are working to overcome the continuing effects of a severe recession, and to move successfully into a new era of economic growth, the role of higher education in the state's economy is central.

This report highlights the multiple ways in which New Jersey's colleges and universities are contributing to the state's economic vitality. The report is based primarily on data collected from the member institutions of the New Jersey Presidents' Council – a 53-member board, created in 1994 by the New Jersey state legislature that represents county, state, independent and proprietary colleges and universities. The Council provides a forum through which the leaders of the state's colleges and universities can work together to address issues and challenges facing New Jersey's higher education community.

Developing New Jersey's human capital

New Jersey's colleges and universities play a central role in the development of the human resources that the state needs to succeed in an increasingly knowledge-intensive economy.

Enrollment

During the fall of 2011, New Jersey's colleges and universities collectively enrolled approximately 584,000 students. Enrollment in for-credit programs totaled more than 426,700, with New Jersey residents accounting for 88 percent of the total.

Table 1 provides a breakdown of for-credit enrollment by type of degree or certificate. (As the table shows, enrollment by degree or certificate program totaled more than 429,000. Some students, however, may be enrolled in more than one program. Based on data provided by New Jersey institutions, we estimate that the total enrollment cited here represented more than 426,700 individual students.)

Table 1: For credit enrollment by program type and student's permanent residence, Fall 2011

Type of enrollment	New Jersey	Other	Total
Associate's degree	146,260	7,317	153,577
Bachelor's degree	154,178	28,305	182,483
Advanced degree	41,300	16,049	57,349
Degree enrollment subtotal	341,738	51,671	393,409
Certificate	9,246	735	9,981
Undeclared/non-matriculated	24,642	1,232	25,874
Total enrollment	375,626	53,638	429,264
Total unduplicated enrollment	374,471	52,271	426,742

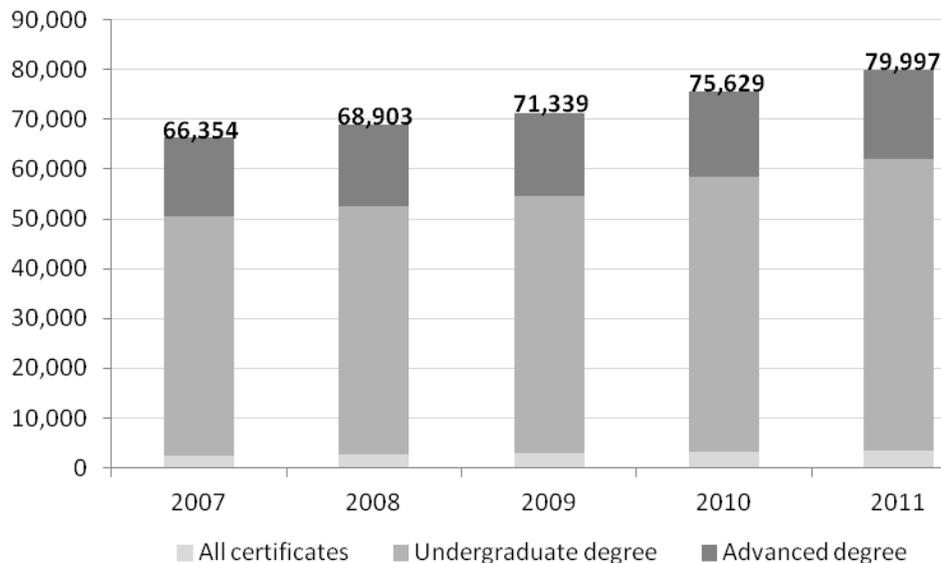
In addition to those enrolled in for-credit courses, the state's colleges and universities enrolled approximately 157,400 students¹ in the fall of 2011 in a wide variety of non-credit continuing education courses. These included career development programs for New Jerseyans already in or seeking to re-enter the workforce, customized training for employees of New Jersey companies, and courses that provide opportunities for personal enrichment in areas such as foreign languages and the arts.

