



The Economic Outlook and Revenue Forecast through Fiscal Year 2020

Prepared by the Virginia Department of Taxation
for Review by the
Governor's Advisory Council on Revenue Estimates

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Introduction

As fiscal year 2016 general fund revenue collections fell short of the forecast, meeting the criteria in Virginia Code section 2.2-1503.3, the Governor ordered the Secretary of Finance to produce interim economic and revenue forecasts, which were released in August.

The economic forecast that best represented deliberations of the Joint Advisory Board of Economists (JABE) and the Governor's Advisory Council on Revenue Estimates (GACRE) over the summer was the IHS Markit May 2016 standard forecast for the U.S. and Virginia. The resulting interim economic outlook incorporated slightly slower growth than anticipated in the November 2015 forecast. As a result, total general fund revenue collections for fiscal years 2017 and 2018 were reduced by a total of \$1.2 billion in the August interim revenue forecast.

The JABE met in November as part of the regular fall forecasting process to consider three economic forecasts: the IHS Markit October standard forecast, the IHS Markit October alternative pessimistic forecast, and Moody's Analytics September 2016 standard forecast. The consensus of the Board was that the IHS Markit October standard forecast was the appropriate outlook for the nation and for Virginia, although three members recommended a more cautious approach for fiscal year 2018 due to the possible impacts of sequestration and cuts to defense spending, and two members predicted growth could be stronger than anticipated due to the fiscal stimulus program expected from the new administration.

The purpose of this meeting is to review the most current economic forecasts to determine the most likely path for the Virginia economy over the next biennium, and which of the resulting revenue forecasts seems appropriate. This forecast will serve as the basis for the budget to be released by the Governor in December.

Section 1 of this book contains a review of the national economic performance during fiscal year 2016. Summaries of IHS Markit October standard and alternative pessimistic national outlooks are presented.

Section 2 contains a review of Virginia's economic performance during fiscal year 2016. This is followed by a summary of the IHS Markit October standard and alternative pessimistic economic scenarios for Virginia developed by the Department of Taxation.

Section 3 contains a review of Virginia's general fund revenue collections during fiscal year 2016. This is followed by a summary of the October standard and alternative pessimistic forecasts. Section 4 discusses nongeneral fund revenue and forecasts.

Historical and forecast economic data are contained in Appendix A. Appendix B is a history of general fund revenue collections. Appendix C contains detailed econometric output for major sources.

SECTION 1
THE U.S. ECONOMY

Section 1 The U.S. Economy

Introduction

This section begins with a review of fiscal year 2016, comparing actual U.S. economic growth to the official forecast for the year. The official forecast for fiscal year 2016 was based on IHS Markit's November 2015 U.S. standard outlook as approved by the Joint Advisory Board of Economists (JABE) and the Governor's Advisory Council on Revenue Estimates (GACRE).

Following the review of fiscal year 2016, the IHS Markit October standard forecast is summarized. The section concludes with an overview of an alternative economic outlook – IHS Markit's October 2016 pessimistic scenario.

Tabular data are presented throughout this section. More detailed tabular data are presented in the appendices. Appendix A-1 shows quarterly historical data for major forecast variables from fiscal year 2014 through fiscal year 2016. Appendix A-2 shows quarterly data for the two forecasts through fiscal year 2020. Appendix A-3 displays annual historical and forecast data from fiscal year 1998 through fiscal year 2020. Appendix A-4 displays regional employment data from fiscal year 1998 through fiscal year 2020.

Review of Fiscal Year 2016

At the time of IHS Markit's November 2015 forecast, the economy continued to improve and underlying fundamentals seemed to support a more robust expansion. Results were mixed, with growth in real GDP and income well below expectations and wages and salaries and employment growth slightly exceeding expectations.

Following is a summary of key assumptions included in the November 2015 standard forecast and how those assumptions fared over the fiscal year. Table 1.1 on the next page compares the official forecast and actual results for fiscal year 2016.

- Real GDP rose 1.7 percent for the fiscal year, trailing the forecast of 2.4 percent growth.
- Total personal income rose 3.7 percent in fiscal year 2016, lagging the forecast of 4.2 percent growth. Wages and salaries grew 4.5 percent, 0.5 percentage point ahead of the forecast of 4.0 percent.

Table 1.1 - Fiscal Year 2016 U.S. Forecast Performance

	<u>Forecast</u>	<u>Actual</u>	<u>Actual Minus Forecast</u>
<u>Output, Income, and Spending (% Change)</u>			
Real GDP	2.4	1.7	(0.7)
Total Personal Income	4.2	3.7	(0.5)
Wages and Salaries (50%)	4.0	4.5	0.5
Average Wage	2.2	2.5	0.3
Real Consumer Spending	3.1	2.7	(0.4)
<u>Employment and Labor Markets (% Change)</u>			
Total Nonagricultural Employment	1.8	1.9	0.1
Construction (4%)	2.9	4.1	1.2
Manufacturing (9%)	0.1	0.3	0.2
Trade, Transportation, and Utilities (19%)	1.6	1.8	0.2
Information (2%)	1.2	1.0	(0.2)
Financial Activities (6%)	1.5	1.9	0.4
Professional and Business Services (14%)	3.1	3.1	0.0
Education and Health Services (15%)	2.7	3.1	0.4
Leisure and Hospitality (10%)	2.7	2.9	0.2
Other Services (4%)	0.6	1.1	0.5
Government (16%)	0.8	0.5	(0.3)
Unemployment Rate (%)	5.1	5.0	(0.1)
<u>Interest Rates (% Change)</u>			
3-Month Treasury Bills	0.3	0.2	(0.1)
30-Year Treasury Bonds	3.1	2.8	(0.3)
<u>Prices (% Change)</u>			
CPI	0.5	0.7	0.2
GDP Deflator	1.4	1.1	(0.3)

The Official forecast is IHS Markit November 2015 U.S. standard scenario.

- Real consumer spending rose 2.7 percent in fiscal year 2016, behind the forecast of 3.1 percent.
- Total nonagricultural employment grew 1.9 percent, close to the forecast of 1.8 percent. Most sectors finished the year ahead of expectations. The largest variance from the forecast was in the construction sector, which grew 4.1 percent, ahead of the forecast of 2.9 percent growth. The only sectors below forecast were government and information.
- The increase in the CPI of 0.7 percent exceeded the forecast by 0.2 percentage point, while the GDP deflator increased 1.1 percent compared with the forecast of 1.4 percent.
- IHS Markit expected the Federal Reserve Bank to keep the target federal funds rate steady at 0.0 percent to 0.25 percent until December 2015, with the target rate hitting 0.5 percent by the end of calendar year 2015, reaching 1.5 percent by the end of 2016, and peaking at 3.25 percent by the end of 2018. The target rate remained unchanged at 0.25 to 0.5 percent.

Recent Developments in the U.S. Economy

Most recent indicators suggest that the U.S. economy strengthened over the second quarter and is poised for modest growth. According to the third estimate, real GDP grew at an annualized rate of 1.4 percent in the second quarter of 2016, up from 0.8 percent in the first quarter.

Payroll employment grew by 156,000 jobs in September, following a gain of 167,000 in August. In a separate report, the unemployment rate rose from 4.9 percent to 5.0 percent in September as more workers entered the labor force. Initial claims for unemployment fell by 5,000 to 249,000 during the week ending October 1. The four-week moving average fell by 2,500 to 253,500.

The Conference Board's index of leading indicators fell 0.2 percent in August, after two months of broad-based growth. The Conference Board's index of consumer confidence rose 2.3 points to 104.1 in September. Both the present situation and expectations components increased.

Activity in the manufacturing improved in September. The Institute of Supply Management index rose from 49.4 to 51.5 in September.

Inflation remains low – the CPI rose 0.3 percent in September and stands 1.5 percent above September 2015. Core inflation (excluding food and energy prices) increased 0.1 percent and stands 2.2 percent above September of last year. The Federal Reserve announced at its September meeting that it will keep the federal funds rate target unchanged at 0.0 to 0.25 percent.

The IHS Markit U.S. Standard Forecast for Fiscal Years 2017-2020

Due to the underperformance of revenue collections in fiscal year 2016, the Governor ordered the Secretary of Finance in mid-May to produce interim economic and revenue forecasts, which were released in August. The economic forecast that best represented deliberations of the JABE and GACRE was the IHS Markit May 2016 standard forecast. Tables 1.2 and 1.3 at the end of this section compare the interim May 2016 forecast with two other forecasts: the IHS Markit October 2016 standard and pessimistic alternative forecasts.

In the October standard forecast, growth is close to the interim forecast. IHS Markit believes solid underlying fundamentals will allow the U.S. economy to continue its modest expansion, with real GDP growth of 1.9 percent in the third quarter of calendar year 2016 and 2.1 percent in the fourth quarter. Continued growth in employment and gradual acceleration in wage gains should support GDP growth. IHS Markit assigns a 65 percent probability to the standard scenario.

IHS expects real GDP growth of 1.7 percent in fiscal year 2017, the same as fiscal year 2016, and slower than the interim forecast. It is then expected to pick up to 2.3 percent in fiscal year 2018, and 2.2 percent per year in fiscal years 2019 and 2020. Figure 1.1 on the following page depicts GDP growth.

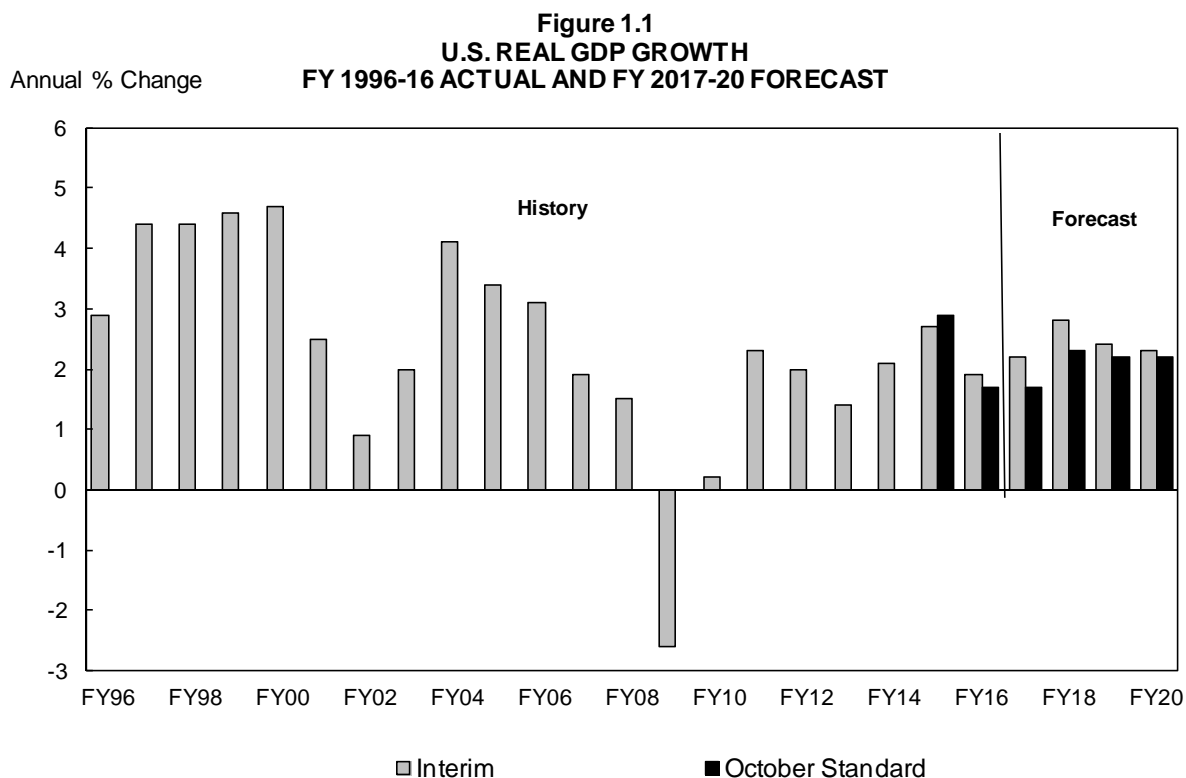
The outlook for the job market in the October standard forecast is slightly lower than the interim forecast in fiscal years 2017 and 2018. Payroll employment is expected to grow 1.5 percent in fiscal year 2017, 0.9 percent in fiscal year 2018, and 0.9 to 1.0 in fiscal years 2019-2020. The October standard forecast expects the unemployment rate to be similar to that predicted in the interim forecast in the near term, but improves more quickly than the interim, falling to 4.6 percent by 2020, compared with 5.1 percent in the interim.

Total personal income is expected to rise by 3.8 percent in fiscal year 2017, slightly below the interim forecast. Income growth then increases to 4.7 percent in fiscal year 2018, again below the interim forecast. The October forecast for the largest component of personal income, wages and salaries, is close to the interim estimate, but slightly higher in fiscal years 2019-2020. IHS Markit expects wages and salaries to rise 4.3 percent in fiscal year 2017, 5.0 percent in fiscal years 2018 and 2019, and 4.9 percent in 2020.

Real consumer spending is expected to grow 2.8 percent in fiscal year 2017, matching the interim forecast. Growth falls to 2.2 percent in fiscal year 2018, half a percentage point lower than the interim forecast. In fiscal years 2019 and 2020, growth again matches the interim estimate.

At its September meeting, the Federal Open Market Committee statement said that the case for an increase in the federal funds rate has strengthened. IHS Markit assumes they will raise the federal funds rate by 25 basis points at the December

meeting. They expect two rate hikes of 25 basis points each in 2017 and three increases in 2018 and 2019, bringing the funds rate to a long-term equilibrium of 2.75 percent.



Alternative U.S. Forecast

IHS Markit Pessimistic Alternative Scenario

In the pessimistic scenario, the U.S. economy suffers a two-quarter recession in the second half of 2017. Domestic and global political risks trigger uncertainty and damage business confidence, resulting in faltering productivity and a U.S. stock market crash that devastates consumer confidence.

Higher inflation, oil prices, and interest rates combine to sharply impact consumer spending, capital expenditures, and the housing market. The economy contracts at annual rates of 1.4 percent and 2.5 percent in the third and fourth quarters of 2017. The unemployment rate rises through 2018 reaching a peak of 6.1 percent, compared with a rate below 5.0 percent in the baseline forecast. IHS Markit assigns a 20 percent probability to the pessimistic scenario.

U.S. Economy

In the alternative pessimistic scenario, real GDP increases by only 1.0 percent in fiscal year 2017 and contracts 0.5 percent in 2018, before rising to 1.8 percent in fiscal year 2019 and 2.8 percent in fiscal year 2020. Total personal income increases by 4.0 percent a year in fiscal years 2017-2018 then 4.6 and 6.0 percent in fiscal years 2019-2020.

Growth in wages and salaries is close to the October standard forecast in fiscal year 2017; substantially below the standard in fiscal years 2018-2019; then substantially higher in fiscal year 2020. Wages and salaries grow by 4.5 percent in fiscal year 2017, 4.3 percent in 2018, 4.2 percent in 2019, and 5.6 percent in 2020.

In the pessimistic scenario, employment growth drops to 1.2 percent in fiscal year 2017, declines by 0.6 percent in fiscal year 2018, then grows by 0.1 percent in 2019, lagging the interim forecast. The unemployment rate is well above the interim forecast over the forecast horizon.

Table 1.2 - Fiscal Years 2015-2020 Interim and October Forecasts
U.S. Economic Forecasts - Income and Other Indicators

		<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>
<u>Output, Income, and Spending (% Change)</u>							
Real GDP	Interim (May '16)	2.7	1.9	2.2	2.8	2.4	2.3
	Oct Standard	2.9	1.7	1.7	2.3	2.2	2.2
	Oct Pessimistic			1.0	(0.5)	1.8	2.8
Total Personal Income	Interim (May '16)	4.7	4.1	4.2	5.0	5.0	4.9
	Oct Standard	5.3	3.7	3.8	4.7	5.0	4.9
	Oct Pessimistic			4.0	4.0	4.6	6.0
Wages and Salaries (50%)	Interim (May '16)	5.1	4.4	4.8	5.1	4.7	4.7
	Oct Standard	5.3	4.5	4.3	5.0	5.0	4.9
	Oct Pessimistic			4.5	4.3	4.2	5.6
Average Wage	Interim (May '16)	3.0	2.3	3.0	4.0	3.9	3.8
	Oct Standard	3.1	2.5	2.8	4.1	4.0	3.8
	Oct Pessimistic			3.2	4.9	4.1	4.2
Real Consumer Spending	Interim (May '16)	3.2	2.8	2.8	2.7	2.5	2.4
	Oct Standard	3.4	2.7	2.8	2.2	2.5	2.4
	Oct Pessimistic			2.4	0.0	1.5	2.3
<u>Interest Rates (%)</u>							
3-Month Treasury Bills	Interim (May '16)	0.0	0.2	0.8	1.9	2.7	2.8
	Oct Standard	0.0	0.2	0.5	1.0	1.8	2.5
	Oct Pessimistic			0.7	0.7	0.4	0.5
30-Year Treasury Bonds	Interim (May '16)	2.9	2.8	3.1	3.3	4.0	4.1
	Oct Standard	2.9	2.8	2.5	3.0	3.5	4.0
	Oct Pessimistic			2.4	2.4	2.1	2.6
<u>Prices (% Change)</u>							
CPI	Interim (May '16)	0.7	0.6	1.6	2.5	2.6	2.6
	Oct Standard	0.7	0.7	1.9	2.5	2.5	2.6
	Oct Pessimistic			2.7	3.6	3.0	3.2
GDP Deflator	Interim (May '16)	1.3	1.1	1.7	2.2	2.2	2.2
	Oct Standard	1.4	1.1	2.0	2.3	2.1	2.1
	Oct Pessimistic			2.5	3.7	3.1	2.6

The Interim forecast is IHS Markit May 2016 U.S. standard scenario.

The Oct Standard forecast is IHS Markit October 2016 U.S. standard forecast.

The Oct Pessimistic forecast is IHS Markit October 2016 U.S. pessimistic alternative scenario.

U.S. Economy

Table 1.3 - Fiscal Years 2015-2020 Interim and October Forecasts
U.S. Economic Forecasts - Income and Other Indicators

		<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>
<u>Employment and Labor Markets (% Change)</u>							
Total Nonagricultural Employment	Interim (May '16)	2.1	2.0	1.7	1.1	0.8	0.8
	Oct Standard	2.1	1.9	1.5	0.9	0.9	1.0
	Oct Pessimistic			1.2	(0.6)	0.1	1.4
Construction (4%)	Interim (May '16)	5.4	4.4	4.9	3.6	2.6	2.2
	Oct Standard	5.4	4.1	2.1	1.8	2.3	2.4
	Oct Pessimistic			1.7	(1.0)	(1.3)	2.4
Manufacturing (9%)	Interim (May '16)	1.6	0.2	0.1	0.5	0.5	0.9
	Oct Standard	1.6	0.3	(0.3)	0.5	1.3	1.6
	Oct Pessimistic			(0.2)	(1.6)	(1.2)	3.0
Trade, Transportation, and Utilities (19%)	Interim (May '16)	2.1	1.9	1.5	0.3	(0.2)	0.0
	Oct Standard	2.1	1.8	1.1	0.1	0.2	0.1
	Oct Pessimistic			1.0	(1.5)	(0.7)	(0.4)
Financial Activities (6%)	Interim (May '16)	1.6	1.9	1.1	(0.7)	(0.5)	(0.3)
	Oct Standard	1.6	1.9	1.8	(0.3)	(0.3)	(0.4)
	Oct Pessimistic			1.3	(2.1)	0.1	1.1
Professional and Business Services (14%)	Interim (May '16)	3.1	3.1	3.7	3.9	1.5	1.4
	Oct Standard	3.1	3.1	3.0	3.8	2.6	2.1
	Oct Pessimistic			1.5	(2.0)	3.7	6.5
Education and Health Services (15%)	Interim (May '16)	2.3	3.1	2.4	1.1	1.1	1.1
	Oct Standard	2.3	3.1	2.3	1.3	1.0	1.1
	Oct Pessimistic			2.3	1.7	0.4	0.1
Leisure and Hospitality (10%)	Interim (May '16)	2.9	3.0	1.9	1.1	0.6	0.7
	Oct Standard	2.9	2.9	2.2	0.9	0.7	0.8
	Oct Pessimistic			2.5	1.1	0.0	(0.5)
Government (16%)	Interim (May '16)	0.5	0.5	0.4	0.4	1.1	1.3
	Oct Standard	0.5	0.5	0.5	0.1	0.6	1.2
	Oct Pessimistic			0.4	(0.4)	(0.7)	1.3
Unemployment Rate (%)	Interim (May '16)	5.7	5.0	4.8	4.8	4.9	5.1
	Oct Standard	5.7	5.0	4.9	4.7	4.6	4.6
	Oct Pessimistic			5.0	5.8	6.1	5.7

The Interim forecast is IHS Markit May 2016 U.S. standard scenario.

The Oct Standard forecast is IHS Markit October 2016 U.S. standard forecast.

The Oct Pessimistic forecast is IHS Markit October 2016 U.S. pessimistic alternative scenario.

SECTION 2
THE VIRGINIA ECONOMY

Section 2 The Virginia Economy

Introduction

This section begins with a review of fiscal year 2016, comparing actual economic growth in Virginia to the official forecast for the year. The official forecast for Virginia was based on IHS Markit November 2015 U.S. standard forecast with modifications from both the JABE and the GACRE at their fall meetings, which resulted in a standard forecast. Following the review of fiscal year 2016, the October standard and pessimistic forecasts are summarized.

Tabular data are presented throughout this section. More detailed tabular data are presented in Appendix A. Table A.1 shows quarterly national and Virginia historical data for major forecast variables from fiscal year 2014 through fiscal year 2016. Table A.2 shows quarterly national and Virginia data for the three forecasts through fiscal year 2020. Table A.3 displays national and Virginia annual historical and forecast data from fiscal year 1998 through fiscal year 2020. Table A.4 displays annual regional historical and forecast employment data from fiscal year 1998 through fiscal year 2020.

The state and regional employment data used in the forecast are the result of a methodology that uses unemployment insurance tax records (ES-202) data to fine tune the current employment statistics (CES) survey data. To ensure that the most current Virginia employment data are used in the forecast, ES-202 data through the fourth quarter of calendar year 2015 have been incorporated into the CES employment data series. The revised employment series is then seasonally adjusted. This process yields a projection of the annual benchmark revisions that the Virginia Employment Commission will release early next calendar year. The table below compares the base CES employment data series with the series incorporating ES-202 data.

<u>FY 16</u>	<u>CES</u>	<u>ES 202</u>
Q1	2.0	2.2
Q2	2.5	2.6
Q3	2.6	2.7
Q4	2.1	2.1
Annual	2.3	2.4

Review of Fiscal Year 2016

Overview

In the official forecast for fiscal year 2016, employment and personal income in Virginia were expected to grow at a faster pace than in fiscal year 2015. Table 2.1 compares the official forecast and actual results for fiscal year 2016.

Table 2.1 - Fiscal Year 2016 Virginia Forecast Performance

	<u>Forecast</u>	<u>Actual</u>	<u>Actual Minus Forecast</u>
<u>Income (% Change)</u>			
Total Personal Income	3.7	4.1	0.4
Wages and Salaries (52%)	3.9	4.7	0.8
Average Wage	2.4	2.3	(0.1)
Dividends, Interest, and Rent (20%)	5.6	2.0	(3.6)
Supplements to Wages and Salaries (12%)	1.3	4.6	3.3
Proprietor's Income (6%)	3.7	5.7	2.0
Net Transfer Payments (6%)	3.1	6.9	3.8
<u>Employment and Labor Markets (% Change)</u>			
Total Nonagricultural Employment	1.5	2.4	0.9
Construction and Mining (5%)	3.0	2.1	(0.9)
Manufacturing (6%)	0.5	0.2	(0.3)
Trade, Transportation, and Utilities (17%)	0.9	2.9	2.0
Information (2%)	2.9	(0.8)	(3.7)
Financial Activities (5%)	1.9	2.2	0.3
Professional and Business Services (18%)	2.7	3.7	1.0
Education and Health Services (13%)	2.1	3.5	1.4
Leisure and Hospitality (10%)	1.7	4.1	2.4
Other Services (5%)	0.5	2.1	1.6
Government (18%)	0.2	0.2	0.0
Unemployment Rate (%)	4.6	4.7	0.1

The Official forecast is IHS Markit November 2015 U.S. standard scenario.

Following is a review of key assumptions included in the November 2016 official forecast compared with the actual outcome for the year.

Income

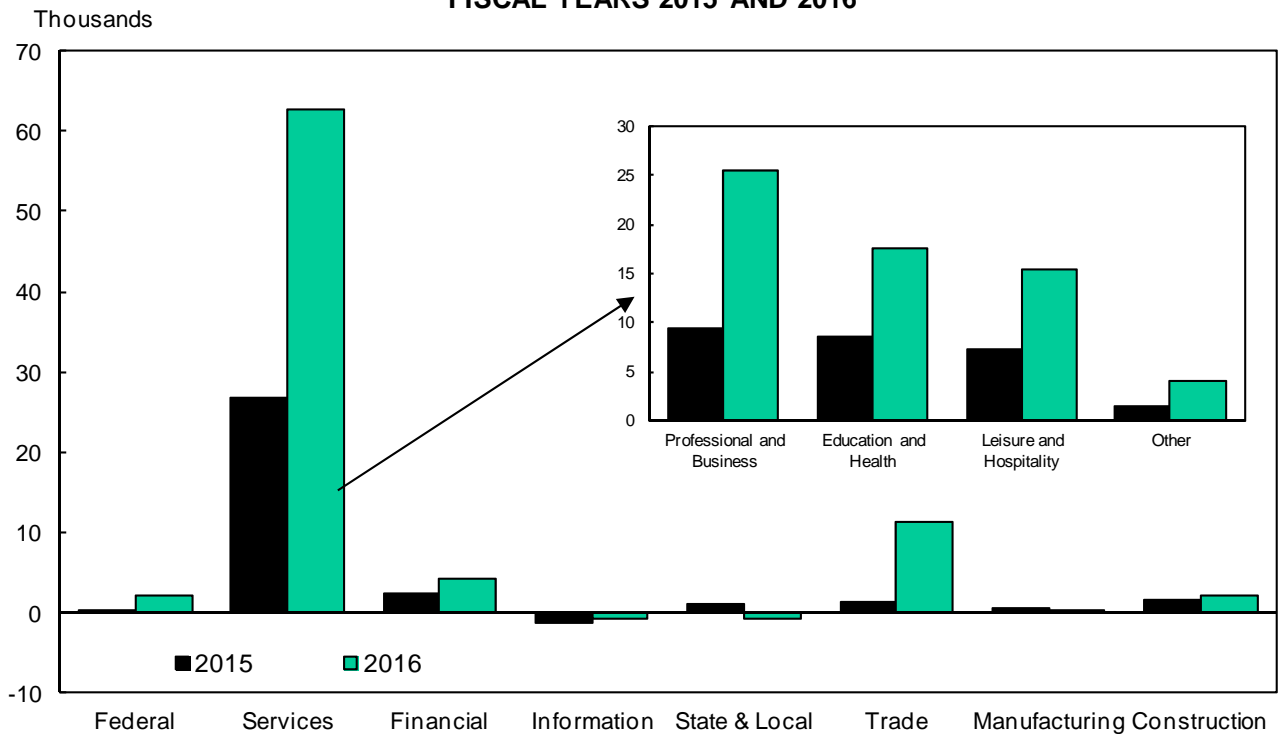
Total personal income increased 4.1 percent, 0.4 percentage point ahead of the forecast; net transfer payments, which increased by 6.9 percent, were 3.8 percentage points above the forecast; and proprietor's income, rose 5.7 percent instead of the

predicted 3.7 percent. Dividends, interest, and rental income, which made up 20 percent of total personal income in fiscal year 2016, grew 3.6 percent behind the forecast of 5.6 percent. Wages and salaries, which accounted for 52 percent of total personal income in fiscal year 2016, grew 4.7 percent or 0.8 percentage points above the forecast.

Employment

Payroll employment growth outperformed expectations in fiscal year 2016. In the official forecast, total nonagricultural employment was projected to increase 1.5 percent, with the average annual employment level rising by 55,000 jobs. Actual job gains were 91,100, an increase of 2.4 percent. Lower-than-expected gains for the manufacturing, construction and mining, and information sectors were offset by higher-than-expected gains in the professional and business services, leisure and hospitality, and education and health sectors. Overall, seven out of ten major employment sectors met or exceeded the official forecast in fiscal year 2016. Figure 2.1 displays fiscal year 2015 job gains and losses by sector compared with fiscal year 2014.

Figure 2.1
VIRGINIA JOB GAINS/LOSSES BY SECTOR
FISCAL YEARS 2015 AND 2016



Virginia Economy

Tables 2.4 and 2.5 provide an overview of regional employment in Virginia. On a regional basis, employment in Northern Virginia was in line with expectations. While the Richmond-Petersburg area exceeded expectations and Hampton Roads underperformed expectations. In Northern Virginia, which represents 37 percent of all jobs in the state, total employment rose by 32,300 jobs, above the 2015 gain of 11,200. The professional and business services sector added 9,900 new jobs in fiscal year 2016, up from the 1,600 gain in fiscal year 2015. Education and health services added 4,800 jobs, up from 3,200 in fiscal year 2015. State and local government added 1,600 jobs, while the federal government gained only 100 jobs.

Employment in the Norfolk-Virginia Beach-Newport News MSA (20 percent of state employment) was below expectations in fiscal year 2016, rising by 1.1 percent compared with the forecast of 1.6 percent growth. The region gained 8,300 jobs in fiscal year 2016, compared with 2,800 in 2015. Construction, education and health services and leisure and hospitality all posted growth above 4.0 percent, while professional and business services and government were the weakest sectors.

Employment in the Richmond-Petersburg MSA (16 percent of state employment) was above expectations by growing 4.0 percent in fiscal year 2016, well ahead of the 0.6 percent gain in the forecast. The region gained 15,600 jobs in fiscal year 2016, compared with 7,500 in 2015. Construction and professional and business services lead the employment gains, while government lost jobs.

Outside of the three major metro areas, the remainder of the state (27 percent of state employment) increased 15,700 jobs in fiscal year 2016, exceeding the forecasted gain. Construction and professional and business services lead the employment gains, while government posted the weakest gain.

Recent Developments in the Virginia Economy

In Virginia, payroll employment rose 2.1 percent in September from September of last year. This pace exceeded the national rate of 1.7 percent. Northern Virginia posted growth of 2.3 percent; Hampton Roads grew 0.5 percent; and Richmond-Petersburg rose 3.0 percent. The seasonally adjusted unemployment rate rose 0.1 percentage point to 4.0 percent in September.

The Virginia Leading Index rose 0.6 percent in August after increasing 0.7 percent in July. Initial claims for unemployment, auto registrations, and future employment all improved, while the U.S. leading index declined. On a regional basis, the index for Blacksburg was unchanged in August, while the indexes for the remaining MSAs increased.

The October Standard Forecast for Fiscal Years 2017 through 2020

This section compares the interim forecast, which was based on the IHS Markit May 2016 forecast with the other forecasts currently under consideration. Tables 2.2 and 2.3 compare the interim forecast with IHS Markit October 2016 standard forecast and the pessimistic alternative scenario. Tables 2.4 and 2.5 show the October 2016 standard forecast and the pessimistic alternative scenario for regional employment. All four tables appear at the end of the section.

In the interim forecast, economic growth in the Commonwealth was projected to continue to advance, but at a slower rate in fiscal year 2017 relative to fiscal year 2016. The October standard forecast concurs with this outlook and assumes that Virginia will grow slower than the nation in terms of employment and personal income. Federal government spending was virtually flat in calendar year 2016 and is expected to move to a neutral position through calendar year 2017, after which it is expected to be a drag on economic activity. Figure 2.2 on the next page compares employment growth in Virginia with that of the nation, while Figure 2.3 provides the same comparison for personal income.

As shown in Figure 2.4, according to the October standard forecast, total nonagricultural employment is expected to increase 1.5 percent (59,600 jobs) in fiscal year 2017, in line with the official forecast. The professional and business services sector and the construction sector are expected to be the main drivers over the forecast horizon. Overall, employment is expected to increase 1.0 percent in fiscal year 2018, then to advance 0.9 percent in the two forecast years to follow.

Figure 2.2
U.S. AND VIRGINIA EMPLOYMENT GROWTH
HISTORY AND FORECAST - FISCAL YEARS 1992-2020

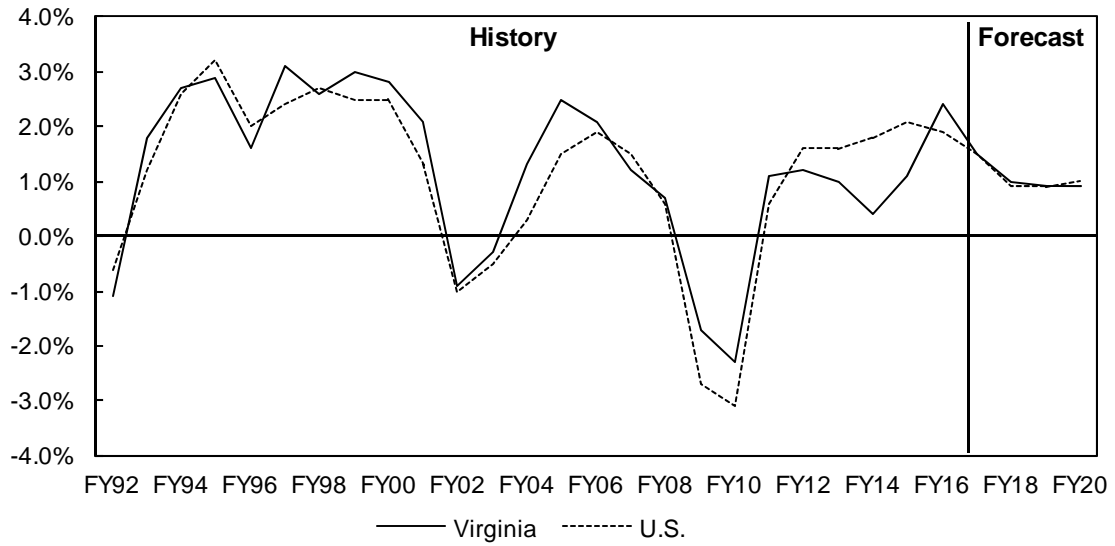


Figure 2.3
U.S. AND VIRGINIA PERSONAL INCOME GROWTH
HISTORY AND FORECAST - FISCAL YEARS 1992-2020

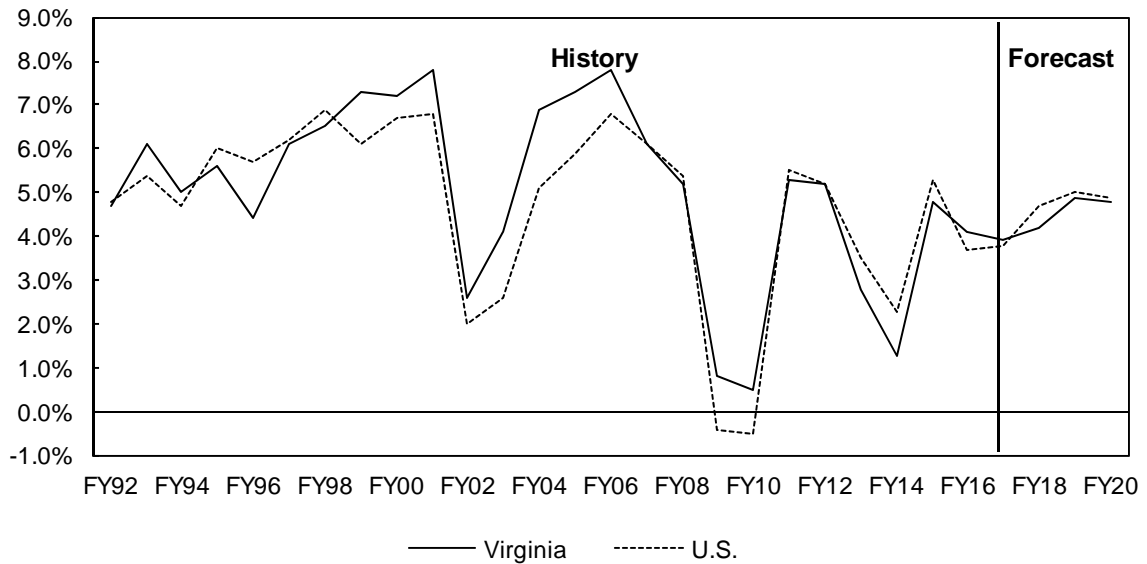
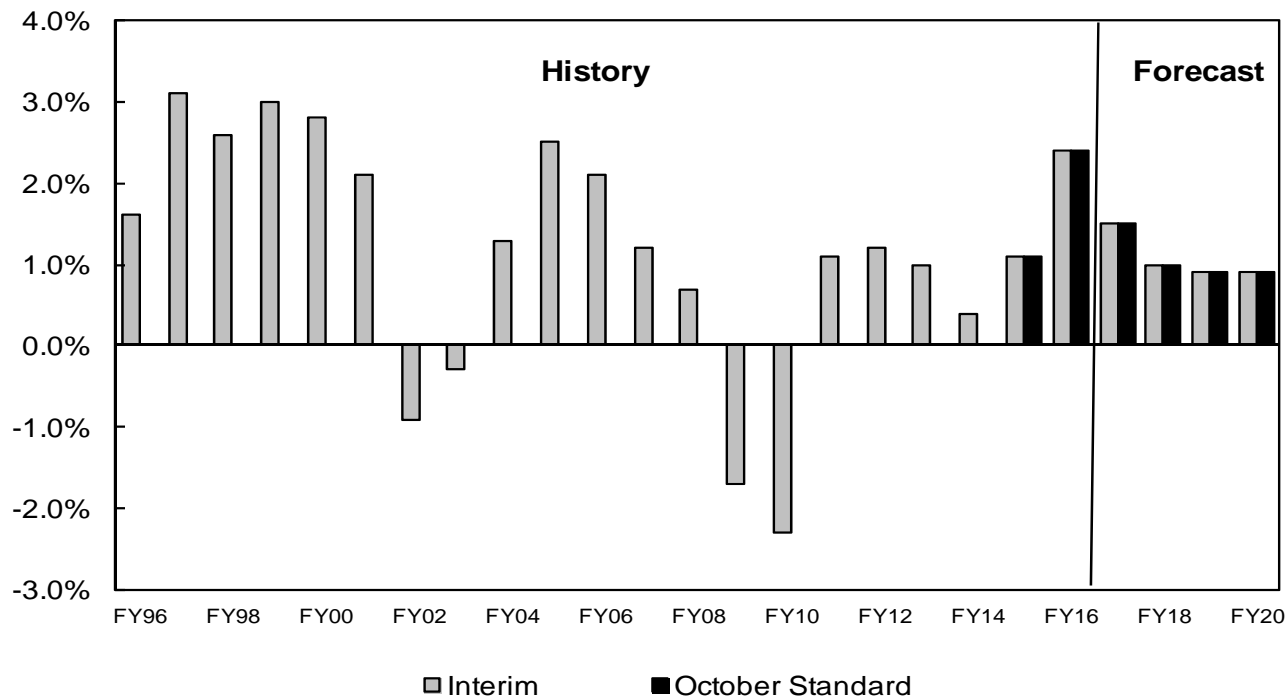


Figure 2.4
VIRGINIA EMPLOYMENT GROWTH
FY 1996-16 ACTUAL AND FY 2017-20 FORECAST



In the October standard forecast, total personal income is expected to grow in line with the interim forecast over the forecast horizon. Growth of 3.9 percent is expected in fiscal year 2017. Personal income growth increases to 4.2 percent in fiscal year 2018, 4.9 percent in fiscal year 2019, and to 4.8 percent in fiscal year 2020. Income from wages and salaries is expected to accelerate due to a tightening labor force; in fiscal year 2016 wages and salaries grew 4.7 percent – the largest gain since fiscal year 2007. Wages and salaries are forecast to grow 4.4 percent in fiscal year 2017 and 3.9 percent in fiscal year 2018, followed by close to 5.0 percent growth in fiscal years 2019 and 2020. Growth of dividends, interest, and rental income is expected to increase 3.7 percent in fiscal year 2017, and then accelerate to 6.3 percent in fiscal year 2018 and 7.3 percent in fiscal year 2019 before tapering off in fiscal year 2020.

Proprietor's income is a 0.8 percentage points weaker than the interim forecast for fiscal year 2017. The October standard forecast predicts a 1.3 percent increase in fiscal year 2017, followed by 3.9 percent in fiscal year 2018 and small declines in both fiscal year 2019 and 2020. Net transfer payments are expected to increase 4.4 percent in fiscal year 2017, and then increase to 0.5 percent in fiscal year 2018. Figures 2.5 and 2.6 on the following page chart the annual percent change in personal income and wages and salaries, comparing the official forecast with the October standard forecast.

