

Economic Update

Automotive Insights Conference

Federal Reserve Bank of Chicago
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Main Economic Indicators

Year-over-year Comparison

	<u>2015</u>	<u>2016</u>	<u>2017</u>
GDP – Annual Growth Rate ¹	2.0%	1.8%	2.3%
Unemployment Rate ²	5.3%	4.9%	4.4%
Participation Rate ²	62.7%	62.8%	62.8%
Nonfarm Job Growth ³	226.1	186.7	171.3
PCE Core Inflation Yr. / Yr. ⁴	1.3%	1.8%	1.5%

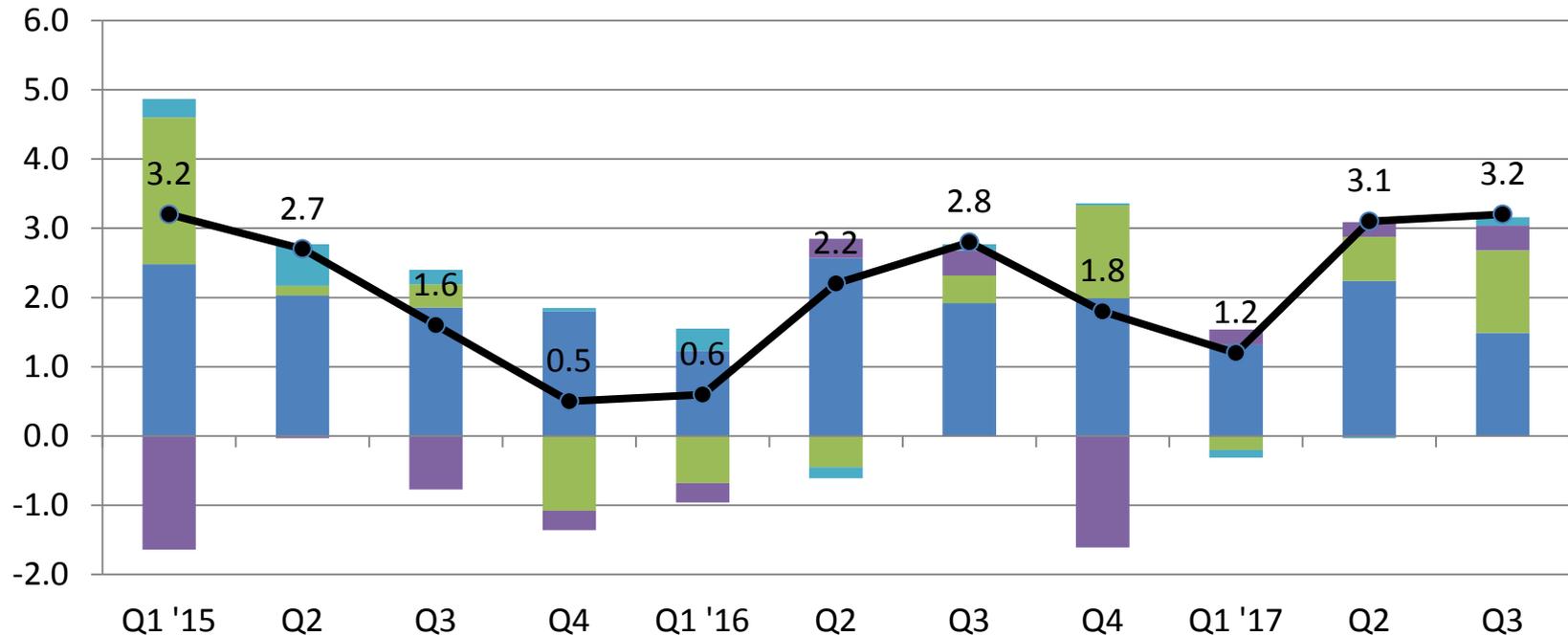
1. Year-over-year - 2015 & 2016 Q4/Q4, 2017 Q3/Q3
2. Annual Average
3. Average Monthly Job Growth in Thousands- SA
4. Percent Change Year-over-year PCE Core – Annual Average & November 2017 YTD

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

U.S. Real GDP

GDP and Contribution to Percent Change, Q/Q at SAAR

Percent

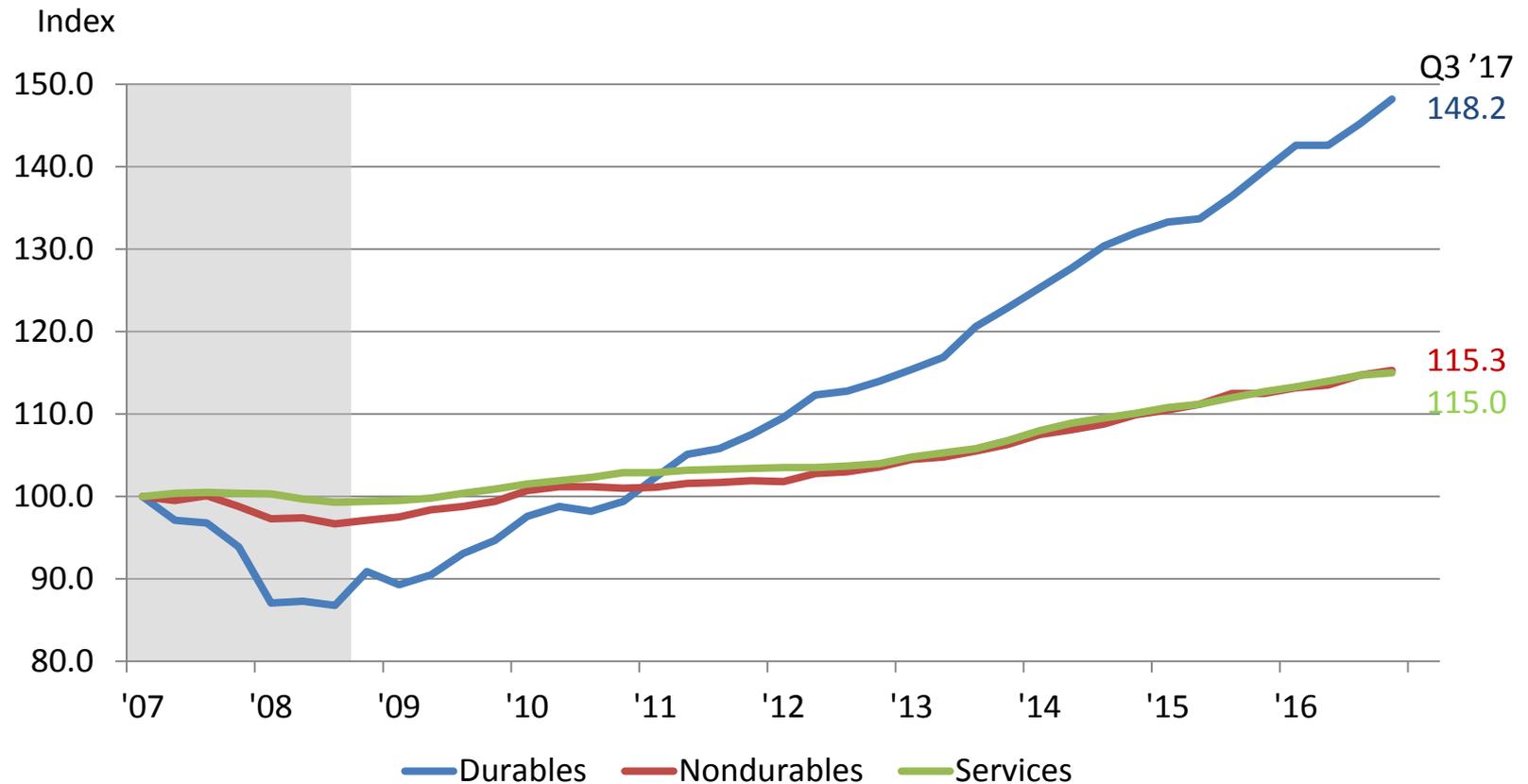


	PCE	Private Investment	Net Exports	Government	GDP
Q3 2017 Contribution	1.5%	1.2%	0.4%	0.1%	3.2%

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

Real Personal Consumption Expenditures

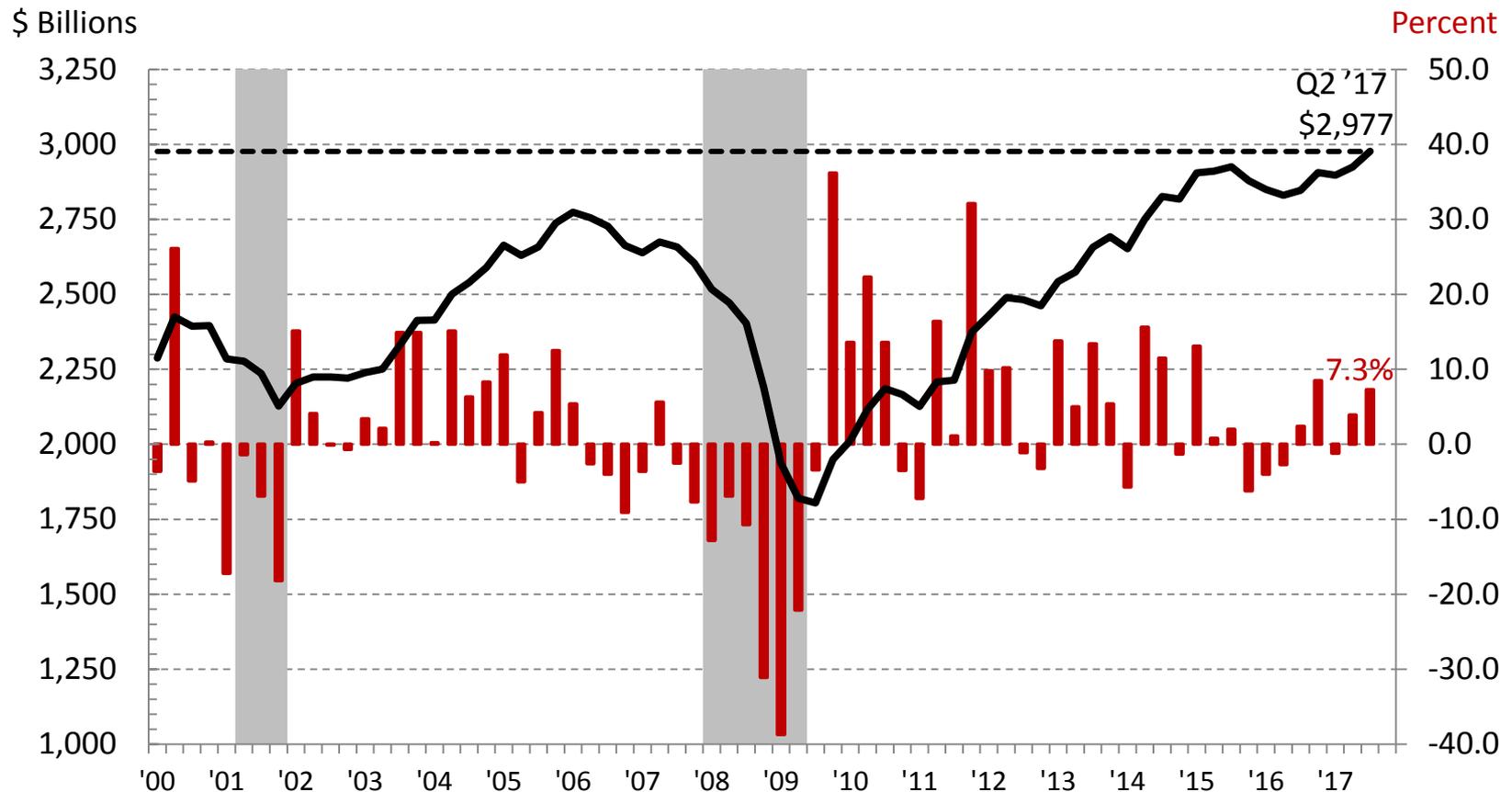
Index, Q4 2007 = 100



Source: Author's calculations using data from the BEA

Real Gross Private Domestic Investment

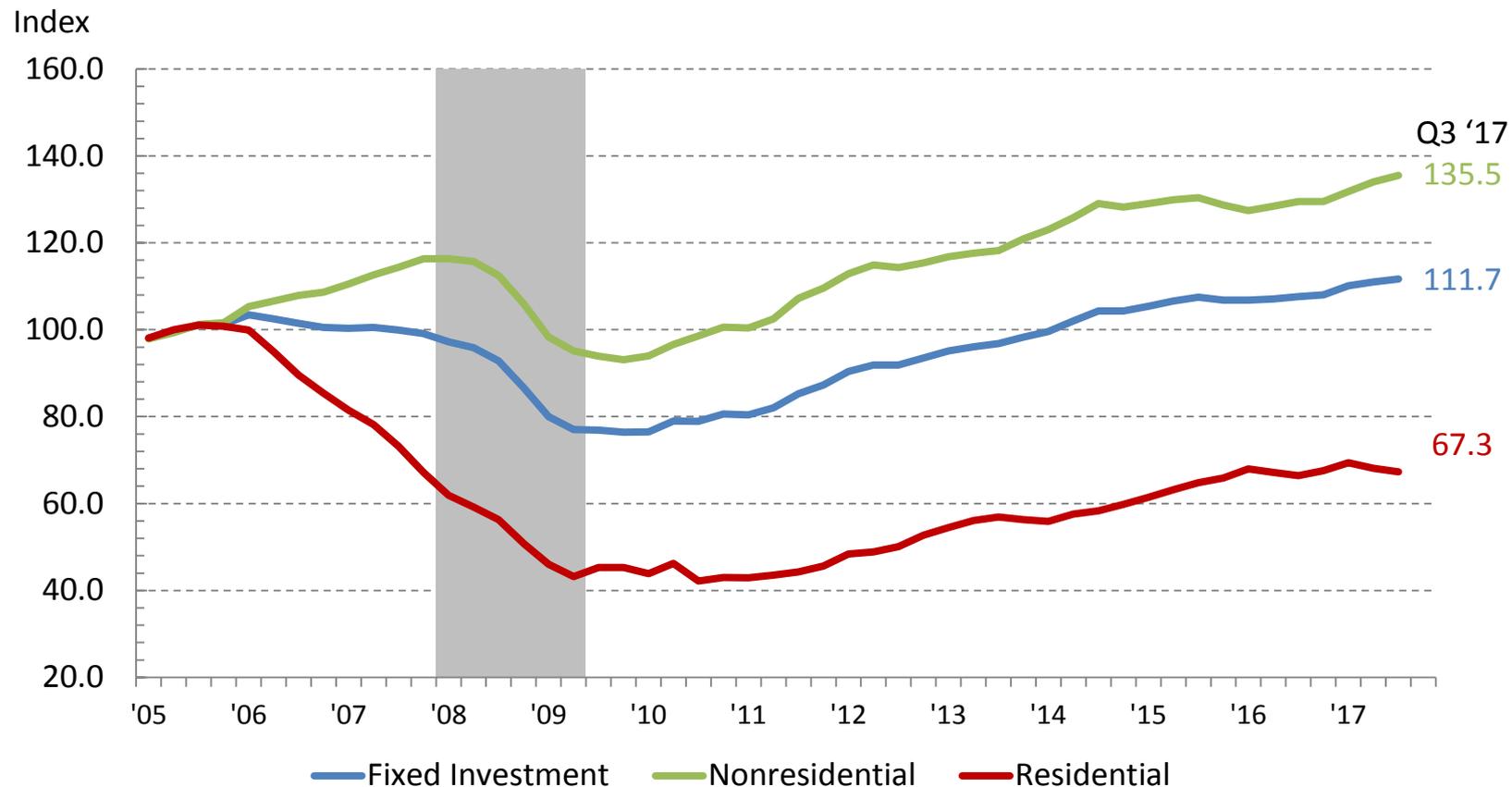
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Real Private Fixed Investment

