

The Funding of Higher Education in Tennessee



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EXECUTIVE SUMMARY

THE SOURCES OF FUNDING

Tennessee colleges' and universities' annual revenues total about \$3 billion, of which student tuition and fees provides roughly 16 percent, state appropriations provide about 38 percent, and all other sources provide the remaining 46 percent. Those other sources are principally auxiliary services such as dormitories, bookstores, and university hospitals as well as private grants and contracts.

A HISTORICAL PERSPECTIVE OF FUNDING SOURCES IN TENNESSEE AND ITS NEIGHBORING STATES

Over the decade of the 1990s, Tennessee and its neighbors shifted more responsibility for funding higher education from taxpayers to students. Over the decade the share of funding provided by students rose from about 13.5 percent to more than 16 percent, and the share provided by state appropriations fell from 43 percent to about 38 percent. Again the remainder came from a variety of other sources.

THE ROLE OF STUDENT TUITION AND FEES IN FUNDING HIGHER EDUCATION

The mean annual increase in in-state tuition at Tennessee public colleges and universities at the end of the 1990s was more than six percent. In the first two academic years of the new decade, the increase was 15 percent. Tennessee's independent colleges and universities had slightly lower percentage increases, but they have substantially higher tuition than public institutions.

THE SENSITIVITY OF STUDENT ENROLLMENT IN INSTITUTIONS OF HIGHER EDUCATION TO CHANGES IN TUITION AND FEES

The consistent finding of the research on enrollment behavior is that students are not particularly sensitive to changes in tuition. If tuition and fees, net of financial aid, increase by one percent, enrollments decline by about one-half of one percent. Specifically, a review of 20 different studies conducted up through the 1990s found a consensus that, for every \$100 increase in tuition, enrollment falls by 0.5 to 1.0 percentage point.

STUDENT ENROLLMENT IN TENNESSEE COLLEGES AND UNIVERSITIES WITH COMPARISONS TO NATIONAL AND REGIONAL TRENDS

Over the period 1990-2000, enrollment in Tennessee's public colleges and universities has increased from 174,000 students to more than 190,000, or about nine percent. So, in spite of the rising tuition and fees, other factors have encouraged Tennesseans to pursue higher education. Nationally, college enrollments increased about 12 percent over the same period. The trends indicate that enrollments at all types of institutions are increasing.

TRENDS IN STUDENT FINANCIAL AID

As tuition and fees have risen, students have relied on financial aid to help pay for those increases. Aid per full-time equivalent student, after adjusting for inflation, increased by 82 percent between the academic years 1990-91 and 2000-01. Most of the increase in financial aid has come in the form of loans, specifically unsubsidized loans.

THE IMPACT OF STUDENT DEBT

The average student borrower's loan amounts to more than \$5000. As a result, the average loan balance in 1999 was \$24,479 for graduate students, more than \$10,000 for undergraduates, and \$4,700 for students attending other post-secondary schools.

In Tennessee retention rates from fall term to fall term have fallen over the 1990s. That is, from year to year the percentage of students returning to school has fallen. Students who should have re-enrolled did not, for some reason. Among four-year institutions, the rate declined from 81 percent in the fall 1990 student cohort to 79 percent in the fall 1999 cohort. At two-year institutions, the decrease was a much more troubling $\frac{3}{4}$ from 64 percent to 59 percent in 1999.

These higher debt levels raise a question of the impact of student borrowing on career choices, decisions to pursue graduate and professional study, and the length of time required to graduate.

INTRODUCTION

The purpose of this analysis is to review the sources of funding for higher education in Tennessee. Specifically, the report will identify the sources of funding and their relative importance in providing resources for Tennessee institutions of higher education. The analysis will also review the effect of rising tuition and fees on student enrollments. Finally, the impact of the changes in the structure of funding on student debt will be discussed.

This analysis focuses on publicly funded institutions, and unless otherwise indicated, the results discussed are for two- and four-year institutions. Also, the analysis examines data for the nine states of Alabama, Arkansas, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

The U.S Department of Education National Center for Education Statistics conducts an annual survey of all institutions of higher education in the country, the Integrated Post-Secondary Education Data System (IPEDS).

