

# The Economy and the Fed

UM-D Alumni Day 2017

**Federal Reserve Bank of Chicago**

April 8, 2017

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# The Federal Reserve System



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

# Why the Current Structure Exists

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- The organization of the Fed reflects the long-standing history in America to ensure power over the nation's monetary policy and financial systems is not concentrated in the hands of a few.
- Monetary policy and financial matters need to be influenced by a diverse set of voices from all parts of the country and the economy.
- The structure of the Fed was designed to achieve this broad representation, promote a stronger financial system, and protect the nation's economy against the periodic financial damage that was frequently experienced in the 19<sup>th</sup> and early 20<sup>th</sup> centuries.<sup>1</sup>

1. The United States experienced numerous financial crises in its early history with major crises in 1839, 1857, 1873, 1873, 1893 and 1907.

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

# Before the Federal Reserve

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- 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 a central bank.

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

# Functions of the Federal Reserve

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- 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”

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- 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."

# Goals of Monetary Policy

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- Price stability
  - Since 2012, explicit 2% objective for PCE inflation
  - Target is for an average over medium term – it is not a ceiling
  - Explicit statement should help anchor expectations
- Full employment
  - The appropriate employment goal may change over time for nonmonetary reasons
  - Seek an economy operating at its level of potential output
  - June 2016 FOMC median projection: 4.8%
- Balanced approach
  - Take balanced approach when shocks push the economy away from objectives
  - Takes account of lags in effects of monetary policy and other limits

# Importance of Price Stability

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- 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

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- 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

# Tools of Monetary Policy

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- 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 an Independent Fed

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- Policymakers, academics, and other informed observers around the world agree that the goals of monetary policy should be established by the political authorities, but the conduct of monetary policy in pursuit of those goals should be free from political influence.\*
- The Fed has congressionally mandated goals of price stability, maximum employment, and moderate long-term interest rates.
- Many studies support a central bank's ability to conduct day-to-day monetary policy operations free of political pressure tend to deliver better inflation outcomes, without compromising economic growth.
- Achieving monetary goals can at times take substantial time, this requires that monetary policy makers take a longer-term perspective when making their decisions.

\* Source: Board of Governors of the Federal Reserve

# Importance of an Independent Fed (con't)

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- In contrast, short-term political influences may cause pressure to over stimulate the economy resulting in output and employment gains that exceed the economy's underlying potential.
- Such gains may look good at first, but they are not sustainable and will likely create an inflationary environment that is detrimental to longer-term economic growth.
- In short, monetary policy interference can generate boom-bust cycles with high inflation and less stable economic activity.
- Additionally, a government that controls the central bank could abuse the central bank's money-creation powers to help finance government budget deficits which would inevitably lead to high inflation and interest rates and a volatile economy.

\* Source: Board of Governors of the Federal Reserve

# Current Economic Conditions

# Main Economic Indicators

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## Year-over-year Comparison

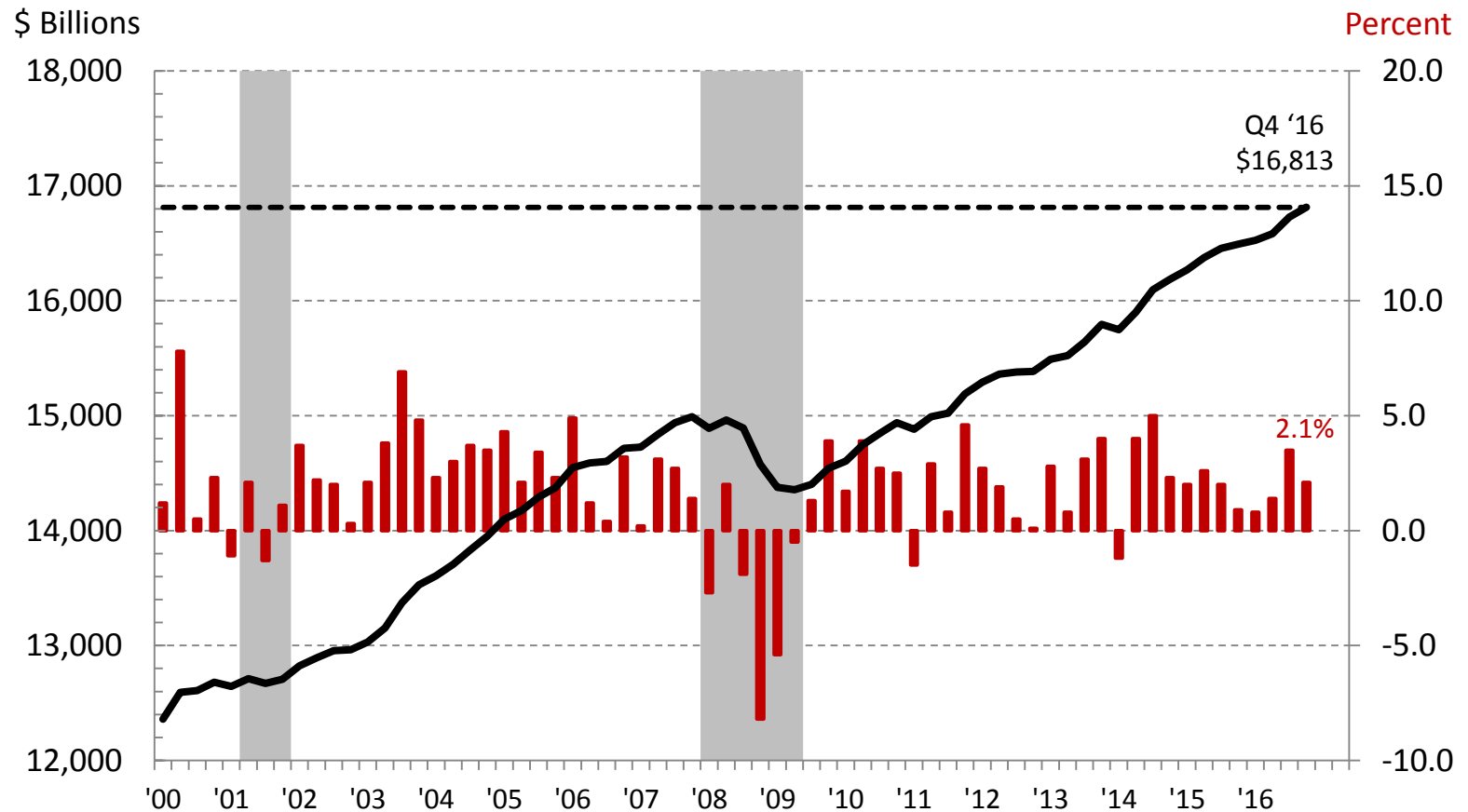
|   | <u>2014</u> | <u>2015</u> | <u>2016</u> |
|---|-------------|-------------|-------------|
| GDP – Annual Growth Rate <sup>1</sup>     | 2.4%        | 2.6%        | 1.6%        |
| Unemployment Rate <sup>2</sup>            | 6.2%        | 5.3%        | 4.9%        |
| Participation Rate <sup>2</sup>           | 62.9%       | 62.7%       | 62.8%       |
| Nonfarm Job Growth <sup>3</sup>           | 2,998       | 2,713       | 2,240       |
| PCE Core Inflation Yr. / Yr. <sup>4</sup> | 1.6%        | 1.4%        | 1.7%        |

1. Year-over-year (Q4/Q4)
2. Annual Average
3. Annual Average Employment – Year-over-year change in thousands
4. Annual Average PCE Core – Percent change year-over-year

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

# U.S. Real GDP

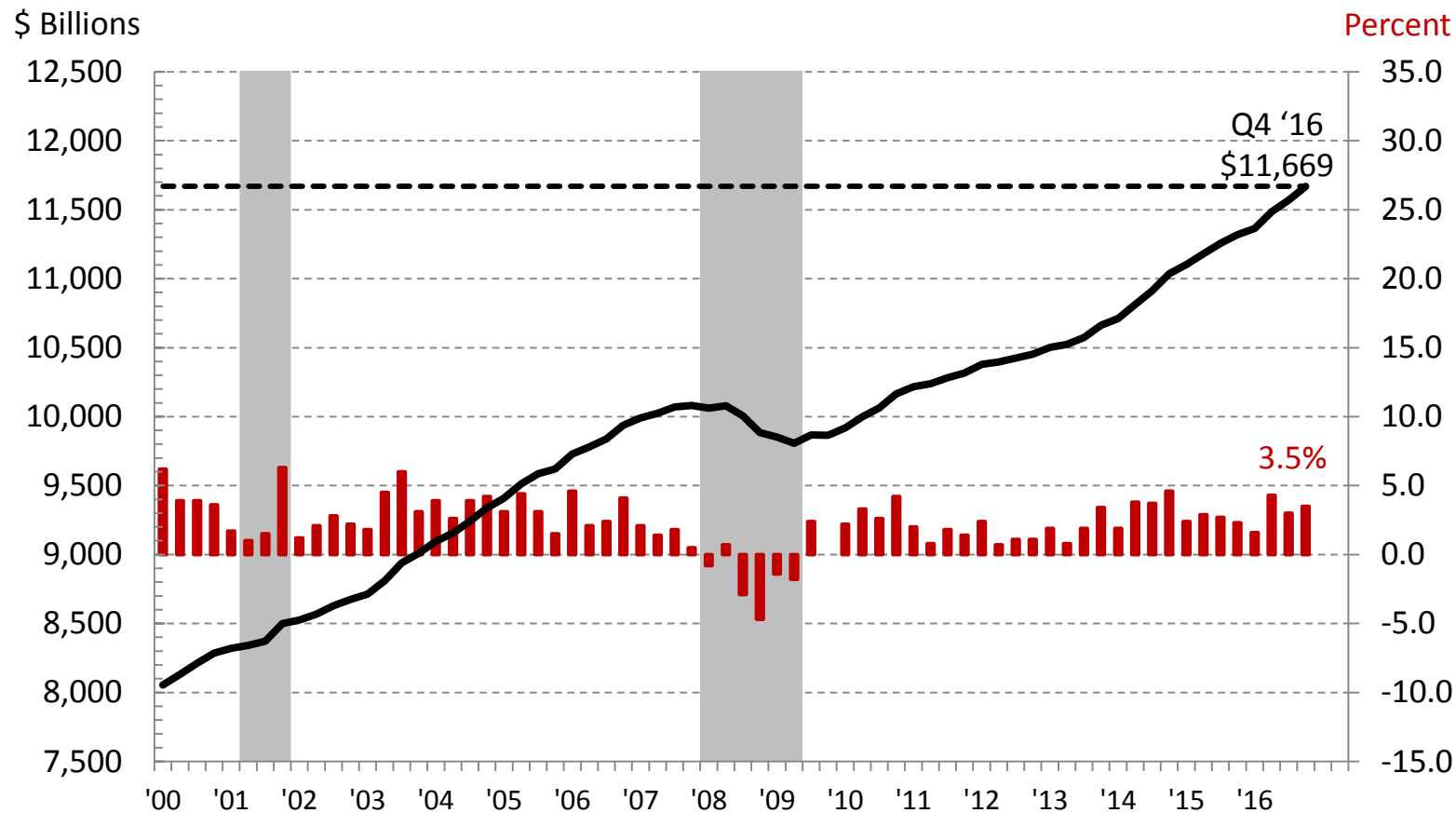
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

