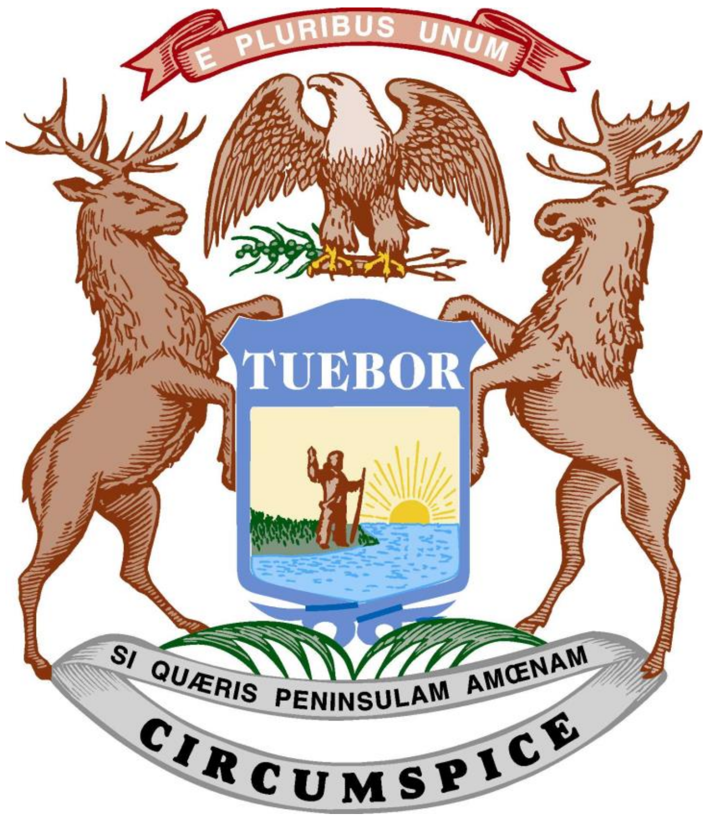
Administration Estimates Michigan Economic and Revenue Outlook



FY 2016-17, FY 2017-18 and FY 2018-19

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Revenue Review and Outlook

- FY 2016 GF-GP revenue totaled $10,015.4 million, up $281.3 million from the May 2016 Consensus estimate. FY 2016 SAF revenue totaled $12,118.7 million, up $51.3 million from the May 2016 Consensus estimate.

- FY 2017 GF-GP revenue is forecast to increase 3.0 percent to $10,310.6 million, up $172.1 million from the May 2016 Consensus estimate. FY 2017 SAF revenue is forecast to increase 2.9 percent to $12,473.4 million, up $71.0 million from the May 2016 Consensus estimate.

- FY 2018 GF-GP revenue is forecast to increase 2.9 percent to $10,604.1 million, down $3.0 million from the May 2016 Consensus estimate. FY 2018 SAF revenue is forecast to increase 2.6 percent to $12,800.8 million, up $40.0 million from the May 2016 Consensus estimate.

- FY 2019 GF-GP is forecast to increase 1.3 percent to $10,736.9 million. FY 2019 SAF revenue is forecast to increase 2.8 percent to $13,159.1 million.

2017, 2018 and 2019 U.S. Economic Outlook

- Real GDP rose 2.4 percent in 2014 and increased 2.6 percent in 2015. In 2016, real GDP grew an estimated 1.6 percent. Economic growth is forecast to accelerate to 2.3 percent in 2017, but then decelerate to 2.1 percent in 2018 and 2.0 percent in 2019.

- U.S. wage and salary employment rose 1.9 percent in 2014. In 2015, U.S. employment grew 2.1 percent – the fastest annual growth since 2000. U.S. employment growth slowed to 1.7 percent in 2016. In 2017, national employment growth is expected to decelerate to 1.5 percent before slowing to 1.2 percent in 2018 and 1.0 percent in 2019.

- The U.S. unemployment rate has declined in each of the past six years. Most recently, the national unemployment rate fell 0.9 of a percentage point to 5.3 percent in 2015 and dropped 0.4 of a point to 4.9 percent in 2016. The national unemployment rate is forecast to fall to 4.7 percent in 2017 and 4.6 percent in 2018. The national unemployment rate is projected to remain unchanged at 4.6 percent in 2019.

- Housing starts increased 8.5 percent in 2014 and rose above 1.0 million units for the first time since 2007. In 2015, starts increased 10.8 percent. Housing starts increased an estimated 4.3 percent in 2016. Housing starts are forecast to rise 7.8 percent in 2017, 5.8 percent in 2018 and 3.2 percent in 2019. In 2019, starts are expected to total 1.36 million units – still historically low.

- In 2013, light vehicle sales increased to 15.5 million units – marking the first year that sales topped 15.0 million units since 2007. Sales rose to 16.5 million units in 2014 and to 17.40 million units in 2015, slightly exceeding the previous record sales level of 17.35 million units set in 2000. In 2016, light vehicle sales rose – although slightly – to a new record high of 17.47 million units. Over the forecast horizon, light vehicle sales are projected to remain at historically high levels of 17.1 million units in 2017, 17.0 million units in 2018 and 16.8 million units in 2019.

- Consumer prices increased 1.5 percent in 2013 and rose 1.6 percent in 2014. In 2015, sharply lower fuel prices slowed consumer price inflation to 0.1 percent. Inflation accelerated to an estimated 1.2 percent in 2016. In 2017, inflation is projected to accelerate to 2.0 percent, where is it is forecast to remain in 2018. In 2019, consumer prices are forecast to increase 2.2 percent.

2017, 2018 and 2019 Michigan Economic Outlook

- After falling each year from 2001 to 2010, Michigan wage and salary employment has increased each year since 2011. State employment increased 2.3 percent in 2011, 2.1 percent in 2012, 1.9 percent in 2013 and 1.8 percent in 2014. In 2015, Michigan employment rose by 61,700 jobs (1.5 percent). Michigan wage and salary employment increased an estimated 2.0 percent in 2016. Michigan employment is forecast to rise 1.1 percent in 2017, 1.1 percent in 2018 and 1.0 percent in 2019.

- The Michigan unemployment rate has dropped each year since 2010. After peaking at 13.7 percent in 2009, the jobless rate fell steadily and was down to 7.3 percent in 2014. In 2015, the rate declined substantially (1.9 percentage points) to 5.4 percent. In 2016, the State unemployment rate dropped an estimated 0.8 of a percentage point to 4.6 percent. The Michigan unemployment rate is forecast to decline 0.1 of a percentage point to 4.5 percent in 2017 and then remain unchanged at 4.5 percent in 2018 and 2019.

- After dropping 8.3 percent in 2009 (the largest percent decline since 1945), Michigan wages and salaries have increased each year. Michigan wages and salaries rose 4.8 percent in 2014, grew 5.1 percent in 2015 and increased an estimated 4.6 percent in 2016. Michigan wages and salaries are forecast to rise 3.7 percent in 2017, 3.9 percent in 2018 and 3.8 percent in 2019.

- Michigan personal income fell 5.1 percent in 2009 – marking the first annual Michigan personal income drop since 1958 and the largest annual decline since 1938. Income increased 3.4 percent in 2010 and rose 6.2 percent in 2011. Personal income increased 3.6 percent in 2012 and rose 1.4 percent in 2013. Michigan personal income increased 4.6 percent in both 2014 and 2015. In 2016, Michigan personal income increased an estimated 3.6 percent. In 2017, Michigan personal income is forecast to rise 4.1 percent; Michigan income is projected to increase 4.4 percent in both 2018 and 2019.

- On a fiscal year basis, Michigan disposable income rose 4.3 percent in FY 2015 and increased 4.0 percent in FY 2016. Disposable income is forecast to grow 3.9 percent in FY 2017, 4.3 percent in FY 2018 and 4.3 percent in FY 2019. Wages and salaries increased 4.8 percent in FY 2015 and rose 5.4 percent in FY 2016. Wages and salaries are forecast to increase 3.7 percent in FY 2017, 3.8 percent in FY 2018 and 3.8 percent in FY 2019.

Forecast Risks

- The end of six years of a divided federal government heightens the likelihood of the enactment of major federal fiscal policies. At the same time, substantial uncertainty surrounds the timing and composition of the fiscal policies that will be proposed by President-Elect Trump and enacted by Congress. In addition, risk surrounds the economic impact of possible international trade or immigration actions that might be taken.

- Slower than expected economic growth across Asia, particularly China, could have a negative impact on the U.S. economy. Europe's weak financial and economic recovery from its massive financial crises leaves the Continent vulnerable to still slower economic growth, which would have negative financial and economic impacts on the U.S. economy.

- A stronger (weaker) housing market would boost (depress) the economy more than forecast.

- The Great Recession may have a longer negative effect on confidence than assumed. In particular, the after effects could lead businesses and consumers to react more negatively to an economic slowdown or mild decline than before the Great Recession.

- After having left the federal funds rate in the range of 0.00 percent to 0.25 percent for seven straight years, the Federal Reserve raised the range 25 basis points at its December 2015 meeting. The Fed only recently (December 2016) raised the target rate an additional 25 basis points. Uncertainty surrounds the timing of the next (and subsequent) increases. Uncertainty also surrounds consumer and business reactions to any subsequent changes.

- International geopolitical tensions (and household and investor concerns about these tensions) continue to grow. Heightened geopolitical and military conflicts (and concerns about those conflicts) could boost oil prices and have a substantial negative impact on consumer and financial markets and the U.S. economy as a whole.

- Adverse weather could disrupt economic activity.

ECONOMIC REVIEW AND OUTLOOK
January 12, 2017

Current U.S. Economic Situation

Overall Economic Growth

The current U.S. economic expansion is more than seven years old. According to the Institute for Supply Management, the overall U.S. economy expanded for its 91st straight month in December 2016. **Real Gross Domestic Product (GDP)** has grown in all but two quarters since the end of the Great Recession. While growing at an annual rate below 1.5 percent in each of the prior three quarters (2015Q4-2016Q2), real GDP growth accelerated sharply to a 3.5 percent annual rate in 2016Q3.

Employment

U.S. wage and salary employment has continued rising since the May 2016 Conference. December 2016 marked the 75th consecutive monthly increase in national wage and salary employment. Consequently, at 145.3 million jobs, the December 2016 employment level represents the all-time high monthly U.S. employment level. Compared to April 2016 (the last month available prior to the May 2016 Conference), December 2016 employment was up by 1.4 million jobs (an average of 178,300 jobs increase per month). Compared to a year ago, December 2016 employment was up by 2.2 million jobs (1.5 percent). However, the 1.5 percent year-over-year increase represents the slowest year-over-year percent increase since August 2011.

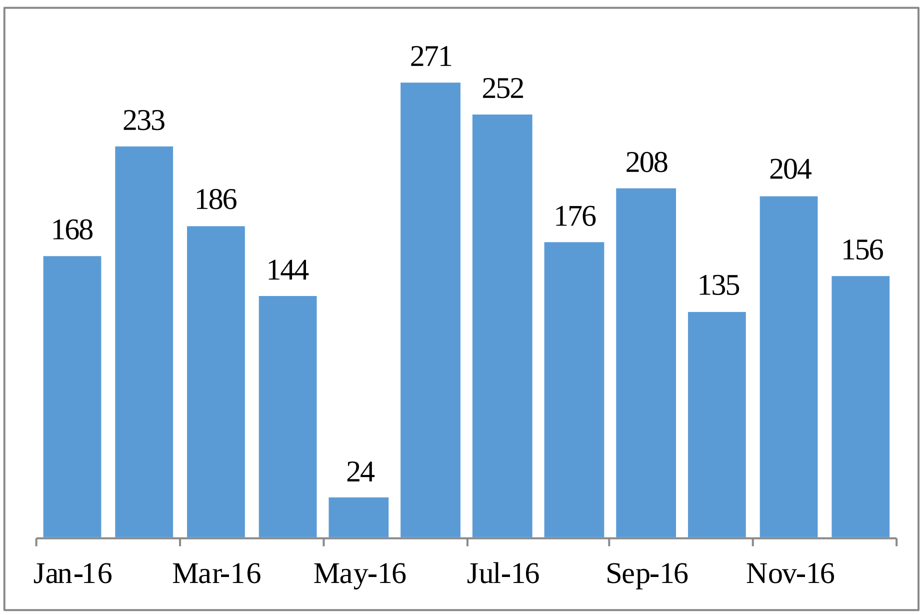
Calendar year 2016 represented the sixth straight year in which U.S. wage and salary employment has increased. The overall annual U.S. employment level rose 1.2 percent in 2011, 1.7 percent in 2012, 1.6 percent in 2013, 1.9 percent in 2014, 2.1 percent in 2015 and 1.7 percent in 2016.

In April 2016 (the most recent month of data available prior to the May 2016 Consensus Conference), the **U.S. unemployment rate** stood at 5.0 percent – marking the ninth straight month in which the U.S. rate had remained within 0.1 of a percentage point of 5.0 percent. After falling to 4.7 percent in May 2016, the rate rose in June to 4.9 percent, where it remained for the following three months. The rate fell to 4.8 percent in October. In November, the U.S. unemployment rate dropped to 4.6 percent -- the lowest national unemployment rate since May 2007. The national unemployment rate then rose slightly to 4.7 percent in December.

The annual U.S. unemployment rate has fallen in each of the past six years. After peaking at a 28-year high of 9.6 percent in 2010, the national unemployment rate fell to 8.9 percent in 2011, 8.1 percent in 2012, 7.4 percent in 2013, 6.2 percent in 2014, 5.3 percent in 2015 and 4.9 percent in 2016.

