

Economic and Auto Industry Update

OESA Small & Medium Enterprise Presidents Council

Federal Reserve Bank of Chicago
March 23, 2017

Paul Traub
Senior Business Economist



Main Economic Indicators

Year-over-year Comparison

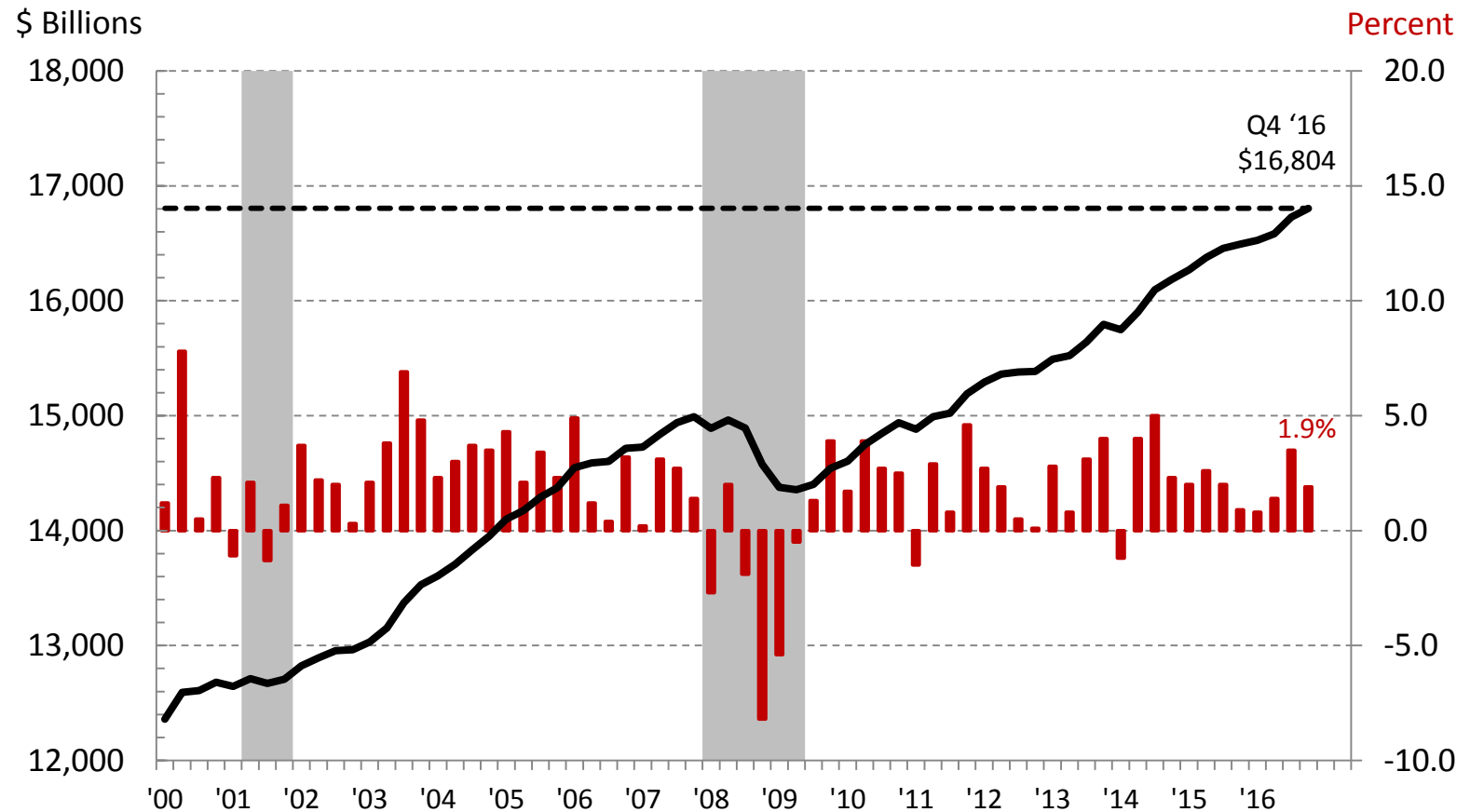
	<u>2014</u>	<u>2015</u>	<u>2016</u>
GDP – Annual Growth Rate ¹	2.5%	1.9%	1.9%
Unemployment Rate ²	6.2%	5.3%	4.9%
Participation Rate ²	62.9%	62.7%	62.8%
Nonfarm Job Growth ³	2,558	2,876	2,493
PCE Core Inflation Yr. / Yr. ⁴	1.6%	1.4%	1.7%