# Real Personal Consumption Expenditures

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

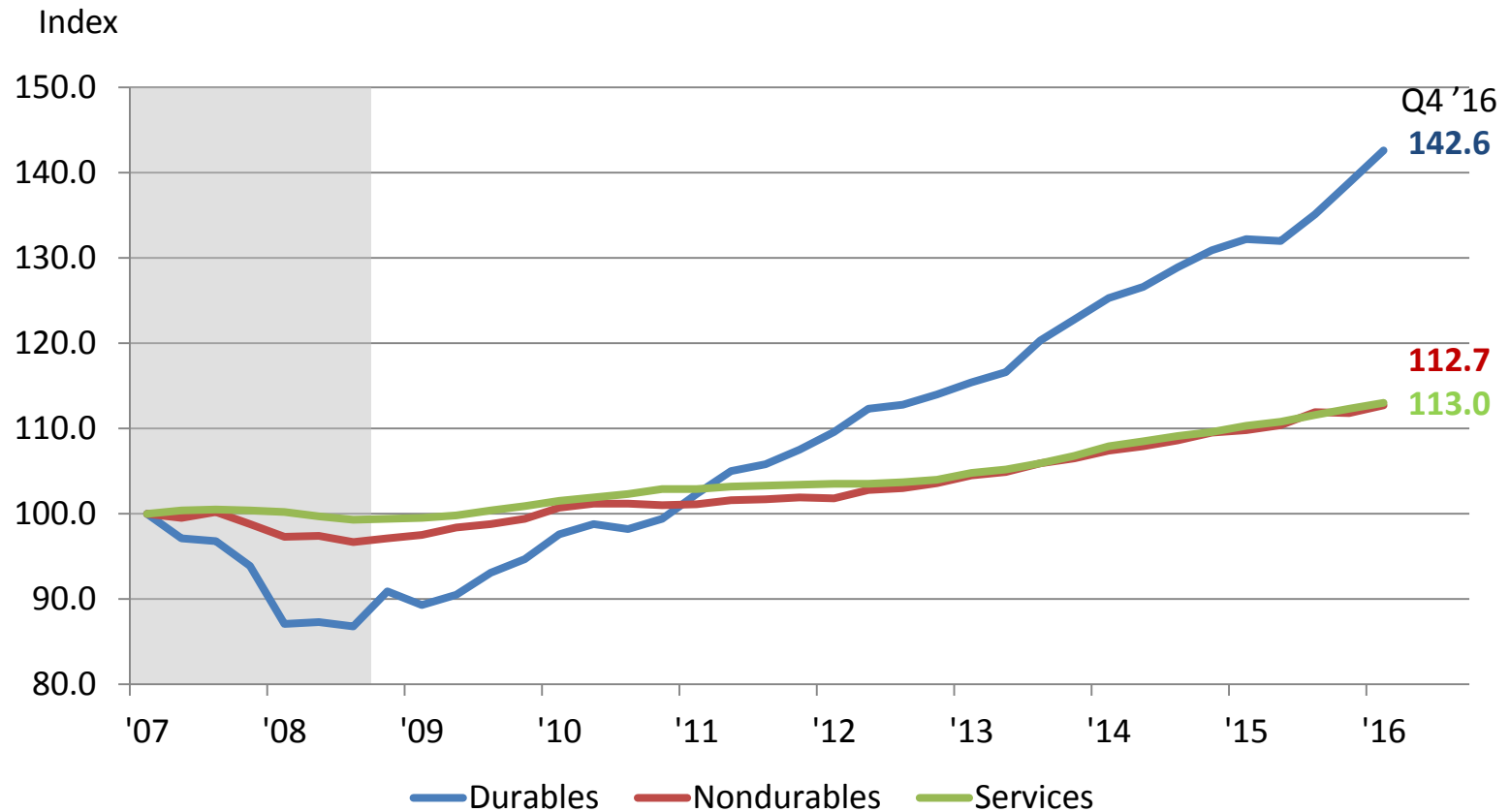


Source: U.S. Bureau of Economic Analysis



# Real Personal Consumption Expenditures

Index, Q4 2007 = 100

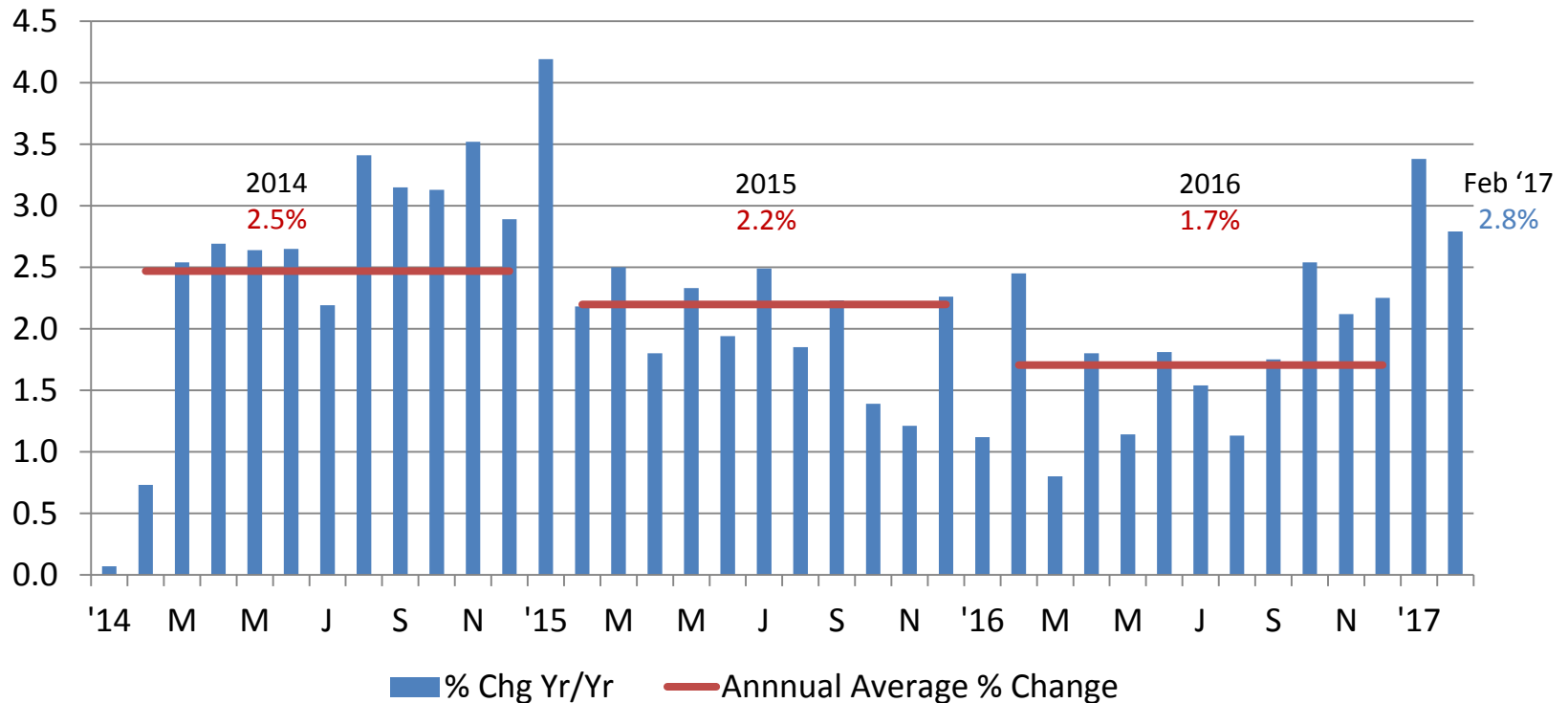


Source: Author's calculations using data from the BEA

# Real Retail Sales

## Retail and Food Services - % Change Yr./Yr.

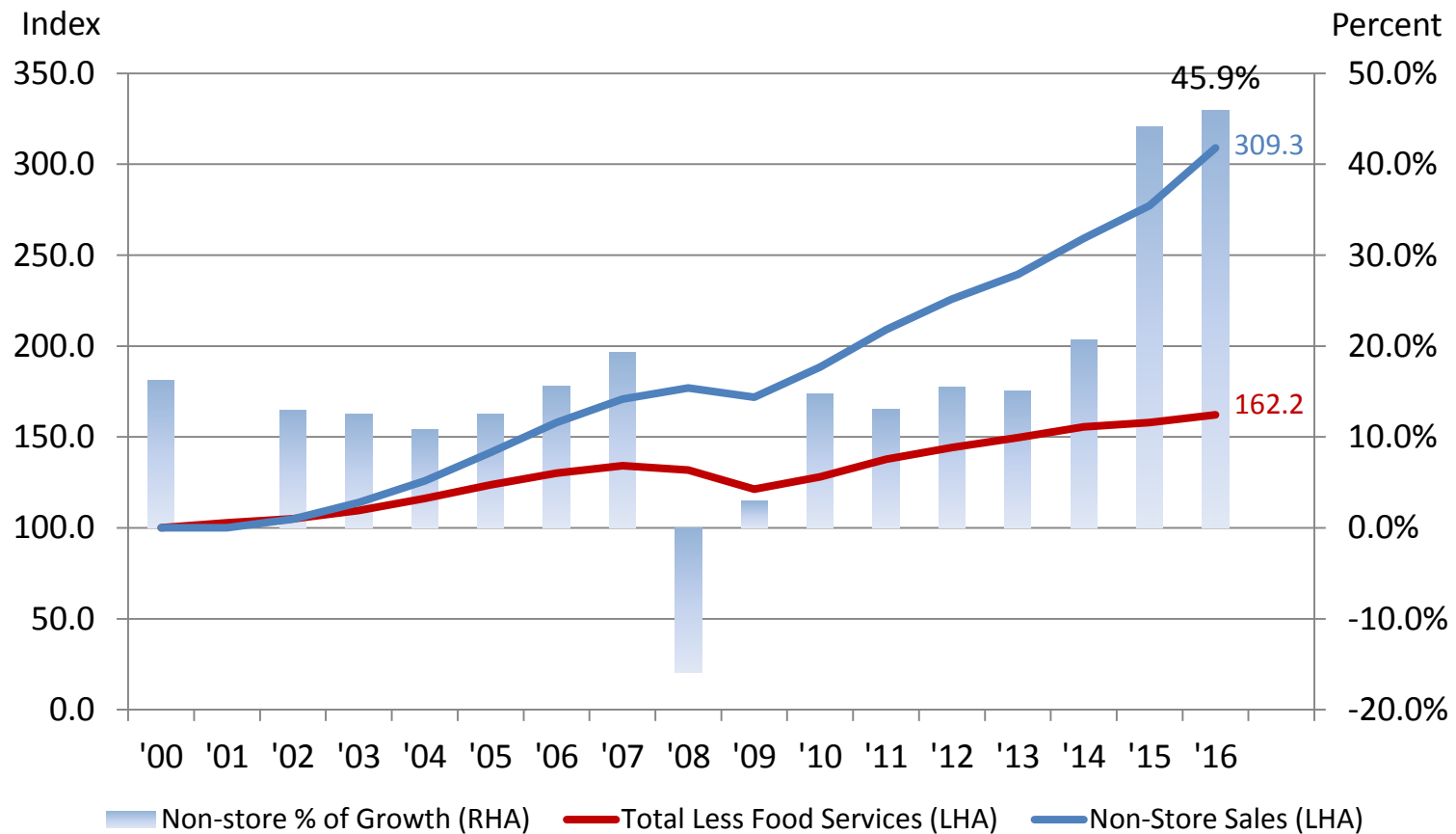
Percent



Source: Bureau of the Census

# Retail Sales – Non-store Sales

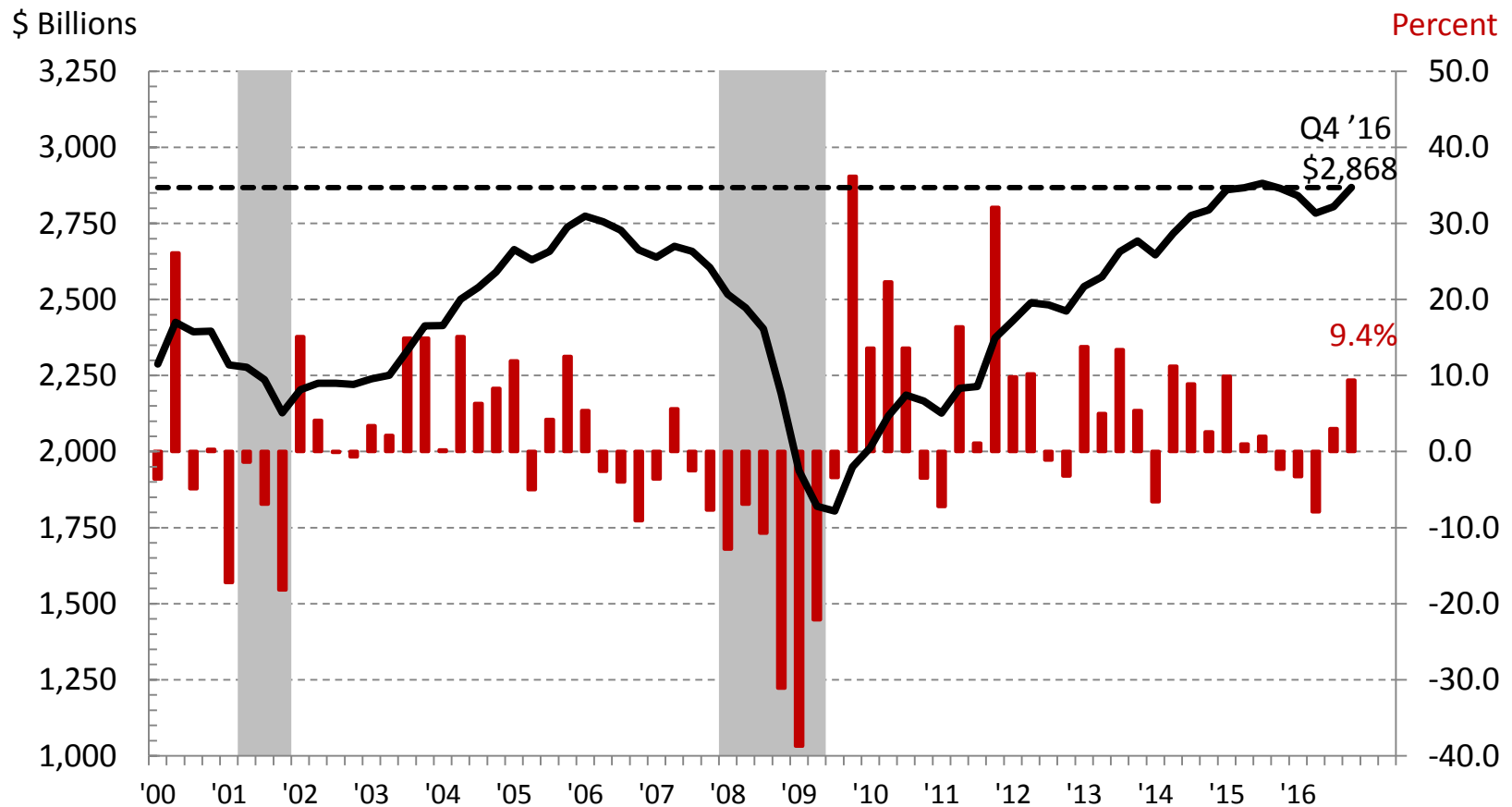
Index 2000 = 100 and Share of Growth



Source: Bureau of the Census

# Real Gross Private Domestic Investment

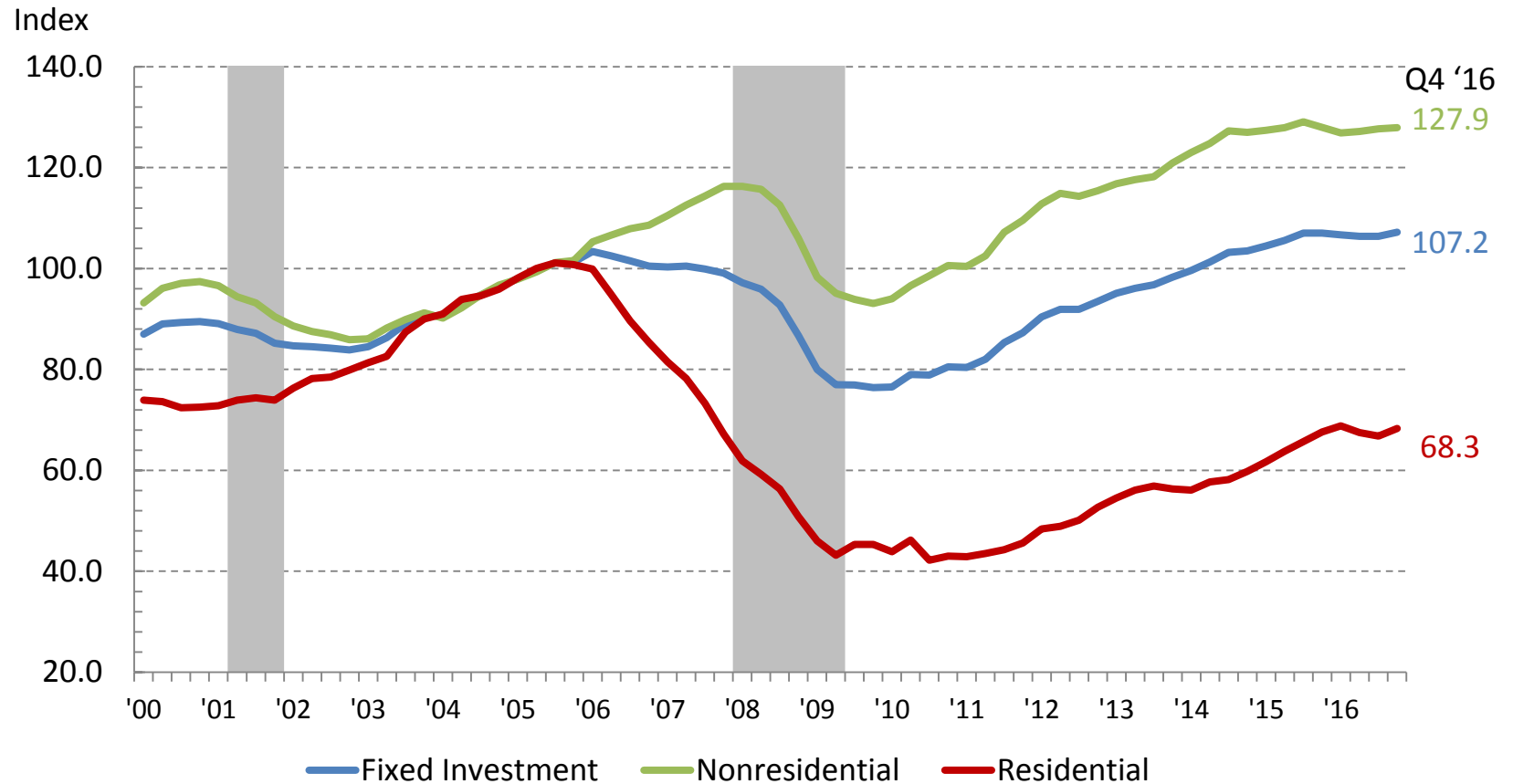
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

# Real Domestic Fixed Investment

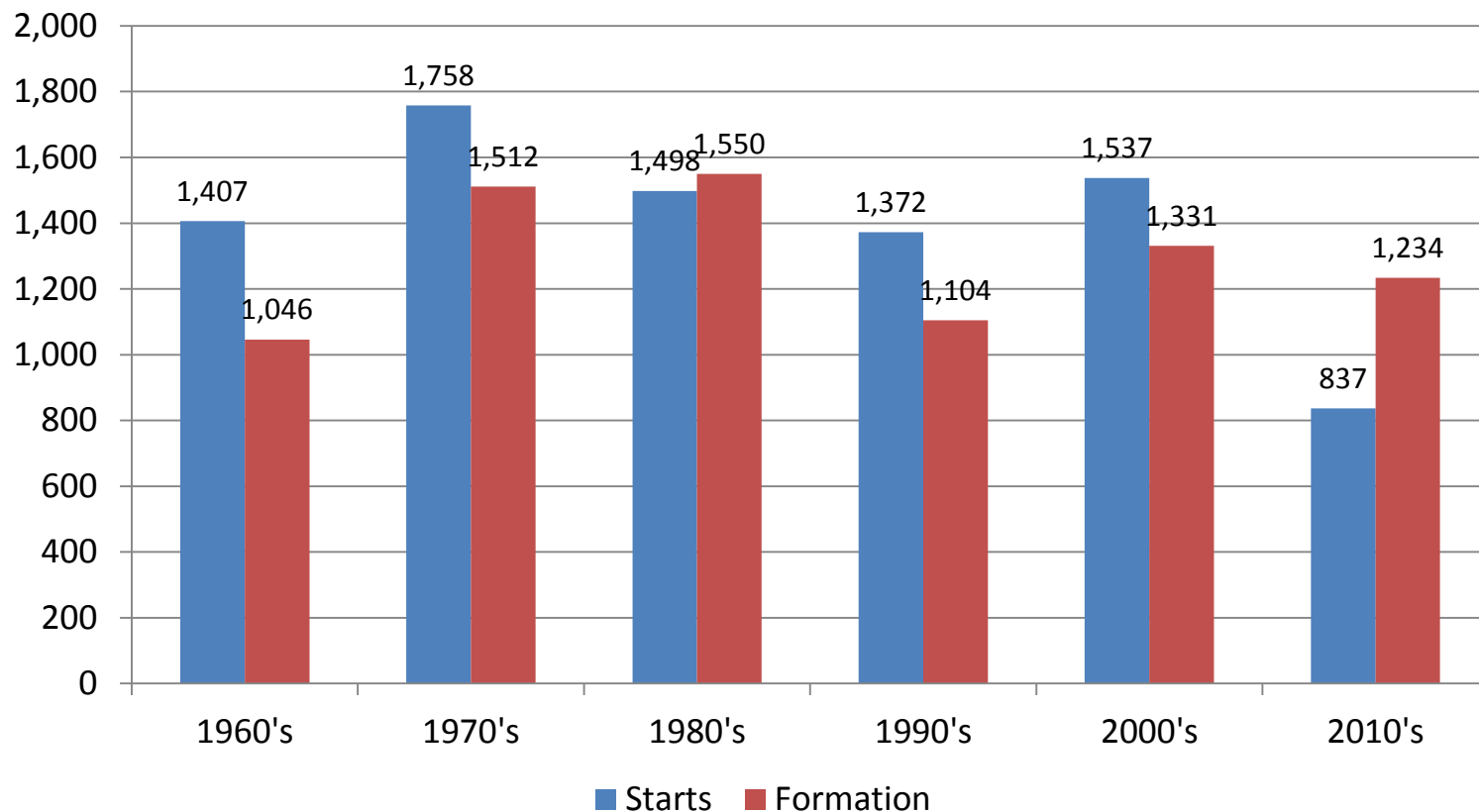
Billions Chained \$2009, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

# U.S. Housing Starts & Household Formation

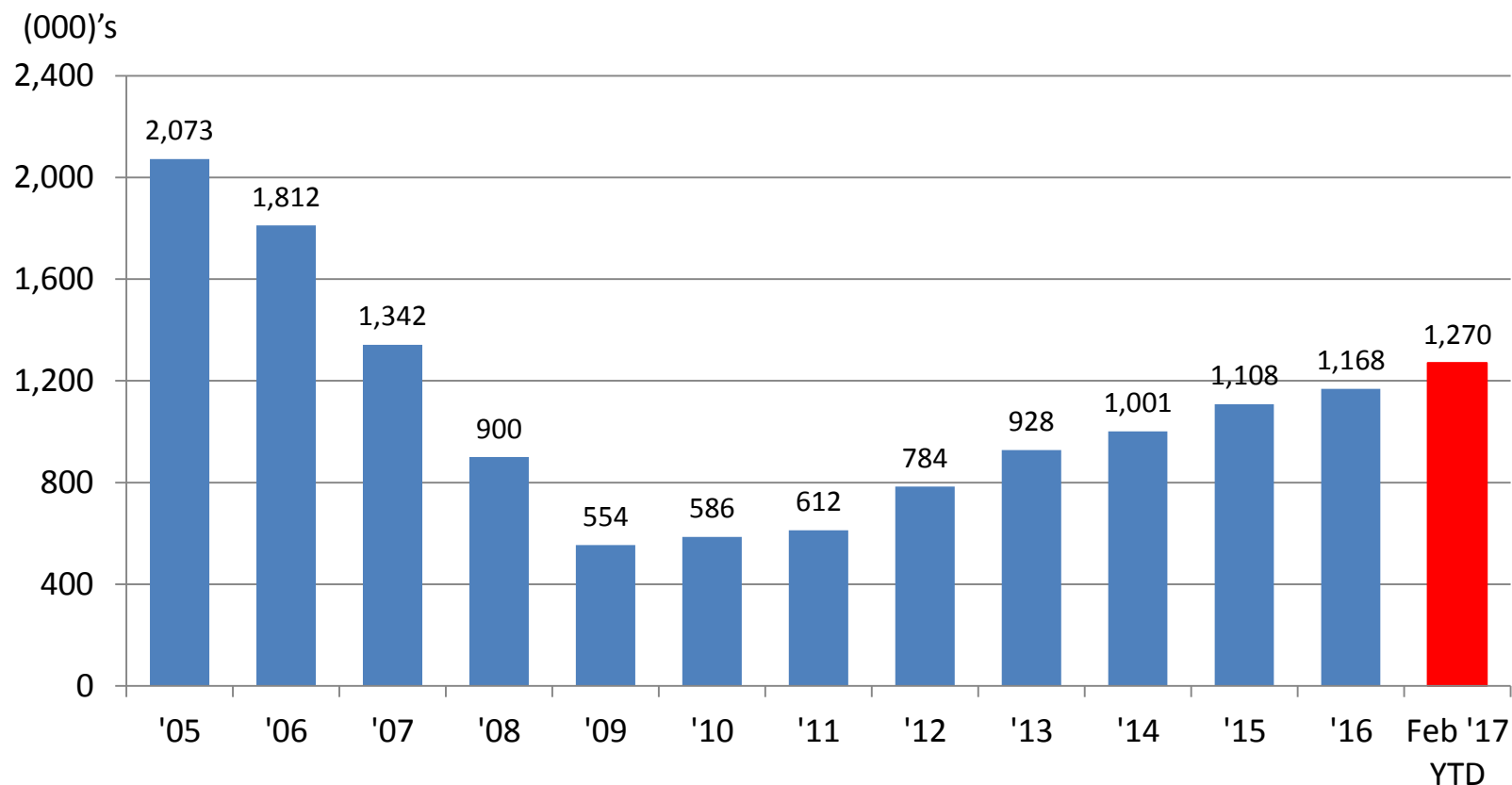
In Thousands of Units – Averages by Decade



Source: U.S. Census Bureau – Single Family Starts and Households by Age

# U.S. Housing Starts

In Thousands of Units (SAAR) – November Average YTD Data

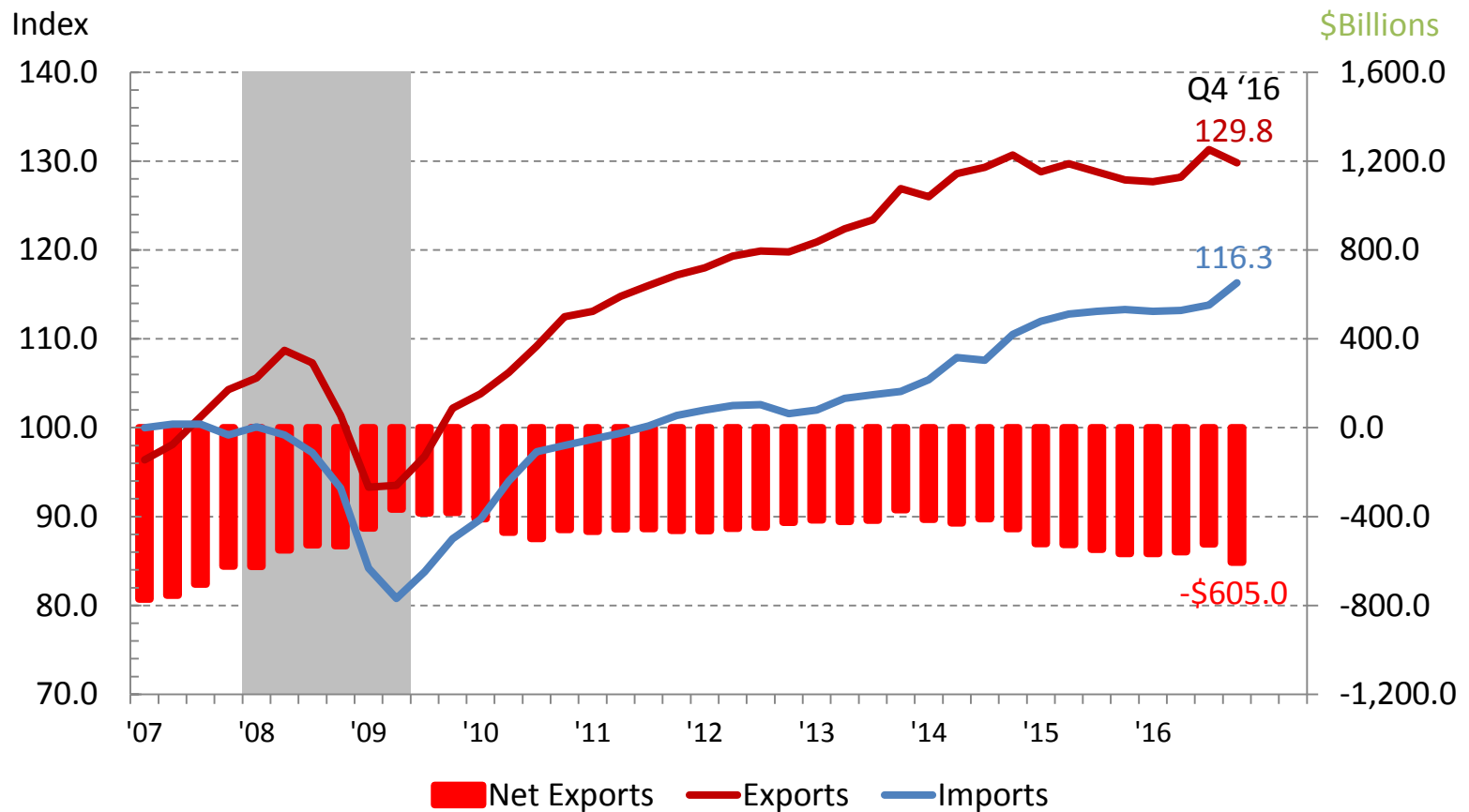


Note: The United States averaged 1.5 million housing starts per year 1990 to 2004.

