

**ECONOMIC EFFECTS OF THE
UNIVERSITY OF TENNESSEE, KNOXVILLE,
ATHLETIC DEPARTMENT**

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Economic Effects of the University of Tennessee, Knoxville Athletic Department

Executive Summary

This report provides an analysis of the economic impacts arising from the activities of the University of Tennessee, Knoxville, Athletic Department (UTKAD). The study was conducted by the Center for Business and Economic Research (CBER) at the University of Tennessee, Knoxville, in cooperation with the UTKAD. Estimates presented are based on data provided by the UTKAD for the 2003-04 fiscal year. The estimates contained in the report quantify the income, employment, and tax revenues that were generated by the activities of the UTKAD, including 1) direct impacts—those arising directly from the expenditures of the UTKAD; 2) fan/visitor impacts—those arising from the non-ticket expenditures of persons attending the events hosted by the athletic department; and 3) multiplier impacts—those arising from the ripple effects created as new income is spent and respent in the local economy.

Key findings include the following:

- **Revenue of the UTKAD has grown by nearly 90% since 1997.**
The revenue generated by the UTKAD through tickets sales, concessions/souvenir sales, Host Communications, sports camps, and various other activities is estimated to be nearly \$65.5 million, almost twice that in 1997.
- **Total income created in the Knoxville MSA due to the UTKAD is nearly \$104 million.**
The total income in the Knoxville MSA, arising directly and indirectly from the operations and activities of the UTKAD, was estimated to be \$103.8 million, with \$62.8 million attributable to the expenditures made in the community by the department and the remaining \$41 million arising from expenditures made by visitors and fans.
- **2,806 full-time equivalent jobs supported.**
Jobs are created through the direct impact of Athletic Department staffing and the indirect effect of Athletic Department expenditures and visitor/fan expenditures. The UTKAD expenditures supported 1,185 jobs, the visitor/fan effect supported 1,366 jobs, and the Athletic Department had a staff of 255 employees, for a combined total of 2,806 jobs.
- **UTKAD expenditures generate \$62.8 million in income for the Knoxville MSA.**
Based on a careful analysis of the expenditures on all of the athletic department programs during the 2003-04 fiscal year, the study estimates that the UTKAD expenditures directly generated \$35.8 million in income. Through the multiplier process, \$27 million in income was created, leading to a total of \$62.8 million of income created for the residents of the Knoxville MSA. The number of full-time equivalent jobs supported in the Knoxville

MSA by the UTKAD expenditures was estimated to be 1,185. The department directly employed 255 individuals for a total of 1,440 full-time equivalent jobs supported in the Knoxville MSA by the UTKAD.

- **Visitor/Fan spending attributed to UTKAD events creates \$41 million in income.**
Because UTKAD-hosted events are attended by both local and out-of-town guests, the resulting economic impacts are substantial. On average, 43 cents of every dollar spent at athletic events becomes personal income in the MSA. Based on data for football, men's basketball, and women's basketball attendance, the direct income generated within the Knoxville MSA from attendees' expenditures was estimated to be \$23.4 million while the income created via the multiplier process was estimated to be \$17.6 million for a total of \$41 million. The income attributed to visitor/fan effects supports approximately 1,366 full-time equivalent jobs. It is worth noting that these impacts were calculated using data from the top three attended programs only; therefore, the income, employment, and tax revenue impacts are under-stated to the degree that the other activities generate visitor/fan expenditures.

- **Nearly \$12 million in sales and amusement tax revenue generated.**
The UTKAD generates tax revenues from concession and ticket sales and from the expenditure and visitor/fan effects. The Athletic Department directly remitted \$1.13 million in local amusement taxes and \$2.11 million in state taxes. As the result of impacts from UTKAD and visitor/fan expenditures, \$2.12 million and \$6.61 million were generated in local and state sales taxes, respectively. This led to a total of \$11.97 million in state and local sales and amusement tax revenues.

Economic Effects of the University of Tennessee, Knoxville Athletic Department

I. INTRODUCTION¹

The University of Tennessee, Knoxville, Athletic Department (UTKAD) plays an important and visible role in the state of Tennessee, and particularly in the Knoxville Metropolitan Statistical Area (MSA). For many individuals, attending Tennessee athletic events is an annual event as hundreds of thousands of fans arrive in Knoxville from all across the state and region to enjoy the activities surrounding sporting events. The continued success and national recognition of many of the university's athletic programs has helped maintain the level of interest in the athletic programs.