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

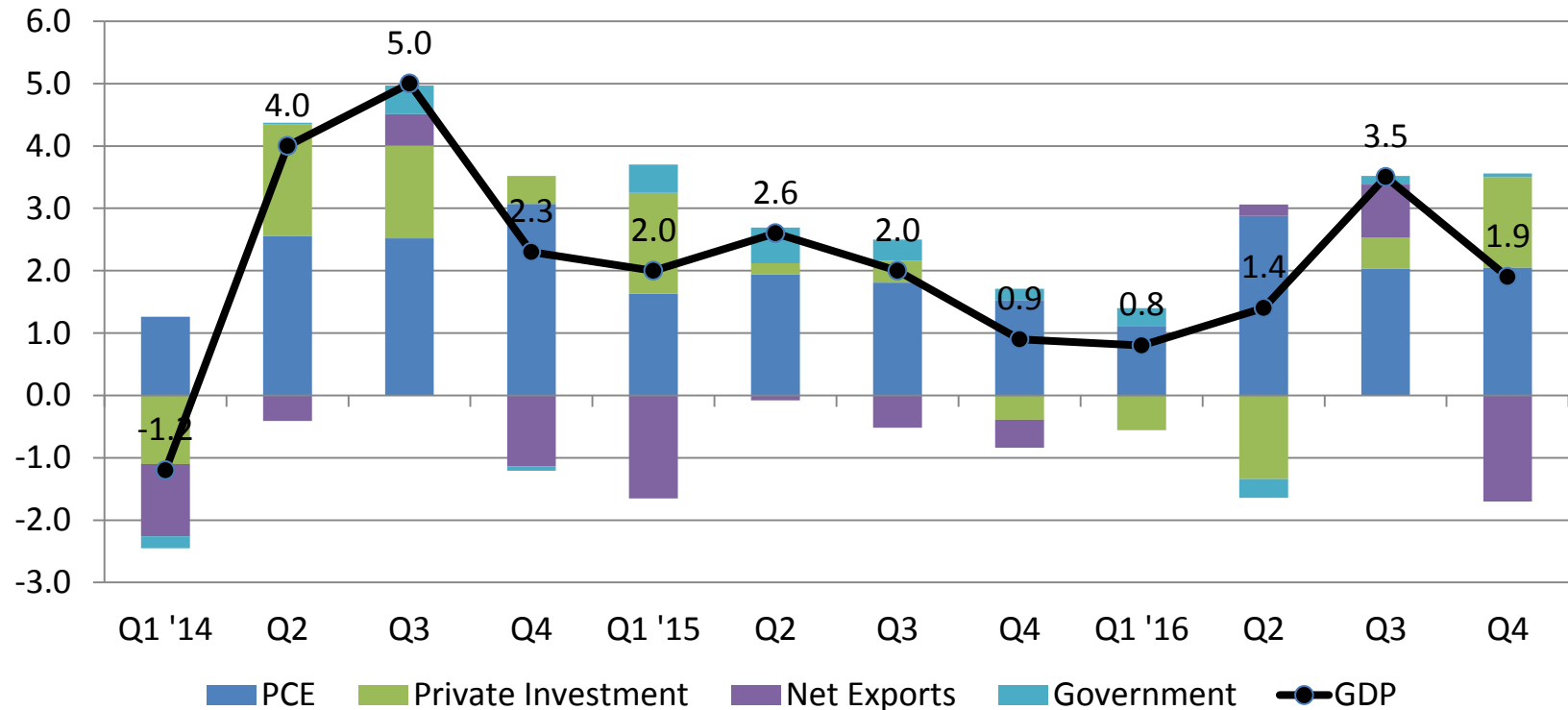


Source: U.S. Bureau of Economic Analysis

U.S. Real GDP

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

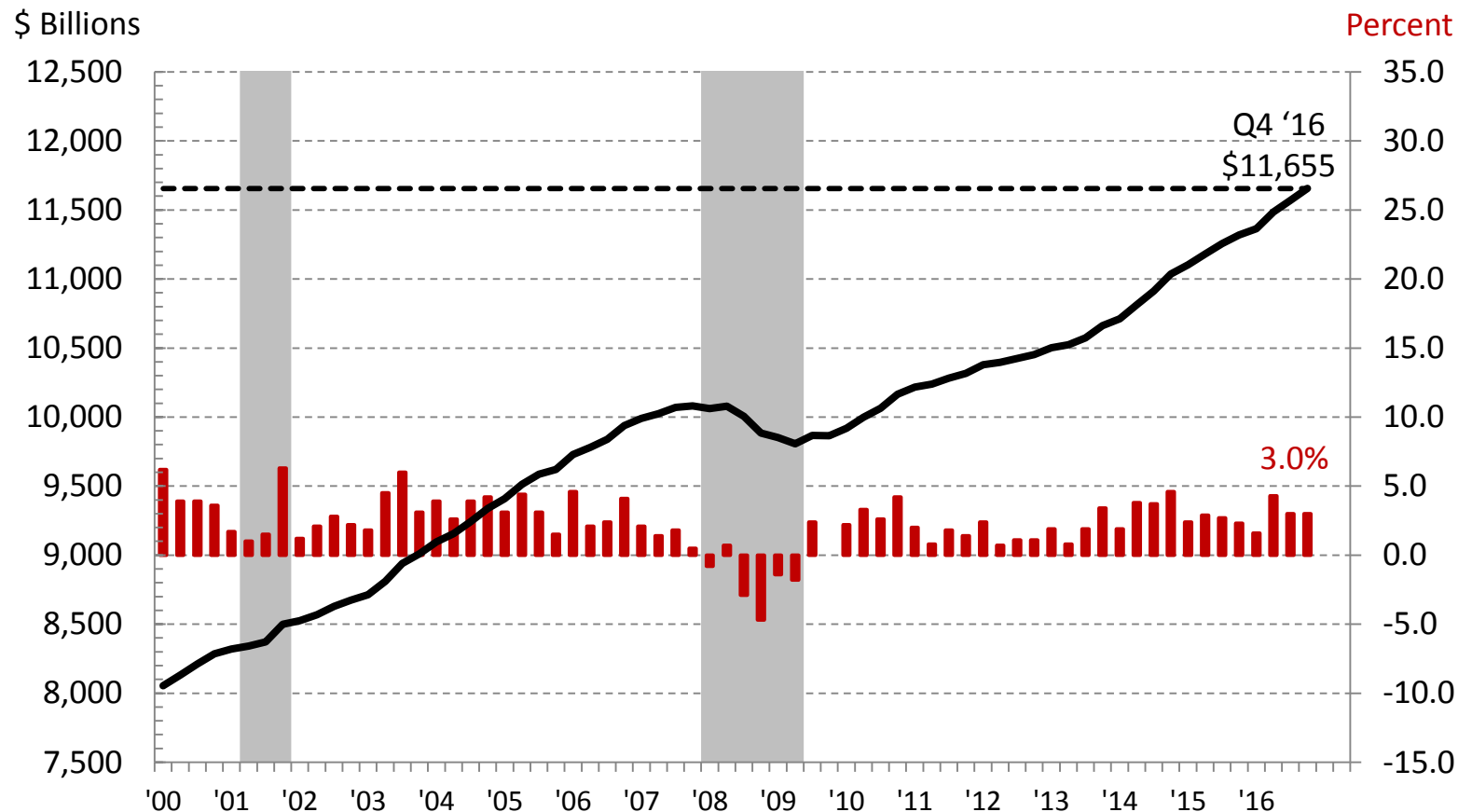
Percent



Source: U.S. Bureau of Economic Analysis, September 2016 Blue Chip Economic Indicators.

Real Personal Consumption Expenditures

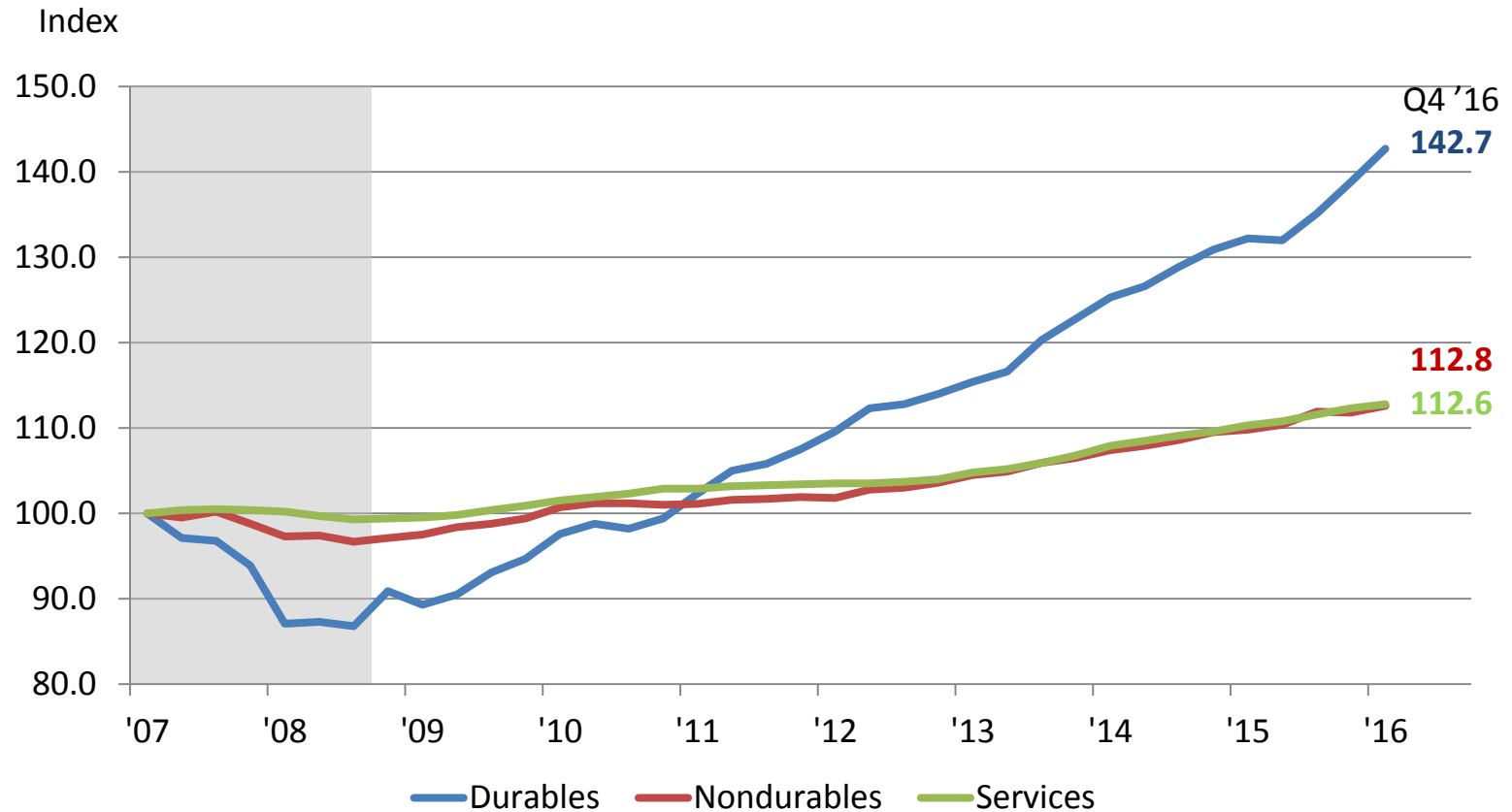
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Real Personal Consumption Expenditures

