

# AN ECONOMIC REPORT TO THE GOVERNOR OF THE STATE OF TENNESSEE

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PREPARED BY THE

Center for Business and Economic Research  
College of Business Administration  
The University of Tennessee  
Knoxville, Tennessee

IN COOPERATION WITH THE

Appalachian Regional Commission  
Tennessee Department of Finance and Administration  
Tennessee Department of Economic and Community Development  
Tennessee Department of Revenue  
and  
Tennessee Department of Labor and Workforce Development

THE STATE'S  
ECONOMIC  
OUTLOOK  
JANUARY **2014**

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The preparation of this report was financed in part by the following agencies: the Tennessee Department of Finance and Administration, the Tennessee Department of Economic and Community Development, the Tennessee Department of Revenue, the Tennessee Department of Labor and Workforce Development, and the Appalachian Regional Commission.

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UT Publication Authorization Number R01-1493-265-001-14.

## PREFACE

This 2014 volume of *An Economic Report to the Governor of the State of Tennessee* is the thirty-eighth in a series of annual reports compiled in response to requests by state government officials for assistance in achieving greater interdepartmental consistency in planning and budgeting efforts sensitive to the overall economic environment. Both short-term, or business cycle-sensitive forecasts, and longer-term, or trend forecasts, are provided in this report.

The quarterly state forecast through the first quarter of 2016 and annual forecast through 2023 represent the collective judgment of the staff of the University of Tennessee's Center for Business and Economic Research in conjunction with the Quarterly and Annual Tennessee Econometric Models. The national forecasts were prepared by IHS Global Insight, Inc. Tennessee forecasts, current as of January 2014, are based on an array of assumptions, particularly at the national level, which are described in Chapter One. Chapter Two details evaluations for major sectors of the Tennessee economy, with an agriculture section provided by the University of Tennessee Agricultural Policy Analysis Center. Chapter Three discusses Tennessee's role in the international economy and presents the long-run outlook and forecast for the state. Chapter Four presents manufacturing trends and advanced manufacturing in Tennessee.

The primary purpose of this annual volume—published, distributed, and financed through the Tennessee Department of Finance and Administration, Tennessee Department of Economic and Community Development, the Tennessee Department of Revenue, the Tennessee Department of Labor and Workforce Development, and the Appalachian Regional Commission—is to provide wide public dissemination of the most-current possible economic analysis to planners and decision-makers in the public and private sectors.



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## CHAPTER 2: THE TENNESSEE ECONOMY: SHORT-TERM OUTLOOK

### In this chapter—

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National Perspective

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Overview of Agriculture in Tennessee

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### 2.1. Introduction

It has been more than four years since the end of the Great Recession, and by most accounts Tennessee and the nation have both continued along the paths of economic recovery in 2013. In Tennessee, inflation-adjusted gross domestic product (GDP) grew by 2.6 percent in 2013 and is expected to grow an additional 2.8 percent in 2014. In comparison, U.S. GDP (inflation adjusted) expanded by 1.9 percent in 2013, and is projected to rise by 2.7 percent in 2014.

In the U.S. there were 2.2 million jobs created in 2013, matching job growth from 2012 and outpacing employment gains from 2011. Signs of a strengthening labor market can also be seen in the state economy. In Tennessee, nonfarm employment grew by 1.5 percent in 2013, representing an addition of over 40,000 jobs. Manufacturing employment also expanded by 2.2 percent in Tennessee compared to only 0.5 percent across the nation.

After adjusting for inflation, personal income grew by 1.5 percent in the state and 1.7 percent in the nation. Nominal taxable sales in Tennessee increased at a rate of 2.8 percent in 2013. This followed a 4.8 percent gain in taxable sales in 2012. For nonfarm employees, the average annual wage in Tennessee was \$45,176, representing a 1.4 percent increase over the previous year. Unfortunately however, the unemployment rate did increase slightly in 2013, from 8.0 percent in 2012 to 8.2 percent in 2013. This occurred despite a contraction in the national unemployment rate.

The final month of 2013 was accompanied by encouraging news out of Washington, DC. A new federal budget deal, the Bipartisan Budget Act, was passed in December and dramatically reduced the possibility of another government shutdown, at least for the next two years. Furthermore, the Federal Reserve began tapering its quantitative easing program by reducing monthly bond

## 2.1. Introduction, continued

purchases from \$85 million to \$75 million. Both of these actions can be viewed as positives for the nation. The budget deal should instill some confidence to investors, or at least reduce uncertainty. The tapering of quantitative easing conveys an optimistic outlook by the Fed, as they have consistently asserted that they would continue their aggressive bond buying strategy until the economy improved markedly.

These events will provide some momentum for the nation's economic recovery. Signs of this

momentum can be found at the state level where the short-term outlook for Tennessee calls for slightly faster growth in 2014 than in 2013. The unemployment rate is expected to drop from 8.2 percent in 2013 to 7.5 percent in 2014, and inflation-adjusted personal income will grow by 2.9 percent. Modest job growth is also expected, as nonfarm employment and manufacturing employment will expand by 1.5 percent and 1.0 percent respectively in 2014.

## 2.2. The Current Economic Environment

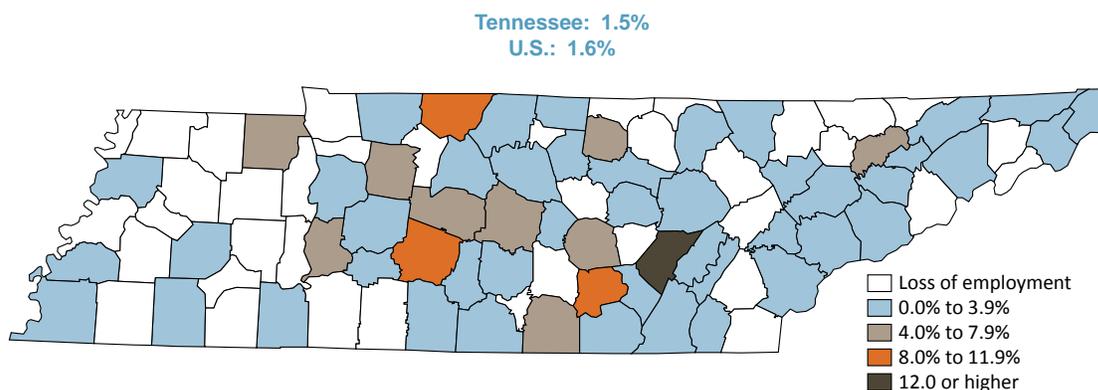
Year-over-year nonfarm employment growth in Tennessee slowed in each quarter of 2013 with the fourth quarter exhibiting growth of only 1.1 percent (compared to 1.8 percent growth in the fourth quarter of 2012.) For the year, Tennessee nonfarm employment totaled 2,755,308. This is slightly below the pre-recession peak of 2,797,779 in 2007, but higher than employment levels in 2000 for the first time since the end of the recession.

In 2013, annual employment growth in Tennessee was led by leisure and hospitality services (4.3 percent), professional and business services (3.6 percent), and durable goods

manufacturing (3.3 percent). Five broad sectors experienced employment contractions in 2013, including the natural resources, mining, and construction sector, wholesale trade, information, state and local government, and the federal government. Employment losses were largest in the federal government which experienced a 7.0 percent contraction. Much of this can be attributed to the sequestration of federal government spending.

County employment growth data for the second quarter of 2013 (the most recent data available) are presented in Figure 2.1. There were 38 counties

**Figure 2.1. Many Counties Throughout the State Observe Negative Job Growth**  
(Year-Over-Year Growth in Total Covered Employment, June 2012 - June 2013)



Note: Not seasonally adjusted.

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

## 2.2. The Current Economic Environment, continued

in the state that reported negative employment growth from June 2012 to June 2013. In contrast, only 25 counties saw employment fall in the second quarter of 2012 (between June 2011 and June 2012.) Henderson County and Union County, both of which have very small employment bases, were the only counties to experience employment losses in excess of 7.0 percent (7.6 percent and 7.9 percent respectively). Bledsoe County, which also has a small employment base, experienced the strongest growth at 16.0 percent, followed by Grundy County (11.9 percent), Robertson County (10.3 percent), and Maury County (8.1 percent). By comparison, county employment growth in 2012 was far more pronounced. In 2012 for example, Lake County experienced employment growth of 63.4 percent and four other counties (Morgan, Bledsoe, Moore, and Lauderdale) all saw gains exceeding 20.0 percent.

The civilian labor force in Tennessee, which includes unemployed people who are actively seeking employment and employed individuals, increased slightly (0.2 percent) in 2013. However, the number of employed persons decreased slightly over the year (0.1 percent) while the number unemployed increased by 2.6 percent. An increase in the labor force coupled with a rise in the number of unemployed persons indicates that more individuals are actively seeking employment (i.e. are counted in the labor force) but have yet to find a job (i.e. are unemployed). This group is comprised of job losers who are actively seeking new employment, previously discouraged workers who are now seeking employment again, and new entrants into the labor force (e.g. recent graduates). The labor force participation rate (i.e. the percentage of the adult population in the labor force) declined by 1.0 percent in 2013. This marks two consecutive years where the labor force participation rate fell by 1.0 percentage point or more. For the nation, the labor market in 2013 was slightly more positive. The labor force increased slightly (0.3 percent), the number of employed people expanded by 1.0 percent while the number of unemployed people fell by 7.6 percent.