Source: U.S. Census Bureau

# Real Net Exports of Goods & Services

Billions Chained \$2009, Index – 2007 = 100

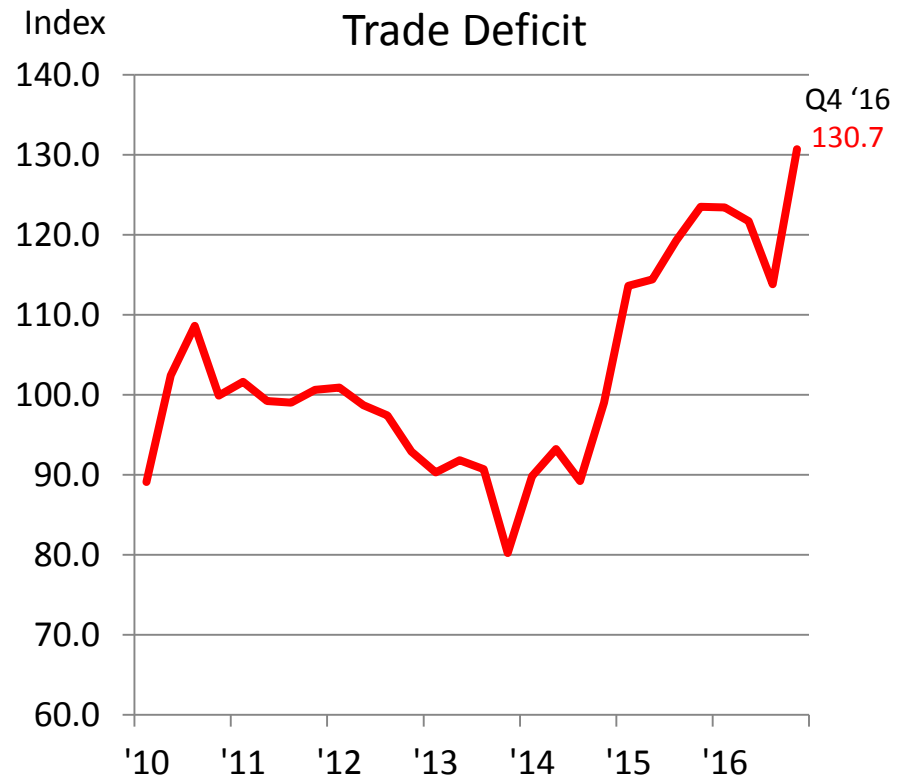
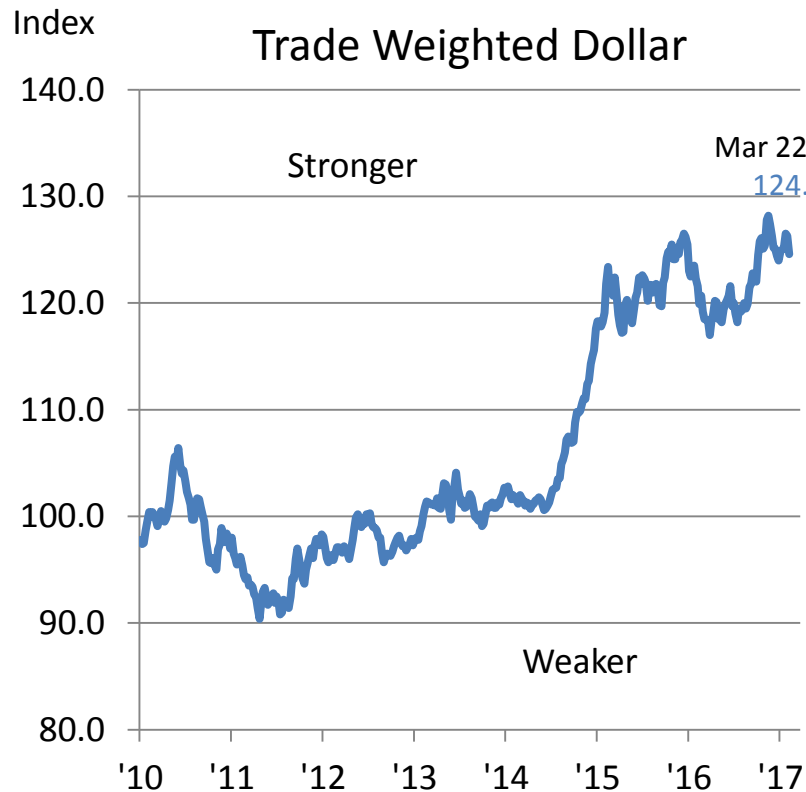


Source: U.S. Bureau of Economic Analysis



# The U.S. Dollar & The Trade Deficit

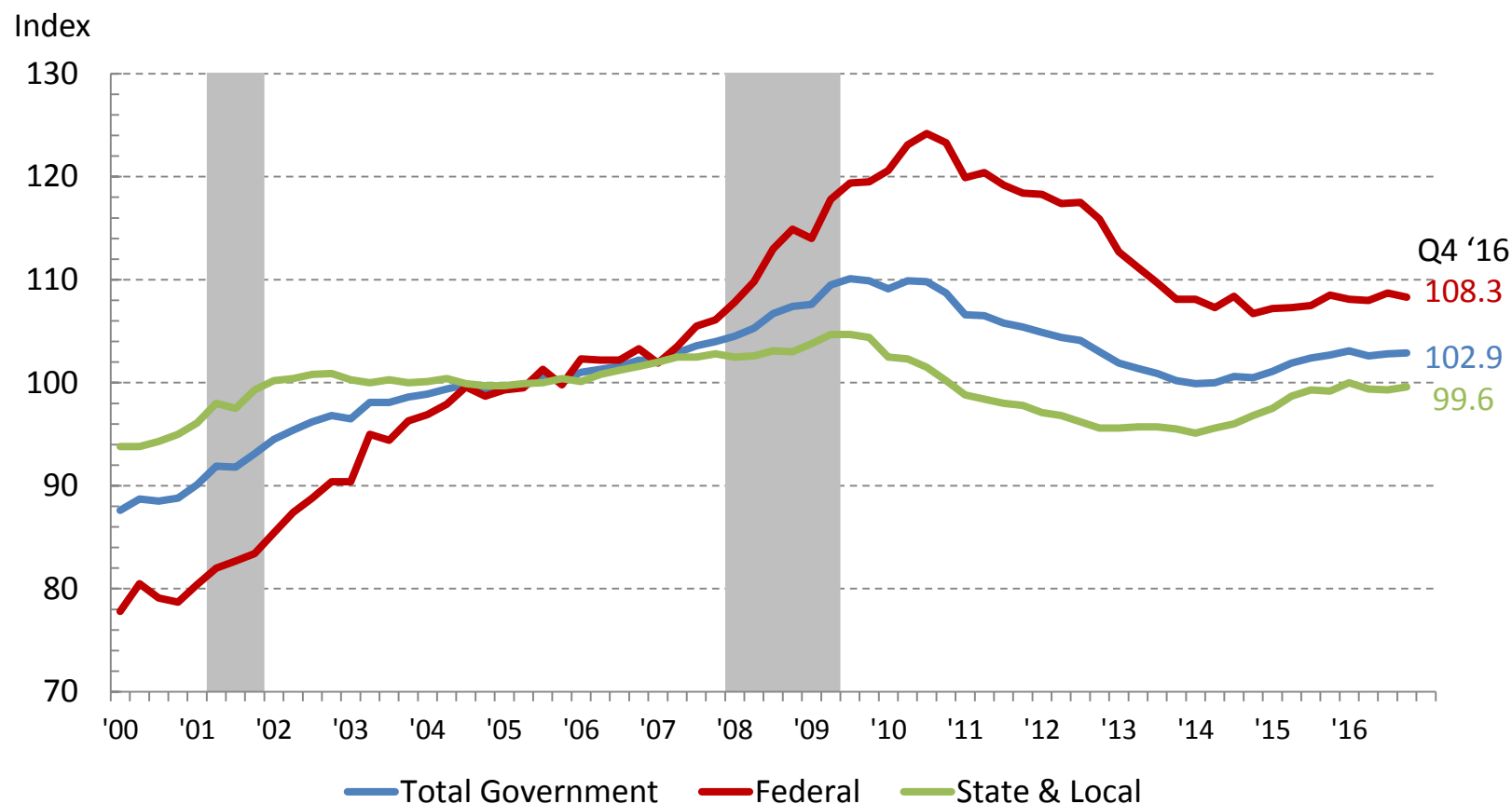
Trade Weighted Dollar- Index 2010 = 100, Trade Deficit – Index 2010 = 100



Source: Federal Reserve Board and Haver Analytics

# Real Government Consumption & Investment

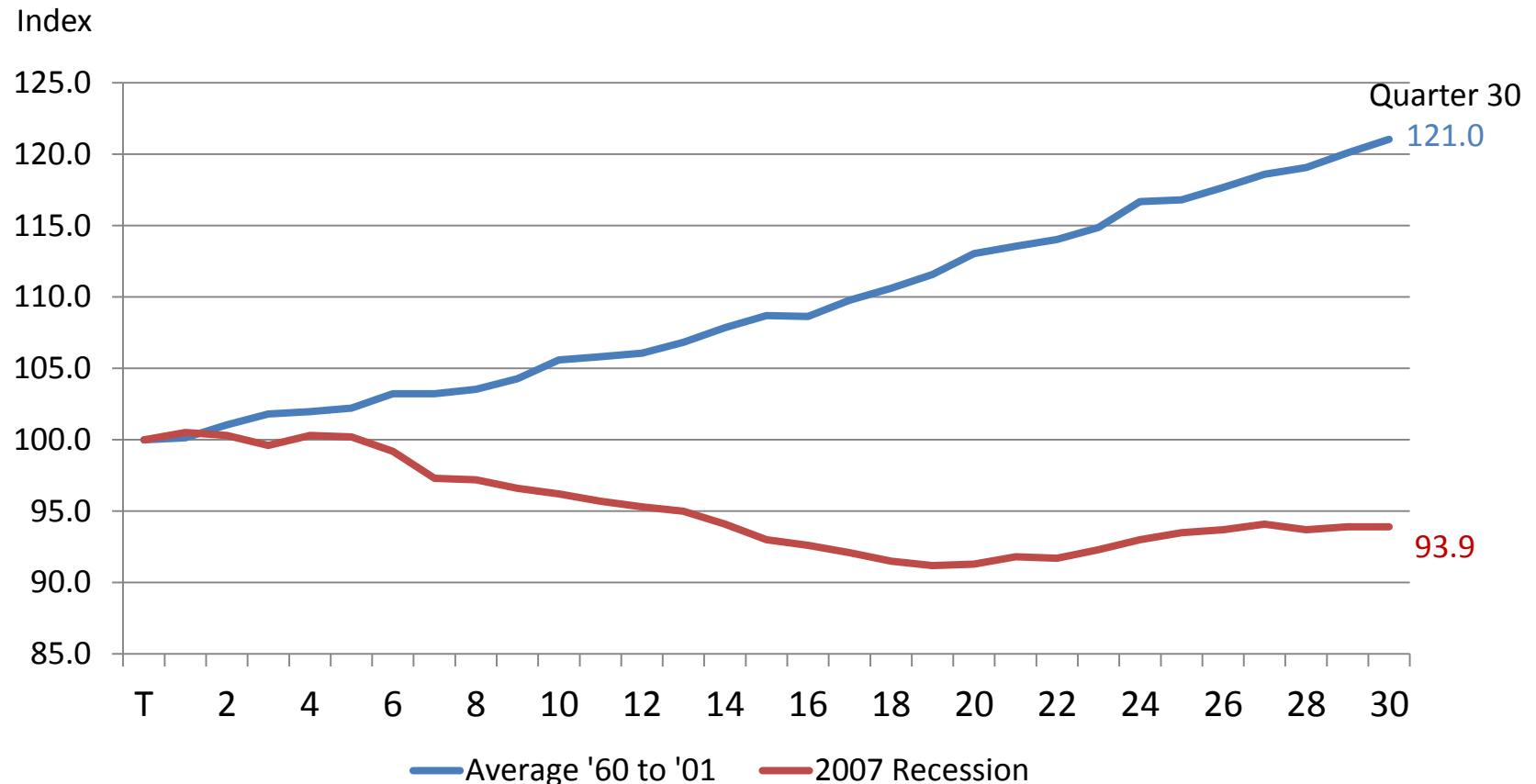
Billions Chained \$2009, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

# Real Total Government Consumption & Investment

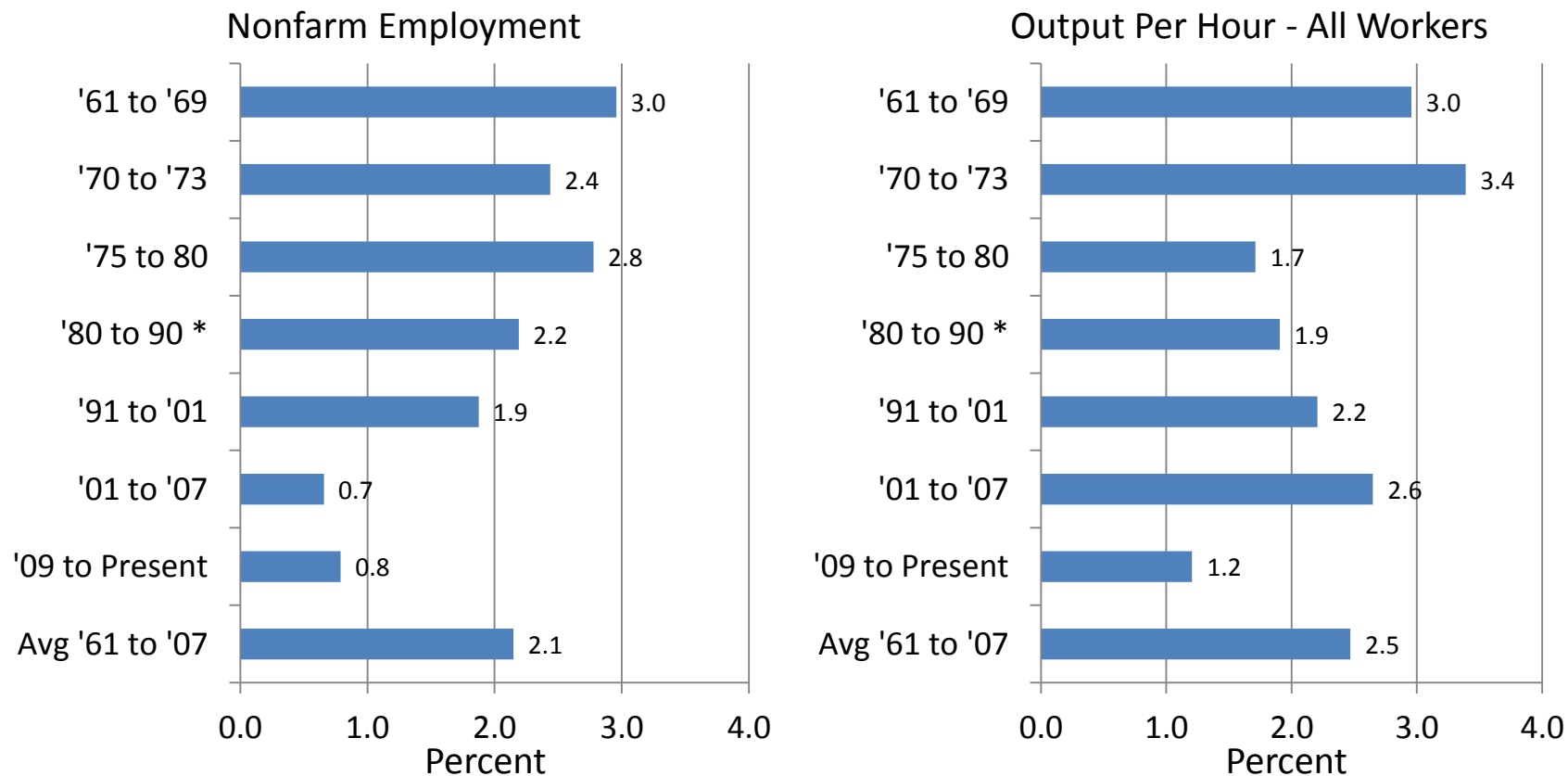
Average Post-Recession Recovery, Index – Recession Trough = 100



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

# U.S. Employment and Output Per Worker

## Average Percent Growth by Expansion Period, 1961 to Present

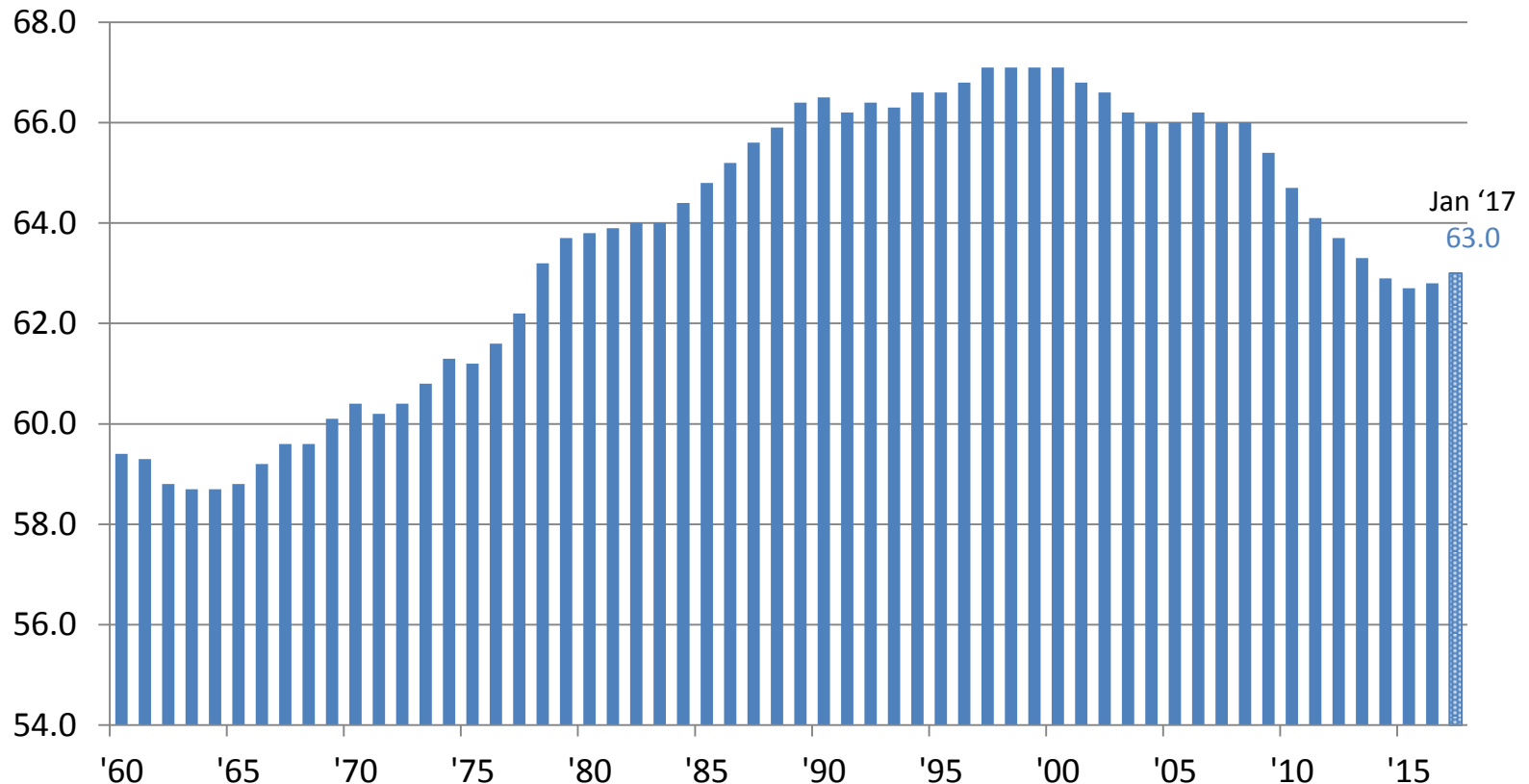


\* Combined 1980 to 1981 and 1981 to 1990 expansions.

Source: U.S. Bureau of Labor Statistics

# Labor Force Participation Rate

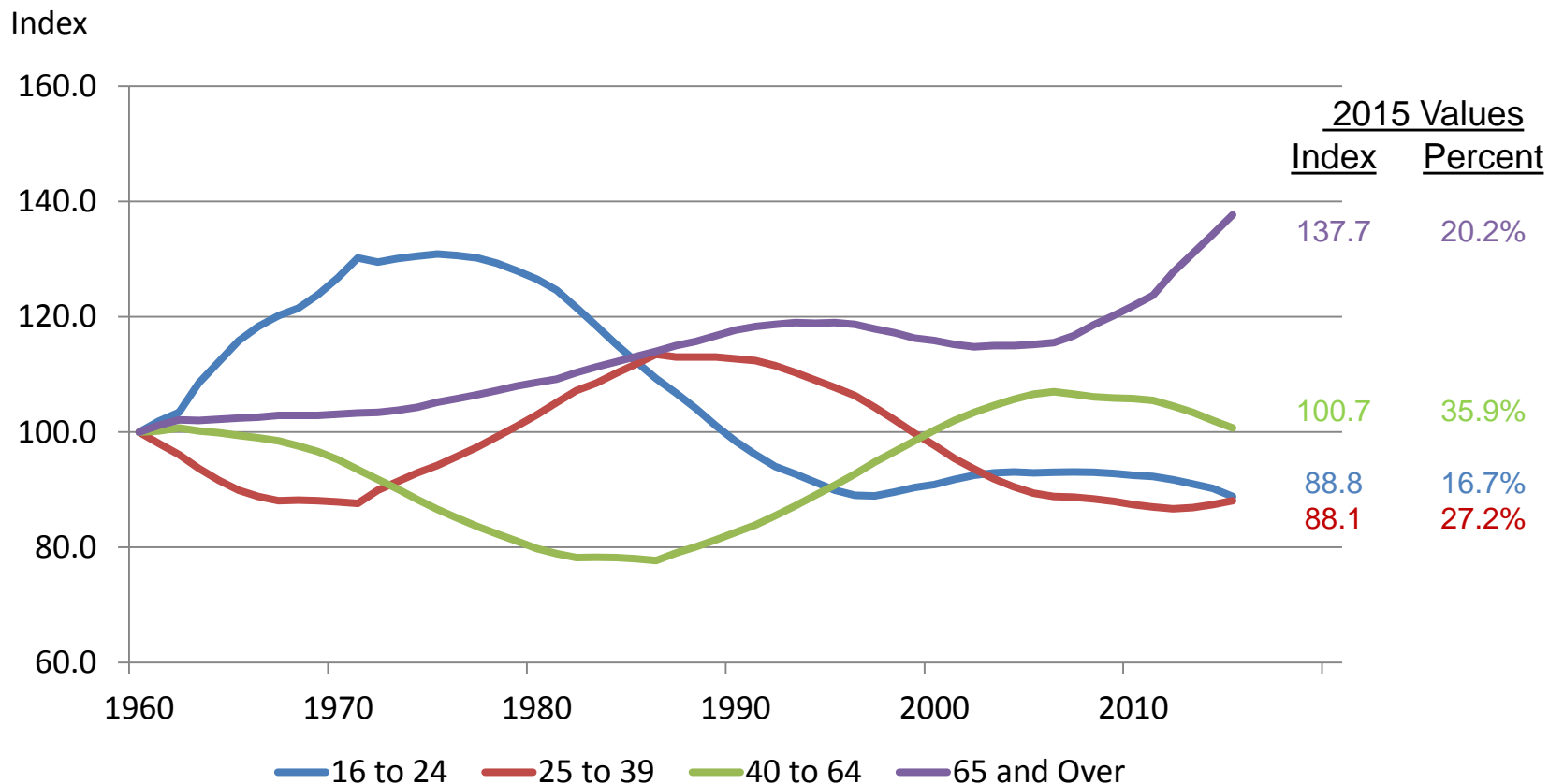
Percent of Noninstitutionalized Civilian Population – Annual Average



