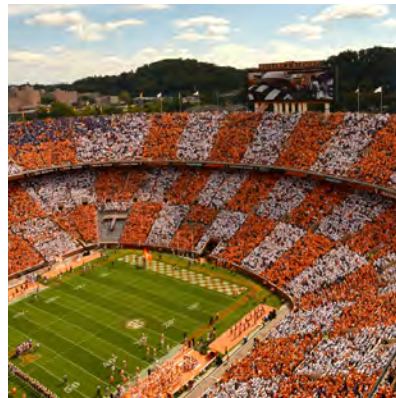
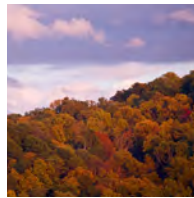
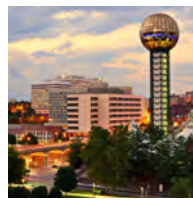
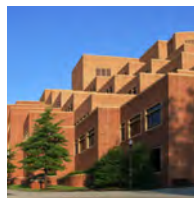
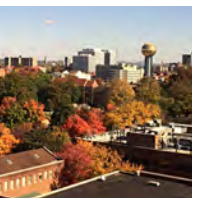
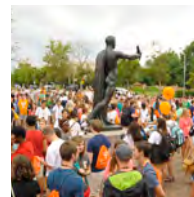


THE ECONOMIC IMPACT OF THE UNIVERSITY OF TENNESSEE, KNOXVILLE, ON THE STATE OF TENNESSEE



Academic Year
2013–2014



CENTER FOR BUSINESS &
ECONOMIC RESEARCH



The Economic Impact of the
University of Tennessee, Knoxville,
on the State of Tennessee
Academic Year 2013–2014

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	iii
I. INTRODUCTION.....	1
Background.....	1
Summary of Results.....	1
Table 1: Summary of Economic Benefits of UT Knoxville, FY14	1
II. TOTAL IN-STATE EXPENDITURES FOR UT KNOXVILLE	2
Table 2: UT Knoxville Related In-State Expenditures, FY14	2
Figure 1: UT Knoxville Related In-State Expenditures, FY14.....	2
III. TOTAL ECONOMIC IMPACT ON TENNESSEE FROM UT KNOXVILLE.....	3
Income Effects	3
Table 3: UT Knoxville Economic Impact, by Source, FY14.....	4
Figure 2: UT Knoxville Income Benefit, by Source, FY14	4
Employment Effects	4
Table 4: UT Knoxville Employment Impact, FY14.....	5
Figure 3: UT Knoxville Employment Impacts, by Source, FY14.....	5
V. TAX EFFECTS.....	5
Table 5: State and Local Tax Revenue Generated by UT Knoxville, by Source, FY14	6
VI. QUALITATIVE IMPACT	6

EXECUTIVE SUMMARY

The Tennessee economy and its residents benefit from the University of Tennessee, Knoxville, through the creation of jobs, incomes, and tax revenues. UT also provides Tennessee with many qualitative effects, such as a trained labor force, visibility around the world for its research, and public service benefits. First, the university provides 9,263 faculty, staff, and student employees with salaries, which directly impacts the state's economy. UT's payroll spending for fiscal year 2014, including fringe benefits, totaled \$522.5 million. UT also generates income and jobs for the state indirectly by spending money on goods and services in Tennessee. Nonpayroll spending for the university amounted to \$545.0 million in FY14. Combined with the indirect economic benefit for the state's economy as incomes are spent and respent, UT creates an additional \$894.8 million in income and 18,682 jobs in addition to those working on campus.

Finally, spending by students and campus visitors causes significant economic activity for the state. Student and campus visitor spending equaled \$280.8 million in FY14 and was responsible for \$179.9 million in income and 4,978 jobs.

Combining the effects of payroll, nonpayroll, and student and campus visitor spending, UT generated a total of \$1,597.3 million in income and created 32,922 jobs for the state of Tennessee, including the 9,263 employees on the university payroll. Additionally, we find \$125.3 million in state and local tax revenue results from university and university-related spending.

