# **An Analysis of**

An Economic Report to the Governor of the State of Tennessee

# A Report to the State Funding Board

prepared by

Dr. Dan Cohen-Vogel, Staff Economist Richard Gurley, Legislative Research Intern

Offices of Research and Education Accountability Comptroller of the Treasury

**April 2001** 

# **Table of Contents**

| INTRODUCTION  | 3  |
|---|----|
|   |    |
| GROSS DOMESTIC PRODUCT                                | 4  |
| Inflation   | 5  |
| UNEMPLOYMENT RATE AND JOB GROWTH                      | 5  |
| TENNESSEE FORECAST (AND RECENT TRENDS)                | 6  |
| GROSS STATE PRODUCT                                   | 6  |
| Nominal Personal Income                               | 6  |
| OTHER MEASURES OF PERSONAL INCOME                     | 7  |
| PERSONAL INCOME FORECAST ERROR                        | 8  |
| SALES TAX BASE AND COLLECTIONS                        | 8  |
| UNEMPLOYMENT RATE AND JOB GROWTH                      | 10 |
| RECENT ECONOMIC DEVELOPMENTS                          | 11 |
| IMPLICATIONS FOR THE STATE BUDGET                     | 12 |
| APPENDICES  | 14 |
| APPENDIX A: MAPS                                      | 14 |
| APPENDIX B: CHARTS                                    | 18 |
| APPENDIX C: STATUTORY REQUIREMENTS                    | 21 |
| TENNESSEE CONSTITUTION— ARTICLE II, § 24 (EXCERPT)    | 21 |
| TCA §9-4-5201   | 21 |
| TCA §9-4-5202   | 21 |
| TCA §9-4-5203 (EXCERPT)                               | 22 |
| APPENDIX D: YEARS APPROPRIATIONS HAVE EXCEEDED GROWTH | 23 |
| APPENDIX E: PERSONAL INCOME DEFINITION                | 24 |
| REFERENCES  | 25 |

# **List of Tables**

| TABLE 1 - FORECAST COMPARISON: 2001 NOMINAL GDP GROWTH                       | 4 |
|--|---|
| TABLE 2 - REAL GDP GROWTH BY QUARTER: 2000-2001                              | 4 |
| TABLE 3 - FORECAST COMPARISON: 2001 INFLATION                                | 5 |
| TABLE 4 - FORECAST COMPARISON: 2001 UNEMPLOYMENT RATE                        | 5 |
| TABLE 5 - ANNUAL REAL GSP GROWTH: 2000-2002                                  | 6 |
| TABLE 6 - FORECASTED TENNESSEE NOMINAL PERSONAL INCOME GROWTH: 2001          | 6 |
| TABLE 7 - DIFFERENT MEASURES OF TENNESSEE PERSONAL INCOME GROWTH: 2000-2001. | 7 |
| TABLE 8 - TENNESSEE NOMINAL PERSONAL INCOME FORECAST ERRORS: 1990-2000       | 8 |
| TABLE 9 - DIFFERENT MEASURES OF TENNESSEE TAXABLE SALES GROWTH: 2000-2001    | 9 |
| TABLE 10 - NONAGRICULTURAL JOB GROWTH: 1999-20021                            | 0 |

#### Introduction

Each year the Center for Business and Economic Research (CBER) at the University of Tennessee publishes *An Economic Report to the Governor of the State of Tennessee*. The report contains forecasts for key economic variables and commentary on the extent to which changes in these variables may affect local, state, and national economies. CBER uses the national economic forecasts of Wharton Econometric Forecasting Associates (WEFA) for its national-level data; the forecast and analysis for Tennessee are derived from the Tennessee Econometric Model (TEM). In addition, three other models are applied in the development of the agricultural component of the Tennessee economic forecasts.

Statute requires the Tennessee State Funding Board to comment on the reasonableness of the forecasted growth rate of the state's economy, as measured by the growth rate of nominal personal income in Tennessee. (Appendix C) The State Funding Board uses the forecasted growth rate as a basis for determining the potential increase in appropriations from state tax revenues for the next fiscal year. The purpose of this analysis is to assist the Tennessee State Funding Board in its consideration of CBER's forecasts for the Tennessee economy in 2001 by highlighting, elaborating on, and critiquing various points in CBER's report.

The next two sections of this report summarize CBER's forecasts for the U.S. economy (based on the WEFA forecasts) and the Tennessee economy, presenting those forecasts within a frame of other related economic trends and predictions made by other organizations. The concluding section highlights some key issues raised both by the CBER report and by other observations of the state's economy.

**Gross Domestic Product (GDP).** CBER's forecast for average nominal

GDP growth in 2001 is 5.4 percent. CBER's forecasts for nominal GDP growth in 2001 are on the high end of the spectrum of sampled forecasts. Its forecast for nominal GDP growth is one percentage point above the average of the forecast sample.

CBER's estimate for average real (i.e., inflationadjusted) GDP growth for 2000 is 5.2 percent, expected to decline to 3.2 percent in 2001 and then up again to 3.5

| Forecast Comparison: 2001  Nominal GDP Growth |      |               |  |
|---|------|---------------|--|
| Agency Rate Forecast                          |      |               |  |
| CBER (WEFA)                                   | 5.4  | Date<br>12/00 |  |
| СВО   | 5.0  | 1/01          |  |
| Fannie Mae                                    | 4.4  | 4/01          |  |
| Northern Trust                                | 4.4  | 4/01          |  |
| Philadelphia FRB                              | 4.3  | 2/01          |  |
| First Union                                   | 3.8  | 4/01          |  |
| Michigan-RSQE                                 | 3.7  | 3/01          |  |
| IMF   | 3.5  | 4/01          |  |
| Forecast Average                              | 4.31 |               |  |
| Forecast Range: Low                           | 3.5  |               |  |
| Forecast Range: High                          | 5.4  |               |  |

percent in 2002. CBER expects slower growth indicated in the latter three quarters' forecasts to bring down the annual average from an expected strong start early in 2001.

