

Analysis of the Economic Contribution that **LIBERTY UNIVERSITY MAKES TO THE LYNCHBURG MSA AND VIRGINIA**



November 2014

Report prepared by



Dr. Mangum earned his Ph.D. in economics at George Mason University in 1995. He has more than two decades of experience in quantitative analysis and policy development at the federal and state level.

Mangum Economic Consulting, LLC is a Richmond, Virginia based firm that specializes in producing objective economic, quantitative, and qualitative analysis in support of strategic decision making. Examples of typical studies include:

Policy Analysis

Identify the intended and, more importantly, unintended consequences of proposed legislation and other policy initiatives.

Economic Impact Assessments and Return on Investment Analyses

Measure the economic contribution that business, education, or other enterprises make to their localities.

Workforce Information

Project the demand for, and supply of, qualified workers.

Cluster Analysis

Use occupation and industry clusters to illuminate regional workforce and industry strengths and identify connections between the two.

Environmental Scanning

Assess the economic, demographic, and other factors likely to affect your enterprise in the future.

50 PEAR STREET
RICHMOND, VIRGINIA 23223

(804) 771-5338

MANGUMECONOMICS.COM

Outline

<u>Section</u>	<u>Page Number</u>
Executive Summary	ii
Acknowledgements	v
Introduction	1
Liberty University Profile	1
<i>History and General Characteristics</i>	1
<i>Enrollment and Student Characteristics</i>	3
Lynchburg MSA Profile	10
<i>Employment and Wage Trends</i>	10
<i>Employment and Wages by Industry</i>	11
<i>Unemployment</i>	16
Economic and Fiscal Impact	17
<i>Lynchburg MSA</i>	18
<i>Virginia</i>	38
Human Capital	52
<i>Value Added Estimate</i>	52
<i>Statewide Economic Impact</i>	57
Other Contributions	58
<i>Community Involvement</i>	58
<i>Tourism</i>	61
<i>Occupation-Driven Demand for Graduates</i>	62
Conclusion	68

Executive Summary

This report assesses the economic contribution that Liberty University made to the Lynchburg MSA and the state of Virginia in fiscal year 2013-14. The principle findings from that assessment are as follows:

1. Liberty University is Virginia's largest and most rapidly growing institution of higher education: In academic year 2013-14, Liberty had an unduplicated annual headcount of 110,310 students, making it the largest institution of higher education in Virginia and one of the largest in the country.

Between 1992 and 2013, the university's fall enrollment increased from 8,500 to 77,338, an increase of 68,838 students or 810 percent. In contrast, over that same period Virginia's other four-year private non-profit colleges and universities grew by 34 percent, and Virginia's four-year public colleges and universities grew by 31 percent. Moreover, Liberty University is not only the City of Lynchburg's largest employer, it is also one of its fastest growing employers. Between, 2001 and 2013, university employment increased by 6,096 jobs or 412 percent.

In addition, Liberty University continues to invest in additional facilities and to expand its program offerings. This fall, Liberty opened a new \$40 million Center for Health and Medical Sciences. This 138,000 square foot four story facility houses the University's new College of Osteopathic Medicine, as well as select programs from the University's School of Health Sciences. Liberty also recently completed construction of the Jerry Falwell Library. Named after the institution's founder, Dr. Jerry Falwell Sr., the Falwell Library is a 170,000 square foot state of the art facility that features an automated book retrieval system from the building's four-story book tower. In addition, Liberty will also open six new, state of the art, eight-story residence halls this fall which will house a total of 7,200 students.

2. Liberty University makes a major economic contribution to the Lynchburg MSA: In fiscal year 2013-14, direct spending in the Lynchburg MSA by the university, its associated enterprises, tenants, students, and visitors totaled \$567.3 million. Our analysis shows that this direct regional spending was ultimately responsible for generating more than \$1.0 billion in economic activity in the Lynchburg MSA, which means that every \$1.00 of Liberty University's net local spending generated \$1.78 within the broader regional economy.
3. Liberty University makes a major employment and wage contribution to the Lynchburg MSA: Liberty University's fiscal year 2013-14 regional spending was also ultimately responsible for supporting a total of 10,637 jobs within the

Lynchburg MSA and generating \$383.7 million in labor income. Given that the location of most of this employment is in the City of Lynchburg, and that total employment in the City of Lynchburg was 50,745 in 2013, this means that approximately one out of every five jobs in the City of Lynchburg is either directly or indirectly attributable to Liberty University.

4. Liberty University makes a major fiscal contribution to the Lynchburg MSA: Local taxes paid by the university itself, associated enterprises, tenants, employees, students, and visitors contributed over \$12.5 million in tax revenue to the Lynchburg MSA in fiscal year 2013-14. Focusing exclusively on the city of Lynchburg, the university directly and indirectly generated approximately \$9.2 million in tax revenue for the city in fiscal year 2013-14. More specifically, it accounted for approximately: 6 percent of the city's total *Real Property Tax* revenue, 14 percent of its *Personal Property Tax* revenue, 8 percent of its *Motor Vehicle License Fee* revenue, 11 percent of its *Restaurant Food Tax* revenue, 21 percent of its *Hotel and Motel Room Tax* revenue, and 4 percent of its local *Sales Tax* revenue.
5. Liberty University makes a major economic and fiscal contribution to the state of Virginia as a whole: In fiscal year 2013-14 Liberty University, along with its associated enterprises, tenants, students, and visitors were responsible for contributing \$667.3 million dollars in direct spending to the state. Our analysis indicates that this direct spending was ultimately responsible for generating \$1.3 billion in economic activity, which means that every \$1.00 of Liberty University's state spending ultimately generated \$2.01 in overall economic activity within Virginia. In addition, those expenditures were ultimately responsible for supporting a total of 12,119 jobs in the state, creating \$510.3 million in labor income, and generating \$116.7 million in federal, state, and local tax revenue.
6. Liberty University makes a major contribution to growing Virginia's human capital: The primary economic contribution of any educational institution is really the product it is in the business of creating – well educated and highly trained graduates. Our analysis indicates that the economic value of the enhanced labor productivity, or increased human capital, that Liberty University's 2012-13 graduates carried with them into Virginia's workforce was \$50.3 million. Moreover, the discounted present value of the stream of economic benefits that enhanced productivity will generate over the entire time that those graduates are likely to be active in the workforce is \$874.2 million.

7. Liberty University also makes many other contributions to the Lynchburg MSA and the state of Virginia:

- Its students and employees provide approximately \$5.8 million worth of volunteer service hours within the Lynchburg MSA each year.
- Its agreement with the Greater Lynchburg Transit Company (GLTC) to serve as the university's exclusive outside transportation vendor has reduced traffic and parking congestion, and also provided GLTC with \$1.2 million in additional annual revenue that enabled it to upgrade its bus fleet and services.
- It has made significant regional investments in economic revitalization. After acquiring the Plaza shopping center in 2008, the university invested \$500,000 in improvements to the property. The Plaza is now home to Centra Health's Lynchburg Family Residency program and several other new tenants, and is positively contributing to the city of Lynchburg's tax base.
- It has enhanced the quality of life within the Lynchburg MSA by adding to the region's recreational opportunities through investments in facilities such as the LaHaye Ice Center, which attracts more than 100,000 people per year to the region; the Liberty Mountain Snowflex Center, North America's only Snowflex synthetic ski slope; the Tower Theater, and the Liberty Mountain Skate Park, all of which are open to the public .
- It plays a large role in attracting tourists to the Lynchburg MSA. In fiscal year 2013-14, Liberty University's out-of-town visitors generated approximately 136,128 hotel room nights in the Lynchburg MSA and those hotel room nights in turn were associated with approximately \$10.9 million in local hotel revenue.
- It makes a significant contribution to ensuring the Lynchburg MSA will have the trained graduates it needs to prosper in the future in key growth areas such as healthcare and education by meeting some or all of the region's demand for graduates in *Accounting; Business Administration and Management, General; Business/Commerce, General; Elementary Education and Teaching; Sports and Fitness Administration; Speech Communication and Rhetoric; and Secondary Education and Teaching*, along with many other disciplines.

8. In sum, Liberty University is a rapidly growing institution, that has a significant economic and fiscal impact on the Lynchburg MSA and the state of Virginia as a whole, and plays a very active and positive leadership role within its community and the state.

Acknowledgements

The authors would like to express their particular appreciation to Dr. Barry N. Moore, Vice President of Outreach and Strategic Partnerships at Liberty University, and especially to Richard Martin, Vice President of Financial Research and Analysis at Liberty University, for their invaluable assistance in identifying key areas of focus for this report and for their tireless efforts in providing much of the data that was necessary to produce it.

Introduction

This report assesses the economic contribution that Liberty University made to the Lynchburg MSA¹ and the state of Virginia in fiscal year 2013-14.² The remainder of the report is divided into five sections. The *Liberty University Profile* section describes the general characteristics of the institution and the students it serves. The *Lynchburg MSA Profile* section provides context for the analyses that follow by illuminating key economic characteristics of the greater Lynchburg area that is home to Liberty University. The *Economic and Fiscal Impact* section quantifies the economic and fiscal contribution that Liberty University makes to the Lynchburg MSA, as well as to the state of Virginia as a whole. The *Other Contributions* section quantifies some of the many other contributions that Liberty University makes to the Lynchburg MSA, such as community service, contributing to economic revitalization, generating higher levels of tourism, enhancing the quality of life, and ensuring that the Lynchburg MSA is developing the qualified workforce that it will need to be economically successful in the future. Finally, the *Conclusion* section provides a summary and concluding comments.

Liberty University Profile

History and General Characteristics

Liberty University was founded in 1971 as a private, non-profit, Evangelical Christian institution of higher education. Since its first class of 154 students, Liberty has experienced explosive enrollment growth. In academic year 2013-14, Liberty had an unduplicated annual headcount of 110,310 students, making it the largest private four-year non-profit institution of higher education in the country, and the fourth largest four-year institution of higher education overall.³ In 2013, Liberty employed 7,574 individuals (5,225 of whom worked in the Lynchburg MSA), a 412 percent increase over its 2001 employment level.⁴ Moreover, this rapid rise in employment has proven remarkably recession proof. Even at the height of the “Great Recession,” the worst economic downturn since the Great Depression, where the city of Lynchburg as a whole experienced a 4 percent decline in total employment, employment at Liberty University actually increased by 642 jobs or 25 percent.⁵

¹ The Lynchburg MSA is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the City of Lynchburg.

² July 1 of 2013 through June 31 of 2014.

³ Data Source: State Council of Higher Education for Virginia.

⁴ Data Source: Liberty University.

⁵ Data Source: Liberty University and Virginia Employment Commission.

Importantly, this remarkable growth has had a demonstrable impact on the city of Lynchburg's own growth trajectory. According to data from the 2010 census, between 2000 and 2010 the population of Lynchburg grew by 15.8 percent.⁶ By comparison, the population of Virginia as a whole grew by only 13.0 percent over the decade, and population growth in all but six of Virginia's 39 independent cities was lower than that of Lynchburg.⁷ Moreover, Liberty's contribution to this significant population increase was explicitly cited in a March 2011 column in the Roanoke Times entitled, "Census 2010: Liberty University fuels Lynchburg's growth."⁸

Liberty University is accredited by the Southern Association of Colleges and Schools Commissions on Colleges (SACSCOC). Liberty's 15 schools and colleges currently offer more than 450 unique programs of study from the certificate to the doctoral level. Liberty was a pioneer in distance education and started offering distance education courses in 1985. The University currently serves 90,000 students through these programs world-wide, including a large number of men and women serving in the U.S. military. It is also important to note that Liberty is home to the largest Nursing Program in Virginia, boasting an enrollment of 2,526 in fall 2013, or one out of every eight nursing students enrolled in any college or university in the state.⁹

Liberty University is one of fewer than ten higher education institutions nationally that combines an ABA accredited law school, an ABET accredited engineering program, an AOA-COCA accredited medical college, a FAA certified aviation program, and a NCAA Division 1 athletic program all within the same institution. Liberty is situated on 7,000 acres in the City of Lynchburg and in the counties of Amherst, Bedford, Campbell, and Prince Edwards. Approximately 700 acres are developed and used for campus operations, while 6,300 acres have been preserved in their natural state and are used for various recreational purposes.

The campus has 314 buildings and structures which encompass over 5.8 million square feet. Since 2003, Liberty has constructed, purchased, or significantly renovated more than 3 million square feet of facilities to accommodate its growth. Liberty currently maintains over 215 classrooms, 7,700 beds in its residence halls, a 131-bed hotel, 20 on campus dining locations, over 17,000 parking spaces, and a 25 bus transportation system. Academic support infrastructure includes almost 300,000 square feet of library space, a fleet of 17 training aircraft, full production studios for cinematic arts and various forms of broadcasting, a 640-seat performing arts theater, and many specialized labs including an astronomical observatory. Recreational facilities include a 250,000 square

⁶ Data Source: U.S. Census Bureau.

⁷ Data Source: U.S. Census Bureau.

⁸ Roanoke Times, "Census 2010: Liberty University fuels Lynchburg's growth," March 6, 2011.

⁹ Data Source: State Council of Higher Education for Virginia.

foot student union and recreation center, a year-around outdoor ski and tubing facility, indoor and outdoor tennis complexes, and a 40-horse equestrian center.

Liberty University also boasts a mature NCAA Division 1 athletic program with 20 teams, as well as 32 intercollegiate Club Sports teams. Campus facilities used to support these programs are also frequently used by the community. These facilities include the recently renovated 19,200 seat Williams Stadium (football), 11,500 seat Vines Center (basketball), 2,700 seat LaHaye Ice Center, 2,500 seat Liberty Baseball Stadium, 1,200 seat lacrosse facility, and 1,000 seat soccer stadium. In addition, a 1,000 seat softball stadium is scheduled for completion in February 2015. Liberty's athletic facilities also host the Virginia High School League's Spring Jubilee, which serves as the state championship event for baseball, softball, soccer, and tennis, as well as several state football and track championships. Liberty's athletic facilities were also recently featured in a lengthy USA Today column entitled "At Liberty, FBS dreams and a high resource reality."¹⁰

Enrollment and Student Characteristics

Enrollment

Figure 1 provides a breakdown of Liberty's fall 2013 enrollment by program level. As these data show, 47,464 or 61 percent of Liberty's student body was comprised of undergraduates that fall, while 26,811 or 35 percent was comprised of graduate students, and 3,063 or 4 percent was comprised of first professional students (primarily law school students). These data indicate that Liberty's program mix tends to be more heavily tilted toward graduate and first professional programs than is typical among Virginia's other four-year institutions of higher education. For example, where 39 percent of Liberty's student body was comprised of graduate or first professional students in fall 2013, the comparable average among other non-profit four-year colleges and universities in Virginia was 34 percent that fall, and among the state's public colleges and universities only 22 percent.

¹⁰ "At Liberty, FBS dreams and a high resource reality," by Dan Wolken, USA Today, August 19, 2014.

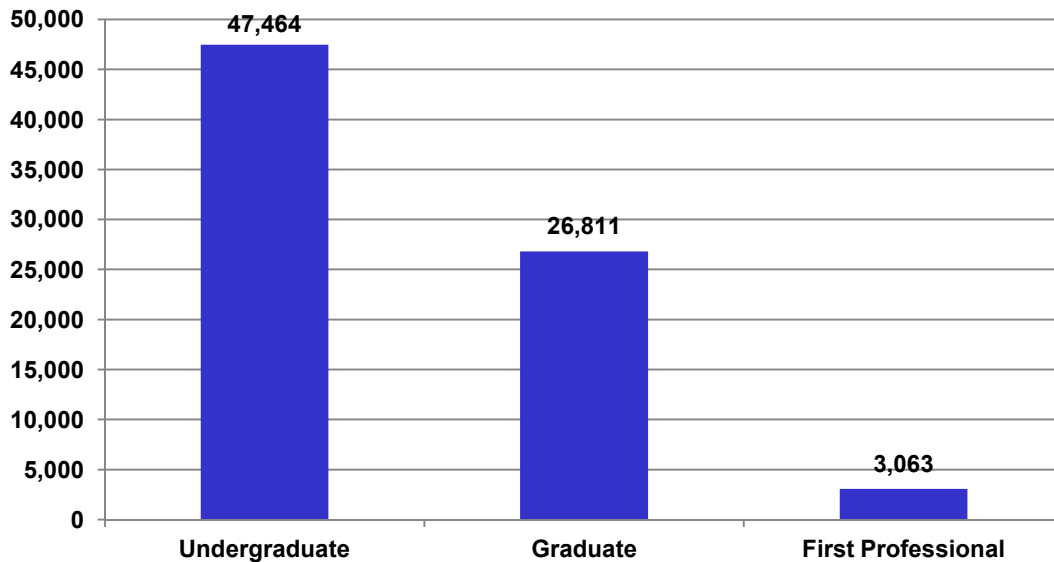


Figure 1: Liberty University Fall 2013 Headcount Enrollment¹¹

Figure 2 depicts the growth in Liberty University's total fall headcount enrollment between 1992 and 2013. Overall, headcount enrollment increased from 8,500 in fall 1992 to 77,338 in fall 2013, an increase of 68,838 students or 810 percent. Breaking this total down by undergraduate, graduate, and first professional enrollment shows that undergraduate enrollment increased by 40,589 students or 590 percent over this period, graduate enrollment increased by 25,243 students or 1,610 percent, and first professional enrollment increased by 3,006 students or 5,274 percent.

Figure 3 puts these truly remarkable growth rates in perspective by comparing Liberty University's growth in total fall headcount enrollment between 1992 and 2013 to that of Virginia's other private non-profit colleges and universities, as well as the state's public four-year institutions. As this chart demonstrates, in contrast to Liberty's 810 percent increase in enrollment over this period, Virginia's other four-year private non-profit colleges and universities grew by 34 percent, and Virginia's four-year public colleges and universities grew by 31 percent.

¹¹ Data Source: State Council of Higher Education for Virginia.