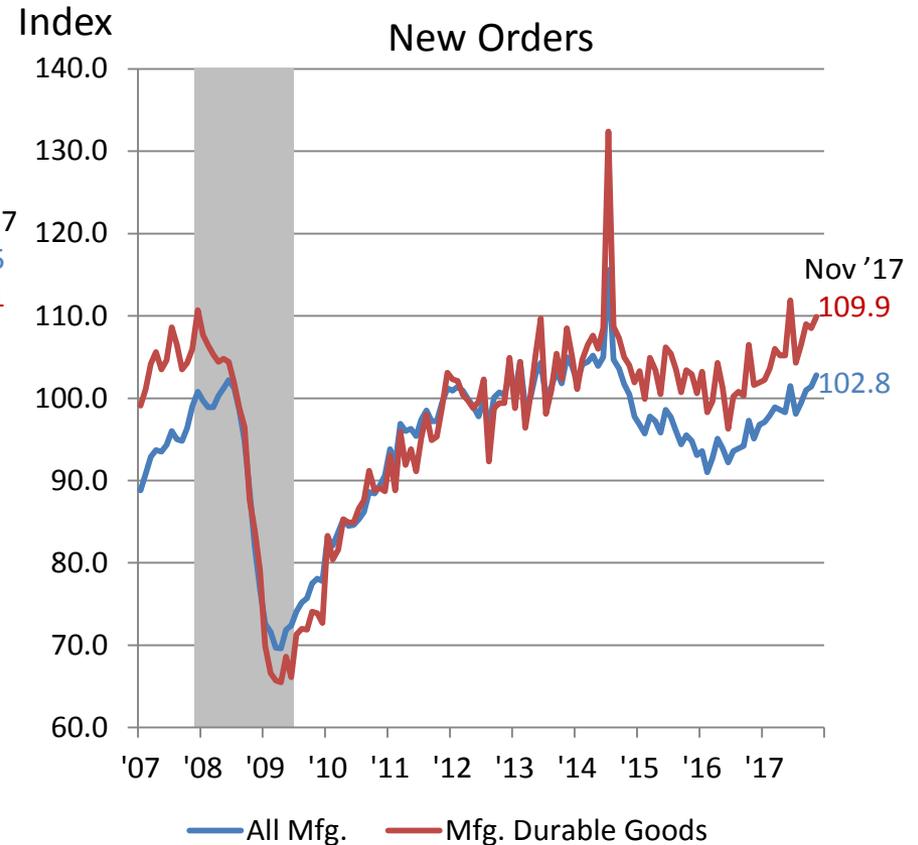
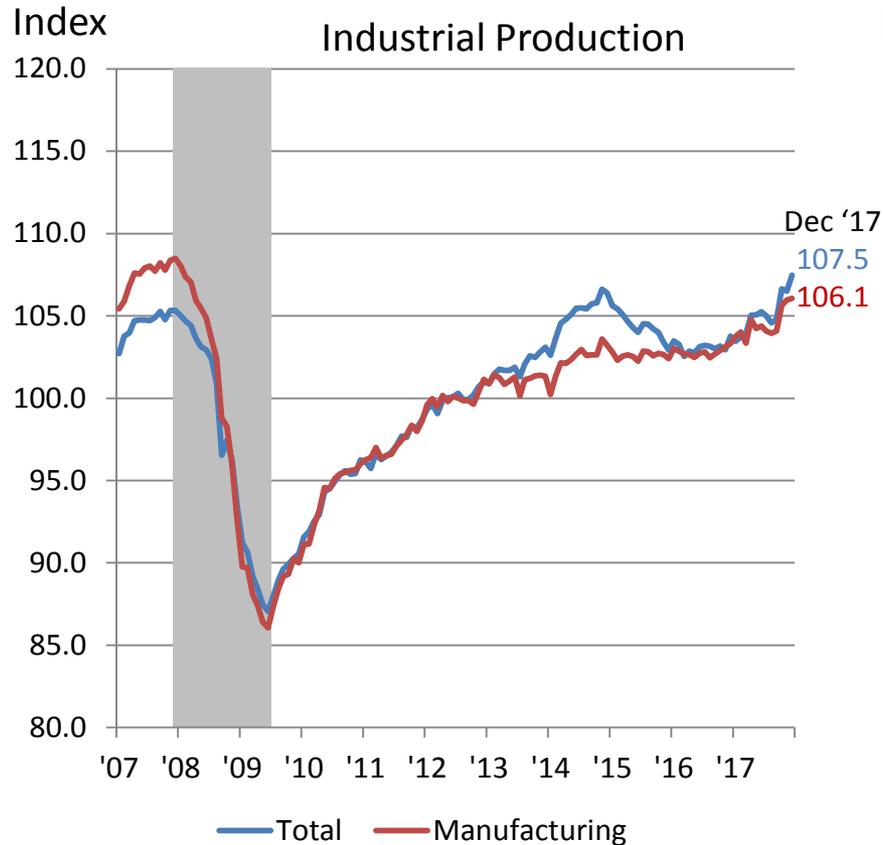
Billions Chained \$2009, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

Industrial Production & New Orders

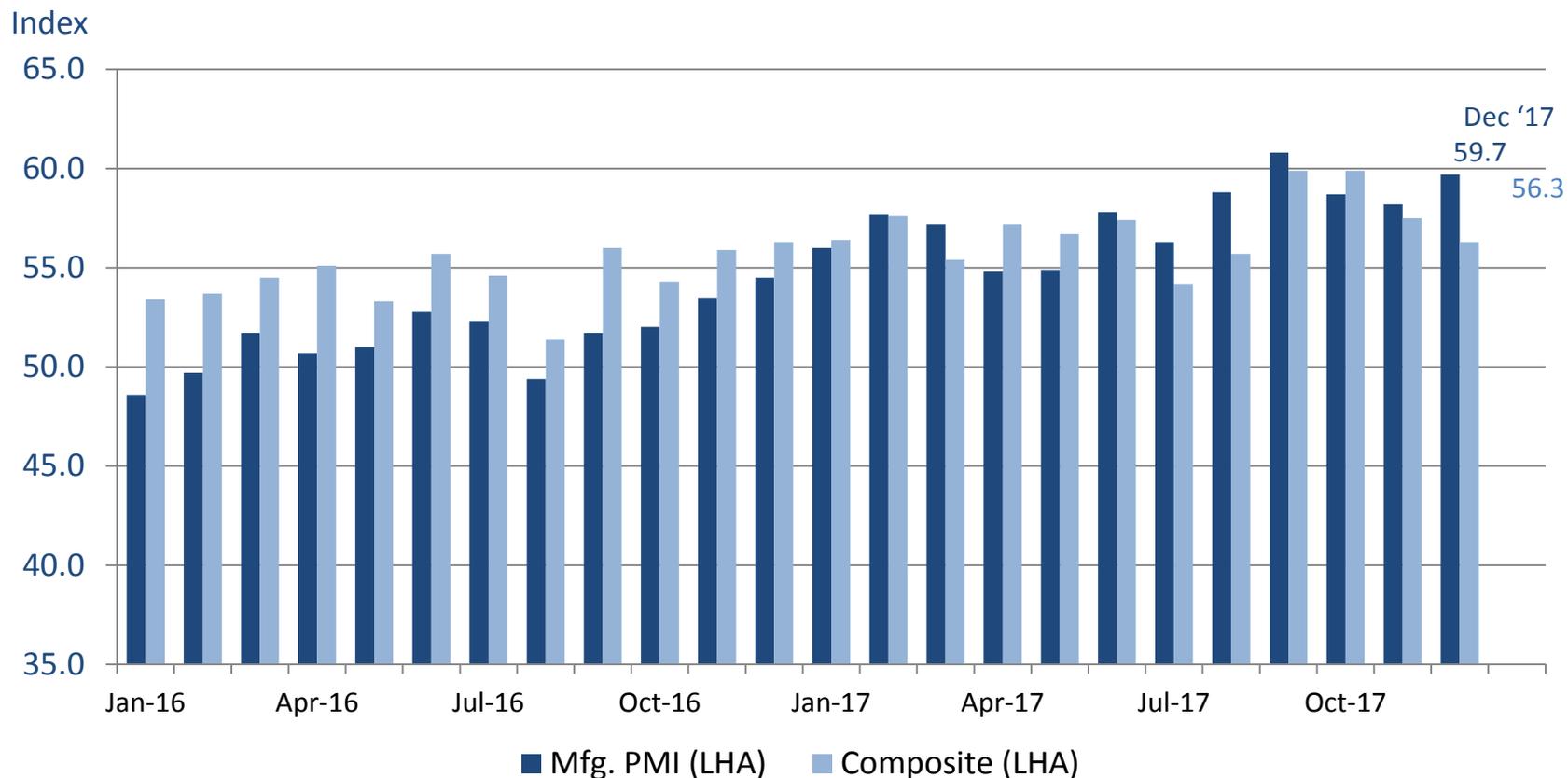
Index, 2012 = 100



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

ISM Purchasing Managers Index

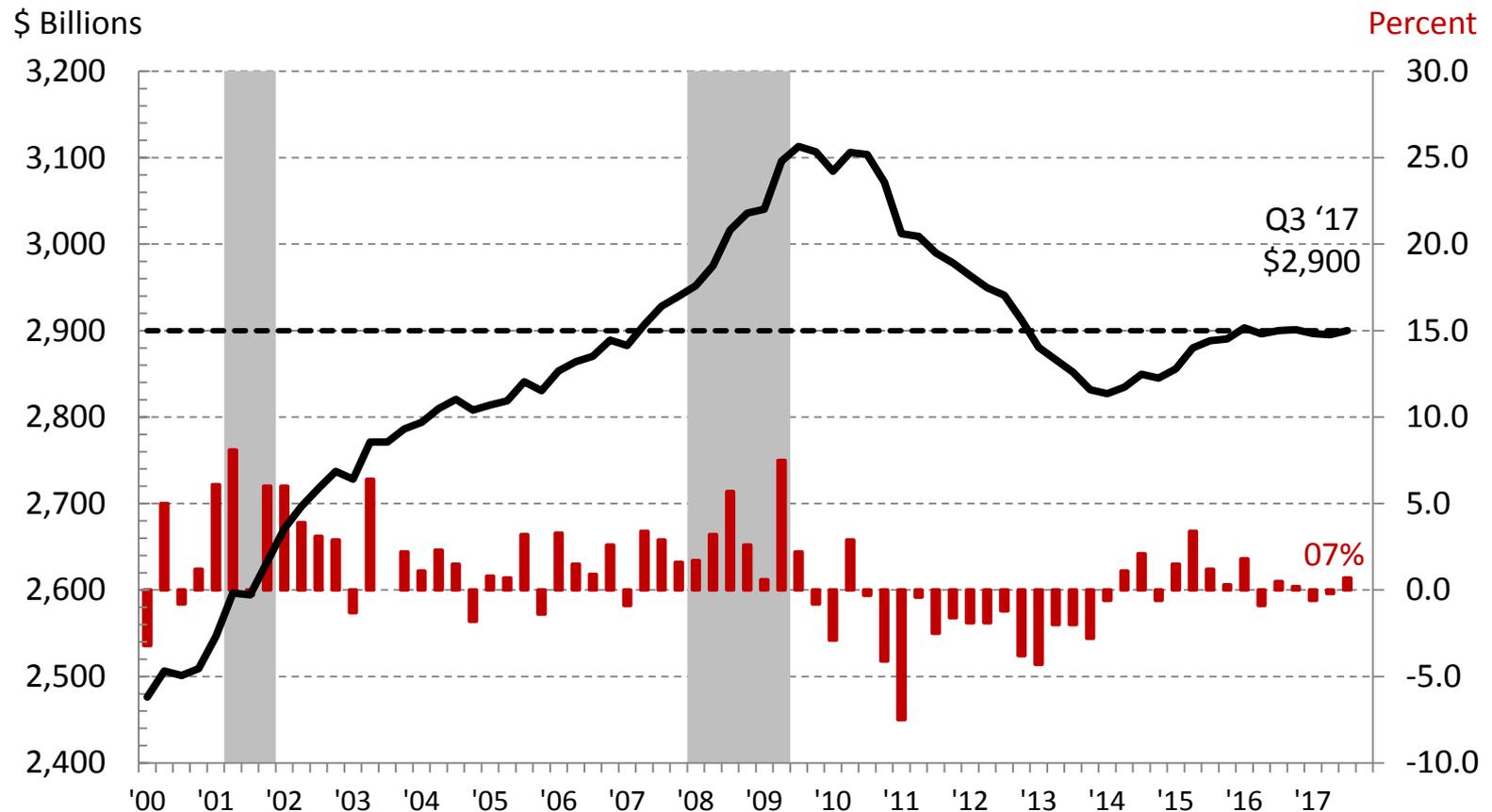
Manufacturing & Composite, SA - Greater than 50 = Expansion



Source: Institute for Supply Management , Haver Analytics and FRED

Real Government Consumption & Investment

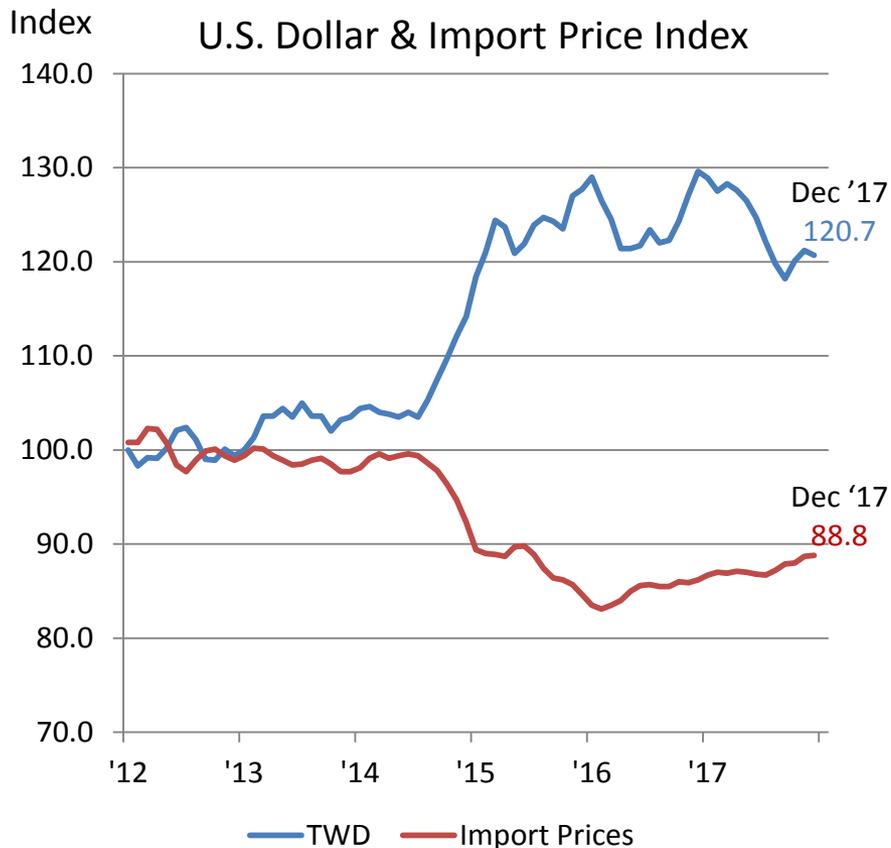
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

