

# FACT SHEET

*Demonstrating the Economic Value of Duke University*

FEBRUARY 2015

## ADDED INCOME CREATED BY DUKE IN FY 2012-13

<b>\$5.8 BILLION</b> Total impact
<b>\$1.9 BILLION</b> Operations spending impact
<b>\$871.4 MILLION</b> Research spending impact
<b>\$2.4 BILLION</b> Clinical spending impact
<b>\$88.2 MILLION</b> Construction spending impact
<b>\$47.8 MILLION</b> Student spending impact
<b>\$62.6 MILLION</b> Visitor spending impact
<b>\$69.3 MILLION</b> Business start-up impact
<b>\$302.7 MILLION</b> Alumni impact

*Duke University (Duke) creates value in many ways. The university improves education delivery throughout the region and helps students increase their employability and achieve their individual potential. By facilitating new research and business creation, and by drawing students and visitors to the Duke Service Area, the university also generates new dollars and opportunities for the region. Duke further benefits society as a whole in North Carolina through the added income and social savings generated by students who remain in the state. The benefits of education extend as far as the state and local government, in the form of increased tax revenues and reduced government expenditures.*

*The purpose of this analysis is to assess the impact of Duke on the economy of the Duke Service Area and the benefits generated by the university for students, North Carolina as a whole, and taxpayers. Results of the analysis reflect student and financial data for the 2012-13 Fiscal Year.*

## IMPACT ON REGIONAL ECONOMY

This analysis shows that in FY 2012-13, payroll and operations spending of Duke University (Duke), together with the spending of its students, visitors, start-up companies, and alumni, created **\$5.8 BILLION** in added regional income to the Duke Service Area economy. The term “added regional income” in this context refers to economic impacts and is equivalent to the commonly referred to measure of Gross Regional Product. The added regional income, or additional Gross Regional Product, of \$5.8 billion created by Duke is equal to approximately **6.5%** of the total Gross Regional Product of the Duke Service Area, and is equivalent to creating **77,553** new jobs.

## NOTE ON THE METHODOLOGY

Economic impact analyses use different types of impacts to estimate the results. Frequently used is the sales impact, which comprises the change in business sales revenue as a result of increased economic activity. However, sales revenue includes the intermediary costs of production and overstates actual impacts. A more accurate measure is the income impact, which assesses the change in Gross Regional Product, or GRP. Another way to state the income impact is job equivalents, a measure of the number of full- and part-time jobs that would be required to support the change in income. Both of these measures – job equivalents and income – are used to estimate the economic impact results presented in this report.

Also, the economic impact analysis in this report is conservative in that it directly takes into account the fact that in-region monies spent on Duke could have been spent elsewhere in the region, and thus would have created some economic impacts regardless. The analysis accounts for such alternative uses of funds by (1) assuming that if in-region funds had not been directed to Duke, they would have been returned to their original sources and generated economic impacts through household spending on goods and services, and (2) subtracting the estimated economic impacts generated by such alternative uses of funds from the estimated economic impacts of Duke. Thus, the analysis reports only net impacts that are *above and beyond* what would have happened had the university's in-region funding been returned to its original sources.

The components that make up the \$5.8 billion in economic impacts appear in the following sections. To generate these impacts, Duke spent **\$1.8 BILLION** on payroll and benefits for **31,518** full-time and part-time employees, and spent another **\$5.1 BILLION** on goods and services to carry out its day-to-day operations, research, and clinical activities. This initial round of spending – along with the university's spending on construction and the spending of its students, visitors, start-up companies, and alumni – created more spending across other businesses throughout the regional economy, resulting in the commonly referred to multiplier effects. For the sake of simplicity, only the combined initial and multiplier effects of each impact measure are presented in this fact sheet.

### *Operations spending impact*

- Payroll to support Duke's day-to-day operations (less research and clinical activities) amounted to **\$527.5 MILLION**.
- The net impact of the university's operations spending in the Duke Service Area during the analysis year was approximately **\$1.9 BILLION** in added regional income, which is equivalent to creating **25,534** jobs.

### *Research spending impact*

- Research activities at Duke impact the regional economy by employing people and making purchases for equipment, supplies, and services. They also facilitate new knowledge creation in the Duke Service Area through inventions, patent applications, and licenses. In FY 2012-13, Duke spent **\$328.2 MILLION** on payroll to support research activities.
- Duke's research spending generated **\$871.4 MILLION** in added regional income for the Duke Service Area economy, which is equivalent to creating **13,923** new jobs.

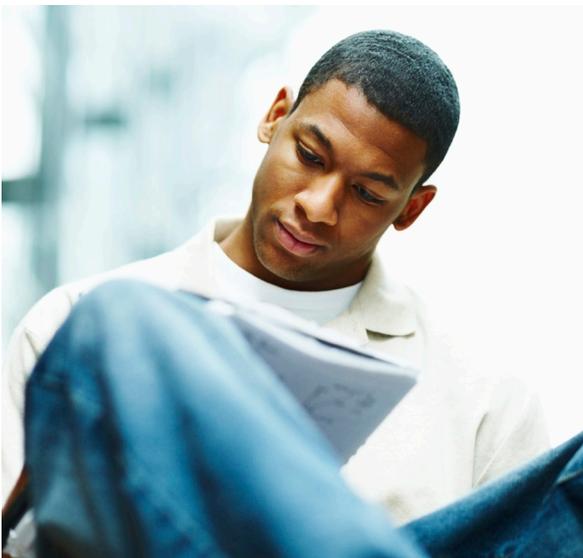
### *Clinical spending impact*

- Duke's health care system includes three hospitals – Duke University Hospital, Duke Regional Hospital, and Duke Raleigh Hospital – as well as primary care and home hospice care. In FY 2012-13, Duke spent **\$932.7 MILLION** on employees working at its hospitals and care centers.
- The total net impact of the operations of these hospitals and care centers in the region was **\$2.4 BILLION** in added regional income, which is equivalent to creating **29,582** new jobs.

