

# **THE ECONOMIC IMPACT OF THE UNIVERSITY OF TENNESSEE AT CHATTANOOGA ON THE STATE OF TENNESSEE**

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Academic Year 2007-2008

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## Executive Summary

This study summarizes the estimated impacts of the University of Tennessee, Chattanooga (UTC) on the Tennessee economy for Fiscal Year 2008 (FY08).<sup>1</sup> The economic impacts estimated in this study include income and jobs created by spending of the university and its employees and students.

Tennessee's economy benefits from the presence of UTC in several ways. First, the university provides 2,861 faculty, staff, and student employees with salaries. UTC's payroll for FY08, both salary and benefits, was \$81.1 million. Our estimate indicates that payroll spending impacts the state economy in the amount of \$162.3 million and helps create about 1,146 additional jobs.

Second, the university spends money on goods and services in the state, which creates jobs and income. UTC made \$30.0 million in non-payroll expenditures in FY08, which generated \$20.1 million in income and created 470 jobs.

Lastly, spending by students generates significant economic activity in the state. We estimate student expenditures for FY08 to be approximately \$53.4 million, creating \$22.6 million in income and creating 755 jobs.

Combining the effects of payroll (\$162.3), non-payroll (\$20.1), and student spending (\$22.6), we find that UTC generates a total of \$205.0 million in income and creates 5,232 jobs for the state of Tennessee, including those currently on university payroll. In addition, we estimate that \$20.6 million is generated in state and local tax revenue from the presence of the university.

## I. Introduction

### *Background*

Founded in 1886 as Chattanooga University, UTC formally merged with the University of Tennessee system in 1969. Situated in southeastern Tennessee, UTC facilitates higher educational needs for not only Tennessee residents but also for states nearby such as Georgia and Alabama. With a full-time enrollment of over 10,000 students, UTC offers a college experience with small class sizes and less overall congestion. UTC employs more than 800 full- and part-time faculty in a wide array of disciplines and areas of research.

The campus sits on roughly 321 acres, and consists of 76 buildings. The university offers 43 undergraduate and certificate programs as well as 21 graduate programs. The university is home to "SimCenter" that was recently ranked one of the most powerful super computers in the world by Top500.org.<sup>2</sup>

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<sup>1</sup> Fiscal Year 2008 begins on July 1, 2007 and ends on June 30, 2008.

<sup>2</sup> See [utc.edu/simcenter/](http://utc.edu/simcenter/) for more information.

## Summary of Results

This study uses data from various administrative sources to estimate the statewide economic impact of UTC. Table 1 summarizes the general findings. We estimate that the university generates about 5,232 jobs and \$205.0 million in economic impacts to the state. In addition, the university creates approximately \$20.6 million in state and local tax revenue.

**TABLE 1**  
**Summary of Economic Benefits of UTC, FY08**

	<b>Amount</b>
Income Generated	\$204,952,565
Tax Revenue Generated	\$20,550,609
Employment Generated	5,232

Although our estimation of the economic impact of the university on the state is significant, it is safe to assume that we are providing a conservative estimate since we do not include any economic impacts from visitor spending. Presumably, a significant amount of economic activity is generated through lodging and food expenses from visitors associated with UTC conferences and athletic events.

The study is organized as follows: in the second section, we introduce university spending for FY08 and estimate the direct income associated with those expenses. In section three, we combine the indirect effects associated with spending by UTC with the direct effects and estimate the total economic impacts from both income and employment. In section four, we estimate tax revenue created by the university in FY08. Section five describes some qualitative benefits from UTC. Section six highlights university enrollment trends.

