

# Economic Update

## O.E.S.A. CEO Council Meeting

**Federal Reserve Bank of Chicago**  
September 4, 2018

**Paul Traub**  
Senior Business Economist



# Main Economic Indicators

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## Year-over-year Comparison

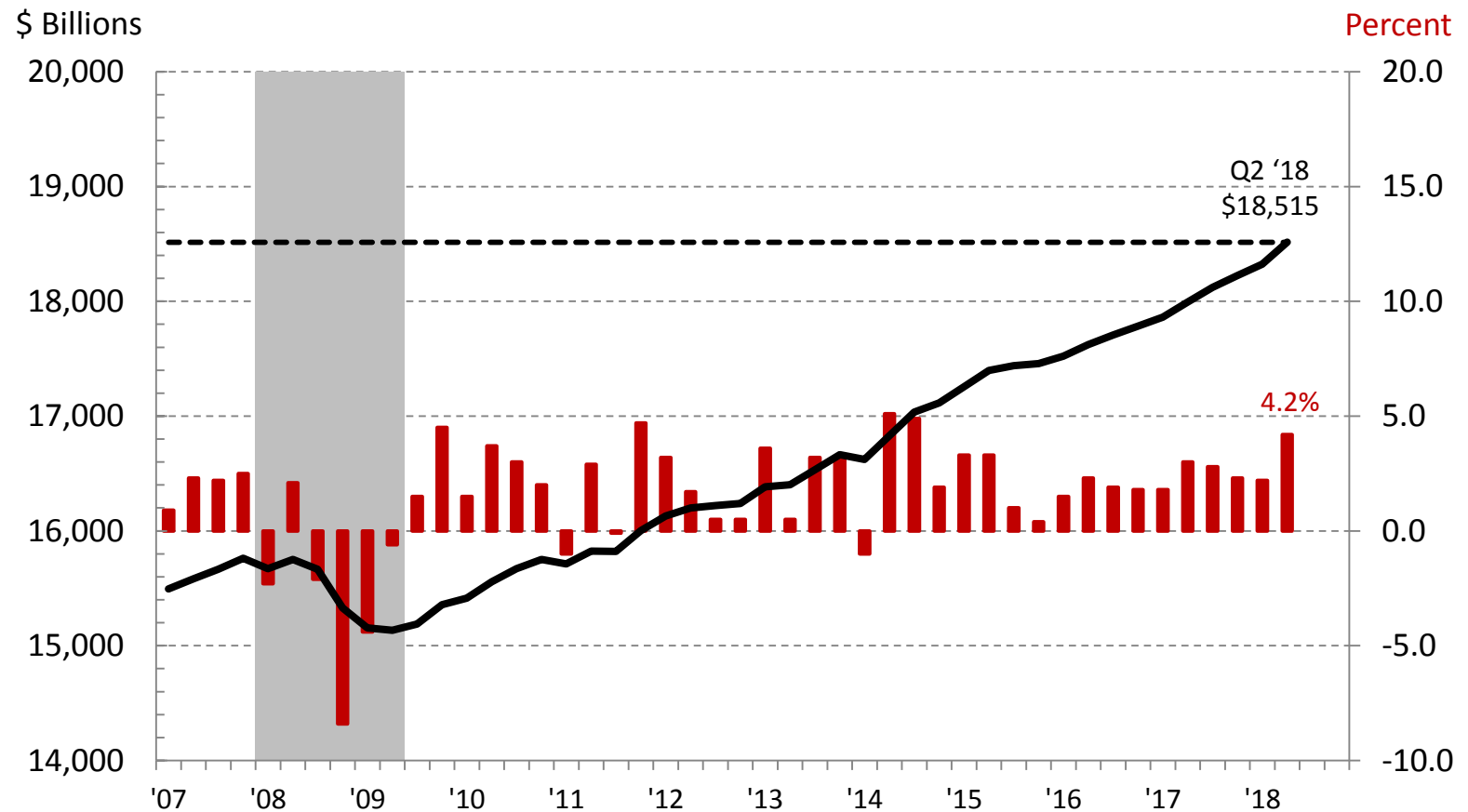
	<u>2016</u>	<u>2017</u>	<u>2018 YTD</u>
GDP – Annual Growth Rate <sup>1</sup>	1.9%	2.5%	2.9%
Unemployment Rate <sup>2</sup>	4.9%	4.4%	4.0%
Nonfarm Job Growth <sup>3</sup>	195.3	182.3	214.7
Private Wage Growth <sup>4</sup>	2.6%	2.6%	2.7%
PCE Inflation Yr. / Yr. <sup>4</sup>	0.9%	1.6%	2.0%

1. Year-over-year - 2016 & 2017 Q4/Q4, 2018 Q2/Q2
2. Annual Average
3. Average Monthly Job Growth in Thousands- SA
4. Percent Change Year-over-year – Annual Average & July 2018 YTD

Source: U.S. Bureau of Economic Analysis, Census Bureau and Bureau of Labor Statistics

# U.S. Real GDP

Billions Chained \$2012, % Change Q/Q at SAAR

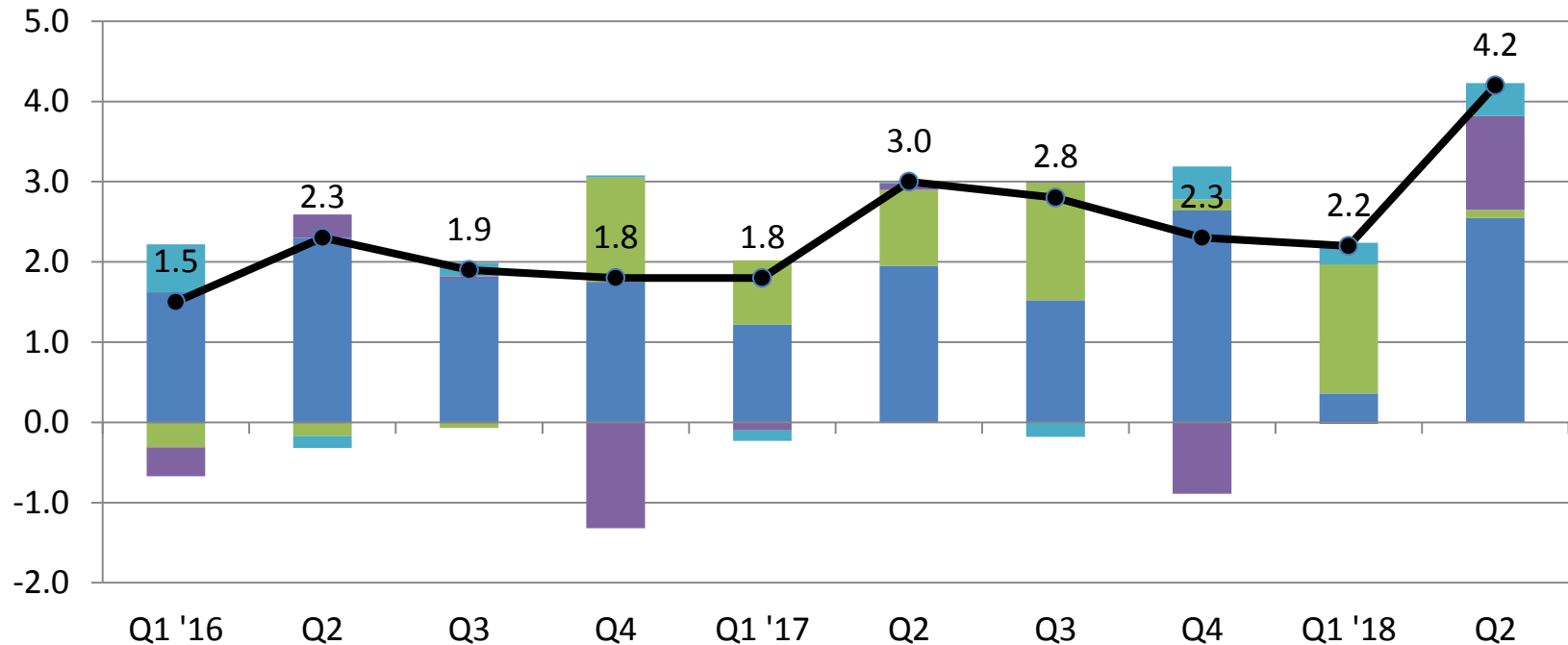


Source: U.S. Bureau of Economic Analysis

# U.S. Real GDP

## Q2 2018 Contribution to Percent Change, Q/Q at SAAR

Percent

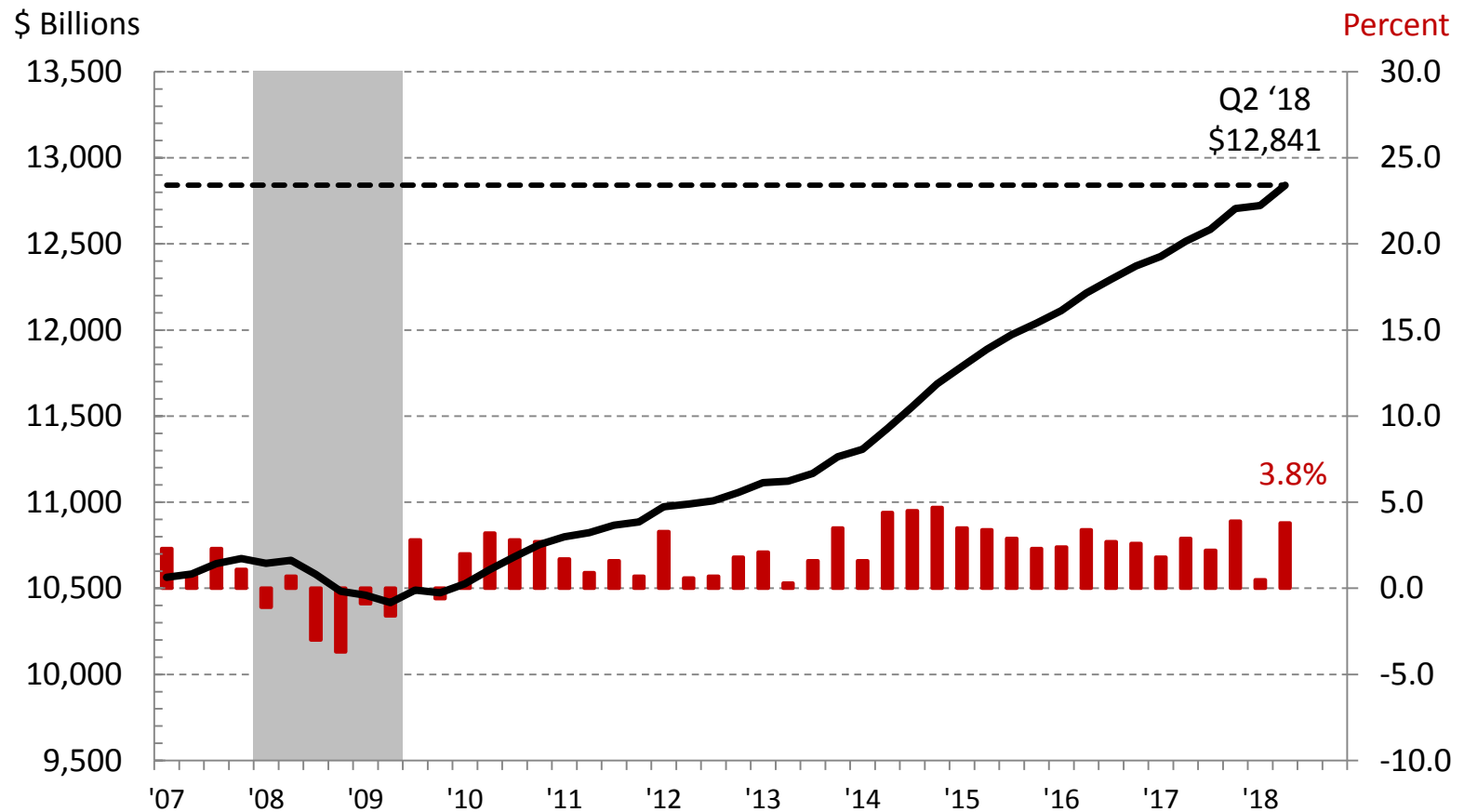


	<span style="color: blue;">■</span> PCE	<span style="color: green;">■</span> Private Investment	<span style="color: purple;">■</span> Net Exports	<span style="color: cyan;">■</span> Government	<span style="color: black;">●—</span> GDP
Q2 2018 Contribution	2.5%	0.1%	1.2%	0.4%	4.2%

Source: U.S. Bureau of Economic Analysis, and FRB of St Louis FRED database.

# Real Personal Consumption Expenditures

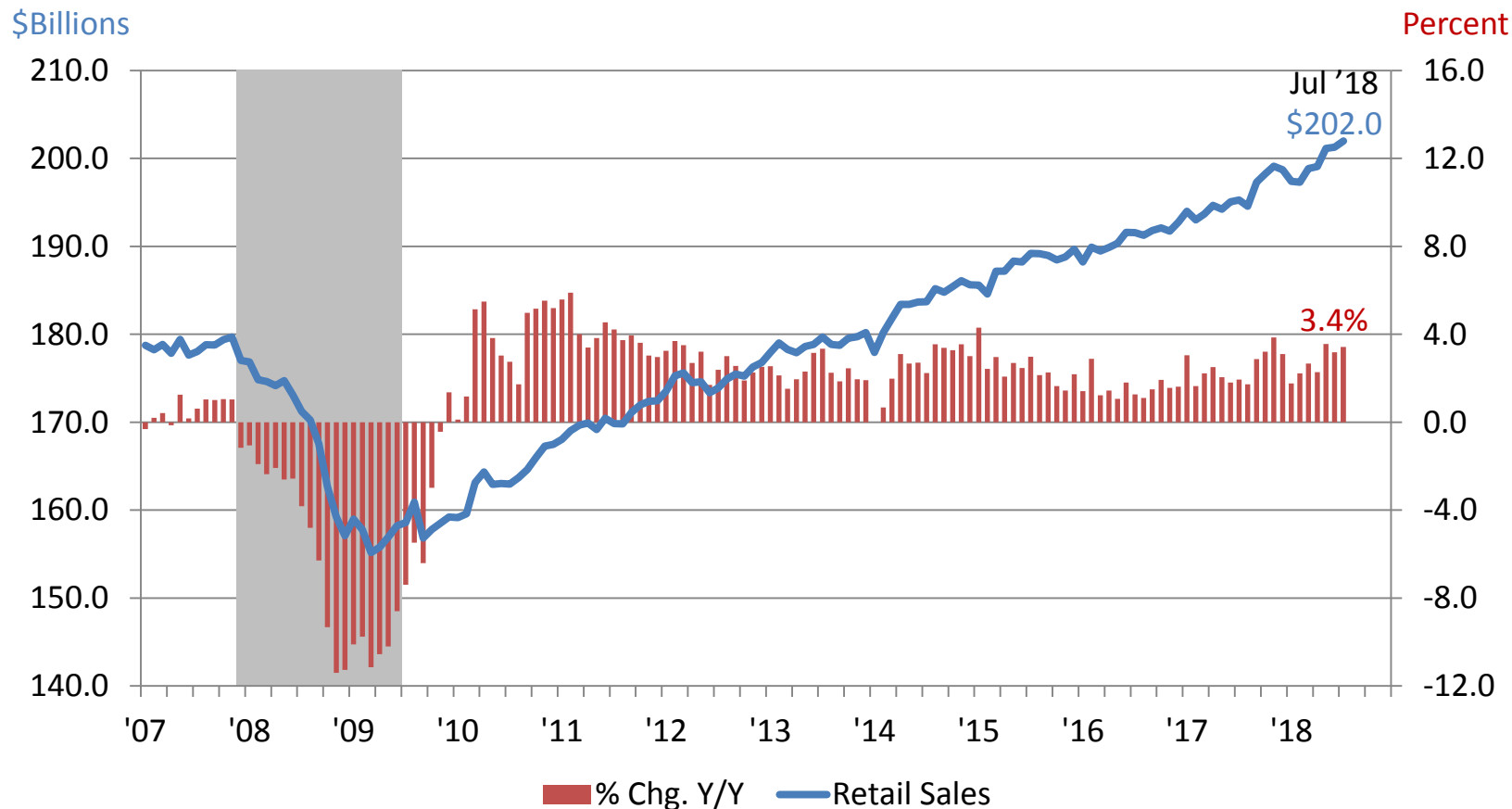
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

# Real Retail Sales

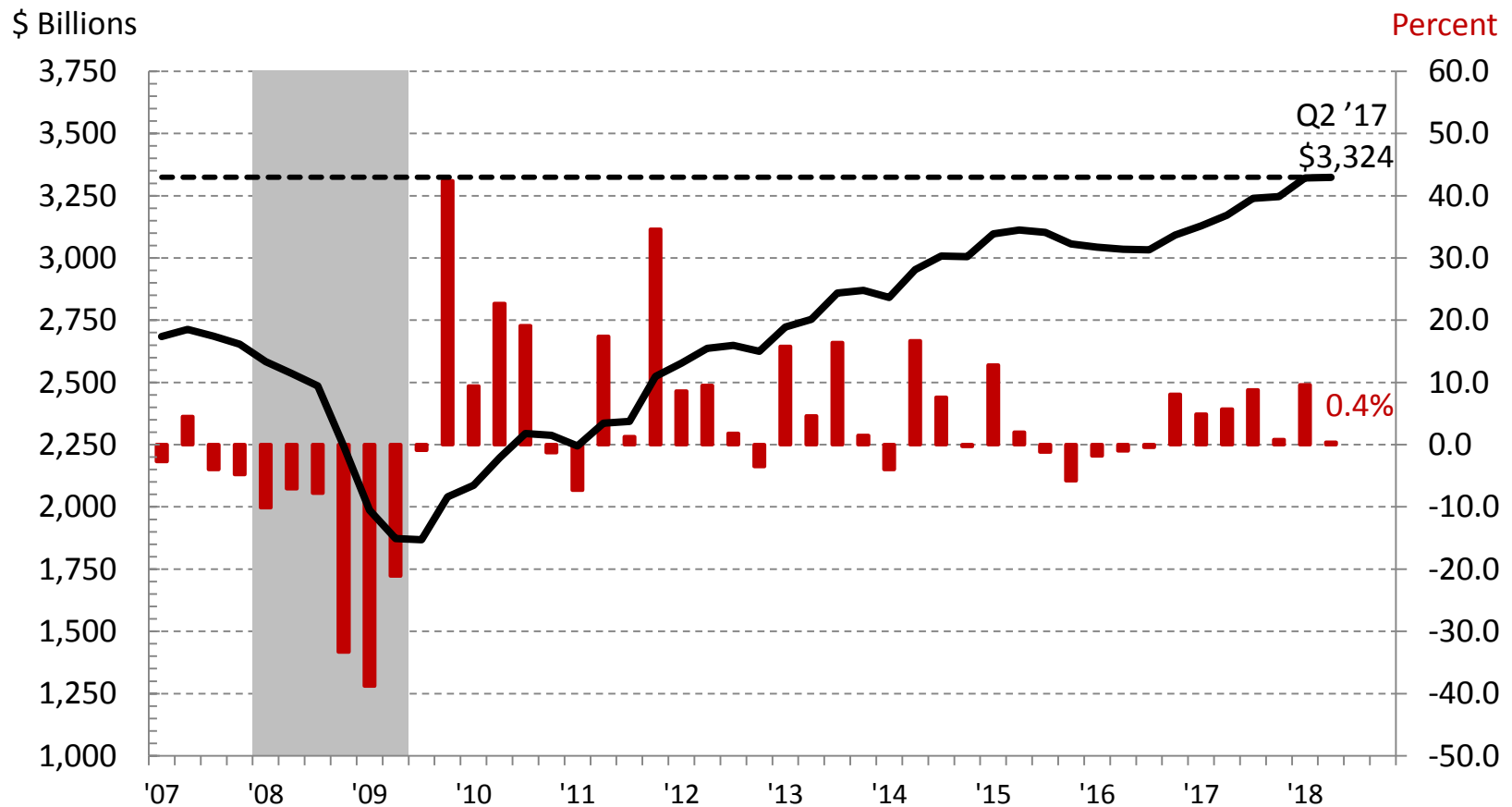
Real Retail & Food Services Sales, SA – Billions of \$2012 and % Chg. Yr./Yr.



Source: Author's calculation using U.S. Census Bureau of Labor Statistics data.

# Real Gross Private Domestic Investment

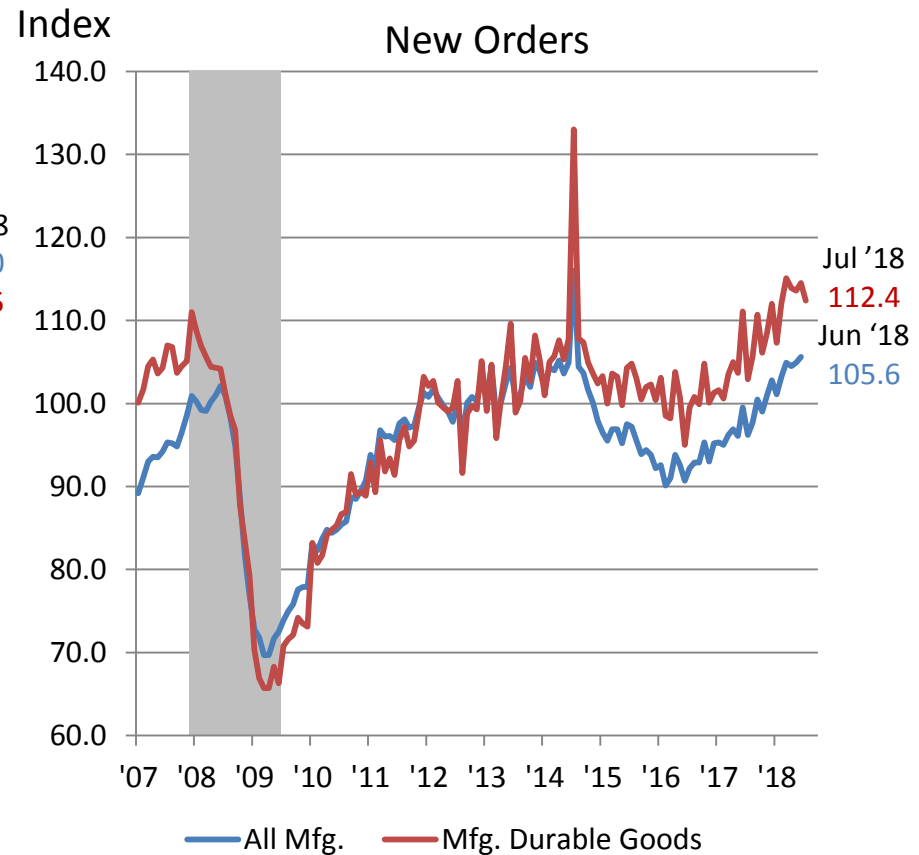
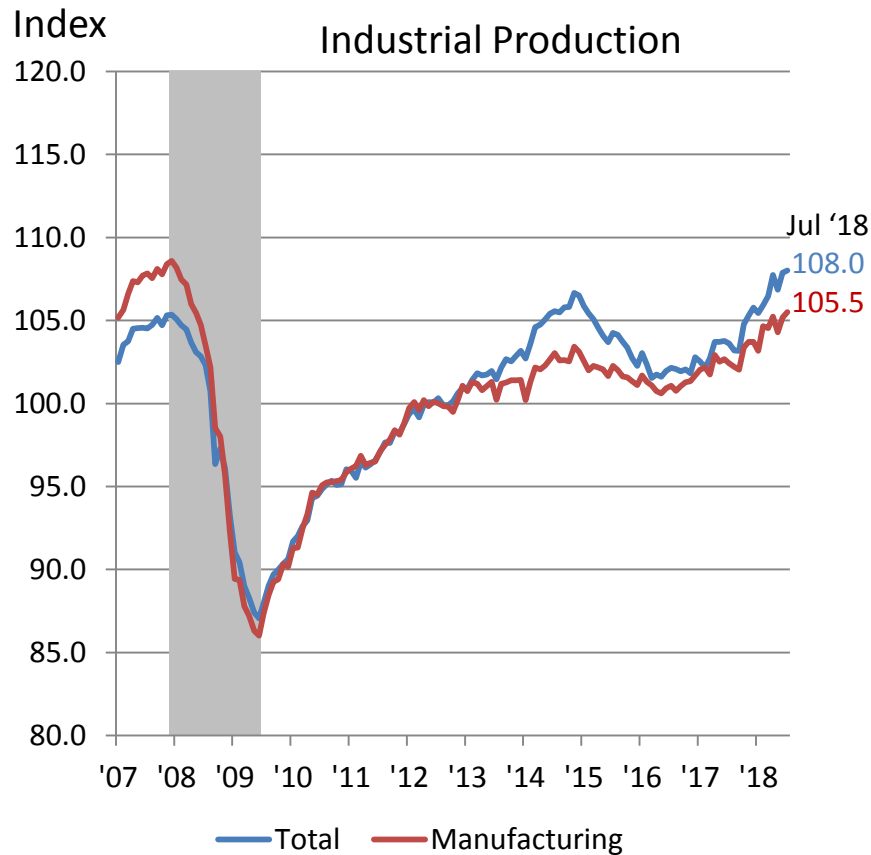
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