The state's unemployment rate averaged 8.2 percent in 2013 compared to 7.4 percent for the nation. From 2012 to 2013, Tennessee's unemployment rate increased slightly (0.2 percentage points) while the national unemployment rate fell by a significant 0.7 percentage points. Using unemployment data from the month of November (the most recent data available), Figure 2.2 presents seasonally adjusted unemployment rates for the southeast states – Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. At 8.1 percent, Tennessee had the third-highest monthly unemployment rate among all southeastern states, only behind Mississippi at 8.3 percent and Kentucky at 8.2. The lowest monthly unemployment rate was in Virginia (5.4 percent). Among all states (including Washington, DC), Tennessee had the ninth-highest unemployment rate in the country, while North Dakota had the lowest (2.6 percent).

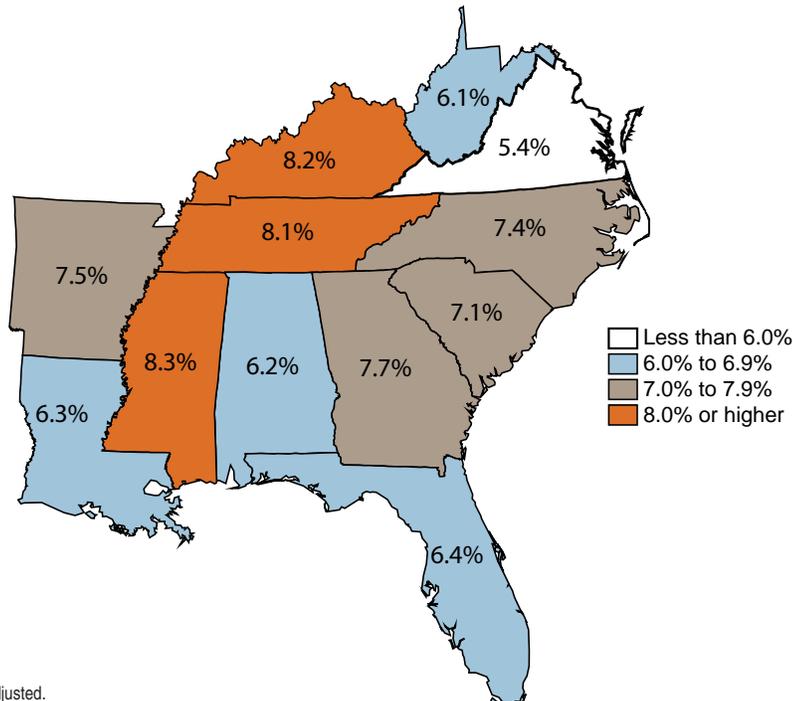
Figure 2.3 displays non-seasonally adjusted county unemployment rates for November 2013. There were 21 counties to report non-seasonally adjusted unemployment rates of 10.0 percent or greater. Scott County had the highest unemployment rate at 15.7 percent; this is slightly below the unemployment rate of 16.1 percent reported in Scott County in November 2012. Williamson County had the lowest unemployment rate at 5.0 percent, followed by Lincoln County (5.2 percent), Wilson County (5.4 percent), Cheatham County (5.5 percent), and Rutherford County (5.6 percent). From November 2012 to November 2013, there were 5 counties to experience falling unemployment rates in excess of 1.0 percentage point (Van Buren, White, Marshall, Warren, and Obion), and 3 counties which saw unemployment rates increase by more than 1 percentage point (Shelby, Sequatchie, and McNairy).

In 2013 nominal personal income in Tennessee increased by 2.7 percent, which was on pace with the 2.9 percent increase across the nation. Tennessee proprietors' income increased by 5.5

## 2.2. The Current Economic Environment, continued

**Figure 2.2. Tennessee's Monthly Unemployment Rate among the Highest of the Southeastern States**

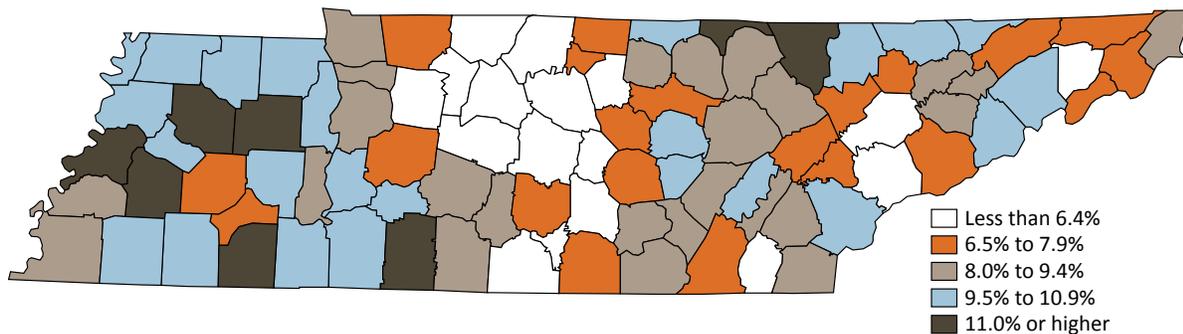
(November 2013)  
U.S.: 7.0%



Note: Seasonally adjusted.  
Source: Bureau of Labor Statistics.

**Figure 2.3. Unemployment Rate, November 2013**

Tennessee: 7.4% NSA (8.1% SA)  
U.S.: 6.6% NSA (7.0% SA)



County unemployment rate data is not seasonally adjusted.  
Source: Bureau of Labor Statistics.

## 2.2. The Current Economic Environment, continued

percent over the year, and rent, interest, and dividend income expanded by 4.0 percent. Wages and salaries were up 2.9 percent, and transfer payments increased by 3.8 percent. Inflation-adjusted personal income per capita reached \$36,706 in 2013. This represents a 0.5 percent increase over 2012.

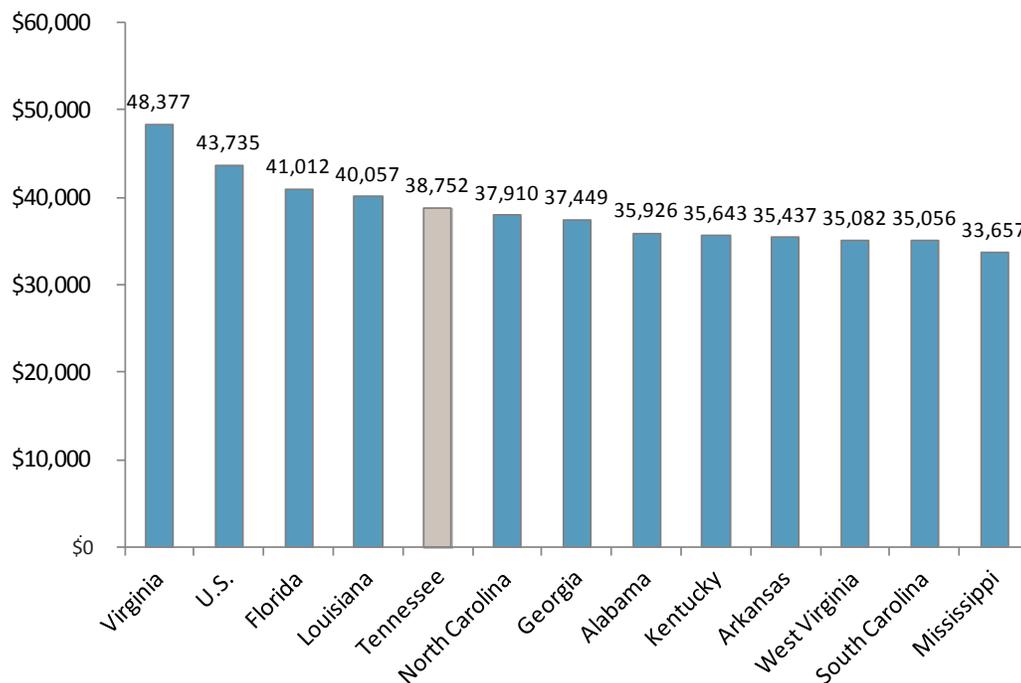
Figure 2.4 shows per capita personal income in current dollars across the southeast states for 2012, the most recent year for which the data are available. Tennessee ranked fourth among all twelve southeast states at \$38,752 which is slightly above the regional average (\$37,863) but below the national average (\$43,735). Among the southeast states, per capita income is highest in Virginia (\$48,377) and lowest in Mississippi (\$33,657).

Figure 2.5 reports county-level per capita personal income data in Tennessee for 2012 (the most recent data available.) Williamson County had the highest per capita income in the state at

\$66,195. High income per-capita in Williamson County was mainly driven by two sources. First, wages and salaries paid in the county totaled \$5.9 million in 2012. This was the fifth highest in the state only behind Davidson, Hamilton, Knox, and Shelby Counties. Second, with a total population of roughly 193,000 people, Williamson County was far less populated than these other four counties, leading to higher per-capita personal income (i.e. personal income divided by population). In 2012 there were only three Tennessee counties with an average income above the national average of \$43,735 (Williamson, Davidson, and Fayette). Per capita personal income was lowest in Hancock County at \$21,287. Hancock County was also the fourth smallest county in the state with a population of 6,720 people in 2012.

Taxable sales growth is beginning to slow, growing by only 2.8 percent in calendar year 2013 as compared to 4.7 percent in 2012 and 5.9 percent

**Figure 2.4. Tennessee Has the Fourth Highest Per Capita Personal Income (in Current Dollars) among Southeast States, 2012**

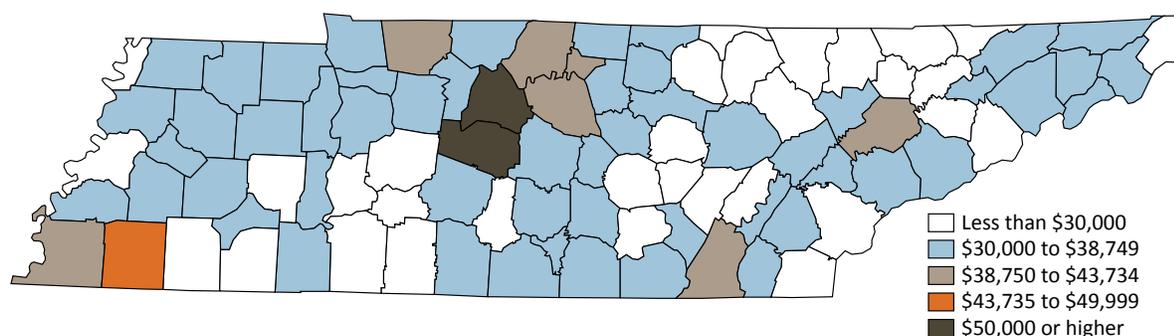


Source: Bureau of Economic Analysis.