Figure 2.5
VIRGINIA PERSONAL INCOME GROWTH
FY 1996-16 ACTUAL AND FY 2017-20 FORECAST

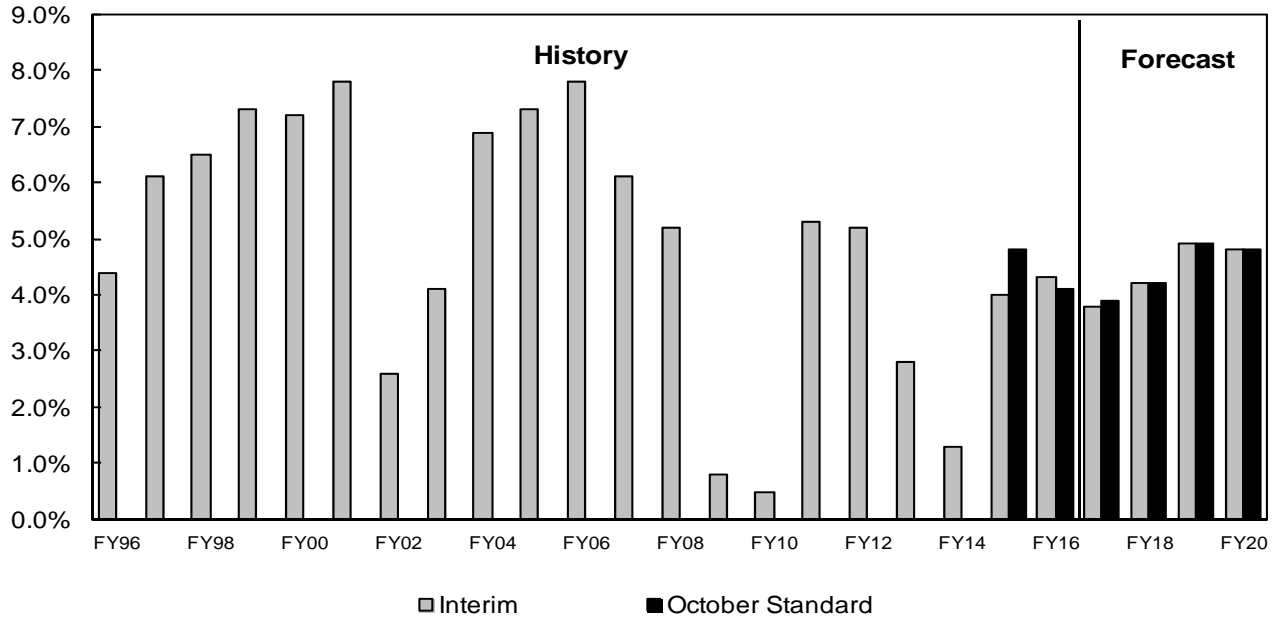
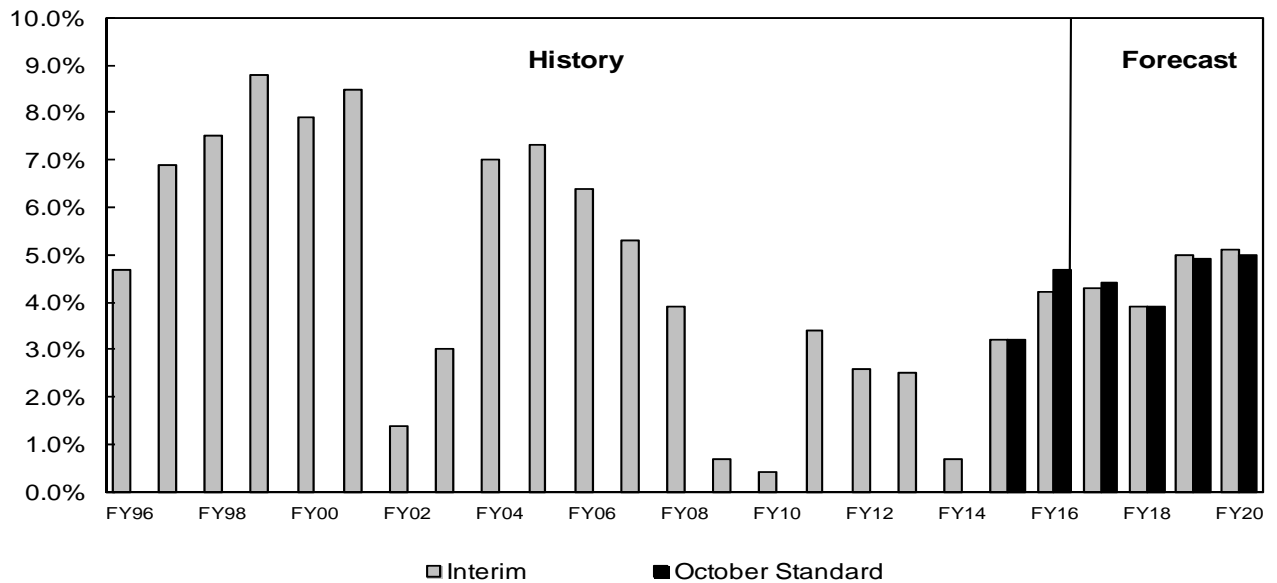


Figure 2.6
VIRGINIA WAGES AND SALARIES GROWTH
FY 1996-16 ACTUAL AND FY 2017-18 FORECAST



IHS Markit Pessimistic Alternative Scenario

In the Virginia pessimistic alternative forecast, economic growth significantly slows as the recent panic in global equity markets triggers a downturn in the US stock market. Consumer confidence falls and the housing recovery stalls. Employment growth is 1.3 percent in fiscal year 2017, falls 0.5 percent in fiscal year 2018, before advancing 0.3 percent in fiscal year 2019 and 1.4 percent in fiscal year 2020. Total personal income grows 4.2 percent in fiscal year 2017 and 3.9 percent in fiscal year 2018, before advancing around 5.0 percent by fiscal year 2020. Wages and salaries grow 4.6 percent, 3.5 percent, 4.6 percent, and 5.5 percent in fiscal years 2017-20.

Virginia Economy

Table 2.2 - Fiscal Years 2015-2020 Interim and October Forecasts
Virginia Economic Forecasts - Employment and Labor Markets

		<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>
<u>Employment and Labor Markets (% Change)</u>							
Total Nonagricultural Employment	Interim (May '16)	1.1	2.4	1.5	1.0	0.9	0.9
	Oct Standard	1.1	2.4	1.5	1.0	0.9	0.9
	Oct Pessimistic			1.3	(0.5)	0.3	1.4
Construction and Mining (5%)	Interim (May '16)	1.7	2.1	4.6	3.5	3.8	3.2
	Oct Standard	1.7	2.1	4.6	3.5	3.8	3.2
	Oct Pessimistic			4.2	0.6	0.0	3.2
Manufacturing (6%)	Interim (May '16)	0.5	0.2	1.2	1.4	1.1	1.1
	Oct Standard	0.5	0.2	1.2	1.4	1.1	1.1
	Oct Pessimistic			1.3	(1.1)	(1.8)	2.7
Trade, Transportation, and Utilities (17%)	Interim (May '16)	1.0	2.9	1.3	0.0	0.3	0.3
	Oct Standard	1.0	2.9	1.3	0.0	0.3	0.3
	Oct Pessimistic			1.2	(1.6)	(0.5)	(0.2)
Financial Activities (5%)	Interim (May '16)	1.3	2.2	(0.4)	(1.6)	(1.4)	(0.2)
	Oct Standard	1.3	2.2	(0.4)	(1.6)	(1.4)	(0.2)
	Oct Pessimistic			(0.9)	(3.9)	(1.1)	1.9
Professional and Business Services (18%)	Interim (May '16)	1.4	3.7	3.5	2.3	1.5	1.7
	Oct Standard	1.4	3.7	3.5	2.3	1.5	1.7
	Oct Pessimistic			2.4	(2.2)	2.0	5.2
Education and Health Services (13%)	Interim (May '16)	1.7	3.5	2.0	1.3	1.6	1.4
	Oct Standard	1.7	3.5	2.0	1.3	1.6	1.4
	Oct Pessimistic			2.0	1.8	0.9	0.3
Leisure and Hospitality (10%)	Interim (May '16)	2.0	4.1	1.0	1.1	1.5	0.9
	Oct Standard	2.0	4.1	1.0	1.1	1.5	0.9
	Oct Pessimistic			1.3	1.3	0.9	(0.2)
Government (18%)	Interim (May '16)	0.2	0.2	0.5	0.5	0.1	0.1
	Oct Standard	0.2	0.2	0.5	0.5	0.1	0.1
	Oct Pessimistic			0.5	0.6	0.3	0.3
Unemployment Rate (%)	Interim (May '16)	4.9	4.7	4.3	4.0	4.0	4.0
	Oct Standard	4.9	4.7	4.3	4.0	4.0	4.0
	Oct Pessimistic			4.4	4.7	5.0	4.7

The Interim forecast is based on IHS Markit May 2016 standard forecast and as recommended by JABE members.

The Oct Standard forecast is IHS Markit October 2016 U.S. standard forecast.

The Oct Pessimistic forecast is IHS Markit October 2016 U.S. pessimistic alternative scenario.

Table 2.3 - Fiscal Years 2015-2020 Interim and October Forecasts
Virginia Economic Forecasts - Income

		<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>
<u>Income (% Change)</u>							
Total Personal Income	Interim (May '16)	4.0	4.3	3.8	4.2	4.9	4.8
	Oct Standard	4.8	4.1	3.9	4.2	4.9	4.8
	Oct Pessimistic			4.2	3.9	4.3	5.3
Wages and Salaries (52%)	Interim (May '16)	3.2	4.2	4.3	3.9	5.0	5.1
	Oct Standard	3.2	4.7	4.4	3.9	4.9	5.0
	Oct Pessimistic			4.6	3.5	4.6	5.5
Average Wage	Interim (May '16)	2.1	1.8	2.7	3.0	4.0	4.1
	Oct Standard	2.1	2.3	2.8	2.9	4.0	4.1
	Oct Pessimistic			3.2	4.0	4.3	4.1
Dividends, Interest, and Rent (20%)	Interim (May '16)	3.7	5.5	4.3	6.3	7.3	6.0
	Oct Standard	6.4	2.0	3.7	6.3	7.3	6.0
	Oct Pessimistic			3.7	3.1	3.8	8.2
Supplements to Wages and Salaries (12%)	Interim (May '16)	1.9	3.8	3.5	4.4	3.9	3.8
	Oct Standard	3.9	4.6	3.5	4.4	3.9	3.8
	Oct Pessimistic			4.0	6.0	4.6	3.0
Proprietor's Income (6%)	Interim (May '16)	7.3	4.6	2.1	3.7	(1.8)	(0.8)
	Oct Standard	6.1	5.7	1.3	3.9	(1.7)	(0.7)
	Oct Pessimistic			0.7	2.4	(0.1)	1.1
Net Transfer Payments (6%)	Interim (May '16)	8.1	2.9	0.9	0.3	6.6	7.8
	Oct Standard	8.6	6.9	4.4	0.5	6.4	7.5
	Oct Pessimistic			6.2	7.2	8.0	5.1

The Interim forecast is based on IHS Markit May 2016 standard forecast and as recommended by JABE members.

The Oct Standard forecast is IHS Markit October 2016 U.S. standard forecast.

The Oct Pessimistic forecast is IHS Markit October 2016 U.S. pessimistic alternative scenario.

Virginia Economy

Table 2.4 - Fiscal Years 2015-2020 October Standard Forecast
Virginia Economic Forecast - Regional Employment

		<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>
<u>Region by Sector (% Change)</u>							
Northern Virginia (37%) *	Total Nonagricultural Employment	0.8	2.3	1.7	1.1	1.0	1.0
	Construction and Mining (5%) **	(0.8)	1.7	5.4	4.1	4.5	3.7
	Trade, Transportation, and Utilities (15%)	0.9	2.1	1.2	(0.0)	0.2	0.4
	Financial Activities (5%)	1.1	2.6	(0.7)	(1.4)	(1.3)	(0.1)
	Professional and Business Services (27%)	0.4	2.6	2.8	1.8	1.1	1.3
	Education and Health Services (11%)	2.1	3.2	2.2	1.7	2.1	1.9
	Leisure and Hospitality (10%)	2.6	4.8	0.8	1.2	1.5	0.9
	Government (17%)	0.2	0.7	1.2	0.9	0.3	0.3
Hampton Roads (20%)	Total Nonagricultural Employment	0.4	1.1	0.9	0.6	0.7	0.7
	Construction and Mining (5%)	1.5	4.1	5.5	2.5	3.5	2.9
	Trade, Transportation, and Utilities (17%)	1.4	0.7	0.7	0.1	0.3	0.4
	Financial Activities (5%)	0.8	1.1	(0.3)	(1.8)	(1.7)	(0.2)
	Professional and Business Services (14%)	1.3	0.1	3.0	2.8	1.8	2.0
	Education and Health Services (14%)	1.1	4.2	1.9	1.1	1.4	1.3
	Leisure and Hospitality (12%)	0.3	4.3	1.0	0.9	1.2	0.7
	Government (21%)	(0.7)	(0.7)	(0.4)	(0.4)	(0.6)	(0.5)
Richmond (16%)	Total Nonagricultural Employment	1.9	4.0	2.1	1.1	1.0	1.0
	Construction and Mining (6%)	5.3	7.6	6.6	3.4	3.5	2.9
	Trade, Transportation, and Utilities (19%)	1.0	5.4	2.7	0.5	0.6	0.6
	Financial Activities (8%)	2.7	2.7	(0.4)	(1.5)	(1.3)	(0.2)
	Professional and Business Services (17%)	4.0	8.8	4.7	2.4	1.6	1.8
	Education and Health Services (15%)	2.0	2.8	1.8	1.5	1.8	1.6
	Leisure and Hospitality (9%)	2.4	5.0	0.8	1.4	1.7	1.1
	Government (17%)	0.4	(0.1)	0.7	0.7	0.2	0.2
Balance (27%)	Total Nonagricultural Employment	1.3	2.4	1.4	0.9	0.9	0.8
	Construction and Mining (5%)	2.9	(2.6)	1.4	3.6	3.3	2.7
	Trade, Transportation, and Utilities (18%)	0.8	3.7	0.8	(0.2)	(0.0)	0.1
	Financial Activities (4%)	0.2	2.0	0.0	(1.7)	(1.6)	(0.2)
	Professional and Business Services (10%)	2.5	6.4	5.5	3.4	2.3	2.4
	Education and Health Services (15%)	1.6	3.7	1.9	0.9	1.1	1.0
	Leisure and Hospitality (9%)	2.4	2.4	1.5	1.1	1.4	0.9
	Government (21%)	0.6	0.5	0.4	0.5	0.3	0.2

The October Standard forecast from the Department of Taxation is based on IHS Markit October 2016 U.S. standard forecast.

* Represents the percentage share of Virginia in fiscal year 2016.

** Represents the percentage share of total employment within the region in fiscal year 2016.

Table 2.5 - Fiscal Years 2015-2020 October Pessimistic Forecast
Virginia Economic Forecast - Regional Employment

		<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>
<u>Region by Sector (% Change)</u>							
Northern Virginia (37%) *	Total Nonagricultural Employment	0.8	2.3	1.5	(0.4)	0.4	1.6
	Construction and Mining (5%) **	(0.8)	1.7	4.9	0.6	0.1	3.9
	Trade, Transportation, and Utilities (15%)	0.9	2.1	1.1	(2.0)	(0.7)	(0.3)
	Financial Activities (5%)	1.1	2.6	(1.2)	(3.5)	(1.0)	1.7
	Professional and Business Services (27%)	0.4	2.6	1.9	(1.9)	1.0	4.2
	Education and Health Services (11%)	2.1	3.2	2.2	2.3	1.2	0.4
	Leisure and Hospitality (10%)	2.6	4.8	1.1	1.4	0.9	(0.2)
	Government (17%)	0.2	0.7	1.3	1.1	0.8	0.5
Hampton Roads (20%)	Total Nonagricultural Employment	0.4	1.1	0.6	(0.7)	0.2	1.1
	Construction and Mining (5%)	1.5	4.1	5.1	(0.1)	0.1	3.0
	Trade, Transportation, and Utilities (17%)	1.4	0.7	0.6	(1.5)	(0.5)	(0.2)
	Financial Activities (5%)	0.8	1.1	(1.0)	(4.6)	(1.4)	2.3
	Professional and Business Services (14%)	1.3	0.1	1.4	(3.3)	2.9	6.7
	Education and Health Services (14%)	1.1	4.2	1.9	1.6	0.8	0.3
	Leisure and Hospitality (12%)	0.3	4.3	1.2	1.1	0.7	(0.1)
	Government (21%)	(0.7)	(0.7)	(0.4)	(0.3)	(0.4)	(0.3)
Richmond (16%)	Total Nonagricultural Employment	1.9	4.0	1.8	(0.3)	0.5	1.3
	Construction and Mining (6%)	5.3	7.6	6.2	0.8	0.2	2.9
	Trade, Transportation, and Utilities (19%)	1.0	5.4	2.5	(1.4)	(0.3)	(0.0)
	Financial Activities (8%)	2.7	2.7	(0.9)	(3.6)	(1.0)	1.7
	Professional and Business Services (17%)	4.0	8.8	3.5	(1.9)	2.3	5.0
	Education and Health Services (15%)	2.0	2.8	1.8	2.0	1.1	0.3
	Leisure and Hospitality (9%)	2.4	5.0	1.2	1.6	1.0	(0.2)
	Government (17%)	0.4	(0.1)	0.7	1.0	0.6	0.4
Balance (27%)	Total Nonagricultural Employment	1.3	2.4	1.2	(0.5)	0.1	1.3
	Construction and Mining (5%)	2.9	(2.6)	1.0	0.8	(0.3)	2.8
	Trade, Transportation, and Utilities (18%)	0.8	3.7	0.7	(1.3)	(0.3)	(0.3)
	Financial Activities (4%)	0.2	2.0	(0.6)	(4.2)	(1.2)	2.0
	Professional and Business Services (10%)	2.5	6.4	3.7	(2.8)	4.4	7.1
	Education and Health Services (15%)	1.6	3.7	1.9	1.2	0.7	0.2
	Leisure and Hospitality (9%)	2.4	2.4	1.8	1.3	0.8	(0.1)
	Government (21%)	0.6	0.5	0.4	0.5	0.1	0.3

The October Pessimistic forecast from the Department of Taxation is based on IHS Markit October 2016 U.S. pessimistic forecast.

* Represents the percentage share of Virginia in fiscal year 2016.

** Represents the percentage share of total employment within the region in fiscal year 2016.

SECTION 3
GENERAL FUND REVENUES

Section 3 General Fund Revenues

Fiscal Year 2016 in Review

In fiscal year 2016, total general fund revenues rose 1.7 percent to \$18,040.1 million, with a shortfall of \$268.9 million -- 1.5 percent variance from forecast. All major sources except the insurance premiums tax and corporate income tax contributed to the deficit, however, collections of individual withholding and sales taxes accounted for the bulk of the shortfall in fiscal year 2016.

Table 3.1 on the next page compares actual revenues for fiscal year 2016 with the official forecast. The official revenue forecast was based on the November 2015 IHS Markit standard U.S. forecast, the corresponding Virginia economic forecast developed by the Department of Taxation with recommendations from GACRE, and includes actions of the 2016 General Assembly – Chapters 732 and 780.

Payroll withholding finished the year \$195.3 million below the estimate, a -1.7 percent variance. Sales tax collections also contributed \$71.9 million to the shortfall, a -2.1 percent variance. Taken together, withholding and sales tax collections, which comprise 82 percent of total revenues and are closely related to economic activity, finished with a variance of -1.8 percent from forecast. Collections in nonwithholding were \$28.9 million short of the estimate, a variance of -0.9 percent. Also contributing to the shortfall, individual refunds were \$43.1 million more than forecast. Wills, suits and deeds, mainly recordation taxes, missed its forecast by \$13.9 million, a -3.6 percent variance.

Only two major sources exceeded expectations: corporate income taxes were \$42.1 million ahead of the forecast (5.8 percent variance), and receipts of insurance premiums taxes exceeded the estimate by \$16.4 million (5.1 percent variance). Collectively, the five major sources ended the year \$294.6 million less than forecast (-1.5 percent variance). Collections of miscellaneous taxes and other revenues were \$25.7 million ahead of the forecast in fiscal year 2016 (3.7 percent variance).

Table 3.2 provides an evolutionary perspective of the fiscal year 2016 forecasts used by the Governor and General Assembly, in terms of their variance from actual collections. The variances for total revenues ranged from -1.5 percent in the May 2016 official forecast (the most recent) to 7.1 percent in the June 2014 official forecast.

General Fund Revenues

Table 3.1
Fiscal Year 2016 General Fund Collections: Actual and Official Forecast
(Dollars in Millions)

	Fiscal Year 2015		Official Forecast	Fiscal Year 2016				
	Actual	% Growth		Actual	Forecast Variance Dollars	Percent	% Growth Over FY 15 Official Actual	
MAJOR TAX SOURCES								
Corporate Income	\$ 831.9	9.8 %	\$ 722.8	\$ 764.9	\$ 42.1	5.8 %	(13.1) %	(8.0) %
Individual Income Tax:								
Gross	14,086.0	8.3	14,600.6	14,376.4	(224.2)	(1.5)	3.7	2.1
Withholding	11,044.3	5.3	11,501.6	11,306.3	(195.3)	(1.7)	4.1	2.4
Nonwithholding	3,041.6	20.5	3,099.0	3,070.1	(28.9)	(0.9)	1.9	0.9
Refunds	<u>(1,757.3)</u>	<u>0.1</u>	<u>(1,777.6)</u>	<u>(1,820.7)</u>	<u>(43.1)</u>	<u>2.4</u>	<u>1.2</u>	<u>3.6</u>
Net	12,328.7	9.6	12,823.0	12,555.6	(267.4)	(2.1)	4.0	1.8
Insurance Company Premiums	300.6	(6.2)	322.7	339.1	16.4	5.1	7.3	12.8
State Sales & Use Tax	3,235.4	5.5	3,367.7	3,295.9	(71.9)	(2.1)	4.1	1.9
Wills, Suits, Deeds, & Contract Fees	<u>346.3</u>	<u>11.4</u>	<u>383.0</u>	<u>369.1</u>	<u>(13.9)</u>	<u>(3.6)</u>	<u>10.6</u>	<u>6.6</u>
Total Major Tax Sources	\$ 17,043.0	8.5 %	\$ 17,619.2	\$ 17,324.6	\$ (294.6)	(1.7) %	3.4 %	1.7 %
MISCELLANEOUS TAXES AND OTHER REVENUES								
Alcoholic Beverage State Tax	\$ 166.0	5.4 %	\$ 166.1	\$ 175.3	\$ 9.2	5.5 %	0.1 %	5.6 %
Bank Franchise Tax	19.0	(15.6)	20.7	17.8	(2.9)	(14.0)	8.8	(6.5)
Beer & Beverage Excise Tax	41.9	0.1	41.8	42.3	0.5	1.1	(0.1)	1.0
Corporate Franchise & Charter Fees	48.6	(3.3)	48.6	53.6	5.0	10.4	0.1	10.4
Excess & Other Fees from Officers	(6.8)	4.9	(6.8)	(7.4)	(0.6)	8.1	(0.3)	(8.5)
Estate & Gifts	0.1	(50.0)	0.0	0.2	0.2	n/a	(100.0)	126.5
Institutional Revenues	7.4	30.6	7.3	5.3	(2.0)	(28.1)	(1.0)	(28.8)
Interest & Rents	49.0	(34.1)	46.3	52.6	6.3	13.6	(5.6)	7.3
Licenses & Permits	4.1	0.7	4.0	4.1	0.1	3.2	(1.5)	1.6
Miscellaneous Taxes and Penalties	232.2	4.4	232.0	240.3	8.3	3.6	(0.1)	3.5
Other Miscellaneous Revenues	32.8	(1.6)	30.9	38.8	7.9	25.5	(5.7)	18.3
Public Service GR / Consumption Tax	<u>98.5</u>	<u>0.4</u>	<u>98.9</u>	<u>92.6</u>	<u>(6.3)</u>	<u>(6.4)</u>	<u>0.4</u>	<u>(6.0)</u>
Total Misc. Taxes and Other Revenues	\$ 692.7	(1.5) %	\$ 689.8	\$ 715.5	\$ 25.7	3.7 %	(0.4) %	3.3 %
TOTAL GF REVENUES	\$ 17,735.6	8.1 %	\$ 18,309.0	\$ 18,040.1	\$ (268.9)	(1.5) %	3.2 %	1.7 %
TRANSFERS								
A.B.C. Profits	\$ 83.3	30.6 %	\$ 84.0	\$ 86.5	\$ 2.5	3.0 %	0.8 %	3.8 %
Sales Tax (0.25%)	352.4	64.6	366.7	355.5	(11.2)	(3.1)	4.1	0.9
Transfers Per Appropriations Act	<u>198.2</u>	<u>25.9</u>	<u>121.3</u>	<u>119.6</u>	<u>(1.7)</u>	<u>(1.4)</u>	<u>(38.8)</u>	<u>(39.7)</u>
Total Transfers	\$ 633.9	26.5 %	\$ 572.0	\$ 561.6	\$ (10.4)	(1.8) %	(9.8) %	(11.4) %
TOTAL GENERAL FUND	\$ 18,369.5	8.6 %	\$ 18,881.0	\$ 18,601.7	\$ (279.3)	(1.5) %	2.8 %	1.3 %

The Official forecast is based on the November 2015 IHS Markit US Standard outlook and the corresponding Virginia economic outlook developed by the Department of Taxation with recommendations from GACRE. It includes actions of the 2016 General Assembly - Chapters 732 and 780.

Table 3.2
Actual Collections Over (Under) the Forecast
 Percent Variance

	May 25 2016 Official	December 17 2015 Introduced	March 26 2015 Official	December 17 2014 Introduced	June 21 2014 Official	December 16 2013 Introduced
Major Tax Sources (96%)						
Corporate Income (4%)	5.8 %	1.6 %	(6.8) %	(0.9) %	(7.6) %	(7.0) %
Individual Income (70%)	(2.1)	(1.7)	2.7	4.3	(3.0)	(2.9)
Insurance Company Premiums (2%)	5.1	6.7	3.8	3.8	11.9	11.9
State Sales & Use Tax (18%)	(2.1)	(3.0)	(0.8)	0.1	(0.2)	1.2
Wills, Suits, Deeds & Contracts (2%)	(3.6)	(1.1)	16.0	16.0	(2.2)	(2.2)
Total Major Tax Sources	(1.7) %	(1.7) %	1.9 %	3.5 %	(2.4) %	(2.1) %
Miscellaneous Taxes & Other Revenues (4%)	3.7 %	3.7 %	0.5 %	0.1 %	2.9 %	5.1 %
Total Revenues	(1.5) %	(1.5) %	1.8 %	3.3 %	(2.2) %	(1.8) %

Numbers in parentheses indicate collections as a percentage of total general fund revenues. These may not add to 100 percent due to rounding.

The May 25, 2016 forecast is based on the November 2015 IHS Markit Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from the GACRE. It includes actions of the 2016 General Assembly Session, Chapters 732 and 780.

The December 17, 2015 forecast is based on the November 2015 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes policy recommendations from the Governor including a collar in individual nonwithholding to one percent of total revenues.

The March 26, 2015 forecast is based on the November 2014 IHS Markit Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from GACRE. It includes actions of the 2015 General Assembly Session -- Chapter 665.

The December 17, 2014 forecast is based on the November IHS Markit US Standard outlook and a JABE Pessimistic Plus forecast with recommendations from the Governor's Advisory Council on Revenue Estimates (GACRE) and Governor's amendments.

The June 21, 2014 forecast is based on the November 2013 IHS Markit US Standard outlook and the corresponding Virginia economic outlook developed by the Department of Taxation. It includes actions of the 2014 General Assembly.

The December 16, 2013 forecast is based on the November 2013 IHS Markit Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation, which incorporates the Governor's Advisory Council on Revenue Estimates recommendations. This forecast includes the sales tax diversion to the Commonwealth Transportation Fund as passed in HB2313 2013 without the impact for the federal Marketplace Fairness Act.

Individual Income Taxes

Most of the shortfall in fiscal year 2016 was attributable to individual income taxes. Collections of net individual income taxes (70 percent of total revenues) rose 1.8 percent in fiscal year 2016, trailing the annual forecast of 4.0 percent growth. Receipts of \$12,555.6 million were \$267.4 million below the official estimate, a variance of 2.1 percent from the forecast. Both withholding and nonwithholding fell short of their estimates and refunds were higher than expected.

Withholding: In fiscal year 2016, withholding receipts (64 percent of total revenues) increased 2.4 percent, trailing the forecast growth rate of 4.1 percent. Collections of \$11,306.3 million were \$195.3 million below the forecast, a variance of 1.7 percent. The slow growth in withholding collections is most likely due to the loss of high-paying government contracting jobs with the cutbacks in federal spending.

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Nonwithholding: Collections of individual nonwithholding (17 percent of total revenues) grew 0.9 percent in fiscal year 2016, lagging the annual forecast of 1.9 percent growth. Receipts of \$3,070.1 million were \$28.9 million short of the annual estimate, a forecast variance of 0.9 percent.

Weak collections in nonwithholding was not surprising as collections in this source jumped 20.5 percent last year. These payments are historically tied to non-wage income sources – mainly the financial markets.

Refunds: Individual income tax refunds totaled \$1,820.7 million in fiscal year 2016, \$43.1 million more than expected. The amount of refunds issued grew 3.6 percent over last year, compared with the forecast of 1.2 percent growth.

Sales Taxes

Collections of sales and use taxes (18 percent of total revenues) were \$3,295.9 million in fiscal year 2016, \$71.9 million below the forecast. Collections rose 1.9 percent for the year compared with the forecast of 4.1 percent growth. Adjusting for accelerated sales tax payments received in June, sales tax collections grew 2.2 percent in fiscal year 2016, compared with the economic-base forecast of a 4.1 percent increase.

Corporate Income Taxes

Corporate income tax collections (4 percent of total revenues), historically the most volatile revenue source, exceeded the forecast. Collections of \$764.9 million were \$42.1 million above expectations. The fiscal year decline of 8.0 percent was better than the forecast of a 13.1 percent decline.

Wills, Suits, Deeds, and Contract Fees

Wills, Suits, Deeds, and Contract Fees (2 percent of total revenues), of which the primary component is the recordation tax, fell short of the forecast in fiscal year 2016. Collections in this source were \$13.9 million short of the forecast, a variance of -3.6 percent. Collections finished the year at \$369.1 million, a 6.6 percent increase from fiscal year 2015 but below the official forecast of 10.6 percent growth.

Insurance Premiums Taxes

Another major source to see a surplus, collections of taxes on the premiums of insurance companies (2 percent of total revenues) were \$339.1 million in fiscal year 2016 – \$16.4 million above the annual estimate. Growth of 12.8 percent exceeded the annual estimate of 7.3 percent growth.

Miscellaneous Taxes and Other Revenues

Collectively, minor revenue sources finished the fiscal year \$25.7 million above the annual forecast. Collections of \$715.5 million were 3.3 percent above fiscal year 2015, and ahead of the forecast of a 0.4 percent decline. Most minor sources finished the year at or above forecast.

The Revised General Fund Revenue Forecasts for Fiscal Years 2017-2020

This section presents two revised general fund revenue forecasts: the November standard and alternative pessimistic forecasts. The standard forecast is based on the IHS Markit October standard economic outlook incorporating recommendations of the JABE. The basis for the alternative forecast is the IHS Markit alternative pessimistic economic scenario. These updated forecasts are compared with the interim forecast based on the IHS Markit May 2016 outlook and the corresponding Virginia state forecast developed by the Department of Taxation, and reflects actions of the 2016 General Assembly, Chapters 732 and 780.

November Standard General Fund Revenue Forecast

Table 3.3 at the end of this section provides a comparison of the interim revenue forecast with the November standard general fund forecast and the alternative pessimistic forecast.

In the November standard forecast, total general fund revenues have been raised by \$181.8 million in fiscal year 2017 and \$26.1 million in fiscal year 2018. The increase from the official forecast comes mainly from upward revisions to individual and corporate income taxes which are partially offset by a downward revision to sales taxes. Revenues are now expected to grow by 2.7 percent in fiscal year 2017, compared with a 1.7 percent increase in the interim forecast. Revenues are expected to also grow by 2.7 percent in fiscal year 2018.

Net Individual Income Taxes

The outlook for net individual income taxes in fiscal year 2017 has been revised upward from the official forecast by \$129.4 million for growth of 2.9 percent. Collections in this source are predicted to increase 3.1 percent in fiscal year 2018.

Withholding

The withholding revenue model is based on a direct relationship with wages and salaries (52 percent of total personal income) and net transfer payments (6 percent of total personal income) in Virginia. The historical data series in the withholding revenue model was shortened to eliminate the strong growth due to high levels of defense spending prior to

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2006. Also, due to the inherent bias still seen between the actual and fitted forecast values of historical data, a model bias adjustment was made to the final forecast results in each year. Withholding in the November standard forecast has been raised by \$67.3 million in fiscal year 2017 for growth of 3.6 percent versus the 3.0 percent in the interim forecast mainly due to strong first quarter collections, i.e. money in the bank. Withholding collections are projected to increase by 3.0 percent in fiscal year 2018, compared with the interim forecast of 3.4 percent growth.

Nonwithholding

The revenue model for nonwithholding considers estimated and final payments independently. Estimated payments are modeled as a function of total proprietor's income, dividends, interest, and rental income, and the S&P 500 index, while final payments are driven solely by growth in the S&P 500 index.

The forecast for nonwithholding raises expected collections by \$16.0 million in fiscal year 2017 from the interim forecast, changing growth from a 1.2 percent decline to a 0.7 percent decline. The forecast predicts growth of 5.1 percent in fiscal year 2018. This includes a collar limiting it to a percentage of total revenue in both years.

Refunds

The forecast methodology for individual refunds relies on the revised outlook for withholding and nonwithholding, comparing taxable year individual income tax with taxable year refunds for the first and second half of a taxable year. Historical data are adjusted for the land preservation tax credit and the low-income credit. Future values of these credits are estimated and these amounts are added to the base refund forecast.

In the November standard revenue forecast, individual refunds are projected to grow 1.5 percent in fiscal year 2017 compared with the interim forecast of a 4.0 percent increase. The forecast reduces refunds by \$46.1 million in fiscal year 2017 and \$15.7 million in fiscal year 2018. Land preservation credits are projected to be \$77.6 million each year. The outlook for low income credits is \$145.2 million in fiscal year 2017, then increase by about \$5 million a year over the forecast horizon.

Sales

The sales tax revenue model is based on a direct relationship with total personal income in Virginia. The November standard forecast reduces sales tax collections by \$31.5 million in fiscal year 2017 for growth of 1.7 percent, compared with 2.6 percent in the interim forecast. Growth in this source is expected to be 2.0 percent in fiscal year 2018, a \$65.0 million reduction from the interim estimate. This forecast continues to assume the policy adjustments as contained in Chapter 780.

Corporate

The corporate revenue model considers gross payments and refunds separately. Gross payments are modeled as a function of Virginia specific pre-tax corporate profits and the S&P 500 index. The November standard forecast increases corporate income tax collections by \$52.1 million from the interim forecast in fiscal year 2017 and \$72.0 million in fiscal year 2018. Collections are expected to grow by 3.8 percent in fiscal year 2017, and 0.2 percent in 2018.

Wills, Suits, Deeds, and Contracts (Recordation)

The revenue model for wills, suits, deeds and contracts is based on mortgage originations, mortgage refinancing and home prices in Virginia, along with the yield on 30-year treasury bonds. The outlook for recordation taxes drives the other components of this source. The November standard forecast for this source is 8.0 percent growth in fiscal year 2017, an upward revision of \$9.2 million. The estimate assumes growth of 2.3 percent in fiscal year 2018.

Insurance

Collections in this source grew by 12.8 percent in fiscal year 2016, and finished the year with a \$16.4 million surplus. In the November standard forecast, insurance premiums growth is raised from 1.3 percent to 1.5 percent in fiscal year 2017 and is basically unchanged from the interim forecast in fiscal year 2018 with 3.1 percent growth.

Miscellaneous Taxes and Other Revenues

Collectively, minor revenue sources have been revised upward by \$22.0 million in fiscal year 2017 for an increase of 0.4 percent compared with a 2.7 percent decline in the interim forecast. The forecast expects collections of minor sources to grow 1.9 percent in fiscal year 2018 compared with the interim forecast of 0.7 percent.

General Fund Revenues

Table 3.3
The Interim to November Standard General Fund Forecast for Fiscal Year 2017
(Dollars in Millions)

November 17, 2016

	Fiscal Year 2017				
	Interim	November	Change	% Growth Over FY 16	
	Forecast	Forecast		Interim	November
MAJOR TAX SOURCES					
Corporate Income	\$ 742.1	\$ 794.2	\$ 52.1	(3.0) %	3.8 %
Individual Income Tax:					
Gross	14,678.5	14,761.8	83.3	2.1	2.7
Withholding	11,646.0	11,713.3	67.3	3.0	3.6
Nonwithholding	3,032.5	3,048.5	16.0	(1.2)	(0.7)
Refunds	<u>(1,894.1)</u>	<u>(1,848.0)</u>	<u>46.1</u>	<u>4.0</u>	<u>1.5</u>
Net	12,784.4	12,913.8	129.4	1.8	2.9
Insurance Company Premiums	343.5	344.1	0.6	1.3	1.5
State Sales & Use Tax	3,382.2	3,350.7	(31.5)	2.6	1.7
Wills, Suits, Deeds, & Contract Fees	<u>389.4</u>	<u>398.6</u>	<u>9.2</u>	<u>5.5</u>	<u>8.0</u>
Total Major Tax Sources	\$ 17,641.6	\$ 17,801.4	\$ 159.8	1.8 %	2.8 %
MISCELLANEOUS TAXES AND OTHER REVENUES					
Alcoholic Beverage State Tax	\$ 169.6	\$ 181.3	\$ 11.7	(3.3) %	3.4 %
Bank Franchise Tax	18.7	18.4	(0.3)	5.1	3.4
Beer & Beverage Excise Tax	41.8	42.3	0.5	(1.1)	0.1
Corporate Franchise & Charter Fees	45.6	50.0	4.4	(15.0)	(6.8)
Excess & Other Fees from Officers	(6.8)	(7.1)	(0.3)	(7.5)	(3.4)
Estate & Gifts	0.0	0.0	0.0	n/a	n/a
Institutional Revenues	7.3	6.0	(1.3)	39.0	14.2
Interest & Rents	55.2	61.8	6.6	4.9 %	17.5
Licenses & Permits	4.0	4.1	0.1	(3.1) %	(0.6)
Miscellaneous Taxes and Penalties	233.8	229.4	(4.4)	(2.7) %	(4.5)
Other Miscellaneous Revenues	28.3	34.4	6.1	(27.0) %	(11.3)
Public Service GR / Consumption Tax	<u>98.9</u>	<u>97.8</u>	<u>(1.1)</u>	<u>6.8 %</u>	<u>5.6</u>
Total Misc. Taxes and Other Revenues	\$ 696.4	\$ 718.4	\$ 22.0	(2.7) %	0.4 %
TOTAL GF REVENUES	\$ 18,338.0	\$ 18,519.8	\$ 181.8	1.7 %	2.7 %
TRANSFERS					
A.B.C. Profits	\$ 84.3	\$ 97.3	\$ 13.0	(2.5) %	12.5 %
Sales Tax (0.375%)	367.2	365.4	(1.8)	3.3	2.8
Transfers Per Appropriations Act	<u>108.5</u>	<u>109.2</u>	<u>0.7</u>	<u>(9.3)</u>	<u>(8.7)</u>
Total Transfers	\$ 560.0	\$ 571.9	\$ 11.9	(0.3) %	1.8 %
TOTAL GENERAL FUND	\$ 18,898.0	\$ 19,091.7	\$ 193.7	1.6 %	2.6 %

The November forecast is based on the October 2016 IHS Markit Standard Outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from JABE and contains the same policy assumptions in Chapter 780.

The Interim forecast is based on the May 2016 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes a collar in individual nonwithholding to one percent of total revenues as contained in Chapter 780 and a withholding model bias adjustment.

General Fund Revenues

Table 3.3
The Interim to November Standard General Fund Forecast for Fiscal Year 2018
(Dollars in Millions)

November 17, 2016

	Fiscal Year 2018					2016-2018 Biennium		
	Interim Forecast	November Forecast	Change	% Growth Over FY 17 Interim	November	Interim Forecast	November Forecast	Change
MAJOR TAX SOURCES								
Corporate Income	\$ 724.0	\$ 796.0	\$ 72.0	(2.4) %	0.2 %	\$ 1,466.1	\$ 1,590.2	\$ 124.1
Individual Income Tax:								
Gross	15,318.2	15,271.5	(46.7)	4.4	3.5	29,996.7	30,033.3	36.6
Withholding	12,037.4	12,068.0	30.6	3.4	3.0	23,683.4	23,781.3	97.9
Nonwithholding	3,280.8	3,203.5	(77.3)	8.2	5.1	6,313.3	6,252.0	(61.3)
Refunds	<u>(1,968.2)</u>	<u>(1,952.5)</u>	<u>15.7</u>	<u>3.9</u>	<u>5.7</u>	<u>(3,862.3)</u>	<u>(3,800.5)</u>	<u>61.8</u>
Net	13,350.0	13,319.0	(31.0)	4.4	3.1	26,134.4	26,232.8	98.4
Insurance Company Premiums	354.5	354.9	0.4	3.2	3.1	698.0	699.0	1.0
State Sales & Use Tax	3,481.4	3,416.4	(65.0)	2.9	2.0	6,863.6	6,767.1	(96.5)
Wills, Suits, Deeds, & Contract Fees	<u>389.4</u>	<u>407.9</u>	<u>18.5</u>	<u>0.0</u>	<u>2.3</u>	<u>778.8</u>	<u>806.5</u>	<u>27.7</u>
Total Major Tax Sources	\$ 18,299.3	\$ 18,294.2	\$ (5.1)	3.7 %	2.8 %	\$ 35,940.9	\$ 36,095.6	\$ 154.7
MISCELLANEOUS TAXES AND OTHER REVENUES								
Alcoholic Beverage State Tax	\$ 173.2	\$ 187.9	\$ 14.7	2.1 %	3.6 %	\$ 342.8	\$ 369.2	\$ 26.4
Bank Franchise Tax	18.7	18.4	(0.3)	0.0	0.0	37.4	36.8	(0.6)
Beer & Beverage Excise Tax	41.8	42.3	0.5	0.0	0.0	83.6	84.6	1.0
Corporate Franchise & Charter Fees	45.6	50.0	4.4	0.0	0.0	91.2	100.0	8.8
Excess & Other Fees from Officers	(6.8)	(7.1)	(0.3)	0.0	0.0	(13.6)	(14.2)	(0.6)
Estate & Gifts	0.0	0.0	0.0	n/a	n/a	0.0	0.0	n/a
Institutional Revenues	7.3	6.0	(1.3)	0.0	0.0	14.6	12.0	(2.6)
Interest & Rents	55.2	61.8	6.6	0.0	0.0	110.4	123.6	13.2
Licenses & Permits	4.0	4.1	0.1	0.0	0.0	8.0	8.2	0.2
Miscellaneous Taxes and Penalties	234.7	236.4	1.7	0.4	3.1	468.5	465.8	(2.7)
Other Miscellaneous Revenues	28.5	34.7	6.2	0.7	0.9	56.8	69.1	12.3
Public Service GR / Consumption Tax	<u>98.9</u>	<u>97.8</u>	<u>(1.1)</u>	<u>0.0</u>	<u>0.0</u>	<u>197.8</u>	<u>195.6</u>	<u>(2.2)</u>
Total Misc. Taxes and Other Revenues	\$ 701.1	\$ 732.3	\$ 31.2	0.7 %	1.9 %	\$ 1,397.5	\$ 1,450.7	\$ 53.2
TOTAL GF REVENUES	\$ 19,000.4	\$ 19,026.5	\$ 26.1	3.6 %	2.7 %	\$ 37,338.4	\$ 37,546.3	\$ 207.9
TRANSFERS								
A.B.C. Profits	\$ 89.8	\$ 101.4	\$ 11.6	6.5 %	4.2 %	\$ 174.1	\$ 198.7	\$ 24.6
Sales Tax (0.375%)	376.8	371.6	(5.2)	2.6	1.7	744.0	737.0	(7.0)
Transfers Per Appropriations Act	<u>108.6</u>	<u>109.3</u>	<u>0.7</u>	<u>0.1</u>	<u>0.1</u>	<u>217.1</u>	<u>218.5</u>	<u>1.4</u>
Total Transfers	\$ 575.2	\$ 582.3	\$ 7.1	2.7 %	1.8 %	\$ 1,135.2	\$ 1,154.2	\$ 19.0
TOTAL GENERAL FUND	\$ 19,575.6	\$ 19,608.8	\$ 33.2	3.6 %	2.7 %	\$ 38,473.6	\$ 38,700.5	\$ 226.9

The November forecast is based on the October 2016 IHS Markit Standard Outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from JABE and contains the same policy assumptions in Chapter 780.