Source: U.S. Bureau of Labor Statistics

# Working Age Population by Age

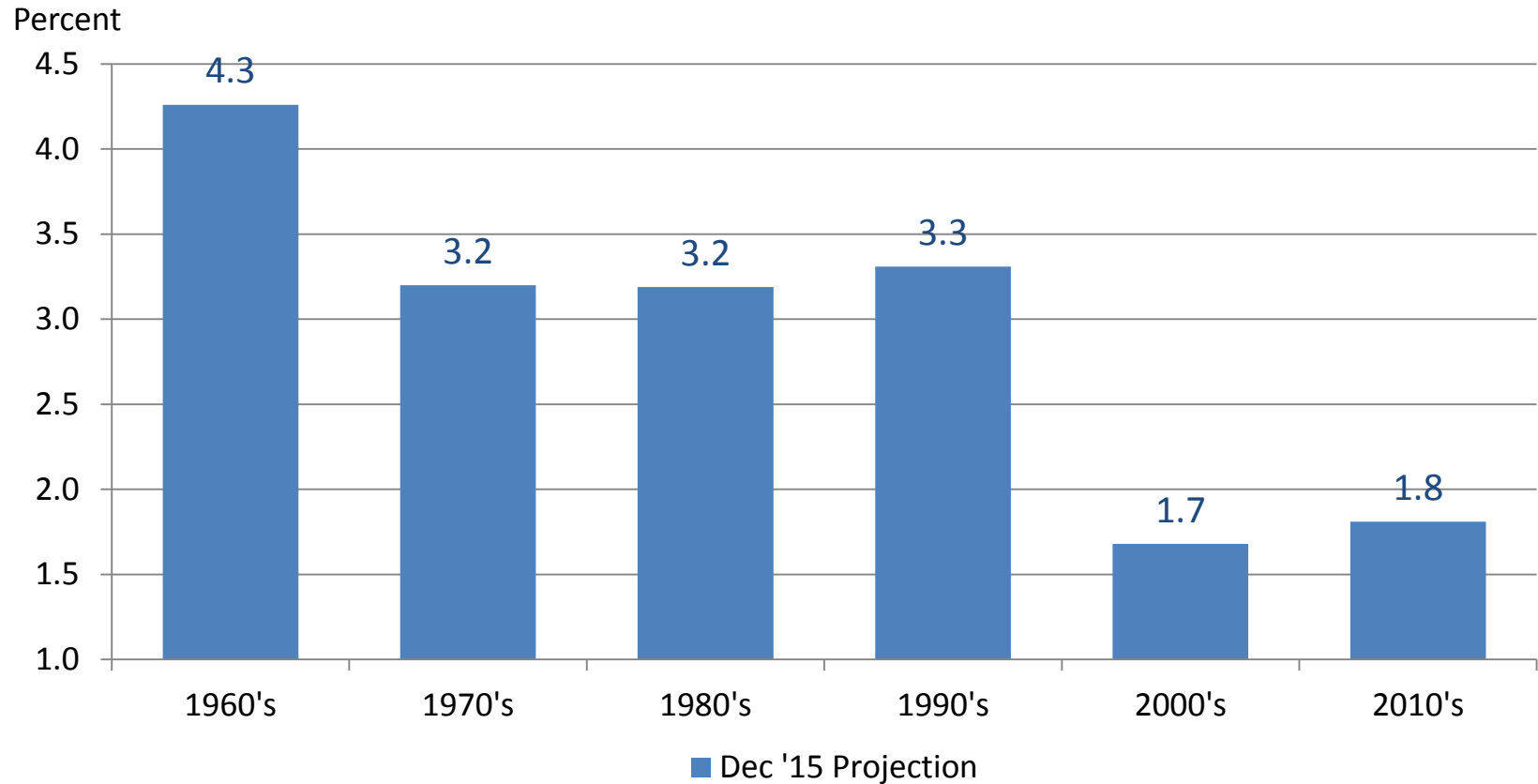
Select Age Categories, Percent of Total, Index – 1960 = 100



Source: U.S. Census Bureau – Table HH-3, Households by Age

# Economic Potential by Decade

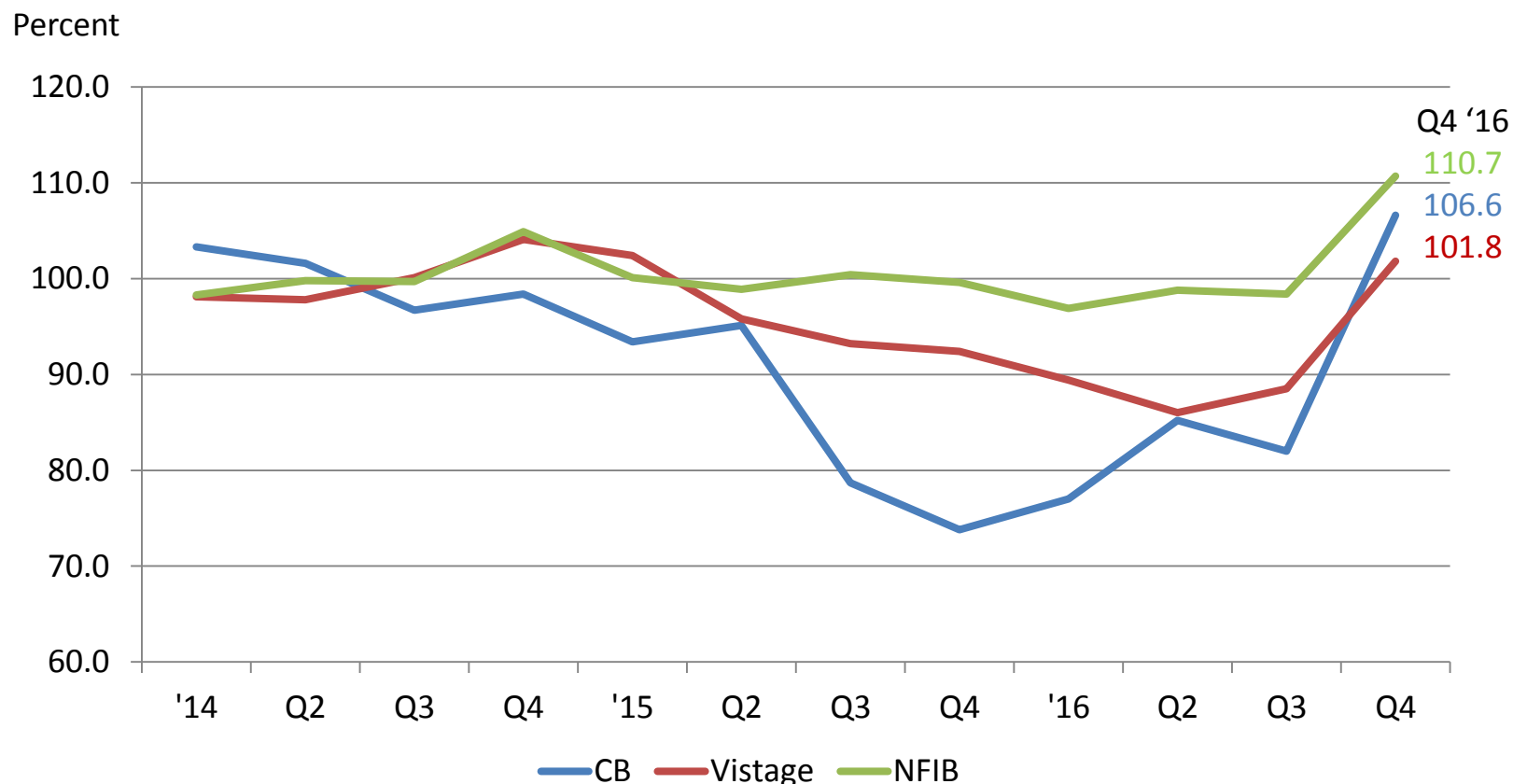
## Real GDP Percent Change – Annual Average



Source: U.S. Congressional Budget Office

# Business Confidence Surveys

Conference Board, Vistage, and NFIB , Index 2014 = 100

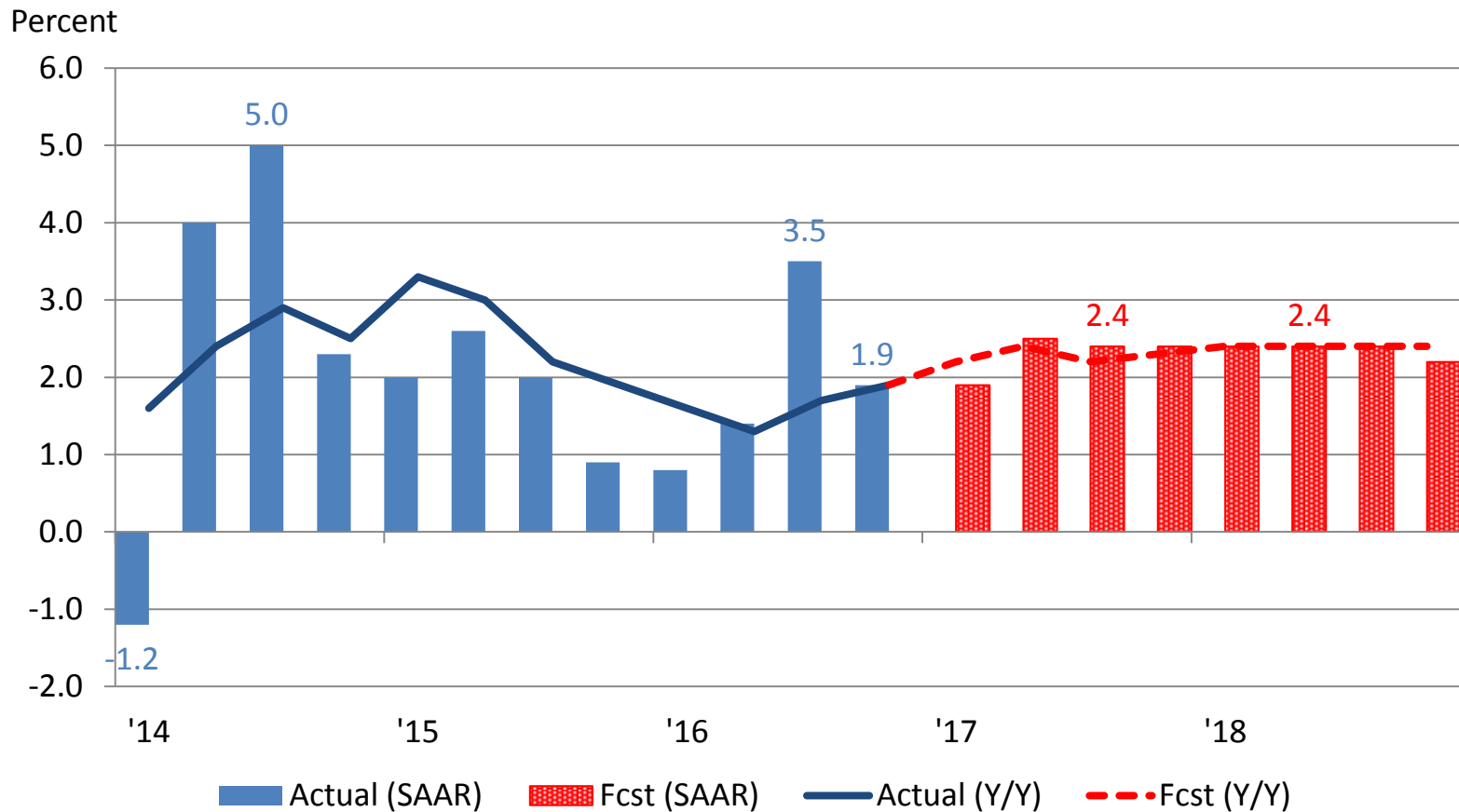


Source: Author's calculations using Conference Board CEO Survey, Vistage Mid-size & Small Business Survey, National Federation of Independent Business Survey data.



# U.S. Real GDP Blue Chip Forecast

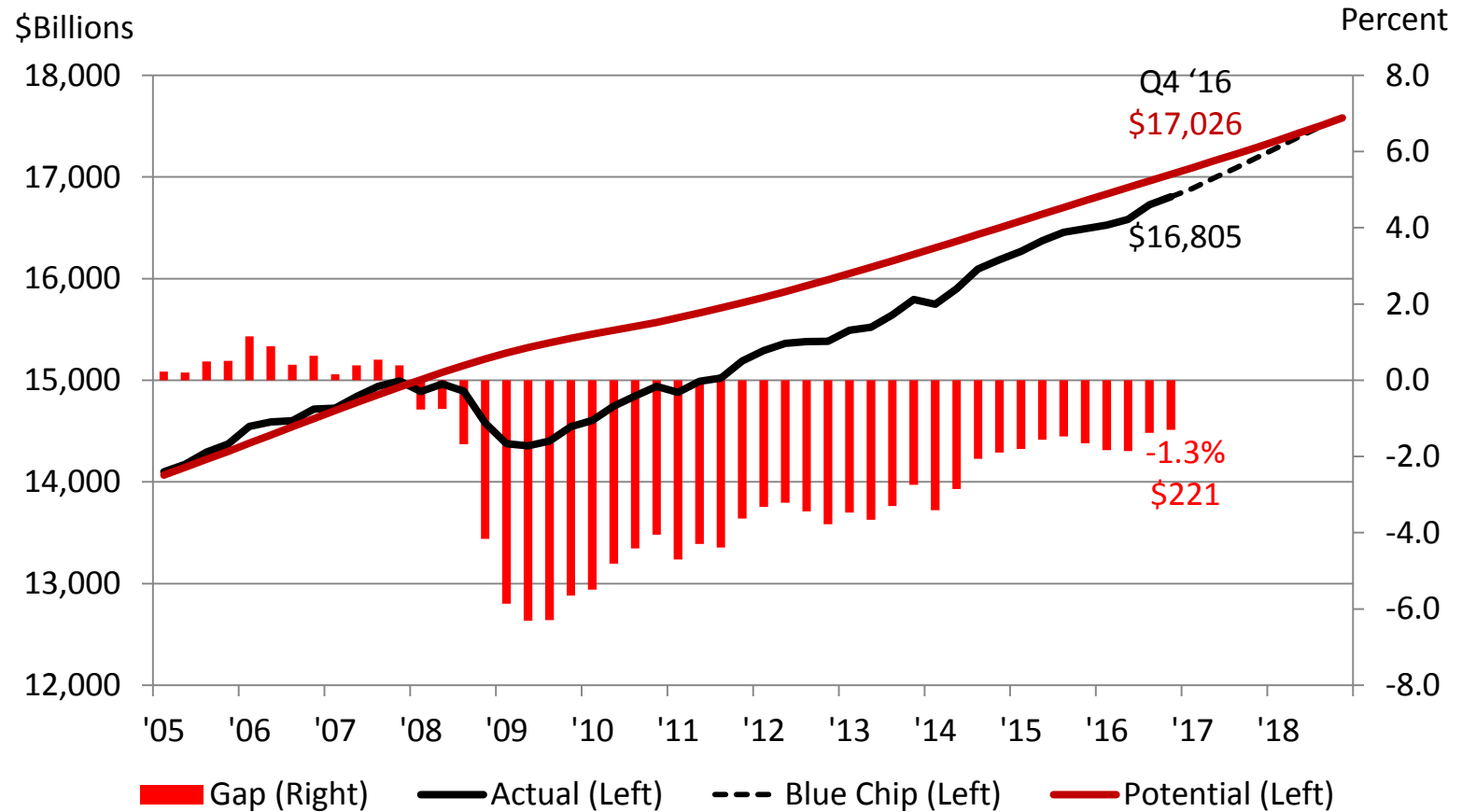
Annual Percent Change – Chained \$2009



Source: BEA and January Blue Chip Economic Indicators

# U.S. Real GDP – Actual and Potential

Billions Chained \$2009 and Percent of Actual



Source: Bureau of Economic Analysis and the U.S. Congressional Budget Office

April 8, 2017

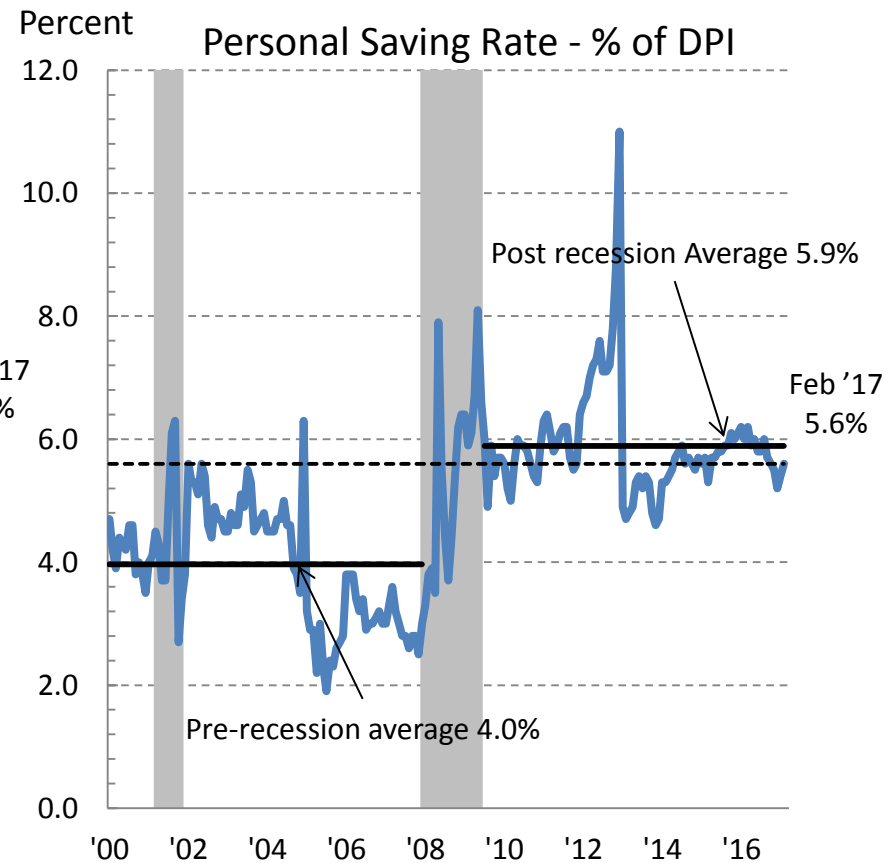
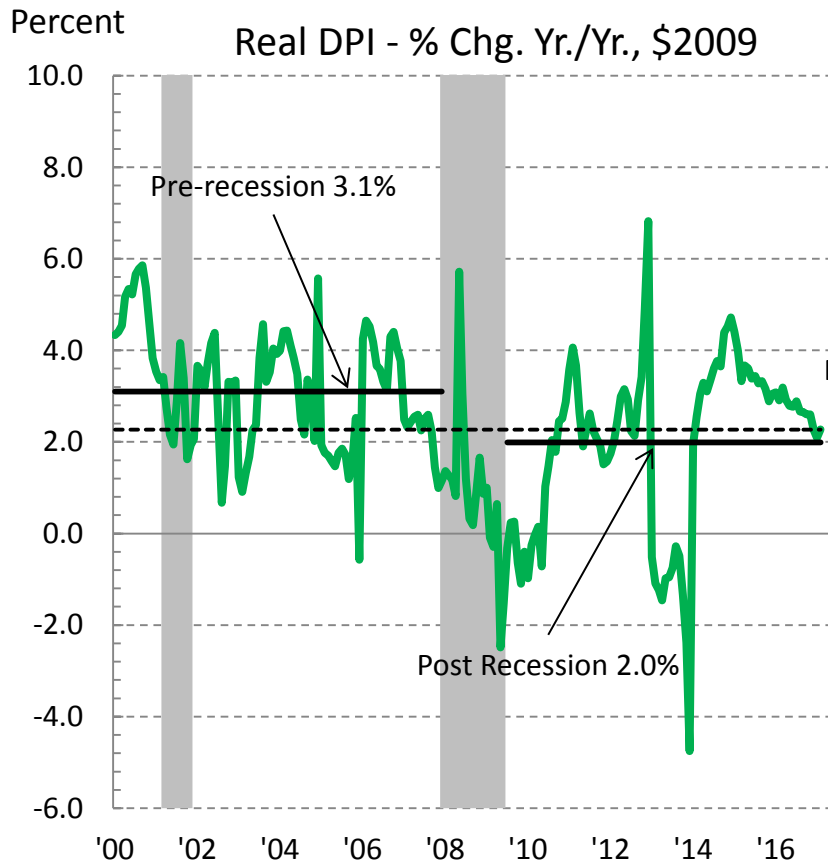
Federal Reserve Bank of Chicago