## 2.2. The Current Economic Environment, continued

**Figure 2.5. Per Capita Income Shows Wide Variation across Tennessee**  
(2012 Per Capita Personal Income in Current Dollars)

Tennessee: \$38,752  
U.S.: \$43,735



Source: Bureau of Economic Analysis.

in 2011. Light vehicle sales continue to grow (up 5.8 percent in 2013) though at a slower pace than the previous three years. Despite this slower growth, light vehicle sales have finally surpassed pre-recession peak levels of 2007. Conversely, sales in transportation and communication have contracted for the second consecutive year and

are still a good deal below pre-recession levels. Following two strong years of taxable sales growth in the hotels and motels sector, sales tapered off in 2013, only expanding by 0.8 percent. Taxable sales in all other broad sectors (aside from transportation and communication) expanded in 2013 but at a slower rate than in 2012.

## 2.3. Fiscal Update

### National Perspective

In fiscal year (FY) 2013 (August 2012 – July 2013), states collected a total of \$842.6 billion in tax revenues, which is up 6.7 percent from FY 2012. Compared to 2008, tax collections are up 8.4 percent. It took five years since the beginning of the Great Recession, but in the second quarter of FY 2013, inflation-adjusted state tax revenues finally exceeded peak prerecession levels of FY 2008.<sup>1</sup> Aggregate state sales tax collections were up 3.9 percent in FY 2013 versus FY 2012. Corporate income tax collections were up 8.7 percent and personal income tax revenues expanded by 13.8 percent.

Through the third quarter of calendar year 2013, July through September, total state tax collections

<sup>1</sup>Dadayan, Lucy and Donald J. Boyd. (December 2013). "Strong Growth in the First Half; Softening Growth Outlook for the Rest of 2013." The Nelson A. Rockefeller Institute of Government. Retrieved from [http://www.rockinst.org/pdf/government\\_finance/state\\_revenue\\_report/2013-12-10-SRR\\_93.pdf](http://www.rockinst.org/pdf/government_finance/state_revenue_report/2013-12-10-SRR_93.pdf)

have now grown for fourteen consecutive quarters. However, preliminary data indicate that growth in the third quarter has dampened significantly. This is particularly true for personal income tax revenues which showed strong growth of 18.4 percent in the second quarter of 2013 but only 5.3 percent growth in the third quarter. This is likely due, in part, to scheduled increases in federal income tax rates in 2013 which caused many higher income earners to "accelerate" their realizations of capital gains income from later years to 2012 in order to minimize their future tax liabilities. As a result we saw robust growth in personal income collections in the last quarter of 2012 and the first two quarters of 2013.<sup>2</sup> Finally, state general fund revenues were up 5.7 percent in FY 2013. After

<sup>2</sup>Dadayan, Lucy and Donald J. Boyd. (April 2013). "States Are Not Out of the Woods Despite Strong Revenue Gains in the Fourth Quarter." The Nelson A. Rockefeller Institute of Government. Retrieved from [http://www.rockinst.org/newsroom/revenue\\_reports/2013/2013-04-24-SRR\\_91.pdf](http://www.rockinst.org/newsroom/revenue_reports/2013/2013-04-24-SRR_91.pdf)

### 2.3. Fiscal Update, continued

adjusting for inflation this is still 5.6 percent below the prerecession peak level of \$747 billion in FY 2008.<sup>3</sup>

#### Tennessee and Southeastern States Tax Revenues

For the fiscal year, total tax revenues in the Southeast region (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia) increased by 5.2 percent over FY 2012. Sales tax collections were up 3.4 percent, corporate income tax revenues increased by 8.6 percent, and personal income tax collections experienced 8.8 percent growth. Comparing the second quarter of 2013 to the same quarter in 2012, total tax revenues in the Southeast region increased by 5.7 percent. Sales tax collections expanded by 3.6 percent, corporate income tax collections were up 3.2 percent, and personal income tax revenues increased by 9.0 percent. In the Southeastern states, property taxes increased by 2.7 percent from 2011 to 2012. Conversely, across the nation property tax revenues fell by 8.0 percent due to lingering effects of the recession.<sup>4</sup>

In Tennessee, tax revenues continue to grow, but at a slower rate than the Southeast region as a whole. Total tax revenues in Tennessee grew by 3.3 percent in FY 2013, while sales tax collections were only up 1.8 percent (according to Tennessee Department of Revenue collections.) Both revenue categories grew more slowly than was the case in the majority of other states in the region.<sup>5</sup>

December collections in Tennessee totaled \$966.6 million, corresponding to a 1.6 percent contraction over December 2012. Sales and use tax collections were up 2.5 percent from December of last year. Business tax collections were 20.5 percent above last December, while inheritance

and estate collections were up 67.5 percent and gasoline tax collections expanded by 16.8 percent. Franchise and excise (F&E) tax collections were down 17.9 percent compared to last December and Hall income tax collections contracted by 63.4 percent.

In Tennessee, fiscal year-to-date (August 2013 – December 2013) collections are growing, but at a slower-than-expected pace. Total collections are 0.5 percent higher than last year-to-date, but 3.7 percent under expectations. Slow growth has mainly been driven by the volatile and seemingly underperforming franchise and excise (F&E) tax collections which have shrunk by 13.7 percent compared to last fiscal year-to-date, and are 21.3 percent below expectations. However, it is still too early to tell how total F&E collections will turn out for the fiscal year as April has historically been the most important month for firms to reconcile their tax liabilities.

#### Franchise and Excise Tax Collections

Franchise and excise (F&E) taxes are privilege taxes levied on corporations, limited partnerships, limited liability companies, and business trusts organized in Tennessee or doing business in Tennessee. The franchise tax levies \$0.25 per \$100 of a company's net worth while the excise tax levies 6.5 percent of net earnings of all profitable business conducted in the state. Generally speaking, the franchise tax is akin to a property tax on businesses while the excise tax is a tax on corporate profit. However, F&E collections and business conditions do not always move in the same direction. For example, 2013 was the best year for the stock market in the 21<sup>st</sup> century, as the Dow Jones, S&P 500, and NASDAQ all grew by over 25 percent. Similarly, through the first half of FY 2014 (August 2013 – January 2014) the Dow, S&P 500, and NASDAQ have all grown by at least 10.0 percent. Despite these strong gains in the stock market, F&E payments for the year are actually down compared to last fiscal year.

While F&E taxes are broadly tied to corporate profit and economic conditions, low F&E payments do not necessarily mean that businesses

<sup>3</sup>The National Association of State Budget Officers (December 10, 2013). "Summary: Fall 2013 Fiscal Survey of States." Retrieved from [http://www.nasbo.org/sites/default/files/Summary\\_Fall%202013%20Fiscal%20Survey%20of%20States\\_0.pdf](http://www.nasbo.org/sites/default/files/Summary_Fall%202013%20Fiscal%20Survey%20of%20States_0.pdf)

<sup>4</sup>Data retrieved from "State Government Tax Collections," U.S. Census Bureau. <http://www.census.gov/govs/statetax/>

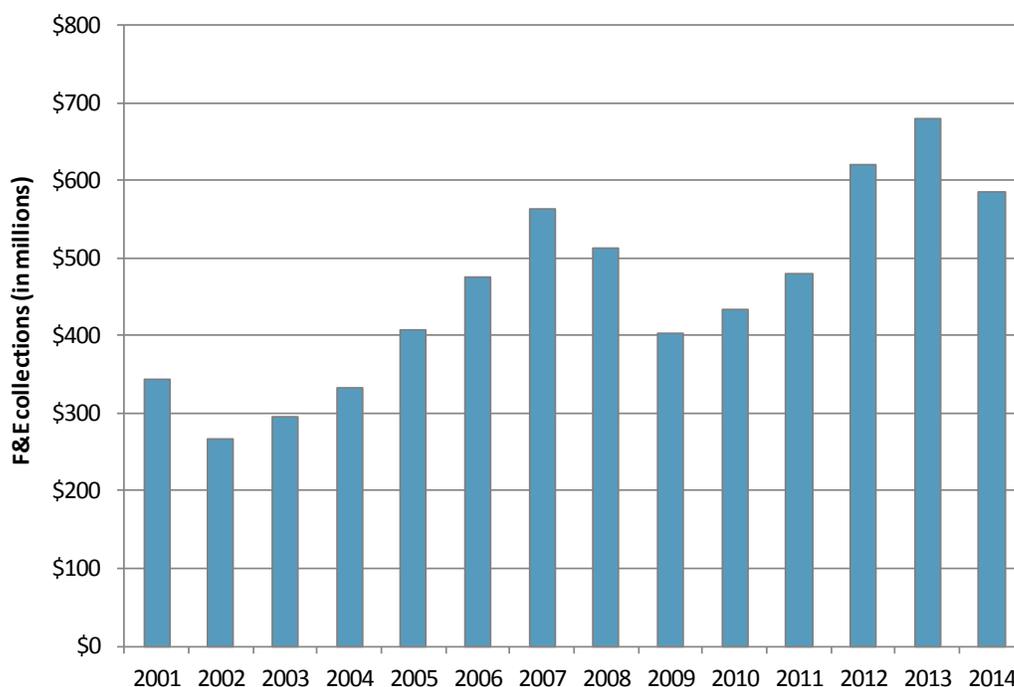
<sup>5</sup>Dadayan, Lucy and Donald J. Boyd. (December 2013). "Strong Growth in the First Half; Softening Growth Outlook for the Rest of 2013." The Nelson A. Rockefeller Institute of Government. Retrieved from [http://www.rockinst.org/pdf/government\\_finance/state\\_revenue\\_report/2013-12-10-SRR\\_93.pdf](http://www.rockinst.org/pdf/government_finance/state_revenue_report/2013-12-10-SRR_93.pdf)

### 2.3. Fiscal Update, continued

within the state are performing poorly; rather it may be a byproduct of the F&E tax payment structure. In Tennessee, the annual F&E payments are due in April but rather than making one annual payment, businesses generally estimate their annual F&E liability and then make quarterly (estimated) payments throughout the year. (The first quarterly payment of the fiscal year comes in during the month of September, followed by January, April, and then June.) It is certainly possible for a business to overestimate and consequently overpay their F&E liability for the fiscal year, in which case they would receive a refund the following fiscal year. This is possibly one of the factors contributing to falling F&E payments in FY 2014 compared to the previous year.