# Industrial Production & New Orders

Index, 2012 = 100



Source: Board of Governors, Federal Reserve and U.S. Census Bureau



# ISM Purchasing Managers Index

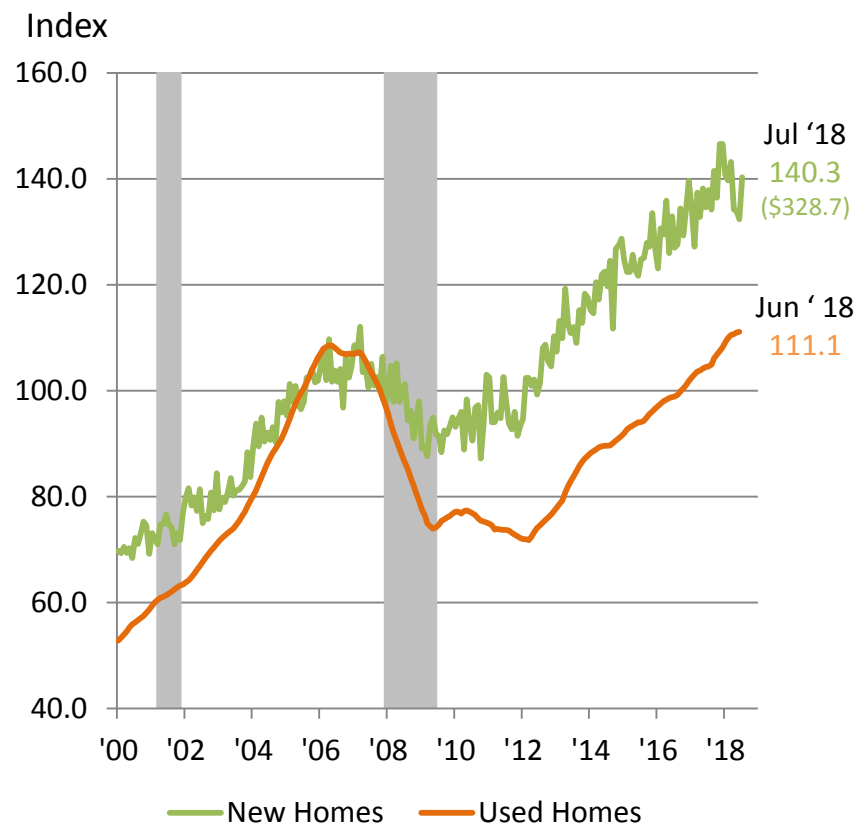
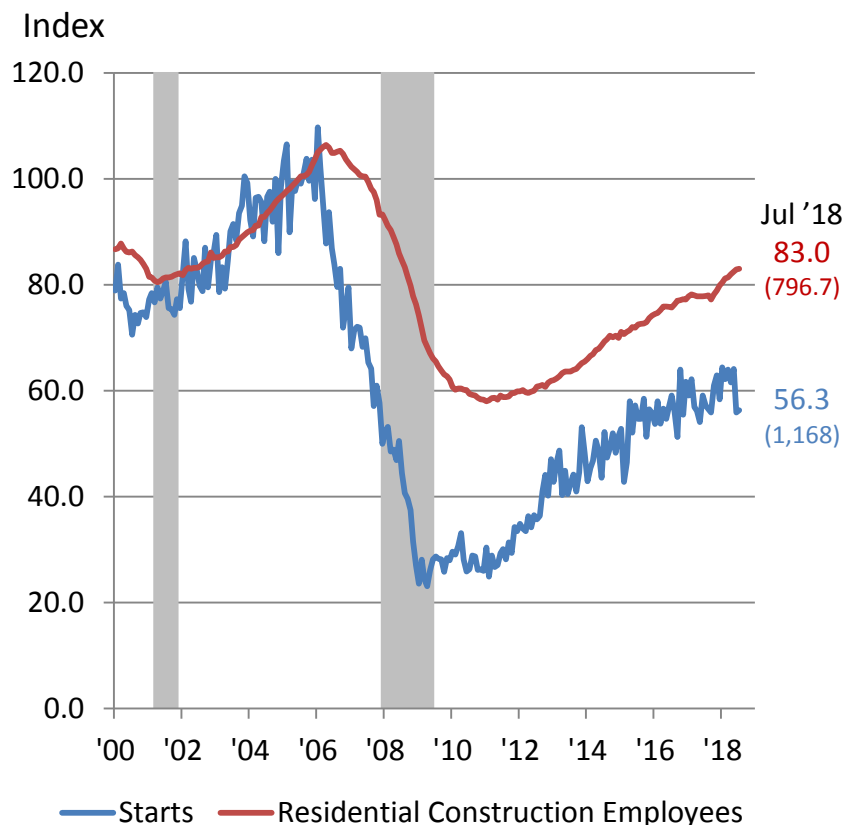
Manufacturing, SA - Greater than 50 = Expansion

Index	Jul '18	Jun '18	Change	Direction	Rate	Trend*
PMI	58.1	60.2	-2.1	Growing	Slower	29
New Orders	60.2	63.5	-3.3	Growing	Slower	31
Production	58.5	62.3	-3.8	Growing	Slower	23
Employment	56.5	56.0	+0.5	Growing	Faster	22
Prices	73.2	76.8	-3.6	Increasing	Slower	29

Source: Institute for Supply Management , Haver Analytics and FRED

# New Private Housing

## Housing Starts, Employment & Median Price – Index, 2005 = 100

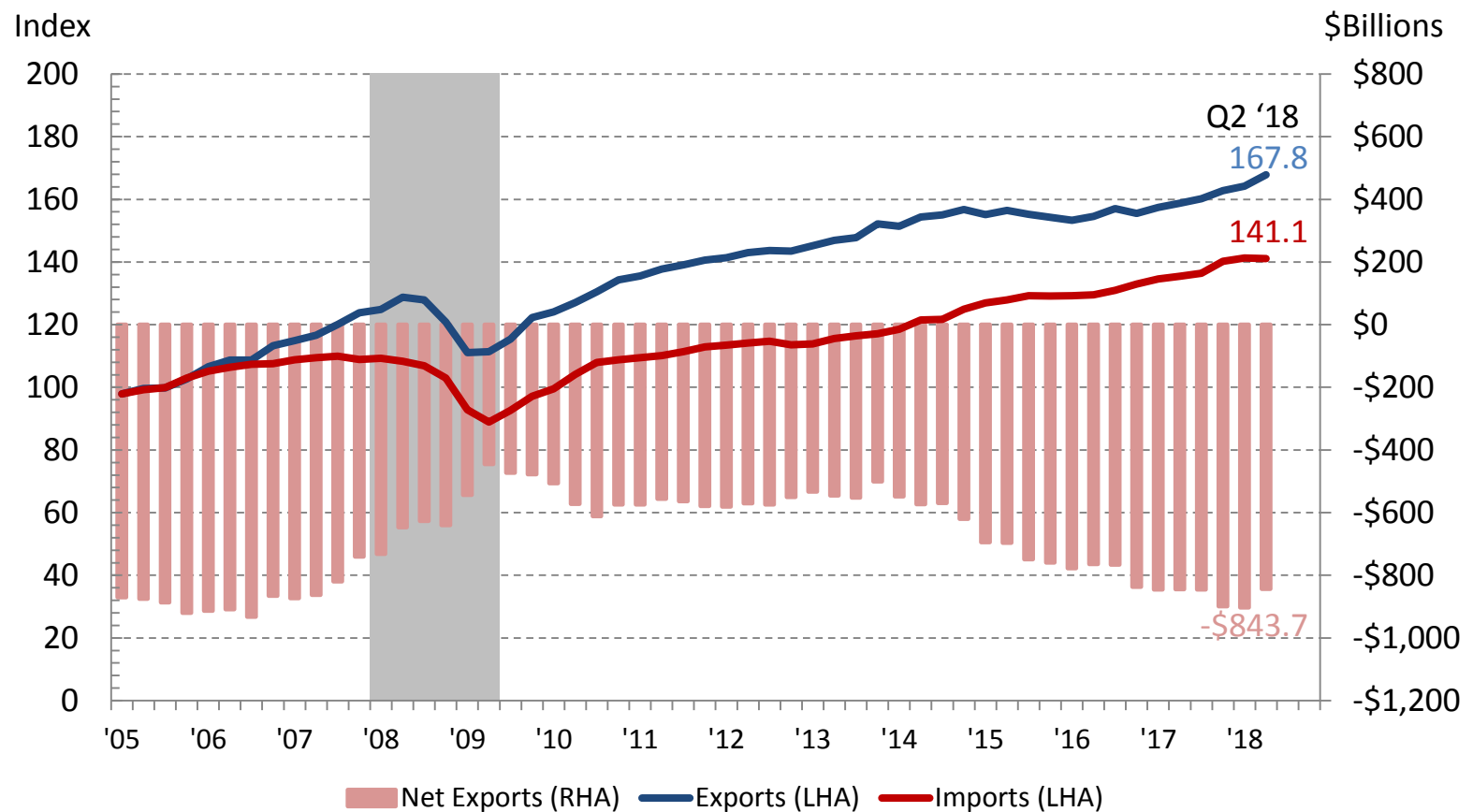


Note: Actual values in thousands in parentheses.

Source: Board of Governors, Federal Reserve, U.S. Census Bureau, and S & P – Case Shiller.

# Real Imports and Exports

Billions Chained \$2012, Index – 2005 = 100



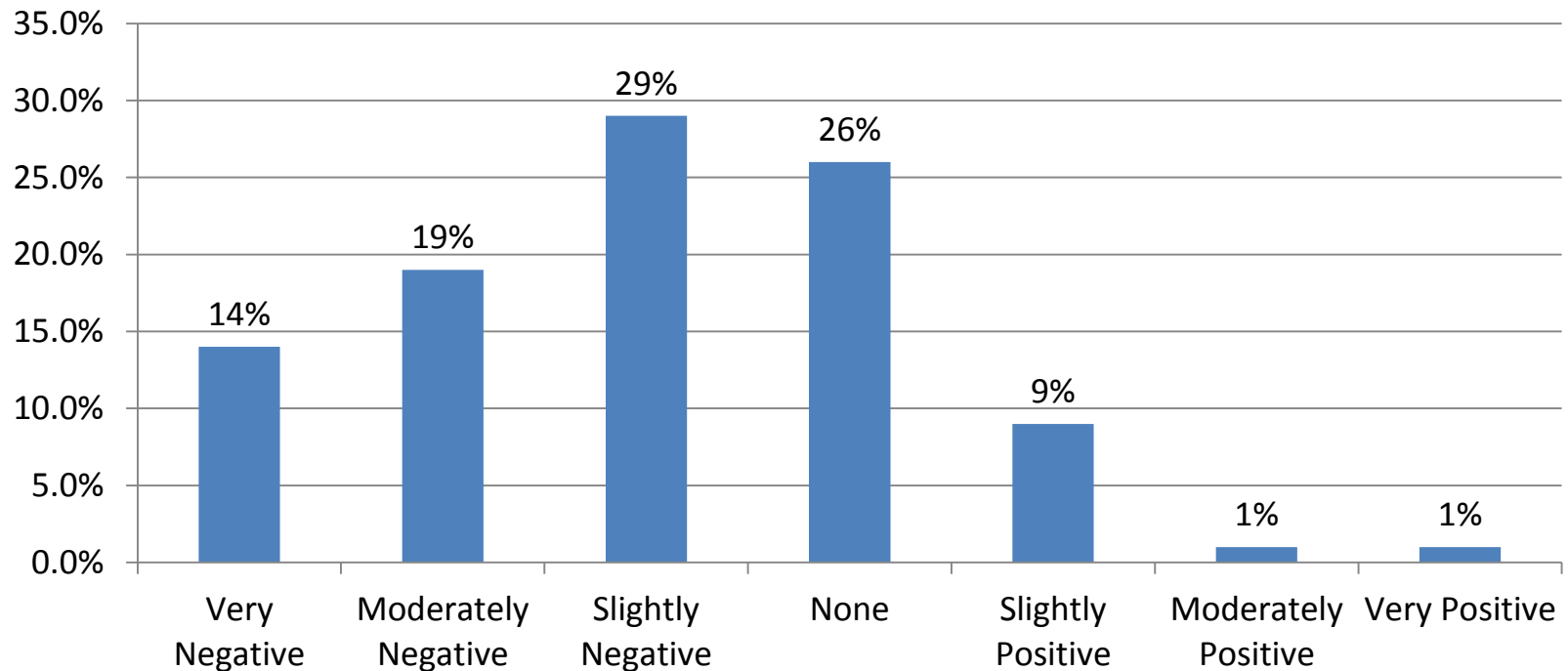
Source: U.S. Bureau of Economic Analysis

# Trade & Tariffs

## Beige Book Tariff Survey Question 1

What kind of impact will the new steel and aluminum tariffs have on your firm?

Percent

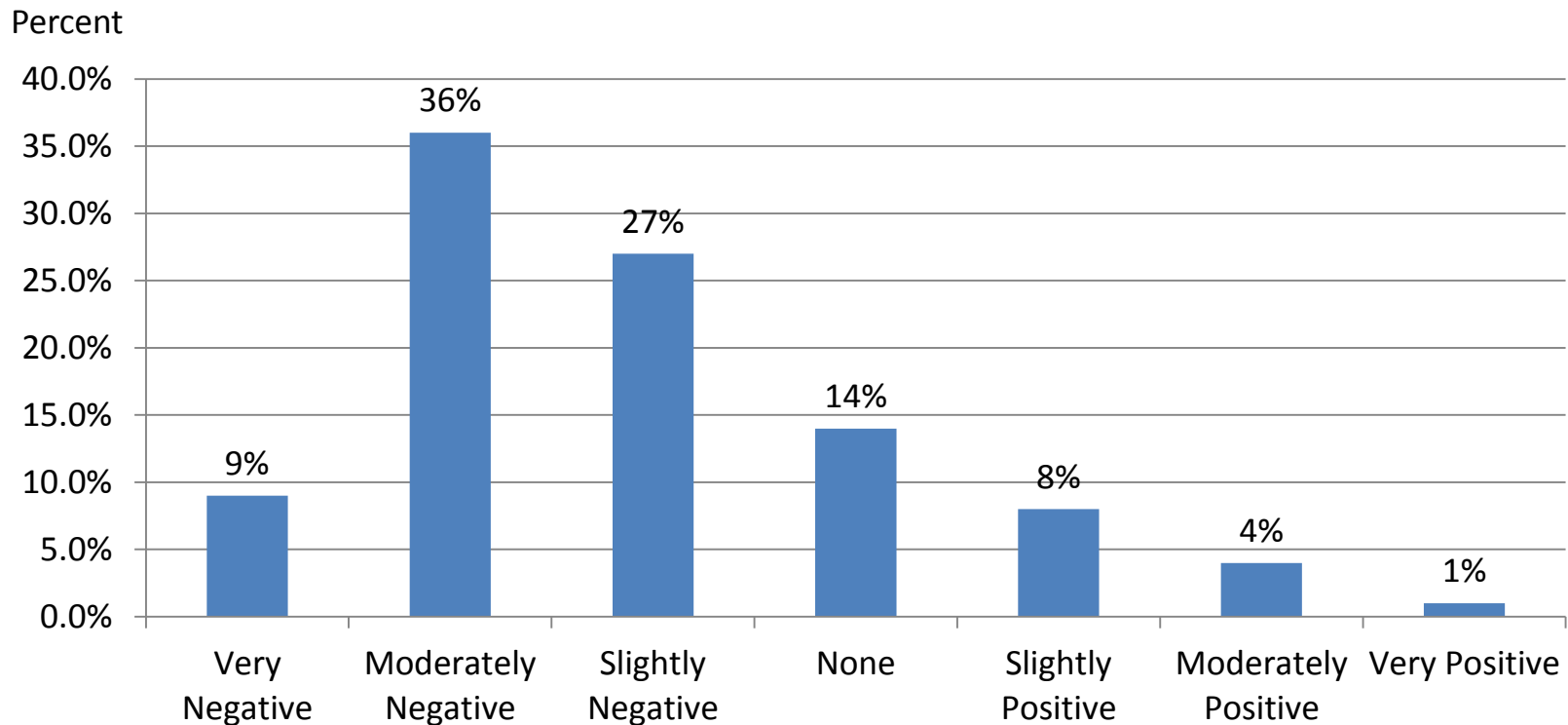


Source: Chicago Fed Survey of Business Conditions.

# Trade & Tariffs

## Beige Book Tariff Survey Question 1

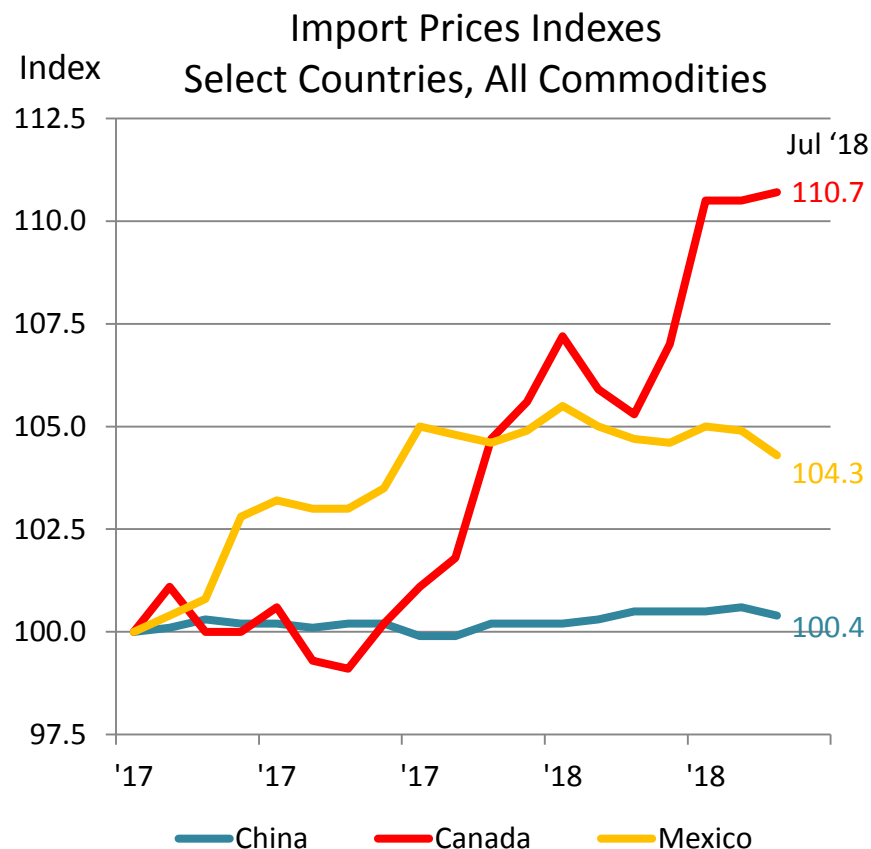
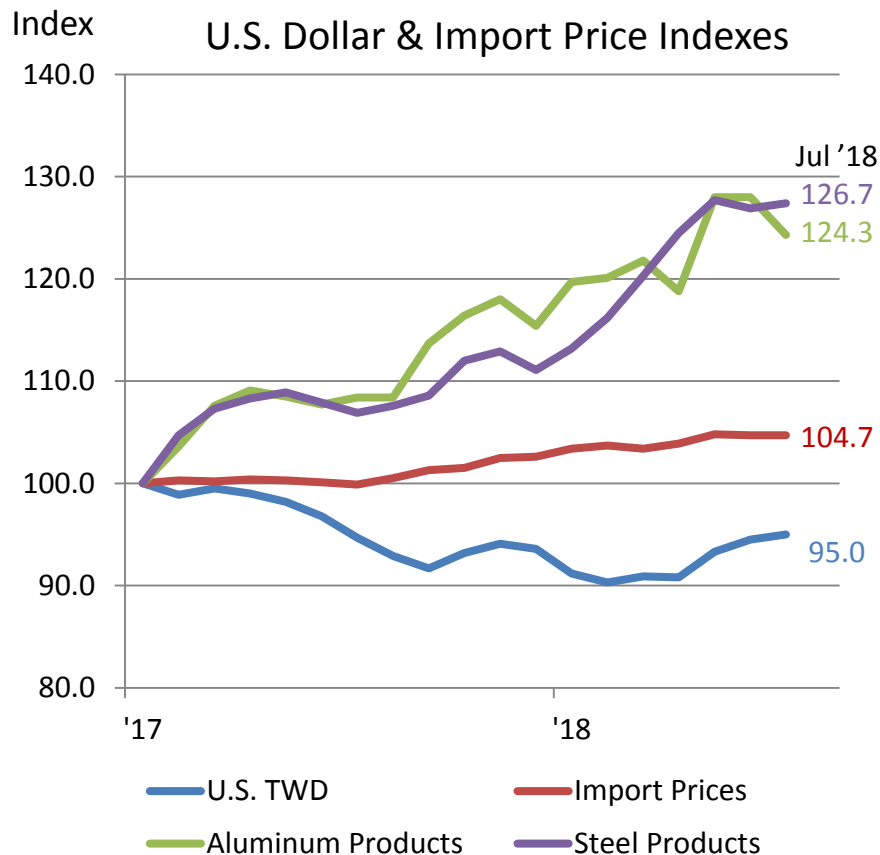
What kind of impact will the new steel and aluminum tariffs have on the US economy?



Source: Chicago Fed Survey of Business Conditions.

# The U.S. Dollar and Import Prices

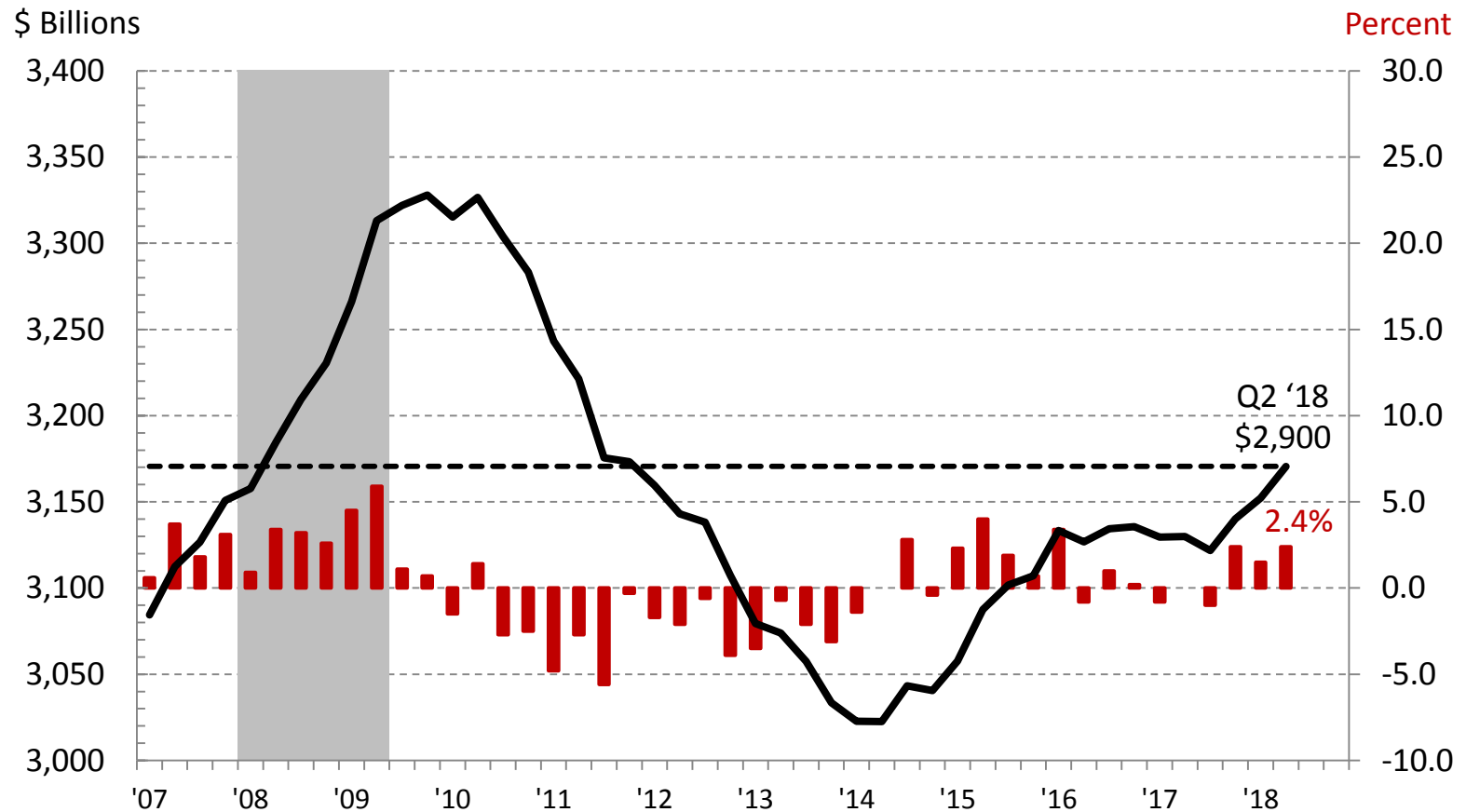
Index Jan '17 = 100



Source: Board of Governors, Federal Reserve and Bureau of Labor Statistics.