As was the case with nominal GDP growth, CBER's estimate of real GDP growth appears high. Actual annualized real GDP growth in the first

| Real         | Real GDP Growth by Quarter: 2000-01 (96\$)  CBER (WEFA) Forecast |            |            |            |              |
|--------------|--|------------|------------|------------|--------------|
| 2000<br>Avg. | 2001<br>Q1   | 2001<br>Q2 | 2001<br>Q3 | 2001<br>Q4 | 2001<br>Avg. |
| 5.2%         | 3.6%   | 3.1%       | 3.1%       | 3.2%       | 3.2%         |

Table 2

quarter of 2001 was 2.0 percent, well below CBER's estimate of 3.6 percent. Unless growth increases dramatically later in the year, real GDP growth will fall short of CBER's forecast.

<sup>&</sup>lt;sup>1</sup> Recent projections are likely to be more accurate. The average rate of growth projected by the five most recent sources is 4.0 percent.

**Inflation.** In 2001, CBER expects a 2.1 percent rate of inflation as measured by the Implicit GDP Deflator, and 2.2 percent as measured by the Personal Consumption Deflator. These numbers, while slight increases over recent years, are still low by historic standards.

CBER's forecast for the Implicit GDP Deflator is just slightly below the average among the sampled forecasts (shown on Table 2). According to CBER, the Implicit GDP Deflator was 2.1 percent in 2000 while

| Forecast Comparison: 2001 Inflation (GDP Deflator) |      |                  |  |
|--|------|------------------|--|
| Agency   | Rate | Forecast<br>Date |  |
| Northern Trust                                     | 2.5  | 4/01             |  |
| СВО  | 2.3  | 1/01             |  |
| Fannie Mae   | 2.2  | 4/01             |  |
| First Union  | 2.1  | 4/01             |  |
| Philadelphia FRB                                   | 2.1  | 2/01             |  |
| CBER (WEFA)  | 2.1  | 12/00            |  |
| IMF  | 2.0  | 4/01             |  |
| Michigan-RSQE                                      | 1.9  | 3/01             |  |
| Forecast Average                                   | 2.15 |                  |  |
| Forecast Range: Low                                | 1.9  |                  |  |
| Forecast Range: High                               | 2.3  |                  |  |

the Personal Consumption Deflator was 2.5 percent. CBER projects an Implicit GSP Deflator of 2.8 percent for Tennessee in 2000, well above the U.S. Implicit GDP Deflator.

#### **Unemployment Rate and Job Growth.** The CBER forecast for U.S.

unemployment in 2001 and 2002 are 4.4 percent and 4.5 percent, respectively. CBER expects slight increases in unemployment in 2003 and beyond, with U.S. unemployment forecasted to rise to 4.8 percent at the end of the decade. As

was the case with CBER's inflation forecast, CBER's forecast of 4.4 percent for U.S. unemployment in 2001 is just below average among the sampled forecasts.

Similarly, CBER expects U.S. nonagricultural job growth to decline from 2.1 percent in 2000 to 1.2 percent in 2001, rising only slightly again in 2002.

| Forecast Comparison: 2001 |           |          |  |
|---------------------------|-----------|----------|--|
| Unemployme                | ent Rate  |          |  |
| Agency                    | Rate      | Forecast |  |
|                           |           | Date     |  |
| Michigan-RSQE             | 4.6       | 3/01     |  |
| First Union               | 4.5       | 4/01     |  |
| Northern Trust            | 4.5       | 4/01     |  |
| CBO                       | 4.4       | 1/01     |  |
| Philadelphia FRB          | 4.4       | 2/01     |  |
| CBER (WEFA)               | 4.4       | 12/00    |  |
| IMF                       | 4.4       | 4/01     |  |
| Fannie Mae                | 4.4       | 4/01     |  |
| Forecast Average          | rage 4.45 |          |  |
| Forecast Range: Low       | 4.4       |          |  |
| Forecast Range: High      | 4.6       |          |  |

#### **Tennessee Forecast (and Recent Trends)**

*Gross State Product (GSP).* CBER projects Tennessee's real GSP to have increased 3.7 percent in 2000, as compared to just under 5.2 percent for U.S. GDP. This projected GSP growth rate in Tennessee is a slight increase from 3.5 percent in 1999. CBER forecasts that Tennessee real GSP will rise slightly in

2001, growing 3.1 percent. By comparison, CBER's forecasted U.S. GDP growth rate in 2001 is 3.2 percent.

Per-capita real GSP growth in Tennessee is expected to slow, however, from 2.7 percent in 2000 to 2.0 percent in 2001. From that point, CBER projects Tennessee per-capita

| Annual Real GSP Growth:<br>2000-2002 (96\$)<br>CBER Forecast |      |       |  |
|--|------|-------|--|
| 2000   | 2001 | 2002  |  |
| 3.7%   | 3.1% | 3.4 % |  |

Table 5

GSP growth will remain above 2.0 percent for the remainder of the decade. CBER forecasts Tennessee per-capita real GSP growth at an average of 2.6 percent from 2000 to 2009, compared to the U.S. average per-capita real GDP forecast of 2.5 percent for that period.

Nominal Personal Income. CBER expects nominal personal income in

Tennessee to increase 5.4 percent in 2001. Comparatively, U.S. nominal personal income growth is projected to be 5.5 percent in 2001, down from an estimate of 6.4 percent for 2000.