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# U.S. Consumer

# Income and Savings Rate

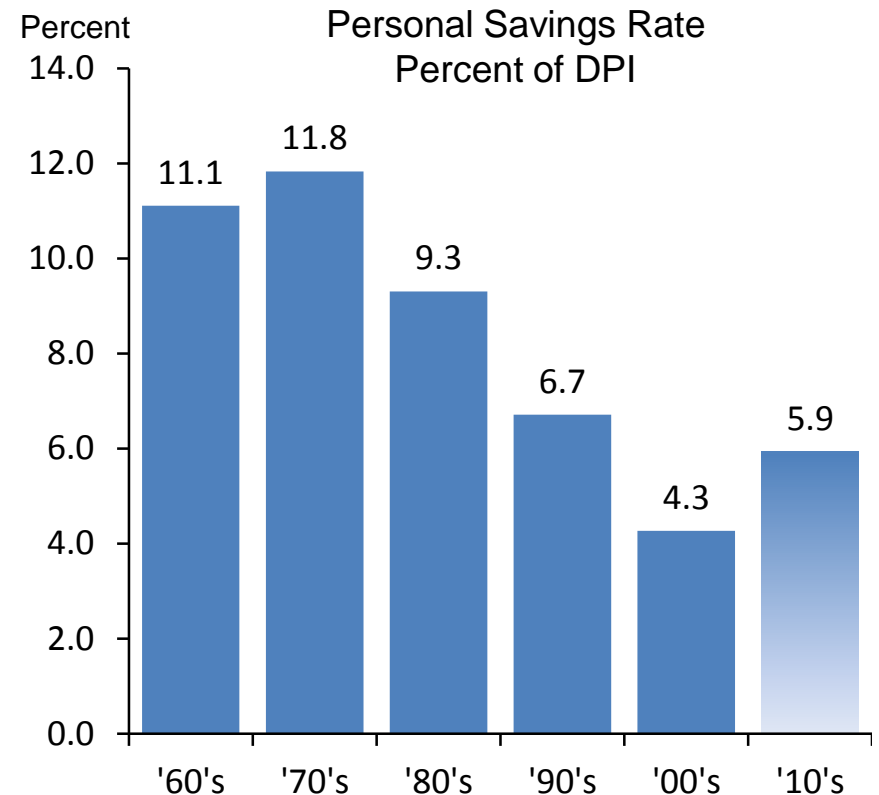
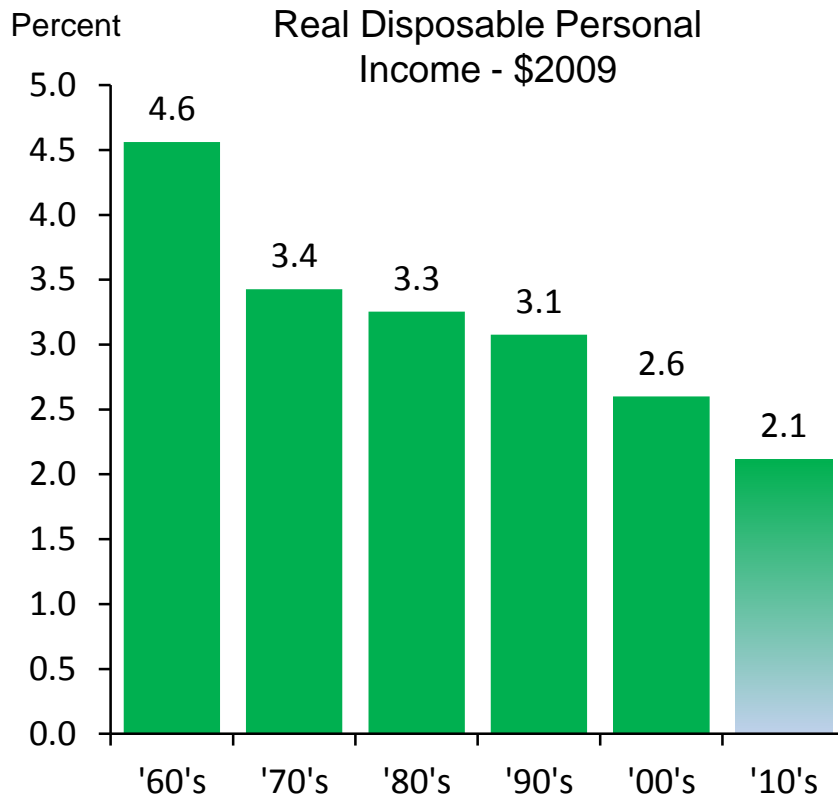
## Percent Change and Percent of DPI



Source: U.S. Bureau of Economic Analysis

# Real DPI & Personal Savings Rate

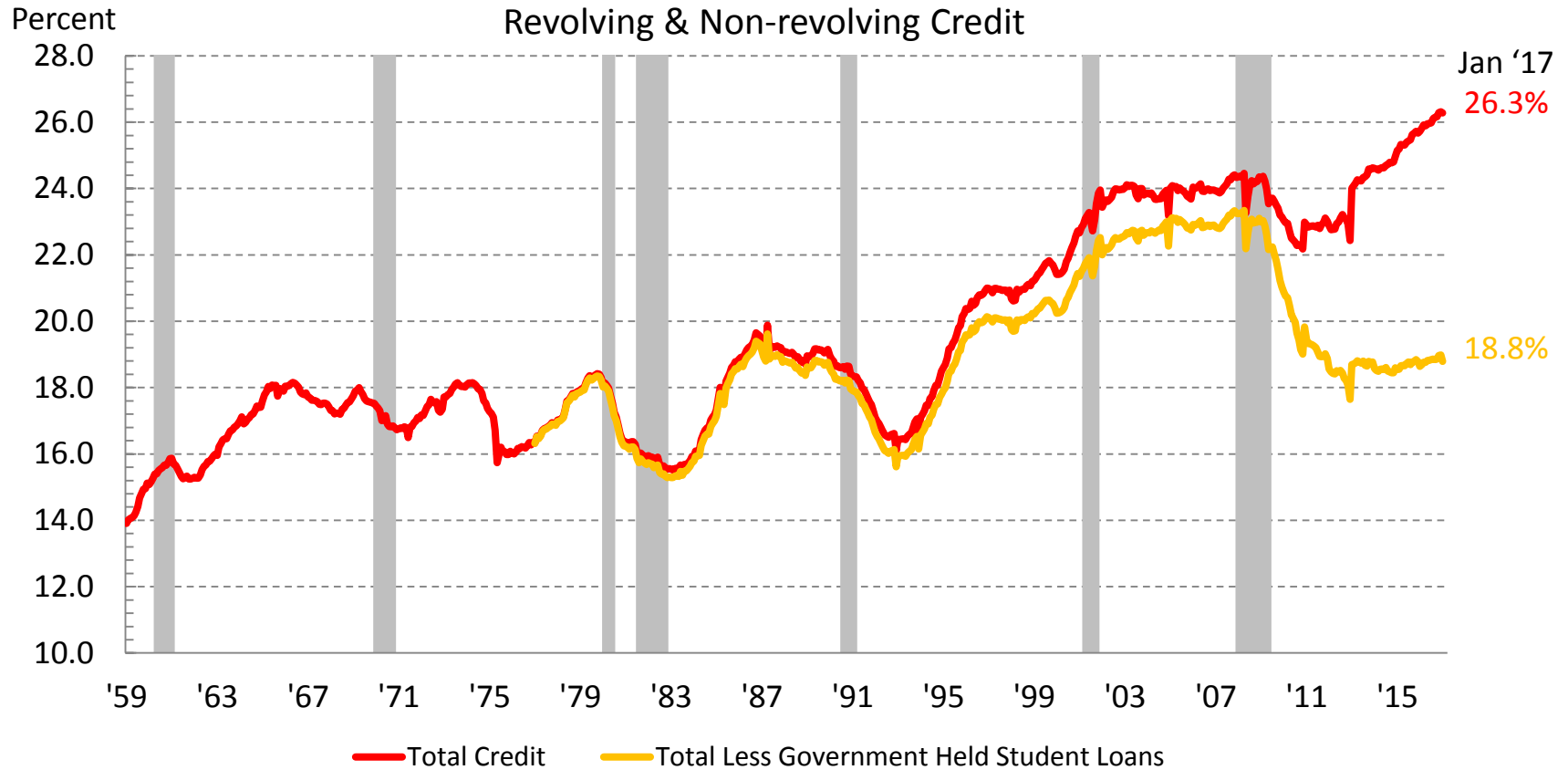
As Percent of Personal Income



Source: U.S. Bureau of Economic Analysis

# Consumer Credit

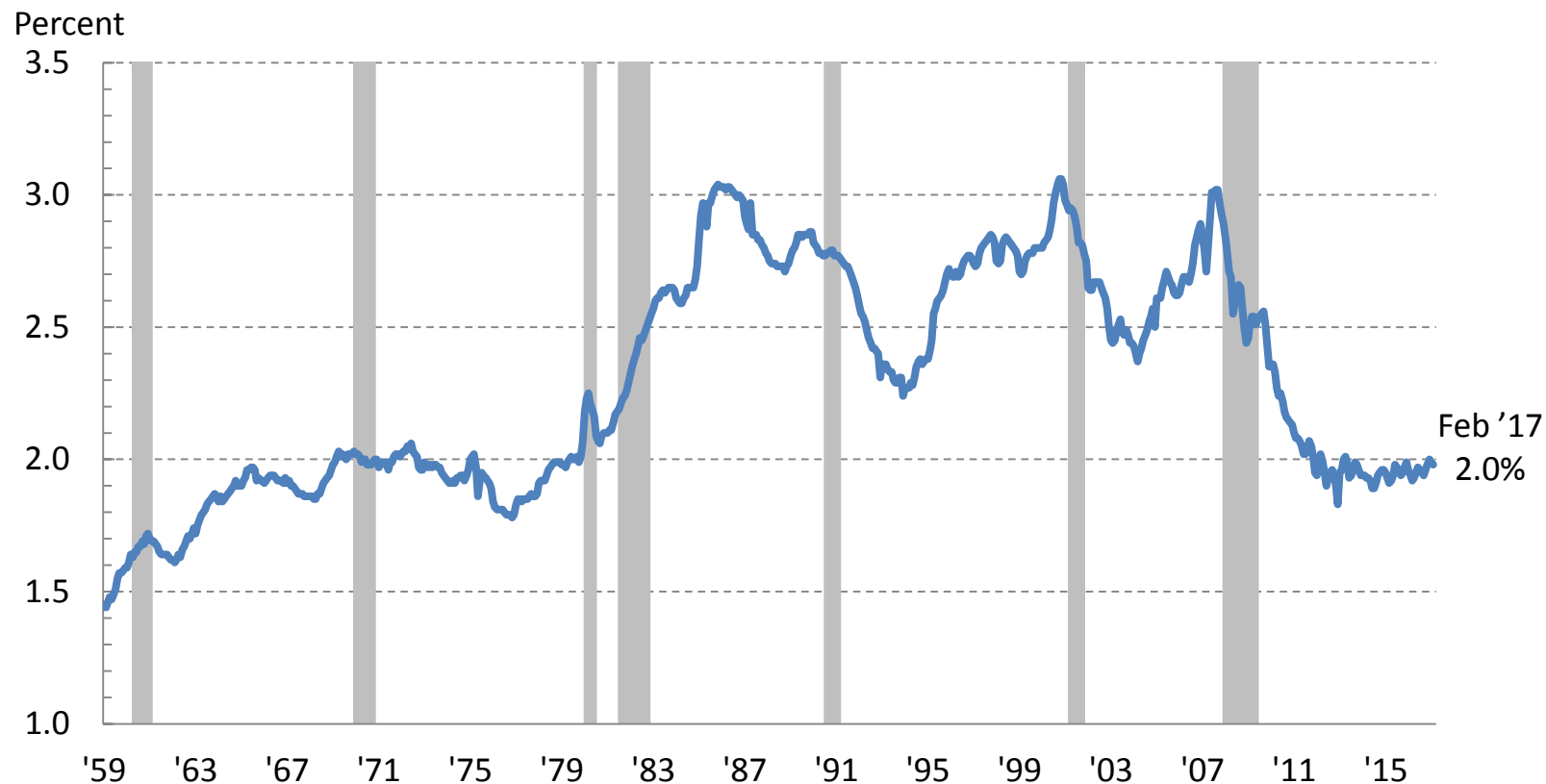
## As a Percent of Disposable Personal Income



Source: Federal Reserve Bank - Board of Governors

# Interest Payments

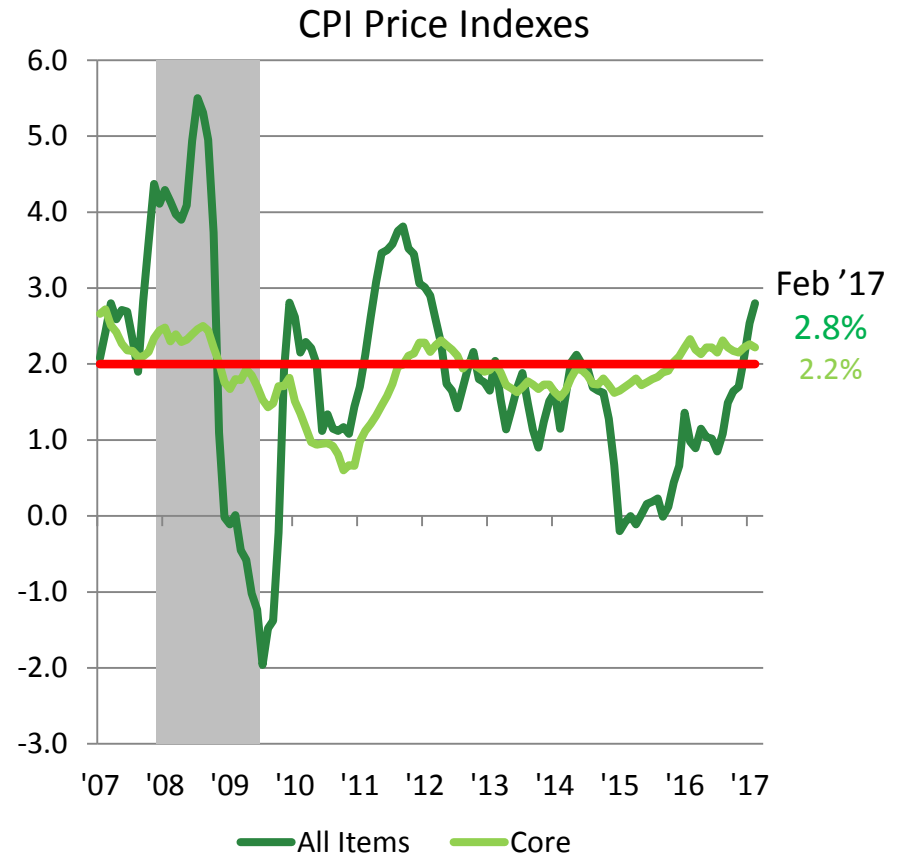
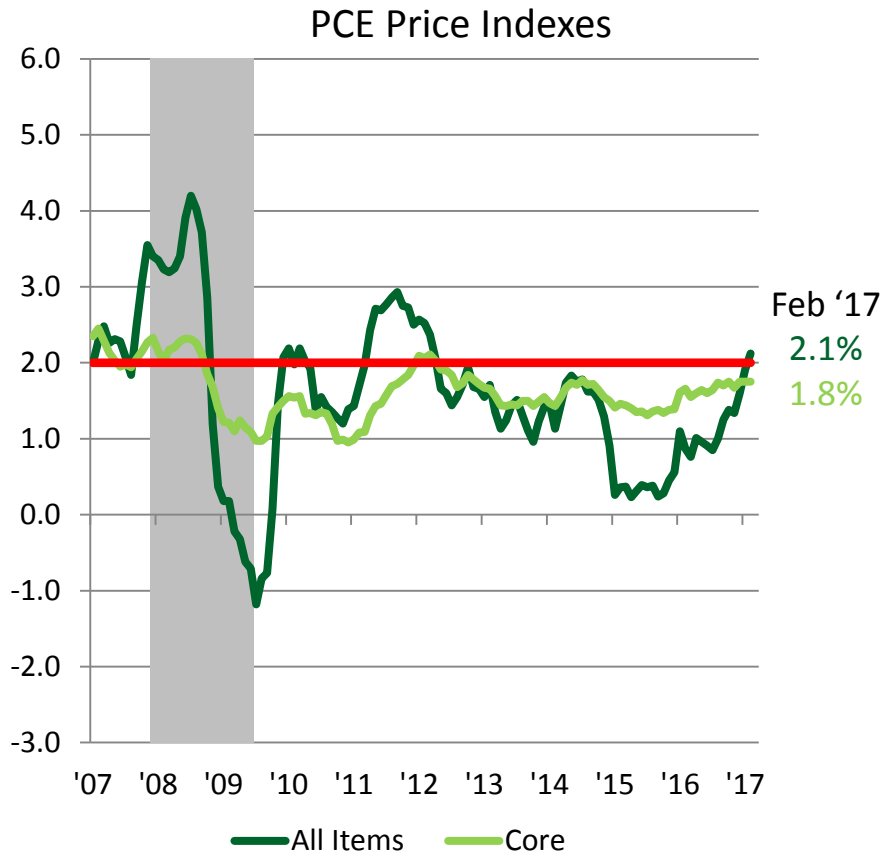
As a Percent of Disposable Personal Income



Source: Federal Reserve Bank - Board of Governors

# Inflation – PCE & CPI Price Index

Percent Change Yr / Yr



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



# Initial Unemployment Claims

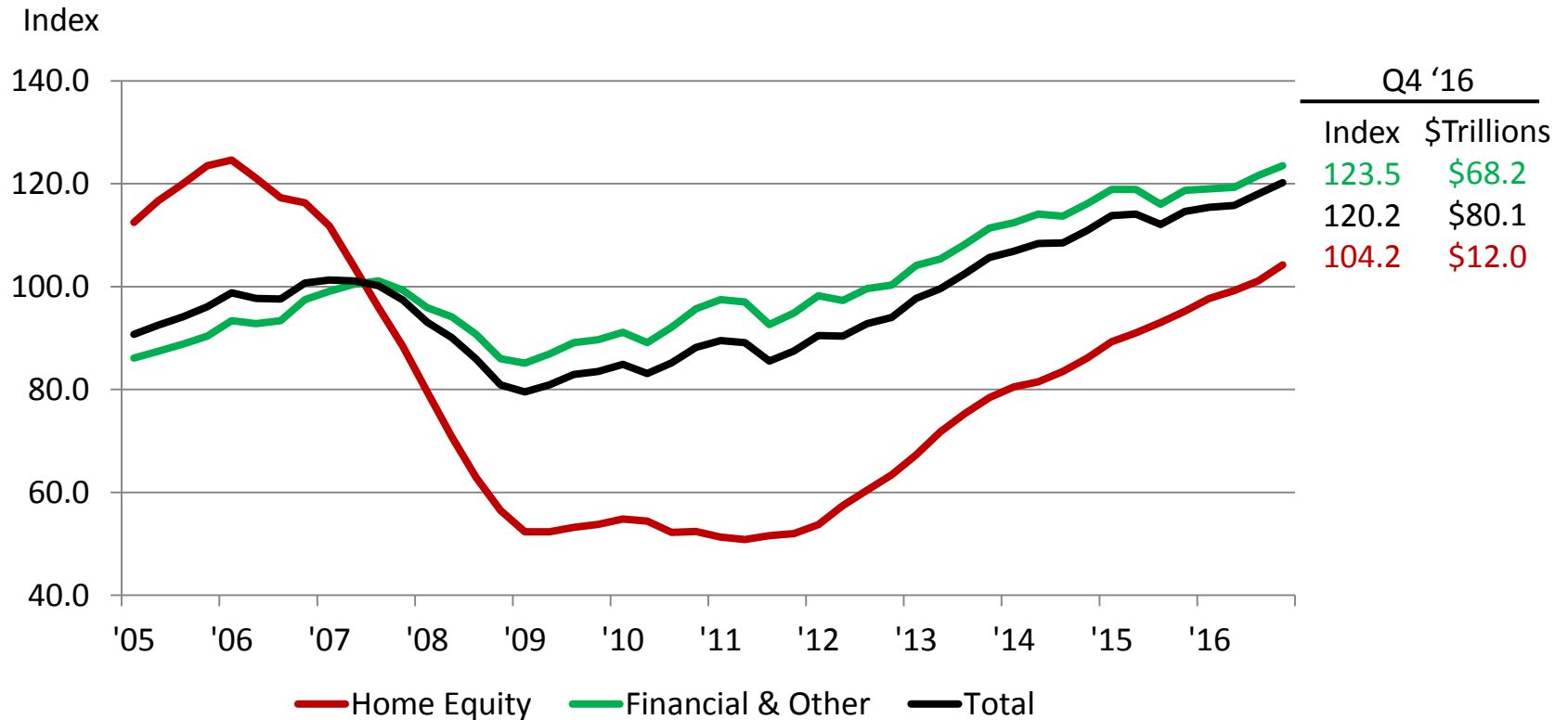
Monthly Average as Percent of Nonfarm Employment



Source: U.S. Bureau of Labor Statistics

# Real Household Net Worth

Home Equity and Financial & Other - Index 2007 = 100, \$2009

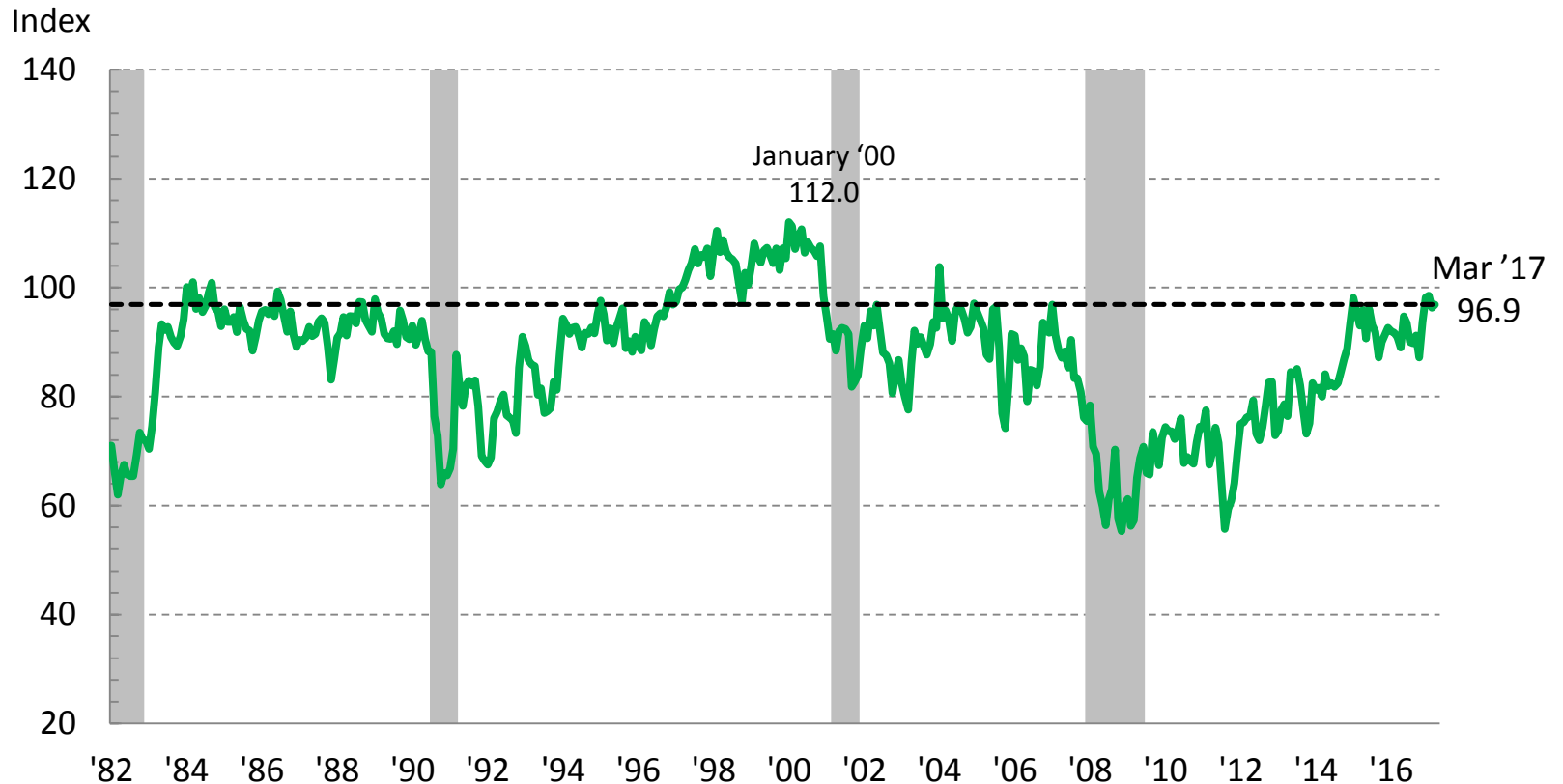


Note: Total Household Net Worth in Current Dollars is \$89.3 Trillion.