For the most recent year that survey data are available, fiscal year 1997, the broad totals of revenue sources for all public and private institutions in Tennessee are given in Table 1.

SOURCES OF FUNDING

Table 1 below gives a representative look at the level and sources of revenue for Tennessee institutions of higher education.

Table 1: Sources of Revenue for Tennessee Higher Education	
<u>Source of Financial Revenue</u>	<u>Revenue for FY1996-97</u>
Tuition and fees	\$ 355,872,404
Federal appropriations	14,419,558
State appropriations	861,022,571
Local appropriations	2,214,753
Federal grants and contracts	226,532,617
State grants and contracts	48,204,990
Local grants and contracts	13,636,982
Private gifts, grants and contracts	109,780,666
Endowment income	17,588,691
Sales and services of educational activities	66,934,424
Auxiliary enterprises	192,380,421
Hospital revenue	311,056,397
Other sources	34,131,880
Independent operations	-
Total current funds revenue	<u>\$2,253,776,354</u>

Source: National Center for Education Statistics, Integrated Post-Secondary Education Data System (IPEDS), Financial Characteristics, 1996-97.

A HISTORICAL PERSPECTIVE OF FUNDING SOURCES IN TENNESSEE AND ITS NEIGHBORING STATES

As a share of total current fund revenue, which would exclude capital expenditures on buildings and other structures and equipment, such as heating and cooling equipment, the most important categories are student tuition and fees, state appropriations, federal grants and contracts, auxiliary enterprises, and hospital revenue. Student tuition and fees for state-level revenue make up from a low of about eight percent to a high of about 21 percent among nine states neighboring Tennessee. At 16 percent Tennessee ranks in the middle of the nine states. State appropriations make up from about 22 percent to more than 50 percent of total state-level revenue. Here again Tennessee stands in the middle of this range. federal grants and contracts constitute from about nine percent to more than 16 percent of revenue. Tennessee, with only a 10 percent share, receives a relatively smaller share of funding from federal grants. Auxiliary enterprises, which include dormitories, cafeterias, and bookstores, provide from about seven percent to more than 18 percent of revenue with Tennessee at less than 9 percent. Hospital revenue accounts for from zero to more than 25 percent of total state funding for higher education. Once again Tennessee ranks in the middle. Table 2 provides some history of funding sources.

Table 2: History of Revenue Sources for Tennessee Public Higher Education

<u>Source of Financial Revenue</u>	<u>1989</u>	<u>1993</u>	<u>1997</u>
Tuition and fees	13.6%	15.4%	16.1%
Federal appropriations	0.9	0.7	0.7
State appropriations	43.0	37.2	38.3
Local appropriations	0.0	0.0	0.0
Federal grants and contracts	10.7	12.2	10.2
State grants and contracts	1.6	1.5	2.0
Local grants and contracts	0.5	0.5	0.6
Private gifts, grants and contracts	3.9	4.2	4.9
Endowment income	0.6	0.8	0.8
Sales and services of educational activities	2.5	2.7	3.0
Auxiliary enterprises	8.9	8.4	8.7
Hospital revenue	12.9	15.8	14.0
Other sources	0.9	0.6	0.8
Independent operations	0.0	0.0	0.0
Total current funds revenue	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

Source: National Center for Education Statistics, Integrated Post-Secondary Education Data System (IPEDS), Financial Characteristics, Selected Years.

TRENDS IN STATE APPROPRIATIONS FOR HIGHER EDUCATION

Table 3 gives the recent history of Tennessee state appropriations for higher education. It also compares the growth in appropriations with the minimum and maximum growth rates of its neighbors. Over the past 14 years, Tennessee had the smallest increase (or largest decrease) among the nine states three times and never had the largest increase.

