



Economic Update

Detroit Association of Business Economists

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October 16, 2018

The views expressed here are our own and do not necessarily reflect the views of the Federal Reserve Bank of Chicago, the Federal Open Market Committee (FOMC) or the Federal Reserve System.

Before the Federal Reserve

- Alexander Hamilton's, *Report on a National Bank, December 14 1790*
“...a National Bank is an Institution of primary importance to the prosperous administration of Finances, and would be of the greatest utility in the operations connected with the support of Public Credit...”
- In 1791, Congress created the Bank of the United States to assist the federal government in its financial transactions and to help America's financial system meet the needs of a growing economy.
- There were two failed attempts at establishing a national bank which highlighted the different regional views of the role of a central bank.

Source: Speech by Fed Governor Jerome H. Powell, *America's Central Bank: The History of the Federal Reserve*, (March 28, 2017)

The Federal Reserve System



Source: Board of Governors of the Federal Reserve System (2016), *The Federal Reserve System: Purpose and Functions*, 10th ed. (Washington: Board of Governors), p. 4, https://www.federalreserve.gov/aboutthefed/files/pf_complete.pdf.

Functions of the Federal Reserve

- Financial services to the public, financial institutions, U.S. government, and foreign official institutions -- a major role in the payments system
- Supervising and regulating banking institutions to ensure safety and soundness of the banking system and to protect credit rights of consumers
- Conduct monetary policy

The “Dual Mandate”

- In 1977, Congress amended The Federal Reserve Act, stating the monetary policy objectives of the Federal Reserve as:

"The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates."

Tools of Monetary Policy

- Reserve requirements: funds that depository institutions must hold in reserve against deposits
- Discount Rate: the interest rate charged to commercial banks when they borrow reserves from a Federal Reserve Bank
 - Banks who are in better financial shape can borrow at the Primary Credit rate (currently at 100 basis points above the Fed Funds rate) and those that are not as solid can borrow at the Secondary Credit rate (currently 150 basis points above the Fed Funds rate)
- Open market operations: influencing the level of reserves by buying and selling U.S. government securities in the open market -- done by trading desk at the New York Fed
 - Currently the desk operates by targeting the interest rate on Federal Funds

Importance of Price Stability

- Price stability gets great emphasis
- Price stability improves the workings of the price system -- high and variable inflation disrupts the economy
- Price stability provides the environment necessary to meet all the other goals of monetary policy
- Price stability makes planning easier
- Price stability may also lower long-term interest rates by reducing uncertainty

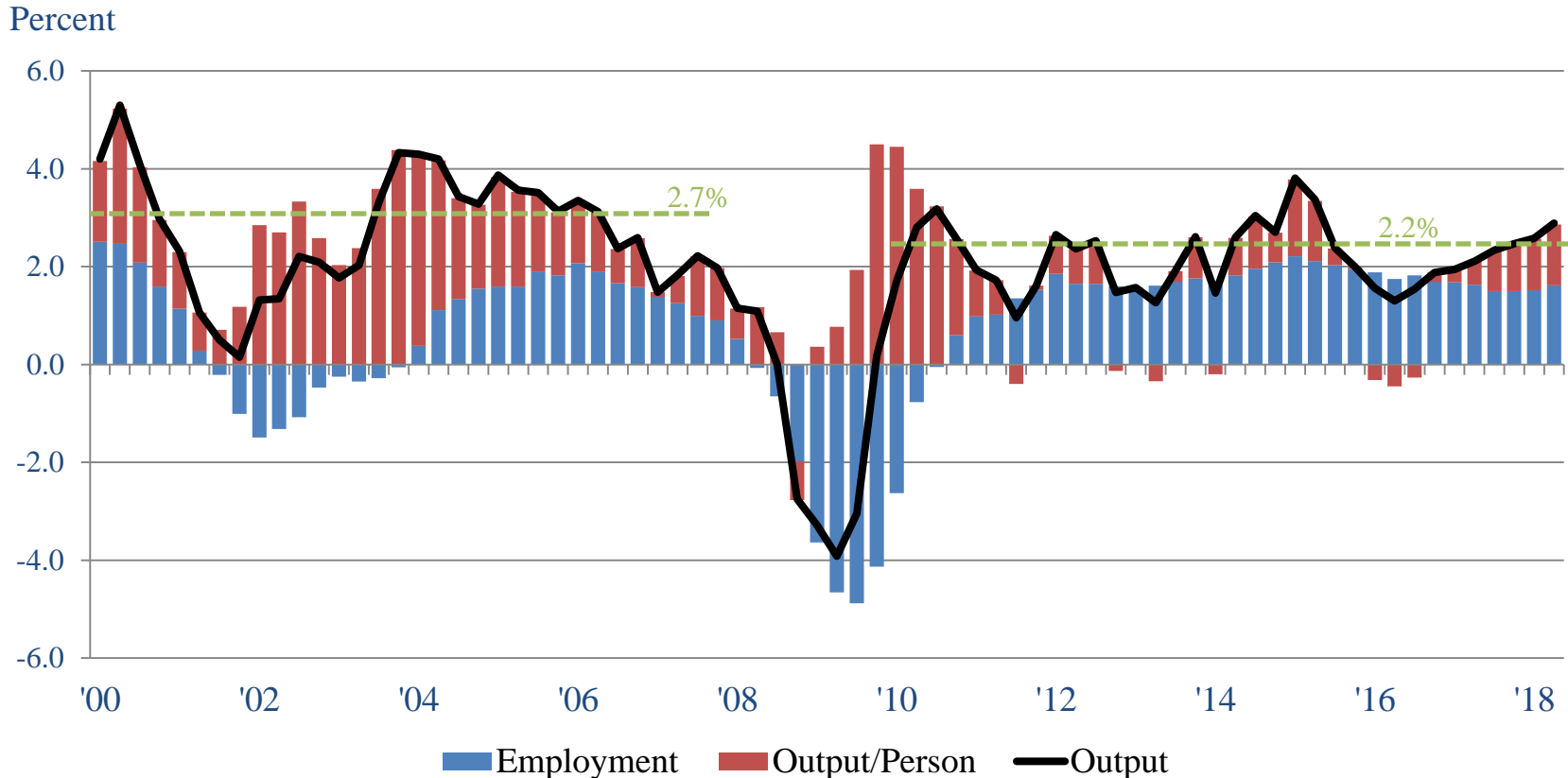
Sustainable Growth

- The Federal Reserve can't make the economy grow faster than its potential in the long run
- Trying to over-stimulate the economy results in increasing inflation that contributes to short boom-bust cycles
- Steady, sustainable growth is the key to improved living standards

Potential

Employment, Productivity, and Output

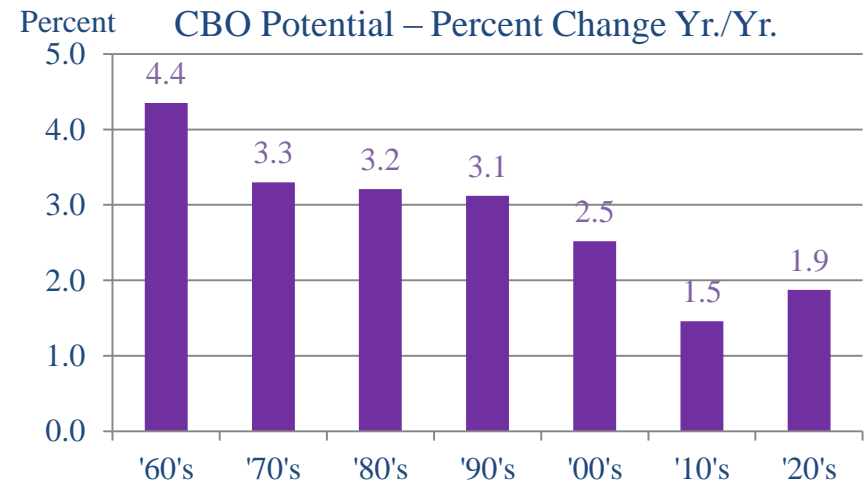
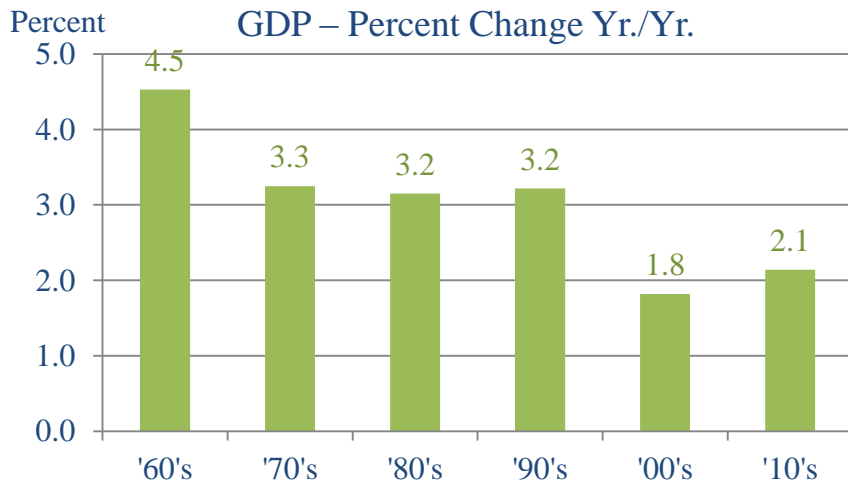
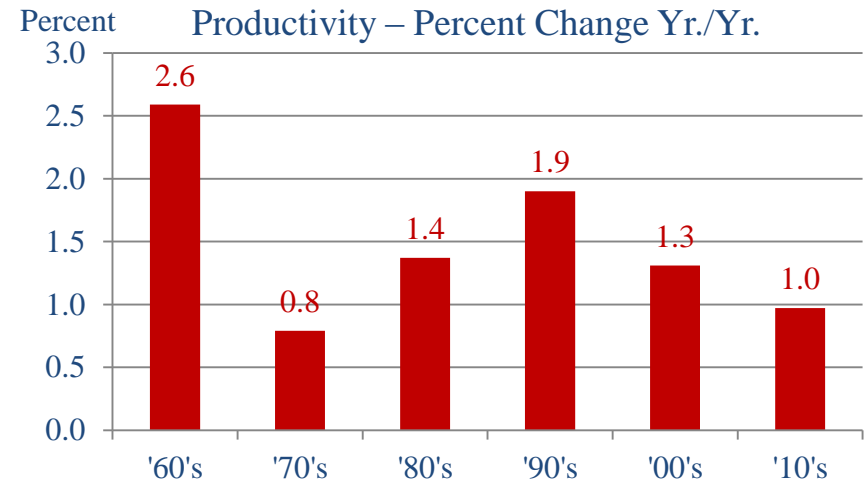
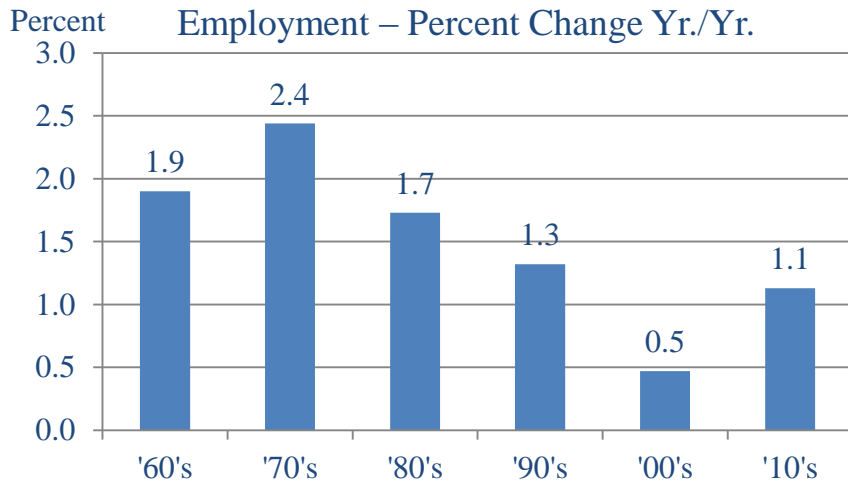
Nonfarm Business Sector – Percent Change Yr./Yr.



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

Employment, Productivity, and GDP Growth

Percent Change Yr./Yr.



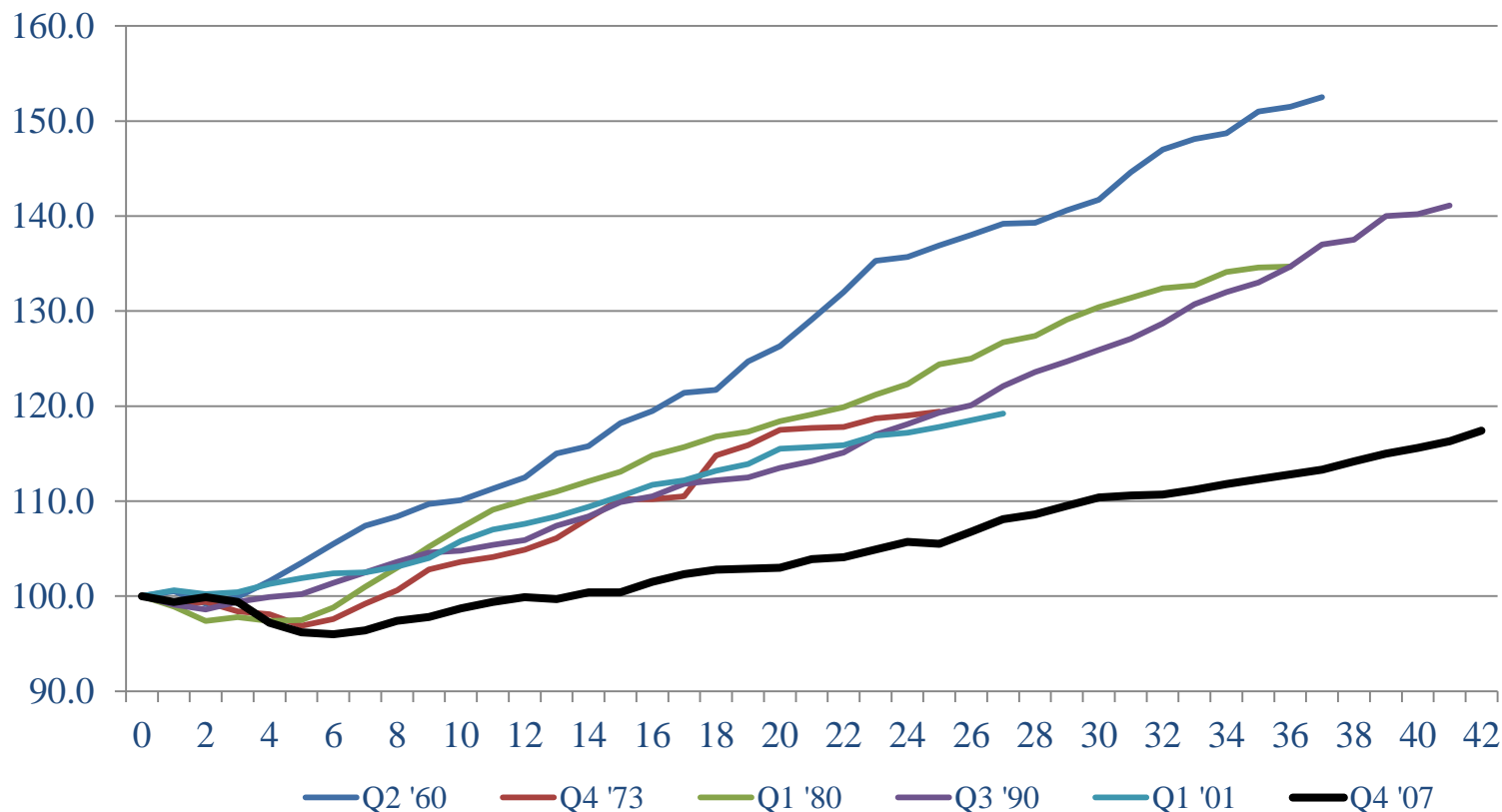
Source: Author's Calculations using BEA, BLS, and Fed data.

October 16, 2018

Federal Reserve Bank of Chicago

U.S. Real GDP Recession Recoveries

Billions Chained \$2012 – Index Recession Peak = 100



CBO Potential Growth Rate:

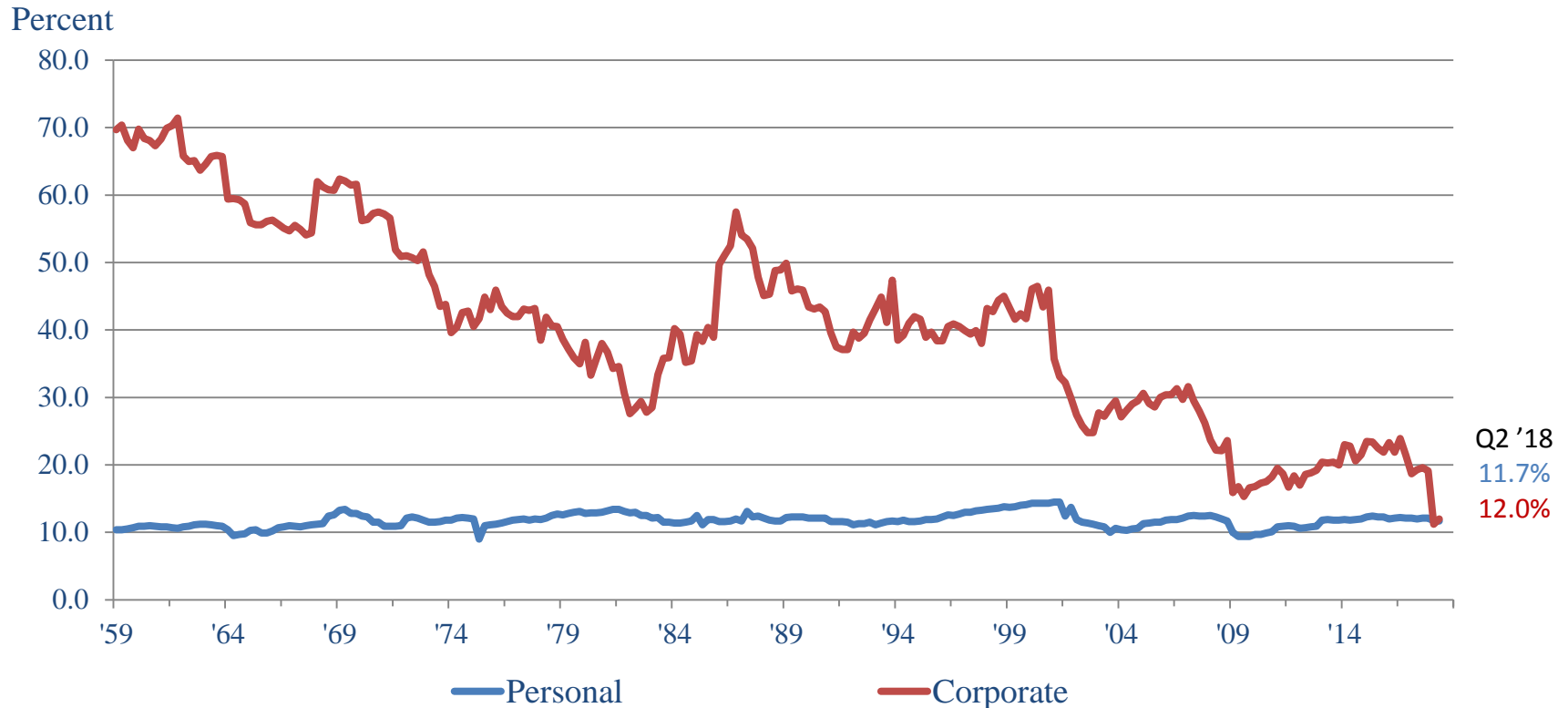
4.4% 3.3% 3.2% 3.1% 2.5% 1.5%

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

Fiscal Policy

Effective Tax Rates

Personal and Corporate

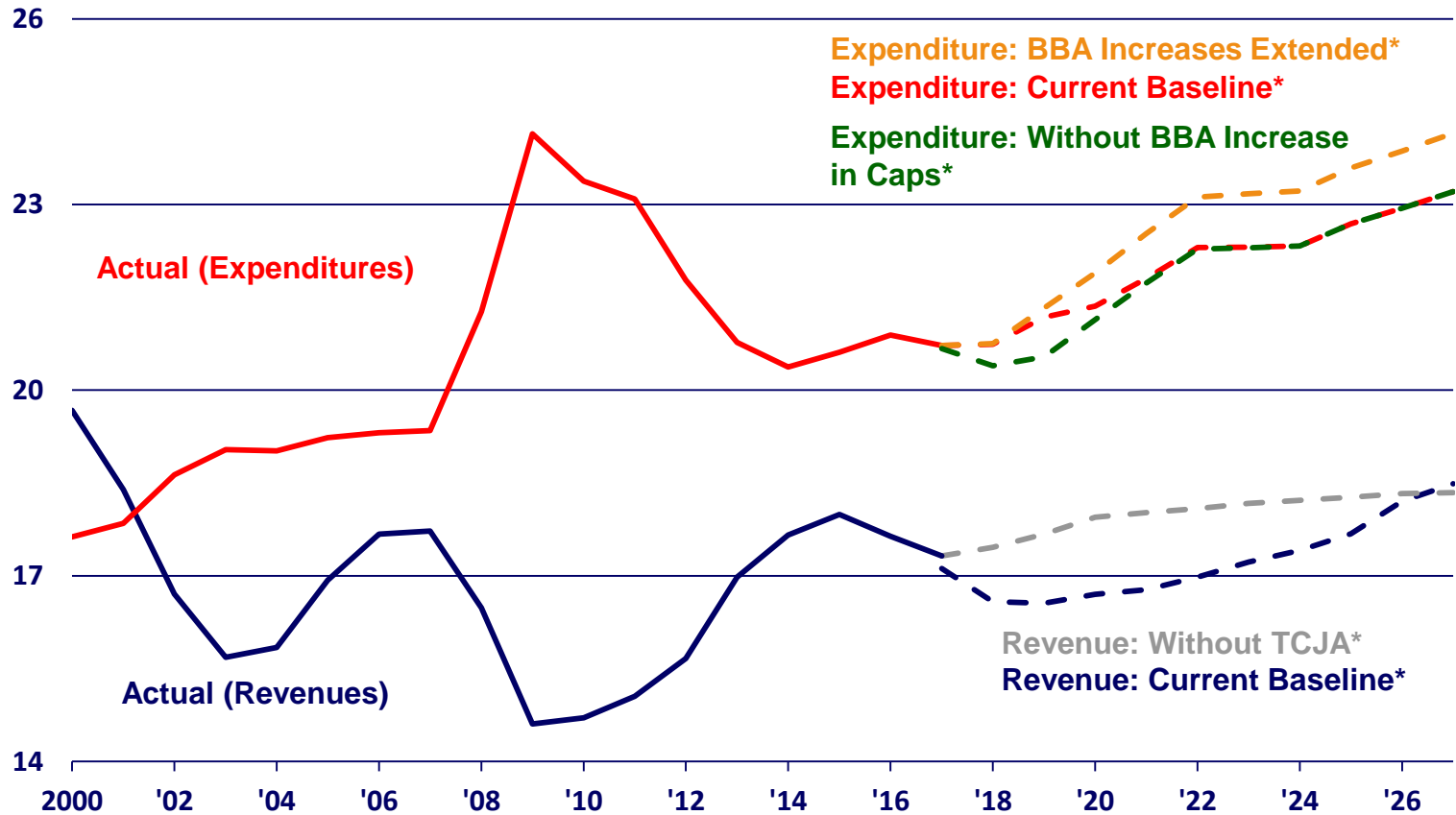


Notes: Corporate Tax Rate = (Corporate Profits Before Taxes / Corporate Profits After Taxes) – 1, both without IVA & CCAAdj.
Personal Tax Rate = Personal Current Taxes / Personal Income (NIPA).

Source: Author's calculations using U.S. Bureau of Economic Analysis data.

Federal Expenditures and Receipts

Actual and Projections (percent of GDP)



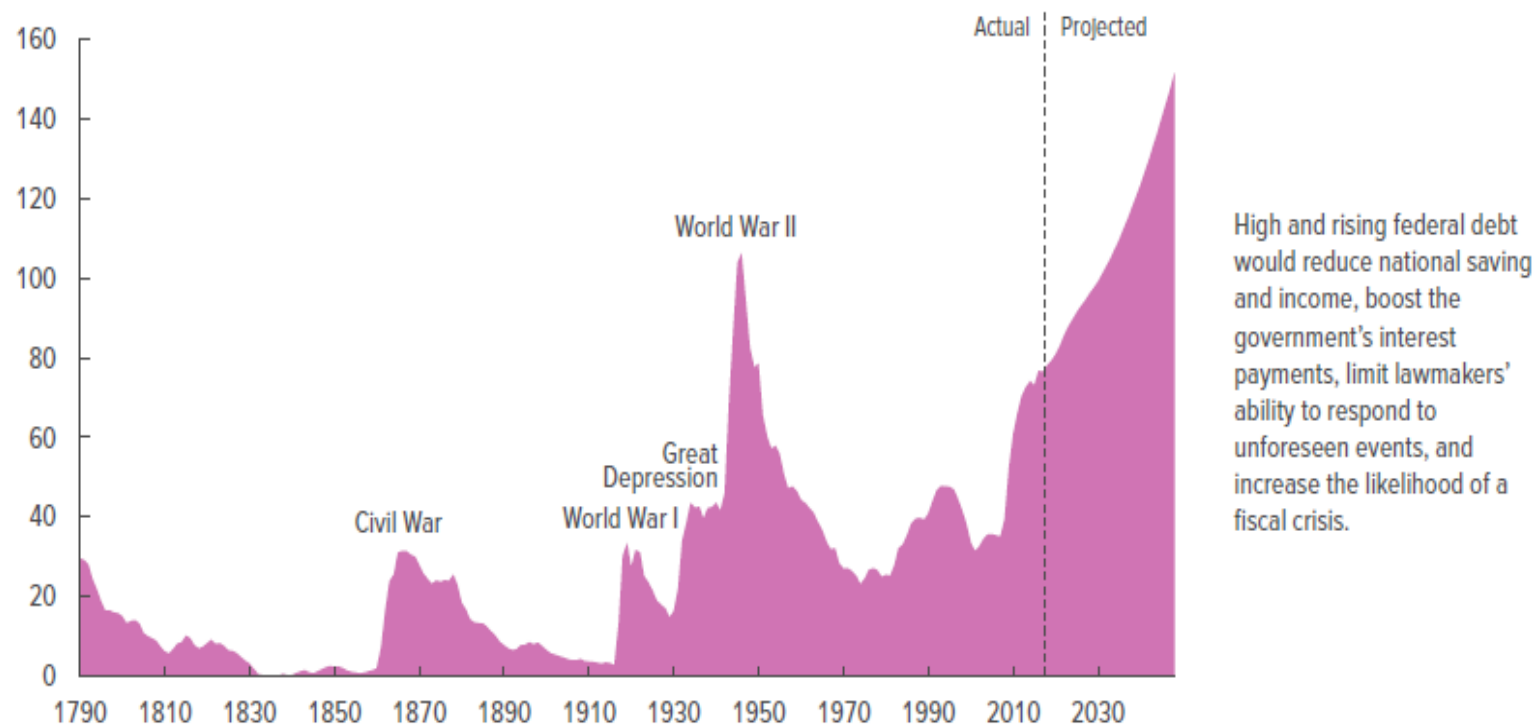
* Calculations based on the CBO's April 2018 projections of Federal outlays, receipts, and gross domestic product.