¹ In addition to programs offered directly by the state's colleges and universities, Rutgers Cooperative Extension offers a wide range of educational programs and services for both adults and children in communities throughout New Jersey. Approximately 270,000 people participated in these programs in 2011.

Degrees granted

As shown in Figure 1, nearly 80,000 students received a degree or certificate from one of New Jersey's colleges and universities in 2011 – a 21 percent increase since 2007. Between 2007 and 2011, more than 362,000 students received a degree or certificate from one of these institutions, including more than 83,000 who earned advanced degrees.

Figure 1 : Degrees and certificates conferred by New Jersey institutions, 2007 - 2011



Source: IPEDS

Helping students get access to higher education

To help students meet the full cost of higher education, New Jersey's colleges and universities provide extensive financial assistance. In fiscal year 2010-11, they provided more than \$782 million in financial aid from institutional sources.

In addition to aid provided from institutional sources, the State of New Jersey offers several programs that help students get access to higher education.

- The Tuition Aid Grant (TAG) program, administered by the state's Higher Education Assistance Authority, provides tuition grants for New Jersey students attending New Jersey institutions. In fiscal year 2011 the TAG program – in which fifty colleges and universities participate – awarded 71,300 grants totaling \$282 million.
- The New Jersey Educational Opportunity Fund (EOF) program, in which forty-two colleges and universities participate, provides grants and scholarships ranging from \$200 to \$2,500 to undergraduate and graduate students from disadvantaged backgrounds. In 2011, this program provided assistance totaling \$16.45 million to 13,454 students.

Alumni

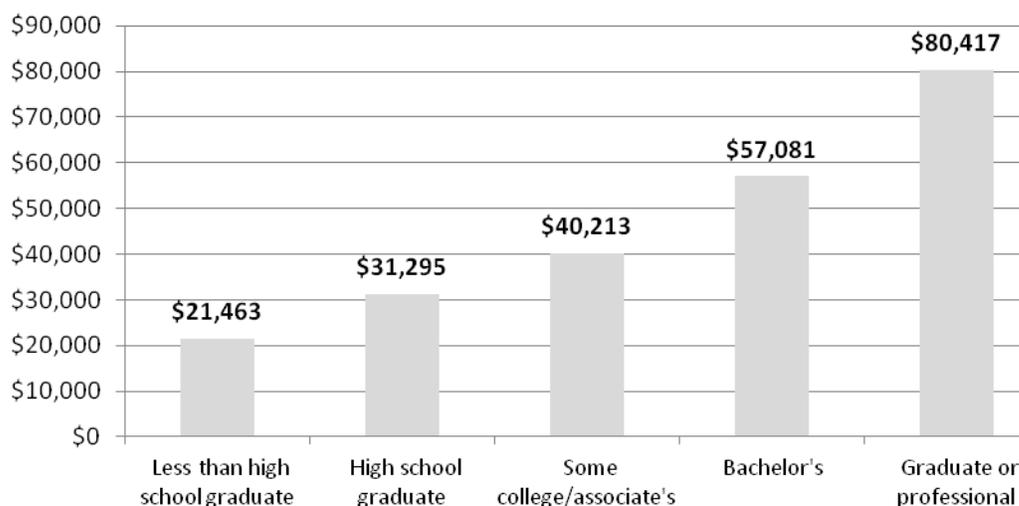
The role of New Jersey colleges and universities in developing the state's human capital is also reflected in data on these institutions' alumni, and where they live. As of March 2012, New Jersey's colleges and universities had cumulatively awarded more than 1.267 million associate, bachelor's, and graduate/professional degrees and certificates to people who currently reside in New Jersey. About 67 percent of all graduates of these institutions live in New Jersey.

Because of the broader role they play in educating adults, county colleges' contribution to New Jersey's human capital cannot be measured solely in terms of the number of people who earn degrees. Some students at county colleges transfer to four-year institutions before they have completed a degree. Others may take only a limited number of courses that help them develop specific job-related skills. As of March 2012, more than 436,000 students had earned at least 12 credits from one of the state's county colleges without completing a degree or certificate at that college. (Some of these students, of course, went on to earn degrees at other institutions.) About 86 percent of these students were still New Jersey residents as of March 2012.