Table 3: State Appropriations for Higher Education in Tennessee Compared With Nine Neighboring States

Year	Tennessee		Annual Growth Rate in Appropriations for Nine States	
	State Appropriation	Percent Change	Minimum % Change	Maximum % Change
1988	\$636,011,427			
1989	656,573,229	3.2%	-0.3%	15.9%
1990	656,179,686	-0.1	-0.1	19.0
1991	626,212,417	-4.6	-4.6	8.9
1992	704,406,228	12.5	-9.0	16.6
1993	758,147,537	7.6	-9.2	11.0
1994	816,539,191	7.7	0.9	9.9
1995	838,617,752	2.7	2.0	34.4
1996	849,382,571	1.3	-6.7	8.7
1997	904,670,000	6.5	1.1	12.1
1998	909,845,000	0.6	-0.1	9.1
1999	957,970,000	5.3	4.5	15.7
2000	984,860,000	2.8	2.8	16.9
2001	1,039,373,000	5.5	0.5	10.1

Source: Center for Higher Education & Educational Finance, Various Years Beginning 1980-81 through 2000-01 (<http://www.coe.ilstu.edu/grapevine/>)

Table 4 below gives the trend in the state appropriations as a share of total funding of public higher education in Tennessee and its neighbors over the period 1988-96.

Table 4: Comparison of State Appropriations as Share of Total Revenue for Tennessee and Eight Neighbors

Year	AL	AR	GA	KY	MS	NC	SC	TN	VA
1989	37.6%	40.9%	46.3%	42.2%	38.9%	52.1%	42.0%	43.0%	34.2%
1990	34.1	37.7	46.1	41.5	36.5	51.5	41.5	41.5	32.9
1991	32.2	36.8	45.7	40.3	34.2	49.9	37.6	39.4	30.0
1992	30.1	36.0	42.6	39.6	30.8	46.6	33.6	36.4	25.8
1993	28.4	36.0	42.0	37.6	31.3	45.6	32.7	37.2	24.1
1994	29.4	34.8	43.2	37.1	31.8	45.5	29.5	37.8	23.8
1995	30.9	34.1	43.1	35.6	35.1	45.2	30.1	39.2	23.8
1996	29.9	34.1	43.0	34.5	35.8	44.4	32.2	39.2	22.8
1997	28.4	34.4	42.6	32.8	34.7	44.6	31.9	38.3	22.4

Source: National Center for Education Statistics, Integrated Post-Secondary Education Data System (IPEDS), Financial Characteristics, Selected Years

Tennessee along with its neighboring states provided relatively less support for higher education throughout the 1990s. This behavior is also consistent with national trends.

THE ROLE OF STUDENT TUITION AND FEES IN FUNDING HIGHER EDUCATION

Student tuition and fees have risen consistently over the past decade. Tables 5 and 6 give the in-state tuition for Tennessee public institutions and independent colleges and universities, respectively.

Table 5: Tuition at Tennessee Public Colleges and Universities

Resident Tuition Per Academic Year 1996-97 to 1999-2000 And Percent Change, Tennessee Public Institutions

Institution	1996-97	1997-98	1998-99	1999-00	1 Year % Change	3 Year % Annual Change
Austin Peay	\$1,994	\$2,262	\$2,470	\$2,584	4.6	9.9
East Tennessee	1,888	2,100	2,290	2,532	10.6	11.4
University Of Memphis	2,184	2,412	2,630	2,818	7.1	9.7
Middle Tennessee	1,972	2,186	2,392	2,516	5.2	9.2
Tennessee State	1,866	2,098	2,308	2,442	5.8	10.3
Tennessee Tech	1,920	2,116	2,308	2,390	3.6	8.2
Chattanooga	1,080	1,160	1,266	1,334	5.4	7.8
Cleveland	1,070	1,152	1,246	1,314	5.5	7.6
Columbia	1,064	1,142	1,246	1,314	5.5	7.8
Dyersburg	1,024	1,142	1,246	1,314	5.5	9.4
Jackson	1,018	1,142	1,226	1,304	6.4	9.4
Motlow	1,076	1,148	1,252	1,320	5.4	7.6
Nashville State Tech	1,040	1,144	1,230	1,298	5.5	8.3
Northeast	1,058	1,144	1,248	1,318	5.6	8.2
Pellissippi	1,098	1,172	1,274	1,342	5.3	7.4
Roane	1,066	1,146	1,250	1,318	5.4	7.9
Shelby	1,050	1,142	1,246	1,314	5.5	8.4
State Tech Memphis	1,074	1,156	1,250	1,318	5.4	7.6
Volunteer	1,040	1,142	1,246	1,314	5.5	8.8
Walters	1,064	1,142	1,244	1,312	5.5	7.8
UT Chattanooga	1,878	2,070	2,408	2,660	10.5	13.9
UT Knoxville	2,220	2,576	2,744	3,104	13.1	13.3
UT Martin	2,014	2,240	2,342	2,656	13.4	10.6
UT Memphis	2,358	3,784	4,212	3,441	-18.3	15.3
Geometric Mean Annual Change, Fall 1998 to Fall 1999					6.2%	9.0%

