

# Chicago Fed Letter

## Economy to cruise near speed limit in 2017 and 2018 even as auto sales downshift

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According to participants in the Chicago Fed's annual Automotive Outlook Symposium, the nation's economic growth is forecasted to be near its long-term average this year and to strengthen somewhat in 2018. Inflation is expected to increase in 2017 and to hold steady in 2018. The unemployment rate is anticipated to edge lower to 4.4% by the end of 2017 and to remain at that rate through 2018. Light vehicle sales are predicted to decrease from 17.5 million units in 2016 to 17.1 million units in 2017 and then to 16.9 million units in 2018.

The Federal Reserve Bank of Chicago held its 24th annual Automotive Outlook Symposium (AOS) on June 1–2, 2017, at its Detroit Branch. More than 60 economists and analysts from business, academia, and government attended the AOS. This *Chicago Fed Letter* reviews the forecasts from last year's AOS for 2016, and then analyzes the forecasts for 2017 and 2018 (see figure 1) and summarizes the presentations from this year's AOS.<sup>1</sup>

Some materials presented at this year's AOS are available at <https://www.chicagofed.org/events/2017/automotive-outlook-symposium>.

The U.S. economy continued to expand from the longest and deepest drop in economic activity since the Great Depression. During the 31 quarters following the end of the Great Recession in mid-2009, the annualized rate of real gross domestic product (GDP) growth was 2.1%—near what is considered the long-

term rate of growth for the U.S. economy. This GDP growth rate is very disappointing, since typically, the pace of economic recovery/expansion is quite sharp following a deep recession.

While the economy's expansion has lasted nearly eight years, signs of slack still remain in the economy. The unemployment rate moved down to 4.3% in May 2017, below prominent estimates of the natural rate of unemployment (i.e., the rate that would prevail in an economy making full use of its productive resources). However, several other labor market indicators suggest that some degree of slack remains in the employment market. First, the labor force participation rate has fallen over the past several years somewhat below what demographic changes of an aging population can explain. Second, the percentage of workers who are working at part-time jobs but desire full-time employment is still above what it has historically averaged. And third, the pool of unemployed workers who have been out of work for more than six months remains at levels that are exceptionally high—higher than anything seen since the Great Depression.

In addition to the persistent slack, there have been two big shocks whose effects have reverberated across the U.S. economy over the past three years. First, the average price of oil, which stood at

## 1. Median forecast of GDP and related items

	2016	2017	2018
	(Actual)	(Forecast)	(Forecast)
Real gross domestic product <sup>a</sup>	2.0	2.1	2.3
Real personal consumption expenditures <sup>a</sup>	3.1	2.1	2.3
Real business fixed investment <sup>a</sup>	-0.1	5.2	4.0
Real residential investment <sup>a</sup>	1.1	6.3	3.4
Change in private inventories <sup>b</sup>	49.6	42.5	40.0
Net exports of goods and services <sup>b</sup>	-605.0	-635.0	-682.7
Real government consumption expenditures and gross investment <sup>a</sup>	0.2	0.2	0.9
Industrial production <sup>a</sup>	-0.1	1.6	1.7
Car and light truck sales (millions of units)	17.5	17.1	16.9
Housing starts (millions of units)	1.18	1.26	1.32
Unemployment rate <sup>c</sup>	4.7	4.4	4.4
Consumer Price Index <sup>a</sup>	1.8	2.3	2.3
One-year Treasury rate (constant maturity) <sup>c</sup>	0.76	1.42	1.89
Ten-year Treasury rate (constant maturity) <sup>c</sup>	2.13	2.70	3.11
J. P. Morgan trade-weighted dollar index <sup>a</sup>	3.7	3.3	3.5
Oil price (dollars per barrel of West Texas Intermediate) <sup>c</sup>	49.20	51.59	54.00

<sup>a</sup>Percent change, fourth quarter over fourth quarter.