I. INTRODUCTION

Background

Founded as Blount College in 1794, UT has been the flagship and largest institution of the statewide University of Tennessee System since 1869. The university offers more than 300 degree programs at eleven different colleges. In 2013, UT awarded close to 6,800 degrees and had a five-year graduation rate of 65 percent. *U.S. News and World Report* ranked UT Knoxville 106th among “America’s Best Colleges” and 50th among the nation’s public colleges and universities for 2015.¹

Enrollment at UT, currently 27,171 students, represents more than half of the total enrollment at the University of Tennessee System (of 49,000 students). Approximately 21,000 of UT’s students are undergraduates and roughly 6,000 are graduate students.

There are currently 9,263 employees at UT, of which roughly 1,500 are full-time instructional faculty members. UT’s campus includes 250 buildings on land that spans about 580 acres.

Summary of Results

Using detailed revenue and expenditure data provided by various administrative sources, this study examines the economic impact of UT on the state economy for Fiscal Year 2014 (FY14).² The economic impact happens because of spending done by the university, its students, and campus visitors. Specifically, we estimate how much income, how many jobs, and the amount of state and local tax revenue that are generated from total spending by UT, its students, and its visitors. A summary of the general findings is presented in Table 1. We estimate that the university is responsible for \$1,597.3 million in income, 32,922 jobs, and \$125.3 million in tax revenue for the state.

Table 1: Summary of Economic Benefits of UT Knoxville,
FY14

Category	Amount
Income Generated	\$1,597,301,836
Tax Revenue Generated	\$125,274,354
Employment Generated	32,922

The remainder of the report is organized as follows: in the next section we examine the university’s various sources of spending in FY14 as well as spending by university students and campus visitors. Sections three and four estimate the economic impacts associated with UT. Section three focuses on the income effects as well as job creation, and section four details the resulting tax revenue. Finally, section five highlights some qualitative benefits from UT.

¹See <http://colleges.usnews.rankingsandreviews.com/best-colleges>

² Fiscal Year 2014 begins on July 1, 2013 and ends on June 30, 2014.

II. TOTAL IN-STATE EXPENDITURES FOR UT KNOXVILLE

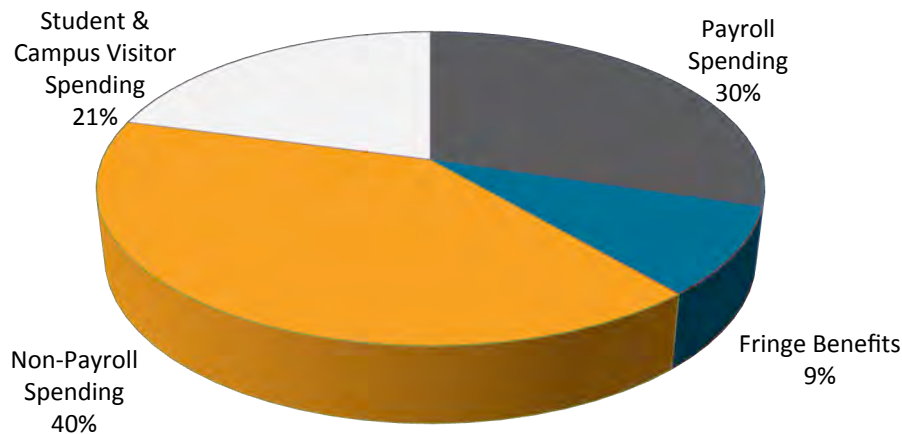
UT provides the state with economic benefits through various avenues. Table 2 presents UT's expenditures for FY14. Included are payroll spending, employee fringe benefits, nonpayroll spending in-state, student spending in-state, and campus visitor spending.³ Combining these components, the university spent around \$1,348.4 million in FY14. Each of these contributes economic gains to Tennessee.