The U.S. Dollar and Trade Deficit

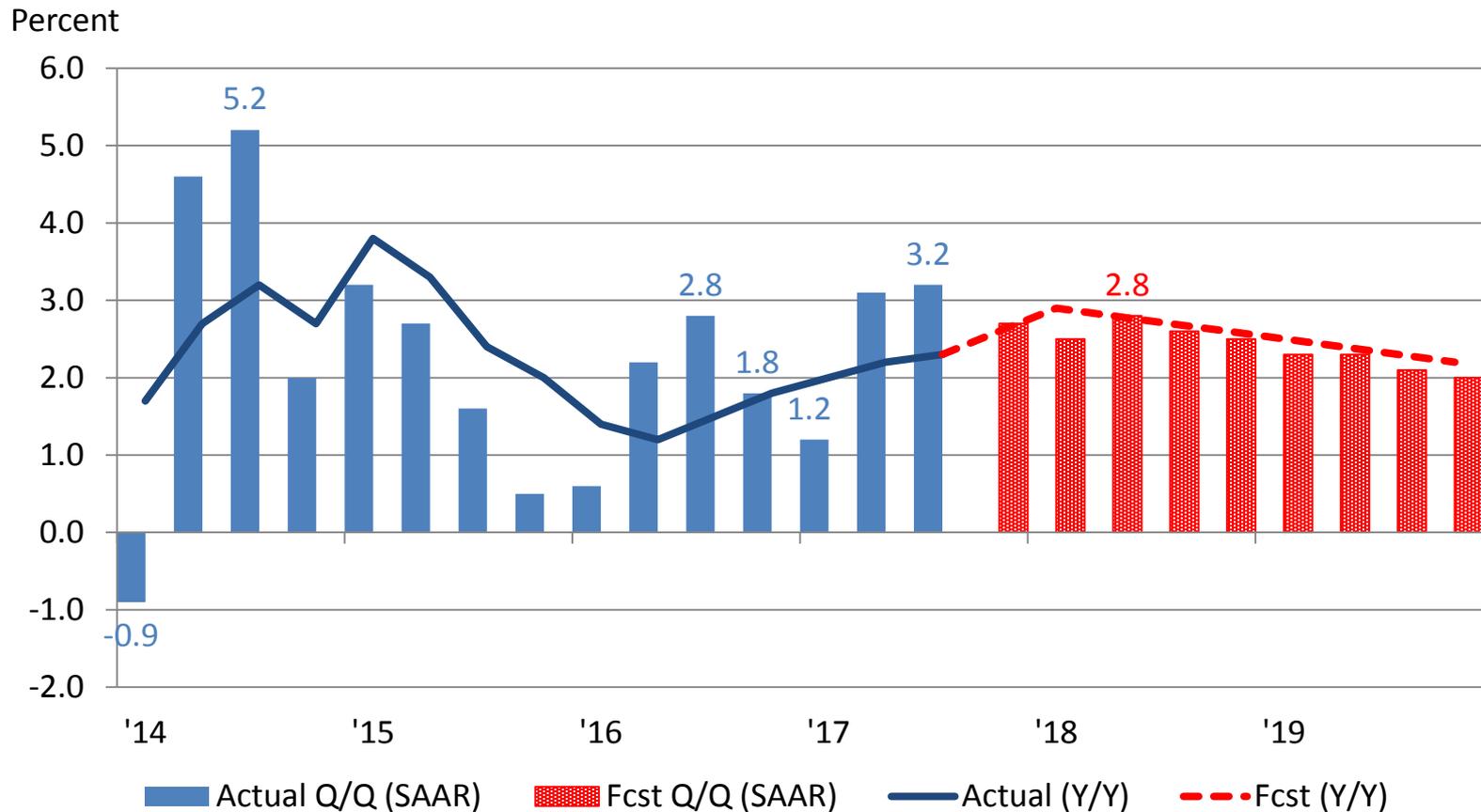
Index 2012 = 100



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

U.S. Real GDP Blue Chip Forecast

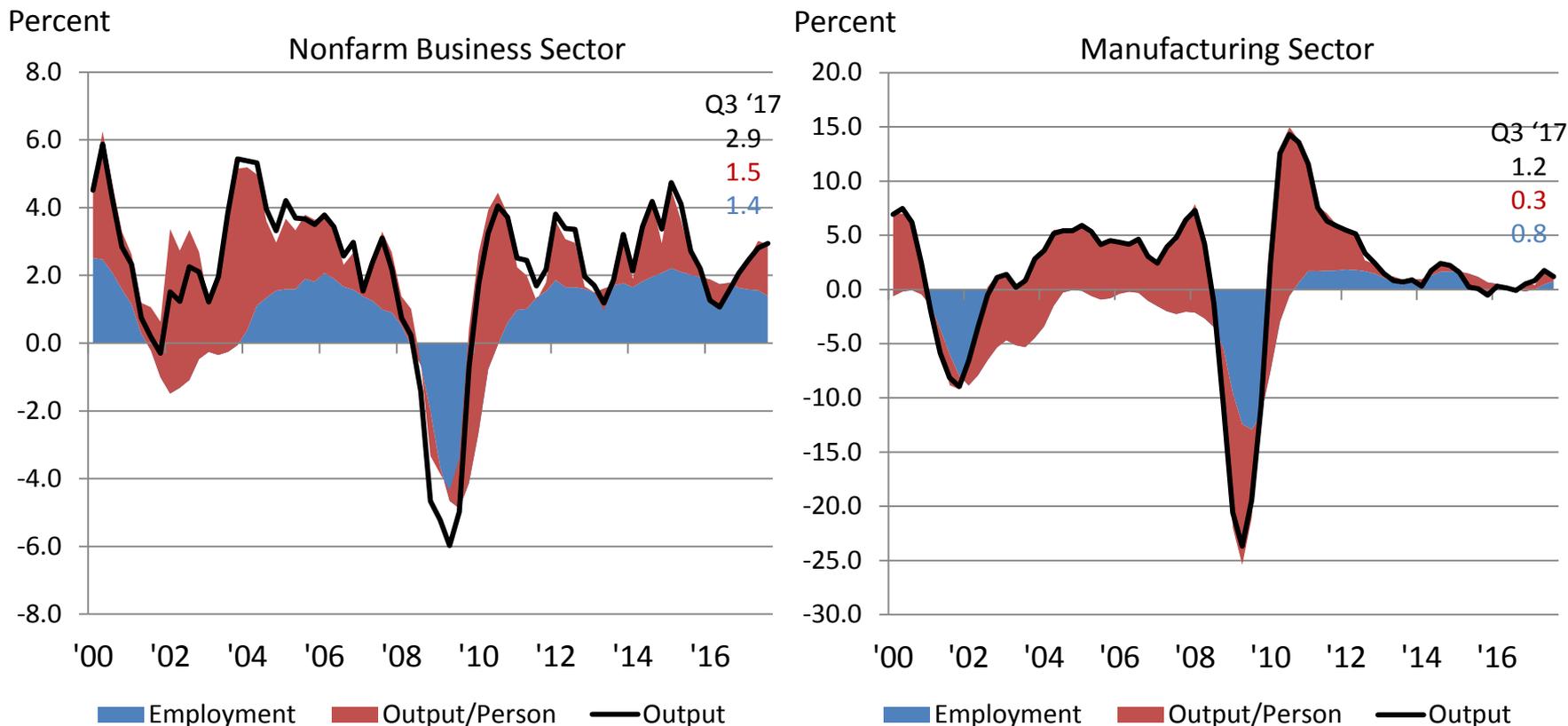
Percent Change – Billions of Chained \$2009



Source: BEA and January 2018 Blue Chip Economic Indicators

Employment, Productivity, and Output

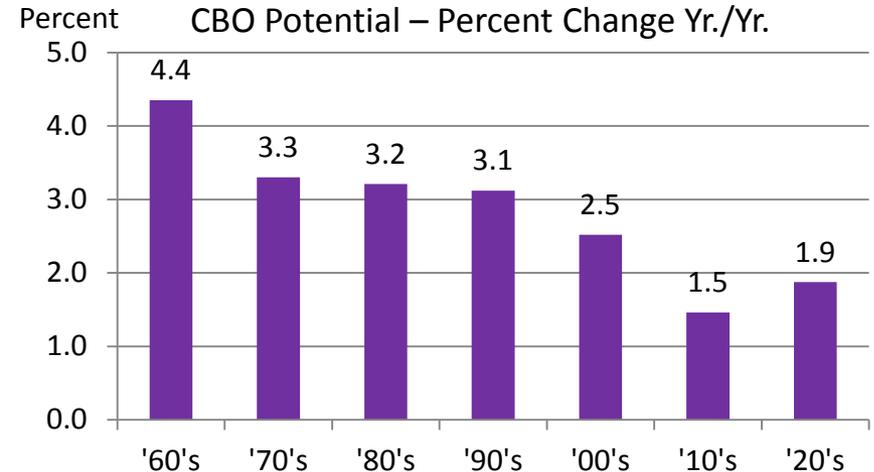
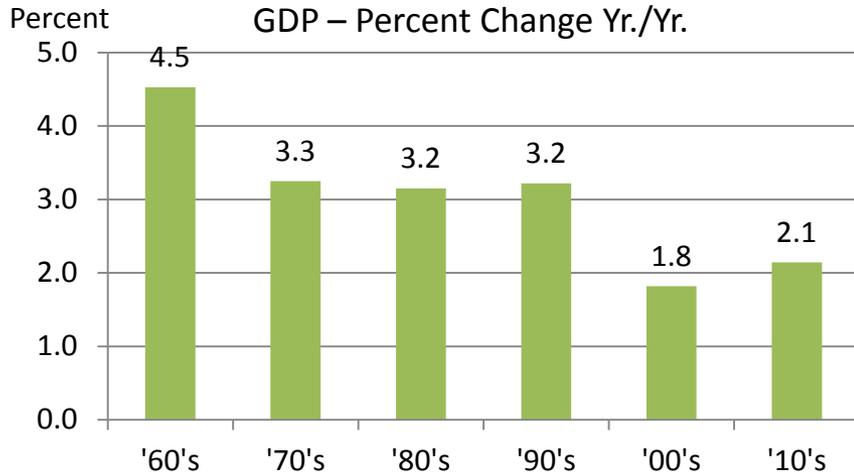
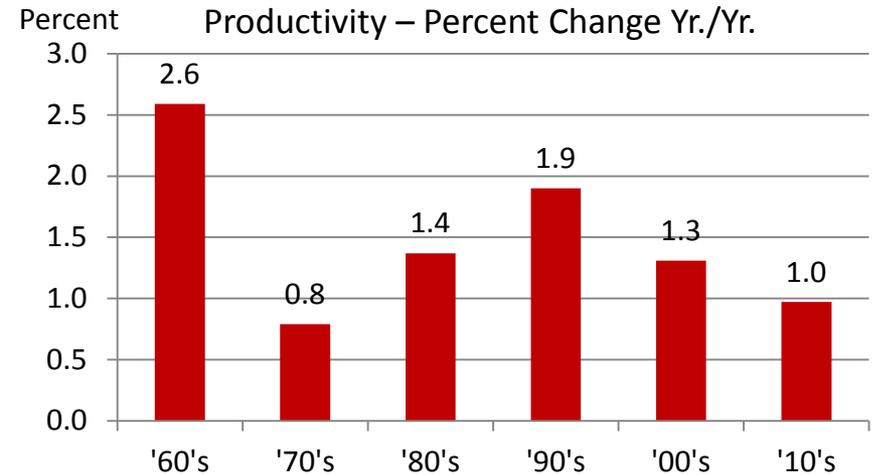
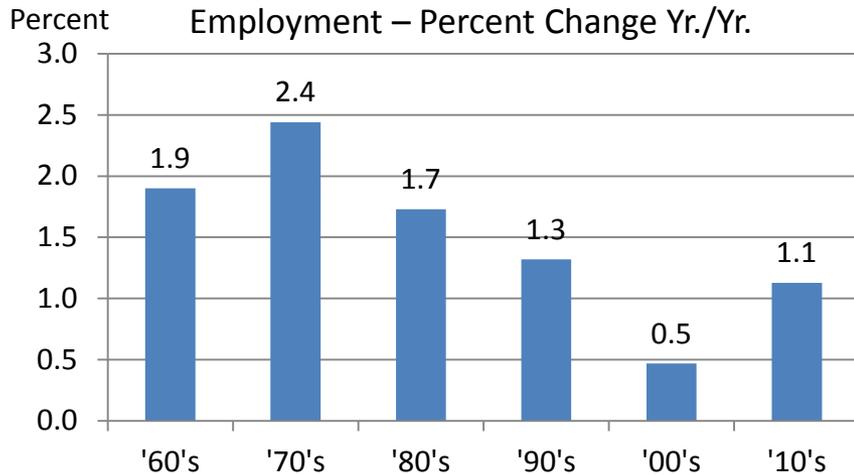
Nonfarm and Manufacturing – Percent Change Yr./Yr.



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

Employment, Productivity, and GDP Growth

Percent Change Yr./Yr.



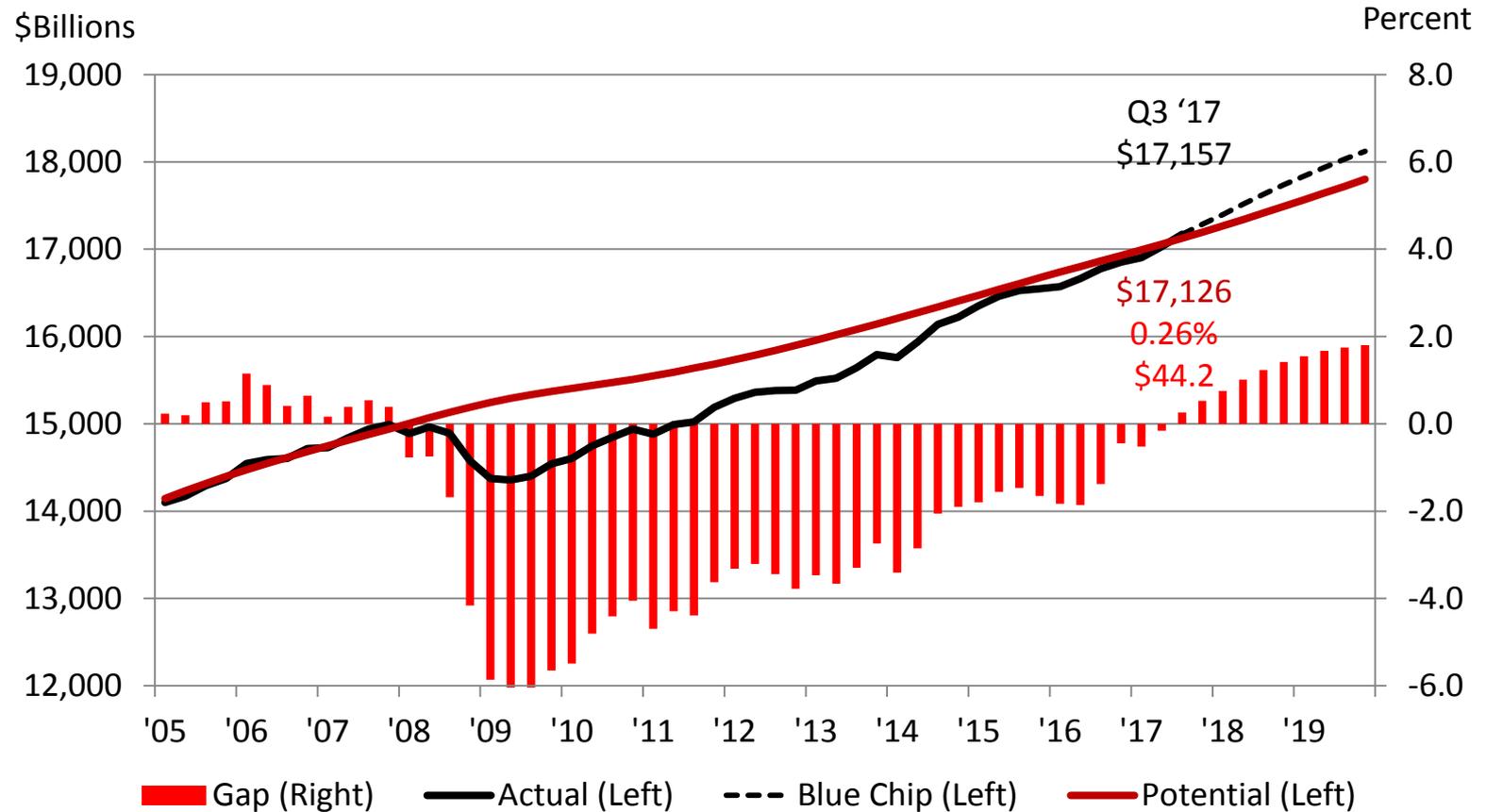
Source: Author's Calculations using BEA, BLS, and Fed data.

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Federal Reserve Bank of Chicago

U.S. Real GDP – Actual and Potential

Billions Chained \$2009 and Percent H/L than Potential



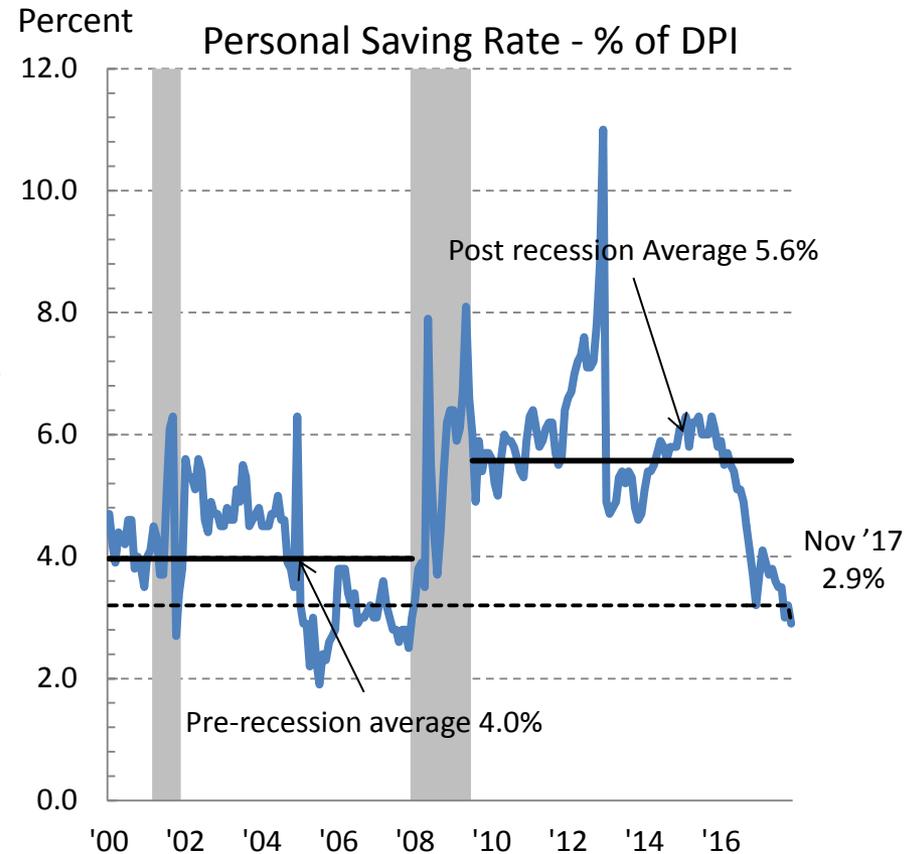
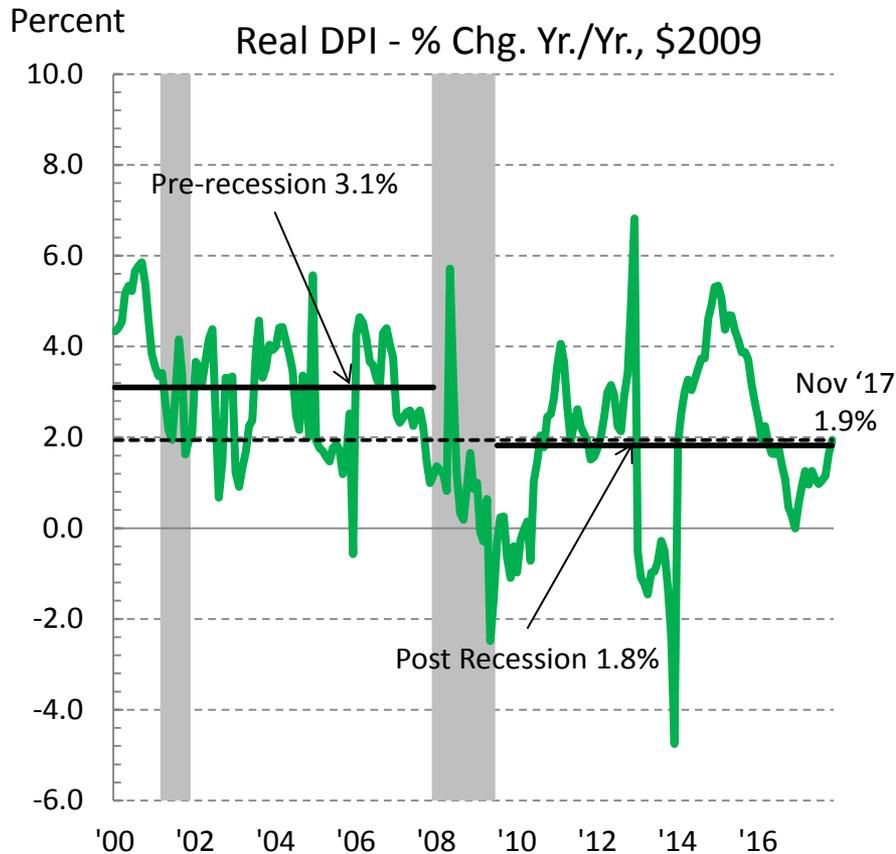
Source: Bureau of Economic Analysis and the U.S. Congressional Budget Office