The impact of education – on individual earnings and on society

The knowledge and skills that New Jersey residents acquire at the state's colleges and universities significantly increase their earning power. As Figure 2 shows, the median annual income of New Jersey residents with some college or an associate degree in 2010 was \$40,213 – 28 percent higher than the median for residents with only a high school diploma. The median income of those with a bachelor's degree was \$57,081 – 82 percent higher than the median for high school graduates; and for those with advanced degrees, median income was \$80,417 – 157 percent higher than the median for high school graduates.

Figure 2: Median income by educational attainment, New Jersey residents 25 and older, 2010



In addition to having higher earnings, college-educated workers are less likely to lose their jobs when the economy weakens. A recent study by the Georgetown Public Policy Institute highlights the stark contrast: Between December 2007 and February 2012, nationwide employment of workers with a high school education or less fell by 10 percent, while employment of those who had at least some college or an associate's degree declined by less than 1 percent. During the same period, employment of workers with at least a bachelor's degree rose by 5 percent.²

The benefits of higher education, however, go well beyond its impact on the incomes of those who earn degrees. Research published by the New York Federal Reserve Bank in 2008 found that with each one percent increase in a metropolitan area's population with a college degree there is a 2.3 percent increase in the region's per capita gross domestic product. The researchers cite two explanations for the powerful link between human capital and economic growth.

*First, human capital increases individual-level productivity and idea generation. Second, the concentration of human capital within a region facilitates knowledge spillovers, which further enhance productivity and fuel innovation.*³

Even non-college educated workers benefit from these spillover effects. Enrico Moretti has shown that a 1 percentage point increase in the percentage of a city's workers who have college degrees is associated with a 1.6 percent increase in the earnings of workers who only have high school diplomas.⁴

Other research suggests that the spillover effects of higher education are even greater at the state level. Edward Glaeser has estimated that increases in educational attainment at the state level have a "social multiplier" of 2.21 – for every 1 percent increase in the college-educated share of a state's population, average earnings increase by 2.21 percent. This finding, he notes, is consistent with the idea that workers' "individual earnings are a function both of their own schooling and the schooling of their neighbors."⁵

Higher education also affects participation in civic and community affairs.

- Education, for example, is the single most powerful predictor of whether Americans vote. According to surveys conducted by the Census Bureau, 77 percent of all voting-age citizens with a four-year college degrees, and 83 percent of those with advanced degrees, voted in the 2008 presidential election – but

² Anthony Carnevale, Tamara Jayasundera and Ban Cheah, *The College Advantage: Weathering the Economic Storm*, Georgetown Public Policy Institute, August 2012, p. 5.

³ Jaison Abel and Todd Gabe, "Human Capital and Economic Activity in Urban America," Federal Reserve Bank of New York, staff report no. 332, July 2008, pp. 1-2.

⁴ Enrico Moretti, "Social Returns to Human Capital," NBER Reporter: Research Summary, Spring 2005; and Moretti, *The New Geography of Jobs*, Houghton Mifflin Harcourt, 2012, pp. 100-101.

⁵ Edward Glaeser, Bruce Sacerdote and Jose Scheinkman, "The Social Multiplier," NBER Working Papers 2002, p. 18.

only 55 percent of those with just a high school education, and 39 percent of those who had not completed high school.⁶

- Surveys on volunteer activity conducted annually by the Bureau of Labor Statistics indicate that Americans with four-year college degrees are more than twice as likely to do volunteer work, and to participate in other forms of community activity, as those who have not attended college.⁷

Parents' education also affects the well-being of their children. The children of college-educated parents are less likely to suffer from low birth weight, and perform better in school.⁸

For much of the twentieth century, the U.S. led the world in providing opportunities for post-secondary education – and the democratization of higher education proved to be one of the most powerful sources of economic growth in American history. During the past few decades, however, the U.S. has begun to fall behind.

