

# Higher Education Profiles & Trends

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Tennessee Higher Education Commission

404 James Robertson Parkway, Suite 1900 | Nashville, TN 34243

## **TENNESSEE HIGHER EDUCATION COMMISSION**

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## PURPOSE OF THIS REPORT

The statute [T.C.A. §49-7-202(c)(7)] requires the Tennessee Higher Education Commission to prepare a biennial report for the governor and the general assembly, *“commenting upon major developments, trends, new policies, budgets and financial considerations which in the judgment of the commission will be useful to the governor and to the general assembly in planning for the sound and adequate development of the state's program of public higher education.”*

The purpose of this report is to provide state policymakers with a brief overview of Tennessee higher education within a regional and national context. This report presents data and analyses on five broad policy issues important to the state: 1) State context of higher education, 2) Student preparation, 3) Student participation, 4) Student progression, and 5) State higher education finance.

## EXECUTIVE SUMMARY

- Tennessee trails the U.S. and Southern Regional Education Board (SREB) averages in both college educational attainment and economic vitality (**Figures: 1.1, 1.2, 1.4**). Distinct economic differences also exist across the state's three Grand Divisions (**Figures: 1.5, 1.6, 1.7**).
- Although Tennessee is a net importer of labor at all levels of educational attainment, about one-third of the state's in-migrants arrive without previously enrolling in college (**Figure 1.3**).
- Tennessee's population is increasing rapidly and growing perceptibly older (**Figure 1.8**). For the population age 18 and younger, the most salient demographic change is the growth in the number of people of Hispanic origin (**Figure 1.9**).
- Tennessee trails the U.S. and SREB averages in 8th-graders' test results in the National Assessment of Educational Progress (mathematics and science); NAEP scores of African-American students are, on average, lower than that of other ethnic groups (**Figure 2.1**). Minority students in the state demonstrate lower college retention and graduation rates than Caucasian students (**Figures: 4.1, 4.3, 4.4**).
- The public high school graduation rate in Tennessee continues to rise and has exceeded the national average, outpacing the SREB average by a large margin (**Figure 2.2**). Minority students in Tennessee public high schools demonstrate a higher freshman graduation rate than the U.S. and SREB averages (**Figure 2.3**).
- Since the Tennessee Education Lottery Scholarship (TELS) program began in 2004, a greater percentage of Tennessee high school graduates are enrolling in in-state institutions (**Figure 3.2**).
- Adult student participation in postsecondary education in the state is low; however, it is increasing across all institutional sectors, with the greatest growth observed in the private sector—especially in for-profit institutions (**Figures: 3.4, 3.5**).
- The six-year graduation rate in Tennessee is increasing both at two- and four-year public institutions.
- Although Tennessee ranks third nationally in the amount of state grant aid per full-time equivalent student, less than a quarter of this grant aid is need-based (**Figure 5.4**).
- Despite the growth in tuition and fees over the last two decades (**Figures: 5.2, 5.3**), higher education in Tennessee remains comparatively affordable in terms of the net cost of college relative to median family income (**Figure 5.5**). Availability of TELS awards brings higher education within reach of more Tennesseans (**Figure 5.4**).

### 1. STATE CONTEXT OF HIGHER EDUCATION

Personal income and educational attainment are linked to a state’s economic competitiveness. In 2011, Tennessee’s per capita income was \$36,567, ranking 35<sup>th</sup> in the nation.

Meanwhile, 29.6 percent of adult state residents had at least an associate’s degree, which ranked 43<sup>rd</sup> (Figure 1.1). The orange-lettered states in the upper right quadrant of the figure scored in the top ten on the *New Economy Index*, which measures the extent to which state economies are knowledge-based, innovative, and globalized. In 2010, Tennessee ranked 41<sup>st</sup> in the *New Economy Index*.<sup>1</sup>

#### 1.1. Educational Attainment and Personal Income per Capita (2011)



#### 1.2. Educational Attainment of Population 25 Years or Older: U.S., SREB states, and Tennessee (2011)

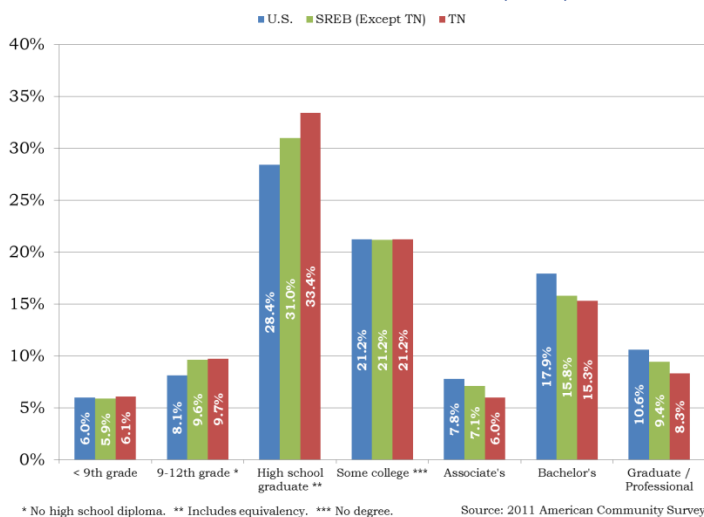
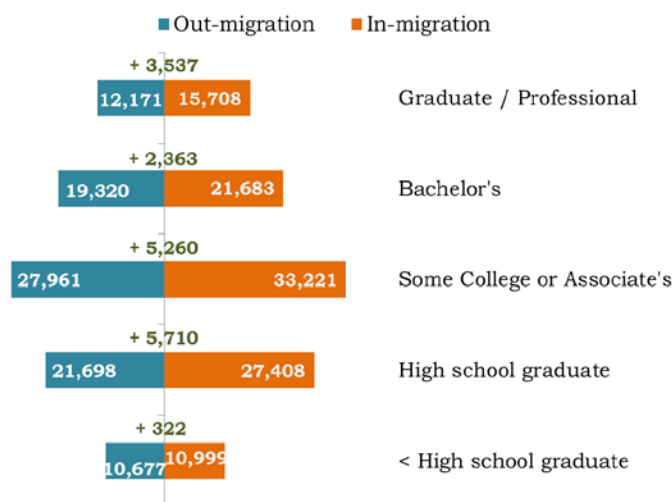


Figure 1.3 shows Tennessee’s success in attracting people from out of state with various levels of educational attainment. At all educational levels, the net migration of the adult population (represented by green-colored numbers above the bars) is positive. In 2011, Tennessee imported 5,900 more adults with a bachelor’s degree or higher than the same population that left the state. At the same time, many arriving workers do not have college education: 38,407 in-migrants (35 percent of all newcomers) arrived in Tennessee without previously enrolling in college.

Although Tennessee has comparatively large numbers of high school graduates, it is below the averages for the U.S. and Southern Regional Education Board (SREB) states in college educational attainment (Figure 1.2). In 2011, 15.8 percent of Tennessee’s adult population did not have a high school diploma and 54.6 percent of adults had completed either high school or some college. However, less than 30 percent of the state’s citizens 25 years or older had any college degree.