Looking at the data, Tennessee collected over \$2.0 billion in F&E payments during FY 2013. This was the first time that F&E payments had ever reached \$2.0 billion, and this was nearly 9.0 percent larger than the previous record high (\$1.86 billion in FY 2012.) So far, in FY 2014 the state has collected \$586.2 million in F&E payments. This is well below the fiscal year-to-date (August through December) F&E collections of \$679.3 million in FY 2013 and \$619.8 million in FY 2012, but compared to year-to-date collections from FY 2011, F&E payments have actually expanded by 22.2 percent. Furthermore, fiscal year-to-date F&E collections are 4.0 percent higher than pre-recession peak levels of FY 2007. Figure 2.6 presents the fiscal year-to-date (August through

**Figure 2.6. Tennessee Franchise and Excise Tax Collections, Fiscal Year-To-Date (August – December) Peaked in FY 2013**



Source: Tennessee Department of Revenue.

### 2.3. Fiscal Update, continued

December) F&E collections in recent history. While the F&E payments may seem to be putting a drag on state revenues, they are actually higher than year-to-date collections of years past, except for the last two years which may have been outliers.

So far there has only been one quarterly payment (September's) made in FY 2014 of \$277

million. From a historical perspective, this year's September collection (September 2013) was actually the third highest in the 21st century (only behind September 2009 and September 2012). However, the highest September collection of the 21st century was last fiscal year, making this year's payment seem small from a relative standpoint.

### 2.4. Short-Term Outlook

A summary of the projected short-term economic outlook for Tennessee and the nation is presented in Table 2.1. As discussed in Chapter 1 and the introduction to this chapter, some encouraging news came out of Washington, DC at the end of calendar year 2013 which should help facilitate growth in 2014. First, uncertainties with regards to the federal budget have waned with the signing of the Bipartisan Budget Act, which reduces the possibility of another government shutdown, at least for the next two years. This should hopefully instill some confidence to investors, or at least reduce uncertainty. Second, in December 2013 the Federal Reserve began tapering its quantitative easing program by reducing monthly bond purchasing from \$85 million to \$75 million. Tapering conveys an optimistic outlook by the Fed as they have consistently asserted that they would continue their quantitative easing strategy until the economy gained a stronger footing. It is expected that the Fed will gradually taper throughout 2014 and complete the process at the end of the calendar year. This will likely put some upward pressure on interest rates, especially longer-term rates; the Fed has repeatedly announced that they will continue to keep short-term interest rates near zero. Thus, we believe that interest rates will rise within the year, but at a very gradual pace. Higher interest rates will be a welcoming sight for retirees and other savers, but will be costly for borrowers. Other engines of growth in 2014 include an improving global economy and sustained recovery in the housing sector.

For the state, nominal personal income is forecasted to increase by 4.2 percent in 2014 followed by 4.5 percent growth in 2015. Among all personal income categories, rent, interest, and dividend income will expand by the largest amount in 2014, increasing by 5.5 percent, followed by 5.2 percent growth in 2015. Proprietors' income will experience robust growth of 5.2 percent in 2014 and 6.1 percent in 2015, and wages and salaries will also enjoy solid growth in the near term. The national economy is expected to see nominal personal income grow by 4.6 percent in 2014 and 5.0 percent in 2015. Per capita personal income will increase by 3.1 percent in 2014 followed by 3.4 percent growth in 2015. Compared to the nation however, Tennessee's per capita personal income will only be 87.5 percent of the U.S. average in 2014 as opposed to 90.7 percent ten years prior in 2004. On a fiscal year basis, nominal personal income is expected to increase by 3.3 percent in FY 2014 and 4.5 percent in FY 2015.

Seasonally-adjusted nonfarm job growth is expected to be 1.5 percent in 2014 followed by slightly stronger 1.8 percent growth in 2015. For the nation, nonfarm job growth is expected to grow at a similar albeit slightly faster pace. Growth in Tennessee's nonfarm employment will be driven by relatively strong expansions of Tennessee's leisure and hospitality workforce as well as employment in professional and business services. However, overall growth will be slightly dampened by an expected 5.2 percent contraction in federal government jobs in 2014, followed by an additional 1.0 percent contraction of federal jobs in 2015.