Between late April 2016 (the most recent period for which unemployment claims data were available for the May 2016 Consensus Conference) and the week ending May 21, the four-week average of seasonally adjusted **initial unemployment claims** rose from 256,000 to 278,500 (the highest reading since the May 2016 Conference). The four-week average then trended downward through early October. In the week ending October 8, the average fell to 249,500 – the lowest reading since January 1970. The average rose between early October 2016 and early November to 260,000 before falling to 251,000 in mid-November. The average then rose in each of the following four weeks, rising to 263,750 in mid-December. Most recently, the average fell modestly in the week ending December 24 and declined substantially in the week ending December 31. In the week ending December 31, the average declined to 256,750. The four-week average of initial unemployment claims has remained below 300,000 for 119 consecutive weeks – the longest streak of sub-300,000 readings since 1970. (U.S. Department of Labor)

U.S. Payroll Employment
2.2 Million Jobs Added in Past Year
(Monthly Change in Thousands)



Source: Bureau of Labor Statistics, U.S. Department of Labor.

Manufacturing sector employment rose each calendar year between 2011 and 2015, inclusive, with increases of 1.7 percent in both 2011 and 2012, 0.8 percent in 2013, 1.4 percent in 2014 and 1.1 percent in 2015. However, in 2016, national manufacturing employment edged down 0.3 percent.

Since April 2016, U.S. manufacturing employment declined a net 18,000 jobs. Over the past year (December 2015-December 2016), manufacturing employment has fallen a net 45,000 jobs.

Calendar year 2016 marked the sixth annual increase in **construction sector employment**. Construction employment rose 0.3 percent in 2011, 2.0 percent in 2012, 3.7 percent in 2013, 5.0 percent in 2014, 4.8 percent in 2015 and 3.3 percent in 2016.

Compared to a year ago, December 2016 construction employment was up 102,000 jobs (1.5 percent) – marking the 67th consecutive month that construction employment is up compared to a year ago. However, the 1.5 percent increase represents the smallest year-over-year percent increase in construction employment since September 2012.

Housing Market

House Construction and Sales

Calendar year **housing starts** have strengthened, but still remain at a historically low level. In each year from 2008-2013, housing starts totaled fewer than 1.0 million units. Prior to 2008, starts had never fallen below 1.0 million units since at least 1959. However, after falling to a record low of 554,000 units in 2009, housing starts increased each year from 2010 to 2015. In 2014, total starts rose above 1.0 million units for the first year since 2007. Starts rose still further in 2015, increasing to 1.1 million units. Compared to the 2009 record low, calendar year 2015 housing starts were 100.7 percent higher. However, 2015 housing starts were 46.2 percent below the record high 2005 level. 2015 starts were 18.9 percent lower than average housing starts in the 1990s (pre-boom). Year-to-date, through November, 2016 housing starts have averaged 5.4 percent above average housing starts over the first 11 months of 2015.

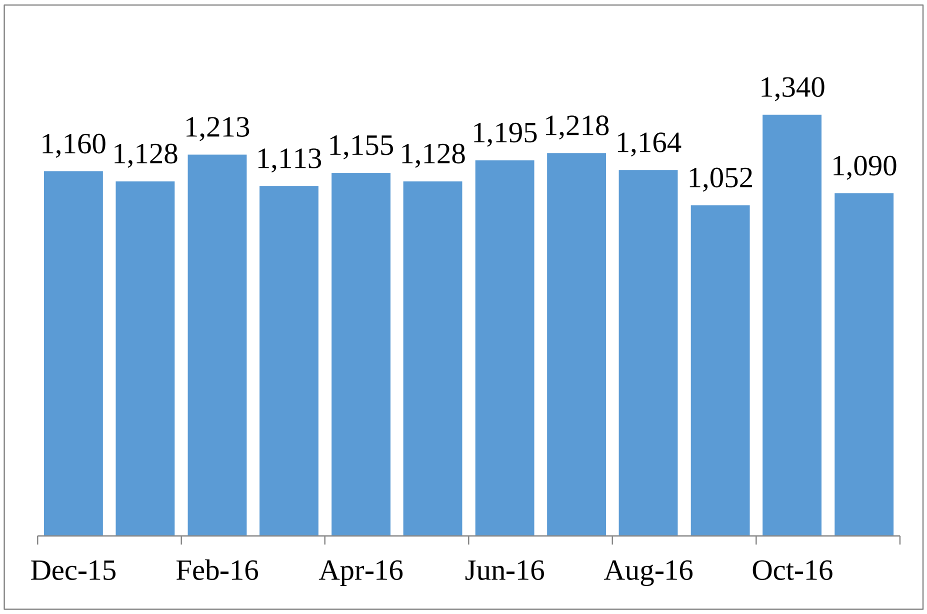
November 2016 marked the 20th straight month in which housing starts were above 1.0 million units at an annualized rate. Housing starts were up compared to a year earlier in seven of the first 11 months of 2016. However, in November 2016 housing starts were down 6.9 percent from a year ago. (U.S. Census Bureau).

In April 2016 (the last month of data available at the May 2016 Consensus Conference), the **National Association of Home Builders (NAHB) sentiment index** stood at 58. (A reading above 50 indicates that more builders viewed conditions as favorable compared with the number who viewed conditions as unfavorable). The NAHB index remained at 58 in May and by November it was up to 63; however, the sentiment index rose sharply in December to 70 – the index's highest reading in over 10 years.

With **new home sales** totaling 501,000 units, 2015 marked the third straight year in which new home sales exceeded 400,000 units as well as the fourth straight year of increasing new home sales. In three of the four years of increasing sales, the percent gain exceeded 10.0 percent. Most recently, new home sales rose 14.6 percent in 2015. Year-to-date through November, 2016 new home sales are up 12.8 percent. Annualized seasonally adjusted new home sales have exceeded 500,000 units in each of the first 11 months of 2016. (U.S. Census Bureau). In addition, new home sales reported their ninth straight month of double-digit year-over-year increases in new home sales in November 2016.

In 2015, **existing home sales** rose 6.3 percent, following a 9.0 percent increase in 2013 and a 2.9 percent decline in 2014. In March 2015, annualized existing home sales rose above 5.0 million units, where they remained through October 2015. Annualized existing home sales fell below 5.0 million units in November 2015, but then rose above 5.0 million units in December 2015 and have remained above the 5.0 million unit threshold through November 2016. November 2016 existing home sales were up 15.4 percent from November 2015. Through the first 11 months of 2016, the annualized sales rate averaged 5.4 million units, up 7.6 percent from the average annualized sales rate from January 2015-November 2015. (National Association of Realtors).

Annualized Housing Starts Remain Around Historically Low Levels



Source: U.S. Census Bureau. Seasonally adjusted annual rate (thousands).

House Prices

House prices have grown in recent months.

- Between November 2015 and November 2016, the **Core Logic Home Price Index** increased 7.1 percent (including distressed sales) and 6.3 percent (excluding distressed sales). Furthermore November 2016 marked the 58th consecutive month of year-over-year home price gains (including distressed sales). However, Core Logic notes that “the national increase is no longer posting double-digits,” In addition, the November 2016 level remained 4.1 percent below the index’s peak set in April 2006

- In 2015, the **Census Bureau’s median new home sales price** reported its sixth straight annual price increase – rising 4.8 percent from 2014. Over the six years, the median new home sales price rose 36.8 percent. At $296,400, the 2015 annual median price represents the highest annual median new home sale price on record. However, most recently, the monthly median new home price fell 3.7 percent between November 2015 and November 2016.

- In 2015, the **median existing-house price** rose 6.8 percent from 2014. The median existing-house sale price rose 6.8 percent between November 2015 and November 2016 -- marking the 57th consecutive month of year-over-year price gains. (National Association of Realtors)

Foreclosures and Mortgage Rate

In November 2016, U.S. **foreclosures** were down more than seven percent from a year earlier. Further, in November, **foreclosure starts** fell to their lowest monthly level since May 2005. November marked the fifth consecutive month of year-over-year declines in foreclosure starts. (RealtyTrac)

In October 2016, there were 30,000 **completed foreclosures** in the U.S. October 2016 foreclosures were down 3.6 percent from September 2016 and down 24.9 percent from a year ago. Further, the October 2016 **rate of serious delinquencies** dropped to 2.5 percent, the lowest rate since August 2007. Through October 2016, the **number of loans in the foreclosure process** has fallen for 60 straight months. (CoreLogic)

In 2016Q3, **homeowner real estate equity** rose to its highest level since 2006Q2. Compared to a year ago, 2016Q3 real estate equity was up $1.3 trillion (11.4 percent). At 57.3 points, the 2016Q3 homeowner equity rate was 21.3 points higher than its all-time low (2009Q1). Over the past year, the equity rate rose by 2.2 percentage points – marking the 21st straight quarter in which the rate was up from a year ago. (Federal Reserve Bank, *Flow of Funds Accounts of the United States*).

In April 2016, the last month for which a monthly mortgage rate was available prior to the May 2016 Consensus Conference, the **30-year fixed mortgage rate** stood at 3.61 percent (at the time, the lowest rate since May 2013) (FreddieMac). The rate then fell in each of the next three months. In July 2016, the mortgage rate fell to 3.44 percent – the lowest rate since January 2013 and only .09 of a percentage point higher than the record low rate of 3.35 percent set in November and December 2012. In August 2016, the mortgage rate was unchanged at 3.44. In September and October, the rate rose very slightly – rising a cumulative .03 of a percentage point. In November 2016, the rate rose a full 0.30 of a percentage point to 3.77 percent. However, the November 2016 rate was still down 0.17 of a percentage point from last November.

Through November 2016, the mortgage rate has been below 4.0 percent in 23 of the most recent 24 months. Year-to-date through November, the 2016 mortgage rate is down by almost a quarter of a percentage point from 2015.

Monetary Policy

In December 2008, the Federal Open Market Committee (FOMC) lowered the target range for the federal funds rate to 0.00 to 0.25 percent (a record low range). The Committee maintained the 0.00 to 0.25 percent range for seven straight years.

In December 2015, the FOMC raised the target range 25 basis points to 0.25 percent to 0.50 percent. The December 2015 rate increase represented the Committee's first rate increase since June 2006. Faced with concerns surrounding the domestic and international economies, the FOMC did not raise the target rate again until a year later. With inflation showing signs of accelerating, the domestic job market firming and domestic and international growth forecasts improving, the FOMC increased the target range for the federal funds rate an additional 25 basis points to 0.50 percent to 0.75 percent at the Committee's mid-December 2016 meeting.

As for the likelihood and timing of future rate increases, "The Committee expects that economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data" (FOMC December 2016).

At the December 2016 meeting, the Committee observed that, "Information received since the Federal Open Market Committee met in November indicates that the labor market has continued to strengthen and that economic activity has been expanding at a moderate pace since mid-year."

The Committee acknowledged that the inflation rate continues to remain below its target 2 percent rate. However, the FOMC attributed the current sub-2 percent inflation rate to the "transitory effect" of recent considerable reductions in energy prices and import prices. With the dissipation of the transitory effects and continued labor market tightening, the Committee projects that the inflation rate will rise to the 2 percent target rate in the "medium term."

While ending its quantitative easing program in October 2014, the FOMC continues to reinvest principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and to roll over maturing Treasury securities at auction. In its December 2016 statement, the FOMC indicated that it would continue reinvesting and rolling over securities well into the future. Doing so, the Committee stated, "should help maintain accommodative financial conditions." The Fed's overall holdings are substantial with total Federal Reserve Bank credit totaling $4.4 trillion in mid-December 2016 -- more than five times the amount that the Fed held directly before its quantitative easing program began.

Fiscal Policy

On December 8, 2016, Congress passed a continuing resolution through the earlier of April 28, 2017, or the enactment of the applicable appropriations legislation. The resolution prevented a partial government shutdown when an existing resolution passed in September was due to expire December 9. The newly passed continuing resolution was necessary because eleven of the twelve fiscal year 2017 regular appropriations bills that fund the federal government have not been enacted. With the Democratic Party controlling the executive branch and the Republican Party controlling the legislative branch over the past six years, the federal government has not enacted major fiscal (spending or taxation) legislation.

In late January, Donald Trump will be inaugurated as President and the Republican Party will continue control of the House and Senate. While the end of a divided federal government increases the likelihood of the enactment of major fiscal policy, there is still substantial uncertainty about the composition and timing of any fiscal policy changes. In addition, risk surrounds the economic impact of possible international trade or immigration actions that might be taken.

Inflation

In March 2016 (the most recent month of data available prior to the May 2016 Consensus Revenue Estimating Conference), the price of oil averaged $37.55 per barrel. In each of the following three months, the price of oil rose with the price increasing to $48.76 per barrel in June 2016. After dropping $4.11 per barrel in July, the price of oil rose slightly over the next two months before rising $4.60 per barrel in October 2016. At $49.78 per barrel, the October 2016 price of oil represented oil's highest price since July 2015. However, the price of oil fell $4.07 per barrel in November 2016. Thus, on net, the price of oil has increased $8.16 per barrel since March 2016. Compared to a year ago, the price of oil in November 2016 was up $3.27 per barrel (7.7 percent). (Federal Reserve Bank of St. Louis).