The forecast for individual components of nominal personal income in 2001 indicates that transfer payments will be the fastest growing component. CBER's ten-year annual forecast shows wages and salaries to be increasing in a relatively stable trend, generally around six percent

| Forecasted Tennessee Nominal Personal Income Growth: 2001 CBER Forecast |     |  |  |
|---|-----|--|--|
| Wages and Salaries  | 5.1 |  |  |
| Other Labor Income  | 4.2 |  |  |
| Proprietors' Income   | 4.7 |  |  |
| Rent, Interest &  | 5.8 |  |  |
| Dividends   |     |  |  |
| Transfer Payments   | 6.9 |  |  |
| Total   | 5.4 |  |  |

Table 6

per year. Since that component comprises nearly 60 percent of total personal income, and since the second largest component of personal income (transfer payments) is expected to grow at similar rates, the CBER forecasts show a fairly steady increase in personal income over the coming decade. The long-

term outlook is that overall nominal personal income will average over six percent per year through 2009.

Similar to CBER's data, the Federal Reserve Bank of Atlanta showed fairly strong personal income growth in Tennessee for fiscal year 1998-99. However, the Atlanta Fed also showed Tennessee's personal income growth lagging behind both the Southeast and U.S. averages for that period. This is in contrast to recent history. From 1970 to 1998 Tennessee's per-capita personal income rank nationally improved from 42<sup>nd</sup> to 34<sup>th</sup>.

Other Measures of Personal Income. CBER also forecasts growth estimates for other measures of personal income. For the purposes of projecting the capacity of income growth to support (through taxes) the state's fiscal needs, it makes sense to examine per-capita real personal income growth. That measure more accurately explains the growth in tax capacity (e.g., purchasing power) due to personal income growth by accounting for population growth and inflation. Table 7 shows that per-capita real personal income growth is projected to slow from 2.2 percent in 2000 to 2.1 percent in 2001.

| Different Measures of Tennessee Personal Income Growth CBER Forecast |      |      |  |
|--|------|------|--|
| Measure  | 2000 | 2001 |  |
| Nominal personal income  | 5.8  | 5.4  |  |
| Inflation-adjusted personal income                                   | 3.2  | 3.2  |  |
| Inflation-adjusted per-capita personal income                        | 2.2  | 2.1  |  |

Table 7

by county in 1998 (the most recent year for which county-level personal income data are available). Among other things, it shows that the highest per-capita personal income levels were in the four largest metropolitan areas, with the Middle Tennessee counties of Williamson and Davidson ranking first and second, respectively, followed by Shelby, Hamilton, Knox, and Rutherford Counties. Lake County had the lowest per-capita personal income, followed by Hancock, Johnson, Morgan and Union Counties.

Map 2 (Appendix A) shows the growth in per-capita nominal personal income from 1997 to 1998. The five highest growth counties in that year, all with per-capita nominal personal income growth above six percent, were Van Buren, Shelby, Green, Robertson, and Johnson. The four lowest growth counties in that year, all with negative per-capita nominal personal income growth, were Crockett, Hardeman, Perry and Lake Counties. Two of the

possible explanations for this distribution of personal income growth are population and employment changes.

**Personal Income Forecast Error.** In 2000, CBER forecasted growth of 5.8 percent in nominal personal income; actual growth was 5.0 percent. This was

approximately the same growth rate as the two preceding years. However, it was four-fifths of a point below actual nominal personal income growth.

Given the experience through the end of 2000 as well as recent economic events and trends, CBER's 5.4 percent forecasted personal income growth for this year appeared reasonable. However, it now appears to be a somewhat optimistic

| Tennessee Nominal Personal Income<br>Forecast Errors: 1990-2000 |        |          |       |         |
|---|--------|----------|-------|---------|
| Year  | Actual | Forecast | Error | % Error |
| 1990  | 6.3    | 5.8      | -0.5  | -7.9%   |
| 1991  | 5.0    | 4.9      | -0.1  | -2.0%   |
| 1992  | 8.7    | 5.0      | -3.7  | -42.5%  |
| 1993  | 5.9    | 5.8      | -0.1  | -1.7%   |
| 1994  | 7.0    | 6.7      | -0.3  | -4.3%   |
| 1995  | 6.7    | 7.2      | +0.5  | 13.4%   |
| 1996  | 4.7    | 5.8      | +1.1  | 23.4%   |
| 1997  | 5.4    | 5.5      | +0.1  | 1.9%    |
| 1998  | 4.9    | 5.1      | +0.2  | 4.1%    |
| 1999  | 4.9    | 4.5      | -0.4  | -8.2%   |
| 2000  | 5.8    | 5.0      | -0.8  | -13.8%  |

Table 8

forecast given flat retail sales and the erosion of consumer confidence.

**Sales Tax Base and Collections.**<sup>2</sup> Per-capita taxable sales growth is generally fairly erratic. CBER projects 4.5 percent nominal total taxable sales growth and 2.2 percent real taxable sales growth in 2001. <sup>3</sup> Per-capita nominal taxable sales growth is projected at 3.4 percent in 2001, and per-capita real taxable sales growth at 1.2 percent.

<sup>&</sup>lt;sup>2</sup> Notice the distinction between taxable sales and sales tax collections here. Ideally, the taxable sales times the sales tax rate should yield sales tax collections. However, the two are not exactly correlated, since there are refund, credit, and exemption issues, in addition to data collection disparities and imperfect tax collections (e.g., from border leakage), that may differentiate the two measures.

