Tennessee’s Fiscal Condition is Solid as the US Economy Strengthens

William F. Fox, Director
August 28, 2018
Among the Things UT Produces

• Trained Labor Force
• Research and Creativity
• Culture and Entertainment
Continued Importance of Education is Apparent

Unemployment Rate (%)

- Less than a high school diploma: 6.5%
- High school diploma: 4.6%
- Some college, no degree: 4.0%
- Associate's degree: 3.4%
- Bachelor's degree: 2.5%
- Master's degree: 2.2%
- Doctoral degree: 1.5%
- Professional degree: 1.5%

Median Weekly Earnings ($)

- Less than a high school diploma: $520
- High school diploma: $712
- Some college, no degree: $774
- Associate's degree: $836
- Bachelor's degree: $1,173
- Master's degree: $1,401
- Doctoral degree: $1,743
- Professional degree: $1,836

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$575M Payroll & benefits spending

$636M Goods & services spending

$288M Student & visitor spending
$1.7 Billion

Annual impact on the state’s economy
10,088
UT employees

35,232
Full-time jobs in Tennessee supported by UT spending
$166 Million
In state and local tax revenue
The Current Expansion is Long on Historical Standards
Potential political factors influencing the economy

- Recessions almost always self-inflicted
- Rapidly rising deficits
- Tightening monetary policy
- Tariffs and the possibility of a trade war
- Oil price spikes and war
GDP Continues to Rise, though Slowly

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Recent federal legislation and tariffs increased growth – for how long?

![Annualized Real GDP Growth in Q2 2018]

- Growth From Legislation: 0.8%
  - 0.3% 2018 Spending Deal
  - 0.3% 2017 Tax Law
  - 0.2% Other Legislation
  - 0.6% Estimated Growth from Chinese Pre-Purchases of Soybeans
- Illustrative Base Growth: 2.7%
Employment growth rate is slowly stepping down over time.
Investment may respond to tax reform over time, but limited evidence so far
Consumers are Driving the Expansion

[Line graph showing percentage change (same quarter previous year) from 1993:3 to 2018:2.]
E-Commerce Sales are Growing Very Rapidly
Above 65 Population Rising Rapidly

<table>
<thead>
<tr>
<th>Year</th>
<th>Under 18 years</th>
<th>18 to 64 years</th>
<th>65 years and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>25.7</td>
<td>61.8</td>
<td>12.5</td>
</tr>
<tr>
<td>2000</td>
<td>25.7</td>
<td>61.9</td>
<td>12.4</td>
</tr>
<tr>
<td>2010</td>
<td>24.0</td>
<td>63.0</td>
<td>13.1</td>
</tr>
<tr>
<td>2017</td>
<td>22.7</td>
<td>61.7</td>
<td>15.6</td>
</tr>
<tr>
<td>2030</td>
<td>22.5</td>
<td>57.5</td>
<td>20.0</td>
</tr>
</tbody>
</table>
Creation of Housing Units has Slowed Dramatically

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Household Formation Slowing Among the Young

- Young Adults (under 30)
- Older Adults (65+)

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Housing Sales Rising but very Low for an Expansion

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Birth rates are lower for Mothers Under 30

(Birth rates per thousand by mother age)

<table>
<thead>
<tr>
<th>Age Band</th>
<th>2007 Birth Rate Per Thousand</th>
<th>2016 Birth Rate Per Thousand</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>42.5</td>
<td>20.3</td>
</tr>
<tr>
<td>18-19</td>
<td>73.9</td>
<td>37.5</td>
</tr>
<tr>
<td>20-24</td>
<td>106.3</td>
<td>73.8</td>
</tr>
<tr>
<td>25-29</td>
<td>117.5</td>
<td>102.1</td>
</tr>
<tr>
<td>30-34</td>
<td>99.9</td>
<td>102.7</td>
</tr>
<tr>
<td>35-39</td>
<td>47.5</td>
<td>52.7</td>
</tr>
<tr>
<td>40-44</td>
<td>9.5</td>
<td>11.4</td>
</tr>
</tbody>
</table>
Population 65 Years and Older, 2017

U.S. Average: 15.6%

Less than 15.6%
15.6% to 16.9%
17.0% to 18.9%
19.0% to 19.7%
Greater than 19.7%
Light Vehicles Sales at Expansion Peak, but slowly Falling

[Graph showing unit sales over time, with a peak in 2001 and a slow decline thereafter.]
Autos are a Significant Share of Total Taxes Collected in Southeastern States, 2016

*Georgia collects a Title Ad Valorem Tax instead of a Sales Tax on Automobiles*
Deficits Rise Rapidly in the Future (billions)

Source: IHS

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Aging Society and Interest Costs Raise Federal Spending from 21% to 29% of GDP in 2048

Source: Congressional Budget Office, *The 2018 Long-Term Budget Outlook*, June 26, 2018, Figure 6.
Interest Rates and Inflation are Beginning to Rise
Treasury Yield Curve

Interest Rate, in Percent

- 3-Months
  - August 8, 2017: 1.06
  - August 28, 2018: 2.12

- 6-Months
  - August 8, 2017: 1.16
  - August 28, 2018: 2.26

- 1-Year
  - August 8, 2017: 1.24
  - August 28, 2018: 2.46

- 2-Years
  - August 8, 2017: 1.36
  - August 28, 2018: 2.67

- 5-Years
  - August 8, 2017: 1.84
  - August 28, 2018: 2.77

- 10-Years
  - August 8, 2017: 2.29
  - August 28, 2018: 2.88
TN Employment has Generally Grown Faster than the Nation for the past 4 years
Tennessee Unemployment Rate now much Lower than the US Rate

Unemployment rate (%)

Tennessee

U.S.