Debt Projections in Historical Context

Figure 3.

Federal Debt Held by the Public

Percentage of Gross Domestic Product



High and rising federal debt would reduce national saving and income, boost the government's interest payments, limit lawmakers' ability to respond to unforeseen events, and increase the likelihood of a fiscal crisis.

Source: Congressional Budget Office.

Current Economic Conditions

Main Economic Indicators

Year-over-year Comparison

	<u>2016</u>	<u>2017</u>	<u>2018 YTD</u>
GDP – Annual Growth Rate ¹	1.9%	2.5%	2.9%
Unemployment Rate ²	4.9%	4.4%	3.9%
Nonfarm Job Growth ³	195.3	182.3	208.3
Private Wage Growth ⁴	2.6%	2.6%	2.7%
PCE Inflation Yr. / Yr. ⁴	0.9%	1.6%	1.9%

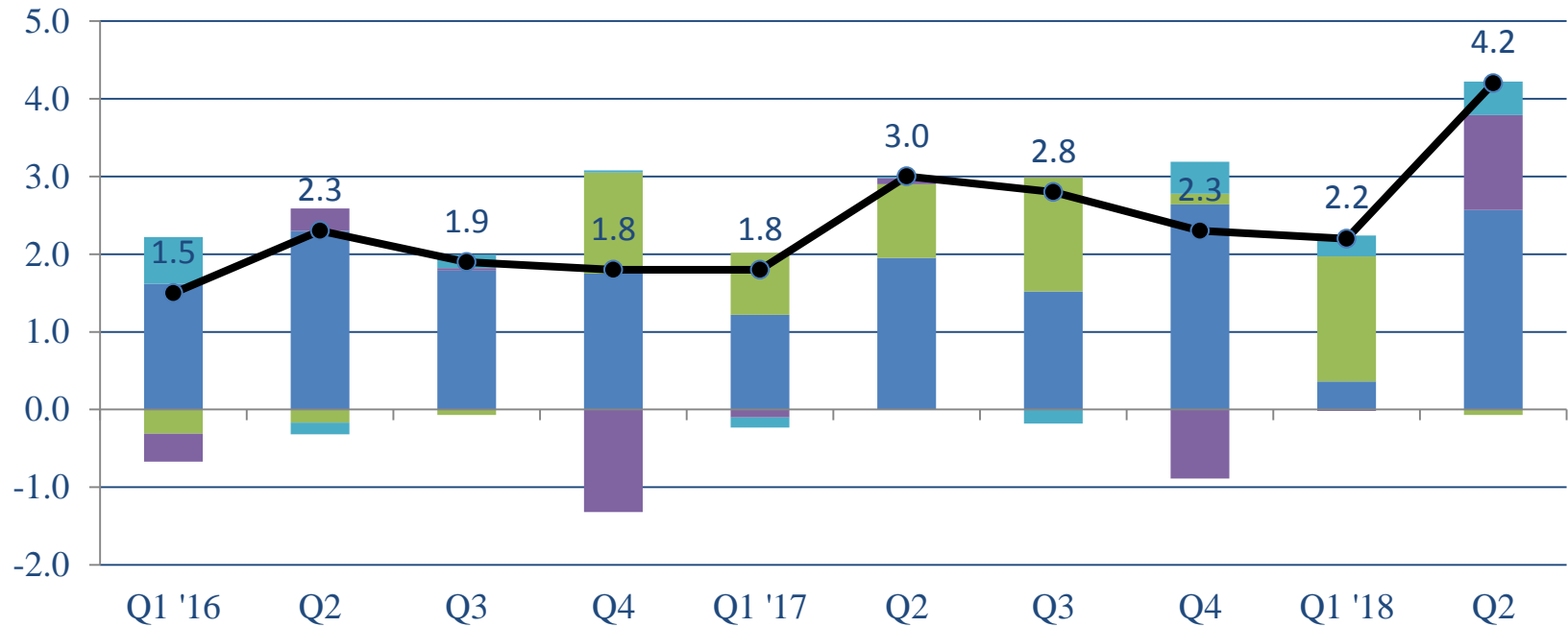
1. Year-over-year - 2016 & 2017 Q4/Q4, 2018 Q2/Q2
2. Annual Average YTD
3. Average Monthly Job Growth in Thousands- SA
4. Percent Change Year-over-year – Annual Average YTD

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

U.S. Real GDP

Q2 2018 Contribution to Percent Change - Q/Q at SAAR, \$2012

Percent



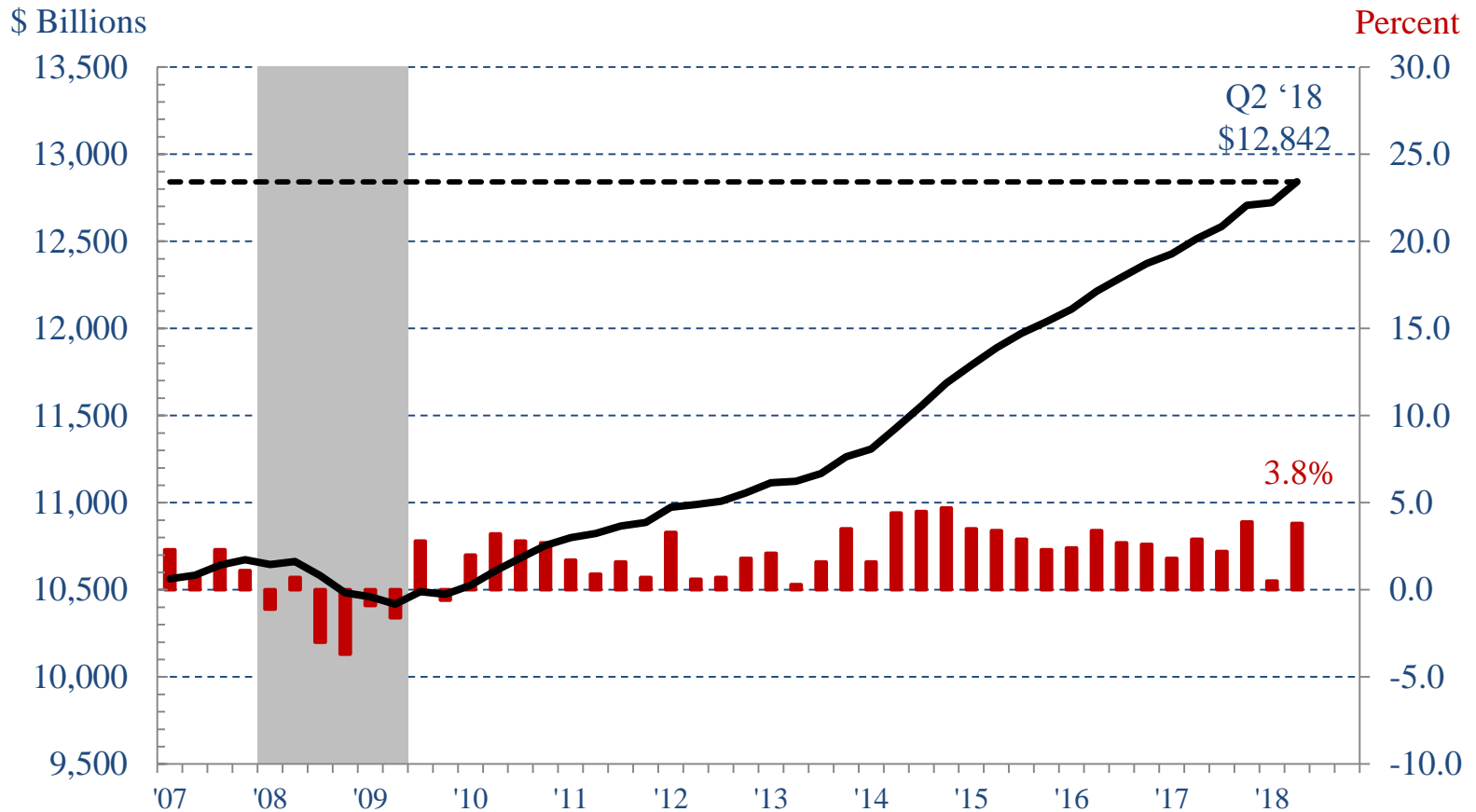
Q2 2018	PCE	Private Investment	Net Exports	Government	GDP
Contribution	2.6%	-0.1%	1.2%	0.4%	4.2%

Note: Contributions by sector may not sum to total due to rounding errors.

Source: U.S. Bureau of Economic Analysis.

Real Personal Consumption Expenditures

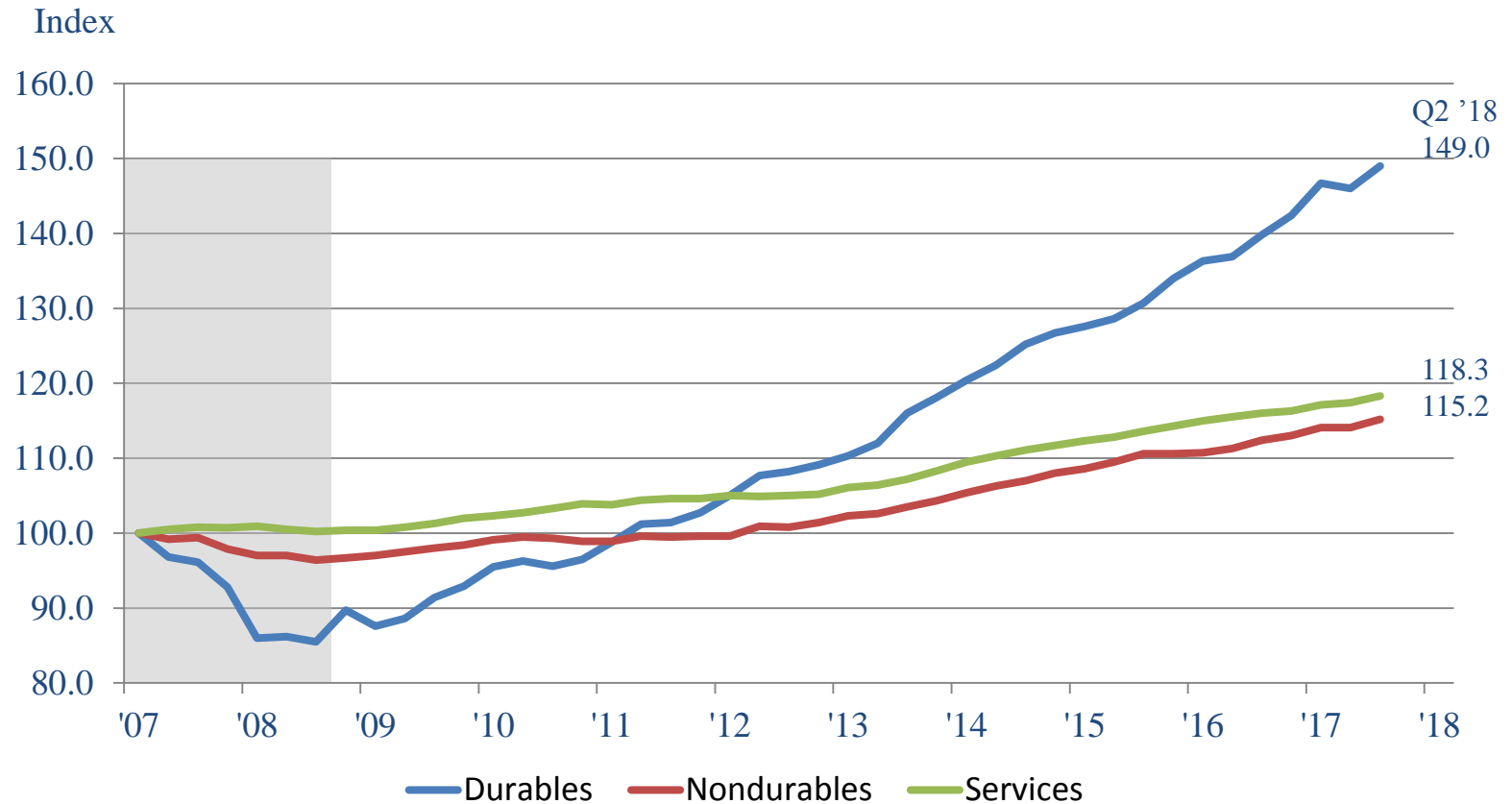
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Real Personal Consumption Expenditures

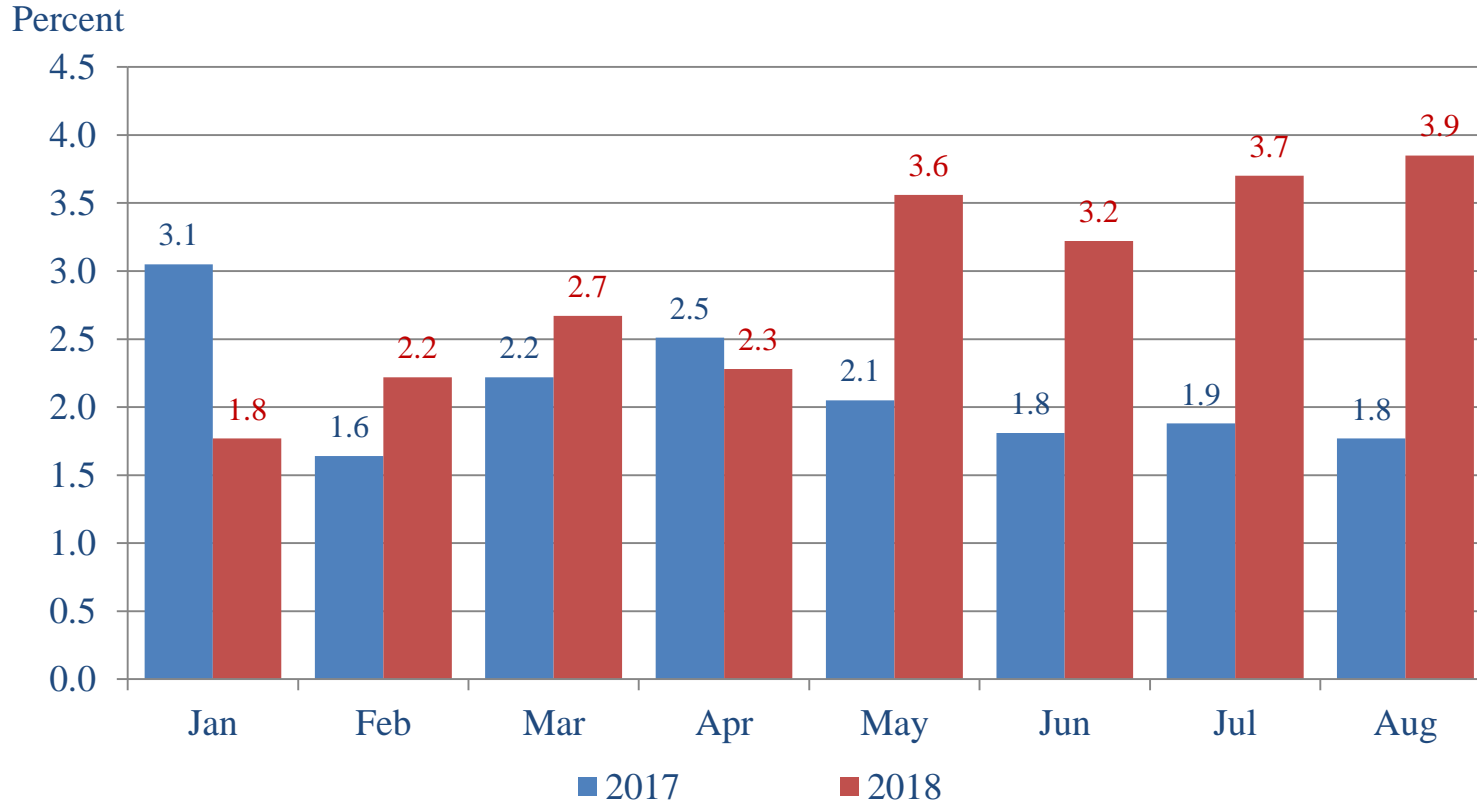
Billions Chained \$2012, Index – Q4 '07 = 100



Source: Author's calculations using data from the BEA

Real Retail & Food Service Sales

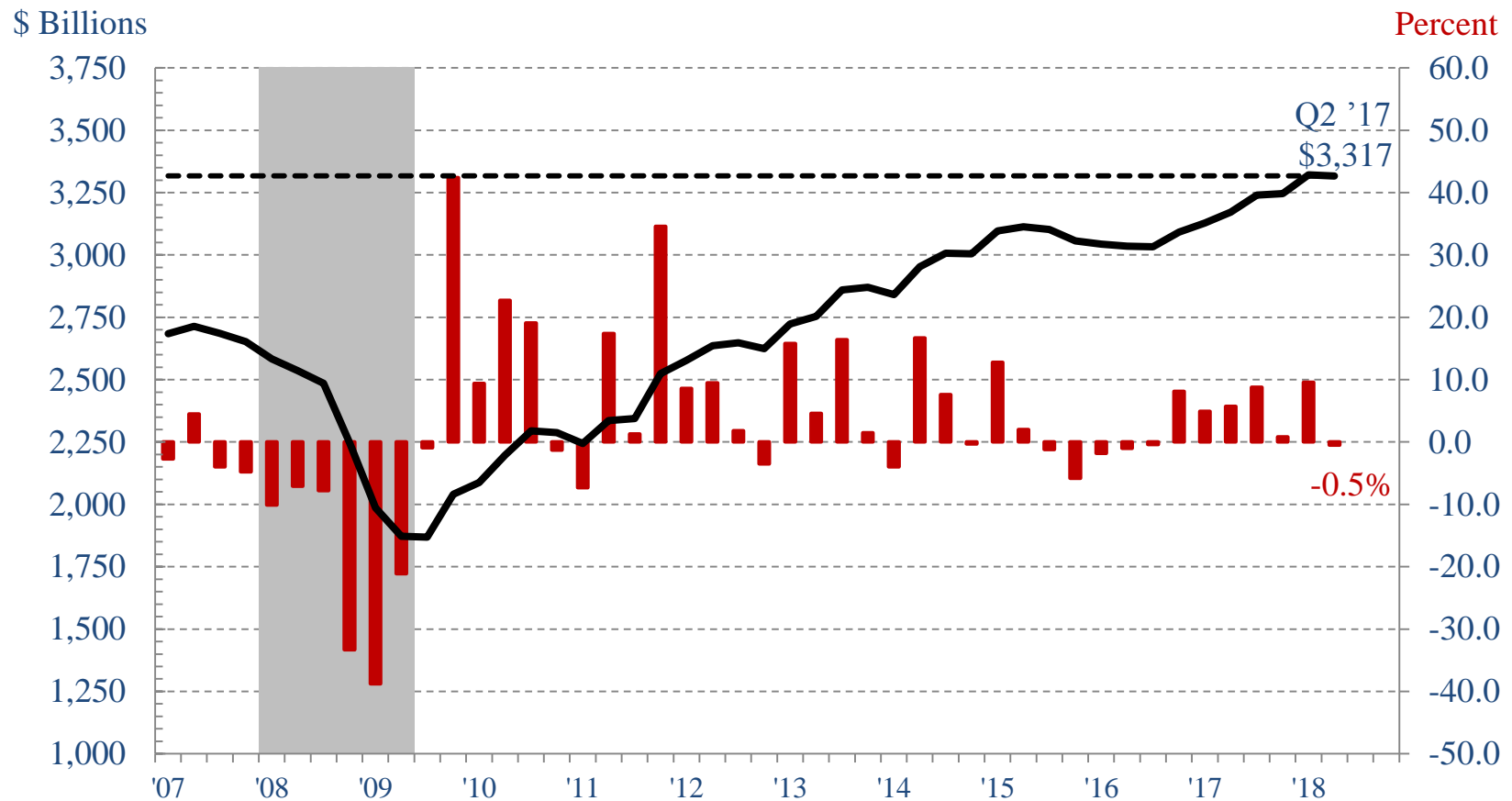
Millions Chained \$2012, Percent Change Yr./Yr.



Source: Author's calculations using Federal Reserve Bank of St. Louis data.

Real Gross Private Domestic Investment

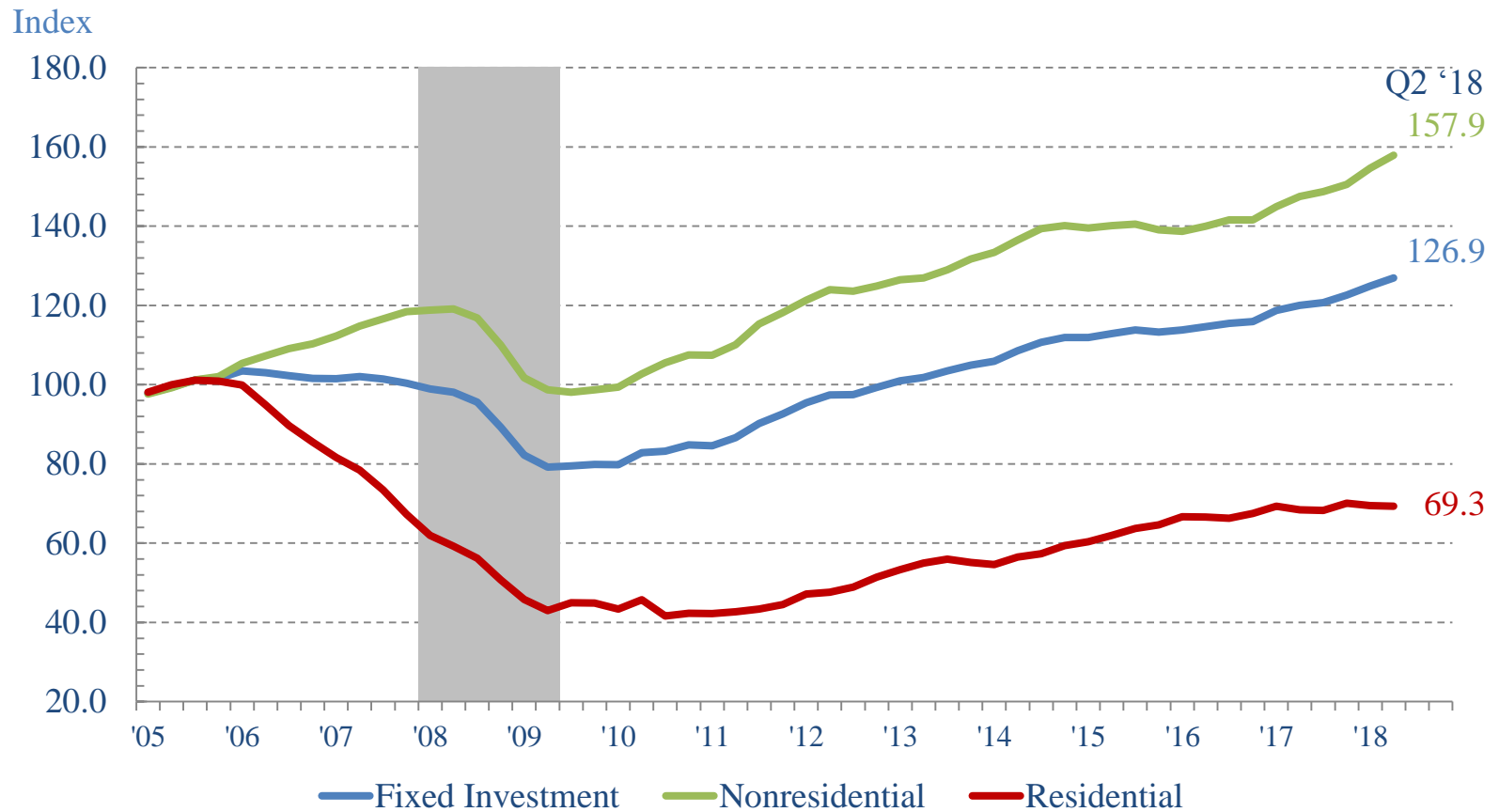
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Real Domestic Fixed Investment