<sup>&</sup>lt;sup>3</sup> One explanation given for the erratic nature of taxable sales forecasts in general is the lack of reliability of the data. For example, Dr. Fox (CBER) has expressed little confidence in the likelihood that taxable sales really had negative growth in 1998, as the data show.

| Different Measures of Tennessee Taxable Sales Growth CBER Forecast |      |      |  |
|--|------|------|--|
| Measure  | 2000 | 2001 |  |
| Nominal taxable sales  | 4.3  | 4.5  |  |
| Inflation-adjusted taxable sales                                   | 1.8  | 2.3  |  |
| Inflation-adjusted per-capita taxable sales                        | 0.8  | 1.2  |  |

Table 9

In general, forecasts for the coming decade show taxable sales growing approximately 65 percent to 80 percent of the rate of personal income. However, the combination of CBER's forecasts for personal income growth and taxable sales growth suggest sales tax elasticities of 78.5 percent for 2001 and 88.7 percent for 2002.

The general sales tax accounts for more than half of total state tax collections each year, and for local governments it provides a significant source of revenue for schools and other services. As was the case in previous years, Davidson and Sevier counties had the highest per-capita sales tax collections in the state last year, with 167 percent and 210 percent, respectively, of the statewide average. Nine other counties had per-capita sales tax collections at or above the state average.<sup>4</sup> In contrast, six counties had per-capita sales tax collections below 25 percent of the statewide average.<sup>5</sup>

Map 3 (Appendix A) shows per-capita sales tax revenue in Tennessee counties for fiscal year 2000. The average statewide per-capita sales tax revenue in that fiscal year was \$806.71. Morgan County had the lowest per-capita sales tax collection at \$143.69 (18 percent of the state average) while Sevier County had the highest per-capita sales tax collection at \$1690.76 (210 percent of the state average). Map 4 (Appendix A) shows total sales tax revenue in Tennessee counties for fiscal year 2000. Notably, 54 percent of state sales tax revenue comes from Davidson, Knox, Hamilton and Shelby Counties. These counties collectively comprise 35 percent of Tennessee's population and have per-capita sales tax collections that are 167 percent, 128 percent, 114 percent, and 107 percent of the state average respectively.

In comparing the first nine months of fiscal year 2001 with the first nine months of fiscal year 2000, per-capita sales tax revenues declined 2.1 percent

<sup>&</sup>lt;sup>4</sup> These counties were (lowest to highest): Coffee, Washington, Putnam, Shelby, Hamblen, Hamilton, Knox, Madison, Williamson.

<sup>&</sup>lt;sup>5</sup> These counties were (lowest to highest): Morgan, Hancock, Moore, Jackson, Union, Lake.

statewide. Map 5 (Appendix A) shows the distribution of the change in state sales tax revenues across Tennessee counties. Anderson County experienced the greatest per-capita sales tax growth (9.6 percent) followed by Fayette (9.0 percent), Houston (7.6 percent), Hickman (7.3 percent), and Lake (7.0 percent). Hardeman County experienced the greatest decline in per-capita sales tax revenues (-16.0 percent) followed by Grainger (-15.7 percent), Jackson (-13.1 percent), Bledsoe (-12.7 percent), and Clay (-11.8 percent).

**Unemployment Rate and Job Growth.** Reductions in demand for U.S. exports due to a strong dollar and the movement of manufacturing jobs overseas have dampened nonagricultural job growth both in Tennessee and the nation as a whole. However, the larger-than-average concentration of manufacturing jobs in Tennessee and a current seasonally-adjusted national unemployment rate of 4.3 percent (as compared to 4.1 percent in Tennessee) suggests that the U.S. as a whole has more room for growth than the Tennessee economy.

CBER expects total nonagricultural employment in Tennessee to have grown 1.6 percent in 2000 and projects growth rates of 1.2 percent and 1.6 percent for 2001 and 2002.<sup>7</sup> Tennessee's nonfarm employment growth was among the highest in the Southeast in the early 1990s, but it dropped below the Southeast average in the latter part of the decade.

Map 6 (Appendix A) shows average unemployment in Tennessee counties in 2000. The statewide average unemployment in that year was 3.9 percent. The highest average

unemployment statewide was in Lawrence County, which had 13.0 percent unemployment, followed by Carroll, Clay, and Fentress, which were all above ten percent. Eight

| Nonagricultural Job Growth: 1999-2002 CBER Forecast |      |      |      |      |  |
|---|------|------|------|------|--|
|   | 1999 | 2000 | 2001 | 2002 |  |
| Tennessee   | 1.4% | 1.6% | 1.2% | 1.6% |  |
| U.S.  | 2.3% | 2.1% | 1.2% | 1.3% |  |

Table 10

<sup>&</sup>lt;sup>6</sup> FY 2000 population data is from US Census Bureau estimates while FY 2001 population data if from the 2000 census. It now appears that the population estimates by the Census Bureau understated the actual Tennessee population in the years leading up to the 2000 census. Thus, the data show higher than actual population growth for last year, producing higher than actual declines in per-capita sales tax revenue.

<sup>&</sup>lt;sup>7</sup> CBER predicts the long-term job growth rate in Tennessee to outpace the national average despite the fact that it also predicts rise from its current state below the national average to above the national average in three years. The increase in job growth, then, is due primarily to high levels of population growth rather than an increasing employment rate. From 1990 to 2000, Tennessee's population growth rate placed it 14<sup>th</sup> among the 50 states.

counties had average unemployment below three percent, with Williamson the lowest in the state at 1.8 percent.<sup>8</sup>

Map 7 (Appendix A) shows the change in average unemployment from the January/February 2000 to January/February 2001. The biggest declines in unemployment were in Unicoi (3.8 percent), Jackson (2.9 percent) and Johnson (1.7 percent) counties. The biggest increases in unemployment were in Gibson (3.4 percent), Fentress (3.6 percent), Warren (3.6 percent) and Macon (4.3 percent) counties.