In April 2016, the most recent month for which gasoline prices were available prior to the May 2016 Consensus Conference, the monthly average price of regular gasoline in the U.S. stood at $2.11 per gallon and the three month-average price equaled $1.95 per gallon. The average price of regular gasoline rose in each of the next two months with the price standing at $2.37 per gallon in June 2016. The price then dropped in July and August with the price falling to $2.18 per gallon in August. Prices increased in the next two months, rising to $2.25 per gallon in October 2016. Prices fell seven cents per gallon in November, but then rose seven cents in December.

In December, the three-month average price of gasoline equaled $2.23 per gallon. The December 2016 price of regular gasoline was up 22.0 cents compared to a year ago and the October-December 2016 three-month average was up seven cents per gallon from the October-December 2015 average price. The average of the 12 monthly prices of regular gasoline in 2016 was down 27 cents (-11.2 percent) from 2015. In each of the first 10 months of 2016, gasoline prices were lower than a year earlier. (U.S. Energy Information Administration).

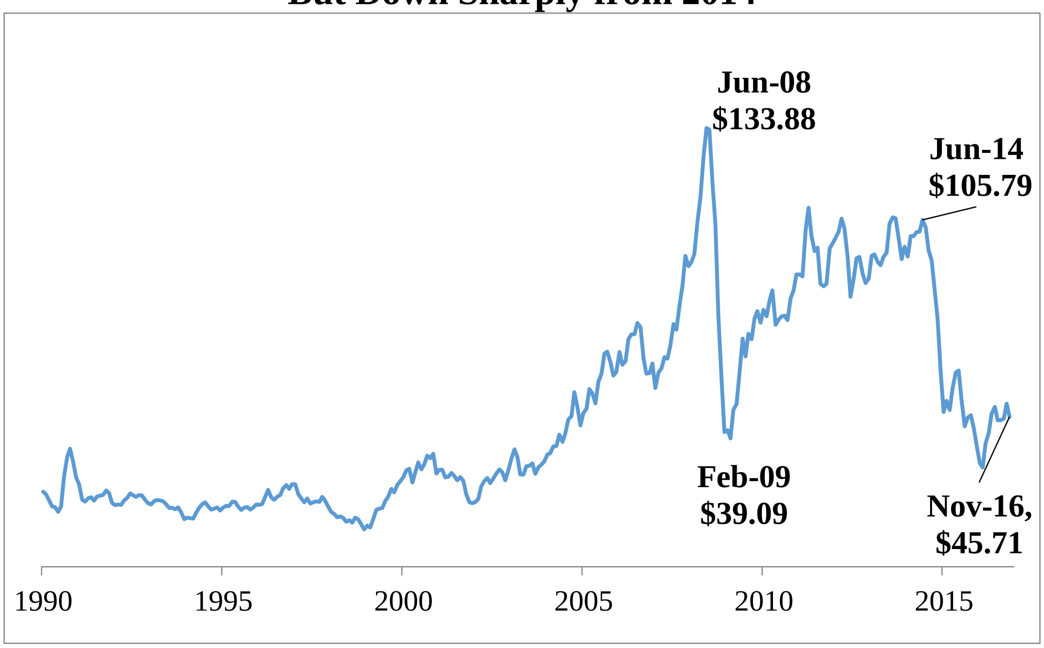
In recent years and months, price inflation has remained mild but did accelerate in 2016 after decelerating in 2015.

In 2015, **consumer prices**, as measured by the U.S. Consumer Price Index, increased only 0.1 percent. The slight increase follows a 0.4 percent decline in 2009, a 1.6 percent increase in 2010, a 3.2 percent rise in 2011, a 2.1 percent rise in 2012, a 1.5 percent increase in 2013 and a 1.6 percent increase in 2014. Through November, 2016 consumer prices are up an average of 1.2 percent compared to the first 11 months of 2015.

In 2015, **core consumer prices** (excluding food and energy) were up 1.8 percent. This follows annual core price inflation ranging from 1.0 percent to 2.1 percent from 2010 to 2014. Through November 2016, core consumer prices have averaged 2.2 percent above core prices in the first 11 months of 2015. (U.S. Bureau of Labor Statistics)

Producer prices fell 0.9 percent in 2015. This decline followed increases of 1.9 percent in 2012, 1.3 percent in 2013 and 1.6 percent in 2014. Through the first 11 months of 2016, producer prices were up a slight 0.3 percent. Core producer prices rose 0.7 percent in 2015. The core producer price increase follows increases of 1.9 percent in 2012, 1.4 percent in 2013 and 1.8 percent in 2014. Through the first 11 months of 2016, core producer prices were up 1.1 percent from a year ago. (Bureau of Labor Statistics)

Oil Prices Up Significantly from Early 2016
But Down Sharply from 2014



Source: Federal Reserve Bank of St. Louis. Price per barrel, West Texas Intermediate oil.

Major Economic Indicators

In October 2015, the **ISM (Institute for Supply Management) manufacturing index, known as the PMI (Purchasing Management Index)**, fell below 50.0 – indicating a contracting manufacturing sector. The PMI remained below 50.0 in each of the following four months. The PMI rose above 50.0 in March 2016. The index remained above 50.0 – indicating an expanding manufacturing sector – in each of the following four months. In August, the PMI dipped below 50.0 to 49.4. However, the index rebounded above 50.0 in September. The index then rose in October, November and December. At 54.7, the December 2016 PMI represented the index's highest reading in the past 24 months. Compared to a year ago, the December 2016 index reading was up 6.7 points. In December 2016, the PMI signaled an expanding *overall* economy for the 91st consecutive month.

In November 2016, the **ISM non-manufacturing index (NMI)** rose to 57.2 -- representing the index's highest reading since October 2015. The index remained unchanged at 57.2 in December 2016. Compared to a year ago, the December 2016 reading was up 1.4 points. In addition, December 2016 marked the 83rd straight month of an expanding service sector.

In 2015, **industrial production** grew 0.3 percent – marking the sixth straight annual increase. However, the slight increase represented the smallest increase over the six-year period. During the first 11 months of 2016, industrial production is *down* 1.1 percent from 2015. Monthly industrial production has fallen from a year ago in every month since September 2015. The November 2016 decline marked the 15th straight year-over-year decrease in industrial production. (Board of Governors of the Federal Reserve System).

In 2015, the annual average **capacity utilization rate** fell 1.5 points – the first annual decline since 2009. In addition, through November, the average 2016 capacity utilization rate is down an additional 1.5 points. November 2016 marked the 21st straight month in which the capacity utilization rate fell compared to a year ago. At 75.0, the November 2016 capacity utilization rate represents the second lowest monthly utilization rate over the past six years.

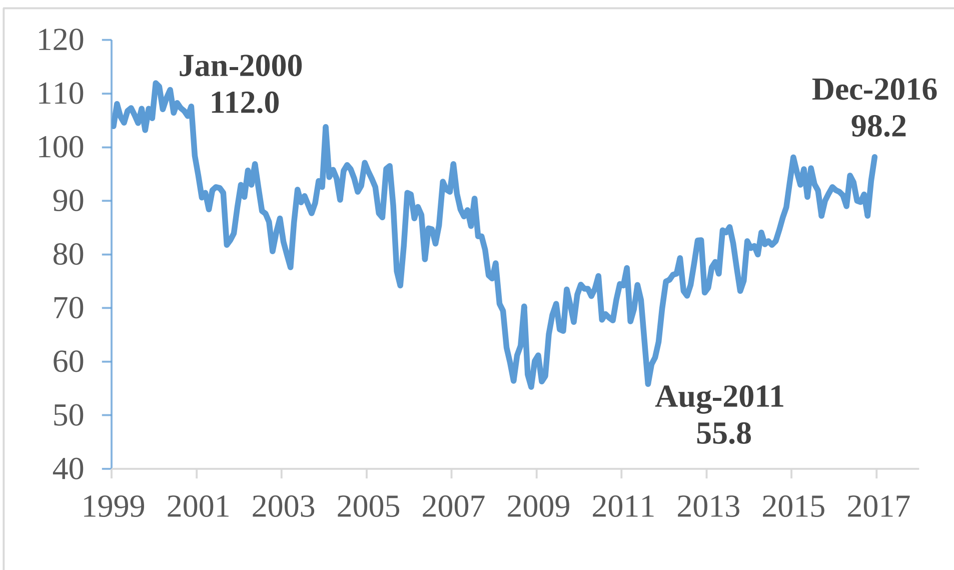
In the eight months of data released since the May 2016 Consensus Conference, the year-over-year percent change in the **three-month moving average for new durable goods orders** has fluctuated. The three-month average was up very slightly from the prior year in April (.025 percent) and up 0.4 percent in May 2016. The average's performance progressively worsened over the following three months with year-over-year changes of -0.9 percent in June, -2.9 percent in July and -4.0 percent in August. The rate of decline slowed in September to -1.1 percent. In October, the year-over-year change in the three-month average turned positive (1.0 percent) and then slowed to a 0.7 percent increase in November.

Beginning in December 2009, the **three-month moving average for retail sales** has increased every month from the year-ago level. Over this period, the median y-o-y percent increase has been 4.2 percent. In the eight months of newly available data (April 2016-November 2016), the y-o-y increases have ranged between 2.3 percent and 3.7 percent. Most recently, average retail sales in September-November 2016 were up 3.7 percent compared with September 2015-

November 2015. The 3.7 percent increase in the three-month represents the largest change since January 2015. Through November, 2016 year-to-date retail sales are up 2.9 percent.

In each of the first four months directly prior to the May 2016 Consensus Conference (January 2016-April 2016), the **University of Michigan index of consumer sentiment** fell from the prior month with decreases totaling 3.6 points. In May, the sentiment index rose sharply (5.7 points) but then fell in each of the next three months with declines totaling 4.9 points. The index rose 1.4 points in September but then fell 4.0 points in October. However, most recently, the index shot up 6.6 points in November and an additional 4.4 points in December. Since the May Conference, the index has risen a net 9.2 points. Compared to a year ago, the December 2016 index of consumer sentiment was up 5.6 points. At 98.2, the December sentiment index value represented the index's highest reading since January 2004.

Consumer Sentiment Trending Upward
Well Above August 2011 Trough



Source: University of Michigan Survey of Consumers.

In each of the three quarters prior to the May 2016 Consensus Conference (2015Q3, 2015Q4 and 2016Q1), the **Conference Board Measure of CEO Confidence Index** reported negative readings (below 50). The index last reported three straight negative values in 2012Q2, 2012Q3 and 2012Q4. The index did rise to 52.0 in 2016Q2 but most recently dropped to a neutral reading of 50.0 in 2016Q3. However, the 50.0 reading in 2016Q3 was up 2.0 points compared to a year ago.

Since April 2016, the latest month for which data were available for the May 2016 Consensus Conference, the **Conference Board index of leading economic indicators (LEI)** fell 0.2

percent in May, rose 0.2 percent in June and increased 0.5 percent in July. The LEI fell 0.2 percent in August, but then rose in the following two months with an increase of 0.3 percent in September and an increase of 0.1 percent in October. Most recently, the LEI was unchanged in November 2016. In its November 2016 LEI release, the Conference Board reported, "The underlying trends in the LEI suggest that the economy will continue expanding into the first half of 2017, but it's unlikely to considerably accelerate."

Stock prices have increased since the May 2016 Consensus Conference. Between the end of April 2016 and the end of December 2016, the **stock market (Wilshire 5000)** rose 9.6 percent. Between the end of 2015 and 2016, the Wilshire Index increased 10.7 percent.

Between the end of July 2015 and mid-March 2016, the **Economic Cycle Research Institute (ECRI) weekly leading index growth rate** was negative (pointing to an economic contraction in the near future). However, since the end of March 2016, the growth rate has been positive. Between late March and mid-September, the growth rate trended faster – accelerating from 0.5 percent to 9.2 percent. The growth rate decelerated each week between mid-September and early November – slowing to 6.1 percent in early November. However, the growth rate has accelerated each week between mid-November and late-December. In the week of December 30, the growth rate accelerated to 12.0 percent – the fastest reading since late April 2010.

Vehicle Sales and Production

The vehicle sector showed substantial growth between 2010 and 2015. **U.S**. **light vehicle sales** totaled slightly over 10.4 million units in 2009 – the worst annual sales year since 1982 when sales came in just under 10.4 million units. However, in 2010, sales rose to 11.6 million units and, in 2011, light vehicle sales increased to 12.7 million units. Sales grew to 14.4 million units in 2012 and rose to 15.5 million units in 2013. In 2014, light vehicle sales rose to 16.4 million units. In 2015, light vehicle sales rose to a then record high of 17.40 million units – slightly exceeding the previous record of 17.35 million units set in 2000. In 2016, light vehicle sales rose – although slightly (0.4 percent) -- to a new record high: 17.47 million units.

In December 2016, light vehicle sales exceeded a 15.0 million unit annual rate for the 50th straight month. Light vehicle sales have exceeded a 16.0 million unit rate in each of the past 34 months. Between May 2015 and February 2016, the annualized sales rate exceeded 17.0 million units each month. Prior to February 2016, the light vehicle sales rate last exceeded 17.0 million units for 10 (or more) straight months during the 12-month period beginning in July 1999 and ending in June 2000. Since April 2016, the sales rate has exceeded 17.0 million units in seven out of nine months (April 2016-December 2016).

Light truck sales share of the light vehicle sales market has continued to grow. Over the past four years, the light truck sales share has risen each year – rising a combined 10.8 percentage points between 2013-2016, inclusive. In 2015, the light truck sales share rose to a then record high of 56.8 percent – eclipsing the prior record high of 55.6 percent set in 2004. In 2016, the light truck sales share rose 3.9 percentage points to a new record high of 60.6 percent. While bringing vehicle makers higher profitability per unit, the record high light truck sales share exposes makers to greater downward risks from economic slowdowns and higher fuel prices.