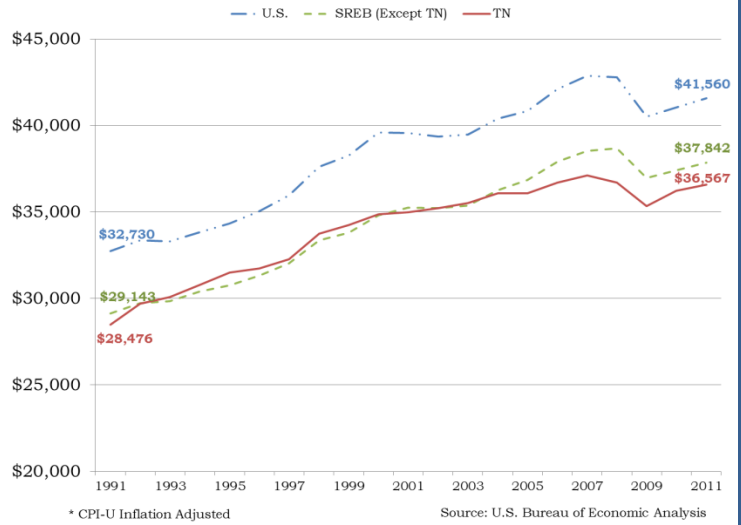
#### 1.3. In-migration, Out-migration, and Net Migration to Tennessee by Educational Attainment: Population 25 and Over (2011)



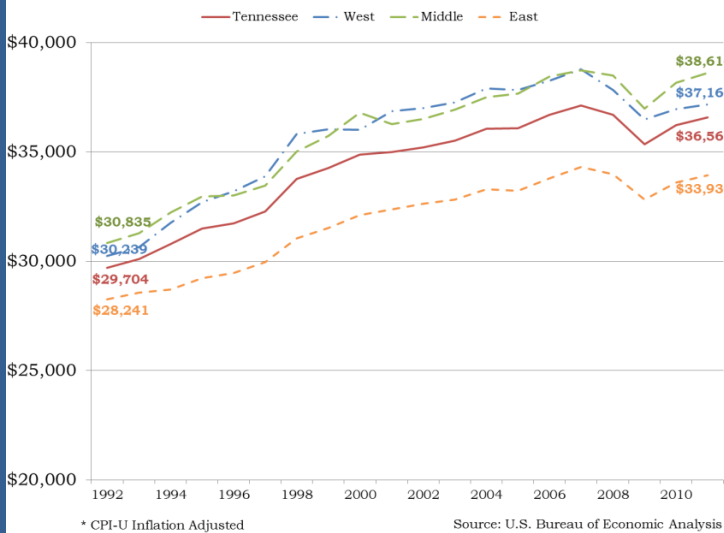
<sup>1</sup> The indicators of the New Economy Index are grouped under 5 categories: Knowledge Jobs, Globalization, Economic Dynamism, The Digital Economy, and Innovation Capacity. Source: [www.kauffman.org/research-and-policy/snei-interactive.aspx](http://www.kauffman.org/research-and-policy/snei-interactive.aspx)

Three commonly used indicators for states' economic climate are per capita income, unemployment rate, and poverty rate. **Figure 1.4** and the next several figures examine how Tennessee performs on these metrics. Trends in per capita personal income measure improvements in individuals' quality of life and reflect a state's ability to raise revenue. Adjusted for inflation, Tennessee's personal income per capita has increased steadily over the past 20 years, growing from 87 percent of the national average in 1991 to 88 percent in 2011. However, Tennessee remains below the national mean and has fallen behind the SREB average after eclipsing the SREB average in the 1990s.

1.4. Per Capita Personal Income in Constant 2011 dollars \*



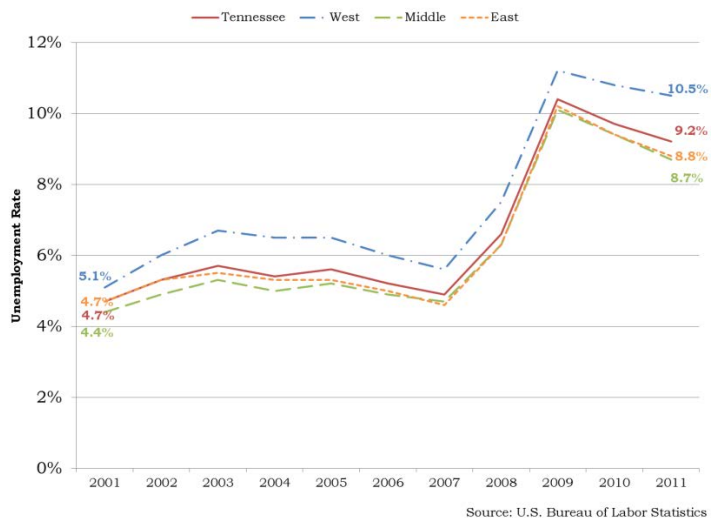
1.5. Per Capita Personal Income for Each of Tennessee's Grand Divisions in Constant 2011 dollars \*



In line with national, SREB, and Tennessee trends over the past 20 years, per capita personal income has been on the rise for all three Grand Divisions of the state (**Figure 1.5**). The relative positions of Tennessee's Grand Divisions have been consistent over time. The average for the Eastern counties of the state has been appreciably below the other regions and the average for the state.

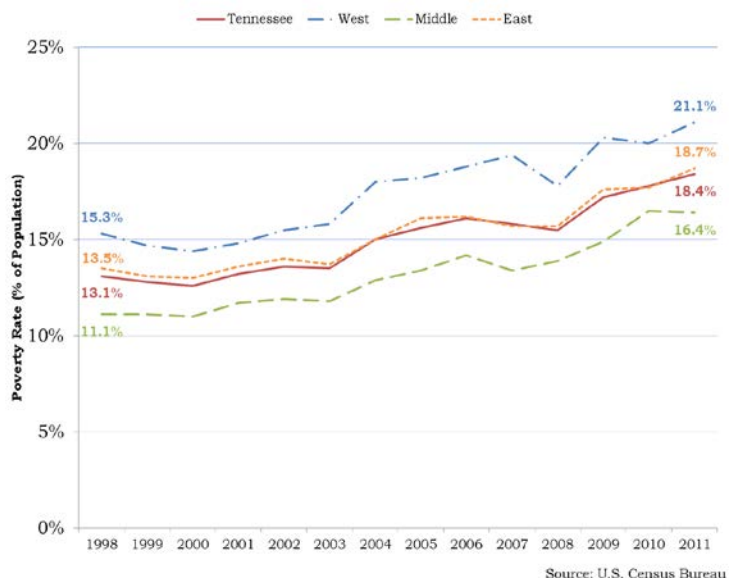
Unemployment rate, a ratio of the number of unemployed people to the number in the labor force, is another critical indicator of states' economic health. **Figure 1.6** presents unemployment rate changes in Tennessee by Grand Division. Recessions of the early and late 2000s led to accelerated growth in this indicator. The state's unemployment rate reached a peak of 10.4 percent in 2009; however, it has been declining since then. West Tennessee has consistently had a higher unemployment rate than the other Divisions.