Statistics recently published by the Organization for Economic Cooperation and Development (a partnership of 36 developed countries) highlight this trend. In 2010 the U.S. ranked fourth among 36 OECD members (plus Russia) in the percentage of 55-to-64-year-olds who had college degrees. But on the percentage of 25-to-34-year-olds with college degrees, the U.S. had fallen into a tie for fourteenth place.⁹ Given the rate at which other countries are increasing the level of educational attainment among younger adults, the U.S. could within the next few years drop out of the top twenty.

Keeping higher education both available and affordable – and making sure that students are prepared to take advantage of this opportunity – is thus critical to the nation's future, and to New Jersey's.

⁶ Thom File and Sarah Crissey, "Voting and Registration in the election of November 2008," Current Population Reports, May 2010.

⁷ J. Foster-Bey, "Do Race, Ethnicity, Citizenship and Socioeconomic Status Determine Civic Engagement?" Center for Information and Research on Civic Learning and Engagement, Working Paper 62, December 2008

⁸ See, for example, Janet Currie and Enrico Moretti, "Mother's Education and the Intergenerational Transmission of Human Capital," *Quarterly Journal of Economics*, November 2003

⁹ OECD, *Education at a Glance 2012*. Countries ranking ahead of the U.S. in 2010 were Korea, Japan, Canada, Russia, Japan, Ireland, Norway, New Zealand, the U.K., Australia, Israel, Belgium, Luxembourg and France; the U.S. tied with Sweden.

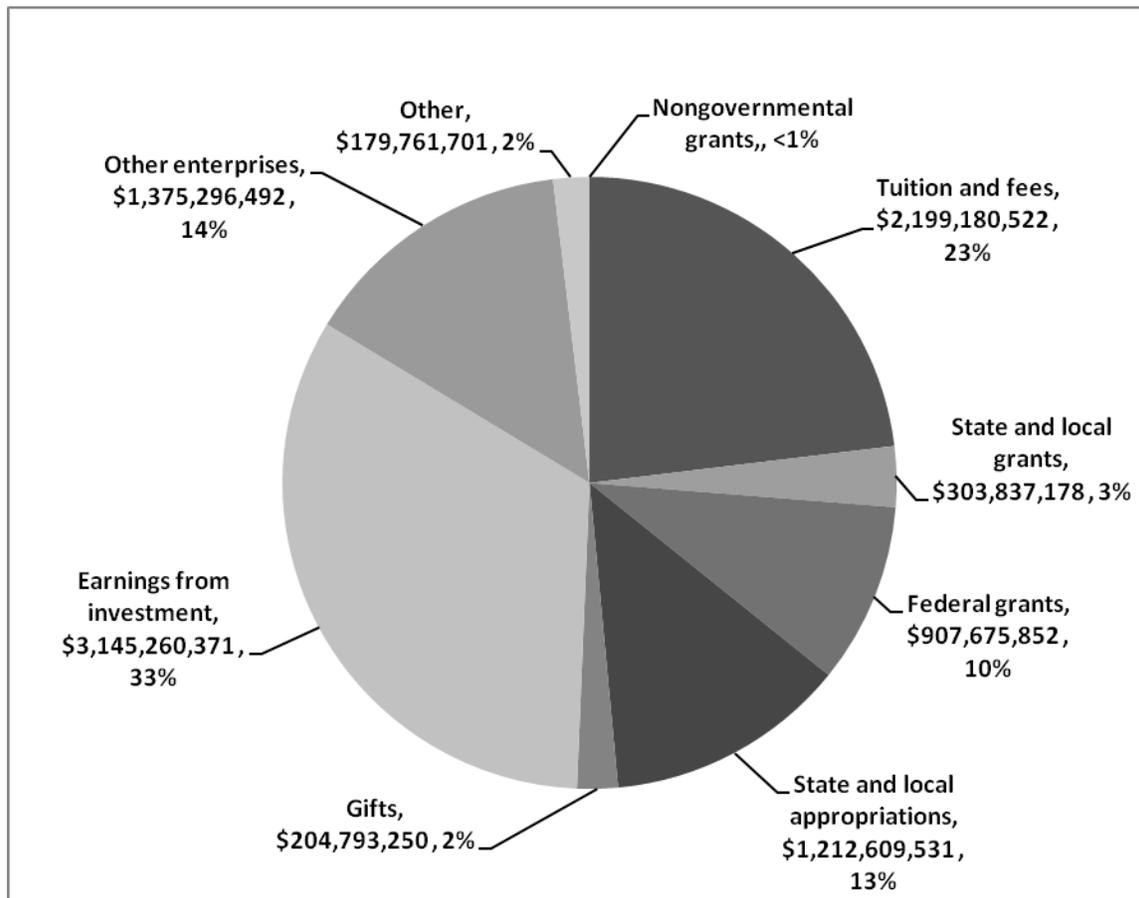
Higher education – a major New Jersey industry