#### **Recent Economic Developments**

While CBER's prediction of 4.5 percent in growth in nominal taxable sales for the year 2001 seemed reasonable at the time it was published, it now seems somewhat optimistic in light of recent trends in retail sales, housing starts, and consumer confidence. Chart 1 (Appendix B) shows U.S. and southern seasonally adjusted retail sales from January 1998 to March 2001. Seasonally adjusted retail sales declined in each of the past five months (November 2000 to March 2001) with the exception of January 2001. However, that month's increase may also be an indicator of overall declining retail sales. The increase represents above average purchases *after* a lackluster Christmas season. It is likely that many of these purchases were of overstock from the holiday season sold at reduced prices.

Because the housing and automobile markets comprise such a large part of retail sales, it is important to look at those markets individually. Charts 1 and 1b (Appendix B) show recent national trends in automotive sales as well as appliances and furniture, which often accompany housing purchases. After experiencing significant steady growth for most of the 1990s, sales in these key areas appear to have plateaued in the last year. While state and regional data are unavailable, Chart 2 (Appendix B) shows that the number of people nationally who plan to purchase a home or automobile in the next six months has begun to decline after strong performance prior to that time. Furthermore, Chart 3 (Appendix B) shows that while national housing starts reached a new peak for the year in January 2001, housing starts in the South this year have remained below levels reached last spring.

Finally, since publication of CBER's report, consumer confidence has continued to decline. As shown in Chart 4 (Appendix B), consumer confidence

<sup>&</sup>lt;sup>8</sup> The other seven counties were (in order): Cheatham, Knox, Hamilton, Loudon, Moore, Davidson, and Rutherford.

has dropped from an index level of 142.5 in September 2000 to 109.2 in April 2001, a decline of over 30 percent. Both consumers' appraisal of the current state of the economy and their six-month expectations have fallen considerably from levels seen last year.

These trends indicate what many observers have noted for at least six months. While the economy, both regionally and nationally, remains relatively healthy, it does not exhibit the strong growth experienced in the 1990s.

#### Implications for the State Budget

CBER's forecasts for the U.S. and Tennessee economies were reasonable given the conditions and data that were available at the time the forecasts were made. However, they may be optimistic given current trends and expectations. For example, the CBER's forecast for nominal personal income growth in Tennessee in 2001 is 5.4 percent, an estimated decline in the growth rate from the previous year but still a fairly strong rate of growth. Inflation may rise to help drive nominal personal income and nominal tax collections toward predicted levels, but economic growth appears unlikely to sustain strong real personal income growth.

CBER (WEFA) forecasts for U.S. inflation and U.S. unemployment are in keeping with the averages of other forecasts sampled. However, CBER's forecast for nominal GDP growth appears high, particularly when compared to other forecasts that were based on more recent economic data.

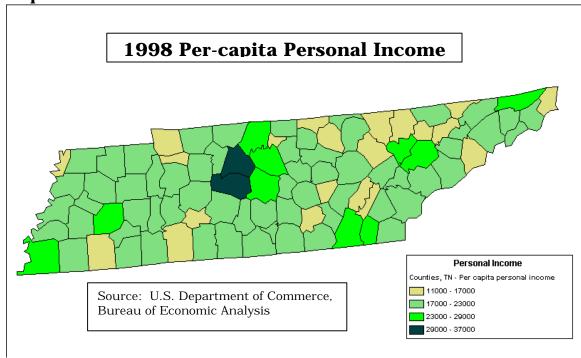
Recent trends in housing starts, retail sales, and consumer confidence suggest that personal income growth in the coming fiscal year will not match levels typical in the 1990s. Housing starts, retail sales, and consumer confidence are not only indicators of economic health, but they are also good indicators of how the state's sales tax will perform. Since the general sales tax represents more than half of Tennessee's tax revenues, poor sales tax performance bodes ill for performance of the tax system as a whole. In the past two years, the elasticity of tax collections (tax collections as a percent of personal income statewide) has reverted to the average of the last two or three decades. The average since 1970 has been about 75 percent, and the tax elasticities in FY1999 and FY2000 were 80 percent and 62 percent, respectively. Personal income was growing at a fairly strong rate during those periods, but tax collections grew more slowly.

While housing starts and automobile sales remained at relatively high historical levels, they did not grow at rates necessary to maintain aboveaverage elasticities. Given expectations about flat or declining housing starts, automobile sales, and consumer confidence for the coming year, it is unlikely that this tax elasticity will rise above its historic average of 75 percent in FY2002. (CBER's estimates suggest that taxable sales as a percent of personal income will be less than 80 percent for both calendar years 2000 and 2001.) Record high gasoline prices will likely ensure that both automobile sales and gasoline purchases will remain flat, and it would not be surprising to see the gasoline tax exhibit a below-average elasticity for FY2002.