## II. Total In-State Expenditures for UTC

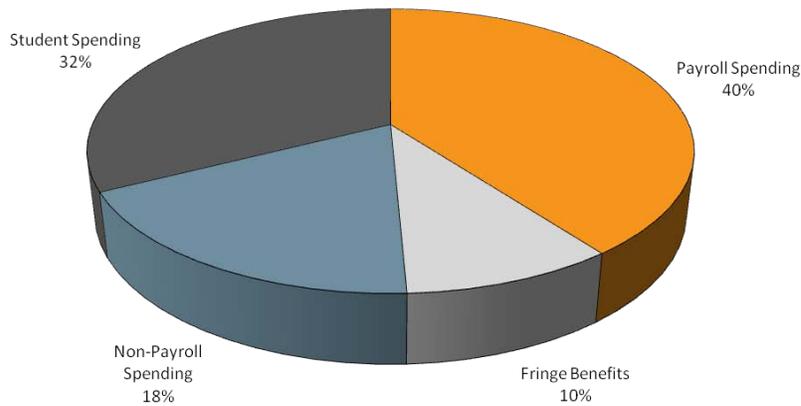
UTC provides the state with economic benefits in several ways. The direct economic benefits are 2,861 people who are hired by UTC and the associated income. Table 2 summarizes UTC expenditures for FY08, including spending on payroll, employee benefits, non-payroll spending in-state, and student spending in-state. Combining these four components, the university was responsible for about \$164.6 million in spending in FY08.

**TABLE 2**  
**UTC Related In-State Expenditures, FY08**

	<b>Amount</b>
Payroll Spending	\$65,372,307
Fringe Benefits	\$15,756,915
Non-Payroll Spending	\$30,037,126
Student Spending	\$53,435,025
<b>Total FY08 In-State Expenditures</b>	<b>\$164,601,373</b>

The university generates income through payment of \$65.4 million in faculty, staff, and student salaries. Employee fringe benefits, such as retirement and health insurance, cost the university \$15.8 million in FY08. Together, salaries and benefits make up about 50 percent of all UTC-related spending, as shown by Figure 1. Salaries and benefits are analyzed together in the estimates provided below.

**FIGURE 1**  
**UTC Related In-State Expenditures, FY08**



Non-payroll expenditures made within the state on items like construction, utilities, maintenance services, and equipment also made up a significant portion of UTC expenditures. In FY08, \$30.0 million was spent in-state on non-payroll goods and services, representing approximately 18 percent of all in-state university spending.

Finally, there are impacts associated with off-campus student spending. In FY08, 9,558 students were enrolled at UTC. We estimate that students spend \$53.4 million annually on transportation, off-campus living, and miscellaneous expenditures, which makes up about 32 percent of in-state, university-related spending.

### III. Total Economic Impact on Tennessee from UTC

#### Estimated Income Impacts

In addition to the income created through direct payroll spending, the university also indirectly creates income for the state. These university-related purchases of goods and services from vendors within the state are responsible for more jobs and income. Jobs and income are also created through the multiplier process - where money is spent and re-spent such that each dollar in expenditures can generate more than one dollar in economic activity.

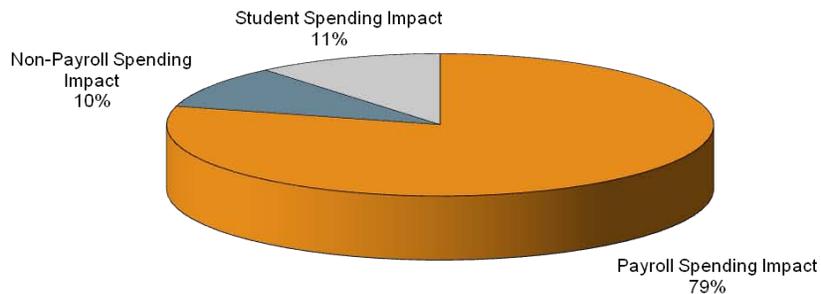
Table 3 outlines the economic impact from the three main sources of spending described above, university expenditures on payroll and benefits, non-payroll goods and services in-state, and student spending in-state. In FY08, payroll generated \$162.3 million in income, while \$20.1 million was generated by non-payroll income, and \$22.6 million from student spending. Combining all three effects, we estimate the overall economic impact of the university to be \$205.0 million.

**TABLE 3**  
**UTC Economic Impact by Source, FY08**

	<b>Amount</b>
Payroll Spending Impact	\$162,258,444
Non-Payroll Spending Impact	\$20,069,731
Student Spending Impact	\$22,624,390
<b>Total FY08 Income Benefit</b>	<b>\$204,952,565</b>

As illustrated by Figure 2, 79 percent of all income was created through payroll spending. Non-payroll spending and student spending generated approximately 10 percent and 11 percent of income, respectively.