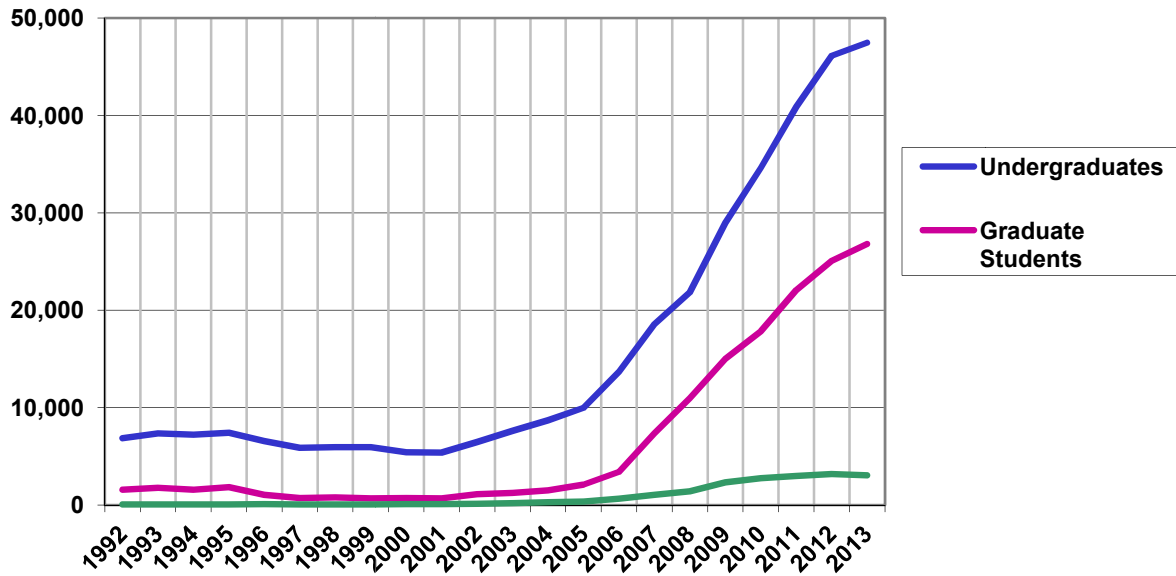


Figure 2: Fall Headcount Enrollment – 1992 to 2013¹²

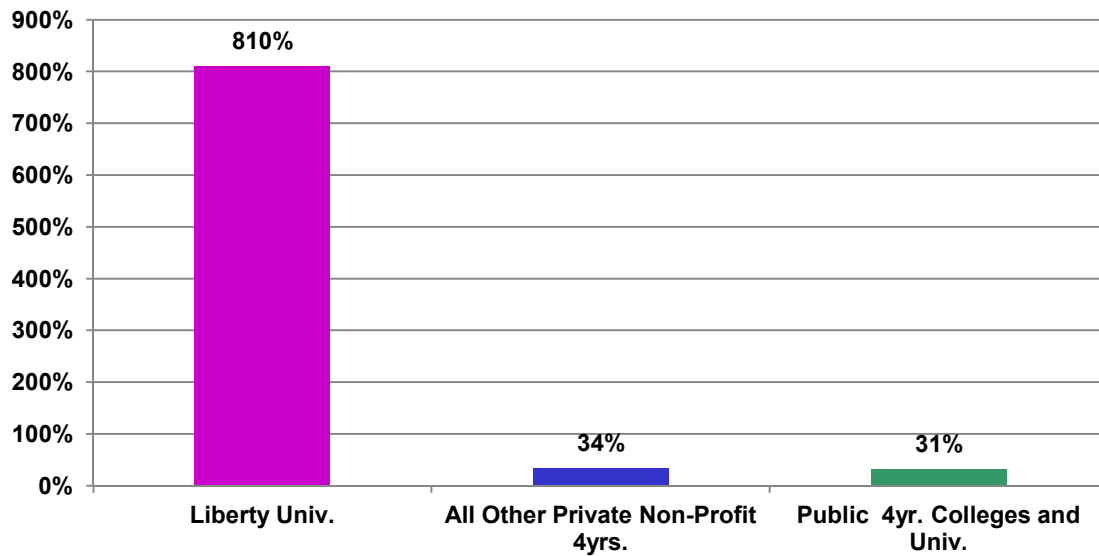


Figure 3: Total Enrollment Growth – Fall 1992 to Fall 2013¹³

¹² Data Source: State Council of Higher Education for Virginia.

¹³ Data Source: State Council of Higher Education for Virginia.

Students

Figures 4 through 6 provide additional information on the characteristics of the students that Liberty University serves. As shown in Figure 4, driven by its large graduate enrollment, Liberty tends to serve a greater proportion of adult or non-traditional students (*i.e.*, students 25 years of age or older) than is typical among Virginia's other four-year colleges and universities. In fall 2013, non-traditional students comprised 73 percent of Liberty's headcount enrollment, as compared to 33 percent in Virginia's other private non-profit colleges and universities, and 25 percent in the state's public four-year institutions.

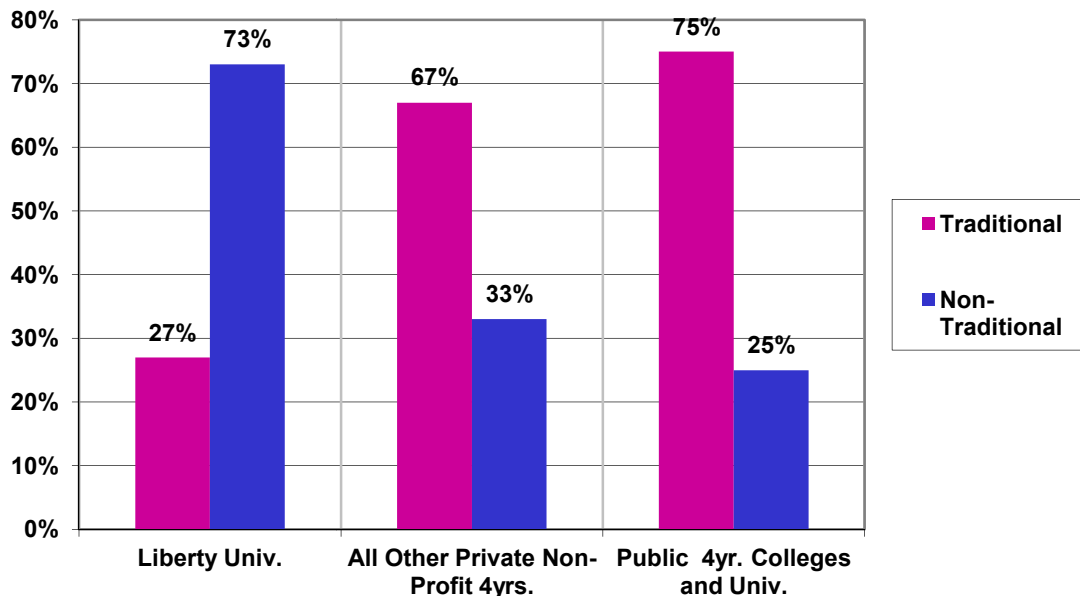


Figure 4: 2013 Fall Headcount Enrollment – Traditional and Non-Traditional Students¹⁴

Figure 5 details the race/ethnicity distribution of Liberty University's student body and compares that distribution to the norm for other four-year colleges and universities in Virginia.¹⁵ As these data show, the distributions are quite comparable. In fall 2013, minority and foreign students comprised 37 percent of Liberty's enrollment, 39 percent of enrollment at other Virginia four-year non-profit colleges, and 38 percent of enrollment in the state's four year public colleges and universities.

¹⁴ Data Source: State Council of Higher Education for Virginia.

¹⁵ Data are only for those students for whom race/ethnicity was reported.

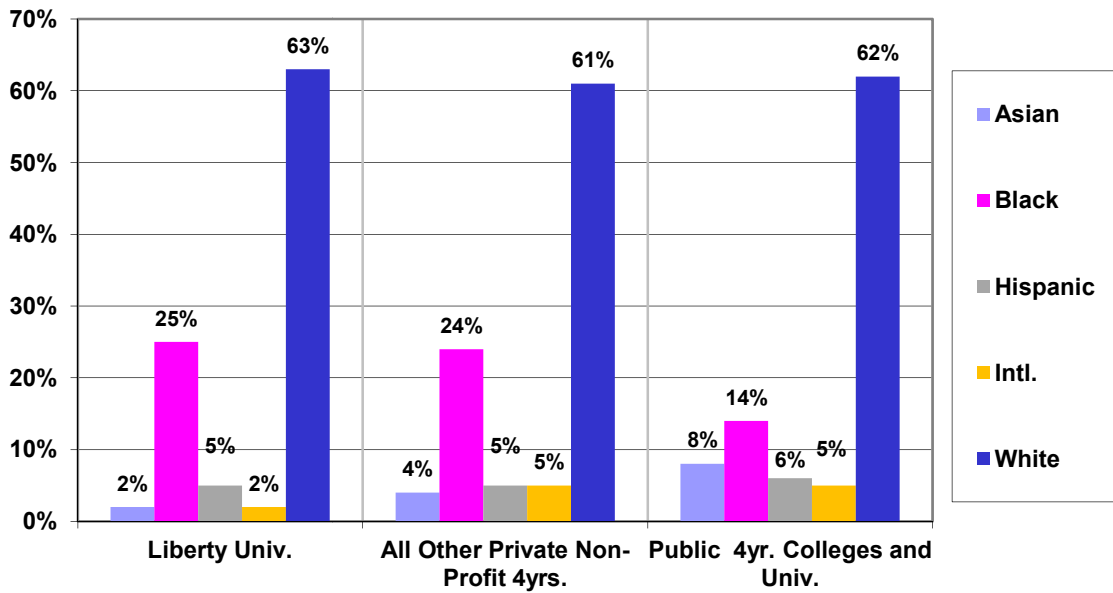


Figure 5: 2013 Fall Headcount Enrollment by Race/Ethnicity¹⁶

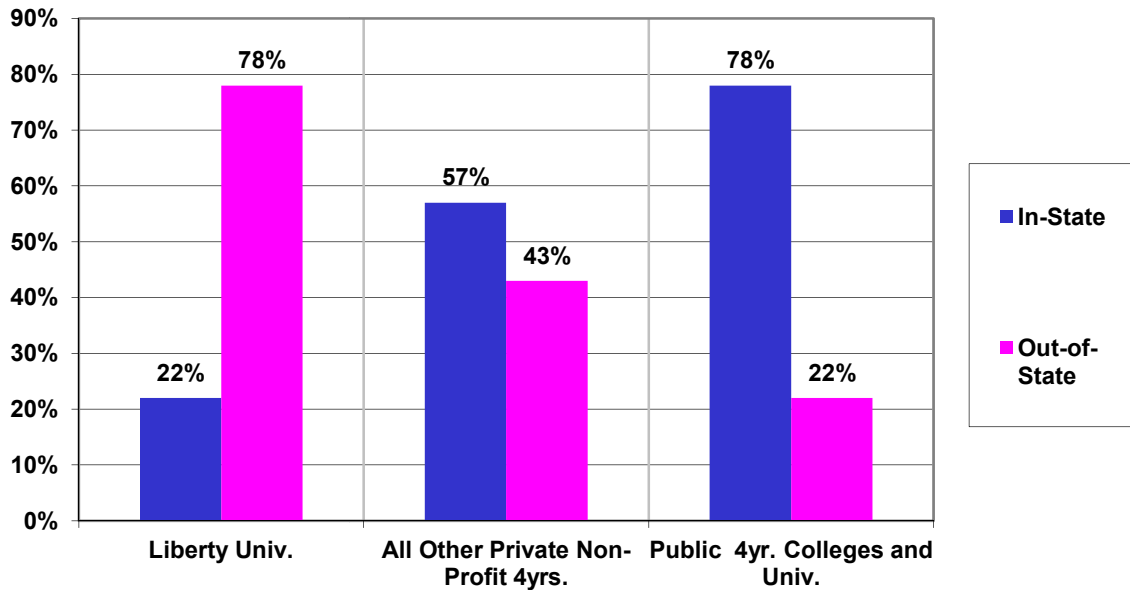


Figure 6: 2013 Fall Headcount Enrollment – In-State and Out-of-State Students¹⁷

¹⁶ Data Source: State Council of Higher Education for Virginia.

¹⁷ Data Source: State Council of Higher Education for Virginia.

Finally, Figure 6 provides information on the relative proportions of in-state and out-of-state students at Liberty University as compared to the other institutional categories. As this chart demonstrates, Liberty's enrollment tends to be much more heavily comprised of out-of-state students (78 percent in fall 2013) than is typical for other Virginia non-profit colleges and universities (43 percent in fall 2013), or the state's public four-year institutions (22 percent in fall 2013). From an economic perspective, this means that Liberty functions much like an export industry, in that it draws out-of-state dollars and resources into the Lynchburg MSA's and Virginia's economies, thereby fueling economic expansion.

Completions

Figure 7 depicts the number of graduates that Liberty University produced in academic year 2013-14 by degree level. As these data indicate the largest number of completions were at the bachelor's level (7,146), followed by master's (6,853), two-year associate's (996), doctoral (727), and first professional (643). Figure 8 further breaks these totals down according to major program. As this chart shows, the top five programs were: *Business, Management, Marketing and Related Support Activities* (2,844 degrees awarded), *Psychology* (2,258 degrees awarded), *Education* (2,214 degrees awarded), *Theology and Religious Vocations* (2,202 degrees awarded), and *Public Administration and Social Service Professions* (1,669 degrees awarded).

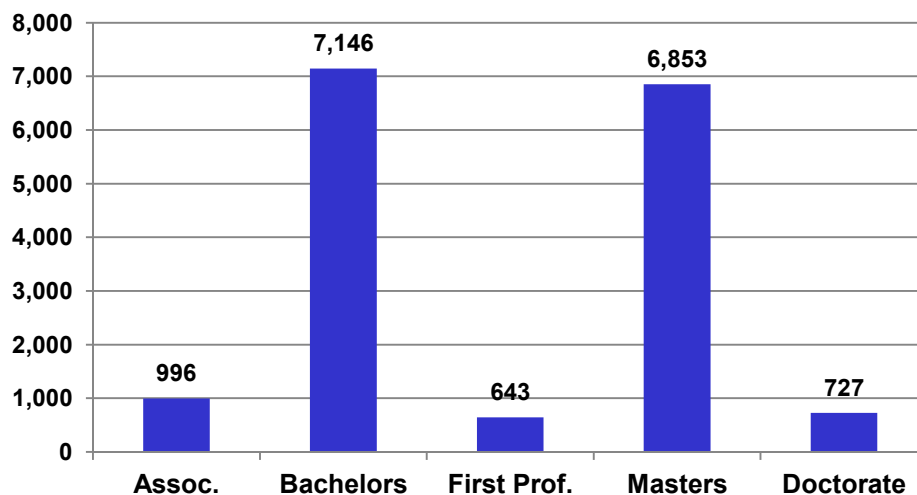


Figure 7: Liberty University 2013-14 Completions by Degree Level¹⁸

¹⁸ Data Source: State Council of Higher Education for Virginia.

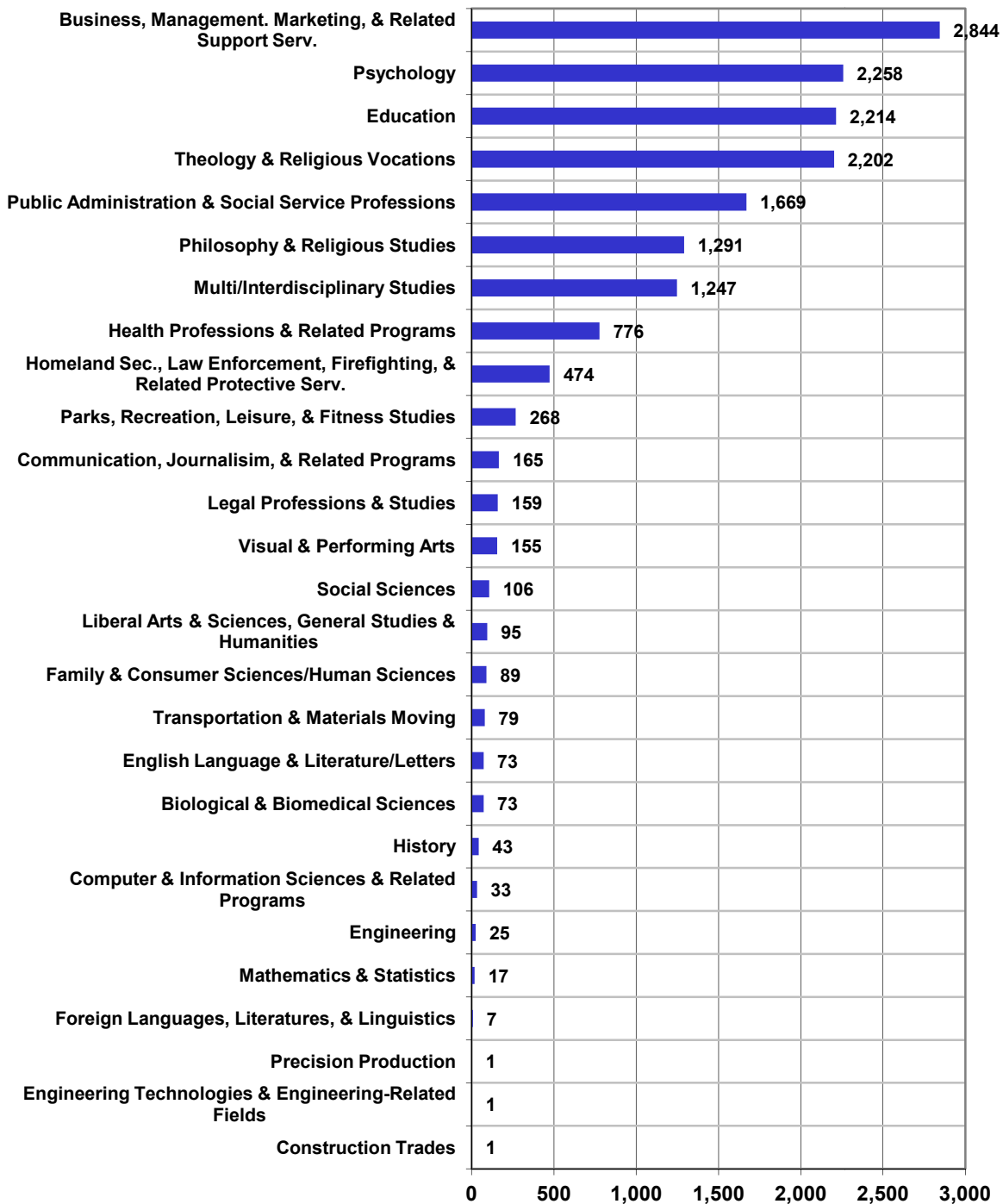


Figure 8: Liberty University 2013-14 Completions by Program¹⁹

¹⁹ Data Source: State Council of Higher Education for Virginia.

Lynchburg MSA Profile²⁰

In this section, we set the stage for the analyses that follow by providing background information on some of the Lynchburg MSA's key economic characteristics.

Employment and Wage Trends

Figure 9 plots the change in total employment in the Lynchburg MSA between the first quarter of 2009 and the first quarter of 2014. As it did throughout the rest of the country, total employment in the Lynchburg MSA generally trended downward during the first part of this period as the 2007 recession continued to take its toll, and has since exhibited sluggish upward growth. Overall between the first quarter of 2009 and the first quarter of 2014, the Lynchburg MSA experienced a loss of 2,104 jobs, or a 2.1 percent decline in total employment.