The Interim forecast is based on the May 2016 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes a collar in individual nonwithholding to one percent of total revenues as contained in Chapter 780 and a withholding model bias adjustment.

General Fund Revenues

Table 3.3
The November Standard General Fund Forecast for Fiscal Years 2019-2020
(Dollars in Millions)

November 17, 2016

	Fiscal Year 2019		Fiscal Year 2020		2018-2020 Biennium	
	November Forecast	% Growth Over FY 18	November Forecast	% Growth Over FY 19	November Forecast	% Growth Over 16-18
MAJOR TAX SOURCES						
Corporate Income	\$ 812.1	2.0 %	\$ 813.5	0.2 %	\$ 1,625.6	2.2 %
Individual Income Tax:						
Gross	16,023.8	4.9	16,794.0	4.8	32,817.8	9.3
Withholding	12,569.5	4.2	13,098.3	4.2	25,667.8	7.9
Nonwithholding	3,454.3	7.8	3,695.7	7.0	7,150.0	14.4
Refunds	<u>(2,070.2)</u>	6.0	<u>(2,181.0)</u>	5.4	<u>(4,251.2)</u>	11.9
Net	13,953.6	4.8	14,613.0	4.7	28,566.6	8.9
Insurance Company Premiums	375.2	5.7	394.3	5.1	769.5	10.1
State Sales & Use Tax	3,514.1	2.9	3,587.5	2.1	7,101.6	4.9
Wills, Suits, Deeds, & Contract Fees	<u>385.7</u>	<u>(5.4)</u>	<u>363.4</u>	<u>(5.8)</u>	<u>749.1</u>	<u>(7.1)</u>
Total Major Tax Sources	\$ 19,040.7	4.1 %	\$ 19,771.7	3.8 %	\$ 38,812.4	7.5 %
MISCELLANEOUS TAXES AND OTHER REVENUES						
Alcoholic Beverage State Tax	\$ 194.8	3.7 %	\$ 201.9	3.6 %	\$ 396.7	7.4 %
Bank Franchise Tax	18.4	0.0	18.4	0.0	36.8	0.0
Beer & Beverage Excise Tax	42.3	0.0	42.3	0.0	84.6	0.0
Corporate Franchise & Charter Fees	50.0	0.0	50.0	0.0	100.0	0.0
Excess & Other Fees from Officers	(7.1)	0.0	(7.1)	0.0	(14.2)	0.0
Estate & Gifts	0.0	n/a	0.0	n/a	0.0	n/a
Institutional Revenues	6.0	0.0	6.0	0.0	12.0	0.0
Interest & Rents	61.8	0.0	61.8	0.0	123.6	0.0
Licenses & Permits	4.1	0.0	4.1	0.0	8.2	0.0
Miscellaneous Taxes and Penalties	236.4	0.0	236.4	0.0	472.8	1.5
Other Miscellaneous Revenues	34.7	0.0	34.7	0.0	69.4	0.4
Public Service GR / Consumption Tax	<u>97.8</u>	<u>0.0</u>	<u>97.8</u>	<u>0.0</u>	<u>195.6</u>	<u>0.0</u>
Total Misc. Taxes and Other Revenues	\$ 739.2	0.9 %	\$ 746.3	1.0 %	\$ 1,485.5	2.4 %
TOTAL GF REVENUES	\$ 19,779.9	4.0 %	\$ 20,518.0	3.7 %	\$ 40,297.9	7.3 %
TRANSFERS						
A.B.C. Profits	\$ 93.6	(7.7) %	\$ 102.4	9.4 %	\$ 196.0	(1.4) %
Sales Tax (0.375%)	379.4	2.1	387.4	2.1	766.8	4.0
Transfers Per Appropriations Act	<u>109.3</u>	<u>0.0</u>	<u>109.3</u>	<u>0.0</u>	<u>218.6</u>	<u>0.0</u>
Total Transfers	\$ 582.3	0.0 %	\$ 599.1	2.9 %	\$ 1,181.4	2.4 %
TOTAL GENERAL FUND	\$ 20,362.2	3.8 %	\$ 21,117.1	3.7 %	\$ 41,479.3	7.2 %

The Interim forecast is based on the May 2016 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes a collar in individual nonwithholding to one percent of total revenues as contained in Chapter 780 and a withholding model bias adjustment. The November forecast is based on the October 2016 IHS Markit Standard Outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from JABE and contains the same policy assumptions in Chapter 780.

The November Pessimistic Alternative Forecast for Fiscal Years 2017 - 2020

Table 3.4 at the end of this section compares the official forecast and the November alternative pessimistic general fund forecast. The November alternative scenario reduces the interim forecast by \$35.2 million in fiscal year 2017, as growth falls from 1.7 percent to 1.5 percent. The pessimistic forecast reduces total revenue collections by \$815.1 million in fiscal year 2018, resulting in a decline of 0.6 percent.

Individual Income Taxes

In the November alternative forecast, the outlook for net individual income taxes has been revised downward from the interim forecast, as the projected increase is expected to be \$9.4 million less than the interim forecast in fiscal year 2017, for growth of 1.7 percent. A decline of 0.4 percent is predicted in fiscal year 2018, a reduction of \$624.4 million. Most of the reduction is in nonwithholding.

Withholding

The withholding revenue model is based on a direct relationship with wages and salaries (53 percent of total personal income) and net transfer payments (6 percent of total personal income) in Virginia. Withholding in the November alternative forecast is raised by \$17.6 million in fiscal year 2017 for growth of 3.2 percent, compared with the current forecast of 3.0 percent growth. Under this scenario, withholding collections are projected to increase by 3.5 percent in fiscal year 2018.

Nonwithholding

The revenue model for nonwithholding considers estimated and final payments independently. Estimated payments are modeled as a function of total proprietor's income, dividends, interest, and rental income, and the S&P 500 index, while final payments are driven solely by growth in the S&P 500 index.

The November alternative forecast for nonwithholding lowers growth from a 1.2 percent decline to a 3.0 percent decline in fiscal year 2017, a reduction of \$54.5 million from the current interim forecast. The forecast predicts a 9.2 percent decline in fiscal year 2018 compared with the interim forecast of an 8.2 percent increase, a reduction of \$577.3 million.

Refunds

The forecast methodology for individual refunds relies on the revised outlook for withholding and nonwithholding, comparing taxable year individual income tax with taxable year refunds for the first and second half of a taxable year. Historical data are adjusted for the land preservation tax credit and the low-income credit. Future values of these credits are estimated and these amounts are added to the base refund forecast.

General Fund Revenues

In the alternative forecast, individual refunds are reduced by \$27.5 million in fiscal year 2017, for growth of 2.5 percent compared with the interim forecast of 4.0 percent. The forecast increases refunds by \$77.9 million in fiscal year 2018. Land preservation credits are projected to be \$77.6 million each year over the forecast horizon. The outlook for low income credits is \$145.2 million in fiscal year 2017, and \$149.6 million in fiscal year 2018.

Sales

The sales tax revenue model is based on a direct relationship with total personal income in Virginia. The November alternative forecast for sales tax collections reduces the interim forecast by \$92.9 million in fiscal year 2017, a decline of 0.2 percent compared with the interim forecast of 2.6 percent growth. Growth in this source is expected to be 1.9 percent in fiscal year 2018, reduction of \$131.0 from the interim forecast.

Corporate

The corporate revenue model considers gross payments and refunds separately. Gross payments are modeled as a function of Virginia specific pre-tax corporate profits and the S&P 500 index. The November pessimistic forecast increases corporate collections by \$49.1 million from the interim forecast in fiscal year 2017, for growth of 3.4 percent compared with the interim forecast of a 3.0 percent decline. Collections are expected to fall by 13.0 percent in fiscal year 2018, a reduction of \$35.3 million from the interim outlook.

Wills, Suits, Deeds, and Contracts (Recordation)

The revenue model for wills, suits, deeds and contracts is based on mortgage originations, mortgage refinancing activity and home prices in Virginia, along with the yield on 30-year treasury bonds. The outlook for recordation taxes drives the other components of this source. The November alternative forecast calls for 4.3 percent growth in fiscal year 2017, a downward revision of \$4.6 million. The estimate assumes a decline of 6.9 percent in fiscal year 2018.

Insurance

The November alternative forecast for taxes on the premiums of insurance companies is for growth of 1.5 percent in fiscal year 2017, close to the current forecast. The model calls for a decline of 4.1 percent in fiscal year 2018.

Miscellaneous Taxes and Other Revenues

Collectively, minor revenue sources have been raised \$22.0 million in fiscal year 2017 for growth of 0.4 percent compared with a decline of 2.7 percent in the interim forecast. Collections in these sources are predicted to rise by 1.9 percent in fiscal year 2018.

Table 3.4
The Interim to November Pessimistic General Fund Forecast for Fiscal Year 2017
(Dollars in Millions)

November 17, 2016

	Fiscal Year 2017				
	Interim	Nov Pess	Change	% Growth Over FY 16	
	Forecast	Forecast		Interim	Nov Pess
MAJOR TAX SOURCES					
Corporate Income	\$ 742.1	\$ 791.2	\$ 49.1	(3.0) %	3.4 %
Individual Income Tax:					
Gross	14,678.5	14,641.6	(36.9)	2.1	1.8
Withholding	11,646.0	11,663.6	17.6	3.0	3.2
Nonwithholding	3,032.5	2,978.0	(54.5)	(1.2)	(3.0)
Refunds	<u>(1,894.1)</u>	<u>(1,866.6)</u>	<u>27.5</u>	<u>4.0</u>	<u>2.5</u>
Net	12,784.4	12,775.0	(9.4)	1.8	1.7
Insurance Company Premiums	343.5	344.1	0.6	1.3	1.5
State Sales & Use Tax	3,382.2	3,289.3	(92.9)	2.6	(0.2)
Wills, Suits, Deeds, & Contract Fees	<u>389.4</u>	<u>384.8</u>	<u>(4.6)</u>	<u>5.5</u>	<u>4.3</u>
Total Major Tax Sources	\$ 17,641.6	\$ 17,584.4	\$ (57.2)	1.8 %	1.5 %
MISCELLANEOUS TAXES AND OTHER REVENUES					
Alcoholic Beverage State Tax	\$ 169.6	\$ 181.3	\$ 11.7	(3.3) %	3.4 %
Bank Franchise Tax	18.7	18.4	(0.3)	5.1	3.4
Beer & Beverage Excise Tax	41.8	42.3	0.5	(1.1)	0.1
Corporate Franchise & Charter Fees	45.6	50.0	4.4	(15.0)	(6.8)
Excess & Other Fees from Officers	(6.8)	(7.1)	(0.3)	(7.5)	(3.4)
Estate & Gifts	0.0	0.0	0.0	n/a	n/a
Institutional Revenues	7.3	6.0	(1.3)	39.0	14.2
Interest & Rents	55.2	61.8	6.6	4.9 %	17.5
Licenses & Permits	4.0	4.1	0.1	(3.1) %	(0.6)
Miscellaneous Taxes and Penalties	233.8	229.4	(4.4)	(2.7) %	(4.5)
Other Miscellaneous Revenues	28.3	34.4	6.1	(27.0) %	(11.3)
Public Service GR/ Consumption Tax	<u>98.9</u>	<u>97.8</u>	<u>(1.1)</u>	<u>6.8 %</u>	<u>5.6</u>
Total Misc. Taxes and Other Revenues	\$ 696.4	\$ 718.4	\$ 22.0	(2.7) %	0.4 %
TOTAL GF REVENUES	\$ 18,338.0	\$ 18,302.8	\$ (35.2)	1.7 %	1.5 %
TRANSFERS					
A.B.C. Profits	\$ 84.3	\$ 97.3	\$ 13.0	(2.5) %	12.5 %
Sales Tax (0.375%)	367.2	365.4	(1.8)	3.3	2.8
Transfers Per Appropriations Act	<u>108.5</u>	<u>109.2</u>	<u>0.7</u>	<u>(9.3)</u>	<u>(8.7)</u>
Total Transfers	\$ 560.0	\$ 571.9	\$ 11.9	(0.3) %	1.8 %
TOTAL GENERAL FUND	\$ 18,898.0	\$ 18,874.7	\$ (23.3)	1.6 %	1.5 %

The November Pessimistic forecast is based on the October 2016 IHS Markit Pessimistic Outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from JABE and contains the same policy assumptions in Chapter 780. The Interim forecast is based on the May 2016 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes a collar in individual nonwithholding to one percent of total revenues as contained in Chapter 780 and a withholding model bias adjustment.

General Fund Revenues

Table 3.4
The Interim to November Pessimistic General Fund Forecast for Fiscal Year 2018
(Dollars in Millions)

November 17, 2016

	Fiscal Year 2018					2016-2018 Biennium		
	Interim Forecast	Nov Pess Forecast	Change	% Growth Over FY 17		Interim Forecast	Nov Pess Forecast	Change
				Interim	Nov Pess			
MAJOR TAX SOURCES								
Corporate Income	\$ 724.0	\$ 688.7	\$ (35.3)	(2.4) %	(13.0) %	\$ 1,466.1	\$ 1,479.9	\$ 13.8
Individual Income Tax:								
Gross	15,318.2	14,771.7	(546.5)	4.4	0.9	29,996.7	29,413.3	(583.4)
Withholding	12,037.4	12,068.2	30.8	3.4	3.5	23,683.4	23,731.8	48.4
Nonwithholding	3,280.8	2,703.5	(577.3)	8.2	(9.2)	6,313.3	5,681.5	(631.8)
Refunds	<u>(1,968.2)</u>	<u>(2,046.1)</u>	<u>(77.9)</u>	<u>3.9</u>	<u>9.6</u>	<u>(3,862.3)</u>	<u>(3,912.7)</u>	<u>(50.4)</u>
Net	13,350.0	12,725.6	(624.4)	4.4	(0.4)	26,134.4	25,500.6	(633.8)
Insurance Company Premiums	354.5	329.9	(24.6)	3.2	(4.1)	698.0	674.0	(24.0)
State Sales & Use Tax	3,481.4	3,350.4	(131.0)	2.9	1.9	6,863.6	6,639.7	(223.9)
Wills, Suits, Deeds, & Contract Fees	<u>389.4</u>	<u>358.4</u>	<u>(31.0)</u>	<u>0.0</u>	<u>(6.9)</u>	<u>778.8</u>	<u>743.2</u>	<u>(35.6)</u>
Total Major Tax Sources	\$ 18,299.3	\$ 17,453.0	\$ (846.3)	3.7 %	(0.7) %	\$ 35,940.9	\$ 35,037.4	\$ (903.5)
MISCELLANEOUS TAXES AND OTHER REVENUES								
Alcoholic Beverage State Tax	\$ 173.2	\$ 187.9	\$ 14.7	2.1 %	3.6 %	\$ 342.8	\$ 369.2	\$ 26.4
Bank Franchise Tax	18.7	18.4	(0.3)	0.0	0.0	37.4	36.8	(0.6)
Beer & Beverage Excise Tax	41.8	42.3	0.5	0.0	0.0	83.6	84.6	1.0
Corporate Franchise & Charter Fees	45.6	50.0	4.4	0.0	0.0	91.2	100.0	8.8
Excess & Other Fees from Officers	(6.8)	(7.1)	(0.3)	0.0	0.0	(13.6)	(14.2)	(0.6)
Estate & Gifts	0.0	0.0	0.0	n/a	n/a	0.0	0.0	n/a
Institutional Revenues	7.3	6.0	(1.3)	0.0	0.0	14.6	12.0	(2.6)
Interest & Rents	55.2	61.8	6.6	0.0	0.0	110.4	123.6	13.2
Licenses & Permits	4.0	4.1	0.1	0.0	0.0	8.0	8.2	0.2
Miscellaneous Taxes and Penalties	234.7	236.4	1.7	0.4	3.1	468.5	465.8	(2.7)
Other Miscellaneous Revenues	28.5	34.7	6.2	0.7	0.9	56.8	69.1	12.3
Public Service GR / Consumption Tax	<u>98.9</u>	<u>97.8</u>	<u>(1.1)</u>	<u>0.0</u>	<u>0.0</u>	<u>197.8</u>	<u>195.6</u>	<u>(2.2)</u>
Total Misc. Taxes and Other Revenues	\$ 701.1	\$ 732.3	\$ 31.2	0.7 %	1.9 %	\$ 1,397.5	\$ 1,450.7	\$ 53.2
TOTAL GF REVENUES	\$ 19,000.4	\$ 18,185.3	\$ (815.1)	3.6 %	(0.6) %	\$ 37,338.4	\$ 36,488.1	\$ (850.3)
TRANSFERS								
A.B.C. Profits	\$ 89.8	\$ 101.4	\$ 11.6	6.5 %	4.2 %	\$ 174.1	\$ 198.7	\$ 24.6
Sales Tax (0.375%)	376.8	371.6	(5.2)	2.6	1.7	744.0	737.0	(7.0)
Transfers Per Appropriations Act	<u>108.6</u>	<u>109.3</u>	<u>0.7</u>	<u>0.1</u>	<u>0.1</u>	<u>217.1</u>	<u>218.5</u>	<u>1.4</u>
Total Transfers	\$ 575.2	\$ 582.3	\$ 7.1	2.7 %	1.8 %	\$ 1,135.2	\$ 1,154.2	\$ 19.0
TOTAL GENERAL FUND	\$ 19,575.6	\$ 18,767.6	\$ (808.0)	3.6 %	(0.6) %	\$ 38,473.6	\$ 37,642.3	\$ (831.3)

The November Pessimistic forecast is based on the October 2016 IHS Markit Pessimistic Outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from JABE and contains the same policy assumptions in Chapter 780.

The Interim forecast is based on the May 2016 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes a collar in individual nonwithholding to one percent of total revenues as contained in Chapter 780 and a withholding model bias adjustment.

Table 3.4
The November Pessimistic General Fund Forecast for Fiscal Years 2019-2020
(Dollars in Millions)

November 17, 2016

	Fiscal Year 2019		Fiscal Year 2020		2018-2020 Biennium	
	Nov Pess	% Growth	Nov Pess	% Growth	Nov Pess	% Growth
	Forecast	Over FY 18	Forecast	Over FY 19	Forecast	Over 16-18
MAJOR TAX SOURCES						
Corporate Income	\$ 763.1	10.8 %	\$ 813.9	6.7 %	\$ 1,577.0	6.6 %
Individual Income Tax:						
Gross	15,407.3	4.3	16,391.5	6.4	31,798.8	8.1
Withholding	12,564.1	4.1	13,106.5	4.3	25,670.6	8.2
Nonwithholding	2,843.2	5.2	3,285.0	15.5	6,128.2	7.9
Refunds	<u>(2,145.2)</u>	4.8	<u>(2,256.0)</u>	5.2	<u>(4,401.2)</u>	12.5
Net	13,262.1	4.2	14,135.5	6.6	27,397.6	7.4
Insurance Company Premiums	333.6	1.1	361.0	8.2	694.5	3.0
State Sales & Use Tax	3,438.7	2.6	3,520.2	2.4	6,958.9	4.8
Wills, Suits, Deeds, & Contract Fees	<u>339.3</u>	<u>(5.3)</u>	<u>319.3</u>	<u>(5.9)</u>	<u>658.6</u>	<u>(11.4)</u>
Total Major Tax Sources	\$ 18,136.8	3.9 %	\$ 19,149.8	5.6 %	\$ 37,286.6	6.4 %
MISCELLANEOUS TAXES AND OTHER REVENUES						
Alcoholic Beverage State Tax	\$ 194.8	3.7 %	\$ 201.9	3.6 %	\$ 396.7	7.4 %
Bank Franchise Tax	18.4	0.0	18.4	0.0	36.8	0.0
Beer & Beverage Excise Tax	42.3	0.0	42.3	0.0	84.6	0.0
Corporate Franchise & Charter Fees	50.0	0.0	50.0	0.0	100.0	0.0
Excess & Other Fees from Officers	(7.1)	0.0	(7.1)	0.0	(14.2)	0.0
Estate & Gifts	0.0	n/a	0.0	n/a	0.0	n/a
Institutional Revenues	6.0	0.0	6.0	0.0	12.0	0.0
Interest & Rents	61.8	0.0	61.8	0.0	123.6	0.0
Licenses & Permits	4.1	0.0	4.1	0.0	8.2	0.0
Miscellaneous Taxes and Penalties	236.4	0.0	236.4	0.0	472.8	1.5
Other Miscellaneous Revenues	34.7	0.0	34.7	0.0	69.4	0.4
Public Service GR / Consumption Tax	<u>97.8</u>	<u>0.0</u>	<u>97.8</u>	<u>0.0</u>	<u>195.6</u>	<u>0.0</u>
Total Misc. Taxes and Other Revenues	\$ 739.2	0.9 %	\$ 746.3	1.0 %	\$ 1,485.5	2.4 %
TOTAL GF REVENUES	\$ 18,876.0	3.8 %	\$ 19,896.1	5.4 %	\$ 38,772.1	6.3 %
TRANSFERS						
A.B.C. Profits	\$ 93.6	(7.7) %	\$ 102.4	9.4 %	\$ 196.0	(1.4) %
Sales Tax (0.375%)	379.4	2.1	387.4	2.1	766.8	4.0
Transfers Per Appropriations Act	<u>109.3</u>	<u>0.0</u>	<u>109.3</u>	<u>0.0</u>	<u>218.6</u>	<u>0.0</u>
Total Transfers	\$ 582.3	0.0 %	\$ 599.1	2.9 %	\$ 1,181.4	2.4 %
TOTAL GENERAL FUND	\$ 19,458.3	3.7 %	\$ 20,495.2	5.3 %	\$ 39,953.5	6.1 %

The Interim forecast is based on the May 2016 IHS Markit US Standard outlook and includes recommendations from GACRE. The forecast also includes a collar in individual nonwithholding to one percent of total revenues as contained in Chapter 780 and a withholding model bias adjustment. The November Pessimistic forecast is based on the October 2016 IHS Markit Pessimistic Outlook and the corresponding Virginia state forecast developed by the Department of Taxation with recommendations from JABE and contains the same policy assumptions in Chapter 780.

General Fund Revenues

Legislative Changes Affecting the Forecast

Table 3.5 below lists the legislative and policy changes that affect the revenue forecast for fiscal years 2017-2018.

Table 3.5
Summary of Recent Legislation Affecting General Fund Revenues
(Millions of Dollars)

	FY17	FY18
CORPORATE INCOME TAX		
C. 2, 2014 - Cap Scholarship -- HB321/SB121 2015 updated	(5.0)	(5.0)
2015 Federal TOPS Program	0.7	0.2
2015 Expiration of Coalfield Employment Enhancement Credit	0.9	1.6
Increase Existing R&D Expenses Tax Credit Cap -- HB884, 2016		(1.0)
New Large R&D Tax Credit -- (HB884, 2016)		(20.0)
INDIVIDUAL INCOME TAX		
Repeal Subtraction for Land for Open Space -- SB1012, 2015	0.4	0.4
Land Preservation Tax Credit (Total Cost)	77.6	77.6
ABLE Act Contribution Deduction -- HB30, 2016	(0.2)	(0.5)
Food Bank Tax Credit --HB1093/SB580, 2016	(0.2)	(0.3)
Eliminate Tax Credit for Political Contributions -- HB22/SB115, 2016		0.7
Federal Tax Conformity -- HB402, 2016	(0.2)	(0.1)
TAX Refund Review Initiative -- HB30, 2016	(3.2)	(5.2)
STATE SALES AND USE TAX		
C. 247, 2015 - Additional Enforcement of Sales Tax - SB1010	1.0	1.0
C. 382, 2015 Consolidation of Sales Tax Holidays - SB1319	1.0	1.0
C. 620, 2015 Sales Tax Exemption for Bullion - HB1648	(0.2)	(0.2)
TAX Enhanced Sales Tax - Cigarettes	1.5	1.5
Unwind AST 10/25	(36.7)	(27.0)
Sales Tax Exemption Refunds -- HB398, 2016	1.9	1.9

SECTION 4
NON-GENERAL FUND REVENUES

Section 4 Non-General Fund Revenues

Transportation Revenues

Most state taxes and fees used to finance the state's transportation programs are deposited into two funds: the Highway Maintenance and Operating Fund (HMOF) and the Transportation Trust Fund (TTF). The HMOF, which finances maintenance and operating costs, consists of traditional highway user taxes and fees. The TTF, which finances construction costs, consists of dedicated portions of highway user taxes and fees, as well as a portion of state sales and recordation taxes, interest earnings, and several miscellaneous sources. Within the TTF, which was created by a special session of the General Assembly in 1986, is the Priority Transportation Fund (PTF). This fund, which was created during the 2000 legislative session, consists of insurance premiums, interest payments, and a portion of the motor fuels tax.

Revenues used for the Commonwealth's transportation program are derived from the following taxes and fees:

- Motor Fuels and Road Use Taxes,
- a 4.15 percent Vehicle Sales and Use Tax (The rate of 4.15 percent will be phased in over four years, beginning in fiscal year 2014.),
- licensing fees,
- 0.60 cent State Retail Sales and Use Tax (The share of existing general sales and use tax revenues used for transportation from a 0.50 percent to 0.675 percent, phased in over four years. Since the U.S. Congress did not pass the Marketplace Fairness Act by January 1, 2015, the share of sales tax revenues used for transportation will remain at 0.60 percent.),
- 0.3 percent State Retail Sales and Use tax,
- 3.0 cents of the State Recordation Tax,
- one-third of State Insurance Premiums Tax,
- International Registration Plan Fees,
- Interest Earnings, and
- Other miscellaneous taxes and fees.

In addition, federal, local, and toll revenues are also used to finance transportation programs. These revenue sources, however, do not determine the fiscal capacity of the state's transportation program and, therefore, are not addressed here. Instead, the discussion focuses on revenues from state sources.

NON-GENERAL FUND REVENUES

Fiscal Year 2016 in Review

Table 4.1 compares actual collections in fiscal year 2016 to the official forecast for the Commonwealth Transportation Fund (CTF). Total transportation revenues totaled close to \$3.4 billion, an increase of \$218.4 million over last year. Revenue collections grew by 7.0 percent, equaling the official forecast, resulting in a forecast variance of 0.1 percent.

Table 4.1
Actual Collections Compared to the Official Forecast for Fiscal Year 2016
(Millions of Dollars)

Revenue Sources	FY2015 Actual	FY2016 Actual	FY2016 Forecast	Percent Change 2015-2016		Forecast Variance	
				Actual	Forecast	Amount	Percent
Motor Fuels Tax	715.1	848.3	873.8	18.6%	22.2%	(25.5)	-2.9%
Road Use Tax	5.7	10.9	7.9	91.2	38.6	3.0	38.0
Vehicle Sales Tax	854.5	918.9	893.8	7.5	4.6	25.1	2.8
Vehicle Licenses	245.1	253.4	244.4	3.4	(0.3)	9.0	3.7
State Sales Tax	994.9	1,000.5	1,006.2	0.6	1.1	-5.7	-0.6
Recordation Tax	42.0	44.2	44.6	5.2	6.2	-0.4	-0.9
Insurance Premiums Tax	150.4	150.3	150.3	(0.1)	(0.1)	0.0	0.0
Int'l Registration Plan	66.0	67.7	66.4	2.6	0.6	1.3	2.0
Interest Earnings	7.5	3.7	13.6	(50.7)	81.3	-9.9	-72.8
Rental Tax	35.9	37.5	37.9	4.5	5.6	-0.4	-1.1
Aviation Fuels Tax	1.8	1.8	1.8	0.0	0.0	0.0	0.0
Miscellaneous	18.3	18.4	17.0	0.5	(7.1)	1.4	8.2
TOTAL	\$3,137.2	\$3,355.6	\$3,357.7	7.0%	7.0%	(\$2.1)	-0.1%

Revenues from motor fuels taxes (25 percent of the CTF in fiscal year 2016) fell short of the forecast by \$25.5 million in fiscal year 2016. Motor fuels tax collections increased by 18.6 percent in fiscal year 2016.

Fiscal year 2016 is the third year of the new taxing regime for motor fuels. HB2313 (2013) eliminated the \$0.175 per gallon tax on motor fuels, and replaced it with a percentage-based tax of 3.5 percent for gasoline and 6 percent for diesel fuel. In addition, a provision of HB2313 required an additional 1.6 percent tax on gasoline given the U.S. Congress did not pass the Marketplace Fairness Act.

Gasoline consumption had been on a declining trend since reaching its peak consumption year in 2003. In 2015, about 140.4 billion gallons (or about 3.3 billion barrels) of gasoline were consumed in the United States, a daily average of about 384.7 million gallons (or about 9.2 million barrels per day). This was about 1.5 percent less than the 390 million gallons per day (or about 9.3 million barrels per day) consumed in 2007.

The market for diesel fuel is different than the market for gasoline. Most diesel fuel is purchased and consumed by motor carriers, and reflects movement of freight through the state rather than commuter passenger travel. Motor carriers are sensitive to prices and are likely to purchase fuel in a state that has lower fuel tax rates. Motor carriers respond to the general economy more than passenger traffic: they tend to travel more miles when the economy is in an expansion and less when the economy is in a recession.

Revenues from the motor vehicle sales and use tax (27 percent of the CTF in fiscal year 2016) increased by 7.5 percent in fiscal year 2016. HB2313 (2013) amended the tax on the sale of motor vehicles (the "titling tax"). Previously, the titling tax was 3 percent. A new rate of 4.15 percent will be phased in over four years. In fiscal year 2016, the rate was 4.1 percent. New car sales increased by 4.4 percent and used car sales increased by 3.4 percent.

Revenues from the transportation share of the state retail sales tax (30 percent of the CTF in fiscal year 2016) increased by 0.6 percent. HB2313 (2013) raised the state sales and use tax across the Commonwealth from 4 percent to 4.3 percent and designated the increased revenues to the Commonwealth Transportation Fund.

Motor vehicle license fees (8 percent of the CTF in fiscal year 2016) increased by 3.4 percent in fiscal year 2016.

Collectively, all other taxes and revenues (10 percent of the CTF in fiscal year 2016) increased by 2.1 percent in fiscal year 2016.

Outlook for Key Tax Base Variables

Motor Fuel Consumption

Gasoline consumption declined by 0.1 percent and diesel fuel consumption fell by 3.3 percent in fiscal year 2016.

The recent improvement in the economic outlook and the sharp decline in motor fuels prices is expected to provide a short-term boost to motor fuels consumption. The decline in gasoline prices has driven a stronger demand for light-duty trucks and other less fuel efficient vehicles. However, the general outlook for motor gasoline is for declining consumption as average new vehicle fuel economy continues to improve. As new cars replace less-efficient older cars, the increase in the average fleet fuel economy is expected to outpace the growth in the driving age population and vehicle miles traveled and put

NON-GENERAL FUND REVENUES

continuing downward pressure on gasoline consumption. In 2013, gallons of gasoline consumed per person fell 17 percent from 2004, gallons used per driver fell 16 percent, and gallons used per household fell 19 percent. 2004 was the year of maximum consumption for those categories.

In addition to improvements in fuel efficiency, the expected future decline in gasoline consumption is attributable in large part to some powerful secular changes in U.S. demographics and cultural in general:

- As the aging population leaves the workforce, the employment-population ratio has contracted.
- There is growing trend toward a portable workplace and the ability to work from home.
- Social media have provided powerful alternatives to face-to-face interaction requiring transportation (Internet apps, games, the ubiquitous mobile phone for talk and texting).
- There has been a general trend in young adults to drive less (related to points two and three above).
- The US is experiencing accelerating urban population growth, which reduces the per-capita dependence on gasoline.

Table 4.2
Motor Fuel Consumption, History and Forecast, Fiscal Years 2016 - 2018
(Percent Growth)

	<u>2016</u>	<u>2017</u>	<u>2018</u>
Taxable Gallons - Gasoline			
Official	2.8	1.1	0.8
Standard	(0.1)	2.0	1.1
Alternative		1.3	(0.2)
Taxable Gallons - Diesel			
Official	4.7	2.8	1.0
Standard	(3.3)	1.9	0.9
Alternative		0.2	(1.0)

Vehicle Sales

The official forecast anticipated that fiscal year 2016 new car sales would continue to grow. New car sales increased by a solid 4.4 percent, slightly below the forecast of a 5.1 percent increase.

Used car sales were expected to increase by 1.9 percent in fiscal year 2016. Used car sales increased by 3.4 percent in fiscal year 2016.

Table 4.3 shows the official and November 2016 forecast for new and used vehicles. The discussion of the vehicle sales outlook is divided into two sections: new taxable titles and used taxable titles.

Table 4.3
Virginia Vehicle Market, History and Forecast, Fiscal Years 2016 - 2018
(Percent Growth)

	<u>2016</u>	<u>2017</u>	<u>2018</u>
New Taxable Titles			
Official	5.1	0.6	0.5
Standard	4.4	(0.3)	(0.1)
Alternative		(3.0)	(8.7)
Used Taxable Titles			
Official	1.9	2.6	0.8
Standard	3.4	4.1	0.2
Alternative		5.8	0.3

New Taxable Titles: In fiscal year 2016, over 391,000 new vehicles were titled in Virginia, an increase of 16,400 from fiscal year 2015.

The November forecast expects a slight decline from the above-trend level of the past few years as the replacement cycle begins to wane. Sales will remain solid as conditions are supported by a steadily improving job market, favorable financing conditions including long-term loans, favorable leasing terms, and broader credit availability than for other loan products.

Used Taxable Titles: About 1.2 million used cars were sold in Virginia in fiscal year 2016, an increase of 3.4 percent. Used car sales generally follow a sales pattern similar to new car sales. As used car prices begin to moderate, sales of these vehicles should increase as lower prices relative to new cars make used vehicles more attractive to buyers.

NON-GENERAL FUND REVENUES

November 2016 Standard Commonwealth Transportation Fund Forecast

Table 4.4 on the following pages presents a comparison of the November 2015 standard forecast and the official forecast. In the Virginia standard forecast, economic growth continues to improve, but performs below the national economy.

Beginning in fiscal year 2014, Chapter 766 (2013) provided a considerable influx of new revenues into the Commonwealth Transportation Fund:

- The bill eliminated the \$0.175 per gallon tax on motor fuels, and replaced it with a percentage-based tax of 3.5 percent for gasoline and 6 percent for diesel fuel. (Given that the U.S. Congress did not pass the Marketplace Fairness Act by January 1, 2015, the rate on gasoline rose to 5.1 percent.)
- The bill raised the state sales and use tax across the Commonwealth from 4 percent to 4.3 percent and designated the increased revenues to the Commonwealth Transportation Fund.
- The bill increased the share of existing general sales and use tax revenues used for transportation from 0.50 percent to 0.675 percent, phased in over four years. (Given that the U.S. Congress did not pass the Marketplace Fairness Act by January 1, 2015, the share of sales tax revenues used for transportation will remain at 0.60 percent.)
- The bill amended the tax on the sale of motor vehicles (the "titling tax"). Previously, the titling tax was 3 percent. A new rate of 4.15 percent will be phased in over four years.

The November forecast shows a decline of revenues of \$32.0 million and \$66.4 million in fiscal years 2017 and 2018, respectively, as compared to the official forecast. Revenue collections are estimated to increase by 1.9 percent and 1.2 percent in fiscal years 2017 and 2018.

NON-GENERAL FUND REVENUES

Table 4.4
The Official and November Commonwealth Transportation Fund Forecast for Fiscal Year 2017
(Dollars in Millions)

November 1, 2016

	Fiscal Year 2016		Fiscal Year 2017				
	Actual	% Growth	Official Forecast	November Forecast	Change	% Growth over FY 16	
						Official	November
Highway Maintenance & Operating Fund							
Motor Fuels Tax	\$ 684.8	18.8 %	\$ 716.8	\$ 691.8	\$ (25.0)	4.7 %	1.0 %
Road Tax	2.9	(261.1)	(0.2)	3.0	3.2	(106.9)	3.4
Motor Vehicle Sales And Use Tax	691.0	8.2	696.9	705.0	8.1	0.9	2.0
Motor Vehicle License Fees	231.8	3.8	224.8	231.6	6.8	(3.0)	(0.1)
Retail Sales and Use Tax	276.8	(0.4)	293.9	286.8	(7.1)	6.2	3.6
International Registration Plan	67.7	2.6	61.7	68.1	6.4	(8.9)	0.6
Recordation Tax	14.7	5.0	0.0	0.0	0.0	n/a	n/a
Miscellaneous	18.4	0.5	17.0	17.3	0.3	(7.6)	(6.0)
Total State Taxes and Fees	\$ 1,988.1	9.7 %	\$ 2,010.9	\$ 2,003.6	\$ (7.3)	1.1 %	0.8 %
Transportation Trust Fund							
Motor Fuels Tax	\$ 163.5	17.9 %	\$ 170.1	\$ 164.2	\$ (5.9)	4.0 %	0.4 %
Insurance Premiums Tax (1/3)	150.3	(0.1)	156.0	163.1	7.1	3.8	8.5
Road Tax	8.0	6.7	8.1	8.1	0.0	1.3	1.3
Motor Vehicle Sales And Use Tax	227.9	5.6	230.3	233.0	2.7	1.1	2.2
Motor Vehicle License Fees	21.6	(0.9)	22.0	21.4	(0.6)	1.9	(1.2)
Retail Sales and Use Tax	723.7	0.9	756.0	736.3	(19.7)	4.5	1.7
Recordation Tax	29.5	5.4	45.4	47.2	1.8	53.9	60.1
Interest Earnings	3.7	(50.7)	12.1	3.3	(8.8)	227.0	(10.8)
Rental Tax	37.5	4.5	39.6	38.5	(1.1)	5.6	2.7
Aviation Fuels Tax	1.8	0.0	2.0	1.8	(0.2)	11.1	0.0
Total State Taxes and Fees	\$ 1,367.5	3.2 %	\$ 1,441.6	\$ 1,416.9	\$ (24.7)	5.4 %	3.6 %
Total HMOF And TTF							
Motor Fuels Tax	\$ 848.3	18.6 %	\$ 886.9	\$ 856.0	\$ (30.9)	4.6 %	0.9 %
Insurance Premiums Tax (1/3)	150.3	(0.1)	156.0	163.1	7.1	3.8	8.5
Road Tax	10.9	91.2	7.9	11.1	3.2	(27.5)	1.8
Motor Vehicle Sales and Use Tax	918.9	7.5	927.2	938.0	10.8	0.9	2.1
Motor Vehicle License Fees	253.4	3.4	246.8	253.0	6.1	(2.6)	(0.2)
International Registration Plan	67.7	2.6	61.7	68.1	6.4	(8.9)	0.6
Retail Sales and Use Tax	1,000.5	0.6	1,049.9	1,023.1	(26.8)	4.9	2.3
Recordation Tax (3 cents)	44.2	5.2	45.4	47.2	1.8	2.7	6.9
Interest Earnings	3.7	(50.7)	12.1	3.3	(8.8)	227.0	(10.8)
Rental Tax	37.5	4.5	39.6	38.5	(1.1)	5.6	2.7
Aviation Fuels Tax	1.8	0.0	2.0	1.8	(0.2)	11.1	0.0
Miscellaneous	18.4	0.5	17.0	17.3	0.3	(7.6)	(6.0)
Total State Taxes and Fees	\$ 3,355.6	7.0 %	\$ 3,452.5	\$ 3,420.5	\$ (32.0)	2.9 %	1.9 %
Transfers per the Appropriations Act							
Retail Sales Tax - AST (TTF)	0.0	n/a	0.0	0.0	0.0	n/a	n/a
Total Transfers	\$ 0.0	n/a	\$ 0.0	\$ 0.0	\$ 0.0	n/a	n/a %
Total Transportation Fund	\$ 3,355.6	6.2	\$ 3,452.5	\$ 3,420.5	\$ (32.0)	2.9 %	1.9 %

The Official forecast is based on the November 2015 HIS Markit's Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation and includes actions of the 2016 session of the General Assembly.
The October forecast is based on the October 2016 IHS Markit's US Standard outlook.

NON-GENERAL FUND REVENUES

Table 4.4
The Official and November Commonwealth Transportation Fund Forecast for Fiscal Year 2018
(Dollars in Millions)

November 1, 2016

	Fiscal Year 2018					
	Official Forecast	November Forecast	Change	% Growth over FY 17		
				Official	November	
Highway Maintenance & Operating Fund						
Motor Fuels Tax	\$ 722.9	\$ 699.0	\$ (23.9)	0.9 %	1.0 %	
Road Tax	(0.3)	2.7	3.0	50.0	(10.0)	
Motor Vehicle Sales And Use Tax	707.1	712.1	5.0	1.5	1.0	
Motor Vehicle License Fees	224.5	233.5	9.0	(0.1)	0.8	
Retail Sales and Use Tax	304.2	291.1	(13.1)	3.5	1.5	
International Registration Plan	62.8	64.0	1.2	1.8	(6.0)	
Recordation Tax	0.0	0.0	0.0	n/a	n/a	
Miscellaneous	17.0	17.3	0.3	0.0	0.0	
Total State Taxes and Fees (HMOF)	\$ 2,038.2	\$ 2,019.7	\$ (18.5)	1.4 %	0.8 %	
Transportation Trust Fund						
Motor Fuels Tax	\$ 171.7	\$ 166.0	\$ (5.7)	0.9 %	1.1 %	
Insurance Premiums Tax (1/3)	162.2	169.1	6.9	4.0	3.7	
Road Tax	8.1	8.0	(0.1)	0.0	(1.2)	
Motor Vehicle Sales And Use Tax	233.6	235.2	1.6	1.4	0.9	
Motor Vehicle License Fees	22.0	21.9	(0.1)	0.0	2.6	
Retail Sales and Use Tax	784.5	748.5	(36.0)	3.8	1.7	
Recordation Tax	45.4	48.4	3.0	0.0	2.4	
Interest Earnings	17.9	2.3	(15.6)	47.9	(30.3)	
Rental Tax	41.3	39.6	(1.7)	4.3	2.9	
Aviation Fuels Tax	2.0	1.8	(0.2)	0.0	0.0	
Total State Taxes and Fees (TTF)	\$ 1,488.7	\$ 1,440.8	\$ (47.9)	3.3 %	1.7 %	
Total HMOF And TTF						
Motor Fuels Tax	\$ 894.6	\$ 865.0	\$ (29.6)	0.9 %	1.1 %	
Insurance Premiums Tax (1/3)	162.2	169.1	6.9	4.0	3.7	
Road Tax	7.8	10.7	2.9	(1.3)	(3.6)	
Motor Vehicle Sales and Use Tax	940.7	947.3	6.6	1.5	1.0	
Motor Vehicle License Fees	246.5	255.4	8.9	(0.1)	1.0	
International Registration Plan	62.8	64.0	1.2	1.8	(6.0)	
Retail Sales and Use Tax	1,088.7	1,039.6	(49.1)	3.7	1.6	
Recordation Tax (3 cents)	45.4	48.4	3.0	0.0	2.4	
Interest Earnings	17.9	2.3	(15.6)	47.9	(30.3)	
Rental Tax	41.3	39.6	(1.7)	4.3	2.9	
Aviation Fuels Tax	2.0	1.8	(0.2)	0.0	0.0	
Miscellaneous	17.0	17.3	0.3	0.0	0.0	
Total State Taxes and Fees	\$ 3,526.9	\$ 3,460.5	\$ (66.4)	2.2 %	1.2 %	
Transfers per the Appropriations Act						
Retail Sales Tax - AST (TTF)	0.0	0.0	0.0	n/a	n/a	
Total Transfers	\$ 0.0	\$ 0.0	\$ 0.0	n/a %	n/a %	
Total Transportation Fund	\$ 3,526.9	\$ 3,460.5	\$ (66.4)	2.2 %	1.2 %	

The Official forecast is based on the November 2015 HIS Markit's Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation and includes actions of the 2016 session of the General Assembly.
The October forecast is based on the October 2016 IHS Markit's US Standard outlook.