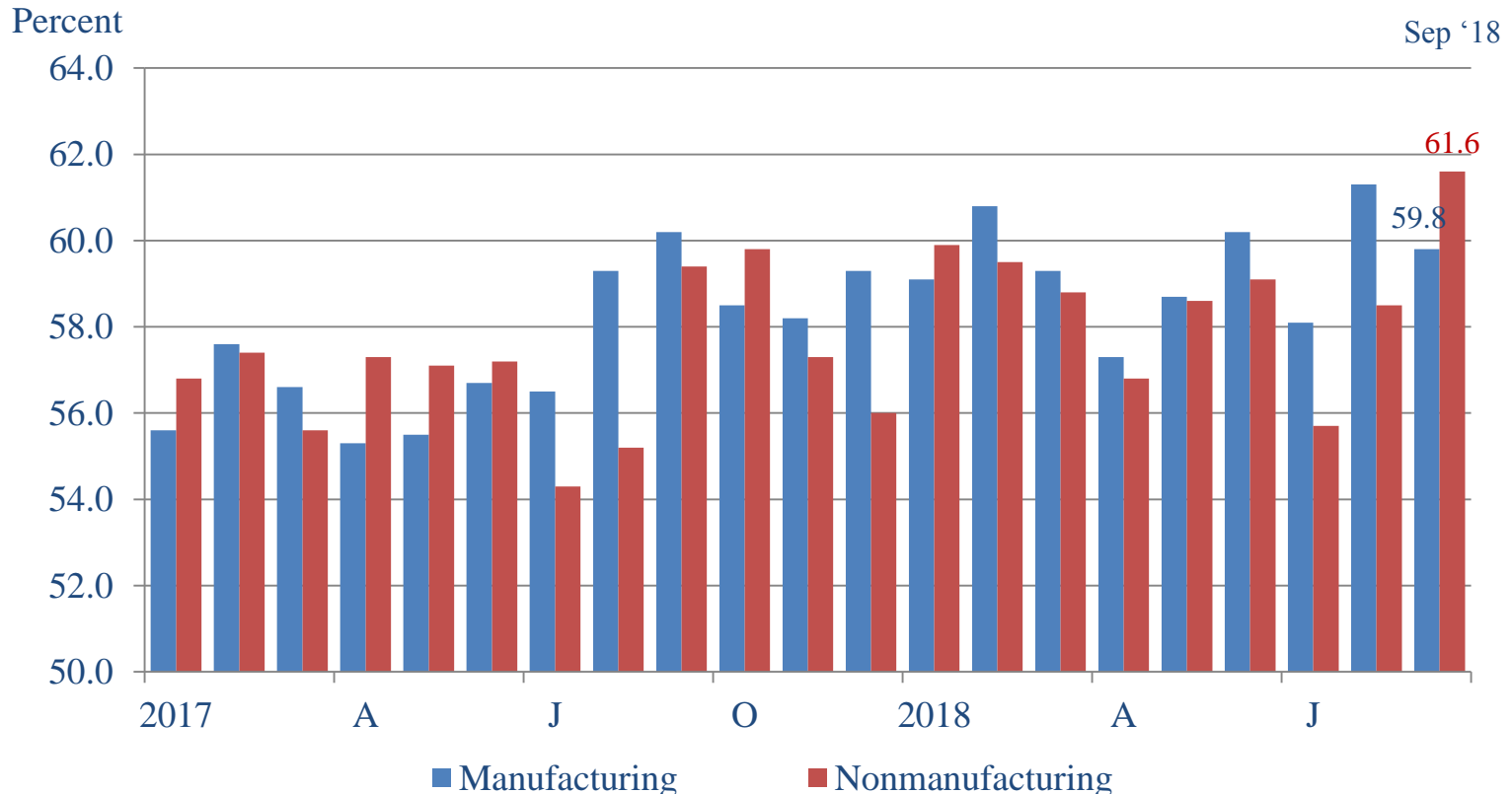
Billions Chained \$2012, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

ISM Purchasing Managers Indexes

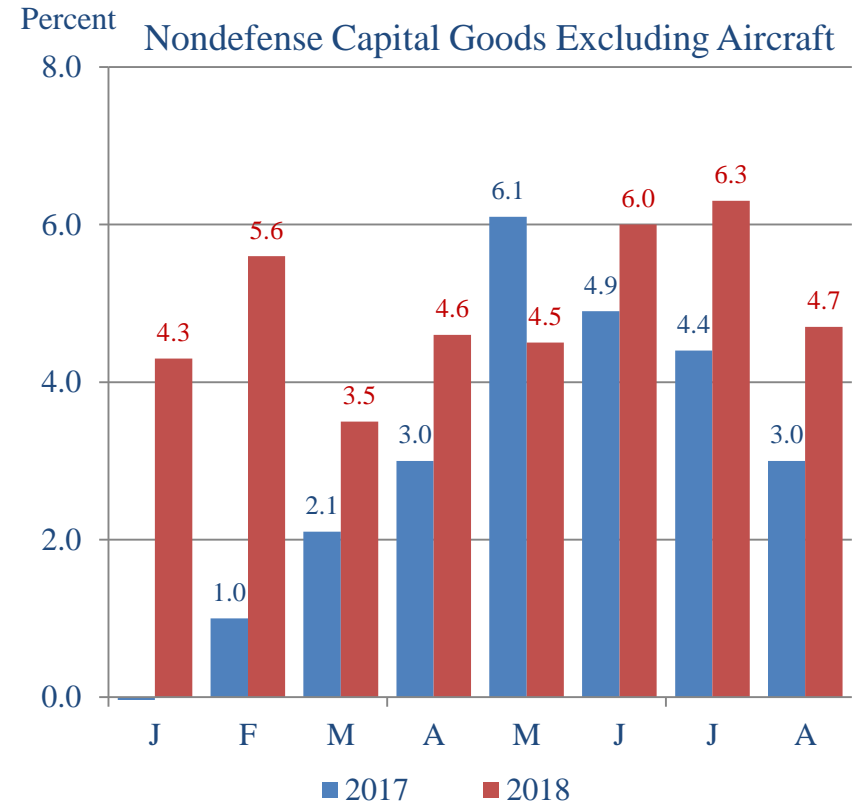
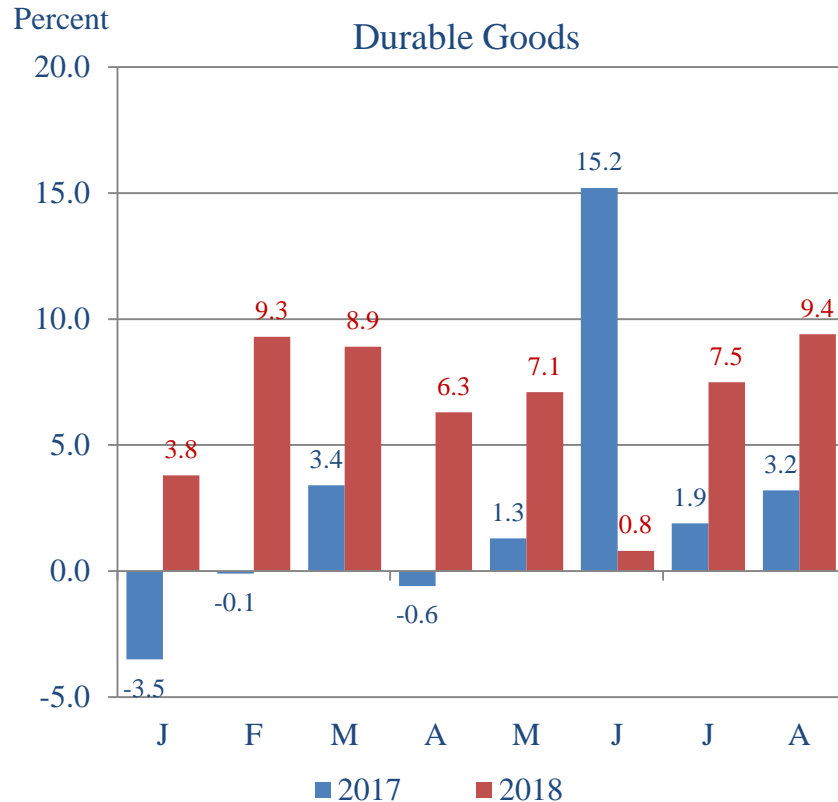
Manufacturing & Nonmanufacturing, SA - Greater than 50 = Expansion



Source: Author's calculations using Federal Reserve Bank of St. Louis data.

Manufacturing New Orders

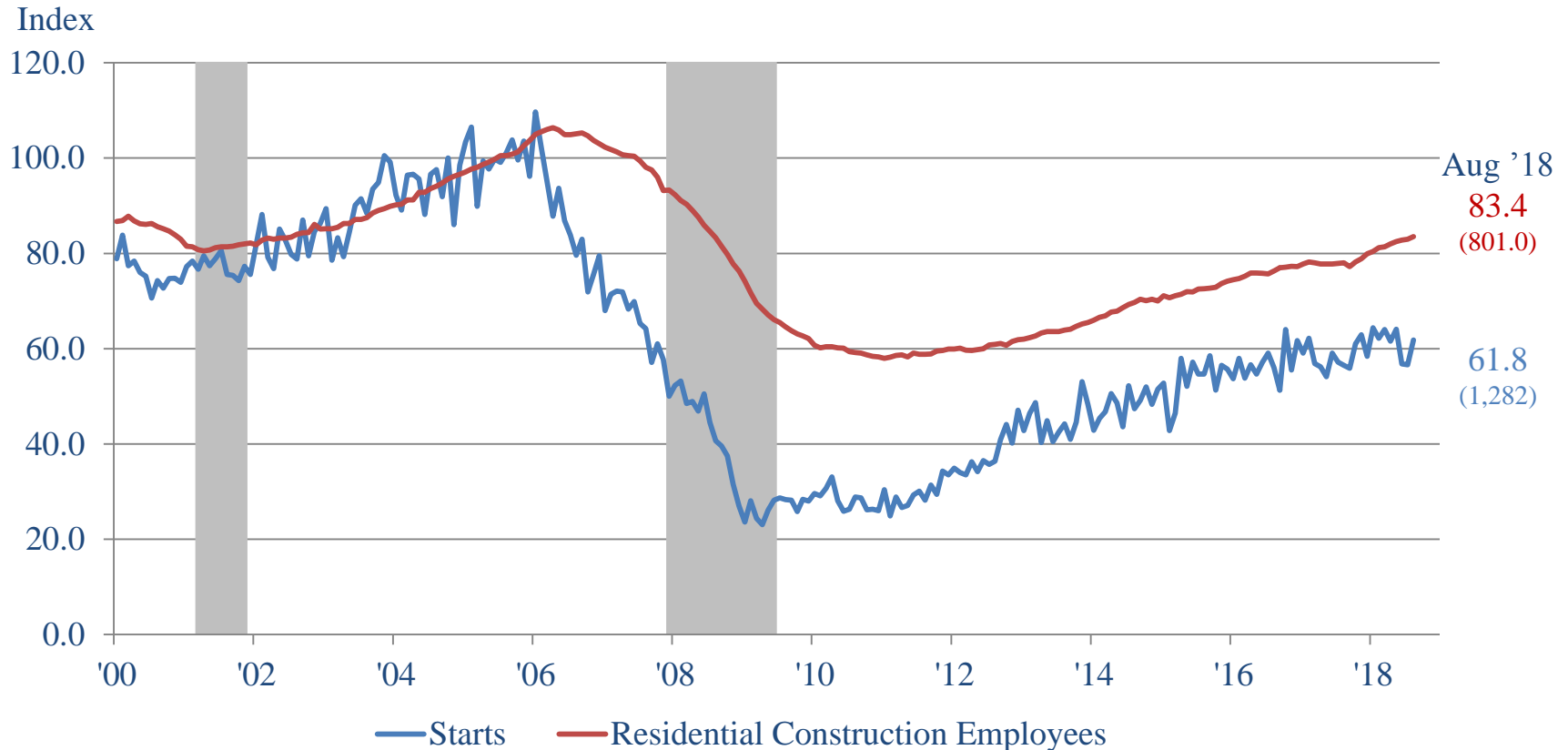
Millions of \$2009, Percent Change Yr./Yr.



Source: Author's calculations using Federal Reserve Bank of St. Louis data.

New Private Housing

Housing Starts and Construction Employment – Index, 2005 = 100

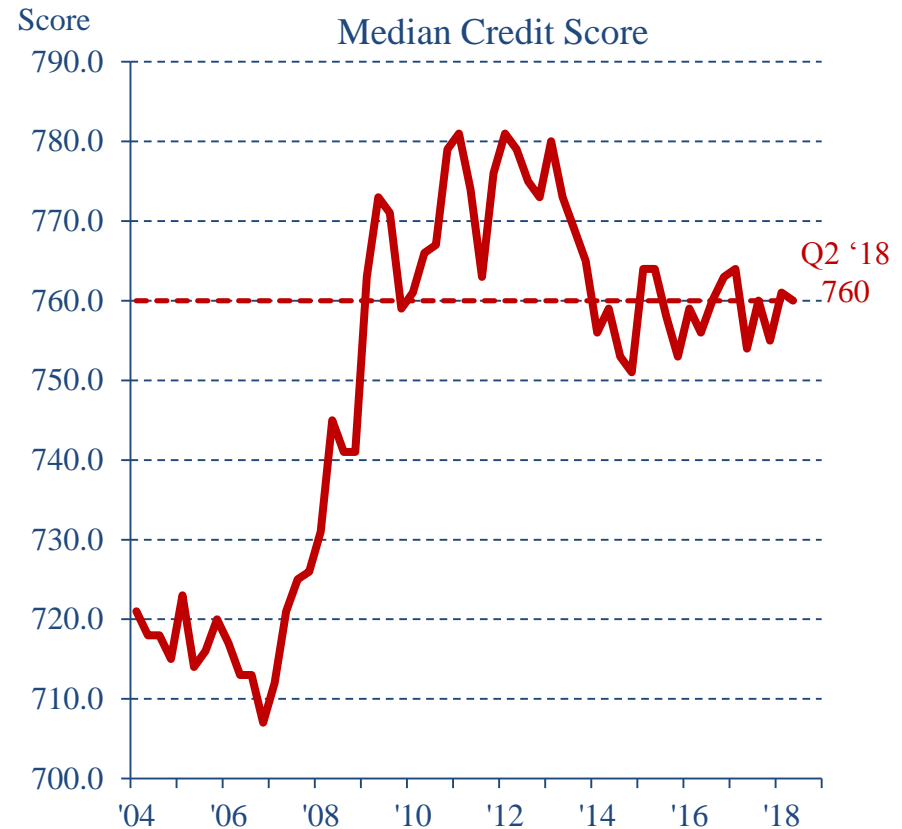
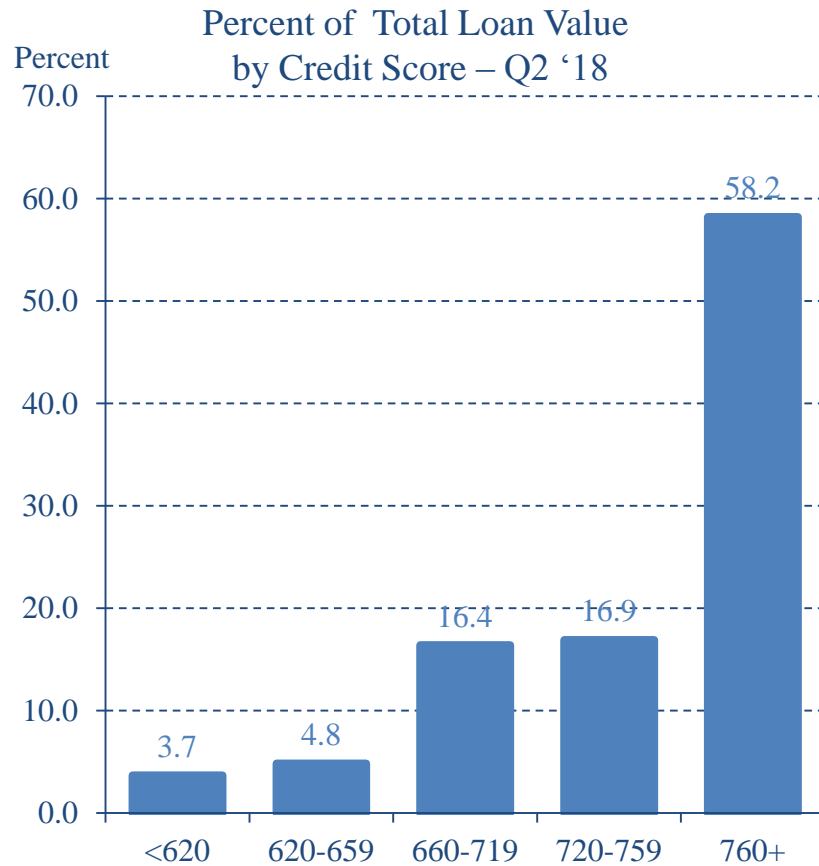


Note: Actual values in parentheses are in thousands.

Source: U.S. Census Bureau & Bureau of Labor Statistics.

Mortgage Loan Quality

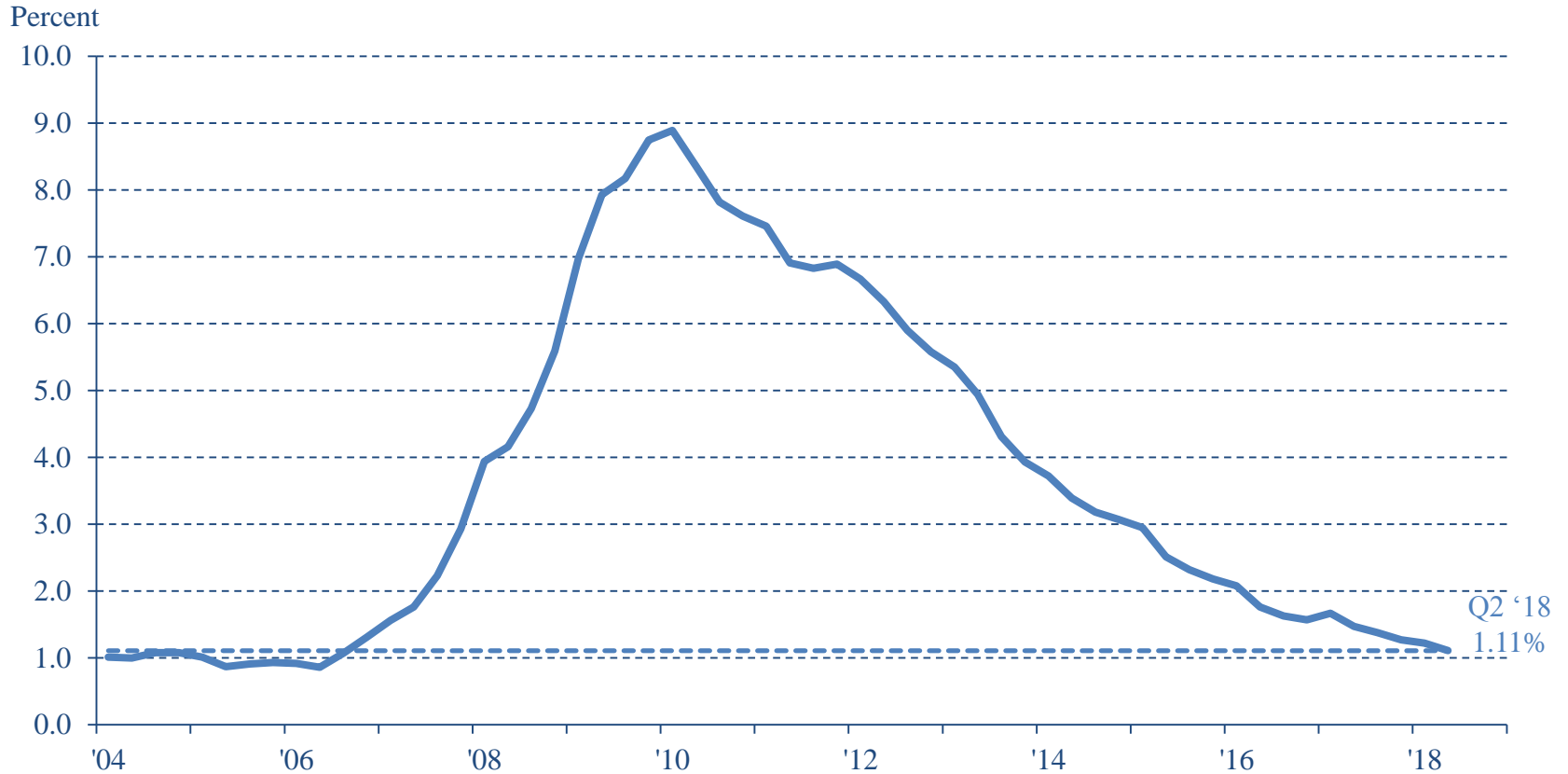
Percent of Loans by Credit Score and Median Credit Score



Source: Federal Reserve Bank of New York

Mortgage Delinquencies

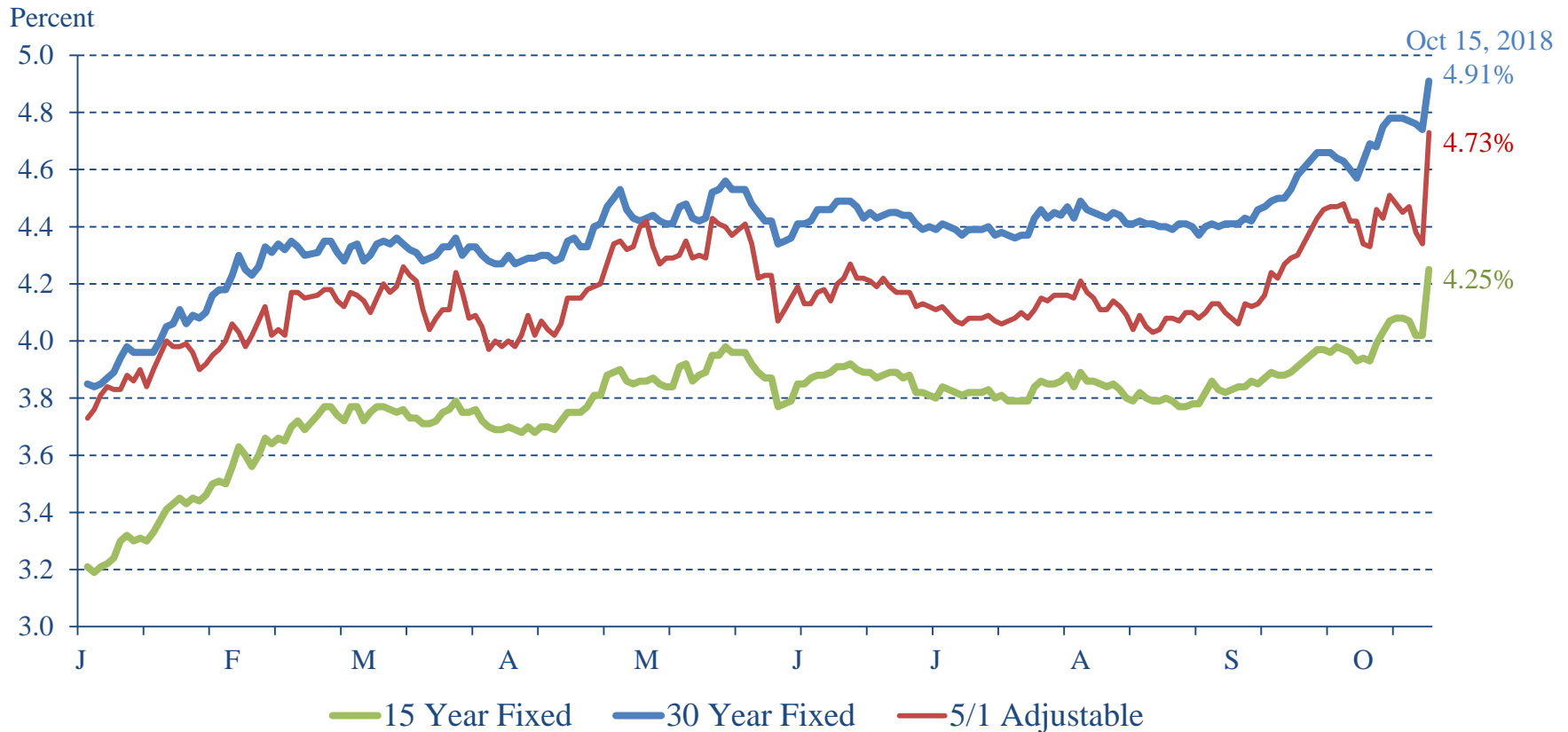
Percent of Loan Balance 90+ Days Delinquent



Source: Federal Reserve Bank of New York

Mortgage Rates

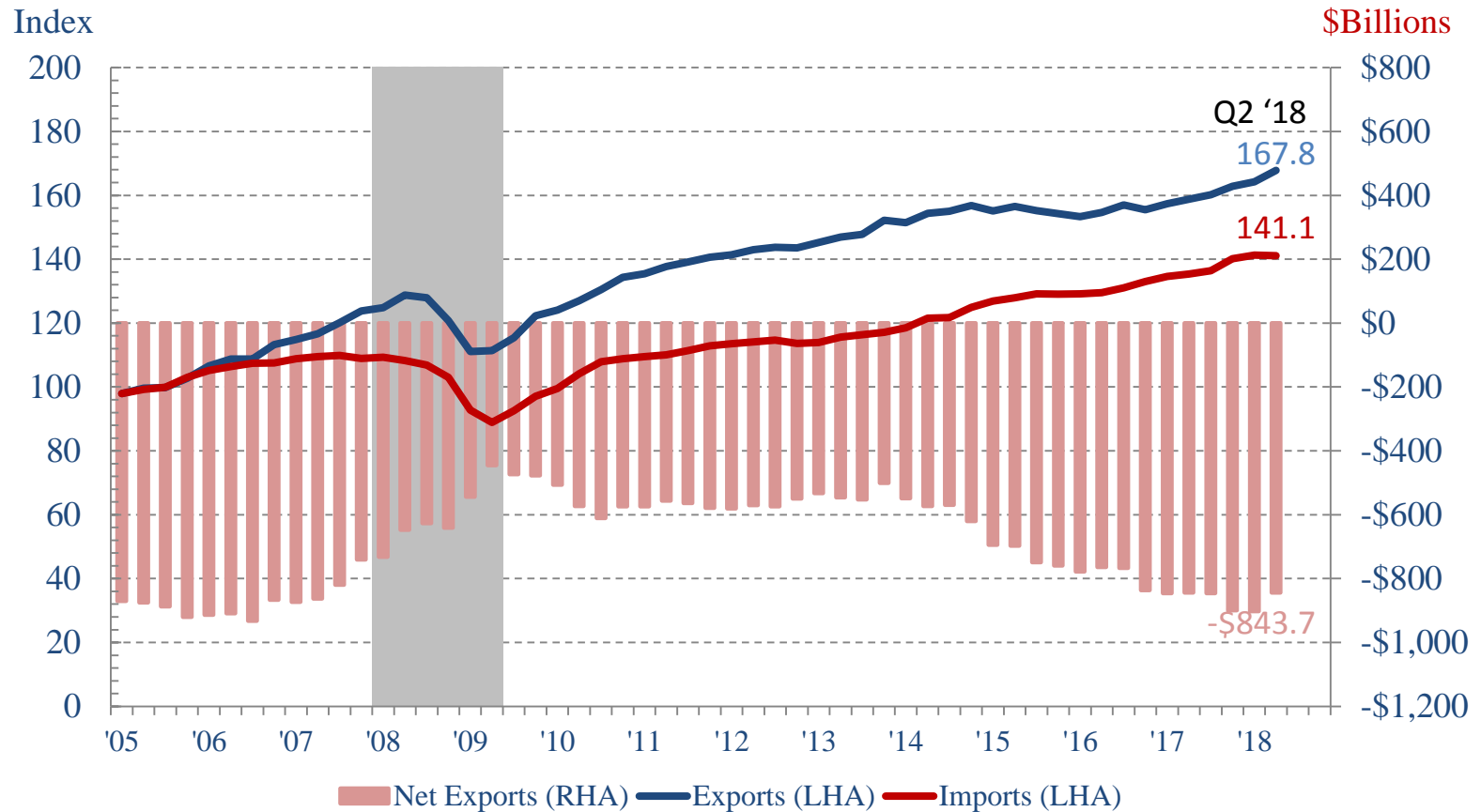
15 Year and 30 Year Fixed & 5/1 Adjustable