Source: Statistical Abstract of Tennessee Higher Education, 2000-01, Table 36

Since the fall semester 1999, the annual rate of increase in tuition at Tennessee public institutions has averaged 15 percent. As this report is being prepared, it appears that the tuition for fall 2002 will also be 15 percent higher than in fall 2001. Tennessee independent colleges and universities have also experienced tuition increases of about the same order of magnitude as the public schools, and the level of fees is substantially higher at those institutions.

Table 6: Tuition at Tennessee Independent Colleges and Universities**Resident Tuition Per Academic Year 1996-97 to 1999-2000 and Percent Change, Tennessee Independent Colleges and Universities**

<u>Institution</u>	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>1 Year % Change</u>	<u>3 Year % Annual Change</u>
Aquinas	\$4,590	\$6,150	\$6,850	\$7,570	10.5	21.6
Belmont	9,500	10,300	11,050	11,600	5.0	7.4
Bethel	7,240	7,240	7,240	7,800	7.7	2.6
Bryan	10,000	10,300	10,700	11,200	4.7	4.0
Carson-Newman	9,480	10,030	10,610	11,640	9.7	7.6
Christian Brothers	11,030	11,930	12,770	13,500	5.7	7.5
Crichton	5,880	6,360	6,600	7,152	8.4	7.2
Cumberland	7,640	7,640	9,000	9,850	9.4	9.6
Fisk	7,328	7,328	8,270	8,770	6.0	6.6
Free Will Baptist	N/A	4,140	4,400	4,938	12.2	N/A
Freed-Hardeman	7,120	7,524	8,398	8,558	1.9	6.7
Hiwassee	5,380	5,720	5,960	6,300	5.7	5.7
John A. Gupton	7,075	4,477	4,477	4,967	10.9	N/A
Johnson Bible	4,700	5,100	5,120	5,280	3.1	4.1
King	10,280	10,550	10,550	10,600	0.5	1.0
Lambuth	5,882	6,264	7,264	7,918	9.0	11.5
Lane	5,400	5,900	5,850	6,150	5.1	4.6
Lee	5,372	5,636	5,966	6,258	4.9	5.5
Lemoyne-Owen	6,300	6,100	6,600	6,900	4.5	3.2
Lincoln Memorial	6,800	7,350	8,100	8,920	10.1	10.4
Lipscomb	8,644	8,408	9,715	10,312	6.1	6.4
Martin Methodist	6,350	6,900	7,400	8,500	14.9	11.3
Maryville	13,255	14,200	15,425	16,025	3.9	7.0
Memphis College Of Art	9,900	1,030	11,450	11,990	4.7	7.0
Milligan	9,560	10,427	10,800	11,480	6.3	6.7
Rhodes	16,550	17,518	18,038	18,719	3.8	4.4
Southern Adventist	9,236	9,476	10,250	10,620	3.6	5.0
Tennessee Wesleyan	6,400	6,600	7,050	7,550	7.1	6.0
Tusculum	9,500	10,900	11,800	12,500	5.9	10.5
Union	7,084	7,990	9,430	10,490	11.2	16.0
University of the South	16,965	17,730	18,350	19,080	4.0	4.2
Vanderbilt	20,474	21,478	22,520	23,598	4.8	5.1
Geometric Mean Annual Change, Fall 1998 to Fall 1999					5.7%	6.3%

Source: Statistical Abstract of Tennessee Higher Education, 2000-2001, Table 36

Relative to other sources of funding, student tuition and fees have increased for a number of years. Table 7 shows the trend in the share of funding of public higher education in Tennessee and its neighbor states. The share of funding provided by students steadily increased through the 1990s.