NON-GENERAL FUND REVENUES

Table 4.4
The November Commonwealth Transportation Fund Forecast for Fiscal Years 2019 through 2022
(Dollars in Millions)

November 1, 2016

	Fiscal Years 2019 through 2022							
	FY 19	%	FY 20	%	FY 21	%	FY 22	%
	Forecast	Growth	Forecast	Growth	Forecast	Growth	Forecast	Growth
Highway Maintenance & Operating Fund								
Motor Fuels Tax	\$ 705.9	1.0	\$ 710.6	0.7	\$ 717.8	1.0	\$ 725.6	1.1
Road Tax	2.7	0.0	2.7	0.0	2.7	0.0	2.7	0.0
Motor Vehicle Sales And Use Tax	725.5	1.9	730.7	0.7	735.6	0.7	737.6	0.3
Motor Vehicle License Fees	233.5	0.0	233.9	0.2	235.2	0.6	235.4	0.1
Retail Sales and Use Tax	297.3	2.1	303.6	2.1	310.2	2.2	316.7	2.1
International Registration Plan	65.2	1.9	65.6	0.6	65.3	(0.5)	65.6	0.5
Recordation Tax	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a
Miscellaneous	17.3	0.0	17.3	0.0	17.3	0.0	17.3	0.0
Total State Taxes and Fees (HMOF)	\$ 2,047.4	1.4	\$ 2,064.4	0.8%	\$ 2,084.1	1.0%	\$ 2,100.9	0.8%
Transportation Trust Fund								
Motor Fuels Tax	167.6	1.0	168.7	0.7	170.5	1.1	172.4	1.1
Insurance Premiums Tax (1/3)	174.7	3.3	183.3	4.9	192.5	5.0	201.2	4.5
Road Tax	8.0	0.0	8.0	0.0	8.1	1.3	8.1	0.0
Motor Vehicle Sales And Use Tax	239.5	1.8	241.1	0.7	242.7	0.7	243.3	0.2
Motor Vehicle License Fees	22.0	0.5	22.0	0.0	22.3	1.4	22.0	(1.3)
Retail Sales and Use Tax	764.3	2.1	780.3	2.1	797.4	2.2	814.2	2.1
Recordation Tax	45.7	(5.5)	43.1	(5.8)	43.1	0.0	43.1	0.0
Interest Earnings	2.3	0.0	2.3	0.0	2.3	0.0	2.3	0.0
Rental Tax	41.2	4.0	42.9	4.1	42.9	0.0	42.9	0.0
Aviation Fuels Tax	1.9	5.6	2.0	5.3	2.0	0.0	2.0	0.0
Total State Taxes and Fees (TTF)	\$ 1,467.2	1.8	\$ 1,493.7	1.8%	\$ 1,523.8	2.0%	\$ 1,551.5	1.8%
Total HMOF And TTF								
Motor Fuels Tax	873.5	1.0	879.3	0.7	888.3	1.0	898.0	1.1
Insurance Premiums Tax (1/3)	174.7	3.3	183.3	4.9	192.5	5.0	201.2	4.5
Road Tax	10.7	0.0	10.7	0.0	10.8	0.9	10.8	0.0
Motor Vehicle Sales and Use Tax	965.0	1.9	971.8	0.7	978.3	0.7	980.9	0.3
Motor Vehicle License Fees	255.5	0.0	255.9	0.2	257.5	0.6	257.4	(0.0)
International Registration Plan	65.2	1.9	65.6	0.6	65.3	(0.5)	65.6	0.5
Retail Sales and Use Tax	1,061.6	2.1	1,083.9	2.1	1,107.6	2.2	1,130.9	2.1
Recordation Tax (3 cents)	45.7	(5.5)	43.1	(5.8)	43.1	0.0	43.1	0.0
Interest Earnings	2.3	0.0	2.3	0.0	2.3	0.0	2.3	0.0
Rental Tax	41.2	4.0	42.9	4.1	42.9	0.0	42.9	0.0
Aviation Fuels Tax	1.9	5.6	2.0	5.3	2.0	0.0	2.0	0.0
Miscellaneous	17.3	0.0	17.3	0.0	17.3	0.0	17.3	0.0
Total State Taxes and Fees	\$ 3,514.6	1.6	\$ 3,558.1	1.2%	\$ 3,607.9	1.4%	\$ 3,652.4	1.2%
Transfers per the Appropriations Act								
Retail Sales Tax - AST (TTF)	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a
Total Transfers	\$ -	n/a	\$ -	n/a	\$ -	n/a	\$ -	n/a
Total Transportation Fund	\$ 3,514.6	1.6	\$ 3,558.1	1.2%	\$ 3,607.9	1.4%	\$ 3,652.4	1.2%

The Official forecast is based on the November 2015 HIS Markt's Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation and includes actions of the 2016 session of the General Assembly.
The October forecast is based on the October 2016 IHS Markit's US Standard outlook.

NON-GENERAL FUND REVENUES

The Alternative Forecast

Table 4.5 on the following pages compares the official and November alternative Commonwealth Transportation Fund forecasts. Under the alternative forecast, total transportation fund revenues are expected to decline by \$67.1 million in fiscal year 2017 and \$151.3 million in fiscal year 2018, as compared to the official forecast. Revenue collections are estimated to increase by 0.9 percent, and fall 0.3 percent in fiscal years 2017 and 2018, respectively.

This forecast is based on IHS Markit October 2015 alternative forecast and the corresponding Virginia state forecast.

NON-GENERAL FUND REVENUES

Table 4.5
The Official and November Alternative Commonwealth Transportation Fund Forecast for Fiscal Year 2017
(Dollars in Millions)

November 1, 2016

	Fiscal Year 2016		Fiscal Year 2017				
	Actual	% Growth	Official Forecast	November Forecast	Change	% Growth over FY 16	
						Official	November
Highway Maintenance & Operating Fund							
Motor Fuels Tax	\$ 684.8	18.8 %	\$ 716.8	\$ 685.2	\$ (31.6)	4.7 %	0.1 %
Road Tax	2.9	(261.1)	(0.2)	3.0	3.2	(106.9)	3.4
Motor Vehicle Sales And Use Tax	691.0	8.2	696.9	700.8	3.9	0.9	1.4
Motor Vehicle License Fees	231.8	3.8	224.8	231.6	6.8	(3.0)	(0.1)
Retail Sales and Use Tax	276.8	(0.4)	293.9	280.7	(13.2)	6.2	1.4
International Registration Plan	67.7	2.6	61.7	68.1	6.4	(8.9)	0.6
Recordation Tax	14.7	5.0	0.0	0.0	0.0	n/a	n/a
Miscellaneous	18.4	0.5	17.0	17.3	0.3	(7.6)	(6.0)
Total State Taxes and Fees	\$ 1,988.1	9.7 %	\$ 2,010.9	\$ 1,986.7	\$ (24.2)	1.1 %	(0.1) %
Transportation Trust Fund							
Motor Fuels Tax	\$ 163.5	17.9 %	\$ 170.1	\$ 162.7	\$ (7.4)	4.0 %	(0.5) %
Insurance Premiums Tax (1/3)	150.3	(0.1)	156.0	163.1	7.1	3.8	8.5
Road Tax	8.0	6.7	8.1	8.1	0.0	1.3	1.3
Motor Vehicle Sales And Use Tax	227.9	5.6	230.3	231.6	1.3	1.1	1.6
Motor Vehicle License Fees	21.6	(0.9)	22.0	21.4	(0.6)	1.9	(1.2)
Retail Sales and Use Tax	723.7	0.9	756.0	721.0	(35.0)	4.5	(0.4)
Recordation Tax	29.5	5.4	45.4	47.2	1.8	53.9	60.1
Interest Earnings	3.7	(50.7)	12.1	3.3	(8.8)	227.0	(10.8)
Rental Tax	37.5	4.5	39.6	38.5	(1.1)	5.6	2.7
Aviation Fuels Tax	1.8	0.0	2.0	1.8	(0.2)	11.1	0.0
Total State Taxes and Fees	\$ 1,367.5	3.2 %	\$ 1,441.6	\$ 1,398.7	\$ (42.9)	5.4 %	2.3 %
Total HMOF And TTF							
Motor Fuels Tax	\$ 848.3	18.6 %	\$ 886.9	\$ 847.9	\$ (39.0)	4.6 %	(0.0) %
Insurance Premiums Tax (1/3)	150.3	(0.1)	156.0	163.1	7.1	3.8	8.5
Road Tax	10.9	91.2	7.9	11.1	3.2	(27.5)	1.8
Motor Vehicle Sales and Use Tax	918.9	7.5	927.2	932.4	5.2	0.9	1.5
Motor Vehicle License Fees	253.4	3.4	246.8	253.0	6.1	(2.6)	(0.2)
International Registration Plan	67.7	2.6	61.7	68.1	6.4	(8.9)	0.6
Retail Sales and Use Tax	1,000.5	0.6	1,049.9	1,001.7	(48.2)	4.9	0.1
Recordation Tax (3 cents)	44.2	5.2	45.4	47.2	1.8	2.7	6.9
Interest Earnings	3.7	(50.7)	12.1	3.3	(8.8)	227.0	(10.8)
Rental Tax	37.5	4.5	39.6	38.5	(1.1)	5.6	2.7
Aviation Fuels Tax	1.8	0.0	2.0	1.8	(0.2)	11.1	0.0
Miscellaneous	18.4	0.5	17.0	17.3	0.3	(7.6)	(6.0)
Total State Taxes and Fees	\$ 3,355.6	7.0 %	\$ 3,452.5	\$ 3,385.4	\$ (67.1)	2.9 %	0.9 %
Transfers per the Appropriations Act							
Retail Sales Tax - AST (TTF)	0.0	n/a	0.0	0.0	0.0	n/a	n/a
Total Transfers	\$ 0.0	n/a	\$ 0.0	\$ 0.0	\$ 0.0	n/a	n/a %
Total Transportation Fund	\$ 3,355.6	6.2	\$ 3,452.5	\$ 3,385.4	\$ (67.1)	2.9 %	0.9 %

The Official forecast is based on the November 2015 HIS Markit's Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation and includes actions of the 2016 session of the General Assembly.
The October forecast is based on the October 2016 IHS Markit's Alternative outlook.

NON-GENERAL FUND REVENUES

Table 4.5
The Official and November Alternative Commonwealth Transportation Fund Forecast for Fiscal Year 2018
(Dollars in Millions)

November 1, 2016

	Fiscal Year 2018				
	Official Forecast	November Forecast	Change	% Growth over FY 17	
				Official	November
Highway Maintenance & Operating Fund					
Motor Fuels Tax	\$ 722.9	\$ 682.5	\$ (40.4)	0.9 %	(0.4) %
Road Tax	(0.3)	2.7	3.0	50.0	(10.0)
Motor Vehicle Sales And Use Tax	707.1	678.1	(29.0)	1.5	(3.2)
Motor Vehicle License Fees	224.5	233.5	9.0	(0.1)	0.8
Retail Sales and Use Tax	304.2	285.6	(18.6)	3.5	1.7
International Registration Plan	62.8	64.0	1.2	1.8	(6.0)
Recordation Tax	0.0	0.0	0.0	n/a	n/a
Miscellaneous	17.0	17.3	0.3	0.0	0.0
Total State Taxes and Fees (HMOF)	\$ 2,038.2	\$ 1,963.7	\$ (74.5)	1.4 %	(1.2) %
Transportation Trust Fund					
Motor Fuels Tax	\$ 171.7	\$ 162.1	\$ (9.6)	0.9 %	(0.4) %
Insurance Premiums Tax (1/3)	162.2	169.1	6.9	4.0	3.7
Road Tax	8.1	8.0	(0.1)	0.0	(1.2)
Motor Vehicle Sales And Use Tax	233.6	224.4	(9.2)	1.4	(3.1)
Motor Vehicle License Fees	22.0	21.9	(0.1)	0.0	2.6
Retail Sales and Use Tax	784.5	734.3	(50.2)	3.8	1.8
Recordation Tax	45.4	48.4	3.0	0.0	2.4
Interest Earnings	17.9	2.3	(15.6)	47.9	(30.3)
Rental Tax	41.3	39.6	(1.7)	4.3	2.9
Aviation Fuels Tax	2.0	1.8	(0.2)	0.0	0.0
Total State Taxes and Fees (TTF)	\$ 1,488.7	\$ 1,411.9	\$ (76.8)	3.3 %	0.9 %
Total HMOF And TTF					
Motor Fuels Tax	\$ 894.6	\$ 844.6	\$ (50.0)	0.9 %	(0.4) %
Insurance Premiums Tax (1/3)	162.2	169.1	6.9	4.0	3.7
Road Tax	7.8	10.7	2.9	(1.3)	(3.6)
Motor Vehicle Sales and Use Tax	940.7	902.5	(38.2)	1.5	(3.2)
Motor Vehicle License Fees	246.5	255.4	8.9	(0.1)	1.0
International Registration Plan	62.8	64.0	1.2	1.8	(6.0)
Retail Sales and Use Tax	1,088.7	1,019.9	(68.8)	3.7	1.8
Recordation Tax (3 cents)	45.4	48.4	3.0	0.0	2.4
Interest Earnings	17.9	2.3	(15.6)	47.9	(30.3)
Rental Tax	41.3	39.6	(1.7)	4.3	2.9
Aviation Fuels Tax	2.0	1.8	(0.2)	0.0	0.0
Miscellaneous	17.0	17.3	0.3	0.0	0.0
Total State Taxes and Fees	\$ 3,526.9	\$ 3,375.6	\$ (151.3)	2.2 %	(0.3) %
Transfers per the Appropriations Act					
Retail Sales Tax - AST (TTF)	0.0	0.0	0.0	n/a	n/a
Total Transfers	\$ 0.0	\$ 0.0	\$ 0.0	n/a %	n/a %
Total Transportation Fund	\$ 3,526.9	\$ 3,375.6	\$ (151.3)	2.2 %	(0.3) %

The Official forecast is based on the November 2015 HIS Markit's Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation and includes actions of the 2016 session of the General Assembly. The October forecast is based on the October 2016 IHS Markit's Alternative outlook.

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Table 4.5
The November Alternative Commonwealth Transportation Fund Forecast for Fiscal Years 2019 through 2022
(Dollars in Millions)

November 1, 2016

	Fiscal Years 2019 through 2022							
	FY 19	%	FY 20	%	FY 21	%	FY 22	%
	Forecast	Growth	Forecast	Growth	Forecast	Growth	Forecast	Growth
Highway Maintenance & Operating Fund								
Motor Fuels Tax	\$ 692.5	1.5	\$ 697.7	0.8	\$ 703.6	0.8	\$ 707.9	0.6
Road Tax	2.7	0.0	2.7	0.0	2.7	0.0	2.7	0.0
Motor Vehicle Sales And Use Tax	667.1	(1.6)	691.2	3.6	705.4	2.1	702.4	(0.4)
Motor Vehicle License Fees	233.5	0.0	233.9	0.2	235.2	0.6	235.4	0.1
Retail Sales and Use Tax	294.7	3.2	301.9	2.4	311.1	3.0	320.4	3.0
International Registration Plan	65.2	1.9	65.6	0.6	65.3	(0.5)	65.6	0.5
Recordation Tax	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a
Miscellaneous	17.3	0.0	17.3	0.0	17.3	0.0	17.3	0.0
Total State Taxes and Fees (HMOF)	\$ 1,973.0	0.5	\$ 2,010.3	1.9%	\$ 2,040.6	1.5%	\$ 2,051.7	0.5%
Transportation Trust Fund								
Motor Fuels Tax	164.5	1.5	165.7	0.7	167.1	0.8	168.1	0.6
Insurance Premiums Tax (1/3)	174.7	3.3	183.3	4.9	192.5	5.0	201.2	4.5
Road Tax	8.0	0.0	8.0	0.0	8.1	1.3	8.1	0.0
Motor Vehicle Sales And Use Tax	220.9	(1.6)	228.6	3.5	233.1	2.0	232.1	(0.4)
Motor Vehicle License Fees	22.0	0.5	22.0	0.0	22.3	1.4	22.0	(1.3)
Retail Sales and Use Tax	757.1	3.1	776.0	2.5	799.3	3.0	823.3	3.0
Recordation Tax	45.7	(5.5)	43.1	(5.8)	43.1	0.0	43.1	0.0
Interest Earnings	2.3	0.0	2.3	0.0	2.3	0.0	2.3	0.0
Rental Tax	41.2	4.0	42.9	4.1	42.9	0.0	42.9	0.0
Aviation Fuels Tax	1.9	5.6	2.0	5.3	2.0	0.0	2.0	0.0
Total State Taxes and Fees (TTF)	\$ 1,438.3	1.9	\$ 1,473.9	2.5%	\$ 1,512.7	2.6%	\$ 1,545.1	2.1%
Total HMOF And TTF								
Motor Fuels Tax	857.0	1.5	863.4	0.7	870.7	0.8	876.0	0.6
Insurance Premiums Tax (1/3)	174.7	3.3	183.3	4.9	192.5	5.0	201.2	4.5
Road Tax	10.7	0.0	10.7	0.0	10.8	0.9	10.8	0.0
Motor Vehicle Sales and Use Tax	888.0	(1.6)	919.8	3.6	938.5	2.0	934.5	(0.4)
Motor Vehicle License Fees	255.5	0.0	255.9	0.2	257.5	0.6	257.4	(0.0)
International Registration Plan	65.2	1.9	65.6	0.6	65.3	(0.5)	65.6	0.5
Retail Sales and Use Tax	1,051.8	3.1	1,077.9	2.5	1,110.4	3.0	1,143.7	3.0
Recordation Tax (3 cents)	45.7	(5.5)	43.1	(5.8)	43.1	0.0	43.1	0.0
Interest Earnings	2.3	0.0	2.3	0.0	2.3	0.0	2.3	0.0
Rental Tax	41.2	4.0	42.9	4.1	42.9	0.0	42.9	0.0
Aviation Fuels Tax	1.9	5.6	2.0	5.3	2.0	0.0	2.0	0.0
Miscellaneous	17.3	0.0	17.3	0.0	17.3	0.0	17.3	0.0
Total State Taxes and Fees	\$ 3,411.3	1.1	\$ 3,484.2	2.1%	\$ 3,553.3	2.0%	\$ 3,596.8	1.2%
Transfers per the Appropriations Act								
Retail Sales Tax - AST (TTF)	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a
Total Transfers	\$ -	n/a	\$ -	n/a	\$ -	n/a	\$ -	n/a
Total Transportation Fund	\$ 3,411.3	1.1	\$ 3,484.2	2.1%	\$ 3,553.3	2.0%	\$ 3,596.8	1.2%

The Official forecast is based on the November 2015 HIS Markit's Standard outlook and the corresponding Virginia state forecast developed by the Department of Taxation and includes actions of the 2016 session of the General Assembly.
The October forecast is based on the October 2016 IHS Markit's Alternative outlook.

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ABC Revenues and Profits Fiscal Year 2016

In fiscal year 2016, ABC's total revenue, excluding state tax receipts, was \$771.9 million. Gross sales of alcoholic beverages in the retail stores accounted for 97.1 percent of this income. The remaining 2.9 percent of income was generated largely through the Department's regulatory and licensing activities. ABC's revenues, costs, and profits for fiscal years 2013 through 2016 are exhibited in Table 4.6.

Table 4.6
DEPARTMENT OF ALCOHOLIC BEVERAGE CONTROL COMPONENTS
OF THE ENTERPRISE FUND - REVENUES, EXPENSES, DISBURSEMENTS
FISCAL YEARS 2013 - 2016
(Millions of Dollars)

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Total Revenue*	662.4	689.5	730.1	771.9
Cost of Goods & Total Operating Expenses	528.1	549.7	577.7	606.6
Net ABC Profit	133.7	139.9	152.5	165.2
Transfer to the General Fund:				
Reimbursement for Appropriations as provided by the Acts of the Assembly	67.1	67.1	67.5	68.0
Net Profits for Distribution	67.4	72.9	84.6	96.9

*These revenue figures exclude receipts collected under the state tax on alcoholic beverages and the general sales tax.

Table 4.7 displays fiscal year 2015 and fiscal year 2016 total store sales, net ABC profit for distribution and state tax revenue results. Comparisons of ABC's performance in fiscal year 2015, estimated performance for fiscal year 2016, and actual results in fiscal year 2016, are also included in Table 4.7 and show an increase in 2016 sales compared with 2015, an increase in net ABC profits for distribution, and an increase in state tax revenue.

Table 4.7
A Comparison of FY15 to FY16, Estimated and Actual
(Millions of Dollars)

	<u>FY15</u>	<u>FY16</u>	<u>FY16</u>	<u>Variance</u>		<u>FY15 v FY16</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Actual</u>	<u>Amount</u>	<u>Percent</u>	<u>Estimate</u>	<u>Actual</u>
Total Store Sales*	848.1	890.1	897.6	7.5	0.0	42.0	49.5
Net ABC Profit for Distribution	84.6	80.2	96.9	16.7	0.2	(4.4)	12.3
State Tax Revenue**	165.9	166.1	174.9	8.8	0.1	0.2	9.0

*These figures include state tax on alcoholic beverages and exclude the general sales tax.

**State Tax Revenue does not include \$9.1m wine liter tax transferred to MHMRSAS.

Distribution of ABC Profits and ABC State Tax Revenues

During fiscal year 2016, ABC contributed \$165.2 million of net profits to the Commonwealth, and collected \$227.2 million of taxes on store sales, wine, and beer and an additional \$41.3 million of general sales tax totaling \$433.7 million.

Along with the net ABC profits, Table 4.6 displays appropriation transfers required by the Acts of the Assembly and net profits remaining after appropriation transfers that are transferred to the General Fund for distribution. The appropriation transfers as provided by the Acts of the Assembly totaled \$68.0 million in 2016 and the ABC net profits for distribution increased from \$84.6 million to \$96.9 million. The increase in profits over the prior year was primarily driven by increased sales. Net ABC profits are generally earmarked for deposit in the General Fund, except for certain appropriation transfers designated by the General Assembly including those to recover alcohol-related program costs. The Department of Behavioral Health and Developmental Services program for the treatment of alcoholics received \$65.4 million in 2016. This appropriation is charged against net ABC profits before profits are transferred to the General Fund. The remaining ABC profits are transferred into the General Fund as ABC profits.

In any given time period, amounts transferred to the General Fund will not correspond to net ABC profit earned, due to a 50 day interval before the profits are transferred to the Fund. This issue is exacerbated at year-end when ABC must estimate fourth quarter profits and make the transfer in advance of year-end closing.

ABC Revenues and Profit Forecast for 2017-2020

Comparisons of ABC's performance in fiscal year 2015, estimated performance for fiscal year 2016, and actual performance in fiscal year 2016, are included in Table 4.7. Fiscal Year 2016 compared to 2015 shows an increase in sales, an increase in net ABC profits for distribution, and an increase in state tax revenue. Table 4.8 contains fiscal year 2016 results for store sales, profits for distribution and state tax revenues along with the 2017 through 2020 forecasts. Profit forecasts in Table 4.8 are net of any transfers mandated by the Appropriation Act.

ABC's profit forecast is a factor of two elements: sales performance and trends in expenses. In both cases, forecasts beyond fiscal year 2017 are more prone to forecast error given the uncertainty with the economy and impacts on customer behavior and ABC's cost structure.

In fiscal year 2017, ABC expects sales to continue to grow in both the retail and mixed beverage licensee (restaurant) segments. Sales from ABC's retail outlets continue to increase year over year, while sales to restaurants remain variable due to the slow economic recovery in Virginia and the nation. Uncontrollable factors such as holiday season sales and sales from restaurants have the potential to significantly impact the accuracy of

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ABC's sales forecast. Currently, ABC is experiencing slight growth in both retail and restaurant sales.

On the expense side, ABC is faced with a number of current and future pressures. These expenses include state mandated salary and benefit cost increases, utility costs, store rent escalation, telecommunication and technology costs, and growth in credit card discount fees that are very difficult to influence in the short run. Personnel costs account for 59 percent of ABC non-merchandise expenditures, 17 percent is for continuous charges such as rent and utilities, 18 percent is contractual services such as shipping product to stores and telecommunications, and 6 percent is for miscellaneous expenses such as depreciation and credit card discount fees. Changes in salary and benefit cost rates, as well as mandated Appropriation Act transfers, can also significantly impact the accuracy of ABC's expense forecasts.

In fiscal years 2017 through 2020 and beyond, increases in expenditures are exacerbated by the need to make significant ongoing investments in our technology infrastructure. Over the next five to six years, approximately \$65 million will be needed to upgrade technology for items such as the agency's point of sale, warehouse management, human resource, and tax management systems. The investments address an audit point issued by the Auditor of Public Accounts over multiple years with regard to not meeting technology security standards. In its audit point, the APA notes that the numerous end-of-life systems maintained by ABC make it vulnerable to malicious attack and major system failures. In addition to the technology needs, ABC will also need to replace its warehouse conveyor and inventory management system within the next five years.

Table 4.8
Forecast of ABC Store Sales, ABC State Tax on Alcohol,
and Net Profits for Distribution
(\$ millions)

	<u>Actual</u>	<u>Forecast</u>			
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Total ABC Store Sales: (1)	897.6	935.9	976.0	1,017.7	1,060.8
Adjusted Net Profits for Distribution: (2) (3) (4)	96.9	97.3	101.4	93.6	102.4
ABC State Tax Revenues:(1)					
Spirits	147.9	154.2	160.8	167.7	174.8
Wine (5)	27.1	27.1	27.1	27.1	27.1
Total Tax Revenue:	175.0	181.3	187.9	194.8	201.9

- (1) Excludes the general sales tax and lottery sales
- (2) Does not include appropriation transfers mandated by Virginia Acts of Assembly
- (3) ABC develops forecasts on an accrual basis. The transfer of profits occurs on a cash basis. Variances often occur at year end when ABC has to transfer estimated profits on June 30th.
- (4) Fiscal year 2019 includes \$8.6M of potential WTA (Workforce Transition Act) costs related to transitioning ABC to an Authority.
- (5) Wine figure excludes statutory transfers

Virginia Lottery

Each fiscal year, the Lottery makes periodic transfers of net income (revenues from sales plus other income, minus expenses) to the Lottery Proceeds Fund, in accordance with the schedule included in the Appropriations Act. Expenses are comprised of prizes to players, commissions to retailers, ticket printing and distribution, contractual fees for gaming system operations, and administrative operating costs. The primary drivers of the net income transferred are sales of lottery products and prizes paid to players.

Actual Results - Fiscal Year 2016

The Virginia Lottery transferred \$539.0 million to the Lottery Proceeds Fund during fiscal year 2016. The Lottery also transferred \$2.1 million for debt set-off to the Department of Taxation and \$5.9 million from unclaimed prizes to the Literary Fund.

Sales for fiscal year 2016 were \$2.0 billion, an increase of \$152.0 million (9.0 percent) from fiscal year 2015. Net income was \$588.2 million, \$54.4 million (10.2 percent) more than fiscal year 2015, primarily due to exceptionally strong sales from the historic \$1.6 billion jackpot run and stronger than expected scratcher sales. The \$20.3 million in residual fiscal year 2016 profits were already included in the expected fiscal year 2017 transfers, and the additional \$33.2 million profits that were in excess of the updated 2016 forecast will be part of the transfers to the Lottery Proceeds Fund for the 2017 fiscal year. The portion of fiscal year 2016 profits transferred during the 2017 fiscal year total \$53.5 million.

Forecast Overview - Fiscal Years 2017 through 2018

The Virginia Lottery developed its sales and revenue forecasts based upon a variety of baseline assumptions, including:

- the economic outlook as endorsed by the Joint Advisory Board of Economists, in particular with respect to long-term interest rates and US Treasury-issued bond yields;
- continued traditional lottery gaming competition from neighboring jurisdictions, as well as the increased competition from internet lottery sales and casino-style gaming in nearby jurisdictions including Maryland, Washington, D.C., North Carolina, West Virginia, Kentucky and Delaware;
- no legislatively-mandated change in the overall compensation rate paid to retailers offering Lottery products, or other constraints on Lottery expenses including prizes;
- no additional legislatively mandated limitation on the administrative spending for the Lottery, other than the current statutory 10 percent spending cap in place since the Lottery's inception;
- no new constraints on the Lottery's sales and marketing efforts, including the ability to advertise products, establish prizes paid to players, and offer licensed property games that appeal to consumers; and
- no new, non-traditional product-line offerings such as Keno or video lottery game offerings, and no expansion of internet gaming in Virginia.

Table 4.9
Forecast of Lottery Sales and Transfers
to the Lottery Proceeds Fund
(\$ millions)

	Fiscal Year	
	2017	2018
Sales	1,963.3	1,992.2
- Prize Expense	1,197.3	1,222.9
- Retailer Compensation	110.5	112.6
- Operating Expenses	110.0	111.1
+ Other Income	1.0	1.0
Net Income	546.5	546.5
Other Transfers	53.5	-
Total Available	600.0	546.5

For fiscal year 2017, the Lottery is projecting sales of \$1.963 billion and net income (turnover to the Lottery Proceeds Fund) of \$546.5 million. Prize expense is estimated to be \$1.197 billion, or 61.0 percent of sales; retailer compensation is forecast to be \$110.5 million, or 5.6 percent of sales. This forecast takes into account current trends and simulation models for jackpot progressions and sales, and statistically expected prize expense rates. The estimated \$546.5 million net income, plus the residual \$53.5 million of fiscal year 16 profits that will be transferred during fiscal year 17, brings the total expected transfers to the Lottery Proceeds Fund for fiscal year 2017 to \$600.0 million. This is an increase of \$38.5 million over the figure in Chapter 780 for fiscal year 2017.

For fiscal year 2018, the Lottery expects that sales will grow to \$2.0 billion, creating revenue for the Lottery Proceeds Fund of \$546.5 million for fiscal year 2018, and holds this annual profit estimate steady through the next biennium. This is an increase of \$5.3 million over the figure in Chapter 780 for fiscal year 2018.

Sales Projections for Fiscal Years 2017 through 2018

For each fiscal year forecast, the Lottery total forecast is the sum of sales forecasts developed by the Lottery for each of its products. The methodology for each estimate is dependent upon the nature of the product. The data used in our models include such factors as: experiences of other U.S. and Canadian lotteries, variability of prize percentage, economic variables such as predicted interest rates, seasonal factors, promotions, product life cycle, and the Lottery's future plans for each of the products.

Scratch Games

Scratch games account for 55 percent of total lottery sales. Sales of scratch games are expected to sustain the recent growth in prior years over the forecast period, as players continue to support the variety of games offered in Virginia. The key to the maintenance and growth of scratch sales over the forecast horizon will be actively managing our comprehensive portfolio of games at various price points and prize levels, as well as continuing to maintain and expand our retail distribution network.

The Jackpot-Style Games: Mega Millions, Powerball, Bank a Million, and Cash 4 Life

About 10 percent of the Lottery's sales come from jackpot-style games - those games offering top prizes in the millions of dollars. The Lottery currently offers four such games - Mega Millions, Powerball, Bank a Million and Cash 4 Life. "Luck of the draw" plays a major role in the sales performance of Mega Millions and Powerball. Drawings of random numbers determine whether the jackpot prize is won or whether it "rolls" and continues to grow. High jackpots increase levels of play. Conversely, high frequency of jackpot winners means less jackpot growth and lower sales. Since drawings of random numbers determine the frequency of jackpot wins, which is a large determinant of sales levels for these games, there is inherently a large degree of uncertainty in any forecast for these large jackpot games.

Another key determinant of sales levels for these games is the prevailing interest rate. The Lottery invests the prize pool for each jackpot prize in U.S. Treasury Bonds to create the necessary income stream. At a given level of sales and resulting cash pool, the higher the yield of the bonds, the higher an annuity jackpot prize may be advertised. Higher advertised jackpots lead to higher sales. Thus in periods of high interest rates, jackpots grow relatively quickly and sales are stable. In periods of low interest rates, jackpots grow slowly and sales decline. Current bond yields continue to be very low.

Bank a Million and Cash 4 Life, the other jackpot-style games currently offered in Virginia, offer a fixed prize to players without regard to the number of winners resulting from any single drawing. Player awareness of these types of games, and frequent game refreshes, are key to these products' success. These games also pose a short-term profitability risk because of the large fixed prizes available for each drawing.

Efforts to expand multi-state jackpot game offerings among all U.S. Lottery states led to the 2010 breakthrough agreement between the two major consortia – Mega Millions and Powerball. Those efforts were intended to strengthen both the current games and potentially lead to further collaborative game offerings.

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Daily Games

The Lottery's other drawing games – those games sold through the network of Lottery computer terminals and where winners are determined by a random drawing – collectively referred to as “daily games,” are Pick 3, Pick 4 and Cash 5. Daily games comprise about a third of total Lottery sales. Each of these products operates on approximately the same profit margin. While Pick 3 and Pick 4 are very mature products, total sales are forecast to continue increasing slightly. Cash 5 is expected to continue to exhibit stable sales, an unusual phenomenon and contrary to the experiences of other U.S. lotteries that have seen their Cash 5 sales decline more significantly.

Other Products

Since fiscal year 2007, the Lottery has offered two additional products to players: the limited-time offering of raffle tickets and a new line of “print and play” style games. Raffle style games offer a fixed number of tickets for sale, and each ticket has an equal chance to win predetermined prizes. These other products comprise about 2 percent of total lottery sales.

Net Income for Fiscal Years 2017 through 2018

The Lottery is forecasting net income of \$546.5 million for fiscal year 2017, and \$546.5 million for fiscal year 2018. The Lottery's largest expense, prizes to players, is expected to increase over this period as players continue to buy more of the higher price point scratch games, which pay a higher portion of sales back in prizes. Retailers should continue to earn commissions and incentives equal to about 5.6 percent of sales. Operating expenses are projected to remain low, forecast to stabilize around 5.6 percent of total sales – about half of the 10 percent statutory maximum.

The Virginia Lottery, celebrating its 28th year in fiscal year 2017, with its current product mix, continues to operate at a mature stage. Virginia continues to support sustaining sales and net income through innovations in existing products, ongoing operating efficiencies, retailer recruitment and expansion initiatives, and crucial marketing endeavors.

Ongoing Risks to the Forecast

There are always a number of ongoing risks associated with the Virginia Lottery's forecast that could significantly affect the Lottery's transfer to the Lottery Proceeds Fund. The first is luck. If the Lottery experiences unusually high payouts in its daily games in any given year, sales may be higher than projected, but income lower simply due to players winning more money. This phenomenon occurred in fiscal year 2013, resulting in higher sales, but lower profits than fiscal year 2012. Luck is also a primary driver of sales for Mega Millions and Powerball. If jackpots are won with more frequency than expected, then sales will be lower than expected, due to small jackpots. Of course, a long period without a jackpot

win can generate much higher sales due to the exponential growth of the jackpot; this was the case in January 2016 when the Powerball jackpot grew to a world record \$1.6 billion.

A second risk is competition from other gaming opportunities available to consumers. Many state lotteries, including North Carolina, Kentucky and Maryland, have either initiated or are actively working to launch internet-based product offerings not available in Virginia. Increased competition from video lottery and casino offerings in Maryland, which began in 2010, may have an increasingly negative impact on traditional lottery product sales in Virginia – in particular, the casino just across the Virginia border at National Harbor on the Potomac River which is scheduled to open in December 2016. This increase in competition for gaming dollars along the heavily populated northern Virginia border is in addition to the well-established competition from video lottery and table games offerings in West Virginia. Expanded gaming options in West Virginia and Delaware are also aggressively advertised in Virginia markets. Perhaps most significant is the potential competition from internet gaming. With the December 2011 Department of Justice ruling that helped clarify the legality of internet gaming, many states are progressing toward offering internet gaming that would provide Virginia consumers a more readily available outlet for their gaming dollars. This continued expansion will also change consumer expectations and demands for how they are able to buy Lottery products. A legislative study of internet gaming was conducted in 2015, and there is continued interest in legalizing internet lottery sales to meet today's digital player expectations. Other digital gaming opportunities readily available to consumers include fantasy sports offerings, like Fan Duel and Draft Kings, which were specifically legalized in Virginia during the 2016 Session.

A third risk is the prospect of the Lottery being constrained even further in its ability to launch, promote and support products. For example, if the advertising budget were reduced to sub-optimal levels, sales would suffer.

The current estimates of sales and profits also presume that the Lottery's appropriation authority is sufficient to support its operations for activities including investments in technology, sales equipment necessary for the expansion of the Lottery retailer network, advertising, and contractual commitments to vendor partners that are primarily based on percentage of sales agreements. Estimates also do not anticipate any change in the distribution of lottery profits, or any change in the prize allocations or prize types available to players. The expense associated with the relocation of the Lottery's headquarters to another state-owned facility will increase operating expenses in the short-run; the best estimate of these costs is reflected in the current revenue estimate.

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Unemployment Insurance Trust Fund

The unemployment benefit financing system calculates an employer's tax liability by computing the ratio of benefit charges to taxable wages for the last four fiscal years. An appropriate tax rate, subject to a maximum and minimum, is then assigned based on the employer's benefit ratio. A determining factor of tax schedules is the fund balance factor—a ratio related to the Trust Fund's solvency level. Generally, a lower fund balance factor means higher tax schedules.

The Unemployment Insurance (UI) Trust Fund also may receive tax revenues from two other sources—the pool tax and the fund-building tax. The pool tax is an added tax imposed on all employers to cover those benefits that cannot be charged to a particular employer because the employer is inactive or the employer is already subject to the maximum tax. When the fund balance factor exceeds 50 percent, interest income is used to offset these benefit charges. The fund-building tax of 0.2 percent is added to each employer's tax rate unless the fund balance factor exceeds 50 percent. UI tax collections were above the projection by \$13.6 million, or 2.3 percent, in fiscal year 2016 due to improved employment growth. Projected interest revenues were \$0.9 million, or 5.2 percent, above the forecast because higher tax revenue and lower benefit payments resulted in higher balances.

Discussion of Forecast

The estimates in Tables 4.10 and 4.11 represent projections from the Unemployment Insurance Benefit Financing Model. The current estimates' decrease in tax revenue in fiscal years 2017 through 2019 reflects improvements in the fund balance factor and decreases in the four year moving average of benefit charges overwhelming the small increase in the pool tax rate. The increase in fiscal year 2020 reflects the decrease in the fund balance factor and the increase in the pool tax rate. In the Baseline Scenario, pool taxes of 0.04 percent, 0.04 percent, 0.07 percent, and 0.11 percent are projected for Calendar Years 2017--2020 respectively. The fund-building tax is not imposed after Calendar Years 2015. Interest revenues increase with increasing balances.

In the pessimistic Alternate Scenario, pool taxes of 0.05 percent, 0.05 percent, 0.14 percent, and 0.30 percent are projected for Calendar Years 2017--2020 respectively. A fund-building tax is imposed in Calendar Year 2020. Tax revenues are slightly lower in 2017 in the Alternate Scenario than the Baseline Scenario because employment at the end of the year is lower. Due to higher benefit payments in the Alternate Scenario, average benefit ratios are higher for fiscal Years 2017 through 2020. In fiscal year 2018, the higher tax rates in the Alternate Scenario are offset by lower employment and produce lower tax revenue than the Baseline Scenario. For fiscal years 2019 and 2020, despite continued lower employment, higher tax rates produce higher tax revenue than the Baseline Scenario. The Alternate Scenario produces lower interest revenue because balances are lower throughout the forecast period due to benefits rising faster than taxes.