**FIGURE 2**  
**UTC Income Benefit, by Source, FY08**



*Estimated Employment Impacts*

When UTC spends money on goods and services, many jobs are created in addition to the 2,861 employed by the university in FY08. We estimate that an additional 2,371 jobs result from UTC-related spending. Combining UTC employment with jobs created, we estimate that the university is responsible for a total of 5,232 jobs in the state.

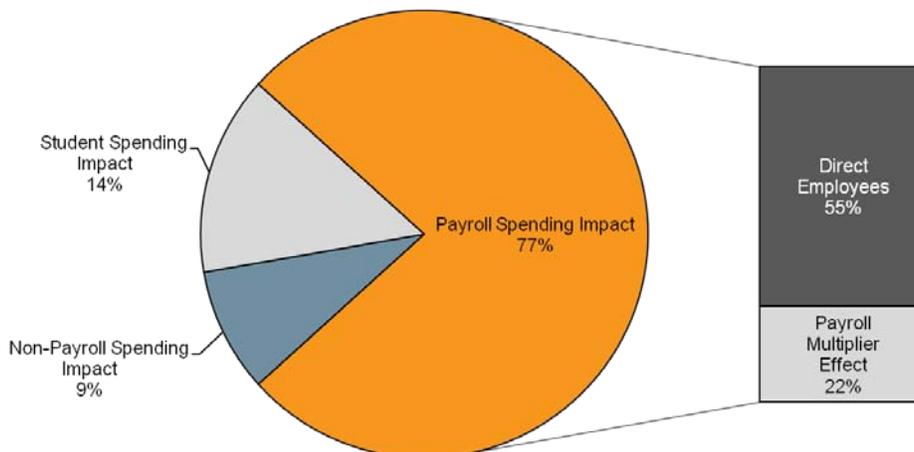
Table 4 summarizes the employment impacts for FY08. The payroll spending effect combines the 2,861 employees and another 1,146 jobs that are generated when employees spend income on goods and services. Also, non-payroll expenditures made by the university created 470 jobs in-state. Student spending was responsible for 755 jobs.

**TABLE 4**  
**UTC Employment Impact, by Source, FY08**

	<b>Amount</b>
Payroll Spending Impact	4,007
Direct Employees	2,861
Payroll Multiplier Effect	1,146
Non-Payroll Spending Impact	470
Student Spending Impact	755
<b>Total FY08 Employment Impact</b>	<b>5,232</b>

Of the total employment impact, 77 percent was due to payroll spending—55 percent UTC employees and 22 percent created by the payroll multiplier effect as shown by Figure 3. Non-payroll spending accounted for about 9 percent. Student spending generated about 14 percent of all UTC-related jobs.

**FIGURE 3**  
**UTC Employment Impacts, by Source, FY08**



#### IV. Tax Effects

UTC also benefits the state through increased tax revenue. We estimate that the university generates a total of \$20.6 million in state and local tax revenue—approximately \$12.0 million in sales tax revenue and \$8.6 million in other tax revenue. Table 5 summarizes these results.

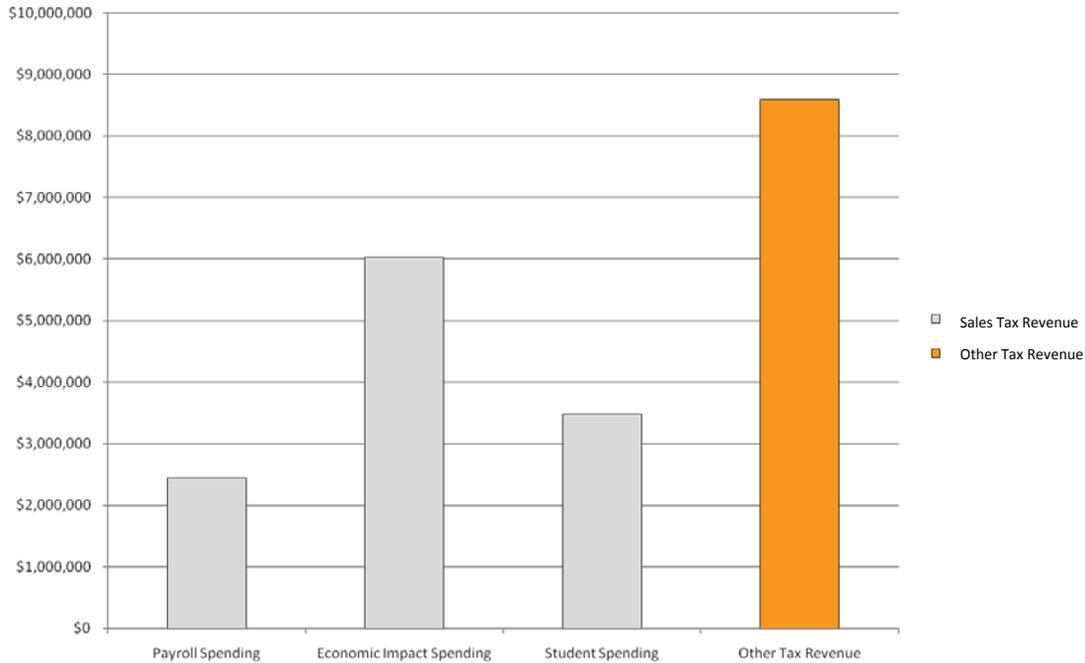
**TABLE 5**  
**State and Local Tax Revenue Generated by UTC, by Source, FY08**