<sup>b</sup>Billions of chained (2009) dollars in the fourth quarter at a seasonally adjusted annual rate.

<sup>c</sup>Fourth quarter average.

NOTE: These values reflect forecasts made in May 2017.

SOURCES: Actual data from authors' calculations and Haver Analytics; median forecasts from Automotive Outlook Symposium participants.

\$106 per barrel in June 2014, collapsed later that year, reaching \$59 per barrel in December 2014. The average price of oil eventually bottomed out in February 2016—at \$31 per barrel. As of May of this year, it had risen to nearly \$49 per barrel. The decline in energy prices has had both positive and negative impacts on the U.S. economy. On the positive side, users of energy have enjoyed a substantial reduction in their costs of purchasing energy. The primary beneficiaries have included consumers, manufacturers, and the transportation sector. However, over the past nine years, the United States has become a significantly larger producer of energy, and hence, the loss of income to the domestic energy sector now leads to a greater negative impact than it historically has.

Second, the real value of the U.S. dollar in international exchange markets had strengthened substantially since the summer of 2014, rising nearly 22% through January 2017. The real trade-weighted value of the U.S. dollar fell 3.4% over the following four months, but remained strong. The higher value of the U.S. dollar against foreign currencies has had a dramatic impact on trade and, hence, the U.S. economy's growth. A strengthening dollar makes U.S.-made goods more expensive to foreign customers, thus reducing the demand for such goods from abroad and lowering the growth of exports. It also makes foreign-made goods less expensive to U.S. purchasers, thus increasing the demand for such goods here and raising the growth of imports. So, given the significantly stronger dollar, it's no surprise that the United States saw its trade deficit increase in 2016, amounting to a 0.2 percentage point drag on the growth rate of real GDP.

With the diminishing slack in the economy and higher energy prices over the past year, inflation has moved higher. Inflation, as measured by the Consumer Price Index (CPI), was extremely low at 0.4% in 2015—the lowest rate since 1955; it moved up to 1.8% in 2016, and by May 2017, the year-over-year rate of inflation had inched up to 1.9%.

The growth rate of industrial output was  $-0.1\%$  in 2016, perhaps in part due to the challenges posed by a stronger dollar. However, industrial production does appear to be rising in 2017: Over the first five months of this year, its annualized growth rate was  $2.8\%$ . The improvement in industrial output is occurring without much assistance from the automotive sector. Light vehicle sales (car and light truck sales) improved from 17.3 million units in 2015 to a record 17.5 million units in 2016—a  $0.7\%$  gain. This increase in light vehicle sales was much smaller than the  $3.1\%$  increase in real personal consumption expenditures for 2016. Light vehicle sales softened in early 2017: The annualized selling rate of light vehicles was 17.0 million units over the first five months of this year.

The housing sector continued its very slow recovery from the Great Recession. Housing starts went up from 1.11 million units in 2015 to 1.18 million units in 2016—a gain of  $6.3\%$ . Housing starts rose further in 2017, to an annualized rate of 1.19 million units over the first five months of the year. This pace is still well below the nearly 1.4 million annual housing starts that the United States averaged during the 1990s. Residential investment normally plays a major role during an economic recovery. However, since the start of the recovery from the Great Recession in mid-2009, residential investment has contributed just 0.2 percentage points toward the overall economy's annualized growth rate of  $2.1\%$ .

## Results versus forecasts

For 2016, the actual growth rate of real GDP was  $2.0\%$ —just a bit stronger than the  $1.8\%$  forecasted by participants at last year's AOS. The unemployment rate actually averaged  $4.7\%$  in the final quarter of 2016—lower than the predicted average of  $4.9\%$ . Inflation, as measured by the CPI, was in fact  $1.8\%$  in 2016— $0.6$  percentage points higher than the projected  $1.2\%$  increase in prices for last year. Light vehicle sales actually rose to 17.5 million units in 2016, exceeding the forecast of 17.3 million units. Housing starts increased to 1.18 million units in 2016—the actual number of starts was just a bit above the 1.17 million units expected for last year.