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TABLE 4.10
Financial Forecasts Fiscal Years 2017, 2018, 2019, and 2020
Baseline Scenario
(Millions of Dollars)

Revenue Source	<u>Fiscal Year 2017</u>		<u>Fiscal Year 2018</u>		<u>Fiscal Year 2019</u>		<u>Fiscal Year 2020</u>	
	Standard Estimate	% Change From Actual Fiscal Year 2016	Standard Estimate	% Change From Estimated Fiscal Year 2017	Standard Estimate	% Change From Estimated Fiscal Year 2018	Standard Estimate	% Change From Estimated Fiscal Year 2019
Unemployment Insurance Tax	468.5	-21.7%	427.7	-8.7%	411.7	-3.7%	421.9	2.5%
Interest on Trust Fund	22.2	21.3%	27.0	21.6%	30.5	13.0%	30.9	1.3%
Total Revenue	490.7	-20.5%	454.7	-7.3%	442.2	-2.7%	452.8	2.4%

TABLE 4.11
Financial Forecasts Fiscal Years 2017, 2018, 2019, and 2020
Pessimistic Alternate Scenario
(Millions of Dollars)

Revenue Source	<u>Fiscal Year 2017</u>		<u>Fiscal Year 2018</u>		<u>Fiscal Year 2019</u>		<u>Fiscal Year 2020</u>	
	Standard Estimate	% Change From Actual Fiscal Year 2016	Standard Estimate	% Change From Estimated Fiscal Year 2017	Standard Estimate	% Change From Estimated Fiscal Year 2018	Standard Estimate	% Change From Estimated Fiscal Year 2019
Unemployment Insurance Tax	468.3	-21.8%	424.7	-9.3%	465.3	9.6%	625.2	34.4%
Interest on Trust Fund	22.1	20.8%	21.8	-1.4%	24.8	13.8%	18.3	-26.2%
Total Revenue	490.4	-20.5%	446.5	-9.0%	490.1	9.8%	643.5	31.3%

APPENDIX A ECONOMIC DATA

TABLE A.1 - QUARTERLY NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	History											
	2013.3	2013.4	2014.1	2014.2	2014.3	2014.4	2015.1	2015.2	2015.3	2015.4	2016.1	2016.2
Real Gross Domestic Product, Billions \$, SAAR	15,641.3	15,793.9	15,747.0	15,900.8	16,094.5	16,186.7	16,269.0	16,374.2	16,454.9	16,490.7	16,525.0	16,583.1
Annualized % Change	3.1	4.0	(1.2)	4.0	5.0	2.3	2.0	2.6	2.0	0.9	0.8	1.4
% Change from Prior Year's Quarter	1.7	2.7	1.6	2.4	2.9	2.5	3.3	3.0	2.2	1.9	1.6	1.3
Real Consumer Spending, Billions \$, SAAR	10,573.1	10,662.2	10,712.8	10,813.3	10,912.9	11,036.4	11,102.4	11,181.3	11,255.9	11,319.3	11,365.2	11,484.9
Annualized % Change	1.9	3.4	1.9	3.8	3.7	4.6	2.4	2.9	2.7	2.3	1.6	4.3
% Change from Prior Year's Quarter	1.4	2.0	2.0	2.8	3.2	3.5	3.6	3.4	3.1	2.6	2.4	2.7
U.S. Personal Income, Billions \$, SAAR	14,135.3	14,238.0	14,487.2	14,718.1	14,927.5	15,106.2	15,185.9	15,401.9	15,556.1	15,690.2	15,740.1	15,893.2
Annualized % Change	3.4	2.9	7.2	6.5	5.8	4.9	2.1	5.8	4.1	3.5	1.3	3.9
% Change from Prior Year's Quarter	1.9	(0.6)	4.2	5.0	5.6	6.1	4.8	4.6	4.2	3.9	3.6	3.2
Virginia Personal Income, Millions \$, SAAR	400,970.2	403,275.2	409,682.4	415,205.3	419,747.9	424,472.4	427,933.4	435,028.7	439,383.1	443,053.0	444,904.2	449,180.8
Annualized % Change	1.1	2.3	6.5	5.5	4.4	4.6	3.3	6.8	4.1	3.4	1.7	3.9
% Change from Prior Year's Quarter	(0.5)	(2.6)	2.8	3.8	4.7	5.3	4.5	4.8	4.7	4.4	4.0	3.3
Virginia Wages and Salaries, Millions \$, SAAR	210,465.8	211,318.9	213,165.5	214,615.8	215,966.3	218,540.0	219,134.9	223,037.1	226,103.1	228,451.1	231,418.2	231,897.8
Annualized % Change	(0.3)	1.6	3.5	2.7	2.5	4.9	1.1	7.3	5.6	4.2	5.3	0.8
% Change from Prior Year's Quarter	1.3	(0.6)	1.9	1.9	2.6	3.4	2.8	3.9	4.7	4.5	5.6	4.0
Virginia Dividends, Interest, and Rent, Millions \$, SAAR	78,824.3	79,521.3	81,633.4	84,079.2	85,568.6	86,095.3	85,793.4	87,265.2	88,007.0	87,184.3	87,715.3	88,657.2
Annualized % Change	4.0	3.6	11.1	12.5	7.3	2.5	(1.4)	7.0	3.4	(3.7)	2.5	4.4
% Change from Prior Year's Quarter	(1.8)	(7.0)	3.9	7.7	8.6	8.3	5.1	3.8	2.8	1.3	2.2	1.6
Virginia Total Proprietor's Income, Millions \$, SAAR	23,670.0	23,660.6	23,993.8	24,478.6	24,741.8	25,279.8	25,566.9	26,065.3	26,505.5	26,825.1	26,995.6	27,115.3
Annualized % Change	(0.1)	(0.2)	5.8	8.3	4.4	9.0	4.6	8.0	6.9	4.9	2.6	1.8
% Change from Prior Year's Quarter	(9.4)	(11.1)	1.1	3.4	4.5	6.8	6.6	6.5	7.1	6.1	5.6	4.0

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.1 - QUARTERLY NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	2013.3	2013.4	2014.1	2014.2	2014.3	2014.4	2015.1	2015.2	2015.3	2015.4	2016.1	2016.2
Total U.S. Employment, Millions, SA	136.6	137.3	137.8	138.6	139.3	140.1	140.8	141.5	142.2	142.9	143.5	144.0
Annualized % Change	1.6	1.8	1.5	2.3	2.2	2.3	2.1	1.9	1.9	2.0	1.9	1.3
% Change from Prior Year's Quarter	1.7	1.8	1.7	1.8	2.0	2.1	2.2	2.1	2.0	2.0	1.9	1.8
Virginia Total Nonag. Employment, Thousands, SA	3,762.6	3,763.9	3,763.9	3,784.6	3,789.3	3,795.5	3,814.0	3,834.9	3,863.0	3,892.1	3,913.8	3,929.4
Annualized % Change	0.6	0.1	0.0	2.2	0.5	0.7	2.0	2.2	3.0	3.0	2.2	1.6
% Change from Prior Year's Quarter	0.8	0.1	(0.0)	0.7	0.7	0.8	1.3	1.3	1.9	2.5	2.6	2.5
CPI, All Urban, 1982-1984=1.0, SA	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Annualized % Change	2.0	1.9	2.4	1.9	0.9	(0.3)	(2.9)	2.4	1.4	0.8	(0.3)	2.5
% Change from Prior Year's Quarter	1.5	1.2	1.4	2.0	1.8	1.2	(0.1)	0.0	0.1	0.4	1.1	1.1
Refiner's Acquisition Cost of Oil, \$ per Barrel	105.3	96.0	97.7	101.1	96.4	73.8	48.0	57.4	47.6	40.6	30.8	42.2
Quarterly Change	5.8	(9.2)	1.7	3.4	(4.7)	(22.6)	(25.8)	9.5	(9.8)	(7.0)	(9.8)	11.4
Change from Prior Year's Quarter	7.7	(1.3)	(3.5)	1.6	(8.9)	(22.2)	(49.7)	(43.7)	(48.8)	(33.2)	(17.2)	(15.2)
Before-Tax Corporate Profits, Billions \$, SAAR	2,158.7	2,214.3	2,190.0	2,291.8	2,286.1	2,283.6	2,203.1	2,208.1	2,140.8	1,998.4	2,078.0	2,180.6
Annualized % Change	7.7	10.7	(4.3)	19.9	(1.0)	(0.4)	(13.4)	0.9	(11.6)	(24.1)	16.9	21.3
% Change from Prior Year's Quarter	1.0	4.9	2.7	8.2	5.9	3.1	0.6	(3.7)	(6.4)	(12.5)	(5.7)	(1.2)
S&P 500 Stock Market Index, Level	1,675.3	1,770.4	1,834.3	1,900.4	1,976.0	2,012.0	2,063.5	2,102.0	2,026.1	2,053.2	1,948.3	2,075.0
Annualized % Change	17.3	24.7	15.2	15.2	16.9	7.5	10.6	7.7	(13.7)	5.4	(18.9)	28.7
% Change from Prior Year's Quarter	19.5	24.8	21.1	18.1	17.9	13.6	12.5	10.6	2.5	2.0	(5.6)	(1.3)
30-Year Treasury Bonds, Level	3.7	3.8	3.7	3.4	3.3	3.0	2.5	2.9	3.0	3.0	2.7	2.6
Quarterly Change	0.6	0.1	(0.1)	(0.2)	(0.2)	(0.3)	(0.4)	0.3	0.1	0.0	(0.2)	(0.2)
Change from Prior Year's Quarter	1.0	0.9	0.5	0.3	(0.5)	(0.8)	(1.1)	(0.6)	(0.3)	(0.0)	0.2	(0.3)

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.2 - QUARTERLY NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	October Standard Forecast															
	2016.3	2016.4	2017.1	2017.2	2017.3	2017.4	2018.1	2018.2	2018.3	2018.4	2019.1	2019.2	2019.3	2019.4	2020.1	2020.2
Real Gross Domestic Product, Billions \$, SAAR	16,660.3	16,746.6	16,845.7	16,942.6	17,038.9	17,128.8	17,228.5	17,323.1	17,412.4	17,500.7	17,605.6	17,701.2	17,801.2	17,894.8	17,976.8	18,073.1
Annualized % Change	1.9	2.1	2.4	2.3	2.3	2.1	2.3	2.2	2.1	2.0	2.4	2.2	2.3	1.9	2.1	2.2
% Change from Prior Year's Quarter	1.2	1.6	1.9	0.0	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1
Real Consumer Spending, Billions \$, SAAR	11,567.8	11,640.9	11,701.4	11,768.4	11,831.9	11,891.4	11,962.3	12,035.3	12,108.5	12,184.9	12,271.2	12,343.5	12,415.1	12,482.7	12,556.5	12,624.3
Annualized % Change	2.9	2.6	2.1	2.3	2.2	2.0	2.4	2.5	2.5	2.5	2.9	2.4	2.3	2.2	2.4	2.2
% Change from Prior Year's Quarter	2.8	2.8	3.0	2.5	2.3	2.2	2.2	2.3	2.3	2.5	2.6	2.6	2.5	2.4	2.3	2.3
U.S. Personal Income, Billions \$, SAAR	16,059.0	16,226.4	16,405.5	16,592.9	16,777.0	16,968.8	17,195.3	17,404.1	17,609.4	17,819.2	18,063.9	18,275.9	18,488.9	18,702.6	18,955.4	19,172.2
Annualized % Change	4.2	4.2	4.5	4.6	4.5	4.7	5.4	4.9	4.8	4.9	5.6	4.8	4.7	4.7	5.5	4.7
% Change from Prior Year's Quarter	3.2	3.4	4.2	4.4	4.5	4.6	4.8	4.9	5.0	5.0	5.1	5.0	5.0	5.0	4.9	4.9
Virginia Personal Income, Millions \$, SAAR	453,201.0	458,284.6	464,455.1	470,466.7	473,308.1	477,475.0	483,676.2	489,199.5	494,879.7	500,787.4	508,019.2	513,949.5	519,814.8	525,773.7	532,954.2	536,337.9
Annualized % Change	3.6	4.6	5.5	5.3	2.4	3.6	5.3	4.6	4.7	4.9	5.9	4.8	4.6	4.7	5.6	2.6
% Change from Prior Year's Quarter	3.1	3.4	4.4	4.7	4.4	4.2	4.1	4.0	4.6	4.9	5.0	5.1	5.0	5.0	4.9	4.4
Virginia Wages and Salaries, Millions \$, SAAR	234,892.0	237,866.3	241,113.4	243,959.7	245,059.2	247,087.3	249,940.7	252,864.2	255,962.4	259,159.7	262,750.0	266,015.2	269,384.2	272,819.8	276,556.8	277,386.9
Annualized % Change	5.3	5.2	5.6	4.8	1.8	3.4	4.7	4.8	5.0	5.1	5.7	5.1	5.2	5.2	5.6	1.2
% Change from Prior Year's Quarter	3.9	4.1	4.2	5.2	4.3	3.9	3.7	3.7	4.4	4.9	5.1	5.2	5.2	5.3	5.3	4.3
Virginia Dividends, Interest, and Rent, Millions \$, SAAR	88,834.6	90,136.8	91,836.2	93,713.2	94,517.3	95,899.4	97,670.9	99,471.5	101,280.7	103,121.3	104,882.7	106,530.7	108,001.1	109,464.3	110,935.9	112,534.9
Annualized % Change	0.8	6.0	7.8	8.4	3.5	6.0	7.6	7.6	7.5	7.5	7.0	6.4	5.6	5.5	5.5	5.9
% Change from Prior Year's Quarter	0.9	3.4	4.7	5.7	6.4	6.4	6.4	6.1	7.2	7.5	7.4	7.1	6.6	6.2	5.8	5.6
Virginia Total Proprietor's Income, Millions \$, SAAR	27,073.8	27,148.8	27,065.7	27,540.7	28,485.4	28,326.1	28,156.4	28,153.0	27,992.3	27,866.2	27,702.7	27,676.7	27,602.9	27,583.9	27,596.9	27,710.8
Annualized % Change	(0.6)	1.1	(1.2)	7.2	14.4	(2.2)	(2.4)	(0.0)	(2.3)	(1.8)	(2.3)	(0.4)	(1.1)	(0.3)	0.2	1.7
% Change from Prior Year's Quarter	2.1	1.2	0.3	1.6	5.2	4.3	4.0	2.2	(1.7)	(1.6)	(1.6)	(1.7)	(1.4)	(1.0)	(0.4)	0.1

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.2 - QUARTERLY NATIONAL AND VIRGINIA ECONOMIC VARIABLES

October Standard Forecast

	2016.3	2016.4	2017.1	2017.2	2017.3	2017.4	2018.1	2018.2	2018.3	2018.4	2019.1	2019.2	2019.3	2019.4	2020.1	2020.2
Total U.S. Employment, Millions, SA	144.6	145.1	145.5	145.8	146.1	146.5	146.7	147.1	147.4	147.8	148.1	148.5	148.9	149.2	149.5	150.0
Annualized % Change	1.7	1.3	1.1	1.0	0.8	0.9	0.7	0.9	0.9	1.0	1.0	1.0	1.0	0.9	0.9	1.4
% Change from Prior Year's Quarter	1.7	1.5	1.4	1.3	1.1	1.0	0.9	0.8	0.9	0.9	1.0	1.0	1.0	1.0	0.9	1.0
Virginia Total Nonag. Employment, Thousands, SA	3,941.9	3,953.4	3,966.1	3,975.0	3,981.9	3,991.8	4,003.4	4,012.5	4,022.0	4,029.9	4,038.8	4,047.6	4,057.0	4,067.0	4,078.1	4,083.7
Annualized % Change	1.3	1.2	1.3	0.9	0.7	1.0	1.2	0.9	0.9	0.8	0.9	0.9	0.9	1.0	1.1	0.6
% Change from Prior Year's Quarter	2.0	1.6	1.3	1.2	1.0	1.0	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9	1.0	0.9
CPI, All Urban, 1982=1984=1.0, SA	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6
Annualized % Change	1.7	3.2	1.9	3.2	2.4	2.1	2.2	2.7	2.4	2.3	3.0	2.6	2.6	2.5	2.5	2.4
% Change from Prior Year's Quarter	1.2	1.8	2.3	2.5	2.7	2.4	2.5	2.4	2.4	2.4	2.6	2.6	2.7	2.7	2.6	2.5
Refiner's Acquisition Cost of Oil, \$ per Barrel	40.3	41.4	41.9	45.5	47.2	46.7	46.6	50.3	51.9	52.5	58.4	62.1	64.9	66.8	68.3	69.7
Quarterly Change	(1.9)	1.1	0.5	3.7	1.6	(0.5)	(0.1)	3.7	1.6	0.6	5.9	3.6	2.8	2.0	1.4	1.4
Change from Prior Year's Quarter	(7.3)	0.8	11.1	3.4	6.9	5.3	4.7	4.8	4.7	5.8	11.9	11.8	13.0	14.3	9.9	7.6
Before-Tax Corporate Profits, Billions \$, SAAR	2,139.8	2,146.0	2,153.4	2,214.5	2,251.1	2,280.8	2,281.7	2,316.2	2,318.2	2,328.7	2,345.8	2,334.2	2,328.5	2,305.5	2,307.3	2,321.3
Annualized % Change	(7.3)	1.2	1.4	11.8	6.8	5.4	0.2	6.2	0.4	1.8	3.0	(2.0)	(1.0)	(3.9)	0.3	2.5
% Change from Prior Year's Quarter	(0.0)	7.4	3.6	1.6	5.2	6.3	6.0	4.6	3.0	2.1	2.8	0.8	0.4	(1.0)	(1.6)	(0.6)
S&P 500 Stock Market Index, Level	2,161.4	2,195.7	2,228.6	2,261.9	2,287.5	2,314.6	2,339.1	2,358.3	2,377.9	2,397.7	2,417.6	2,437.8	2,466.9	2,502.2	2,537.8	2,562.4
Annualized % Change	17.7	6.5	6.1	6.1	4.6	4.8	4.3	3.3	3.4	3.4	3.4	3.4	4.9	5.9	5.8	3.9
% Change from Prior Year's Quarter	6.7	6.9	14.4	9.0	5.8	5.4	5.0	4.3	4.0	3.6	3.4	3.4	3.7	4.4	5.0	5.1
30-Year Treasury Bonds, Level	2.3	2.4	2.6	2.6	2.8	3.0	3.1	3.2	3.3	3.4	3.6	3.8	4.0	4.0	4.1	4.1
Quarterly Change	(0.3)	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	(0.0)
Change from Prior Year's Quarter	(0.7)	(0.6)	(0.2)	0.1	0.5	0.6	0.6	0.6	0.6	0.4	0.4	0.6	0.7	0.6	0.5	0.3

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.2 - QUARTERLY NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	Pessimistic Alternative Scenario															
	2016.3	2016.4	2017.1	2017.2	2017.3	2017.4	2018.1	2018.2	2018.3	2018.4	2019.1	2019.2	2019.3	2019.4	2020.1	2020.2
Real Gross Domestic Product,																
Billions \$, SAAR	16,660.3	16,681.4	16,695.1	16,696.0	16,635.6	16,532.3	16,586.0	16,644.9	16,727.0	16,829.9	16,952.7	17,082.9	17,211.4	17,316.7	17,427.7	17,531.5
Annualized % Change	1.9	0.5	0.3	0.0	(1.4)	(2.5)	1.3	1.4	2.0	2.5	3.0	3.1	3.0	2.5	2.6	2.4
% Change from Prior Year's Quarter	1.2	1.2	1.0	0.7	(0.1)	(0.9)	(0.7)	(0.3)	0.5	1.8	2.2	2.6	2.9	2.9	2.8	2.6
Real Consumer Spending,																
Billions \$, SAAR	11,567.8	11,628.3	11,652.7	11,670.0	11,639.0	11,589.6	11,632.0	11,664.8	11,708.4	11,771.3	11,845.4	11,911.3	11,978.6	12,039.6	12,109.2	12,174.8
Annualized % Change	2.9	2.1	0.8	0.6	(1.1)	(1.7)	1.5	1.1	1.5	2.2	2.5	2.2	2.3	2.1	2.3	2.2
% Change from Prior Year's Quarter	2.8	2.7	2.5	1.6	0.6	(0.3)	(0.2)	(0.0)	0.6	1.6	1.8	2.1	2.3	2.3	2.2	2.2
U.S. Personal Income,																
Billions \$, SAAR	16,059.2	16,250.2	16,439.9	16,618.8	16,774.2	16,894.2	17,070.5	17,227.1	17,408.9	17,622.7	17,896.6	18,147.8	18,411.9	18,677.1	18,988.4	19,254.5
Annualized % Change	4.2	4.8	4.8	4.4	3.8	2.9	4.2	3.7	4.3	5.0	6.4	5.7	5.9	5.9	6.8	5.7
% Change from Prior Year's Quarter	3.2	3.6	4.4	4.6	4.5	4.0	3.8	3.7	3.8	4.3	4.8	5.3	5.8	6.0	6.1	6.1
Virginia Personal Income,																
Millions \$, SAAR	453,203.2	459,332.0	465,862.8	472,256.1	474,989.0	477,938.8	482,703.6	486,843.0	491,698.7	497,339.3	504,996.0	511,375.2	517,964.4	524,681.4	532,659.2	536,868.4
Annualized % Change	3.6	5.5	5.8	5.6	2.3	2.5	4.0	3.5	4.0	4.7	6.3	5.1	5.3	5.3	6.2	3.2
% Change from Prior Year's Quarter	3.1	3.7	4.7	5.1	4.8	4.1	3.6	3.1	3.5	4.1	4.6	5.0	5.3	5.5	5.5	5.0
Virginia Wages and Salaries,																
Millions \$, SAAR	234,891.8	238,514.8	241,695.9	244,557.8	245,388.1	246,842.4	249,339.3	251,927.2	254,762.7	257,870.0	261,652.9	265,142.2	268,836.7	272,703.1	276,807.8	278,028.1
Annualized % Change	5.3	6.3	5.4	4.8	1.4	2.4	4.1	4.2	4.6	5.0	6.0	5.4	5.7	5.9	6.2	1.8
% Change from Prior Year's Quarter	3.9	4.4	4.4	5.5	4.5	3.5	3.2	3.0	3.8	4.5	4.9	5.2	5.5	5.8	5.8	4.9
Virginia Dividends, Interest, and Rent,																
Millions \$, SAAR	88,837.9	90,163.8	91,896.7	93,652.9	94,012.6	94,020.9	93,738.2	94,033.1	94,987.3	96,549.9	98,364.3	100,298.3	102,382.2	104,492.1	106,550.6	108,826.9
Annualized % Change	0.8	6.1	7.9	7.9	1.5	0.0	(1.2)	1.3	4.1	6.7	7.7	8.1	8.6	8.5	8.1	8.8
% Change from Prior Year's Quarter	0.9	3.4	4.8	5.6	5.8	4.3	2.0	0.4	1.0	2.7	4.9	6.7	7.8	8.2	8.3	8.5
Virginia Total Proprietor's Income,																
Millions \$, SAAR	27,073.8	27,083.9	26,854.7	27,190.1	27,941.5	27,620.0	27,547.8	27,679.3	27,652.8	27,660.5	27,618.3	27,735.8	27,794.2	27,898.6	28,009.1	28,182.7
Annualized % Change	(0.6)	0.1	(3.3)	5.1	11.5	(4.5)	(1.0)	1.9	(0.4)	0.1	(0.6)	1.7	0.8	1.5	1.6	2.5
% Change from Prior Year's Quarter	2.1	1.0	(0.5)	0.3	3.2	2.0	2.6	1.8	(1.0)	0.1	0.3	0.2	0.5	0.9	1.4	1.6

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.2 - QUARTERLY NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	Pessimistic Alternative Scenario															
	2016.3	2016.4	2017.1	2017.2	2017.3	2017.4	2018.1	2018.2	2018.3	2018.4	2019.1	2019.2	2019.3	2019.4	2020.1	2020.2
Total U.S. Employment, Millions, SA	144.6	144.9	145.0	145.0	144.7	144.1	143.8	143.7	143.7	143.9	144.3	144.7	145.2	145.8	146.4	147.2
Annualized % Change	1.7	0.9	0.3	(0.1)	(0.9)	(1.6)	(0.8)	(0.3)	0.1	0.6	1.1	1.2	1.4	1.6	1.7	2.1
% Change from Prior Year's Quarter	1.7	1.4	1.1	0.7	0.0	(0.6)	(0.9)	(0.9)	(0.6)	(0.1)	0.4	0.7	1.0	1.3	1.4	1.7
Virginia Total Nonag. Employment, Thousands, SA	3,941.9	3,949.2	3,954.5	3,952.3	3,941.9	3,928.2	3,927.1	3,926.1	3,929.2	3,935.3	3,946.5	3,958.5	3,972.2	3,989.1	4,006.1	4,017.0
Annualized % Change	1.3	0.7	0.5	(0.2)	(1.1)	(1.4)	(0.1)	(0.1)	0.3	0.6	1.1	1.2	1.4	1.7	1.7	1.1
% Change from Prior Year's Quarter	2.0	1.5	1.0	0.6	0.0	(0.5)	(0.7)	(0.7)	(0.3)	0.2	0.5	0.8	1.1	1.4	1.5	1.5
CPI, All Urban, 1982-1984=1.0, SA	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7
Annualized % Change	1.7	5.4	4.2	4.6	3.4	2.5	3.0	3.3	2.6	2.9	3.7	3.4	3.3	3.0	3.0	2.9
% Change from Prior Year's Quarter	1.2	2.3	3.4	4.0	4.4	3.7	3.4	3.1	2.9	3.0	3.1	3.2	3.3	3.3	3.2	3.1
Refiner's Acquisition Cost of Oil, \$ per Barrel	40.3	51.6	61.8	66.1	65.6	58.1	54.4	53.7	50.1	49.3	54.4	58.8	61.8	64.2	66.1	68.2
Quarterly Change	(1.9)	11.3	10.2	4.3	(0.5)	(7.5)	(3.7)	(0.7)	(3.6)	(0.8)	5.1	4.4	2.9	2.4	1.9	2.1
Change from Prior Year's Quarter	(7.3)	11.0	31.0	23.9	25.4	6.5	(7.5)	(12.5)	(15.6)	(8.8)	0.1	5.2	11.7	14.9	11.6	9.4
Before-Tax Corporate Profits, Billions \$, SAAR	2,139.6	2,162.6	2,080.6	2,066.3	2,009.3	1,981.7	2,089.7	2,194.9	2,291.5	2,414.1	2,525.9	2,618.2	2,687.2	2,719.4	2,749.5	2,761.5
Annualized % Change	(7.3)	4.4	(14.3)	(2.7)	(10.6)	(5.4)	23.6	21.7	18.8	23.2	19.9	15.4	11.0	4.9	4.5	1.8
% Change from Prior Year's Quarter	(0.1)	8.2	0.1	(5.2)	(6.1)	(8.4)	0.4	6.2	14.0	21.8	20.9	19.3	17.3	12.7	8.9	5.5
S&P 500 Stock Market Index, Level	2,161.4	2,066.9	2,075.7	2,044.3	1,884.1	1,747.4	1,700.9	1,809.9	1,941.3	2,052.0	2,106.0	2,144.1	2,189.9	2,238.0	2,302.6	2,347.6
Annualized % Change	17.7	(16.4)	1.7	(5.9)	(27.8)	(26.0)	(10.2)	28.2	32.3	24.8	11.0	7.4	8.8	9.1	12.0	8.0
% Change from Prior Year's Quarter	6.7	0.7	6.5	(1.5)	(12.8)	(15.5)	(18.1)	(11.5)	3.0	17.4	23.8	18.5	12.8	9.1	9.3	9.5
30-Year Treasury Bonds, Level	2.3	2.4	2.6	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.4	2.5	2.7	2.8
Quarterly Change	(0.3)	0.1	0.2	(0.2)	(0.0)	0.0	(0.1)	(0.1)	(0.0)	(0.1)	(0.0)	0.0	0.2	0.1	0.2	0.1
Change from Prior Year's Quarter	(0.7)	(0.6)	(0.1)	(0.2)	0.1	0.0	(0.3)	(0.2)	(0.2)	(0.3)	(0.3)	(0.1)	0.2	0.4	0.6	0.7

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	History											
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Real Gross Domestic Product, Billions \$, SAAR	11,525.9 4.4	12,065.9 4.7	12,559.7 4.1	12,682.3 1.0	12,908.8 1.8	13,271.1 2.8	13,773.5 3.8	14,234.3 3.3	14,613.8 2.7	14,873.8 1.8	14,830.4 (0.3)	14,418.8 (2.8)
Fiscal Year % Change	11,271.6 4.4	11,794.6 4.6	12,347.0 4.7	12,660.2 2.5	12,772.7 0.9	13,025.8 2.0	13,553.5 4.1	14,013.3 3.4	14,450.2 3.1	14,721.1 1.9	14,945.8 1.5	14,549.8 (2.6)
Real Consumer Spending, Billions \$, SAAR	7,384.7 5.3	7,775.9 5.3	8,170.7 5.1	8,382.6 2.6	8,598.8 2.6	8,867.6 3.1	9,208.2 3.8	9,531.8 3.5	9,821.7 3.0	10,041.6 2.2	10,007.2 (0.3)	9,847.0 (1.6)
Fiscal Year % Change	7,187.7 4.7	7,583.6 5.5	7,985.1 5.3	8,289.0 3.8	8,490.8 2.4	8,706.1 2.5	9,050.0 4.0	9,375.4 3.6	9,679.2 3.2	9,947.9 2.8	10,072.5 1.3	9,886.8 (1.8)
U.S. Personal Income, Billions \$, SAAR	7,593.7 7.2	7,988.4 5.2	8,637.1 8.1	8,991.6 4.1	9,153.9 1.8	9,491.1 3.7	10,052.9 5.9	10,614.1 5.6	11,394.0 7.3	12,000.2 5.3	12,502.2 4.2	12,094.8 (3.3)
Fiscal Year % Change	7,337.8 6.9	7,788.2 6.1	8,307.0 6.7	8,871.7 6.8	9,051.2 2.0	9,285.6 2.6	9,754.6 5.1	10,327.6 5.9	11,029.8 6.8	11,701.1 6.1	12,329.8 5.4	12,275.3 (0.4)
Virginia Personal Income, Millions \$, SAAR	199,551.8 6.8	213,357.4 6.9	230,690.1 8.1	245,204.7 6.3	250,408.3 2.1	265,269.5 5.9	284,567.2 7.3	305,505.0 7.4	327,318.4 7.1	345,335.5 5.5	358,043.5 3.7	350,577.7 (2.1)
Fiscal Year % Change	192,638.4 6.5	206,634.6 7.3	221,526.9 7.2	239,869.4 8.3	247,070.0 3.0	256,418.1 3.8	274,944.3 7.2	294,808.5 7.2	317,553.9 7.7	336,224.6 5.9	353,069.7 5.0	354,225.5 0.3
Virginia Wages and Salaries, Millions \$, SAAR	112,115.3 8.0	120,992.0 7.9	132,384.5 9.4	138,736.6 4.8	140,596.7 1.3	147,600.8 5.0	158,793.2 7.6	169,119.0 6.5	178,959.9 5.8	188,704.1 5.4	193,674.0 2.6	191,642.8 (1.0)
Fiscal Year % Change	107,560.1 7.5	117,062.7 8.8	126,298.8 7.9	137,029.1 8.5	138,927.5 1.4	143,048.7 3.0	153,069.0 7.0	164,251.0 7.3	174,765.4 6.4	183,998.6 5.3	191,228.6 3.9	192,613.1 0.7
Virginia Dividends, Interest, and Rent, Millions \$, SAAR	42,859.6 5.2	43,690.1 1.9	47,512.0 8.7	48,580.4 2.2	48,976.3 0.8	51,774.7 5.7	53,359.9 3.1	57,824.5 8.4	65,249.6 12.8	71,330.1 9.3	72,359.7 1.4	65,672.1 (9.2)
Fiscal Year % Change	41,837.3 5.4	43,105.0 3.0	45,520.1 5.6	48,492.8 6.5	48,650.8 0.3	50,154.4 3.1	52,588.4 4.9	55,142.8 4.9	61,505.5 11.5	68,377.9 11.2	72,703.9 6.3	69,681.1 (4.2)
Virginia Total Proprietor's Income, Millions \$, SAAR	11,590.2 13.4	12,497.6 7.8	14,358.5 14.9	18,252.9 27.1	18,738.2 2.7	19,393.4 3.5	21,622.8 11.5	22,705.4 5.0	24,024.8 5.8	21,522.9 (10.4)	21,032.6 (2.3)	17,344.4 (17.5)
Fiscal Year % Change	10,786.2 10.1	12,053.2 11.7	13,389.6 11.1	16,382.7 22.4	18,594.5 13.5	18,933.8 1.8	20,544.1 8.5	22,006.9 7.1	23,830.4 8.3	22,711.0 (4.7)	21,232.5 (6.5)	19,013.3 (10.5)

SAAR: Seasonally Adjusted at Annual Rates
SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	History										October Standard Forecast		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Real Gross Domestic Product, Billions \$, SAAR	14,783.8 2.5	15,020.6 1.6	15,354.6 2.2	15,612.2 1.7	15,982.3 2.4	16,397.2 2.6	16,628.7 1.4	16,989.0 2.2	17,366.2 2.2	17,748.2 2.2	18,116.7 2.1		
Fiscal Year % Change	14,573.8 0.2	14,913.9 2.3	15,216.2 2.0	15,444.7 1.5	15,770.8 2.1	16,231.1 2.9	16,513.4 1.7	16,798.8 1.7	17,179.8 2.3	17,555.0 2.2	17,934.0 2.2		
Real Consumer Spending, Billions \$, SAAR	10,036.3 1.9	10,263.5 2.3	10,413.2 1.5	10,565.4 1.5	10,868.9 2.9	11,214.7 3.2	11,514.7 2.7	11,798.3 2.5	12,072.8 2.3	12,378.1 2.5	12,658.7 2.3		
Fiscal Year % Change	9,911.7 0.3	10,171.0 2.6	10,343.7 1.7	10,475.9 1.3	10,690.4 2.0	11,058.2 3.4	11,356.3 2.7	11,669.6 2.8	11,930.2 2.2	12,227.0 2.5	12,519.7 2.4		
U.S. Personal Income, Billions \$, SAAR	12,477.1 3.2	13,254.5 6.2	13,915.1 5.0	14,073.7 1.1	14,809.8 5.2	15,458.5 4.4	15,979.7 3.4	16,686.0 4.4	17,507.0 4.9	18,382.8 5.0	19,274.5 4.9		
Fiscal Year % Change	12,212.0 (0.5)	12,883.2 5.5	13,555.6 5.2	14,026.4 3.5	14,394.7 2.6	15,155.4 5.3	15,719.9 3.7	16,321.0 3.8	17,086.3 4.7	17,942.1 5.0	18,829.8 4.9		
Virginia Personal Income, Millions \$, SAAR	363,889.0 3.8	385,615.4 6.0	403,880.4 4.7	400,660.4 (0.8)	417,277.0 4.1	436,349.5 4.6	451,392.6 3.4	471,426.2 4.4	492,135.7 4.4	516,889.3 5.0	541,015.8 4.7		
Fiscal Year % Change	355,404.7 0.3	374,732.0 5.4	394,481.9 5.3	403,852.3 2.4	407,283.2 0.8	426,795.6 4.8	444,130.3 4.1	461,601.9 3.9	480,914.7 4.2	504,409.0 4.9	528,720.2 4.8		
Virginia Wages and Salaries, Millions \$, SAAR	196,650.3 2.6	202,354.2 2.9	208,327.0 3.0	210,404.5 1.0	215,571.9 2.5	224,181.5 4.0	234,018.6 4.4	244,304.9 4.4	254,481.7 4.2	267,742.3 5.2	280,751.4 4.9		
Fiscal Year % Change	193,431.8 0.4	200,032.3 3.4	205,034.2 2.5	210,057.2 2.4	212,391.5 1.1	219,169.6 3.2	229,467.5 4.7	239,457.8 4.4	248,737.8 3.9	260,971.8 4.9	274,036.9 5.0		
Virginia Dividends, Interest, and Rent, Millions \$, SAAR	65,596.8 (0.1)	72,666.3 10.8	80,982.7 11.4	78,744.3 (2.8)	84,344.1 7.1	87,062.5 3.2	88,836.0 2.0	93,991.5 5.8	100,386.1 6.8	107,219.7 6.8	113,216.2 5.6		
Fiscal Year % Change	64,210.7 (7.9)	68,881.8 7.3	76,691.6 11.3	80,598.4 5.1	81,014.6 0.5	86,180.6 6.4	87,891.0 2.0	91,130.2 3.7	96,889.8 6.3	103,953.9 7.3	110,234.0 6.0		
Virginia Total Proprietor's Income, Millions \$, SAAR	20,427.9 17.8	22,671.8 11.0	25,998.0 14.7	23,686.7 (8.9)	24,623.5 4.0	26,240.7 6.6	27,083.4 3.2	27,854.5 2.8	28,042.0 0.7	27,641.5 (1.4)	27,682.5 0.1		
Fiscal Year % Change	18,936.2 (0.4)	21,249.5 12.2	24,513.7 15.4	25,044.4 2.2	23,950.8 (4.4)	25,413.4 6.1	26,860.4 5.7	27,207.3 1.3	28,280.2 3.9	27,809.5 (1.7)	27,623.6 (0.7)		

SAAR: Seasonally Adjusted at Annual Rates
SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	Pessimistic Alternative Scenario			
	2017	2018	2019	2020
Real Gross Domestic Product, Billions \$, SAAR	16,639.8	16,697.0	17,140.9	17,571.7
Calendar Year % Change	0.2	0.3	2.7	2.5
Fiscal Year	16,683.2	16,599.7	16,898.1	17,371.8
% Change	1.0	(0.5)	1.8	2.8
Real Consumer Spending, Billions \$, SAAR	11,637.8	11,694.1	11,943.7	12,211.4
Calendar Year % Change	1.1	0.5	2.1	2.2
Fiscal Year	11,629.7	11,631.3	11,809.1	12,075.5
% Change	2.4	0.0	1.5	2.3
U.S. Personal Income, Billions \$, SAAR	16,681.8	17,332.3	18,283.3	19,369.9
Calendar Year % Change	4.4	3.9	5.5	5.9
Fiscal Year	16,342.0	16,991.5	17,769.0	18,833.0
% Change	4.0	4.0	4.6	6.0
Virginia Personal Income, Millions \$, SAAR	472,761.7	489,646.2	514,754.2	541,814.9
Calendar Year % Change	4.7	3.6	5.1	5.3
Fiscal Year	462,663.5	480,618.6	501,352.3	528,043.3
% Change	4.2	3.9	4.3	5.3
Virginia Wages and Salaries, Millions \$, SAAR	244,621.1	253,474.8	267,083.7	281,457.5
Calendar Year % Change	4.5	3.6	5.4	5.4
Fiscal Year	239,915.1	248,374.3	259,857.0	274,093.9
% Change	4.6	3.5	4.6	5.5
Virginia Dividends, Interest, and Rent, Millions \$, SAAR	93,395.8	94,827.1	101,384.3	109,737.5
Calendar Year % Change	5.1	1.5	6.9	8.2
Fiscal Year	91,137.8	93,951.2	97,550.0	105,563.0
% Change	3.7	3.1	3.8	8.2
Virginia Total Proprietor's Income, Millions \$, SAAR	27,401.6	27,635.1	27,761.7	28,148.2
Calendar Year % Change	1.2	0.9	0.5	1.4
Fiscal Year	27,050.6	27,697.1	27,666.9	27,971.2
% Change	0.7	2.4	(0.1)	1.1

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	History											
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total U.S. Employment, Millions, SA	126.1	129.2	132.0	132.1	130.6	130.3	131.8	134.0	136.5	138.0	137.2	131.3
% Change	2.6	2.5	2.2	0.0	(1.1)	(0.2)	1.1	1.7	1.8	1.1	(0.5)	(4.3)
Fiscal Year	124.6	127.7	130.8	132.5	131.2	130.4	130.8	132.8	135.4	137.4	138.2	134.4
% Change	2.7	2.5	2.5	1.3	(1.0)	(0.5)	0.3	1.5	1.9	1.5	0.6	(2.7)
Virginia Total Nonag. Employment, Thousands, SA	3,322.4	3,415.2	3,519.4	3,522.2	3,499.3	3,501.8	3,587.4	3,667.0	3,732.2	3,769.4	3,772.5	3,650.5
% Change	2.7	2.8	3.1	0.1	(0.6)	0.1	2.4	2.2	1.8	1.0	0.1	(3.2)
Fiscal Year	3,273.6	3,372.6	3,466.2	3,538.0	3,504.5	3,494.8	3,539.1	3,628.9	3,706.3	3,752.4	3,778.6	3,716.1
% Change	2.6	3.0	2.8	2.1	(0.9)	(0.3)	1.3	2.5	2.1	1.2	0.7	(1.7)
CPI, All Urban, 1982-1984=1.0, SA	1.6	1.7	1.7	1.8	1.8	1.8	1.9	2.0	2.0	2.1	2.2	2.1
% Change	1.5	2.2	3.4	2.8	1.6	2.3	2.7	3.4	3.2	2.9	3.8	(0.3)
Fiscal Year	1.6	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1
% Change	1.8	1.7	2.9	3.4	1.8	2.2	2.2	3.0	3.8	2.6	3.7	1.4
Refiner's Acquisition Cost of Oil, \$ per Barrel	12.5	17.4	28.2	23.0	24.0	28.6	36.9	50.3	60.1	68.0	94.3	59.2
% Change	(6.5)	4.9	10.8	(5.3)	1.1	4.6	8.3	13.4	9.8	7.9	26.3	(35.1)
Fiscal Year	15.7	12.6	24.2	27.2	21.4	27.6	30.8	42.6	58.1	59.1	90.9	66.5
% Change	(5.2)	(3.2)	11.7	3.0	(5.8)	6.2	3.2	11.8	15.5	1.0	31.8	(24.4)
Before-Tax Corporate Profits, Billions \$, SAAR	728.1	766.2	747.1	690.7	788.9	969.5	1,254.6	1,653.3	1,851.4	1,748.4	1,382.5	1,472.6
% Change	(8.6)	5.2	(2.5)	(7.6)	14.2	22.9	29.4	31.8	12.0	(5.6)	(20.9)	6.5
Fiscal Year	775.7	738.8	771.8	727.8	685.6	890.0	1,113.7	1,448.5	1,775.3	1,820.0	1,642.9	1,254.4
% Change	2.0	(4.8)	4.5	(5.7)	(5.8)	29.8	25.1	30.1	22.6	2.5	(9.7)	(23.6)
S&P 500 Stock Market Index, Level	1,084.3	1,326.1	1,426.8	1,192.1	995.6	963.7	1,130.6	1,207.1	1,310.7	1,476.7	1,220.9	946.7
% Change	24.2	22.3	7.6	(16.4)	(16.5)	(3.2)	17.3	6.8	8.6	12.7	(17.3)	(22.5)
Fiscal Year	1,003.0	1,198.8	1,395.4	1,337.4	1,114.9	895.1	1,078.3	1,160.0	1,254.9	1,399.9	1,426.7	965.8
% Change	33.8	19.5	16.4	(4.2)	(16.6)	(19.7)	20.5	7.6	8.2	11.6	1.9	(32.3)
30-Year Treasury Bonds, Level	5.6	5.9	5.9	5.5	5.4	5.1	5.1	4.6	4.9	4.8	4.3	4.1
% Change	(1.0)	0.3	0.1	(0.4)	(0.1)	(0.4)	0.1	(0.6)	0.3	(0.0)	(0.6)	(0.2)
Fiscal Year	6.1	5.4	6.1	5.7	5.5	5.0	5.2	4.8	4.7	4.9	4.6	3.9
% Change	(0.7)	(0.7)	0.7	(0.5)	(0.1)	(0.5)	0.2	(0.4)	(0.1)	0.2	(0.2)	(0.7)