Source: New York Times and Haver Analytics

Real Imports and Exports

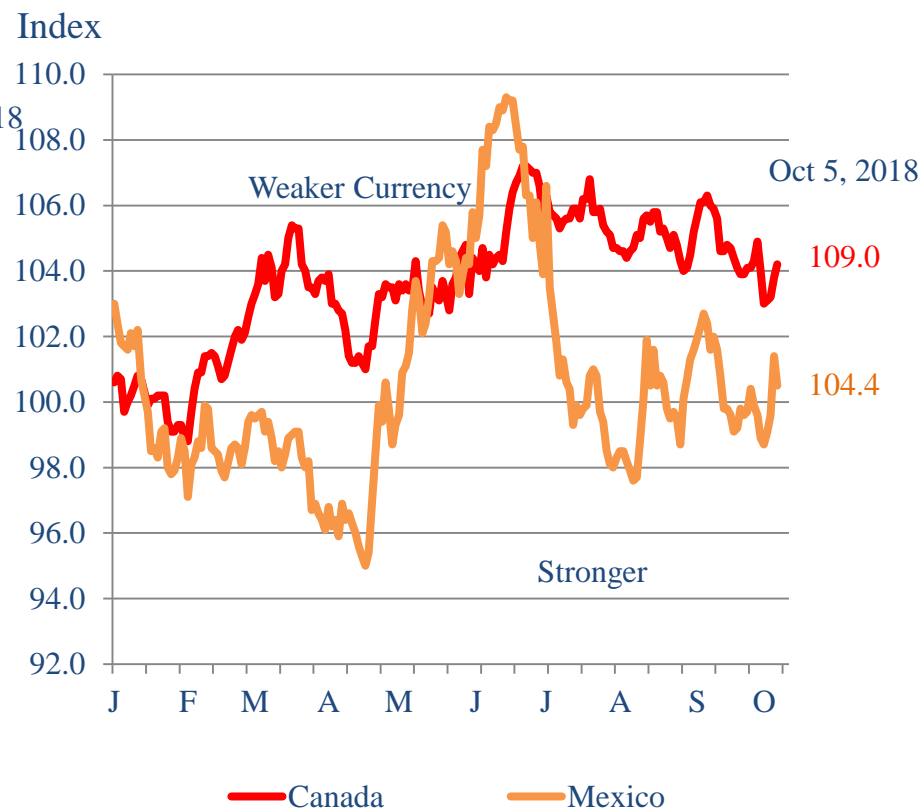
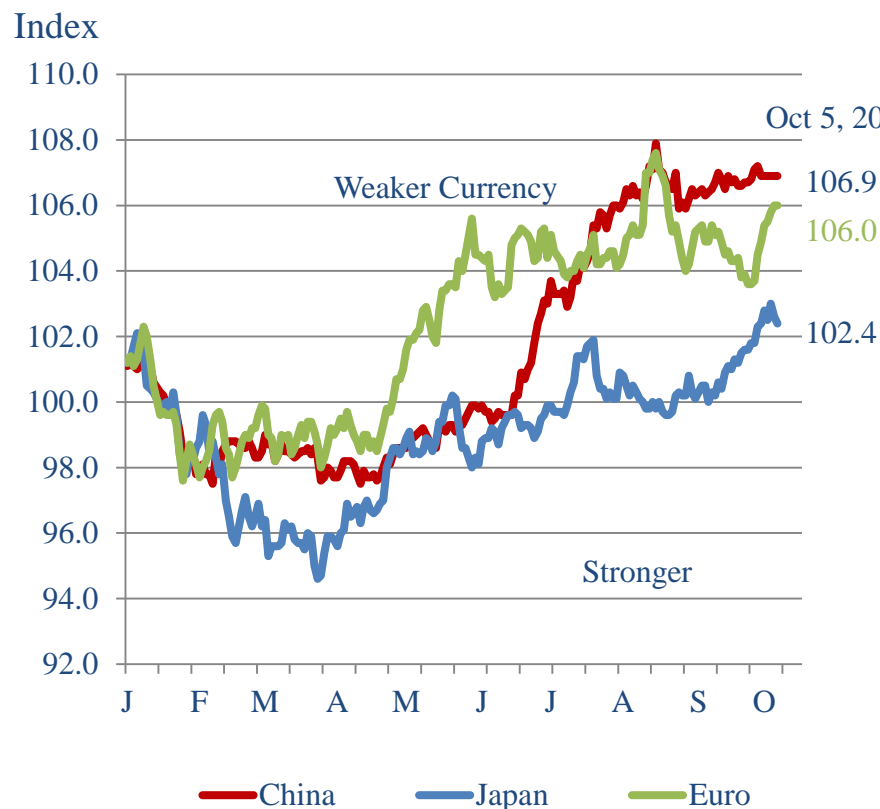
Billions Chained \$2012, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

The U.S. Dollar and Exchange Rates

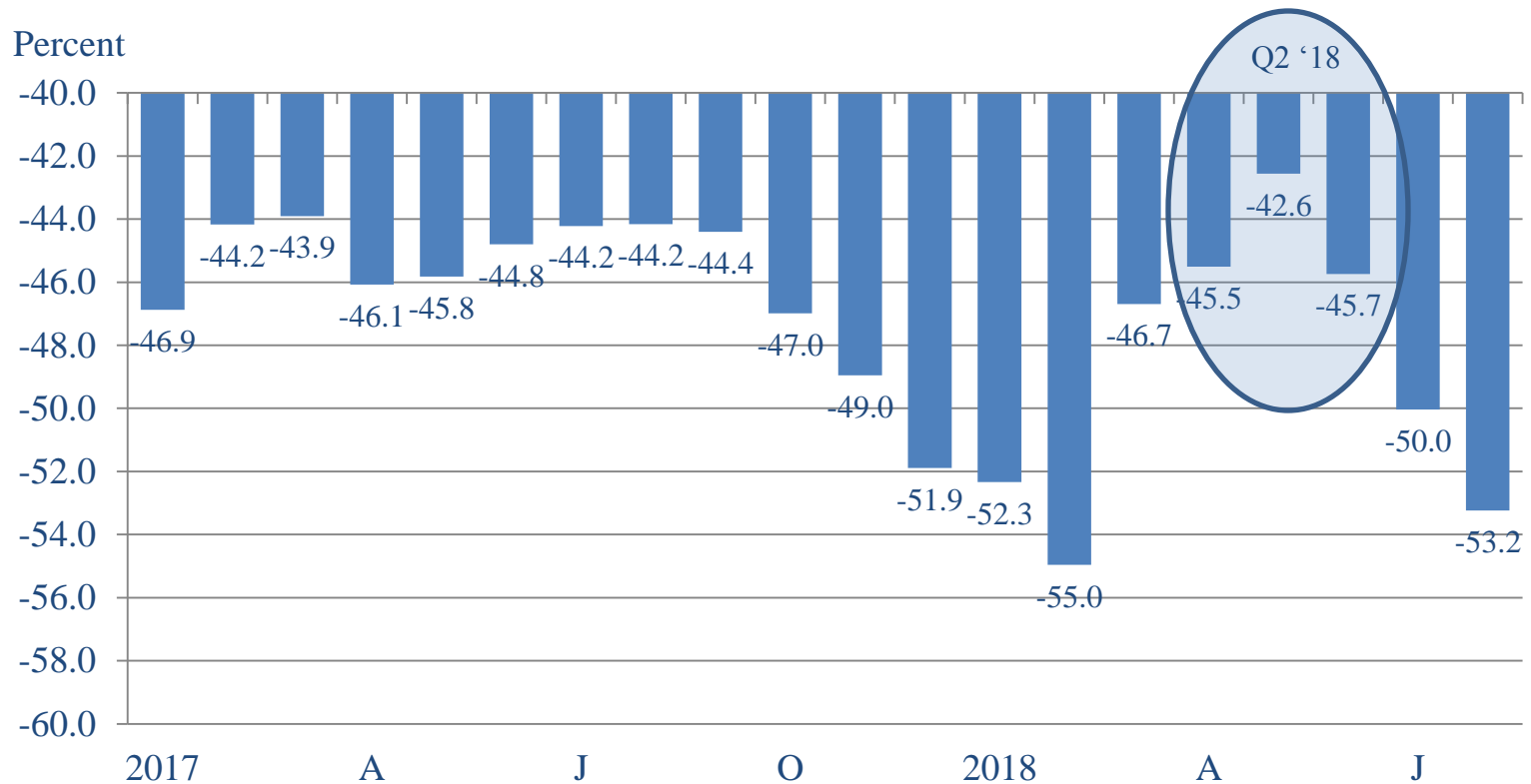
Foreign Currency / US\$ - Index Jan '17 = 100



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

Real Trade Balance

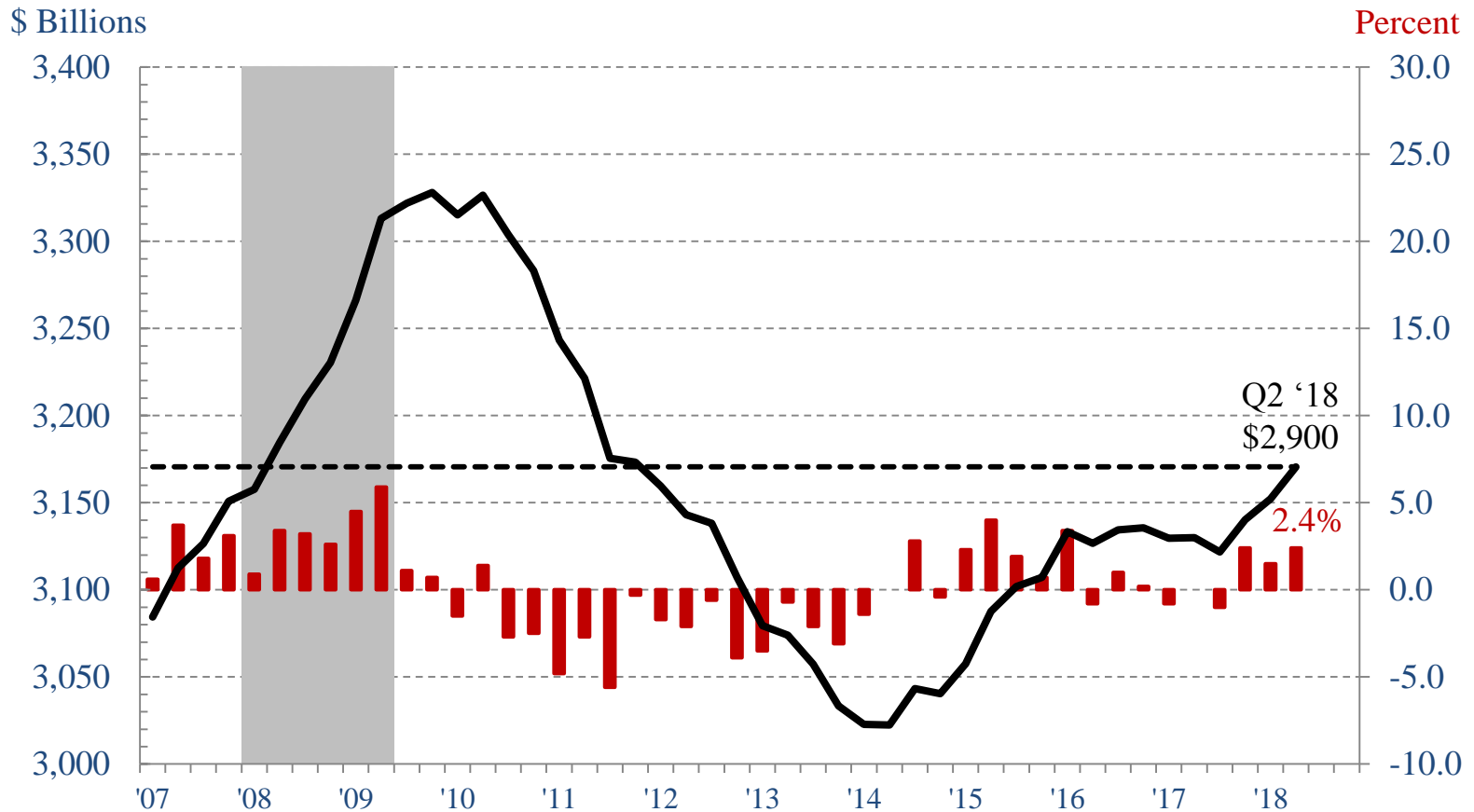
Billions of Dollars - SA



Source: Author's calculations using U.S. Census Bureau data.

Real Government Consumption & Investment

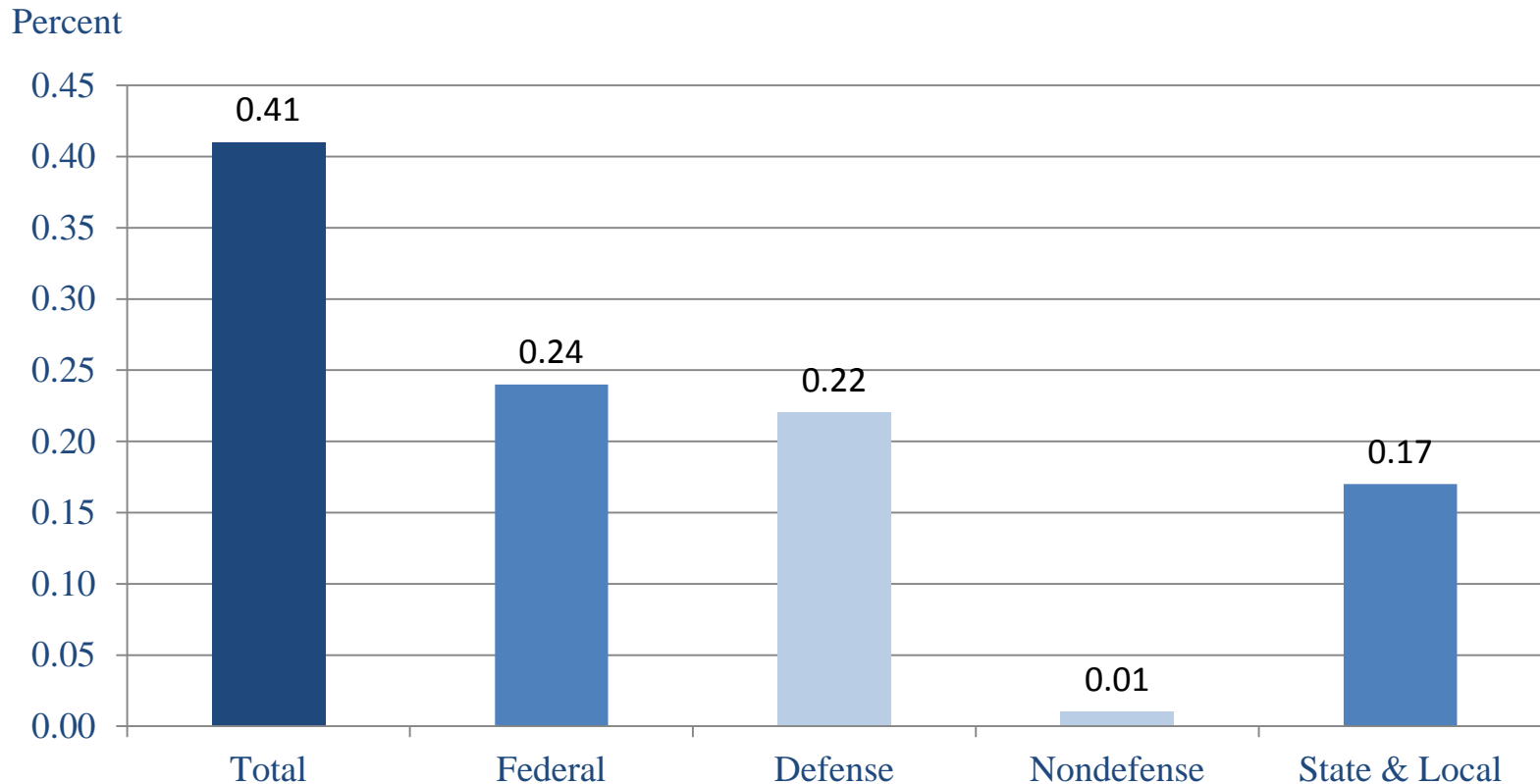
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Government Consumption and Investment

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

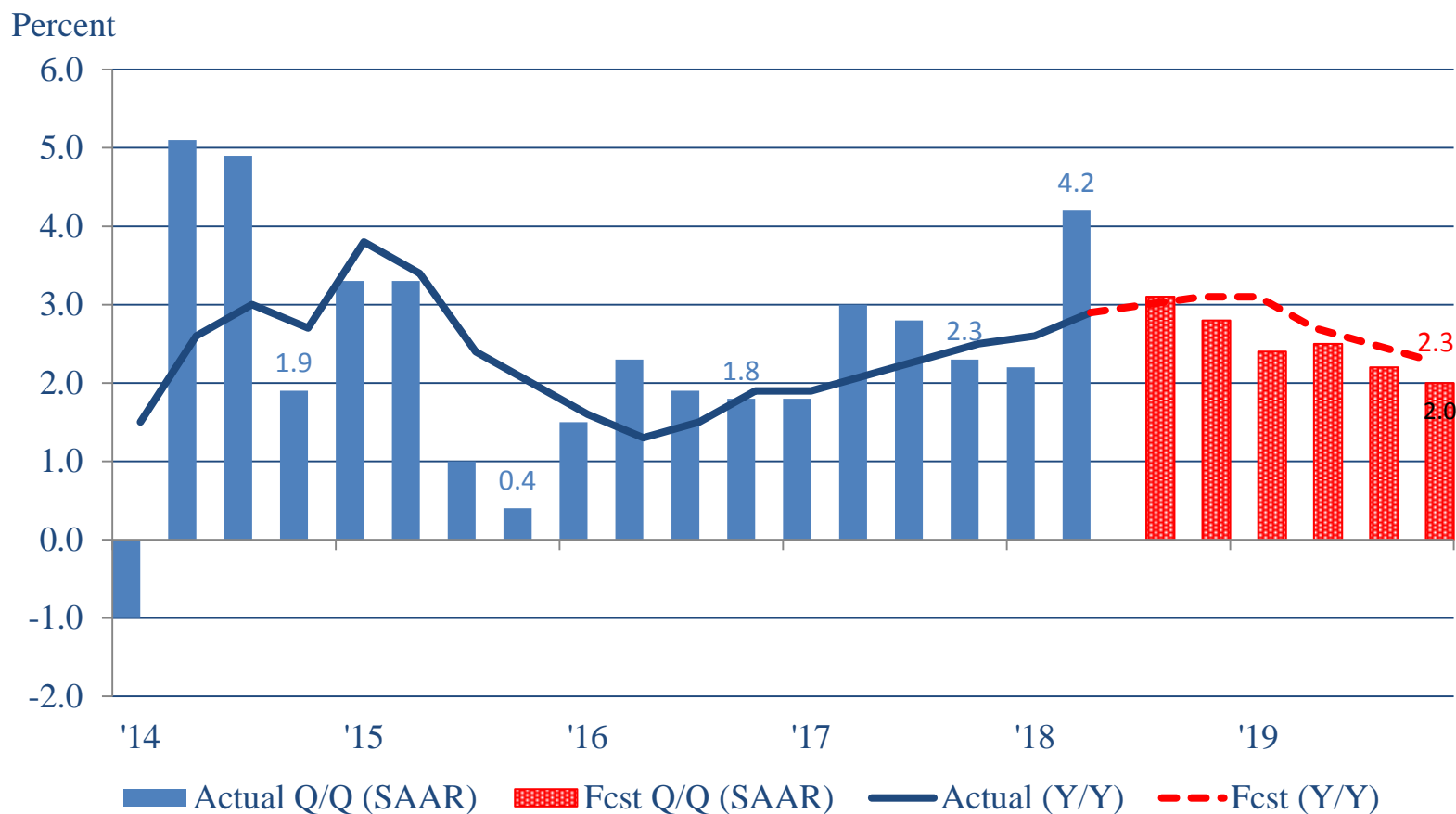


Note: Detail may not sum due to rounding.

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

U.S. Real GDP – September, 2018 Blue Chip Forecast

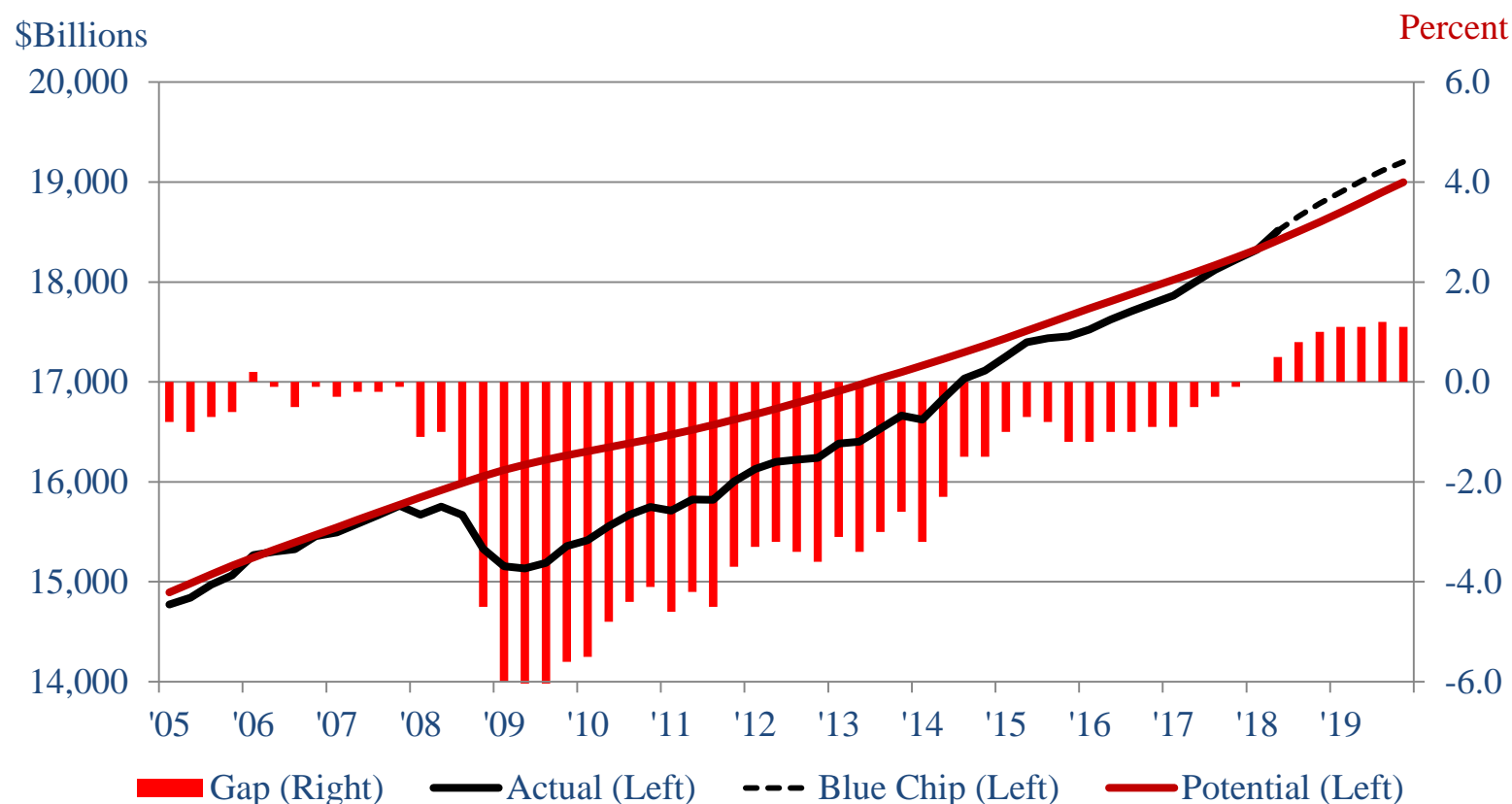
Percent Change – Billions of Chained \$2009



Source: BEA and August 2018 Blue Chip Economic Indicators

U.S. Real GDP – Actual and Potential

Billions Chained \$2012 and Percent H/L than Potential

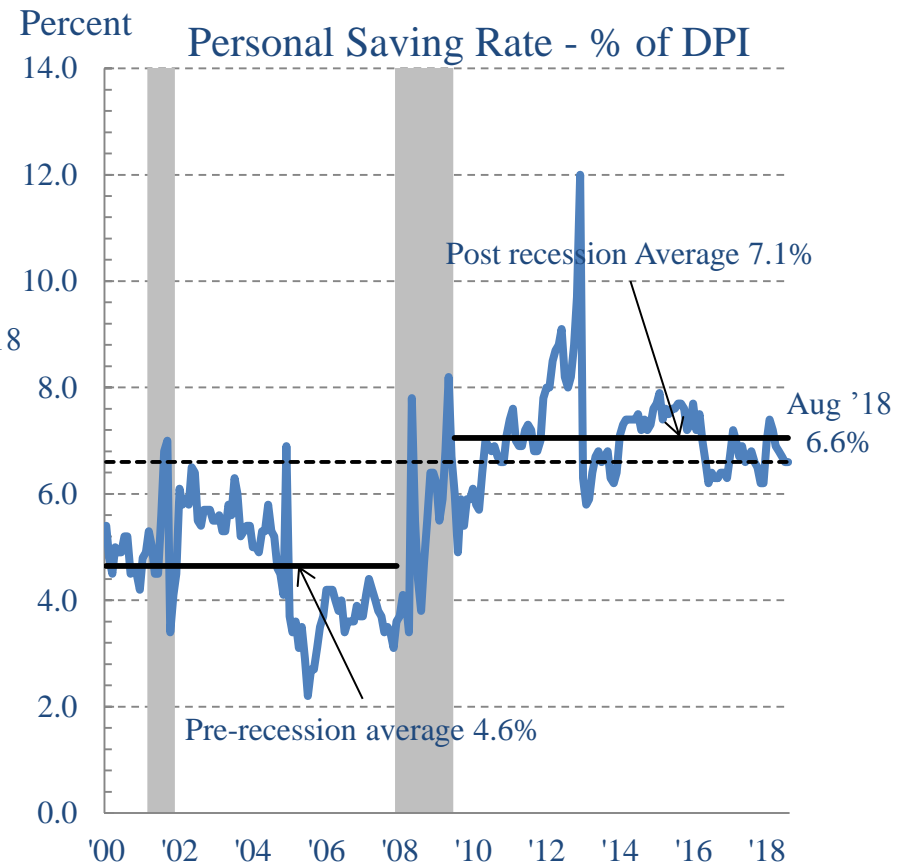
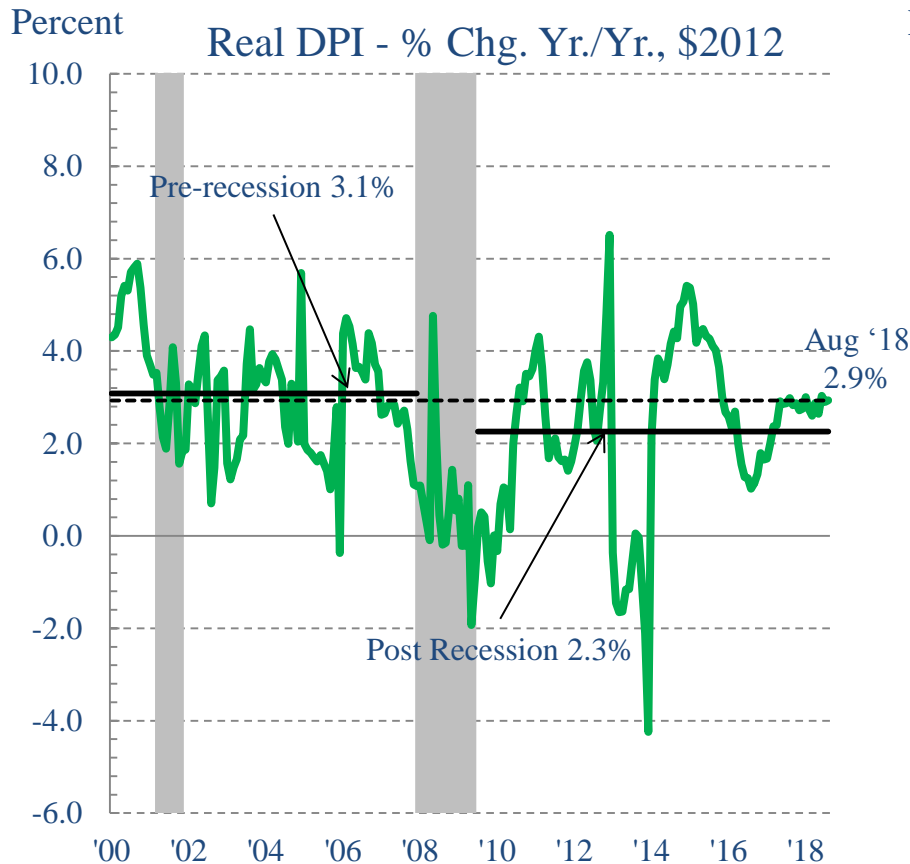


Source: Author's calculations using Bureau of Economic Analysis and the U.S. Congressional Budget Office and Blue Chip Consensus forecast data.