## Outlook for 2017 and 2018

The economy is forecasted to grow at a solid pace in 2017 and at a slightly faster pace in 2018: The growth rate of real GDP is predicted to be  $2.1\%$  in 2017 and  $2.3\%$  in 2018. The unemployment rate is predicted to edge lower through the third quarter of 2017 and then remain at a rate of  $4.4\%$  through the end of 2018. Inflation, as measured by the CPI, is projected to increase from  $1.8\%$  in 2016 to  $2.3\%$  in 2017 and then remain at that rate in 2018. Real personal consumption expenditures are forecasted to expand at solid rates of  $2.1\%$  this year and  $2.3\%$  in 2018. Light vehicle sales are expected to decline from 17.5 million units in 2016 to 17.1 million units this year and then ease further to 16.9 million units next year. The pace of real business fixed investment is predicted to be at a quite strong  $5.2\%$  in 2017, but then ease to a still solid  $4.0\%$  in 2018. Because of the challenges posed by the stronger dollar, industrial production is forecasted to grow at a rate of just  $1.6\%$  this year and  $1.7\%$  (well below its long-term growth rate) next year.

The housing sector is predicted to continue to improve over the forecast horizon. Real residential investment is anticipated to expand at a strong rate of  $6.3\%$  in 2017 and then moderate to a solid rate of  $3.4\%$  in 2018. Housing starts are expected to increase to 1.26 million units in 2017 and 1.32 million units in 2018—still below what is viewed as their long-term trend.

The long-term interest rate (ten-year Treasury rate) is forecasted to increase 57 basis points in 2017, to  $2.70\%$ , and 41 basis points in 2018, to  $3.11\%$ . The short-term interest rate (one-year Treasury rate) is expected to increase 66 basis points this year, to  $1.42\%$ , and 47 basis points next year, to  $1.89\%$ . The trade-weighted U.S. dollar is predicted to strengthen by  $3.3\%$  this year and  $3.5\%$  in 2018. The trade deficit (net exports of goods and services) is projected to increase this year and next.

## Auto sector outlook

David Teolis, senior manager of economic and industry forecasting, General Motors, provided an outlook for global and U.S. total vehicle sales (passenger cars and light-, medium-, and heavy-duty trucks). Teolis began by describing the global vehicle market: New vehicle sales reached a record high of 93.1 million units in 2016, up 3.8% from the previous year. The majority of these sales were in North American, Asian, and European markets. Despite subpar GDP growth in many parts of the world, manufacturing activity is generally expanding because of the pickup in global trade, said Teolis. Moreover, inflationary pressures appear largely contained for now. However, there continue to be challenges. For instance, declines in commodity prices (including energy prices) have led to lower vehicle sales in many commodity-producing countries. In addition, new vehicle sales growth in the North American Free Trade Agreement (NAFTA) region (of Canada, Mexico, and the U.S.) has outpaced its real GDP growth, suggesting a modest downward correction in new vehicle sales is due, Teolis contended. Yet, Teolis said he envisions strong upside potential for new vehicle sales in India, Brazil, and Mexico.

Focusing on the U.S. auto market, Teolis said he expected new vehicle sales to shift down modestly from 17.9 million units in 2016 to their long-run historical trend in the coming years. Pent-up demand for new vehicles—which has been a significant stimulus for sales growth—is largely exhausted and is not anticipated to be a major driver for sales over the short term. Rising new vehicle prices will be a deterrent to sales. Additionally, Teolis noted that an increased supply of off-lease used vehicles should push used vehicle prices lower relative to new vehicle prices. However, Teolis said he sees low interest rates, low gas prices, and growing household disposable income as potentially offsetting factors that could prop up new vehicle sales. The prevailing risks to the U.S. auto market over the next few years include a negative correction to the U.S. stock market, trade protectionism, and a strong dollar, he stated.