## IMPACT OF START-UP COMPANIES

Start-up companies are defined as companies that were created specifically to license and commercialize technology or knowledge developed by Duke. The founding of business start-ups creates new jobs in the region and enhances the competitiveness of the regional business environment. In FY 2012-13, Duke had 28 active start-up companies in the Duke Service Area. Collectively these companies employed 171 people.

Also worth mentioning but not explicitly assessed in this study are Duke's spin-off companies. Spin-off companies are those that were created and fostered through institutional programs that support entrepreneurial business development, as well as companies that were created by faculty, students, or alumni as a result of their experience at Duke. The data needed to assess the impacts of Duke's business spin-offs was insufficient; however, the fact that such companies exist and contribute to the region's overall output enhances the value that Duke brings to the regional economy.



### *Construction spending impact*

- Duke commissioned contractors to build or renovate its facilities during the analysis year, generating a short-term infusion of income and jobs in the regional economy.
- The net impact of Duke's construction spending in FY 2012-13 was **\$88.2 MILLION** in added regional income, equivalent to **1,794** new jobs.

### *Student spending impact*

- Around **89%** of graduate and undergraduate students attending Duke originated from outside the region. Some of these students relocated to the Duke Service Area and spent money on groceries, transportation, rent, and so on at regional businesses.
- The expenditures of students who relocated to the region during the analysis year added approximately **\$47.8 MILLION** in regional income to the Duke Service Area economy, which is equivalent to creating **792** new jobs.

### *Visitor spending impact*

- Out-of-region visitors attracted to the Duke Service Area for activities at Duke brought new dollars to the economy through their spending at hotels, restaurants, gas stations, and other regional businesses.
- Visitor spending added approximately **\$62.6 MILLION** in regional income for the Duke Service Area economy, which is equivalent to creating **1,515** new jobs.

### *Business start-up impact*

- Duke creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of start-up companies created by the university.
- In FY 2012-13, Duke's start-up companies generated **\$69.3 MILLION** in added regional income for the Duke Service Area economy, which is equivalent to creating **297** jobs.

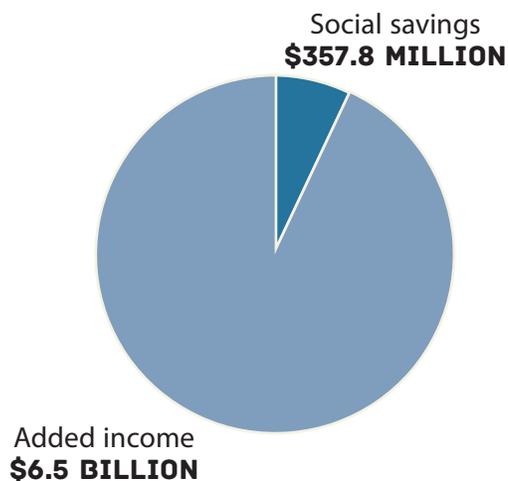
### *Alumni impact*

- Over the years, students have gained new skills, making them more productive workers, by studying at Duke. Today, thousands of these former students are employed in the Duke Service Area.

## FOR EVERY \$1 SPENT BY...

<b>STUDENTS</b>	<b>\$2.20</b> Gained in lifetime income for STUDENTS
<b>SOCIETY</b>	<b>\$1.40</b> Gained in added income and social savings for SOCIETY

## PRESENT VALUE OF ADDED INCOME AND SOCIAL SAVINGS IN NORTH CAROLINA



### ABOUT EMSI

Economic Modeling Specialists International is a leading provider of economic impact studies and labor market data to educational institutions, workforce planners, and regional developers in the U.S. and internationally. Since 2000, EMSI has conducted comprehensive economic impact studies for higher education institutions across the US, Canada, the UK, and Australia.

For a copy of the full report describing the data and methods used in this study, please visit the NCICU website at [www.ncicu.org](http://www.ncicu.org).

- The accumulated contribution of alumni currently employed in the Duke Service Area workforce amounted to **\$302.7 MILLION** in income added to the Duke Service Area economy, which is equivalent to creating **4,116** new jobs.

## BENEFITS TO STUDENTS, SOCIETY, AND TAXPAYERS

### *Student perspective*

- Students attending Duke during FY 2012-13 paid a total of **\$409.6 MILLION** to cover the cost of tuition, fees, books, and supplies. They also forwent another **\$321.7 MILLION** 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 **\$1.6 BILLION** in increased earnings over their working lives.
- This translates to a return of **\$2.20** in higher future income for every \$1 that students invest in their education. The average annual return for students is **10.0%**.

### *Societal perspective*

- North Carolina as a whole will receive a present value of **\$6.5 BILLION** in added state income over the course of the students' working lives. Communities will also benefit from **\$357.8 MILLION** 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 education at Duke during the analysis year, North Carolina communities will receive a cumulative value of **\$1.40** in benefits, for as long as Duke's 2012-13 students remain active in the state workforce.

### *Taxpayer perspective*

- The net present value of the added tax revenue stemming from higher student incomes and increased business output will amount to **\$631.4 MILLION** in benefits to taxpayers.
- Savings to the public sector will add another **\$63.5 MILLION** in benefits due to a reduced demand for government-funded services in North Carolina.