U.S. Consumer

Income and Savings Rate

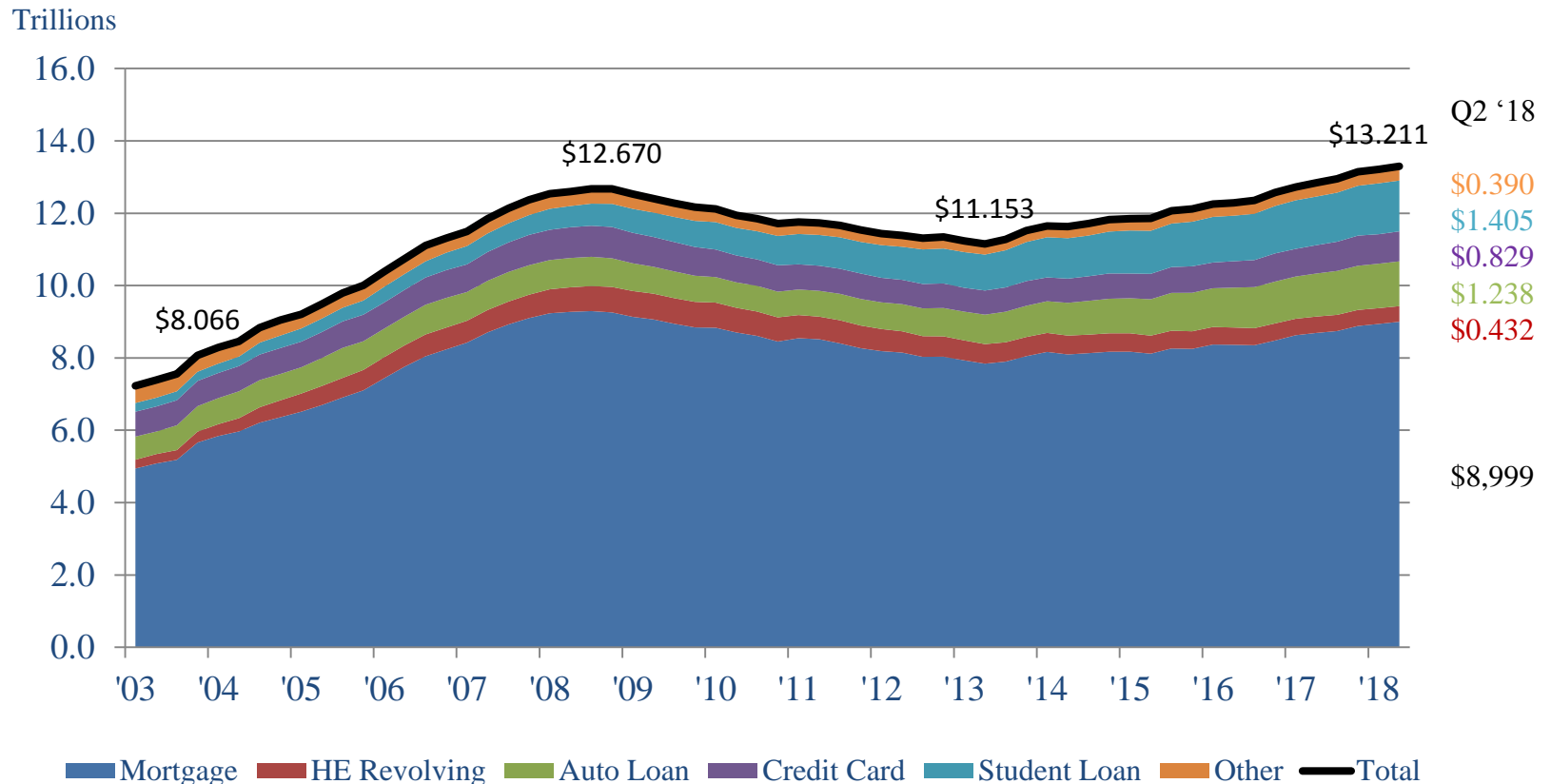
Percent Change and Percent of DPI



Source: U.S. Bureau of Economic Analysis

Total Consumer Debt by Composition

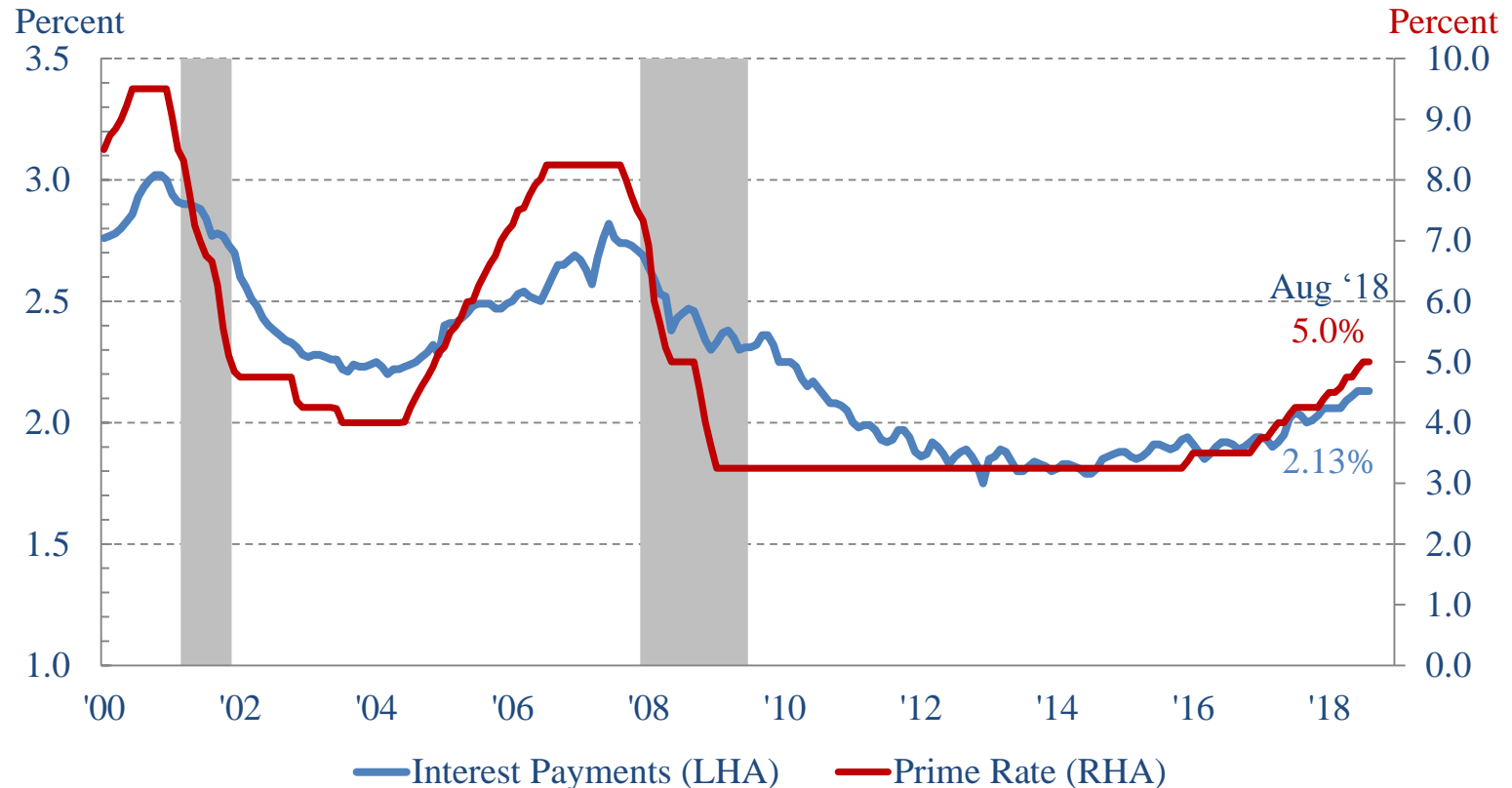
Trillions of Dollars



Source: Federal Reserve Bank of New York and Equifax

Interest Payments

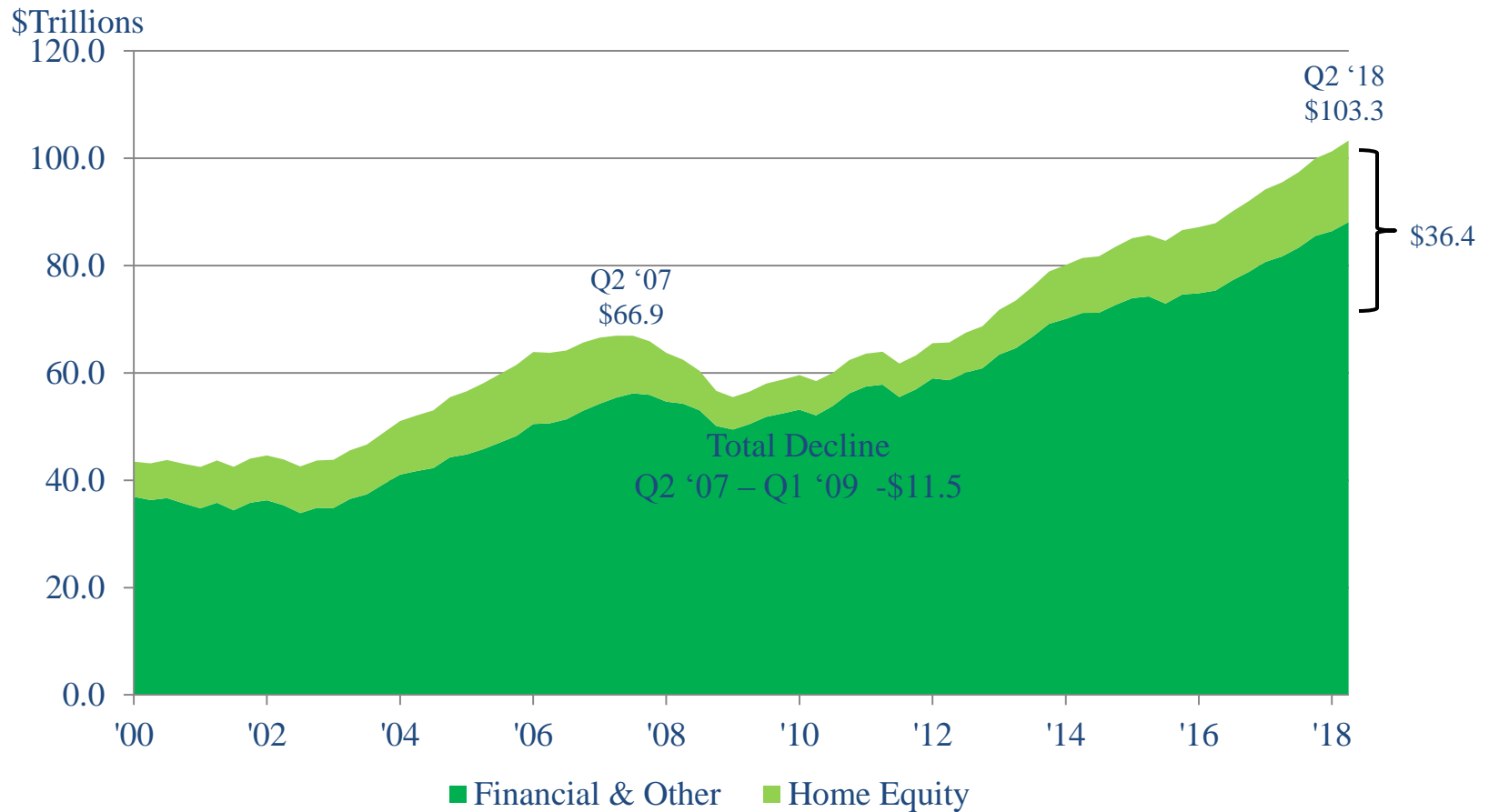
As a Percent of Disposable Personal Income



Source: Federal Reserve Bank - Board of Governors

Household Net Worth

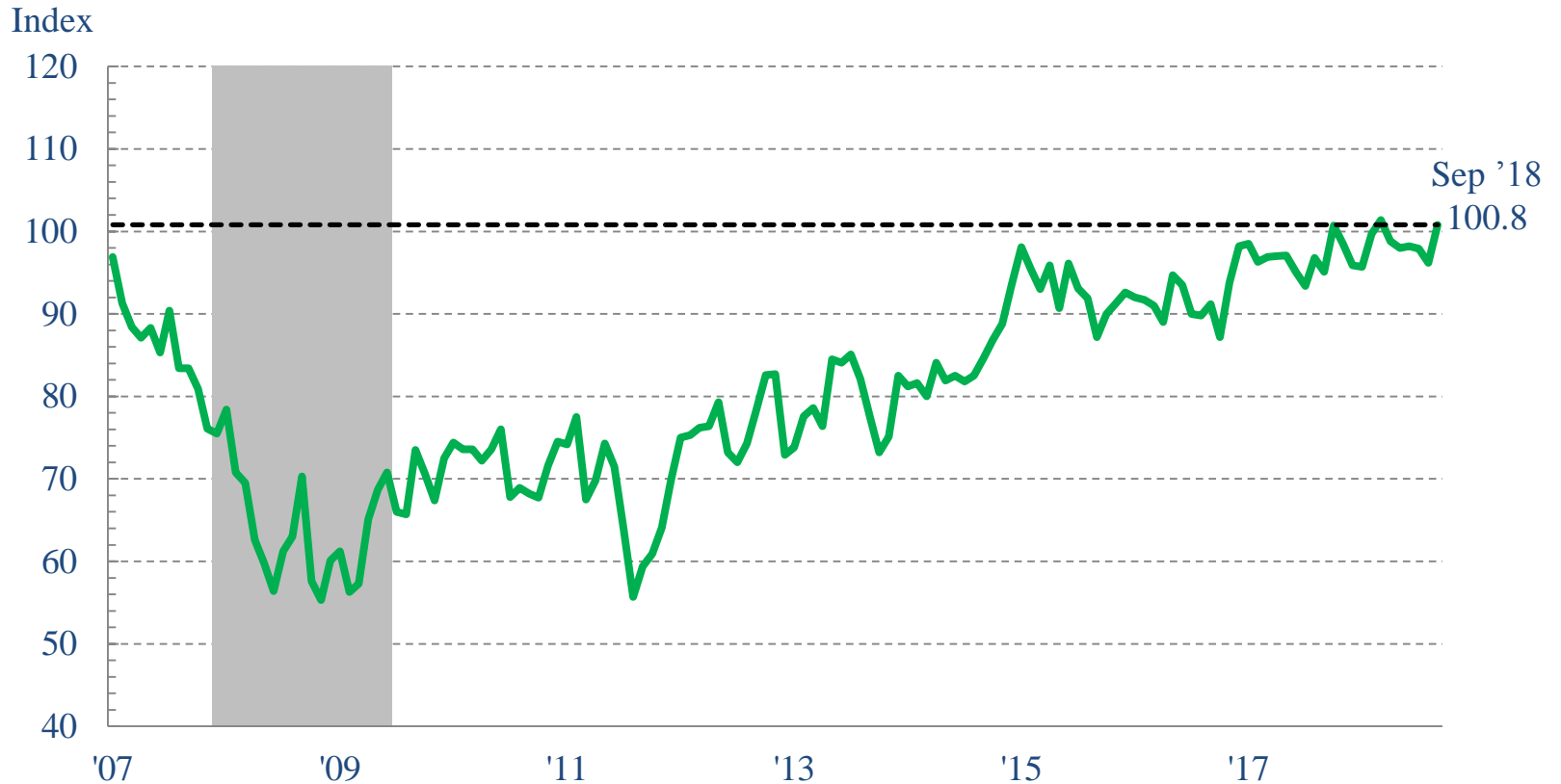
Trillions of Current Dollars, Q1 '00 to Q2 '17



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

Consumer Sentiment

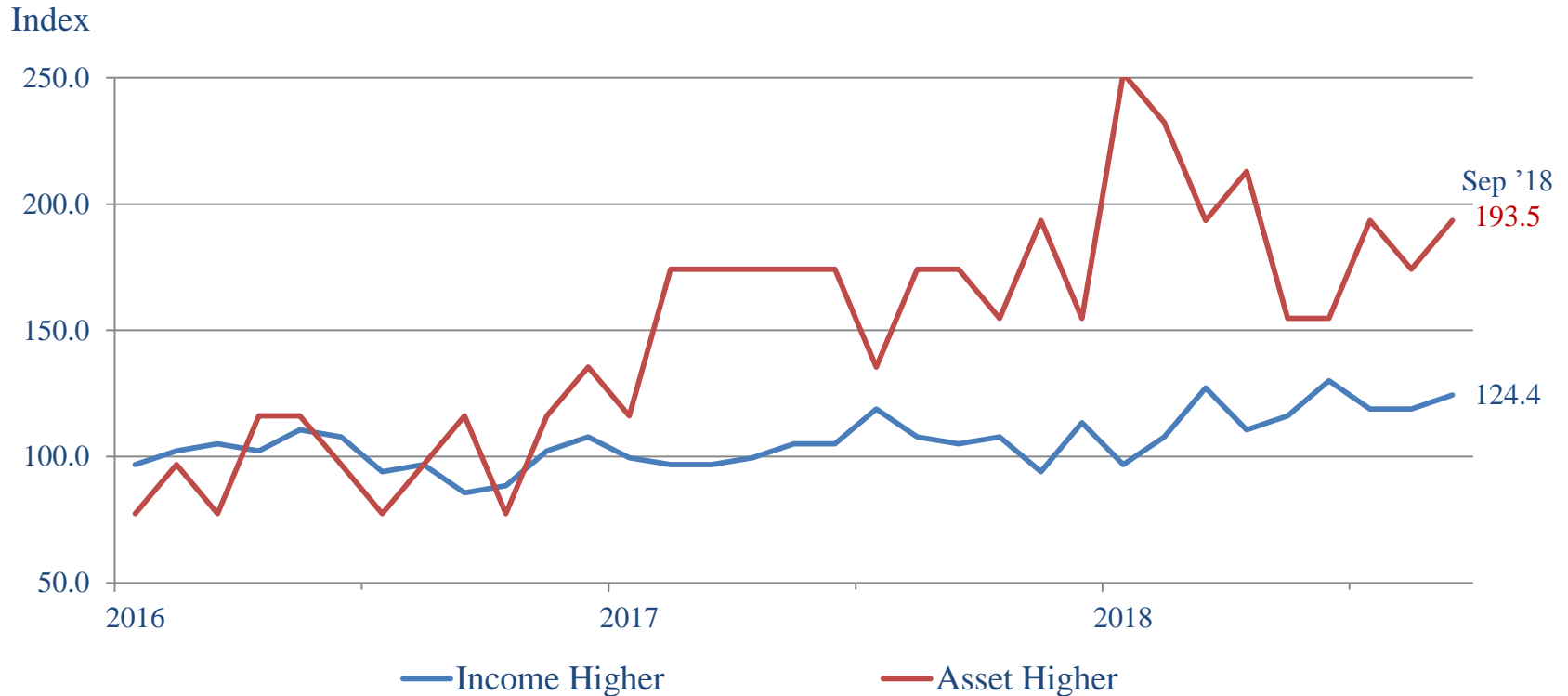
University of Michigan



Source: Thomson Reuters / University of Michigan

Current Household Relative Financial Situation

Compared to a Year Ago – Index 2016 = 100

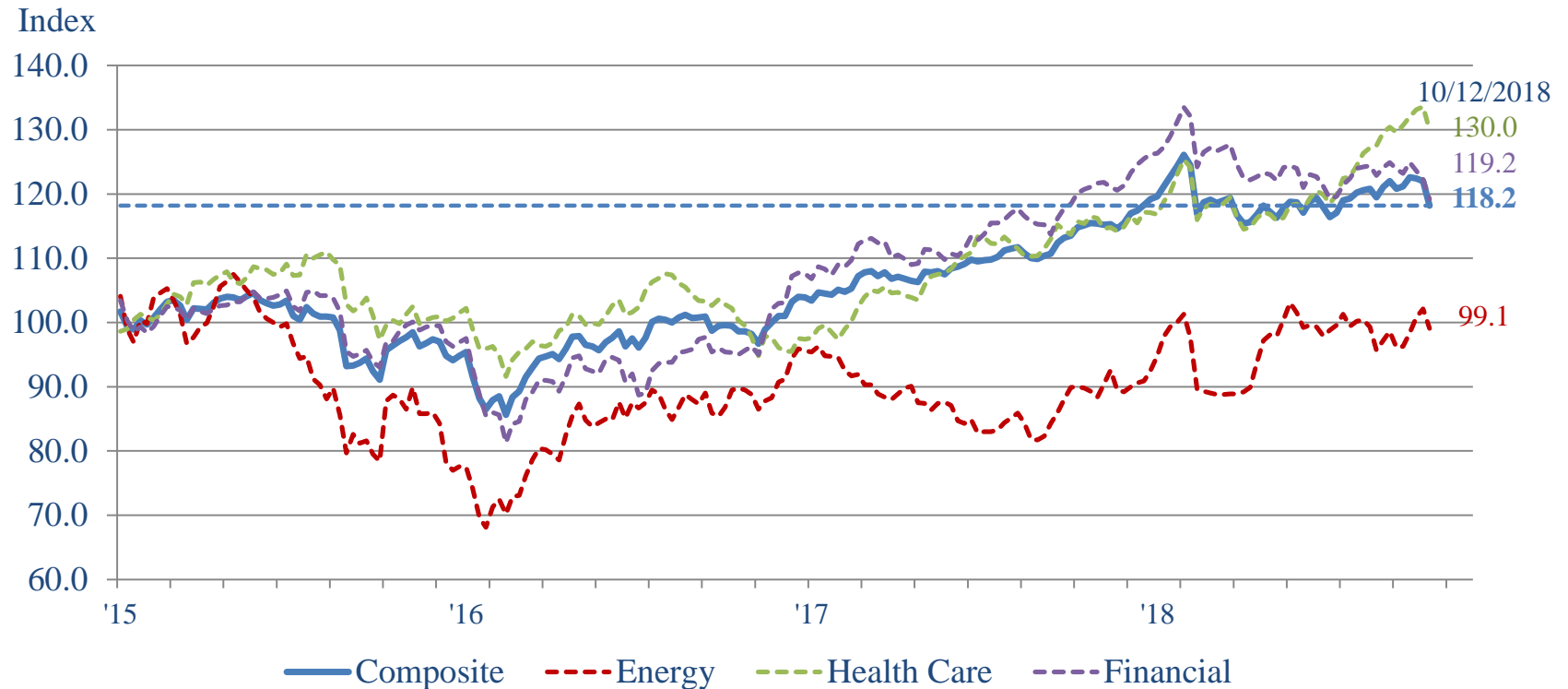


Note: Relative situation is calculated as the number of respondents answering that their income and asset to debt ratio is better than a year ago minus those responding that it is worse than a year ago.