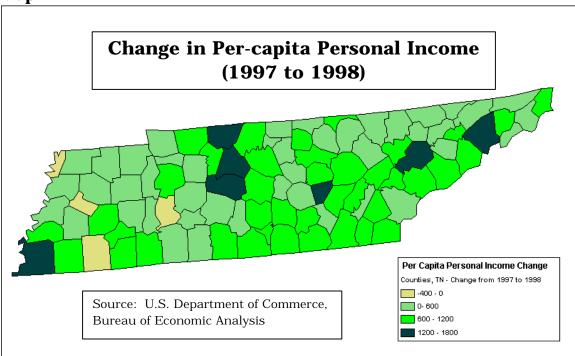
# **Appendices**

# **Appendix A: Maps**

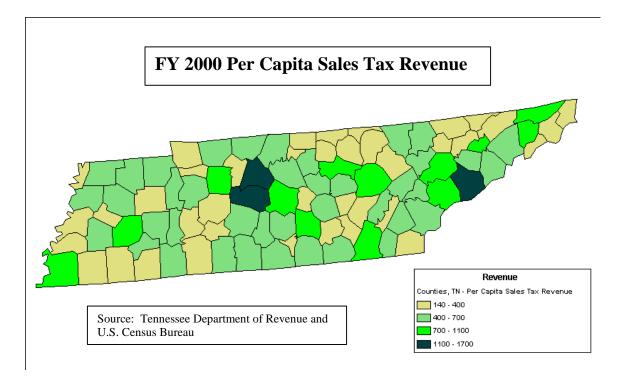
#### Map 1



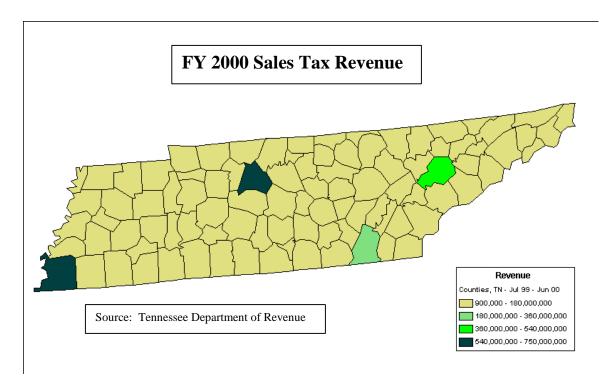
### Map 2



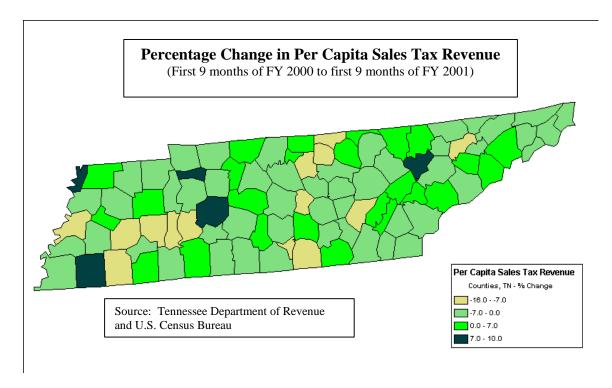
Map 3



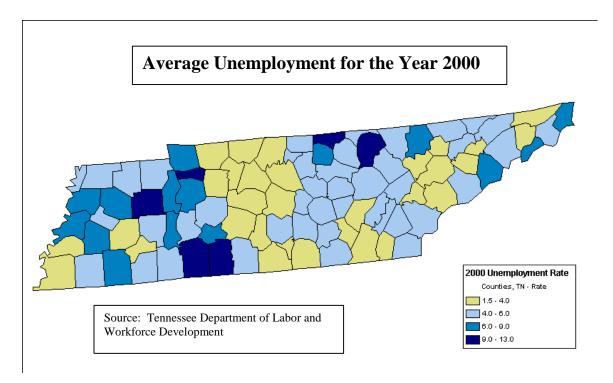
Map 4



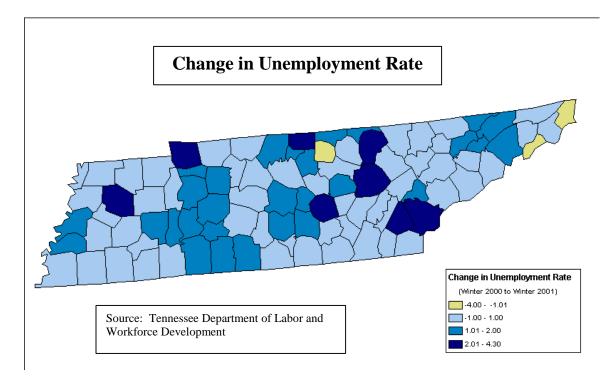
Map 5



Map 6



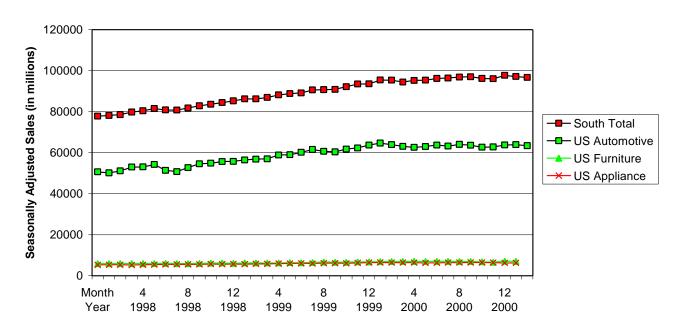
Map 7



# **Appendix B: Charts**

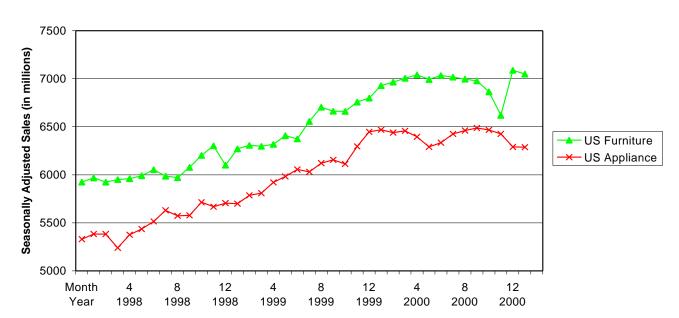
#### Chart 1

#### **Retail Sales**



#### Chart 1b

#### Retail Sales (close-up)



#### Chart 2

**U.S. Planned Purchases for Next Six Months** 

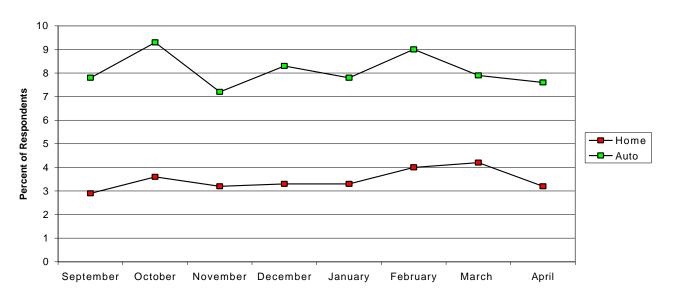
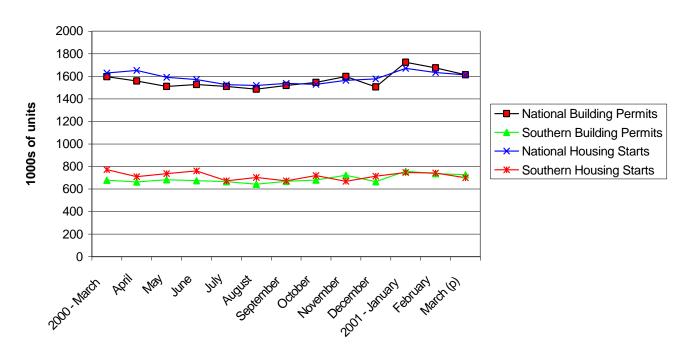


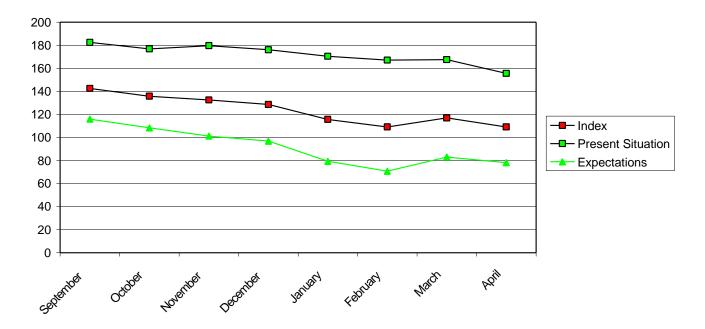
Chart 3

#### **Seasonally Adjusted Housing Starts and Building Permit Authorizations**



# Chart 4

### **U.S. Consumer Confidence**



#### **Appendix C: Statutory Requirements**

# Tennessee Constitution Article II, §24 (excerpt)

In no year shall the rate of growth of appropriations from state tax revenues exceed the estimated rate of growth of the state's economy as determined by law.

#### TCA §9-4-5201

- (a) The estimated rate of growth of the state's economy shall be based upon the projected change in Tennessee personal income.
- (b) Tennessee personal income shall consist of those sources of income included in the United States department of commerce's definition of "personal income."

#### TCA §9-4-5202

- (a) At least once each year, and whenever requested to do so by the commissioner of finance and administration or by the joint request of the chairs of the finance, ways and means committees of the senate and house of representatives, the state funding board shall secure from the Tennessee econometric model a report of the estimated rate of growth of the state's economy. such report shall include the major assumptions and the methodology used in arriving at such estimate.
- (b) Upon receiving the report specified in subsection (a), the state funding board shall make comments relating to the reasonableness of the estimate, including any different estimate the board deems necessary. The board shall also enclose a list identifying state tax revenue sources and non-tax revenue sources, approved by the attorney general and reporter. The department of finance and administration shall provide to the board revenue estimates for each source.
- (c) In the event data from Tennessee econometric model is unavailable, the funding board, after consulting with the finance, ways and means committees of the senate and house of representatives, shall obtain and/or prepare a report of the estimated rate of growth of the state's economy.
