

FACT SHEET

DEMONSTRATING THE COLLECTIVE ECONOMIC VALUE OF THE UNIVERSITY OF NORTH CAROLINA SYSTEM

FEBRUARY 2015



OUR ANALYSIS SHOWS that in FY 2012-13, the \$9.0 billion in payroll and operations spending of UNC universities and the affiliated medical institutions, together with their construction spending and the spending of their students, visitors, alumni, and start-up companies, created **\$27.9 billion** in added state income, which is equal to approximately **6.4%** of the total Gross State Product of North Carolina, and is equivalent to creating **426,052** new jobs.

The University of North Carolina (UNC) system includes 16 universities, UNC Hospitals and Faculty Physicians (UNC Medical Center), and East Carolina University Division of Health Sciences.* This study analyzes the collective economic value these institutions create.

UNC universities improve higher education delivery throughout the state and help students increase their employability and potential. By facilitating new research, entrepreneurship, and drawing students and visitors to North Carolina, the universities also generate new dollars and opportunities for the state. The purpose of this analysis is to assess the collective impact of the UNC system on the state economy and the benefits generated for students, North Carolina as a whole, and taxpayers.

* Note: The UNC system also includes the North Carolina School of Science and Mathematics, the North Carolina Arboretum, UNC Public Television, along with other affiliated entities. This study only evaluates the economic impact of the UNC system's 16 universities, along with the clinical activities of the UNC Medical Center and East Carolina University Division of Health Sciences.

INTELLECTUAL PROPERTY CREATED BY UNC UNIVERSITIES

	INVEN- TIONS	PATENT APPLICA- TIONS	LICENSES
2009-10	316	166	136
2010-11	410	225	147
2011-12	521	232	145
2012-13	448	232	197
Total	1,695	855	625

IMPACT OF SPIN-OFF COMPANIES

Spin-off companies include those that were created and fostered through programs at UNC universities that support entrepreneurial business development, as well as companies that were created by faculty, students, or alumni from their work at UNC universities. The collective impact of spin-off companies related to UNC universities in FY 2012-13 was \$2.1 billion in added state income, equivalent to 26,858 new jobs. These impacts are important because they comprise a significant part of the state's business environment. The connection between UNC universities and their related spin-off companies is less direct than with start-up companies licensing technology of UNC universities. For this reason, the impact of business spin-offs related to UNC universities are presented separately for the universities in this analysis.

IMPACT ON THE STATE BUSINESS COMMUNITY

During the analysis year, FY 2012-13, the UNC system spent **\$5.3 billion** on payroll and benefits for **74,079** full-time and part-time employees, and spent another **\$3.6 billion** on goods and services to carry out its day-to-day operations and research. This initial round of spending creates more spending across other businesses throughout the state economy, resulting in the commonly referred to multiplier effects. We estimate these multiplier effects in this study and report the additional economic activity that is created by the initial spending of UNC universities and the affiliated medical institutions.** Impacts are reported in terms of total income, which is analogous to Gross State Product, and the corresponding number of jobs created.

These economic impacts break down as follows:

Operations spending impact

- Payroll and non-pay expenditures to support day-to-day operations (less clinical, research, and extension) of UNC universities amounted to **\$3.5 billion** and **\$2.1 billion**, respectively. The net impact of the universities' operations spending in North Carolina during the analysis year was approximately **\$3.9 billion** in added state income, which is equivalent to creating **54,832** jobs.

Clinical spending impact

- In FY 2012-13, the UNC Medical Center and East Carolina University Division of Health Sciences spent **\$1.7 billion** on clinical and hospital faculty and staff and other costs to support their operations in North Carolina. The total net impact of these clinical operations in the state was **\$2.3 billion** in added state income, which is equivalent to creating **27,759** new jobs.

** Note: Our estimated economic impacts are conservative in that we directly take into account the fact that state dollars spent on the university could have been spent elsewhere in North Carolina if not directed toward the UNC universities, and thus would have created some economic impacts regardless. We account for these alternative uses of funds directly in our analysis by (i) assuming that if funds were not directed to the UNC universities, they would have been returned to the taxpayer and generate economic impacts through household spending on goods and services, and (ii) subtracting the estimated economic impacts generated by this alternative use of funds from the estimated economic impacts of the UNC universities. Thus, we report a net impact of the UNC universities that is above and beyond what would have occurred had the funds been returned to the taxpayer.

IMPACTS CREATED BY THE UNC SYSTEM IN FY 2012-13

INCOME	JOBS
\$3.9 billion	54,832
Operations spending impact	
\$2.3 billion	27,759
Clinical spending impact	
\$1.5 billion	22,094
Research spending impact	
\$173.2 million	6,349
Construction spending impact	
\$1.4 billion	7,712
Business start-up impact	
\$112.1 million	1,459
Extension service impact	
\$293.6 million	5,377
Student spending impact	
\$253.4 million	6,474
Visitor spending impact	
\$17.9 billion	293,995
Alumni impact	
\$27.9 billion	426,052
Total impact	

Research spending impact

- Research activities of UNC universities impact the state economy by employing people and making purchases for equipment, supplies, and services. They also facilitate new knowledge creation throughout North Carolina through inventions, patent applications, and licenses. In FY 2012-13, UNC universities spent **\$717.2 million** on payroll to support research activities.
- Research spending of UNC universities generates **\$1.5 billion** in added state income for the North Carolina economy, which is equivalent to creating **22,094** new jobs.