U.S. vehicle production declined each year from 2003 to 2009. During these years, U.S. vehicle production decreased 6.5 million units or 53.2 percent. Production began to increase again in 2010 and by 2015, production was up 108.6 percent from 2009. Through November, year-to-date 2016 U.S. vehicle production was up 2.1 percent from 2015.

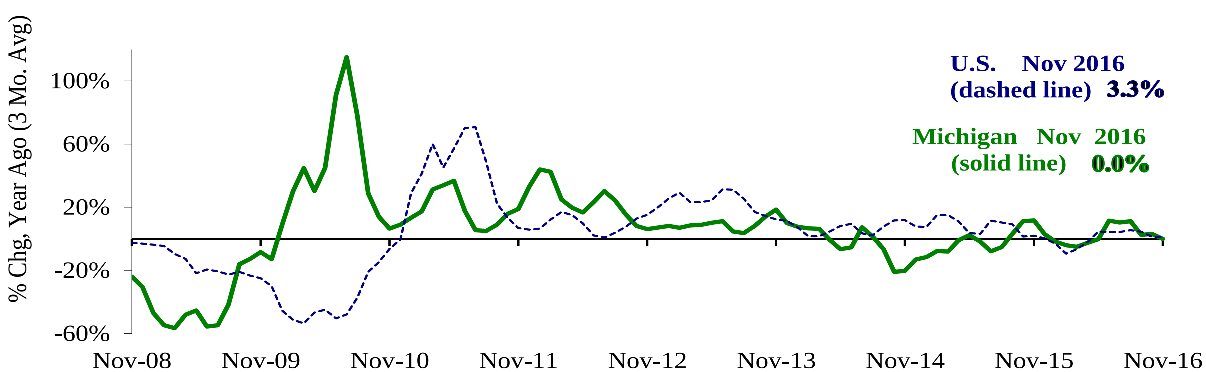
Current Michigan Economic Conditions

Vehicle Production

In 2013, **Michigan vehicle production** rose to 2.47 million units - Michigan's highest vehicle production level since 2005. State vehicle production fell 4.7 percent in 2014 to 2.36 million units and dropped 1.3 percent in 2015 to 2.33 million units. Through the first 11 months of 2016, Michigan vehicle production was up 2.5 percent from 2015. Most recently, Michigan vehicle production spanning September 2016-November 2016 was essentially unchanged from State production during September 2015-November 2015.

In 2013, **Michigan's share of U.S. vehicle production** rose to 22.3 percent –the State's highest production share since 2003. However, in 2014, the State's share of U.S. vehicle production fell 2.4 percentage points to 19.9 percent. Michigan's share of national vehicle production fell an additional 0.5 of a percentage point to 19.4 percent in 2015. The State's share of U.S. vehicle production over the first 11 months of 2016 equaled 19.5 percent. Over the most recent three month period, Michigan vehicle production accounted for 18.7 percent of U.S. vehicle production.

Michigan Vehicle Trending Steady from Year Ago



Source: Automotive News and Michigan Department of Treasury.

Employment

In 2015, **Michigan wage and salary employment** rose for a fifth straight year with 1.5 percent growth, ranking 26th among U.S. states. At 4.2 million jobs, 2015 Michigan wage and salary employment represented the State's highest employment level since 2007. Rising by a total of 380,100 jobs between 2010 and 2015, Michigan wage and salary employment increased 9.8 percent (the 15th fastest percent growth among U.S. states).

During the first 11 months of 2016, Michigan wage and salary employment is up 2.2 percent from a year ago – ranking 15th fastest among U.S. states. Over the first 11 months of 2016, Michigan employment rose from the prior month eight times. On net, Michigan employment has risen a net 70,900 jobs in the first 11 months of 2016. Slightly more than half of the net 70,900 jobs increase occurred between January and March, inclusive (the most recent months of 2016 for which State employment data were available for the May 2016 Consensus Conference).

November 2016 Michigan wage and salary employment is up by 84,000 jobs compared with November 2015 employment. The 84,000 jobs increase represents a 2.0 percent increase in employment between November 2015 and November 2016 – ranking 16th fastest among U.S. states

Michigan's overall wage and salary employment has increased 13.6 percent **since the end of the Great Recession** (June 2009). The 13.6 percent growth represents the 13th strongest growth rate among all U.S. states

Manufacturing employment in Michigan increased each year from 2010 to 2015 with gains of 2.4 percent in 2010, 7.6 percent in 2011, 5.5 percent in 2012, 3.3 percent in 2013, 4.6 percent in 2014 and 2.7 percent in 2015. Over the past five years, State manufacturing employment increased by 121,300 jobs. Thus, manufacturing employment accounted for 31.9 percent of the overall State employment increase over the past five years, even while comprising only 12.1 percent of the overall *level* of 2010 Michigan wage and salary employment. In 2015, manufacturing employment accounted for 25.1 percent of the overall 2015 annual State wage and salary employment increase – down from the sector's 34.9 percent share of the overall increase in 2014.

In the eight months since the May 2016 Consensus Conference (April 2016-November 2016), Michigan manufacturing employment has fluctuated resulting in a slight sector jobs net gain. In April, sector employment rose by 7,000 jobs but then declined by 5,800 jobs in May. Manufacturing employment rose in June and July with a cumulative increase of 8,300 jobs. Sector employment dropped by 7,300 jobs in August before rising slightly in September and October with a cumulative gain of 2,700 jobs. Most recently, manufacturing employment declined by 3,800 jobs in November. On net, Michigan manufacturing employment rose a net 1,100 jobs over the past eight months. Over the past year (November 2015-November 2016), Michigan manufacturing employment rose a net 3,400 jobs, accounting for only 4.0 percent of the overall 84,000 state net jobs gain over the past year.

Michigan construction employment has risen in each of the past five years with sector gains of 3.0 percent in 2011, 2.3 percent in 2012, 4.1 percent in 2013, 6.2 percent in 2014 and 4.3 percent in 2015 Year-to-date through November, 2016 Michigan construction employment is up .3.6 percent. Monthly construction sector employment declined each month between April 2016 and July 2016, inclusive, with sector employment dropping a cumulative 7,300 jobs. However, sector employment has risen in three of the four most recent months (August-November) with a net increase of 10,400 jobs. Thus, since the May Consensus Conference, Michigan construction employment increased by a net 3,100 jobs.

Compared to a year ago, November 2016 State construction employment was up 9,000 jobs from last November – accounting for 10.7 percent of the overall State employment increase between November 2015 and November 2016.

In 2009, **Michigan's unemployment rate** rose to 13.7 percent – the State's highest rate since 1983 when the rate stood at 14.4 percent. However, in each year between 2010 and 2015, inclusive, the State's unemployment rate decreased. Over the past six years, Michigan's unemployment rate dropped a combined 8.3 percentage points. In 2015, the Michigan unemployment rate fell 1.9 percentage points to 5.4 percent, the State's lowest annual unemployment rate since 2001. Year-to-date through November, Michigan's 2016 unemployment rate averaged 4.7 percent.

During the Great Recession (December 2007-June 2009), the **gap between Michigan's unemployment rate and the U.S. unemployment rate** rose to 5.4 percentage points. Within a year after the Great Recession, the gap shrank to 3.0 percent and within two years, the gap fell to 1.4 percentage points. The gap fluctuated around 1.0 percent between mid-2011 and mid-2014. The gap decreased over the next year and by mid-2015, the gap was essentially eliminated. Between May 2015 and February 2016, the Michigan unemployment rate equaled or was within 0.1 of a percentage point of the U.S. unemployment rate. In February 2016, the Michigan unemployment rate was 0.1 of a percentage point *lower* than the national rate. Prior to February 2016, the last time the Michigan unemployment rate was lower than the U.S. unemployment rate was in August 2000. In all but one month between February 2016 and October 2016, inclusive, the Michigan unemployment remained lower than the national rate. In July, Michigan's unemployment rate was 0.4 of a percentage point lower than the U.S. unemployment rate. The gap remained at 0.4 of a percentage point in August. The 0.4 of a percentage point gap represented the greatest amount by which Michigan's rate was below the U.S. rate since May 2000. In September, the gap shrank to 0.3 of a percentage point. The gap then shrank to 0.1 of a percentage point in October 2016. Most recently, in November 2016, the Michigan unemployment rate rose above the U.S. unemployment rate by 0.3 of a percentage point.

Michigan total household employment fell in each month between September 2005 and November 2009 with household employment falling a combined 581,500 persons (12.2 percent). Between December 2009 and June 2011, household employment changed little. However, between July 2011 and April 2016, total household employment trended upward and regained a net 465,100 persons. Between May 2016 and August 2016, State total employment dropped each month with declines totaling 53,700 persons. However in the three most recent months (September-November), Michigan total household employment regained 44,200 jobs. Thus, in the eight months reported since the May 2016 Consensus Conference (April-November, inclusive), Michigan total employment rose slightly (7,500 persons). Compared to a year ago, November 2016 Michigan total household employment was up 111,400 persons (2.5 percent). Michigan's monthly total household employment has been up compared to a year earlier each month since August 2011.

Michigan's labor force fell every year between 2006 and 2012, inclusive. Over the seven years, the State's annual labor force dropped a combined 410,600 persons. The State's annual labor force increased 1.2 percent in 2013 and rose 0.5 percent in 2014 with the annual labor force rising a combined 81,800 persons. In 2015, Michigan's labor force fell very slightly (-0.1 percent). Michigan's labor force rose from the prior month each month between July 2015 and April 2016. The Michigan labor force then fell each month between May and August, inclusive. Most recently, however, the Michigan labor force rose in each of the following three months (September-November, inclusive). Thus, in the eight months reported since the May Consensus Conference, the Michigan labor force increased 15,100 persons. Compared to a year ago, November 2016 Michigan labor force was up 109,100 persons (2.3 percent). Michigan's monthly labor force has been up compared to a year earlier each month since October 2015.

Between November 2015 and November 2016, **Michigan unemployment** fell 2,300 persons (0.9 percent). Compared to unemployment at the end of the Great Recession, November 2016 unemployment is down by 497,400 persons.

Housing Market

Despite not being one of the major participants in the housing boom, Michigan was hit disproportionately hard by the housing bust due to sharply declining employment. However, the State's housing market has recently seen signs of improvement.

Michigan housing unit authorizations have increased in each of the past six years. In 2010, 2012 and 2013, annual increases exceeded 25 percent. While State housing unit authorizations rose just 1.1 percent 2014, State housing unit authorizations increased 14.4 percent in 2015. Nationally, in 2015, authorizations increased 13.0 percent.

From 2009 to 2015, Michigan authorizations rose 164.8 percent, compared with a 102.9 percent increase nationally. However, in 2015, Michigan authorizations were still 64.7 percent below the State's 1996-2005 annual average (51,688 units). Total U.S. authorizations in 2015 were 24.5 percent below the national average from 1996-2005. As a result, while accounting for an average of 3.3 percent of overall U.S. authorizations between 1996 and 2005, Michigan authorizations accounted for only 1.5 percent of U.S. authorizations in 2015. Year-to-date, through November, 2016 Michigan housing authorizations are up 0.3 percent, compared with 1.6 percent growth nationally. (Census Bureau)

In October 2016, according to **Case-Shiller house price measures** (seasonally adjusted), the Detroit MSA recorded a 6.4 percent year-over-year house price increase, compared to a 5.1 percent average increase for the 20 U.S. metro areas surveyed for the measure. Detroit's 6.4 percent year-over-year increase ranked 7th highest among the 20 metro areas.

According to CoreLogic, Michigan saw the 5^{th} largest year-over-year decline in inventory of foreclosure homes (37.1 percent) between October 2015 and October 2016. Michigan had the second highest number of **completed foreclosures** for the 12 months ending October 2016 with 48,150 completed foreclosures. However, in October 2016, Michigan had the 5^{th} smallest **percent of homes in foreclosure**.

The **share of mortgage properties underwater (negative equity)** in Michigan is substantially higher than the national average. In 2016Q3, nationwide, 6.3 percent of residential properties with mortgages were underwater nationally. In Michigan, 8.9 percent of such properties were underwater –ranking Michigan 10^{th} highest among the fifty states behind Nevada (14.2 percent), Florida (12.5 percent), Arizona (10.6 percent), Illinois (10.6 percent), Rhode Island (10.0 percent), Maryland (9.5 percent), New Jersey (9.3 percent), Ohio (9.3 percent), and Connecticut (9.0 percent). (CoreLogic)

Personal Income

Michigan annual personal income has grown each year between 2010 and 2015. Michigan personal income increased 3.4 percent in 2010. In 2011, Michigan personal income growth accelerated to 6.2 percent before slowing to 3.6 percent in 2012 and 1.4 percent in 2013. However, in 2014, Michigan personal income growth accelerated to 4.6 percent. In 2015, Michigan personal income also grew 4.6 percent. Michigan's 4.6 percent income growth in 2015 ranked 13^{th} among U.S. states. Michigan's 2015 per capita income increase (4.6 percent) ranked 5^{th} among U.S. states. (Bureau of Economic Analysis)

Michigan's quarterly personal income grew from the prior year in all but one quarter between 2010Q1-2016Q3 (the latest quarter available). Most recently, in 2016Q3, Michigan personal income was up 3.9 percent from a year ago (ranking 14^{th} among U.S. states). In 2016Q3, Michigan personal income growth outpaced national personal income growth by 0.4 of a percentage point.