In addition to their role in educating the state’s work force, New Jersey’s colleges and universities are a major industry.

Revenues

In fiscal year 2010-11, the revenues of NJPC member institutions totaled \$7.2 billion. Tuition and fees (net of financial aid) accounted for 31 percent of the total. Federal funds, private gifts and investment earnings together accounted for 27 percent of total revenues, and state and local government funding for 21 percent.

Figure 3 : Revenue by source, fiscal year 2010-11



Colleges and universities as employers

New Jersey's colleges and universities are major employers. In the fall of 2011, New Jersey President's Council members employed a total of 81,916 people (excluding student workers), of whom about 64 percent worked full-time. These institutions also employed 19,423 students, generally in part-time positions. About 90 percent of all employees of the state's colleges and universities lived in New Jersey.

Table 2: Total employment, excluding student workers, by employee residence, Fall 2011

	Full time	Part time	Total
New Jersey	47,591	26,209	73,800
Other	4,928	3,188	8,116
Total	52,519	29,397	81,916

The role of colleges and universities as major employers is highlighted when we compare employment at these institutions with employment in some other major New Jersey industries. As shown below in Table 3, more people are employed by colleges and universities than by New Jersey's banking, insurance or chemical and pharmaceutical manufacturing industries. Moreover, unlike many of the state's other leading industries, employment in higher education has generally remained stable – and even grown slightly – since the beginning of the recession. Between 2007 and 2011, employment (excluding students) at NJPC member institutions grew by 2 percent.

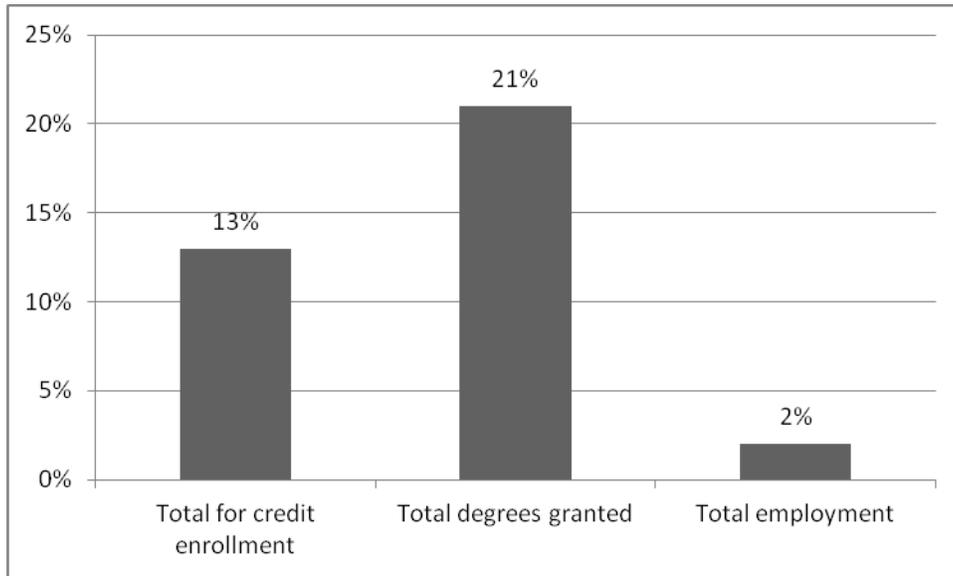
Table 3: NJPC employment compared with selected NJ industries, 2011