Source: University of Michigan Consumer Sentiment

Stock Market

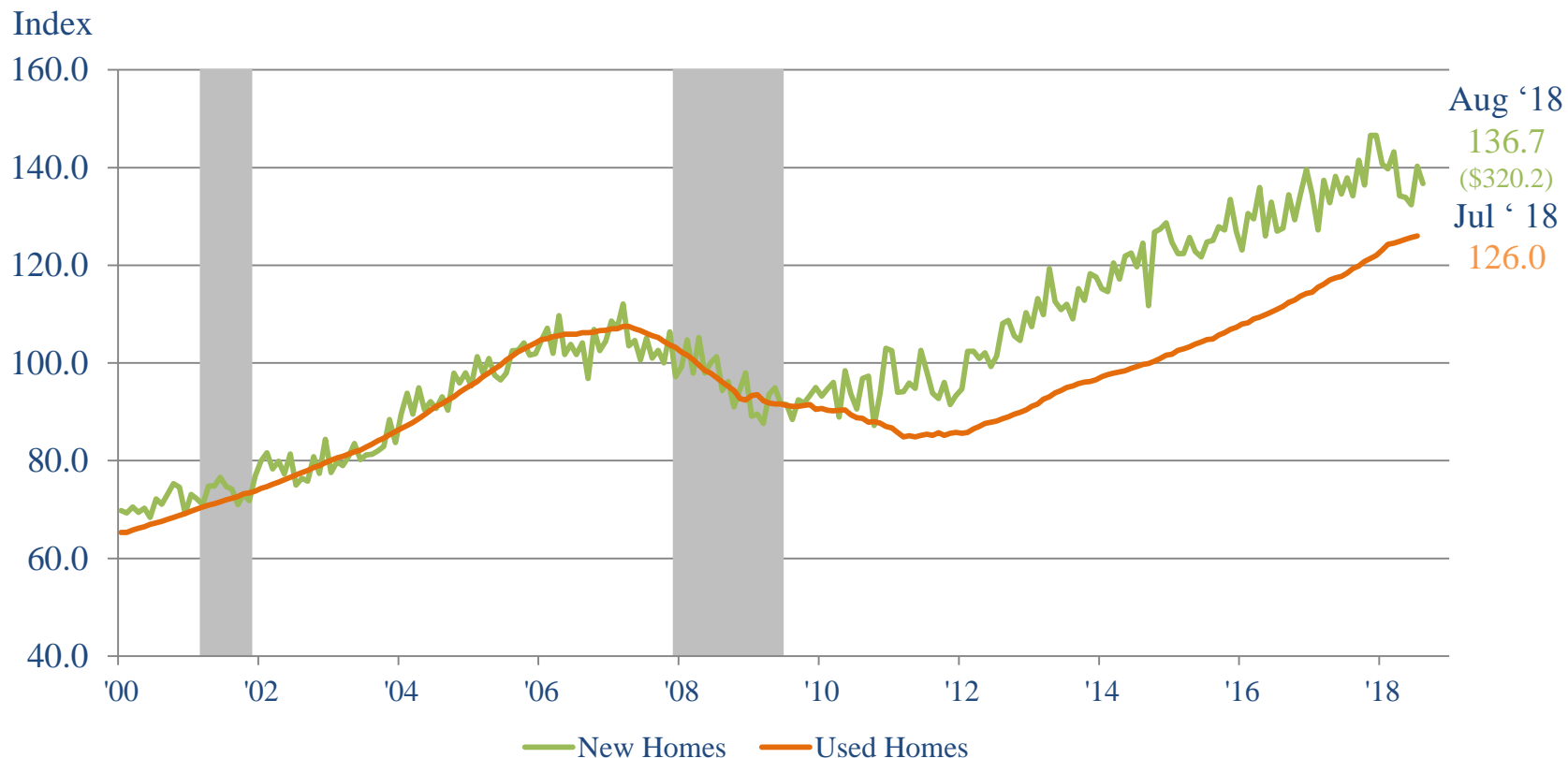
NYSE Stock Price Index, 2015 = 100



Source: Haver data taken from the Wall Street Journal and Coindesk.

New Private Housing

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



Note: Actual value in parentheses is in thousands.

Source: U.S. Census Bureau, and FHFA.

Bitcoin

U.S. Dollar Exchange Rate

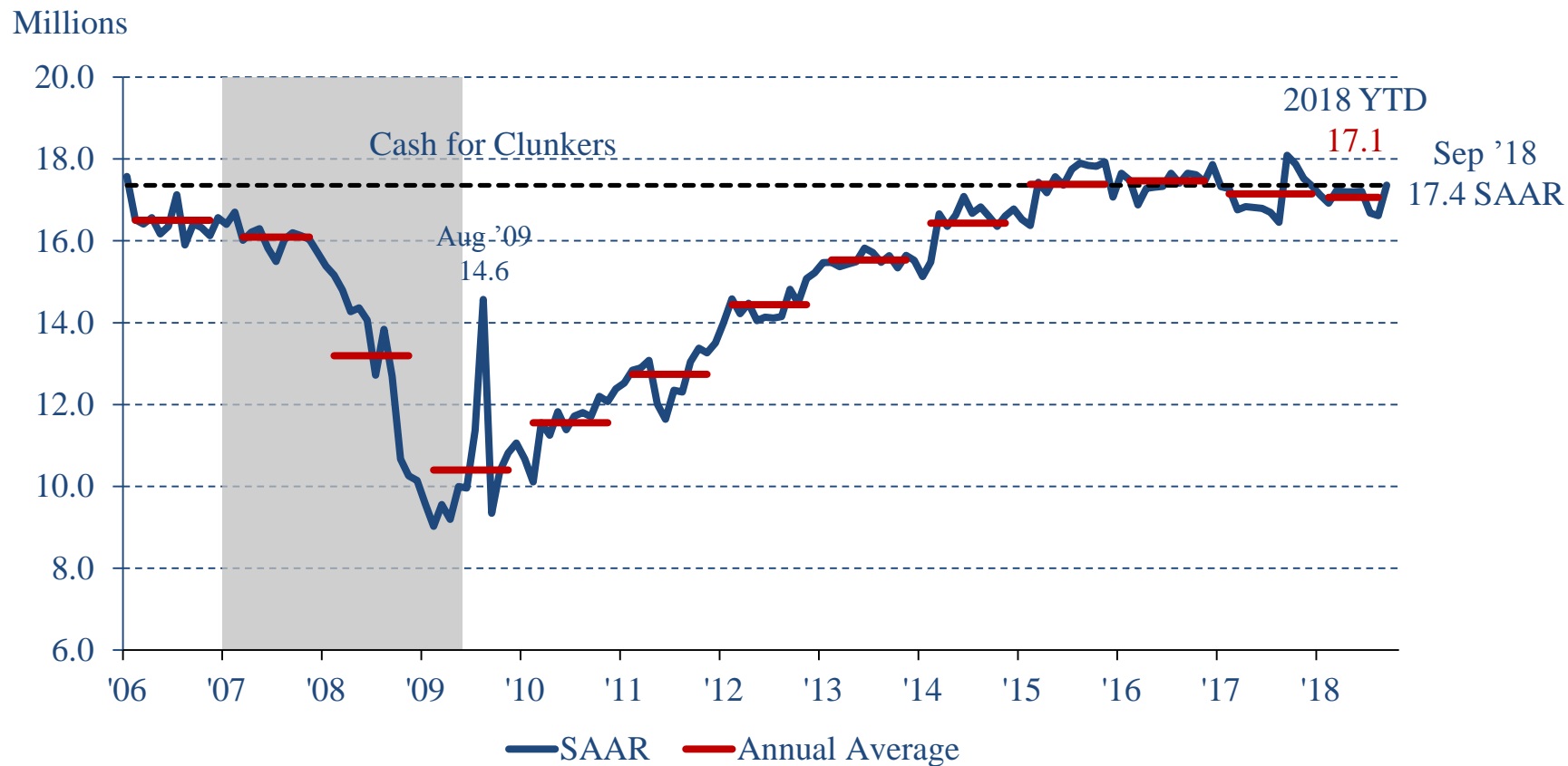


Source: Coindesk Bitcoin Price from Haver Analytics.

Automotive Industry

U.S. Light Vehicle Sales

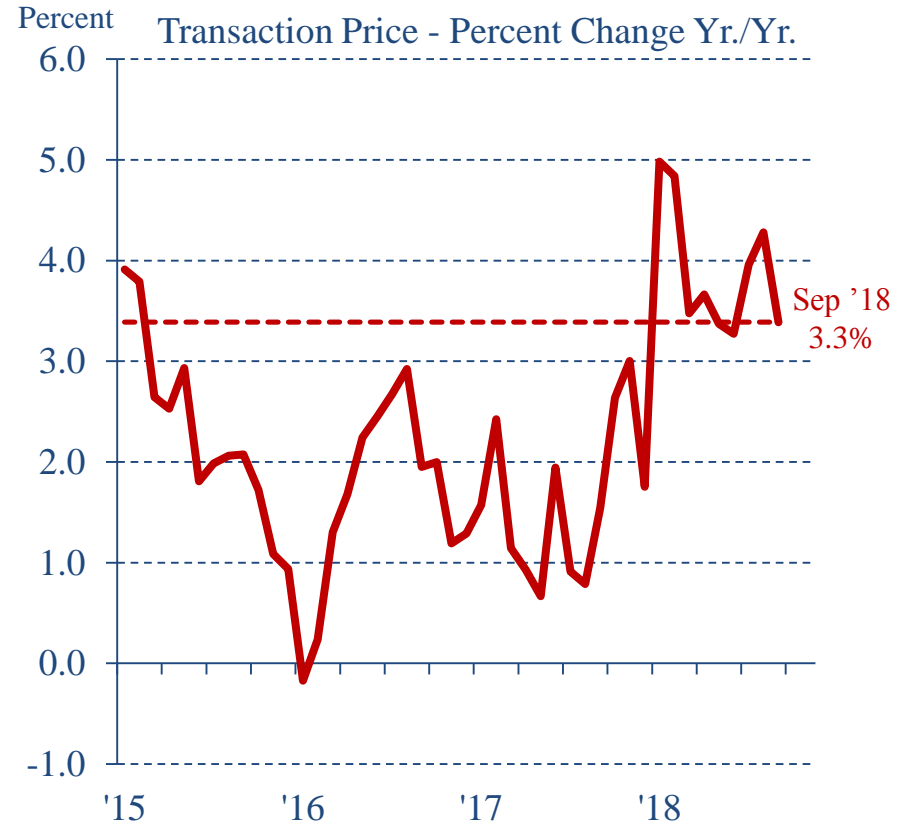
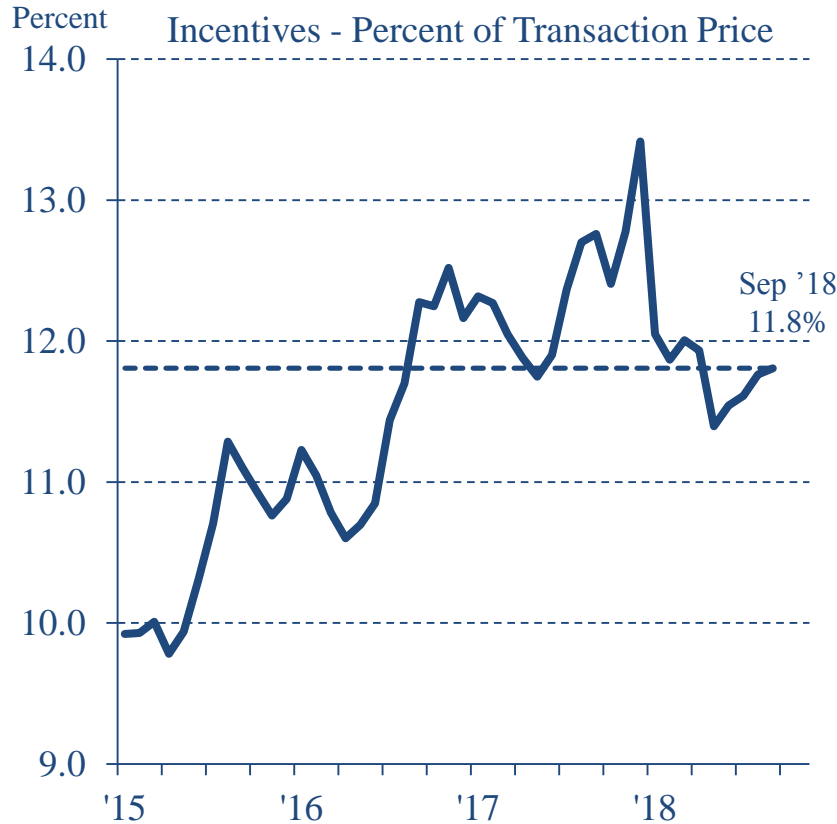
S.A.A.R – Millions of Units



Source: Ward's Automotive and BEA

Light Vehicle Incentives & Transaction Price

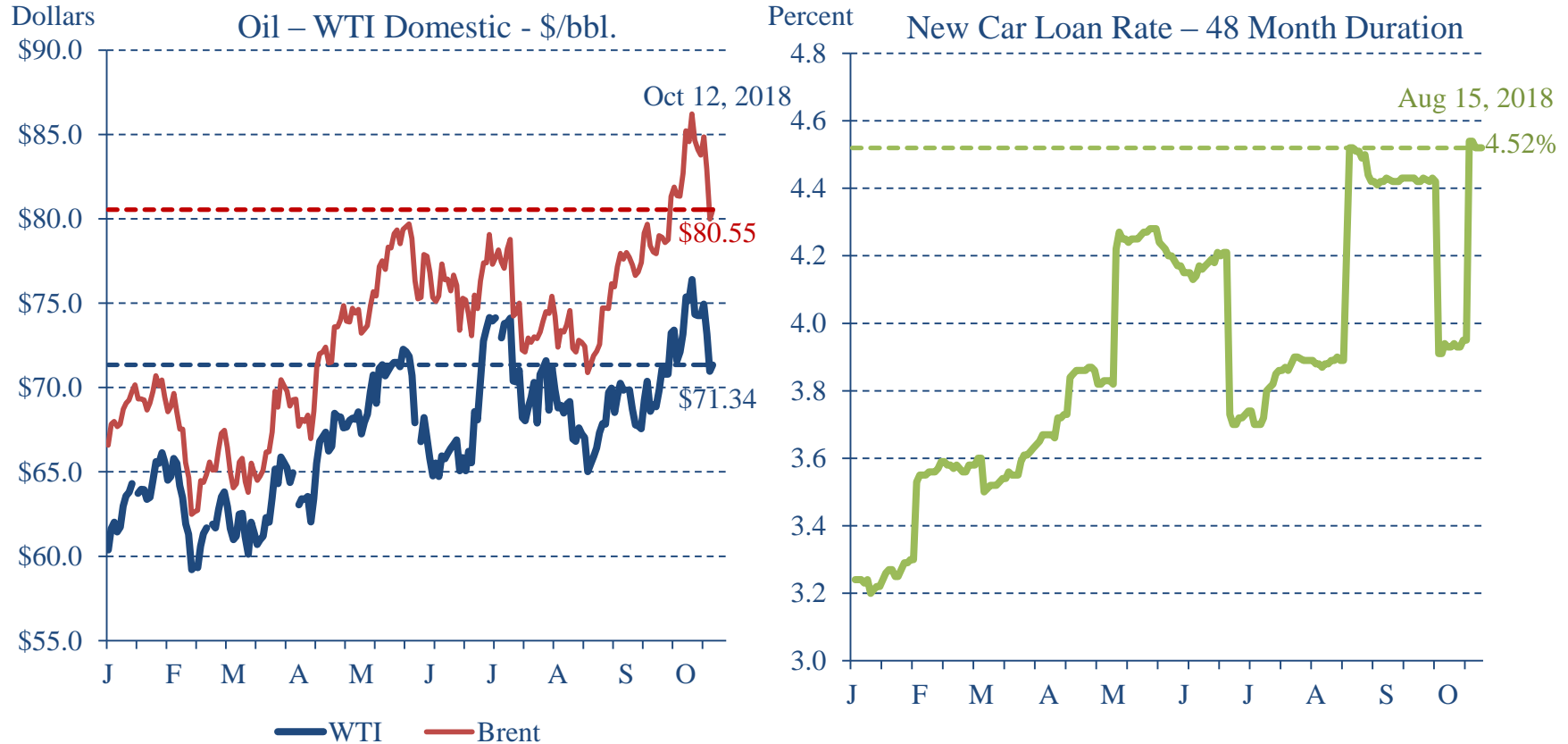
Percent of Transaction Price & Percent Change Yr./Yr. - SA



Source: J.D. Power and FOMC Board of Governors

Oil and New Car Loan Rate

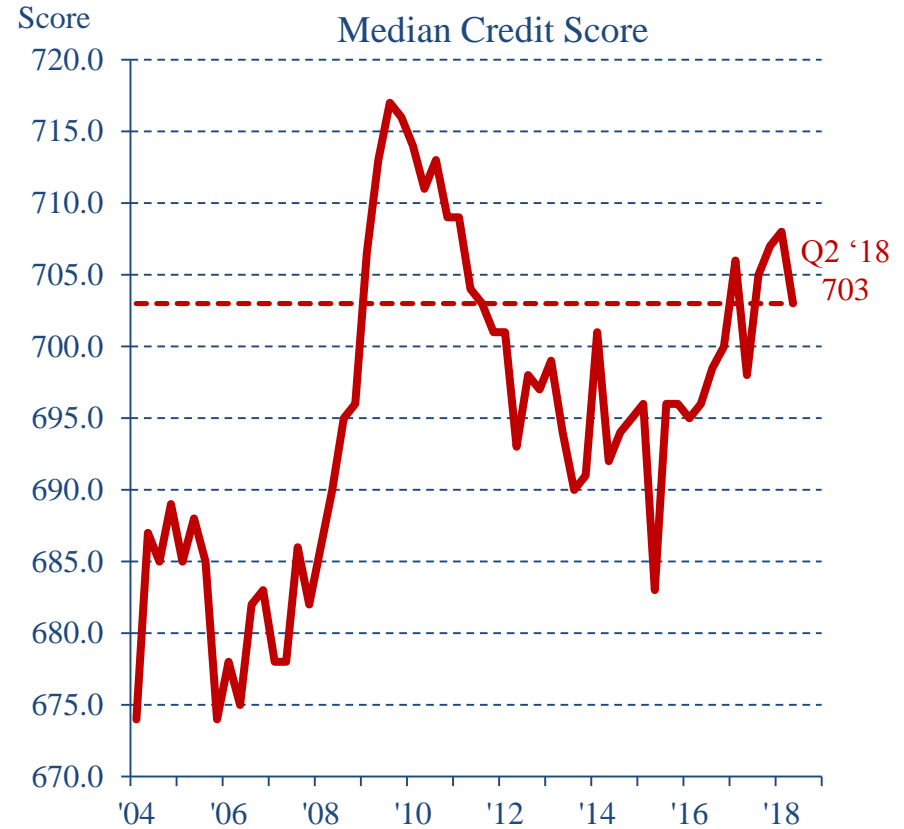
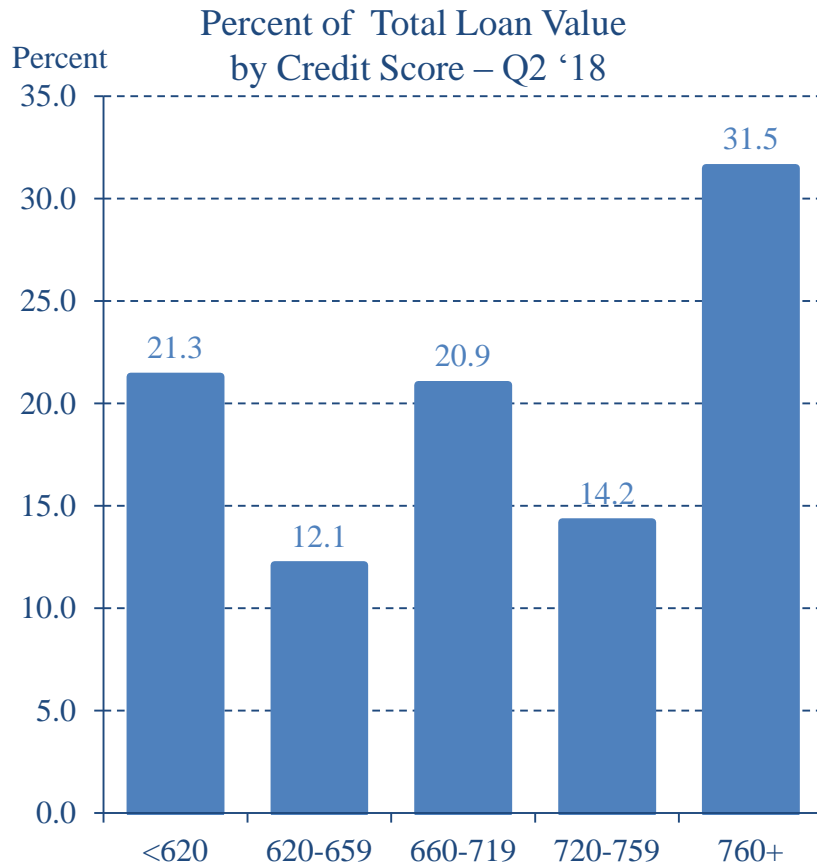
Current Dollars / bbl. and Percent



Source: EIA, WSJ, and Haver Analytics

Automotive Loan Quality

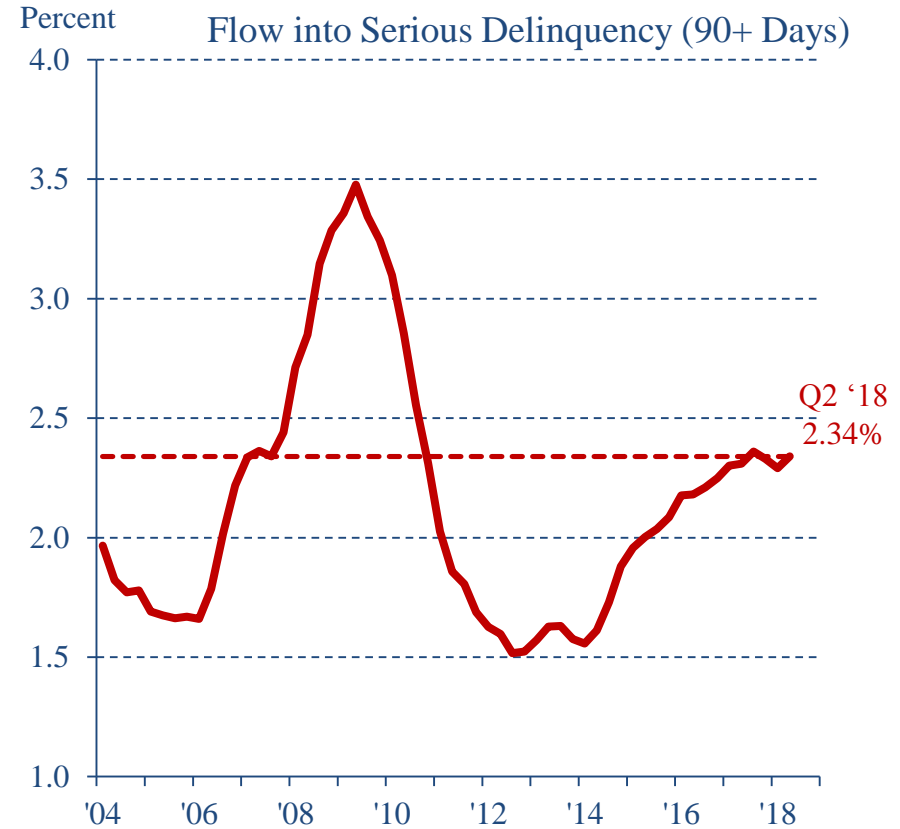
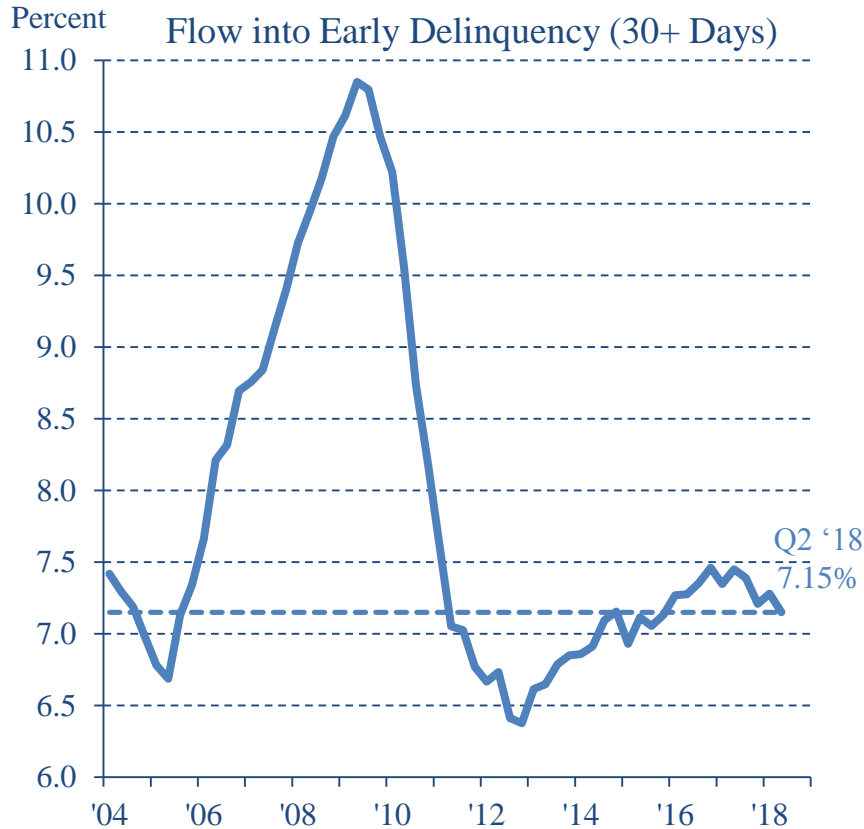
Percent of Loans by Credit Score and Median Credit Score