Each quarter between 2010Q2 and 2016Q3, **Michigan wage and salary income** rose from a year ago with increases ranging from 0.9 percent and 8.2 percent. After slowing from 5.6 percent y-o-y growth in 2014Q4 to 4.1 percent in 2015Q1, Michigan wage and salary growth accelerated to 4.5 percent in 2015Q2, 5.1 percent in 2015Q3 and 6.5 percent in 2015Q4. In 2016Q1, Michigan wage and salary growth slowed to 5.4 percent, where it remained in 2016Q2 before accelerating slightly to 5.5 percent in 2016Q3. Michigan's 2016Q3 y-o-y wage and salary growth ranked 8^{th} among the 50 states. Nationally, wage and salary income rose 4.6 percent between 2015Q3 and 2016Q3.

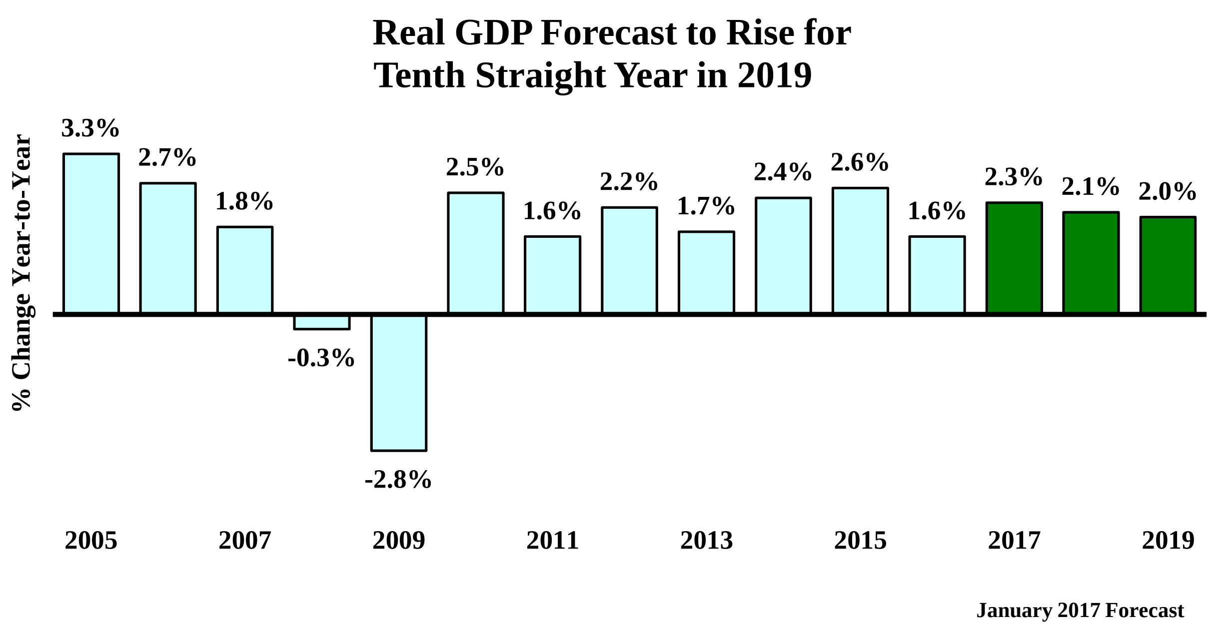
After year-over-year declines in 12 straight quarters from 2007Q2 to 2010Q1, **Michigan manufacturing wages and salaries** recorded y-o-y increases in 25 of the most recent 26 quarters (2010Q2-2016Q3). Between 2010Q2 and 2016Q3, Michigan manufacturing wages outpaced overall U.S. manufacturing sector wages in 22 of the 26 quarters. At 6.1 percent, Michigan manufacturing y-o-y wage growth in 2016Q3 ranked 8^{th} fastest among U.S. states. Michigan manufacturing wage growth in 2016Q3 outpaced national manufacturing wage growth by 2.6 percentage points.

Historically and most recently, manufacturing wages accounted for a substantially larger share of overall wage growth in Michigan compared with the U.S. overall. In 2016Q3, the manufacturing sector accounted for 19.6 percent of overall Michigan y-o-y wage growth, compared with 7.8 percent nationally.

2017, 2018 and 2019 U.S. Economic Outlook

Summary

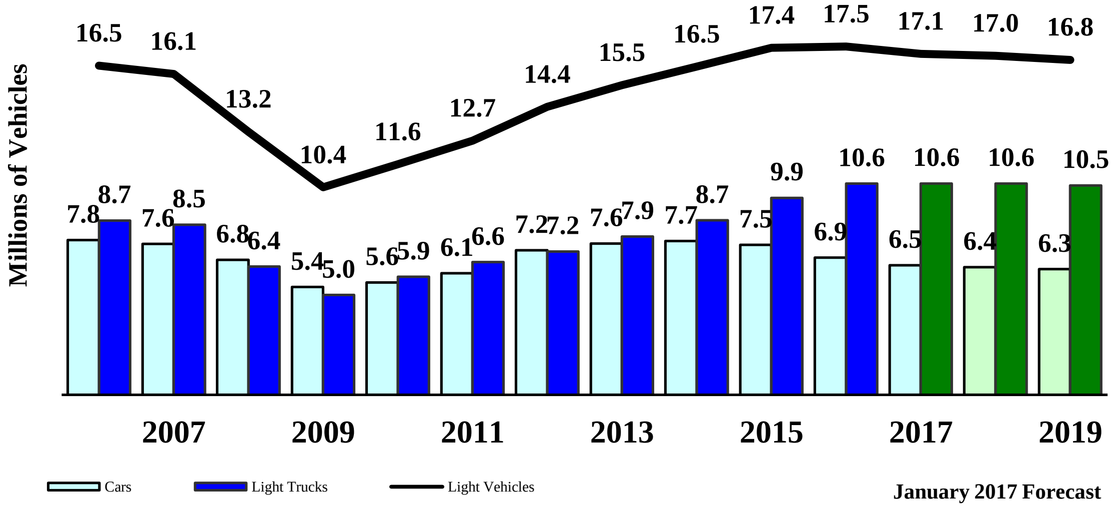
Inflation adjusted GDP rose 2.6 percent in 2015, marking the sixth straight year of annual growth. Real GDP increased at an estimated rate of 1.6 percent in 2016, and is expected to increase 2.3 percent in 2017, 2.1 percent in 2018 and 2.0 percent in 2019.



Source: Bureau of Economic Analysis, U.S. Department of Commerce, and Administration Forecast, Jan 2017.

In 2016, annual **light vehicle sales** rose – although slightly – to a new record high of 17.47 million units. Light vehicle sales are expected to fall over the forecast, but remain at historically high levels of 17.1 million units in 2017, 17.0 million units in 2018 and 16.8 million units in 2019.

Vehicle Sales Fall Slightly Over Forecast



Source: Bureau of Economic Analysis, U.S. Department of Commerce, and Administration Forecast, Jan 2017.

The **U.S. unemployment rate** has fallen in each of the past six years with the unemployment rate dropping from a near post-World War II record high 9.6 percent in 2010 to 4.9 percent in 2016. The U.S. rate is forecast to fall to 4.7 percent in 2017 and to decline to 4.6 percent in 2018. In 2019, the national unemployment rate is expected to remain unchanged at 4.6 percent.

U.S. wage and salary employment rose 1.7 percent in 2016. U.S. employment is forecast to increase 1.5 percent in 2017, 1.2 percent in 2018 and 1.0 percent in 2019 U.S. wage and salary employment in 2014 rose above the previous national peak employment level set in 2007. The U.S. employment level then rose to a new record annual high in 2015 and again in 2016. With forecasted increases in 2017, 2018 and 2019, calendar year 2019 national employment is expected to be 8.5 percent above the pre-2014 peak employment level.

U.S. consumer price inflation slowed sharply to 0.1 percent in 2015 and then accelerated to an estimated 1.2 percent rate in 2016. In 2017 and in 2018, the overall price level is forecast to rise 2.0 percent before increasing 2.2 percent in 2019. The personal consumption inflation rate is projected to accelerate from an estimated 1.1 percent in 2016 to 2.0 percent in 2019.

In 2016, the **short-term Treasury bill rate** rose to an estimated 0.3 percent. As a result of increases in the federal funds rate, the short-term Treasury bill rate is forecast to average 0.8 percent in 2017, 1.3 percent in 2018 and 1.9 percent in 2019 – which would be the highest short-term Treasury bill rate since 2007.

Corporate interest rates fell to an estimated 3.5 percent in 2016 from 3.9 percent in 2015. In 2017, the Aaa bond rate is forecast to rise to 3.6 percent. After rising to 3.9 percent in 2018, the corporate rate is projected to increase to 4.1 percent in 2019.

The **30-year fixed mortgage rate** dropped to 3.9 percent in 2015 and fell to an estimated 3.6 percent in 2016. Mortgage rates are forecast to rise to 3.8 percent in 2017, 4.2 percent in 2018 and 4.5 percent in 2019.

Throughout the forecast horizon, the **housing market** is expected to strengthen and housing starts are forecast to increase each year. Consequently, housing starts in 2019 (1.36 million units) are expected to be 22.4 percent higher than starts in 2015. Nevertheless, 2019 starts will remain well below the average 1.7 million annual starts in the ten years before the housing bust.

Assumptions

The forecast expects **real (inflation-adjusted) federal government expenditures** to increase 1.5 percent in calendar year (CY) 2017, rise 1.3 percent in CY 2018 and then grow 1.2 percent in CY 2019.

In 2015, **oil prices** per barrel averaged $49 per barrel – down nearly 50 percent from average oil prices in 2014. Average annual oil prices fell to an estimated $43 per barrel in 2016. Oil prices are expected to rise to an average of $52 per barrel in 2017 and increase to an average of $58 per barrel in 2018. In 2019, oil prices are projected to rise to $63 per barrel.

After having held the **federal funds rate** near zero since December 2008, the Fed raised the federal funds rate 25 basis points in late 2015. The Fed next increased the federal fund rate an additional 25 basis points in December 2016. Beginning in mid-2017, the Fed is expected to increase the federal funds rate at a rate of 25 basis points every six months through mid-2019. each quarter. The Fed is then expected to raise the federal funds rate an additional 25 basis points in late 2019. As a result, the federal funds rate will rise from an average of 0.42 percent in 2016Q4 to 2.17 percent in 2019Q4.

The level of **real state and local government expenditures** is expected to increase in each year of the three-year forecast horizon. Real state and local government expenditures are expected to rise 0.8 percent in 2017, 1.1 percent in 2018 and 1.2 percent in 2019.

Over the forecast horizon, the **savings rate** is assumed to rise from 6.0 percent in 2016 to 6.3 percent in 2017, 6.7 percent in 2018 and 6.8 percent in 2019.

Rest-of-world growth is rise 1.8 percent in 2017. The growth rate is then expected to accelerate to 2.0 percent in 2018 and 2.1 percent in 2019.

Table 1

Administration Economic Forecast

January 2017

	Calendar 2015 Actual	Calendar 2016 Forecast	Percent Change from Prior Year	Calendar 2017 Forecast	Percent Change from Prior Year	Calendar 2018 Forecast	Percent Change from Prior Year	Calendar 2019 Forecast	Percent Change from Prior Year
United States									
Real Gross Domestic Product (Billions of Chained 2009 Dollars)	$16,397	$16,659	1.6%	$17,042	2.3%	$17,400	2.1%	$17,748	2.0%
Implicit Price Deflator GDP (2009 = 100)	110.0	111.4	1.3%	113.2	1.6%	115.4	1.9%	117.9	2.2%
Consumer Price Index (1982-84 = 100)	237.017	239.856	1.2%	244.607	2.0%	249.498	2.0%	254.944	2.2%
Consumer Price Index - Fiscal Year (1982-84 = 100)	236.742	238.939	0.9%	243.482	1.9%	248.239	2.0%	253.513	2.1%
Personal Consumption Deflator (2009 = 100)	109.5	110.7	1.1%	112.6	1.7%	114.6	1.8%	116.9	2.0%
3-month Treasury Bills Interest Rate (percent)	0.05	0.31		0.8		1.3		1.9	
Aaa Corporate Bonds Interest Rate (percent)	3.9	3.5		3.6		3.9		4.1	
Unemployment Rate - Civilian (percent)	5.3	4.9		4.7		4.6		4.6	
Wage and Salary Employment (millions)	141.865	144.319	1.7%	146.480	1.5%	148.240	1.2%	149.720	1.0%
Housing Starts (millions of starts)	1.112	1.156	4.0%	1.246	7.8%	1.319	5.9%	1.361	3.2%
Light Vehicle Sales (millions of units)	17.4	17.5	0.4%	17.1	-2.1%	17.0	-0.6%	16.8	-1.2%
Passenger Car Sales (millions of units)	7.5	6.9	-8.6%	6.5	-5.4%	6.4	-1.5%	6.3	-1.6%
Light Truck Sales (millions of units)	9.9	10.6	7.2%	10.6	0.1%	10.6	0.0%	10.5	-0.9%
Big 3 Share of Light Vehicles (percent)	43.6	42.9		43.4		43.7		43.8	
Michigan									
Wage and Salary Employment (thousands)	4,244	4,329	2.0%	4,376	1.1%	4,424	1.1%	4,469	1.0%
Unemployment Rate (percent)	5.4	4.6		4.5		4.5		4.5	
Personal Income (millions of dollars)	$424,807	$440,100	3.6%	$458,144	4.1%	$478,303	4.4%	$499,348	4.4%
Real Personal Income (millions of 1982-84 dollars)	$194,237	$198,043	2.0%	$201,726	1.9%	$206,610	2.4%	$211,154	2.2%
Wages and Salaries (millions of dollars)	$214,703	$224,579	4.6%	$232,889	3.7%	$241,971	3.9%	$251,166	3.8%
Detroit Consumer Price Index (1982-84 = 100)	218.706	222.225	1.6%	227.112	2.2%	231.500	1.9%	236.485	2.2%