While most everyone recognizes the entertainment value of the Vols athletic programs, many fail to take into consideration the tremendous benefits that a successful university athletic department can have on both the local and statewide economy. In order to put the magnitude of the UTKAD into perspective; consider that in the 2003/04 fiscal year the total concession sales at seven home football games were \$2.4 million. This is nearly triple the *annual* sales of an average restaurant in Knoxville (or \$844,217).² Total revenues for the UTKAD from ticket sales, concessions, souvenirs, contributions, Host Communications, sports camps, and other events were \$65,494,615 for the 2003/04 fiscal year, with \$21.6 million coming from football ticket sales alone. This represents an increase of over \$30 million from the revenue collected during the

¹We wish to thank Bill Myers and Tiffany Carpenter of the UT, Knoxville, Athletic Department, for their help.

²Source: *2003 Tennessee Statistical Abstract*, Table 7.9, (1997 inflation adjusted data).

1996/97 fiscal year. The increase in revenue potentially occurred because of higher overall prices due to inflation and an increase in the number of sports at the university.

This report contains a detailed analysis of the economic impacts that accrue to the Knoxville MSA as a result of the existence of the UTKAD. Three main economic effects are measured, including: (1) the income generated for local residents, (2) the number of full-time equivalent jobs created within the area, and (3) the tax revenue generated for state and local governments. In order to properly account for the entire impact of athletic department programs, this study examines the direct, the fan/visitor (or indirect), and the multiplier (or ripple) effects arising from the Athletic Department. These effects are aggregated into the total impact of athletic programs. A summary of the findings is provided in Table 1. The UTKAD activities created a total of \$103.8 million in income, 2,806 jobs and \$11.97 million in tax revenue for the Knoxville MSA.

Table 1: Summary of Benefits of the UTKAD, 2004

Income	\$103.8 million
Employment	2,806 jobs
Tax Revenue	\$11.97 million

The remainder of the report is organized in five parts. The next section will provide a background on the methodology used in assessing the income, employment, and tax revenue generation process. The impacts attributed to the presence of the UTKAD will be detailed in sections III, IV, and V, with section III highlighting the income impacts, section IV providing the analysis of job creation, and section V detailing the tax revenue generated. Section VI is a brief conclusion.

II. METHODS FOR EVALUATING ECONOMIC IMPACTS

The UTKAD affects the local and state economy through three means: direct, fan/visitor, and multiplier effects. The total income, employment, and tax revenue impacts will be computed by adding these effects. Direct effects are those attributable to the operation of the Athletic Department itself. These direct effects include the hiring of the athletic department staff (its direct employment impact) as well as the UTKAD expenditures made within the Knoxville MSA that create income for local residents (its direct income impact). Direct fiscal effects arise because of the state and local sales taxes remitted on tickets and concession/souvenir sales as well as the amusement tax collected on ticket sales.

Visitor/Fan effects, or indirect effects, arise from the expenditures made by persons attending UTKAD sponsored events. Indirect effects are substantial because of the large seating capacity of the stadium and arena and because of the popularity of the Vols athletic program. For the purpose of this study, attendance at the football and men's and women's basketball games were used to calculate the visitor/fan effect, given that these three programs constitute a large share of ticket sales for the athletic program. Using ticket sales and attendance information, the fans were broken down into three groups: (1) in-area, (2) day-trippers, and (3) over-nighters. Using expenditure data provided by the Knoxville Convention and Visitors Bureau in 1997 and adjusting for inflation, it was estimated that, on average, in-area fans spend \$29.50 per person at a UTK football game and \$14.75 at a UTK basketball game. For day-trippers and over-nighters the estimated expenditures were \$55.60 and \$160, respectively, for both football and basketball.³ The major portion of visitor/fan expenditures is made at hotel/motel and eating/drinking

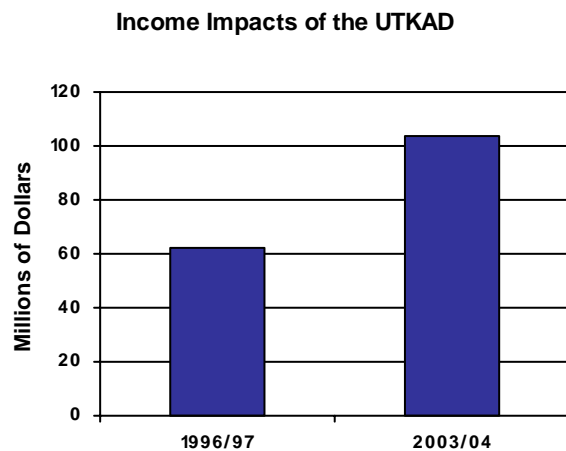
³ The fan/visitor expenditures are in addition to ticket purchases.

establishments. It is worth noting that 43 cents of every dollar spent by the fans will become personal income to a resident in the Knoxville MSA, thus accounting for the indirect income and employment impacts.