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U.S. Consumer

Income and Savings Rate

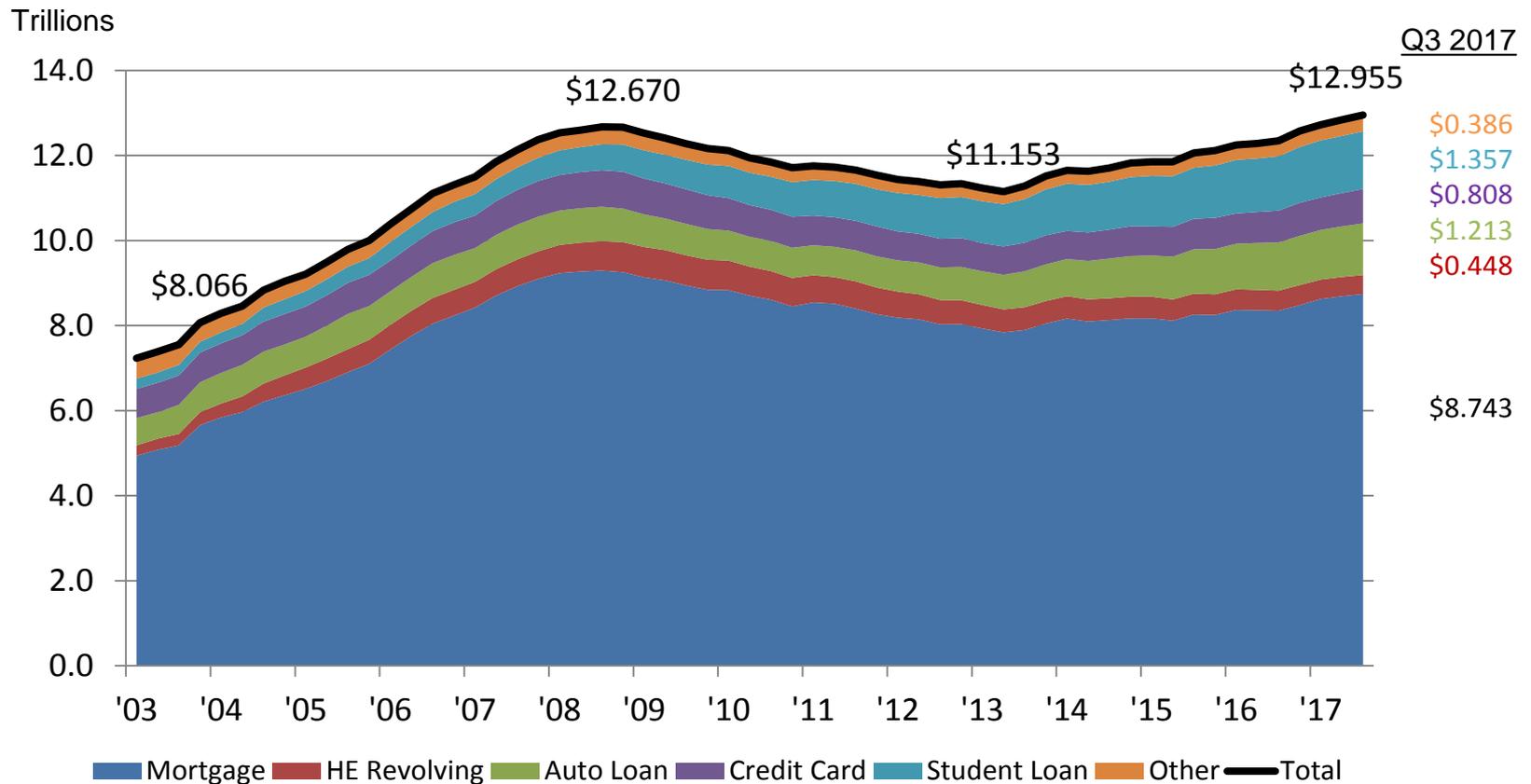
Percent Change and Percent of DPI



Source: U.S. Bureau of Economic Analysis

Total Consumer Debt by Composition

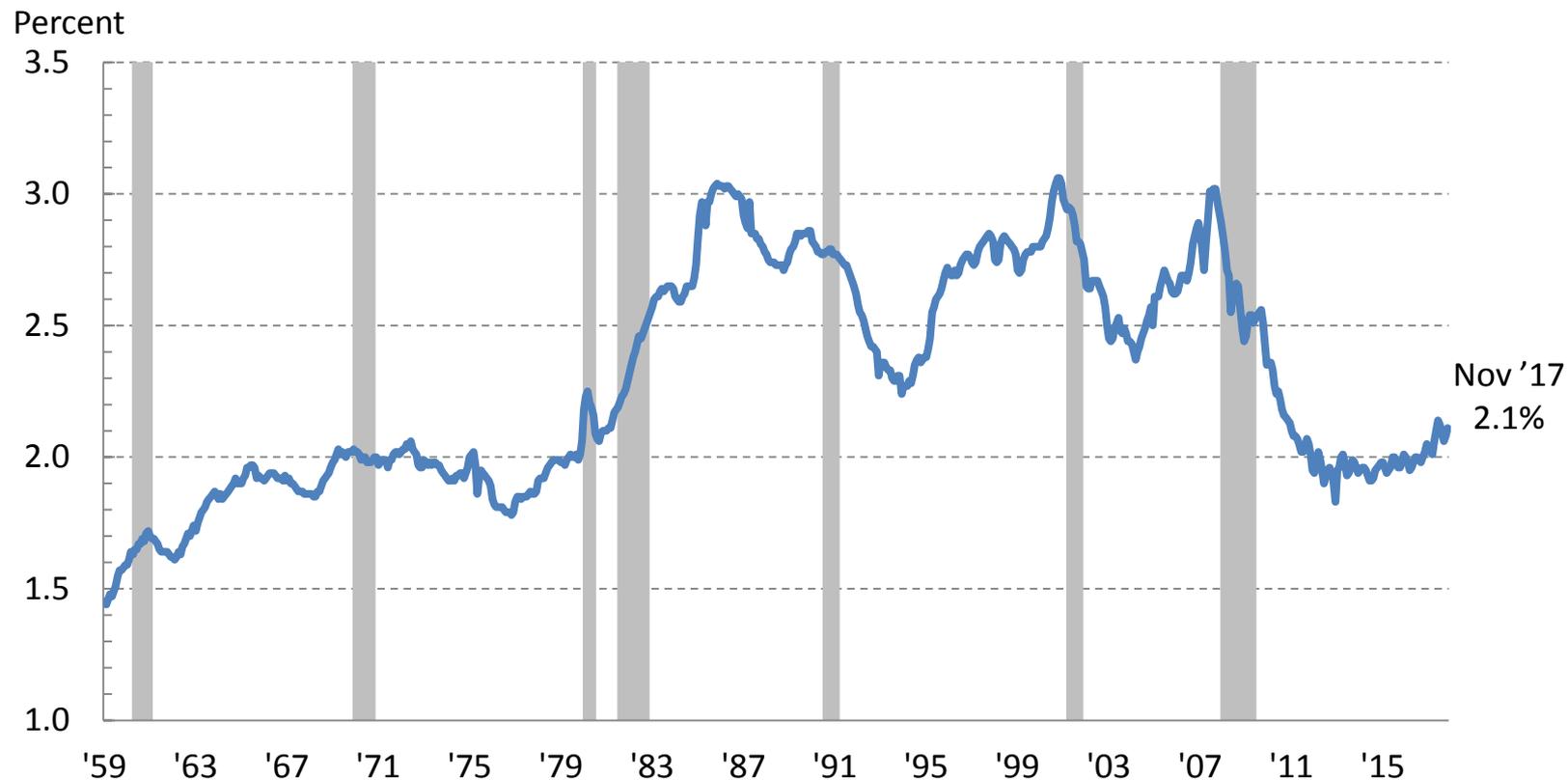
Trillions of Dollars



Source: Federal Reserve Bank of New York and Equifax

Interest Payments

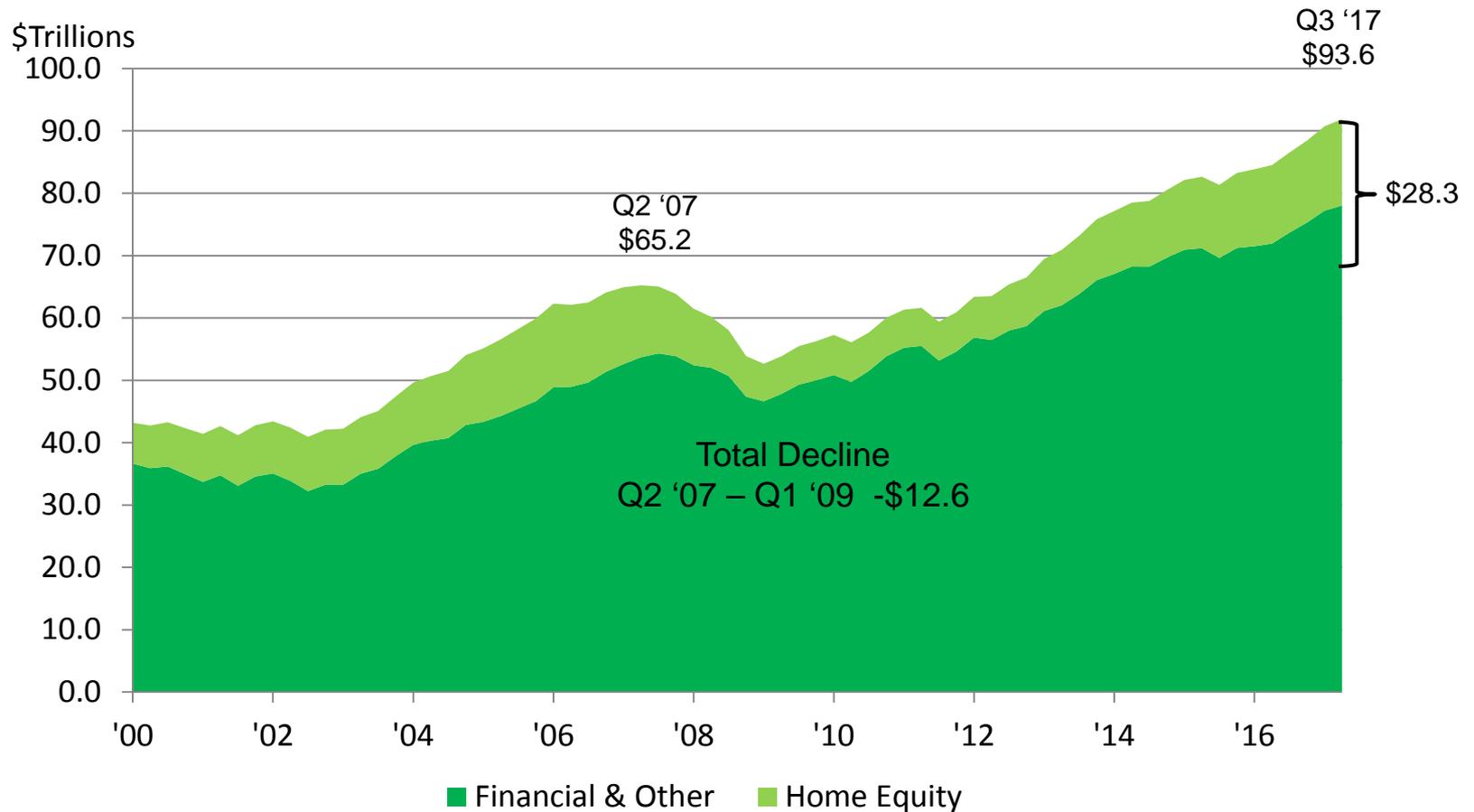
As a Percent of Disposable Personal Income



Source: Federal Reserve Bank - Board of Governors

Household Net Worth

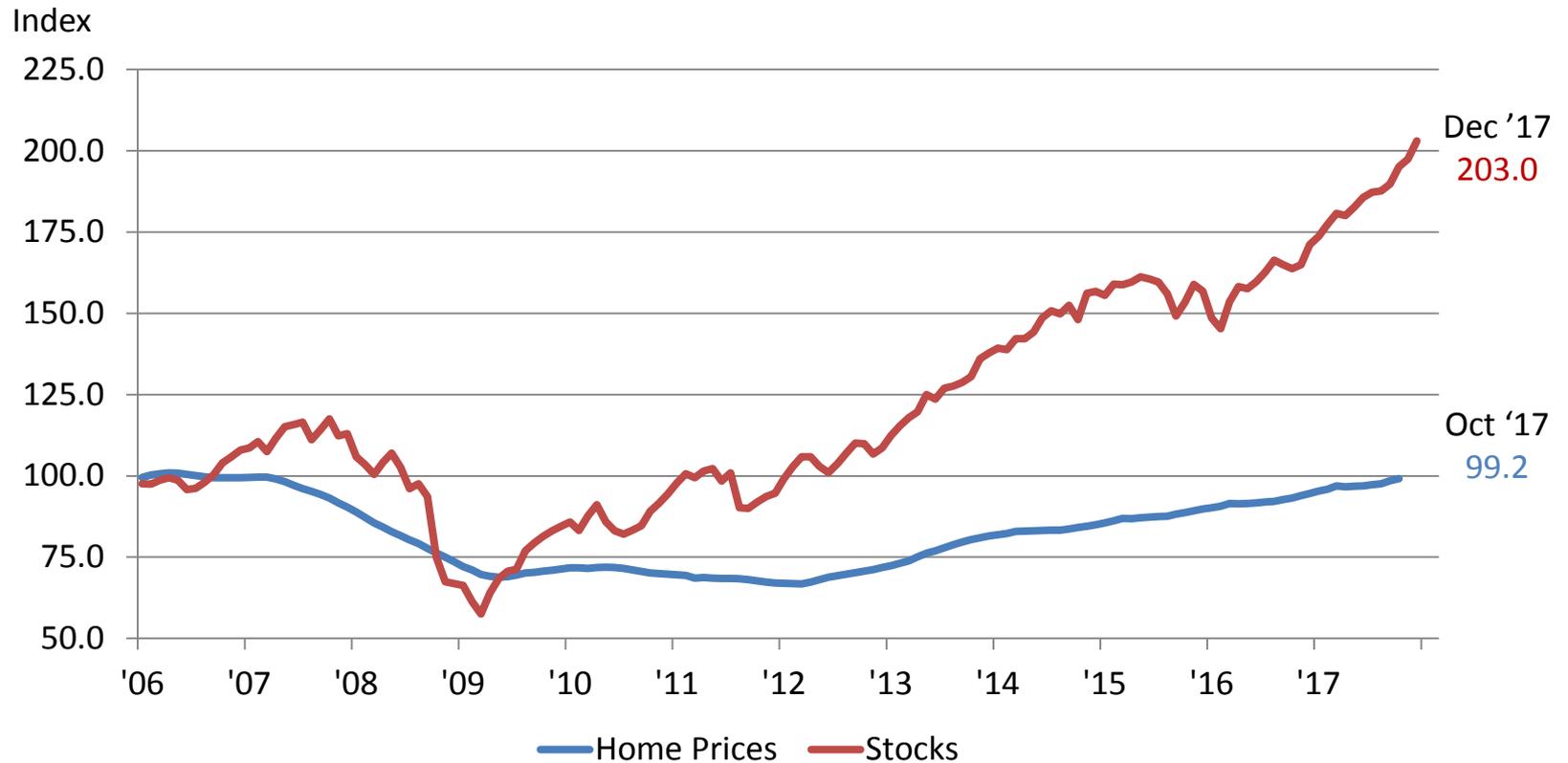
Trillions of Current Dollars, Q1 '00 to Q1 '17