June-18

4.0

June-18

3.5

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Labor Force Participation Rates Show Signs of a Turnaround


June-18 62.9
June-18 60.8

# Full Recovery from the Great Recession in Most Sectors
(Tennessee, June 2018 as a Share of December 2007)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional &amp; Business Services</td>
<td>129.4%</td>
</tr>
<tr>
<td>Leisure &amp; Hospitality</td>
<td>123.8%</td>
</tr>
<tr>
<td>Education &amp; Health Services</td>
<td>123.4%</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>111.3%</td>
</tr>
<tr>
<td>Total Nonfarm</td>
<td>109.5%</td>
</tr>
<tr>
<td>Other Services</td>
<td>109.3%</td>
</tr>
<tr>
<td>Trade, Transportation, Utilities</td>
<td>102.8%</td>
</tr>
<tr>
<td>Government</td>
<td>102.7%</td>
</tr>
<tr>
<td>Information</td>
<td>95.3%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>94.0%</td>
</tr>
<tr>
<td>Mining, Logging, Construction</td>
<td>92.7%</td>
</tr>
</tbody>
</table>

MSA Nonfarm Employment Growth
(Quarter Ending June 2016 to June 2017)

Chattanooga: 2.6%
Jackson: 2.6%
Nashville-Davidson–Murfreesboro–Franklin: 2.2%
Cleveland: 1.9%
TENNESSEE: 1.8%
Memphis, TN-MS-AR: 1.6%
Morristown: 1.4%
Clarksville: 0.8%
Kingsport-Bristol-Bristol, TN-VA: 0.5%
Knoxville: 0.5%
Johnson City: -0.9%
TN Per Capita Income has Been Falling as a Percent of the U.S.
Per Capita Personal Income Falling in Most Parts of the State, but not Nashville

![Graph showing the share of U.S. per capita personal income for different MSAs from 1970 to 2016. The graph compares the income share of Chattanooga MSA, Knoxville MSA, Memphis MSA, and Nashville MSA over time.]
Tennesseans Have Lower Educational Attainment Levels, but Progress Being Made

<table>
<thead>
<tr>
<th></th>
<th>High school graduates or higher</th>
<th>Bachelor’s degree or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of the population aged 25 years and older</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>80.9 84.1 87.5</td>
<td>21.7 27.0 31.3</td>
</tr>
<tr>
<td></td>
<td>84.2 85.9 87.0</td>
<td>23.6 28.5 26.1</td>
</tr>
<tr>
<td></td>
<td>87.0</td>
<td>30.0</td>
</tr>
</tbody>
</table>

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Tennessee 9th Grade Pipeline

For every 100 ninth-graders in Tennessee:

- 86 graduate high school in four years
- 56 enroll in a postsecondary institution
- 23 graduate college within six years of high school
Tennessee Population Growth Fastest around Nashville, 1990–2017

Tennessee: 1.15%
United States: .97%

*compound annual growth rate
Tennessee is Suburbanizing, though Better Growth in the Larger Cities, 2010–2017

- Education
- Health & Social Services
- Other
University of Tennessee Allocation Above Previous Peak

Total Allocations, $millions

State and Tuition/Fees Allocations, $millions

- Total
- State
- Tuition/Fees

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Board of Regents Allocation Above Previous Peak

[Graph showing allocation amounts from 2007 to 2019, with categories for Total, State, and Tuition/Fees.]
The graph shows the percentage of S & L tax revenue as a share of the economy for different states in the United States. The state of Tennessee has a tax revenue share of 8.2%, which is lower than the national average of 10.6%. The map is color-coded to indicate different ranges of tax revenue shares: 8.0% or less (1 state), 8.0% to 10.0% (21 states), 10.0% to 12.9% (25 states), and 13.0% and greater (4 states).
Tennessee Tax Revenues are Falling Relative to the Economy
TN Tax Revenues Reduced by Tax Cuts during Haslam administration

- Inheritance and gift taxes eliminated - $110 million
- Hall Income Tax eliminated - $300 million
- Sales tax on food - $350 million
- Corporate taxes - $115 million
Corporate Tax Revenues are a Very Large Share of Tennessee Taxes, 2017

U.S. = 5.4%
Tennessee = 18.7%

5.4% or less (33)
5.4% to 18.7% (16)
18.7% or greater (2)

[includes D.C.]
Tennessee Prepared Relatively well for a Recession

• $2 Billion in Reserves
• $600 million of this year’s spending is non-recurring expenditures
• But,
  • Taxes are volatile
  • Effects of downturn last 5 years
  • Federal bailout is unlikely
The Sales Tax is More Volatile than Personal Income

[Graph showing the comparison between Sales Tax Growth and Personal Income Growth over fiscal years 2005 to 2016]
State Budget Highly Dependent on Transactions Taxes, FY2018-19

- Sales Tax 54¢
- Gross Receipts & Privilege 5¢
- Franchise & Excise 15¢
- Gasoline Taxes 7¢
- Motor Vehicle 2¢
- Income & Inheritance 1¢
- Insurance & Banking 6¢
- All Other Taxes 10¢