Index, Q4 2007 = 100

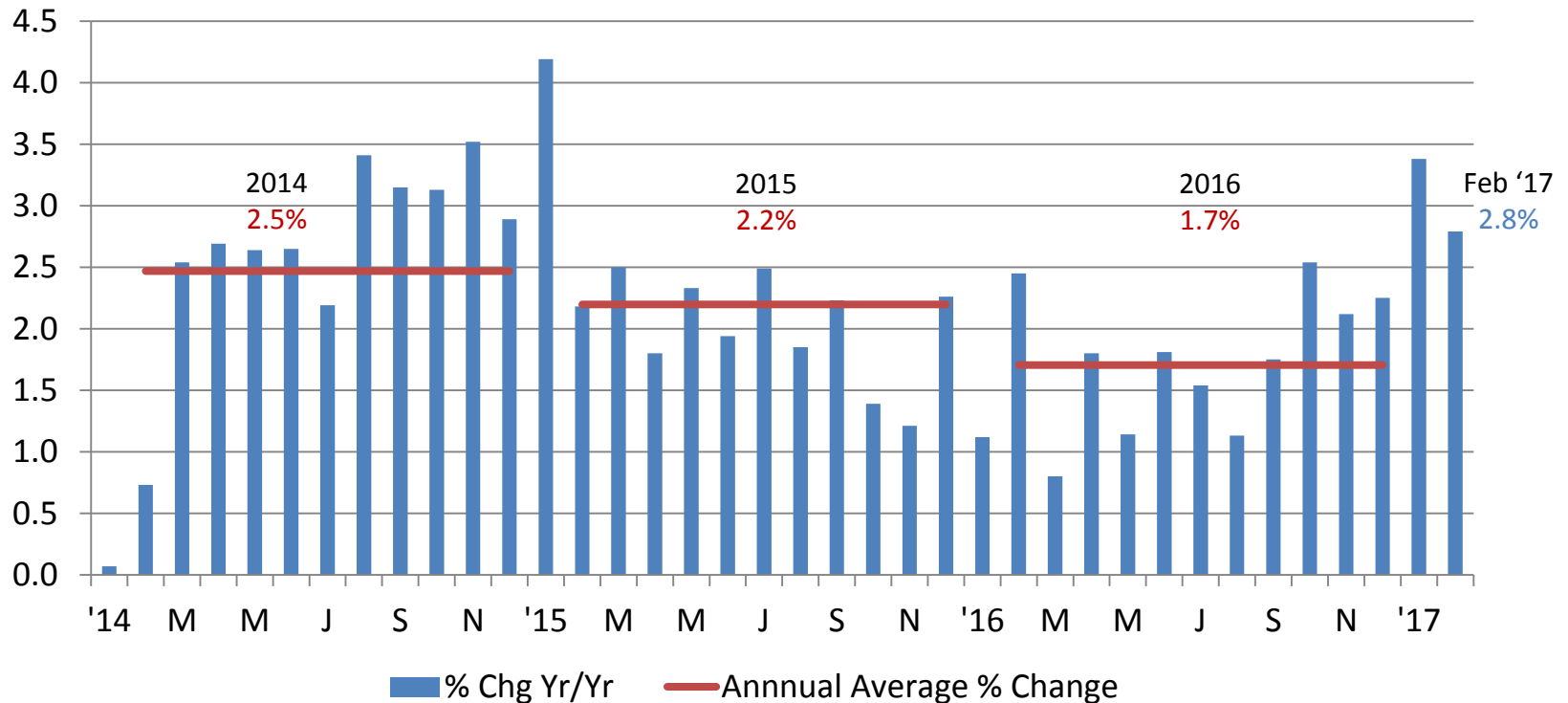


Source: Author's calculations using data from the BEA

Real Retail Sales

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

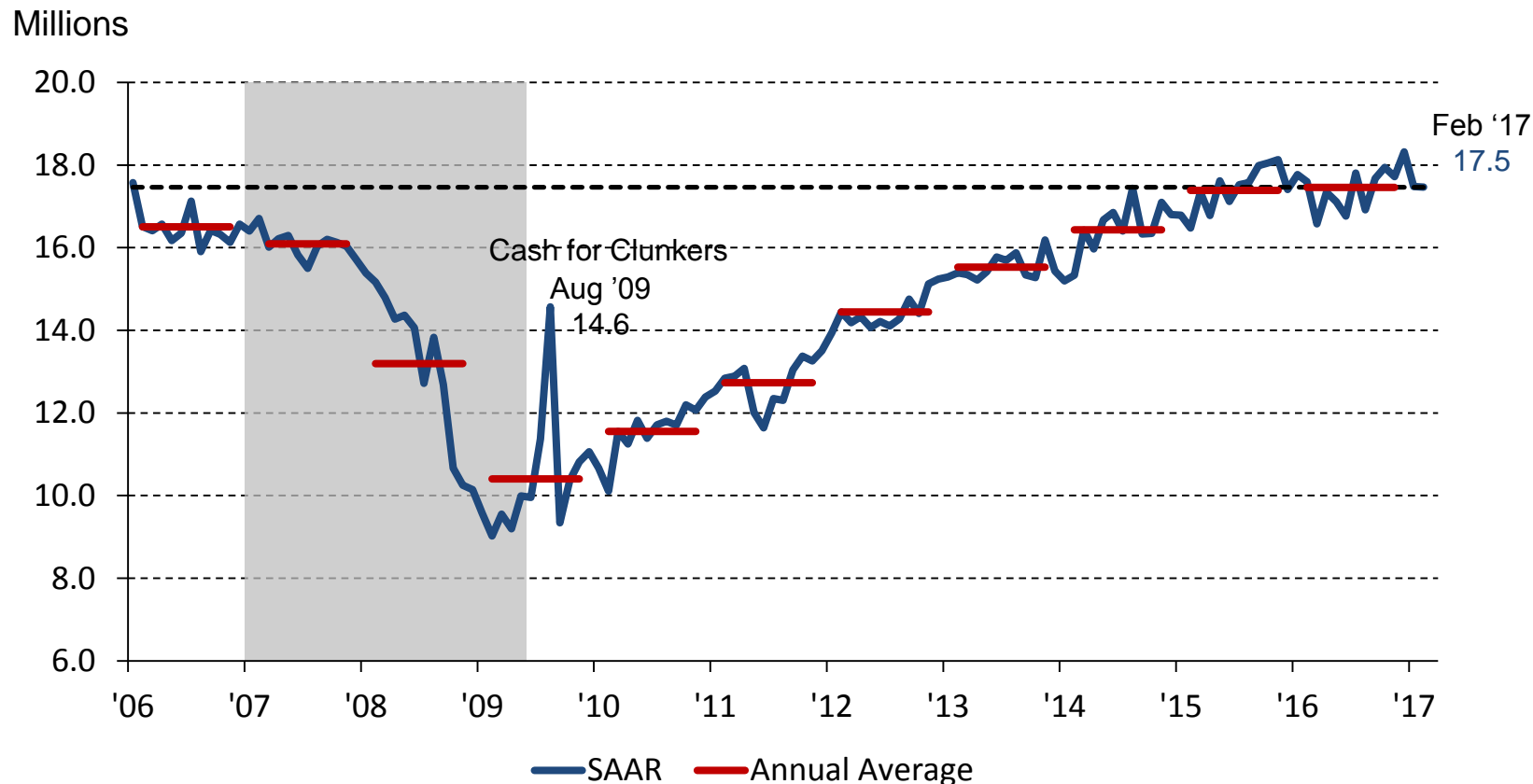
Percent



Source: Bureau of the Census

U.S. Light Vehicle Sales

S.A.A.R – Millions of Units

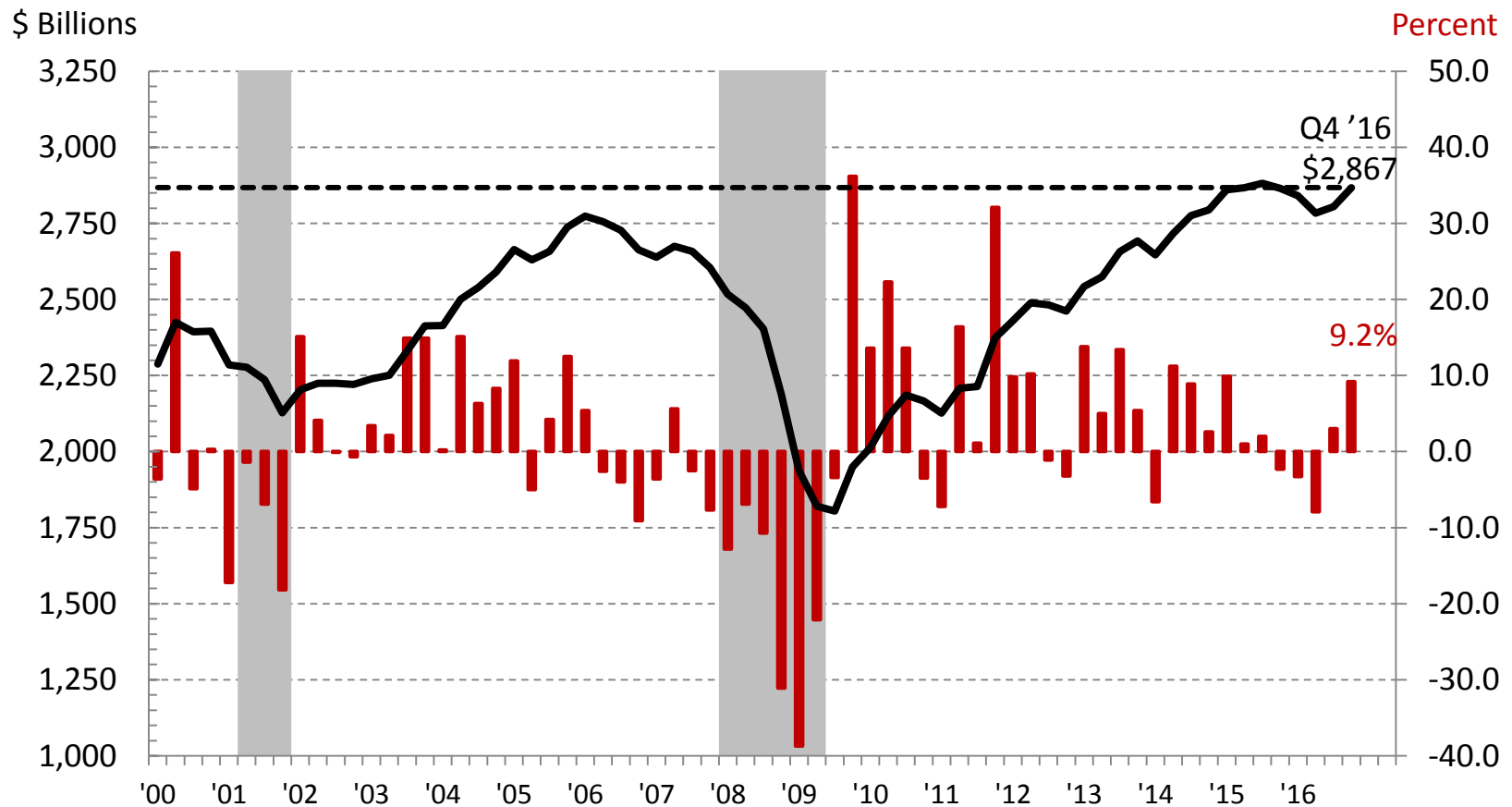


Note: Total 2016 Light Vehicle Sales: 17,465,020 / Including M/H: 17,866,260.