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

Stock Market and Home Prices

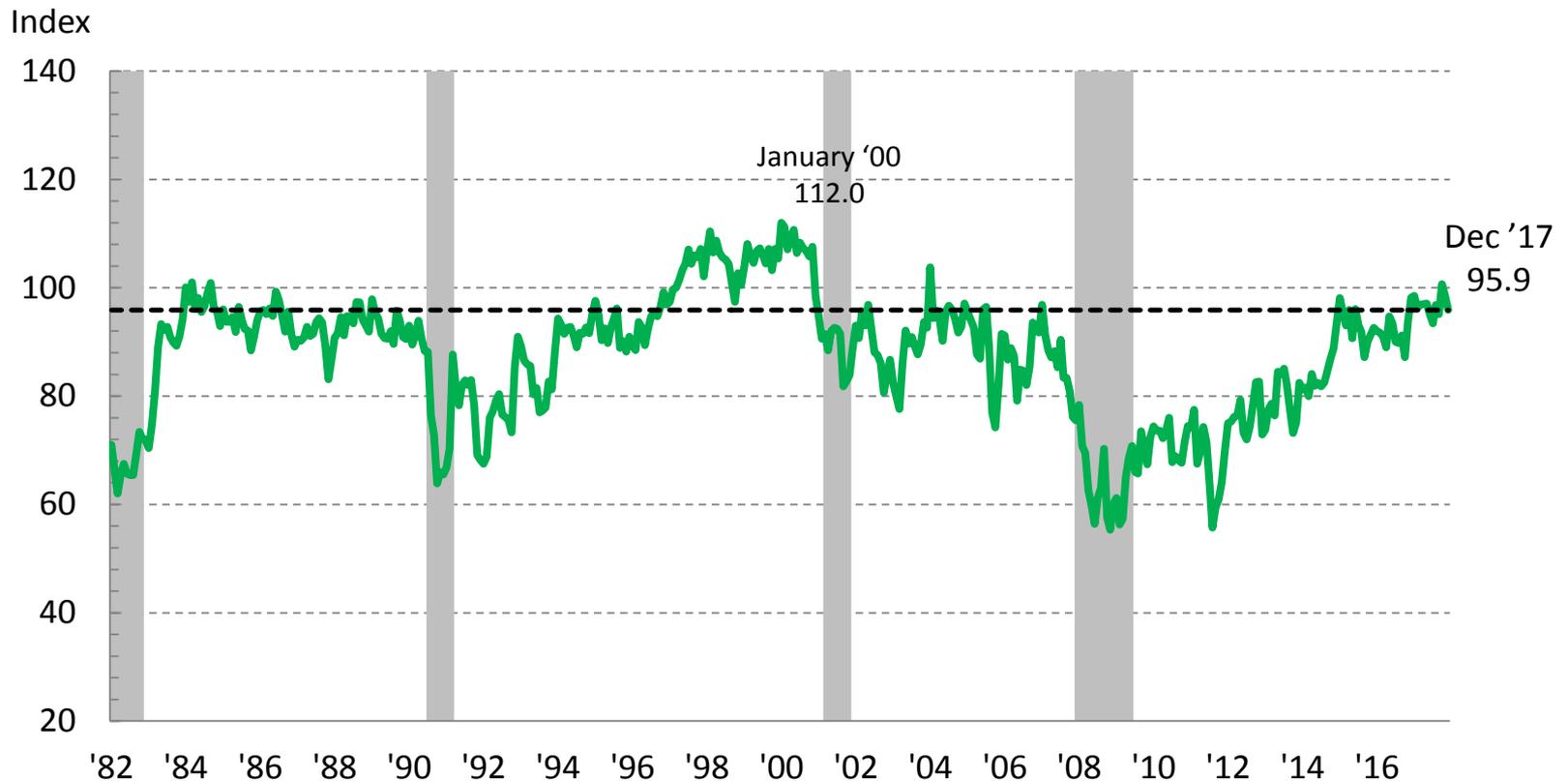
S&P 500 and S&P Case Shiller Composite, Index 2006 = 100



Source: Author's calculations using Financial Times and S&P Case Shiller data.

Consumer Sentiment

University of Michigan

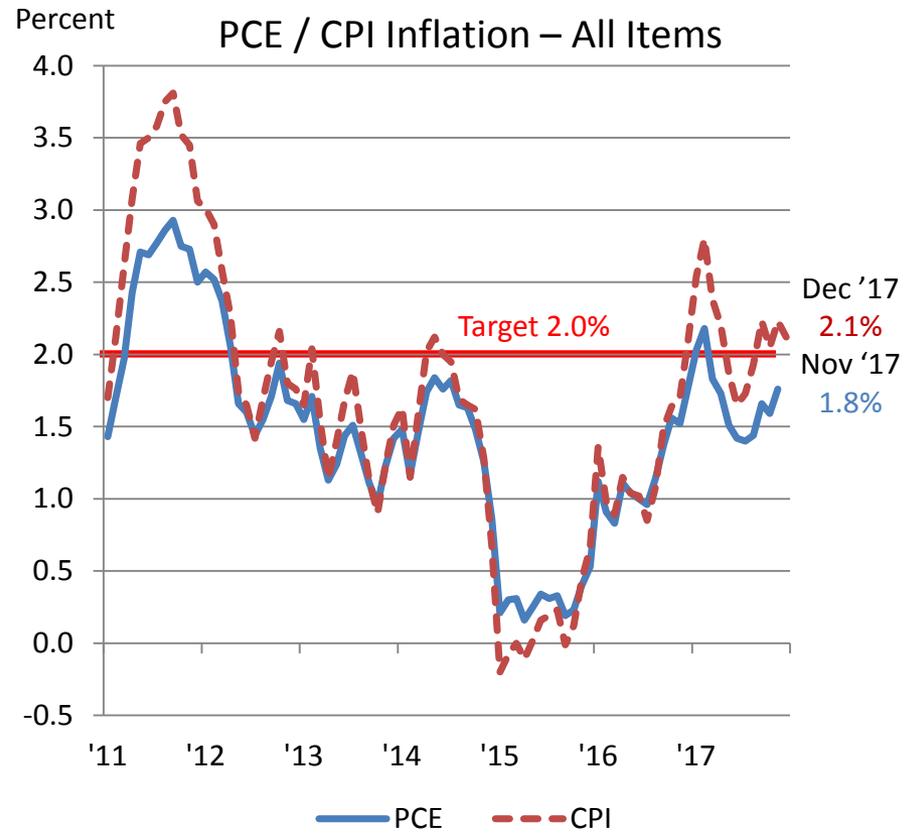
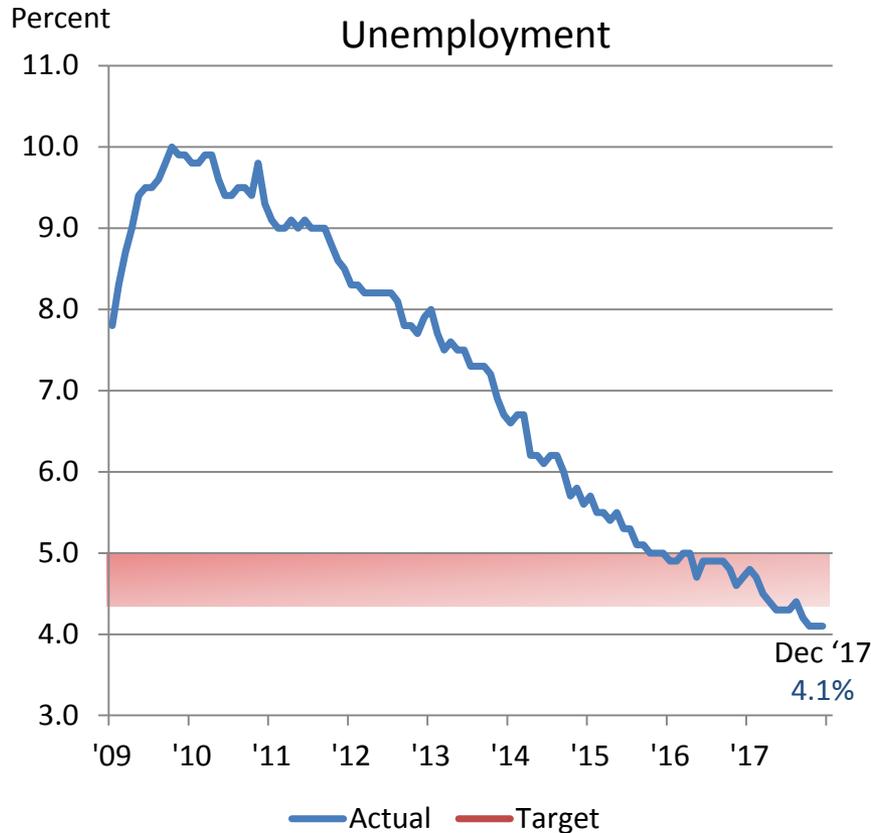


Source: Thomson Reuters / University of Michigan

Monetary Policy

Unemployment Rate & Prices

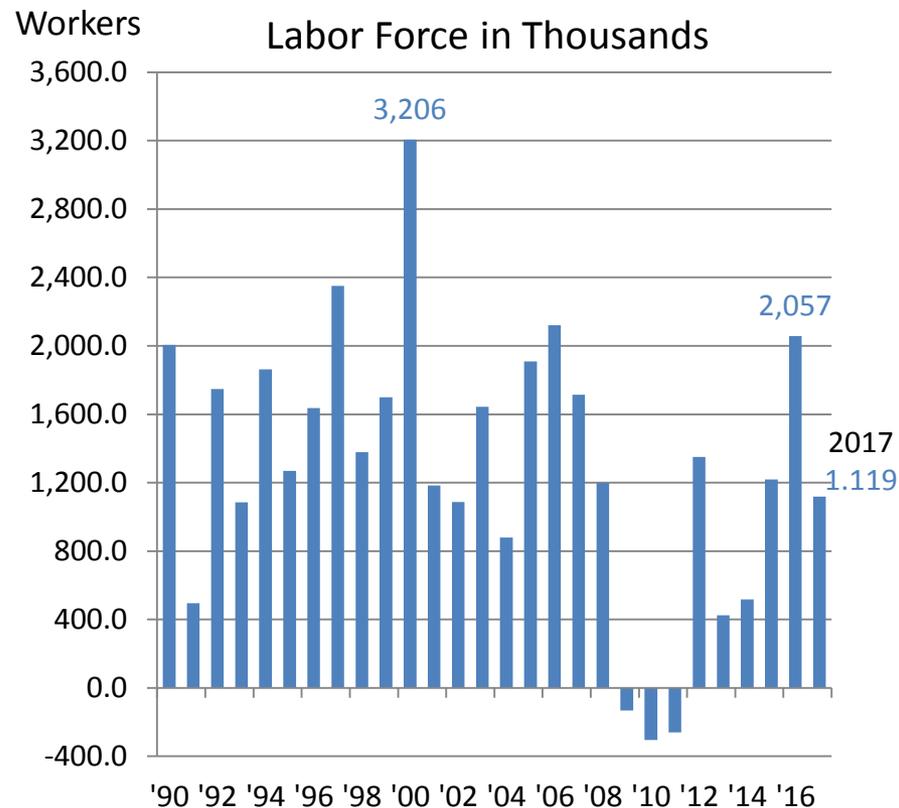
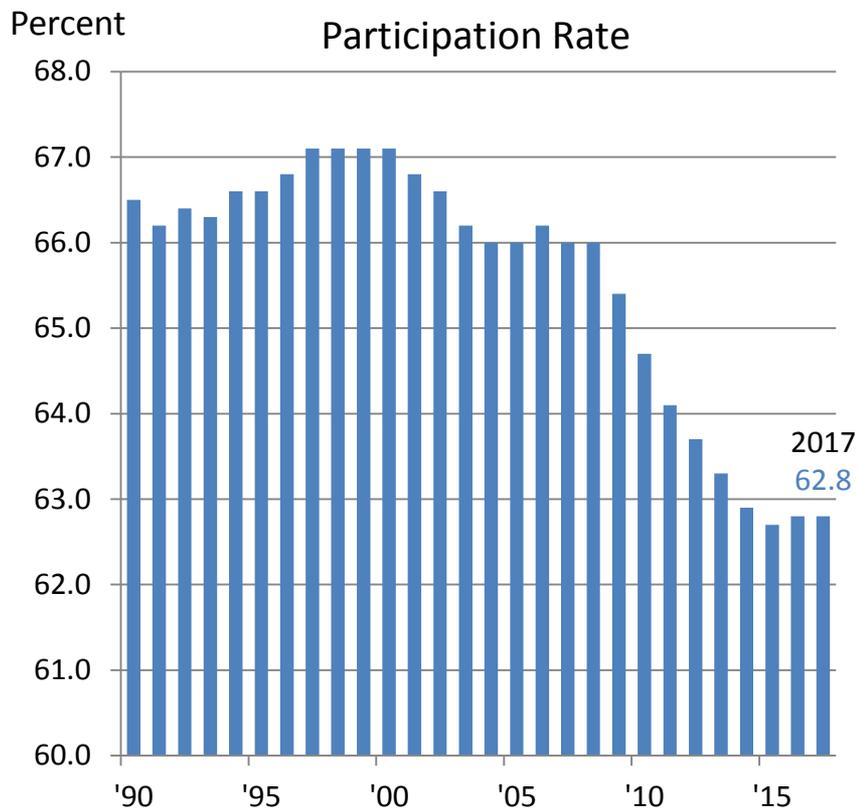
Percent Unemployed, PCE / CPI % Change Yr./Yr.



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

Civilian Labor Force Growth

Annual Average Percent and Annual Average Change by Year

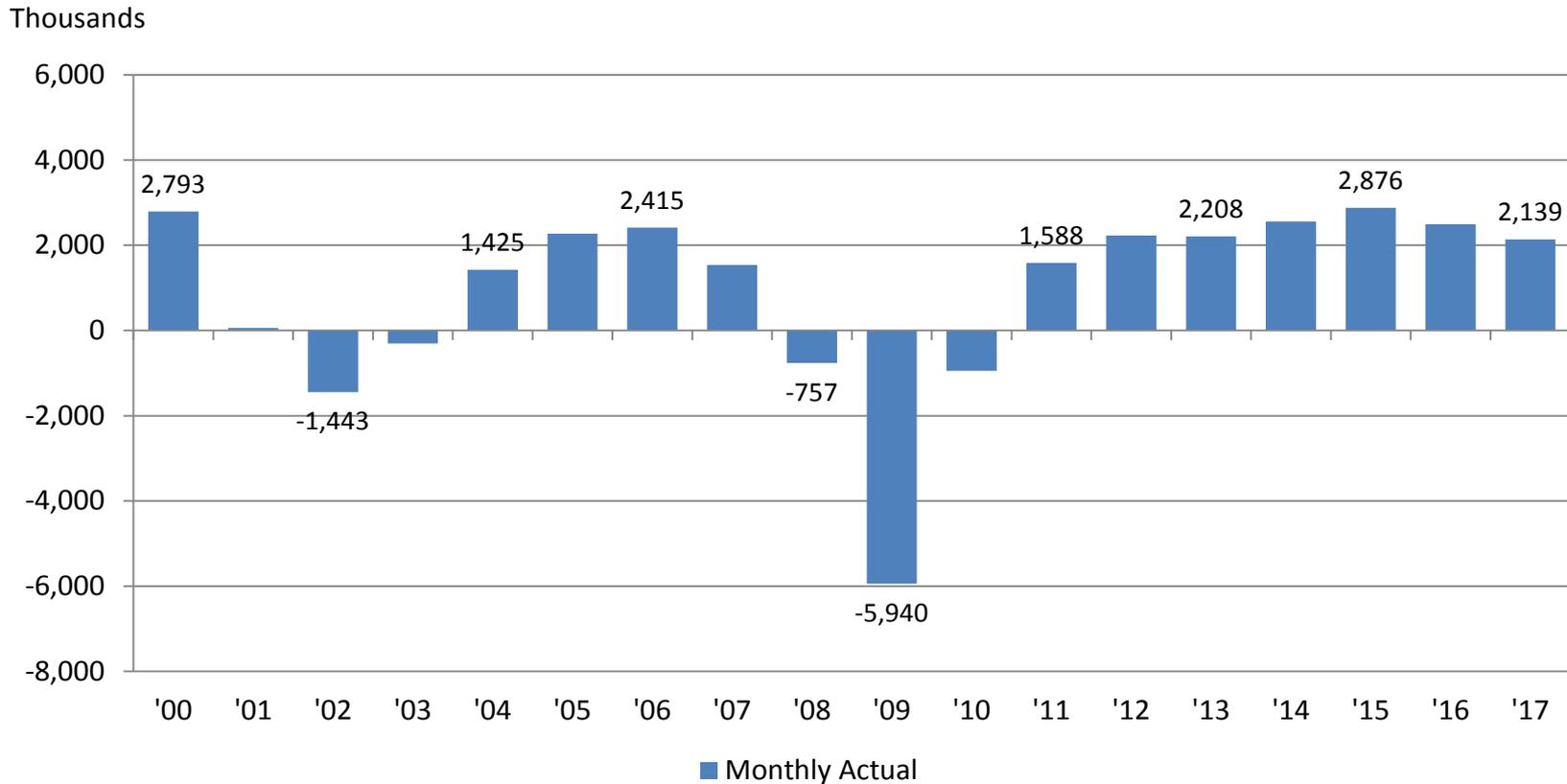


Note: Current noninstitutionalized civilian population is 255.4 million people.