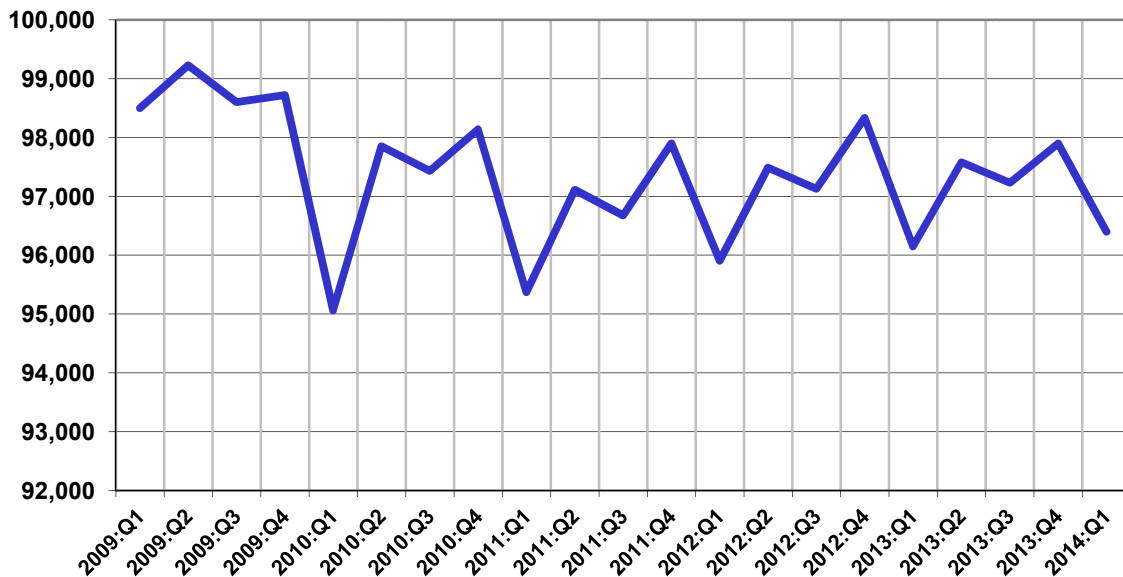


Figure 9: Lynchburg MSA Total Employment – 2009:Q1 to 2014:Q1²¹

To provide a relative benchmark for the data presented in Figure 9 and to control for seasonality, Figure 10 compares the year-over-year change in total employment in the Lynchburg MSA to that of the state of Virginia as a whole over the same five year period. Any observation above the zero line in this graph denotes a year-over-year increase in

²⁰ The Lynchburg MSA includes the counties of Amherst, Appomattox, Bedford, and Campbell, and the City of Lynchburg.

²¹ Data Source: Virginia Employment Commission.

employment, while any observation below the zero line denotes a year-over-year decline in employment. These data reveal two noteworthy characteristics. First, that the Lynchburg MSA was harder hit by the 2007 recession than the state of Virginia as a whole. Where the year over year change in employment bottomed out at the statewide level at minus 3.9 percent in third quarter of 2009, in the Lynchburg MSA the comparable figure was minus 5.5 percent. Second, that the Lynchburg MSA has lagged behind the state as a whole during the recovery, with the year over year change in employment turning positive at the statewide level in the third quarter of 2010, but not fully making the same transition in the Lynchburg MSA until the first quarter of 2012. Moreover, throughout the recovery employment growth in the Lynchburg MSA has typically fallen one-half a percentage point below the statewide rate, although that gap has narrowed in recent quarters.

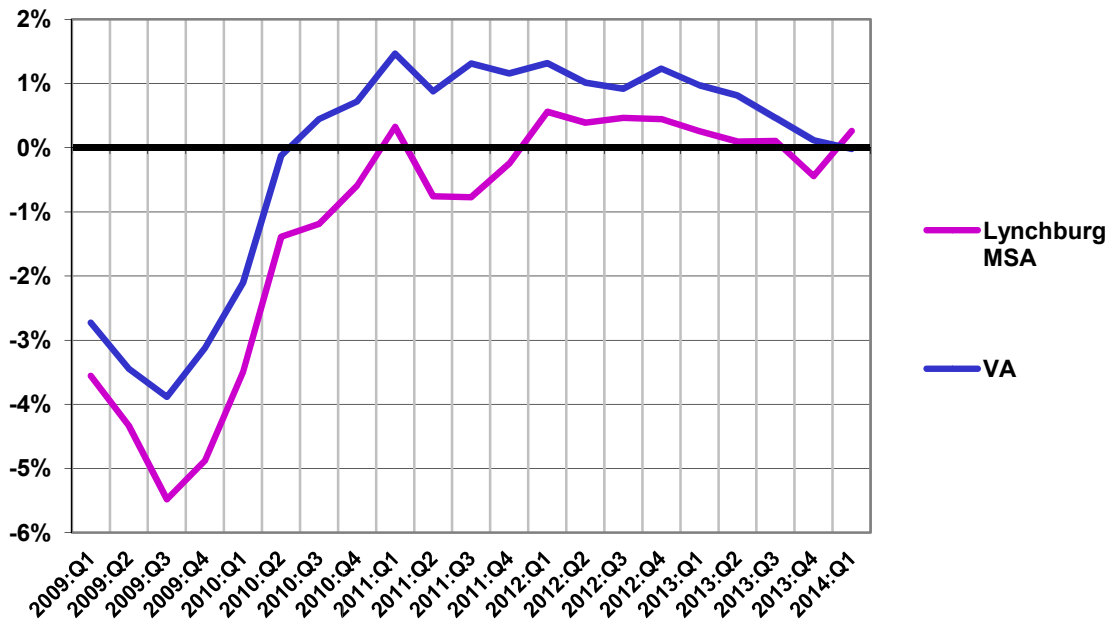


Figure 10: Year-Over-Year Change in Employment – 2009:Q1 to 2014:Q1²²

Employment and Wages by Industry

Figure 11 provides a snapshot of employment in the Lynchburg MSA by major industry sector in the first quarter of 2014. As these data show, the five largest industry sectors in the region that quarter were: 1) *Healthcare* (15,795 jobs), 2) *Manufacturing* (14,788

²² Data Source: Virginia Employment Commission.

jobs), 3) *Retail Trade* (12,658 jobs), 4) *Education Services* (9,210 jobs), and 5) *Accommodation and Food Services* (7,952 jobs).²³ While Figure 12 provides comparable data on average weekly wages in the Lynchburg MSA by major industry sector in the first quarter of 2014. In this case, the four highest paying industry sectors in the region that quarter were: 1) *Professional and Technical Services* (\$1,522 per week), 2) *Finance and Insurance* (\$1,311 per week), 3) *Manufacturing* (\$1,153 per week), 4) *Wholesale Trade* (\$1,107 per week), and *Utilities* (\$1,097 per week). One of the more striking characteristics of these data is the heavy dependence that the region has on the *Manufacturing* sector, both in terms of employment (the region's second largest employment sector with 15.0 percent of total employment) and wages (the regions 3rd highest paying employment sector).

Figure 13 takes a look at the most recent year-over-year employment changes in the Lynchburg MSA by major industry sector. Overall between the first quarter of 2013 and the first quarter of 2014 the Lynchburg MSA gained a total of 249 jobs. Breaking this number down according to major industry sector shows that the largest gainers over this period were: 1) *Retail Trade* (up 357 jobs), 2) *Administrative and Waste Services* (up 274 jobs), 3) *Accommodation and Food Services* (up 47 jobs), 4) *Real Estate* (up 42 jobs), and 5) *Professional and Technical Services* (up 27 jobs). While the largest losers were: 1) *Wholesale Trade* (down 154 jobs), 2) *Health Care and Social Assistance* (down 94 jobs), 3) *Construction* (down 72 jobs), 4) *Other Services* (down 69 jobs), and 5) *Manufacturing* (down 68 jobs).

²³ It is important to realize that these numbers do not include employment at Liberty University because Liberty is a non-profit institution and therefore exempt from reporting its employment numbers to the Virginia Employment Commission.

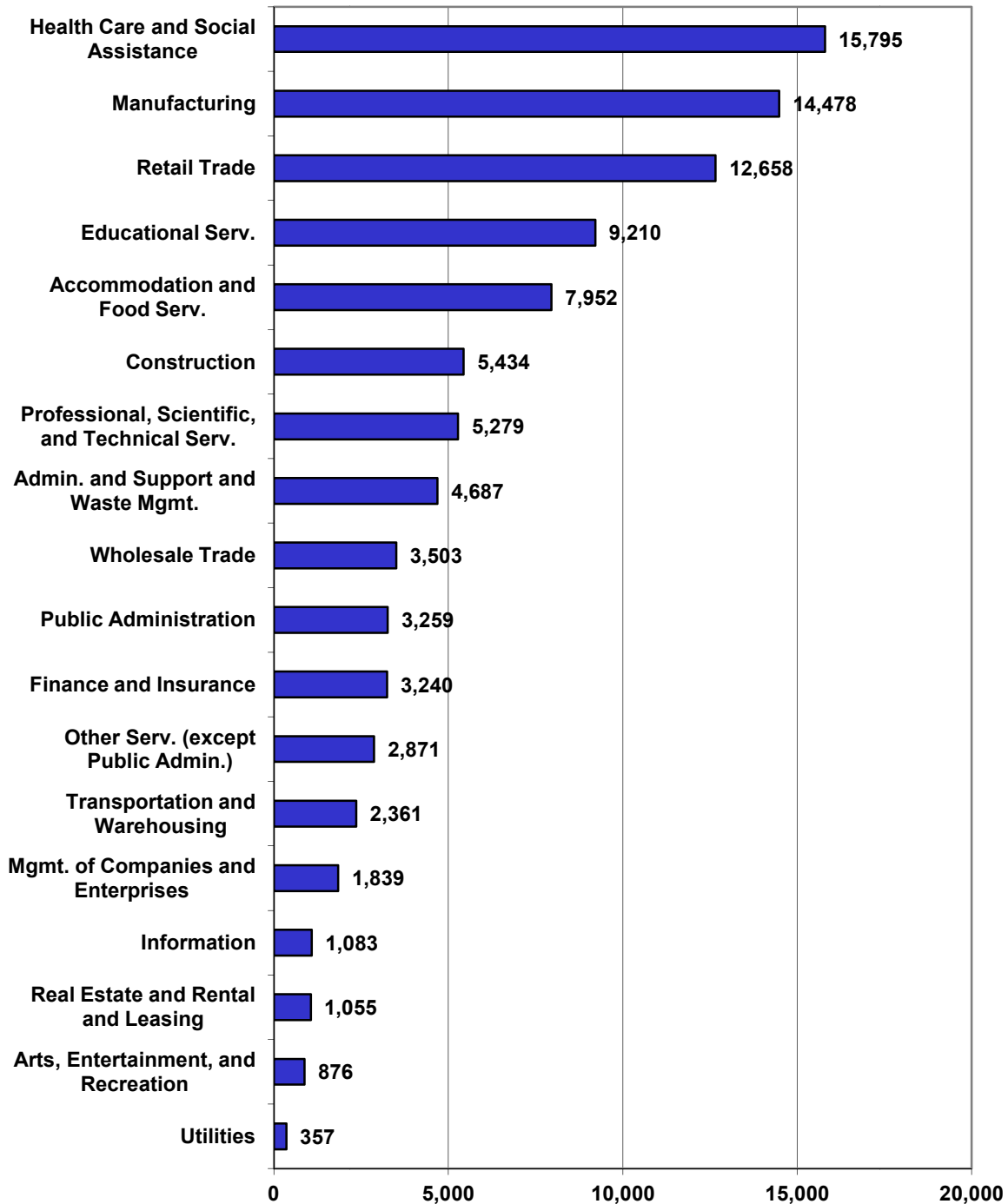


Figure 11: Lynchburg MSA Employment by Major Industry Category – 2014:Q1²⁴

²⁴ Data Source: Virginia Employment Commission.

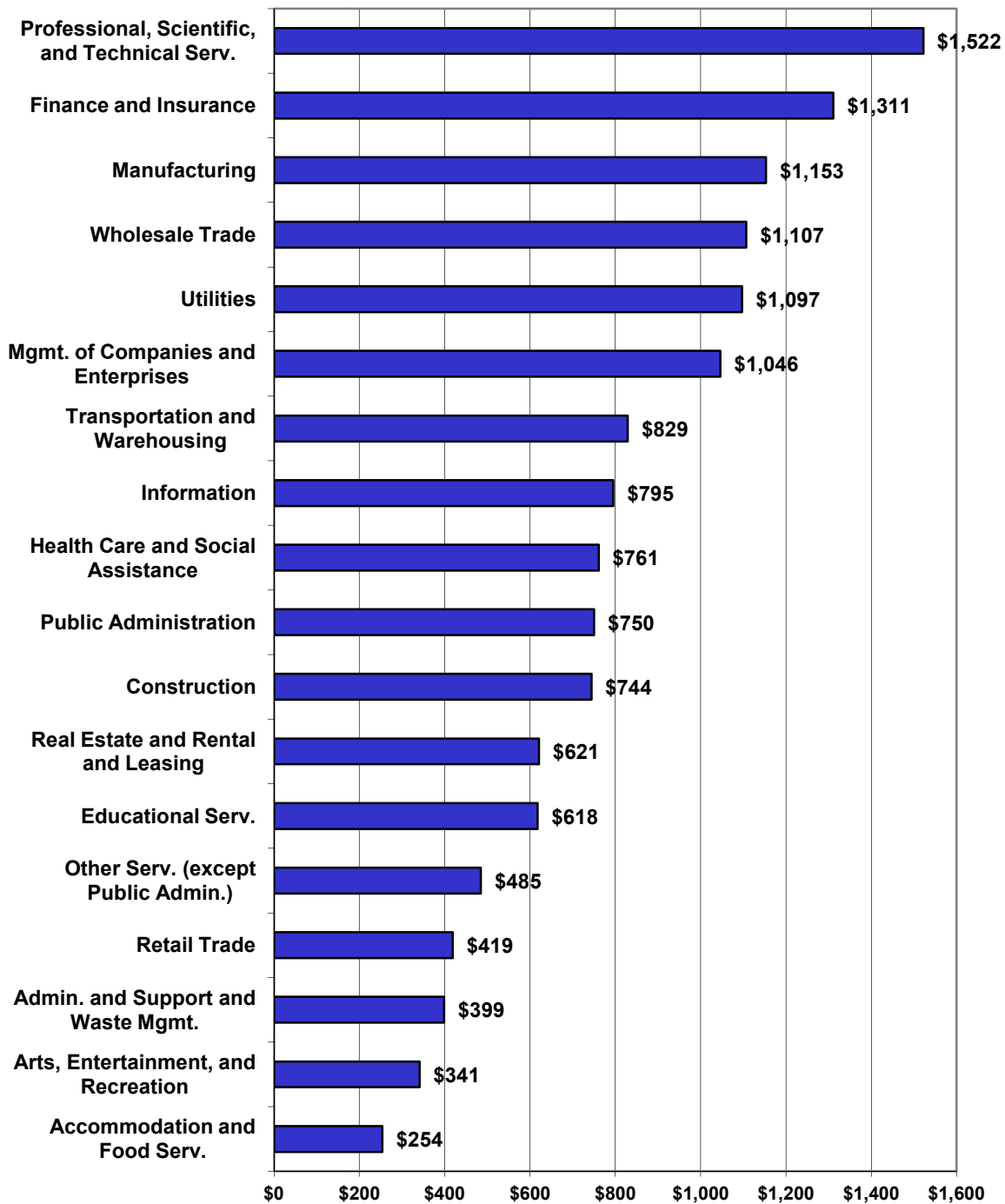


Figure 12: Lynchburg MSA Average Weekly Wages by Major Industry Category – 2014:Q1²⁵

²⁵ Data Source: Virginia Employment Commission.

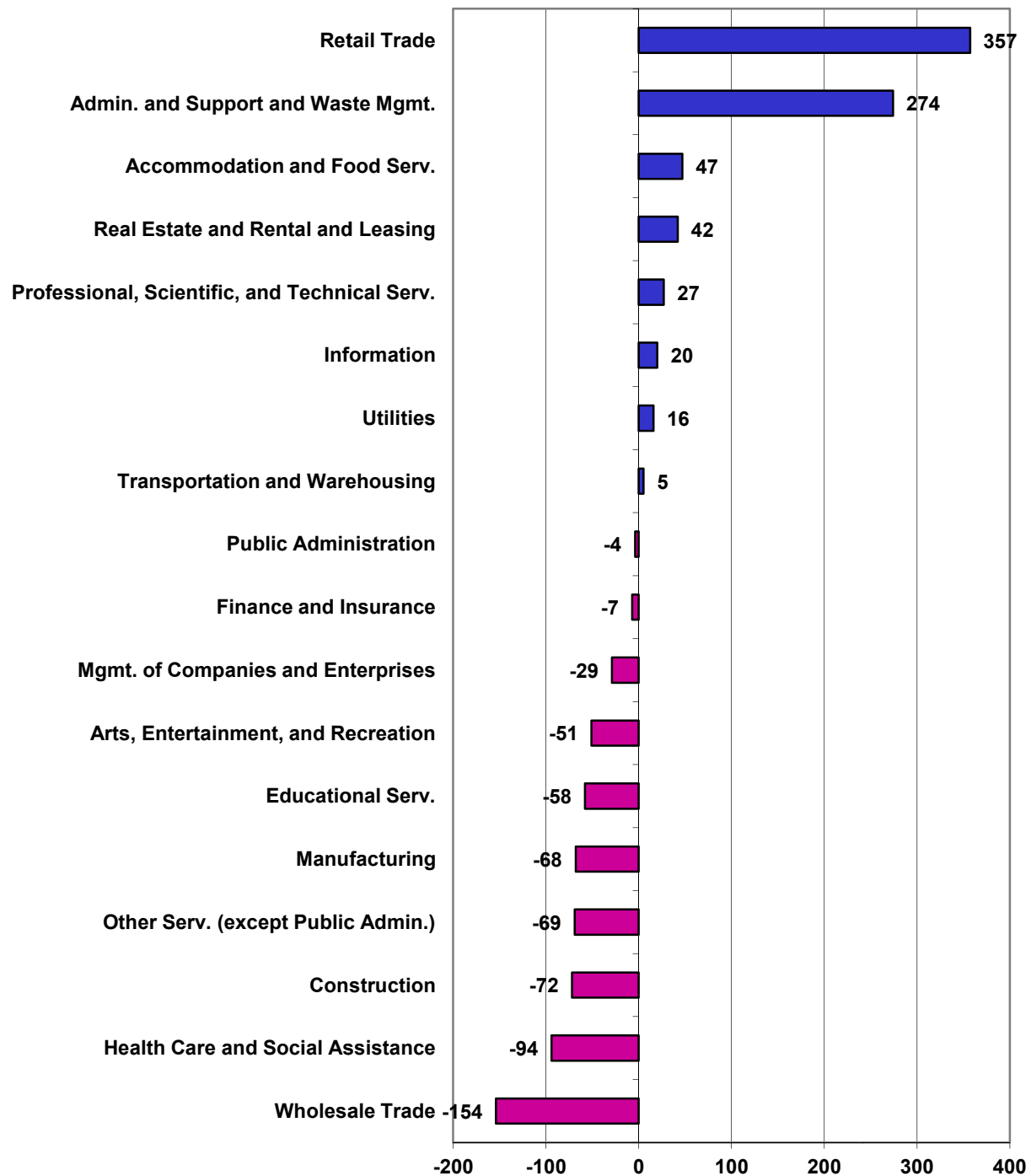


Figure 13: Lynchburg MSA Change in Employment by Major Industry Category – 2013:Q1 to 2014:Q1²⁶

²⁶ Data Source: Virginia Employment Commission.