Source: Ward's Automotive and BEA

Real Gross Private Domestic Investment

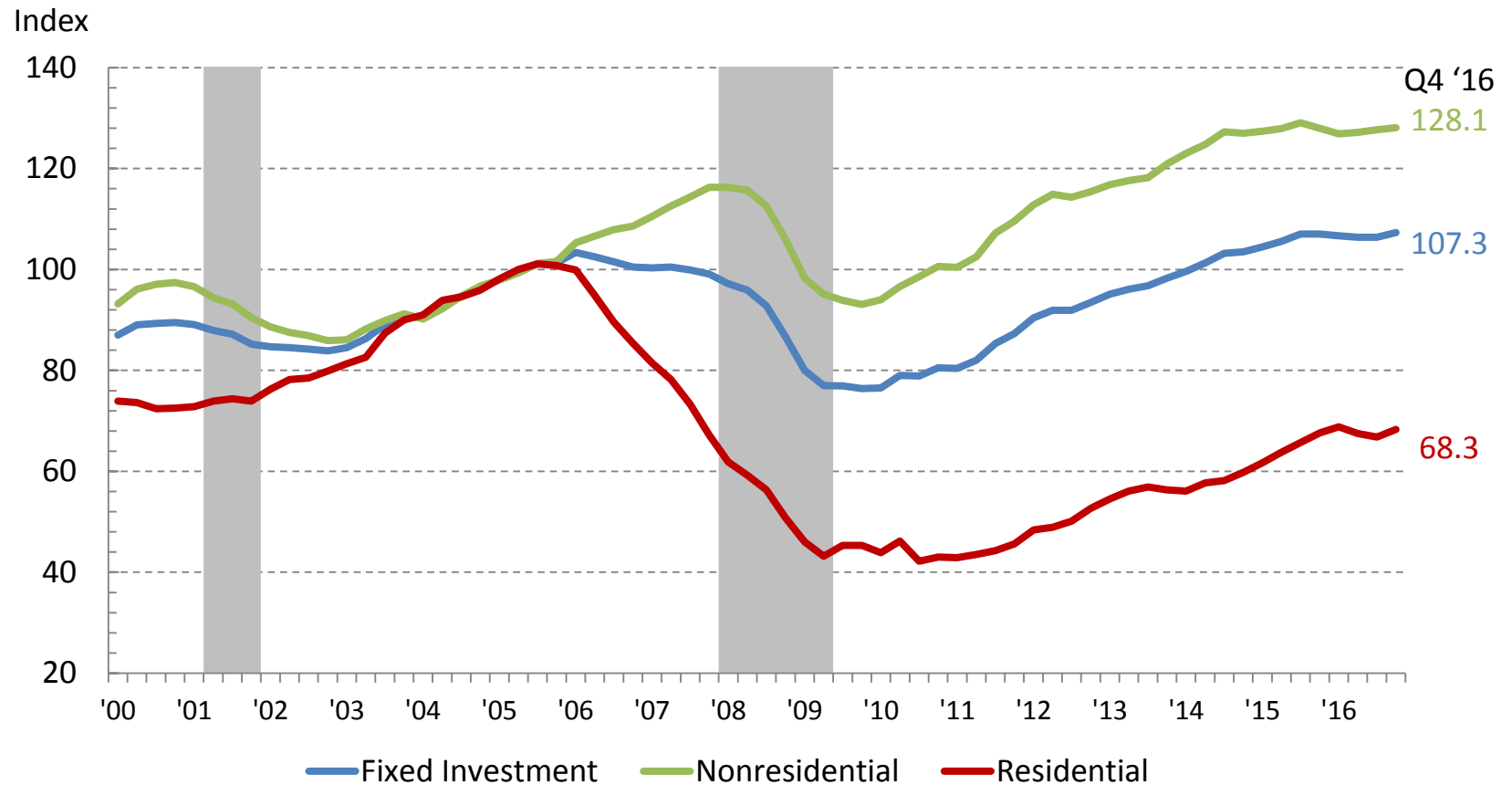
Billions Chained \$2009, % Change Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Real Domestic Fixed Investment

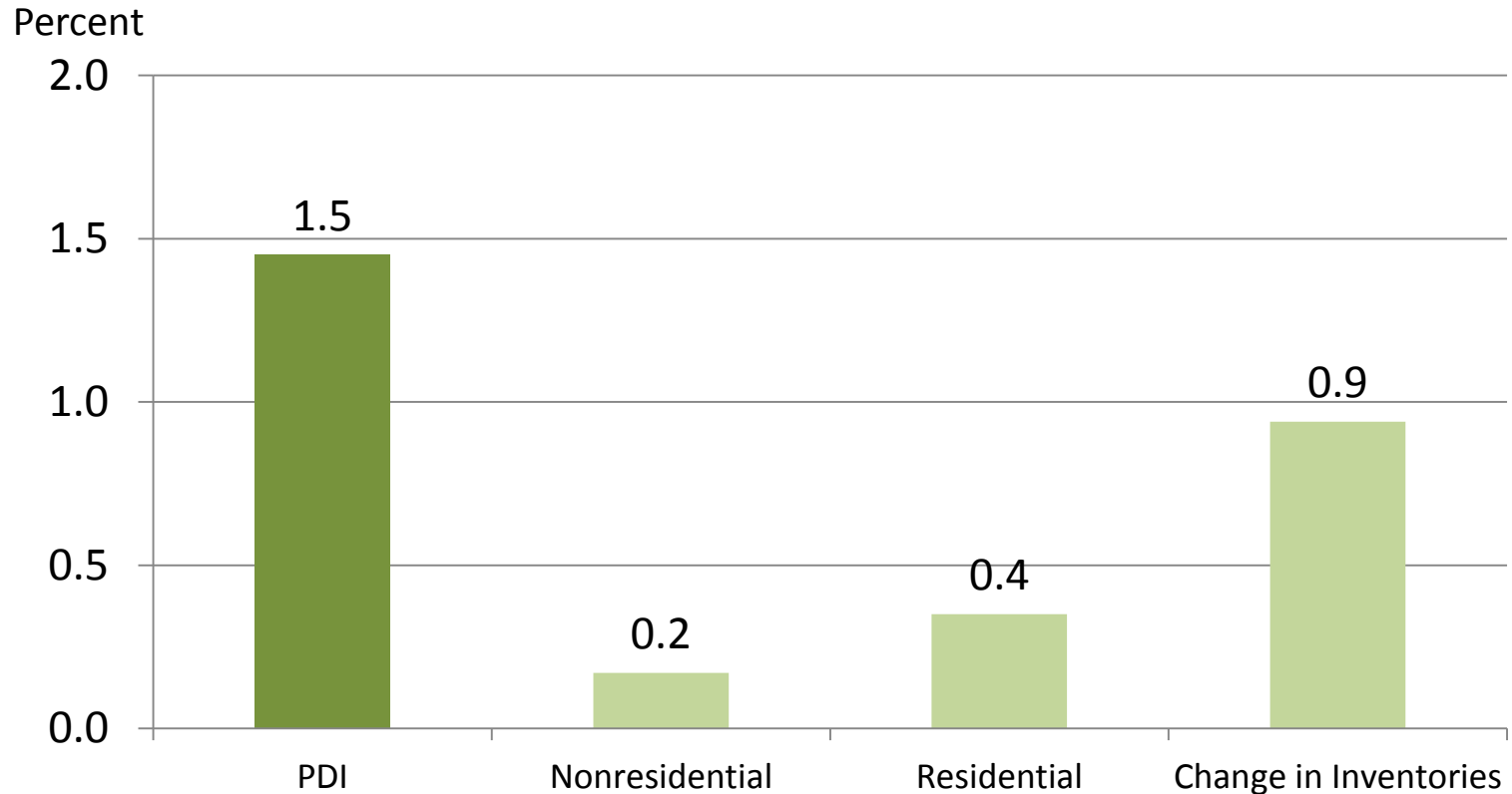
Billions Chained \$2009, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