*continued on page 30*

## 2.4. Short-Term Outlook, continued

Table 2.1. Selected U.S. and Tennessee Economic Indicators, Seasonally Adjusted

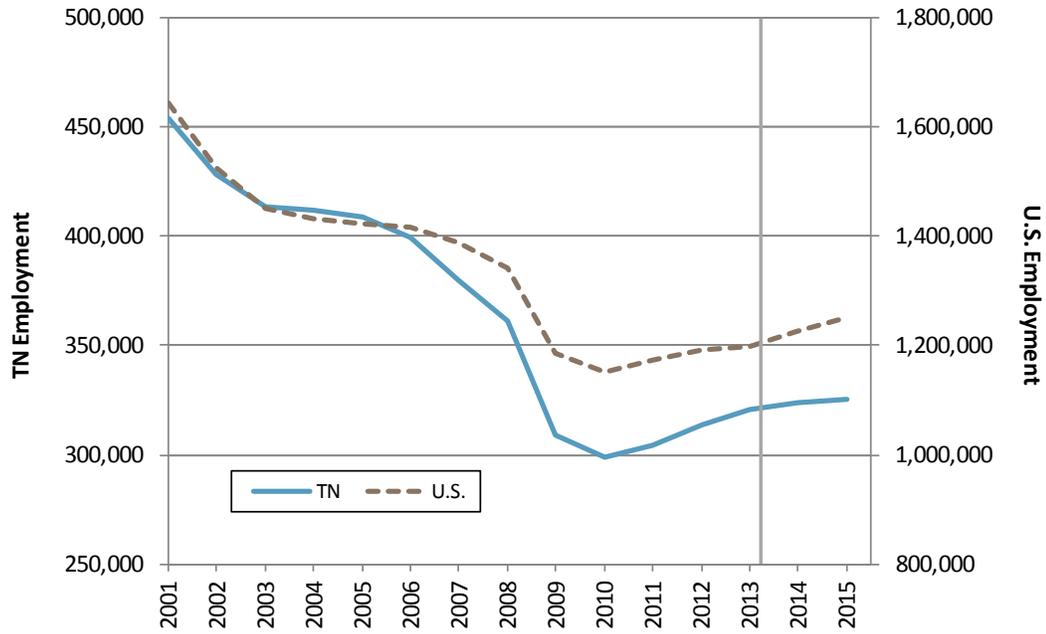
	History			Forecast Data								Annual				
	2013:2	2013:3	2013:4	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4	2016:1	2012	2013	2014	2015
US GDP (Bil2009\$) SAAR.....	15679.7	15839.3	15942.3	16022.4	16120.5	16228.2	16360.4	16495.2	16635.5	16781.4	16921.9	17055.7	15470.7	15761.3	16182.8	16708.5
% Chg Prev Qtr SAAR.....	2.48	4.13	2.63	2.02	2.47	2.70	3.30	3.34	3.45	3.55	3.39	3.20	2.78	1.88	2.67	3.25
% Chg Same Qtr Last Yr.....	1.63	1.97	2.59	2.81	2.81	2.45	2.62	2.95	3.20	3.41	3.43	3.40	2.78	1.88	2.67	3.25
US GDP (Bil\$) SAAR.....	16661.0	16912.9	17060.0	17213.8	17408.6	17599.7	17809.5	18036.5	18258.5	18490.3	18716.4	18959.7	16244.6	16792.3	17507.9	18375.4
% Chg Prev Qtr SAAR.....	3.08	6.19	3.52	3.66	4.60	4.46	4.85	5.20	5.01	5.18	4.98	5.30	4.58	3.37	4.26	4.96
% Chg Same Qtr Last Yr.....	3.10	3.40	3.90	4.10	4.49	4.06	4.39	4.78	4.88	5.06	5.09	5.12	4.58	3.37	4.26	4.96
TN PERSONAL INCOME (MIL2009\$) SAAR.....	239467	240081	242035	243734	245548	247361	249213	250821	252668	254347	256024	257359	236000	239587	246464	253465
% Chg Prev Qtr SAAR.....	4.64	1.03	3.30	2.84	3.01	2.99	3.03	2.61	2.98	2.68	2.66	2.10	3.38	1.52	2.87	2.84
% Chg Same Qtr Last Yr.....	1.67	2.26	1.07	2.94	2.54	3.03	2.97	2.91	2.90	2.82	2.73	2.61	3.38	1.52	2.87	2.84
US PERSONAL INCOME (BIL2009\$) SAAR.....	13180	13248	13308	13470	13576	13699	13813	13962	14073	14177	14286	14448	12964	13190	13640	14125
% Chg Prev Qtr SAAR.....	4.81	2.08	1.84	4.96	3.19	3.67	3.37	4.38	3.20	2.99	3.12	4.60	2.30	1.74	3.41	3.55
% Chg Same Qtr Last Yr.....	2.09	2.67	0.83	3.41	3.01	3.41	3.80	3.65	3.66	3.48	3.42	3.48	2.30	1.74	3.41	3.55
TN PERSONAL INCOME (MIL\$) SAAR.....	255937	257825	260369	263071	266126	269105	272078	274929	278030	281073	284138	287019	250189	256814	267595	279543
% Chg Prev Qtr SAAR.....	4.52	2.98	4.01	4.22	4.73	4.55	4.49	4.26	4.59	4.45	4.43	4.12	5.29	2.65	4.20	4.46
% Chg Same Qtr Last Yr.....	2.76	3.41	1.98	3.93	3.98	4.37	4.50	4.51	4.47	4.45	4.43	4.40	5.29	2.65	4.20	4.46
US PERSONAL INCOME (BIL\$) SAAR.....	14086	14226	14314	14521	14695	14877	15049	15266	15438	15611	15794	16045	13744	14138	14786	15527
% Chg Prev Qtr SAAR.....	4.68	4.04	2.50	5.91	4.86	5.06	4.71	5.89	4.57	4.58	4.77	6.50	4.19	2.87	4.58	5.02
% Chg Same Qtr Last Yr.....	3.18	3.83	1.71	4.28	4.32	4.58	5.13	5.13	5.05	4.94	4.95	5.10	4.19	2.87	4.58	5.02
TN NONFARM JOBS (THOUS.).....	2758.3	2749.0	2762.2	2775.4	2788.6	2801.5	2815.3	2828.2	2840.4	2852.3	2864.7	2876.1	2715.0	2755.3	2795.2	2846.4
% Chg Prev Qtr SAAR.....	0.97	-1.34	1.92	1.93	1.92	1.86	1.99	1.84	1.74	1.69	1.75	1.60	2.03	1.49	1.45	1.83
% Chg Same Qtr Last Yr.....	1.67	1.21	1.12	0.86	1.10	1.91	1.92	1.90	1.86	1.82	1.76	1.70	2.03	1.49	1.45	1.83
US NONFARM JOBS (MIL.).....	135.7	136.2	136.8	137.3	137.9	138.6	139.2	139.9	140.6	141.3	142.1	142.8	133.7	135.9	138.3	141.0
% Chg Prev Qtr SAAR.....	1.73	1.42	1.78	1.64	1.59	2.12	1.91	2.03	2.01	2.01	2.15	1.93	1.70	1.64	1.71	1.99
% Chg Same Qtr Last Yr.....	1.63	1.68	1.71	1.64	1.61	1.78	1.81	1.91	2.02	1.99	2.05	2.03	1.70	1.64	1.71	1.99
TN MFG JOBS (THOUS.).....	319.7	321.3	321.9	322.6	323.3	323.9	324.4	324.7	325.1	325.3	325.5	325.8	313.5	320.3	323.6	325.1
% Chg Prev Qtr SAAR.....	1.52	2.11	0.66	0.95	0.88	0.75	0.61	0.37	0.38	0.29	0.20	0.37	2.97	2.19	1.02	0.48
% Chg Same Qtr Last Yr.....	1.99	2.03	1.79	1.31	1.15	0.81	0.80	0.65	0.53	0.41	0.31	0.31	2.97	2.19	1.02	0.48
US MFG JOBS (MIL.).....	12.0	12.0	12.0	12.1	12.3	12.4	12.4	12.5	12.5	12.6	12.7	12.7	11.9	12.0	12.3	12.6
% Chg Prev Qtr SAAR.....	-0.26	-0.36	1.76	2.45	5.75	4.65	0.57	2.28	1.56	1.79	2.05	1.53	1.65	0.51	2.56	2.25
% Chg Same Qtr Last Yr.....	0.37	0.16	0.61	0.89	2.38	3.64	3.34	3.29	2.25	1.55	1.92	1.73	1.65	0.51	2.56	2.25
TN UNEMPLOYMENT RATE (%).....	8.3	8.5	8.3	8.0	7.6	7.3	7.2	7.2	7.0	6.9	6.8	6.7	8.0	8.2	7.5	7.0
US UNEMPLOYMENT RATE (%).....	7.6	7.3	7.1	6.8	6.6	6.4	6.2	6.1	5.9	5.8	5.7	5.6	8.1	7.4	6.5	5.9
CHAINED PRICE INDEX, GDP (2009=100.0).....	106.2	106.7	107.0	107.4	108.0	108.5	108.9	109.3	109.8	110.2	110.6	111.2	105.0	106.5	108.2	110.0
% Chg Prev Qtr SAAR.....	0.65	1.97	1.23	1.60	2.08	1.72	1.51	1.80	1.51	1.57	1.54	2.03	1.75	1.39	1.62	1.65
% Chg Same Qtr Last Yr.....	1.35	1.27	1.30	1.36	1.72	1.66	1.73	1.78	1.63	1.60	1.61	1.66	1.75	1.39	1.62	1.65
US PERS CONSUMP DEFL (2009=100.0)...	106.9	107.4	107.6	107.8	108.2	108.6	108.9	109.3	109.7	110.1	110.6	111.1	106.0	107.2	108.4	109.9
% Chg Prev Qtr SAAR.....	-0.12	1.92	0.65	0.90	1.63	1.33	1.30	1.44	1.33	1.55	1.59	1.82	1.85	1.11	1.13	1.41
% Chg Same Qtr Last Yr.....	1.07	1.12	0.88	0.83	1.27	1.13	1.29	1.42	1.35	1.40	1.48	1.57	1.85	1.11	1.13	1.41
CONSUMER PRICE INDEX, ALL-URBAN (82-84=1.000).....	2.321	2.336	2.341	2.346	2.359	2.369	2.379	2.389	2.399	2.410	2.420	2.433	2.296	2.330	2.363	2.404
% Chg Prev Qtr SAAR.....	-0.03	2.63	0.83	0.91	2.15	1.74	1.72	1.77	1.59	1.80	1.79	2.10	2.08	1.46	1.44	1.75
% Chg Same Qtr Last Yr.....	1.42	1.55	1.21	1.08	1.63	1.41	1.63	1.84	1.70	1.72	1.74	1.82	2.08	1.46	1.44	1.75
BANK PRIME INTEREST RATE (%).....	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.9	4.4	3.3	3.3	3.3	3.4
FEDERAL FUNDS RATE (% per annum).....	0.117	0.083	0.086	0.090	0.090	0.090	0.090	0.093	0.140	0.286	0.892	1.357	0.140	0.107	0.090	0.353
30-YEAR FIXED MORTGAGE RATE (%).....	3.7	4.4	4.3	4.5	4.6	4.7	4.8	4.8	4.9	5.0	5.2	5.5	3.7	4.0	4.6	5.0
TN TAXABLE SALES (MIL2009\$).....	23504	23453	23640	23790	23909	24055	24204	24321	24438	24571	24707	24801	92504	93995	95958	98038
% Chg Prev Qtr SAAR.....	1.81	-0.86	3.23	2.57	2.00	2.48	2.49	1.95	1.94	2.19	2.23	1.53	2.82	1.61	2.09	2.17
% Chg Same Qtr Last Yr.....	2.29	2.53	2.20	1.68	1.72	2.57	2.39	2.23	2.22	2.14	2.08	1.97	2.82	1.61	2.09	2.17
TN TAXABLE SALES (MIL\$).....	25120	25186	25431	25678	25912	26170	26425	26659	26892	27153	27420	27659	98060	100752	104185	108123
% Chg Prev Qtr SAAR.....	1.69	1.06	3.94	3.94	3.70	4.04	3.95	3.59	3.54	3.94	4.00	3.53	4.71	2.75	3.41	3.78
% Chg Same Qtr Last Yr.....	3.38	3.69	3.12	2.65	3.15	3.90	3.91	3.82	3.78	3.76	3.77	3.75	4.71	2.75	3.41	3.78
TN AVG ANNUAL WAGE, NONFARM (2009\$).....	42110	42217	42389	42498	42596	42709	42827	42936	43040	43122	43196	43244	42024	42146	42657	43074
% Chg Prev Qtr SAAR.....	2.34	1.02	1.64	1.03	0.92	1.07	1.11	1.02	0.98	0.77	0.69	0.44	1.56	0.29	1.21	0.98
% Chg Same Qtr Last Yr.....	0.26	1.38	-0.07	1.51	1.15	1.16	1.03	1.03	1.04	0.97	0.86	0.72	1.56	0.29	1.21	0.98
TN AVG ANNUAL WAGE, NONFARM (\$).....	45007	45338	45600	45870	46165	46463	46756	47063	47361	47654	47940	48228	44549	45176	46313	47504
% Chg Prev Qtr SAAR.....	2.23	2.97	2.34	2.39	2.60	2.60	2.55	2.65	2.56	2.50	2.42	2.43	3.44	1.41	2.52	2.57
% Chg Same Qtr Last Yr.....	1.33	2.52	0.82	2.48	2.57	2.48	2.54	2.60	2.59	2.56	2.53	2.48	3.44	1.41	2.52	2.57