Unemployment

Finally, Figure 14 compares the unemployment rate in the Lynchburg MSA to that of Virginia statewide for the period between August of 2009 and August of 2014. As these data show, throughout the recovery unemployment has grudgingly trended downward, however, the unemployment rate in the Lynchburg MSA has generally been one-half to three-quarters of a percentage point above the statewide norm. In addition, in recent months that overall unemployment trend in both the Lynchburg MSA and the state as a whole appears to have shifted, with unemployment rates generally rising. As of August 2014, unemployment stood at 6.6 percent in the Lynchburg MSA and 5.7 percent statewide.

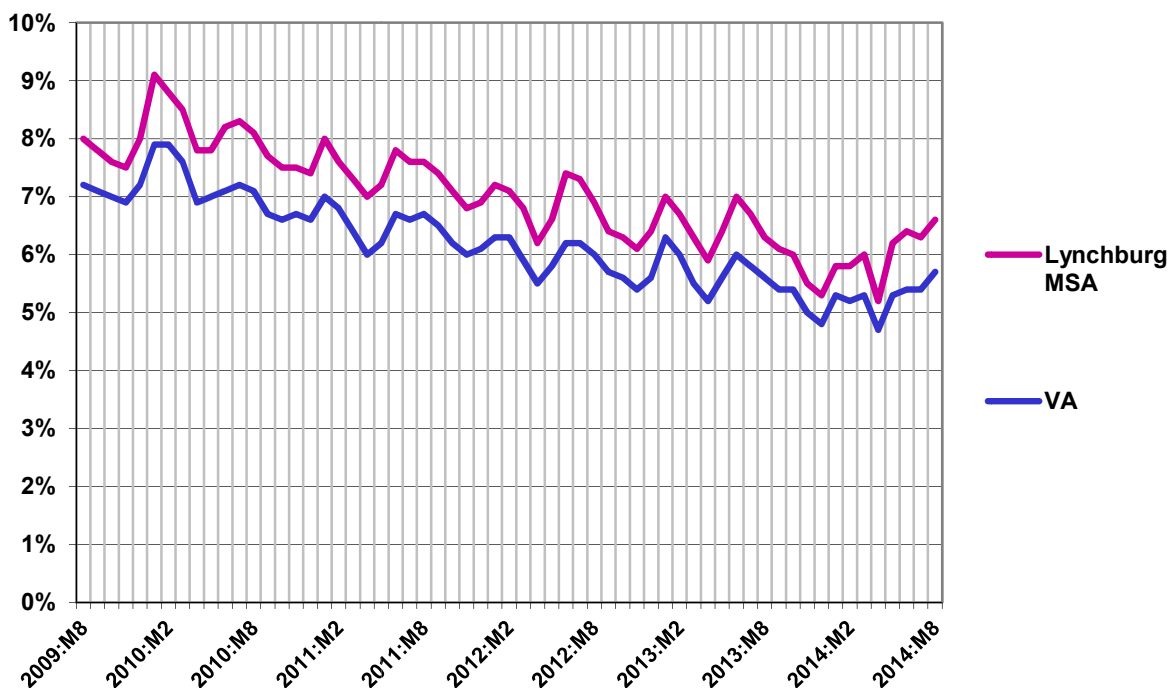


Figure 14: Region 2000 Unemployment Rate – August 2009 to August 2014²⁷

In sum, the data presented in this section depict a region that is still heavily dependent on *Manufacturing*, was hit hard by the 2007 recession, and has yet to fully recover from that blow. At another level, however, these data also implicitly point to the important role that Liberty University plays in the Lynchburg MSA in expanding the region's portfolio

²⁷ Data Source: Virginia Employment Commission.

of high-growth, non-*Manufacturing* sectors, and thereby providing a stabilizing influence on the region's employment picture.

Economic and Fiscal Impact

In this section, we quantify the economic and fiscal contribution that Liberty University made to the Lynchburg MSA, as well as to the state of Virginia as a whole, in fiscal year 2013-14.²⁸ To accomplish this task, we employ a commonly used regional economic impact model called IMPLAN.²⁹ The IMPLAN model uses regional and national data on production and trade flows to construct region-specific economic multipliers and uses these multipliers to quantify economic impact.

Economic multipliers measure the second round effects, or ripple effects, that an expenditure has as it makes its way through the economy. For example, as when Liberty University purchases goods and services – or when Liberty University employees use their salaries and wages to make household purchases – thereby generating income for someone else, which is in turn spent, thereby becoming income for yet someone else, and so on, and so on. Through this process, one dollar in expenditures generates multiple dollars of income. The mathematical relationship between the initial expenditure and the total income generated is the economic multiplier. The cumulative result of these second round effects is called indirect impact when it refers to business to business transactions, and induced impact when it refers to household (employee) to business transactions.

In the analysis that follows, we also provide estimates for three categories of economic impact. The first is employment, or the number of jobs that are created in the economy in addition to the direct employment attributable with Liberty University and its associated enterprises. The second is labor income, or the salaries and wages associated with those jobs. While the third is economic output, or the total amount of economic activity that is generated in the economy beyond Liberty University and its associated enterprises.

²⁸ July 1 of 2013 through June 31 of 2014.

²⁹ IMPLAN v.3 is produced by Minnesota IMPLAN Group, Inc.

Lynchburg MSA³⁰

Regional Spending

In fiscal year 2013-14, Liberty University was directly responsible for contributing \$567 million dollars in spending to the Lynchburg MSA. As shown in Figure 15:

- Liberty expenditures on goods and services accounted for 19 percent of that total (\$110 million),
- Liberty expenditures on salaries and wages accounted for 34 percent (\$191 million),
- Liberty expenditures on capital construction projects accounted for 25 percent (\$145 million),
- expenditures on goods and services by enterprises associated with Liberty accounted for 1 percent (\$5 million),
- expenditures on salaries and wages by enterprises associated with Liberty accounted for 1 percent (\$4 million),
- employee related healthcare expenditures accounted for 3 percent (\$15 million)
- spending from students accounted for 13 percent (\$73 million), and
- spending from visitors accounted for 4 percent (\$25 million).³¹

In the next portion of this section, we quantify the total economic impact that this direct spending had on the Lynchburg MSA.

³⁰ The Lynchburg MSA is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the City of Lynchburg.

³¹ *Data Source:* Data on university and associated enterprises spending were obtained from Liberty University. Data on student and employee visitor spending were derived from an online survey of Liberty University students and employees administered in March 2010. Data on visitors to university events were derived from data provided by Liberty University on out-of-area event attendance and tourism spending data developed by the Virginia Tourism Corporation (see "FY 2013 Leisure Travel Profile to Virginia," Virginia Tourism Corporation).

\$567 Million in Regional Spending

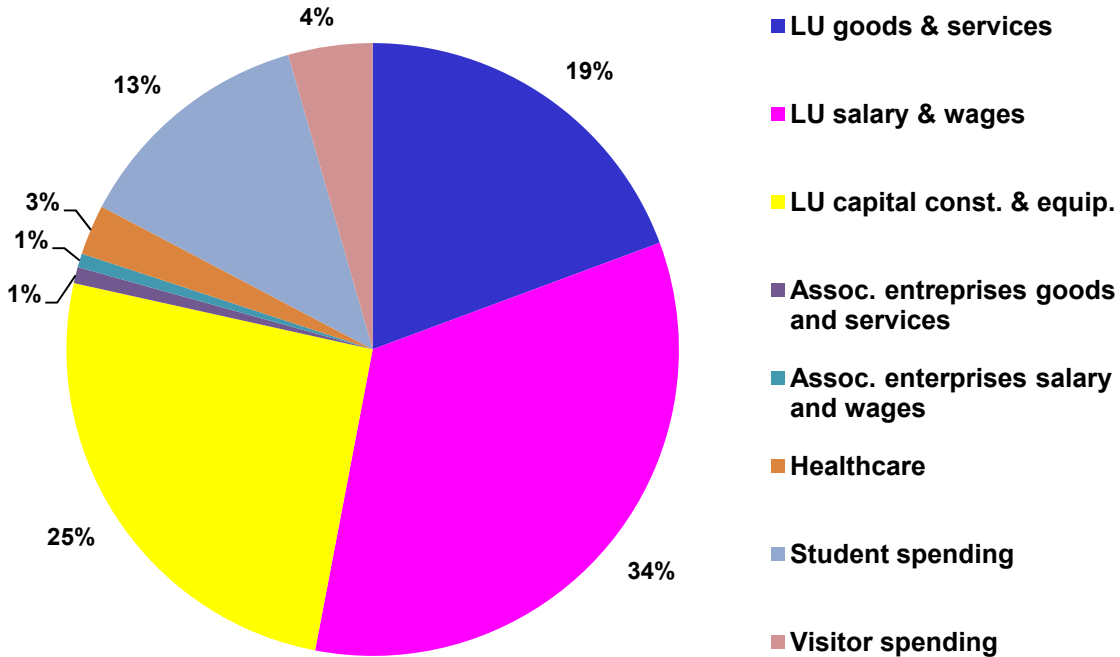


Figure 15: Distribution of Liberty University 2013-14 Spending within the Lynchburg MSA

Regional Economic Impact

As shown in Table 1, our analysis indicates that this \$567 million in regional spending was responsible for generating:

- **Regional Employment:** In addition to directly providing 6,914 full time equivalent jobs within the region, economic activity associated with Liberty University also supported 3,723 full time equivalent jobs through second round effects, for a total regional employment impact of 10,637 full time equivalent jobs.
- **Labor Income:** In addition to directly providing \$250.6 million in regional labor income, economic activity associated with Liberty University also created \$133.1 million in additional regional labor income through second round effects, for a total regional labor income impact of \$383.7 million.
- **Economic Output:** In addition to directly generating \$554.6 in regional economic output, economic activity associated with Liberty University also generated

\$457.0 million in regional economic activity through second round effects, for a total regional economic output impact of \$1.0 billion.

Table 1: Estimated Total Economic Impact of Liberty University on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	6,914	250,617,871	554,590,430
<i>Second Round Indirect and Induced Economic Activity</i>	3,723	133,077,390	456,961,549
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	10,637	383,695,261	1,011,551,979

In the subsections that follow, we provide detailed analysis for each of the spending components listed in Figure 15.

1. Liberty University Expenditures on Goods and Services:

In assessing the likely economic impact attributable to Liberty University's expenditures on goods and services within the Lynchburg MSA in fiscal year 2013-14, we employ the following assumption:

- Total university expenditures for goods and services within the Lynchburg MSA were \$109.7 million in fiscal year 2013-14.³²

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 2:

- Regional Employment: Second round effects attributable to Liberty University's expenditures on goods and services were responsible for supporting an additional 1,051 full time equivalent jobs in the region.
- Labor Income: Second round effects attributable to Liberty University's expenditures on goods and services were responsible for generating \$37.5 million in additional labor income within the region.

³² Data Source: Liberty University.

- **Economic Output:** In addition to directly generating \$109.7 million in economic activity, Liberty University's expenditures on goods and services also generated \$156.3 million in regional activity through second round effects, for a total regional output impact of \$266.0 million.

Table 2: Estimated Economic Impact of Liberty University Expenditures on Goods and Services on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	0	\$0	\$109,730,799
Second Round Indirect and Induced Economic Activity	1,051	\$37,459,556	\$156,267,801
Total, Direct, Indirect, and Induced Economic Activity	1,051	\$37,459,556	\$265,998,600

2. Liberty University Expenditures on Salaries and Wages:

We employ the following assumption in assessing the likely economic impact attributable to Liberty University's expenditures on salaries and wages within the Lynchburg MSA in fiscal year 2013-14:

- Total university expenditures on salaries and wages within the Lynchburg MSA were \$191.0 million in fiscal year 2013-14.³³

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 3:

- **Regional Employment:** In addition to directly providing 5,225 full time equivalent jobs, Liberty University's expenditures on salaries and wages also supported 1,352 full time equivalent jobs through second round effects, for a total regional employment impact of 6,577 full time equivalent jobs.
- **Labor Income:** In addition to directly providing \$191.0 million in labor income, Liberty University's expenditures on salaries and wages also created \$46.1 million in additional regional labor income through second round effects, for a total regional labor income impact of \$237.1 million.

³³ Data Source: Liberty University.

- **Economic Output:** In addition to directly generating \$191.0 million in economic activity, Liberty University's expenditures on salaries and wages also generated \$147.6 million in regional activity through second round effects, for a total regional output impact of \$338.6 million.

Table 3: Estimated Economic Impact of Liberty University Expenditures on Salaries and Wages on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	5,225	\$191,024,865	\$191,024,865
Second Round Indirect and Induced Economic Activity	1,352	\$46,117,562	\$147,589,466
Total, Direct, Indirect, and Induced Economic Activity	6,577	\$237,142,427	\$338,614,331

3. Liberty University Expenditures on Capital Construction and Equipment:

In assessing the likely economic impact attributable to Liberty University's expenditures on capital construction and equipment within the Lynchburg MSA in fiscal year 2013-14, we employ the following assumption:

- Total university expenditures on capital construction and equipment within the Lynchburg MSA were \$144.5 million in fiscal year 2013-14.³⁴

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 4:

- **Regional Employment:** In addition to directly providing 1,104 full time equivalent jobs, Liberty University's expenditures on capital construction and equipment also supported 554 full time equivalent jobs through second round effects, for a total regional employment impact of 1,658 full time equivalent jobs.
- **Labor Income:** In addition to directly providing \$40.4 million in labor income, Liberty University's expenditures on capital construction and equipment also created \$23.8 million in additional regional labor income through second round effects, for a total regional labor income impact of \$64.1 million.

³⁴ Data Source: Liberty University.

- **Economic Output:** In addition to directly generating \$142.7 in economic activity, Liberty University's expenditures on capital construction and equipment also generated \$68.1 million in regional activity through second round effects, for a total regional output impact of \$210.8 million.

Table 4: Estimated Economic Impact of Liberty University Expenditures on Capital Construction and Equipment on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	1,104	\$40,385,341	\$142,747,799
Second Round Indirect and Induced Economic Activity	554	\$23,759,094	\$68,084,207
Total, Direct, Indirect, and Induced Economic Activity	1,658	\$64,144,435	\$210,832,006

4. Associated Enterprise Expenditures on Goods and Services:

In assessing the likely economic impact attributable to expenditures on goods and services within the Lynchburg MSA in fiscal year 2013-14 by enterprises associated with Liberty University,³⁵ we employ the following assumption:

- Total associated enterprise expenditures for goods and services within the Lynchburg MSA were \$4.8 million in fiscal year 2013-14³⁶

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 5:

- **Regional Employment:** Second round effects attributable to associated enterprise expenditures on goods and services were responsible for supporting an additional 47 full time equivalent jobs in the region.

³⁵ These enterprises include C and C Jetting, LLC; Freedom Aviation, LLC; Candler Station, LLC; Plaza Holdings, LLC; Liberty Mountain Capital, LLC; Liberty Mountain Conference Center, LLC; Ivy Hill, LLC; G & J Thomas, LLC; Morningstar, LLC; and Racquet Sports, LLC.

³⁶ Data Source: Liberty University.

- **Labor Income:** Second round effects attributable to associated enterprise expenditures on goods and services were responsible for generating \$1.6 million in additional labor income within the region.
- **Economic Output:** In addition to directly generating \$4.8 million in economic activity, associated enterprise expenditures on goods and services also generated \$6.3 million in regional activity through second round effects, for a total regional output impact of \$11.1 million.

Table 5: Estimated Economic Impact of Associated Enterprise Expenditures on Goods and Services on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	0	\$0	\$4,843,744
Second Round Indirect and Induced Economic Activity	47	\$1,642,406	\$6,292,173
Total, Direct, Indirect, and Induced Economic Activity	47	\$1,642,406	\$11,135,917

5. Associated Enterprise Expenditures on Salaries and Wages:

We employ the following assumption in assessing the likely economic impact attributable to expenditures on salaries and wages within the Lynchburg MSA in fiscal year 2013-14 by enterprises associated with Liberty University³⁷:

- Total associated enterprise expenditures on salaries and wages within the Lynchburg MSA were \$4.2 million in fiscal year 2013-14.³⁸

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 6:

- **Regional Employment:** In addition to directly providing 146 full time equivalent jobs, associated enterprise expenditures on salaries and wages also supported 29

³⁷ These enterprises include C and C Jetting, LLC; Freedom Aviation, LLC; Candler's Station, LLC; Plaza Holdings, LLC; Liberty Mountain Capital, LLC; Liberty Mountain Conference Center, LLC; Ivy Hill, LLC; G & J Thomas, LLC; Morningstar, LLC; and Racquet Sports, LLC.

³⁸ Data Source: Liberty University.

full time equivalent jobs through second round effects, for a total regional employment impact of 175 full time equivalent jobs.

- **Labor Income:** In addition to directly providing \$4.2 million in labor income, associated enterprise expenditures on salaries and wages also created \$1.0 million in additional regional labor income through second round effects, for a total regional labor income impact of \$5.2 million.
- **Economic Output:** In addition to directly generating \$4.2 million in economic activity, associated enterprise expenditures on salaries and wages also generated \$3.2 million in regional activity through second round effects, for a total regional output impact of \$7.4 million.

Table 6: Estimated Economic Impact of Associated Enterprise Expenditures on Salaries and Wages on the Lynchburg MSA in FY 2011-12

	Employment	Labor Income	Output
First Round Direct Economic Activity	146	\$4,188,577	\$4,188,577
Second Round Indirect and Induced Economic Activity	29	\$999,925	\$3,248,499
Total, Direct, Indirect, and Induced Economic Activity	175	\$5,188,502	\$7,437,076

6. Employee Related Healthcare Expenditures:

In assessing the likely economic impact attributable to healthcare expenditures within the Lynchburg MSA in fiscal year 2013-14 that were funded through employee healthcare insurance provided by Liberty University and its associated enterprises, we employ the following assumption:

- Total employee related healthcare expenditures within the Lynchburg MSA were \$15.0 million in fiscal year 2013-14.³⁹

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 7:

³⁹ Data Source: Liberty University.

- **Regional Employment:** In addition to directly providing 114 full time equivalent jobs, employee related healthcare expenditures also supported 85 full time equivalent jobs through second round effects, for a total regional employment impact of 199 full time equivalent jobs.
- **Labor Income:** In addition to directly providing \$9.0 million in labor income, employee related healthcare expenditures also created \$2.9 million in additional regional labor income through second round effects, for a total regional labor income impact of \$11.9 million.
- **Economic Output:** In addition to directly generating \$15.0 in economic activity, employee related healthcare expenditures also generated \$9.4 million in regional activity through second round effects, for a total regional output impact of \$24.4 million.