SAAR: Seasonally Adjusted at Annual Rates
SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	History										October Standard Forecast		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Total U.S. Employment, Millions, SA	130.4 (0.7)	131.9 1.2	134.2 1.7	136.4 1.6	138.9 1.9	141.8 2.1	144.3 1.7	146.0 1.2	147.2 0.9	148.7 1.0	150.0 0.9		
Fiscal Year % Change	130.2 (3.1)	131.0 0.6	133.1 1.6	135.2 1.6	137.6 1.7	140.4 2.1	143.1 1.9	145.2 1.5	146.6 0.9	148.0 0.9	149.4 1.0		
Virginia Total Nonag. Employment, Thousands, SA	3,646.4 (0.1)	3,692.7 1.3	3,735.8 1.2	3,762.3 0.7	3,783.3 0.6	3,851.0 1.8	3,934.6 2.2	3,978.7 1.1	4,017.0 1.0	4,052.6 0.9	4,089.5 0.9		
Fiscal Year % Change	3,631.3 (2.3)	3,670.4 1.1	3,714.6 1.2	3,753.8 1.1	3,768.8 0.4	3,808.4 1.1	3,899.5 2.4	3,959.1 1.5	3,997.4 1.0	4,034.6 0.9	4,071.5 0.9		
CPI, All Urban, 1982-1984=1.0, SA	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.6	2.6		
Fiscal Year % Change	1.6	3.1	2.1	1.5	1.6	0.1	1.3	2.5	2.4	2.6	2.5		
Fiscal Year % Change	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.6	2.6		
Fiscal Year % Change	1.0	2.0	2.9	1.7	1.6	0.7	0.7	1.9	2.5	2.5	2.6		
Refiner's Acquisition Cost of Oil, \$ per Barrel	76.7	101.8	101.0	100.5	92.2	48.4	38.7	45.3	50.3	63.1	70.5		
Change	17.5	25.1	(0.8)	(0.5)	(8.2)	(43.8)	(9.7)	6.7	5.0	12.7	7.5		
Fiscal Year Change	72.7	89.4	103.6	98.8	100.0	68.9	40.3	42.3	47.7	56.2	67.4		
Change	6.2	16.7	14.2	(4.7)	1.2	(31.1)	(28.6)	2.0	5.4	8.5	11.2		
Before-Tax Corporate Profits, Billions \$, SAAR	1,840.7	1,806.8	2,130.8	2,156.1	2,262.9	2,137.6	2,136.1	2,225.0	2,311.2	2,328.5	2,322.1		
% Change	25.0	(1.8)	17.9	1.2	5.0	(5.5)	(0.1)	4.2	3.9	0.7	(0.3)		
Fiscal Year % Change	1,713.3	1,833.4	1,987.0	2,125.0	2,213.7	2,245.2	2,099.5	2,163.4	2,282.5	2,331.7	2,315.6		
Change	36.6	7.0	8.4	6.9	4.2	1.4	(6.5)	3.0	5.5	2.2	(0.7)		
S&P 500 Stock Market Index, Level	1,139.3	1,268.9	1,379.6	1,642.5	1,930.7	2,061.2	2,095.1	2,273.2	2,368.3	2,456.1	2,580.7		
% Change	20.3	11.4	8.7	19.1	17.5	6.8	1.6	8.5	4.2	3.7	5.1		
Fiscal Year % Change	1,085.6	1,230.5	1,287.9	1,486.2	1,795.1	2,038.4	2,025.7	2,211.9	2,324.9	2,407.8	2,517.3		
Change	12.4	13.4	4.7	15.4	20.8	13.6	(0.6)	9.2	5.1	3.6	4.6		
30-Year Treasury Bonds, Level	4.3	3.9	2.9	3.4	3.3	2.8	2.5	2.7	3.3	3.8	4.1		
Change	0.2	(0.3)	(1.0)	0.5	(0.1)	(0.5)	(0.3)	0.2	0.5	0.6	0.2		
Fiscal Year Change	4.4	4.2	3.2	3.0	3.7	2.9	2.8	2.5	3.0	3.5	4.0		
Change	0.5	(0.2)	(1.0)	(0.2)	0.7	(0.7)	(0.1)	(0.3)	0.6	0.5	0.5		

SAAR: Seasonally Adjusted at Annual Rates
SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

	Pessimistic Alternative Scenario			
	2017	2018	2019	2020
Total U.S. Employment, Millions, SA	Calendar Year 144.7 % Change 0.3 Fiscal Year 144.9 % Change 1.2	143.8 (0.6) 144.0 (0.6)	145.0 0.9 144.2 0.1	147.2 1.5 146.1 1.4
Virginia Total Nonag. Employment, Thousands, SA	Calendar Year 3,944.2 % Change 0.3 Fiscal Year 3,949.5 % Change 1.3	3,929.4 (0.4) 3,930.8 (0.5)	3,966.6 0.9 3,942.4 0.3	4,024.8 1.5 3,996.1 1.4
CPI, All Urban, 1982-1984=1.0, SA	Calendar Year 2.5 % Change 3.9 Fiscal Year 2.4 % Change 2.7	2.6 3.1 2.5 3.6	2.7 3.2 2.6 3.0	2.7 3.0 2.7 3.2
Refiner's Acquisition Cost of Oil, \$ per Barrel	Calendar Year 62.9 Change 21.7 Fiscal Year 55.0 Change 14.7	51.9 (11.1) 57.9 3.0	59.8 8.0 53.2 (4.8)	69.3 9.5 65.1 11.9
Before-Tax Corporate Profits, Billions \$, SAAR	Calendar Year 2,034.5 % Change (4.9) Fiscal Year 2,112.3 % Change 0.6	2,247.5 10.5 2,068.9 (2.1)	2,637.7 17.4 2,462.4 19.0	2,749.1 4.2 2,729.4 10.8
S&P 500 Stock Market Index, Level	Calendar Year 1,937.9 % Change (6.1) Fiscal Year 2,087.1 % Change 3.0	1,876.0 (3.2) 1,785.6 (14.4)	2,169.5 15.6 2,060.8 15.4	2,383.8 9.9 2,269.5 10.1
30-Year Treasury Bonds, Level	Calendar Year 2.5 Change (0.0) Fiscal Year 2.4 Change (0.4)	2.2 (0.2) 2.4 (0.1)	2.3 0.0 2.1 (0.2)	2.9 0.6 2.6 0.5

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

Virginia		History											
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Construction and Mining Thousands, SA	Calendar Year	203.7	210.5	221.6	228.4	224.9	227.6	241.1	254.2	260.0	250.7	234.1	200.6
	% Change	1.1	3.3	5.3	3.1	(1.5)	1.2	5.9	5.4	2.3	(3.6)	(6.6)	(14.3)
	Fiscal Year	201.1	208.4	215.2	226.3	226.7	224.1	234.5	247.7	260.0	255.9	243.6	216.9
	% Change	1.8	3.6	3.3	5.2	0.2	(1.1)	4.7	5.6	(1.6)	(4.8)	(10.9)	
Manufacturing Thousands, SA	Calendar Year	375.6	366.9	363.6	341.3	320.1	305.0	298.7	295.8	288.1	277.8	264.8	239.3
	% Change	0.3	(2.3)	(0.9)	(6.1)	(6.2)	(4.7)	(2.1)	(1.0)	(2.6)	(3.6)	(4.7)	(9.6)
	Fiscal Year	376.0	370.6	366.7	354.6	328.4	313.8	299.3	298.0	292.7	282.9	271.6	252.5
	% Change	1.1	(1.4)	(1.1)	(3.3)	(7.4)	(4.4)	(4.6)	(0.4)	(1.8)	(3.4)	(4.0)	(7.0)
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	618.7	637.0	650.7	644.8	636.5	635.2	646.5	657.2	663.0	668.1	659.2	624.4
	% Change	1.5	3.0	2.2	(0.9)	(1.3)	(0.2)	1.8	1.7	0.9	0.8	(1.3)	(5.3)
	Fiscal Year	612.9	628.6	644.1	650.6	639.4	634.1	641.3	651.6	661.3	665.5	666.3	642.0
	% Change	1.3	2.6	2.5	1.0	(1.7)	(0.8)	1.1	1.6	1.5	0.6	0.1	(3.7)
Financial Activities Thousands, SA	Calendar Year	165.2	173.4	178.9	179.9	182.2	186.5	189.0	192.5	194.8	193.6	188.6	179.9
	% Change	4.1	5.0	3.2	0.6	1.2	2.4	1.4	1.8	1.2	(0.6)	(2.6)	(4.6)
	Fiscal Year	160.9	170.1	175.7	180.3	180.7	184.2	187.6	190.8	194.0	195.1	191.1	184.5
	% Change	3.0	5.7	3.3	2.6	0.2	1.9	1.8	1.7	1.7	0.6	(2.1)	(3.4)
Professional and Business Services Thousands, SA	Calendar Year	507.7	538.5	567.9	559.5	547.0	549.3	578.5	606.0	628.5	646.3	657.0	640.1
	% Change	7.8	6.1	5.5	(1.5)	(2.2)	0.4	5.3	4.8	3.7	2.8	1.7	(2.6)
	Fiscal Year	488.1	524.2	552.7	569.2	552.0	545.2	561.4	593.6	618.6	637.6	653.3	649.8
	% Change	6.0	7.4	5.4	3.0	(3.0)	(1.2)	3.0	5.7	4.2	3.1	2.5	(0.5)
Education and Health Services Thousands, SA	Calendar Year	318.3	328.4	335.1	350.4	366.8	374.3	384.9	396.4	411.1	428.2	447.8	455.9
	% Change	2.5	3.2	2.1	4.6	4.7	2.0	2.8	3.0	3.7	4.2	4.6	1.8
	Fiscal Year	314.7	323.6	331.1	342.4	358.8	371.4	379.3	390.0	403.7	418.7	439.6	452.6
	% Change	3.6	2.8	2.3	3.4	4.8	3.5	2.1	2.8	3.5	3.7	5.0	3.0
Leisure and Hospitality Thousands, SA	Calendar Year	281.8	287.1	297.1	301.2	303.9	308.5	320.1	329.4	338.8	345.3	349.3	341.6
	% Change	1.2	1.9	3.5	1.4	0.9	1.5	3.8	2.9	2.8	1.9	1.2	(2.2)
	Fiscal Year	279.4	284.9	291.9	300.1	301.3	305.9	314.3	325.1	334.4	342.4	348.6	345.0
	% Change	1.5	2.0	2.4	2.8	0.4	1.5	2.8	3.4	2.9	2.4	1.8	(1.0)
Government Thousands, SA	Calendar Year	602.0	611.2	624.6	629.2	634.9	637.5	650.9	661.9	674.8	683.4	695.5	701.7
	% Change	0.9	1.5	2.2	0.7	0.9	0.4	2.1	1.7	2.0	1.3	1.8	0.9
	Fiscal Year	597.8	606.1	618.5	627.6	631.5	636.0	643.6	656.6	668.5	679.6	688.2	700.3
	% Change	0.1	1.4	2.0	1.5	0.6	0.7	1.2	2.0	1.7	1.3	1.8	

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

Virginia		History										October Standard Forecast		
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Construction and Mining Thousands, SA	Calendar Year	193.4	189.4	187.5	186.9	187.9	192.7	196.9	206.8	214.2	221.3	228.1		
	% Change	(3.6)	(2.0)	(1.0)	(0.3)	0.5	2.6	2.2	5.0	3.6	3.3	3.1		
	Fiscal Year	194.2	192.1	188.4	187.2	186.8	190.0	193.9	202.8	209.9	217.9	224.8		
	% Change	(10.5)	(1.1)	(1.9)	(0.6)	(0.2)	1.7	2.1	4.6	3.5	3.8	3.2		
Manufacturing Thousands, SA	Calendar Year	230.5	231.0	231.5	230.8	231.8	233.1	233.2	237.5	240.0	242.9	244.9		
	% Change	(3.7)	0.2	0.2	(0.3)	0.4	0.6	0.0	1.9	1.1	1.2	0.8		
	Fiscal Year	233.1	230.0	231.5	231.2	231.2	232.2	232.8	235.5	238.9	241.4	244.0		
	% Change	(7.7)	(1.3)	0.6	(0.1)	(0.0)	0.5	0.2	1.2	1.4	1.1	1.1		
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	621.1	628.6	633.4	637.4	643.7	655.0	673.4	674.8	675.8	678.1	679.0		
	% Change	(0.5)	1.2	0.8	0.6	1.0	1.7	2.8	0.2	0.2	0.3	0.1		
	Fiscal Year	618.9	625.5	631.3	634.2	641.1	647.5	666.3	674.7	675.0	676.7	679.1		
	% Change	(3.6)	1.1	0.9	0.5	1.1	1.0	2.9	1.3	0.0	0.3	0.3		
Financial Activities Thousands, SA	Calendar Year	179.1	182.5	188.3	192.5	194.0	197.7	200.6	197.6	194.5	192.8	192.8		
	% Change	(0.5)	2.0	3.1	2.2	0.8	1.9	1.5	(1.5)	(1.5)	(0.9)	0.0		
	Fiscal Year	178.1	180.6	185.3	190.9	193.2	195.7	200.0	199.2	196.0	193.2	192.9		
	% Change	(3.5)	1.4	2.6	3.0	1.2	1.3	2.2	(0.4)	(1.6)	(1.4)	(0.2)		
Professional and Business Services Thousands, SA	Calendar Year	650.3	667.5	678.5	679.1	679.9	697.6	725.1	746.3	760.0	770.4	785.4		
	% Change	1.6	2.6	1.6	0.1	0.1	2.6	3.9	2.9	1.8	1.4	2.0		
	Fiscal Year	641.3	660.0	673.3	681.8	676.8	686.3	711.7	736.9	753.8	764.9	777.7		
	% Change	(1.3)	2.9	2.0	1.3	(0.7)	1.4	3.7	3.5	2.3	1.5	1.7		
Education and Health Services Thousands, SA	Calendar Year	463.1	469.7	480.4	491.5	497.7	511.0	526.8	533.7	541.5	550.4	557.2		
	% Change	1.6	1.4	2.3	2.3	1.3	2.7	3.1	1.3	1.5	1.6	1.2		
	Fiscal Year	458.0	467.7	473.6	487.3	494.3	502.8	520.3	530.6	537.4	546.0	553.9		
	% Change	1.2	2.1	1.3	2.9	1.4	1.7	3.5	2.0	1.3	1.6	1.4		
Leisure and Hospitality Thousands, SA	Calendar Year	341.3	349.2	358.9	366.0	371.3	384.3	394.3	397.6	403.1	407.9	410.9		
	% Change	(0.1)	2.3	2.8	2.0	1.4	3.5	2.6	0.8	1.4	1.2	0.7		
	Fiscal Year	339.5	345.5	354.2	362.8	368.7	376.0	391.5	395.5	400.1	405.9	409.5		
	% Change	(1.6)	1.8	2.5	2.4	1.6	2.0	4.1	1.0	1.1	1.5	0.9		
Government Thousands, SA	Calendar Year	707.0	713.2	713.4	712.5	710.5	711.7	714.6	718.6	720.5	720.8	722.1		
	% Change	0.8	0.9	0.0	(0.1)	(0.3)	0.2	0.4	0.6	0.3	0.0	0.2		
	Fiscal Year	705.4	708.2	714.5	713.5	710.2	711.3	712.9	716.7	719.9	720.7	721.4		
	% Change	0.7	0.4	0.9	(0.1)	(0.5)	0.2	0.5	0.5	0.1	0.1	0.1		

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.3 - ANNUAL NATIONAL AND VIRGINIA ECONOMIC VARIABLES

Virginia	Pessimistic Alternative Scenario	2017	2018	2019	2020
		203.9	202.7	205.3	215.4
Construction and Mining Thousands, SA	Calendar Year	203.9	202.7	205.3	215.4
	% Change	3.6	(0.6)	1.3	4.9
	Fiscal Year	202.0	203.1	203.1	209.7
	% Change	4.2	0.6	0.0	3.2
Manufacturing Thousands, SA	Calendar Year	236.0	229.9	231.3	239.2
	% Change	1.1	(2.6)	0.6	3.4
	Fiscal Year	235.8	233.2	229.0	235.2
	% Change	1.3	(1.1)	(1.8)	2.7
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	669.6	660.4	660.3	657.0
	% Change	(0.6)	(1.4)	(0.0)	(0.5)
	Fiscal Year	674.0	663.4	660.2	658.7
	% Change	1.2	(1.6)	(0.5)	(0.2)
Financial Activities Thousands, SA	Calendar Year	194.3	188.2	189.9	193.2
	% Change	(3.1)	(3.2)	0.9	1.8
	Fiscal Year	198.1	190.4	188.3	191.8
	% Change	(0.9)	(3.9)	(1.1)	1.9
Professional and Business Services Thousands, SA	Calendar Year	721.2	714.2	744.8	777.4
	% Change	(0.4)	(1.0)	4.3	4.4
	Fiscal Year	728.5	712.4	726.4	763.9
	% Change	2.4	(2.2)	2.0	5.2
Education and Health Services Thousands, SA	Calendar Year	534.6	543.2	545.9	548.8
	% Change	1.5	1.6	0.5	0.5
	Fiscal Year	530.5	539.9	545.0	546.6
	% Change	2.0	1.8	0.9	0.3
Leisure and Hospitality Thousands, SA	Calendar Year	399.8	404.2	404.4	407.2
	% Change	1.4	1.1	0.0	0.7
	Fiscal Year	396.7	401.9	405.4	404.7
	% Change	1.3	1.3	0.9	(0.2)
Government Thousands, SA	Calendar Year	719.1	722.4	724.1	726.2
	% Change	0.6	0.5	0.2	0.3
	Fiscal Year	716.8	721.1	723.3	725.2
	% Change	0.5	0.6	0.3	0.3

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

Northern Virginia	History												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Total Nonagricultural Employment Thousands, SA	Calendar Year	1,033.4	1,090.1	1,159.2	1,176.5	1,165.2	1,180.4	1,233.8	1,278.7	1,309.7	1,325.6	1,328.8	1,305.8
	% Change	4.1	5.5	6.3	1.5	(1.0)	1.3	4.5	3.6	2.4	1.2	0.2	(1.7)
	Fiscal Year	1,011.7	1,059.0	1,125.7	1,176.8	1,169.5	1,166.0	1,207.0	1,256.7	1,298.6	1,318.8	1,329.2	1,316.6
	% Change	3.6	4.7	6.3	4.5	(0.6)	(0.3)	3.5	4.1	3.3	1.6	0.8	(0.9)
Construction and Mining Thousands, SA	Calendar Year	63.1	67.8	74.7	79.9	79.4	79.8	87.1	94.0	96.7	89.0	80.7	70.0
	% Change	4.4	7.6	10.1	7.0	(0.6)	0.4	9.1	8.0	2.8	(7.9)	(9.3)	(13.2)
	Fiscal Year	61.2	65.5	71.2	77.9	79.8	78.4	83.7	90.4	97.1	93.2	84.9	74.9
	% Change	3.5	7.1	8.8	9.3	2.5	(1.8)	6.7	8.1	7.4	(4.1)	(8.8)	(11.8)
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	185.0	193.6	200.0	201.2	200.1	200.6	207.8	213.8	212.2	212.8	210.9	200.7
	% Change	2.7	4.6	3.3	0.6	(0.6)	0.3	3.6	2.9	(0.7)	0.3	(0.9)	(4.8)
	Fiscal Year	182.7	188.9	197.3	201.4	200.2	199.9	203.8	211.8	213.2	212.4	212.8	205.5
	% Change	2.3	3.4	4.4	2.1	(0.6)	(0.2)	2.0	3.9	0.7	(0.4)	0.2	(3.4)
Financial Activities Thousands, SA	Calendar Year	58.9	60.7	62.7	63.3	65.4	66.3	67.4	69.5	70.4	69.4	66.9	64.5
	% Change	5.0	3.0	3.3	1.0	3.4	1.4	1.6	3.1	1.3	(1.4)	(3.6)	(3.6)
	Fiscal Year	57.3	59.9	61.7	63.0	64.2	65.9	66.7	68.4	70.3	70.3	68.0	65.5
	% Change	4.3	4.5	3.0	2.0	2.0	2.6	1.2	2.6	2.8	(0.0)	(3.2)	(3.7)
Professional and Business Services Thousands, SA	Calendar Year	240.9	263.4	286.1	287.2	277.9	284.3	307.5	324.0	338.0	348.7	356.3	356.4
	% Change	8.5	9.4	8.6	0.4	(3.2)	2.3	8.2	5.4	4.3	3.2	2.2	0.0
	Fiscal Year	230.8	251.4	275.1	290.5	281.9	277.9	295.5	316.8	331.6	343.7	353.0	356.5
	% Change	6.2	8.9	9.4	5.6	(2.9)	(1.4)	6.3	7.2	4.7	3.7	2.7	1.0
Education and Health Services Thousands, SA	Calendar Year	85.6	89.7	95.9	101.2	105.2	107.4	110.3	115.6	119.1	122.9	127.3	131.7
	% Change	3.7	4.8	6.9	5.4	3.9	2.1	2.7	4.9	3.0	3.2	3.5	3.5
	Fiscal Year	84.4	87.4	92.7	98.5	103.4	106.7	108.3	113.1	117.3	121.1	125.0	129.3
	% Change	5.5	3.6	6.1	6.3	5.0	3.1	1.5	4.5	3.7	3.3	3.2	3.4
Leisure and Hospitality Thousands, SA	Calendar Year	88.6	91.3	97.1	99.0	101.2	103.8	108.8	111.6	113.2	115.9	118.7	116.0
	% Change	0.9	3.1	6.3	2.0	2.2	2.5	4.8	2.6	1.4	2.4	2.4	(2.3)
	Fiscal Year	88.0	89.9	94.2	98.4	99.8	102.3	106.4	110.6	112.3	114.4	117.9	117.3
	% Change	1.9	2.2	4.8	4.4	1.5	2.5	4.0	1.5	1.5	1.8	3.0	(0.4)
Government Thousands, SA	Calendar Year	168.1	171.5	176.8	180.1	184.6	191.2	198.2	203.5	209.8	215.1	218.9	224.1
	% Change	(0.6)	2.0	3.1	1.9	2.5	3.5	3.7	2.6	3.1	2.5	1.8	2.4
	Fiscal Year	167.7	169.3	174.9	178.1	182.5	187.1	195.2	200.6	207.1	212.5	216.8	221.6
	% Change	(1.6)	0.9	3.3	1.8	2.4	2.5	4.3	2.8	3.3	2.6	2.0	2.2

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

Northern Virginia		History										October Standard Forecast		
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Total Nonagricultural Employment Thousands, SA	Calendar Year	1,317.5	1,344.5	1,369.3	1,378.6	1,379.3	1,403.0	1,434.1	1,453.2	1,469.2	1,483.9	1,499.4		
	% Change	0.9	2.1	1.8	0.7	0.1	1.7	2.2	1.3	1.1	1.0	1.1		
	Fiscal Year	1,306.9	1,332.0	1,357.0	1,377.9	1,376.7	1,387.8	1,420.1	1,444.8	1,461.1	1,476.4	1,491.7		
	% Change	(0.7)	1.9	1.9	1.5	(0.1)	0.8	2.3	1.7	1.1	1.0	1.0		
Construction and Mining Thousands, SA	Calendar Year	68.2	67.8	68.2	68.9	68.8	68.9	71.0	75.1	78.2	81.3	84.3		
	% Change	(2.6)	(0.6)	0.6	0.9	(0.1)	0.2	3.0	5.7	4.3	3.9	3.6		
	Fiscal Year	68.2	68.2	68.2	68.5	69.0	68.5	69.6	73.4	76.4	79.9	82.8		
	% Change	(9.0)	(0.0)	0.0	0.5	0.8	(0.8)	1.7	5.4	4.1	4.5	3.7		
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	200.6	204.5	206.6	207.6	208.9	211.5	216.4	216.9	217.0	217.8	218.1		
	% Change	(0.1)	2.0	1.0	0.5	0.6	1.2	2.3	0.2	0.1	0.4	0.1		
	Fiscal Year	199.4	203.0	205.6	207.2	208.1	209.9	214.3	216.9	216.8	217.3	218.2		
	% Change	(3.0)	1.8	1.3	0.8	0.4	0.9	2.1	1.2	(0.0)	0.2	0.4		
Financial Activities Thousands, SA	Calendar Year	64.8	65.5	66.9	68.6	68.6	70.4	71.1	70.1	69.2	68.6	68.6		
	% Change	0.5	1.1	2.2	2.5	0.0	2.5	1.0	(1.4)	(1.4)	(0.8)	0.0		
	Fiscal Year	64.4	65.3	66.0	68.0	68.6	69.3	71.1	70.6	69.6	68.7	68.6		
	% Change	(1.7)	1.4	1.1	3.0	0.9	1.1	2.6	(0.7)	(1.4)	(1.3)	(0.1)		
Professional and Business Services Thousands, SA	Calendar Year	364.8	375.1	383.5	381.1	376.3	383.2	394.5	403.6	409.3	413.6	420.2		
	% Change	2.4	2.8	2.2	(0.6)	(1.3)	1.8	2.9	2.3	1.4	1.0	1.6		
	Fiscal Year	359.0	370.5	380.1	384.2	377.1	378.8	388.6	399.6	406.8	411.3	416.7		
	% Change	0.7	3.2	2.6	1.1	(1.8)	0.4	2.6	2.8	1.8	1.1	1.3		
Education and Health Services Thousands, SA	Calendar Year	135.8	141.4	145.5	147.9	149.9	154.2	158.5	161.2	164.3	167.7	170.4		
	% Change	3.1	4.1	2.9	1.7	1.3	2.8	2.8	1.7	1.9	2.1	1.6		
	Fiscal Year	134.0	138.5	143.2	147.4	148.6	151.8	156.6	160.0	162.7	166.0	169.1		
	% Change	3.6	3.4	3.4	3.0	0.8	2.1	3.2	2.2	1.7	2.1	1.9		
Leisure and Hospitality Thousands, SA	Calendar Year	116.8	121.3	126.2	130.1	132.7	138.6	142.0	143.2	145.4	147.2	148.3		
	% Change	0.7	3.8	4.1	3.1	2.0	4.5	2.5	0.9	1.5	1.3	0.8		
	Fiscal Year	115.6	119.3	123.7	128.2	131.4	134.8	141.3	142.5	144.2	146.4	147.8		
	% Change	(1.4)	3.2	3.6	3.7	2.5	2.6	4.8	0.8	1.2	1.5	0.9		
Government Thousands, SA	Calendar Year	228.9	231.1	233.6	234.6	233.2	234.5	236.9	239.5	240.9	241.5	242.4		
	% Change	2.1	0.9	1.1	0.4	(0.6)	0.5	1.0	1.1	0.6	0.2	0.4		
	Fiscal Year	227.0	229.6	232.2	235.1	233.3	233.8	235.4	238.3	240.4	241.2	241.9		
	% Change	2.4	1.1	1.2	1.2	(0.8)	0.2	0.7	1.2	0.9	0.3	0.3		

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

	Pessimistic Alternative Scenario			
	2017	2018	2019	2020
Northern Virginia				
Total Nonagricultural Employment Thousands, SA	1,439.6 0.4 1,440.9 1.5	1,435.1 (0.3) 1,435.1 (0.4)	1,450.9 1.1 1,440.5 0.4	1,475.2 1.7 1,463.3 1.6
Calendar Year % Change				
Fiscal Year % Change				
Construction and Mining Thousands, SA	73.8 4.1 73.0 4.9	73.3 (0.7) 73.5 0.6	74.5 1.5 73.5 0.1	78.8 5.9 76.4 3.9
Calendar Year % Change				
Fiscal Year % Change				
Trade, Transportation, and Utilities Thousands, SA	215.0 (0.7) 216.7 1.1	211.1 (1.8) 212.5 (2.0)	210.9 (0.1) 210.9 (0.7)	209.6 (0.7) 210.3 (0.3)
Calendar Year % Change				
Fiscal Year % Change				
Financial Activities Thousands, SA	69.1 (2.8) 70.3 (1.2)	67.1 (2.8) 67.8 (3.5)	67.7 0.8 67.2 (1.0)	68.8 1.6 68.3 1.7
Calendar Year % Change				
Fiscal Year % Change				
Professional and Business Services Thousands, SA	393.1 (0.3) 396.1 1.9	388.3 (1.2) 388.8 (1.9)	400.2 3.1 392.5 1.0	416.0 4.0 409.1 4.2
Calendar Year % Change				
Fiscal Year % Change				
Education and Health Services Thousands, SA	161.6 2.0 160.0 2.2	165.0 2.1 163.6 2.3	166.0 0.6 165.6 1.2	167.1 0.7 166.2 0.4
Calendar Year % Change				
Fiscal Year % Change				
Leisure and Hospitality Thousands, SA	144.1 1.4 142.9 1.1	145.8 1.2 144.9 1.4	145.8 0.0 146.2 0.9	146.9 0.7 146.0 (0.2)
Calendar Year % Change				
Fiscal Year % Change				
Government Thousands, SA	239.8 1.2 238.4 1.3	242.2 1.0 241.1 1.1	243.6 0.6 243.0 0.8	244.7 0.5 244.2 0.5
Calendar Year % Change				
Fiscal Year % Change				

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

Hampton Roads		History											
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Nonagricultural Employment Thousands, SA	Calendar Year	693.9	706.6	720.3	730.5	733.9	737.6	749.9	761.0	767.4	775.5	767.2	742.2
	% Change	2.4	1.8	1.9	1.4	0.5	0.5	1.7	1.5	0.8	1.1	(1.1)	(3.3)
	Fiscal Year	684.4	701.3	714.3	725.0	733.2	735.4	742.9	756.0	765.0	771.5	773.4	755.2
	% Change	2.1	2.5	1.9	1.5	1.1	0.3	1.0	1.8	1.2	0.8	0.2	(2.4)
Construction and Mining Thousands, SA	Calendar Year	42.3	42.9	43.9	45.9	44.6	47.1	48.7	49.9	49.8	48.4	45.2	38.3
	% Change	0.1	1.5	2.4	4.4	(2.8)	5.6	3.4	2.5	(0.2)	(2.7)	(6.5)	(15.2)
	Fiscal Year	42.1	42.8	43.3	45.0	45.3	45.2	48.2	49.4	50.2	49.1	47.1	41.8
	% Change	0.7	1.8	1.1	4.1	0.7	(0.4)	6.8	2.4	1.6	(2.2)	(4.1)	(11.2)
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	131.8	135.2	137.4	138.7	138.8	135.7	138.6	140.5	141.5	142.7	138.0	128.8
	% Change	2.1	2.6	1.6	1.0	0.0	(2.3)	2.2	1.3	0.7	0.9	(3.3)	(6.6)
	Fiscal Year	130.0	134.1	136.2	138.4	138.7	137.5	136.6	139.5	141.3	142.1	141.2	133.0
	% Change	1.5	3.2	1.5	1.6	0.2	(0.9)	(0.6)	2.1	1.2	0.6	(0.7)	(5.8)
Financial Activities Thousands, SA	Calendar Year	34.1	36.0	36.5	36.7	36.8	37.6	39.7	39.9	40.7	41.5	40.2	37.5
	% Change	5.7	5.5	1.2	0.6	0.2	2.2	5.6	0.7	1.9	2.1	(3.3)	(6.7)
	Fiscal Year	32.9	35.4	36.1	36.7	36.7	37.1	38.6	39.8	40.2	41.4	41.0	39.0
	% Change	3.0	7.4	2.0	1.8	(0.1)	1.1	4.2	3.1	0.9	3.0	(0.9)	(5.0)
Professional and Business Services Thousands, SA	Calendar Year	92.5	98.0	98.9	103.0	104.7	104.3	100.2	101.4	101.7	102.6	104.7	99.5
	% Change	6.5	5.9	0.9	4.1	1.7	(0.4)	(3.9)	1.2	0.3	0.9	2.0	(5.0)
	Fiscal Year	89.2	95.6	99.3	100.1	104.7	104.4	102.0	101.1	101.5	101.9	104.0	102.6
	% Change	5.5	7.1	3.9	0.8	4.6	(0.3)	(2.3)	(0.9)	0.4	0.5	2.0	(1.3)
Education and Health Services Thousands, SA	Calendar Year	69.6	71.6	73.4	74.8	77.5	78.8	82.8	85.6	88.0	90.6	91.7	93.7
	% Change	3.2	2.8	2.6	1.9	3.7	1.6	5.0	3.4	2.8	3.0	1.2	2.2
	Fiscal Year	68.6	70.5	72.4	74.1	76.2	78.1	80.9	84.0	86.9	89.3	91.2	92.8
	% Change	3.2	2.8	2.6	2.4	2.8	2.6	3.6	3.8	3.5	2.7	2.2	1.7
Leisure and Hospitality Thousands, SA	Calendar Year	72.3	72.9	74.2	76.2	76.5	76.5	79.0	82.0	84.6	85.9	85.9	83.3
	% Change	0.9	0.9	1.7	2.7	0.4	(0.0)	3.2	3.8	3.2	1.6	(0.1)	(3.0)
	Fiscal Year	71.8	72.9	73.4	75.4	76.1	76.7	77.4	80.6	83.4	85.2	86.5	84.2
	% Change	1.2	1.5	0.7	2.7	1.0	0.8	0.9	4.1	3.6	2.2	1.5	(2.8)
Government Thousands, SA	Calendar Year	144.5	144.5	146.0	147.7	149.6	149.5	151.5	151.7	153.1	155.6	158.1	159.9
	% Change	1.3	(0.0)	1.1	1.1	1.3	(0.0)	1.3	0.1	1.0	1.6	1.6	1.1
	Fiscal Year	143.3	144.6	145.3	146.7	148.9	149.6	150.4	151.6	152.2	154.3	156.8	159.4
	% Change	0.5	1.0	0.4	1.0	1.5	0.5	0.5	0.8	1.4	1.6	1.7	1.7

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

		Pessimistic Alternative Scenario			
		2017	2018	2019	2020
Hampton Roads					
Total Nonagricultural Employment Thousands, SA	Calendar Year % Change	771.7 (0.1)	767.8 (0.5)	773.8 0.8	782.8 1.2
	Fiscal Year % Change	774.0 0.6	768.3 (0.7)	769.9 0.2	778.4 1.1
Construction and Mining Thousands, SA	Calendar Year % Change	38.5 3.2	38.2 (0.7)	38.7 1.2	40.4 4.5
	Fiscal Year % Change	38.3 5.1	38.2 (0.1)	38.3 0.1	39.4 3.0
Trade, Transportation, and Utilities Thousands, SA	Calendar Year % Change	131.5 (0.5)	129.8 (1.3)	129.7 (0.0)	129.2 (0.4)
	Fiscal Year % Change	132.4 0.6	130.3 (1.5)	129.7 (0.5)	129.4 (0.2)
Financial Activities Thousands, SA	Calendar Year % Change	37.3 (3.6)	35.8 (3.8)	36.2 1.1	37.0 2.2
	Fiscal Year % Change	38.1 (1.0)	36.4 (4.6)	35.9 (1.4)	36.7 2.3
Professional and Business Services Thousands, SA	Calendar Year % Change	104.4 (1.0)	103.0 (1.3)	109.1 5.9	115.0 5.4
	Fiscal Year % Change	106.1 1.4	102.6 (3.3)	105.6 2.9	112.6 6.7
Education and Health Services Thousands, SA	Calendar Year % Change	113.4 1.4	115.1 1.4	115.6 0.4	116.1 0.5
	Fiscal Year % Change	112.7 1.9	114.4 1.6	115.4 0.8	115.7 0.3
Leisure and Hospitality Thousands, SA	Calendar Year % Change	91.3 1.1	92.1 0.9	92.1 0.0	92.6 0.5
	Fiscal Year % Change	90.7 1.2	91.7 1.1	92.3 0.7	92.2 (0.1)
Government Thousands, SA	Calendar Year % Change	157.7 (0.3)	157.2 (0.3)	156.6 (0.4)	156.2 (0.2)
	Fiscal Year % Change	157.9 (0.4)	157.5 (0.3)	156.9 (0.4)	156.4 (0.3)

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

Richmond		History											
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Nonagricultural Employment Thousands, SA	Calendar Year	551.7	565.1	578.8	580.3	578.2	578.7	593.8	606.0	615.2	622.7	620.0	595.4
	% Change	1.5	2.4	2.4	0.2	(0.4)	0.1	2.6	2.1	1.5	1.2	(0.4)	(4.0)
	Fiscal Year	548.1	558.1	572.3	581.6	578.6	576.8	586.2	600.7	609.6	620.6	622.3	609.7
	% Change	2.3	1.8	2.6	1.6	(0.5)	(0.3)	1.6	2.5	1.5	1.8	0.3	(2.0)
Construction and Mining Thousands, SA	Calendar Year	35.4	36.9	38.8	39.2	39.1	39.2	40.7	43.1	44.0	45.0	41.4	34.6
	% Change	(0.9)	4.2	5.1	1.0	(0.3)	0.2	3.8	5.9	2.2	2.1	(8.0)	(16.4)
	Fiscal Year	35.5	36.4	37.7	39.3	38.9	39.0	39.6	42.2	43.7	44.5	43.9	37.9
	% Change	2.6	2.7	3.6	4.2	(1.0)	0.3	1.4	6.5	3.8	1.8	(1.5)	(13.5)
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	105.2	108.0	110.6	109.9	109.6	109.5	110.4	110.4	112.6	115.2	114.1	108.2
	% Change	1.0	2.7	2.4	(0.7)	(0.2)	(0.2)	0.8	0.0	2.0	2.3	(0.9)	(5.1)
	Fiscal Year	104.4	106.5	109.7	110.7	109.4	109.5	110.3	109.8	111.6	113.9	115.0	111.7
	% Change	1.3	2.0	3.0	0.9	(1.2)	0.1	0.8	(0.4)	1.6	2.1	1.0	(2.9)
Financial Activities Thousands, SA	Calendar Year	40.1	43.5	44.9	46.8	46.5	46.2	46.7	46.5	46.3	45.6	44.0	42.9
	% Change	(0.8)	8.5	3.3	4.3	(0.8)	(0.6)	1.1	(0.4)	(0.3)	(1.7)	(3.5)	(2.4)
	Fiscal Year	39.7	41.8	44.3	45.9	47.1	45.9	46.7	46.5	46.5	46.0	44.7	43.5
	% Change	(1.8)	5.1	6.1	3.6	2.6	(2.6)	1.8	(0.3)	(0.1)	(1.1)	(2.7)	(2.6)
Professional and Business Services Thousands, SA	Calendar Year	87.0	88.2	91.5	89.2	87.3	83.5	87.7	92.5	95.1	98.4	98.9	92.2
	% Change	7.2	1.4	3.8	(2.5)	(2.1)	(4.4)	5.0	5.5	2.8	3.4	0.5	(6.7)
	Fiscal Year	84.1	88.4	89.4	91.2	88.1	84.8	85.0	90.5	93.7	97.2	99.3	95.7
	% Change	6.5	5.2	1.1	2.0	(3.4)	(3.7)	0.3	6.4	3.5	3.7	2.2	(3.7)
Education and Health Services Thousands, SA	Calendar Year	50.2	51.7	51.7	53.9	56.7	60.6	65.1	68.5	71.3	73.9	80.4	82.9
	% Change	(1.8)	3.1	(0.1)	4.3	5.2	6.9	7.4	5.3	4.1	3.7	8.8	3.1
	Fiscal Year	51.0	50.6	51.8	52.4	55.3	58.6	62.9	66.7	69.8	72.3	77.5	81.9
	% Change	1.7	(0.8)	2.5	1.1	5.5	6.0	7.3	6.1	4.6	7.1	5.7	
Leisure and Hospitality Thousands, SA	Calendar Year	42.9	42.9	43.9	44.8	44.2	45.7	48.0	49.0	51.1	51.9	52.3	51.4
	% Change	1.0	0.0	2.4	2.2	(1.5)	3.5	5.1	2.0	4.4	1.5	0.8	(1.8)
	Fiscal Year	42.9	42.7	43.6	44.4	44.5	44.6	47.0	48.4	50.0	51.7	52.3	51.9
	% Change	3.5	(0.4)	2.1	1.9	0.2	0.3	5.3	3.0	3.3	3.4	1.1	(0.8)
Government Thousands, SA	Calendar Year	100.9	103.0	105.6	107.0	108.3	109.4	110.4	111.4	111.4	110.3	109.0	110.3
	% Change	1.2	2.0	2.5	1.4	1.2	1.1	0.9	1.0	(0.1)	(0.9)	(1.2)	1.2
	Fiscal Year	100.6	101.7	104.2	106.4	107.8	109.0	109.5	111.7	110.8	111.8	108.6	110.1
	% Change	1.9	1.1	2.4	2.2	1.3	1.1	0.5	2.0	(0.8)	(2.9)	1.4	

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

Richmond		History										October Standard Forecast		
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Total Nonagricultural Employment Thousands, SA	Calendar Year	591.9	600.5	612.9	622.5	633.3	651.4	674.7	683.0	690.3	697.0	703.8		
	% Change	(0.6)	1.5	2.1	1.6	1.7	2.9	3.6	1.2	1.1	1.0	1.0		
	Fiscal Year	590.3	594.9	606.6	618.0	627.9	639.9	665.6	679.3	686.5	693.6	700.5		
	% Change	(3.2)	0.8	2.0	1.9	1.6	1.9	4.0	2.1	1.1	1.0	1.0		
Construction and Mining Thousands, SA	Calendar Year	32.4	31.8	32.5	33.2	33.8	36.3	39.0	40.8	42.2	43.5	44.7		
	% Change	(6.4)	(1.9)	2.4	2.0	2.0	7.2	7.3	4.9	3.4	3.0	2.8		
	Fiscal Year	32.9	32.1	32.0	33.0	33.2	35.0	37.6	40.1	41.5	42.9	44.1		
	% Change	(13.3)	(2.2)	(0.3)	3.1	0.6	5.3	7.6	6.6	3.4	3.5	2.9		
Trade, Transportation, and Utilities Thousands, SA	Calendar Year	107.4	109.4	112.0	116.6	119.7	122.0	129.4	130.3	131.0	131.9	132.4		
	% Change	(0.8)	1.9	2.4	4.2	2.7	1.9	6.1	0.7	0.6	0.7	0.4		
	Fiscal Year	107.1	108.2	110.5	113.9	118.9	120.0	126.5	130.0	130.6	131.4	132.2		
	% Change	(4.2)	1.1	2.1	3.1	4.4	1.0	5.4	2.7	0.5	0.6	0.6		
Financial Activities Thousands, SA	Calendar Year	42.4	44.0	46.5	47.8	48.7	50.4	51.1	50.4	49.6	49.2	49.2		
	% Change	(1.0)	3.6	5.8	2.7	2.0	3.4	1.3	(1.4)	(1.4)	(0.8)	(0.0)		
	Fiscal Year	42.4	42.8	45.4	47.2	48.3	49.6	50.9	50.7	50.0	49.3	49.2		
	% Change	(2.6)	1.0	5.9	4.1	2.2	2.7	2.7	(0.4)	(1.5)	(1.3)	(0.2)		
Professional and Business Services Thousands, SA	Calendar Year	92.6	96.3	98.9	98.2	100.3	107.1	115.1	118.7	121.0	122.7	125.2		
	% Change	0.4	4.0	2.6	(0.7)	2.2	6.7	7.4	3.1	1.9	1.4	2.0		
	Fiscal Year	91.2	94.8	97.3	99.1	98.8	102.8	111.8	117.1	119.9	121.8	124.0		
	% Change	(4.7)	4.0	2.6	1.8	(0.3)	4.0	8.8	4.7	2.4	1.6	1.8		
Education and Health Services Thousands, SA	Calendar Year	84.5	86.1	88.7	91.0	93.2	95.5	97.7	99.2	100.8	102.7	104.1		
	% Change	1.9	1.8	3.1	2.5	2.5	2.4	2.3	1.5	1.7	1.8	1.4		
	Fiscal Year	84.1	84.7	87.4	90.0	92.3	94.1	96.8	98.5	99.9	101.8	103.4		
	% Change	2.7	0.8	3.2	3.0	2.6	2.0	2.8	1.8	1.5	1.8	1.6		
Leisure and Hospitality Thousands, SA	Calendar Year	51.0	53.0	55.5	57.1	58.0	60.8	62.2	62.8	63.9	64.8	65.4		
	% Change	(0.8)	4.0	4.6	2.9	1.6	4.8	2.4	1.0	1.7	1.4	0.9		
	Fiscal Year	50.8	51.7	54.6	56.3	57.6	59.0	62.0	62.5	63.3	64.4	65.1		
	% Change	(2.1)	1.7	5.5	3.2	2.3	2.4	5.0	0.8	1.4	1.7	1.1		
Government Thousands, SA	Calendar Year	111.1	110.7	110.2	109.5	109.8	109.5	110.0	110.9	111.4	111.6	112.0		
	% Change	0.7	(0.3)	(0.5)	(0.7)	0.3	(0.3)	0.4	0.9	0.5	0.1	0.4		
	Fiscal Year	110.8	110.6	110.8	109.7	109.3	109.8	109.7	110.5	111.3	111.5	111.8		
	% Change	0.6	(0.1)	0.1	(1.0)	(0.3)	0.4	0.7	0.7	0.2	0.2			