Table 7: Trend in the Share of Funding Higher Education in Tennessee and in the Region

Tuition and Fees as a Share of Total Funding

<u>Year</u>	<u>AL</u>	<u>AR</u>	<u>GA</u>	<u>KY</u>	<u>MS</u>	<u>NC</u>	<u>SC</u>	<u>TN</u>	<u>VA</u>
1989	12.6%	11.7%	13.2%	13.3%	13.7%	8.3%	15.5%	13.6%	16.2%
1990	12.9	12.7	13.4	13.5	14.6	8.8	16.7	14.2	16.2
1991	12.8	13.2	14.1	13.6	14.9	9.3	16.3	14.8	17.1
1992	13.7	13.0	14.5	14.4	16.6	10.8	16.7	15.6	18.7
1993	14.0	13.5	15.4	15.4	16.8	11.3	17.1	15.4	20.0
1994	14.4	14.2	15.6	16.2	16.5	11.4	16.9	15.3	20.9
1995	13.7	13.7	14.8	16.2	14.2	11.2	17.1	15.2	21.4
1996	14.4	13.3	14.8	16.0	14.3	11.5	18.2	15.6	21.1
1997	14.1	13.4	14.9	14.9	14.3	11.7	18.6	16.1	20.7

Source: National Center for Education Statistics, Integrated Post-Secondary Education Data System (IPEDS), Financial Characteristics, Selected Years.

Tennessee's neighbors have all changed the funding of higher education so that an increasing share of revenue comes from student tuition and fees. This same trend has occurred nationally. The rate of increase in student charges has substantially outpaced the rate of inflation.

WHAT IS THE IMPACT OF RISING TUITION ON STUDENT ENROLLMENT?

THE SENSITIVITY OF STUDENT ENROLLMENT IN INSTITUTIONS OF HIGHER EDUCATION TO CHANGES IN TUITION AND FEES

Economists use the term elasticity to refer to the sensitivity of buyers to changes in the price of a good, other things remaining constant. To be precise the terminology is the *own-price* elasticity of demand, meaning the percentage change in the quantity demanded when the price of the good or service in question changes by one percent, while the prices of other goods, consumers' income, and other factors remain unchanged.

REVIEW OF THE LITERATURE

There is an extensive literature on the economics of higher education, and it includes many studies of the sensitivity of enrollment to tuition changes (Allen and Shen 1999; Bryan and Whipple 1995; Chressanthis 1986; Heller 1996, 1998; Hoenack and Weiler 1979; Hsing and Chang 1996; Leslie and Brinkman 1987; Koshal and Koshal 1998; McPherson and Schapiro 1991; Ghali et al. 1977). The consistent finding is that students are not particularly sensitive to changes in tuition. If tuition and fees net of financial aid increase by one percent, enrollments decline by about one-half of one percent.

Many empirical studies have revealed that quantity demanded of tertiary education has a negative relationship with changes in price or tuition rates. For example, higher education participation rates decline once prices charged to students are raised, or enrollments increase when tuition and fees are lowered. However, the degree of sensitivity of college enrollment levels to tuition change is relatively minor.

According to a nationwide study by Leslie and Brinkman (1987), a price increase of \$100 (1982-83 dollar values) results in a three-quarters of a percentage point drop in the 18-to-24- year-old participation rate. Also Ghali et al. (1977) found that an increase of one percent in tuition and fees would cause higher education enrollment rates to fall about a half of a percentage point.