# Real Government Consumption & Investment

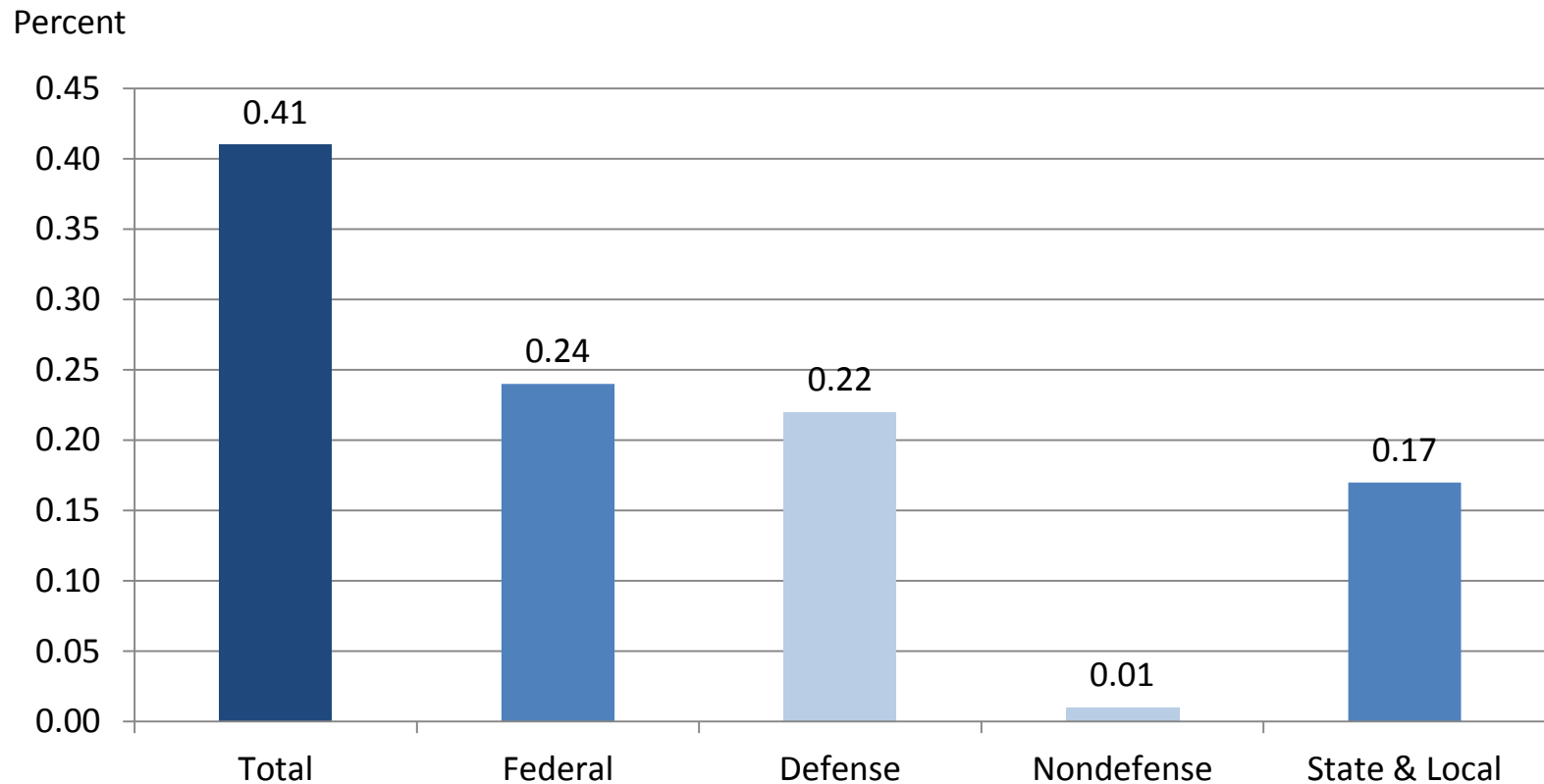
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

# Government Consumption and Investment

GDP and Contribution to Percent Change, Q/Q at SAAR – Q2 '18



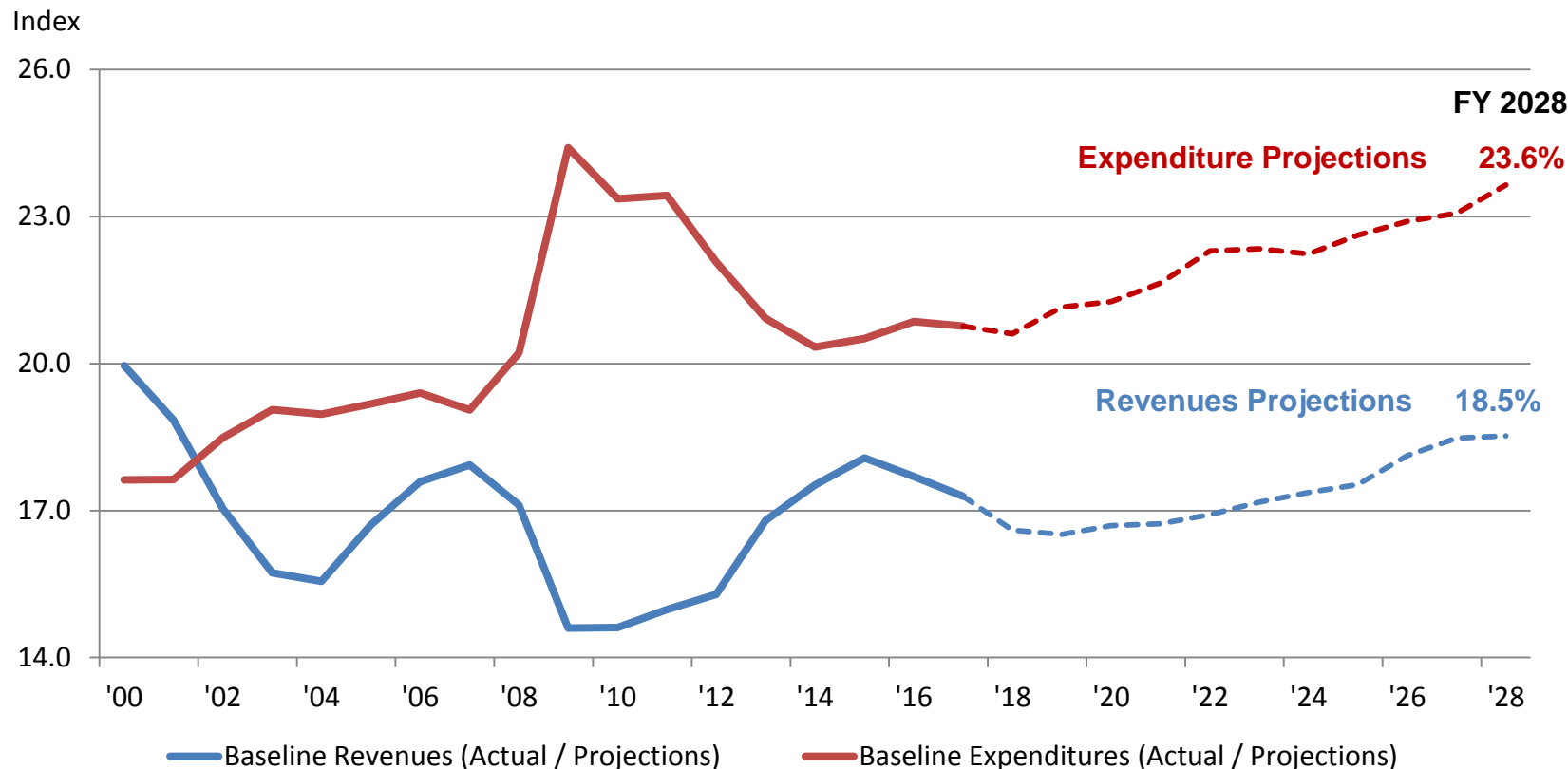
Note: Detail may not sum due to rounding.

Source: U.S. Bureau of Economic Analysis, and FRB of St Louis FRED database.



# Federal Expenditures and Receipts

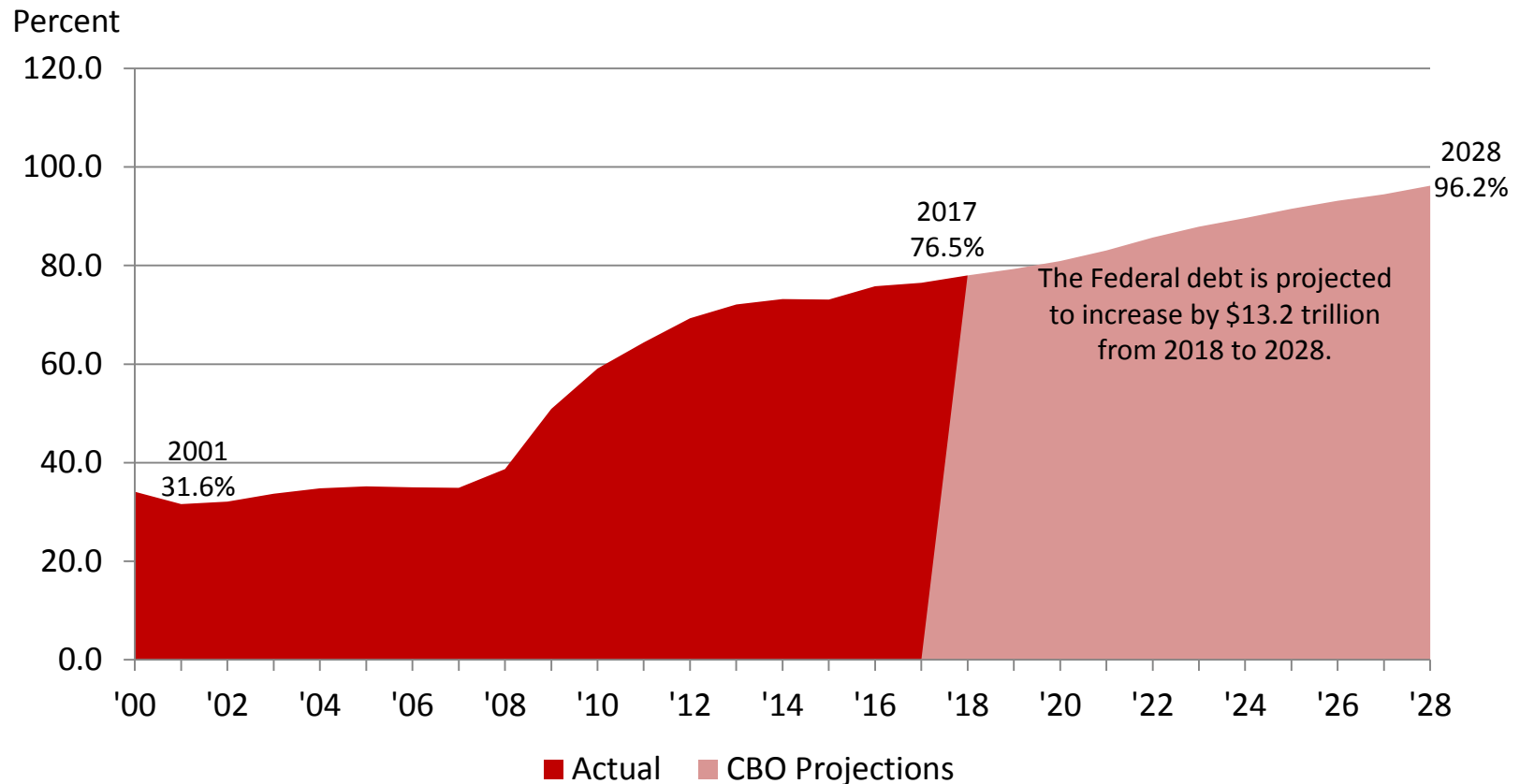
## Actual and CBO Projections (Percent of GDP)



Source: April 2018 Congressional Budget Office Estimates

# Federal Debt Held by the Public

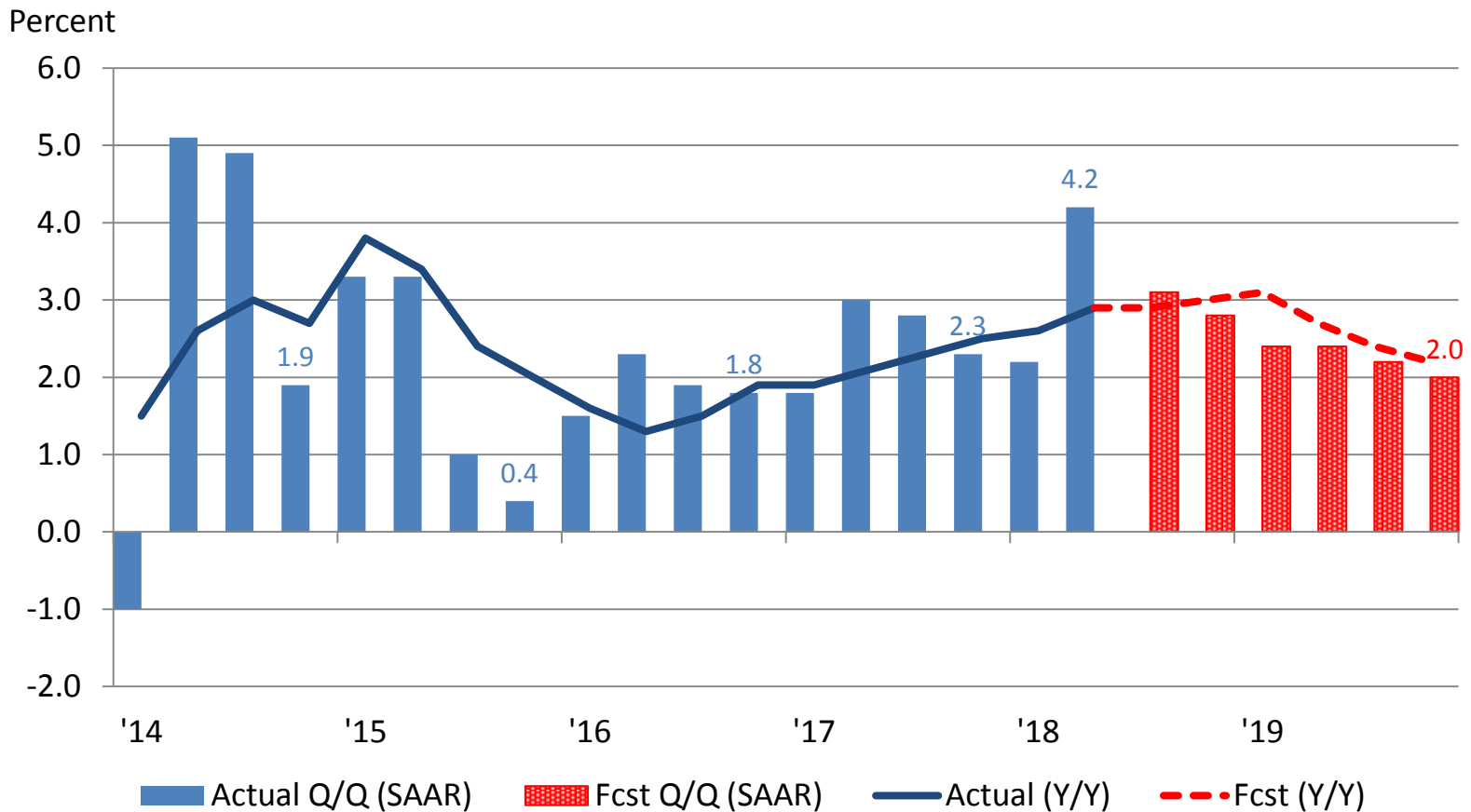
## Fiscal Year Percent of GDP



Source: Author's calculations using U.S. Bureau of Economic Analysis and Congressional Budget Office data.

# U.S. Real GDP – July 2018 Blue Chip Forecast

Percent Change – Billions of Chained \$2009

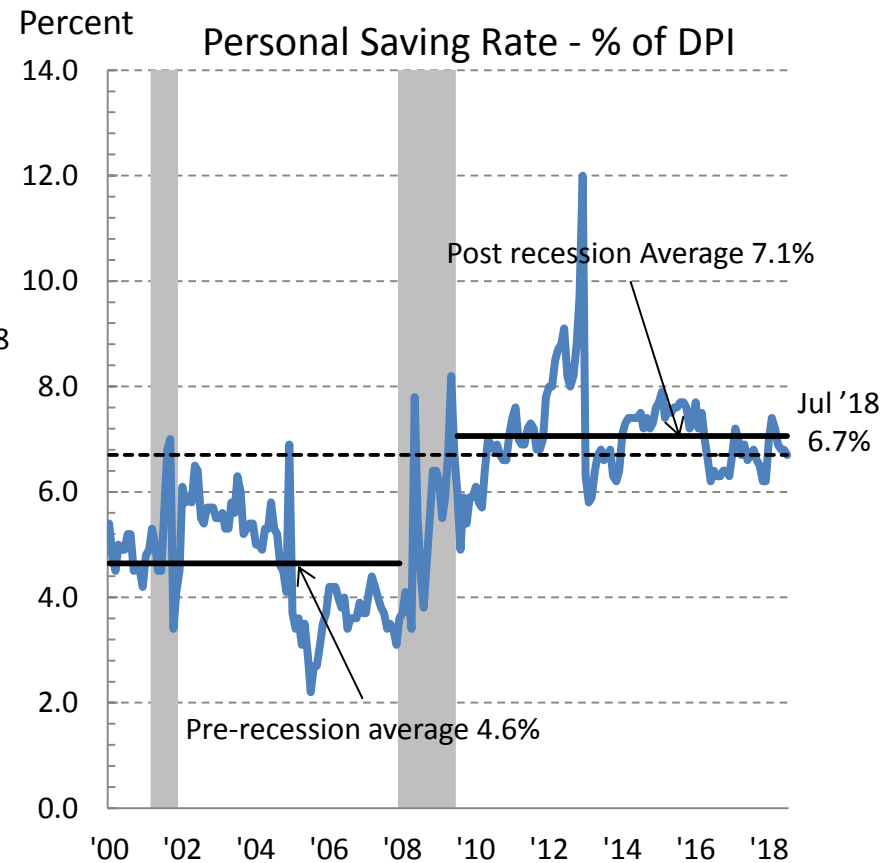
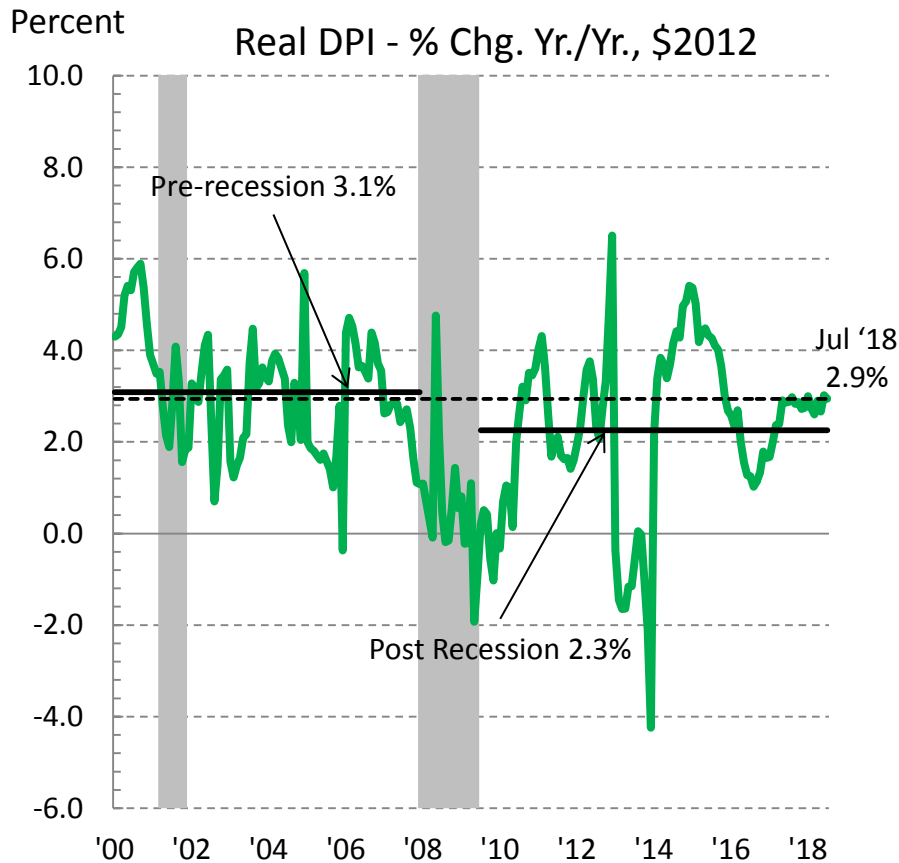


Source: BEA and July 2018 Blue Chip Economic Indicators

# U.S. Consumer

# Income and Savings Rate

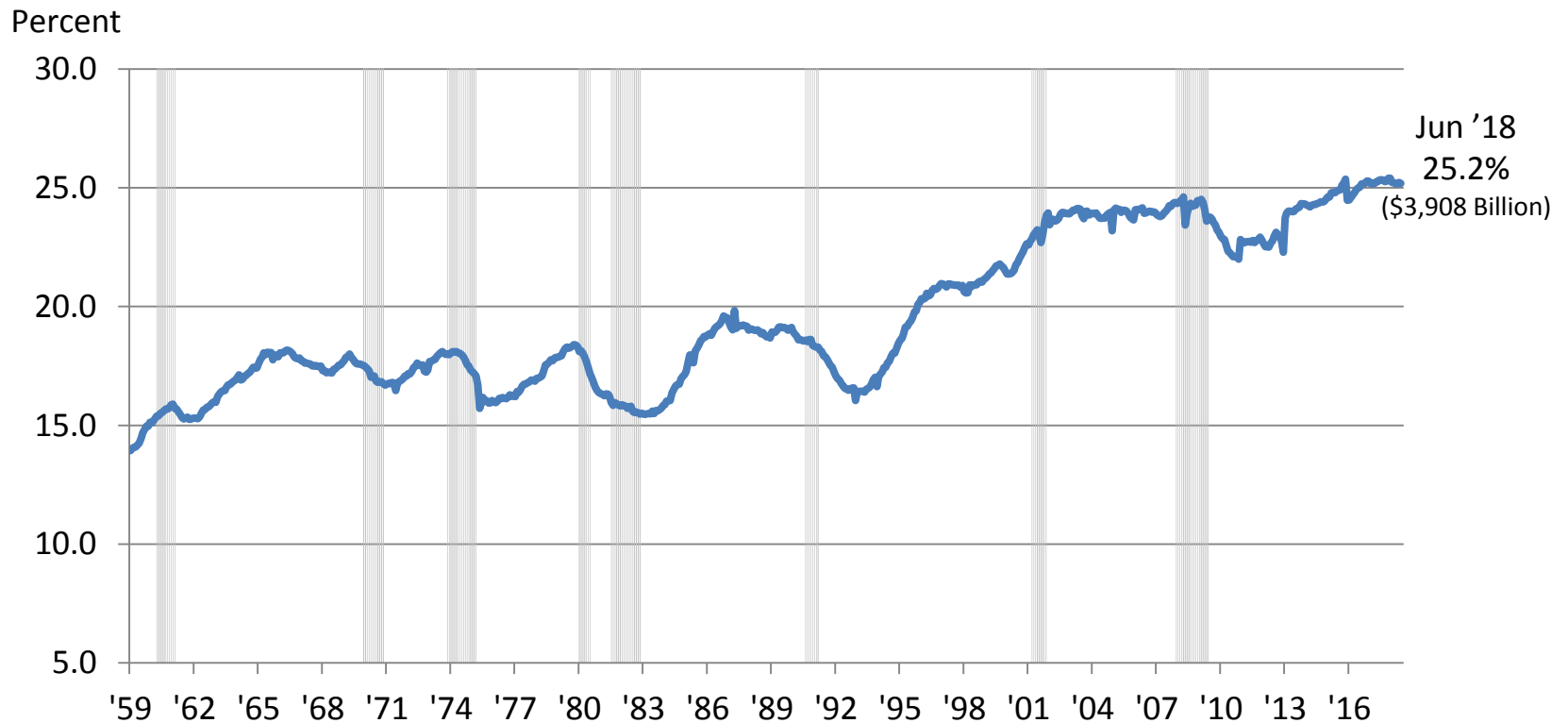
## Percent Change and Percent of DPI



Source: U.S. Bureau of Economic Analysis

# Total Consumer Credit

## As a Percent of Disposable Personal Income

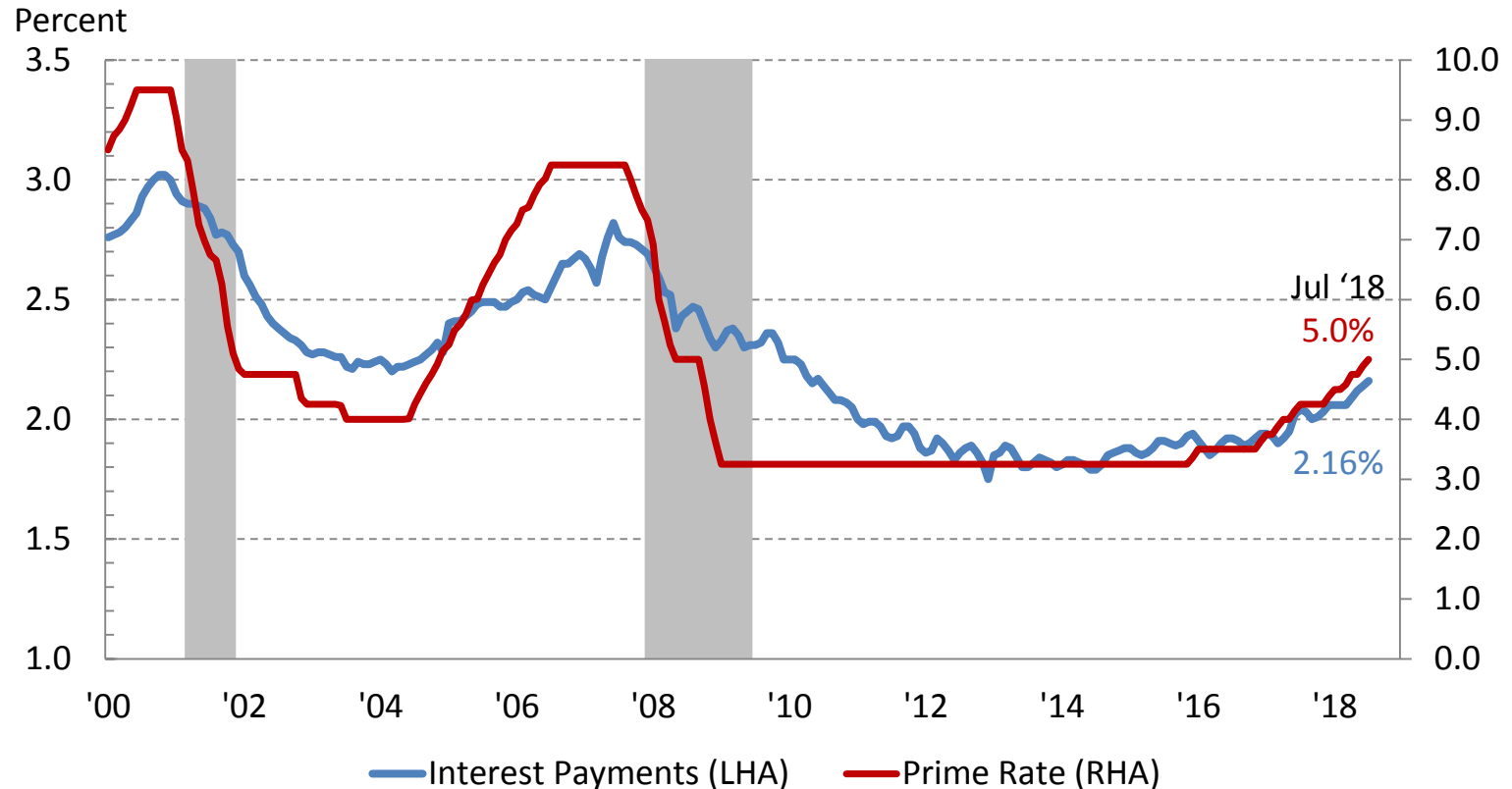


Includes: HE Revolving, Auto Loans, Credit Cards, and Student Loans.