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

TABLE A.4 - ANNUAL VIRGINIA REGIONAL EMPLOYMENT

	Pessimistic Alternative Scenario			
	2017	2018	2019	2020
Richmond				
Total Nonagricultural Employment Thousands, SA	677.1 0.4 677.6 1.8	676.2 (0.1) 675.6 (0.3)	682.7 1.0 678.8 0.5	692.2 1.4 687.4 1.3
	Calendar Year % Change			
	Fiscal Year % Change			
Construction and Mining Thousands, SA	40.4 3.7 40.0 6.2	40.3 (0.2) 40.3 0.8	40.8 1.2 40.4 0.2	42.6 4.4 41.6 2.9
	Calendar Year % Change			
	Fiscal Year % Change			
Trade, Transportation, and Utilities Thousands, SA	128.9 (0.4) 129.7 2.5	127.4 (1.2) 127.8 (1.4)	127.6 0.1 127.5 (0.3)	127.3 (0.2) 127.5 (0.0)
	Calendar Year % Change			
	Fiscal Year % Change			
Financial Activities Thousands, SA	49.6 (2.8) 50.5 (0.9)	48.2 (2.9) 48.7 (3.6)	48.6 0.8 48.2 (1.0)	49.3 1.6 49.0 1.7
	Calendar Year % Change			
	Fiscal Year % Change			
Professional and Business Services Thousands, SA	114.7 (0.2) 115.8 3.5	114.1 (0.5) 113.6 (1.9)	119.1 4.3 116.2 2.3	124.1 4.2 122.0 5.0
	Calendar Year % Change			
	Fiscal Year % Change			
Education and Health Services Thousands, SA	99.3 1.7 98.5 1.8	101.2 1.8 100.5 2.0	101.7 0.6 101.5 1.1	102.4 0.6 101.9 0.3
	Calendar Year % Change			
	Fiscal Year % Change			
Leisure and Hospitality Thousands, SA	63.3 1.6 62.7 1.2	64.1 1.3 63.7 1.6	64.1 0.0 64.3 1.0	64.7 0.8 64.2 (0.2)
	Calendar Year % Change			
	Fiscal Year % Change			
Government Thousands, SA	111.0 1.0 110.5 0.7	111.9 0.8 111.5 1.0	112.5 0.5 112.2 0.6	113.0 0.4 112.7 0.4
	Calendar Year % Change			
	Fiscal Year % Change			

SAAR: Seasonally Adjusted at Annual Rates

SA: Seasonally Adjusted

**APPENDIX B
GENERAL FUND DATA**

TABLE B.1 - QUARTERLY GENERAL FUND REVENUES
(Millions of Dollars)

	2002.3	2002.4	2003.1	2003.2	2003.3	2003.4	2004.1	2004.2	2004.3	2004.4	2005.1	2005.2	2005.3	2005.4	2006.1
Withholding	1,535.8	1,667.1	1,706.3	1,658.2	1,606.0	1,801.6	1,861.8	1,769.9	1,768.0	1,905.5	1,992.0	1,847.5	1,897.2	1,996.5	2,131.5
Annual % Change	2.8	3.0	0.8	2.6	4.6	8.1	9.1	6.7	10.1	5.8	7.0	4.4	7.3	4.8	7.0
Nonwithholding	236.6	143.4	288.4	734.3	240.5	160.5	304.4	857.5	286.6	209.9	415.0	1,162.0	349.0	225.7	483.9
Annual % Change	(2.7)	2.5	(8.9)	(3.4)	1.6	11.9	5.6	16.8	19.2	30.8	36.3	35.5	21.8	7.5	16.6
Gross Individual Income Tax	1,772.4	1,810.4	1,994.7	2,392.6	1,846.5	1,962.0	2,166.2	2,627.4	2,054.7	2,115.5	2,407.0	3,009.5	2,246.3	2,222.2	2,615.5
Annual % Change	2.0	3.0	(0.8)	0.7	4.2	8.4	8.6	9.8	11.3	7.8	11.1	14.5	9.3	5.0	8.7
Individual Refunds	119.6	66.4	518.4	490.0	86.4	72.5	578.8	479.5	87.8	81.1	588.0	477.3	50.5	62.5	638.4
Annual % Change	(31.8)	(9.1)	14.9	3.9	(27.8)	9.2	11.7	(2.1)	1.6	11.8	1.6	(0.5)	(42.5)	(22.9)	8.6
Net Individual Income Tax	1,652.8	1,744.0	1,476.3	1,902.6	1,760.2	1,889.5	1,587.3	2,147.9	1,966.9	2,034.3	1,819.0	2,532.2	2,195.8	2,159.7	1,977.0
Annual % Change	5.8	3.5	(5.3)	(0.1)	6.5	8.3	7.5	12.9	11.7	7.7	14.6	17.9	11.6	6.2	8.7
Sales and Use Tax	457.6	576.6	564.9	737.0	488.6	620.0	622.9	830.8	524.3	727.0	736.0	958.8	579.3	728.6	758.5
Annual % Change	(20.4)	(0.4)	2.3	1.8	6.8	7.5	10.3	12.7	7.3	17.3	18.2	15.4	10.5	0.2	3.1
Corporate Income Tax	89.8	55.9	16.3	181.4	112.9	38.0	44.3	230.5	122.0	124.9	90.0	279.9	214.7	256.1	116.0
Annual % Change	15.8	47.3	(39.0)	22.5	25.8	(32.0)	171.7	27.1	8.1	228.4	103.2	21.4	76.0	105.1	29.0
Wills, Suits, Deeds, Contracts	65.3	74.3	63.7	82.6	93.6	79.5	67.7	99.7	113.8	150.6	141.9	189.8	202.8	170.1	149.7
Annual % Change	25.8	35.2	28.9	42.0	43.4	7.1	6.3	20.7	21.5	89.3	109.6	90.4	78.3	13.0	5.5
Insurance Premiums	76.8	59.7	35.2	161.3	79.7	63.1	42.6	165.8	88.0	69.0	38.3	178.3	84.1	72.1	36.3
Annual % Change	13.9	12.6	14.5	14.0	3.8	5.7	20.9	2.8	10.4	9.3	(10.1)	7.5	(4.4)	4.4	(5.2)
Interest Income	40.3	22.8	8.4	10.1	29.8	11.1	13.9	6.6	27.1	22.1	23.8	10.8	44.7	26.0	39.6
Annual % Change	(27.1)	6.6	(67.7)	(532.6)	(26.0)	(51.5)	65.3	(35.0)	(9.2)	99.7	71.0	64.5	65.0	17.7	66.4
Alcoholic Beverage Sales	11.8	31.2	36.4	49.3	12.9	32.9	37.3	55.0	12.6	34.8	38.1	59.0	13.5	36.4	40.6
Annual % Change	1.9	4.5	4.9	(3.9)	9.1	5.3	2.4	11.6	(2.6)	5.8	2.4	7.2	7.4	4.7	6.5
All Other Revenues	118.9	125.5	143.3	195.2	146.5	111.8	144.0	251.3	155.2	122.6	118.5	177.9	110.9	111.7	148.8
Annual % Change	40.8	0.5	29.9	0.8	23.2	(10.9)	0.5	28.7	6.0	9.6	(17.7)	(29.2)	(28.6)	(8.9)	25.7
Total General Fund Revenues	2,513.3	2,689.9	2,344.5	3,319.5	2,724.3	2,846.0	2,560.0	3,787.7	3,009.8	3,285.3	3,005.5	4,386.6	3,445.8	3,560.8	3,266.7
Annual % Change	1.1	4.0	(1.8)	3.1	8.4	5.8	9.2	14.1	10.5	15.4	17.4	15.8	14.5	8.4	8.7

TABLE B.1 - QUARTERLY GENERAL FUND REVENUES
(Millions of Dollars)

	2006 2	2006 3	2006 4	2007 1	2007 2	2007 3	2007 4	2008 1	2008 2	2008 3	2008 4	2009 1	2009 2	2009 3	2009 4
Withholding	2,028.5	1,970.4	2,110.3	2,292.5	2,192.2	2,062.9	2,244.9	2,411.8	2,213.9	2,175.8	2,384.3	2,306.6	2,271.5	2,125.0	2,328.6
Annual % Change	9.8	3.9	5.7	7.6	8.1	4.7	6.4	5.2	1.0	5.5	6.2	(4.4)	2.6	(2.3)	(2.3)
Nonwithholding	1,435.1	356.4	264.8	512.5	1,648.3	394.1	260.1	556.6	1,650.4	406.5	243.3	458.8	1,201.8	311.3	217.8
Annual % Change	23.5	2.1	17.3	5.9	14.9	10.6	(1.8)	8.6	0.1	3.1	(6.5)	(17.6)	(27.2)	(23.4)	(10.5)
Gross Individual Income Tax	3,463.6	2,326.8	2,375.2	2,805.0	3,840.4	2,457.0	2,505.1	2,968.4	3,864.3	2,582.2	2,627.6	2,765.4	3,473.3	2,436.3	2,546.4
Annual % Change	15.1	3.6	6.9	7.2	10.9	5.6	5.5	5.8	0.6	5.1	4.9	(6.8)	(10.1)	(5.6)	(3.1)
Individual Refunds	531.2	110.2	109.8	740.4	599.5	83.6	143.9	811.3	641.1	127.2	141.3	873.2	825.8	150.8	182.3
Annual % Change	11.3	118.3	75.6	16.0	12.9	(24.1)	31.1	9.6	6.9	52.0	(1.8)	7.6	28.8	18.6	29.1
Net Individual Income Tax	2,932.4	2,216.7	2,265.4	2,064.6	3,240.9	2,373.3	2,361.2	2,157.2	3,223.2	2,455.0	2,486.3	1,892.2	2,647.5	2,285.5	2,364.1
Annual % Change	15.8	1.0	4.9	4.4	10.5	7.1	4.2	4.5	(0.5)	3.4	5.3	(12.3)	(17.9)	(6.9)	(4.9)
Sales and Use Tax	746.3	762.3	746.9	774.8	765.1	785.8	798.2	723.3	768.3	769.9	729.2	708.8	695.4	724.7	724.0
Annual % Change	(22.2)	31.6	2.5	2.1	2.5	3.1	6.9	(6.6)	0.4	(2.0)	(8.6)	(2.0)	(9.5)	(5.9)	(0.7)
Corporate Income Tax	280.3	256.9	186.6	118.7	317.4	217.7	115.4	138.7	336.0	191.4	71.9	71.1	313.6	176.3	175.6
Annual % Change	0.2	19.7	(27.2)	2.3	13.2	(15.2)	(38.1)	16.9	5.8	(12.1)	(37.7)	(48.7)	(6.7)	(7.9)	144.4
Wills, Suits, Deeds, Contracts	172.1	150.8	143.6	133.9	154.7	130.7	112.6	98.6	114.5	90.3	66.2	68.4	89.3	80.5	74.6
Annual % Change	(9.3)	(25.7)	(15.6)	(10.5)	(10.1)	(13.3)	(21.6)	(26.4)	(26.0)	(30.9)	(41.2)	(30.6)	(22.0)	(10.9)	12.8
Insurance Premiums	181.3	87.9	61.4	38.0	197.6	101.7	61.5	32.1	201.5	0.0	75.6	(20.2)	199.6	0.0	75.1
Annual % Change	1.7	4.5	(14.8)	4.7	9.0	15.8	0.1	(15.7)	2.0	(100.0)	22.9	(163.0)	(0.9)	NA	(0.6)
Interest Income	6.1	91.7	42.9	53.8	(12.4)	105.5	66.2	37.5	(19.9)	74.6	25.4	23.3	(19.0)	40.3	26.4
Annual % Change	(43.9)	105.0	64.7	35.7	(303.9)	15.1	54.4	(30.3)	60.5	(29.3)	(61.7)	(37.8)	(4.2)	(45.9)	3.9
Alcoholic Beverage Sales	62.4	14.3	38.0	42.1	67.5	13.8	39.6	45.5	70.0	12.8	41.5	47.1	71.8	12.3	42.2
Annual % Change	5.8	5.5	4.2	3.6	8.2	(3.4)	4.5	8.0	3.6	(7.2)	4.7	3.5	2.7	(4.0)	1.7
All Other Revenues	180.2	127.2	111.1	128.6	176.9	113.6	144.0	147.2	152.6	85.8	102.9	103.4	143.7	87.4	71.8
Annual % Change	1.3	14.7	(0.5)	(13.6)	(1.8)	(10.7)	29.6	14.4	(13.8)	(24.5)	(28.5)	(29.8)	(5.8)	1.9	(30.2)
Total General Fund Revenues	4,561.0	3,707.7	3,595.9	3,354.5	4,907.7	3,842.1	3,698.7	3,380.0	4,846.1	3,679.9	3,599.0	2,894.2	4,142.0	3,407.0	3,553.9
Annual % Change	4.0	7.6	1.0	2.7	7.6	3.6	2.9	0.8	(1.3)	(4.2)	(2.7)	(14.4)	(14.5)	(7.4)	(1.3)

TABLE B.1 - QUARTERLY GENERAL FUND REVENUES
(Millions of Dollars)

	2010.1	2010.2	2010.3	2010.4	2011.1	2011.2	2011.3	2011.4	2012.1	2012.2	2012.3	2012.4	2013.1	2013.2	2013.3
Withholding	2,416.4	2,306.1	2,219.1	2,459.9	2,538.5	2,417.6	2,308.0	2,510.9	2,640.7	2,580.0	2,292.0	2,606.4	2,761.1	2,591.9	2,403.1
Annual % Change	4.8	1.5	4.4	5.6	5.1	4.8	4.0	2.1	4.0	6.7	(0.7)	3.8	4.6	0.5	4.8
Nonwithholding	373.0	1,004.6	292.9	204.6	435.7	1,245.4	348.0	222.8	468.9	1,318.3	362.4	201.3	575.7	1,668.3	372.8
Annual % Change	(18.7)	(16.4)	(5.9)	(6.0)	16.8	24.0	18.8	8.9	7.6	5.9	4.1	(9.6)	22.8	26.5	2.9
Gross Individual Income Tax	2,789.4	3,310.7	2,512.0	2,664.5	2,974.2	3,663.0	2,655.9	2,733.7	3,109.6	3,898.3	2,654.4	2,807.7	3,336.8	4,260.1	2,775.9
Annual % Change	0.9	(4.7)	3.1	4.6	6.6	10.6	5.7	2.6	4.6	6.4	(0.1)	2.7	7.3	9.3	4.6
Individual Refunds	947.1	714.4	123.1	160.9	888.2	697.1	105.7	132.1	862.9	684.1	98.2	108.9	827.8	684.2	118.6
Annual % Change	8.5	(13.5)	(18.4)	(11.8)	(6.2)	(2.4)	(14.1)	(17.9)	(2.9)	(1.9)	(7.1)	(17.6)	(4.1)	0.0	20.8
Net Individual Income Tax	1,842.3	2,596.4	2,388.9	2,503.6	2,086.1	2,965.8	2,550.2	2,601.6	2,246.7	3,214.2	2,556.2	2,698.9	2,509.1	3,575.9	2,657.3
Annual % Change	(2.6)	(1.9)	4.5	5.9	13.2	14.2	6.8	3.9	7.7	8.4	0.2	3.7	11.7	11.3	4.0
Sales and Use Tax	674.5	959.4	577.9	746.3	719.7	968.5	620.4	772.0	768.1	961.0	684.7	777.1	787.0	971.0	653.9
Annual % Change	(4.8)	38.0	(20.3)	3.1	6.7	0.9	7.3	3.5	6.7	(0.8)	10.4	0.7	2.5	1.0	(4.5)
Corporate Income Tax	56.8	397.8	177.6	160.5	127.8	356.4	191.3	134.4	162.4	371.8	168.8	197.9	84.5	345.6	201.5
Annual % Change	(20.2)	26.8	0.7	(8.6)	125.1	(10.4)	7.7	(16.3)	27.1	4.3	(11.8)	47.2	(48.0)	(7.0)	19.4
Wills, Suits, Deeds, Contracts	60.1	75.0	75.7	77.7	63.3	74.7	78.9	79.8	73.5	89.8	90.7	92.2	91.3	103.3	93.2
Annual % Change	(12.2)	(16.0)	(5.9)	4.1	5.4	(0.4)	4.2	2.8	16.1	20.2	14.9	15.5	24.1	15.1	2.8
Insurance Premiums	(20.3)	207.1	0.0	80.5	(9.4)	210.4	0.0	56.4	(15.2)	211.7	0.0	79.9	(21.0)	203.3	0.0
Annual % Change	0.4	3.7	NA	7.2	(53.7)	1.6	NA	(29.9)	62.4	0.6	NA	41.7	37.7	(4.0)	NA
Interest Income	33.3	(5.7)	25.7	21.6	23.8	10.0	29.5	17.0	19.9	10.8	26.9	15.1	21.8	3.7	18.3
Annual % Change	42.8	(70.0)	(36.2)	(18.0)	(28.5)	(274.5)	14.5	(21.5)	(16.2)	8.0	(8.9)	(10.9)	9.2	(65.4)	(31.7)
Alcoholic Beverage Sales	47.5	73.0	12.8	43.2	48.7	74.3	13.8	45.0	50.6	77.0	15.7	46.1	53.2	80.2	14.8
Annual % Change	1.0	1.7	3.9	2.2	2.5	1.7	7.9	4.2	4.0	3.6	13.7	2.6	5.1	4.1	(5.8)
All Other Revenues	97.5	164.1	89.4	81.1	105.7	151.9	89.1	77.2	107.3	140.3	76.6	88.2	101.3	159.6	83.3
Annual % Change	(5.7)	14.2	2.4	12.9	8.4	(7.4)	(0.3)	(4.9)	1.6	(7.7)	(14.0)	14.3	(5.6)	13.8	8.7
Total General Fund Revenues	2,791.6	4,467.0	3,348.1	3,714.5	3,165.6	4,812.0	3,573.2	3,783.4	3,413.4	5,076.6	3,619.5	3,995.5	3,627.1	5,442.5	3,722.3
Annual % Change	(3.5)	7.8	(1.7)	4.5	13.4	7.7	6.7	1.9	7.8	5.5	1.3	5.6	6.3	7.2	2.8

TABLE B.1 - QUARTERLY GENERAL FUND REVENUES
(Millions of Dollars)

	2013.4	2014.1	2014.2	2014.3	2014.4	2015.1	2015.2	2015.3	2015.4	2016.1	2016.2	2016.3
Withholding	2,659.9	2,803.7	2,617.5	2,554.4	2,820.0	2,875.3	2,794.7	2,666.5	2,829.2	3,029.1	2,781.5	2,777.0
Annual % Change	2.1	1.5	1.0	6.3	6.0	2.6	6.8	4.4	0.3	5.3	(0.5)	4.1
Nonwithholding	260.6	496.7	1,394.8	427.7	327.6	602.1	1,684.2	472.0	316.8	652.9	1,628.4	470.8
Annual % Change	29.4	(13.7)	(16.4)	14.7	25.7	21.2	20.7	10.3	(3.3)	8.4	(3.3)	(0.2)
Gross Individual Income Tax	2,920.4	3,300.5	4,012.4	2,982.1	3,147.6	3,477.4	4,478.9	3,138.5	3,146.1	3,682.0	4,409.8	3,247.8
Annual % Change	4.0	(1.1)	(5.8)	7.4	7.8	5.4	11.6	5.2	(0.0)	5.9	(1.5)	3.5
Individual Refunds	156.9	820.2	660.1	123.5	156.8	790.5	686.5	122.9	165.8	844.6	687.4	114.9
Annual % Change	44.2	(0.9)	(3.5)	4.1	(0.1)	(3.6)	4.0	(0.5)	5.8	6.8	0.1	(6.5)
Net Individual Income Tax	2,763.5	2,480.3	3,352.3	2,858.6	2,990.8	2,686.9	3,792.3	3,015.6	2,980.2	2,837.4	3,722.4	3,132.9
Annual % Change	2.4	(1.1)	(6.3)	7.6	8.2	8.3	13.1	5.5	(0.4)	5.6	(1.8)	3.9
Sales and Use Tax	766.1	721.1	925.3	684.0	778.5	764.3	1,008.7	648.9	831.6	781.5	1,033.9	649.9
Annual % Change	(1.4)	(8.4)	(4.7)	4.6	1.6	6.0	9.0	(5.1)	6.8	2.2	2.5	0.2
Corporate Income Tax	102.2	124.0	329.8	226.6	140.2	144.6	320.6	188.0	101.7	164.3	311.0	197.5
Annual % Change	(48.4)	46.8	(4.6)	12.4	37.2	16.6	(2.8)	(17.0)	(27.5)	13.6	(3.0)	5.1
Wills, Suits, Deeds, Contracts	76.2	60.6	80.8	87.5	80.9	76.1	101.8	96.0	90.4	78.7	104.0	109.6
Annual % Change	(17.3)	(33.6)	(21.8)	(6.1)	6.1	25.7	26.1	9.7	11.8	3.4	2.1	14.2
Insurance Premiums	90.3	3.5	226.7	0.0	75.5	5.3	219.9	0.0	87.4	8.1	243.5	0.0
Annual % Change	12.9	(116.5)	11.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Interest Income	22.8	23.4	9.6	18.0	14.5	12.7	3.6	18.2	14.6	15.7	3.5	25.0
Annual % Change	50.5	7.3	157.4	(2.0)	(36.6)	(45.9)	(62.4)	1.5	1.4	24.2	(1.9)	36.8
Alcoholic Beverage Sales	47.7	54.4	82.3	15.2	49.0	56.8	86.8	11.8	55.1	59.2	91.5	14.1
Annual % Change	3.4	2.3	2.7	2.8	2.7	4.3	5.5	(22.6)	12.5	4.3	5.3	20.3
All Other Revenues	79.5	105.0	161.8	82.9	88.0	104.8	160.5	87.9	90.6	97.6	169.7	82.2
Annual % Change	(9.8)	3.6	1.4	(0.5)	10.6	(0.2)	(0.8)	6.1	3.0	(6.9)	5.7	(6.5)
Total General Fund Revenues	3,948.3	3,572.3	5,168.5	3,972.6	4,217.2	3,851.4	5,694.3	4,066.3	4,251.8	4,042.5	5,679.5	4,211.3
Annual % Change	(1.2)	(1.5)	(5.0)	6.7	6.8	7.8	10.2	2.4	0.8	5.0	(0.3)	3.6

TABLE B.2 - ANNUAL GENERAL FUND REVENUES
(Millions of Dollars)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Withholding										
Calendar Year	3,922.3	4,148.0	4,550.9	4,979.1	5,673.3	6,007.5	6,347.5	6,513.0	6,772.2	7,305.3
% Change	7.2	5.8	9.7	9.4	13.9	5.9	5.7	2.6	4.0	7.9
Fiscal Year	3,798.6	4,049.0	4,303.0	4,759.0	5,311.9	5,861.3	6,254.9	6,422.4	6,567.4	7,039.3
% Change	6.6	6.6	6.3	10.6	11.6	10.3	6.7	2.7	2.3	7.2
Nonwithholding										
Calendar Year	794.6	890.4	1,084.4	1,317.7	1,596.4	1,640.6	1,801.7	1,456.4	1,423.7	1,658.4
% Change	2.9	12.1	21.8	21.5	21.2	2.8	9.8	(19.2)	(2.2)	16.5
Fiscal Year	783.4	878.1	1,041.9	1,284.7	1,487.8	1,669.7	1,806.8	1,459.5	1,402.7	1,562.8
% Change	1.0	12.1	18.6	23.3	15.8	12.2	8.2	(19.2)	(3.9)	11.4
Gross Individual Income Tax										
Calendar Year	4,716.9	5,038.4	5,635.3	6,296.7	7,269.7	7,648.1	8,149.2	7,969.4	8,195.9	8,963.7
% Change	6.5	6.8	11.8	11.7	15.5	5.2	6.6	(2.2)	2.8	9.4
Fiscal Year	4,581.9	4,927.2	5,344.9	6,043.7	6,799.8	7,530.9	8,061.7	7,881.9	7,970.1	8,602.1
% Change	5.6	7.5	8.5	13.1	12.5	10.8	7.0	(2.2)	1.1	7.9
Individual Refunds										
Calendar Year	547.4	587.5	628.5	655.2	717.4	773.8	902.6	1,108.8	1,167.3	1,227.3
% Change	3.2	7.3	7.0	4.2	9.5	7.9	16.6	22.8	5.3	5.1
Fiscal Year	553.8	579.1	617.1	638.2	711.9	702.0	835.4	1,171.1	1,194.4	1,217.2
% Change	5.3	4.6	6.6	3.4	11.5	(1.4)	19.0	40.2	2.0	1.9
Net Individual Income Tax										
Calendar Year	4,169.5	4,451.0	5,006.8	5,641.5	6,552.3	6,874.3	7,246.6	6,860.6	7,028.6	7,736.4
% Change	6.9	6.8	12.5	12.7	16.1	4.9	5.4	(5.3)	2.4	10.1
Fiscal Year	4,028.1	4,348.0	4,727.8	5,405.4	6,087.9	6,828.9	7,226.3	6,710.8	6,775.7	7,384.9
% Change	5.7	7.9	8.7	14.3	12.6	12.2	5.8	(7.1)	1.0	9.0
Sales and Use Tax										
Calendar Year	1,682.8	1,783.1	1,872.4	1,992.4	2,140.7	2,233.3	2,289.5	2,309.9	2,410.4	2,705.1
% Change	4.4	6.0	5.0	6.4	7.4	4.3	2.5	0.9	4.4	12.2
Fiscal Year	1,657.7	1,722.0	1,826.8	1,919.2	2,065.3	2,201.5	2,273.0	2,429.8	2,336.0	2,562.3
% Change	7.7	3.9	6.1	5.1	7.6	6.6	3.2	6.9	(3.9)	9.7
Corporate Income Tax										
Calendar Year	411.8	386.9	448.8	458.1	462.8	497.5	326.2	320.5	348.6	521.7
% Change	27.4	(6.0)	16.0	2.1	1.0	7.5	(34.4)	(1.8)	8.8	49.7
Fiscal Year	376.4	402.3	432.3	450.8	420.4	565.9	363.8	290.2	343.3	425.7
% Change	20.6	6.9	7.4	4.3	(6.7)	34.6	(35.7)	(20.2)	18.3	24.0
Wills, Suits, Deeds, Contracts										
Calendar Year	86.4	99.1	112.5	148.5	151.3	150.8	195.5	247.2	319.5	431.7
% Change	(12.7)	14.7	13.5	32.0	1.9	(0.3)	29.6	26.4	29.3	35.1
Fiscal Year	84.7	95.5	103.4	126.8	157.9	146.3	167.6	214.4	285.8	340.6
% Change	(26.3)	12.7	8.3	22.6	24.5	(7.3)	14.6	27.9	33.3	19.1

TABLE B.2 - ANNUAL GENERAL FUND REVENUES
(Millions of Dollars)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Withholding												
Calendar Year	7,733.2	8,240.8	8,792.5	9,185.8	9,031.7	9,401.4	9,775.0	10,119.1	10,415.9	10,795.6	11,165.7	
% Change	5.9	6.6	6.7	4.5	(1.7)	4.1	4.0	3.5	2.9	3.6	3.4	
Fiscal Year	7,513.0	8,053.7	8,565.5	8,933.6	9,138.1	9,176.2	9,635.1	10,039.7	10,251.3	10,484.2	11,044.3	11,306.3
% Change	6.7	7.2	6.4	4.3	2.3	0.4	5.0	4.2	2.1	2.3	5.3	2.4
Nonwithholding												
Calendar Year	2,151.8	2,540.3	2,815.0	2,856.7	2,189.8	1,875.2	2,251.8	2,350.9	2,877.3	2,646.9	3,075.1	
% Change	29.7	18.1	10.8	1.5	(23.3)	(14.4)	20.1	4.4	22.4	(8.0)	16.2	
Fiscal Year	2,073.5	2,493.8	2,782.0	2,861.2	2,310.4	1,906.8	2,178.6	2,357.9	2,807.7	2,524.9	3,041.6	3,070.1
% Change	32.7	20.3	11.6	2.8	(19.2)	(17.5)	14.3	8.2	19.1	(10.1)	20.5	0.9
Gross Individual Income Tax												
Calendar Year	9,884.9	10,781.0	11,607.5	12,042.5	11,221.4	11,276.6	12,026.8	12,470.0	13,293.3	13,442.5	14,240.8	
% Change	10.3	9.1	7.7	3.7	(6.8)	0.5	6.7	3.7	6.6	1.1	5.9	
Fiscal Year	9,586.6	10,547.5	11,347.4	11,794.7	11,448.5	11,082.9	11,813.7	12,397.6	13,059.0	13,009.2	14,086.0	14,376.4
% Change	11.4	10.0	7.6	3.9	(2.9)	(3.2)	6.6	4.9	5.3	(0.4)	8.3	2.1
Individual Refunds												
Calendar Year	1,178.3	1,389.6	1,567.4	1,720.8	2,032.1	1,945.5	1,823.1	1,754.0	1,787.6	1,760.5	1,765.7	
% Change	(4.0)	17.9	12.8	9.8	18.1	(4.3)	(6.3)	(3.8)	1.9	(1.5)	0.3	
Fiscal Year	1,234.2	1,282.6	1,559.8	1,679.9	1,967.4	1,994.7	1,869.3	1,784.7	1,719.1	1,755.8	1,757.3	1,820.7
% Change	1.4	3.9	21.6	7.7	17.1	1.4	(6.3)	(4.5)	(3.7)	2.1	0.1	3.6
Net Individual Income Tax												
Calendar Year	8,706.7	9,391.4	10,040.0	10,321.7	9,189.3	9,331.1	10,203.8	10,716.0	11,505.7	11,682.0	12,475.1	
% Change	12.5	7.9	6.9	2.8	(11.0)	1.5	9.4	5.0	7.4	1.5	6.8	
Fiscal Year	8,352.4	9,264.9	9,787.6	10,114.8	9,481.1	9,088.3	9,944.4	10,612.8	11,340.0	11,253.3	12,328.7	12,555.6
% Change	13.1	10.9	5.6	3.3	(6.3)	(4.1)	9.4	6.7	6.9	(0.8)	9.6	1.8
Sales and Use Tax												
Calendar Year	3,002.6	3,014.1	3,123.8	2,990.8	2,853.0	2,958.0	3,080.6	3,190.9	3,178.0	3,108.9	3,253.5	
% Change	11.0	0.4	3.6	(4.3)	(4.6)	3.7	4.1	3.6	(0.4)	(2.2)	4.7	
Fiscal Year	2,946.1	2,812.7	3,049.1	3,075.5	2,903.4	3,082.5	3,012.4	3,121.5	3,219.8	3,066.5	3,235.4	3,295.9
% Change	15.0	(4.5)	8.4	0.9	(5.6)	6.2	(2.3)	3.6	3.1	(4.8)	5.5	1.9
Corporate Income Tax												
Calendar Year	840.6	839.8	769.3	738.0	736.7	792.7	809.9	900.9	733.7	820.6	754.8	
% Change	61.1	(0.1)	(8.4)	(4.1)	(0.2)	7.6	2.2	11.2	(18.6)	11.8	(8.0)	
Fiscal Year	616.7	867.1	879.6	807.9	648.0	806.5	822.3	859.9	796.7	757.5	831.9	764.9
% Change	44.9	40.6	1.4	(8.2)	(19.8)	24.4	2.0	4.6	(7.3)	(4.9)	9.8	(8.0)
Wills, Suits, Deeds, Contracts												
Calendar Year	704.7	616.2	531.9	369.5	312.8	288.5	296.8	346.2	364.0	309.7	364.4	
% Change	63.2	(12.6)	(13.7)	(30.5)	(15.3)	(7.8)	2.9	16.6	5.1	(14.9)	17.7	
Fiscal Year	596.1	694.7	582.9	456.3	314.3	290.2	291.5	322.1	377.5	310.8	346.3	369.1
% Change	75.0	16.6	(16.1)	(21.7)	(31.1)	(7.7)	0.4	10.5	17.2	(17.7)	11.4	6.6

TABLE B.2 - ANNUAL GENERAL FUND REVENUES
(Millions of Dollars)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Insurance Premiums										
Calendar Year	212.9	216.6	220.4	243.6	248.3	254.3	280.9	308.7	339.4	365.4
% Change	4.6	1.7	1.8	10.5	1.9	2.4	10.5	9.9	9.9	7.7
Fiscal Year	208.2	218.0	219.0	237.0	244.9	251.1	268.1	292.7	333.0	351.3
% Change	6.0	4.7	0.5	8.2	3.4	2.5	6.8	9.2	13.8	5.5
Interest Income										
Calendar Year	80.1	94.6	116.5	125.0	118.3	147.8	111.9	86.9	59.5	69.7
% Change	31.4	18.1	23.1	7.3	(5.4)	24.9	(24.3)	(22.4)	(31.5)	17.3
Fiscal Year	64.5	82.3	114.9	105.8	126.1	131.2	133.2	100.4	81.7	61.4
% Change	20.8	27.5	39.7	(7.9)	19.2	4.0	1.5	(24.6)	(18.6)	(24.8)
Alcoholic Beverage Sales										
Calendar Year	102.1	103.0	103.8	107.2	111.9	119.2	123.6	129.0	131.5	139.6
% Change	0.5	0.9	0.8	3.2	4.4	6.5	3.7	4.3	1.9	6.2
Fiscal Year	101.0	104.4	103.5	105.5	110.6	117.2	123.0	127.5	128.7	138.0
% Change	(0.1)	3.4	(0.9)	1.9	4.8	6.0	4.9	3.6	1.0	7.2
All Other Revenues										
Calendar Year	371.4	397.5	429.8	432.6	560.6	484.2	549.3	548.2	596.8	673.1
% Change	(0.7)	7.0	8.1	0.6	29.6	(13.6)	13.5	(0.2)	8.9	12.8
Fiscal Year	360.5	383.5	421.5	422.9	489.7	546.4	550.4	513.1	582.9	653.6
% Change	(3.7)	6.4	9.9	0.3	15.8	11.6	0.7	(6.8)	13.6	12.1
Total General Fund Revenues										
Calendar Year	7,116.9	7,531.8	8,311.0	9,148.7	10,346.2	10,761.3	11,123.6	10,810.9	11,234.2	12,642.8
% Change	6.6	5.8	10.3	10.1	13.1	4.0	3.4	(2.8)	3.9	12.5
Fiscal Year	6,881.1	7,356.1	7,949.3	8,773.5	9,702.7	10,788.5	11,105.3	10,679.0	10,867.1	11,917.9
% Change	5.8	6.9	8.1	10.4	10.6	11.2	2.9	(3.8)	1.8	9.7
ABC Profits										
Fiscal Year	19.0	26.0	23.8	20.7	25.5	30.1	28.1	25.4	14.2	16.8
% Change	(8.2)	36.8	(8.5)	(12.9)	23.0	18.2	(6.8)	(9.6)	(44.1)	18.0
Transfers per Appropriations Act										
Fiscal Year	273.4	443.0	364.2	367.9	371.1	407.4	354.5	702.0	1,028.5	996.0
% Change	(29.5)	62.0	(17.8)	1.0	0.9	9.8	(13.0)	98.0	46.5	(3.2)

TABLE B.2 - ANNUAL GENERAL FUND REVENUES
(Millions of Dollars)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Insurance Premiums												
Calendar Year	372.8	366.9	398.8	309.2	254.5	267.3	257.4	276.4	272.6	305.6	312.6	
% Change	2.0	(1.6)	8.7	(22.5)	(17.7)	5.0	(3.7)	7.4	(1.4)	12.1	2.3	
Fiscal Year	373.6	373.8	384.9	396.9	255.0	261.9	281.6	252.9	262.2	320.4	300.6	339.1
% Change	6.3	0.1	3.0	3.1	(35.7)	2.7	7.5	(10.2)	3.7	22.2	(6.2)	12.8
Interest Income												
Calendar Year	105.4	180.2	213.1	117.6	71.0	75.0	80.2	72.7	66.6	65.4	49.2	
% Change	51.2	71.0	18.2	(44.8)	(39.6)	5.5	7.0	(9.4)	(8.3)	(1.8)	(24.8)	
Fiscal Year	83.9	116.5	175.9	189.3	104.2	94.3	81.1	77.2	67.5	74.1	48.7	52.2
% Change	36.6	38.9	51.1	7.6	(44.9)	(9.5)	(14.0)	(4.9)	(12.5)	9.8	(34.3)	7.1
Alcoholic Beverage Sales												
Calendar Year	147.0	155.2	163.1	169.8	173.4	176.5	181.8	189.4	195.9	200.9	210.5	
% Change	5.3	5.6	5.0	4.1	2.2	1.8	3.0	4.2	3.4	2.6	4.8	
Fiscal Year	144.5	153.0	161.8	168.9	173.2	175.1	178.9	186.4	195.2	199.2	207.8	217.6
% Change	4.7	5.9	5.8	4.3	2.6	1.1	2.2	4.2	4.7	2.1	4.3	4.7
All Other Revenues												
Calendar Year	518.9	567.4	563.1	488.5	406.3	432.1	423.9	412.4	423.7	437.7	443.8	
% Change	(22.9)	9.3	(0.8)	(13.3)	(16.8)	6.4	(1.9)	(2.7)	2.7	3.3	1.4	
Fiscal Year	574.1	551.6	543.9	557.4	435.7	420.7	428.1	413.9	425.7	429.6	436.2	445.8
% Change	(12.2)	(3.9)	(1.4)	2.5	(21.8)	(3.4)	1.8	(3.3)	2.9	0.9	1.5	2.2
Total General Fund Revenues												
Calendar Year	14,398.7	15,131.3	15,803.1	15,505.0	13,997.0	14,321.2	15,334.3	16,105.0	16,740.2	16,930.7	17,863.9	
% Change	13.9	5.1	4.4	(1.9)	(9.7)	2.3	7.1	5.0	3.9	1.1	5.5	
Fiscal Year	13,687.3	14,834.3	15,565.8	15,767.0	14,315.1	14,219.5	15,040.2	15,846.7	16,684.6	16,411.4	17,735.6	18,040.1
% Change	14.8	8.4	4.9	1.3	(9.2)	(0.7)	5.8	5.4	5.3	(1.6)	8.1	1.7
ABC Profits												
Fiscal Year	24.9	30.0	27.6	36.1	44.1	50.0	50.5	63.8	68.0	72.2	72.2	72.2
% Change	48.9	20.4	(8.3)	31.0	22.2	13.4	1.0	26.3	6.6	6.2	0.0	0.0
Transfers per Appropriations Act												
Fiscal Year	714.6	835.6	792.7	776.4	362.4	517.2	361.6	437.5	356.6	465.5	465.5	465.5
% Change	(28.3)	16.9	(5.1)	(2.1)	(53.3)	42.7	(30.1)	21.0	(18.5)	30.5	0.0	0.0

APPENDIX C
MODELS AND METHODOLOGIES

GENERAL FUND METHODOLOGY

Corporate Income Tax, Gross Receipts

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2006	05Q3	219.0	166.6	52.3	23.9%
	05Q4	262.8	223.6	39.3	14.9%
	06Q1	136.7	126.4	10.3	7.5%
	06Q2	368.3	324.1	44.2	12.0%
	Total	986.8	840.6	146.2	14.8%
2007	06Q3	283.8	237.2	46.6	16.4%
	06Q4	225.4	266.7	(41.3)	-18.3%
	07Q1	164.8	133.1	31.6	19.2%
	07Q2	356.2	364.4	(8.2)	-2.3%
	Total	1,030.2	1,001.4	28.8	2.8%
2008	07Q3	244.3	272.0	(27.7)	-11.3%
	07Q4	165.0	220.9	(55.9)	-33.9%
	08Q1	197.4	157.0	40.4	20.5%
	08Q2	361.7	345.8	15.9	4.4%
	Total	968.4	995.6	(27.2)	-2.8%
2009	08Q3	220.0	237.7	(17.7)	-8.0%
	08Q4	201.5	125.9	75.6	37.5%
	09Q1	113.6	192.1	(78.5)	-69.1%
	09Q2	339.2	361.6	(22.3)	-6.6%
	Total	874.3	917.2	(42.9)	-4.9%
2010	09Q3	203.7	232.9	(29.2)	-14.3%
	09Q4	249.8	255.3	(5.5)	-2.2%
	10Q1	129.0	147.4	(18.3)	-14.2%
	10Q2	379.4	367.0	12.3	3.2%
	Total	961.9	1,002.6	(40.7)	-4.2%
2011	10Q3	227.0	227.5	(0.5)	-0.2%
	10Q4	238.3	263.5	(25.2)	-10.6%
	11Q1	161.8	125.7	36.1	22.3%
	11Q2	390.4	380.2	10.2	2.6%
	Total	1,017.5	996.9	20.6	2.0%
2012	11Q3	241.8	221.1	20.6	8.5%
	11Q4	224.1	241.6	(17.4)	-7.8%
	12Q1	184.9	192.4	(7.5)	-4.1%
	12Q2	397.9	412.9	(15.0)	-3.8%
	Total	1,048.8	1,068.0	(19.3)	-1.8%
2013	12Q3	224.8	265.3	(40.4)	-18.0%
	12Q4	273.1	237.7	35.3	12.9%
	13Q1	134.1	181.3	(47.2)	-35.2%
	13Q2	375.1	395.8	(20.7)	-5.5%
	Total	1,007.1	1,080.1	(73.0)	-7.2%

Corporate Income Tax, Gross Receipts

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2014	13Q3	242.2	222.1	20.0	8.3%
	13Q4	225.4	274.7	(49.2)	-21.8%
	14Q1	141.3	134.2	7.0	5.0%
	14Q2	356.1	383.4	(27.3)	-7.7%
	Total	965.0	1,014.4	(49.4)	-5.1%
2015	14Q3	256.6	247.6	9.0	3.5%
	14Q4	242.0	228.3	13.8	5.7%
	15Q1	159.4	141.3	18.1	11.4%
	15Q2	350.5	350.9	(0.4)	-0.1%
	Total	1,008.5	968.0	40.5	4.0%
2016	15Q3	233.5	250.5	(17.0)	-7.3%
	15Q4	219.5	227.2	(7.7)	-3.5%
	16Q1	186.3	157.3	29.0	15.5%
	16Q2	334.5	352.9	(18.4)	-5.5%
	Total	973.8	987.9	(14.1)	-1.4%