Light vehicle sales are expected to decline to 17.1 million units in 2017 and then ease further to 16.9 million units in 2018.

Steven Szakaly, chief economist, National Automobile Dealers Association, discussed the light vehicle market from the dealers' perspective. Szakaly primarily addressed the macro-economic factors affecting dealerships' new vehicle sales. Because many individuals purchase

new vehicles after purchasing a home or starting a family, both the slowdown in household formation and the increase in average age at marriage have contributed negatively to new vehicle sales. Szakaly also noted that the growth of average hourly earnings has not kept pace with the growth of new vehicle prices. According to Szakaly, 17.1 million new light vehicle sales are expected in 2017, followed by a gradual decline in sales through 2020. These projections are largely in line with the median consensus forecast of the AOS.

Charles Chesbrough, senior economist and senior director of industry insights, Cox Automotive, discussed his outlook on the U.S. used light vehicle market. Year-to-date sales of used vehicles are up over 4% from the previous year. What is driving up used vehicle sales? According to Chesbrough, the primary influence has been an increase in the availability of automotive credit. Auto loan debt, which currently stands at about \$1.1 trillion, has increased as a share of total debt since the start of the recovery from the Great Recession. Chesbrough said this increase may be partly due to the low default rate on auto loans (relative to first mortgages and other consumer credit) during the downturn and its immediate aftermath. Overall auto loan performance since 2007 suggests issuing such loans is a fairly safe avenue for lending from the financial services sector's perspective, he indicated. In addition, the low rate of unemployment and the recent increases in job openings and quit rates indicate favorable labor market conditions—which generally support more vehicle sales (new and used) and low default rates on auto loans. However, Moody's has forecasted increases in auto loan delinquency rates, the quality of auto loans has decreased (e.g., subprime loans have increased), and signs of tightening financial conditions are emerging. Chesbrough said he wonders

whether current labor market conditions will hold up much longer, and observed that the annual percentage increase in average hourly earnings has yet to pick up to pre-recessionary levels.

Chesbrough also elaborated on the risks that used light vehicles pose to the new light vehicle market. Between 2010 and 2016, the leased share of all new vehicle registrations rose. He said that leased vehicles return to dealers with lower prices than new vehicles, making them more attractive to consumers. The flood of off-lease vehicles has a negative impact on the residual values of these used autos. According to IHS Markit's estimates, the annual volume of off-lease vehicles returning to all manufacturers will jump from about 3.1 million units in 2016 to 3.6 million in 2017 and 3.9 million in 2018. In addition, Chesbrough said the lengths of auto loan terms (for both new and used vehicles) have increased (to keep monthly payments low)—which implies future vehicle sales will likely be reduced. High lease rates and long loan terms will be headwinds for all automotive sales over the next few years, he contended.

Kenny Vieth, president, Americas Commercial Transportation (ACT) Research Co. LLC, discussed his outlook for the commercial vehicle (heavy- and medium-duty trucking) industry. Vieth observed that orders for heavy-duty trucks rose considerably since the final quarter of 2016. New order activity is perhaps being supported by recent improvements in manufacturing activity and the jump in the number of oil rigs (they just about doubled from 2016:Q4 to 2017:Q1). However, Vieth pointed out that new heavy-duty truck orders have historically followed increases in freight volume and profits, and neither has suggested this spike in new orders should have happened. For instance, over the first three months of 2017, the American Trucking Associations' truck loads index has increased by only 0.1%. Thus, Vieth said his guess is that the main driver of order activity has been overconfidence. The National Federation of Independent Business's Small Business Optimism Index and the Dow Jones U.S. Trucking Index had experienced large gains since November 2016, though both saw dips in May, said Vieth. Meanwhile, the medium-duty market has seen steady incremental improvement, Vieth noted, based on improvements in state and local government budgets and construction activity (especially for home building). According to Vieth, heavy-duty truck production in North America is forecasted to remain at 228,000 units in 2017 and jump to 265,000 units in 2018; and medium-duty truck production in the region is expected to increase from 233,000 units in 2016 to 245,000 units in 2017 and then to 248,000 units in 2018.