Industry	Annual Average Employment
Hospitals (public and private)	158,174
Construction	129,058
Food and beverage retailing	104,830
Full-service restaurants	102,800
New Jersey Presidents' Council Members	81,916
Air, truck and private ground passenger transport	78,500
Insurance	68,575
Banking	67,423
Real estate	52,740
Pharmaceutical & chemical manufacturing	52,736
Arts, entertainment, and recreation	53,038
Casino hotels	31,700
Telecommunications	31,163

Source: New Jersey Department of Labor and Workforce Development

As noted in the preceding section of this report, for-credit enrollment at New Jersey colleges and universities increased by 13 percent between 2007 and 2011, and the number of degrees and certificates awarded rose by 21 percent. In the face of increased demand for higher education, the number of people employed by NJPC member institutions also increased – but only by 2 percent. These figures suggest that the state’s colleges and universities have responded to increased demand for their services not only by hiring additional employees but also by operating more efficiently and by increasing the overall productivity of their faculty and staff.

Figure 4: Growth in enrollment, degrees and certificates awarded, and employment: 2007-2011



In fiscal year 2010-11, the combined payroll of the state’s colleges and universities totaled \$4.56 billion, about 91 percent of which (\$4.16 billion) was paid to New Jersey residents.

Table 4: Total payroll by employees’ place of residence, fiscal year 2010-11 (\$000's)

	Full time	Part time	Students	Total
New Jersey	\$ 3,674,579	\$ 335,873	\$ 152,461	\$ 4,162,913
Other	352,019	32,061	8,752	392,832
Total	\$ 4,026,597	\$ 367,934	\$ 161,214	\$ 4,555,745

The salaries and wages paid by colleges and universities are a source of tax revenues for the state. In fiscal year 2010-11, NJPC members withheld \$265.1 million in state income taxes from the wages and salaries paid to their employees.

Purchasing and construction

Colleges and universities also contribute to the state's economy through their purchases of goods and services from New Jersey companies and through their role as sponsors of major construction projects. In fiscal year 2010-11, NJPC members spent nearly \$1.7 billion on purchases of goods and services (other than construction) from New Jersey vendors.

Using the IMPLAN input-output model—a tool of economic analysis that can be used to measure the economic impact of a given type and level of spending—we estimate that payments to New Jersey vendors during fiscal year 2010-11 directly supported about 9,330 full-time-equivalent jobs throughout the state.

In addition to purchasing goods and services from New Jersey vendors, the New Jersey Presidents' Council members spent about \$788.5 million in fiscal year 2011 on capital construction and major maintenance projects. Using the IMPLAN model, we estimate that NJPC members' payments to New Jersey contractors generated about 3,940 full-time-equivalent jobs in construction and related industries in fiscal year 2011.