Table 2: UT Knoxville Related In-State Expenditures, FY14

Category	Amount
Payroll Spending	\$401,379,676
Fringe Benefits	\$121,169,513
Non-Payroll Spending	\$545,028,625
Student & Campus Visitor Spending	\$280,842,474
Total FY14 In-State Expenditures	\$1,348,420,287

The university generates income directly through the payment of faculty, staff, and student salaries, totaling \$401.4 million in FY14 to 9,263 employees. Employee fringe benefits, such as health insurance and retirement cost the university \$121.2 million. Figure 1 shows that spending on salaries and benefits combined makes up 39 percent of all UT-related spending for FY14.

Figure 1: UT Knoxville Related In-State Expenditures, FY14



³ In our analysis, campus visitors include those attending athletic events at either Neyland Stadium or Thompson-Boling Arena (i.e. football, basketball, or volleyball), special events at Thompson-Boling Arena (i.e. concerts, graduation ceremonies, etc.) and conference attendees visiting the UT Conference Center.

Nonpayroll spending made within the state on items such as construction, utilities, maintenance repairs, athletic materials, and supplies also comprise a significant portion of UT expenditures. In FY14, \$545.0 million was spent on nonpayroll goods and services, representing 40 percent of all in-state university spending. Nonpayroll expenditures in recent years have been increased by the large construction program. Construction spending amounted to \$147.9 million, making up 27 percent of all nonpayroll spending and 11 percent of all in-state university-related spending for the fiscal year.

Finally, there are impacts associated with off-campus student spending as well as the spending of campus visitors. Total spending by students and campus visitors was \$280.8 million, representing 21 percent of all in-state university-related spending. With regards to student spending, only the expenditures of full-time students are included in the analysis as part-time students would have presumably engaged in economic activity regardless of whether they were enrolled or not. Only 3,575 students were enrolled part time in FY14, leaving more than 23,500 students in the analysis. We estimate that students spend \$171.0 million annually on books, transportation, and miscellaneous spending.⁴ As was indicated earlier, campus visitors include those attending athletic events at either Neyland Stadium or Thompson-Boling Arena, special events at Thompson-Boling Arena, and conference attendees visiting the UT Conference Center. Using ticket sales and attendance information, sports fans and special events attendees were broken into three groups: (1) in-area, (2) day-trippers, and (3) over-nighters.⁵ We estimate that sports fans and special events attendees spent a total of \$90.6 million in FY14. Finally, using administrative data provided by the UT Conference Center, we estimate that conference visitors spent \$19.2 million in FY14.

III. TOTAL ECONOMIC IMPACT ON TENNESSEE FROM UT KNOXVILLE

Income Effects

The economic impact of UT extends beyond the direct benefits created through payroll spending, as the university also creates an indirect economic benefit through nonpayroll expenditures. Specifically, university-related purchases of goods and services from vendors within the state create jobs and income for their employees and owners. Furthermore, additional jobs and income are created through the multiplier effect whereby money is spent

⁴ Based on data from "estimated undergraduate budget for 2014-15" at <http://onestop.utk.edu/your-money/cost-estimators/estimating-costs-undergraduates/>

⁵ We estimate that in-area fans spend \$40.20 per trip at football games and \$20.10 at basketball games and special events. Day-tripper fans spend \$75.78 at both football and basketball games as well as special events. Over-nighter fans spend \$218.06. The spending data have been inflated from the values used in our 2007 study "The Economic Impact of the University of Tennessee, Knoxville, Athletic Department on the State of Tennessee: Academic Year 2006-2007."

and respent elsewhere in Tennessee such that each dollar can generate more than one dollar in economic activity.