Table 7: Estimated Economic Impact of Employee Related Healthcare Expenditures on the Lynchburg MSA in FY 2012-13

	Employment	Labor Income	Output
First Round Direct Economic Activity	114	\$9,041,590	\$15,031,435
Second Round Indirect and Induced Economic Activity	85	\$2,883,083	\$9,400,843
Total, Direct, Indirect, and Induced Economic Activity	199	\$11,924,673	\$24,432,278

7. Liberty University Student Spending:

Our assessment of the economic impact that spending by Liberty University students had on the Lynchburg MSA in fiscal year 2013-14 is predicated on the following assumptions:

- Liberty University students spent an average of \$515.85 per month in the Lynchburg MSA in fiscal year 2013-14.⁴⁰

⁴⁰ *Data Source:* Based on the findings from a survey of Liberty University students conducted in March 2010 and updated to reflect changes in the Bureau of Labor Statistic's *Consumer Price Index – All Consumers South Urban*.

- On average, Liberty University students reside in the Lynchburg MSA for 9.4 months out of the year.⁴¹
- There are an estimated 14,109 Liberty University residential, commuter, or online students who reside in the Lynchburg MSA for at least a portion of the year.⁴²
- In addition to those residential, commuter, and online students who reside in the Lynchburg MSA, in fiscal year 2013-14 an additional 11,000 intensive online students physically attended classes for some number of days at Liberty University's campus.⁴³
- On average, these intensive online students made 2.8 visits to the campus in fiscal year 2013-14 and stayed 5.2 days each visit.
- Liberty University intensive online students spent an average of \$220.40 per visit in the Lynchburg MSA in fiscal year 2013-14.⁴⁴
- The distribution of Liberty University intensive online student's expenditures on various goods and services in fiscal year 2013-14 is comparable to tourism spending data developed by the Virginia Tourism Corporation for fiscal year 2013.⁴⁵
- Total expenditures by Liberty University students (resident, commuter, online living in the Lynchburg MSA, and intensive online students visiting the Lynchburg MSA) are estimated to be \$72.8 million in fiscal year 2013-14.

⁴¹ *Data Source:* Derived from student survey.

⁴² *Data Source:* Derived from student survey. This estimate controls for the small number of Liberty University students who have spouses who are either enrolled or employed by the university, and therefore may also have been included in the survey sample.

⁴³ *Data Source:* Liberty University.

⁴⁴ *Data Source:* *Data Source:* Based on the findings from a survey of Liberty University students conducted in March 2010 and updated to reflect changes in the Bureau of Labor Statistic's *Consumer Price Index – All Consumers South Urban*.

⁴⁵ *Data Source:* "FY 2013 Leisure Travel Profile to Virginia," Virginia Tourism Corporation.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 8:

- **Regional Employment:** In addition to directly providing 69 full time equivalent jobs, spending by Liberty University students also supported 525 full time equivalent jobs through second round effects, for a total regional employment impact of 594 full time equivalent jobs.
- **Labor Income:** In addition to directly providing \$1.3 million in labor income, spending by Liberty University students also created \$17.5 million in additional regional labor income through second round effects, for a total regional labor income impact of \$18.8 million.
- **Economic Output:** In addition to directly generating \$70.4 in economic activity, spending by Liberty University students also generated \$57.2 million in regional activity through second round effects, for a total regional output impact of \$127.6 million.

Table 8: Estimated Economic Impact of Liberty University Student Spending on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	69	\$1,265,432	\$70,422,167
Second Round Indirect and Induced Economic Activity	525	\$17,509,764	\$57,140,133
Total, Direct, Indirect, and Induced Economic Activity	594	\$18,775,196	\$127,562,300

8. Liberty University Visitor Spending:

Our assessment of the economic impact on the Lynchburg MSA attributable to spending by Liberty University student and employee visitors, and out-of-town visitors to university events, in fiscal year 2013-14, is predicated on the following assumptions:

- Visitors to Liberty University students spent an average of \$205.28 per visit in the Lynchburg MSA in fiscal year 2013-14.⁴⁶

⁴⁶ Data Source: Derived from student survey.

- 78 percent of Liberty University students had out-of-town visitors in fiscal year 2013-14.⁴⁷
- On average, each student receiving visitors had 3.2 visits during the year, each visit lasted 2.8 days, and involved 2.4 out-of-town visitors.⁴⁸
- Visitors to Liberty University employees spent an average of \$222.47 per visit in the Lynchburg MSA in fiscal year 2013-14.⁴⁹
- 87 percent of Liberty University employees had out-of-town visitors in fiscal year 2013-14.⁵⁰
- On average, each employee receiving visitors had 3.7 visits during the year, each visit lasted 3.1 days, and involved 2.7 out-of-town visitors.⁵¹
- There were 105,807 out-of-town visitors to Liberty University events in fiscal year 2013-14 and it is estimated that these visitors spent \$132 per person per over-night visit.⁵²
- The distribution of Liberty University visitor expenditures on various goods and services in fiscal year 2013-14 is comparable to tourism spending data developed by the Virginia Tourism Corporation for fiscal year 2013.⁵³
- Total expenditures by visitors to Liberty University students, employees, and events are estimated to be \$25.0 million in fiscal year 2013-14.⁵⁴

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 9:

- Regional Employment: In addition to directly providing 256 full time equivalent jobs, spending by visitors to Liberty University also supported 80 full time equivalent jobs through second round effects, for a total regional employment impact of 336 full time equivalent jobs.
- Labor Income: In addition to directly providing \$4.7 million in labor income, spending by visitors to Liberty University also created \$2.7 million in additional

⁴⁷ *Data Source*: Derived from student survey.

⁴⁸ *Data Source*: Derived from student survey.

⁴⁹ *Data Source*: Derived from a survey of Liberty University employees conducted in March 2010.

⁵⁰ *Data Source*: Derived from employee survey.

⁵¹ *Data Source*: Derived from employee survey.

⁵² *Data Source*: Event visitor data were provided by Liberty University and spending estimates were provided by the Lynchburg Convention and Visitors Bureau and are taken from visitor expenditure profiles produced by the Virginia Tourism Corporation.

⁵³ *Data Source*: "FY 2013 Leisure Travel Profile to Virginia," Virginia Tourism Corporation.

⁵⁴ *Data Source*: Derived from the student and employee surveys, as well as event information provided by Liberty University.

regional labor income through second round effects, for a total regional labor income impact of \$7.4 million.

- **Economic Output:** In addition to directly generating \$16.6 in economic activity, spending by visitors to Liberty University also generated \$8.9 million in regional activity through second round effects, for a total regional output impact of \$25.5 million.

Table 9: Estimated Economic Impact of Liberty University Visitor Spending on the Lynchburg MSA in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	256	\$4,712,066	\$16,601,044
Second Round Indirect and Induced Economic Activity	80	\$2,706,000	\$8,938,427
Total, Direct, Indirect, and Induced Economic Activity	336	\$7,418,066	\$25,539,471

Regional Fiscal Impact

In this section we provide a more narrowly focused analysis of the fiscal, or tax revenue, impact that Liberty University's activities had on the Lynchburg MSA in fiscal year 2013-14. That fiscal impact comes from seven primary local revenue streams:

- **Real Property Tax:** The local tax that employees and students who own homes within the region pay on those properties.
- **Personal Property Tax:** The local tax that employees and students who own cars that are registered within the region pay on those vehicles.
- **Motor Vehicle License Fee:** The fee that employees and students who own cars pay to register those vehicles locally.
- **Restaurant Food Tax:** The tax that some localities add to meals purchased in restaurants.
- **Hotel and Motel Room Tax:** The tax that some localities add to hotel and motel room charges.
- **Sales Tax:** The one percent portion of the state sales tax that goes to localities.

- Other Local Taxes: Water and sewer fees paid by Liberty University to the city of Lynchburg.

Our estimates of fiscal impact are based on detailed data obtained from three sources: 1) surveys of Liberty University employees and students,⁵⁵ 2) information on out-of-town attendees to Liberty University events,⁵⁶ and 3) information on the economic activities of enterprises associated with Liberty University.⁵⁷ As shown in Table 10, based on these data we estimate that Liberty University, in combination with its employees, students, visitors, and retail tenants contributed a total of approximately \$12.5 million in local tax revenue to the Lynchburg MSA in fiscal year 2013-14.

If we focus exclusively on the city of Lynchburg, where Liberty University's campus is physically located, what these data show is that in fiscal year 2013-14 Liberty University generated approximately \$9.2 million in tax revenue for the city. More specifically, Liberty University was responsible for generating approximately:

- 6 percent of the city of Lynchburg's total *Real Property Tax* revenue,
- 14 percent of its *Personal Property Tax* revenue,
- 8 percent of its *Motor Vehicle License Fee* revenue,
- 11 percent of its *Restaurant Food Tax* revenue,
- 21 percent of its *Hotel and Motel Room Tax* revenue, and
- 4 percent of its local *Sales Tax* revenue.⁵⁸

In the subsections that follow, we provide additional detail on the sources of the revenue streams summarized in Table 10.

⁵⁵ The employee and student surveys were administered in an online format in March 2010. There were 1,594 respondents to the employee survey (a 50 percent response rate), 4,513 respondents to the resident/commuter student survey (a 37 percent response rate), and 679 respondents to the survey of online students residing within Region 2000 (a 21 percent response rate). Respondents were asked to provide detailed information on their 2009 local spending habits, home ownership, vehicle ownership, and out-of-town visitors.

⁵⁶ *Data Source*: Liberty University. According to university data, in fiscal year 2011-12 there were at least 65,675 out-of-town attendees at university sponsored events. Estimates of out-of-town visitor spending were based on inflation adjusted estimates from the Virginia Tourism Corporation's "FY 2007-2009 Profile of Leisure Travel in Virginia."

⁵⁷ *Data Source*: Liberty University.

⁵⁸ Derived from data on local tax revenue collected by the Virginia Auditor of Public Accounts. See "Comparative Report of Local Government Revenues and Expenditures, for the Fiscal Year Ended June 30, 2013," Virginia Auditor of Public Accounts.

Table 10: Estimated Total Fiscal Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
Real Property⁵⁹	\$247,393	\$164,268	\$866,303	\$658,072	\$3,319,508	\$5,255,544
Personal Property⁶⁰	\$80,042	\$49,392	\$255,742	\$497,854	\$1,769,321	\$2,652,353
Motor Vehicle License Fee⁶¹	\$6,732	\$3,488	\$0	\$0	\$135,761	\$145,981
Restaurant Food Tax⁶²	\$33,447	\$18,882	\$98,724	\$0	\$1,341,097	\$1,492,150
Hotel and Motel Room Tax⁶³	\$7,235	\$4,385	\$20,905	\$18,038	\$428,372	\$478,935
Local Sales Tax⁶⁴	\$24,540	\$9,101	\$77,127	\$104,841	\$582,510	\$798,119
Other Local Taxes⁶⁵					\$1,656,550	\$1,656,550
TOTAL	\$399,390	\$249,516	\$1,318,800	\$1,278,806	\$9,233,120	\$12,479,632

⁵⁹ 2012 Real Property Tax Rates: Amherst County – \$0.56 per \$100 of assessed value, Appomattox County – \$0.60, Bedford County – \$0.52, Campbell County – \$0.53, and Lynchburg City – \$1.11.

⁶⁰ 2012 Personal Property Tax Rates: Amherst County – \$3.45 per \$100 of assessed value, Appomattox County – \$4.60, Bedford County – \$2.35, Campbell County – \$4.45, and Lynchburg City – \$3.80. Based on data from the State Council of Higher Education for Virginia on the location of domicile for first-time freshmen at Liberty University, we conservatively estimate that only 5.9 percent of university students who own vehicles actually pay personal property tax on those vehicles in Region 2000.

⁶¹ 2012 Motor Vehicle License Fees: Amherst County – \$25.00, Appomattox County – \$25.00, Bedford County – none, Campbell County – none, and Lynchburg City – \$29.50. Conservatively assumes that only 5.9 percent of Liberty University students who own vehicles actually register those vehicles in Region 2000.

⁶² 2012 Restaurant and Food Tax: Amherst County – 4.0%, Appomattox County – 8.0%, Bedford County – 4.0%, Campbell County – none, and Lynchburg City – 6.5%.

⁶³ 2009 Hotel and Motel Room Tax: Amherst County – 5.0%, Appomattox County – 5.0%, Bedford County – 5.0%, Campbell County – 2.0%, and Lynchburg City – 5.5%.

⁶⁴ One percent of retail sales in all localities.

⁶⁵ Comprised exclusively of water and sewer fees paid by Liberty University to the city of Lynchburg.

1. Real Property Tax:

Table 11 provides additional detail on the estimated sources of the real property tax revenue summary provided in Table 10. It is important to emphasize that the figures presented below are based exclusively on estimates of the number of Liberty University employees and students who own homes within the Lynchburg MSA. These totals do not reflect the property tax that is indirectly paid by the approximately 38 percent of Liberty University students who rent homes or apartments in the Lynchburg MSA. As a result, the estimates provided below should be viewed as exceedingly conservative.

Table 11: Estimated Real Property Tax Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
University and Associated Enterprises	N/A	N/A	N/A	N/A	\$389,723	\$389,723
Employees	\$111,812	\$58,818	\$571,883	\$525,667	\$1,169,967	\$2,561,885
Students	\$143,432	\$110,944	\$340,037	\$264,745	\$595,532	\$1,472,453
TOTAL	\$255,245	\$169,762	\$911,920	\$790,411	\$1,765,499	\$4,424,062

2. Personal Property Tax:

Table 12 provides additional detail on the estimated sources of the personal property tax revenue summary provided in Table 10.

Table 12: Estimated Personal Property Tax Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
University and Associated Enterprises	N/A	N/A	N/A	N/A	\$334,725	\$334,725
Employees	\$67,090	\$40,891	\$233,040	\$438,096	\$1,253,645	\$2,032,761
Students	\$12,953	\$8,501	\$22,703	\$59,758	\$180,952	\$284,867
TOTAL	\$80,042	\$49,392	\$255,742	\$497,854	\$1,769,321	\$2,652,353

3. Motor Vehicle License Fee:

Table 13 provides additional detail on the estimated sources of the motor vehicle license fee revenue summary provided in Table 10.

Table 13: Estimated Motor Vehicle License Fee Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
Employees	\$5,654	\$3,082	\$0	\$0	\$122,084	\$130,820
Students	\$1,078	\$406	\$0	\$0	\$13,677	\$15,161
TOTAL	\$6,732	\$3,488	\$0	\$0	\$135,761	\$145,981

4. Restaurant Food Tax:

Table 14 provides additional detail on the estimated sources of the restaurant food tax revenue summary provided in Table 10.

Table 14: Estimated Restaurant Food Tax Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
Employees	\$4,634	\$4,552	\$27,055	\$0	\$272,568	\$308,809
Students	\$16,001	\$7,837	\$38,968	\$0	\$542,102	\$604,908
Intensive Students	\$10,110	\$4,952	\$24,622	\$0	\$183,523	\$223,206
Visitors (employees)	\$440	\$433	\$2,571	\$0	\$25,898	\$29,341
Visitors (students)	\$2,262	\$1,108	\$5,509	\$0	\$76,633	\$85,511
Events	\$0	\$0	\$0	\$0	\$240,374	\$240,374
TOTAL	\$33,447	\$18,882	\$98,724	\$0	\$1,341,097	\$1,492,150

5. Hotel and Motel Room Tax:

Table 15 provides additional detail on the estimated sources for the hotel and motel room tax revenue summary provided in Table 10.

Table 15: Estimated Hotel and Motel Room Tax Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
Intensive Students	\$4,518	\$2,868	\$12,114	\$11,080	\$202,844	\$233,424
Visitors (employees)	\$552	\$142	\$2,984	\$1,646	\$22,718	\$28,042
Visitors (students)	\$2,166	\$1,375	\$5,807	\$5,312	\$92,873	\$107,532
Events	\$0	\$0	\$0	\$0	\$109,936	\$109,936
TOTAL	\$7,235	\$4,385	\$20,905	\$18,038	\$428,372	\$478,935

6. Local Sales Tax:

Table 16 provides additional detail on the estimated sources for the local sales tax revenue summary provided in Table 10.

Table 16: Estimated Local Sales Tax Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
Employees	\$7,765	\$3,597	\$37,836	\$44,958	\$195,141	\$289,296
Students	\$14,322	\$4,668	\$32,955	\$50,608	\$271,642	\$374,194
Intensive Students	\$1,091	\$356	\$2,511	\$3,856	\$20,698	\$28,512
Visitors (employees)	\$268	\$124	\$1,306	\$1,551	\$6,734	\$9,983
Visitors (students)	\$1,095	\$357	\$2,519	\$3,869	\$20,766	\$28,605
Events	\$0	\$0	\$0	\$0	\$67,530	\$67,530
TOTAL	\$24,540	\$9,101	\$77,127	\$104,841	\$582,510	\$798,119

7. Other Local Taxes:

Table 17 provides additional detail on the estimated sources for the real property tax revenue summary provided in Table 10.

Table 17: Estimated Other Local Tax Revenue Impact of Liberty University on the Lynchburg MSA in Fiscal Year 2013-14

	Amherst Co.	Appomattox Co.	Bedford Co.	Campbell Co.	Lynchburg City	TOTAL
University	N/A	N/A	N/A	N/A	\$1,656,550	\$1,656,550
TOTAL	\$0	\$0	\$0	\$0	\$1,656,550	\$1,656,550

Virginia

State Spending

In fiscal year 2013-14, Liberty University was directly responsible for contributing \$667 million dollars in spending to Virginia's economy. As shown in Figure 16:

- Liberty expenditures on goods and services accounted for 20 percent of that total (\$135 million),
- Liberty expenditures on salaries and wages accounted for 31 percent (\$205 million),
- Liberty expenditures on capital construction projects accounted for 24 percent (\$161 million),
- expenditures on goods and services by enterprises associated with Liberty accounted for 1 percent (\$8 million),
- expenditures on salaries and wages by enterprises associated with Liberty accounted for 1 percent (\$4 million),
- employee related healthcare expenditures accounted for 2 percent (\$16 million)
- spending from students accounted for 17 percent (\$112 million), and
- spending from visitors accounted for 4 percent (26 million).⁶⁶

In the next portion of this section, we quantify the total economic impact that this direct spending had on the state of Virginia.

⁶⁶ *Data Source:* Data on university and associated enterprises spending were obtained from Liberty University. Data on student and employee visitor spending were derived from an online survey of Liberty University students and employees administered in March 2010. Data on visitors to university events were derived from data provided by Liberty University on out-of-area event attendance and tourism spending data developed by the Virginia Tourism Corporation (see "FY 2013 Leisure Travel Profile to Virginia," Virginia Tourism Corporation).