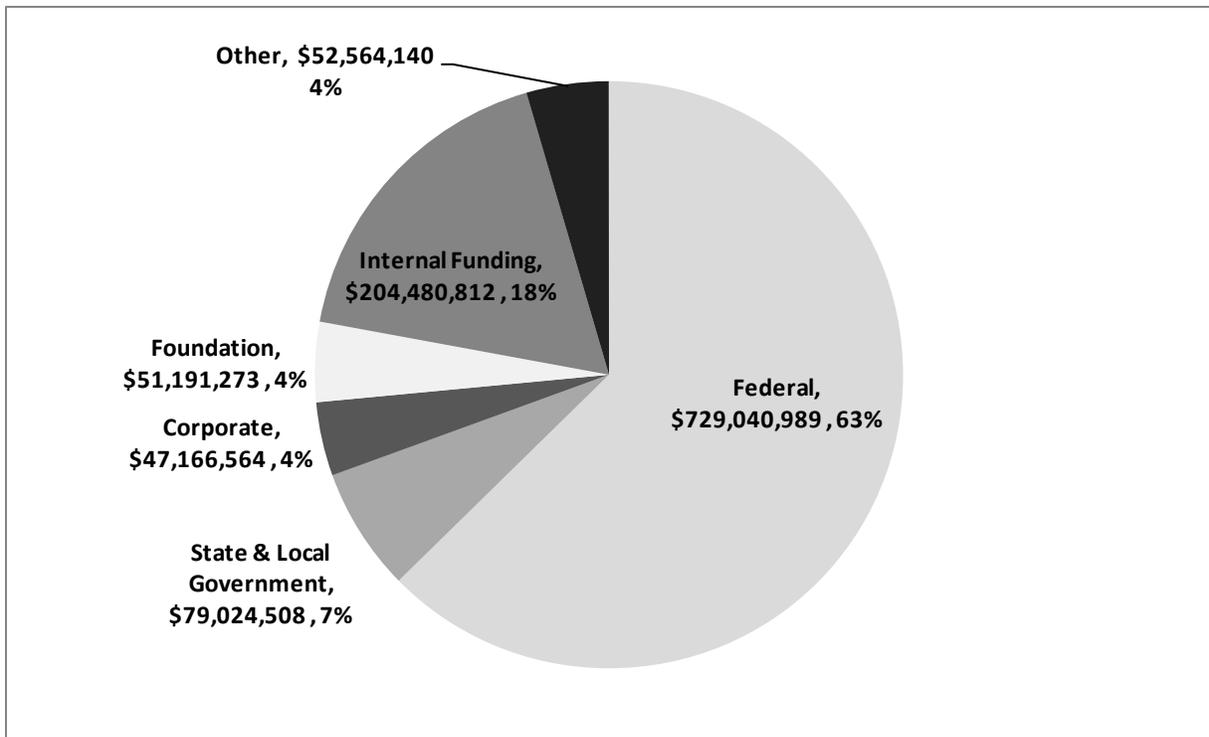
Research and other sponsored programs

New Jersey's colleges and universities also contribute to the vitality of the state's economy through their research and other sponsored programs.

Research conducted at the state's colleges and universities contributes to the strength of New Jersey's economy in several ways.

- Much of this research is funded from sources outside the state; colleges and universities bring in hundreds of millions of dollars each year from the federal government, corporations, foundations and other sources, most of which is then spent within New Jersey.
- Applied research conducted in partnership with New Jersey companies helps these companies improve productivity and become more competitive.
- College and university research helps New Jersey communities address some of their most pressing problems in areas as diverse as environmental protection, disease prevention, improving primary and secondary education and maintaining an aging transportation infrastructure.
- Research conducted at NJPC institutions leads to the development of new products, new businesses and new jobs.

Figure 5: Research Expenditures by source of funding, fiscal year 2010-11



During fiscal year 2010-11, as shown above in Figure 4, 24 New Jersey colleges and universities together spent about \$1.16 billion on research. Of this total, federal grants and contracts funded approximately 63 percent, and corporations and foundations funded 8 percent. State and local governments accounted for only 7 percent of all research spending.

New Jersey's colleges and universities also attract funding for a variety of other sponsored programs in areas such as education, training and service to the community. In fiscal year 2010-11, NJPC member institutions spent more than \$317 million on sponsored programs other than research, of which more than \$160 million (about 51 percent) came from sources other than state or local government.

Serving New Jersey's communities

Students at New Jersey's colleges and universities serve their communities in a variety of ways, including extra-curricular volunteer service programs, and courses in which community service activity is integrated with classroom learning.

During the 2010-11 academic year, New Jersey institutions report that more than 45,504 students participated in some form of community service activity, together performing more than 678,000 hours of service to their communities.¹⁰ During the same period, 28,956 students were enrolled in a variety of service learning courses.