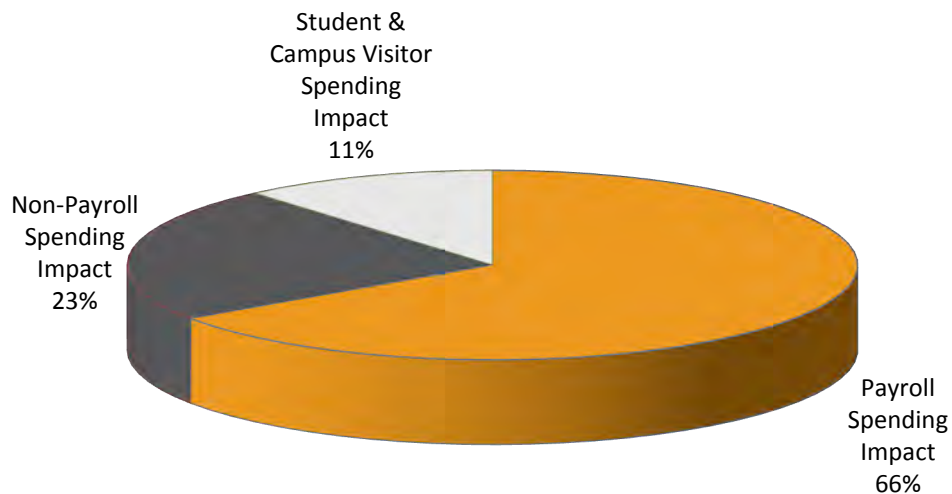
Table 3 presents the economic benefit from the three main sources of spending—payroll spending (i.e. salaries and fringe benefits combined), nonpayroll spending, and student and campus visitor spending. In FY14, payroll spending generated \$1,045.1 million in income, nonpayroll spending \$372.3 million, and student and campus visitor spending \$179.9 million.

Table 3: UT Knoxville Economic Impact, by Source, FY14

Category	Amount
Payroll Spending Impact	\$1,045,098,377
Non-Payroll Spending Impact	\$372,295,770
Student & Campus Visitor Spending Impact	\$179,907,689
Total FY14 Income Benefit	\$1,597,301,836

As illustrated in Figure 2, 66 percent of all income was generated through payroll spending. Nonpayroll spending created roughly 23 percent, and 11 percent was generated by student and campus visitor spending.

Figure 2: UT Knoxville Income Benefit, by Source, FY14



Employment Effects

Many new jobs were associated with the income that UT causes as it spends on goods and services. In FY14 there were 9,263 workers employed by the university. We estimate that an additional 23,659 jobs were created as a result of UT-related spending. Some of these jobs are at university suppliers and others are associated with the multiplier, which includes jobs in

restaurants, stores, home building, and a wide array of industries across the state. Combining UT employment with jobs created, the university was responsible for a total of 32,922 full time equivalent jobs in the state.

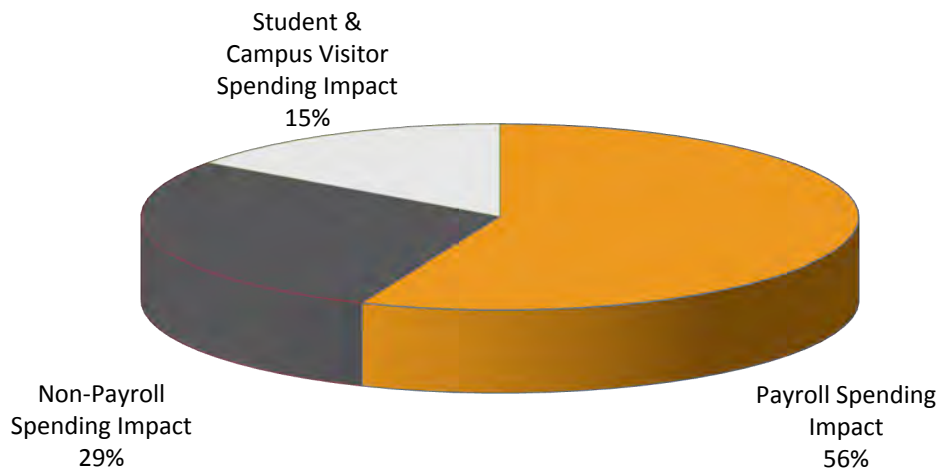
Table 4 presents the employment impacts for FY14. When UT employees spend their earned income on goods and services, approximately one job is created through the multiplier effect for every job at the university. Nonpayroll spending made by the university created 9,420 in-state jobs. Construction spending by itself created 2,740 or 29 percent of the 9,420 nonpayroll spending jobs. Finally, student and campus visitor spending created 4,978 jobs.