Construction spending impact

- UNC universities commissioned in-state and out-of-state contractors to build or renovate their facilities during the analysis year. This spending generated a short-term infusion of income and jobs in the state economy.
- The net impact of the universities' construction spending in FY 2012-13 was **\$173.2 million** in added state income, equivalent to **6,349 new** jobs.

Business start-up impact

- UNC universities create an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of start-up companies related to UNC universities in the state. In FY 2012-13, start-up companies related to UNC universities created **\$1.4 billion** in added state income for the North Carolina economy, which is equivalent to creating **7,712** jobs.

Extension spending impact

- The North Carolina Cooperative Extension Service is a partnership between North Carolina State University and North Carolina A&T State University. Its purpose is to provide education and technology to help address the needs and local problems of the state's diverse communities. North Carolina State University also operates an Industrial Extension Service program that caters to North Carolina's industries and businesses.
- In FY 2012-13, these universities and their partner counties spent **\$78.3 million** to support extension services, adding **\$112.1 million** in state income for the North Carolina economy, which is equivalent to creating **1,459** new jobs.



Student spending impact

- Around **19%** of graduate and undergraduate students attending UNC universities originated from outside the state. Some of these students relocated to North Carolina and spent money on groceries, transportation, rent, and so on at North Carolina businesses.
- The expenditures of students who relocated to the state during the analysis year added approximately **\$293.6 million** in state income for the North Carolina economy, which is equivalent to creating **5,377** new jobs.

Visitor spending impact

- Out-of-state visitors attracted to North Carolina for activities at UNC universities brought new dollars to the economy through their spending at hotels, restaurants, gas stations, and other state businesses.
- Visitor spending added approximately **\$253.4 million** in state income for the North Carolina economy, which is equivalent to creating **6,474** new jobs.

Alumni impact

- Over the years, students gained new skills, making them more productive workers, by studying at UNC universities. Today, hundreds of thousands of these former students are employed in North Carolina.
- The accumulated contribution of former UNC students currently employed in the North Carolina workforce amounted to **\$17.9 billion** in added state income to the North Carolina economy, which is equivalent to creating **293,995** new jobs.

RETURN ON INVESTMENT TO STUDENTS, SOCIETY, AND TAXPAYERS

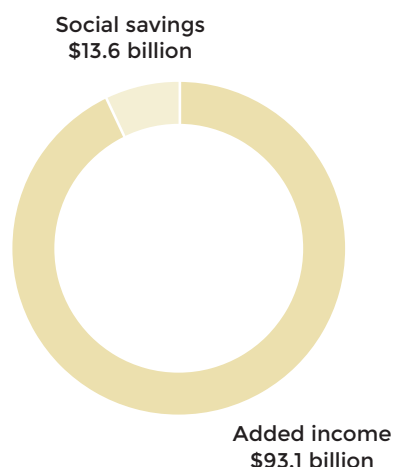
Student perspective

- Students attending UNC universities during FY 2012-13 paid a total of **\$1.7 billion** to cover the cost of tuition, fees, books, and supplies. They also forwent **\$4.5 billion** in money that they would have earned had they been working instead of learning.
- In return for the money students invest to earn their degrees, they will receive a present value of **\$19.2 billion** in estimated increased earnings over their working lives.

FOR EVERY \$1 SPENT BY...

STUDENTS	\$3.10 Gained in lifetime income for STUDENTS
SOCIETY	\$8.90 Gained in added state income and social savings for SOCIETY
TAXPAYERS	\$3.90 Gained in added taxes and public sector savings for TAXPAYERS

PRESENT VALUE OF ADDED INCOME AND SOCIAL SAVINGS IN NORTH CAROLINA



- This translates to a return of **\$3.10** in higher future income for every \$1 that students invest in their UNC education. The average annual return for students is **13.7%**.

Societal perspective

- North Carolina as a whole will receive a present value of **\$93.1 billion** in added state income over the course of the students' working lives. Communities will also benefit from **\$13.6 billion** in present value social savings related to reduced crime, lower unemployment, and increased health and well-being across the state.
- For every dollar that society spent on educations at UNC universities during the analysis year, North Carolina communities will receive a cumulative value of **\$8.90** in benefits, for as long as the 2012-13 students of UNC universities remain active in the state workforce.

Taxpayer perspective

- In FY 2012-13, state taxpayers in North Carolina invested **\$2.9 billion** (excluding clinical) to support the operations of UNC universities. The net present value of the added tax revenue stemming from the students' higher lifetime incomes and the increased output of businesses amounts to **\$9 billion** in benefits to taxpayers. Savings to the public sector add another **\$2.4 billion** in benefits due to a reduced demand for government-funded services in North Carolina.
- Dividing benefits to taxpayers by the associated costs yields a **3.9** benefit-cost ratio, i.e., every \$1 in costs returns \$3.90 in benefits. The average annual return on investment for taxpayers is **11.8%**.

ABOUT emsi

Economic Modeling Specialists International turns labor market data into useful information that helps organizations understand the connection between economies, people, and work. Since 2000, EMSI has completed numerous economic impact studies for educational institutions across the US, Canada, the UK, and Australia. It also provides industry-leading labor market data via software and reports to higher education professionals, workforce planners, and regional developers in the U.S. and internationally. For more information, visit www.economicmodeling.com. For a copy of the full report, including a description of the data and methods used, please visit the University of North Carolina website at <http://www.northcarolina.edu/economic-impact-2015>.