College and university engagement with the communities they serve takes other forms as well. Many faculty members, as noted previously, engage in research aimed at helping communities address a wide range of economic, social, health and environmental problems.

NJPC members also support their communities through direct financial contributions to community and charitable organizations. In fiscal year 2011, these institutions contributed a total of \$6.435 million to such organizations.

¹⁰ Each year, Independent Sector – a nationwide non-profit organization – estimates the average dollar value of an hour of volunteer time, based on wage rates in each state. Using Independent Sector's estimate of the average value of volunteer time in New Jersey (\$25.64 per hour), we can estimate that the value student volunteer activity in 2010-2011 totaled more than \$17.4 million.

Other impacts

This report has highlighted a number of ways in which New Jersey's colleges and universities contribute to the strength of the state's economy. Moreover, these institutions contribute to the state's economic vitality in other ways that we have not sought to quantify here. For example:

- Off-campus spending by out-of-state students (and students who might have moved out-of-state had they not been able to attend a college or university in their home state) generates thousands of jobs in communities throughout New Jersey. Spending by visitors – students and parents on pre-enrollment visits, friends and family, commencement guests, people attending athletic events and many others – also supports businesses and creates jobs in communities where NJPC institutions are based.
- Colleges and universities are an important resource for the development of new businesses throughout the state. Start-up companies based on technologies first developed in college and university laboratories are creating new jobs today – and will be a source of continued growth in the future. And through small business development centers and entrepreneurial education programs, NJPC members also provide training and technical assistance to small businesses throughout the state.
- New Jersey's colleges and universities have worked closely with school districts throughout the state to improve the quality of public education from pre-school through high school. They provide teachers with opportunities for professional development, help schools use data more effectively to improve their performance, and offer a wide range of enrichment opportunities for elementary and secondary school students.
- From the state's largest cities to suburban areas and smaller towns, colleges and universities have worked in partnership with local governments and community organizations to redevelop, and bring new life to, economically distressed and declining communities.
- Colleges and universities add to the cultural vitality and civic life of communities throughout New Jersey. They present a wide variety of concerts, plays, lectures, art exhibits and other events that are open to the public; and they provide venues for events sponsored by local schools, local government agencies and community groups. These institutions thus help the state attract and retain the talented workers on whom its economic future depends.
- Many of New Jersey's colleges and universities have undertaken a wide range of initiatives aimed at reducing their impact on the environment. While intended in part to address long-term global issues such as climate change, many of these initiatives can also have a more immediate positive impact on local communities – for example, by shifting to cleaner fuels, reducing water consumption and encouraging greater use of mass transit.

In these and other ways, New Jersey's colleges and universities are helping to ensure that the state is prepared to compete effectively in an increasingly knowledge-based economy – and, that New Jerseyans are well-prepared to take advantage of the opportunities that economy will offer.

About this report

In satisfaction of its annual undertaking to prepare a report on the operations of the President's Council and its members, the Council's Committee on Advocacy and Accountability, with approval of the Council, undertook to discuss, research and prepare a new form of report. This report focuses, in a more concentrated way, on the financial benefits to the State of New Jersey by the operation of the higher education sector. In the interest of transparency and accountability, the Council retained the data firm of Appleseed, a company which provides economic and social research and analysis, economic development planning and project development, strategic planning and program development services to government, non-profit and corporate clients to provide an independently developed analysis.

For the second time, all members of the President's Council participated in a broad based and detailed survey, conducted by Appleseed to collect data demonstrating the financial impact of the sectors. This historic collaboration among the public research universities, state colleges and universities, independent colleges and universities and proprietary colleges and universities is represented in the attached report.

By its nature the report does not focus on the social, cultural and intellectual capital returned to the state by the members of the Council, not because they are discounted, but rather to focus on the issue before us in these most difficult economic times.

We believe any fair reading of the report demonstrates the extraordinary significance of these institutions to the economic prosperity of New Jersey.