	<b>Amount</b>
Sales Tax Revenue	\$11,961,127
<i>Payroll Spending</i>	\$2,451,462
<i>Economic Impact Spending</i>	\$6,036,388
<i>Student Spending</i>	\$3,473,277
Other Tax Revenue	\$8,589,483
<b>Total FY08 State &amp; Local Tax Revenue Generated</b>	<b>\$20,550,610</b>

About \$2.5 million in state and local sales tax revenue arises from UTC employees spending the income that they earn. Another \$6.0 million in sales taxes arises from spending of income generated by the university. When students purchase goods and services, sales tax revenue rises by about \$3.5 million.

Other tax revenue, which includes all state and local taxes except for the sales tax, was approximately \$8.6 million in FY08. Figure 4 provides a graphical representation of the estimated tax revenue generated.

**FIGURE 4**  
**State and Local Tax Revenue Generated by UTC, FY08**



**V. Qualitative Impacts**

There are significant qualitative benefits from UTC that, though difficult to quantify, may be as important as or more important than the quantitative effects described above. These qualitative impacts include benefits from an educated workforce, distinguished research projects, and increased community engagement through an array of activities. A few examples are listed below, but these barely scratch the surface in describing the many qualitative benefits.

The state of Tennessee benefits from an educated workforce, including faculty and students who are currently enrolled at UTC and retired faculty and alumni who reside or work in-state. Describing these impacts in detail would be beyond the scope of this study, but it is well-documented that there are substantial qualitative benefits that arise from an educated population/workforce.<sup>3</sup> Perhaps the most transparent of these benefits comes in the form of higher wages and lower unemployment rates for UTC graduates. Recent research in the Center for Business and Economic Research evidences that more than 63 percent of UTC graduates stay and work in Tennessee after graduation.<sup>4</sup>

Faculty and students enrolled in the university often provide benefits that are fiscally immeasurable to the local community. For example, the faculty and students are involved in churches, schools, charities, and many other off-campus social events that greatly impact the local communities and the state.

<sup>3</sup> Murray, M. N. (December 2007). *Education Crossroads*. Knoxville, TN: University of Tennessee, Center for Business and Economic Research.  
<sup>4</sup> Fox, W. F., Kiser, B., & Thacker, A. (October 2007). *School-to-Work: Do Tennessee’s Higher Education Graduates Work in Tennessee? Part 2. Employment and Earnings Trends by Institutions*. Knoxville, TN: University of Tennessee, Center for Business and Economic Research.

In many cases, students and faculty members involved in local community organizations may be perceived as role models for younger Tennesseans. In addition, because the university attracts such a diverse range of students and faculty, Tennesseans can discover a broad variety of cultural and social activities that would not otherwise prevail in the state.

As a metropolitan campus, the relationship between UTC and Chattanooga is critical. Students and faculty use the resources of the city as a living laboratory for applied research projects along with clinical and experiential learning opportunities for students.

The SimCenter National Center for Computational Engineering provides research and development opportunities in partnership with businesses that allow for technology transfer into the marketplace, which can lead to business development and job creation. For instance, Radiance Industries has opened a new office in Chattanooga to allow close relationships with the SimCenter.