Source: Federal Reserve Bank Board of Governors.

# Interest Payments

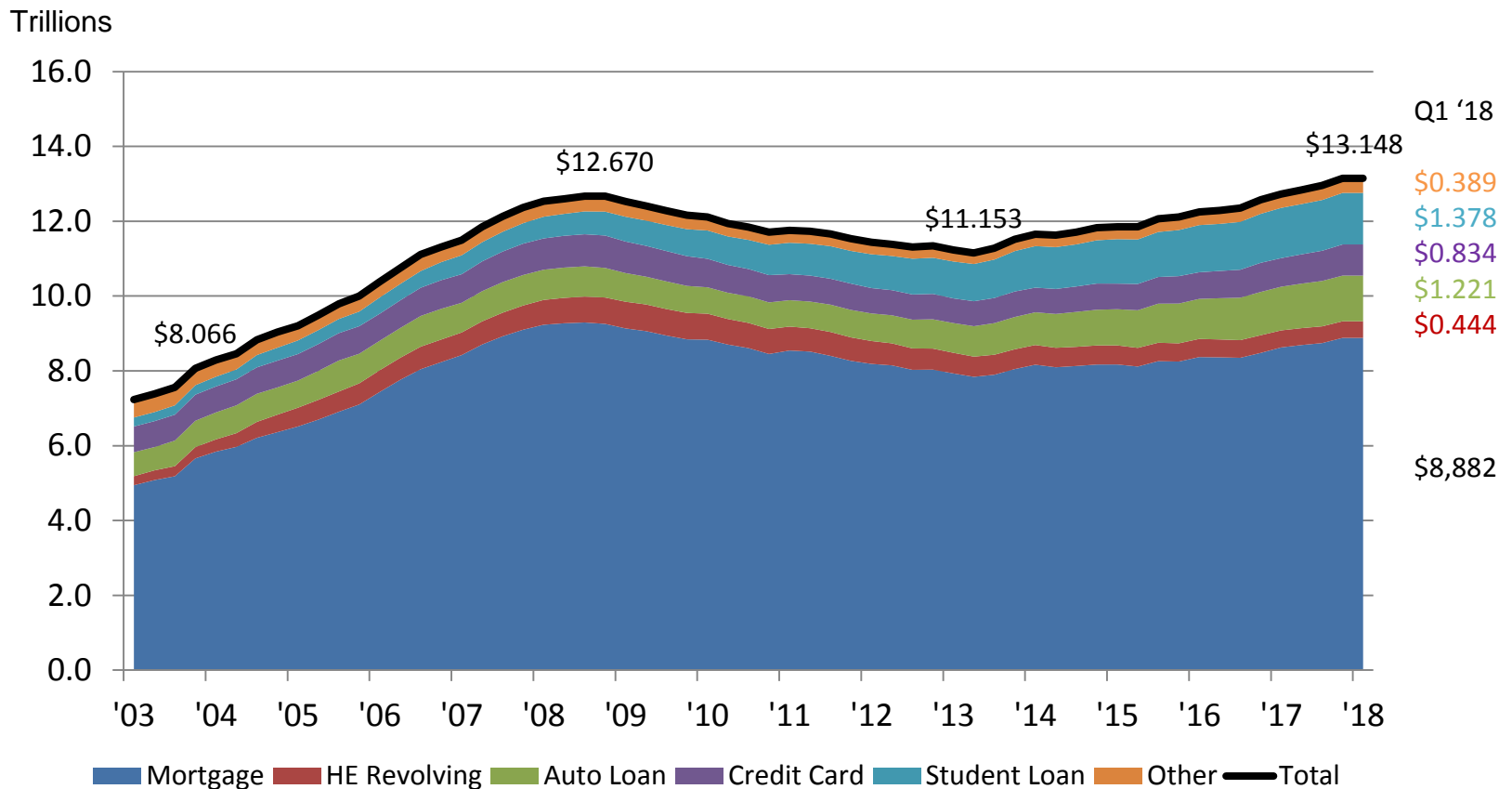
As a Percent of Disposable Personal Income



Source: Federal Reserve Bank - Board of Governors

# Total Consumer Debt by Composition

Trillions of Dollars

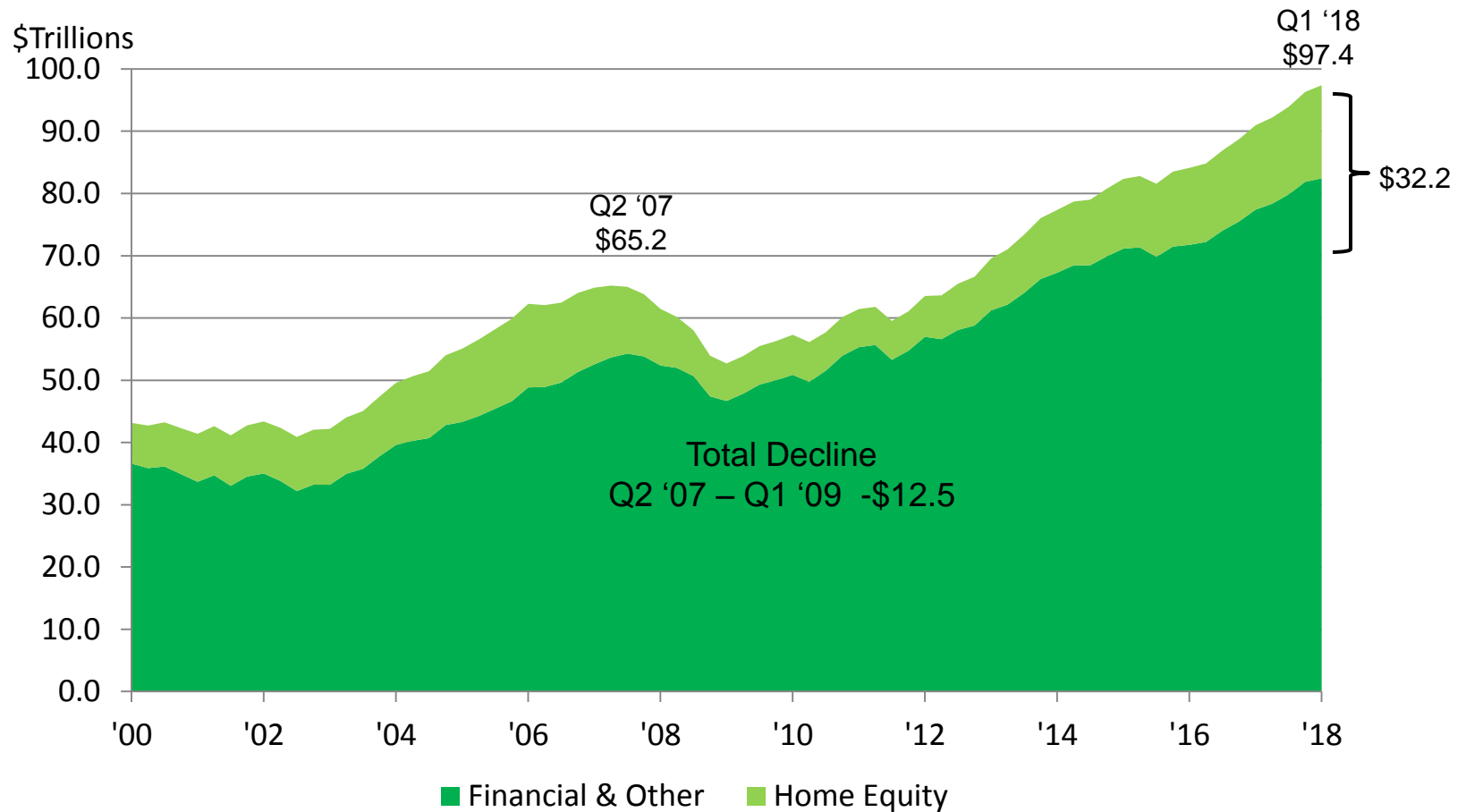


Source: Federal Reserve Bank of New York and Equifax



# Household Net Worth

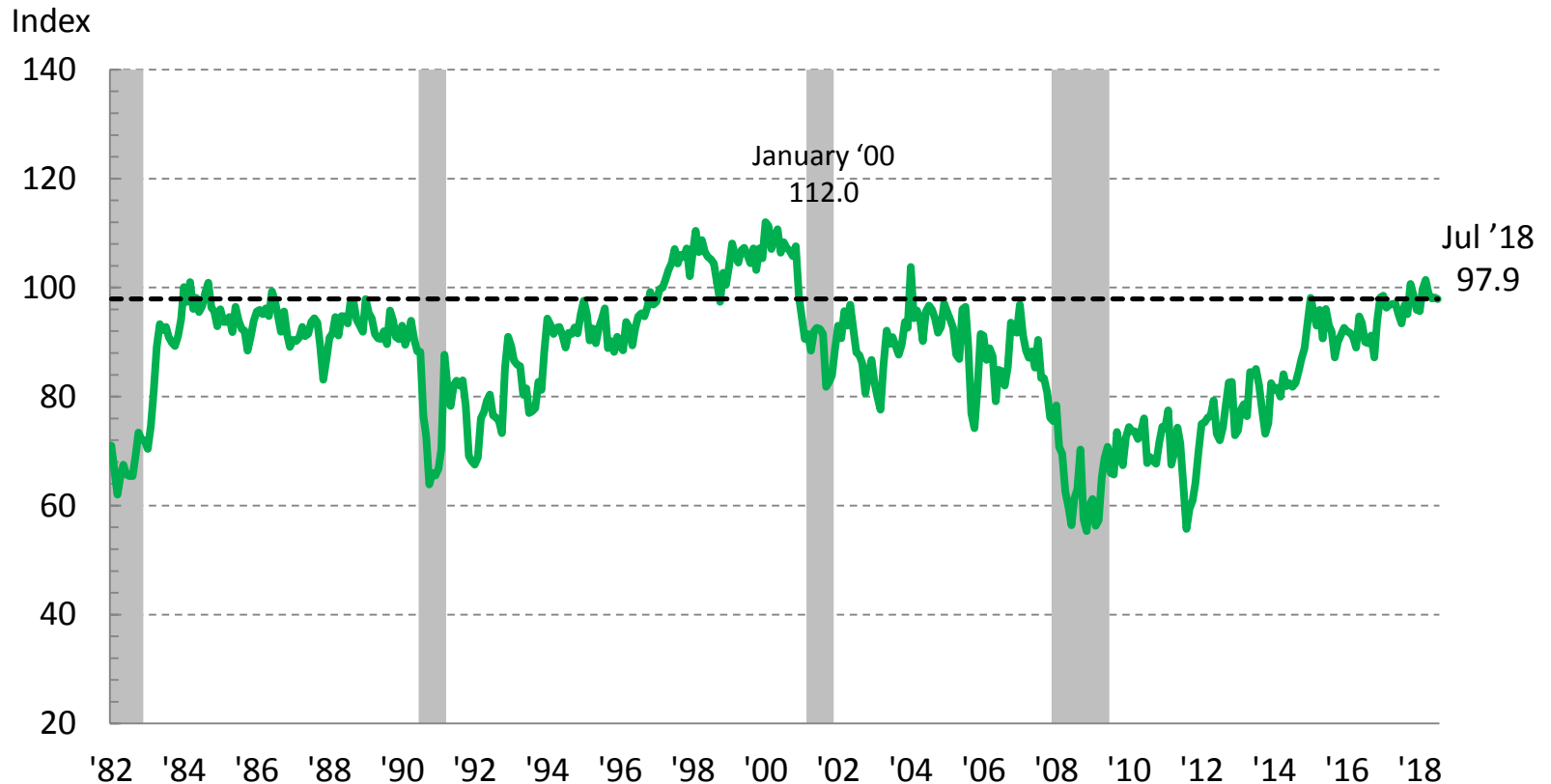
Trillions of Current Dollars, Q1 '00 to Q1 '17



Source: Federal Reserve Z.1 Statistical Release, Table B100, Households and Nonprofit Organizations

# Consumer Sentiment

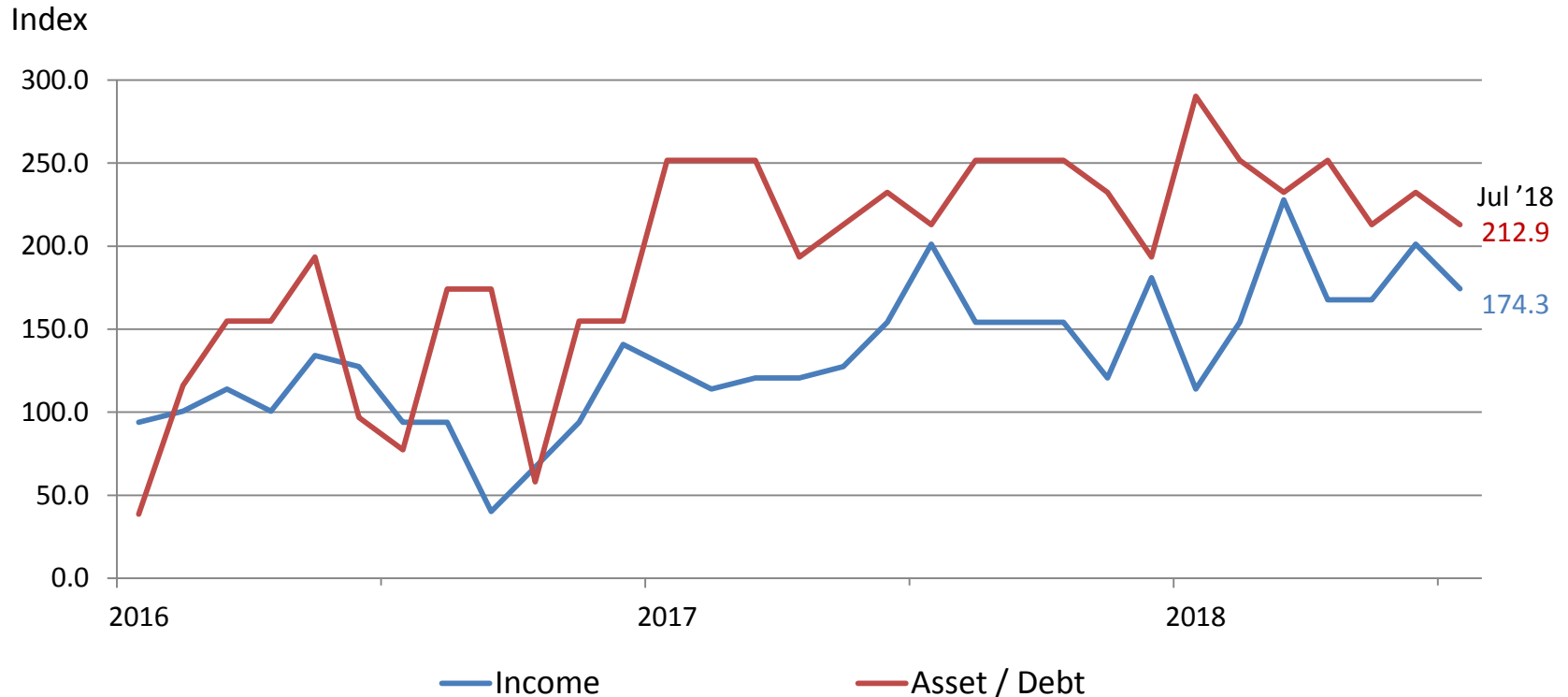
University of Michigan



Source: Thomson Reuters / University of Michigan

# Current Household Relative Financial Situation

Compared to a Year Ago – Index 2016 = 100



Note: Relative situation is calculated as the number of respondents answering that their income and asset to debt ratio is better than a year ago minus those responding that it is worse than a year ago.

Source: University of Michigan Consumer Sentiment

# Monetary Policy

# F.O.M.C Statement

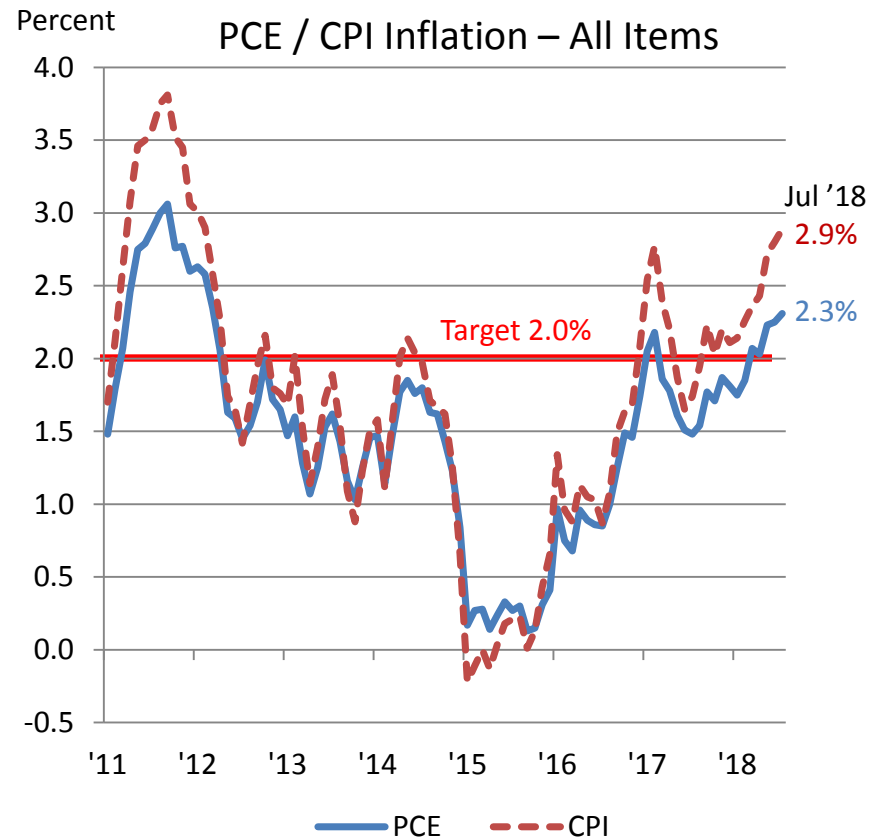
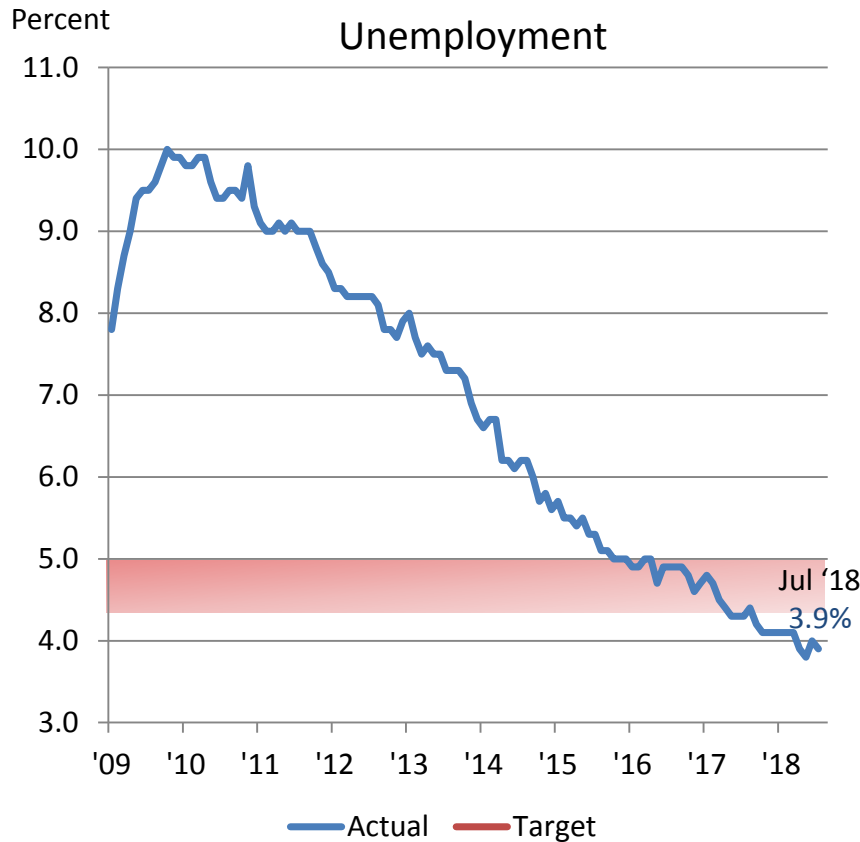
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August 1, 2018

1. Information received since the F.O.M.C. met in June indicates that the labor market has continued to strengthen and that economic activity has been rising at a strong rate.
2. Job gains have been strong, on average, in recent months, and the unemployment rate has stayed low.
3. Household spending and business fixed investment has grown strongly.
4. On a 12-month basis, both overall inflation and inflation for items other than food and energy remain near 2 percent. Indicators of longer-term inflation expectation are little changed, on balance.
5. Risks to economic outlook appear roughly balanced.

# Unemployment Rate & Prices

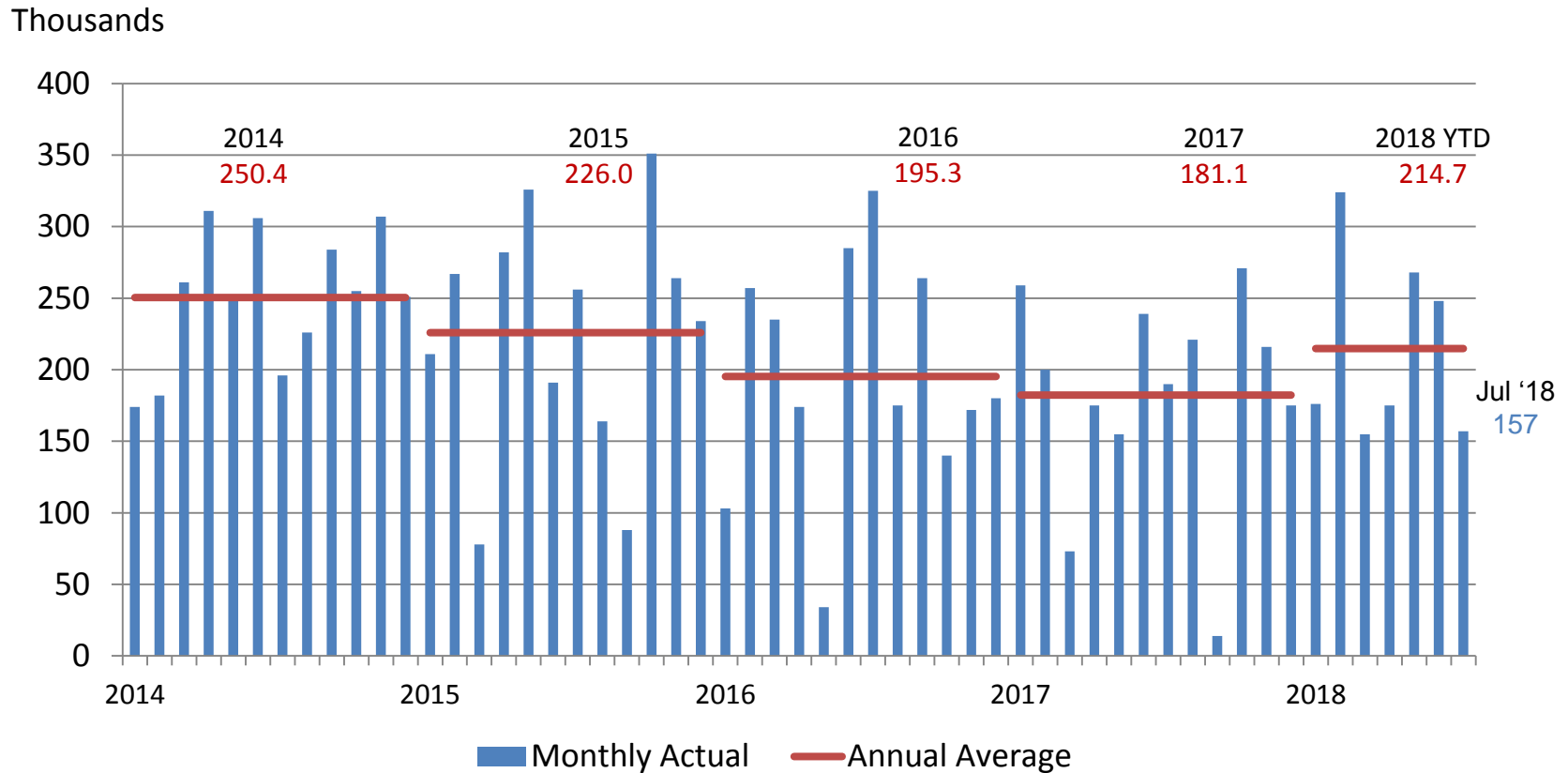
Percent Unemployed, PCE / CPI % Change Yr./Yr.