\$667 Million in State Spending

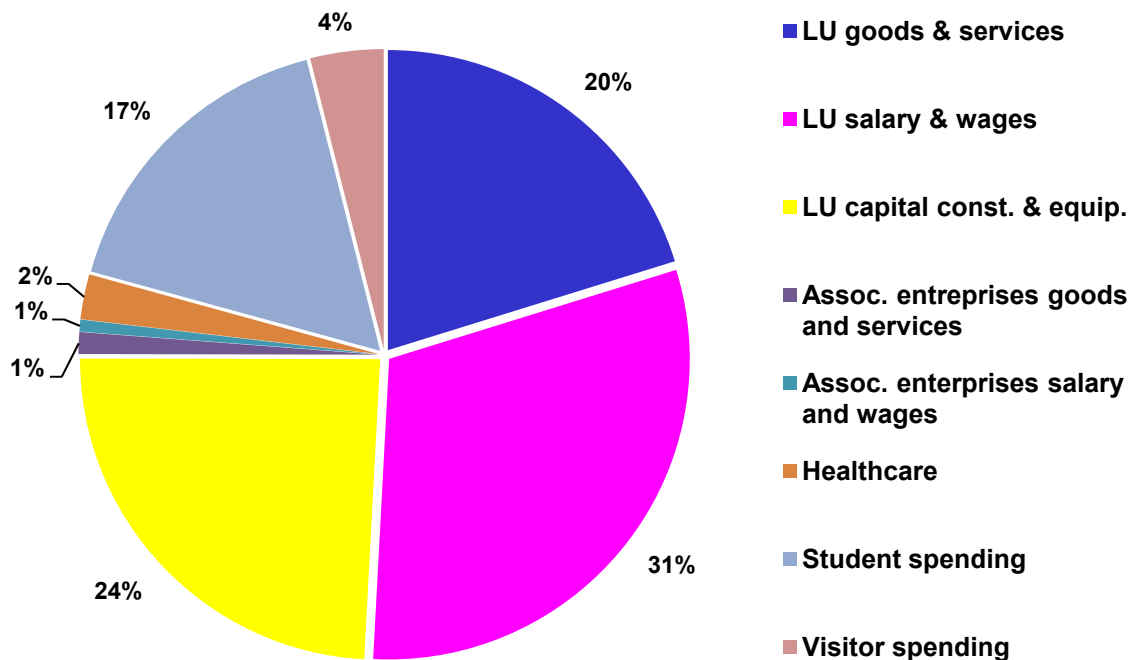


Figure 16: Distribution of Liberty University 2013-14 Spending within Virginia

Statewide Economic Impact

As shown in Table 18, our analysis indicates that this \$667 million in statewide spending was responsible for generating:

- **Statewide Employment:** In addition to directly providing 7,300 full time equivalent jobs within the state, economic activity associated with Liberty University also supported 4,819 full time equivalent jobs through second round effects, for a total statewide employment impact of 12,119 full time equivalent jobs.
- **Labor Income:** In addition to directly providing \$283.0 million in statewide labor income, economic activity associated with Liberty University also created \$227.3 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$510.3 million.
- **Economic Output:** In addition to directly generating \$655.5 million in statewide economic output, economic activity associated with Liberty University also

generated \$686.7 million in statewide economic activity through second round effects, for a total statewide economic output impact of \$1.3 billion.

- **Fiscal Impact:** Economic activity attributable to Liberty University generated \$45.8 million in additional state and local tax revenue, and \$70.9 million in additional federal tax revenue, for a total fiscal impact of \$116.7 million.

Table 18: Estimated Total Economic Impact of Liberty University on Virginia in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	7,300	282,954,418	655,475,378
Second Round Indirect and Induced Economic Activity	4,819	227,301,467	686,680,796
Total, Direct, Indirect, and Induced Economic Activity	12,119	510,255,885	1,342,156,174
	State and Local	Federal	Total
Fiscal Impact	45,776,228	70,911,980	116,688,208

In the subsections that follow, we provide detailed analysis for each of the spending components listed in Figure 16.

1. Liberty University Expenditures on Goods and Services:

In assessing the likely economic impact attributable to Liberty University's expenditures on goods and services within Virginia in fiscal year 2013-14, we employ the following assumption:

- Total university expenditures for goods and services within Virginia were \$134.8 million in fiscal year 2013-14.⁶⁷

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 19:

⁶⁷ Data Source: Liberty University.

- **Statewide Employment:** Second round effects attributable to Liberty University's expenditures on goods and services were responsible for supporting an additional 1,250 full time equivalent jobs in the state.
- **Labor Income:** Second round effects attributable to Liberty University's expenditures on goods and services were responsible for generating \$63.1 million in additional labor income within the state.
- **Economic Output:** In addition to directly generating \$134.8 in economic activity, Liberty University's expenditures on goods and services also generated \$215.2 million in statewide activity through second round effects, for a total statewide output impact of \$350.0 million.
- **Fiscal Impact:** Liberty University's expenditures on goods and services generated \$10.9 million in additional state and local tax revenue, and \$16.3 million in additional federal tax revenue, for a total fiscal impact of \$27.2 million.

Table 19: Estimated Economic Impact of Liberty University Expenditures on Goods and Services on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	0	\$0	\$134,803,507
<i>Second Round Indirect and Induced Economic Activity</i>	1,250	\$63,139,948	\$215,235,787
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	1,250	\$63,139,948	\$350,039,294
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$10,888,123	\$16,306,187	\$27,194,310

2. Liberty University Expenditures on Salaries and Wages:

We employ the following assumption in assessing the likely economic impact attributable to Liberty University's expenditures on salaries and wages within Virginia in fiscal year 2013-14:

- Total university expenditures on salaries and wages within Virginia were \$204.5 million in fiscal year 2013-14.⁶⁸

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 20:

- Statewide Employment: In addition to directly providing 5,629 full time equivalent jobs, Liberty University's expenditures on salaries and wages also supported 1,608 full time equivalent jobs through second round effects, for a total statewide employment impact of 7,237 full time equivalent jobs.
- Labor Income: In addition to directly providing \$204.5 million in labor income, Liberty University's expenditures on salaries and wages also created \$71.4 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$275.9 million.
- Economic Output: In addition to directly generating \$204.5 in economic activity, Liberty University's expenditures on salaries and wages also generated \$206.1 million in statewide activity through second round effects, for a total statewide output impact of \$410.6 million.
- Fiscal Impact: Liberty University's expenditures on salaries and wages generated \$13.1 million in additional state and local tax revenue, and \$17.6 million in additional federal tax revenue, for a total fiscal impact of \$30.7 million.

⁶⁸ *Data Source*: Liberty University.

Table 20: Estimated Economic Impact of Liberty University Expenditures on Salaries and Wages on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	5,629	\$204,540,377	\$204,540,377
<i>Second Round Indirect and Induced Economic Activity</i>	1,608	\$71,356,051	\$206,053,941
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	7,237	\$275,896,428	\$410,594,318
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$13,118,758	\$17,597,952	\$30,716,710

3. Liberty University Expenditures on Capital Construction:

In assessing the likely economic impact attributable to Liberty University's expenditures on capital construction and equipment within Virginia in fiscal year 2013-14, we employ the following assumption:

- Total university expenditures on capital construction and equipment within Virginia were \$161.4 million in fiscal year 2013-14.⁶⁹

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 21:

- Statewide Employment: In addition to directly providing 1,093 full time equivalent jobs, Liberty University's expenditures on capital construction and equipment also supported 785 full time equivalent jobs through second round effects, for a total statewide employment impact of 1,878 full time equivalent jobs.
- Labor Income: In addition to directly providing \$57.1 million in labor income, Liberty University's expenditures on capital construction and equipment also created \$40.9 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$98.0 million.

⁶⁹ Data Source: Liberty University.

- **Economic Output:** In addition to directly generating \$160.9 in economic activity, Liberty University's expenditures on capital construction and equipment also generated \$111.1 million in statewide activity through second round effects, for a total statewide output impact of \$272.0 million.
- **Fiscal Impact:** Liberty University's expenditures on capital construction and equipment generated \$9.9 million in additional state and local tax revenue, and \$20.6 million in additional federal tax revenue, for a total fiscal impact of \$30.5 million.

Table 21: Estimated Economic Impact of Liberty University Expenditures on Capital Construction Projects on Virginia in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	1,093	\$57,101,536	\$160,935,557
Second Round Indirect and Induced Economic Activity	785	\$40,872,538	\$111,077,983
Total, Direct, Indirect, and Induced Economic Activity	1,878	\$97,974,074	\$272,013,540
	State and Local	Federal	Total
Fiscal Impact	\$9,924,534	\$20,580,953	\$30,505,487

4. Associated Enterprise Expenditures on Goods and Services:

In assessing the likely economic impact attributable to expenditures on goods and services within Virginia in fiscal year 2013-14 by enterprises associated with Liberty University,⁷⁰ we employ the following assumption:

- Total associated enterprise expenditures for goods and services within Virginia were \$7.8 million in fiscal year 2013-14.⁷¹

⁷⁰ These enterprises include C and C Jetting, LLC; Freedom Aviation, LLC; Candler's Station, LLC; Plaza Holdings, LLC; Liberty Mountain Capital, LLC; Liberty Mountain Conference Center, LLC; Ivy Hill, LLC; G & J Thomas, LLC; Morningstar, LLC; and Racquet Sports, LLC.

⁷¹ Data Source: Liberty University.

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 22:

- **Statewide Employment:** Second round effects attributable to associated enterprise expenditures on goods and services were responsible for supporting an additional 66 full time equivalent jobs in the state.
- **Labor Income:** Second round effects attributable to associated enterprise expenditures on goods and services were responsible for generating \$3.3 million in additional labor income within the state.
- **Economic Output:** In addition to directly generating \$7.8 million in economic activity, associated enterprise expenditures on goods and services also generated \$11.0 million in statewide activity through second round effects, for a total statewide output impact of \$18.9 million.
- **Fiscal Impact:** Expenditures on goods and services by enterprises associated with Liberty University generated \$0.5 million in additional state and local tax revenue, and \$0.8 million in additional federal tax revenue, for a total fiscal impact of \$1.3 million.

Table 22: Estimated Economic Impact of Associated Enterprise Expenditures on Goods and Services on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	0	\$0	\$7,844,044
<i>Second Round Indirect and Induced Economic Activity</i>	66	\$3,327,093	\$11,039,913
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	66	\$3,327,093	\$18,883,957
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$498,600	\$796,921	\$1,295,521

5. Associated Enterprise Expenditures on Salaries and Wages:

We employ the following assumption in assessing the likely economic impact attributable to expenditures on salaries and wages within Virginia in fiscal year 2013-14 by enterprises associated with Liberty University⁷²:

- Total associated enterprise expenditures on salaries and wages within Virginia were \$4.3 million in fiscal year 2013-14.⁷³

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 23:

- Statewide Employment: In addition to directly providing 150 full time equivalent jobs, associated enterprise expenditures on salaries and wages also supported 33 full time equivalent jobs through second round effects, for a total statewide employment impact of 183 full time equivalent jobs.
- Labor Income: In addition to directly providing \$4.3 million in labor income, associated enterprise expenditures on salaries and wages also created \$1.5 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$5.7 million.
- Economic Output: In addition to directly generating \$4.3 million in economic activity, associated enterprise expenditures on salaries and wages also generated \$4.3 million in statewide activity through second round effects, for a total statewide output impact of \$8.6 million.
- Fiscal Impact: Expenditures on salaries and wages by enterprises associated with Liberty University generated \$0.3 million in additional state and local tax revenue, and \$0.4 million in additional federal tax revenue, for a total fiscal impact of \$0.6 million.

⁷² These enterprises include C and C Jetting, LLC; Freedom Aviation, LLC; Candler's Station, LLC; Plaza Holdings, LLC; Liberty Mountain Capital, LLC; Liberty Mountain Conference Center, LLC; Ivy Hill, LLC; G & J Thomas, LLC; Morningstar, LLC; and Racquet Sports, LLC.

⁷³ Data Source: Liberty University.

Table 23: Estimated Economic Impact of Associated Enterprise Expenditures on Salaries and Wages on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	150	\$4,280,195	\$4,280,195
<i>Second Round Indirect and Induced Economic Activity</i>	33	\$1,468,833	\$4,313,975
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	183	\$5,749,028	\$8,594,170
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$262,059	\$363,846	\$625,905

6. Employee Related Healthcare Expenditures:

In assessing the likely economic impact attributable to healthcare expenditures within Virginia in fiscal year 2013-14 that were funded through employee healthcare insurance provided by Liberty University and its associated enterprises, we employ the following assumption:

- Total employee related healthcare expenditures within Virginia were \$16.1 million in fiscal year 2013-14.⁷⁴

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 24:

- Statewide Employment: In addition to directly providing 120 full time equivalent jobs, employee related healthcare expenditures also supported 104 full time equivalent jobs through second round effects, for a total statewide employment impact of 223 full time equivalent jobs.
- Labor Income: In addition to directly providing \$9.8 million in labor income, employee related healthcare expenditures also created \$4.9 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$14.6 million.

⁷⁴ Data Source: Liberty University.

- **Economic Output:** In addition to directly generating \$16.1 in economic activity, employee related healthcare expenditures also generated \$13.7 million in statewide activity through second round effects, for a total statewide output impact of \$29.7 million.
- **Fiscal Impact:** Employee related healthcare expenditures generated \$1.3 million in additional state and local tax revenue, and \$2.9 million in additional federal tax revenue, for a total fiscal impact of \$4.2 million.

Table 24: Estimated Economic Impact of Employee Related Healthcare Expenditures on Virginia in FY 2013-14

	Employment	Labor Income	Output
First Round Direct Economic Activity	120	\$9,778,646	\$16,079,184
Second Round Indirect and Induced Economic Activity	104	\$4,858,102	\$13,655,355
Total, Direct, Indirect, and Induced Economic Activity	223	\$14,636,748	\$29,734,539
	State and Local	Federal	Total
Fiscal Impact	\$1,274,100	\$2,920,522	\$4,194,622

7. Liberty University Student Spending:

Our assessment of the economic impact that spending by Liberty University students had on Virginia in fiscal year 2013-14 is predicated on the following assumptions:

- Liberty University students spent an average of \$699.14 per month in Virginia in fiscal year 2013-14.⁷⁵
- On average, Liberty University students reside in and around the Lynchburg MSA for 9.4 months out of the year.⁷⁶

⁷⁵ Data Source: Derived from a survey of Liberty University students conducted in March 2010.

⁷⁶ Data Source: Derived from student survey.

- There are an estimated 16,512 Liberty University residential, commuter, or online students who reside in and around the Lynchburg MSA for at least a portion of the year.⁷⁷
- In addition to those residential, commuter, and online students who reside in and around the Lynchburg MSA, in fiscal year 2013-14 an additional 11,000 intensive online students physically attended classes for some number of days at Liberty University's campus.⁷⁸
- On average, these intensive online students made 2.8 visits to the campus in fiscal year 2013-14 and stayed 5.2 days each visit.
- Liberty University intensive online students spent an average of \$220.40 per visit in the Lynchburg MSA in fiscal year 2013-14.⁷⁹
- The distribution of Liberty University intensive online student's expenditures on various goods and services in fiscal year 2013-14 is comparable to tourism spending data developed by the Virginia Tourism Corporation for fiscal year 2013.⁸⁰
- Total expenditures by Liberty University students (resident, commuter, online living in and around the Lynchburg MSA, and intensive online students visiting the Lynchburg MSA) are estimated to be \$112.0 million in fiscal year 2013-14.⁸¹

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 25:

- Statewide Employment: In addition to directly providing 63 full time equivalent jobs, spending by Liberty University students also supported 876 full time equivalent jobs through second round effects, for a total statewide employment impact of 939 full time equivalent jobs.
- Labor Income: In addition to directly providing \$1.5 million in labor income, spending by Liberty University students also created \$37.6 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$39.1 million.
- Economic Output: In addition to directly generating \$109.7 in economic activity, spending by Liberty University students also generated \$112.0 million in

⁷⁷ *Data Source*: Derived from student survey. This estimate controls for the small number of Liberty University students who have spouses who are either enrolled or employed by the university, and therefore may also have been included in the survey sample.

⁷⁸ *Data Source*: Liberty University.

⁷⁹ *Data Source*: Derived from student survey.

⁸⁰ *Data Source*: "FY 2013 Leisure Travel Profile to Virginia," Virginia Tourism Corporation.

⁸¹ *Data Source*: Derived from student survey.

statewide activity through second round effects, for a total statewide output impact of \$221.6 million.

- **Fiscal Impact:** Spending by Liberty University students generated \$7.6 million in additional state and local tax revenue, and \$9.8 million in additional federal tax revenue, for a total fiscal impact of \$17.4 million.

Table 25: Estimated Economic Impact of Liberty University Student Spending on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	63	\$1,485,292	\$109,656,024
<i>Second Round Indirect and Induced Economic Activity</i>	876	\$37,610,646	\$111,962,757
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	939	\$39,095,938	\$221,618,781
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$7,571,666	\$9,817,603	\$17,389,269

8. Liberty University Visitor Spending:

Our assessment of the economic impact on Virginia attributable to Liberty University student and employee visitors, and out-of-town visitors to university events in fiscal year 2013-14, is predicated on the following assumptions:

- Visitors to Liberty University students spent an average of \$205.28 per visit in and around the Lynchburg MSA in fiscal year 2013-14.⁸²
- 78 percent of Liberty University students had out-of-town visitors in fiscal year 2013-14.⁸³
- On average, each student receiving visitors had 3.2 visits during the year, each visit lasted 2.8 days, and involved 2.4 out-of-town visitors.⁸⁴

⁸² Data Source: Derived from student survey.

⁸³ Data Source: Derived from student survey.

⁸⁴ Data Source: Derived from student survey.

- Visitors to Liberty University employees spent an average of \$222.47 per visit in and around the Lynchburg MSA in fiscal year 2013-14.⁸⁵
- 87 percent of Liberty University employees had out-of-town visitors in fiscal year 2013-14.⁸⁶
- On average, each employee receiving visitors had 3.7 visits during the year, each visit lasted 3.1 days, and involved 2.7 out-of-town visitors.⁸⁷
- There were 105,807 out-of-town visitors to Liberty University events in fiscal year 2013-14 and it is estimated that these visitors spent \$132 per person per over-night visit.⁸⁸
- The distribution of Liberty University visitor expenditures on various goods and services in fiscal year 2013-14 is comparable to tourism spending data developed by the Virginia Tourism Corporation for fiscal year 2013.⁸⁹
- Total expenditures by visitors to Liberty University students, employees, and events are estimated to be \$26.1 million in fiscal year 2013-14.⁹⁰

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 26:

- Statewide Employment: In addition to directly providing 243 full time equivalent jobs, spending by visitors to Liberty University also supported 97 full time equivalent jobs through second round effects, for a total statewide employment impact of 339 full time equivalent jobs.
- Labor Income: In addition to directly providing \$5.7 million in labor income, spending by visitors to Liberty University also created \$4.6 million in additional statewide labor income through second round effects, for a total statewide labor income impact of \$10.3 million.
- Economic Output: In addition to directly generating \$17.2 in economic activity, spending by visitors to Liberty University also generated \$13.2 million in statewide activity through second round effects, for a total statewide output impact of \$30.4 million.

⁸⁵ *Data Source*: Derived from a survey of Liberty University employees conducted in March 2010.

⁸⁶ *Data Source*: Derived from employee survey.