- (d) The reports specified in subsections (a), (b) and (c) shall be forwarded to the commissioner of finance and administration and to each member of the general assembly, after review and definitive comment by the finance, ways and means committees of the senate and house of representatives.

- (e)(1) In November of each year, the state funding board shall conduct public hearings to develop consensus estimates of state revenue for the upcoming fiscal year, as well as any revisions to the current fiscal year estimates, as the board deems appropriate.
- (2) The funding board shall request economic forecasts and revenue estimates from representatives of state higher education institution business centers located in each of the grand divisions and such other groups or persons as the funding board deems appropriate.
- (3) On December 1, or as soon thereafter as practical, the funding board shall present its state revenue estimates, along with a summary of the economic forecast upon which the estimates are based, to the governor and the chairs of the senate and house finance, ways and means committees. If, in the opinion of the funding board, circumstances warrant a review of state revenue estimates it has previously presented, or upon a request of the chairs, the funding board shall consider information it deems necessary and appropriate and may revise its state revenue estimates if appropriate. Any revision to is revenue estimates and reasons therefore shall be forwarded to the governor and chairs.

#### TCA §9-4-5203 (excerpt)

- (c) When in any budget document the percentage increase of recommended appropriations from state tax revenues exceeds the percentage increase of estimated Tennessee personal income as defined in § 9-4-5201, for the ensuing fiscal year, the governor shall submit a bill or bills for introduction in both houses of the general assembly which shall contain no other subject matter and shall set forth the dollar and percentage by which the estimated growth of the state's economy is exceeded by the appropriations of state tax revenue in accordance with article II, § 24 of the Constitution of Tennessee.
- (d) When the percentage increase of appropriations of state tax revenue by the general assembly exceeds the percentage increase of estimated Tennessee personal income as defined in § 9-4-5201, for the ensuing fiscal year, the general assembly shall by law containing no other subject matter, set forth the dollar and the percentage by which the estimated growth of the state's economy is exceeded by the appropriations of state tax revenue in accordance with article II, § 24 of the Constitution of Tennessee.