John Graham, dean and professor, Indiana University School of Public and Environmental Affairs, summarized his analysis<sup>2</sup> of the economic impact of the federal corporate average fuel economy (CAFE) standards; federal greenhouse gas (GHG) emissions standards; and California's zero-emission vehicle (ZEV) requirements, which some other states have adopted.<sup>3</sup> To begin, Graham highlighted the challenges to the implementation of the federal standards because the fuel economy and emissions targets were set in 2012. Since then, oil prices have collapsed, and they are forecasted to remain low over the long term. Graham said his analysis suggests that gas price drops tend to diminish the appeal of electric (or hybrid) vehicles to consumers, in part because when fuel prices are low, it takes longer to recoup the price premium on such vehicles. Moreover, prices on all light vehicles (even those that are not electric or hybrid) are expected to rise as CAFE and GHG emissions standards become more stringent over time. Graham explained that the state-level ZEV requirements, set to go into effect in 2018, require electric vehicle sales in the states that have adopted these rules to be above a particular share of total vehicle sales; therefore, these requirements are expected to further raise electric vehicles' price premiums. Graham said that state-level ZEV regulations, which are stricter than the federal ones, will end up costing manufacturers and consumers even more.

Given the change in conditions from when fuel efficiency and emissions targets were set, what are the anticipated impacts of the federal and state regulations on the U.S. economy? The aforementioned increases in price premiums translate into decreases in new vehicle sales. Graham noted that current conditions and forecasts suggest a negative impact on such sales, perhaps as far out as through 2035. Lower vehicle sales are presumed to negatively impact employment for those in

the auto industry. In contrast, positive impacts from implementing the targets may arise through alternative channels. For example, the targets incentivize manufacturers to invest in new off-cycle technologies (e.g., better automated engine start–stop systems, which reduce engine idling time)—which could generate jobs. Graham said his research suggests, on net, implementing the targets results in a temporary fall in employment, eventually followed by an increase in employment around 2025. The targets also lead to lower expenditures on gasoline, which may translate into consumption of other goods and services. Given their net effect on the economy at least through the mid-2020s, Graham contended reforms to the regulations may be in order. For instance, federal compliance targets for CAFE and GHG emissions currently need to be met by 2025, but regulators could stretch those out to a later date to ease their negative economic impacts on auto manufacturers and consumers, he said.

## Conclusion

The participants at this year's AOS predicted the growth rate of the U.S. economy to be close to its long-term average in 2017 and 2018. Light vehicle sales are forecasted to ease from a record-setting 17.5 million units in 2016 to a still solid 17.1 million units in 2017 and 16.9 million units in 2018. Although light vehicle sales are forecasted to moderate, other sectors of the economy are predicted to perform well enough so that the overall growth rate improves in 2017 and 2018. Inflation is anticipated to average 2.3% this year and next year. And the unemployment rate is expected to decline to 4.4% by the end of 2017 and stay there through 2018.

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<sup>1</sup> The June 2 presentations are covered in this article. The June 1 presentations (on the impact of autonomous vehicles and electric vehicles) are covered in <http://michiganeconomy.chicagofedblogs.org/?p=1042>.

<sup>2</sup> The full report by Graham and his Indiana University colleagues is available at <https://spea.indiana.edu/doc/research/working-groups/auto-report-032017.pdf>.

<sup>3</sup> For more on the federal CAFE and GHG emissions standards, see <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy> and <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-passenger-cars-and>. Nine additional states (including New York) have programs mirroring California's Zero Emission Vehicle Program (<https://www.arb.ca.gov/msprog/zevprog/zevprog.htm>). The ZEV regulations now cover approximately 30% of the national vehicle sales market, according to Graham.

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