Source: U.S. Department of Labor: Bureau of Labor Statistics, Bureau of Economic Analysis and the Federal Reserve

# U.S. Nonfarm Payrolls

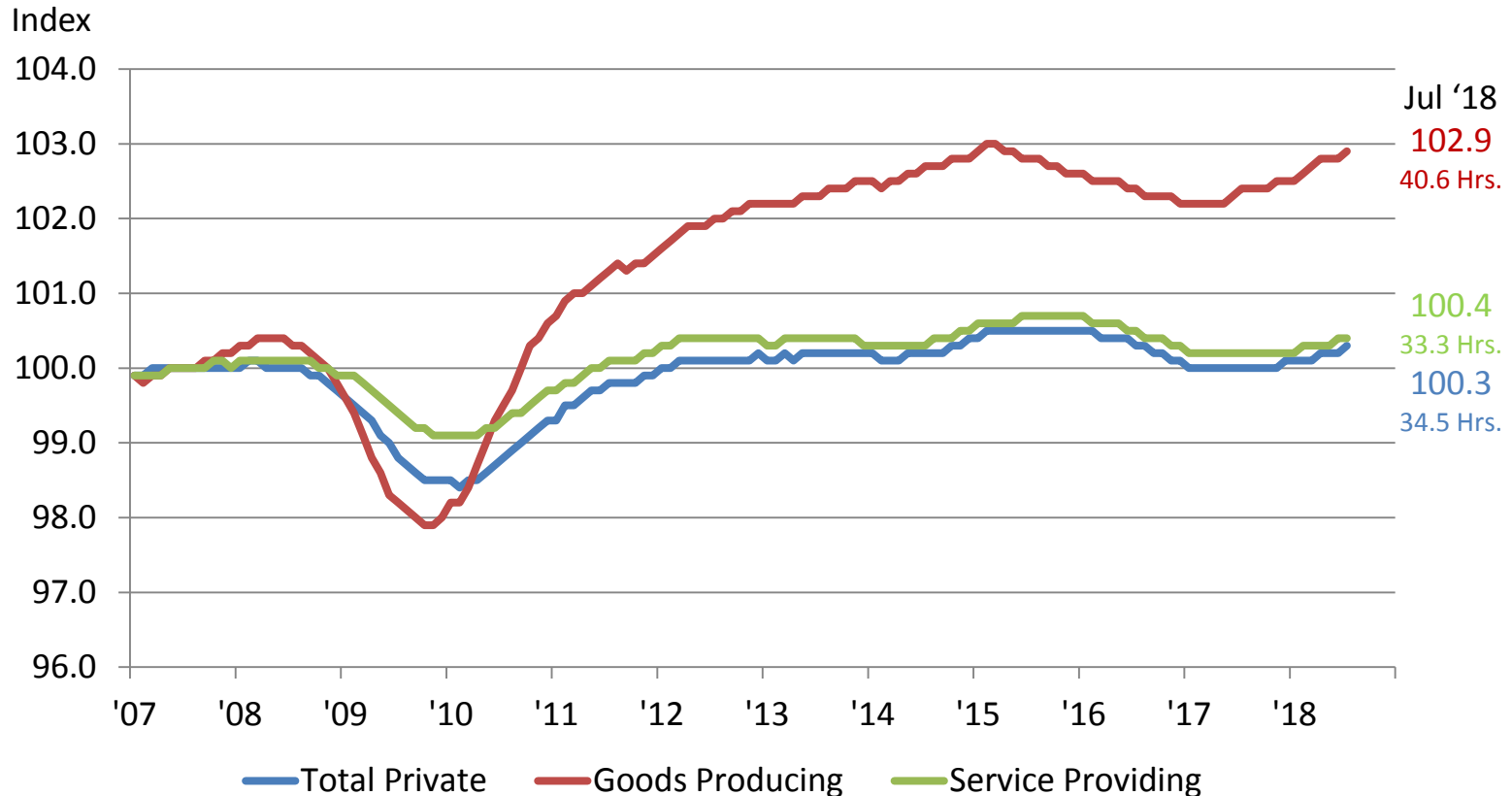
## Monthly and Annual Average Job Change – In Thousands



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

# Average Weekly Hours Worked

Private Workers, SA - 12 MMA, Index 2007 = 100

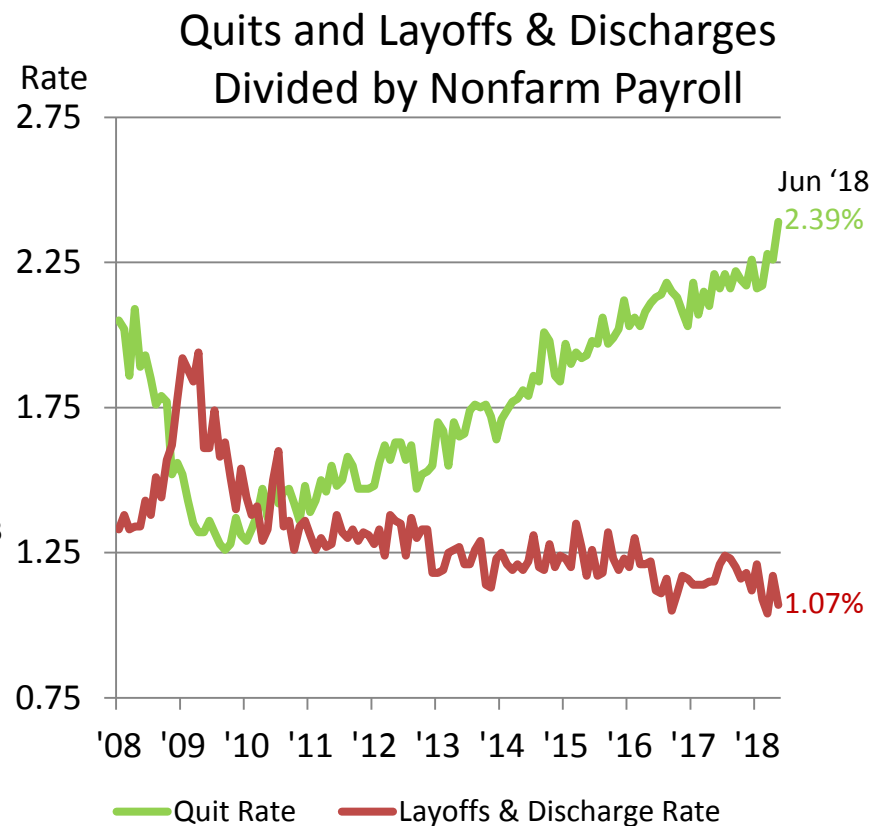
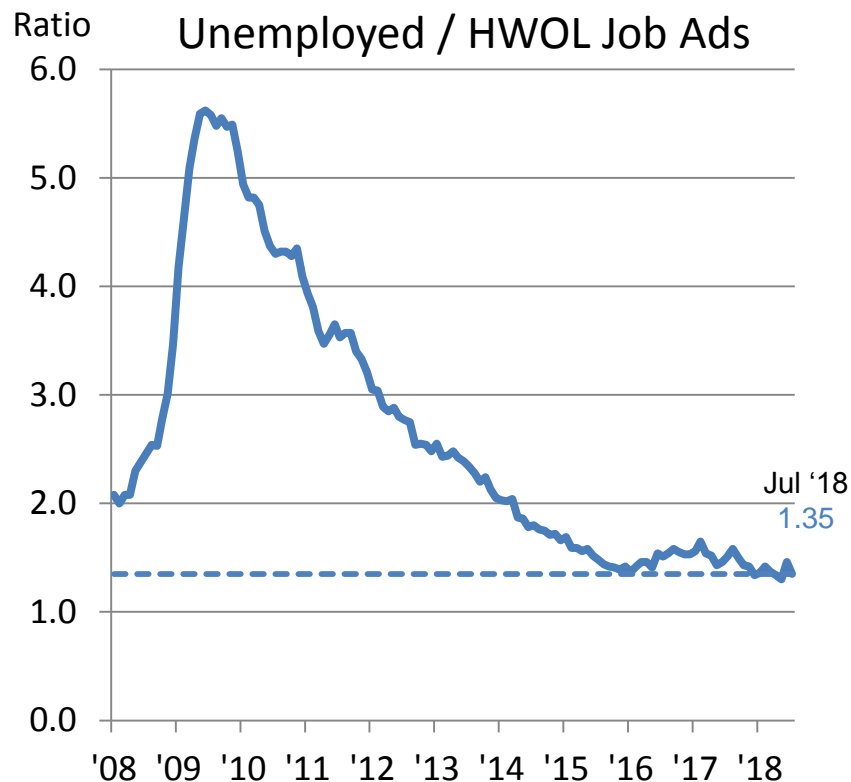


Sources: U.S. Bureau of Labor Statistics



# Labor Conditions

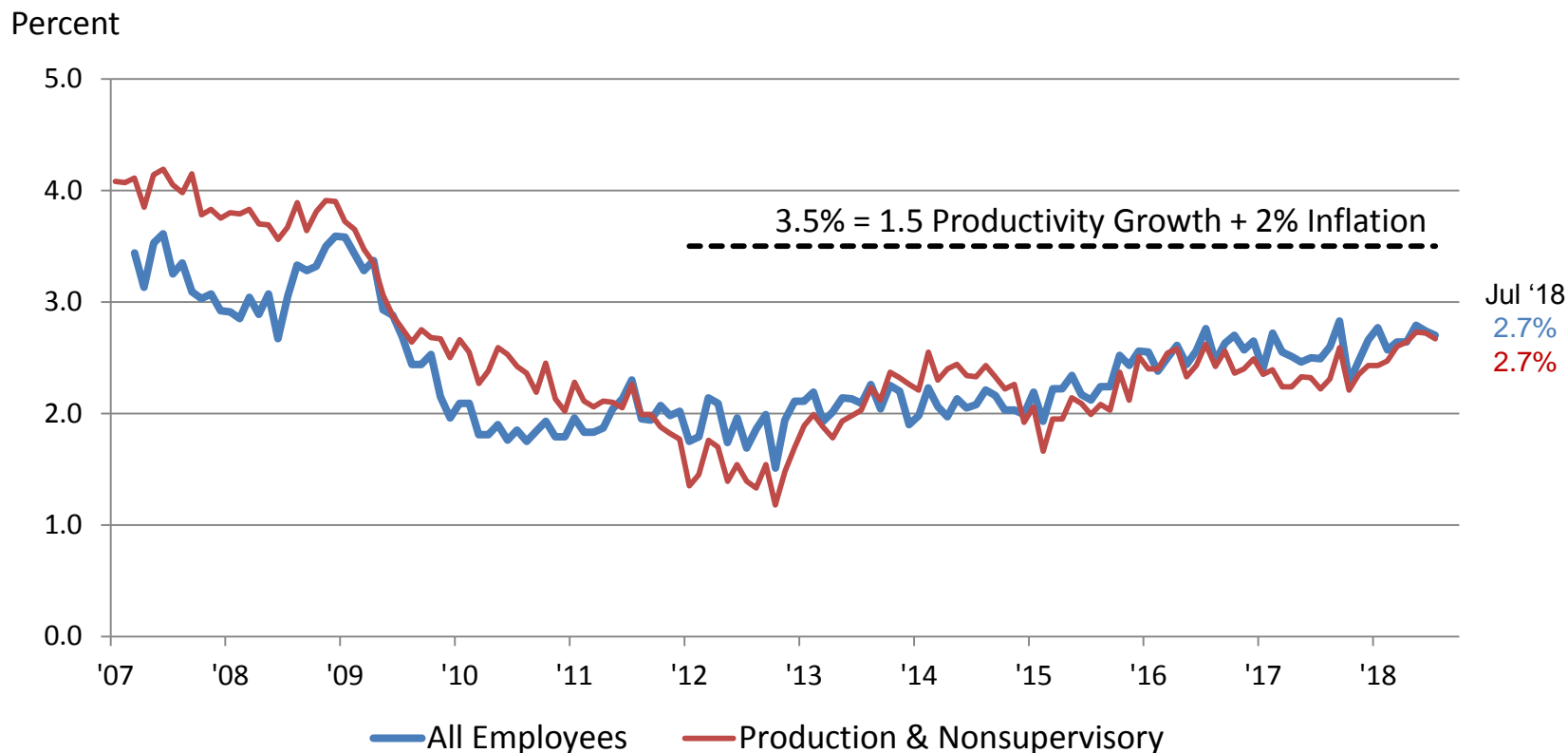
## Job Openings and Quit & Layoff Rates



Sources: U.S. Department of Labor – Job Openings and Labor Turnover Survey (JOLTS & Conference Board – Help Wanted Online Data (HWOL)

# Average Hourly Earnings – Private Employees

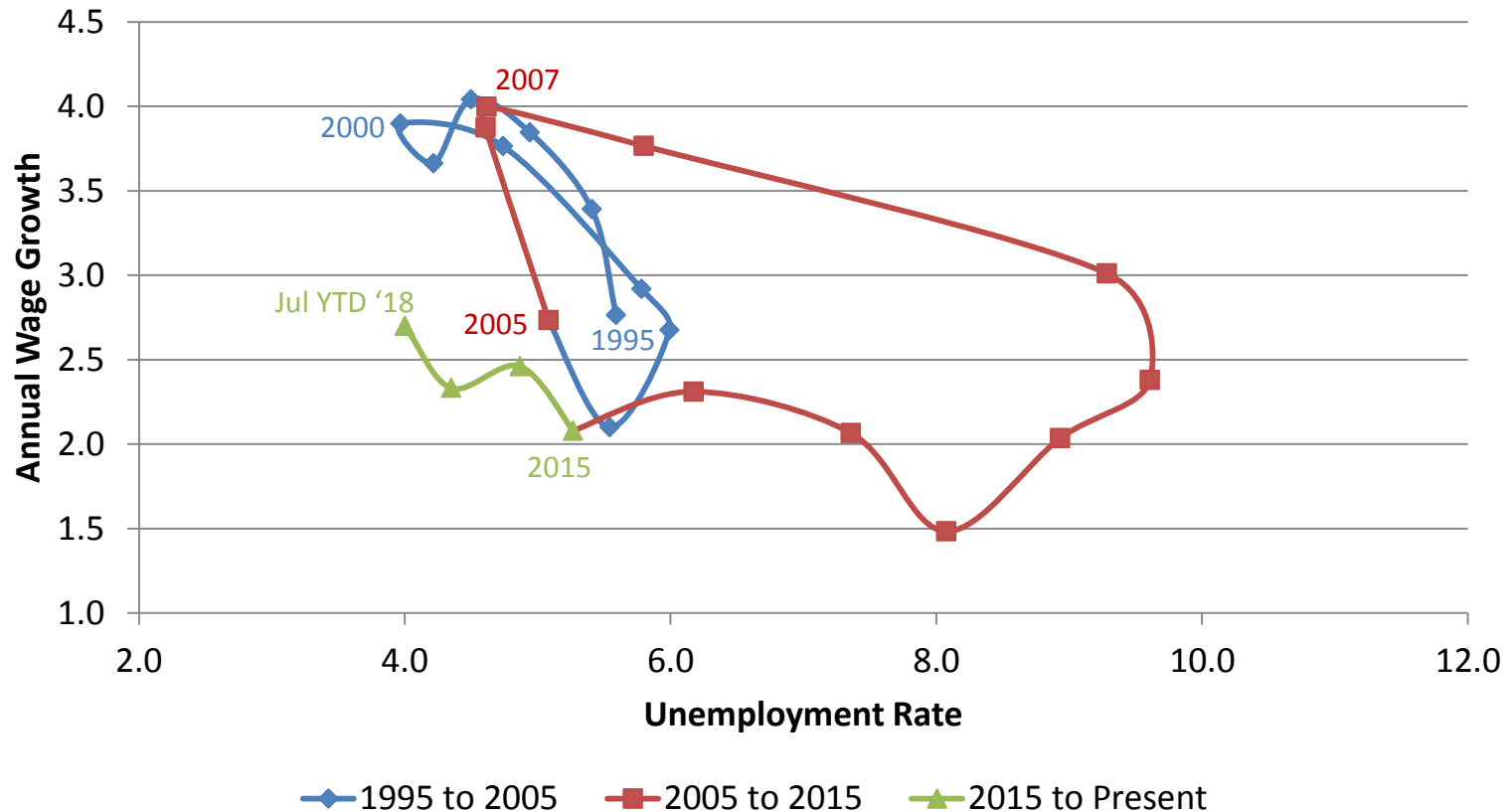
Percent Change Year / Year



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

# Phillips Curve

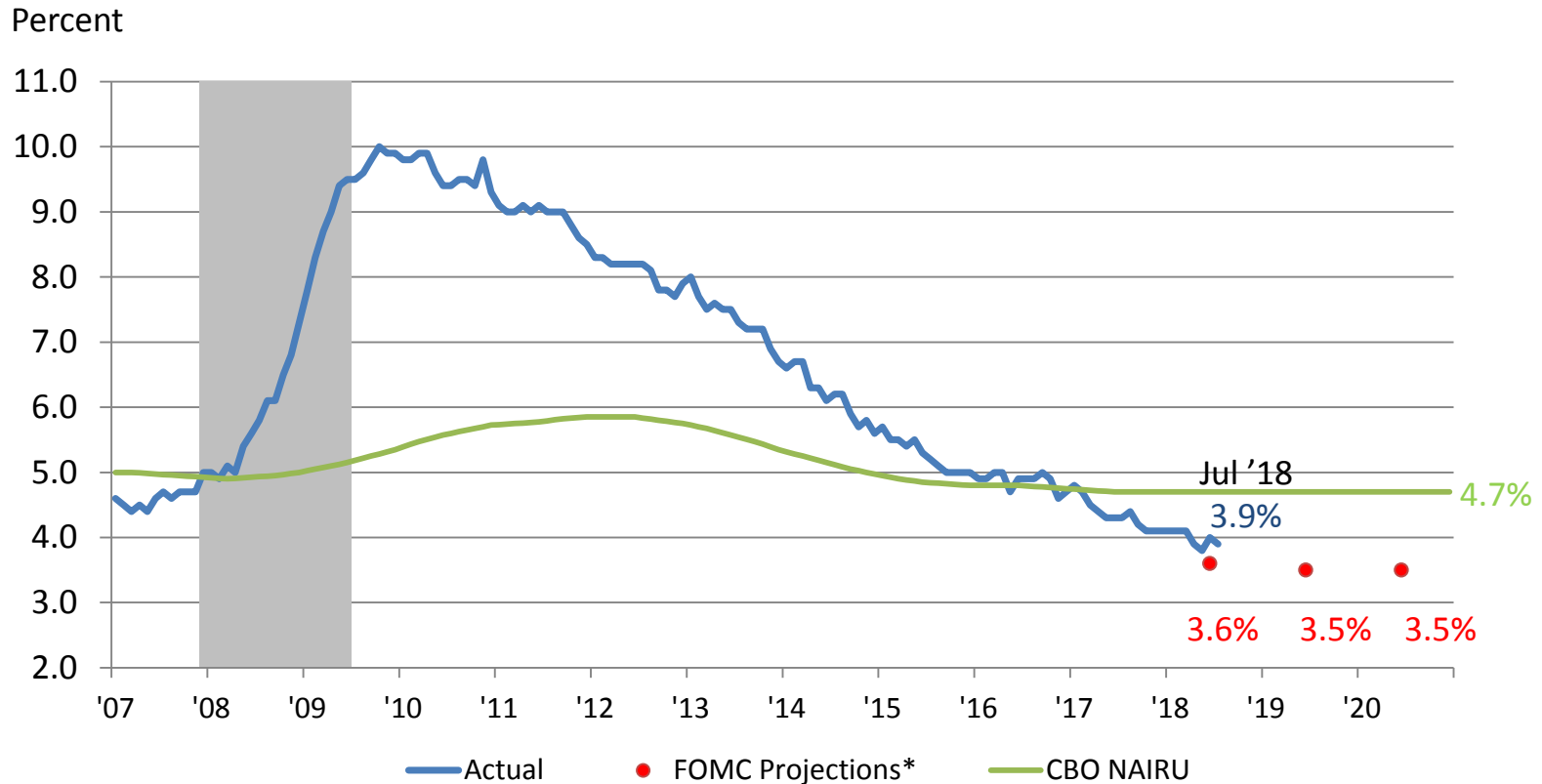
## Unemployment Rate and Wage Inflation



Source: William Phillips (1958) theory, and U.S. Bureau of Labor Statistics data.

# Unemployment Rate

## Percent of Labor Force Unemployed

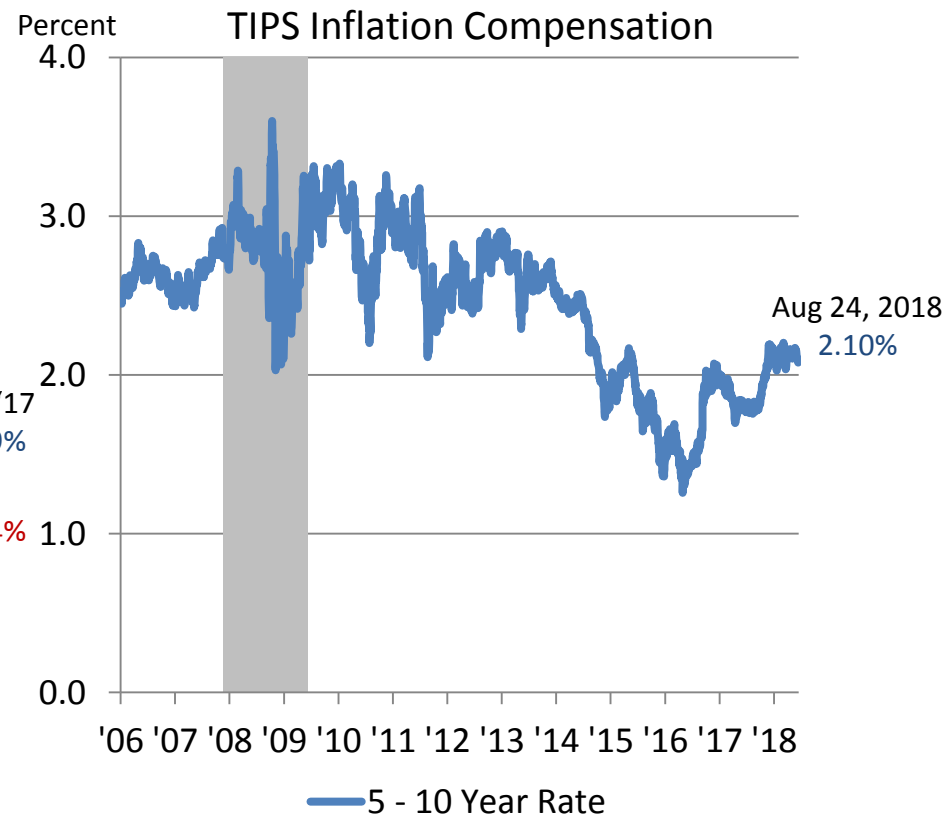
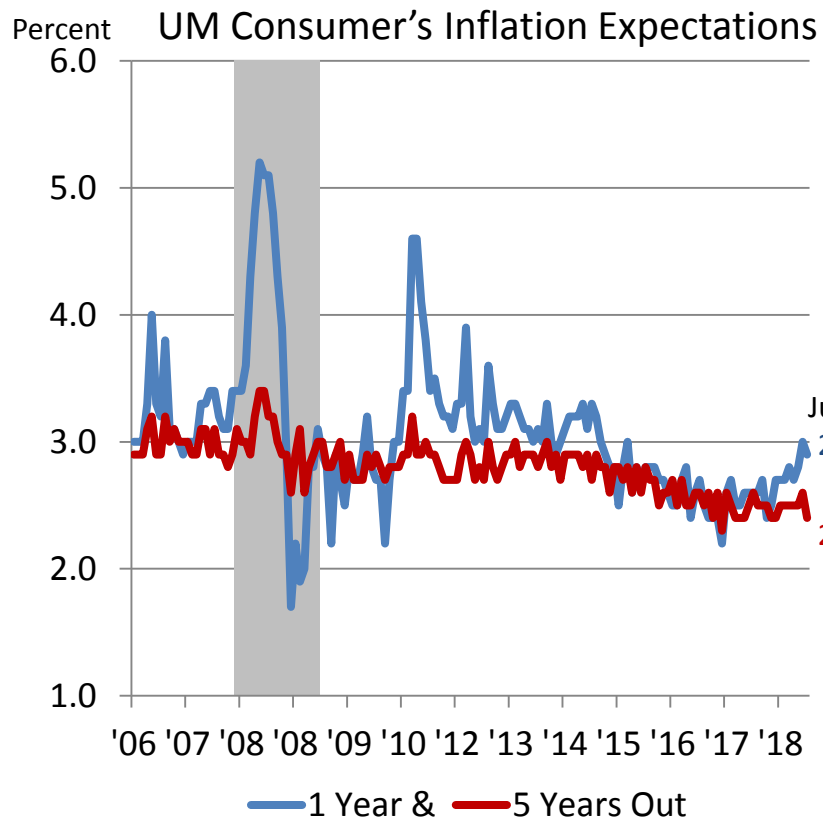


\* Midpoint of the projections made by the FOMC participants as of June 13, 2018

Source: U.S. Department of Labor: Bureau of Labor Statistics, Bureau of Economic Analysis and the Federal Reserve