Source: Author's calculations using Federal Reserve data.

# Consumer Sentiment

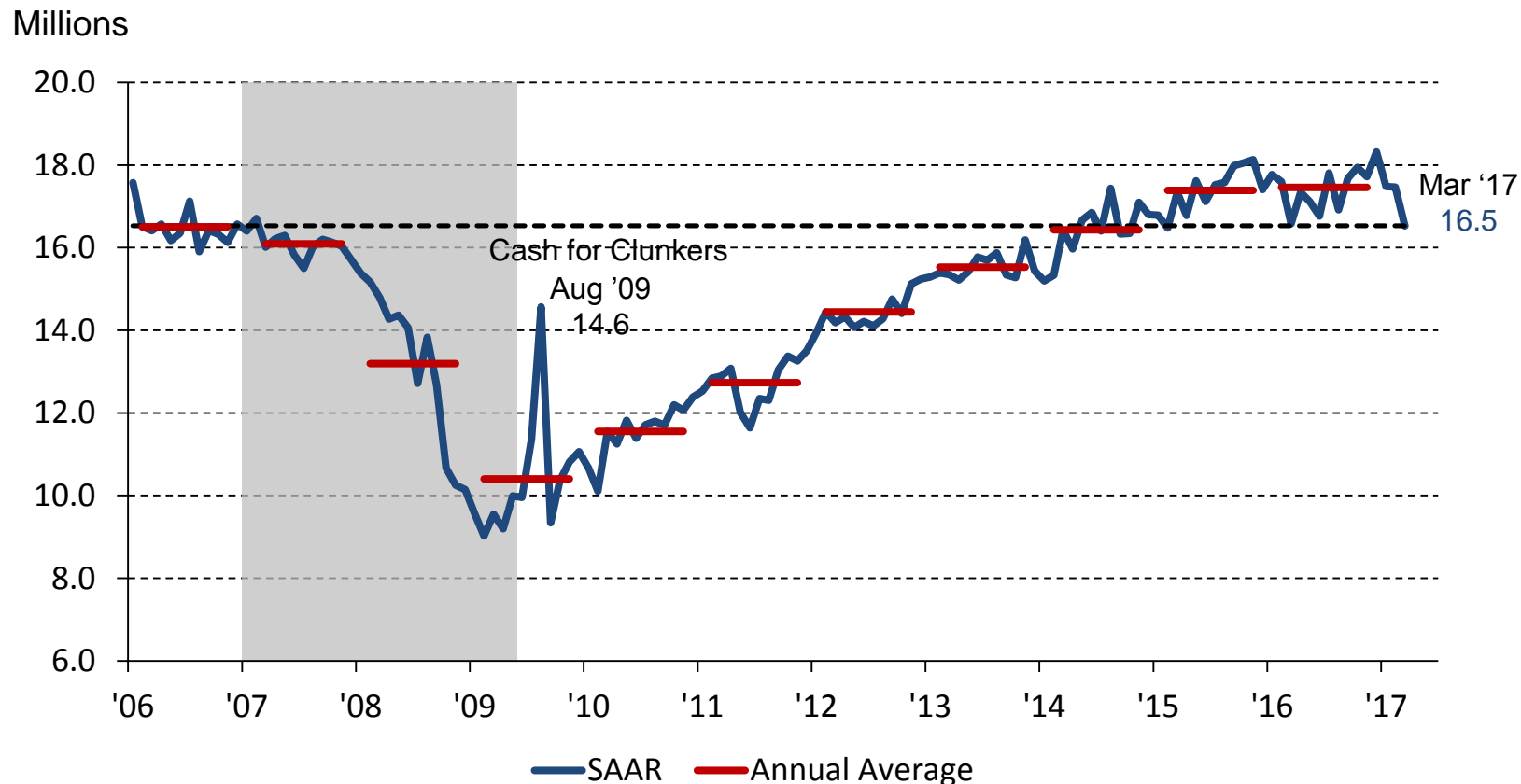
University of Michigan



Source: Thomson Reuters / University of Michigan

# U.S. Light Vehicle Sales

S.A.A.R – Millions of Units

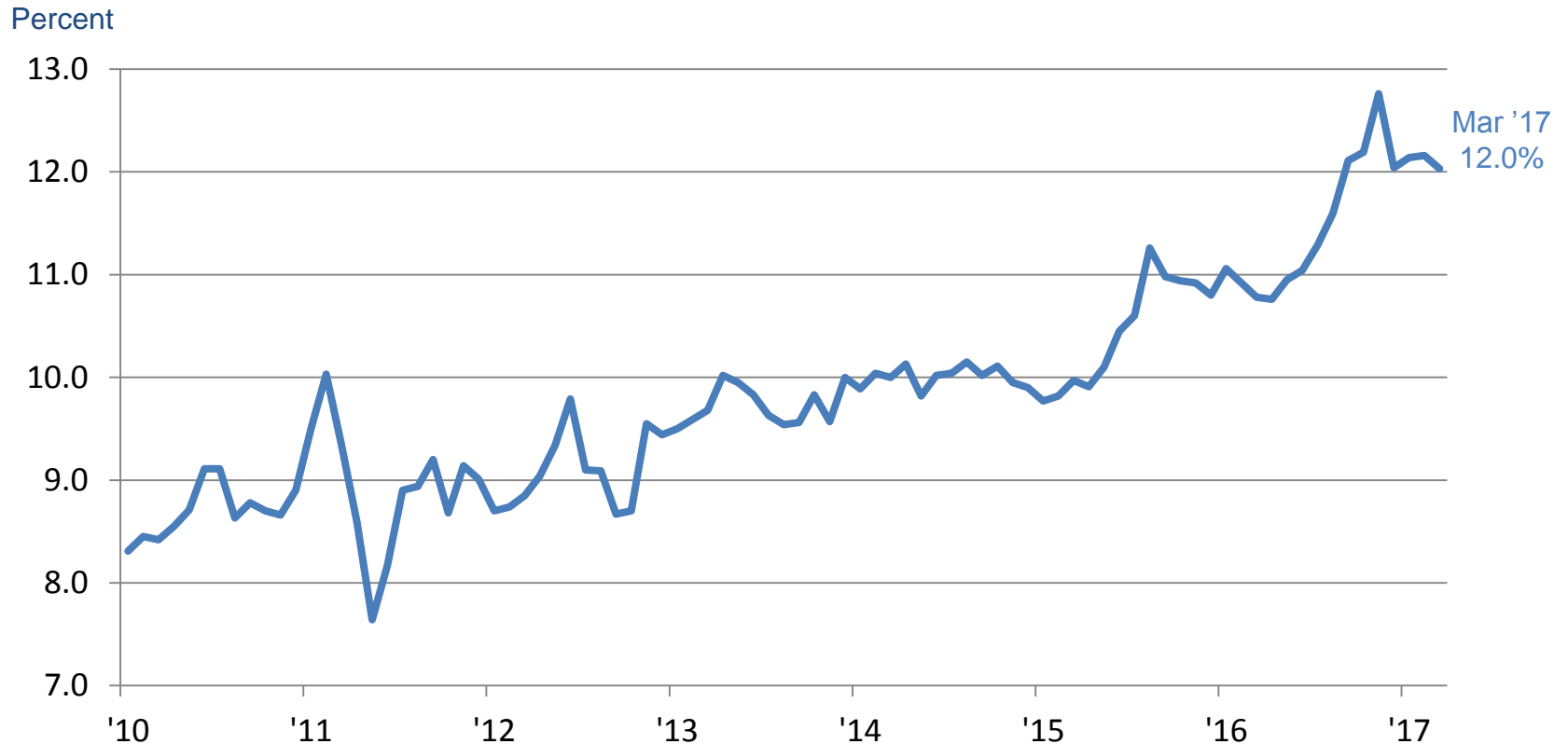


Note: Total 2016 Light Vehicle Sales: 17,465,020 / Including M/H: 17,866,260.

Source: Ward's Automotive and BEA

# U.S. Light Vehicle Incentives

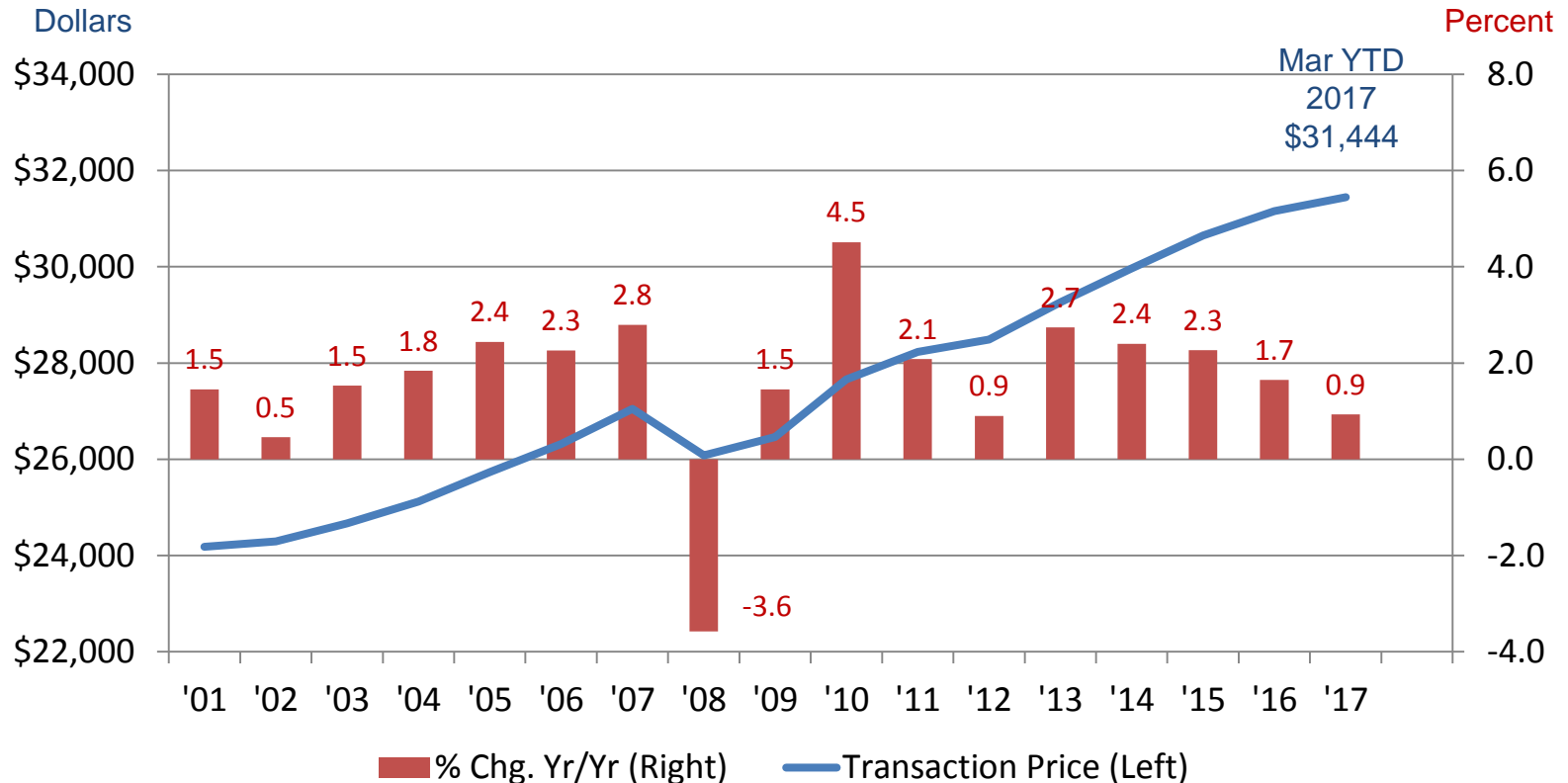
As Percent of Transaction Price - SA



Source: Author's calculation using Ward's Automotive and J.D Power data.

# Light Vehicle Transaction Price

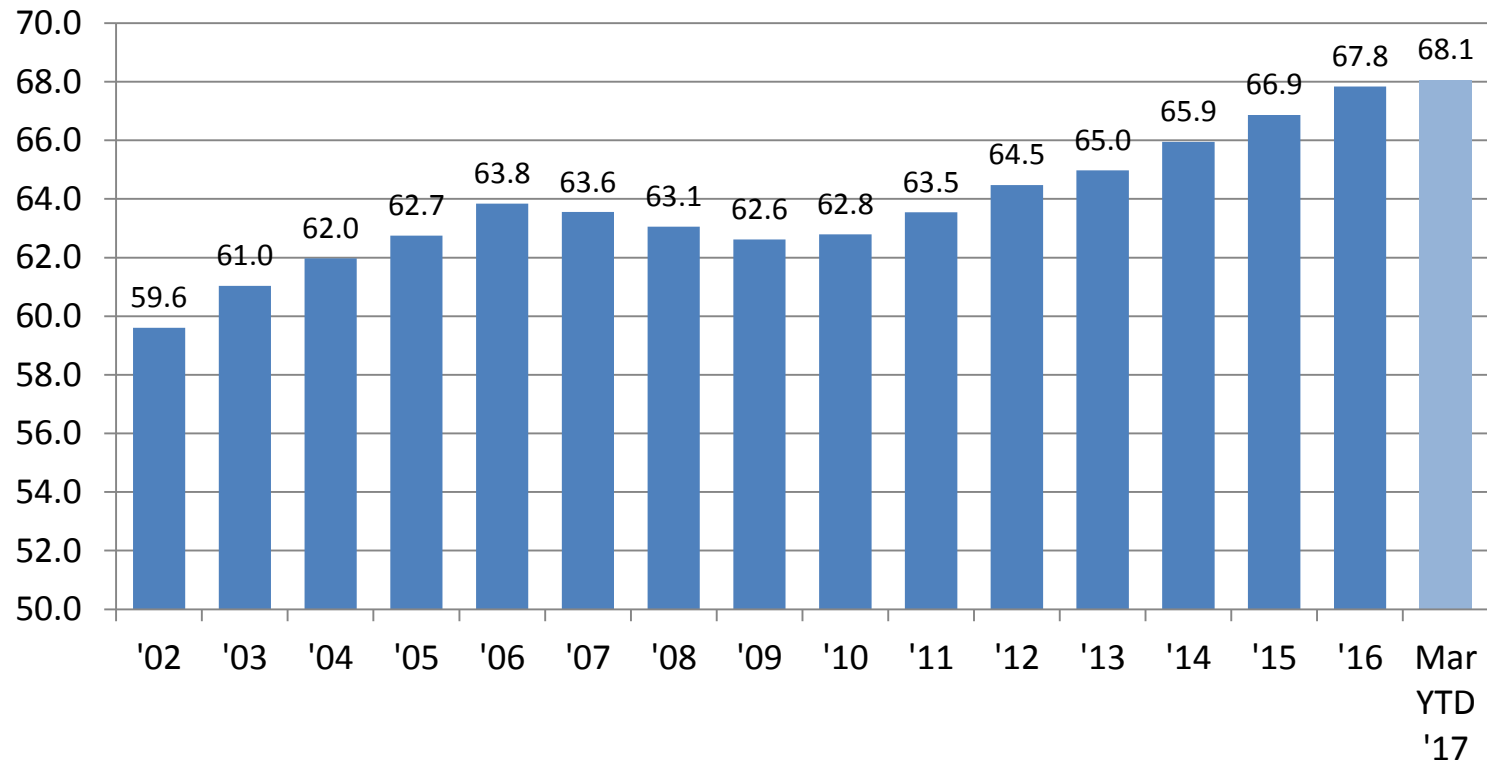
Annual Average & Percent Change Yr./Yr.



Source: Author's calculation using J.D Power data.

# Finance Term

## Length of Loan in Months

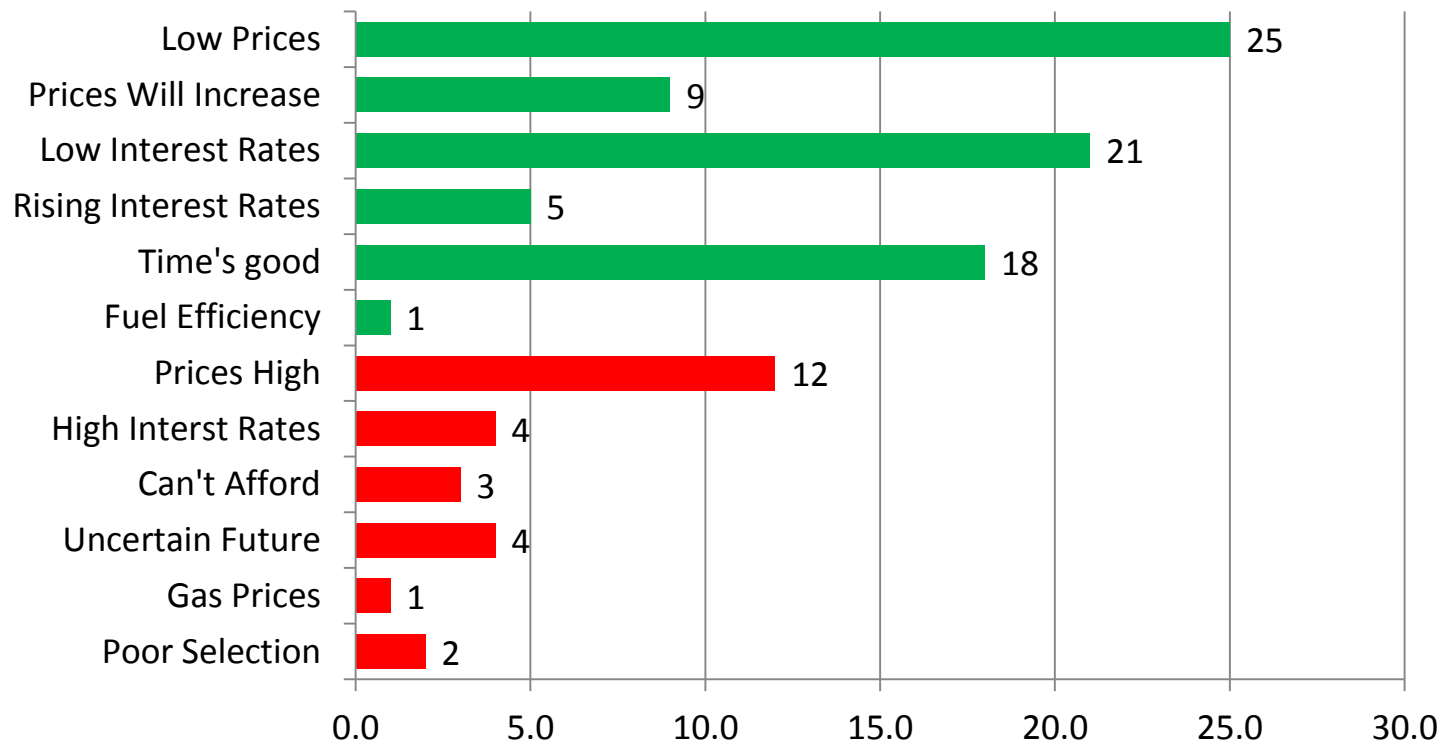


Source: J.D Power data.