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

U.S. Nonfarm Payrolls

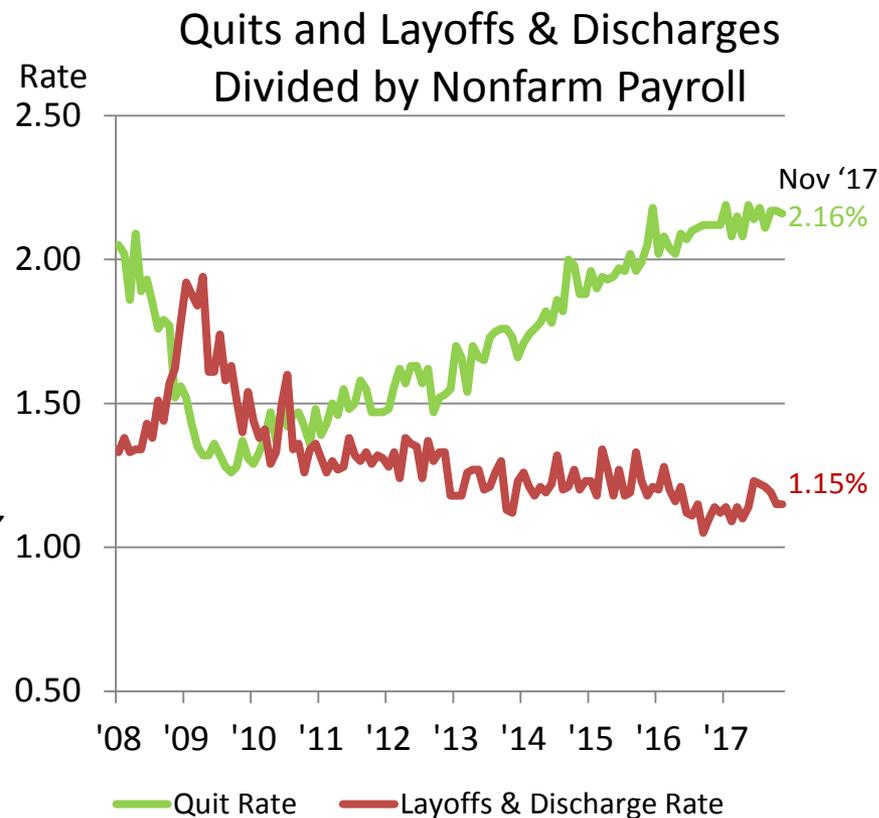
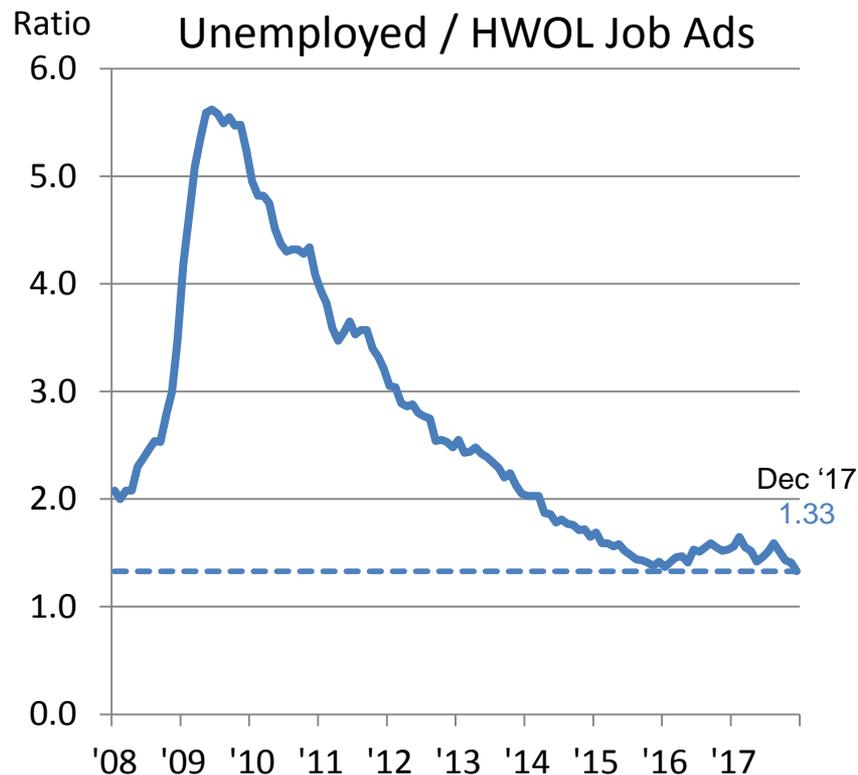
Monthly and Annual Average Job Change – In Thousands



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

Labor Conditions

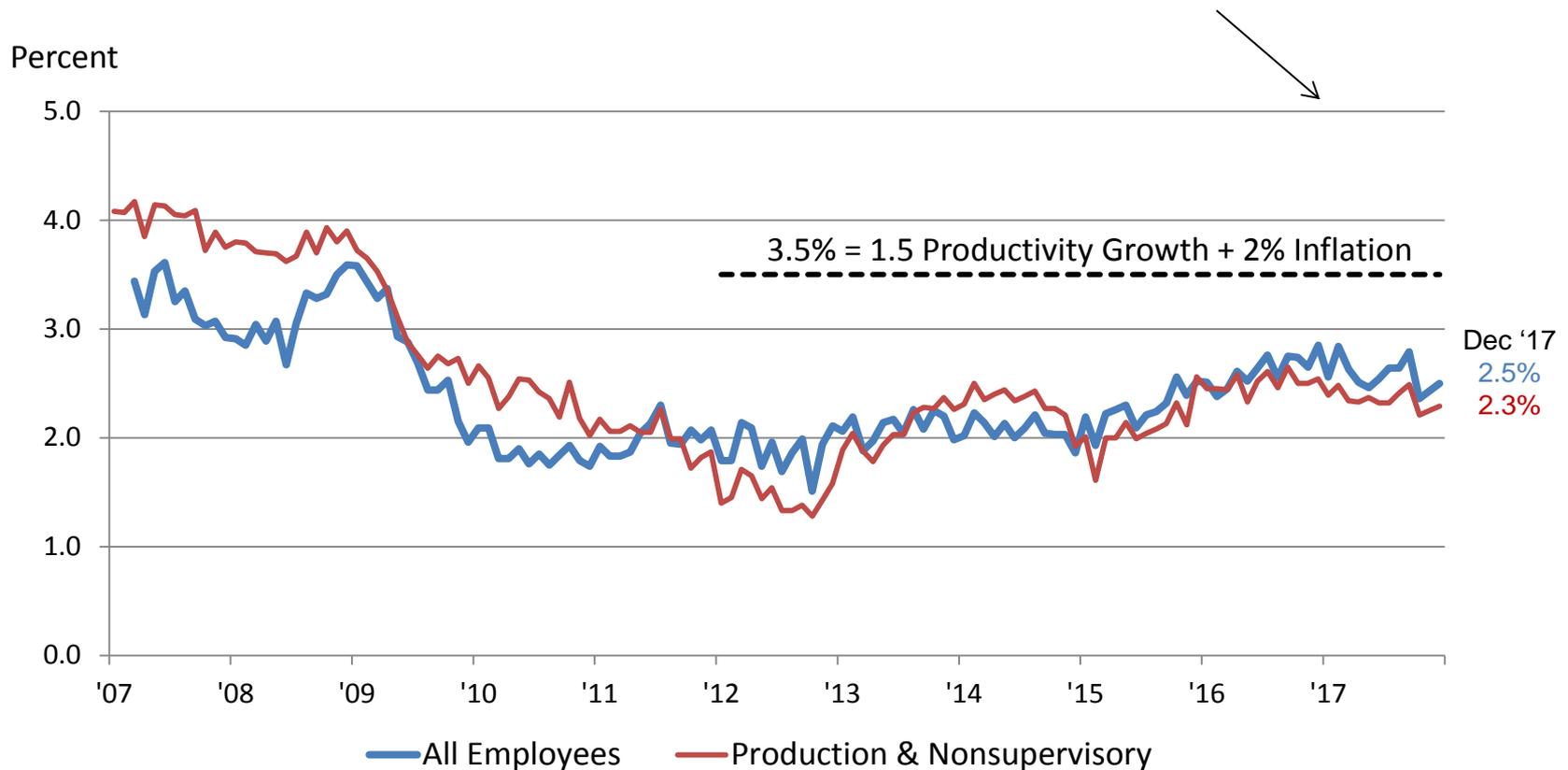
Job Openings and Quit & Layoff Rates



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

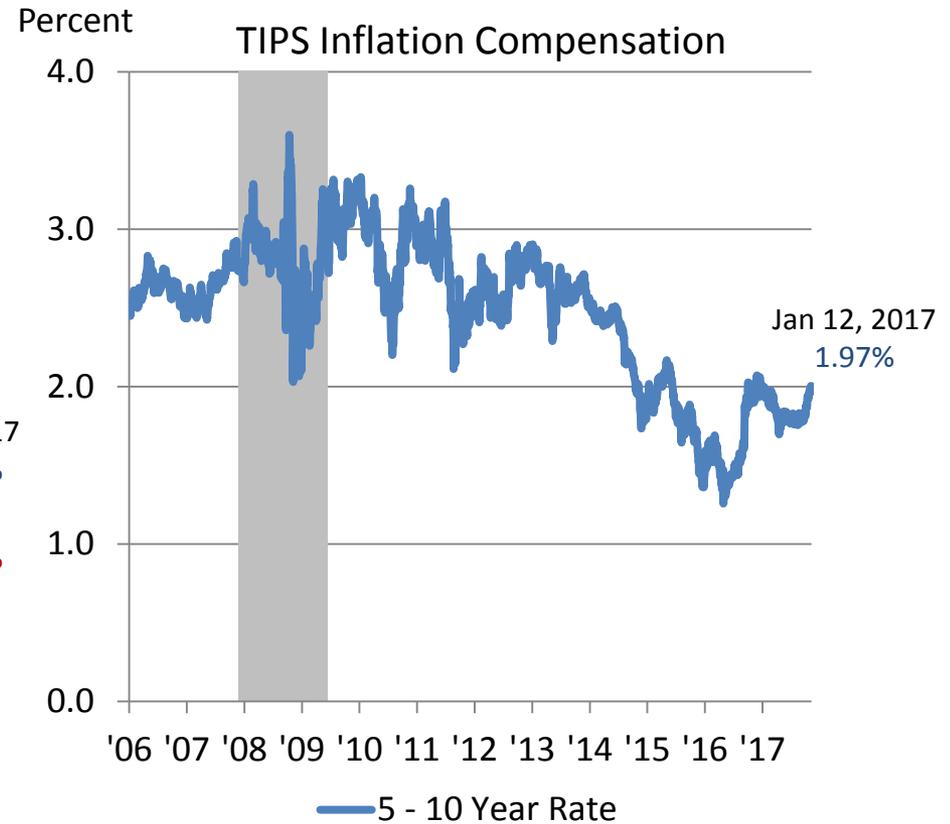
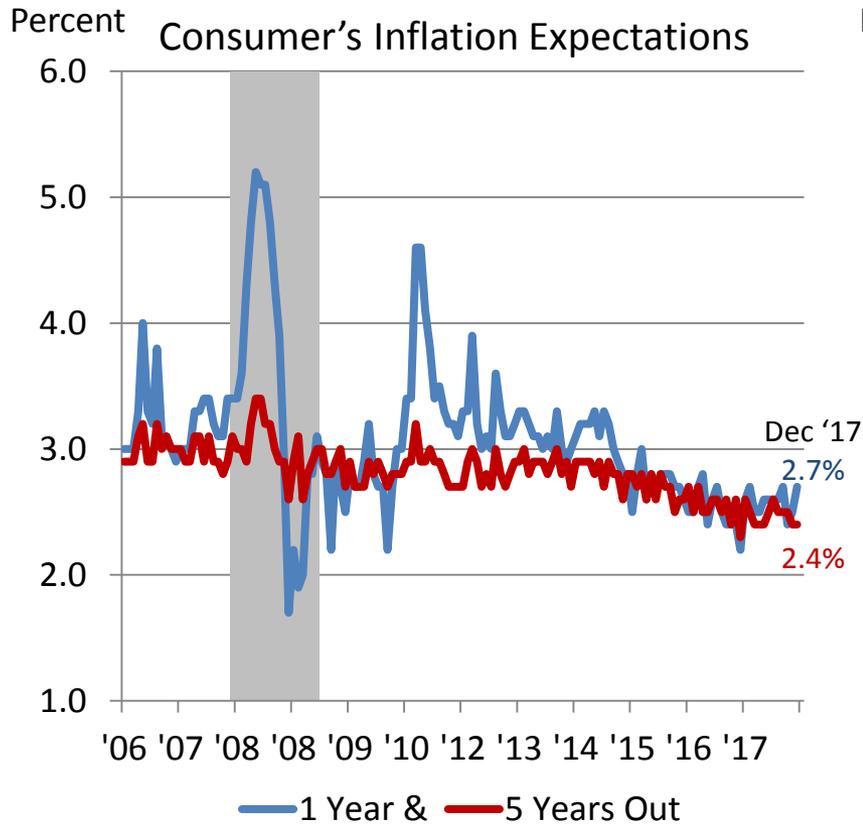
Percent Change Year / Year



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

Inflation Expectations

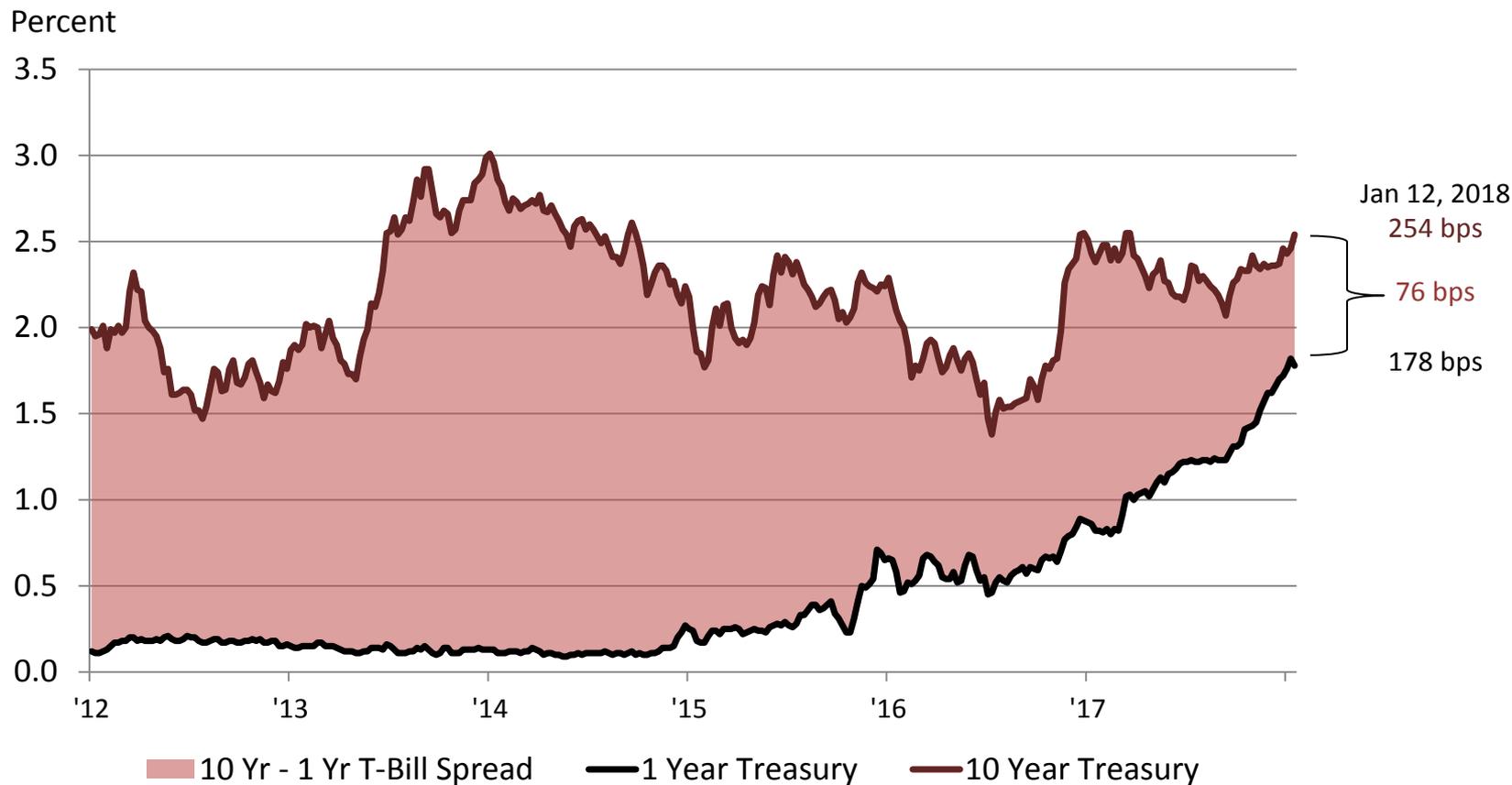
1-5 Year and 5-10 Year Inflation Expectations