1.6. Unemployment Rate for Each of Tennessee's Grand Divisions

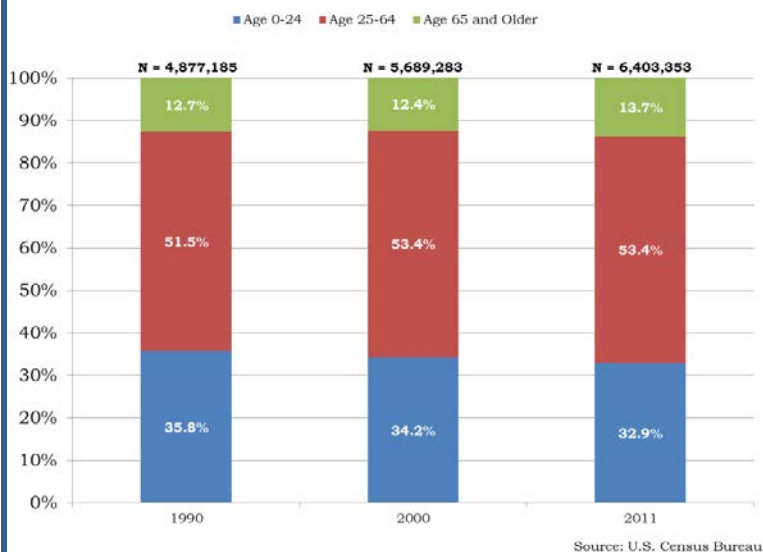


The poverty rate is a key economic and social indicator that denotes inadequacy of family incomes for needed consumption of food and other goods and services. **Figure 1.7** shows that Middle Tennessee has had the lowest poverty rate, while the West has been consistently higher on this indicator than the other Grand Divisions. Figures 1.5 through 1.7 demonstrate a consistent and large disparity in West Tennessee among social strata in the population. That is, West Tennessee consistently outpaces the state average in personal income per capita; yet it also has the highest rates of poverty and unemployment among the Grand Divisions of the state.

1.7. Poverty Rate for Each of Tennessee’s Grand Divisions



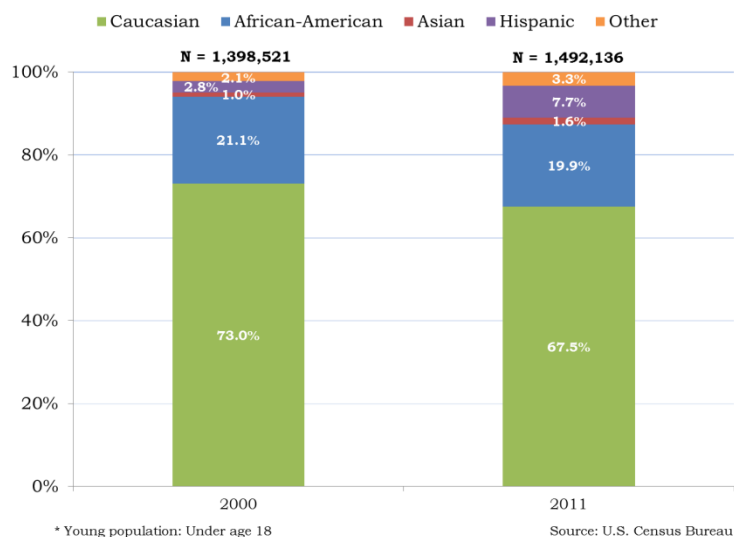
1.8. Changes in Tennessee’s Age Composition



**Figure 1.9** shows changes in the ethnic composition of the population age 18 and younger, potential higher education students, from 2000 to 2011. The share of minority representation has risen dramatically: the Hispanic population grew by almost 194 percent, from 38,899 (less than 3 percent of the young population) in 2000 to 114,298 (over 7.5 percent of the state’s youth) in 2011. Over the same period, the Asian population grew from 14,129 to 23,860, a 69 percent increase, representing now 1.6 percent of the state’s young population. In contrast, the proportion of Caucasians has actually decreased by 5.5 percentage points.

Demographic changes in the state have a direct bearing on student enrollment patterns and student body composition. **Figure 1.8** shows that over the last two decades, the state population has grown perceptibly older: the share of young people has decreased while the proportions of working-age and older individuals have grown. In absolute numbers, though, the size of the young population has grown by 361,790.

1.9. Changes in Racial / Ethnic Composition among Tennessee’s Youth

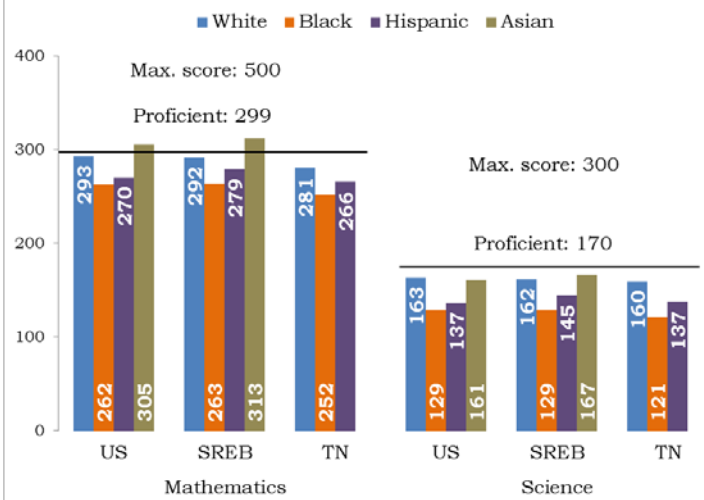




## 2. STUDENT PREPARATION

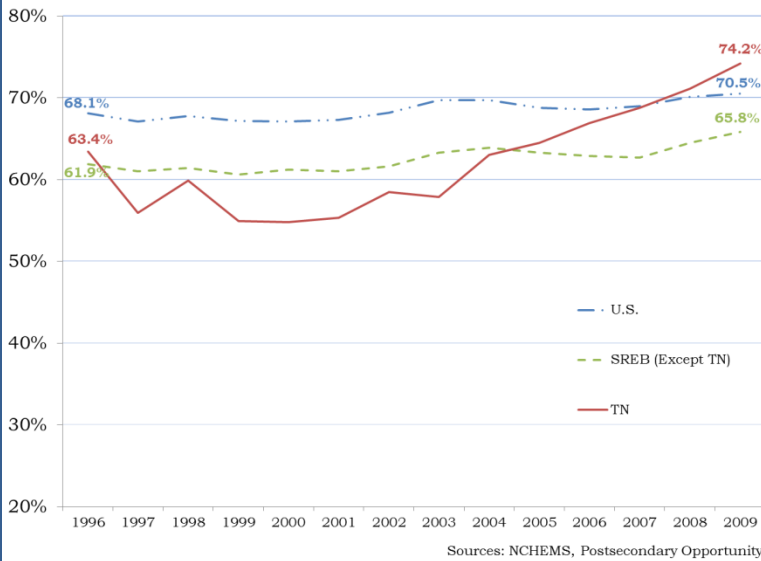
Academic performance of secondary school students is a proper indicator of student readiness for college and a rather reliable predictor of future college success. **Figure 2.1** depicts educational progress of eighth-grade students in the nation, SREB states, and Tennessee, as measured by students' performance on the mathematics and science tests. These tests were conducted in 2011 as part of the National Assessment of Educational Progress. African-American students underperform in comparison to other ethnic groups both in mathematics and science and are thus less prepared for college-level work. Asian students are the best-performing group, but their Tennessee data are not available.

2.1. Educational Progress of 8<sup>th</sup>-graders – NAEP Mathematics and Science Average Scores: US, SREB & TN (2011)



Note: Tennessee data for Asian students did not meet reporting standards. Source: National Assessment of Educational Progress.