Center for Business and Economic Research, University of Tennessee

Tennessee Econometric Model

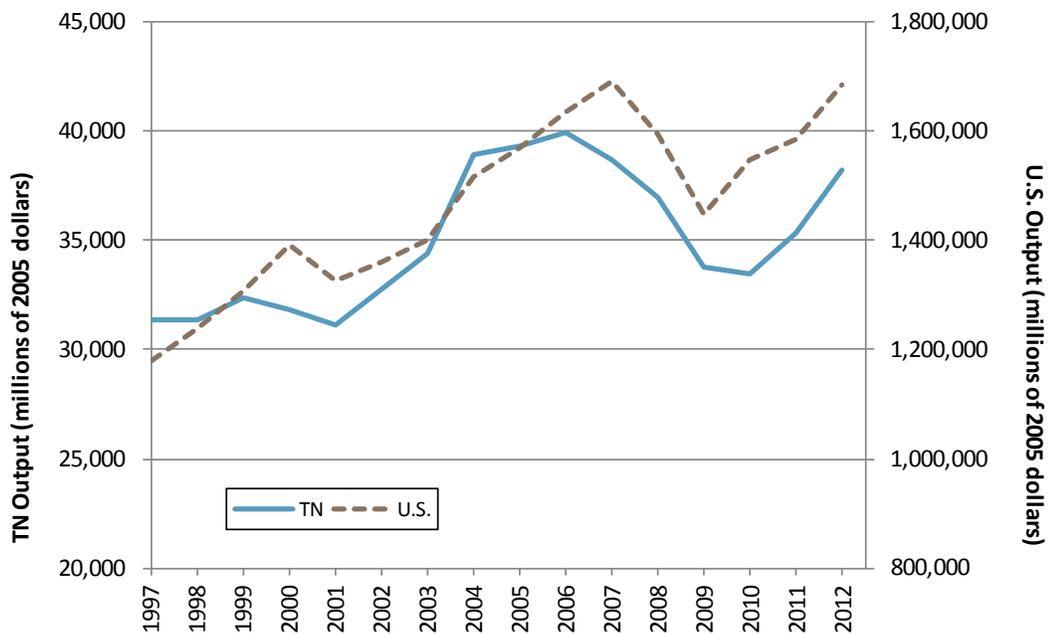
## 2.4. Short-Term Outlook, continued

**Figure 2.7. U.S. and Tennessee Manufacturing Employment Remain Below Pre-Recession Levels from 2008**



Source: Bureau of Labor Statistics; IHS Global Insight, Inc.; and CBER-UT.

**Figure 2.8. U.S. and Tennessee Manufacturing Output Trend Upward**



Source: U.S. Bureau of Economic Analysis.

## 2.4. Short-Term Outlook, continued

Manufacturing employment growth in Tennessee is expected to taper off beginning in 2014. After exhibiting 2.2 percent job growth in 2013, manufacturing employment is expected to expand by 1.0 percent in 2014 and only 0.5 percent in 2015. Figure 2.7 indicates that manufacturing employment has begun to bounce back since taking a huge hit during the Great Recession. However, manufacturing employment levels are still far below pre-recession levels and there is no expectation of reaching pre-recession employment levels in the foreseeable future. On the bright side, however, manufacturing output has been on the rise in recent years (see Figure 2.8), indicating significant gains in manufacturing productivity (output per worker).

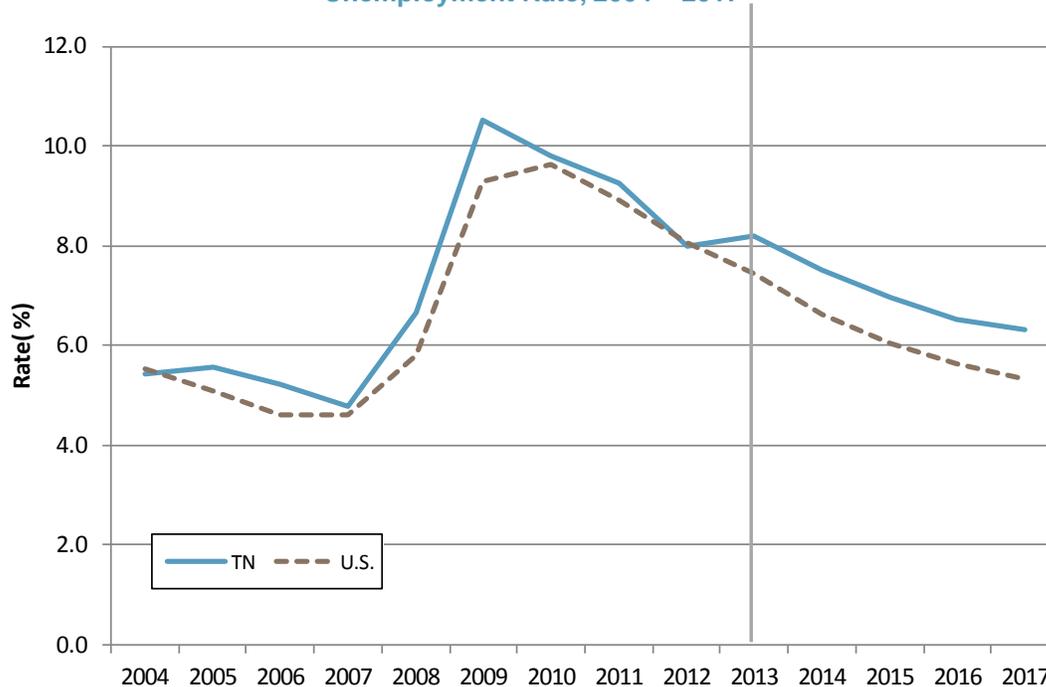
Employment in durable goods manufacturing is projected to rise by 1.8 percent in 2014 and 1.4 percent in 2015. Within durable goods manufacturing, the strongest job growth will be seen in the transportation equipment and

machinery sectors which are both expected to grow by 3.2 percent in 2014 and at least 2.0 percent in 2015. Conversely, employment in computers and electronics is expected to contract in all four quarters of 2014 and 2015 despite expectations of output gains.

Nondurable goods manufacturing will experience job losses of 0.3 percent in 2014 and 1.1 percent in 2015. Among the broad sectors of nondurable goods manufacturing, textile mills and textile products, paper, printing and related support, and chemical manufacturing will all experience losses in both 2014 and 2015. These losses will be greatest in the printing and related support sector which is expected to shrink by more than 5.0 percent per year for the next two years.

The national unemployment rate is expected to fall to 6.8 percent in the first quarter of 2014 and then drop below 6.5 percent by the third quarter. This is an important benchmark (6.5 percent) because in December of 2012 the Federal

**Figure 2.9. TN Unemployment Rate Continues Downward Trend But Lags Behind U.S. – Annual Unemployment Rate, 2004 – 2017**



Source: Bureau of Labor Statistics; IHS Global Insight, Inc.; and CBER-UT.

## 2.4. Short-Term Outlook, continued

Reserve announced they would keep short-term interest rates near zero until the national unemployment rate reached 6.5 percent. However, we do not believe that interest rates will rise rapidly once this occurs, rather they will increase gradually throughout 2014 and 2015. Tennessee, unfortunately, will face a higher unemployment rate than the nation with a 7.5 percent unemployment rate in 2014 and 7.0 percent unemployment rate in 2015. While unemployment rates for both the state and the nation are trending downwards, they are still above pre-recession levels. This is illustrated in Figure 2.9 which plots the annual unemployment rates for Tennessee and the U.S. for 2004 through 2017.

Tennessee's civilian labor force will experience a minor contraction in 2014. This will be driven by an 8.3 percent drop in the number of unemployed people and a 0.6 percent increase in the number of employed people. This likely indicates that a number of unemployed people will find work in 2014 but a small number of unemployed people may also exit the labor force entirely. As a result the labor force participation rate will fall by 1.3 percent in 2014 and will mark the first time in recent history that the labor force participation rate is below 60.0 percent. Tennessee's labor force will improve slightly in 2015 when the civilian labor force is expected to expand by 1.2 percent. The number of employed people should rise by 1.8 percent and the number unemployed people should fall 6.2 percent. However, the labor force participation rate is expected to remain under 60.0 percent in 2015.

Nominal taxable sales are projected to rise by 3.4 percent in 2014. With the exception of transportation and communication, all categories of taxable sales will see growth in 2014. Automobile sales will experience the largest sales growth, expanding by 6.6 percent in 2014. In 2015 it is projected that all categories of taxable sales will grow, and as a result total taxable sales will expand by a modest 3.8 percent in 2015. On a fiscal year basis, nominal taxable sales are expected to rise by 3.1 percent in FY 2014 and 3.9 percent in FY 2015.

### Tennessee Forecast at a Glance

- Inflation-adjusted gross domestic product is expected to increase by 2.8 percent in 2014 and 2.9 percent in 2015, slightly outpacing the 2.6 percent growth rate in 2013.
- The unemployment rate will fall to 7.5 percent in 2014, and 7.0 percent in 2015. This would mark the first time since 2008 that unemployment drops below 8.0 percent, however, it is still well above pre-recession levels.
- Nonfarm employment is expected to grow by 1.5 percent in 2014, while manufacturing employment will expand by 1.0 percent.
- Nominal personal income is forecasted to increase by 4.2 percent in 2014, followed by 4.5 percent growth in 2015.
- Nominal taxable sales will rise by 3.4 percent in 2014, and 3.8 percent in 2015.

## 2.5. Situation and Outlook for Tennessee Agriculture

### Overview of Agriculture in Tennessee

#### 2013 Year in Review

Cool weather combined with late winter and early spring rains delayed the start of 2013 farm field work. As a result, by the end of the first week in April, Tennessee farmers had planted just 1

percent of their corn crop compared to the five-year average of 13 percent. During the month, farmers were able to engage in field work 14 days so that by the end of the month with 47 percent of the crop in the field they were still one week behind in planting the corn crop. Topsoil and

## 2.5. Situation and Outlook for Tennessee Agriculture, continued

subsoil moisture were at adequate or surplus levels in 98 percent of the fields around the state. The development of the winter wheat crop was also behind the five-year average.