Real Private Domestic Investment

Contribution to Percent Change, Q3, 2016 - Q/Q at SAAR

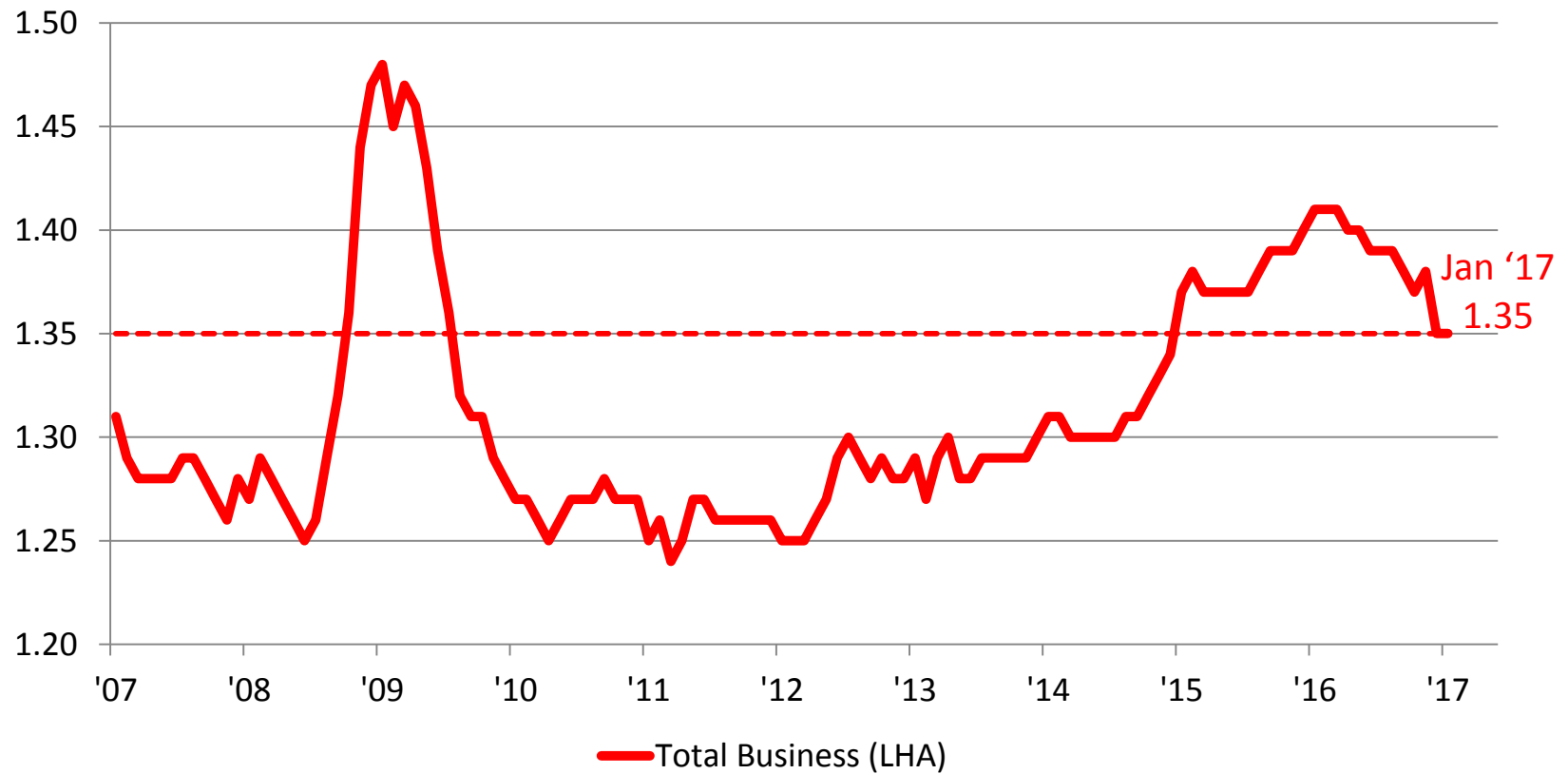


Source: U.S. Bureau of Economic Analysis

Inventory to Sales Ratio

Total Business - SA

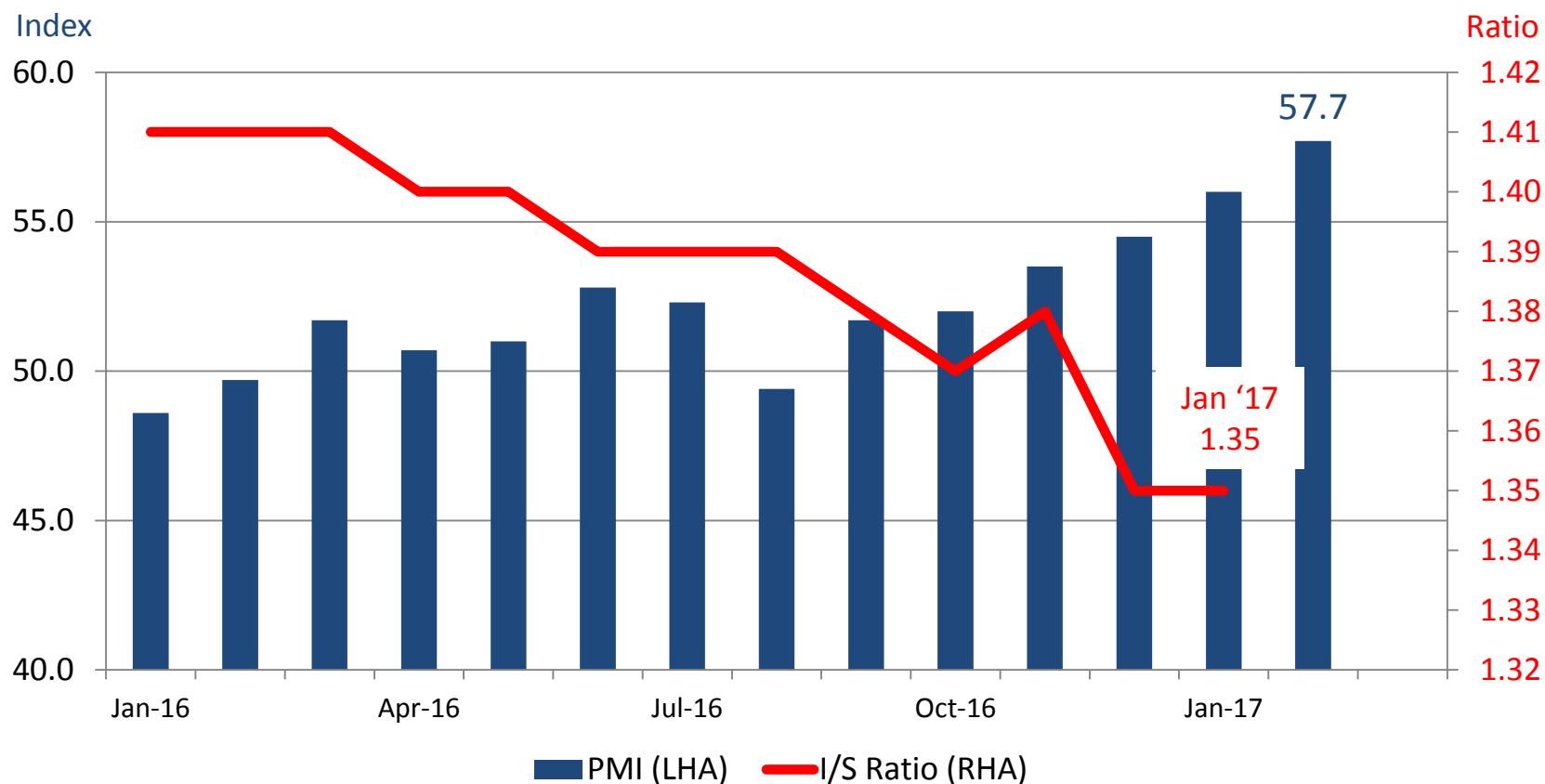
Percent



Source: U.S. Census Bureau and WardsAuto.

ISM Purchasing Managers Index

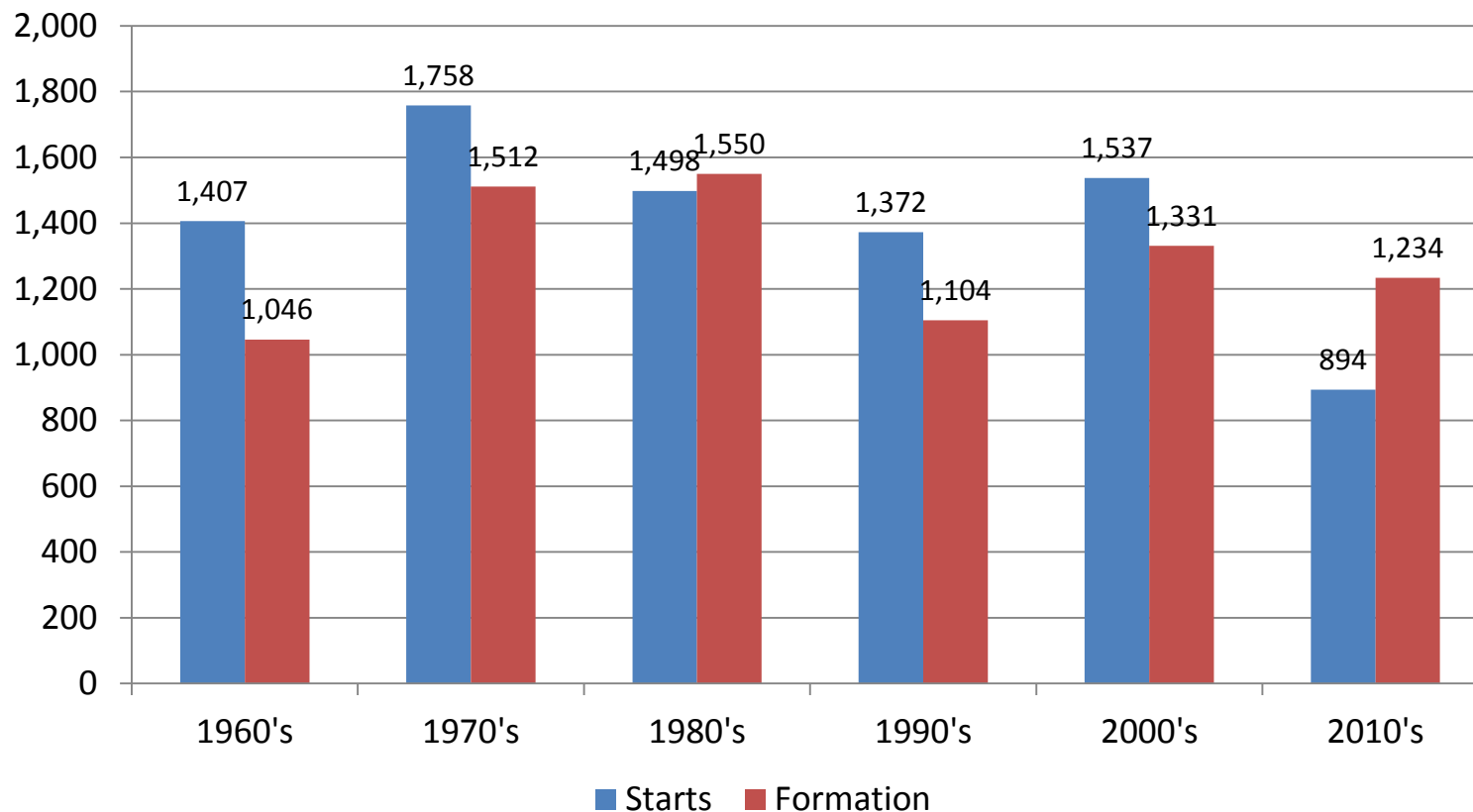
Manufacturing, SA - Greater than 50 = Expansion