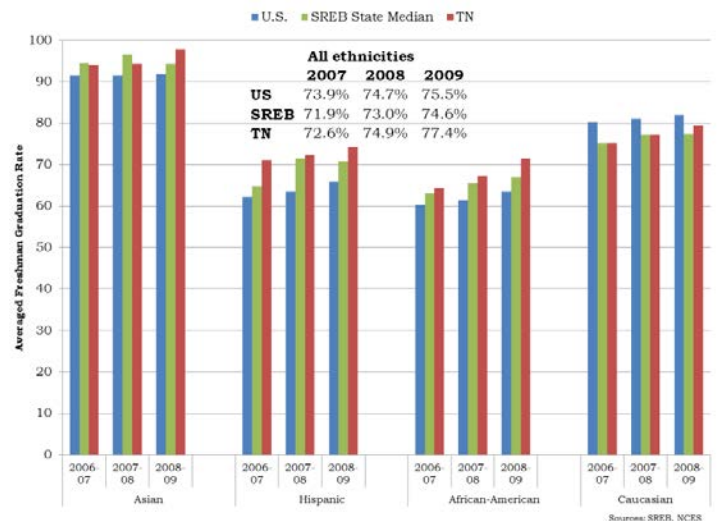
2.2. Public High School Graduation Rate: U.S., SREB states, and Tennessee (1996-97 to 2008-09)



**Figure 2.2** compares public high school graduation rates for the nation, SREB states, and Tennessee. Since 2000, this rate in Tennessee has risen by 19.4 percentage points, surpassing the average of the rest of the SREB states by a large margin. In 2009, the public high school graduation rate in the state reached 74.2 percent, exceeding the national average for the second year in a row.

SREB defines the Averaged Freshman Graduation Rate (AFGR) as an estimate of the percentage of an entering high school freshman class graduating in four years. For all high school students, Tennessee generally is doing better than the national and SREB averages (**Figure 2.3**). However, the AFGR differs by year and ethnic group. Asian students have the highest graduation rate, while African-American and Hispanic students show lower rates. For Caucasian students, Tennessee trails the U.S. average; however for minorities, it outperforms national and SREB averages.

2.3. Averaged Freshman Graduation Rate by Race / Ethnicity (2007-2009)



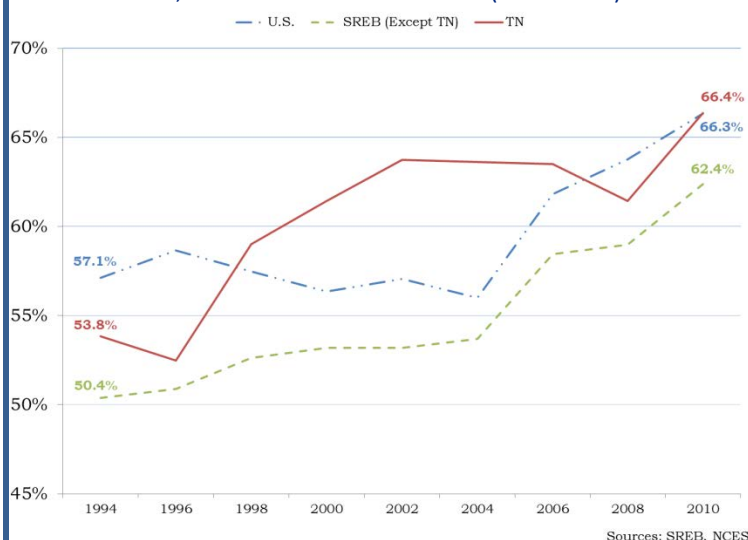
Graduation from a high school does not always guarantee readiness for college-level work. For example, **Figure 2.4** shows that in fall 2011, 38.7 percent of freshmen at Tennessee public institutions required remedial or developmental work. This proportion differs significantly by institutional sector. While only 10.5 percent of university students took remediation classes, almost 69 percent of community college freshmen took these courses. As of fall 2012, Tennessee public universities no longer offer remediation, and some universities started to taper off developmental education as early as fall 2011.

2.4. First-time Freshmen Enrolled in at Least One Remedial or Developmental Course: Tennessee Public Institutions



### 3. STUDENT PARTICIPATION

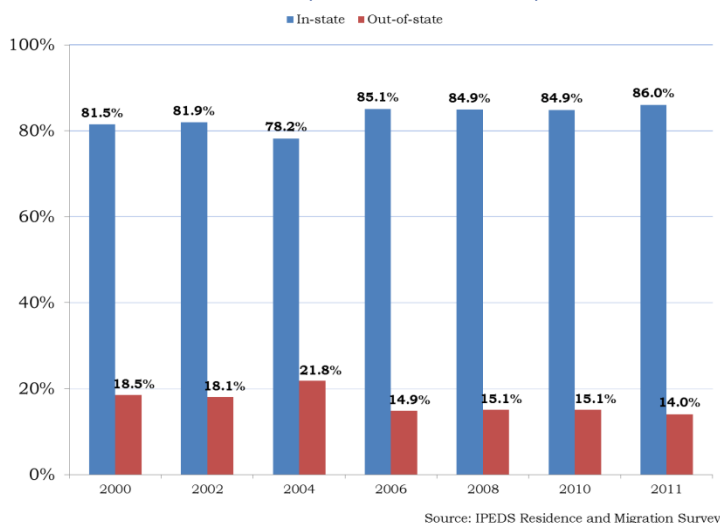
3.1. College-going Rate of Recent High School Graduates: US, SREB States and Tennessee (1994-2010)



**Figure 3.1** presents the college-going rate of recent (within the past 12 months) high school graduates for the nation, SREB states, and Tennessee. The percent of Tennessee’s high school graduates who go on to college immediately after high school has grown from 53.8 percent in 1994 to 66.4 percent in 2010, outpacing the SREB states and reaching the national average after a temporary dip in performance on this indicator in 2007 and 2008.

One of the key goals of the Tennessee Education Lottery Scholarship (TELS) program is to retain the best and brightest students in the state. **Figure 3.2** shows that since 2004, the year TELS was implemented, a greater percentage of Tennessee high school graduates are enrolling in state institutions. After an initial increase in the proportion of Tennessee high school graduates opting for in-state institutions, this ratio has remained stable over time. In fall 2011, the percent of Tennessee high school graduates staying in the state reached a high of 86 percent.

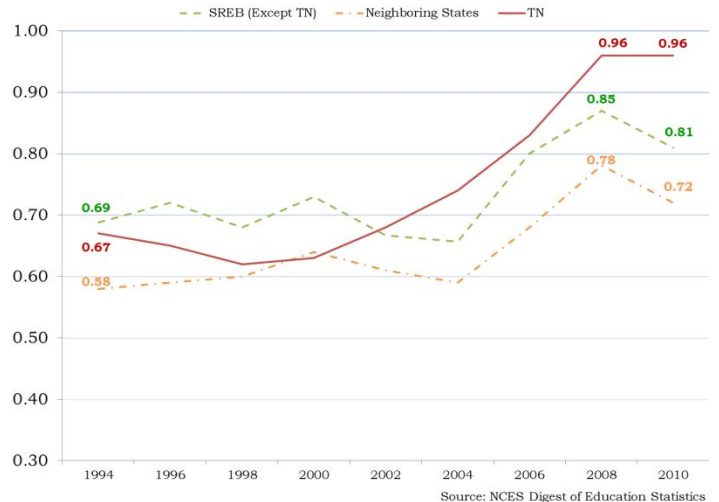
3.2. Destination of College-going Tennessee High School Graduates (Fall 2000 – Fall 2011)