The pattern for May did not vary much from what farmers had experienced in April, with only 14 days available for field work. By the last week in May, 87 percent of the projected corn acreage had been planted compared to a more typical 95 percent. By the end of May, 21 percent of the soybeans and 37 percent of the cotton had been planted. Both of these crop plantings were well behind normal. The wheat crop was rated to be in good-to-excellent condition, though crop development remained behind normal. By the 26<sup>th</sup> of May, farmers had made the first cutting of hay on 37 percent of their acres compared to a normal of 52 percent. Topsoil and subsoil moisture levels remained at 98 percent adequate or surplus by the end of the month.

For the May 29-June 30 period, farmers had 26 days in which they could do field work. By the end of the month, corn and cotton planting had been completed and 85 percent of the anticipated soybean acres were planted. Over 90 percent of the crops were in fair to excellent condition. Wheat had been harvested from 80 percent of the acres by the end of June and farmers were experiencing excellent yields. Most farmers had completed their first cutting of hay and some were beginning their second cutting. A few areas in the state were short of subsoil moisture, but most had adequate moisture for continued crop development.

Crop conditions were mostly fair to excellent, though crop development remained behind normal throughout July. Farmers were able to complete the wheat harvest and had begun topping tobacco. A few fields were short of moisture by the end of the month, but most fields were in good-to-excellent condition. Farmers had 17.5 days in which they could do field work during July.

August provided a stable period for crop development, with adequate moisture and some warm days coming by the end of the month, moving the crops toward maturation. Farmers began harvesting corn silage fields with 71 percent

of the intended silage acres being harvested in August. The corn for grain harvest began during the last few days of the month with just 2 percent of the acres harvested. Farmers also began the tobacco harvest.

With 23.5 days suitable for field work in September, farmers were busy with harvest, though harvest was later than in most years. The drier weather resulted from fewer days of rain and was responsible for 19 percent of fields being short of moisture by the end of the month. Late fall rains slowed the crop harvest in late fall but by the end of November most crops had been put in the bin and 86 percent of winter wheat fields had been planted.

Tennessee corn production in 2013 was 127.9 million bushels on a yield of 156 bushels per acre, setting a new modern record. The harvested acreage was 820 thousand acres down from 890 thousand acres a year earlier. In addition there 950 thousand tons of corn silage harvested on 50 thousand acres.

With a national trendline harvest, the season average price is projected to be \$2.49 lower than it was a year earlier. If the 2014 national corn harvest is close to trendline, farmers could see substantially lower prices, possibly below the cost of production.

Farmers in Tennessee harvested 1.5 million acres of soybeans (40 thousand fewer acres than in 2012), bringing in 69.9 million bushels, 23.2 million bushels more than a year earlier on a yield of 46 bushel per acre, 8 bushels per acre more than in 2012. In January 2014, the USDA projected the season average price for soybeans to be \$1.90 lower than they were a year earlier.

In 2013, the cotton yield was 871 pounds per acre, compared to 950 pounds per acre in 2012. With 2013 cotton acreage lower at 233 thousand acres, when compared to 2012 cotton acres of 377 thousand, Tennessee cotton production was 423 thousand bales in 2013 which is well below 2012's production of 743 thousand bales. Cottonseed production was 141 thousand tons in 2013. The cotton price is projected to be slightly above the price a year earlier.

## 2.5. Situation and Outlook for Tennessee Agriculture, continued

July saw the completion of the harvest of 540 thousand acres of wheat, the largest acreage since 1983. Abandoned winter wheat acreage was 70 thousand acres. In 2012, the abandoned acreage totaled 80 thousand acres out of 420 thousand acres planted. The yield was 71 bushels per acre—a record yield for Tennessee—for a total of 38.3 million bushels. The value of wheat production for the 2013 crop was \$145 million.

Tobacco production in 2013 was 44.6 million pounds, lower than the 2012 production of 53 million pounds. Both lower acreage and yields contributed to the smaller 2013 crop. The value of Tennessee tobacco production was \$44.6 million.

With top soil and subsoil moisture remaining in the adequate-to-surplus range for most fields for most of the year, Tennessee farmers harvested 4.4 million tons of hay in 2013, 800 thousand tons more than they harvested a year earlier. This increase came about because of both increased acreage (150 thousand additional acres) and increased yields (15 percent) from a year earlier.

Tennessee farmers planted 5.25 million acres for all crops in 2013, 360,000 acres more than the previous year. Of the planted acres, farmers harvested 5.1 million acres, 360 million more than in 2012. Tennessee harvested acreage in 2013 increased while national harvested acreage declined by slightly more than 5 million acres.

### *Tennessee Agriculture – 2012*

In 2012, the number of farms in Tennessee was 76,000, a loss of 1,300 farms, while the land in farms remained steady at 10.8 million acres. With fewer farms and steady acreage, the average farm size increased from 140 acres in 2011 to 142 acres in 2012. These changes reflect a long-term trend of farm consolidation in Tennessee. Over 41 percent of Tennessee's land base is in farmland, 55 percent of which is cropland. Nationally, Tennessee ranks 9<sup>th</sup> in the number of farms, 27<sup>th</sup> in the number of farm acres, and 44<sup>th</sup> in average farm size. In 2012, the state's top five agricultural commodities were cattle and calves; soybeans; corn; broilers; and cotton. These five production areas account for 71 percent of cash receipts from

farm marketings. Crops accounted for 60 percent of farm cash receipts, with livestock and products accounting for the remaining 40 percent. In the not-so-distant past crop and livestock receipts were closer to each other. The difference in 2012 was due to the continuation of high crop prices. If crop prices continue to drop as they have with a good 2013 national harvest, we could see the share of farm receipts for livestock move back towards 50 percent.

Of the 76,000 farms in Tennessee in 2012, 52,400 had sales between \$1,000 and \$9,999. An additional 18,800 had sales between \$10,000 and \$99,999, with 1,700 having sales between \$100,000 and \$249,000; 1,500 farms had sales between a quarter- and a half-million dollars and 1,600 farms had total sales of \$500,000 and above. Farms with sales over \$250 thousand in 2012 represented 4 percent of all farms while producing 39 percent of all land in production.

### *Agricultural Products in Tennessee in 2012*

Agriculture in Tennessee is quite varied. The state's top 14 agricultural commodities, in terms of 2012 value of receipts, include cattle and calves; soybeans; corn; broilers; cotton; greenhouse/nursery; dairy products; wheat; tobacco; hay; vegetables & melons; hogs; eggs; fruits and nuts. In 2011, all agricultural commodities in Tennessee generated more than \$3.8 billion in cash receipts, an increase of 10 percent over 2011 levels.

Figure 2.10 shows the relative share of cash receipts by commodity. Cash receipts from cattle and calves increased by over \$197 million, soybeans increased by nearly \$131 million, corn increased by \$58 million and tobacco increased by over \$15 million. Broilers and dairy saw a decline in cash receipts. In 2012 Tennessee ranked second among all states in meat goat production; third in tobacco, seventh in cotton, ninth in tomatoes and thirteenth in broilers.

Tennessee's 2012 agricultural exports of \$1.580 billion were \$243 million higher than the value of agricultural exports in 2011, an increase of 2.8 percent. By way of contrast, US exports of agricultural products increased by \$4.9 billion to

## 2.5. Situation and Outlook for Tennessee Agriculture, continued

\$141.3 billion (3.6 percent). Tennessee’s agricultural exports were 1.1 percent of the total value of US agricultural exports for the 2012 calendar year.

### Tennessee Agricultural Sector Outlook

#### Farm Income

Tennessee net farm income for 2013 is projected to be \$813 million, \$5 million higher than 2012. Direct government payments from federal farm programs accounted for \$176 million or 22 percent of 2013 Tennessee net farm income.

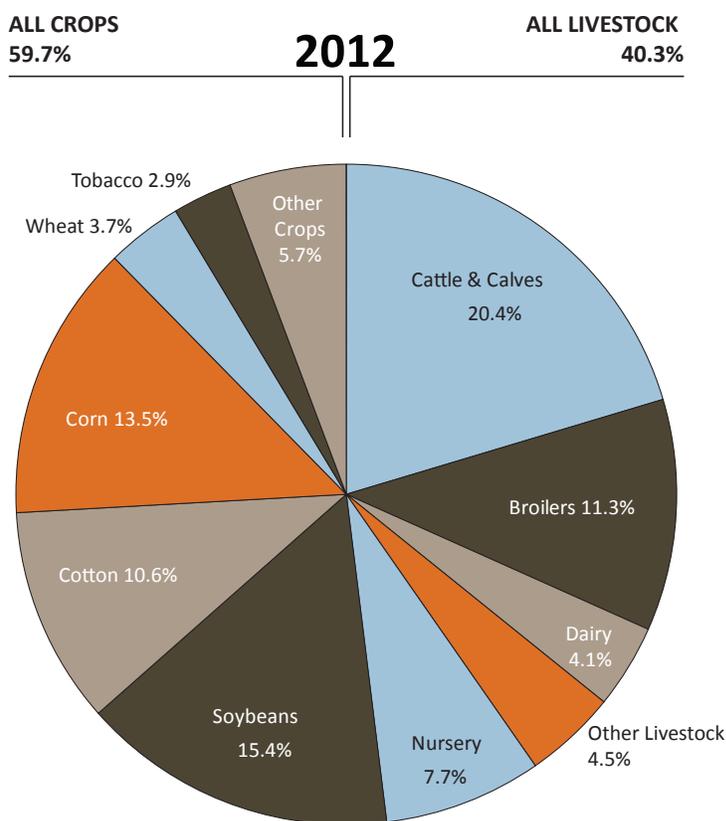
The USDA national forecast for 2013 net farm income is \$131 billion, \$17 billion above the 2012 estimate of \$117.9 billion. The increase is the result of higher income for livestock. Crops

suffered from weaker prices and cattle producers saw gains from higher value of production.