Source: Federal Reserve Bank of New York

Automotive Loan Flow into Delinquency

New Delinquent Balances as a Percent of Loan Balances



Source: Federal Reserve Bank of New York

Auto Loan Delinquencies

Percent of Loan Balance 90+ Days Delinquent



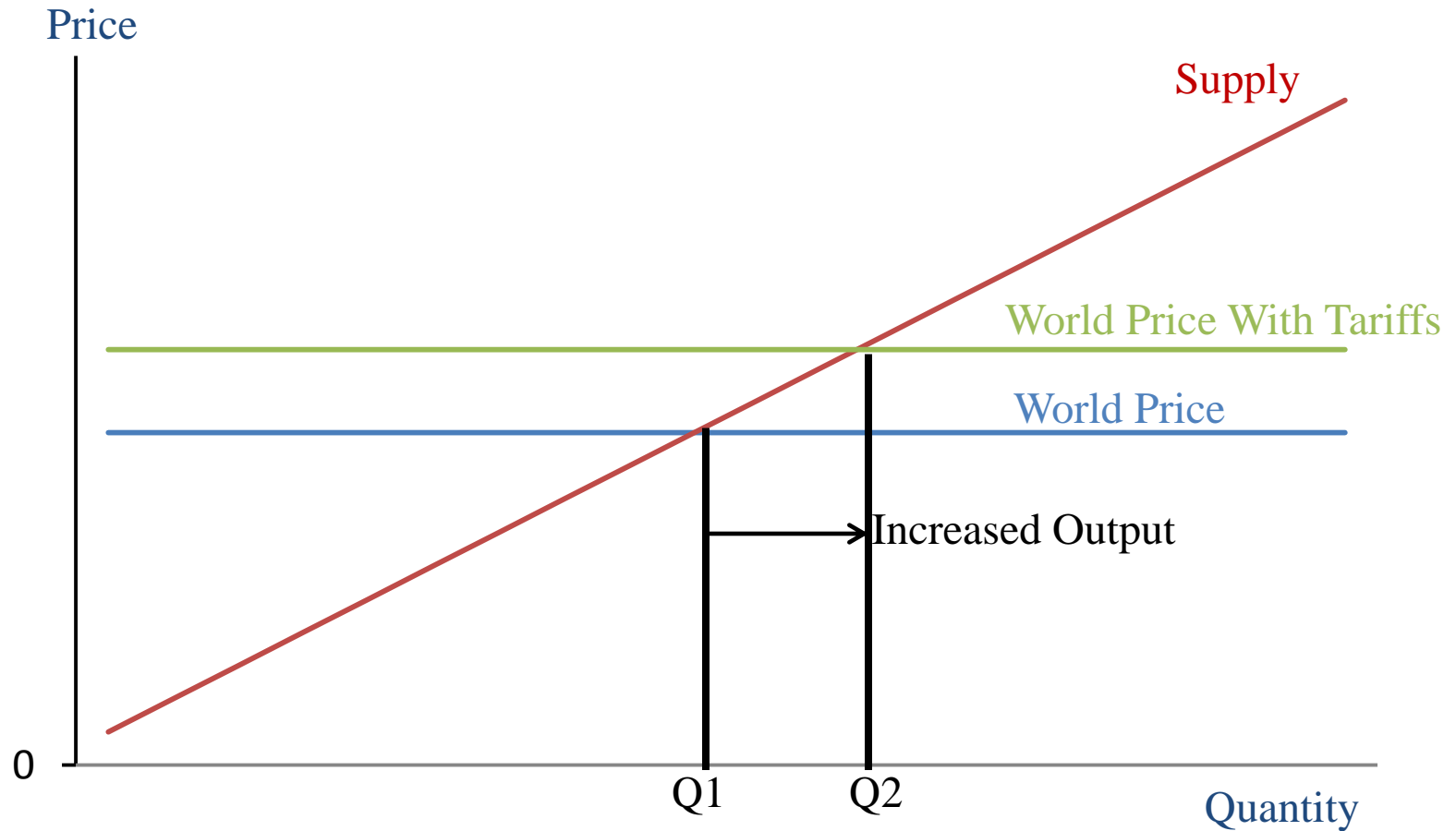
Source: Federal Reserve Bank of New York

Tariffs and the Auto Industry

- Increase prices and lower output
 - Tariffs on intermediate goods can lead to higher prices and less output of final goods
- Lead to retaliation (trade wars)
- Hurt lower and middle income consumers more than the wealthy
- Result in ineffective allocation of resources and protect inefficient domestic industries
- Lead to unintended consequences
 - Smoot-Hawley Act of 1930

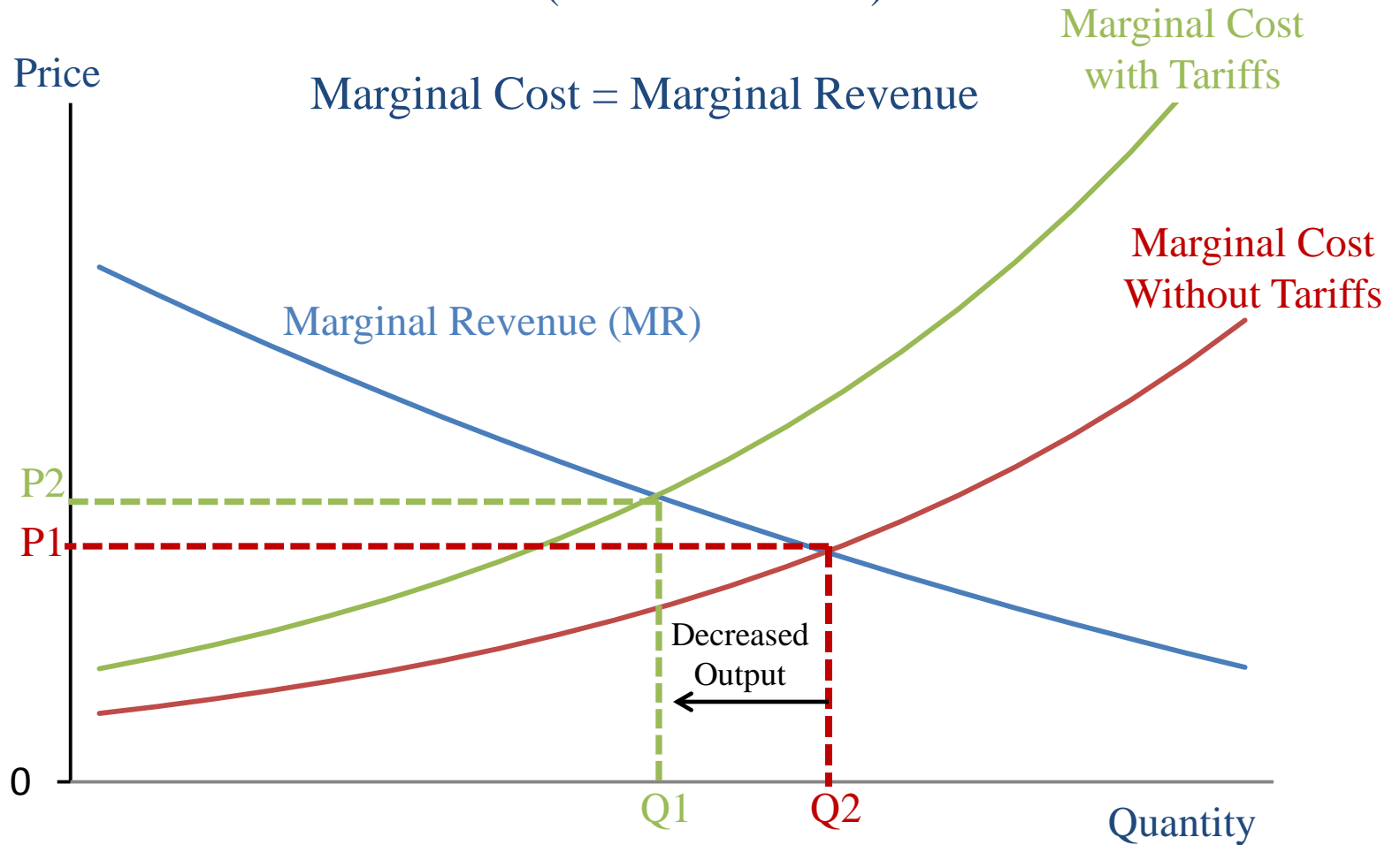
Trade and Tariffs

Impact on Intermediate Goods Production (Steel)



Trade and Tariffs

Impact on Final Goods Production (i.e. Automobiles)



U.S., Canada, and Mexico Trade

Proposed USMCA and the Auto Companies

- The negotiation were completed late on Sunday, September 30, 2018.
- The agreement states that starting in 2020 -
 - Cars and trucks must have 75% North American content, up from NAFTA's 62.5%, to qualify for zero tariffs.
 - Cars and trucks are required to have 30% of the work done on the vehicle by workers earning \$16 per hour.
 - This requirement gradually moves up to 40% for cars by 2023.
- Steel tariffs stay in place for now.
- Going forward 70% of steel and aluminum for automobiles must be sourced from North America.
- The United States reserves the right to impose National-security tariffs on vehicles and vehicle parts; however, the agreement creates conditional exemptions for Canada and Mexico.
- Trade negotiations with non-free-market countries are prohibited unless the other countries in the agreement are notified, at which time they can intervene.
- The agreement still needs to be approved by Congress.

Monetary Policy

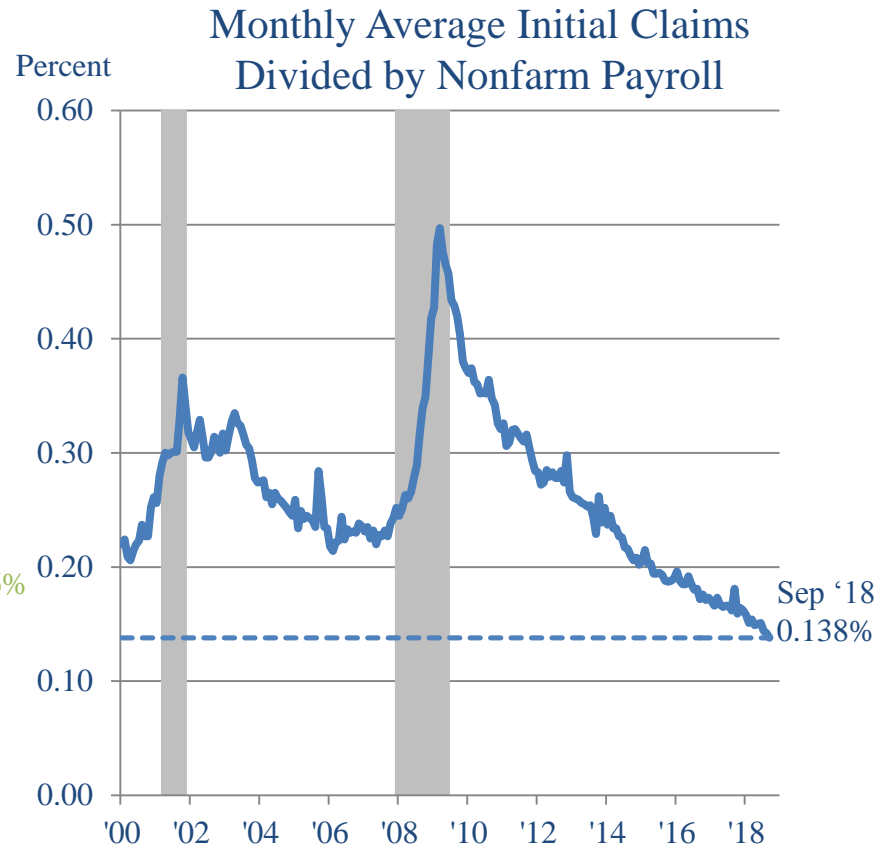
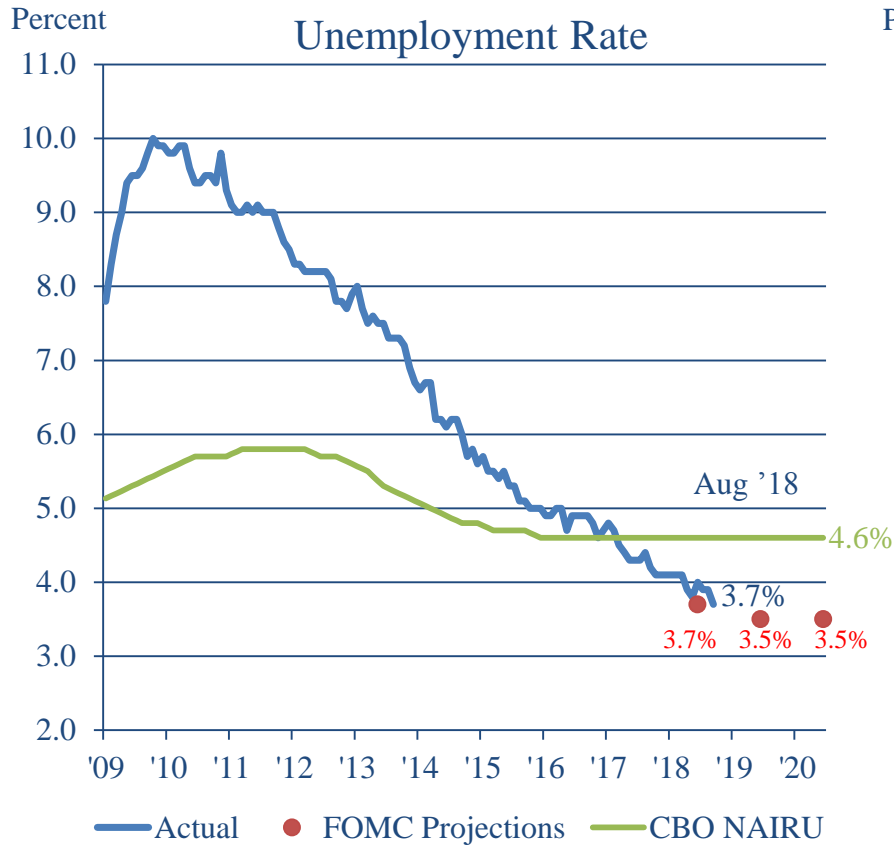
F.O.M.C Statement

September 26, 2018

1. Information received since the F.O.M.C. met in August 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.

Labor Conditions

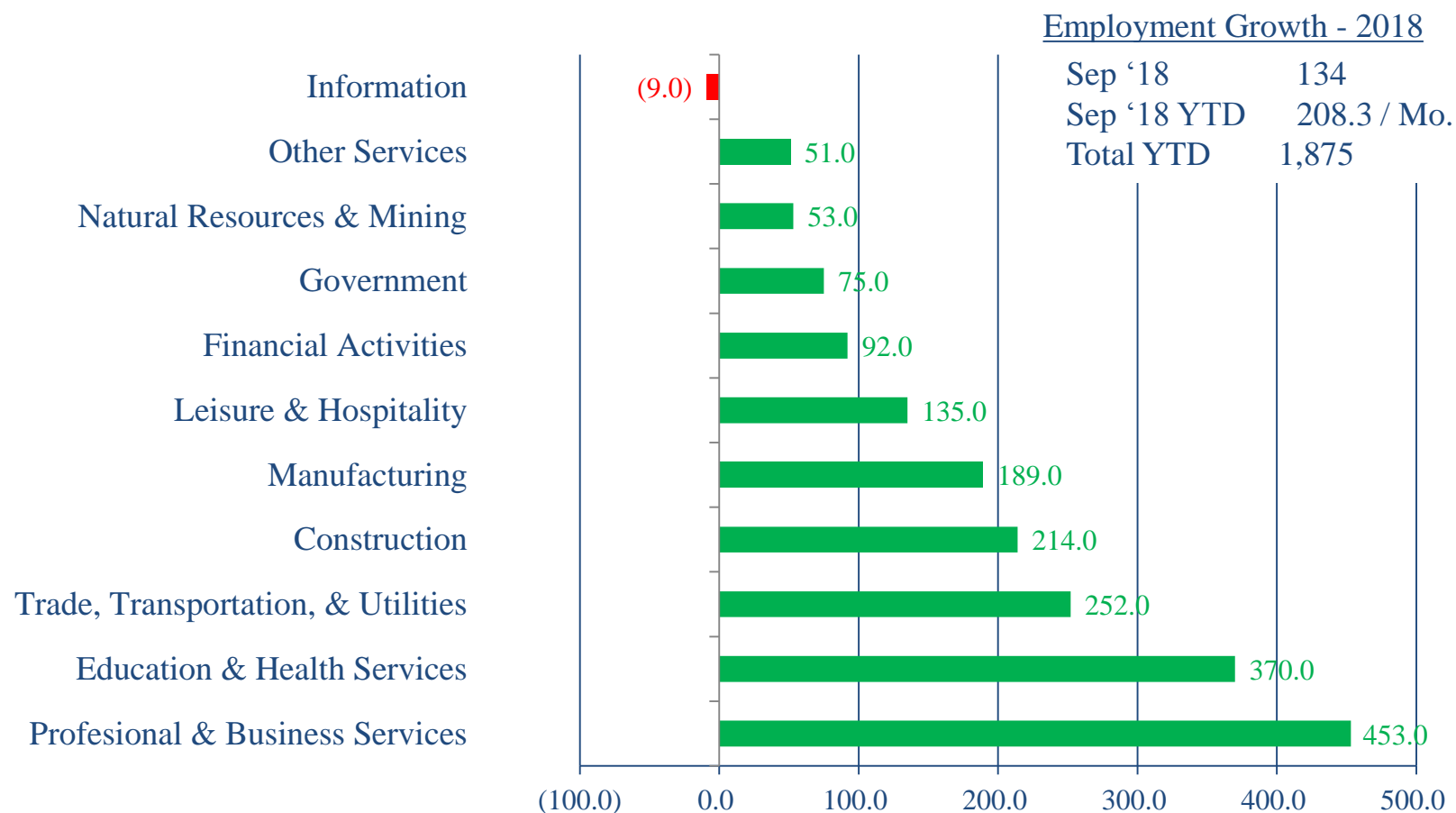
Unemployment Rate and Initial Claims



Sources: U.S. Department of Labor – Job Openings and Labor Turnover Survey, FOMC Projections – June 13, 2018

U.S. Nonfarm Payroll Employment Growth by Sector

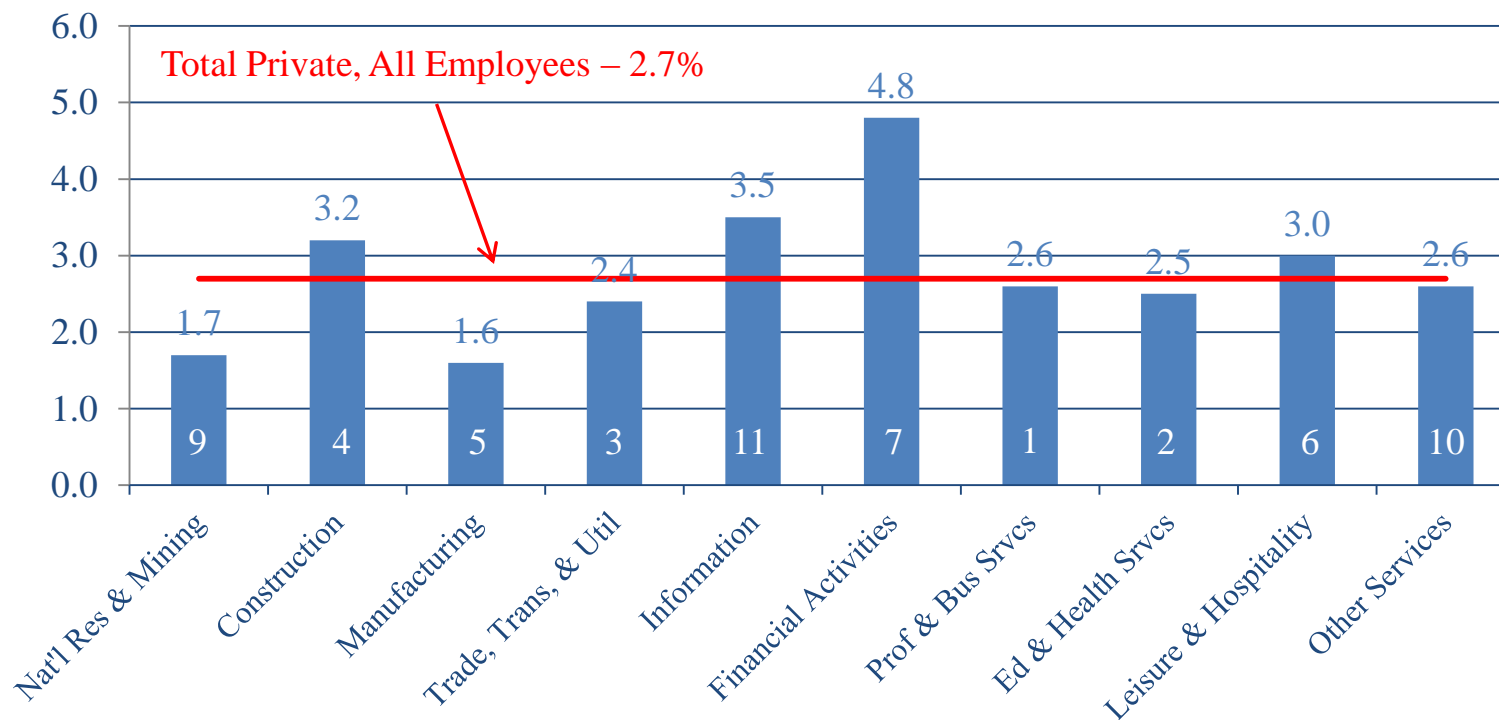
August '18 YTD, In Thousands



Source: U.S. Department of Labor

U.S. Private Nonfarm Payroll Wages by Sector

Average Percent Change Jan – Sep 2018

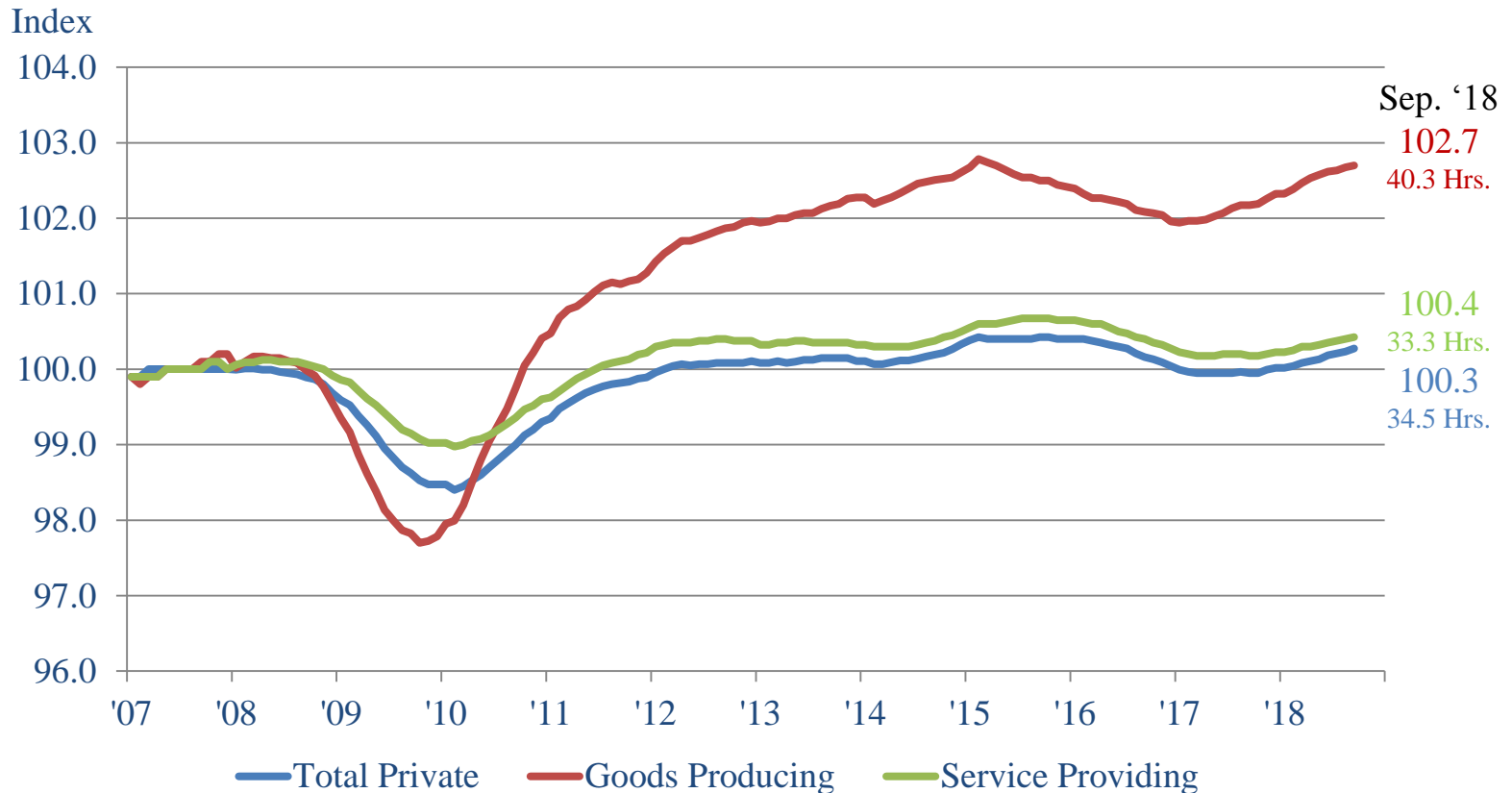


Note: The number inside the bars is the order of job creation.