The magnitude of the tuition effect depends upon various factors. Underclassmen are found to be much more responsive to changes in tuition and fees compared to their fellow upperclassmen (Chressanthis 1986). Tuition elasticity of demand tends to be higher for students who attend two-year colleges than for students in four-year institutions (Leslie and Brinkman 1987). Leslie and Brinkman explain that a majority of students in two-year institutions are lower-income and older students who are relatively sensitive to price. Moreover, it is well documented that students in public universities are more responsive to tuition and fees than those who study in private institutions (Funk 1972). This behavior may be explained by the fact that students in nonpublic schools come from high-income families with lower tuition sensitivity.

In a follow-up to the Leslie and Brinkman study, a review of 20 different studies conducted through the 1990s found a consensus that, for every \$100 increase in tuition, enrollment falls by 0.5 to 1.0 percentage point. Given the increases in tuition over the last two decades, that means enrollment is becoming more sensitive to tuition increases over time $\frac{3}{4}$ enrollment is becoming more tuition or price elastic. Both of these findings are consistent with the predictions of economists; price and quantity demanded are inversely related, and demand becomes more price sensitive as relative price increases (Heller 1998). A later study by the same author found that continuing students tend to be more sensitive to tuition increases than first-time freshmen enrollees (Heller 1998).

If the influence of student aid is introduced, enrollment increases with increases in financial aid. However, students tend to be more sensitive to increases in tuition than to increases in financial aid (Heller 1998, p. 650). Not surprisingly, there are differences in response to tuition increases among students from families of different income levels, among racial groups, and between students in community colleges and four-year institutions.

STUDENT ENROLLMENT IN TENNESSEE COLLEGES AND UNIVERSITIES WITH COMPARISONS TO NATIONAL AND REGIONAL TRENDS

Over the period 1990-2000, enrollment in Tennessee's public colleges and universities has increased from 174,000 students to more than 192,000, or about nine percent (http://www.state.tn.us/thec/data_stat/fact_book_final.pdf). So, in spite of the rising tuition and fees, other factors have encouraged Tennesseans to pursue higher education. Nationally, college enrollments increased about 12 percent over the same period (<http://www.census.gov/prod/2002pubs/01statab/stat-ab01.html>). Table 8 on page 10 shows enrollment trends in higher education in Tennessee over the decade of the 1990s. The statistics indicate that enrollments at all types of institutions are increasing.

Table 8: Enrollment Trends in Tennessee Higher Education, 1990-2000

YEAR	UNITED STATES TOTAL	TENNESSEE TOTAL	TN INDEPENDENT		TN PUBLIC		TN PUBLIC UNIV.		TN TWO-YEAR INST.	
			TOTAL	% OF TOTAL	TOTAL	% OF TOTAL	TOTAL	% OF TOTAL	TOTAL	% OF TOTAL
1990	13,819,000 ⁽¹⁾	218,870	44,454	20.3	174,416	79.7	109,949	50.2	64,467	29.5
1991	14,359,000	229,051	45,233	19.7	183,818	80.3	112,503	49.1	71,315	31.1
1992	14,487,000 ⁽¹⁾	248,908	45,202	18.2	203,706	81.8	118,833	47.7	84,873	34.1
1993	14,305,000	239,734	46,392	18.9	193,342	80.6	115,921	48.4	77,421	32.3
1994	14,279,000	238,565	47,727	19.4	190,838	80.0	114,256	47.9	76,582	32.1
1995	14,262,000	240,826	48,567	20.2	192,259	79.8	115,042	47.8	77,217	32.1
1996	14,300,000	242,918	48,804	20.1	194,114	79.9	115,484	47.5	78,630	32.4
1997	14,345,000	242,741	49,214	20.3	193,527	79.7	116,488	48.0	77,039	31.7
1998	14,549,000	243,393	49,983	20.5	193,410	79.5	117,446	48.3	75,964	31.2
1999	14,861,000 ⁽²⁾	244,985	51,333	21.0	193,652	79.0	118,481	48.4	75,171	30.7
2000	15,135,000 ⁽³⁾	245,223	52,892	21.6	192,331	78.4	118,481	48.3	73,850	30.1

⁽¹⁾ Data have been revised from previously published figures.