Source: Institute for Supply Management , Haver Analytics and FRED

U.S. Housing Starts & Household Formation

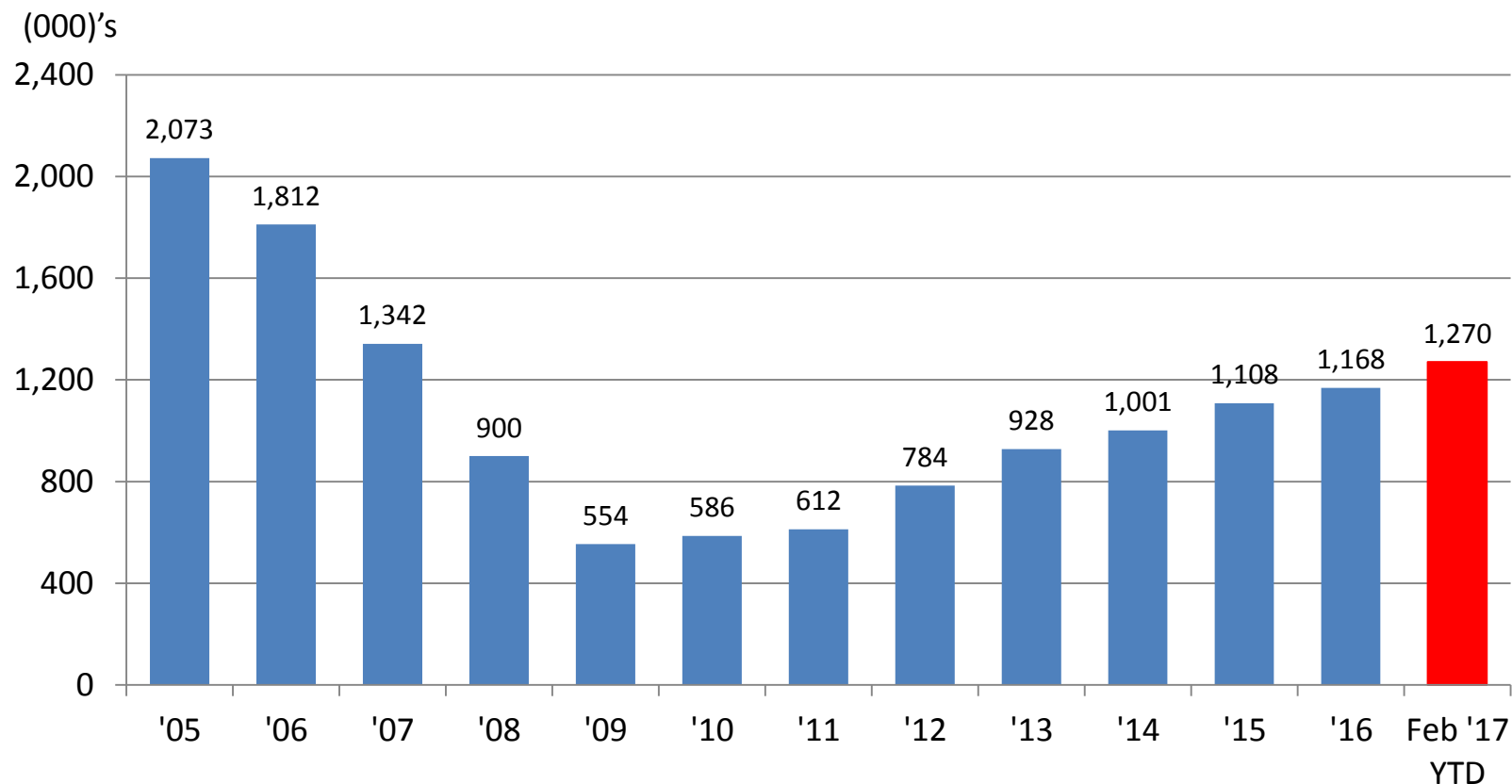
In Thousands of Units – Averages by Decade



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

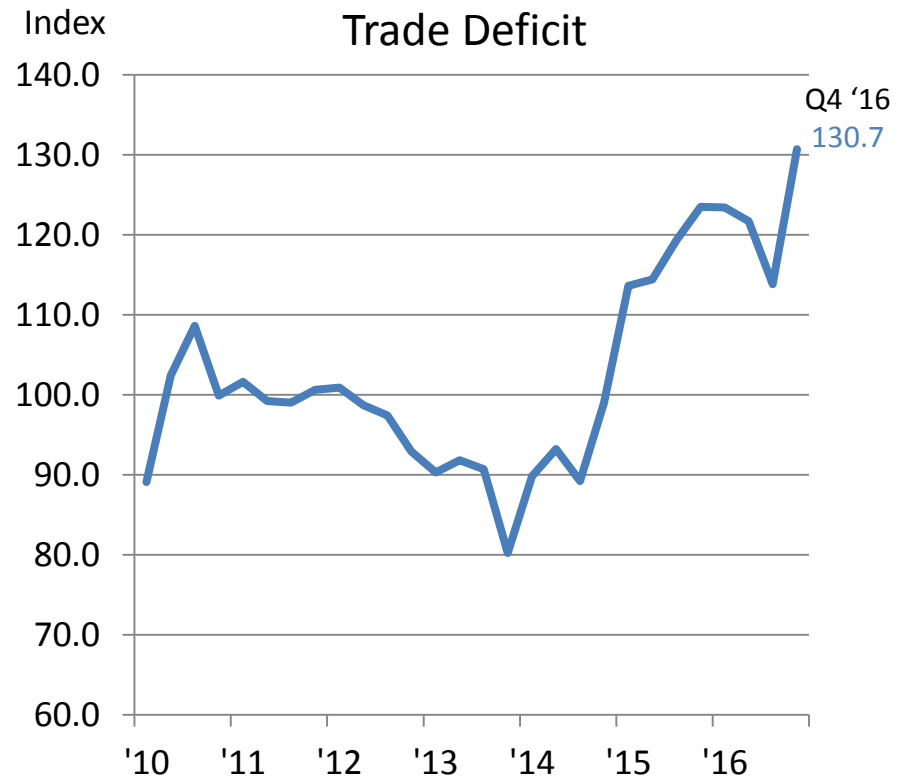


Note: The United States averaged 1.5 million housing starts per year 1990 to 2004.

Source: U.S. Census Bureau

The U.S. Dollar & The Trade Deficit

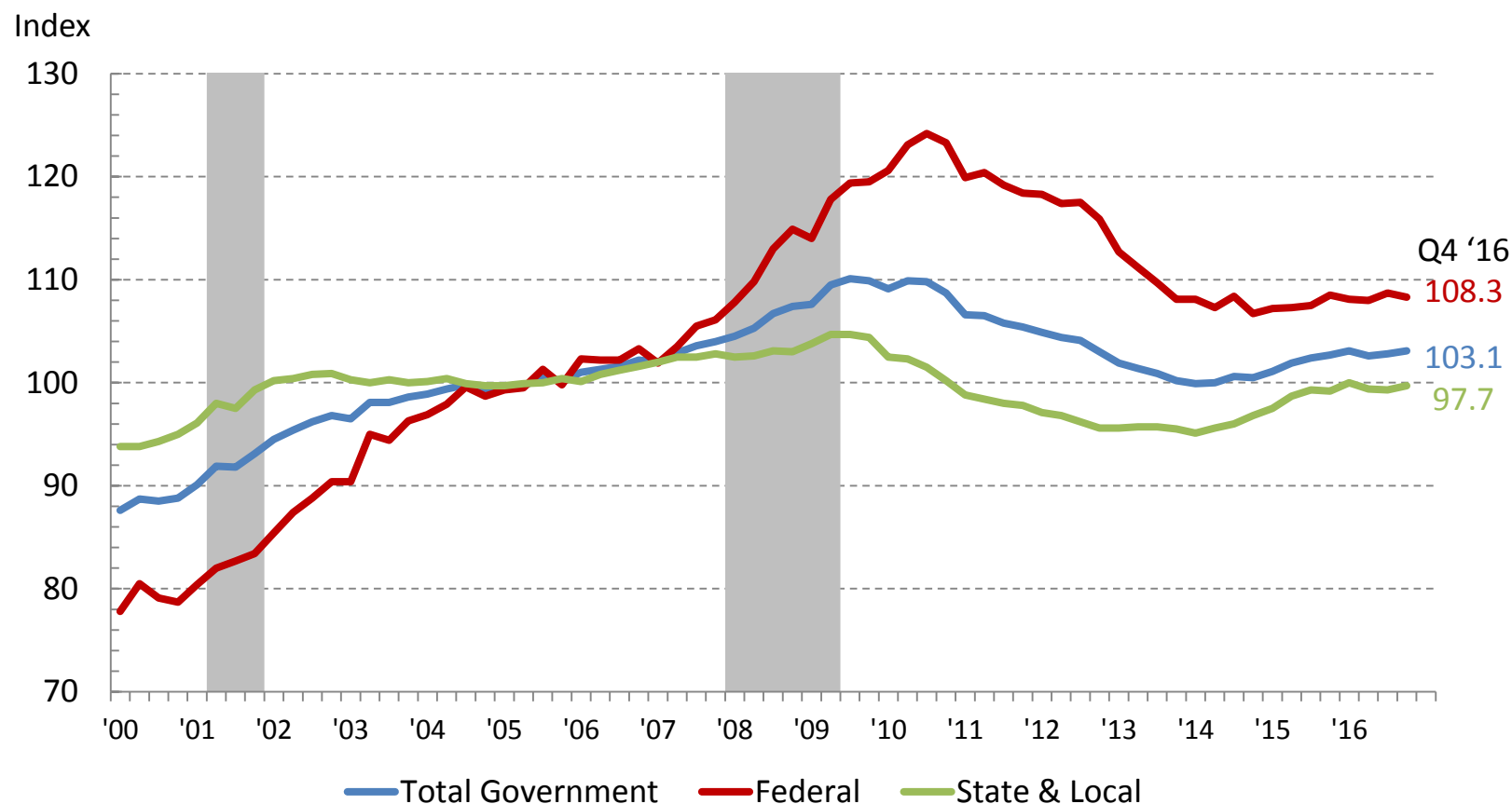
Trade Weighted Dollar- Index 2010 = 100, Trade Deficit – Index 2010 = 100