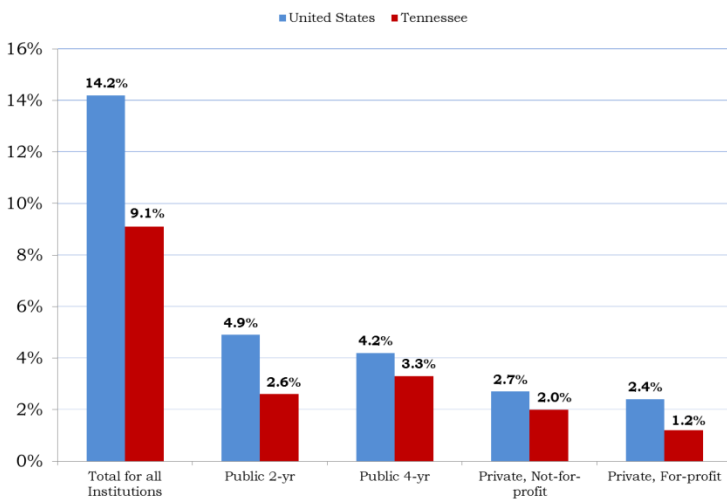


Another measure of student “brain drain” is the ratio of college-bound individuals who leave the state to the number of students moving into the state for college. By this metric, states can be either net exporters or net importers. **Figure 3.3** shows that from 1994 through 2010, Tennessee has remained an importing state: more freshmen were coming in than moving out. However, in recent years, this ratio has been steadily approaching one (i.e., the annual number of state leavers is getting closer to the number of arrivers). Similar trends were observed for the SREB and bordering states, with a reversal in these trends taking place in 2010.

3.3. Freshman Students in Degree-Granting Institutions: Ratio of Out-Migration to In-Migration for Tennessee, Tennessee’s Neighboring States, and SREB (1994-2010)



3.4. Adult Participation Rate: United States and Tennessee (2011) \*

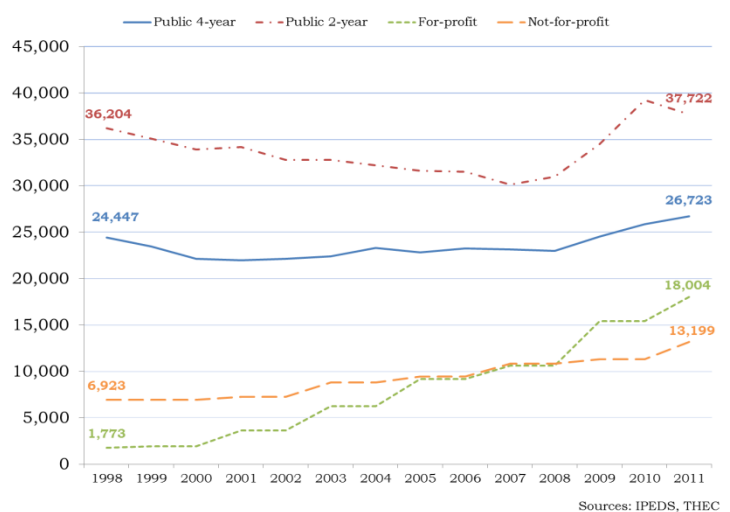


\* Adult enrollment as a percentage of adults 25 and older with a high school diploma but no college. Sources: IPEDS, ACS

**Figure 3.5** displays the enrollment trends of adult students since 1998. Until 2008, adult enrollment declined steadily at Tennessee’s public 2-year institutions but has started to improve since then; however, there was a minor dip in adult enrollment in community colleges in 2011. Alternatively, private institutions have consistently enrolled increasing numbers of adult students over the last decade and a half. From 1998 to 2011, adult enrollment increased by 259 percent at private institutions, with for-profit colleges being the primary contributor to the growth of this sector.<sup>2</sup>

Participation rates of non-traditional aged students in higher education in Tennessee are far below the national average (**Figure 3.4**). In 2011, public and private higher education institutions in the state enrolled just nine percent of adults who had a high school diploma but no college degree, compared to 14 percent nationally. The gap in the adult participation rate in Tennessee and the U.S. differs by institutional sector and is widest at public two-year institutions.

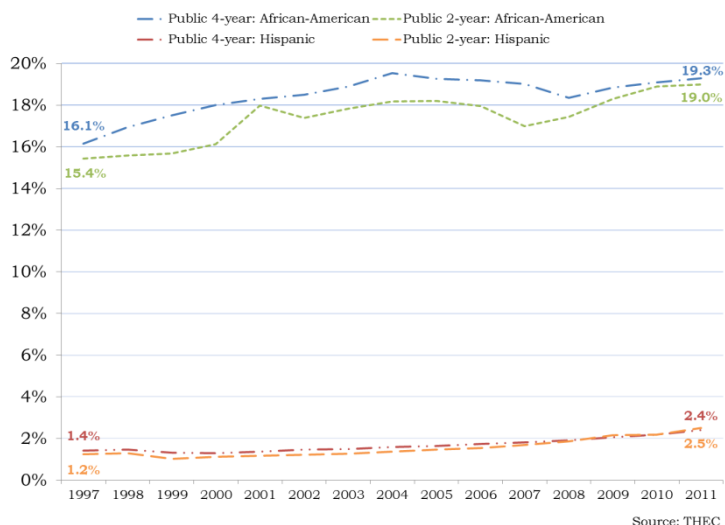
3.5. Undergraduate Enrollment in Tennessee Institutions: 25 Years Old and Above



<sup>2</sup> For-profit institutions’ enrollment data are available for Title IV (Federal Student Aid program) participating institutions only and do not reflect total proprietary enrollment in Tennessee.

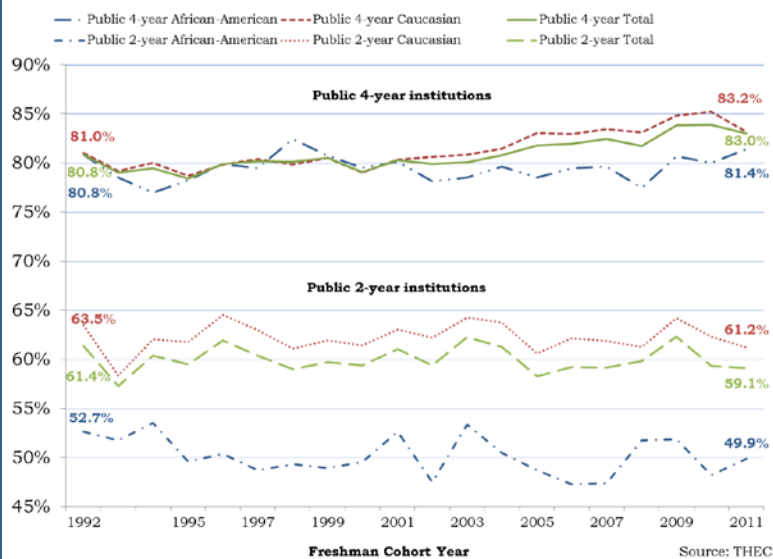
Reflecting the changes in the overall Tennessee population and the subpopulation of young people (Figure 1.9), the race and ethnicity profile of higher education students in the state has gradually changed over time. **Figure 3.6** shows a steady, if small, increase in minority student participation in public higher education. Between 1997 and 2011, the enrollment share of African-American students increased from about 15.5 percent to 19 percent at both public universities and community colleges. The small share of Hispanic students has also steadily increased at both types of institutions.