# Inflation Expectations

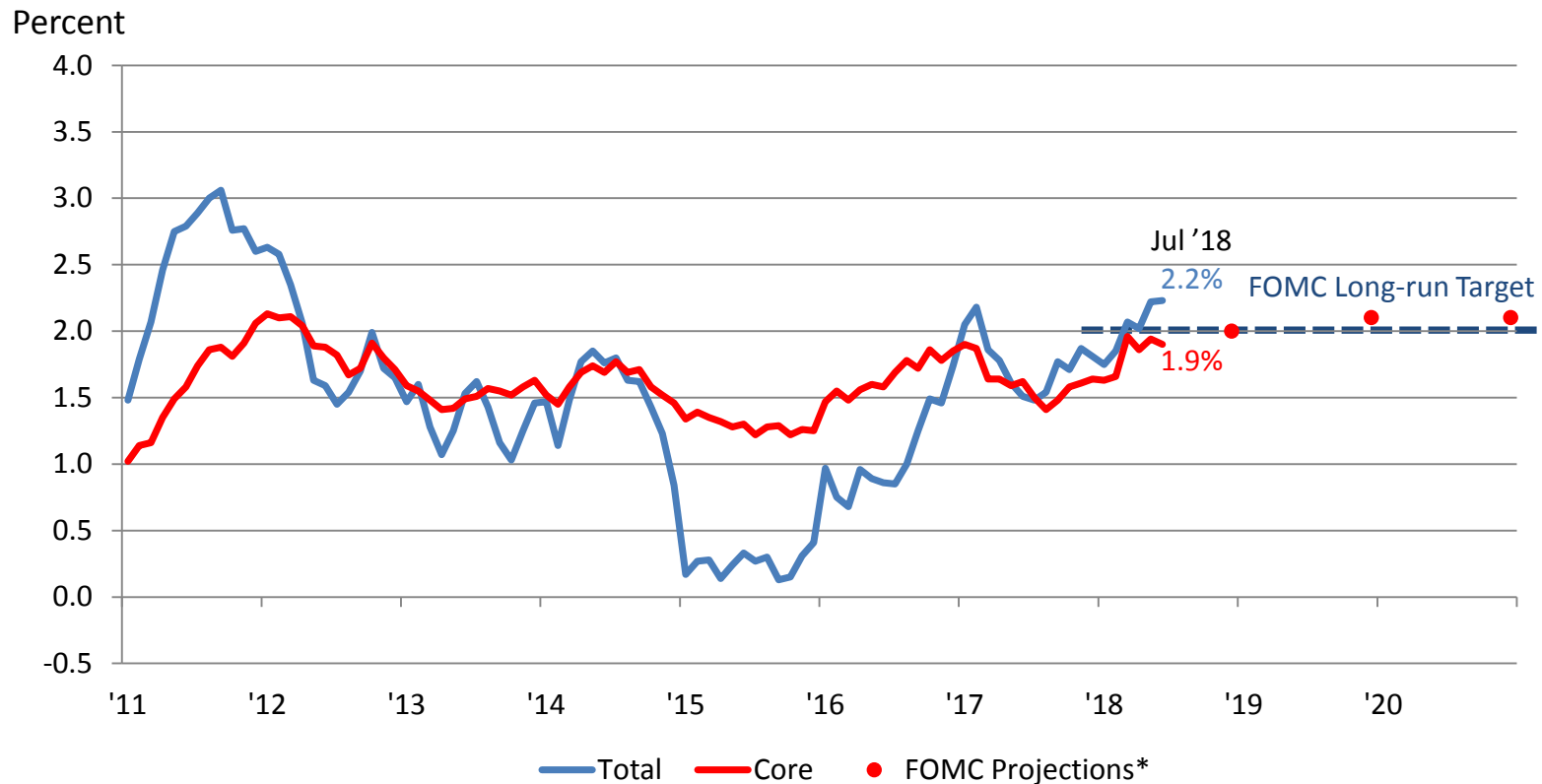
## 1-5 Year and 5-10 Year Inflation Expectations



Source: Survey of Consumers – University of Michigan and Federal Reserve Board

# Consumer Prices

## PCE – All Items & Core Inflation, 12-Month Percent Change

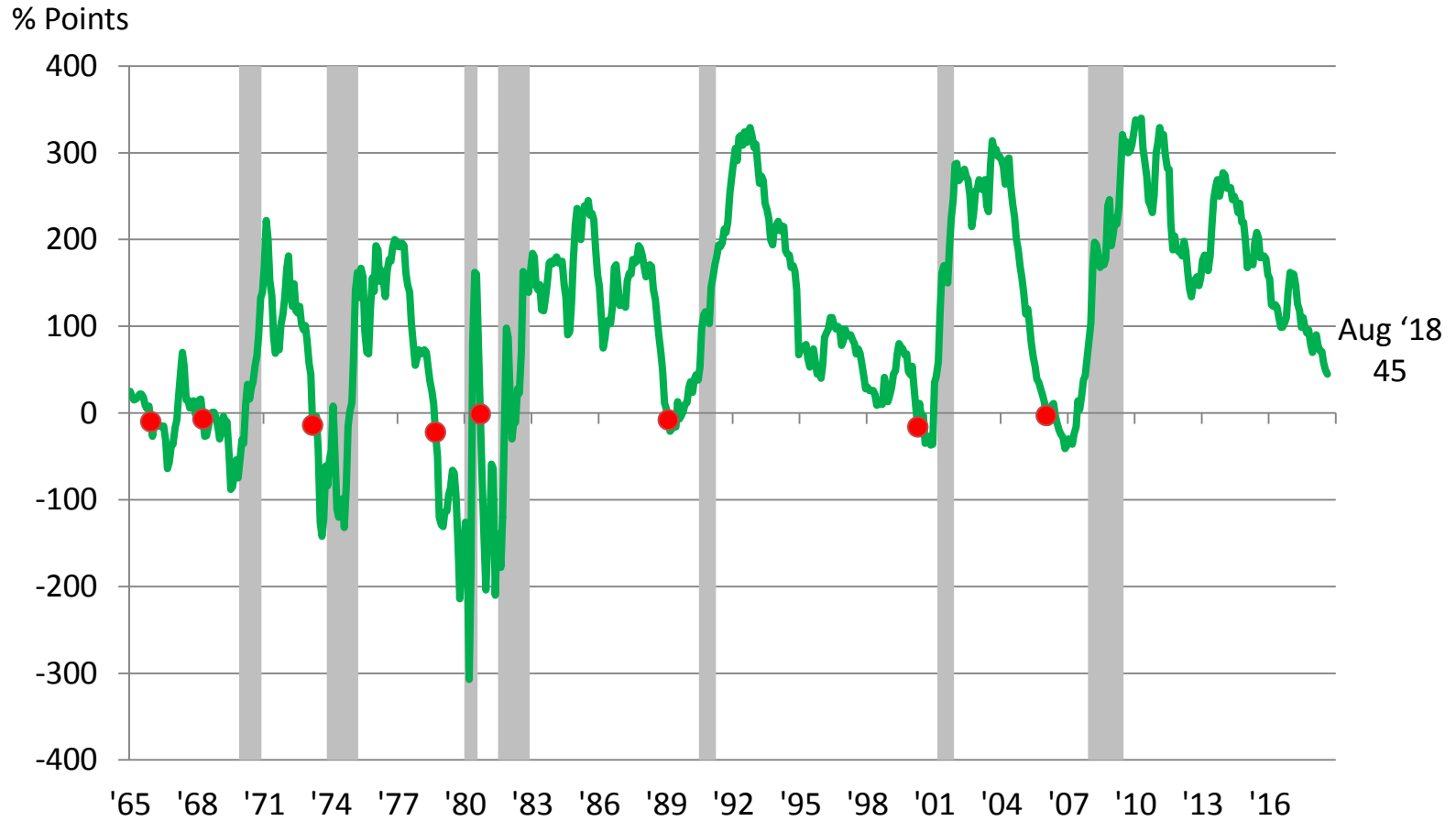


\* Midpoint of the central tendency of forecasts made by the FOMC participants as of June 13, 2018

Source: U.S. Department of Labor: Bureau of Labor Statistics, Bureau of Economic Analysis and the Federal Reserve

# Yield Curve

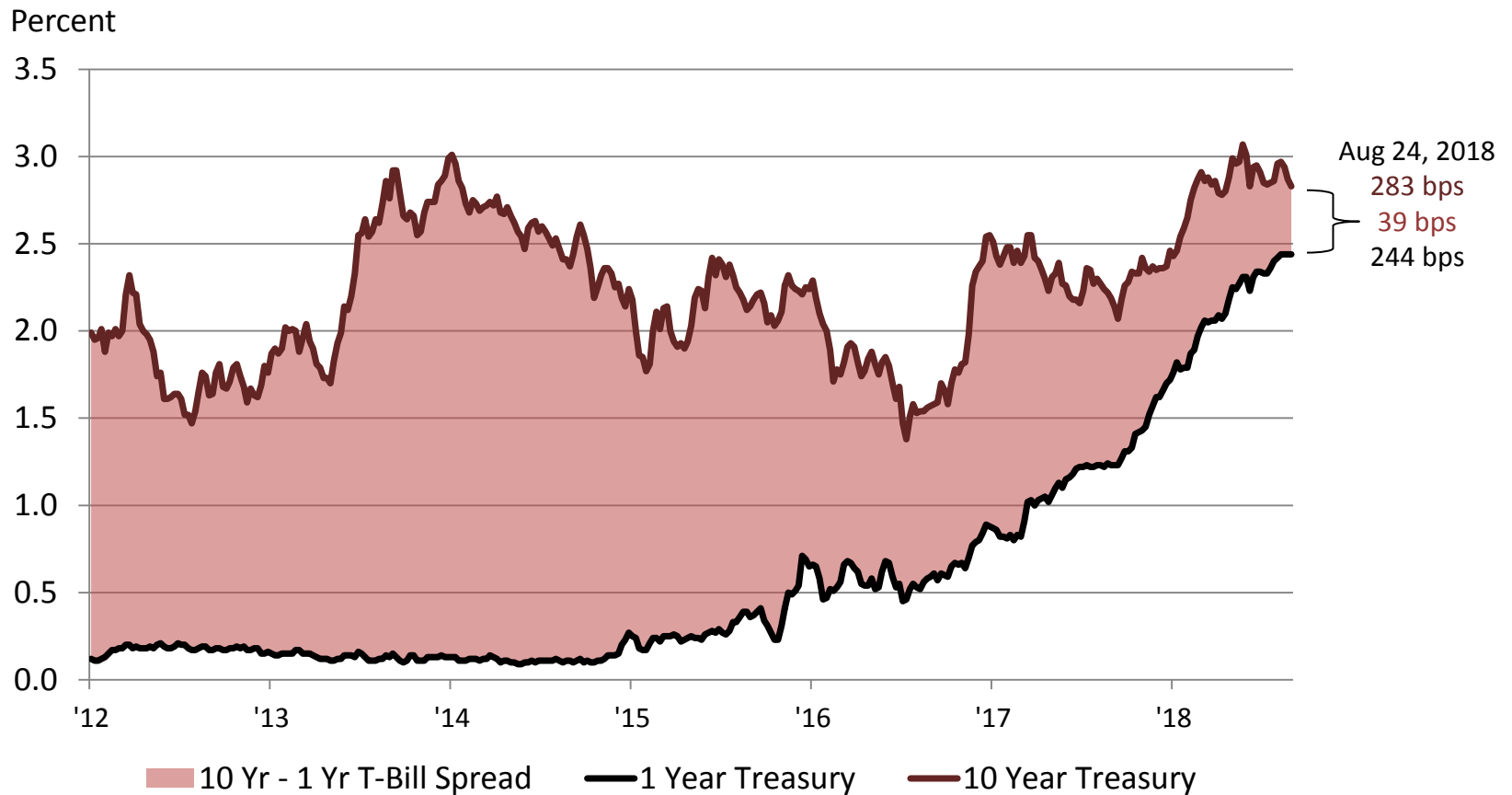
## 10 Year Minus 1 Year Treasury, Monthly Average



Source: Board of Governors – Federal Reserve System

# Yield Curve

## 10 Year – 1 Year Treasuries in Basis Points

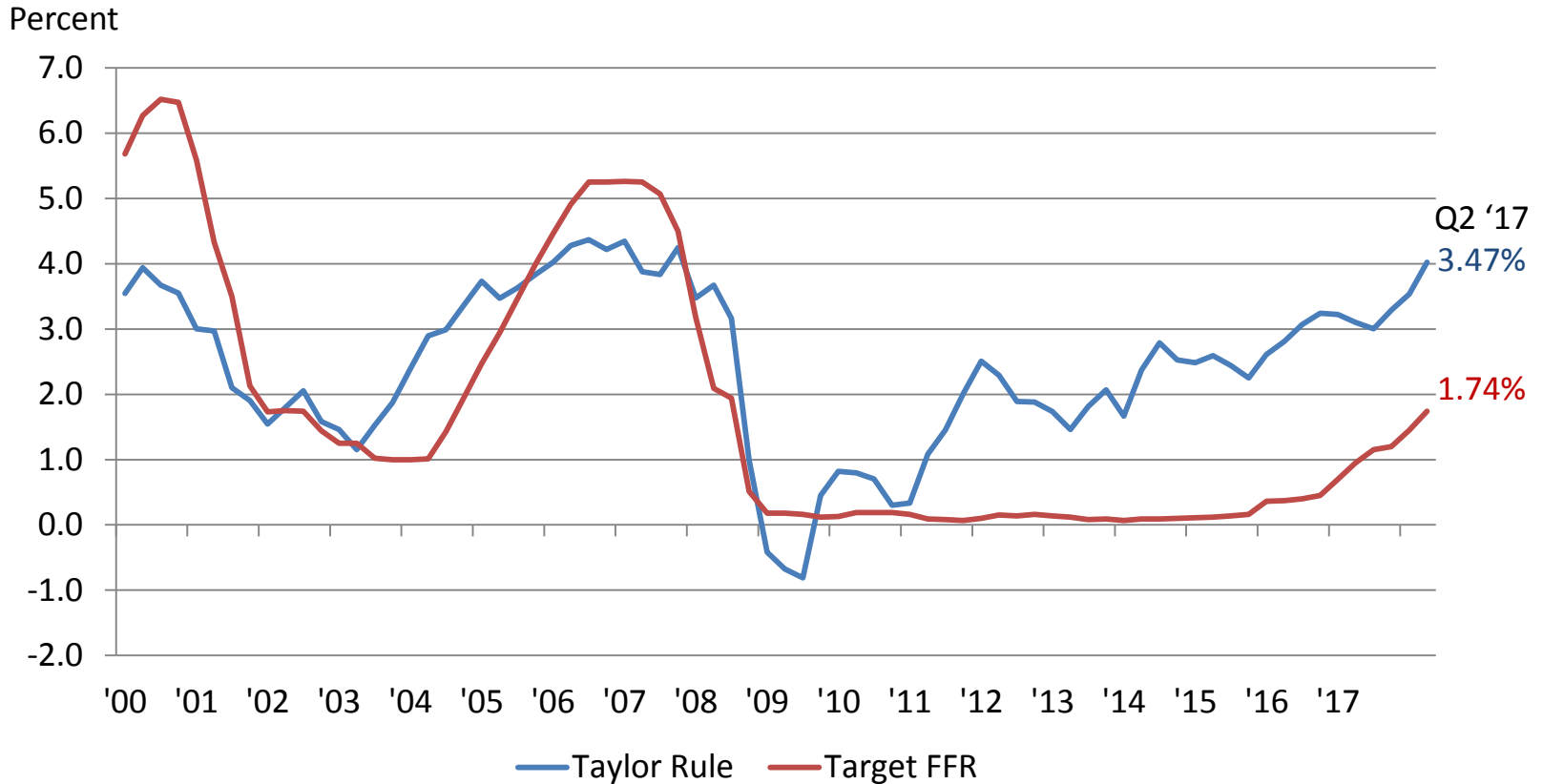


Source: Board of Governors – Federal Reserve System



# Taylor Rule

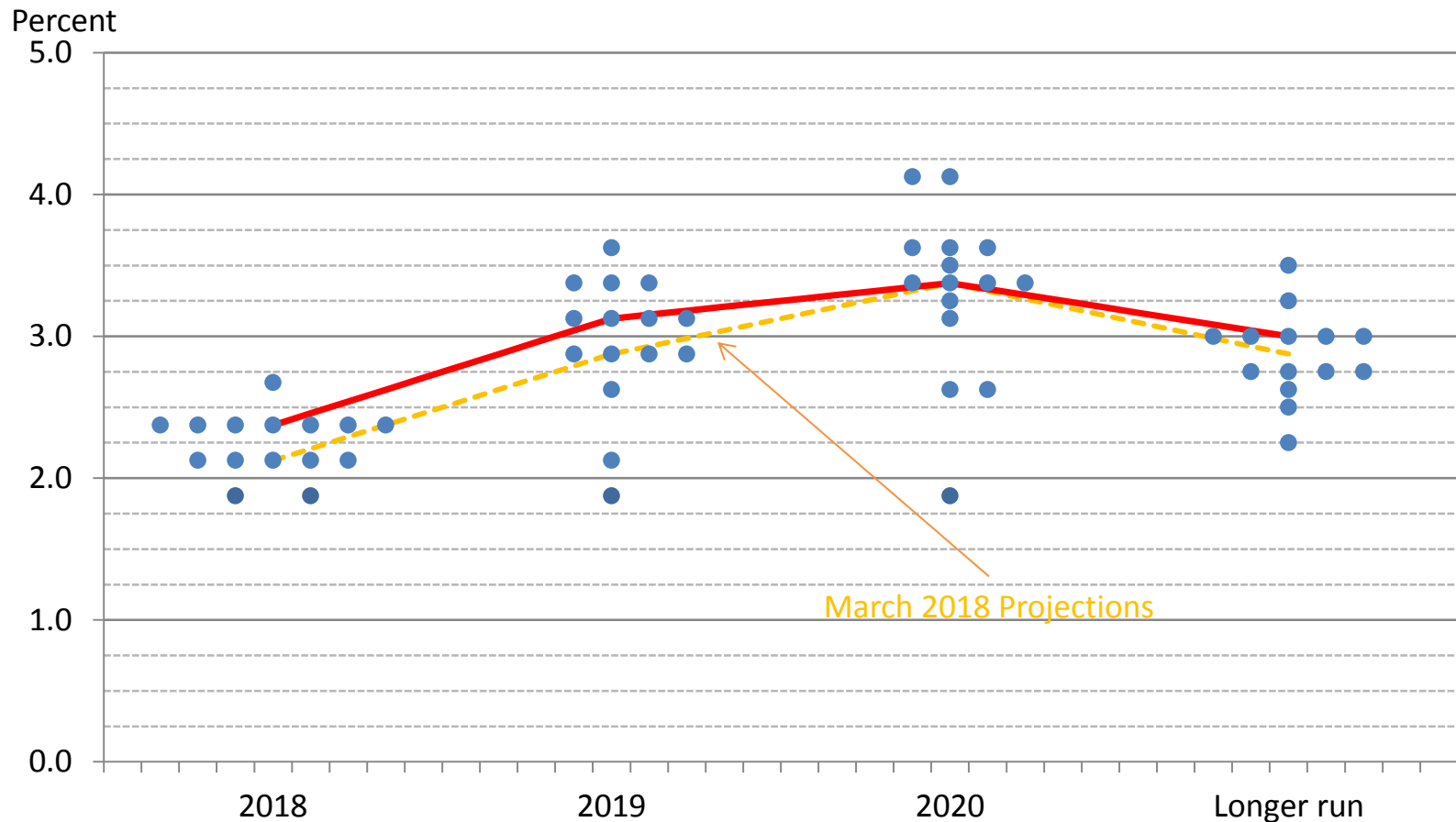
## CBO Output Gap, Core CPE Inflation, and Target FFR



Source: John B. Taylor (1993) theory, U.S. Bureau of Economic Analysis and Federal Reserve Bank of Atlanta.

# Appropriate pace of policy firming

## Fed Funds Rate – Year End Projections

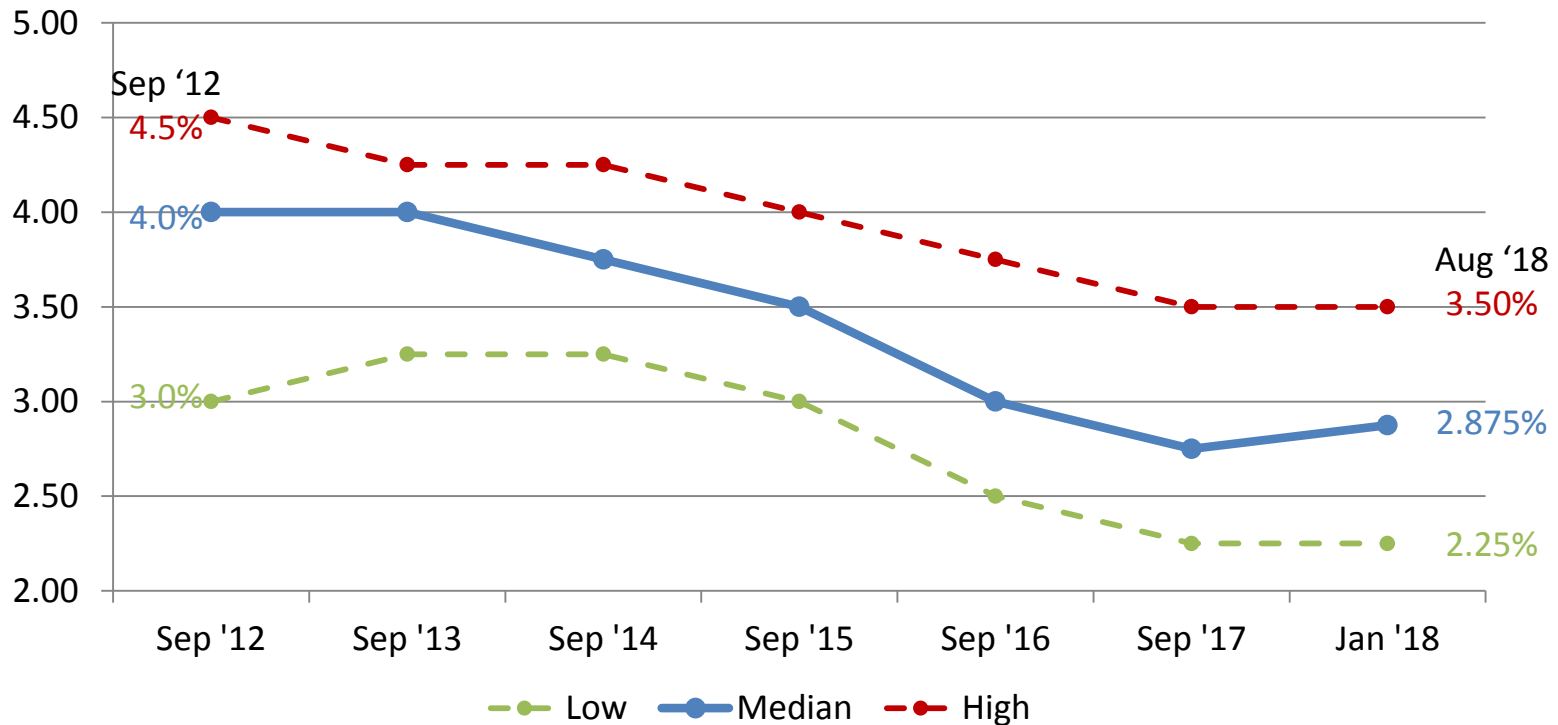


Source: Federal Reserve - F.O.M.C. participants, June 13, 2018

# Target Federal Funds Rate

## Long Run Projections

Percent

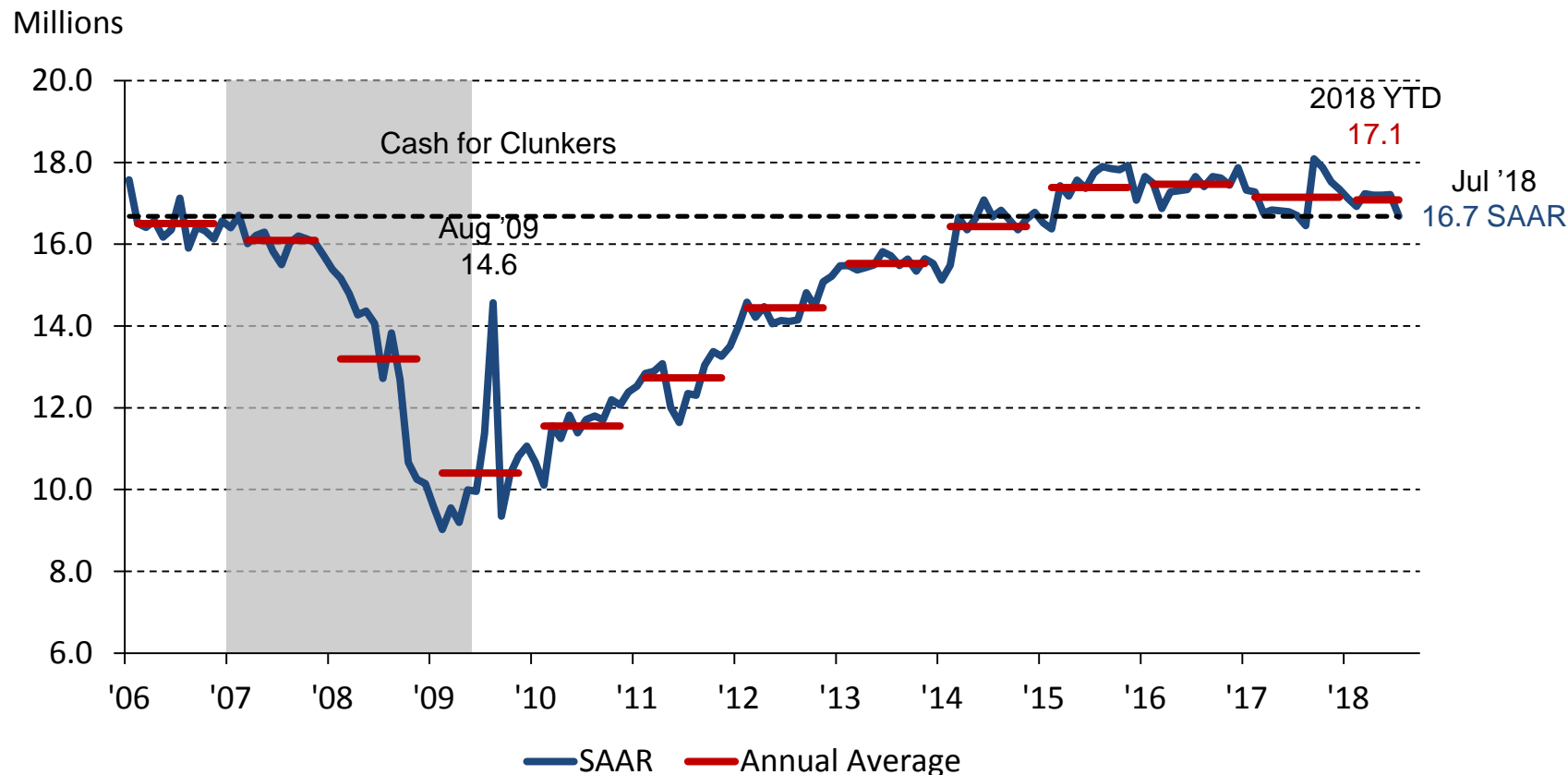


Source: Federal Reserve - F.O.M.C. participants projections.