Finally, the multiplier, or ripple effect, occurs as the direct and indirect incomes are spent and respent within the local economy. For example, UTKAD employees spend a portion of their wages and salaries in the local community on goods and services such as housing, clothing, and food. In turn, the owners of the businesses receiving these payments will use a portion of the proceeds to pay their employees, and the cycle continues. During each of these subsequent rounds of spending, a portion of the direct and indirect income leaks out of the local economy through taxes, payments to non-residents, savings, and spending outside the Knoxville MSA, diminishing the additional local income through each successive round of expenditures.

III. INCOME IMPACTS OF THE UTKAD ON THE KNOXVILLE MSA

The UTKAD created a total of \$103.8 million of income in the Knoxville MSA during the 2003/04 fiscal year, an amount that is over two-thirds greater than the impact calculated in a similar study conducted by CBER for the 1996/97 fiscal year. As no significant additional seating was added to athletic facilities over this time period, most of the growth in the impact is a result of the increase in UTKAD expenditures and higher spending at hotel rooms and restaurants rather than from greater attendance. Roughly 60 percent, or \$62.8 million, of the

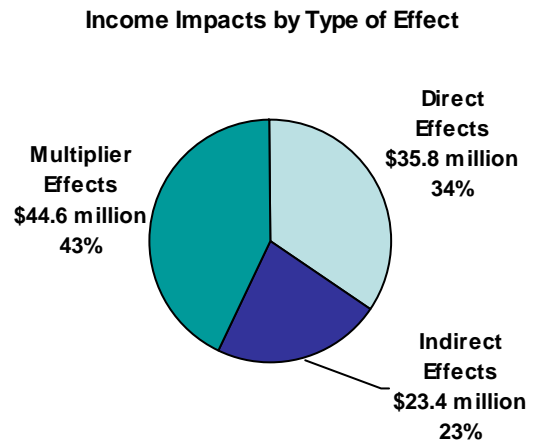


income generated is attributable to the Athletic Department's direct operations while the remaining 40 percent, or \$41 million, comes from the visitor/fan effect.

As noted above, income generated in the Knoxville MSA as a result of the UTKAD can be divided into three groups: (1) Direct, (2) Indirect (or visitor/fan), and (3) Multiplier Effects. Direct income is comprised of two parts. The first component is the \$27.2 million in payroll for the 2003/04 year. The second part comes from the \$15.5 million in nonpayroll expenditures made by the department in the Knoxville MSA. It is estimated that these expenditures create \$8.6 million of income. This leads to a total of \$35.8 million in direct income.

Income generated from the visitor/fan effect was estimated for men's football and basketball and women's basketball. During the 2003 season, 735,269 fans attended a total of seven home football games, an average of 105,038 per game. About 200,000 fans attended the men's basketball games and

the Lady Vol basketball games, each. The visitor/fan income effect of \$23.4 million results from visitor/fans spending \$54.4 million in the area.⁴ The multiplier effects, which are the result of the income being spent and respent in the economy, comprise an additional \$44.6 million in income.



⁴ It is assumed in these calculations that 50 percent of all out of town football visitors are over-nighters and 50 percent are day-trippers. We also assume that 15 percent of basketball game attendees are from out of town; 67 percent are day-trippers; and 33 percent are over-nighters.