#### U.S. Crops Outlook

**Corn**—With a 300 thousand acre increase in harvested acres and a 35.4 bushels per acre increase in yield, 2013 corn production in the US decreased dramatically from the drought plagued 2012 production levels. With the ratio of soybean prices to corn prices favoring the planting of soybeans, farmers reduced their corn plantings by 1.8 million acres. Good weather through the critical pollination and maturation periods resulted in the increase in harvested acres, as fewer acres were abandoned compared to a year earlier. The January 2014 projection for US 2013 crop-year corn production

Figure 2.10. Leading Tennessee Commodities for Cash Receipts, 2012



Source: United States Department of Agriculture and Economic Research Service.

## 2.5. Situation and Outlook for Tennessee Agriculture, continued

is 13.9 billion bushels, 3.1 billion bushels above 2012 production. As it became apparent that the 2013 crop would be sufficient to meet expected needs, corn prices which were \$7.13 per bushel in March, before planting got under way, fell to \$4.31 per bushel in December. Feed utilization for the 2013 crop year is expected to increase by 965 million bushels and corn used for ethanol production is projected to increase to 5.3 billion bushels as a result of adequate supplies and lower corn prices. Crop-year-ending stocks are expected to increase to 1.6 billion bushels for a carry-out stocks-to-use ratio of 12.4 percent. The 2013 crop-year-ending stocks are double that of a year earlier. The January 2013 USDA midpoint projection for the season average price of corn for the 2013 crop year is \$4.40, \$2.49 below the estimated season average price for the 2012 corn crop in January a year ago. The world supply of coarse grains—corn and its feed substitutes: sorghum, barley, oats, rye, millet and mixed grains—is 7.6 percent larger than a year earlier. The projected 2013 crop-year, world, year-ending-stocks-to-use ratio for coarse grains is 16.3 percent.

Given the increased corn production in Argentina and Brazil in 2013, it would not be unexpected that much of that land area will remain in production for the short to medium run, keeping downward pressure on prices. As the result of lower corn prices relative to soybean prices, it is expected that some Tennessee corn acres will be planted to soybeans in 2014. If the summertime expected national production of corn in 2014 remains at near trendline levels, it is not unreasonable to expect that corn prices will drop further.

**Soybeans**—U.S. soybean production in 2013 was 255 million bushels higher than a year earlier primarily as a result of a 3.5 bushel/acre increase in yield. For the 2013 crop year, US soybean crush is projected to increase by 11 million bushels and exports are projected to increase by 175 million bushels. The 2013 crop-year-ending stocks-to-use ratio for soybeans is projected to be 4.5 percent, a relatively normal level for soybeans. The midrange of the projected 2012 crop year farmgate price for U.S. soybeans is \$12.50, \$1.90 lower than last year.

Typically soybean prices are 2.5 times the price of corn while the USDA projected price for the 2013 soybean crop is 2.84 times the projected price of corn. That price ratio would suggest that soybeans may gain some 2014 acreage from corn, both nationally and in Tennessee. US soybean exports, however, will continue to struggle as long as southern hemisphere soybean production continues to increase.

**Wheat**—Harvested wheat acreage for the 2013 crop year was 3.7 million acres smaller than the previous year and the yield was up by 0.9 bushels/acre, resulting in total production of all classes of wheat of 2.13 billion bushels. This is 136 million bushels lower than a year earlier. The domestic use of wheat is projected to decrease by 132 million bushels due mostly to a decline in the use of wheat for animal feed as the result of a higher corn production level. Exports are projected to increase by 18 million bushels. The 2013 US domestic use of wheat is projected to consume 53.1 percent of the crop, while the export share is 46.9 percent. The year-ending stocks-to-use ratio is projected at 25.3 percent. The 2012 projected stocks-to-use ratio is well within the historical range. The season average US farmgate price for wheat in the 2013 crop year is projected to be \$6.80, 97 cents lower than in 2012. World wheat production in the 2013 crop year is projected to be 60 million metric tons higher than in 2012 while consumption is expected to increase by 28 million metric tons.

**Cotton**—U.S. cotton producers decreased their 2013 harvested acres by 1.71 million acres. The US cotton yield decreased by 61 pounds per acre. The result was a 4.13 million bale (480 pounds) decrease in production from the previous year. With exports accounting for 74 percent of the US crop, international demand is essential to maintaining a profitable price in the US. USDA projects that the 2011 season average farmgate price for cotton will be 74.5 cents per pound, up 2 cents from a year earlier.

### *Livestock Outlook*

**Beef**—The USDA projects 2014 US beef production at 24.4 billion pounds, 1.4 billion pounds below 2013 production. US per capita

## 2.5. Situation and Outlook for Tennessee Agriculture, continued

consumption of beef for 2013 is projected to fall to 53.6 pounds, 2.9 pounds less than 2013. Beef imports in 2014 are projected to increase by 31 million pounds. Exports are projected to fall by 199 million pounds. Average beef prices are expected to increase by 7.6 cents per pound in 2014.

**Pork**—Pork production is expected to increase in 2014 by 385 million pounds to 23.6 billion pounds. USDA projects imports to increase by 4 million pounds in 2014. Exports are projected to increase by 206 million pounds. The US per capita consumption of pork is projected to increase to 47 pounds. The annual average price of pork is expected to drop by 2 cents per pound.

**Broilers**—Broiler production in 2014 is expected to increase by 1.1 billion pounds to 38.9 billion pounds as the result of increased US per capita consumption of chicken. Broiler imports are relatively small and a decrease of 7 million pounds brings broiler imports to 112 million pounds. Exports in 2013 are expected to increase by 134 million pounds to 7.05 billion pounds. US consumption of broilers is projected to increase to 83.7 pounds per capita.

**Milk**—Milk prices are projected to be in the \$20.60-\$21.40 per cwt. range in 2013.

### Ag Sector Issues

#### *Commodity Price Outlook*

It could be worse than previously thought. With record corn production in a year with heavy spring rains and late planting problems, the price drop from last year suggests that corn demanders see the crop-reducing effects of 2012 drought as an aberration—since apparently improved seed genetics successfully protected 2013 corn production from moderate drought in some areas and planting problems in others—some areas had both problems.

Compared to the 2012 corn crop, the November World Supply and Demand Estimates (WASDE) reports record production, increased crop utilization—both domestically and internationally—and the year-ending stocks increasing by nearly 1.2 billion bushels of corn.

The result is a projected season average corn price received by farmers of \$4.50 per bushel for the 2013 corn crop, a drop of \$2.93 per bushel from a year earlier. For most farmers, even on the most productive land, \$4.50 is getting frighteningly close to their cost of production—and for some-to-many land costs would not be covered. This leaves little margin on the downward side before things get really scary.

And scary it might be. While recognizing that these numbers are for the outer edges of the US corn belt, on November 18, 2013 DTN Ag Policy Editor Chris Clayton reported that “DTN’s market tracker shows corn for delivery selling as low as \$3.17 a bushel in northeast Montana.” He also said “DTN’s Market Tracker shows corn prices below \$3.70 in parts of the eastern Corn Belt, notably throughout parts of Michigan and Ohio. Farther west, prices throughout North and South Dakota are hitting lows below \$3.40 a bushel in some places with prices averaging more around \$3.50 a bushel.”

Can it get any worse? That is a distinct possibility. Consider the following scenario, suppose that: 1) the USDA has underestimated the corn crop by 100 million bushels and 2) it has also overestimated domestic and export consumption by 200 million bushels.

If that scenario comes about, total use would decline to 12.750 billion bushels and the 2013 year-ending stocks for corn would increase to 2.187 billion bushels, resulting in a year-ending corn stocks-to-use ratio of 17.2%.

The last time we saw the year-ending stocks-to-use ratio at that level was 2005, just before the ethanol boom took off. The price was \$2.00 per bushel. As unlikely as that price may be, given today’s production costs, that price would be devastating. Even if the price fell to \$3.00 because of forward contracting and other pricing strategies, the effects would still be devastating.

Worse yet, suppose the 2014 corn crop adds 500 million bushels or more to the year-ending corn levels, \$2.00 could actually be a possibility. Remember 1998-2001, the Loan Deficiency Payments and emergency payments?

## 2.5. Situation and Outlook for Tennessee Agriculture, continued

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For the 2013 crop year, WASDE projects that 4.9 billion bushels of corn will be used for ethanol production, a level that we have generally seen since 2010. With ethanol not continuing to consume 500 million extra bushels of corn each year, the 5 billion bushel mark for ethanol production is like water in a full reservoir; it is the same as concrete and any extra corn is like additional water flowing over the top of the dam—existing stable demand provides little or no protection against a flood of additional production and lower prices.

Coming back to what could happen next year if corn production in 2014 outstrips utilization causing year-ending stocks go up by another 500 million bushels, further depressing prices.

Revenue insurance would provide very-little-to-no protection against production costs—because the level of insured revenue would be based on the percentage of a very low price. That leaves some income from Loan Deficiency Payments and the hope for \$10-\$15 billion in emergency payments, especially if direct payments are taken away.

Perhaps writing a farm bill in a year of declining prices will persuade legislators to provide farmers with an adequate safety net. It would be even better if they designed the farm program based on the fundamental characteristics of crop production: the low price elasticity of supply, the low price elasticity of demand, the tendency for supply to grow faster than demand, and the fixity of resources.