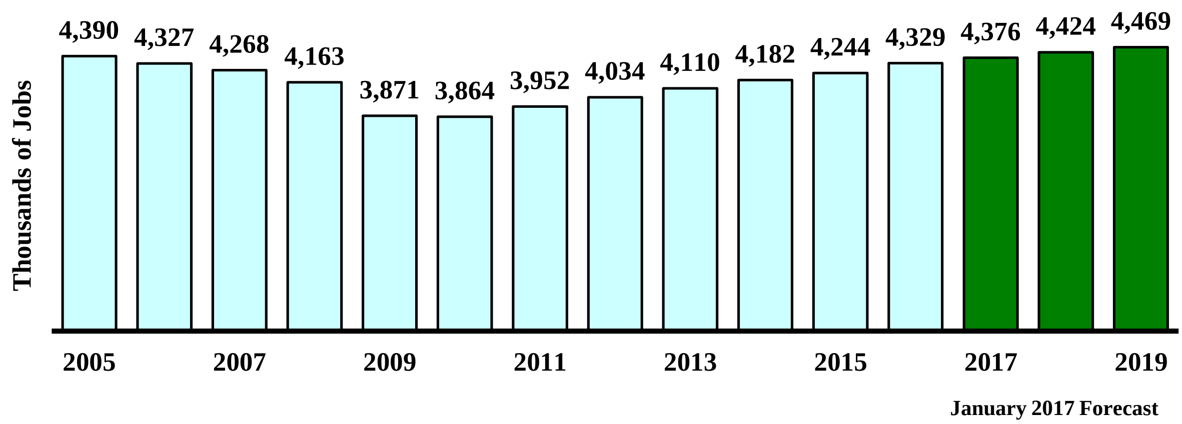
2017, 2018 and 2019 Michigan Economic Outlook

Following ten straight annual declines between 2001 and 2010, inclusive, **Michigan wage and salary employment** reported its sixth straight annual employment increase in 2016. In 2016, Michigan employment increased an estimated 2.0 percent. State employment is forecast to grow (although more slowly) in each of the next three years: 1.1 percent in 2017, 1.1 percent in 2018 and 1.0 percent in 2019. At 4.5 million jobs, the forecasted Michigan wage and salary employment level in 2019 would represent the State's highest employment level since 2002. However, forecasted 2019 Michigan employment would remain 207,000 jobs (4.4 percent) below the State's peak annual employment set in 2000 (4.7 million jobs).

In 2015, **Michigan private non-manufacturing employment** rose 47,700 jobs. Private non-manufacturing employment is estimated to have gained a net 69,100 jobs in 2016 and is forecast to gain 52,900 jobs in 2017, 50,000 jobs in 2018 and 44,100 jobs in 2019.

In 2015, **State manufacturing employment** rose 2.7 percent. Michigan manufacturing employment growth slowed to an estimated 2.1 percent in 2016. State manufacturing employment is projected to decline 1.1 percent in 2017, fall 0.5 percent in 2018 and drop 0.4 percent in 2019. Consequently, Michigan manufacturing employment is forecast to decline a cumulative 11,900 jobs over three years of the forecast.

Michigan Wage and Salary Employment Continues to Rise



Source: Michigan Department of Labor and Economic Growth, U.S. Bureau of Labor Statistics, and January 2017 Administration Forecast.

Michigan transportation equipment employment increased 4.3 percent in 2015. The sector's employment is estimated to have grown 2.0 percent in 2016. In 2017, transportation equipment employment is forecast to decline 1.0 percent. The sector's employment is projected to decrease 0.4 percent in 2018 before rising 0.2 percent in 2019. Forecasted 2019 transportation equipment employment of 175,100 jobs remains down 47.8 percent from the sector's CY 2000 employment of 335,300 jobs.

The **Michigan unemployment rate** dropped substantially to 5.4 percent in 2015 from 7.3 percent in 2014. The State's rate fell to an estimated 4.6 percent in 2016. In 2017, the rate is projected to drop very slightly to 4.5 percent. The Michigan unemployment rate is then forecast to remain unchanged at 4.5 percent in both 2018 and 2019.

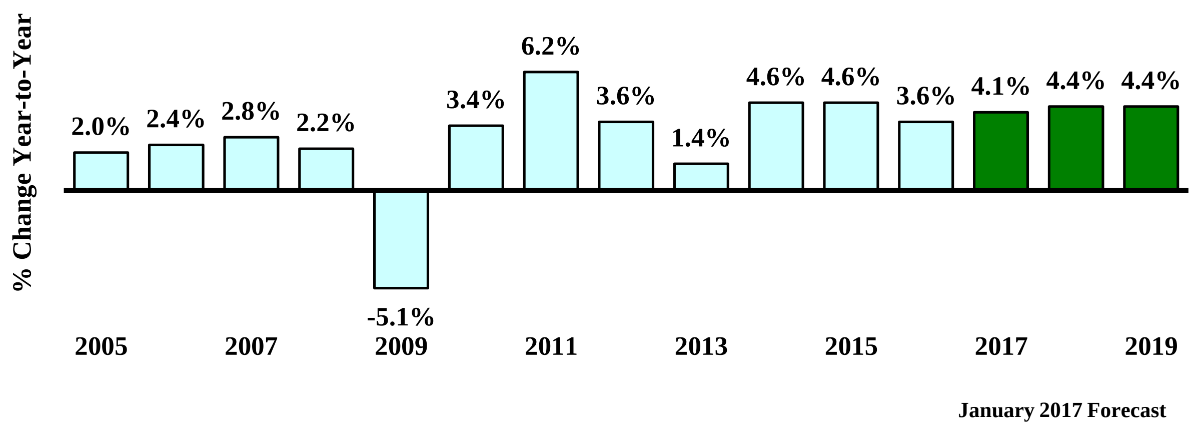
In 2015, **Michigan wages and salaries** rose 5.1 percent. Wages and salaries are estimated to have risen 4.6 percent in 2016. Wages and salaries are forecast to rise each year of the forecast with increases of 3.7 percent in 2017, 3.9 percent in 2018 and 3.8 percent in 2019.

In 2015, **Michigan personal income** rose 4.6 percent. In 2016, State personal income increased an estimated 3.6 percent. State personal income is forecast to rise 4.1 percent in 2017, 4.4 percent in 2018 and 4.4 percent in 2019.

The overall price level, as measured by the **Detroit CPI**, increased 1.0 percent in 2014, but declined 1.4 percent in 2015, marking the first year of annual deflation since 2009 and the largest annual Detroit CPI index percent decline since 1939. The overall price level rose an estimated 1.6 percent in 2016. Over the forecast horizon, the overall price level is projected to rise each year with increases of 2.2 percent in 2017, 1.9 percent in 2018 and 2.2 percent in 2019.

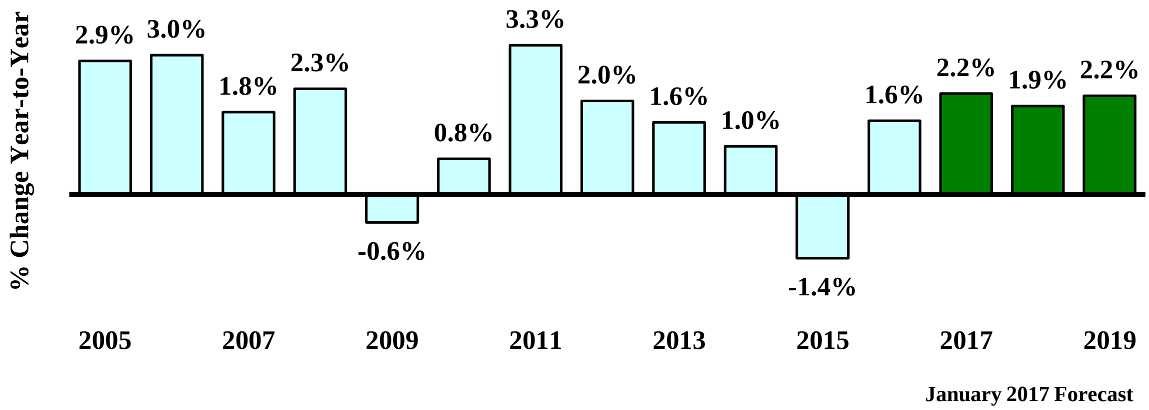
In 2016, **real (inflation adjusted) Michigan personal income** grew an estimated 2.0 percent in 2016. Real Michigan personal income growth is forecast to slow to 1.9 percent in 2017, accelerate to 2.4 percent in 2018 and then slow to 2.2 percent in 2019.

Michigan Personal Income Reports Solid Growth



Source: Bureau of Economic Analysis, U.S. Department of Commerce, and Administration Forecast, Jan 2017.

Overall Price Level Rises Across Forecast
Detroit CPI



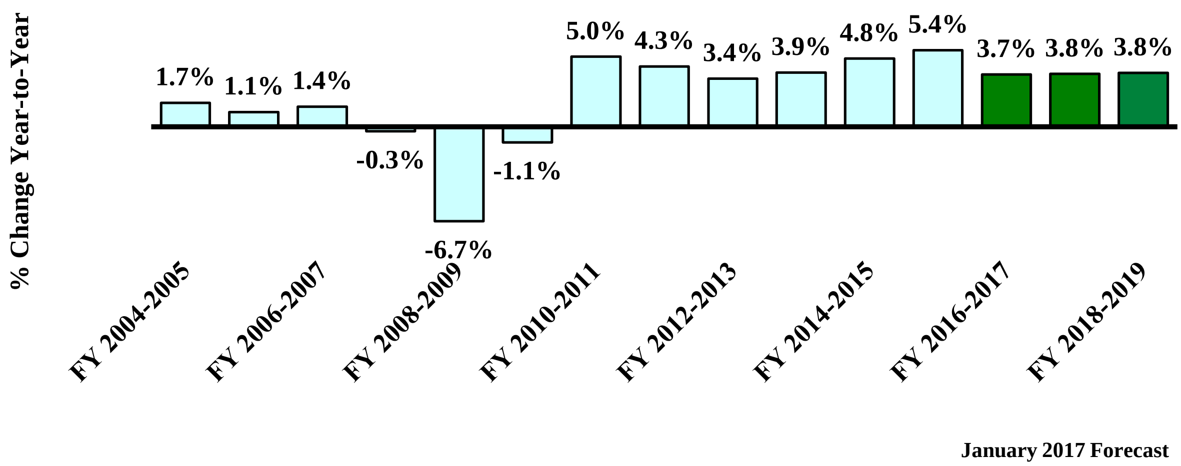
Source: U.S. Bureau of Labor Statistics and Administration Forecast, May 2016.

Fiscal Year Economics

Michigan's largest taxes are the individual income tax ($11.2 billion in FY 2016) and sales and use taxes ($8.7 billion). Income tax withholding is the largest income tax component of the income tax. Withholding ($9.7 billion) is most affected by growth in wages and salaries. **Michigan wages and salaries** rose 3.9 percent in FY 2014, increased 4.8 percent in FY 2015 and rose 5.7 percent in FY 2016. State wages and salaries are forecast to increase 3.7 percent in FY 2017, 3.8 percent in FY 2018 and 3.8 percent in FY 2019.

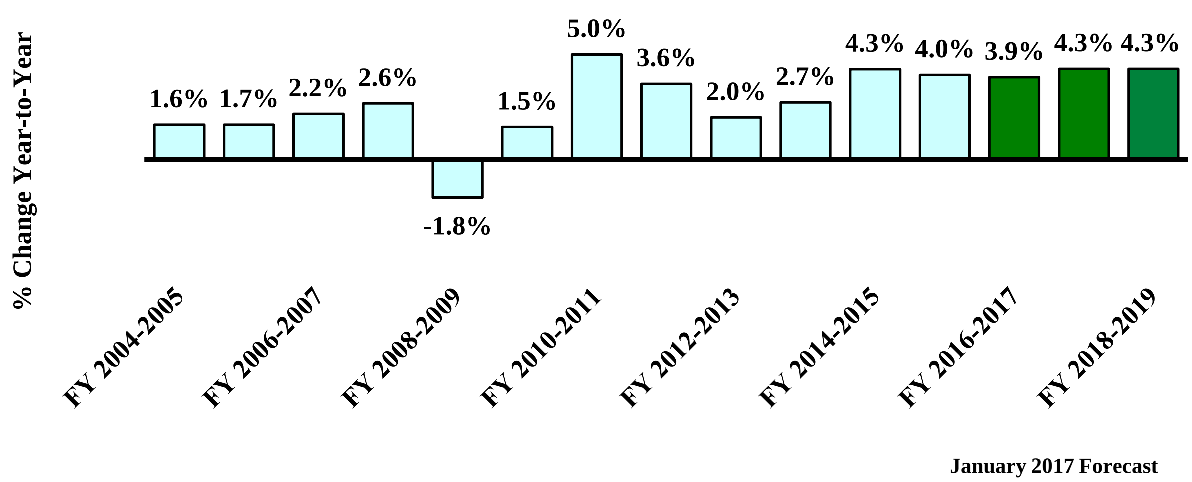
Sales and use taxes depend primarily on **Michigan disposable (after tax) income** and inflation. Having risen 4.3 percent in fiscal year 2015, disposable income increased 4.0 percent in FY 2016. Disposable income is projected to increase 3.9 percent in FY 2017, 4.3 percent in FY 2018 and 4.3 percent in FY 2019. Prices, as measured by the **Detroit CPI**, fell 1.2 percent in FY 2015 and then increased 1.0 percent in FY 2016. The Detroit CPI is forecast to rise 2.2 percent in FY 2017, to increase 1.9 percent in FY 2018 and to rise 2.1 percent in FY 2019.