Source: Federal Reserve Board and Haver Analytics

Real Government Consumption & Investment

Billions Chained \$2009, Index – 2005 = 100



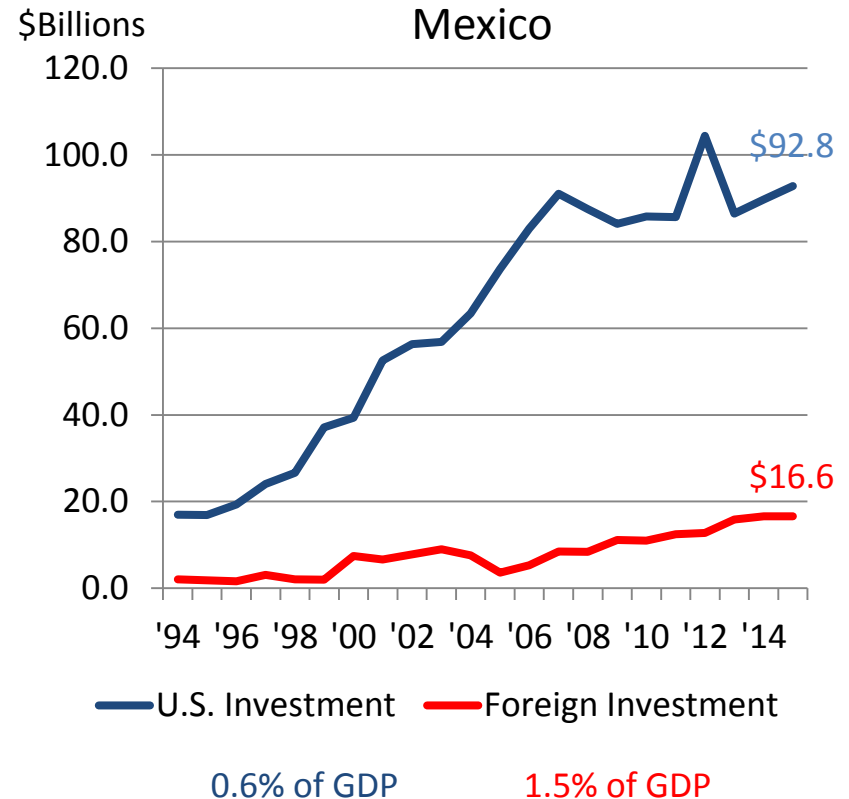
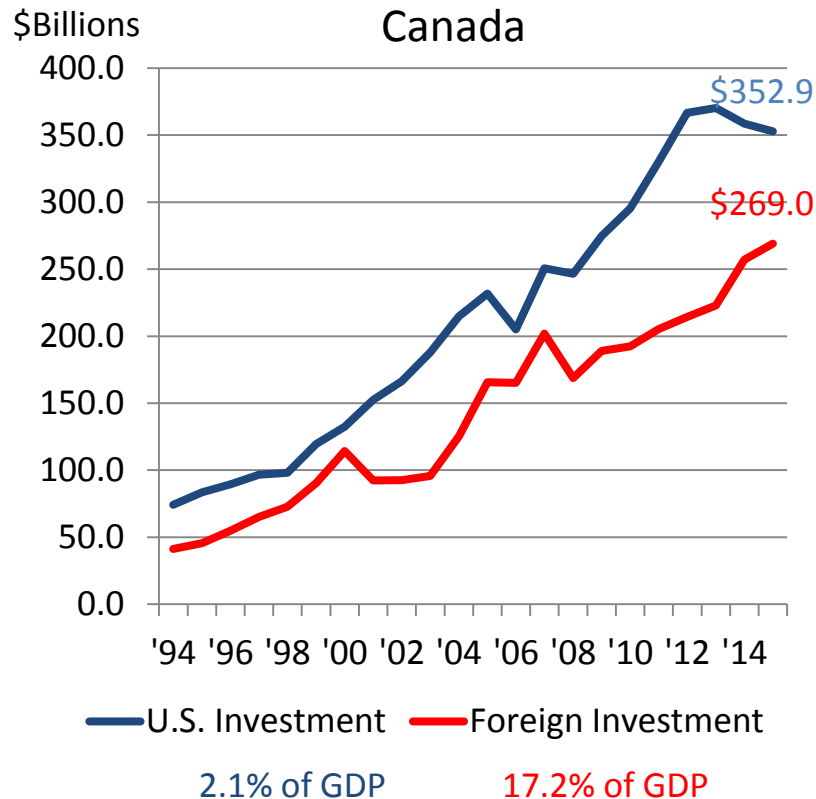
Source: U.S. Bureau of Economic Analysis

Fiscal Stimulus Remains Uncertain

- The White House plan includes large tax cuts and increased spending
 - The White House budget proposal has cuts to virtually with only Defense, Homeland Security and Veteran Affairs getting some type of an increase.
 - The final package will depend on Congressional priorities
- Estimates of fiscal impact on GDP very widely with many projections falling to zero by 2020
- Potential offsets to long-run growth from other policies
 - Trade restrictions
 - Immigration legislation
 - Affordable Care Act
 - Federal Reserves response to stronger demand and higher inflation

NAFTA Foreign Direct Investment Position

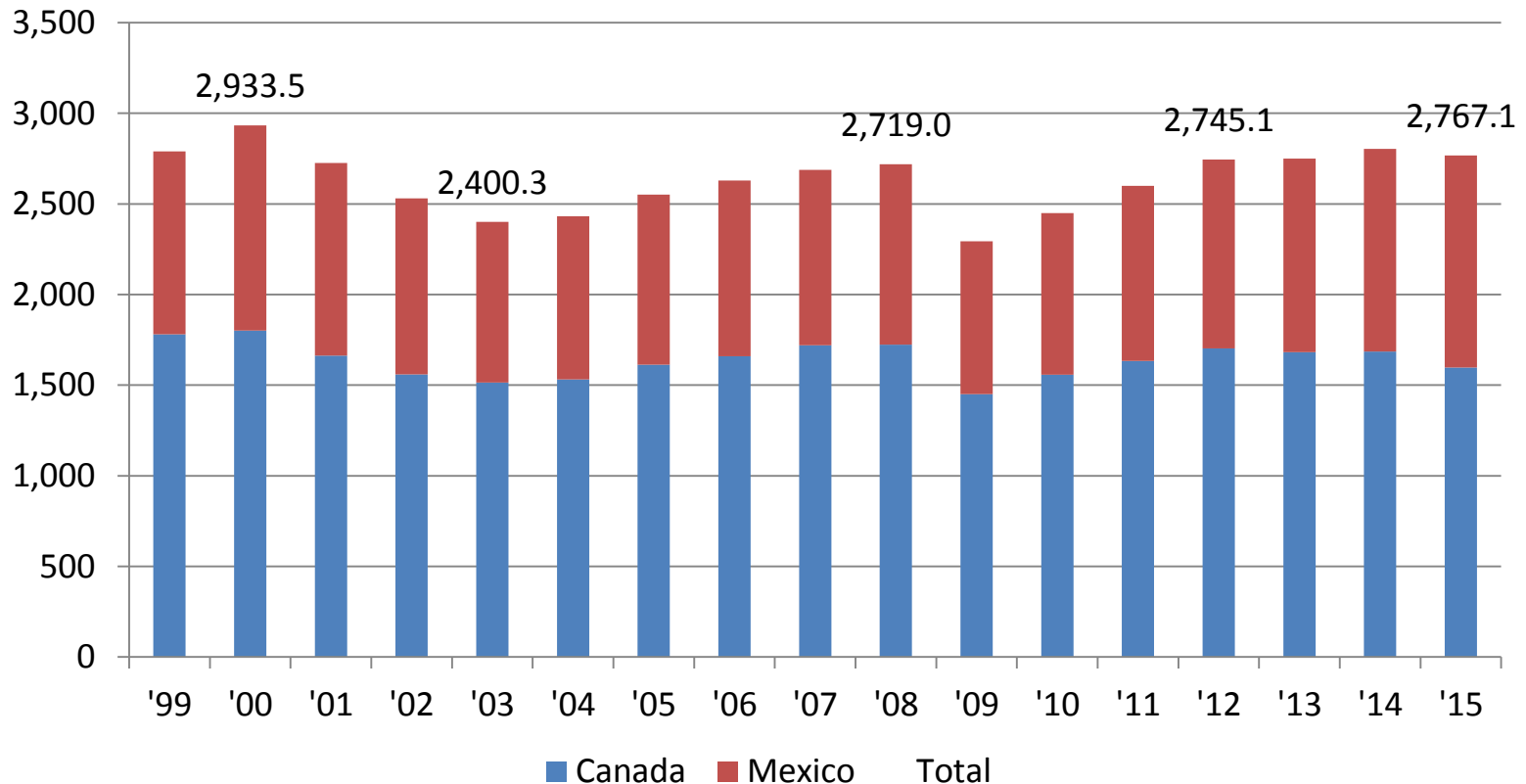
In Billions of Dollars – 1994 to 2015, Historical Cost Value