### 3.6. African-American and Hispanic Student Enrollment Share: Tennessee Public Institutions (1997-2011)



## 4. STUDENT SUCCESS

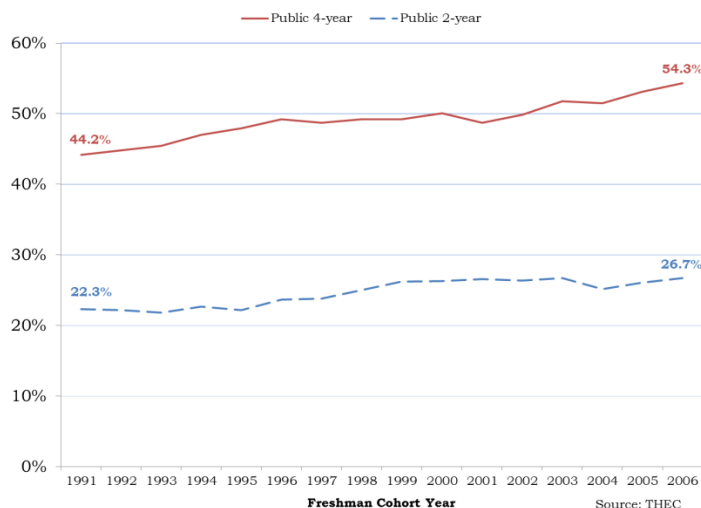
### 4.1. Freshman-to-Sophomore Retention Rate, Tennessee Public Institutions Freshman Cohorts (Fall 1992 – Fall 2011)



**Figure 4.1** demonstrates that the freshman-to-sophomore retention rate at Tennessee’s four-year institutions has increased just slightly over twenty years, from almost 81 percent in 1992 to 83 percent in 2011. In contrast, the average retention rate at community colleges has dropped from 61.4 percent in 1992 to about 59 percent in 2011. A significant gap in retention rates is observed across ethnic groups: African-American students demonstrate lower retention in both institutional sectors than Caucasian students, although their retention rates in the university sector have recently improved and reached 81.4 percent.

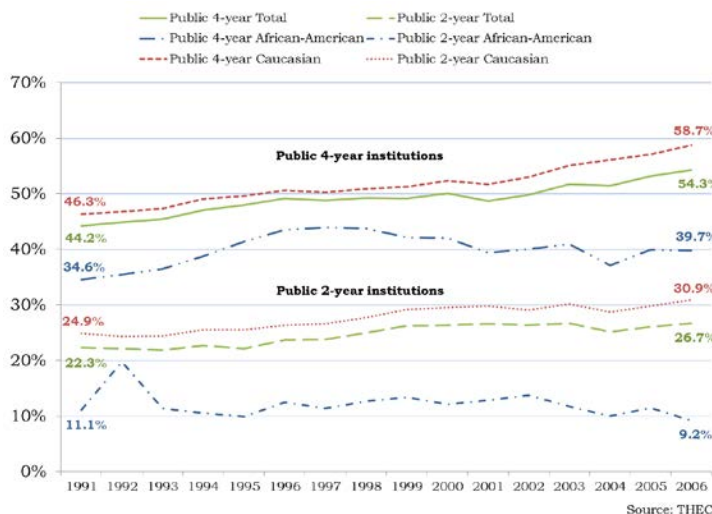
The six-year graduation rate is a measure of student success and institutional productivity. **Figure 4.2** shows this metric for each full-time freshman cohort from 1991 (graduation through 1996-97) through 2006 (graduation through 2011-12). Over the past 15 years, the six-year graduation rate has increased by over 10 percentage points at public universities and 4.4 percentage points at two-year institutions.

### 4.2. Six-year Graduation Rate for Tennessee Public Institutions Freshman Cohorts 1991–2006

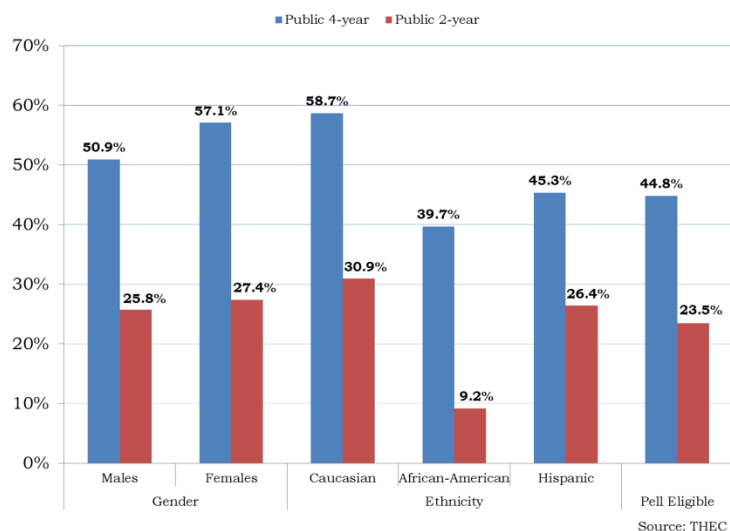


**Figure 4.3** presents six-year graduation rates for freshman cohorts from 1991 through 2006 for Caucasian and African-American students. At public universities and community colleges, Caucasian students perform better than average, while graduation rates for African-American students are below average. These trends have been consistent over time. There has been improvement in the six-year graduation rate for Caucasian students; however, graduation rate among African-American students has increased at universities but has shown no improvement at two-year institutions.

4.3. Six-year Graduation Rate for Tennessee Public Institutions by Race / Ethnicity: Freshman Cohorts 1991-2006



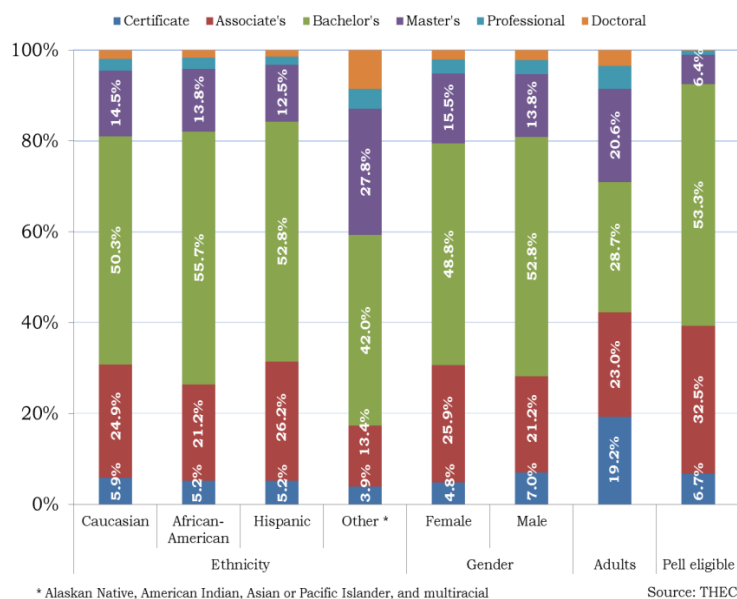
4.4. Six-year Graduation Rate for Tennessee Public Institutions for 2006 Cohort by Gender, Race / Ethnicity, and Pell Eligibility



**Figure 4.4** shows the six-year graduation rate for the 2006 freshman cohort by the following categories: gender, race/ethnicity, and Pell eligibility. For every group of students, graduation at public universities is much higher than at two-year institutions. Females demonstrate better performance than males in all institutional types; Caucasian students have the highest graduation rate, followed by Hispanic and African-American students. The graduation rate of Pell-eligible enrollees averages 34.3 percent for all public institutions in the state and is much lower than the statewide average of 43 percent.