# 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



# Monetary Policy Employment & Inflation

# F.O.M.C Statement

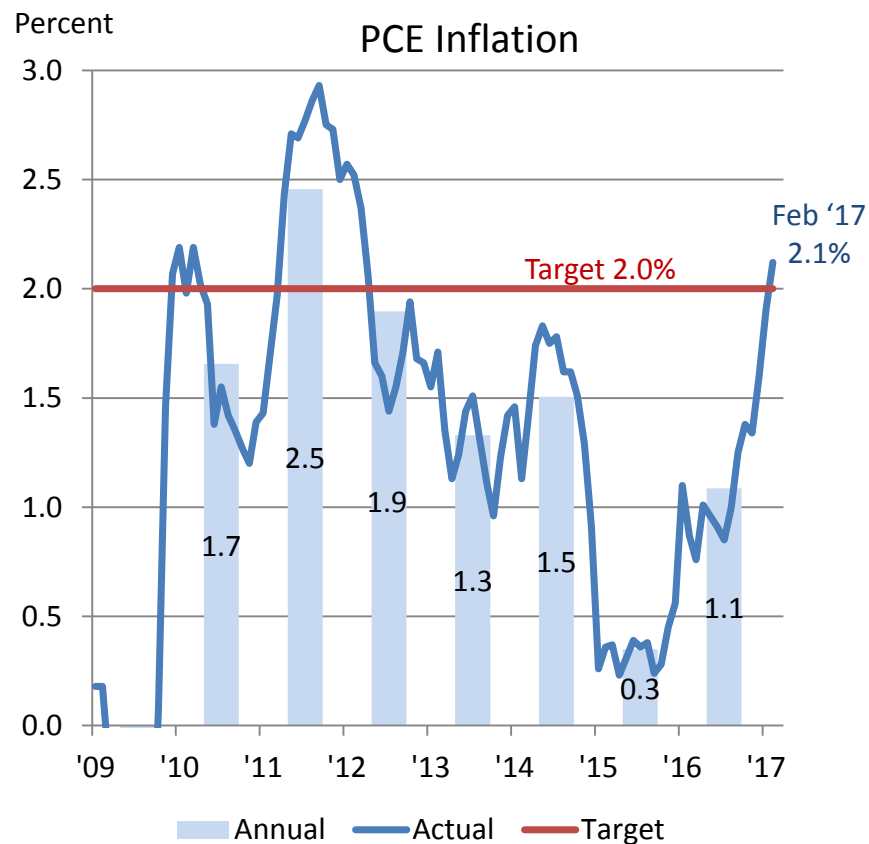
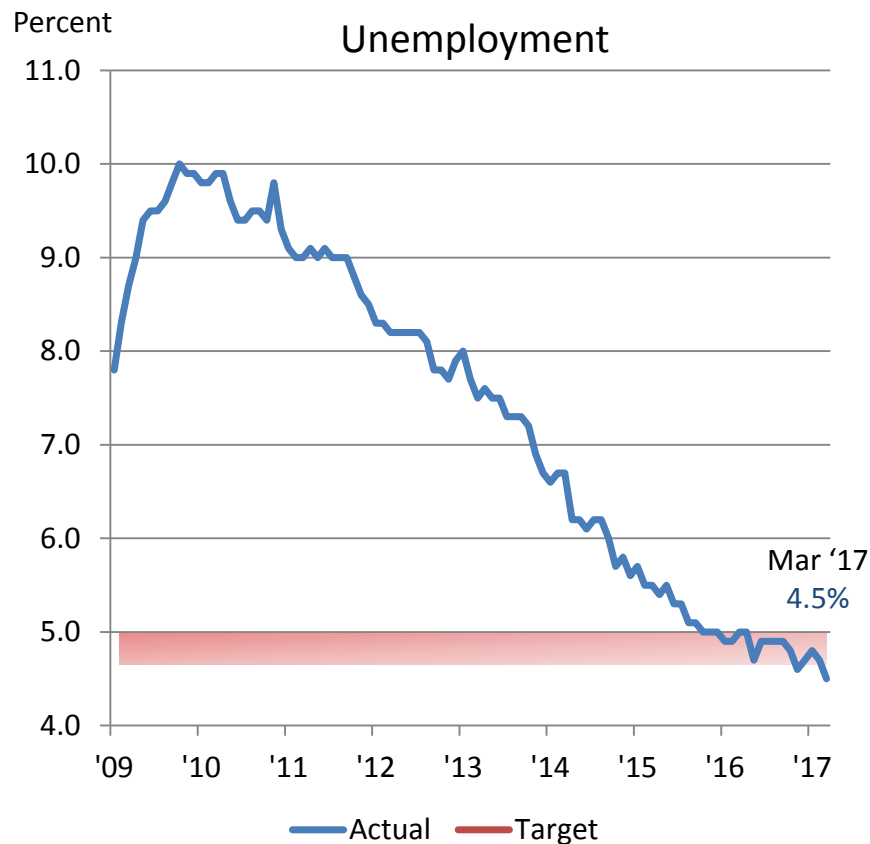
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March 15, 2017

1. Information since the F.O.M.C. met in December indicates that the labor market has continued to strengthened and that economic activity has continued to expand at a moderate pace.
2. Job gains remained solid and the unemployment rate was little changed in recent months.
3. Household spending has continued to rise moderately while business fixed investment appears to have firmed somewhat.
4. Inflation has increased in recent quarters, moving close to the Committee's 2 percent longer-run objective; excluding energy and food prices, inflation was little changed and continued to run somewhat below 2 percent.
5. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

# Unemployment Rate & PCE Inflation

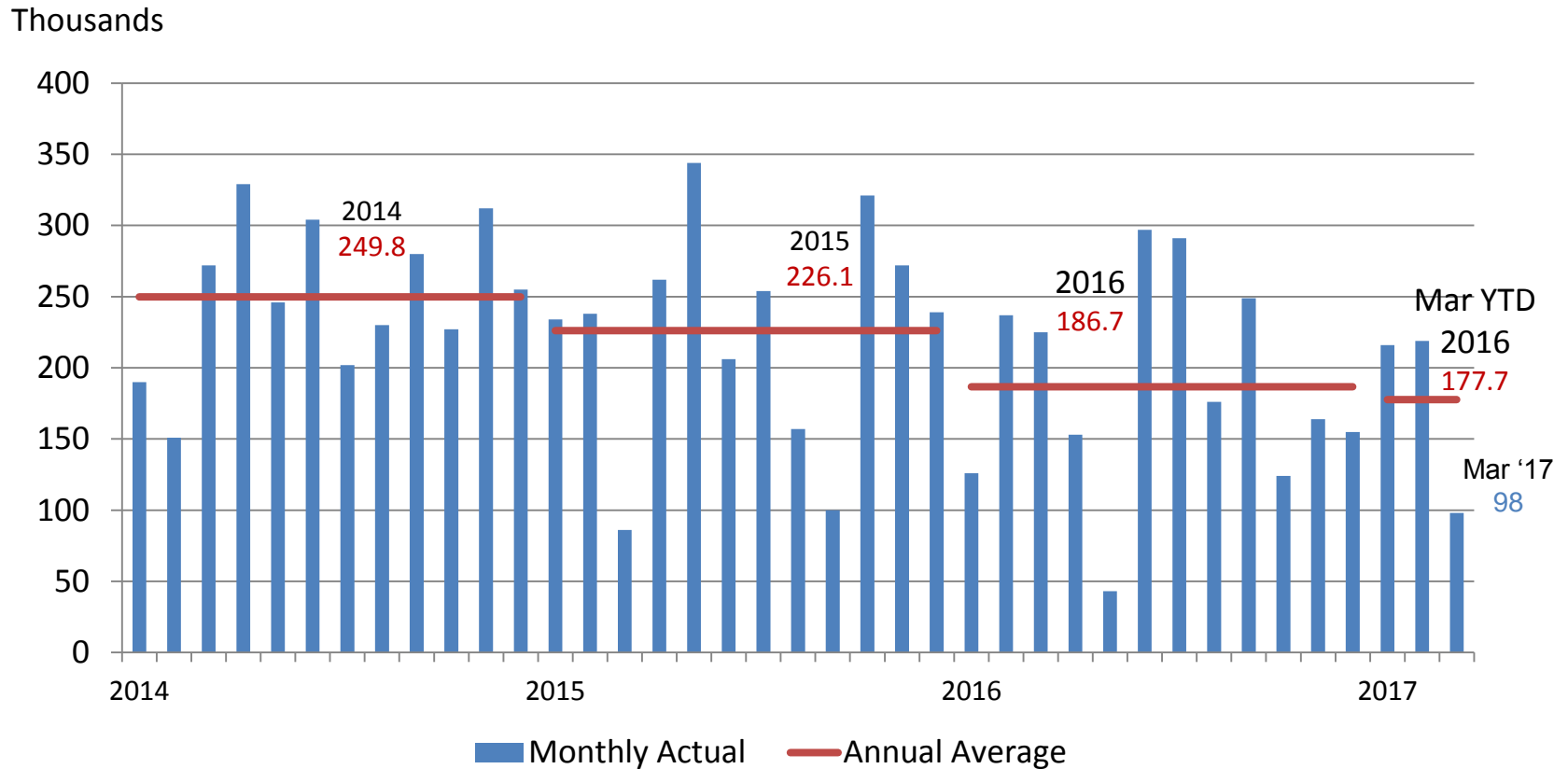
Percent Unemployed, PCE % Change Yr./Yr.



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

# U.S. Nonfarm Payrolls

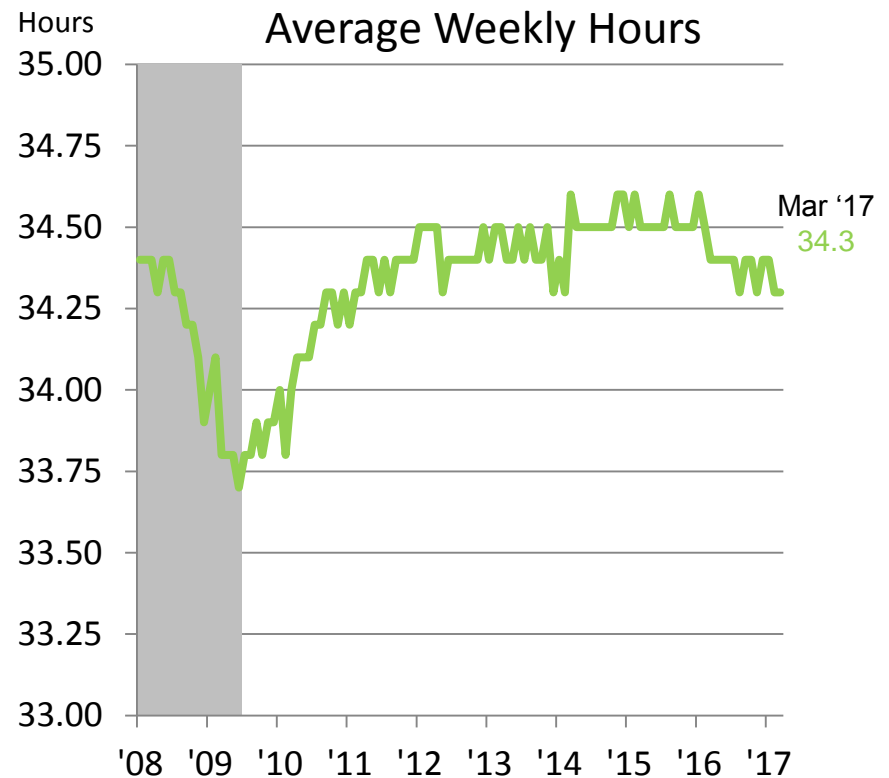
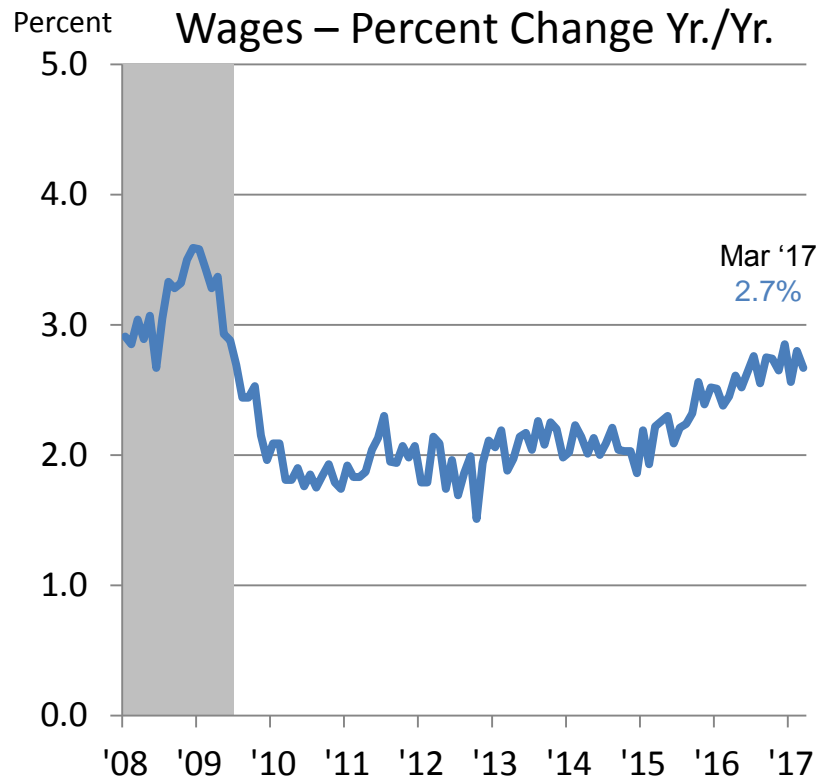
## Monthly and Annual Average Job Change – In Thousands



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

# Wages and Hours

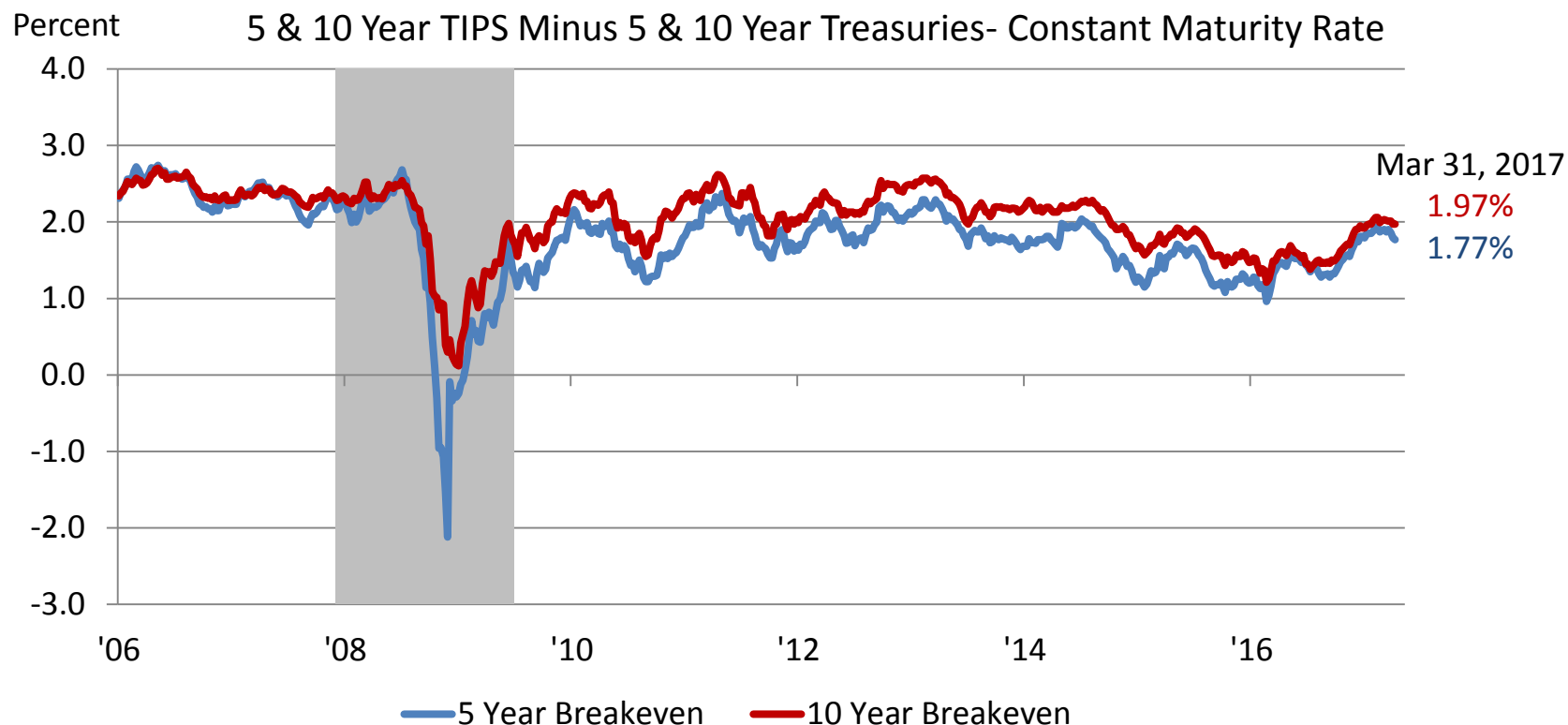
## Total Private – All Employees



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

# Inflation Compensation

## 5 Year and 10 Year Inflation Expectations

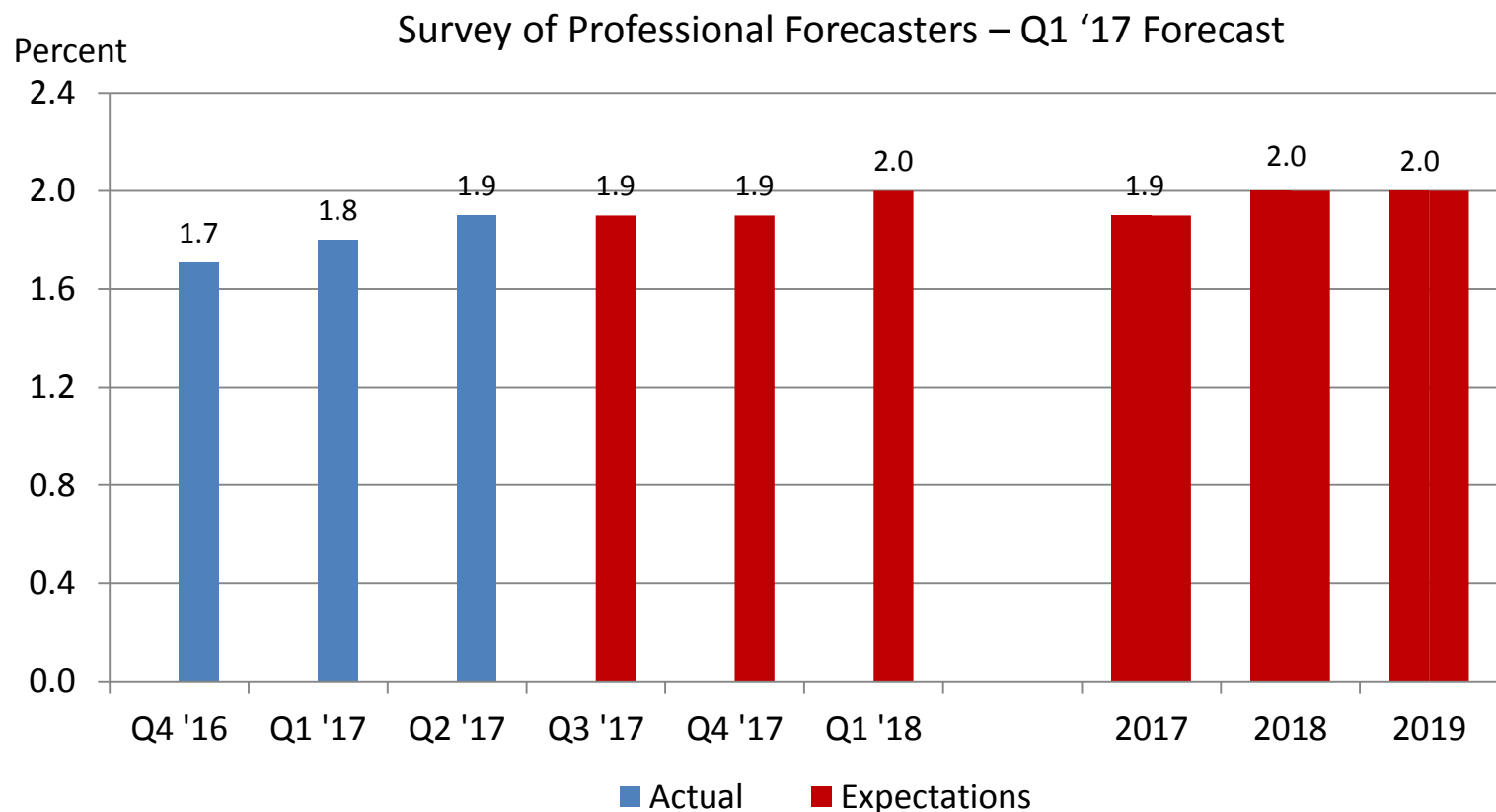


Source: Author's calculation using Federal Reserve System data.