Appendix D Years in which Appropriations have Exceeded Growth in Nominal Personal Income<sup>9</sup>

| Fiscal Year 1984-1985 | \$396,100,000 | 14.60 % |
|-----------------------|---------------|---------|
| Fiscal Year 1985-1986 | \$58,000,000  | 1.79 %  |
| Fiscal Year 1986-1987 | \$100,000,000 | 2.76 %  |
| Fiscal Year 1988-1989 | \$101,000,000 | 2.38 %  |
| Fiscal Year 1989-1990 | \$74,000,000  | 1.59 %  |
| Fiscal Year 1991-1992 | \$703,100,000 | 15.09 % |
| Fiscal Year 1992-1993 | \$450,000,000 | 8.69 %  |
| Fiscal Year 1996-1997 | \$55,000,000  | 0.84%   |
| Fiscal Year 1999-2000 | \$189,000,000 | 2.13%   |
| Fiscal Year 1999-2000 | \$81,000,000  | 1.00%   |

<sup>&</sup>lt;sup>9</sup> Tennessee Code Annotated § 9-4-5203(e).

#### Appendix E

#### **Personal Income Definition**

Personal income is a measure of income received by individuals, unincorporated businesses, and non-profit organizations. While it is an important measure of economic activity, personal income is not limited to the wages and salaries of persons. For purposes of establishing this category, the Bureau of Economic Analysis of the U.S. Department of Commerce defines persons as ". . . individuals, non-profit institutions, private non-insured welfare funds, and private trust funds . . . ."

The components of personal income include:

- 1. wage and salary disbursements;
- 2. other labor income, including employer contributions for private insurance and retirement programs;
- 3. proprietors' income, which consists of net income of sole proprietorships and non-incorporated businesses;
  - 4. rental income, personal interest income, dividends and royalties;
- 5. transfer payments by businesses and government, corporate gifts to non-profit institutions, and other payments not resulting from current services or production.<sup>10</sup>

<sup>&</sup>lt;sup>10</sup> U.S. Department of Commerce, Bureau of Economic Analysis.

#### References

- Bureau of Economic Analysis, U.S. Department of Commerce. "Regional Accounts Data: Local Area Personal Income." http://www.bea.doc.gov/bea/regional/reis/. April 26, 2001.
- Bureau of Economic Analysis, U.S. Department of Commerce. "Gross Domestic Product: First Quarter 2001 (Advance)." http://www.bea.doc.gov/bea/newsrel/gdp101a.htm. April 27, 2001.
- Center for Business and Economic Research, *An Economic Report to the Governor*. Knoxville: The University of Tennessee. February, 2000.
- Center for Business and Economic Research, *An Economic Report to the Governor*. Knoxville: The University of Tennessee. January, 2001.
- Congressional Budget Office. *CBO's Current Economic Projections*. http://www.cbo.gov/showdoc.cfm?index=1824&sequence=0&from=7.
- The Dismal Scientist. "Consumer Confidence Analysis." <a href="http://www.dismal.com/economy/releases/release\_2k.asp?r=usa\_consumer">http://www.dismal.com/economy/releases/release\_2k.asp?r=usa\_consumer</a>. April 26, 2001.
- Economagic.com. "Retail Sales Data of the U.S. Census Bureau." <a href="http://www.economagic.com/cenret.htm">http://www.economagic.com/cenret.htm</a>. April 26, 2001.
- Fannie Mae. "April Economic and Mortgage Market Development." <a href="http://www.fanniemae.com/news/features/forecast.html">http://www.fanniemae.com/news/features/forecast.html</a> .
- Federal Reserve Bank of Philadelphia. "Survey of Professional Forecasters: First Quarter, 2000." <a href="https://www.phil.frb.org/files/spf/survq100.pdf">www.phil.frb.org/files/spf/survq100.pdf</a>. February 22, 2000.
- The Financial Forecast Center. "Housing Starts Forecast for Next Six Months." <a href="http://www.neatideas.com/house.htm">http://www.neatideas.com/house.htm</a>. April 26, 2001.
- First Union. "Monthly Economic Forecast." <a href="http://www.firstunion.com/library/econews/quarterly.html">http://www.firstunion.com/library/econews/quarterly.html</a> . March 7, 2000.

- International Monetary Fund. "World Economic Outlook." <a href="http://www.imf.org/external/pubs/ft/weo/2001/01/index.htm">http://www.imf.org/external/pubs/ft/weo/2001/01/index.htm</a>. April 27, 2001.
- Northern Trust. "Dead in the Water, But Help is on the Way." <a href="http://www.northerntrust.com/library/econ\_research/outlook/index.ht">http://www.northerntrust.com/library/econ\_research/outlook/index.ht</a> <a href="mailto:ml">ml</a>. April 9, 2001.
- Philadelphia Federal Reserve Bank. "Survey of Professional Forecasters." <a href="http://www.phil.frb.org/files/spf/survq101.html">http://www.phil.frb.org/files/spf/survq101.html</a>. February 20, 2001.
- The Research Seminar in Quantitative Economics, University of Michigan. "The Economic Outlook for 2001-2002."

  <a href="http://rsqe.econ.lsa.umich.edu/forecast/table.html">http://rsqe.econ.lsa.umich.edu/forecast/table.html</a>. March 14, 2001.

Tennessee Code Annotated.

- Tennessee Department of Labor and Workforce Development. "Labor Force Estimates— 2000 Average." <a href="http://www.state.tn.us/labor-wfd/annual\_avg/counties.htm">http://www.state.tn.us/labor-wfd/annual\_avg/counties.htm</a>. April 26, 2001.
- Tennessee Department of Labor and Workforce Development. "Labor Force Estimates— March 2001." <a href="http://www.state.tn.us/labor-wfd/labor\_figures/counties.htm">http://www.state.tn.us/labor-wfd/labor\_figures/counties.htm</a>. April 26, 2001.

Tennessee State Constitution.

U.S. Census Bureau. "Housing Starts and Building Permits in March 2001." <a href="http://www.census.gov/const/c20\_curr.txt">http://www.census.gov/const/c20\_curr.txt</a>. April 26, 2001.