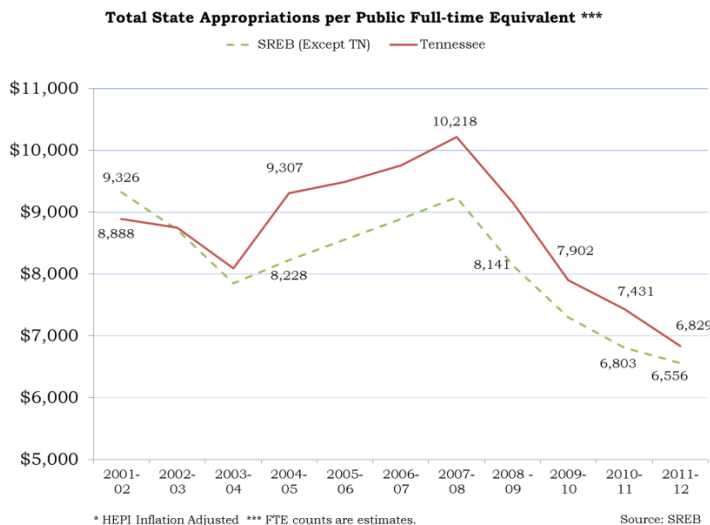
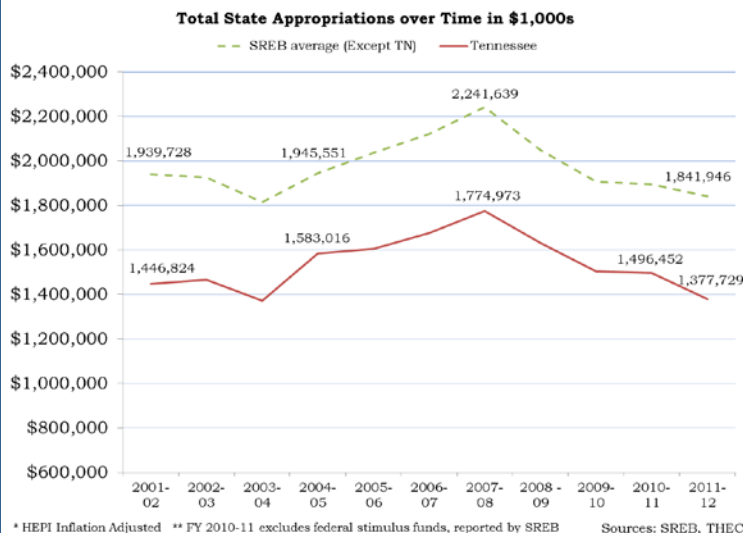
**Figure 4.5** demonstrates the percentage distribution of degrees awarded at public Tennessee institutions in 2011-12 by select student demographics. The most common award across all demographic groups is the bachelor’s degree; the associate’s degree holds the second position. Although, in absolute numbers, Caucasian students earn more awards than the other ethnic groups, and females earn more degrees than males, the percent distribution of awards within each group differs only slightly. For adult students, the share of bachelor’s degrees is smaller than the combined share of certificates and associate’s awards.

4.5. Total Awards by Award Type, Age, Race / Ethnicity, and Pell Eligibility (2011-2012)



### 5. STATE HIGHER EDUCATION FINANCE

#### 5.1. State Appropriations to Public Institutions in Constant 2011 Dollars \*

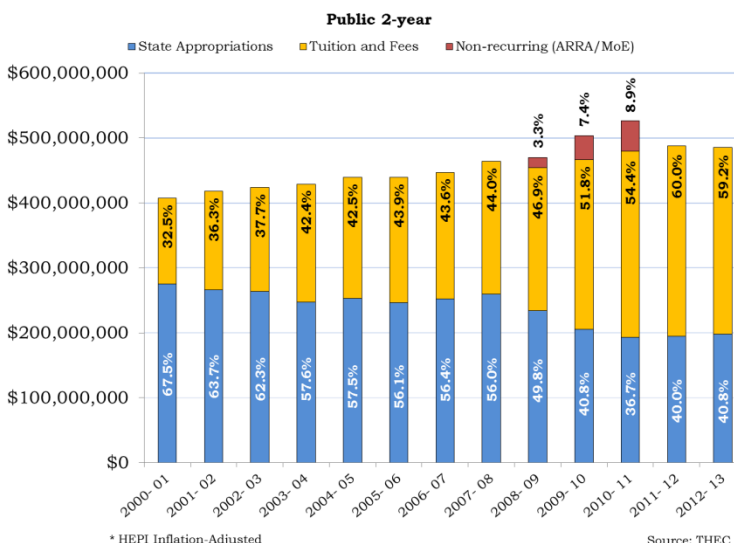
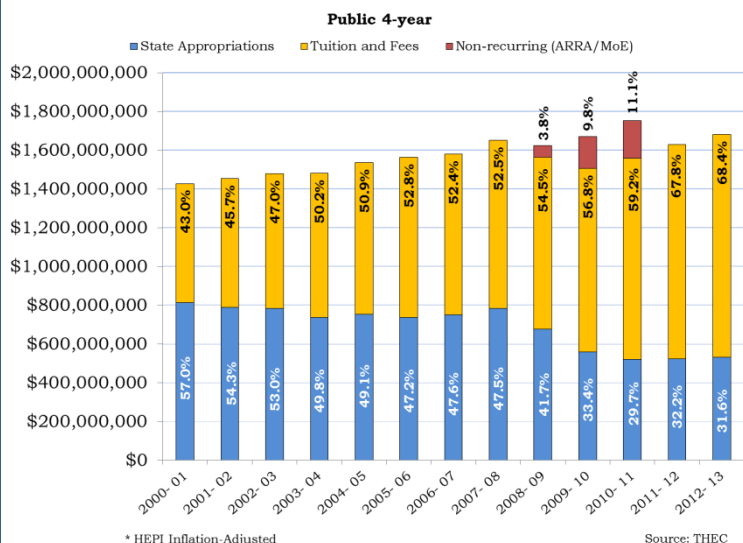


\* HEPI Inflation Adjusted \*\* FY 2010-11 excludes federal stimulus funds, reported by SREB Sources: SREB, THEC

\* HEPI Inflation Adjusted \*\*\* FTE counts are estimates. Source: SREB

Due to the recent recession and increasing competition among the publicly supported functions of government, state support for higher education has dropped (**Figure 5.1**). In gross numbers, Tennessee appropriates less money than the average for other SREB states; however, per full-time equivalent (FTE) student, it has performed above the average for the SREB states. Per-FTE appropriations in Tennessee are higher because Figure 5.1 uses total state appropriations, which include—in addition to funds for the Education and General operations—funds allocated via Tennessee Education Lottery Scholarship, funds for medical and health programs, and other special-purpose allocations.