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

# Inflation Expectations

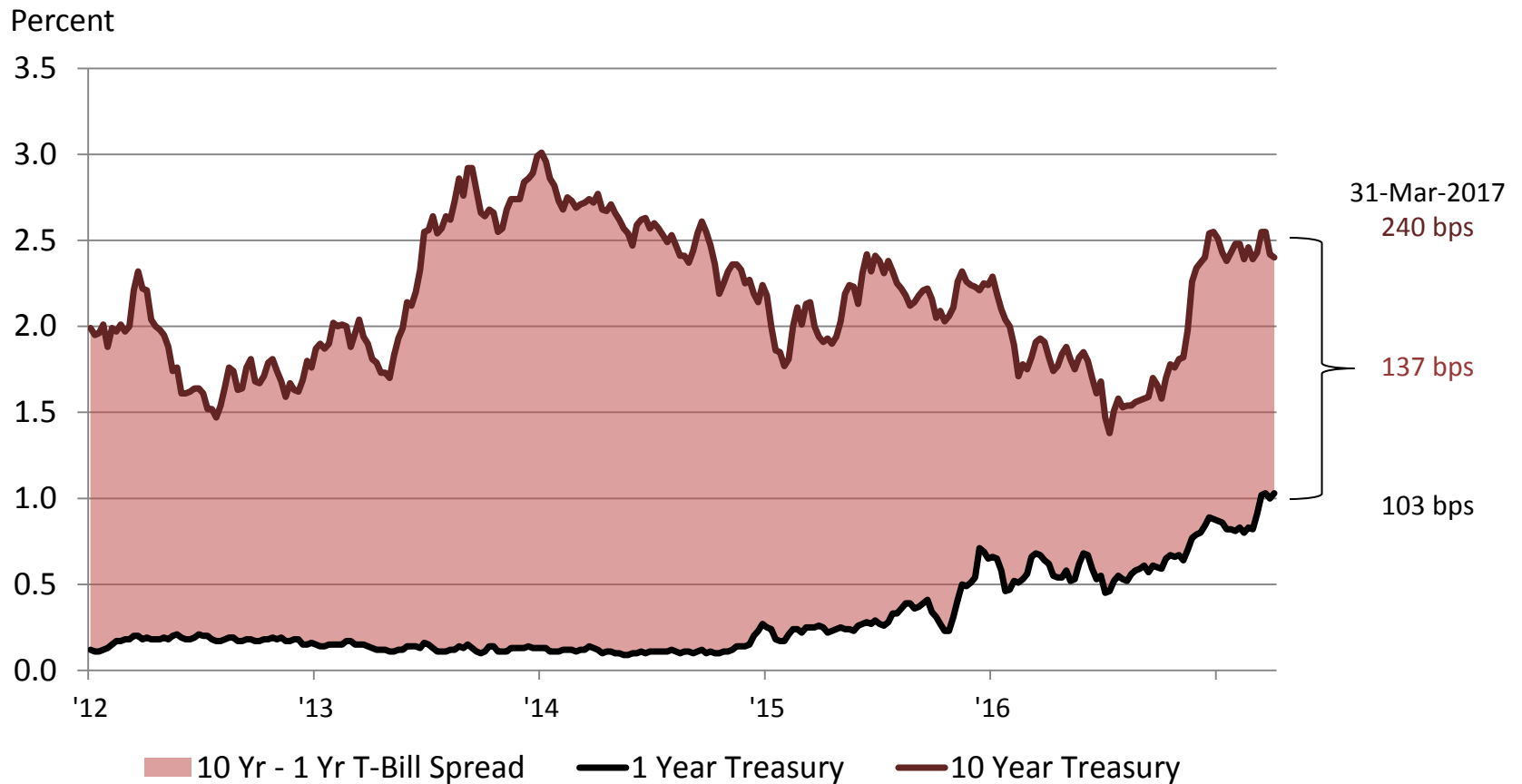
## Headline PCE Inflation – Yr./Yr. & Q4/Q4



Source: Bureau of Economic Analysis and FRB Philadelphia Q4 '16 Survey

# Yield Curve

## 10 Year – 1 Year Treasuries in Basis Points

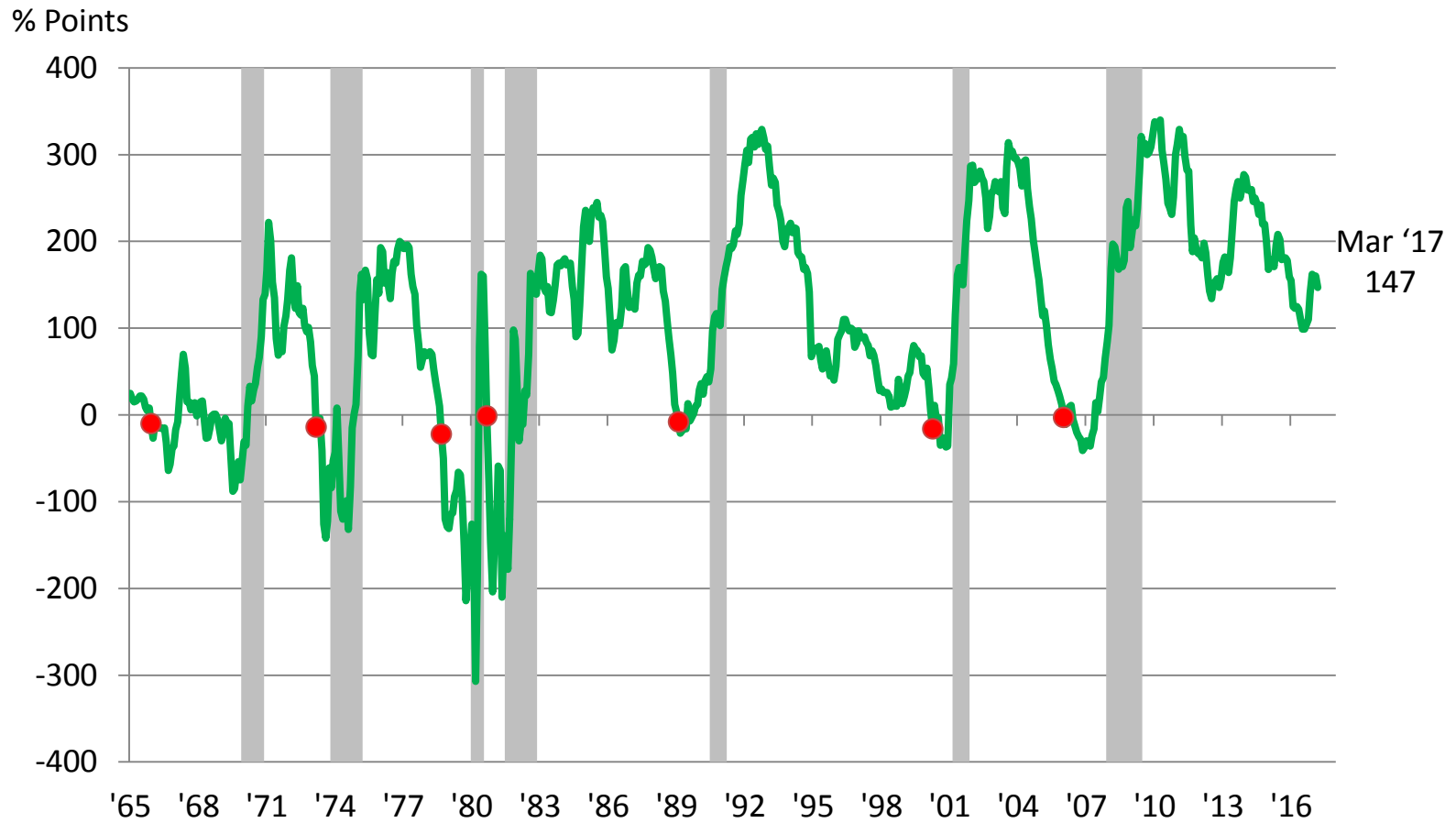


Source: Board of Governors – Federal Reserve System



# Yield Curve

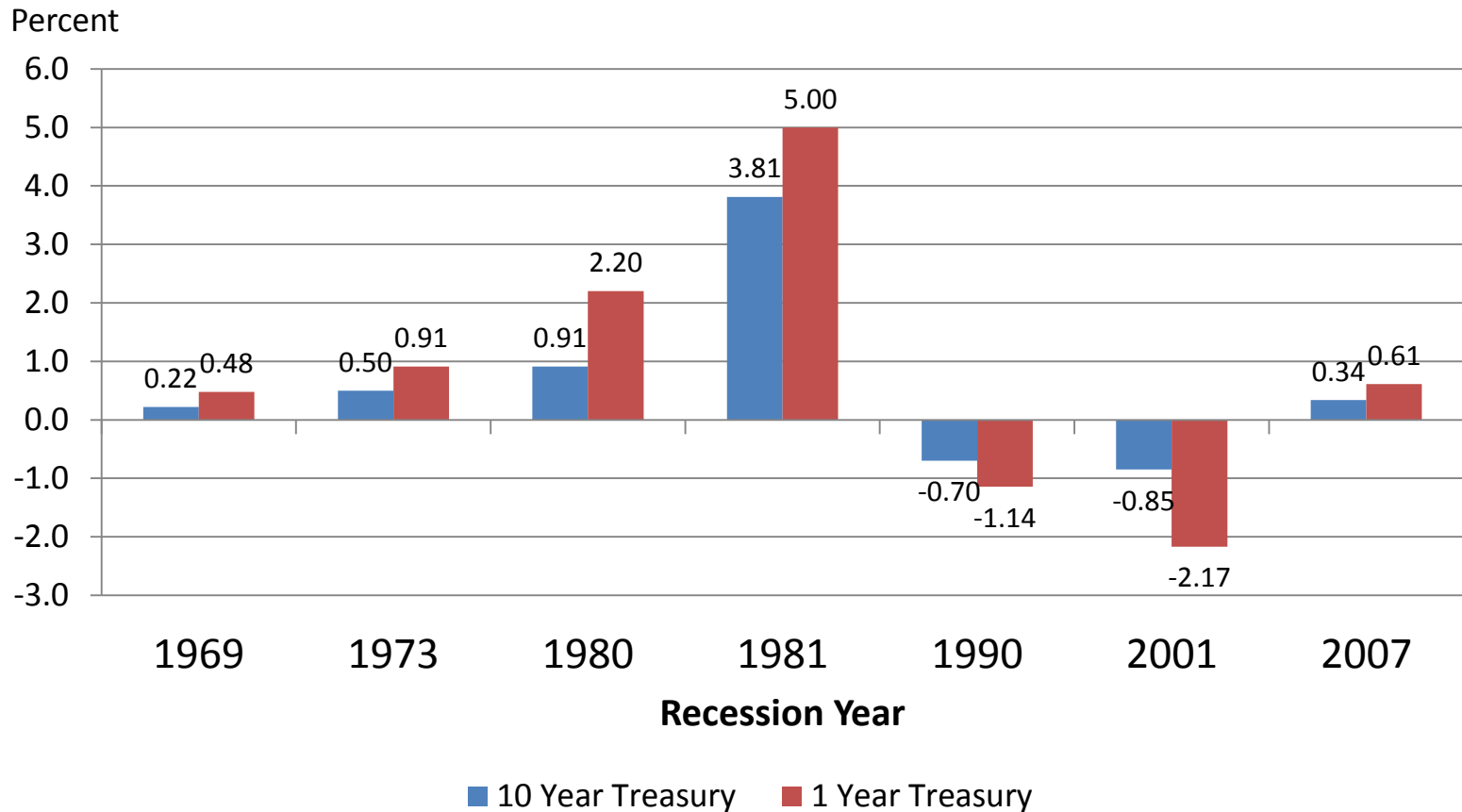
## 10 Year Minus 1 Year Treasury



Source: Board of Governors – Federal Reserve System

# 10 Year Treasury Rate Change

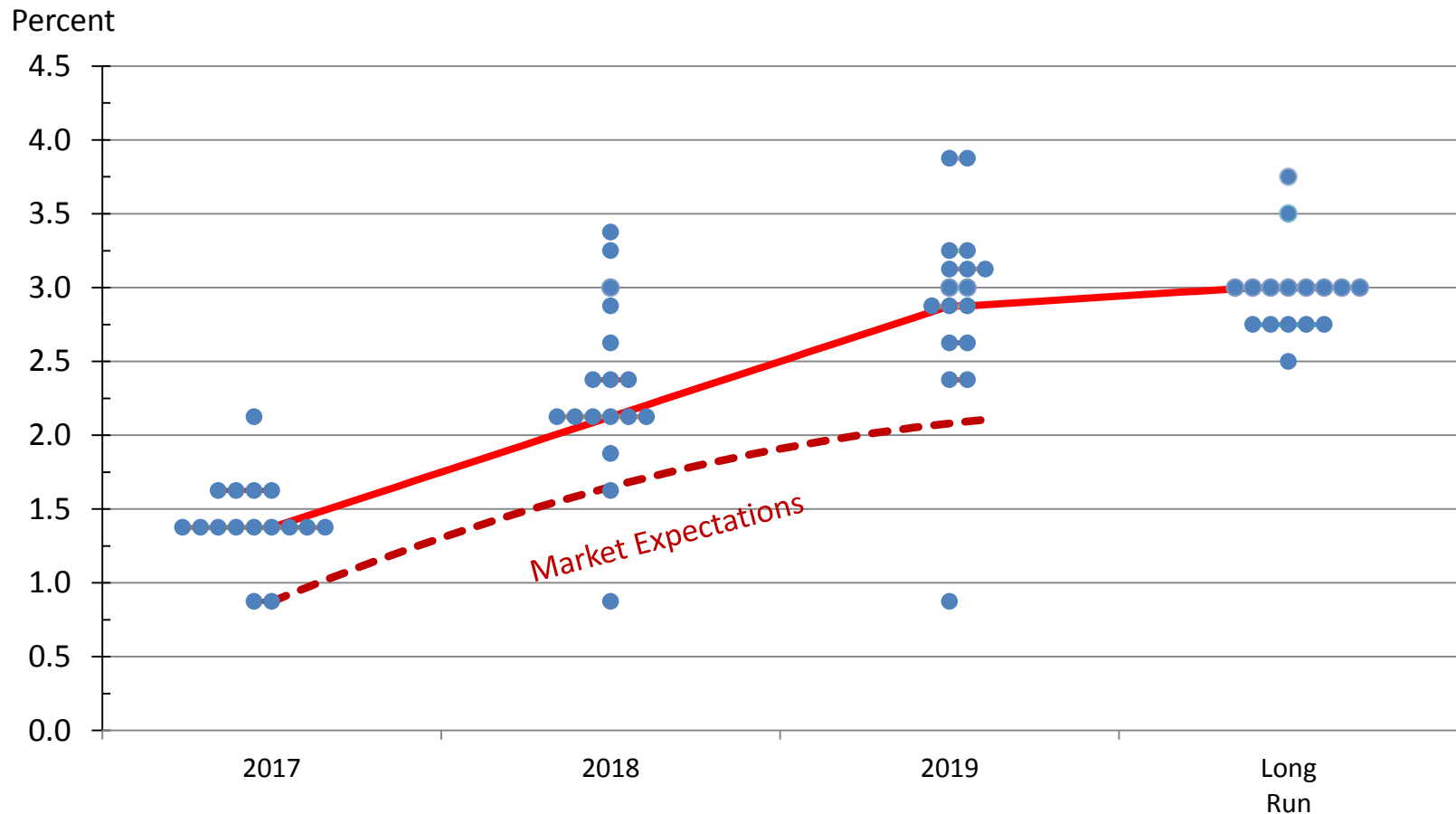
## 12 Months Following Yield Curve Turning Negative



Source: Board of Governors – Federal Reserve System

# Appropriate pace of policy firming

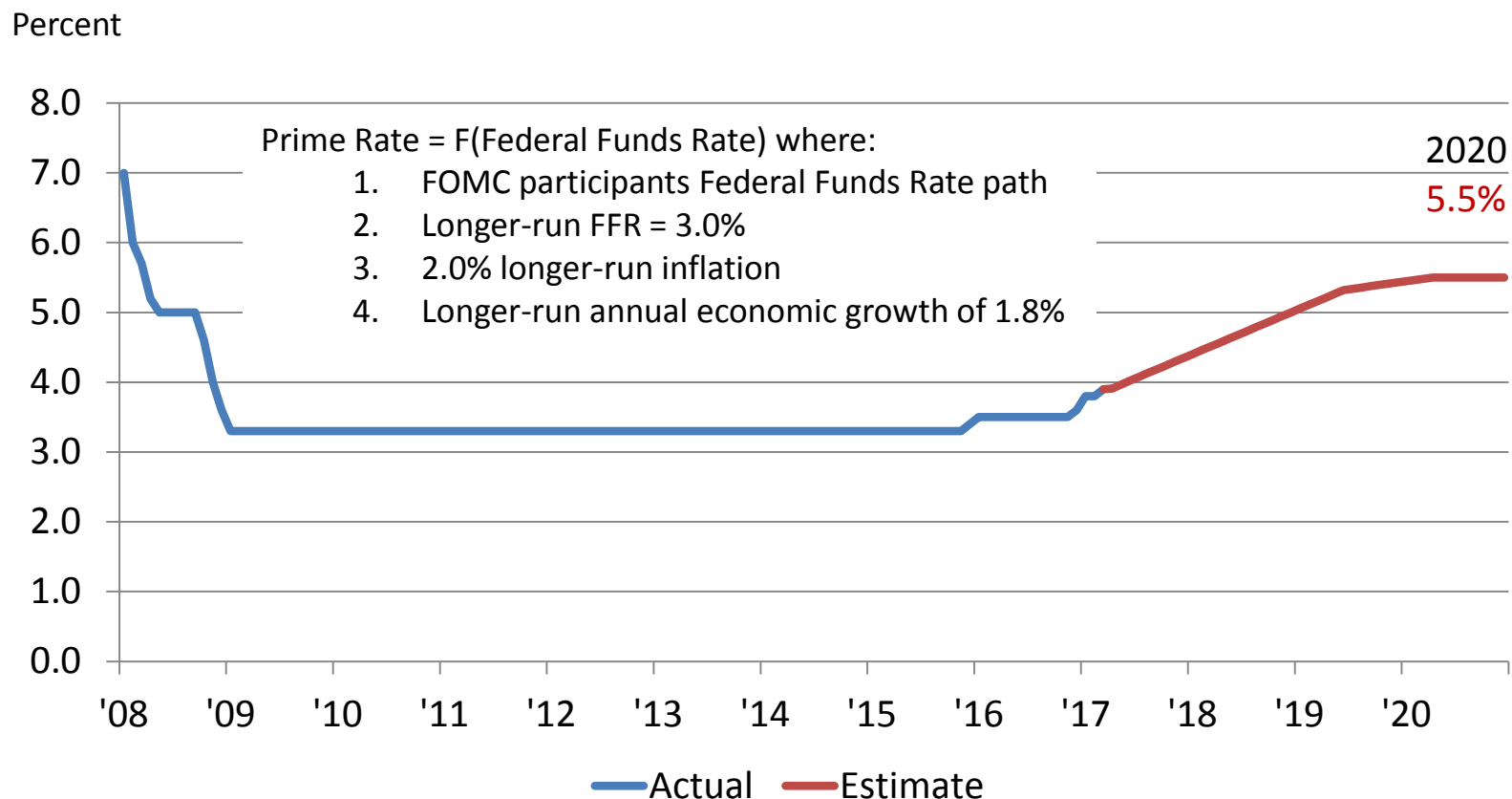
## Fed Funds Rate – Year End Projections



Source: Federal Reserve - F.O.M.C. participants, March 15, 2017

# Prime Rate

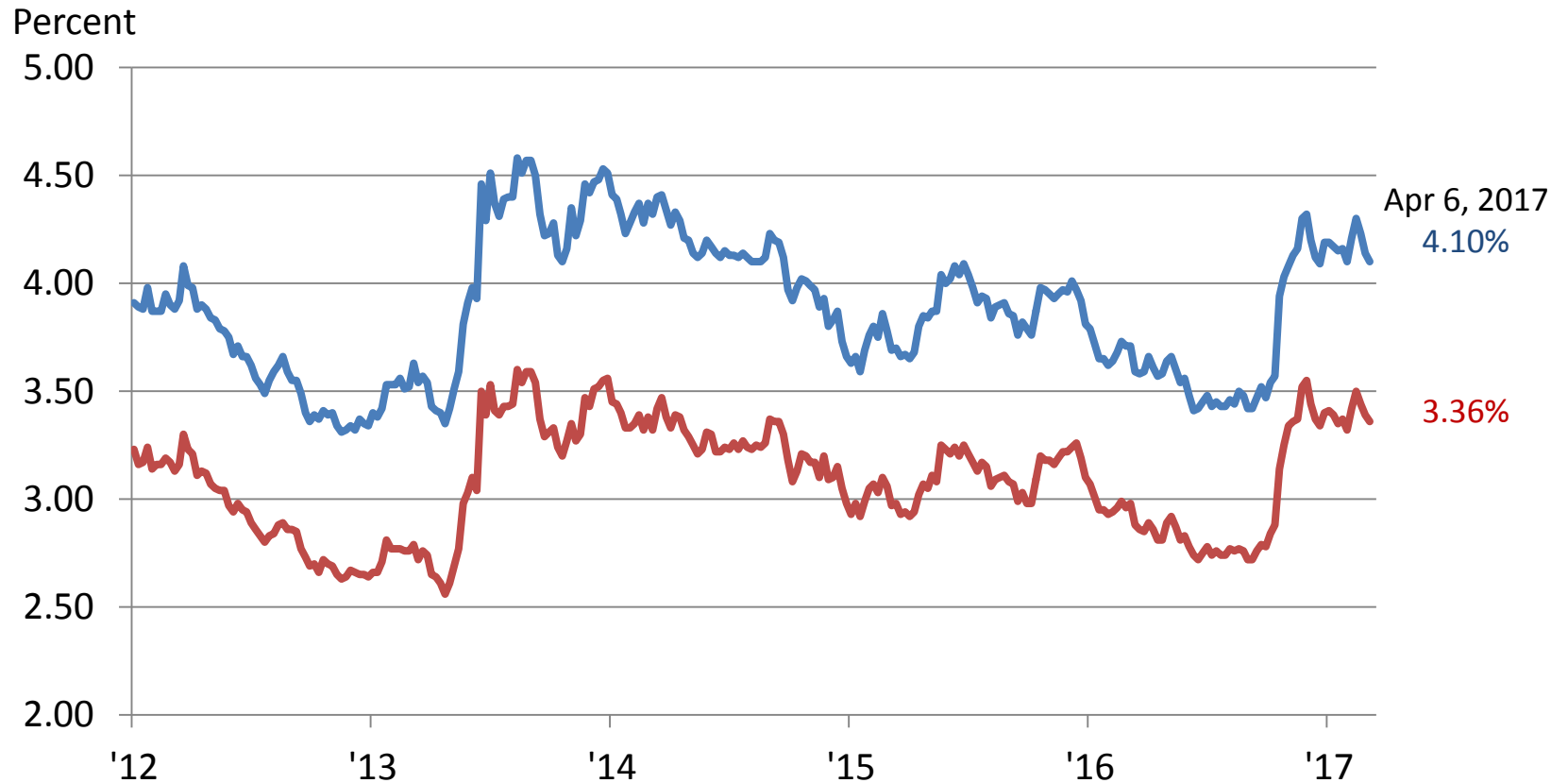
## Bank Prime Loan Rate – In Percent



Source: Author's calculation using Board of Governors – Federal reserve Bank data.

# Mortgage Rates

## 15 & 30 Year Fixed Rate – U.S. Average



Source: Freddie Mac

*Thank You!*