UTC works closely with the Chattanooga Chamber of Commerce in business recruitment and was a partner in the recruitment pitch to Volkswagen of North America during the decision-making process to locate its North American manufacturing plant in Chattanooga. Since the decision was made, UTC has partnered with Volkswagen on several training and job applicant recruitment programs as well as special educational programming offered by Volkswagen to UTC students. For instance, Volkswagen staged a media launch event in Chattanooga of its new CC coupe to include UTC marketing and journalism students.

A UTC degree in education imbues a graduate with The Teacher Preparation Academy's major principles found in its Conceptual Framework: performance, professionalism, and partnership. Early and extended classroom immersion opportunities await students at two locations close to campus at Brown Academy and Battle Academy. More than 60 percent of UTC education graduates are employed in Hamilton County public schools and public schools throughout the region.

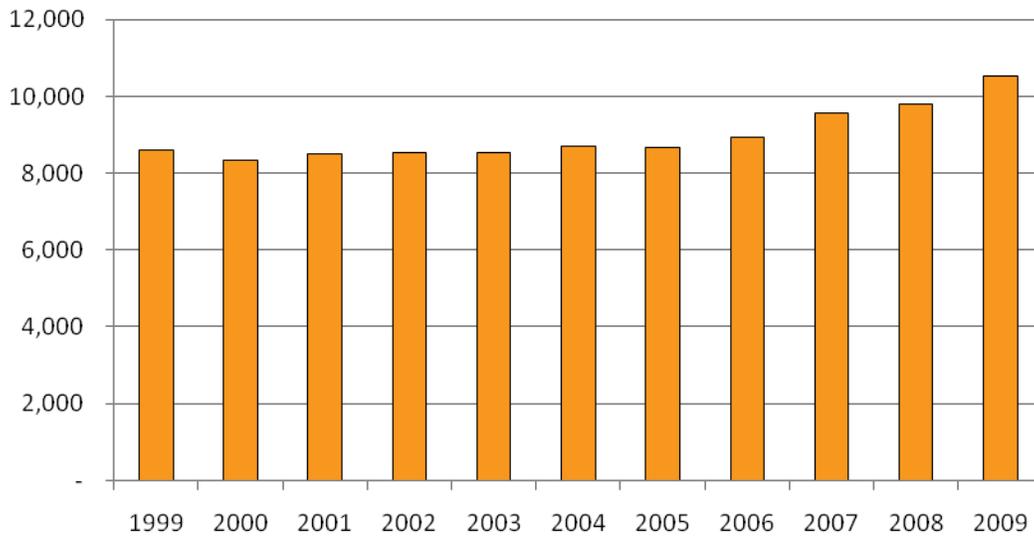
Students in the UTC School of Nursing build the art of nursing on the science of nursing by studying the humanities, behavioral science, and natural science along with nursing science and skill acquisition. Registered nurses who graduate from the Bachelor of Science in Nursing (BSN) program show a 100 percent rate of employment after graduation; 95 percent of traditional BSN students find employment. The Master of Science in Nursing (MSN) Nurse Practitioner Program graduates boast a 95-percent employment success rate while 80 percent of MSN Nurse Anesthesia Program graduates are employed following graduation.

UTC is a major cultural influence in the region. In 2009, more than 100 distinct partnerships between the campus and the community brought visual arts, music, theater, dance, and other cultural opportunities to thousands of citizens in the region.

## VI. Growing Economic Impact

To help students attending in-state public institutions, Tennessee recently began offering lottery-based scholarships to high school graduates meeting academic requirements. The Tennessee HOPE Scholarship is renewed annually if the student meets academic criterion.<sup>5</sup> As shown in Figure 5, the lottery scholarship program and other factors have resulted in an increase in UTC's enrollment. Since 2003, the university has seen 3.6 percent annual growth. Growing student counts are helping expand the already large effect of UTC.

**FIGURE 5**  
**UTC Enrollment Trends**



<sup>5</sup> See [http://www.tn.gov/CollegePays/mon\\_college/hope\\_scholar.htm](http://www.tn.gov/CollegePays/mon_college/hope_scholar.htm) for more information.