Table 4: UT Knoxville Employment Impact, FY14

Category	Amount
Direct Employees	9,263
UT-Related Spending Impact	23,659
Total FY14 Employment Impact	32,922

Figure 3 shows that, of the total number of employees, 56 percent were created through payroll spending. Nonpayroll spending accounted for roughly 29 percent of all UT-related jobs, and student and campus visitor spending generated 15 percent.

Figure 3: UT Knoxville Employment Impacts, by Source, FY14



V. TAX EFFECTS

Tax revenues result from the spending and incomes associated with UT. In total, we estimate that the university generated \$125.3 million in state and local tax revenues— \$73.6

million of which came in the form of sales tax revenue and \$51.7 million in other tax revenue. These results are summarized in Table 5.⁶

Table 5: State and Local Tax Revenue Generated by UT Knoxville, by Source, FY14

	Amount
Sales Tax Revenue	\$73,609,723
<i>Payroll Spending</i>	\$15,051,738
<i>Economic Impact Spending</i>	\$40,303,224
<i>Student & Campus Visitor Spending</i>	\$18,254,761
Other Tax Revenue	\$51,664,631
	\$125,274,3
Total FY14 State & Local Tax Revenue Generated	54

Sales taxes are generated in a number of ways. First, UT employees spend a portion of the income they earn on sales-taxable items, resulting in \$15.1 million in sales taxes. Second, student and campus visitors' purchases of sales taxable goods and services are responsible for \$18.3 million in tax revenue. Finally, a portion of the indirect income that is generated by the university is spent on sales-taxable items, generating an additional \$40.3 million in sales tax revenue. Other tax revenue, which includes all state and local taxes except for sales tax, was approximately \$51.7 million in FY14.

VI. QUALITATIVE IMPACT

Finally, UT provides a number of benefits that are difficult to quantify but are still significant to the state. A few examples of these qualitative benefits include (but are not limited to) gains from an educated workforce, prominent research projects, and increased community engagement through a variety of activities.

A detailed description of employment and productivity benefits is beyond the scope of this paper, but several are mentioned. Tennessee benefits from an educated workforce, including students currently enrolled at UT and faculty members, as well as alumni and retired faculty who reside or work in the state. An educated workforce offers qualitative benefits through a number of avenues. One comes in the form of higher wages and lower unemployment rates for UT graduates. Research from the Center for Business and Economic Research indicates that roughly 59 percent of UT graduates stay and work in Tennessee during the first quarter after graduation. A spillover benefit is that highly educated workers may also improve the productivity of other workers around them and may lead to higher earnings for these other workers. These are just a few of the potential qualitative benefits of having an educated workforce in Knoxville.

⁶ In these estimates, an adjustment has been made in an effort to account for any business to business sales of intermediate goods.

UT's faculty and students attract, create, and work on a variety of prominent research projects that improve the wellbeing of the state. Many of these projects are financed by federal, state, or corporate expenditures. Others are the result of individuals, companies, and alumni contributing to the university for research. Combined, these result in the construction of new campus facilities. These large projects create income and jobs for the state, but they also enhance the state's reputation and improve quality of life.

The strong partnership between UT and the Oak Ridge National Laboratory (ORNL) that provides faculty and students with unique research opportunities is an example of the research contributions. Together the UTK-ORNL partnership generates more than \$17 million annually in sponsored research, and brings together world class students, faculty, and researchers.⁷

Students and faculty members of UT also provide services to their local community. For example, many are involved in churches/temples, schools, charities, and a range of other community endeavors. In addition, since the university attracts a diverse group of students and faculty, Tennesseans can find a wide range of cultural and social activities that would not otherwise be present in the state.

⁷ See <http://www.utk.edu/ornl/> for more information.