# U.S. Auto Industry

# U.S. Light Vehicle Sales

S.A.A.R – Millions of Units

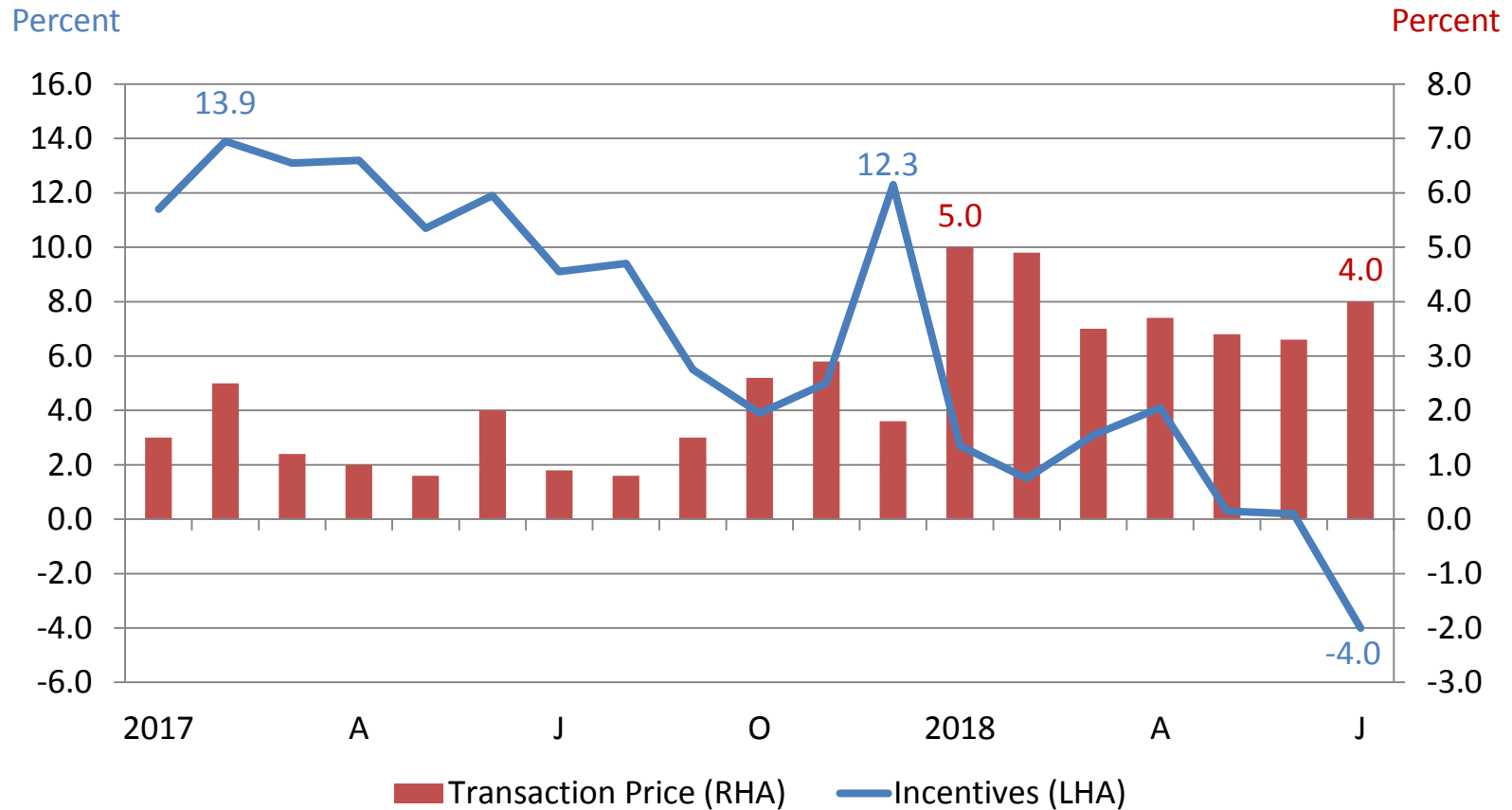


Note: Total 2017 Light Vehicle Sales (000)'s: 17,135 / Including M/H: 17,551.

Source: Ward's Automotive and BEA

# Incentives & Transaction Prices

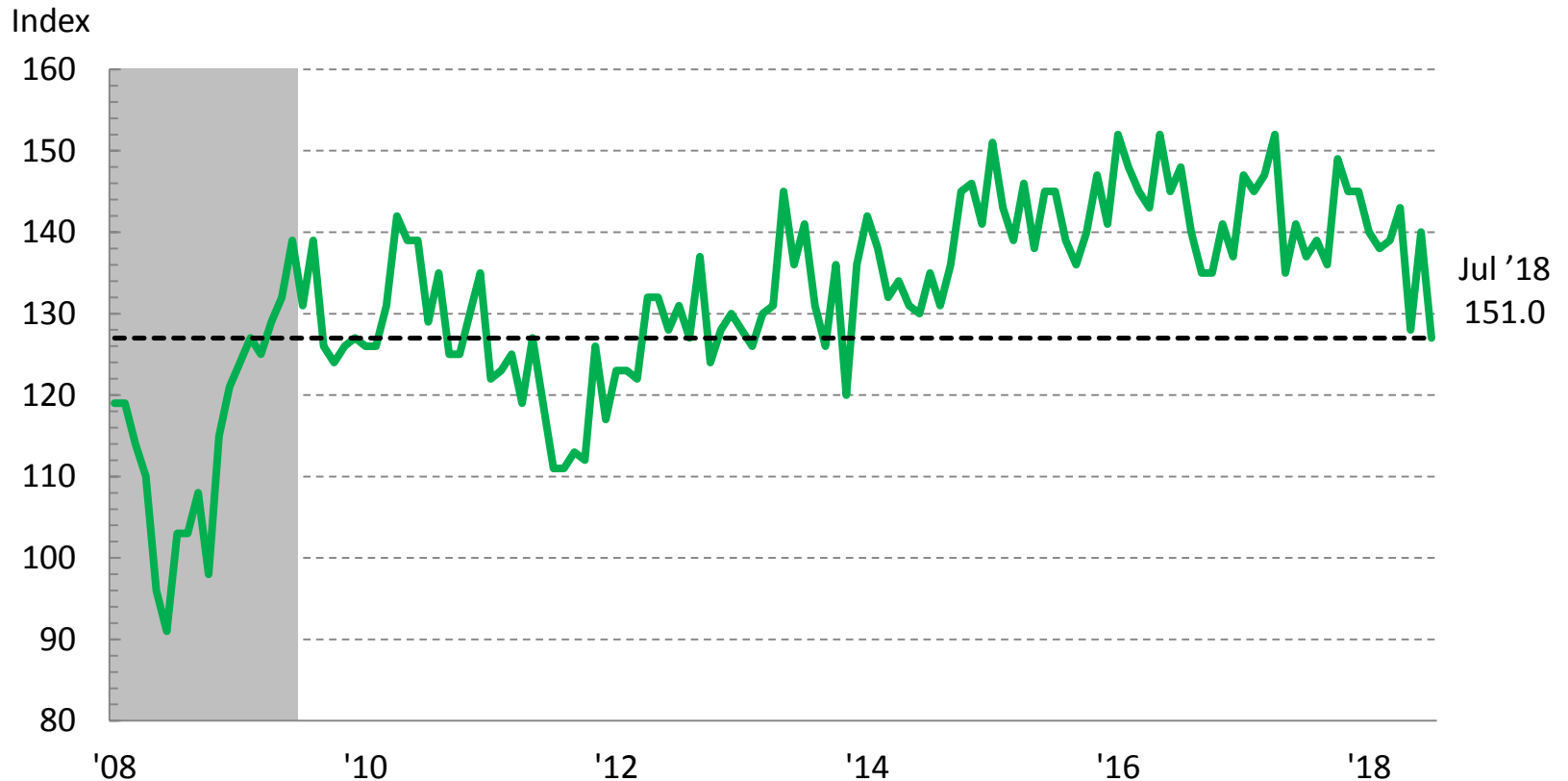
Current Dollars - Percent Change Year-over-year



Source: Author's estimates based on J.D. Power data.

# Buying Conditions for Vehicles

University of Michigan

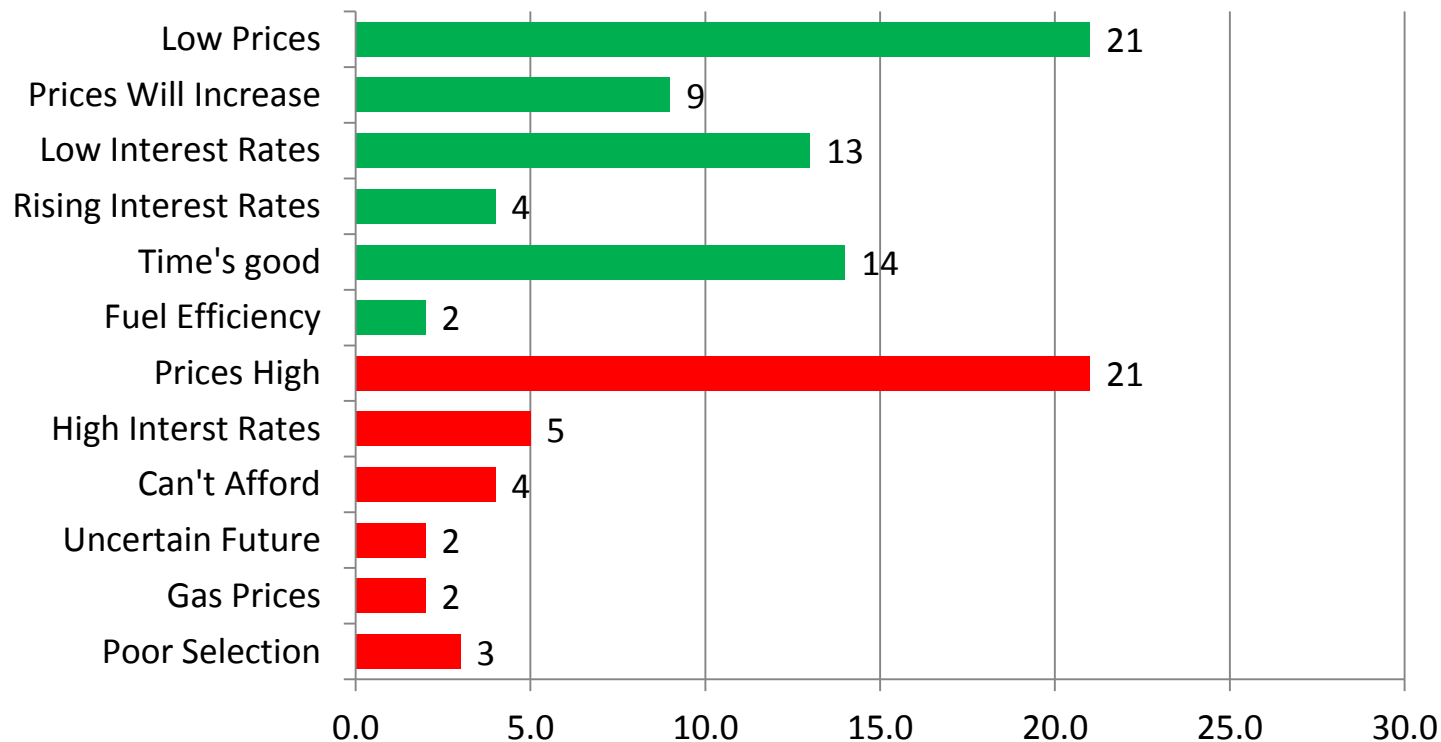


Source: Thomson Reuters / University of Michigan

# Reasons for Buying Conditions for Vehicles

University of Michigan

Good / Bad Reason: *Why do you say so?*



Note: May add to more than a 100 due to multiple mentions.

Source: University of Michigan Survey of Consumers



# Other Changing Determinates of Vehicle Demand

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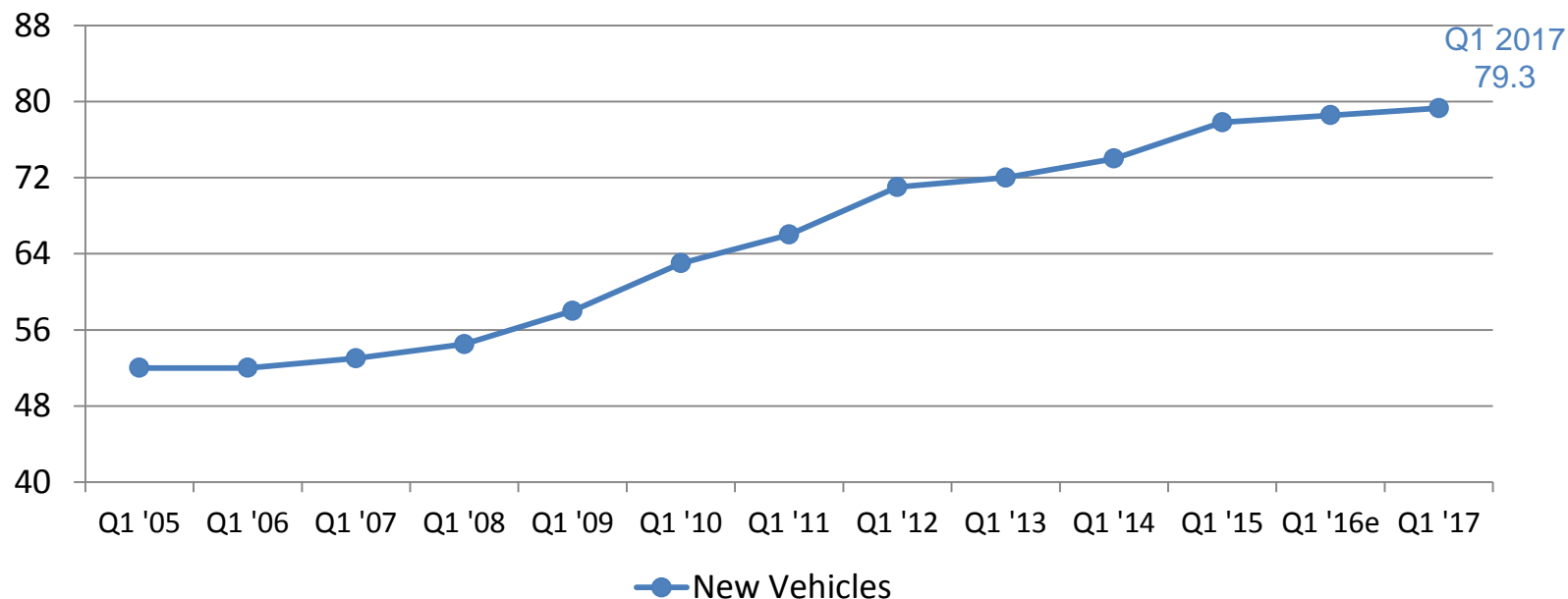
1. Vehicles are lasting longer and consumers are keeping vehicles longer than ever before. IHS Automotive data published by CNBC in May 2017 indicated that length of ownership of new vehicles increased to 79.3 months or over 50% between 2005 and 2017.
2. People are driving less. Vehicle miles traveled are currently running about 12.1% below a 35 year long-run trend from 1970 to 2007.
3. Sales weighted age of the vehicle fleet is the lowest in 48 years.
4. Recent transaction prices are growing faster than inflation and wages.

# Length of Vehicle Ownership

## Average Months Owned

Months

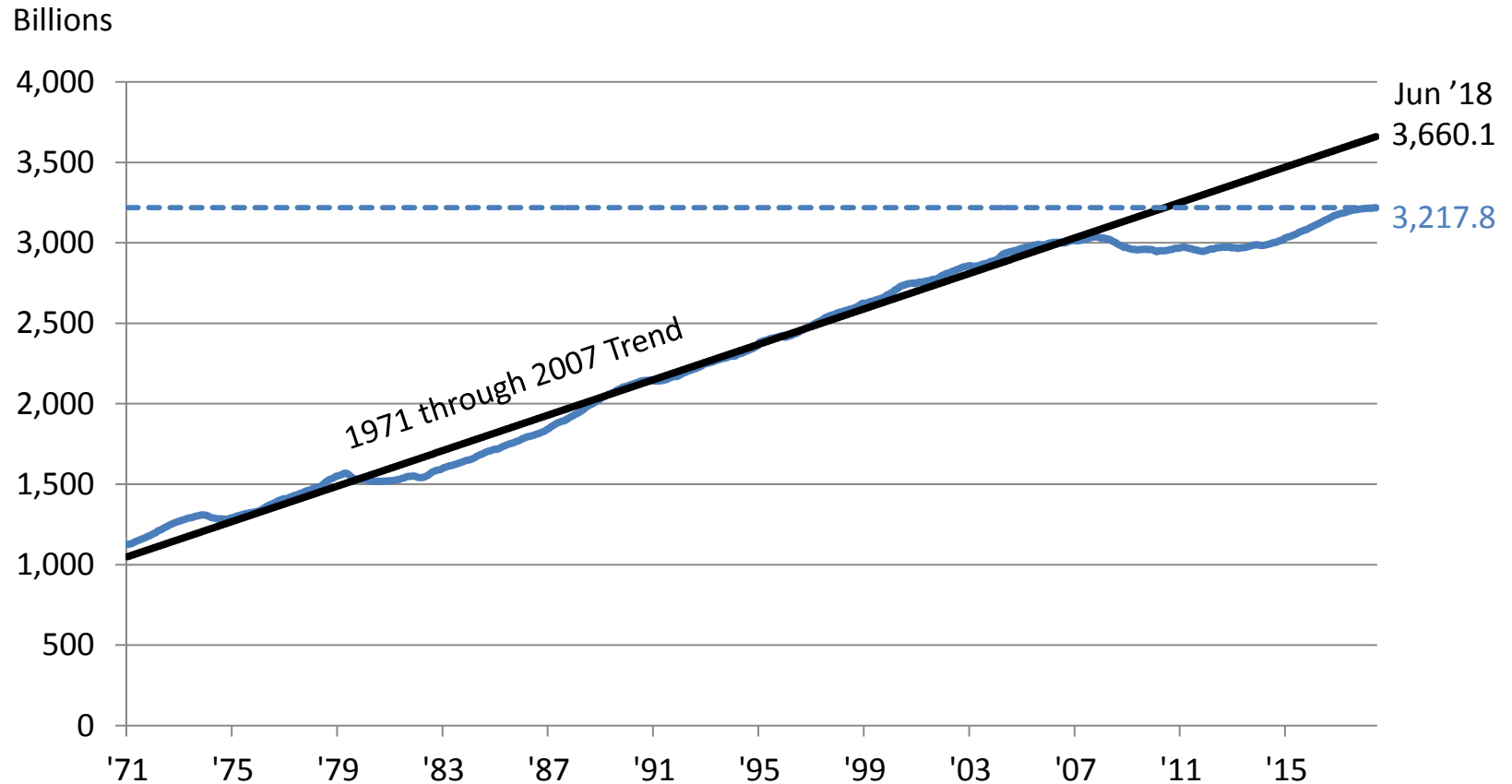
### New Vehicles



Source: HIS Automotive : <http://press.ihs.com/press-release/automotive/average-age-light-vehicles-us-rises-slightly-2015-115-years-ihs-reports> and CNBC article <https://www.cnbc.com/2017/05/28/car-owners-are-holding-their-vehicles-for-longer-which-is-both-good-and-bad.html>.

# Vehicle Miles Traveled

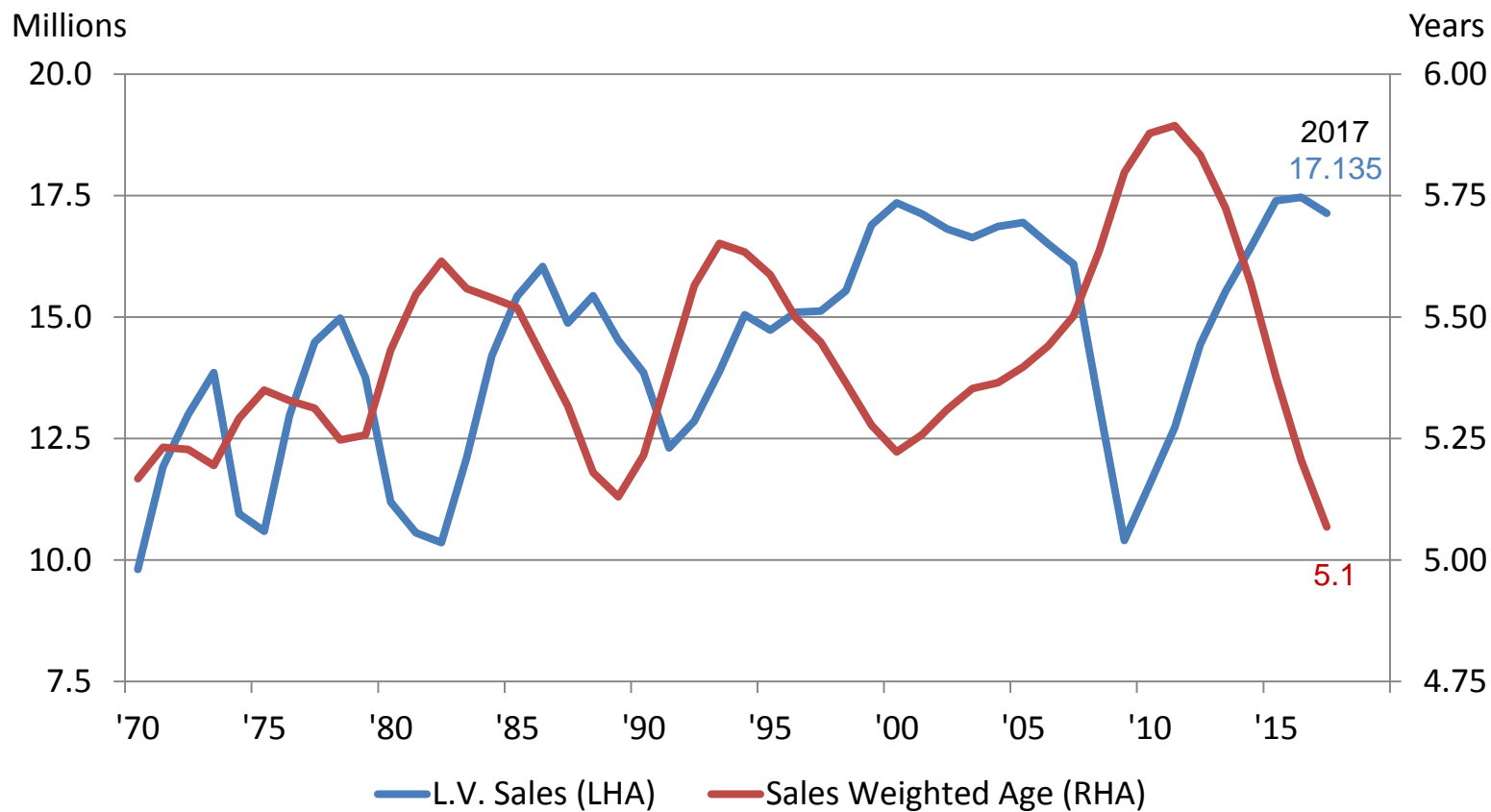
## 12 Month Total Miles Traveled in Billions



Source: U.S. Department of Transportation, Federal Highway Administration and Federal Reserve Bank of St. Louis.