Table 2: Income Impacts of the UTKAD, 2004 (in millions)

Direct Effects	
Payroll Spending	\$27.2
Non-payroll Spending	\$8.6
Indirect Effects	
Visitor Spending	\$23.4
Multiplier Effects	
Payroll Spending	\$20.5
Non-payroll Spending	\$6.5
Visitor Spending	\$17.6
Total Income Benefit	\$103.8

IV. EMPLOYMENT IMPACTS OF THE UTKAD ON THE KNOXVILLE MSA

Income created by the UTKAD also results in jobs for local residents. Jobs are created in the Athletic Department, in firms that supply the goods and services purchased by the department, and throughout the community by way of the multiplier and visitor/fan effects. A total of 2,806 full-time equivalent jobs were supported by the UTKAD in 2003/04 fiscal year, including 255 Athletic Department employees. Forty-two percent, or 1,185 jobs, were supported through departmental expenditures and 1,366, or 49 percent, were supported by the visitor/fan effect.

Table 3: Employment Impact of the UTKAD, 2004

Direct Effects	
UTKAD staff	255
Indirect/Multiplier Effects	
UTKAD expenditures	1,185
Visitor Spending	1,366
Total Employment Benefit	2,806

In order to put the significance of the employment impacts into perspective, Table 4 provides employment figures for the area's largest manufacturers. As can be seen, the total number of full-time equivalent jobs supported by the existence of the UTKAD is greater than the direct employment at all of the largest manufacturing employers in the Knoxville MSA.⁵

Table 4: 10 Largest Manufacturers in the Knoxville MSA, 2003

Manufacturer	Number of Employees
Clayton Homes	2,500
Denso Manufacturing	2,100
ALCOA	2,000
Sea Ray Boats	1,450
DeRoyal Industries	1,250
CTI Molecular Imaging	720
Maremont Exhaust Products	700
The IJ Company	700
Knoxville News-Sentinel	620
Matsushita Electronic Components	606

Source: <http://www.knoxvillechamber.com/index.php/kacp/economic_development/existing_industry> (Knoxville Chamber of Commerce website).

V. SALES AND AMUSEMENT TAX REVENUE IMPACTS

Estimates were made of the local and state sales and local amusement tax revenue generated by the direct, indirect, and multiplier effects of the Athletic Department's presence.⁶ The direct effect includes the taxes remitted by UTKAD from tickets, concessions, and souvenir sales. About \$1.13 million in local amusement tax was generated, based on ticket sales of more than \$26 million for the 2003/04 fiscal year. The indirect effect consists of tax revenue generated by spending of the initial increase in the region's income base and taxes collected from visitor/fan expenditures. The multiplier effect picks up the additional tax revenue created as the increased income base is respent within the economy. Other fiscal benefits such as property taxes, business taxes, etc., as well as fiscal costs, i.e. congestion, additional public services,

⁵ Of course, the employment at large firms does not include indirect and multiplier jobs caused by these firms.

foregone property tax on UT property used for the UTKAD, and so forth, also occur but are not measured here.

The total estimated tax revenue generated in the 2003/04 fiscal year was \$11.97 million, accounting for a 70 percent increase over the tax revenues generated in the 1996/97 fiscal year, when total taxes were estimated to be \$7.07 million. The Athletic Department directly paid \$1.13 million in local amusement taxes and \$2.11 million in state sales taxes. Local and state sales taxes generated by the income in the area were estimated to be \$2.12 million and \$6.61 million, respectively.

Table 5: Sales Tax Revenue Impacts, 2004 (in millions)

Direct Payments	
State	\$2.11
Local (Amusement)	\$1.13
Indirect/Multiplier	
State	\$6.61
Local	\$2.12
Total Sales Tax Revenue Benefit	\$11.97

VI. CONCLUSION

While many recognize the entertainment value of the University of Tennessee Athletic Department, the economic value of the department is often underappreciated. As seen in this report, the importance of the UTKAD to the local economy as a source of income, jobs, and tax revenue is substantial. Given the quality and diversity of the current program, the Athletic Department's role as a major contributor to the Knoxville regional economy is firmly embedded, and expectations are for continued growth and recognition.

⁶ To calculate the tax revenue, we assume that 55 percent of after-tax income is spent on sales taxable items.

Even though this report indicates many large economic impacts of the athletic department, they might be understated due to other special events held on campus that are not considered in the study. For example, large facilities like Neyland Stadium and Thompson-Boling Arena provide venues that otherwise would not be available in the Knoxville area for concerts and other special events. Such concerts might attract visitors from all across the region providing an even greater economic effect on the Knoxville MSA. In addition, there are other significant athletic events whose economic effects are not quantified here. For example, in 2004 the university hosted the Sea Ray Relays at Tom Black Track as well as the high school football jamboree in Neyland Stadium.