Michigan Wages and Salaries Rise Throughout Forecast
Basis for Income Tax Withholding Collections



Source: Bureau of Economic Analysis, U.S. Department of Commerce, and Administration Forecast, January 2017.

Michigan Disposable Income Increases
Basis for Sales and Use Tax Collections



Source: Research Seminar in Quantitative Economics, University of Michigan, and Administration Forecast, January 2017.

Forecast Risks

As with any economic forecast, the current recovery faces some risks.

International Economies and Geopolitical Tensions. Europe's ongoing economic recovery may weaken unexpectedly. In addition, Chinese economic growth may slow substantially. International geopolitical and military tensions have also heightened recently – along with concerns about those tensions' impact on the U.S. economy.

Fiscal Policy. Donald Trump's election to President combined with continued Republican control of both houses of Congress increases the likelihood of the enactment of major fiscal legislation. (taxation and spending); however, substantial uncertainty surrounds the composition and timing of any fiscal legislation that might be enacted over the forecast horizon. In addition, risk surrounds the economic impact of possible international trade or immigration actions that might be taken

Oil Prices. Two major uncertainties surround oil price's impact on the U.S. and Michigan economies:

- The direction and magnitude of changes in oil prices. Over the forecast horizon, oil prices are projected to rise gradually from the mid $40 per barrel range to the mid $60 per barrel range. Geopolitical concerns, increased demand, or a major supply disruption could raise oil prices well above the assumed range. In addition, stronger/weaker foreign economies than predicted will raise/lower oil prices from the assumed price levels.

- The net impact of oil price's more immediate impact on capital investment and financial markets and oil price's impact on consumer spending and household investment. Lower oil prices have increased household discretionary income and consumer sentiment, but in general have not boosted consumer spending. As oil prices remain low, consumers are expected to spend more of their gasoline savings. If this does not occur, economic growth will be slower than expected.

Monetary Policy. In December 2016, the Fed raised the federal funds rate by 0.25 of a percentage point -- a full year after the Fed's first rate increase since the Great Recession. While indicating that only gradual rate increases will be warranted, the Fed has indicated that its future actions will be highly data dependent -- uncertainty surrounds the timing and size of future rate increases. On the one hand, there is concern that the Fed will raise rates too quickly and risk stalling economic growth. To the extent to which inflation remains below the Fed's target 2.0 percent rate, deflation and its contractionary impacts remain a concern. There is also some concern that the Fed will raise rates too slowly and risk "overheating" financial/economic markets. Finally, uncertainty surrounds households' and businesses' reactions to future Fed actions -- especially given the great length of time over which interest rates have been extremely low.

The FOMC continues to reinvest principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and continues to roll over maturing Treasury securities at auction. Given the FOMC's most recent statement, the Committee is unlikely to make any substantial changes in its level of holdings over the forecast horizon.

Housing Market. Projected 2019 starts are 22 percent higher than 2015 housing starts. If the housing market fails to grow as forecasted, the U.S. and Michigan economies would be weaker than expected. Higher than expected mortgage rates could severely curtail housing market growth. However, despite the projected increases, forecasted 2019 starts total 1.4 million units – significantly below average starts in the ten years prior to the housing bust (1.7 million units). A stronger than forecasted housing market would boost the overall economy.

Great Recession. The Great Recession did serious damage to household balance sheets and psyches, and significantly tightened credit conditions. Substantial uncertainty surrounds the negative impact on consumer and investor sentiment.

Light Vehicle Sales. According to the forecast, light vehicle sales remain at historically high levels in 2017, 2018 and 2019. In addition, light trucks' historically large share of light vehicle sales likely heightens the severity of the negative impact higher oil prices and a weaker economy will have on light vehicle sales.

ADMINISTRATION REVENUE ESTIMATES
January 12, 2017

Revenue Estimate Overview

The revenue estimates presented in this section consist of baseline revenues, revenue adjustments, and net revenues. Baseline revenues provide an estimate of the effects of the economy on tax revenues. For these estimates, FY 2016 is the base year. Any non-economic changes to the taxes occurring in FY 2017, FY 2018 and FY 2019 are not included in the baseline estimates. Non-economic changes are referred to in the tables as "tax adjustments". The net revenue estimates are the baseline revenues adjusted for tax adjustments.

This treatment of revenue is best illustrated with an example. Suppose tax revenues are $10.0 billion in a given year, and that based on the economic forecast, revenues are expected to grow by 5.0 percent per year. Baseline revenue would be $10.0 billion in Year 1, $10.5 billion in Year 2, and $11.0 billion in Year 3. Assume a tax rate cut is in place that would reduce revenues by $100 million in Year 1, $200 million in Year 2, and $300 million in Year 3. If Year 1 is the base year, the revenue adjustments for Year 1 would be $0 since the tax cut for this year is included in the base. The revenue adjustments for Year 2 would be $100 million, and the revenue adjustments for Year 3 would be $200 million, since the revenue adjustments are compared to the base year.

In the example above, the baseline revenues would be $10.0 billion, $10.5 billion, and $11.0 billion, for Years 1 through 3, respectively. The revenue adjustments would be $0 in Year 1, $100 million in Year 2, and $200 million in Year 3. The $200 million in Year 3 represents the tax cuts since Year 1. Net revenue would be $10.0 billion in Year 1, $10.4 billion in Year 2, and $10.8 billion in Year 3.

The following revenue figures are presented on a Consensus basis. Generally speaking, the Consensus estimates do not include certain one-time budget measures, such as withdrawals from the Budget Stabilization Fund, the sale of buildings, and so on. The figures also do not include constitutional revenue sharing payments to local governments from the sales tax. In addition, the estimates only include enacted legislation and do not include the effects of any proposed changes. The School Aid Fund estimates consist of taxes plus the transfer from the State Lottery Fund.

FY 2016 Revenue Outlook

FY 2016 GF-GP totaled $10,015.4 million, a 0.2 percent decrease compared to FY 2015. The FY 2016 GF-GP total is $281.3 million above the May 2016 Consensus estimate. SAF revenue totaled $12,118.7 million representing a 3.2 percent increase compared to FY 2015. The FY 2016 SAF estimate is $51.3 million above the May 2016 Consensus estimate (see Table 2).

Table 2

FY 2015-16 Preliminary Final Revenue Estimates

(millions)

	Preliminary FY 2016 Amount	Preliminary FY 2016 Growth	Change fron May 2016 Consensus
General Fund - General Purpose			
Baseline Revenue	$11,000.5	3.4%	---
Tax Cut Adjustments	($985.1)	---	---
Net Resources	$10,015.4	-0.2%	$281.3
School Aid Fund			
Baseline Revenue	$12,181.6	3.2%	---
Tax Cut Adjustments	($62.9)	---	---
Net Resources	$12,118.7	3.2%	$51.3
Combined			
Baseline Revenue	$23,182.2	3.3%	---
Tax Cut Adjustments	($1,048.1)	---	---
Net Resources	$22,134.1	1.6%	$332.6

Prepared By: Office of Revenue and Tax Analysis, Michigan Department of Treasury

FY 2017 Revenue Outlook

FY 2017 GF-GP revenue is estimated to be $10,310.6 million, a 2.9 percent increase compared to FY 2016. The FY 2017 GF-GP revenue estimate is $172.1 million above the May 2016 Consensus estimate. SAF revenue is forecast to be $12,473.4 million; representing a 2.9 percent increase compared to FY 2016. The FY 2017 SAF estimate is $71.0 million above the May 2016 Consensus estimate (see Table 3).

Table 3

FY 2016-17 Administration Revenue Estimates

(millions)

	Administration January 12, 2017		Change fron May 2016
	Amount	**Growth**	**Consensus**
General Fund - General Purpose			
Baseline Revenue	$11,328.7	3.0%	---
Tax Cut Adjustments	($1,018.1)	---	---
Net Resources	$10,310.6	2.9%	$172.1
School Aid Fund			
Baseline Revenue	$12,486.6	2.5%	---
Tax Cut Adjustments	($13.2)	---	---
Net Resources	$12,473.4	2.9%	$71.0
Combined			
Baseline Revenue	$23,815.3	2.7%	---
Tax Cut Adjustments	($1,031.3)	---	---
Net Resources	$22,784.0	2.9%	$243.1

Prepared By: Office of Revenue and Tax Analysis, Michigan Department of Treasury

FY 2018 Revenue Outlook

FY 2018 GF-GP revenue is estimated to be $10,604.1 million, a 2.8 percent increase compared to FY 2017. The FY 2018 GF-GP revenue estimate is $3.0 million below the May 2016 Consensus estimate. SAF revenue is forecast to be $12,800.8 million; representing a 2.6 percent increase compared to FY 2017. The FY 2018 SAF estimate is $40.0 million above the May 2016 Consensus estimate (see Table 4).

Table 4

FY 2017-18 Administration Revenue Estimates

(millions)

	Administration January 12, 2017		Change from May 2016
	Amount	**Growth**	**Consensus**
General Fund - General Purpose			
Baseline Revenue	$11,707.8	3.3%	---
Tax Cut Adjustments	($1,103.7)	---	---
Net Resources	$10,604.1	2.8%	($3.0)
School Aid Fund			
Baseline Revenue	$12,782.7	2.4%	---
Tax Cut Adjustments	$18.1	---	---
Net Resources	$12,800.8	2.6%	$40.0
Combined			
Baseline Revenue	$24,490.5	2.8%	---
Tax Cut Adjustments	($1,085.6)	---	---
Net Resources	$23,404.9	2.7%	$37.0

Prepared By: Office of Revenue and Tax Analysis, Michigan Department of Treasury

FY 2019 Revenue Outlook

FY 2019 GF-GP revenue is estimated to be $10,736.9 million, a 1.3 percent increase compared to FY 2018. SAF revenue is forecast to be $13,159.1 million; representing a 2.8 percent increase compared to FY 2018 (see Table 5).

Table 5

FY 2018-19 Administration Revenue Estimates

(millions)

	Administration January 12, 2017	
	Amount	**Growth**
General Fund - General Purpose		
Baseline Revenue	$12,115.8	3.5%
Tax Cut Adjustments	($1,378.9)	
Net Resources	$10,736.9	1.3%
School Aid Fund		
Baseline Revenue	$13,117.9	2.6%
Tax Cut Adjustments	$41.2	
Net Resources	$13,159.1	2.8%
Combined		
Baseline Revenue	$25,233.7	3.0%
Tax Cut Adjustments	($1,337.7)	
Net Resources	$23,896.0	2.1%

Constitutional Revenue Limit

Article IX, Section 26, of the Michigan Constitution establishes a limit on the amount of revenue State government can collect in any given fiscal year. The revenue limit for a given fiscal year is equal to 9.49 percent of the State's personal income for the calendar year prior to the year in which the fiscal year begins. For example, FY 2014 revenue is compared to CY 2012 personal income. If revenues exceed the limit by less than 1 percent, the State may deposit the excess into the Budget Stabilization Fund (BSF). If the revenues exceed the limit by more than 1 percent, the excess revenue is refunded to taxpayers.

FY 2015 revenues were $7.4 billion below the revenue limit. State revenues will also be well below the limit for FY 2016 through FY 2019. FY 2016 revenues are expected to be $8.5 billion below the limit, FY 2017 revenues $9.5 billion below the limit, FY 2018 revenues $9.8 billion below the limit, and FY 2019 revenues $10.5 billion below the limit (See Table 6).

Table 6

Administration Revenue Limit Calculation

(millions)

	FY 2015 Final Jan 2017	FY 2016 Admin Jan 2017	FY 2017 Admin Jan 2017	FY 2018 Admin Jan 2017	FY 2019 Admin Jan 2017
Revenue Subject to Limit	$29,277.6	$29,814.0	$30,802.2	$31,969.3	$32,821.5
Revenue Limit	**CY 2013**	**CY 2014**	**CY 2015**	**CY 2016**	**CY 2017**
Personal Income	$386,471	$403,726	$424,807	$440,100	$458,144
Ratio	9.49%	9.49%	9.49%	9.49%	9.49%
Revenue Limit	$36,676.1	$38,313.6	$40,314.2	$41,765.5	$43,477.9
Amount Under (Over) Limit	**$7,398.5**	**$8,499.6**	**$9,512.0**	**$9,796.2**	**$10,656.4**

Budget Stabilization Fund Calculation

The Management and Budget Act contains provisions for calculating a recommended deposit or withdrawal from the BSF. The calculation looks at personal income net of transfer payments. The net personal income figure is adjusted for inflation. The change in this figure for the calendar year determines whether a pay-in or pay-out is recommended. If the formula calls for a deposit into the BSF, the deposit is made in the next fiscal year. If the formula calls for a withdrawal, the withdrawal is made during the current fiscal year.