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

Yield Curve

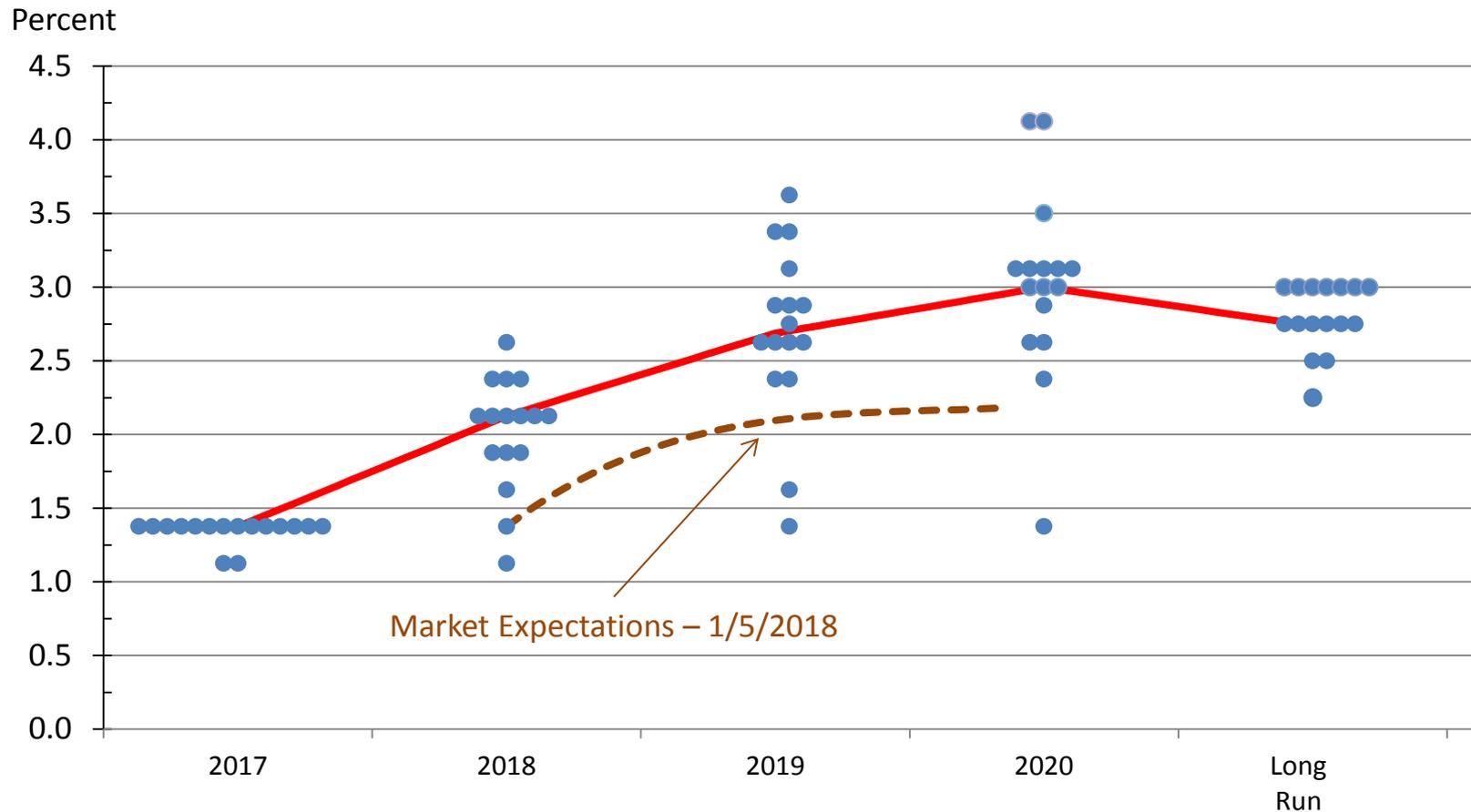
10 Year – 1 Year Treasuries in Basis Points



Source: Board of Governors – Federal Reserve System

Appropriate pace of policy firming

Fed Funds Rate – Year End Projections

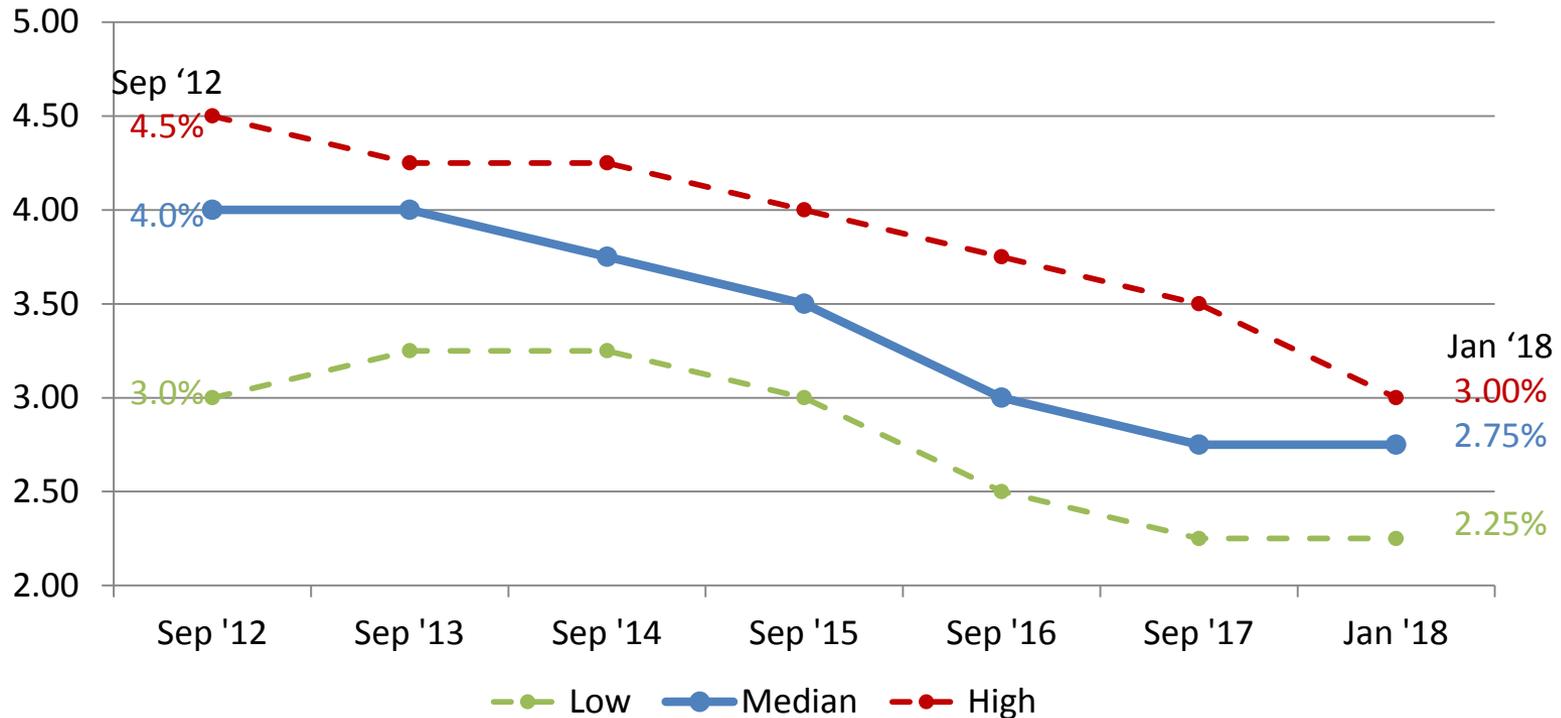


Source: Federal Reserve - F.O.M.C. participants, September 20, 2017

Target Federal Funds Rate

Long Run Projections

Percent

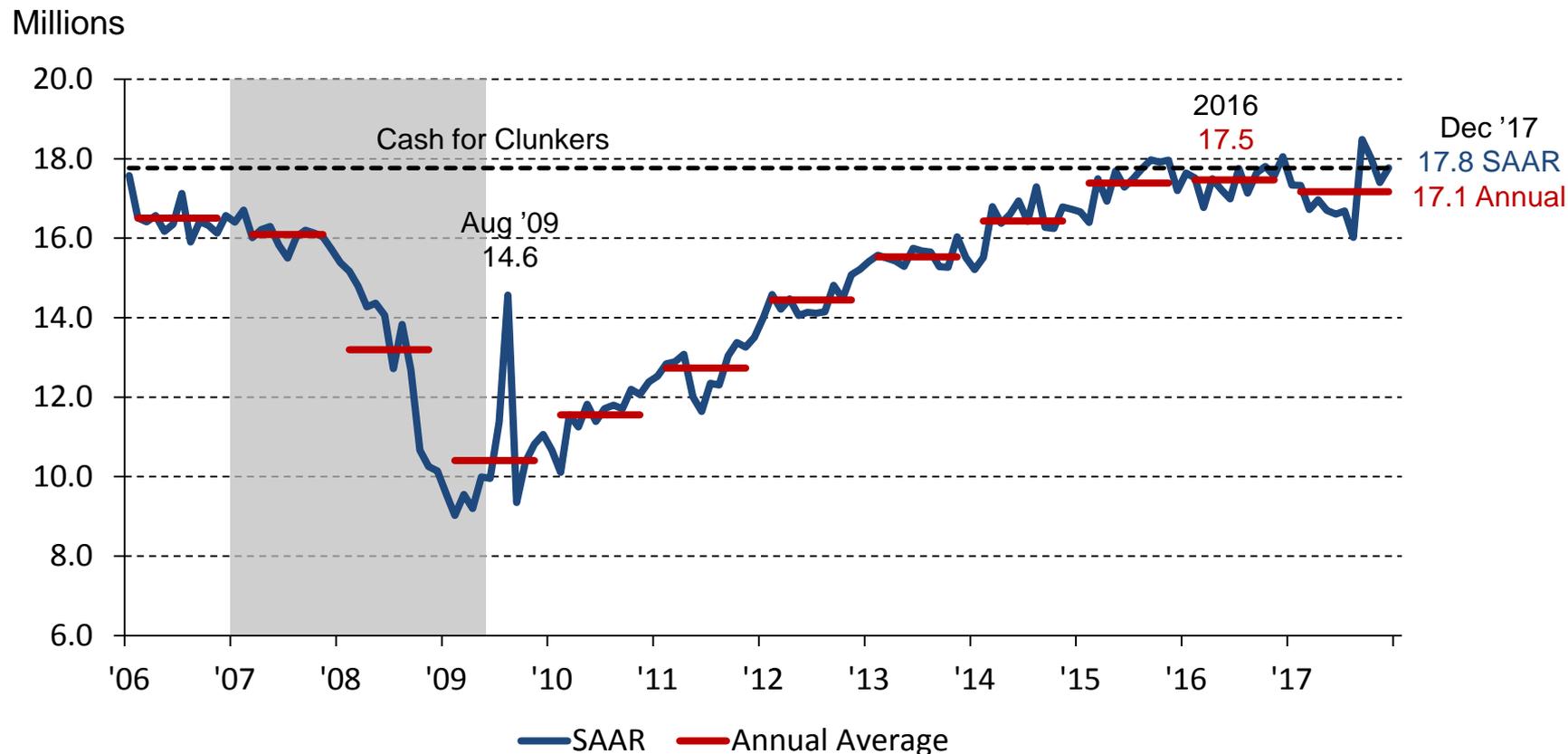


Source: Federal Reserve - F.O.M.C. participants projections.

U.S. Auto Industry

U.S. Light Vehicle Sales

S.A.A.R – Millions of Units



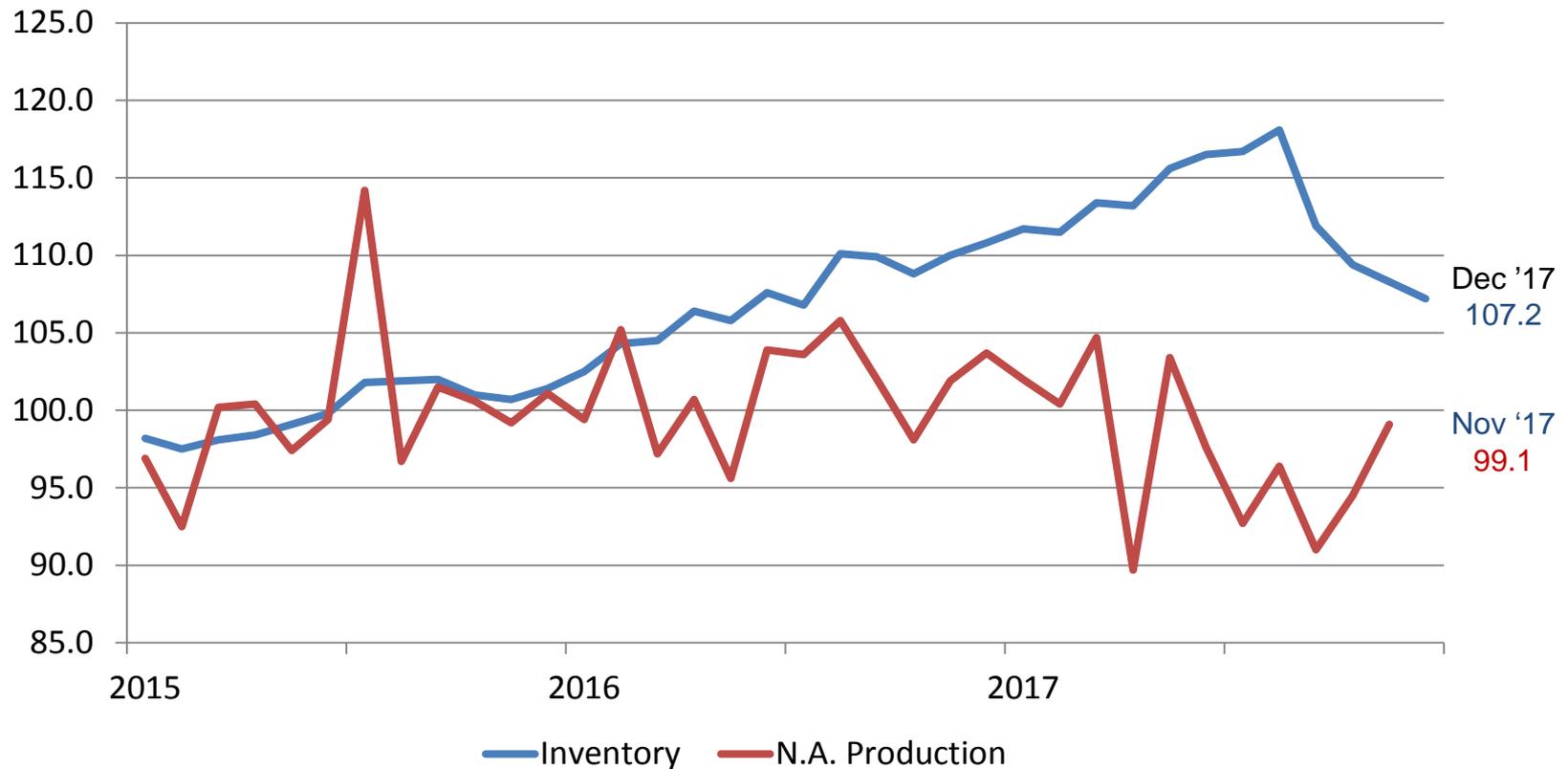
Note: Total 2016 Light Vehicle Sales: 17,465,020 / Including M/H: 17,866,260.