#### 5.2. Total Revenue of Public Institutions in Constant 2012 Dollars \*



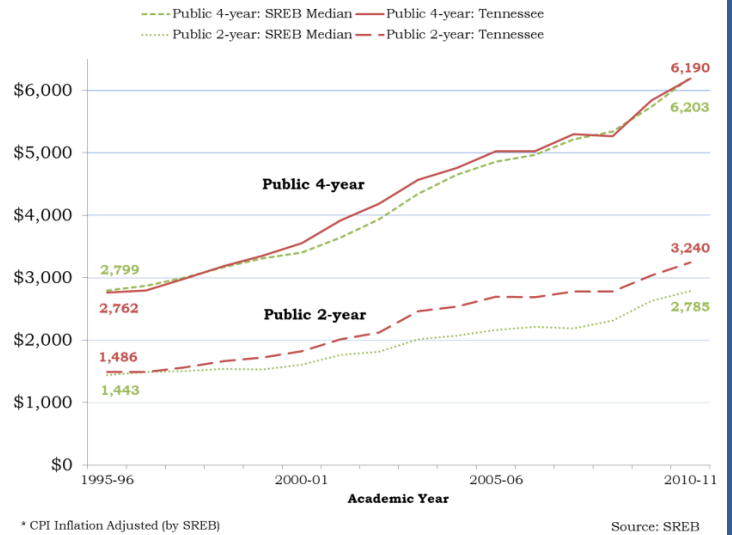
\* HEPI Inflation-Adjusted Source: THEC

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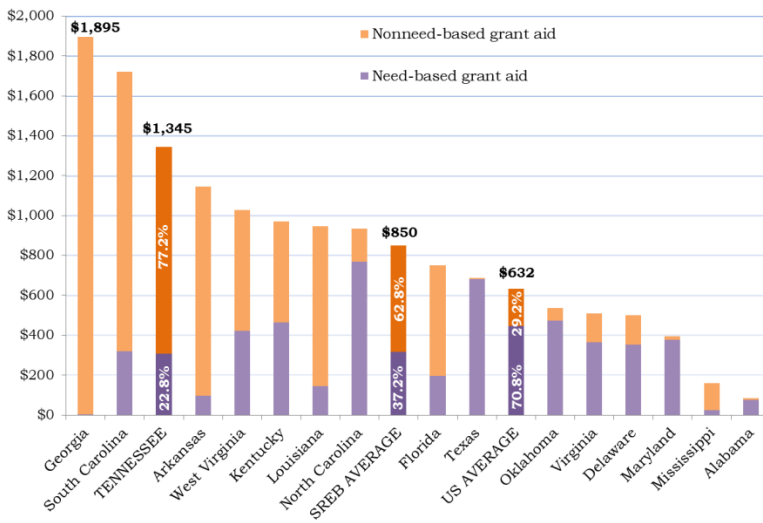
**Figure 5.2** indicates the continuing gradual shift in the make-up of institutional revenue of public 4- and 2-year institutions in Tennessee. It shows total revenue by two major categories: state appropriations and student fees. The revenue structure of public colleges has been changing in the past two decades: For both public sectors, state appropriations represent a smaller share of total institutional revenue, while tuition and fees grow in importance for institutional fiscal sustenance.

Tuition increases have taken place across all institutional types, with public universities raising their tuition and fees at a faster rate than two-year institutions. **Figure 5.3** demonstrates that, on average, changes in the median university tuition in Tennessee have been in step with the rise of average tuition across the SREB states. However, for public two-year institutions, annual tuition charges in Tennessee have outpaced the average median tuition of other SREB states.

5.3. Median Annual Tuition in Constant 2010 Dollars

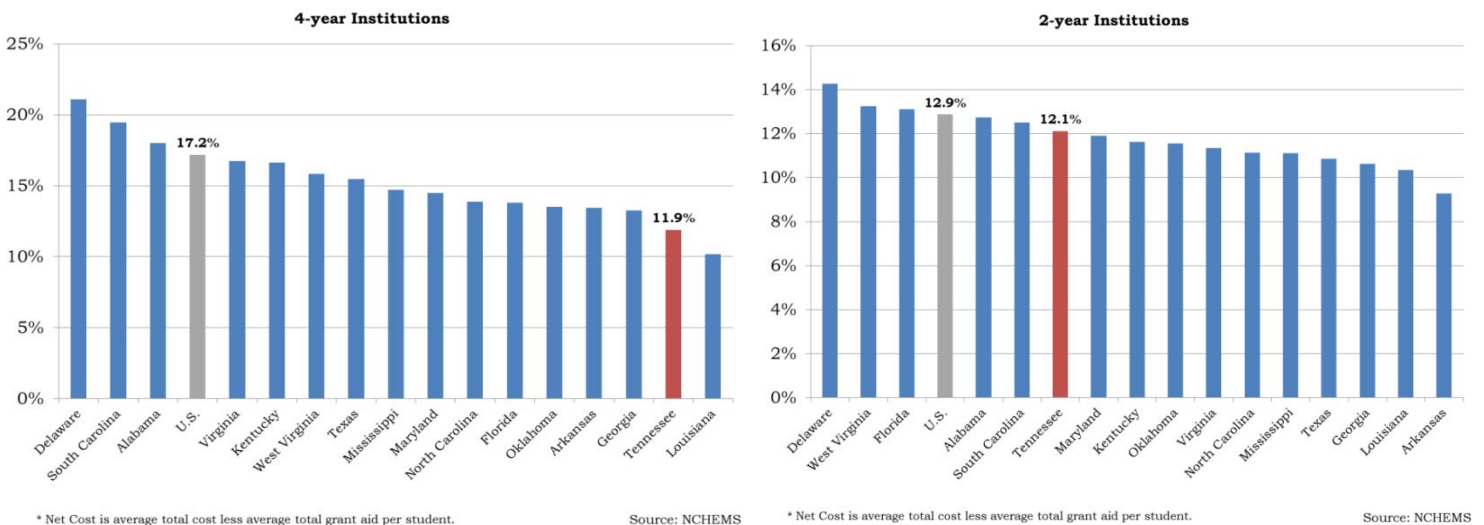


5.4. Total State Grant Aid (Need and Non-need) per Public and Private Undergraduate FTE (2010-2011)



**Figure 5.4** shows the total amount of state grant aid money (both need- and nonneed-based) for the SREB states and presents the average values for SREB and the nation. In 2010-11, Tennessee ranked third nationally and among the SREB states in the amount of grant aid per full-time equivalent (FTE) undergraduate student. This remarkable progress from Tennessee’s 32<sup>nd</sup> position in 2003 may be largely attributable to the creation of the Tennessee Education Lottery Scholarship (TELS) program. However, less than 23 percent of state grant aid is need based.

5.5. Net Cost of Attendance as a Percent of Median Family Income (2010) \*



The net cost of college as a percent of median family income is a telling indicator of higher education affordability. **Figure 5.5** shows that public higher education in Tennessee remains comparatively affordable. In addition, availability of TELS awards brings higher education within reach of more Tennesseans.

## CONCLUSION

From any perspective – longitudinal, regional, or national – Tennessee has made strides in the performance of its postsecondary institutions relative to degree efficiency and credential attainment. While this is to be applauded, there is room for improvement. Persistence and graduation rates can and must increase, and the variation in performance between institutions must decrease. Tuition and financial aid policies that put postsecondary attainment within reach for a broader swath of Tennesseans must become a priority for policy makers and institutional leaders. The unique challenges faced by low-income, first-generation, and adult students must be addressed in ways that close performance gaps for these underserved populations. Growth in the population of Hispanic youth will move the academic performance of this population to center stage in the coming decade. College affordability and the ability of postsecondary institutions to sustain recent productivity gains in the face of dwindling state operating appropriations will demand that funding partnerships involving state, local, and private entities continue to develop. Tennessee's success in addressing these challenges will in large part determine its future economic competitiveness and the quality of life for its citizens.