⁸⁷ *Data Source*: Derived from employee survey.

⁸⁸ *Data Source*: Event visitor data were provided by Liberty University and spending estimates were provided by the Lynchburg Convention and Visitors Bureau and are taken from visitor expenditure profiles produced by the Virginia Tourism Corporation.

⁸⁹ *Data Source*: "FY 2007-2009 Profile of Leisure Travel in Virginia," Virginia Tourism Corporation.

⁹⁰ *Data Source*: Derived from the student and employee surveys, as well as event information provided by Liberty University.

- Fiscal Impact: Spending by visitors to Liberty University generated \$2.2 million in additional state and local tax revenue, and \$2.5 million in additional federal tax revenue, for a total fiscal impact of \$4.7 million.

Table 26: Estimated Economic Impact of Liberty University Visitor Spending on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>First Round Direct Economic Activity</i>	245	\$5,768,372	\$17,336,490
<i>Second Round Indirect and Induced Economic Activity</i>	97	\$4,668,256	\$13,341,085
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	343	\$10,436,628	\$30,677,575
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$2,238,388	\$2,527,996	\$4,766,384

Human Capital

Value Added Estimation

A significant and unique characteristic of higher education is that it generates externalities, or spillover effects, that exceed the private benefits to individuals. As a result, it is in the interest of the community at large to encourage higher levels of educational attainment. Some of these spillover effects take the form of greater civic responsibility, improved health, and reduced crime. From a purely economic perspective though, the largest spillover effect has to do with increased economic productivity.

As individuals increase their human capital through higher levels of educational attainment, not only do they become more productive, they also increase the productivity of the resources around them. A good example of this would be the difference between what can be accomplished by placing a computer in the hands of a trained user, and what can be accomplished when the computer is placed in the hands of an untrained user – same resource, very different result. Moreover, this difference in results has significant

economic implications in the aggregate. Greater productivity translates into increased economic activity and higher incomes.

However, to measure the effect that Liberty University's educational services have on economic productivity and, therefore, Virginia's economy, we must first be able to quantify the relationship between educational attainment and productivity. One of the early leaders in this area of economics was Gary Becker, who was awarded a Nobel Prize in 1992 for his work in the economics of human capital development. One of Becker's key insights was that, because education produces work skills that are valuable to all employers, in a competitive market employers will be forced to compensate workers for the full value of their skills, or otherwise risk losing them to other employers. A critical implication of this insight is that differences in wages provide a reasonable estimate of the economic value attributable to differences in educational attainment and skills training.

Table 27 presents data on average annual wages in Virginia by educational attainment level for those occupations that typically require a certain level of education as a prerequisite for employment. In the first row of this table, we provide estimates of average annual wages across all Virginia occupations.⁹¹ In the second row of the table, we further refine our analysis to reflect only those occupations that Liberty University graduates are likely to enter. To accomplish that task, we employ a crosswalk developed by the National Crosswalk Service Center (NCSC) that "maps" occupations into the prerequisite education and training program(s) necessary for entry into that occupation.⁹² Using this tool, we are able to identify those occupations that Liberty University graduates are likely to enter, based on their program of study, and restrict the second set of median wage estimates to encompass only those occupations. Table 28 provides additional data on the number of students that Liberty University graduated at each degree level in academic year 2013-14.⁹³

⁹¹ *Data Source:* Virginia Employment Commission.

⁹² The National Crosswalk Service Center (NCSC) is funded by the U.S. Department of Labor, Employment and Training Administration. The specific NCSC crosswalk used in this analysis is the *2010 Standard Occupational Classification Crosswalk to 2010 Classification of Instructional Programs*. This crosswalk identifies the prerequisite instructional programs (classified according to the National Center for Educational Statistics' *2010 Classification of Instructional Program*, or *CIP*, code) necessary for employment in specific occupations (classified according to the Bureau of Labor Statistics' *2010 Standard Occupational Classification*, or *SOC*, code).

⁹³ *Data Source:* State Council of Higher Education for Virginia.

Table 27: Median Annual Wages in Virginia by Degree Level

	High School	Associate	BA	Masters	PhD
Average Annual Virginia Wage: All Occupations	\$41,234	\$60,167	\$77,107	\$74,557	\$115,888
Average Annual Virginia Wage: Liberty U. Specific Occupations	N/A	\$70,138	\$79,397	\$85,666	\$89,162

Table 28: Liberty University 2013-14 Graduates by Degree Level

	Associate	BA	Masters	PhD
All Graduates	996	7,146	6,853	727
Estimated Virginia Resident Graduates	227	1,629	1,453	154

Based on these data, Table 29 presents our analysis of the economic value that was created in Virginia through the increased labor productivity embodied in Liberty University's 2013-14 graduates. The first three rows of Table 29, compare likely average wages for Liberty University graduates against the benchmark wage across all Virginia occupations for that degree level, and compute the difference (*i.e.*, comparing average wages for Liberty University Associate and BA degree graduates to the average wage for high school graduates, and comparing average wages for Liberty University Master's and Doctoral degree graduates to the average wage for BA graduates). Based on Becker's research, this differential represents the "value added," in terms of increased labor productivity, associated with each Liberty University degree.

This value added differential is then multiplied by the estimated number of Virginia resident graduates from Liberty University in 2013-14 to determine the "Total Annual Value of Increased Labor Productivity."⁹⁴ We then further adjusted that figure to account

⁹⁴ Likely Virginia residents are used instead of all graduates because of the greater probability that these graduates will live and work in Virginia after graduation.

for: 1) average labor force participation rates,⁹⁵ and 2) selectivity bias, or the fact that individuals who pursue education tend to have higher than average innate abilities to start with,⁹⁶ to derive an adjusted final estimate. As shown in the “Adjusted Total Annual Value of Increased Labor Productivity” row of Table 29, across all graduate levels that estimate of the economic value of the human capital that Liberty University produced in 2013-14 is \$50.3 million.

Finally, it is important to realize that these estimates of the value of the increased labor productivity are not one-time benefits. Rather, they are part of a stream of economic activity that continues over the entire time that the students Liberty University graduated in 2013-14 are active in the workforce. Based on analysis of the typical “work-life” of American men and women,⁹⁷ and the average age of Liberty University students, we estimate that time horizon to be approximately 26 years for graduates from Associate and BA programs, and 21 years for graduates from Master’s and Doctoral programs. Using these figures, along with the estimates of “Adjusted Total Annual Value of Increased Labor Productivity” discussed above, we can determine the present value, or value in today’s dollars, of the stream of economic activity generated by the increased labor productivity embodied in Liberty University’s 2013-14 graduates. As shown in the bottom row of Table 29, that present value is estimated to be \$874.2 million.⁹⁸

In the remainder of this section, we once again use the IMPLAN model to quantify the economic and fiscal impact that is attributable to the estimates of increased labor productivity presented in Table 29. It is important to note that these estimates focus exclusively on the additional economic activity that is generated as Liberty University graduates turn the income they earn as a result of their enhanced skills and increased labor productivity into household consumption expenditures. As a result, they reflect the economic impact that comes from the second round ripple effects generated by the “Adjusted Total Annual Value of Increased Labor Productivity” presented in Table 29 and are rightly considered an addition to that increase.

⁹⁵ *Data Source:* U.S. Bureau of Labor Statistics.

⁹⁶ There is a substantial body of literature that indicates that not all of the difference in annual income between different educational attainment levels is attributable to educational attainment alone. The reason for this has to do with what is called selectivity bias – the tendency for those with greater innate abilities to go on to pursue higher levels of educational attainment. In other words, what you come out of the educational process with is partly attributable to what you had when you went into it. Although estimates differ, a frequently cited study by Larry L. Leslie and Paul Brinkman found that only about 79 percent of the difference in income between high school graduates and individuals with an undergraduate education is attributable to education alone. See, Larry L. Leslie and Paul Brinkman, *The Economic Value of Higher Education* (Phoenix: American Council of Education and the Oryx Press), 1993, pp.43-44.

⁹⁷ See James Cieccka, Seth Epstein, and Jerry Goldman, “Work Life Estimates at Millennium’s End: Changes Over the Last Eighteen Years,” *Illinois Labor Market Review*, vol.6, no.2, Summer, 2000.

⁹⁸ The discount rate used for this calculation was 3.04 percent and was the long-term rate reported for 30 year U.S. Treasury bonds as of November 3, 2014.

Table 29: Value of Increased Labor Productivity Associated with Liberty University's Graduates in 2013-14

	Associate	BA	Masters	PhD	Total
Average Annual Virginia Wage: Liberty U. Specific Occupations	\$70,138	\$79,397	\$85,666	\$89,162	
Benchmark Average Virginia Wage – All Occupations	\$41,234	\$41,234	\$77,107	\$77,107	
Differential	\$28,904	\$38,163	\$8,559	\$12,055	
Estimated Liberty In-State 2013-14 Graduates	227	1,629	1,453	154	
Total Annual Value of Increased Labor Productivity	\$6,563,752	\$62,178,518	\$12,434,823	\$1,857,965	\$83,035,058
Labor Force Participation	0.767	0.767	0.767	0.767	
Selectivity Bias	0.79	0.79	0.79	0.79	
Adjusted Total Annual Value of Increased Labor Productivity	\$3,977,174	\$37,675,829	\$7,534,632	\$1,125,797	\$50,313,432
Typical Work-life	26 years	26 years	21 years	21 years	
Discounted Present Value	\$70,773,128	\$670,434,916	\$115,700,218	\$17,287,494	\$874,195,756

Statewide Economic Impact

We employ the following assumption in assessing the likely economic impact attributable to the human capital embodied in Liberty University's 2013-14 Virginia resident graduates:

- The economic value of the human capital that Liberty University produced in 2013-14 was \$50.3 million.

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual statewide economic impact shown in Table 30:

- Statewide Employment: Second round effects attributable to the increased labor productivity embodied in Liberty University's 2013-14 graduates would generate 369 full time equivalent jobs in the Virginia.
- Labor Income: Second round effects attributable to the increased labor productivity embodied in Liberty University's 2013-14 graduates would generate \$16.3 million in additional labor income in the Virginia.
- Economic Output: Second round effects attributable to the increased labor productivity embodied in Liberty University's 2013-14 graduates would generate \$47.9 million in additional economic output in the state.
- Fiscal Impact: Second round effects attributable to the increased labor productivity embodied in Liberty University's 2013-14 graduates would generate \$3.2 million in additional state and local tax revenue, and \$4.1 million in additional federal tax revenue, for a total fiscal impact of \$7.3 million.

Table 30: Estimated Economic Impact of Associated Enterprise Expenditures on Salaries and Wages on Virginia in FY 2013-14

	Employment	Labor Income	Output
<i>Second Round Indirect and Induced Economic Activity</i>	369	\$16,302,700	\$47,928,118
<i>Total, Direct, Indirect, and Induced Economic Activity</i>	369	\$16,302,700	\$47,928,118
	State and Local	Federal	Total
<i>Fiscal Impact</i>	\$3,188,043	\$4,099,713	\$7,287,756

Other Contributions

In this section we illuminate the many contributions that Liberty University makes to the Lynchburg MSA that go beyond the narrow confines of economic and fiscal impact. Among these contributions are community service, contributing to economic revitalization, enhancing the quality of life, generating higher levels of tourism, and ensuring that the Lynchburg MSA is developing the qualified workforce that it will need to be economically successful in the future.

Community Involvement

Liberty University, its employees, and students make a number of positive contributions to the Greater Lynchburg community.

Volunteerism

One of the unique characteristics of Liberty University is that its students are obliged to volunteer on campus and within the community as a requirement for graduation. Among the many organizations that benefit from this volunteer service are the American Red Cross, Boy Scouts, Girl Scouts, local churches, local Humane Societies, Salvation Army,

and YMCA. On average, Liberty University students provide approximately 4.3 hours of volunteer service per month or a total of 667,415 hours per year.⁹⁹

In addition, in fall of 2012 Liberty University also launched its Community Care Initiative. To date, 35 projects have been completed in the Lynchburg area as a result of this initiative. Among them are: housekeeping and yard work for the elderly and disabled, painting the Blue Ridge Pregnancy Center, a building blitz for Habitat for Humanity, a mosaic wall for the children's museum, cleaning up local parks, and visiting local nursing homes.

Furthermore, this spirit of volunteerism also extends to Liberty University's faculty and staff. On average, Liberty University faculty and staff provide approximately 2.5 volunteer service hours per month for a total of 126,132 hours per year.¹⁰⁰ The organizations that benefit from this volunteerism include the American Cancer Society, Boys and Girls Club, local churches, Habitat for Humanity, local Humane Societies, Salvation Army, Special Olympics, and YMCA.

If one were to quantify the value of this volunteer service by Liberty University students and employees at simply the current minimum wage, the total annual contribution to the Lynchburg MSA would be approximately \$5.8 million.

Greater Lynchburg Transit Company

In January of 2007, Liberty University embarked upon an agreement with the Greater Lynchburg Transit Company (GLTC) in which GLTC became the exclusive outside transportation vendor for the university. A key component of the agreement is the Universal Access Program, which allows anyone with a Liberty University ID card to ride any GLTC route at no cost. That arrangement has proved exceedingly successful for both the university and GLTC.

First, it has reduced traffic and parking congestion on Liberty University's campus and on public roads near the campus. As Michael Carroll, General Manager of GLTC, put it in an interview with the Lynchburg News and Advance in November 2007, "if you can put 40 or 50 people on a bus instead of 40 or 50 cars on the street, then that's positive for everyone."¹⁰¹

Second, it has provided GLTC with additional resources that have enabled it to upgrade its bus fleet and services. Since initiation of the agreement with Liberty University,

⁹⁹ *Data Source:* Derived from student survey.

¹⁰⁰ *Data Source:* Derived from employee survey.

¹⁰¹ "GLTC looking to expand service to more areas," Lynchburg News and Advance, November 1, 2007.

GLTC ridership has more than doubled, with Liberty University providing more riders than the rest of the city combined.¹⁰² In addition, the agreement provides GLTC with significant revenues – in fiscal year 2013-14, Liberty University paid GLTC \$1.2 million for transportation services.¹⁰³

Economic Revitalization

In an effort to grow its endowment fund, Liberty University has also made significant property investments in the Lynchburg MSA and among these are two shopping centers. After acquiring the Plaza shopping center in 2008, the university invested \$500,000 on improvements to the property.¹⁰⁴ Subsequent to those improvements, the university moved a portion of its aviation program to the site and was also able to acquire new tenants. Among those tenants was Centra Health's Lynchburg Family Medicine Residency program, which recently moved into to a renovated office in the lower level of the shopping center. As a result of this revitalization, the Plaza is now successfully generating a revenue stream for the university as well as positively contributing to the city of Lynchburg's tax base. Similarly, in January of 2010 Liberty University acquired Candler's Station shopping center, also located in the city of Lynchburg. It is anticipated that Candler's Station will provide the university with an 11 to 14 percent annual return on its investment, while also providing a continuing stream of tax revenue for the city.¹⁰⁵

Recreational and Cultural Facilities

Liberty University has also contributed to the Lynchburg MSA's quality of life by significantly enhancing its recreational and cultural opportunities. The university's LaHaye Ice Center, Liberty Mountain Snowflex Center, Tower Theater, and Liberty Mountain Skate Park are all open to the public.

The LaHaye Ice Center attracts more than 100,000 people per year through a variety of different events. For example, in fiscal year 2013-14 the Liberty University hockey team hosted 53 different teams at the LaHaye Ice Center.¹⁰⁶ In addition, the LaHaye Ice Center is also used to host a variety of community events such as youth hockey leagues, figure skating programs, public sessions, private events, and Winterfest (a nationally acclaimed youth event held at Liberty University each year). In this way, the LaHaye Ice Center is an example of the kind of positive impact that, although difficult to quantify, is easy to

¹⁰² "With LU route, GLTC sees number of passengers double," Lynchburg News and Advance, February 11, 2007.

¹⁰³ *Data Source:* Liberty University.

¹⁰⁴ "At Liberty, the future is in land," Valley Business Front, April 2010.

¹⁰⁵ "At Liberty, the future is in land," Valley Business Front, April 2010.

¹⁰⁶ Among those teams were: Arizona State University, James Madison University, North Carolina State University, University of Arizona, University of Maryland, University of Richmond, Villanova University, Virginia Tech, Wake Forest University, and West Virginia University.

qualify. In describing the positive impact the facility has had on area youth, Darrell Laurant, a columnist for the Lynchburg News and Advance, wrote that,

*The LaHaye Ice Center is ground zero for hockey in Central Virginia ... The Lynchburg Hockey Association began in 2008, the spinoff from a “Learn to Play” hockey camp that attracted 20 hopefuls. It would never have existed, of course, had not Liberty constructed its rink and opened it to the public.*¹⁰⁷

The Liberty Mountain Snowflex Center opened in August of 2009 and is North America’s only Snowflex synthetic ski slope. The facility has already received national attention and is expected to be significant point of destination for winter sports enthusiasts. As described on Virginia’s official tourism website,

*Winter sport enthusiasts now have something to cheer about every season... a year-round ski slope in Lynchburg, Virginia. Liberty University's Snowflex Centre, located on Liberty Mountain, is a synthetic ski slope featuring the most innovative technology in the snow sports industry, and it's the only one in the United States. ... Mountain ski resorts are only accessible during winter, but Liberty Mountain Snowflex Centre will be accessible during all four seasons, day and night.*¹⁰⁸

In addition, the university recently installed a separate 525 foot long tubing slope at the Snowflex Center to accommodate the growing popularity of this alternative winter sport.

The Tower Theater opened in 2010 and by 2014 was voted the number one entertainment venue in the Readers Choice 2014 Best of the Lynchburg Area awards. It is home to the Alluvian Stage Company and Liberty University’s Department of Theater Arts. The Tower Theater is a 640 seat facility that boasts a Broadway-style fly tower and professional rigging system. The Tower Theater routinely stages productions such as Hair Spray, Mary Poppins, Peter Pan, and Les Miserables, and is also used to host summer youth and high school drama camps.

Tourism

As demonstrated in the earlier assessment of economic and fiscal impact, the university also contributes significantly to regional tourism. Through out-of-town visitors to Liberty University’s employees and students, facilities such as the LaHaye Ice Center and

¹⁰⁷ “Hockey hopefuls heat up Hill City Ice,” Lynchburg News and Advance, March 17, 2010.

¹⁰⁸ See <http://www.virginia.org/site/description.asp?AttrID=60682>

Liberty Mountain Snowflex Center, and events such as commencement, fall family weekend, spring family weekend, and Winterfest the university plays a large role in attracting tourists to the Lynchburg MSA.