Source: Ward's Automotive and BEA

U.S. Light Vehicle Inventory & Production

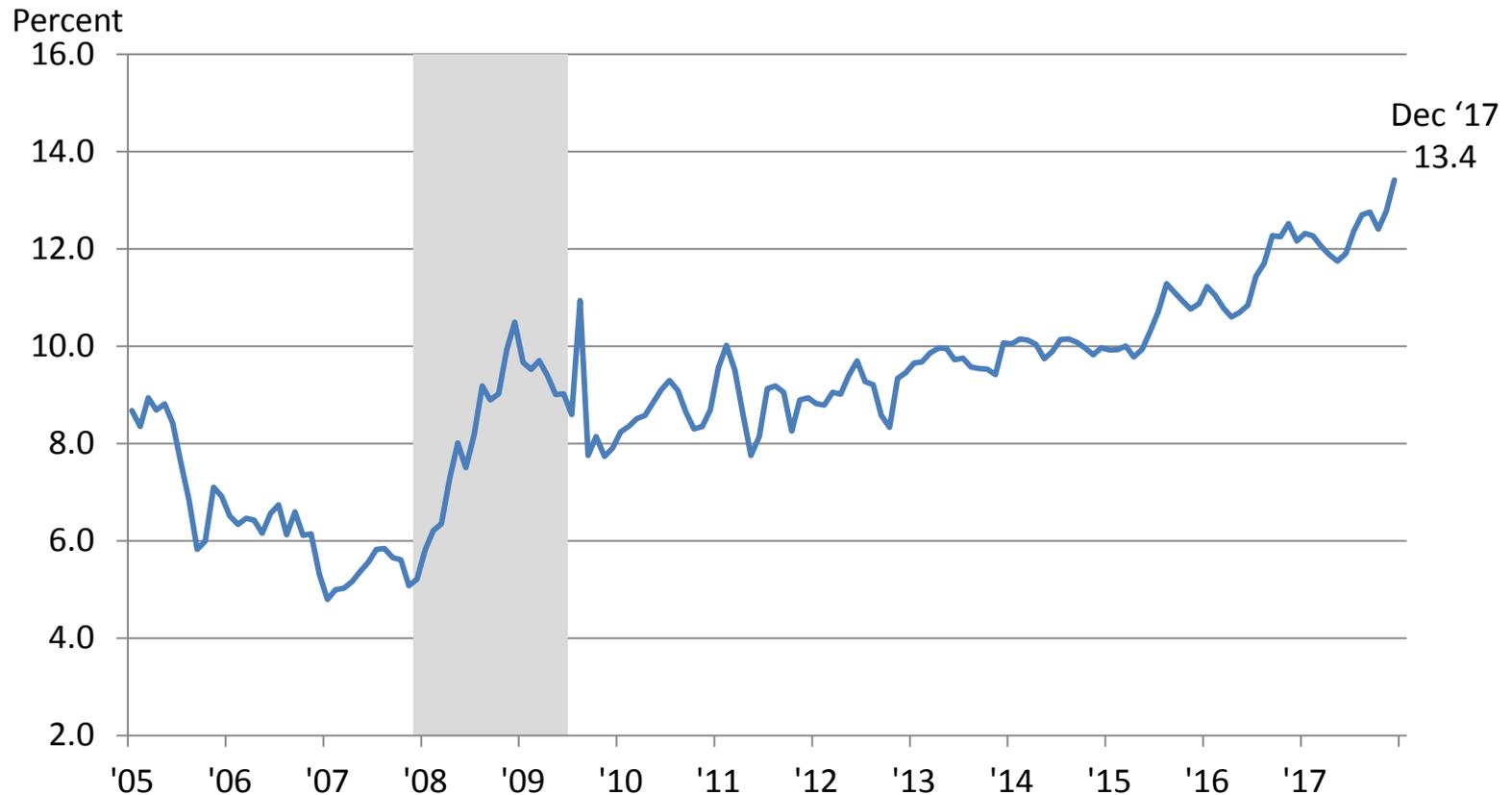
Index – 2015 = 100 - SA

Millions



Vehicle Incentives

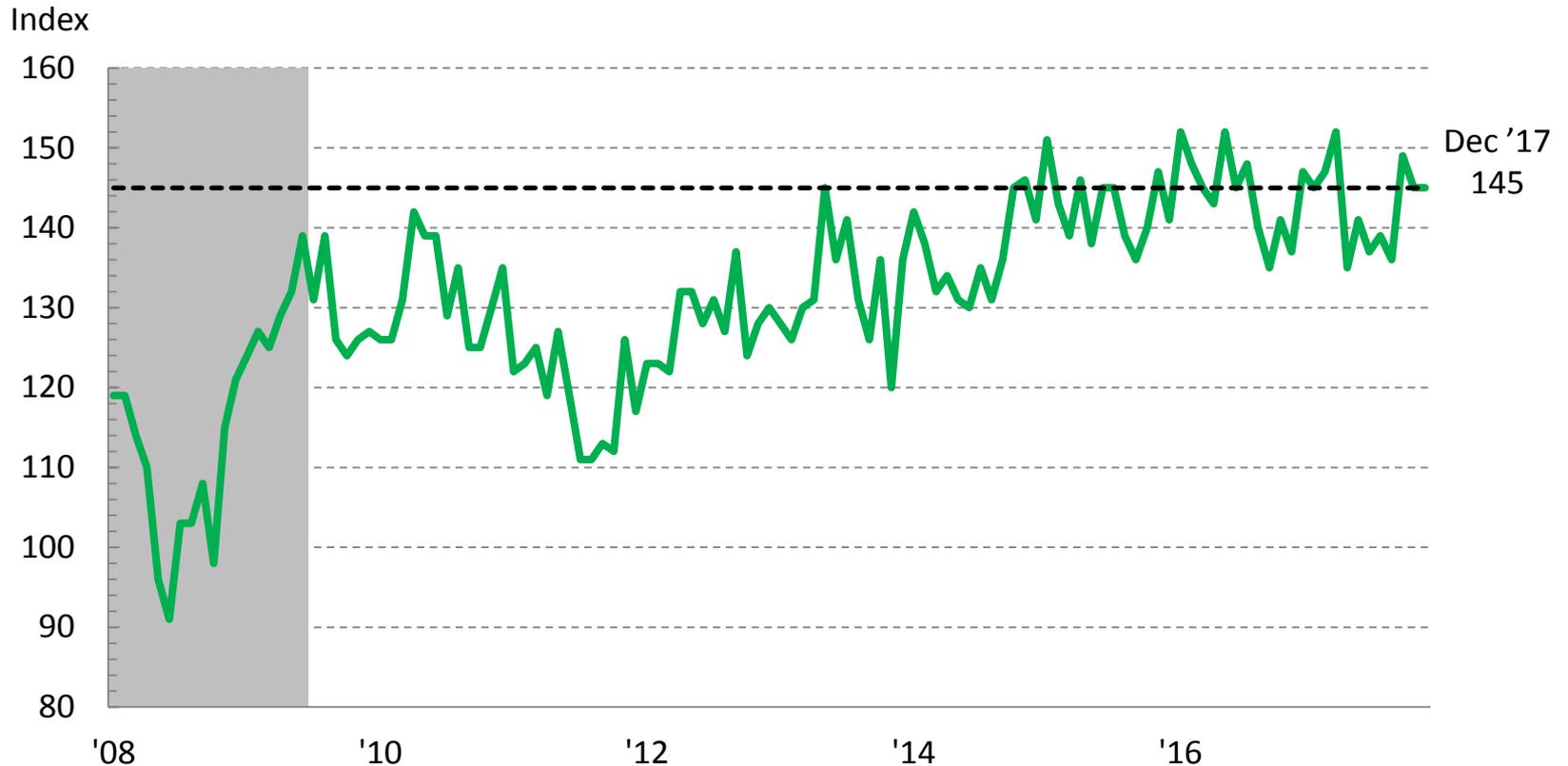
As Percent of Transaction Price - SA



Source: Author's calculations using FOMC Board of Governors and J.D. Power data.

Buying Conditions for Vehicles

University of Michigan

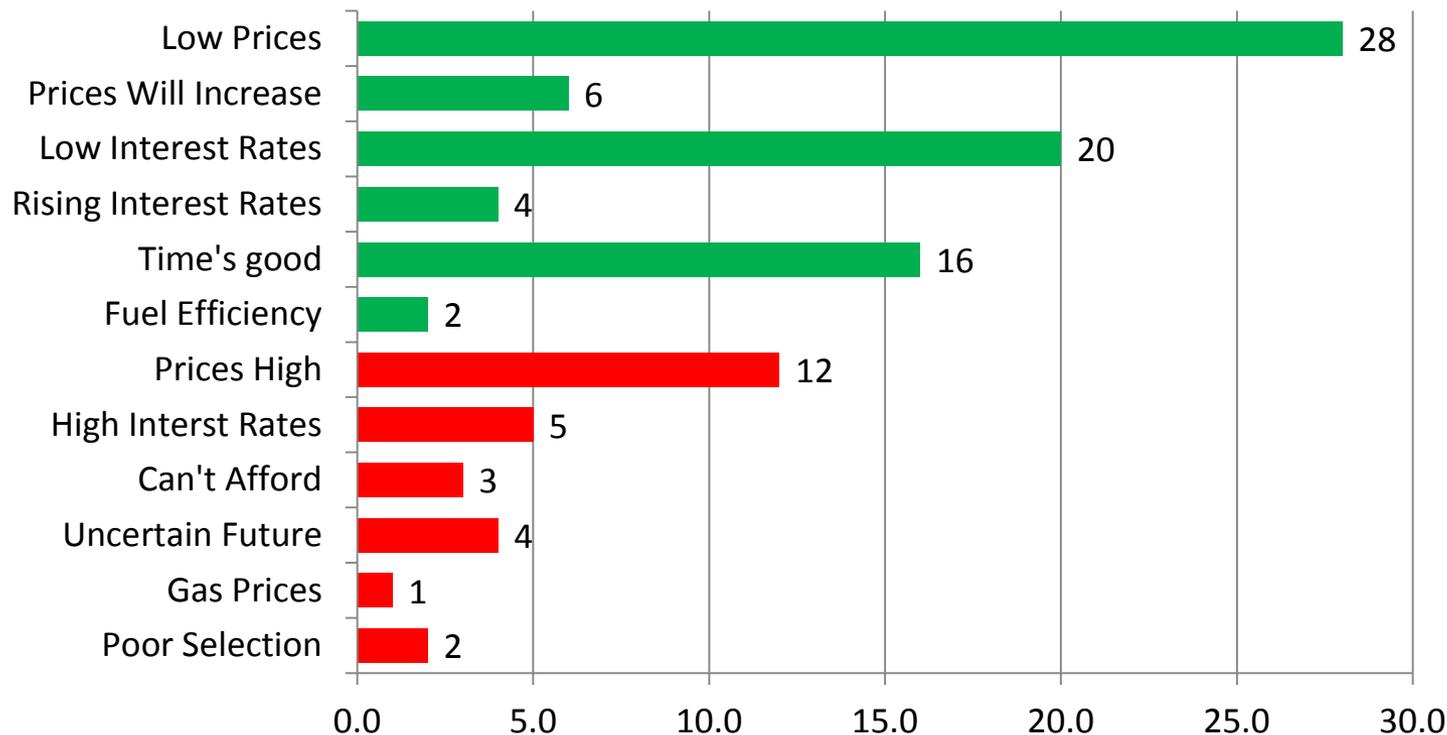


Source: Thomson Reuters / University of Michigan

Reasons for Buying Conditions for Vehicles

University of Michigan

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

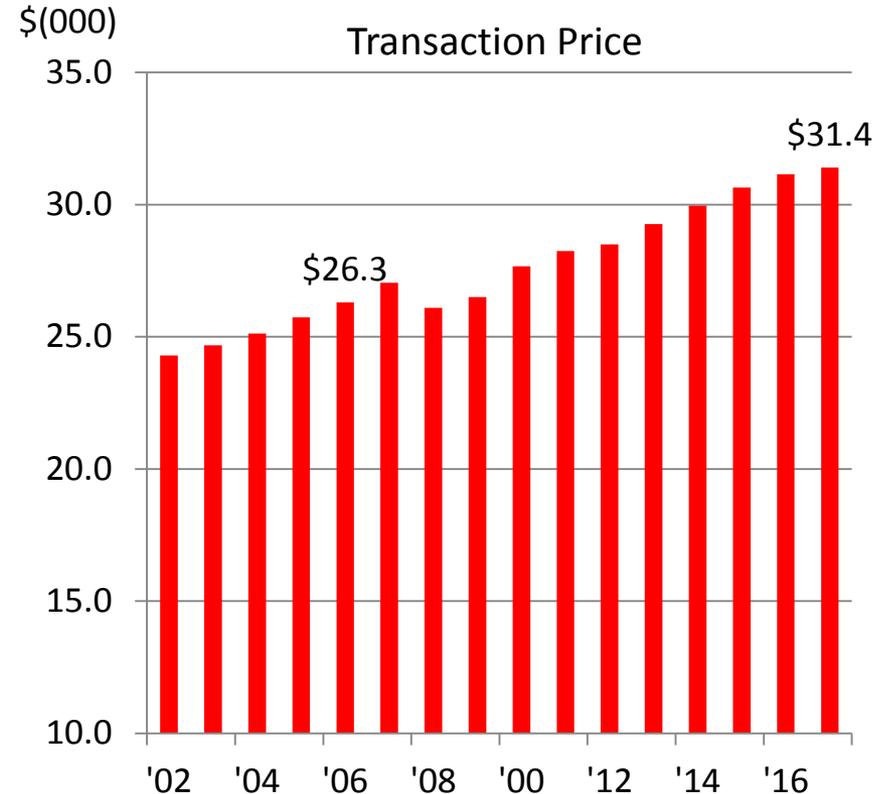
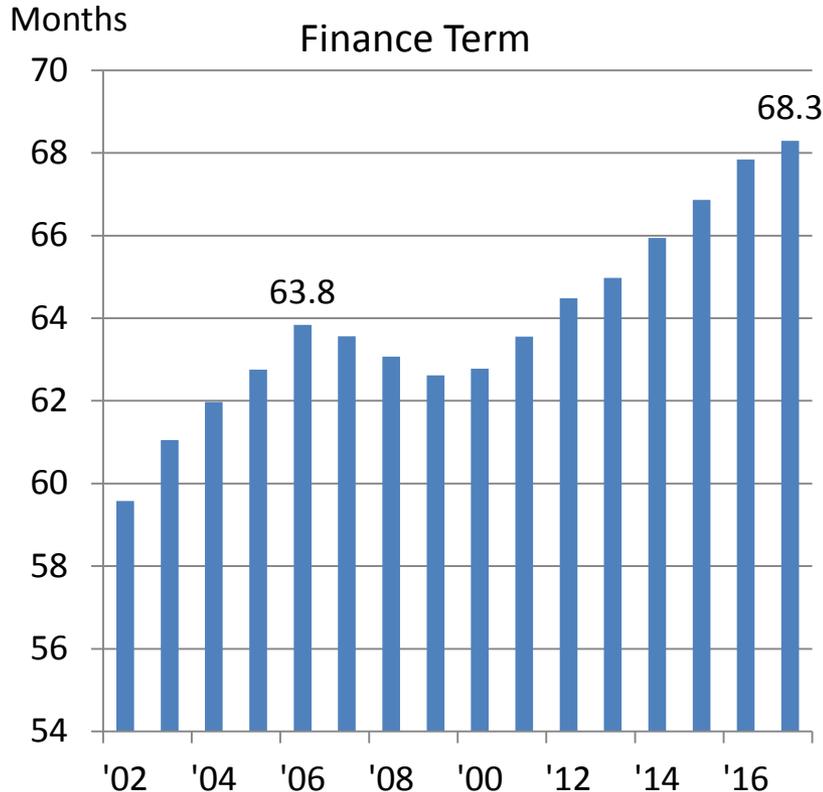


Note: May add to more than a 100 due to multiple mentions.

Source: University of Michigan Survey of Consumers – December 2017 survey

Average Finance Term & Transaction Price

Months to Term and Annual Average Transaction Price



Note: 2017 data is September year-to-date.

Source: J.D. Power data.

Sales Weighted Vehicle Age

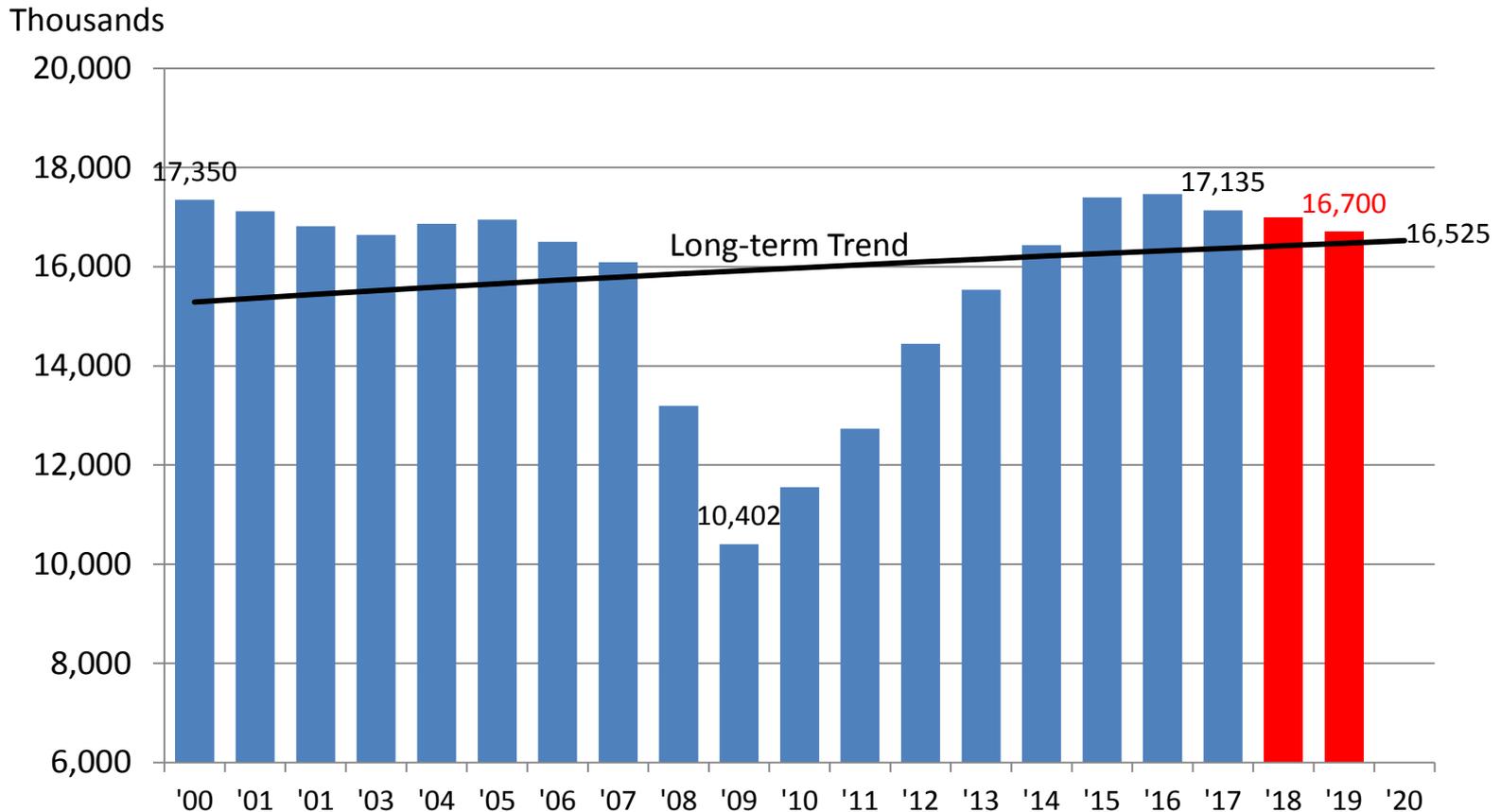
10 Year Moving Average



Source: Author's calculations using WardsAuto data.

U.S. Light Vehicle Sales

Calendar Year Sales – Millions of Units



Source: WardsAuto

Thank You!