⁽²⁾ Projections

⁽³⁾ Updated from THEC Fact Book

Source: *Statistical Abstract of Tennessee Higher Education, 2000-01, Table 19.*

STUDENT FINANCIAL AID IN TENNESSEE

TRENDS IN STUDENT AID

As tuition and fees have risen, students have relied on financial aid to help pay for those increases. Aid per full-time equivalent student, after adjusting for inflation, increased by 82 percent between the academic years 1990-91 and 2000-01 (The College Board 2001, p. 5). Most of the increase in financial aid has come in the form of loans. Pell Grants, the largest Federal grant program, increased by 23 percent after adjusting for inflation over the period 1990-91 to 2000-01. State grant programs increased by 90 percent, again adjusted for inflation, over that same period (The College Board 2001, p. 7). Over a shorter period, from 1992-93 to 2000-01, Stafford Loans, the largest Federally sponsored loan program, increased by 138 percent, and unsubsidized Stafford loans increased by 3,651 percent. The latter figure is the result of both a 65 percent increase in the size of the average loan, again adjusted for inflation, and a 2,176 percent increase in the number of borrowers. By 2000-01, Stafford loans amounted to nearly \$33 billion for that year alone. In that year the average student borrower's loan amounted to \$5,269 (The College Board 2001, p. 10).

THE IMPACT OF STUDENT DEBT

As a result of these changes in financial aid sources, the average loan balance in 1999 was \$24,479 for graduate students, more than \$10,000 for undergraduates, and \$4,700 for students attending other post-secondary schools (Scherschel 2000). These debt levels raise a question of the impact of student borrowing on career choices, decisions to pursue graduate and professional study, and the length of time required to graduate. There have been a number of studies conducted to investigate these questions, but the evidence is not clear yet (GAO 1998). For example, a study published in 2000 reports on the status of 1992-93 graduates as of 1997, five years following receipt of their bachelor's degree. Of those who had been borrowers, about half had only a slightly lower rate of enrollment in graduate school than non-borrowers. After controlling for a variety of factors such as gender, race/ethnicity, age, and other characteristics, there was no statistically significant relationship between undergraduate borrowing and enrollment in a graduate degree program (Choy 2000, p. 8).

Another possibility is that increased student borrowing prompts delayed graduation. However, it is important to note that student borrowing permits school attendance and graduation, so in spite of higher tuition leading to more borrowing, it could well be that graduation rates could increase.

Nationally, students are taking longer to complete their degrees. About half the students of the freshman class of 1966 completed their bachelor's degrees in four years; among the freshmen of 1982 that percentage had fallen to about one-third; and the percentage had fallen to 28 percent finishing in four years among the freshmen of 1993-94 (CSRDE 2001).

Evidence from the Statistical Abstract of Tennessee Higher Education 2000-01 indicates that in Tennessee retention rates from fall term to fall term have fallen over the 1990s (THEC <http://www.state.tn.us/thec/publicat.html>). That is, from year to year the percentage of students returning to school has fallen. Students who should have re-enrolled did not, for some reason. Among four-year institutions, the rate declined from 81 percent in the fall 1990 student cohort to 79 percent in the fall 1999 cohort. At two-year institutions, the decrease was much more troubling $\frac{3}{4}$ from 64 percent to 59 percent in 1999. It is possible that part of this decline is due to the rising cost of higher

education, but an alternative explanation for that decline in retention may be the very strong job market in the decade of the '90s. The opportunity cost of staying in school was high during that period.

The six-year graduation rate for all four-year public universities in Tennessee actually increased over the 1990s. For students entering in fall 1990, the six-year graduation rate was 45 percent, and for those entering in fall 1994, the six-year graduation rate was 47 percent. Unfortunately that does not tell us whether students took longer to complete their degrees, but only that more completed their degrees. As implied by the declining retention rates, two-year institutions experienced a decline in their graduation rates over the decade.

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