# Sales Weighted Vehicle Age

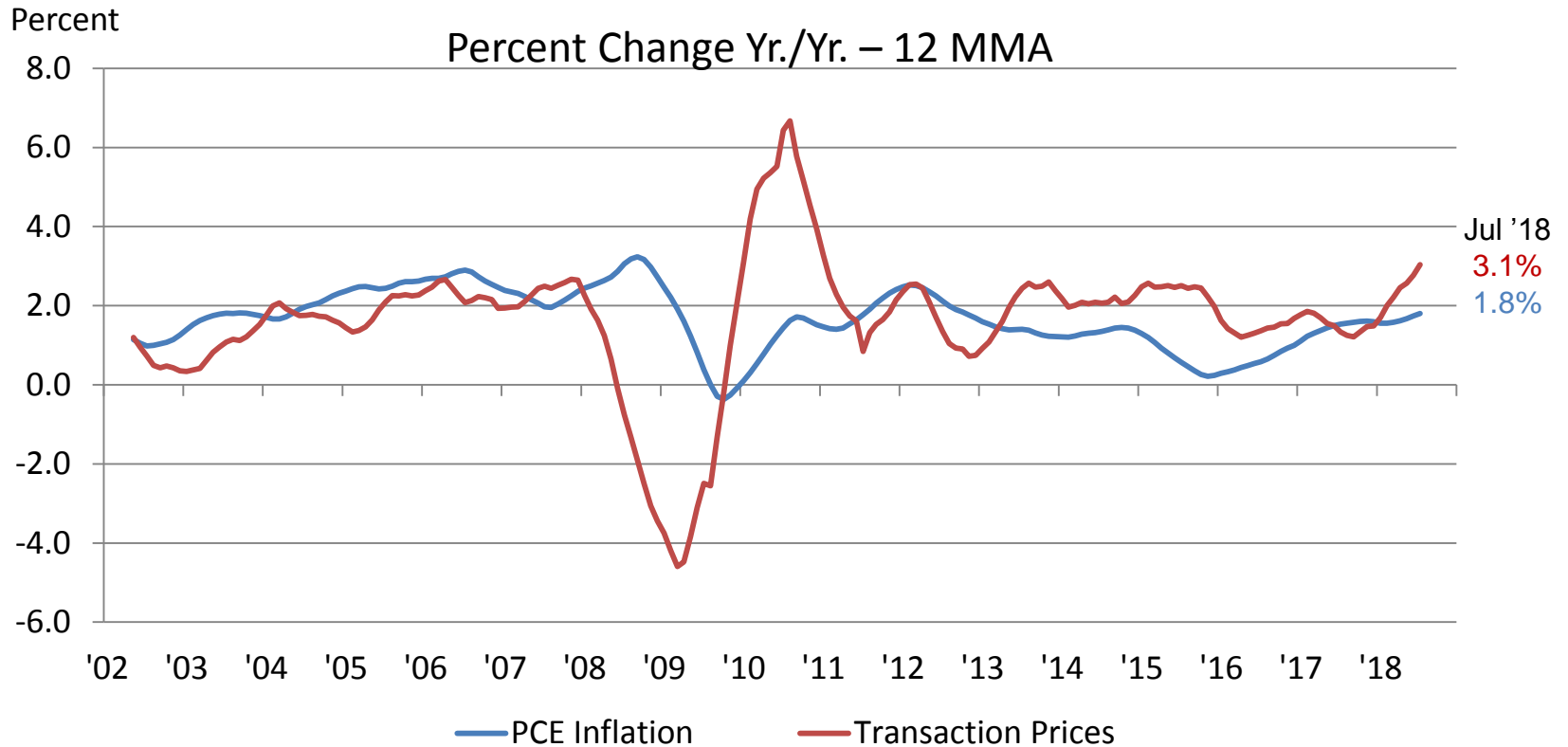
## 10 Year Moving Average



Source: Author's calculations using WardsAuto data.

# Inflation and Vehicle Transaction Prices

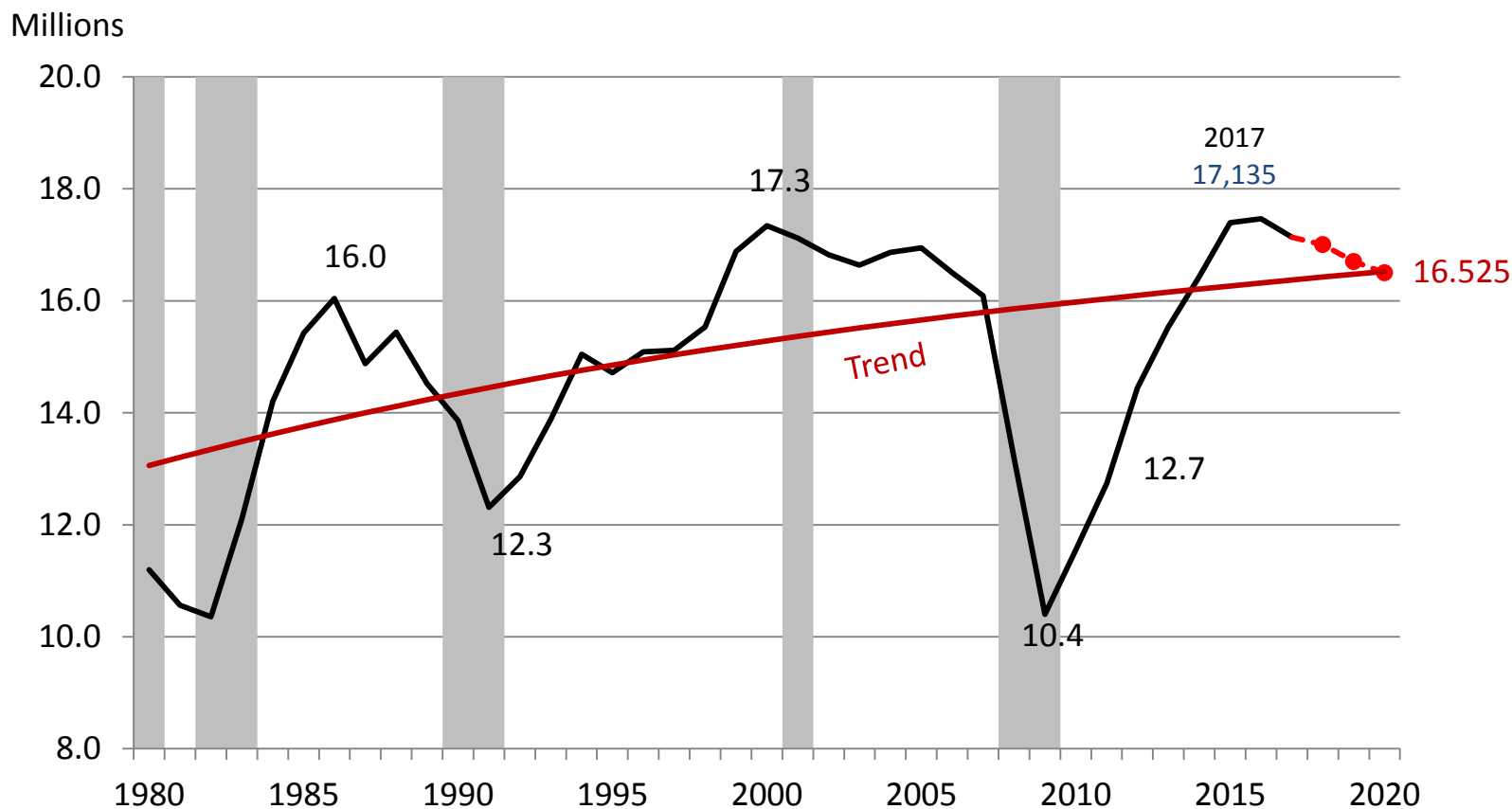
## PCE Inflation – All Items and Average Transaction Price



Source: Author's estimates based on J.D. Power and Bureau of Labor Statistics data.

# U.S. Light Vehicle Industry

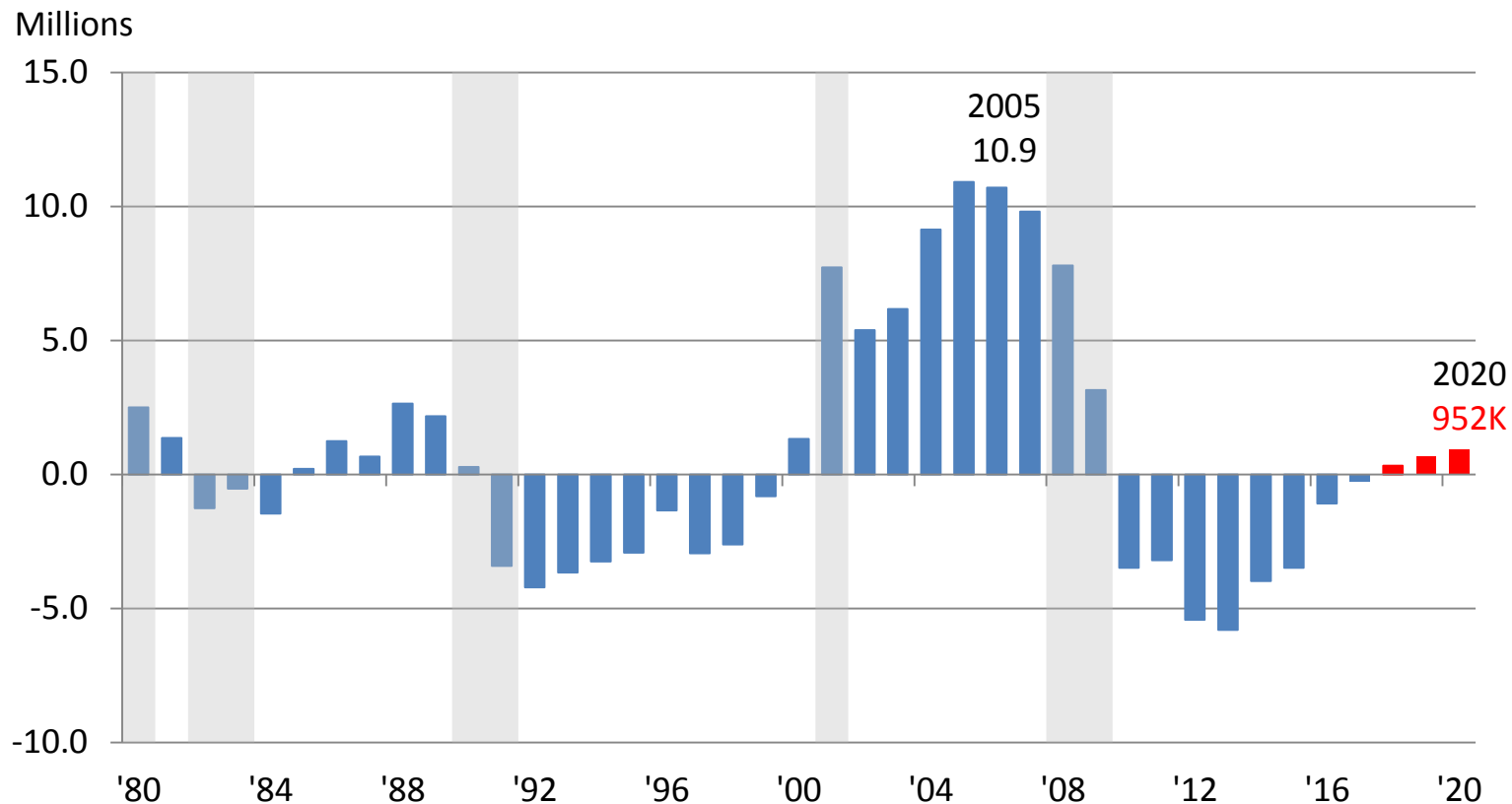
Millions of Units



Source: Ward's Automotive, Blue Chip Consensus, and Author.

# U.S. Light Vehicle Pent-Up Demand

Millions of Units

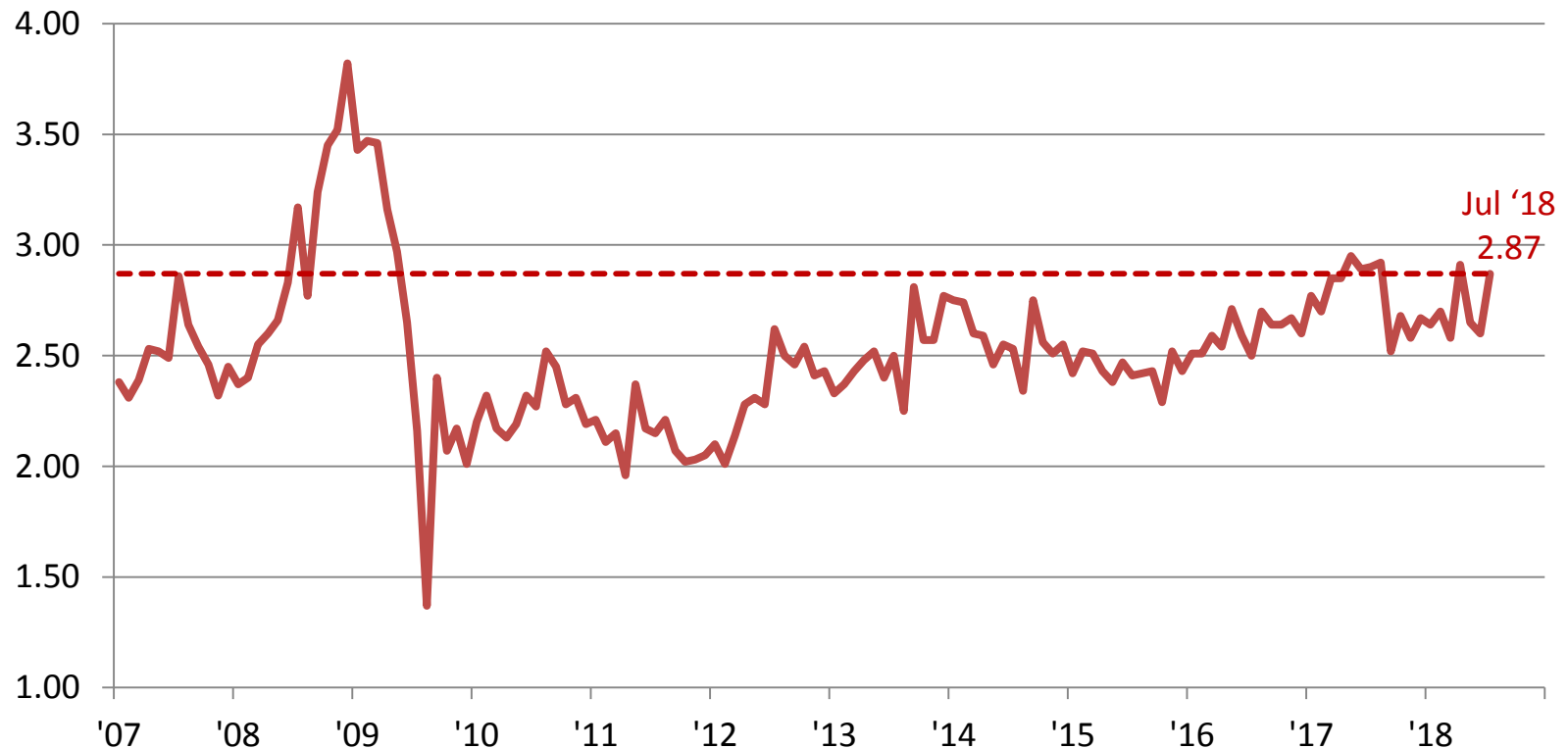


Source: Author's calculations using Ward's Automotive, Blue Chip Consensus, and Author's data.

# Inventory to Sales Ratio

## Total Light Vehicles - SA

Percent

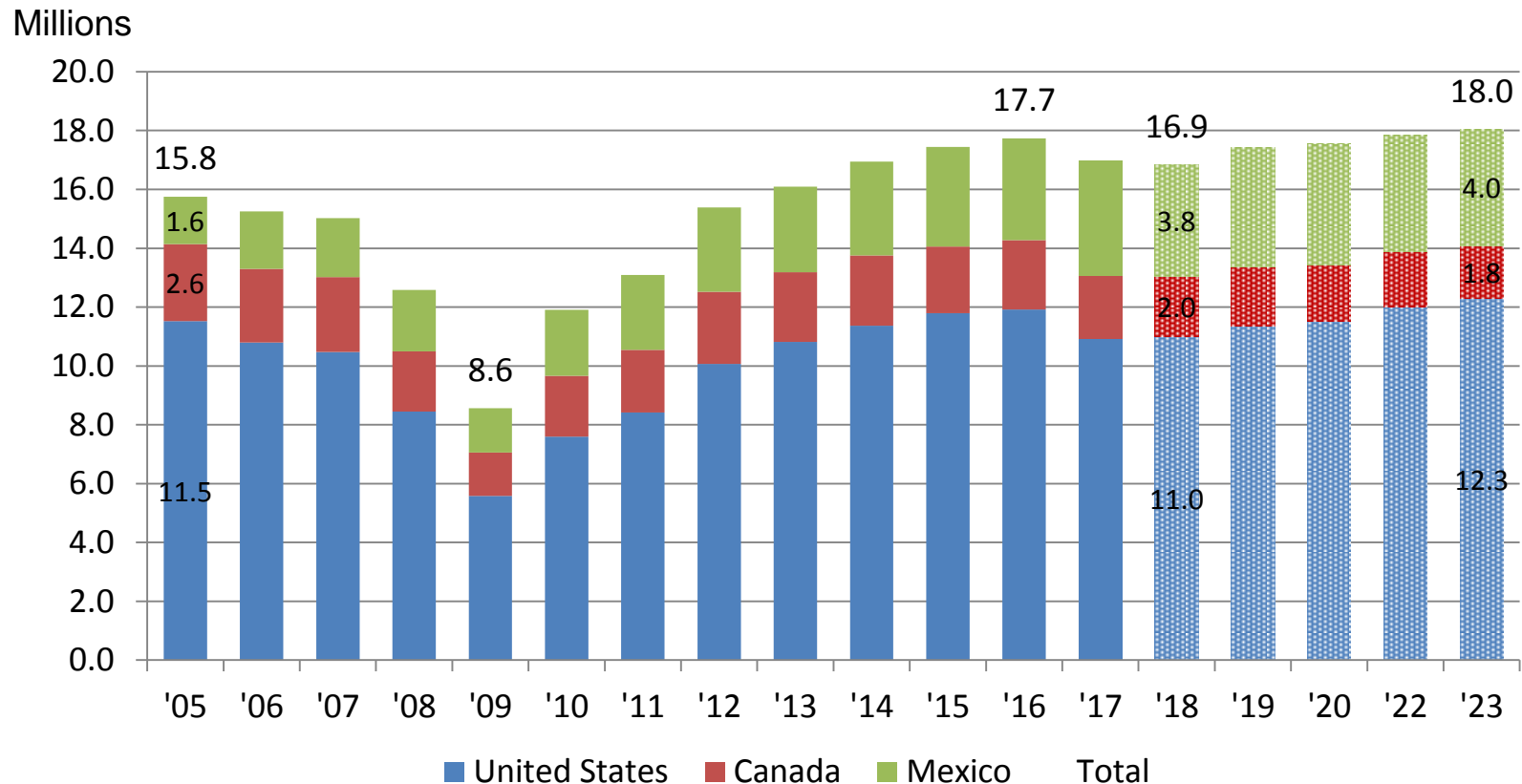


Source: U.S. Census Bureau and WardsAuto.



# N.A. Light Vehicle Production

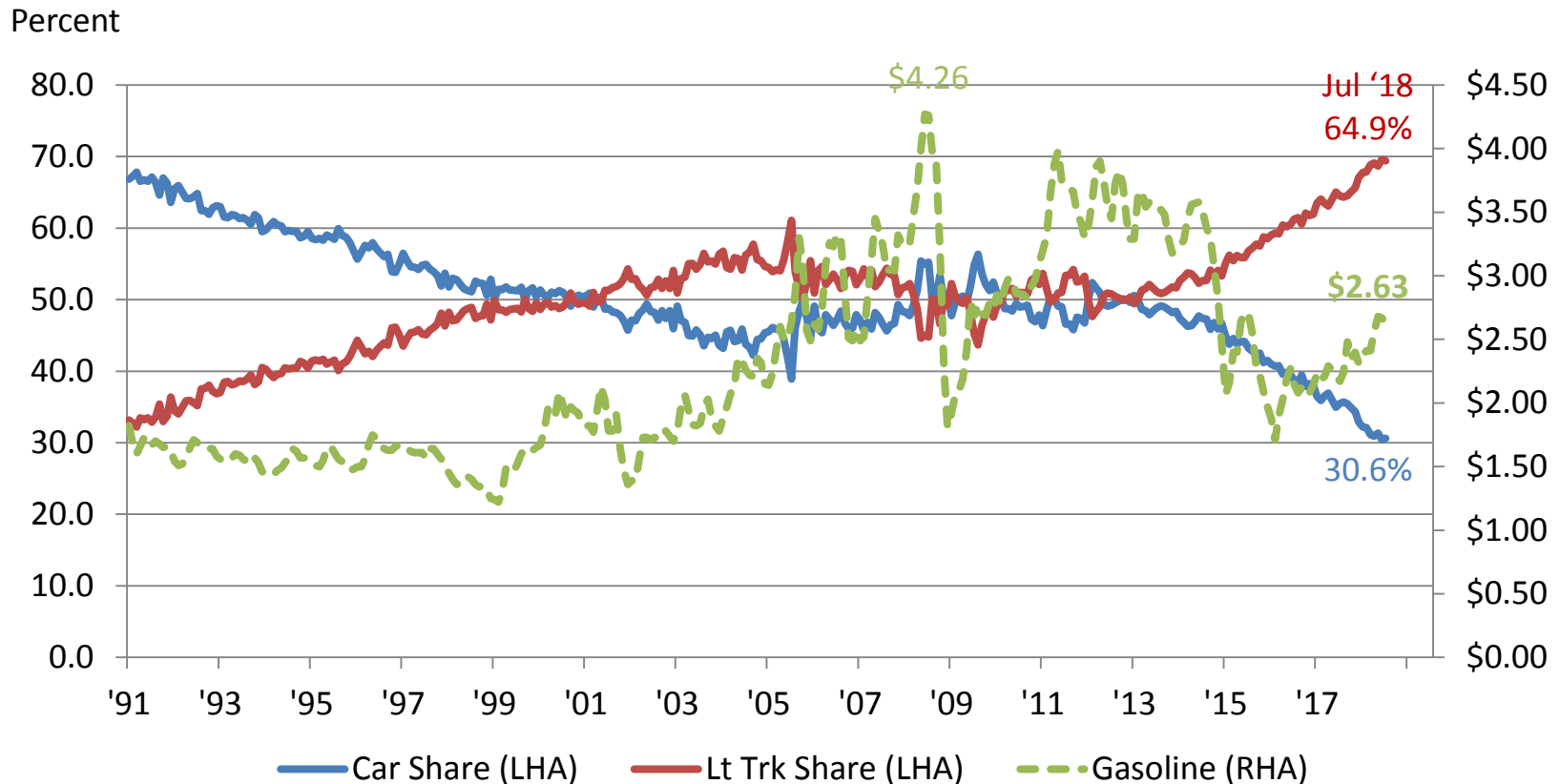
Country of Origin in Millions of Units



Source: Ward's Automotive

# Car / Truck Mix and Real Gasoline

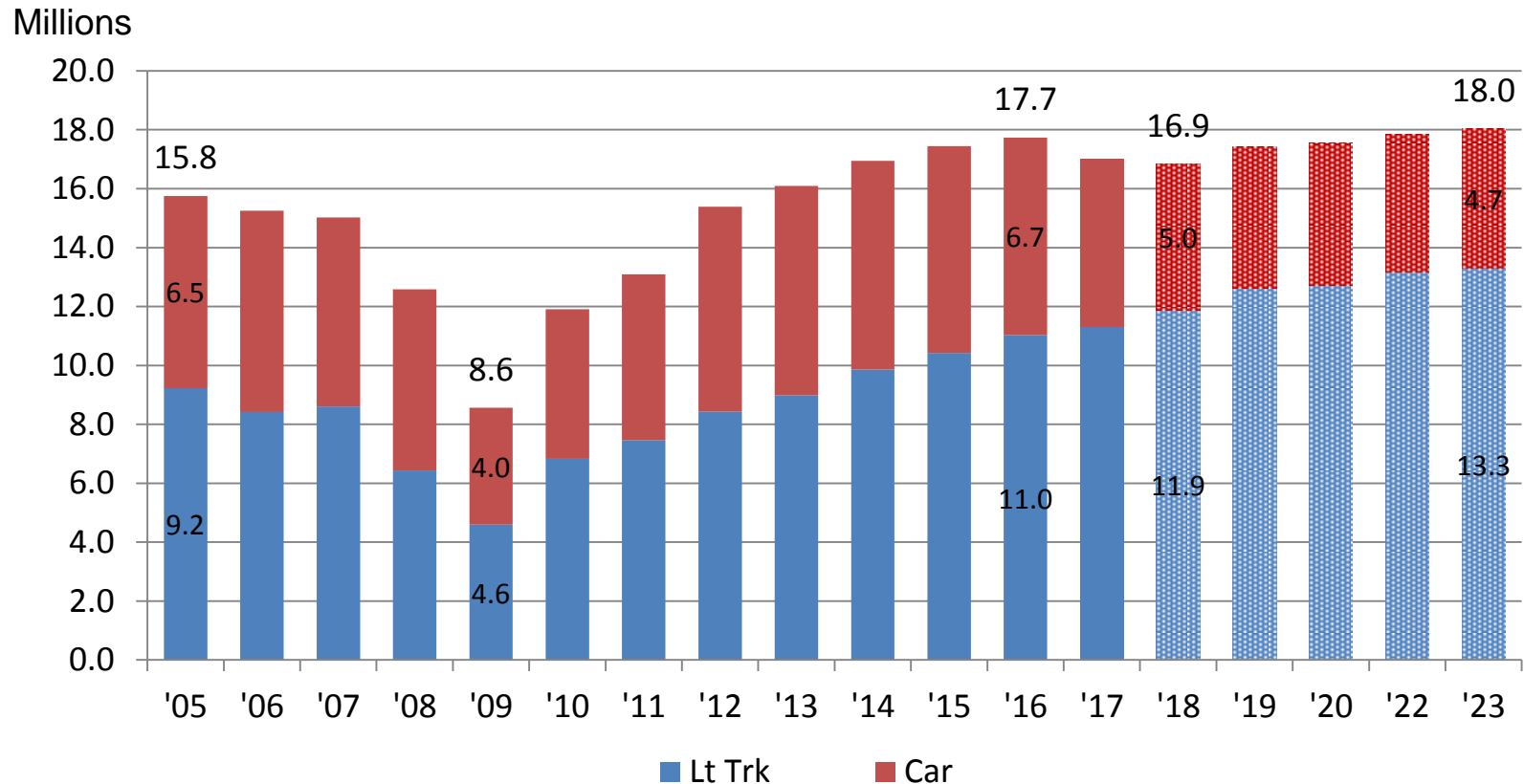
## Share of Light Vehicle Sales and \$2012



Source: Author's calculations using Wards, U.S. Energy Information Administration, and Bureau of Economic Analysis data.

# N.A. Light Vehicle Production

## Vehicle Mix in Millions of Units



Source: Ward's Automotive

*Thank You!*