If real personal income grows by more than 2 percent in a given calendar year, the fraction of income growth over 2 percent is multiplied by the current fiscal year's GF-GP revenue to determine the pay-in for the next fiscal year. If real personal income declines, the percentage deficiency under zero is multiplied by the current fiscal year's GF-GP revenue to determine the withdrawal available for the current fiscal year. If the change in real personal income is between 0 and 2 percent, no pay-in or withdrawal is indicated.

Real calendar year personal income for Michigan is expected to increase 3.3 percent in 2016. Thus, the formula has a pay-in for FY 2017 of $130.2 million (See Table 7). In 2017, real calendar year personal income for Michigan is forecast to increase 1.7 percent, so the formula calls for no pay-in for FY 2018 or pay-out in FY 2017 (See Table 8). In 2017, real calendar year personal income for Michigan is forecast to increase 2.2 percent, so the formula calls for a pay-in of $21.2 million in FY 2019 (See Table 9). Based on the personal income numbers, there is no pay-out in FY 2019 (See Table 10).

Table 7

Budget and Economic Stabilization Fund Calculation
Based on CY 2016 Personal Income Growth
Administration Calculation

	CY 2015	CY 2016
Michigan Personal Income	$ 424,807 [1]	$ 440,100
less Transfer Payments	$ 91,439 [1]	$ 94,290
Income Net of Transfers	$ 333,369	$ 345,810
Detroit CPI	2.195 [2]	2.204
for 12 months ending	(June 2015)	(June 2016)
Real Adjusted Michigan Personal Income	$ 151,890	$ 156,906
Change in Real Adjusted Personal Income		3.3%
Excess over 2%		1.3%
GF-GP Revenue Fiscal Year 2015-2016		$ 10,015.4

	FY 2016-2017
BSF Pay-In Calculated for FY 2017	$ 130.2
	FY 2015-2016
BSF Pay-Out Calculated for FY 2016	NO PAY-OUT

Notes:

[1] Personal Income and Transfer Payments, Administration Forecast, January 2017.

[2] Detroit Consumer Price Index, Administration Forecast, January 2017.

Table 8

Budget and Economic Stabilization Fund Calculation
Based on CY 2017 Personal Income Growth
Administration Calculation

	CY 2016	CY 2017
Michigan Personal Income	$ 440,100 [1]	$ 458,144 [1]
less Transfer Payments	$ 94,290 [1]	$ 98,748 [1]
Income Net of Transfers	$ 345,810	$ 359,396
Detroit CPI	2.204 [2]	2.252 [2]
for 12 months ending	(June 2016)	(June 2017)
Real Adjusted Michigan Personal Income	$ 156,906	$ 159,622
Change in Real Adjusted Personal Income		1.7%
Between 0 and 2%		0.0%
GF-GP Revenue Fiscal Year 2016-2017		$ 10,310.6

	FY 2017-2018
BSF Pay-In Calculated for FY 2018	NO PAY-IN
	FY 2016-2017
BSF Pay-Out Calculated for FY 2017	NO PAY-OUT

Notes:

[1] Personal Income and Transfer Payments, Administration Forecast, January 2017.

[2] Detroit Consumer Price Index, Administration Forecast, January 2017.

Table 9

Budget and Economic Stabilization Fund Calculation
Based on CY 2018 Personal Income Growth
Administration Calculation

	CY 2017		CY 2018	
Michigan Personal Income	$ 458,144	(1)	$ 478,303	(1)
less Transfer Payments	$ 98,748	(1)	$ 104,022	(1)
Income Net of Transfers	$ 359,396		$ 374,282	
Detroit CPI	2.252	(2)	2.294	(2)
for 12 months ending	(June 2017)		(June 2018)	
Real Adjusted Michigan Personal Income	$ 159,622		$ 163,134	
Change in Real Adjusted Personal Income			2.2%	
Excess over 2%			0.2%	
GF-GP Revenue Fiscal Year 2017-2018			$ 10,604.1	

	FY 2018-2019
BSF Pay-In Calculated for FY 2019	$ 21.2
	FY 2017-2018
BSF Pay-Out Calculated for FY 2018	NO PAY-OUT

Notes:

(1) Personal Income and Transfer Payments, Administration Forecast, January 2017.

(2) Detroit Consumer Price Index, Administration Forecast, January 2017.

Table 10

Budget and Economic Stabilization Fund Calculation Based on CY 2019 Personal Income Growth Administration Calculation

	CY 2018	CY 2019
Michigan Personal Income	$ 478,303 [1]	$ 499,348 [1]
less Transfer Payments	$ 104,022 [1]	$ 109,626 [1]
Income Net of Transfers	$ 374,282	$ 389,722
Detroit CPI	2.294 [2]	2.342 [2]
for 12 months ending	(June 2018)	(June 2019)
Real Adjusted Michigan Personal Income	$ 163,134	$ 166,435
Change in Real Adjusted Personal Income		2.0%
Excess over 2%		0.0%
GF-GP Revenue Fiscal Year 2018-2019		$ 10,604.1

	FY 2018-2019
BSF Pay-Out Calculated for FY 2019	NO PAY-OUT

Notes:

[1] Personal Income and Transfer Payments, Administration Forecast, January 2017.

[2] Detroit Consumer Price Index, Administration Forecast, January 2017.

School Aid Fund Revenue Adjustment Factor

The School Aid Fund (SAF) revenue adjustment factor for the next fiscal year is calculated by dividing the sum of current year and subsequent year SAF revenue by the sum of current year and prior year SAF revenue. For example, the FY 2018 SAF revenue adjustment factor is calculated by dividing the sum of FY 2017 and FY 2018 SAF revenue by the sum of FY 2016 and FY 2017 SAF revenue. The SAF revenue totals are adjusted for any change in the rate and base of the SAF taxes. The year for which the adjustment factor is being calculated is used as the base year for any tax adjustments. For FY 2017, the SAF revenue adjustment factor is calculated to be 1.0244 (See Table 11). For FY 2018, the SAF revenue adjustment factor is calculated to be 1.0249 (See Table 12).

Table 11

Administration School Aid Revenue Adjustment Factor

For Fiscal Year 2018

	FY 2016		FY 2017		FY 2018
Baseline SAF Revenue	$12,181.6		$12,486.6		$12,782.7
Balance Sheet Adjustments	($62.9)		($13.2)		$18.1
Net SAF Estimates	$12,118.7		$12,473.4		$12,800.8
Subtotal Adjustments to FY 2018 Base	$81.0		$31.3		$0.0
Baseline Revenue on a FY 2018 Base	$12,199.7		$12,504.7		$12,800.8
School Aid Fund Revenue Adjustment Calculation for FY 2018					
Sum of FY 2016 & FY 2017	$12,199.7	+	$12,504.7	=	$24,704.4
Sum of FY 2017 & FY 2018	$12,504.7	+	$12,800.8	=	$25,305.5
FY 2018 Revenue Adjustment Factor					**1.0243**

Note: Factor is calculated off a FY 2018 base year.

Table 12

Administration School Aid Revenue Adjustment Factor

For Fiscal Year 2019

	FY 2017		FY 2018		FY 2019
Baseline SAF Revenue	$12,486.6		$12,782.7		$13,117.9
Balance Sheet Adjustments	($13.2)		$18.1		$41.2
Net SAF Estimates	$12,473.4		$12,800.8		$13,159.1
Subtotal Adjustments to FY 2019 Base	$54.4		$23.1		$0.0
Baseline Revenue on a FY 2019 Base	$12,527.8		$12,823.9		$13,159.1
School Aid Fund Revenue Adjustment Calculation for FY 2019					
Sum of FY 2017 & FY 2018	$12,527.8	+	$12,823.9	=	$25,351.7
Sum of FY 2018 & FY 2019	$12,823.9	+	$13,159.1	=	$25,983.0
FY 2019 Revenue Adjustment Factor					**1.0249**

Note: Factor is calculated off a FY 2019 base year.

Revenue Detail

The estimated tax and revenue totals include the effects of all enacted tax changes. The revenue totals by tax are presented separately for GF-GP and for the SAF (See Tables 13 and 14). Tax totals for the income, sales, use, CIT/MBT, tobacco and casino taxes for all funds are also included (See Table 15).

Table 13

Administration General Fund General Purpose Revenue Detail

(millions)

	FY 2017		FY 2018		FY 2019	
	Amount	**Growth**	**Amount**	**Growth**	**Amount**	**Growth**
GF-GP Tax Amounts						
Income Tax	$7,001.7	4.4%	$7,300.3	4.3%	$7,238.5	-0.8%
Sales	$1,180.8	3.3%	$1,203.0	1.9%	$1,236.5	2.8%
Use	$672.8	-27.8%	$604.5	-10.2%	$645.1	6.7%
Cigarette	$184.7	-0.9%	$183.0	-0.9%	$181.2	-1.0%
Beer & Wine	$53.0	2.3%	$54.0	1.9%	$55.0	1.9%
Liquor Specific	$53.5	1.5%	$54.5	1.9%	$56.0	2.8%
Single Business Tax	($5.0)	NA	$0.0	NA	$0.0	NA
Insurance Co. Premium	$412.4	25.3%	$424.2	2.9%	$436.0	2.8%
CIT/MBT	$271.7	-46.7%	$296.8	9.2%	$407.0	37.1%
Telephone & Telegraph	$34.5	-0.6%	$34.0	-1.4%	$33.5	-1.5%
Oil & Gas Severance	$22.5	19.0%	$26.5	17.8%	$30.0	13.2%
Essential Services Assess.	$71.9	NA	$75.2	NA	$79.5	NA
GF-GP Other Taxes	($21.5)	NA	($18.5)	-14.0%	($18.0)	-2.7%
Total GF-GP Taxes	$9,933.0	4.0%	$10,237.5	3.1%	$10,380.3	1.4%
GF-GP Non-Tax Revenue						
Federal Aid	$30.0	59.6%	$30.0	0.0%	$30.0	0.0%
From Local Agencies	$0.1	NA	$0.1	0.0%	$0.1	0.0%
From Services	$7.0	4.5%	$7.0	0.0%	$7.0	0.0%
From Licenses & Permits	$13.0	-2.3%	$13.0	0.0%	$13.0	0.0%
Miscellaneous	$8.0	-79.7%	$8.0	0.0%	$8.0	0.0%
Driver Responsibility Fees	$52.5	-25.7%	$38.5	-26.7%	$25.5	-33.8%
Interfund Interest	($5.5)	323.1%	($6.5)	18.2%	($7.5)	15.4%
Liquor Purchase	$211.0	0.7%	$215.0	1.9%	$219.0	1.9%
Charitable Games	$3.0	0.0%	$3.0	0.0%	$3.0	0.0%
Transfer From Escheats	$58.5	-45.4%	$58.5	0.0%	$58.5	0.0%
Other Non Tax	$0.0	0.0%	$0.0	0.0%	$0.0	0.0%
Total Non Tax	$377.6	-19.2%	$366.6	-2.9%	$356.6	-2.7%
Total GF-GP Revenue	$10,310.6	2.9%	$10,604.1	2.8%	$10,736.9	1.3%

Table 14

Administration School Aid Fund Revenue Detail

	FY 2017		FY 2018		FY 2019	
	Amount	**Growth**	**Amount**	**Growth**	**Amount**	**Growth**
School Aid Fund						
Income Tax	$2,773.8	4.2%	$2,878.9	3.8%	$2,983.0	3.6%
Sales Tax	$5,447.6	2.6%	$5,558.2	2.0%	$5,706.7	2.7%
Use Tax	$526.9	7.5%	$571.3	8.4%	$605.8	6.0%
Liquor Excise Tax	$53.1	2.1%	$54.1	1.9%	$55.6	2.8%
Cigarette & Tobacco	$354.1	-1.2%	$348.7	-1.5%	$343.4	-1.5%
Other Tobacco	$0.0	0.0%	$0.0	0.0%	$0.0	0.0%
State Education Tax	$1,943.9	2.5%	$2,002.6	3.0%	$2,063.7	3.1%
Real Estate Transfer	$299.0	3.4%	$308.0	3.0%	$318.0	3.2%
Industrial Facilities Tax	$33.0	1.6%	$33.5	1.5%	$34.0	1.5%
Casino (45% of 18%)	$113.0	0.1%	$113.4	0.4%	$114.8	1.2%
Commercial Forest	$3.3	-8.3%	$3.3	0.0%	$3.3	0.0%
Other Spec Taxes	$25.0	7.3%	$25.0	0.0%	$25.0	0.0%
Subtotal Taxes	$11,572.7	3.1%	$11,897.0	2.8%	$12,253.3	3.0%
Lottery Transfer	$900.7	1.3%	$903.8	0.3%	$905.8	0.2%
Total SAF Revenue	$12,473.4	2.9%	$12,800.8	2.6%	$13,159.1	2.8%

Table 15

Administration Major Tax Totals

	FY 2017		FY 2018		FY 2019	
	Amount	**Growth**	**Amount**	**Growth**	**Amount**	**Growth**
Major Tax Totals (Includes all Funds)						
Income Tax	$9,776.3	4.3%	$10,180.0	4.1%	$10,372.3	1.9%
Sales Tax	$7,485.2	2.6%	$7,637.6	2.0%	$7,841.9	2.7%
Use Tax	$1,199.7	-15.6%	$1,175.8	-2.0%	$1,250.9	6.4%
CIT/MBT	$271.7	-38.6%	$296.8	9.2%	$407.0	37.1%
Cigarette and Tobacco	$938.1	-0.9%	$928.0	-1.1%	$918.6	-1.0%
Casino Tax	$113.0	1.6%	$113.4	0.4%	$114.8	1.2%