Source: Bureau of Labor Statistics

Average Weekly Hours Worked

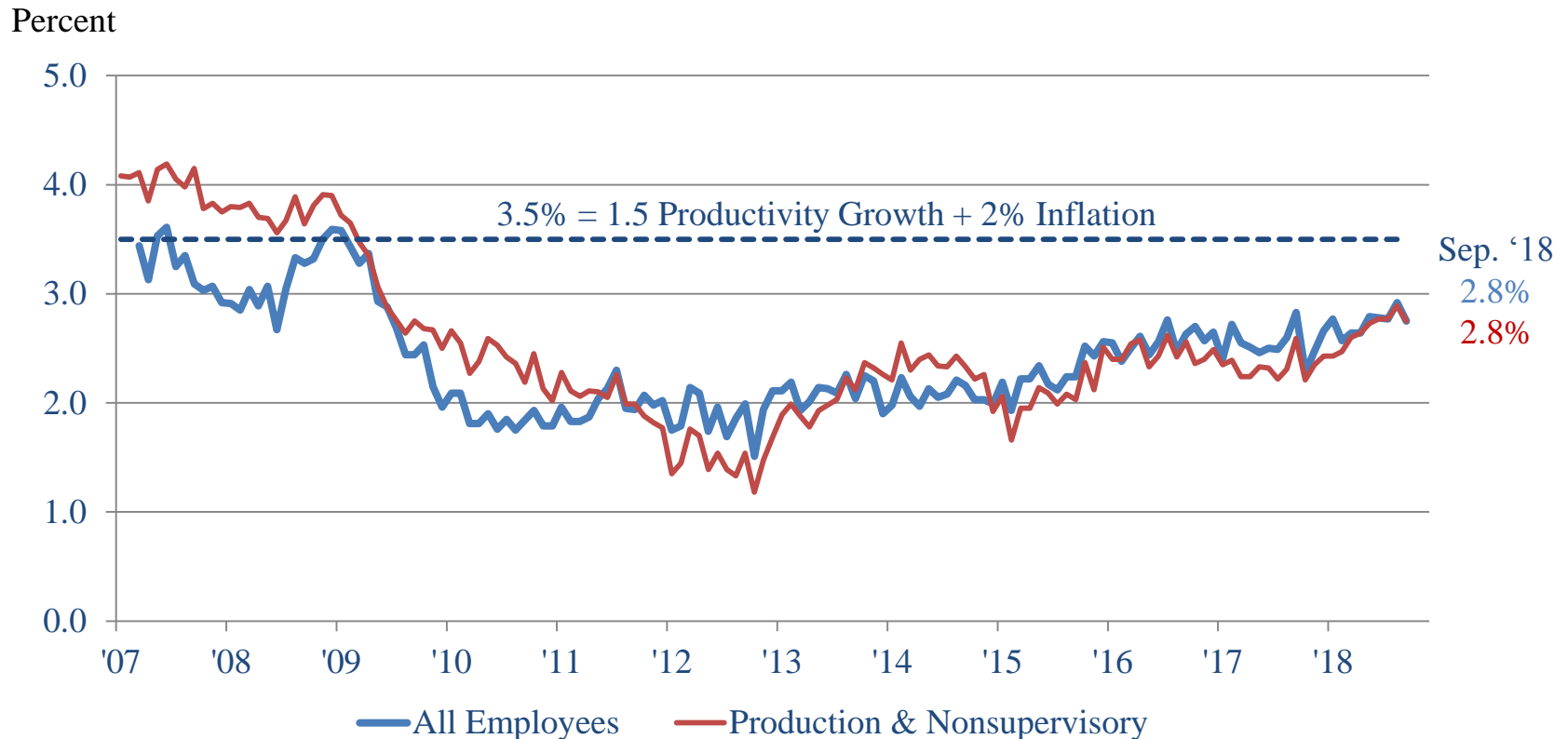
Private Workers, SA - 12 MMA, Index 2007 = 100



Sources: U.S. Bureau of Labor Statistics

Average Hourly Earnings – Private Employees

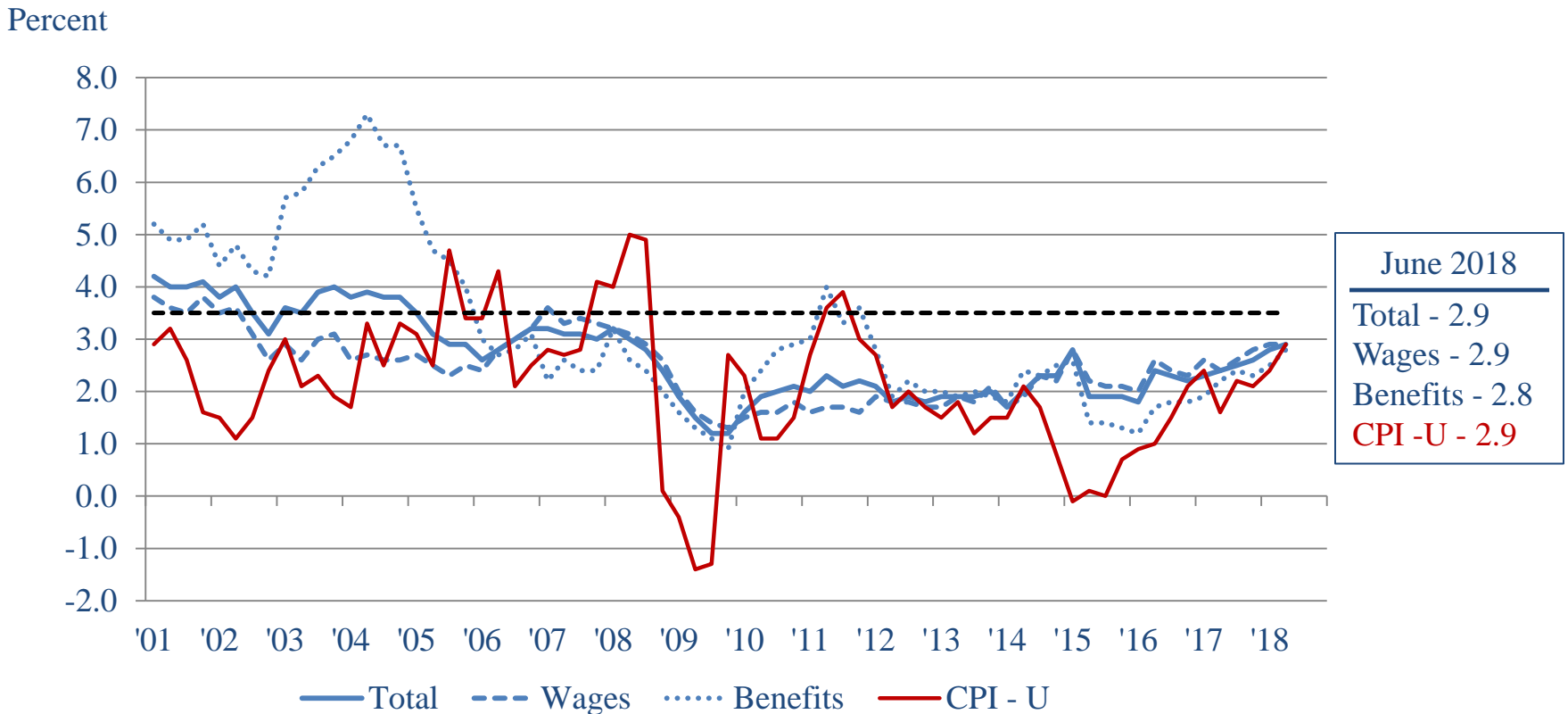
Percent Change Year / Year



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

Total Compensation – Wages, Benefits & CPI

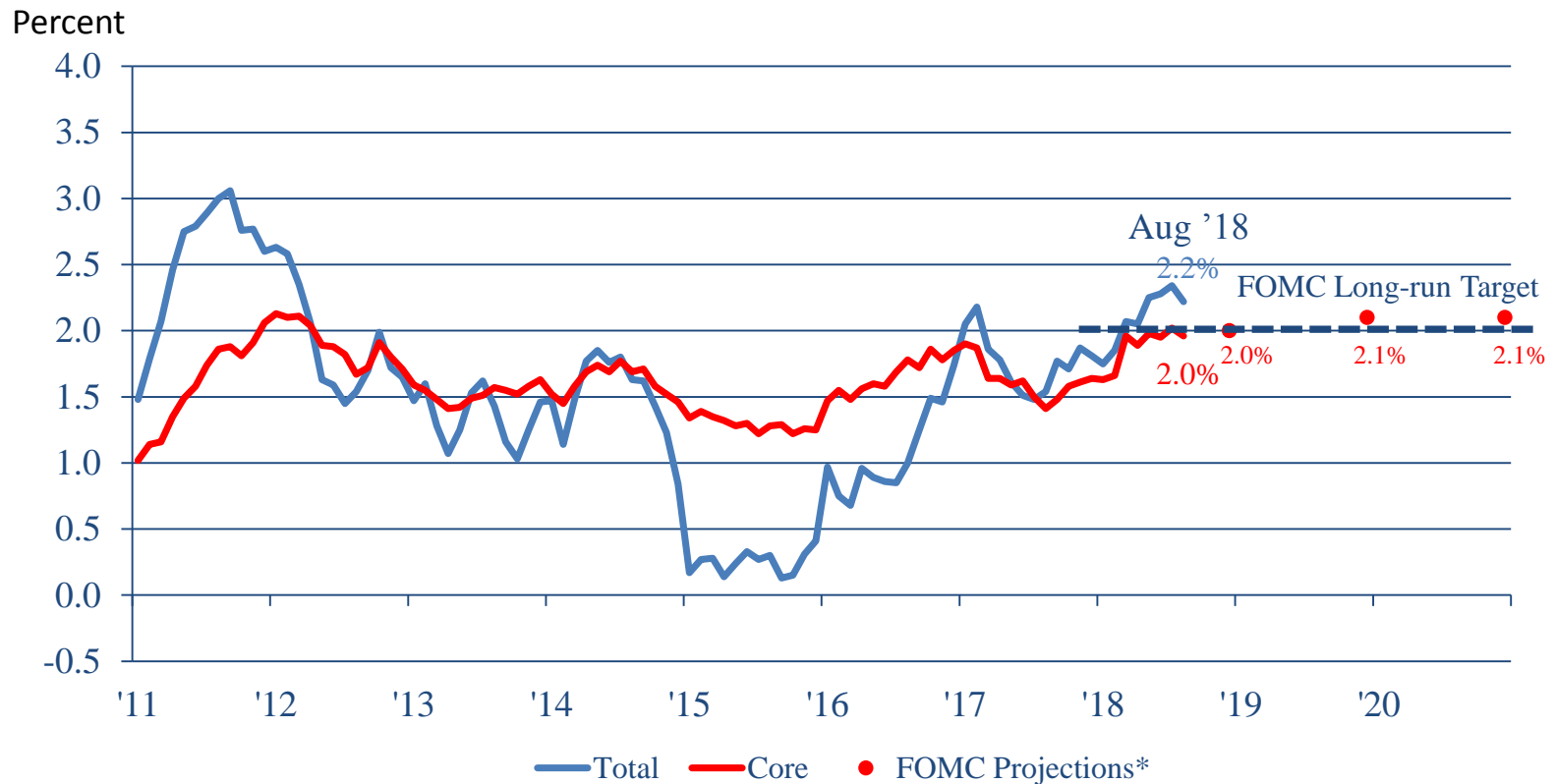
Private Employees - Percent Change Yr./Yr., Quarterly NSA



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

Consumer Prices

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

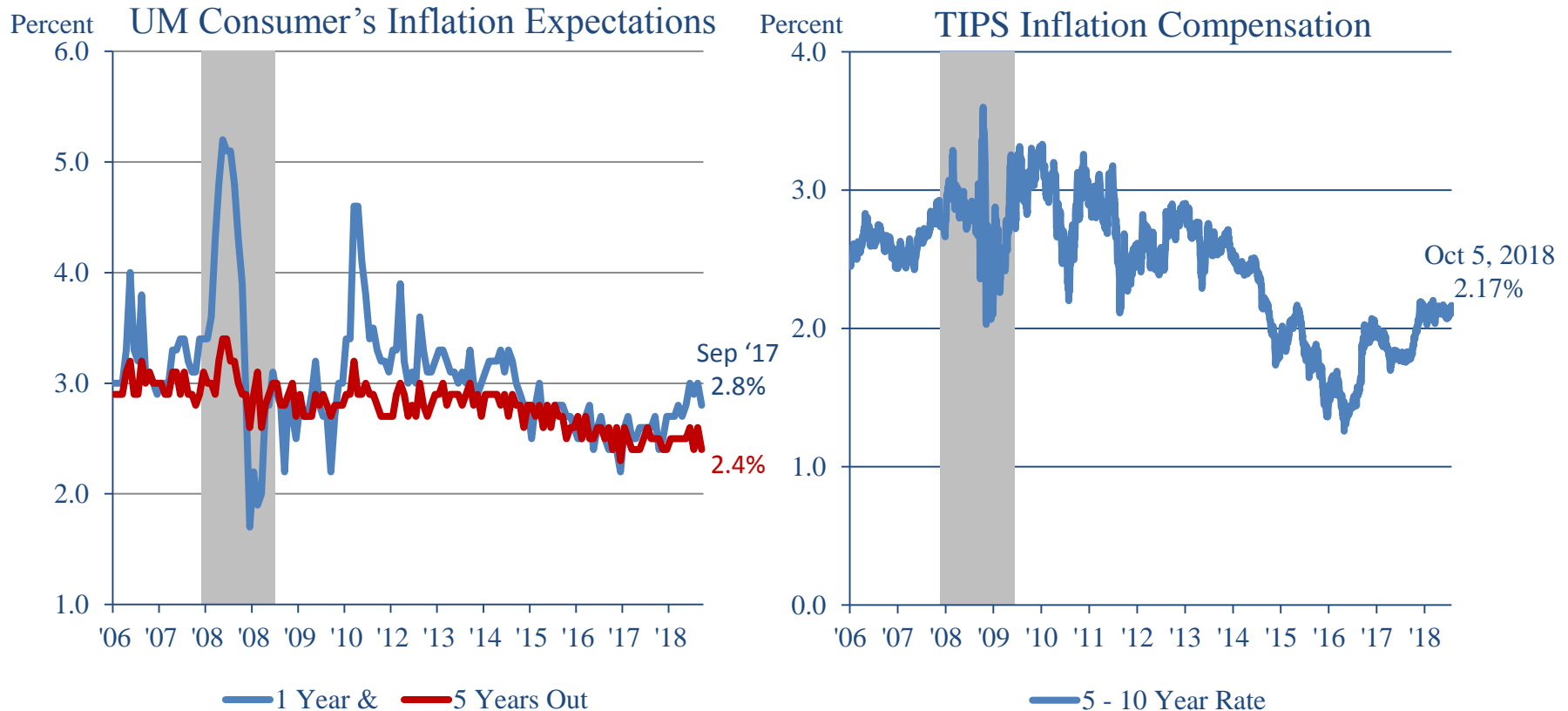


* Midpoint of the central tendency of forecasts made by the FOMC participants as of June 13, 2018

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

Inflation Expectations

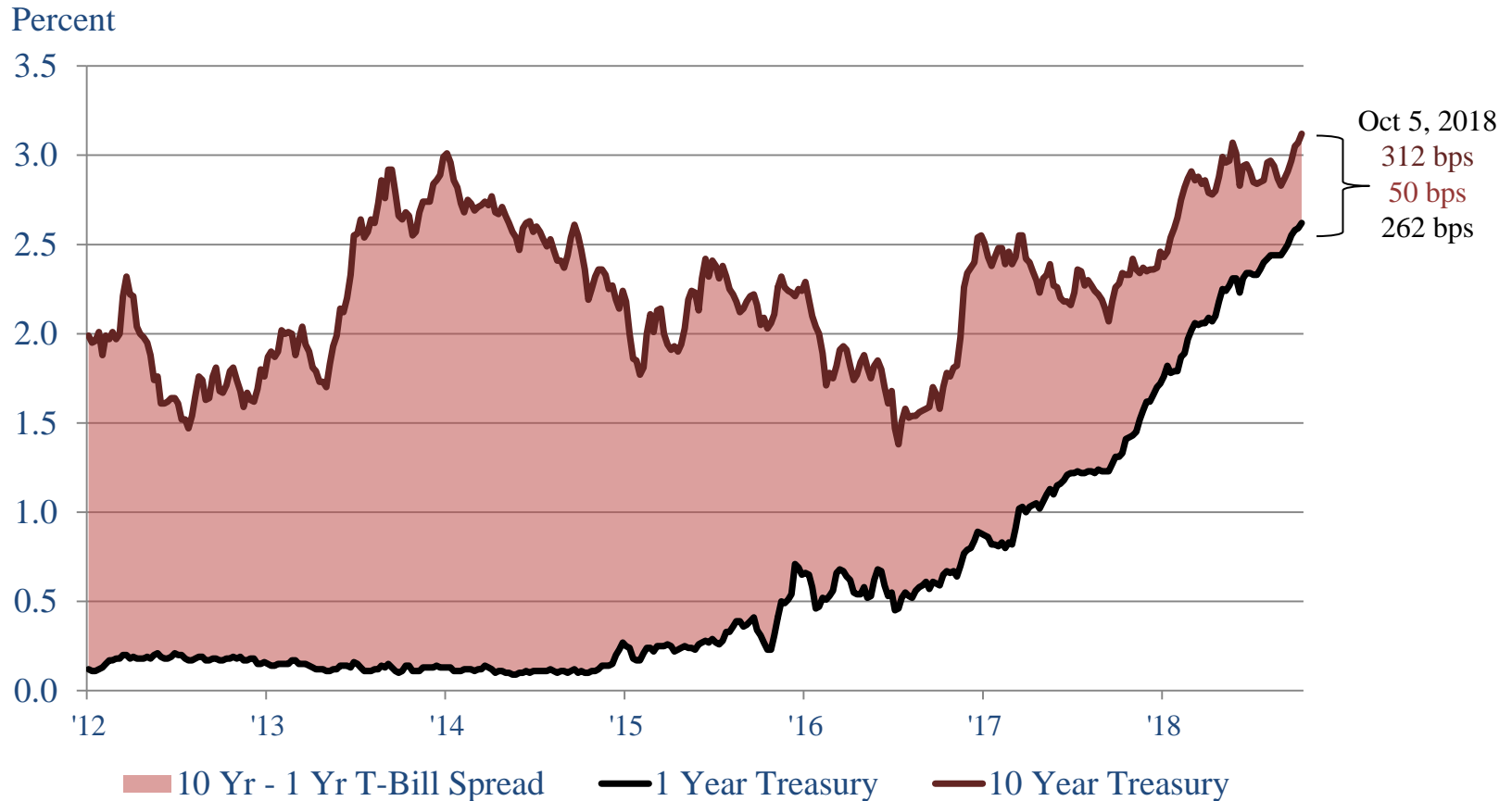
1-5 Year and 5-10 Year Inflation Expectations



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

Yield Curve

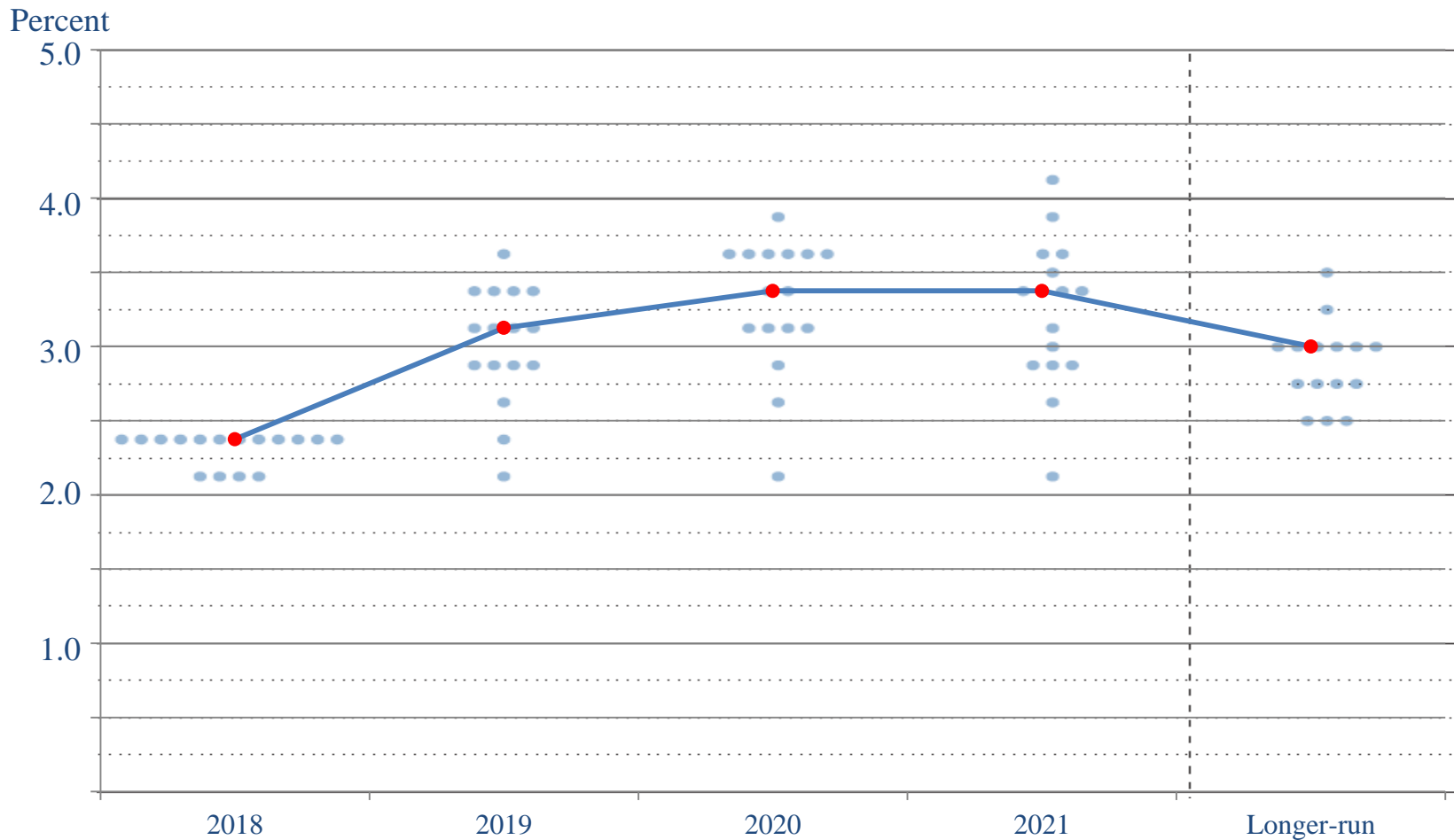
10 Year – 1 Year Treasuries in Basis Points



Source: Board of Governors – Federal Reserve System

Appropriate pace of policy firming

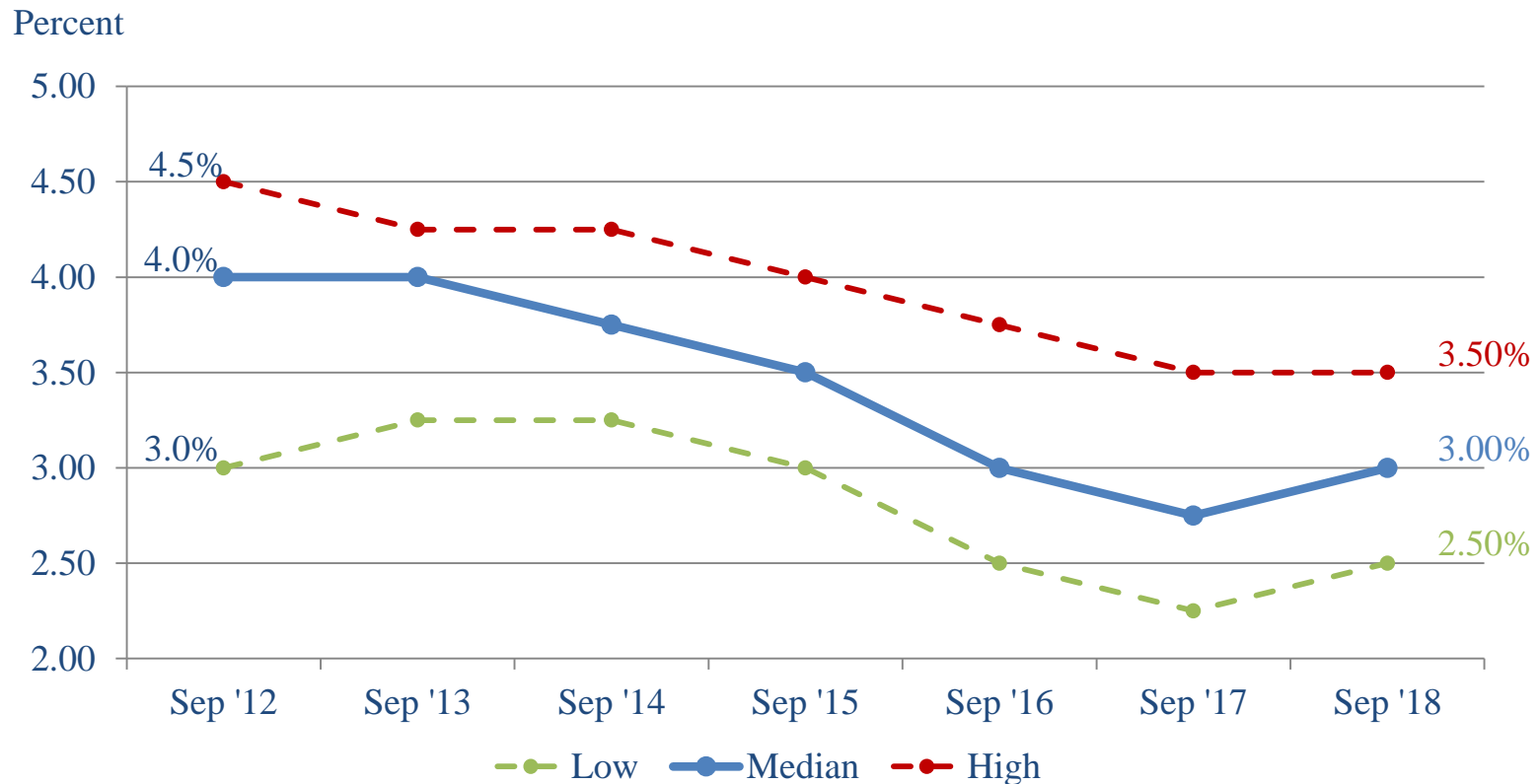
Fed Funds Rate – Year End Projections



Source: Federal Reserve - F.O.M.C. participants, September 26, 2018

Target Federal Funds Rate

Long Run Projections



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

Thank You!