Based on information obtained from our surveys of Liberty University employees and students,¹⁰⁹ along with data provided by Liberty University on out-of-town attendees to university events,¹¹⁰ we estimate that in fiscal year 2013-14, Liberty University:

- employees had approximately 28,784 overnight out-of-town visitors,
- resident and commuter students had approximately 81,022 overnight out-of-town visitors,
- intensive online students visited Liberty University's Lynchburg campus approximately 30,800 times, and
- facilities and events attracted 105,807 overnight out-of-town visitors.¹¹¹

Perhaps the most tangible way to gauge the effect that these visitors had on the regional tourism industry is to focus on the hotel stays that were generated. Using the data above in combination with other information from the surveys on the proportion of out-of-town visitors that stayed in hotels, we estimate that in fiscal year 2013-14 out-of-town visitors to Liberty University employees, students, facilities, and events generated approximately 126,128 hotel room nights in the Lynchburg MSA. Those hotel room nights in turn were associated with approximately \$10.9 million in hotel revenue within the Lynchburg MSA.¹¹²

Occupation-Driven Demand for Graduates

In this section, we quantify the contribution that Liberty University makes to ensuring that the Lynchburg MSA is developing the qualified workforce that it will need to be economically successful in the future by looking at the degree to which the institution is meeting the region's occupation-driven demand for graduates. The method used to accomplish this analysis is not new and has been successfully employed in earlier studies conducted in several states.¹¹³

¹⁰⁹ The employee and student surveys were administered in an online format in March 2010.

¹¹⁰ *Data Source:* Liberty University.

¹¹¹ *Data Source:* Liberty University.

¹¹² *Data Source:* Data on room rates are taken from "2013 Annual Lodging Report," Virginia Tourism Corporation.

¹¹³ Similar methods are used in at least seven states (California, Georgia, Idaho, Illinois, New Jersey, Utah, and Virginia) to project anticipated education and training demands. For an excellent exposition of this method *see*, William J. Drummond and Jan L Youtie, "Occupational Employment, Demand for College Graduates, and Migration: A Statewide View," a report to the Board of Regents, University System of Georgia, 1999. For an example of how this method has been used previously in Virginia *see*, A. Fletcher Mangum, "System-Wide Needs Assessment for Virginia Education," State Council of Higher Education for Virginia, March 28, 2002, p.90.

Demand for Graduates

To project the occupation-driven demand for graduates we start with projections of occupational employment. According to the most recent occupational employment projection for the Lynchburg MSA, between 2010 and 2020 the region will experience approximately 4,093 job openings each year.¹¹⁴ Breaking this number down according to major occupational group shows that, as is typical for most regions, the largest numbers of annual openings are projected to occur in *Sales* (525 per year) and *Office and Administrative Support* occupations (495 per year). Recall from Figure 12, however, that from an industry perspective some of the largest employment gains in the Lynchburg MSA in recent years have occurred in Healthcare, and Professional and Technical Services sectors. Focusing on those areas specifically, we find that between 2010 and 2020 the Lynchburg MSA is projected to experience 266 openings in *Healthcare Practitioners* occupations each year, along with 141 openings in *Business and Financial* occupations, 92 openings in *Architecture and Engineering*, and 58 openings in *Computer and Math*. The numbers for these major occupational groups and all others are graphically displayed in Figure 17.

¹¹⁴ *Data Source:* Virginia Employment Commission. The Lynchburg MSA is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the City of Lynchburg.

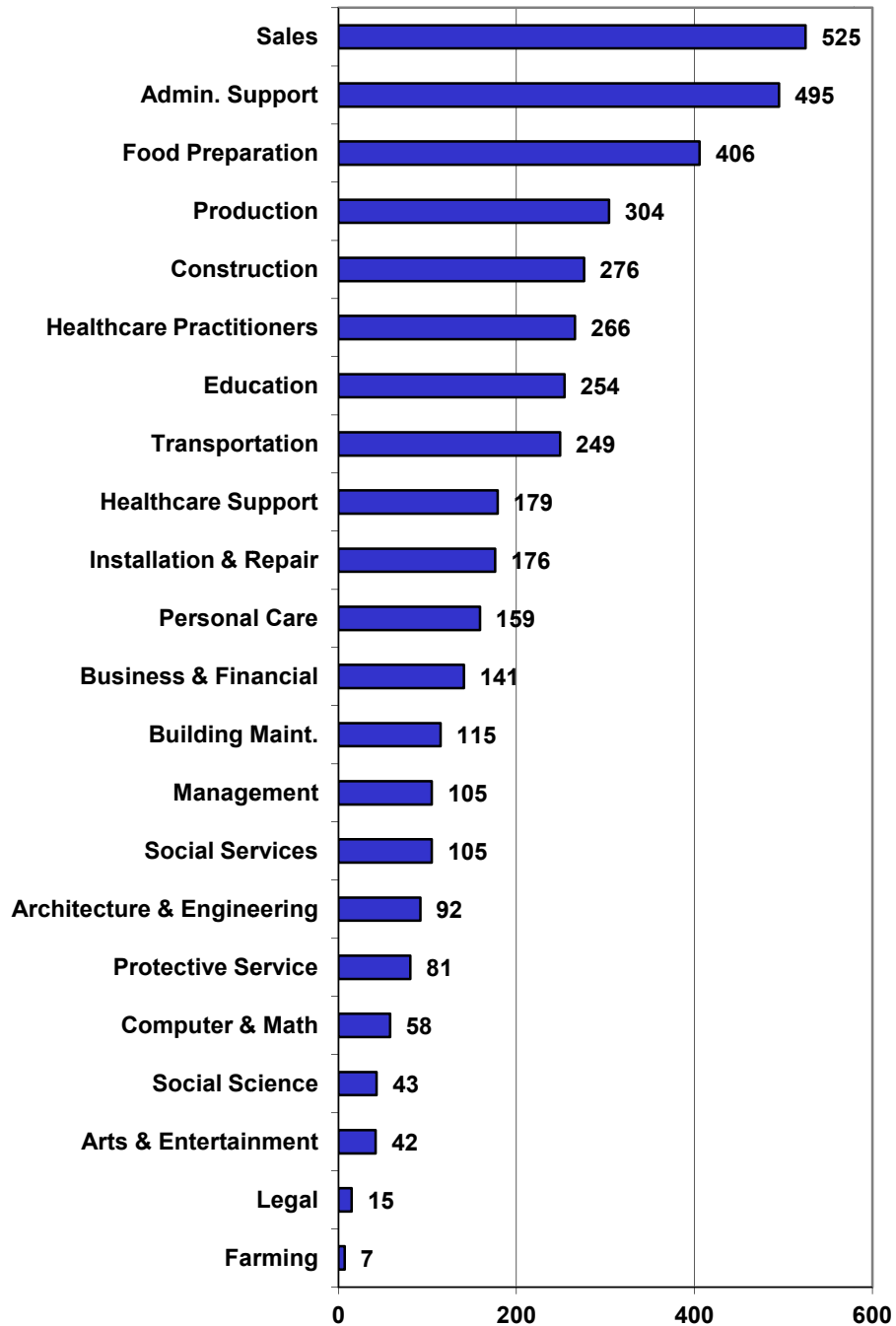


Figure 17: Projected Average Annual Openings in the Lynchburg MSA by Major Occupation Category – 2010 to 2020¹¹⁵

¹¹⁵ Data Source: Virginia Employment Commission. The Lynchburg MSA is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the City of Lynchburg.

In the next step of the analysis, we use the National Crosswalk Service Center (NCSC) crosswalk described earlier to “map” occupations into the prerequisite education and training program(s) necessary for entry into that occupation.¹¹⁶ Through this process, we are able to use the occupational projection for the Lynchburg MSA to estimate the occupation-driven demand for graduates within the Lynchburg MSA.¹¹⁷

Supply of Graduates

To estimate the likely supply of graduates within those education and training programs identified in the demand analysis, we use data from the U.S. Department of Education’s *Integrated Postsecondary Education Data System* (IPEDS) on completions from Liberty University in academic year 2012-13 by detailed program area. For purposes of this analysis, however, we restrict that dataset to only that proportion of graduates we estimate to be Virginia residents based on the proportion of in-state students Liberty enrolled in 2012-13.

Percentage of Regional Occupation-Driven Demand for Graduates Met

Table 31 details the results obtained from a comparison of the occupation-driven demand for graduates in the Lynchburg MSA and the supply of qualified graduates produced by Liberty University. As these data demonstrate, Liberty University is meeting a very substantial portion of the Lynchburg MSA’s critical workforce needs.

¹¹⁶ The National Crosswalk Service Center (NCSC) is funded by the U.S. Department of Labor, Employment and Training Administration. The specific NCSC crosswalk used in this analysis is the *2010 Standard Occupational Classification Crosswalk to 2010 Classification of Instructional Programs*. This crosswalk identifies the prerequisite instructional programs necessary for employment in 623 specific occupations. Often, these are many-to-many relationships where a given instructional program can serve as an avenue into one of many jobs, or one of several instructional programs can serve as a prerequisite for a given job.

¹¹⁷ More formally, the demand for education and training programs is calculated as:

$$DCIP_i = \sum Dcip_{ji}$$

Where,

$$Dcip_{ji} = (SOC_j)(GCIP_i / \sum GCip_{ij})$$

and,

$DCIP_i$ = the annual demand for instructional program i

$\sum Dcip_{ji}$ = the annual demand for instructional program i across all occupation(s) j

SOC_j = the projected annual openings for occupation j

$GCIP_i$ = Liberty University graduates from instructional program i

$\sum GCip_{ij}$ = Liberty University graduates from all instructional program(s) i related to occupation j

Table 31: Percentage of Occupation-Driven Demand for Graduates met by Liberty University in the Lynchburg MSA

Academic Program	Estimated Annual Supply of In-State Graduates in 2012-13	Estimated Annual Occupation-Driven Demand for Graduates 2010-2020	% of Demand Met
Accounting	107	19	100%
Business Administration and Management, General	255	73	100%
Business/Commerce, General	178	73	100%
Counseling Psychology	131	6	100%
Counselor Education/School Counseling and Guidance Services	39	7	100%
Educational Leadership and Administration, General	38	8	100%
Elementary Education and Teaching	38	38	100%
General Studies	13	9	100%
Graphic Design	20	4	100%
International Relations and Affairs	7	6	100%
Law	20	9	100%
Legal Assistant/Paralegal	8	5	100%
Liberal Arts and Sciences/Liberal Studies	20	9	100%
Management Information Systems, General	28	5	100%
Political Science and Government, General	13	6	100%
Psychology, General	309	6	100%
Public Health Education and Promotion	17	6	100%
Special Education and Teaching, General	32	6	100%
Speech Communication and Rhetoric	37	10	100%
Sport and Fitness Administration/Management	33	17	100%
Secondary Education and Teaching	16	27	60%

Table 31: Percentage of Occupation-Driven Demand for Graduates met by Liberty University in the Lynchburg MSA

Academic Program	Estimated Annual Supply of In-State Graduates in 2012-13	Estimated Annual Occupation-Driven Demand for Graduates 2010-2020	% of Demand Met
Biology/Biological Sciences, General	15	27	57%
English Language and Literature, General	14	27	52%
Early Childhood Education and Teaching	5	13	35%
History, General	8	33	24%
Computer and Information Sciences, General	3	17	17%
Mathematics, General	5	27	17%
Music, General	5	27	17%
Social Sciences, General	5	33	17%
Family and Consumer Sciences/Human Sciences, General	4	27	16%
Public Health, General	2	13	15%
Computer Engineering, General	1	10	9%
Computer Software Engineering	1	10	9%
Teaching English as a Second or Foreign Language/ESL Language Instructor	7	86	8%
Information Technology	1	15	8%
Electrical and Electronics Engineering	2	21	8%
Spanish Language and Literature	1	27	5%
Industrial Engineering	1	18	5%

Conclusion

This report assesses the economic contribution that Liberty University made to the Lynchburg MSA and the state of Virginia in fiscal year 2013-14. What that analysis has shown is that Liberty University is one of Virginia's most successful and fastest growing institutions of higher education. In academic year 2013-14, Liberty had an unduplicated annual headcount of 110,310 students, making it the largest institution of higher education in Virginia and one of the largest in the country. Between 1992 and 2013, the university's fall enrollment increased from 8,500 to 77,338, an increase of 68,838 students or 810 percent. In contrast, over that same period Virginia's other four-year private non-profit colleges and universities grew by 34 percent, and Virginia's four-year public colleges and universities grew by 31 percent.

Moreover, Liberty University is not only the City of Lynchburg's largest employer, it is also one of its fastest growing employers. Between, 2001 and 2013, university employment increased by 6,096 jobs or 412 percent. This rapid employment growth has also played an important role in expanding the region's portfolio of high-growth, non-*Manufacturing* sectors, thereby providing a stabilizing influence on the Lynchburg MSA's employment picture. At the height of the 2007 recession, between fiscal year 2008 and fiscal year 2009, while the city of Lynchburg as a whole was experiencing a 4 percent decline in total employment, employment at Liberty University actually increased by 642 jobs or 25 percent.

In addition, Liberty University continues to invest in additional facilities and expand its program offerings. This fall, Liberty opened a new \$40 million Center for Health and Medical Sciences. This 138,000 square foot four story facility houses the University's new College of Osteopathic Medicine, as well as select programs from the University's School of Health Sciences. Liberty also recently completed construction of the Jerry Falwell Library. Named after the institution's founder, Dr. Jerry Falwell Sr., the Falwell Library is a 170,000 square foot state of the art facility that features an automated book retrieval system from the building's four-story book tower. In addition, Liberty will also open six new, state of the art, eight-story residence halls this fall which will house a total of 7,200 students. In recent years, Liberty has also completed construction of a 2,500 seat Liberty Baseball Stadium (2013), 32,000 square foot Hancock Welcome Center (2012), 640 seat Tower Theater (2010), and completed an extensive renovation and expansion of the 19,200 seat Williams Stadium (2010).

This remarkable growth has also had a demonstrable effect on the city of Lynchburg's own growth trajectory. According to data from the 2010 census, between 2000 and 2010 the population of Lynchburg grew by 15.8 percent. By comparison, the population of Virginia as a whole grew by only 13.0 percent over the decade, and population growth in all but six of Virginia's 39 independent cities was lower than that of Lynchburg (*e.g.*,

Charlottesville grew by 8.4 percent between 2000 and 2010, Norfolk by 3.6 percent, Richmond by 3.2 percent, Roanoke by 2.2 percent, and Virginia Beach by 3.0 percent).

Our analysis has also shown that Liberty University makes a major economic contribution to its community. In fiscal year 2013-14, direct spending in the Lynchburg MSA by the university, its associated enterprises, tenants, students, and visitors totaled \$567.3 million. Our analysis shows that this \$567.3 million in regional spending was responsible for generating more than \$1.0 billion in economic activity in the Lynchburg MSA, which means that every \$1.00 of Liberty University's net local spending generated \$1.78 within the broader regional economy.

In addition, Liberty University's fiscal year 2013-14 regional spending was also responsible for supporting a total of 10,637 jobs within the Lynchburg MSA and generating \$383.7 million in labor income. Given that the location of most of this employment is in the City of Lynchburg, and that total employment in the City of Lynchburg was 50,745 in 2013, this means that approximately one out of every five jobs in the City of Lynchburg is either directly or indirectly attributable to Liberty University.

With regard to the fiscal contribution that Liberty University makes to its community, local taxes paid by the university itself, associated enterprises, tenants, employees, students, and visitors contributed over \$12.5 million in tax revenue to the Lynchburg MSA in fiscal year 2013-14. Focusing exclusively on the city of Lynchburg, where the majority of Liberty University's campus is physically located, the university directly and indirectly generated approximately \$9.2 million in tax revenue for the city. More specifically, it accounted for approximately: 6 percent of the city's total *Real Property Tax* revenue, 14 percent of its *Personal Property Tax* revenue, 8 percent of its *Motor Vehicle License Fee* revenue, 11 percent of its *Restaurant Food Tax* revenue, 21 percent of its *Hotel and Motel Room Tax* revenue, and 4 percent of its local *Sales Tax* revenue.

From the perspective of Virginia as a whole, in fiscal year 2013-14 Liberty University, along with its associated enterprises, tenants, students, and visitors were responsible for contributing \$667.3 million dollars in direct spending to the state. Our analysis indicates that this \$667.3 million in statewide spending was responsible for generating \$1.3 billion in economic activity, which means that every \$1.00 of Liberty University's state spending ultimately generated \$2.01 in overall economic activity within the state. In addition, those expenditures were responsible for supporting a total of 12,119 jobs in the state, creating \$510.3 million in labor income, and generating \$116.7 million in federal, state, and local tax revenue.

Our analysis has also shown that Liberty University makes a major contribution to growing Virginia's human capital. For Liberty University, as with any education institution, its primary economic contribution is the product it is in the business of

creating – well educated and highly trained graduates. We estimate that the economic value of the enhanced labor productivity, or increased human capital, that Liberty University's 2012-13 graduates carried with them into Virginia's workforce was \$50.3 million. Moreover, the discounted present value of the stream of economic benefits that enhanced productivity will generate over the entire time that those graduates are likely to be active in the workforce is \$874.2 million.

In addition, Liberty University makes many other contributions to the Lynchburg MSA and to Virginia as a whole that go beyond simple economic impact. For example, Liberty students and employees provide approximately \$5.8 million worth of volunteer service hours within the Lynchburg MSA each year. In another example, in January of 2007 Liberty University embarked upon an agreement with the Greater Lynchburg Transit Company (GLTC) in which GLTC became the exclusive outside transportation vendor for the university. That arrangement has proved successful at reducing traffic and parking congestion in Lynchburg and has also provided GLTC with additional revenues – \$1.2 million in fiscal year 2013-14 – that enabled to upgrade its bus fleet and services.

Liberty University has also made significant property investments in the Lynchburg MSA that have aided in economic revitalization. After acquiring the Plaza shopping center in 2008, the university invested \$500,000 in improvements to the property. The Plaza is now home to Centra Health's Lynchburg Family Residency program and several other new tenants, and is positively contributing to the city of Lynchburg's tax base. Liberty University has also contributed to the region's recreational attractions, with investments in facilities such as the LaHaye Ice Center, which attracts more than 100,000 people per year to the region; the Liberty Mountain Snowflex Center, North America's only Snowflex synthetic ski slope; the Tower Theater, and the Liberty Mountain Skate Park, all of which are open to the public.

Moreover, through those recreational attractions, nationally recognized collegiate sporting events, and visitors to Liberty University students, employees, and events, the university also plays a major role in attracting tourists to the Lynchburg MSA. For example, in fiscal year 2013-14, Liberty University's out-of-town visitors generated approximately 136,128 hotel room nights in the Lynchburg MSA and those hotel room nights in turn were associated with approximately \$10.9 million in local hotel revenue.

Finally, Liberty University also makes a significant contribution to ensuring the Lynchburg MSA will have the trained graduates it needs to prosper in the future in key growth areas such as healthcare and education by meeting some or all of the region's demand for graduates in *Accounting; Business Administration and Management, General; Business/Commerce, General; Elementary Education and Teaching; Sports and Fitness Administration; Speech Communication and Rhetoric; and Secondary Education and Teaching*, along with many other disciplines.



In sum, Liberty University is a rapidly growing institution, that has a significant economic and fiscal impact on the Lynchburg MSA and the state of Virginia as a whole, and plays a very active and positive leadership role within its community and the state.