GENERAL FUND METHODOLOGY

Individual Income Tax - Withholding

diffya(with)

$$= 0.00616 * \text{diffya}(\text{ywstran}) + 39.7988$$

(3.58883) (2.67087)

Sum Sq	120278	Std Err	52.8883	LHS Mean	87.4778
R Sq	02216	R Bar Sq	0.1673	F 3, 43	4.0815
D.W.(1)	2.1104	D.W.(4)	1.9792		

Quarterly data for 47 periods from 2005Q1 to 2016Q3

diffya	Year-over-year difference function
with	Withholding tax receipts
ywstran	Virginia income from wages and salaries and transfer payments

Individual Income Tax - Withholding

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2006	05Q3	1,897.2	1,867.9	29.4	1.5%
	05Q4	1,996.5	2,006.8	(10.3)	-0.5%
	06Q1	2,131.5	2,110.6	20.9	1.0%
	06Q2	2,028.5	1,965.4	63.0	3.1%
	Total	8,053.7	7,950.7	103.0	1.3%
2007	06Q3	1,970.4	1,989.8	(19.4)	-1.0%
	06Q4	2,110.3	2,103.4	6.9	0.3%
	07Q1	2,292.5	2,236.1	56.4	2.5%
	07Q2	2,192.2	2,119.3	72.9	3.3%
	Total	8,565.5	8,448.6	116.9	1.4%
2008	07Q3	2,062.9	2,084.2	(21.3)	-1.0%
	07Q4	2,244.9	2,210.5	34.4	1.5%
	08Q1	2,411.8	2,361.9	49.9	2.1%
	08Q2	2,213.9	2,310.4	(96.5)	-4.4%
	Total	8,933.6	8,967.1	(33.5)	-0.4%
2009	08Q3	2,175.8	2,165.2	10.5	0.5%
	08Q4	2,304.3	2,323.0	(18.7)	-0.8%
	09Q1	2,386.6	2,453.9	(67.3)	-2.8%
	09Q2	2,271.5	2,263.3	8.1	0.4%
	Total	9,138.1	9,205.4	(67.4)	-0.7%
2010	09Q3	2,125.0	2,218.8	(93.8)	-4.4%
	09Q4	2,328.6	2,371.2	(42.6)	-1.8%
	10Q1	2,416.4	2,486.4	(70.1)	-2.9%
	10Q2	2,306.1	2,345.9	(39.7)	-1.7%
	Total	9,176.2	9,422.3	(246.2)	-2.7%
2011	10Q3	2,219.1	2,246.4	(27.4)	-1.2%
	10Q4	2,459.9	2,434.7	25.2	1.0%
	11Q1	2,538.5	2,546.9	(8.3)	-0.3%
	11Q2	2,417.6	2,417.1	0.4	0.0%
	Total	9,635.1	9,645.1	(10.1)	-0.1%
2012	11Q3	2,308.0	2,321.8	(13.9)	-0.6%
	11Q4	2,510.9	2,537.5	(26.5)	-1.1%
	12Q1	2,640.7	2,612.2	28.5	1.1%
	12Q2	2,580.0	2,484.9	95.1	3.7%
	Total	10,039.7	9,956.4	83.3	0.8%
2013	12Q3	2,292.0	2,370.5	(78.5)	-3.4%
	12Q4	2,606.4	2,612.7	(6.4)	-0.2%
	13Q1	2,761.1	2,675.5	85.6	3.1%
	13Q2	2,591.9	2,606.0	(14.1)	-0.5%
	Total	10,251.3	10,264.7	(13.4)	-0.1%

GENERAL FUND METHODOLOGY

Individual Income Tax - Withholding

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2014	13Q3	2,403.1	2,351.7	51.4	2.1%
	13Q4	2,659.9	2,627.2	32.7	1.2%
	14Q1	2,803.7	2,812.4	(8.7)	-0.3%
	14Q2	2,617.5	2,674.8	(57.2)	-2.2%
	Total	10,484.2	10,466.1	18.2	0.2%
2015	14Q3	2,554.4	2,472.2	82.2	3.2%
	14Q4	2,820.0	2,746.1	73.9	2.6%
	15Q1	2,875.3	2,901.3	(26.0)	-0.9%
	15Q2	2,794.7	2,731.9	62.8	2.2%
	Total	11,044.3	10,851.4	192.9	1.7%
2016	15Q3	2,666.5	2,649.4	17.2	0.6%
	15Q4	2,829.2	2,914.3	(85.0)	-3.0%
	16Q1	3,029.1	3,008.1	21.0	0.7%
	16Q2	2,781.4	2,883.1	(101.7)	-3.7%
	Total	11,306.3	11,454.8	(148.5)	-1.3%

GENERAL FUND METHODOLOGY

Individual Income Tax - Estimated Payments

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2009	08Q3	374.4	340.8	33.6	9.0%
	08Q4	201.6	219.6	-18.0	-8.9%
	09Q1	412.2	404.7	7.5	1.8%
	09Q2	447.4	444.6	2.9	0.6%
	Total	1,435.6	1,409.7	25.9	1.8%
2010	09Q3	281.6	298.9	-17.3	-6.1%
	09Q4	173.4	196.4	-23.0	-13.3%
	10Q1	352.3	398.2	-46.0	-13.1%
	10Q2	444.6	445.1	-0.5	-0.1%
	Total	1,251.8	1,338.6	-86.8	-6.9%
2011	10Q3	254.8	288.5	-33.8	-13.2%
	10Q4	204.8	199.9	5.0	2.4%
	11Q1	351.3	414.4	-63.2	-18.0%
	11Q2	490.4	484.4	6.0	1.2%
	Total	1,301.3	1,387.2	-85.9	-6.6%
2012	11Q3	315.5	305.9	9.6	3.1%
	11Q4	226.7	224.3	2.4	1.1%
	12Q1	370.3	406.5	-36.2	-9.8%
	12Q2	522.6	510.1	12.5	2.4%
	Total	1,435.1	1,446.7	-11.6	-0.8%
2013	12Q3	299.0	344.7	-45.7	-15.3%
	12Q4	178.2	278.4	-100.2	-56.2%
	13Q1	492.6	409.2	83.4	16.9%
	13Q2	593.0	536.5	56.5	9.5%
	Total	1,562.8	1,568.8	-6.0	-0.4%
2014	13Q3	328.3	348.0	-19.7	-6.0%
	13Q4	223.2	243.1	-19.9	-8.9%
	14Q1	453.2	491.0	-37.8	-8.3%
	14Q2	567.7	614.8	-47.1	-8.3%
	Total	1,572.5	1,697.0	-124.5	-7.9%
2015	14Q3	372.7	393.1	-20.4	-5.5%
	14Q4	317.8	278.8	39.0	12.3%
	15Q1	516.7	504.8	12.0	2.3%
	15Q2	642.8	616.2	26.6	4.1%
	Total	1,850.0	1,792.8	57.2	3.1%
2016	15Q3	398.1	387.1	11.0	2.8%
	15Q4	383.8	294.7	89.1	23.2%
	16Q1	493.9	496.0	-2.1	-0.4%
	16Q2	646.5	622.6	23.9	3.7%
	Total	1,922.3	1,800.3	122.0	6.3%

Individual Income Tax – Final Payments

pch(fp)

$$= 1.17817 * \underset{(3.03868)}{\text{pch(cysp500)}} + \underset{(0.42882)}{2.45567}$$

Sum Sq	6025.76	Std Err	21.5295	LHS Mean	6.6357
R Sq	0.4153	R Bar Sq	0.3703	F 1, 13	9.2336
D.W.(1)	1.9166	D.W.(2)	1.4037		

Annual data for 15 periods from 2001 to 2015

pch Percent change function
fp Final payments
cysp500 Standard and Poor's 500 stock index, calendar year

GENERAL FUND METHODOLOGY

Individual Income Tax - Final Payments Percent Growth

Fiscal Year	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>
2002	(37.8)	-3.57	(34.2)
2003	(4.3)	-9.51	5.2
2004	27.9	19.10	8.8
2005	53.0	9.10	43.9
2006	21.0	5.66	15.3
2007	18.6	11.76	6.8
2008	4.5	5.96	(1.5)
2009	(30.0)	-18.20	(11.8)
2010	(25.1)	17.42	(42.6)
2011	34.0	11.28	22.7
2012	5.2	3.93	1.2
2013	34.9	11.64	23.3
2014	(23.5)	20.96	(44.4)
2015	25.1	10.48	14.6
2016	(3.7)	3.51	(7.2)

State Sales Tax

diff(sales)

$$= 0.00085 * \text{diff}(\text{yrpicva}) - 0.56878$$

(0.69850) (0.09776)

Sum Sq	41800.0	Std Err	35.0630	LHS Mean	2.0559
R Sq	0.0637	R Bar Sq	0.0086	F 2, 34	1.1558
D.W.(1)	2.2874	D.W.(4)	1.1275		

Quarterly data for 37 periods from 2007Q3 to 2016Q3

diff	Quarter-over-quarter difference function
sales	Sales tax receipts
yrpicva	Virginia personal income

GENERAL FUND METHODOLOGY

State Sales Tax (Adjusted for AST)

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2009	08Q3	769.9	755.5	14.4	1.9%
	08Q4	729.3	766.5	(37.2)	-5.1%
	09Q1	708.8	731.4	(22.5)	-3.2%
	09Q2	695.4	713.9	(18.4)	-2.6%
	Total	2,903.5	2,967.2	(63.8)	-2.2%
2010	09Q3	724.7	697.7	27.0	3.7%
	09Q4	724.0	717.4	6.6	0.9%
	10Q1	674.5	728.2	(53.8)	-8.0%
	10Q2	735.5	692.5	43.0	5.8%
	Total	2,858.7	2,835.8	22.9	0.8%
2011	10Q3	774.0	723.1	50.9	6.6%
	10Q4	746.3	767.5	(21.3)	-2.9%
	11Q1	719.7	761.8	(42.1)	-5.8%
	11Q2	776.4	731.1	45.2	5.8%
	Total	3,016.4	2,983.6	32.8	1.1%
2012	11Q3	787.1	766.6	20.5	2.6%
	11Q4	772.0	786.1	(14.1)	-1.8%
	12Q1	768.1	781.4	(13.3)	-1.7%
	12Q2	807.6	773.0	34.6	4.3%
	Total	3,134.8	3,107.1	27.6	0.9%
2013	12Q3	817.9	799.2	18.7	2.3%
	12Q4	777.1	824.3	(47.2)	-6.1%
	13Q1	787.0	776.2	10.8	1.4%
	13Q2	813.1	781.5	31.6	3.9%
	Total	3,195.1	3,181.1	14.0	0.4%
2014	13Q3	791.0	806.9	(15.9)	-2.0%
	13Q4	766.1	798.1	(32.0)	-4.2%
	14Q1	721.1	777.7	(56.6)	-7.8%
	14Q2	794.0	738.1	55.9	7.0%
	Total	3,072.2	3,120.8	(48.7)	-1.6%
2015	14Q3	793.3	779.6	13.7	1.7%
	14Q4	778.5	797.8	(19.3)	-2.5%
	15Q1	764.3	785.6	(21.3)	-2.8%
	15Q2	817.2	774.0	43.2	5.3%
	Total	3,153.3	3,136.9	16.4	0.5%
2016	15Q3	827.1	808.1	19.0	2.3%
	15Q4	831.7	827.9	3.7	0.4%
	16Q1	781.5	832.1	(50.7)	-6.5%
	16Q2	828.3	797.7	30.6	3.7%
	Total	3,268.6	3,265.9	2.7	0.1%

Recordation Taxes

diff(rec)

$$= 0.00766 * \text{diff}(\text{mortorigin}) + 0.00516 * \text{diff}(\text{mortrefi}) +$$

(0.72153) (0.85511)

$$0.51108 * \text{diff}(\text{homepriceind}) - 10.28815 * \text{diff}(\text{rtbond30y.1}) -$$

(1.95393) (2.6133)

$$4.94919 * \text{qd1} + 23.2980 * \text{qd2} - 5.41294$$

(1.73780) (8.21665) (3.9036)

Sum Sq	1024.39	Std Err	6.2769	LHS Mean	-0.1463
R Sq	0.8190	R Bar Sq	0.7772	F 6, 26	19.6023
D.W.(1)	1.2225	D.W.(4)	1.7963		

Quarterly data for 33 periods from 2008Q1 to 2016Q3

diff	Quarter-over-quarter difference function
rec	Recordation tax receipts
mortorigin	Total mortgage originations
mortrefi	Total mortgage refinancing
homepriceind	Home price index
rtbond30y.1	Yield on 30-year treasury bond, lagged one quarter
qd1, qd2	Quarterly dummy variables for quarters 1 and 2

GENERAL FUND METHODOLOGY

Recordation Taxes

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2009	08Q3	90.3	101.5	(11.2)	-12.3%
	08Q4	66.2	83.0	(16.8)	-25.4%
	09Q1	68.4	69.4	(1.0)	-1.4%
	09Q2	89.3	84.8	4.5	5.1%
	Total	314.3	338.6	(24.4)	-7.8%
2010	09Q3	80.5	71.4	9.1	11.3%
	09Q4	74.6	73.0	1.6	2.2%
	10Q1	60.1	60.4	(0.3)	-0.5%
	10Q2	75.0	74.7	0.3	0.4%
	Total	290.2	279.4	10.7	3.7%
2011	10Q3	75.7	75.6	0.2	0.2%
	10Q4	77.7	72.8	4.9	6.3%
	11Q1	63.3	57.6	5.7	9.1%
	11Q2	74.7	75.2	(0.5)	-0.6%
	Total	291.5	281.1	10.3	3.5%
2012	11Q3	78.9	72.9	6.0	7.6%
	11Q4	79.8	81.9	(2.1)	-2.6%
	12Q1	73.5	74.6	(1.1)	-1.5%
	12Q2	89.8	91.1	(1.3)	-1.5%
	Total	322.1	320.5	1.6	0.5%
2013	12Q3	90.7	88.7	2.0	2.2%
	12Q4	92.2	88.5	3.7	4.0%
	13Q1	91.3	81.5	9.7	10.7%
	13Q2	103.3	108.1	(4.8)	-4.7%
	Total	377.5	366.8	10.6	2.8%
2014	13Q3	93.2	96.5	(3.3)	-3.5%
	13Q4	76.2	81.7	(5.5)	-7.2%
	14Q1	60.6	67.8	(7.2)	-11.9%
	14Q2	80.8	82.4	(1.6)	-2.0%
	Total	310.8	328.3	(17.5)	-5.6%
2015	14Q3	87.5	79.2	8.3	9.5%
	14Q4	80.9	85.8	(5.0)	-6.1%
	15Q1	76.1	78.1	(2.0)	-2.7%
	15Q2	101.8	101.1	0.8	0.8%
	Total	346.3	344.2	2.1	0.6%
2016	15Q3	96.0	93.0	3.0	3.2%
	15Q4	90.4	92.4	(1.9)	-2.1%
	16Q1	78.7	82.6	(3.9)	-5.0%
	16Q2	104.0	101.4	2.6	2.5%
	Total	369.1	369.3	(0.2)	-0.1%

Motor Fuels Tax

gas

$$\begin{aligned}
 &= -84.9211 * \text{movavg}(3, \text{pdccengas}/\text{pdcce}) \\
 &\quad (1.88570) \\
 &+ 0.00148 * \text{movavg}(3, \text{cyrpicva}) + 112.077 * \text{season}_2 \\
 &\quad (7.73991) \quad (5.19664) \\
 &+ 31.2940 * \text{season}_3 + 57.7447 * \text{season}_4 + 495.179 \\
 &\quad (1.46518) \quad (2.67834) \quad (13.4164)
 \end{aligned}$$

Sum Sq	597967	Std Err	77.7179	LHS Mean	909.715
R Sq	0.5997	R Bar Sq	0.5795	F 5, 99	29.6665
D.W.(1)	2.5781	D.W.(4)	0.3868		

diesel

$$\begin{aligned}
 &= 0.02487 * \text{gnp96} - 26.7469 * \text{movavg}(3, \text{ppirpp}) - 52.6262 \\
 &\quad (11.0455) \quad (4.30922) \quad (2.28313)
 \end{aligned}$$

Sum Sq	105071	Std Err	32.0953	LHS Mean	234.960
R Sq	0.6486	R Bar Sq	0.6417	F 2,102	94.1233
D.W.(1)	1.3897	D.W.(4)	0.2941		

GAS	Taxable gallons of gasoline
PDCCENGAS	Gasoline and oil implicit price deflator
PDCCE	Consumer expenditures implicit price deflator
CYRPICVA	Virginia real personal income
SEASON_2	Dummy variable second quarter
SEASON_3	Dummy variable third quarter
SEASON_4	Dummy variable fourth quarter
DIESEL	Taxable gallons of diesel
GDP96	Real gross domestic product
PPIRPP	PPI, refined petroleum products

NON-GENERAL FUND METHODOLOGY

Gasoline Consumption

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2007	06Q3	1,042.9	937.5	105.4	10.1%
	06Q4	981.0	968.0	13.0	1.3%
	07Q1	960.3	917.8	42.5	4.4%
	07Q2	1,026.9	1,036.2	(9.3)	-0.9%
	Total	4,011.1	3,859.4	151.7	3.8%
2008	07Q3	1,057.1	954.5	102.6	9.7%
	07Q4	1,006.3	975.0	31.3	3.1%
	08Q1	944.4	912.9	31.4	3.3%
	08Q2	945.5	1,020.4	(74.9)	-7.9%
	Total	3,953.3	3,862.9	90.4	2.3%
2009	08Q3	1,037.1	931.9	105.2	10.1%
	08Q4	986.9	968.5	18.5	1.9%
	09Q1	937.4	923.1	14.3	1.5%
	09Q2	992.5	1,052.7	(60.3)	-6.1%
	Total	3,953.9	3,876.2	77.7	2.0%
2010	09Q3	1,010.7	966.6	44.1	4.4%
	09Q4	935.7	983.1	(47.3)	-5.1%
	10Q1	955.3	918.3	37.0	3.9%
	10Q2	1,082.9	1,033.8	49.1	4.5%
	Total	3,984.6	3,901.7	82.9	2.1%
2011	10Q3	841.3	959.0	(117.7)	-14.0%
	10Q4	1,021.0	987.5	33.5	3.3%
	11Q1	927.3	928.0	(0.6)	-0.1%
	11Q2	1,144.6	1,034.8	109.8	9.6%
	Total	3,934.3	3,909.2	25.1	0.6%
2012	11Q3	802.7	952.9	(150.2)	-18.7%
	11Q4	944.3	978.8	(34.5)	-3.6%
	12Q1	901.8	925.0	(23.2)	-2.6%
	12Q2	1,246.4	1,041.5	204.9	16.4%
	Total	3,895.3	3,898.2	(2.9)	-0.1%
2013	12Q3	706.8	964.1	(257.2)	-36.4%
	12Q4	1,022.5	995.7	26.8	2.6%
	13Q1	904.7	933.8	(29.1)	-3.2%
	13Q2	1,153.5	1,045.3	108.1	9.4%
	Total	3,787.5	3,938.9	(151.4)	-4.0%
2014	13Q3	737.9	960.2	(222.2)	-30.1%
	13Q4	1,023.3	989.3	34.1	3.3%
	14Q1	977.4	932.8	44.6	4.6%
	14Q2	1,129.4	1,049.1	80.3	7.1%
	Total	3,868.0	3,931.3	(63.2)	-1.6%
2015	14Q3	856.3	975.4	(119.1)	-13.9%
	14Q4	989.3	1,012.1	(22.8)	-2.3%
	15Q1	914.5	971.8	(57.3)	-6.3%
	15Q2	1,241.9	1,099.6	142.3	11.5%
	Total	4,002.0	4,058.9	(56.8)	-1.4%
2016	15Q3	796.4	1,031.2	(234.8)	-29.5%
	15Q4	1,038.5	1,063.6	(25.1)	-2.4%
	16Q1	959.3	1,015.3	(56.0)	-5.8%
	16Q2	1,205.6	1,134.5	71.1	5.9%
	Total	3,999.8	4,244.6	(244.8)	-6.1%

NON-GENERAL FUND METHODOLOGY

Diesel Fuel Consumption

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2007	06Q3	286.3	259.2	27.0	9.4%
	06Q4	310.3	263.1	47.2	15.2%
	07Q1	288.7	265.1	23.6	8.2%
	07Q2	318.0	267.8	50.2	15.8%
	Total	1,203.3	1,055.2	148.0	12.3%
2008	07Q3	305.0	268.3	36.7	12.0%
	07Q4	286.7	265.4	21.3	7.4%
	08Q1	272.2	256.8	15.3	5.6%
	08Q2	262.1	251.3	10.8	4.1%
	Total	1,125.9	1,041.9	84.0	7.5%
2009	08Q3	290.3	243.4	46.9	16.2%
	08Q4	264.6	240.7	23.9	9.0%
	09Q1	231.6	249.8	(18.2)	-7.9%
	09Q2	247.9	263.5	(15.6)	-6.3%
	Total	1,034.3	997.4	37.0	3.6%
2010	09Q3	252.3	266.1	(13.7)	-5.4%
	09Q4	232.3	263.2	(31.0)	-13.3%
	10Q1	249.6	259.6	(10.0)	-4.0%
	10Q2	278.3	260.9	17.4	6.3%
	Total	1,012.5	1,049.7	(37.2)	-3.7%
2011	10Q3	217.2	262.6	(45.4)	-20.9%
	10Q4	259.2	263.1	(3.9)	-1.5%
	11Q1	237.6	256.3	(18.7)	-7.9%
	11Q2	299.8	250.9	48.9	16.3%
	Total	1,013.8	1,032.9	(19.1)	-1.9%
2012	11Q3	184.8	247.2	(62.5)	-33.8%
	11Q4	257.0	249.6	7.4	2.9%
	12Q1	235.3	251.0	(15.7)	-6.7%
	12Q2	321.3	252.6	68.7	21.4%
	Total	998.3	1,000.4	(2.1)	-0.2%
2013	12Q3	191.6	253.3	(61.7)	-32.2%
	12Q4	261.7	253.7	8.0	3.1%
	13Q1	240.4	255.4	(15.0)	-6.3%
	13Q2	323.7	258.2	65.5	20.2%
	Total	1,017.5	1,020.6	(3.1)	-0.3%
2014	13Q3	204.7	262.8	(58.2)	-28.4%
	13Q4	260.1	267.9	(7.8)	-3.0%
	14Q1	257.0	265.7	(8.7)	-3.4%
	14Q2	307.9	269.7	38.2	12.4%
	Total	1,029.7	1,066.1	(36.4)	-3.5%
2015	14Q3	202.4	275.9	(73.5)	-36.3%
	14Q4	266.5	282.3	(15.8)	-5.9%
	15Q1	243.3	293.9	(50.6)	-20.8%
	15Q2	319.4	304.6	14.8	4.6%
	Total	1,031.7	1,156.7	(125.0)	-12.1%
2016	15Q3	210.4	312.1	(101.6)	-48.3%
	15Q4	257.7	315.1	(57.4)	-22.3%
	16Q1	238.9	320.7	(81.8)	-34.2%
	16Q2	291.1	326.5	(35.4)	-12.2%
	Total	998.1	1,274.3	(276.2)	-27.7%

NON-GENERAL FUND METHODOLOGY

Motor Vehicle Sales and Use Tax

log(ttcarsq)

$$\begin{aligned}
 &= 2.01651 * \text{dlogya}(\text{pdcgdp}) \\
 &\quad (1.45658) \\
 &+ 1.30735 * \text{movavg}(2, \text{dlogya}(\text{xtnemva}.4)) \\
 &\quad (2.79395) \\
 &+ 0.00001 * \text{diffya}(\text{yrpicva}) + 0.10063 * \text{season}_2 \\
 &\quad (4.55767) \quad (4.72919) \\
 &+ 0.09117 * \text{season}_3 - 0.09871 * \text{season}_4 + 5.77249 \\
 &\quad (4.28587) \quad (4.59346) \quad (208.877)
 \end{aligned}$$

Sum Sq	0.5042	Std Err	0.0744	LHS Mean	5.9166
R Sq	0.6401	R Bar Sq	0.6164	F 6, 91	26.9752
D.W.(1)	0.4154	D.W.(4)	0.9146		

newcar

$$\begin{aligned}
 &= 0.00617 * \text{suvlv} - 0.00084 * \text{rmcblv} + 0.01685 * \text{season}_2 \\
 &\quad (17.1191) \quad (2.20936) \quad (8.27518) \\
 &+ 0.01940 * \text{season}_3 - 0.00126 * \text{season}_4 - 0.00579 \\
 &\quad (9.6141) \quad (0.61730) \quad (0.86251)
 \end{aligned}$$

Sum Sq	0.0053	Std Err	0.0073	LHS Mean	0.0902
R Sq	0.8362	R Bar Sq	0.8279	F 5, 99	101.075
D.W.(1)	0.4261	D.W.(4)	0.4781		

TTCARSQ	Total taxable titles
PDIGDP	GDP price deflator
XTNEMVA	Virginia non-agricultural employment
YRPICVA	Virginia real personal income
SEASON_2	Dummy variable second quarter
SEASON_3	Dummy variable third quarter
SEASON_4	Dummy variable fourth quarter
NEWCAR	New taxable titles
SUVLV	U.S. new light vehicle sales
RMCLV	Rate on commercial bank loans for new vehicles

NON-GENERAL FUND METHODOLOGY

New Taxable Titles (in thousands)

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2007	06Q3	120.2	116.7	3.5	2.9%
	06Q4	92.0	93.3	(1.3)	-1.4%
	07Q1	92.3	92.2	0.1	0.1%
	07Q2	119.4	112.6	6.8	5.7%
	Total	423.9	414.8	9.1	2.2%
2008	07Q3	109.3	109.8	(0.5)	-0.4%
	07Q4	85.7	85.9	(0.3)	-0.3%
	08Q1	83.4	85.4	(2.0)	-2.4%
	08Q2	99.1	99.9	(0.8)	-0.8%
	Total	377.4	381.0	(3.6)	-1.0%
2009	08Q3	91.8	96.5	(4.8)	-5.2%
	08Q4	57.2	66.3	(9.1)	-15.9%
	09Q1	55.8	68.7	(12.9)	-23.1%
	09Q2	68.8	78.7	(10.0)	-14.5%
	Total	273.5	310.2	(36.7)	-13.4%
2010	09Q3	87.9	86.3	1.6	1.8%
	09Q4	55.7	60.5	(4.9)	-8.7%
	10Q1	59.9	66.7	(6.8)	-11.4%
	10Q2	81.5	87.2	(5.7)	-6.9%
	Total	284.9	300.6	(15.7)	-5.5%
2011	10Q3	79.9	92.7	(12.8)	-16.0%
	10Q4	67.2	75.3	(8.1)	-12.0%
	11Q1	76.0	84.6	(8.6)	-11.3%
	11Q2	85.8	95.9	(10.0)	-11.7%
	Total	308.9	348.4	(39.5)	-12.8%
2012	11Q3	83.2	96.8	(13.7)	-16.5%
	11Q4	74.8	80.5	(5.7)	-7.6%
	12Q1	81.6	89.2	(7.6)	-9.3%
	12Q2	95.4	97.5	(2.1)	-2.2%
	Total	335.0	364.0	(29.0)	-8.7%
2013	12Q3	95.1	99.6	(4.5)	-4.7%
	12Q4	81.6	80.7	0.9	1.0%
	13Q1	86.8	83.8	3.0	3.4%
	13Q2	99.1	98.0	1.1	1.1%
	Total	362.6	362.1	0.4	0.1%
2014	13Q3	99.5	96.8	2.6	2.7%
	13Q4	81.1	72.7	8.3	10.3%
	14Q1	81.4	73.6	7.8	9.6%
	14Q2	90.5	93.4	(2.8)	-3.1%
	Total	352.5	336.6	15.9	4.5%
2015	14Q3	102.3	99.0	3.4	3.3%
	14Q4	84.6	84.1	0.6	0.7%
	15Q1	83.9	83.0	0.9	1.0%
	15Q2	103.8	104.9	(1.1)	-1.1%
	Total	374.6	370.9	3.7	1.0%
2016	15Q3	109.5	108.7	0.7	0.7%
	15Q4	91.6	88.8	2.9	3.1%
	16Q1	88.6	88.8	(0.3)	-0.3%
	16Q2	101.4	103.8	(2.4)	-2.4%
	Total	391.0	390.1	0.9	0.2%

NON-GENERAL FUND METHODOLOGY

Used Taxable Titles (in thousands)

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2007	06Q3	311.6	310.4	1.2	0.4%
	06Q4	269.9	255.6	14.3	5.3%
	07Q1	299.5	291.5	8.0	2.7%
	07Q2	323.4	312.1	11.3	3.5%
	Total	1,204.3	1,169.6	34.7	2.9%
2008	07Q3	303.9	307.5	(3.6)	-1.2%
	07Q4	254.1	254.6	(0.5)	-0.2%
	08Q1	285.3	277.8	7.5	2.6%
	08Q2	297.4	309.9	(12.5)	-4.2%
	Total	1,140.7	1,149.7	(9.0)	-0.8%
2009	08Q3	278.0	298.8	(20.8)	-7.5%
	08Q4	212.2	253.0	(40.8)	-19.2%
	09Q1	255.8	257.9	(2.0)	-0.8%
	09Q2	271.2	266.4	4.7	1.7%
	Total	1,017.2	1,076.1	(58.9)	-5.8%
2010	09Q3	277.1	252.6	24.5	8.8%
	09Q4	219.5	223.2	(3.7)	-1.7%
	10Q1	266.5	264.4	2.1	0.8%
	10Q2	294.8	282.8	12.0	4.1%
	Total	1,057.9	1,023.0	34.9	3.3%
2011	10Q3	289.2	282.8	6.4	2.2%
	10Q4	237.9	241.4	(3.5)	-1.5%
	11Q1	289.1	277.7	11.3	3.9%
	11Q2	289.8	311.7	(21.8)	-7.5%
	Total	1,106.0	1,113.7	(7.6)	-0.7%
2012	11Q3	276.8	320.4	(43.6)	-15.7%
	11Q4	237.4	259.7	(22.3)	-9.4%
	12Q1	296.0	284.4	11.6	3.9%
	12Q2	285.8	312.5	(26.7)	-9.3%
	Total	1,096.0	1,177.0	(81.0)	-7.4%
2013	12Q3	281.8	297.5	(15.8)	-5.6%
	12Q4	237.1	266.8	(29.7)	-12.5%
	13Q1	280.8	256.5	24.3	8.7%
	13Q2	305.5	272.0	33.5	11.0%
	Total	1,105.1	1,092.8	12.4	1.1%
2014	13Q3	290.0	266.7	23.3	8.0%
	13Q4	241.6	216.1	25.6	10.6%
	14Q1	271.0	284.5	(13.4)	-5.0%
	14Q2	307.7	312.3	(4.6)	-1.5%
	Total	1,110.3	1,079.5	30.8	2.8%
2015	14Q3	289.1	308.6	(19.5)	-6.8%
	14Q4	250.1	253.0	(3.0)	-1.2%
	15Q1	271.6	278.2	(6.6)	-2.4%
	15Q2	306.8	299.7	7.1	2.3%
	Total	1,117.6	1,139.6	(22.0)	-2.0%
2016	15Q3	297.5	292.7	4.8	1.6%
	15Q4	257.4	242.2	15.3	5.9%
	16Q1	291.0	275.9	15.1	5.2%
	16Q2	309.5	295.0	14.5	4.7%
	Total	1,155.4	1,105.7	49.6	4.3%

Motor Vehicle License Revenues

vehreg1

$$= 0.85515 * \text{vehreg1}[-4] + 0.21946 * \text{vehreg2}[-8]$$

(17.2151) (1.72521)

$$+ 53155.2 * \text{origvtff} + 129009$$

(1.79952) (2.66036)

Sum Sq	3E+11	Std Err	57286.4	LHS Mean	1209565
R Sq	0.8438	R Bar Sq	0.8391	F 3, 99	178.330
D.W.(1)	1.8818	D.W.(4)	2.2798		

vehreg2

$$= 0.98487 * (\text{vehreg2.8} * \text{renew}) + 5519.85 * \text{qd2} + 48695.5$$

(21.4495) (1.08480) (5.52648)

Sum Sq	5E+10	Std Err	22043.7	LHS Mean	236353
R Sq	0.8295	R Bar Sq	0.8261	F 2,100	243.319
D.W.(1)	0.9237	D.W.(4)	1.4810		

VEHREG1	One year registrations
VEHREG2	Two year registrations
RENEW2	Percent of two year renewals who maintain the two year interval
QD2	Dummy variable second quarter

NON-GENERAL FUND METHODOLOGY

One Year Registrations

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2007	06Q3	1,412,785	1,427,484	(14,699)	-1.0%
	06Q4	1,153,708	1,141,385	12,323	1.1%
	07Q1	1,280,834	1,277,281	3,553	0.3%
	07Q2	1,325,940	1,397,111	(71,171)	-5.4%
	Total	5,173,267	5,243,262	(69,995)	-1.4%
2008	07Q3	1,408,511	1,402,225	6,286	0.4%
	07Q4	1,231,785	1,165,356	66,429	5.4%
	08Q1	1,312,356	1,280,481	31,875	2.4%
	08Q2	1,391,387	1,325,033	66,354	4.8%
	Total	5,344,039	5,173,094	170,945	3.2%
2009	08Q3	1,362,010	1,399,188	(37,178)	-2.7%
	08Q4	1,061,494	1,235,352	(173,858)	-16.4%
	09Q1	1,268,629	1,310,686	(42,057)	-3.3%
	09Q2	1,387,221	1,378,950	8,271	0.6%
	Total	5,079,354	5,324,176	(244,822)	-4.8%
2010	09Q3	1,278,480	1,354,943	(76,463)	-6.0%
	09Q4	1,047,572	1,088,345	(40,773)	-3.9%
	10Q1	1,215,359	1,267,458	(52,099)	-4.3%
	10Q2	1,318,585	1,376,136	(57,551)	-4.4%
	Total	4,859,996	5,086,882	(226,886)	-4.7%
2011	10Q3	1,339,471	1,291,651	47,820	3.6%
	10Q4	1,072,468	1,077,120	(4,652)	-0.4%
	11Q1	1,241,276	1,229,050	12,226	1.0%
	11Q2	1,287,951	1,322,881	(34,930)	-2.7%
	Total	4,941,166	4,920,701	20,465	0.4%
2012	11Q3	1,320,807	1,335,558	(14,751)	-1.1%
	11Q4	1,054,684	1,095,328	(40,644)	-3.9%
	12Q1	1,235,555	1,247,167	(11,612)	-0.9%
	12Q2	1,251,833	1,295,567	(43,734)	-3.5%
	Total	4,862,879	4,973,620	(110,741)	-2.3%
2013	12Q3	1,330,752	1,325,571	5,181	0.4%
	12Q4	1,059,221	1,083,601	(24,380)	-2.3%
	13Q1	1,207,727	1,245,875	(38,148)	-3.2%
	13Q2	1,370,117	1,262,817	107,300	7.8%
	Total	4,967,817	4,917,864	49,953	1.0%
2014	13Q3	1,286,444	1,332,465	(46,021)	-3.6%
	13Q4	1,070,701	1,086,181	(15,480)	-1.4%
	14Q1	1,177,663	1,224,621	(46,958)	-4.0%
	14Q2	1,324,308	1,365,712	(41,404)	-3.1%
	Total	4,859,116	5,008,979	(149,863)	-3.1%
2015	14Q3	1,303,376	1,301,519	1,857	0.1%
	14Q4	1,043,487	1,100,009	(56,522)	-5.4%
	15Q1	1,125,800	1,198,823	(73,023)	-6.5%
	15Q2	1,353,553	1,333,491	20,062	1.5%
	Total	4,826,216	4,933,842	(107,626)	-2.2%
2016	15Q3	1,310,587	1,311,211	(624)	0.0%
	15Q4	1,091,163	1,077,321	13,842	1.3%
	16Q1	1,203,707	1,153,348	50,359	4.2%
	16Q2	1,305,838	1,358,159	(52,321)	-4.0%
	Total	4,911,295	4,900,039	11,256	0.2%

NON-GENERAL FUND METHODOLOGY

Two Year Registrations

	<u>Fiscal Year</u>	<u>Actual</u>	<u>Fitted</u>	<u>Residual</u>	<u>% Residual</u>
2007	06Q3	299,315	259,359	39,956	13.3%
	06Q4	241,409	219,007	22,402	9.3%
	07Q1	270,725	243,977	26,748	9.9%
	07Q2	273,826	287,324	(13,498)	-4.9%
	Total	1,085,275	1,009,667	75,608	7.0%
2008	07Q3	278,906	296,908	(18,002)	-6.5%
	07Q4	235,108	238,474	(3,366)	-1.4%
	08Q1	244,137	262,935	(18,798)	-7.7%
	08Q2	277,234	291,267	(14,033)	-5.1%
	Total	1,035,385	1,089,584	(54,199)	-5.2%
2009	08Q3	315,988	299,265	16,723	5.3%
	08Q4	238,209	250,789	(12,580)	-5.3%
	09Q1	276,699	275,331	1,368	0.5%
	09Q2	302,018	283,447	18,571	6.1%
	Total	1,132,914	1,108,832	24,082	2.1%
2010	09Q3	278,398	282,180	(3,782)	-1.4%
	09Q4	224,169	245,514	(21,345)	-9.5%
	10Q1	258,263	253,073	5,190	2.0%
	10Q2	296,929	286,300	10,629	3.6%
	Total	1,057,759	1,067,067	(9,308)	-0.9%
2011	10Q3	305,619	313,223	(7,604)	-2.5%
	10Q4	240,029	248,110	(8,081)	-3.4%
	11Q1	274,668	280,332	(5,664)	-2.1%
	11Q2	288,437	307,048	(18,611)	-6.5%
	Total	1,108,753	1,148,713	(39,960)	-3.6%
2012	11Q3	298,282	281,754	16,528	5.5%
	11Q4	234,104	236,357	(2,253)	-1.0%
	12Q1	286,257	264,899	21,358	7.5%
	12Q2	296,383	302,787	(6,404)	-2.2%
	Total	1,115,026	1,085,797	29,229	2.6%
2013	12Q3	329,923	304,542	25,381	7.7%
	12Q4	252,382	249,634	2,748	1.1%
	13Q1	285,852	278,632	7,220	2.5%
	13Q2	328,063	295,678	32,385	9.9%
	Total	1,196,220	1,128,486	67,734	5.7%
2014	13Q3	308,108	298,400	9,708	3.2%
	13Q4	255,044	244,674	10,370	4.1%
	14Q1	280,728	288,333	(7,605)	-2.7%
	14Q2	326,511	302,330	24,181	7.4%
	Total	1,170,391	1,133,738	36,653	3.1%
2015	14Q3	330,347	324,888	5,459	1.7%
	14Q4	256,512	259,975	(3,463)	-1.4%
	15Q1	270,965	287,994	(17,029)	-6.3%
	15Q2	339,195	328,851	10,344	3.0%
	Total	1,197,019	1,201,709	(4,690)	-0.4%
2016	15Q3	326,940	306,626	20,314	6.2%
	15Q4	268,453	262,204	6,249	2.3%
	16Q1	303,775	283,705	20,070	6.6%
	16Q2	333,097	327,552	5,545	1.7%
	Total	1,232,265	1,180,086	52,179	4.2%

NON-GENERAL FUND METHODOLOGY

ABC Revenue Estimating Methodology

Distilled spirit sales revenues are a function of the price of product and quantity sold. Both are forecasted using separate models with quarterly data from 1981 through the present. The price of distilled spirits is a function of the cost of product and the appropriate state and federal taxes and mark-ups. Sales estimates serve as the basis for the development of pro forma profit and loss statements. Sales performance can be significantly influenced by changes in consumer behavior (primarily during the holiday period) and severe weather that are both impossible to accurately forecast. Expenses are estimated based on anticipated budget requirements during the forecasting period. Variations in anticipated expenses are often the source of forecasting error, particularly in the later years of the forecast.

Average Price of Distilled Spirits

The average sales price per gallon of distilled spirits sold was calculated for each quarter. This was adjusted to account for changes in mark-up, state taxes, and the Federal Excise Tax on distilled spirits. The resulting base price was forecasted using an ARIMA model that was found to fit the data better than previous regression-based forecasting methods.

Statistical Results:

Mean Squared Error = .04

$R^2 = 98.1\%$

Quantity of Liquor Demanded

Again, a variety of modeling techniques and data were evaluated to forecast the demand for distilled spirits. The Winter's Multiplicative exponential smoothing method provided the best fit for the data.

Statistical Results:

Mean Squared Error = .001

$R^2 = 98.7\%$

The Unemployment Insurance Trust Fund

Equation Specifications for Taxable Wages:

$$(TAX_x/TOT_x) = f(TBAAW_x, MTWB, QI_x)$$

The proportion of taxable wages (TAX) to total wages (TOT) in a given quarter is linearly related to the ratio of the maximum taxable wage base to the average annual wage (TBAAW), the maximum taxable wage base (MTWB), and the rate of insured unemployment (QI).

There are four equations—one for each quarter. The ratios derived by the equations are applied to the projections for total wages to produce taxable wages. Total wages are derived by multiplying covered employment by the average quarterly wage.

Projected tax rates are then applied to taxable wages to obtain projections for tax contributions. The following pages give specifications for the quarterly equations currently used in the model. There are 12 observations used in the equations, the years 2003 to 2014 inclusive.

First Quarter

The first quarter regression equation, with t statistics in brackets, is:

$$(TAX_1/TOT_1) = 0.159 + 2.026 (TBAAW_1)$$

[20.282] [44.834]

The summary statistics are:

Adjusted R ²	0.995
MSE	9.615 x 10 ⁻⁶

Second Quarter

The second quarter regression equation, with t statistics in brackets, is:

$$(TAX_2/TOT_2) = -0.051 + 1.142 (TBAAW_2) - 0.004 (QI_2)$$

[-5.447] [23.943] [-2.587]

The summary statistics are:

Adjusted R ²	0.986
MSE	9.075 x 10 ⁻⁶

NON-GENERAL FUND METHODOLOGY

Third Quarter

The third quarter regression equation, with t statistics in brackets, is:

$$\begin{aligned} (\text{TAX}_3/\text{TOT}_3) = & -0.011 + 0.638 (\text{TBAAW}_3) - 0.007 (\text{QI}_3) \\ & [-1.157] \quad [14.061] \quad [-4.11] \end{aligned}$$

The summary statistics are:

Adjusted R ²	0.958	
MSE		7.858 x 10 ⁻⁶

Fourth Quarter

The fourth quarter regression equation, with t statistics in brackets, is:

$$\begin{aligned} (\text{TAX}_4/\text{TOT}_4) = & -0.015 + 0.585 (\text{TBAAW}_4) - 0.006 (\text{QI}_4) \\ & [-3.012] \quad [22.107] \quad [-6.404] \end{aligned}$$

The summary statistics are:

Adjusted R ²	0.985	
MSE		1.749 x 10 ⁻⁶