Source: Bureau of Economic Analysis and Haver Analytics.

NAFTA Foreign Direct Investment Jobs

Thousands of Employees

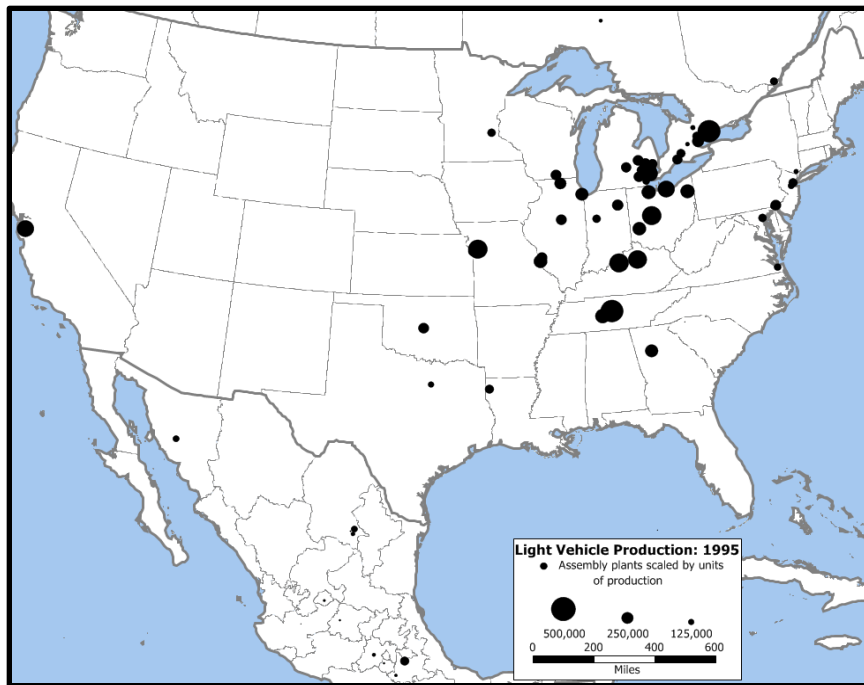


Source: WWW.Trade.Gov

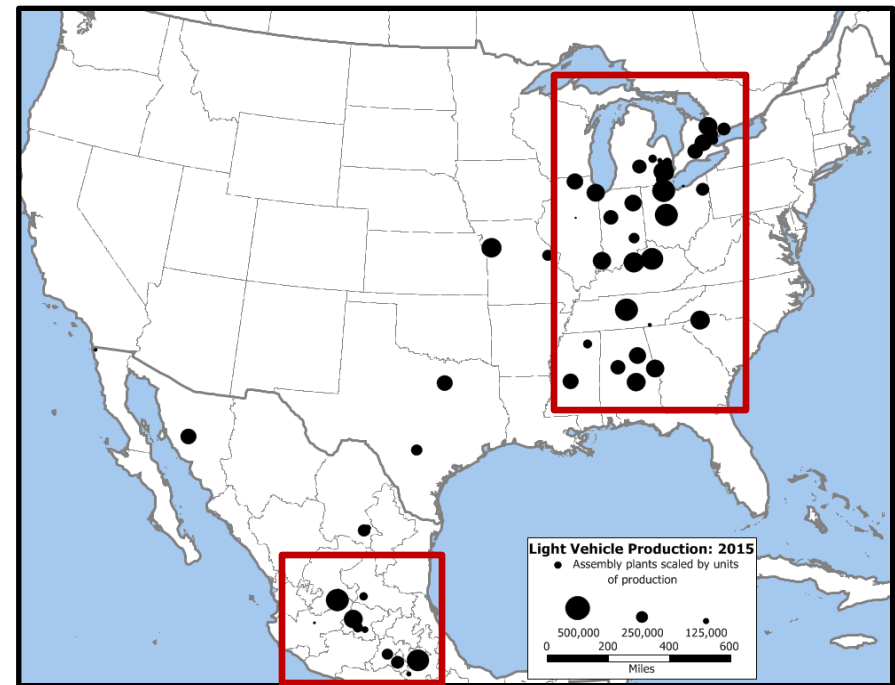
North American Auto Production Facilities

U.S. Automation Alley

1995



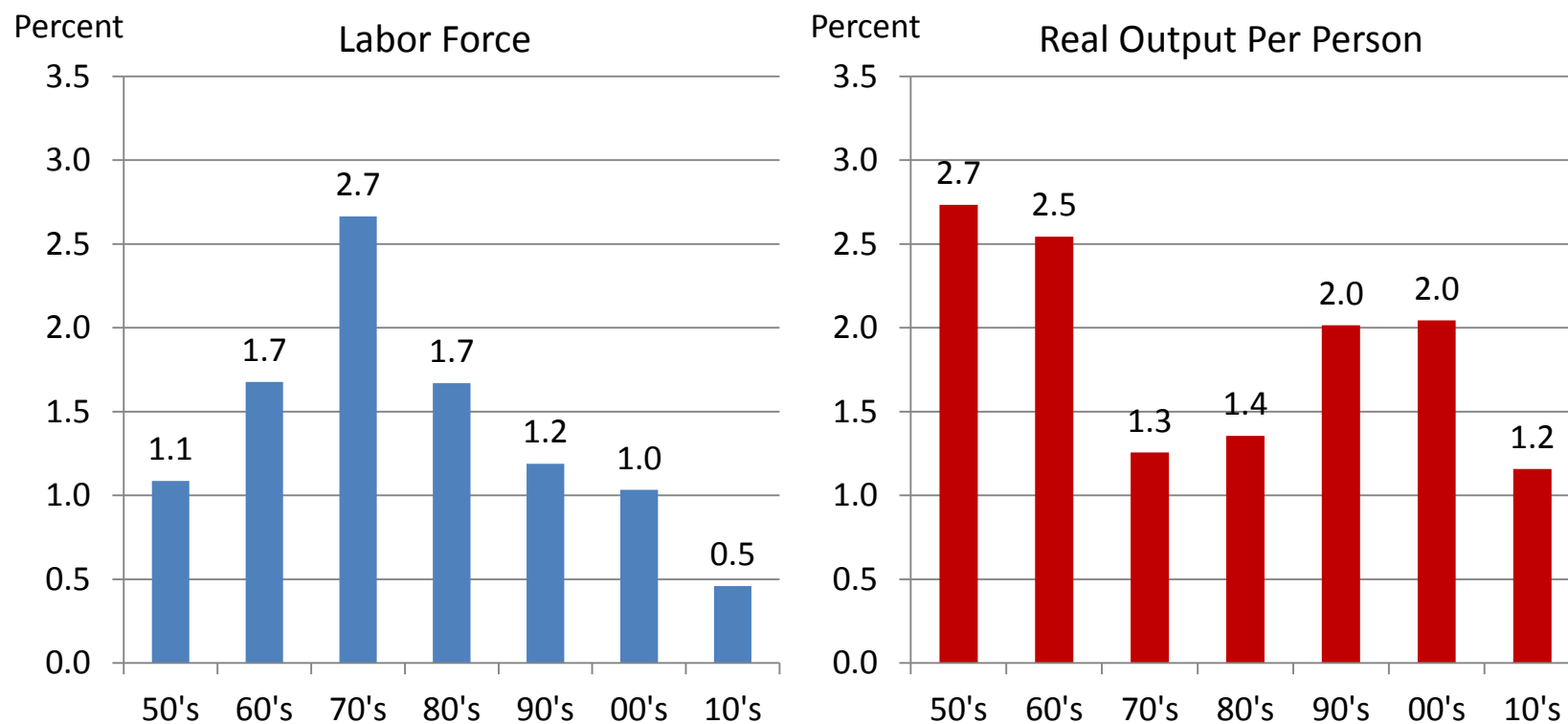
2015



Source: Thomas Klier, FRB Chicago and Bureau of Economic Analysis

Labor and Productivity Growth

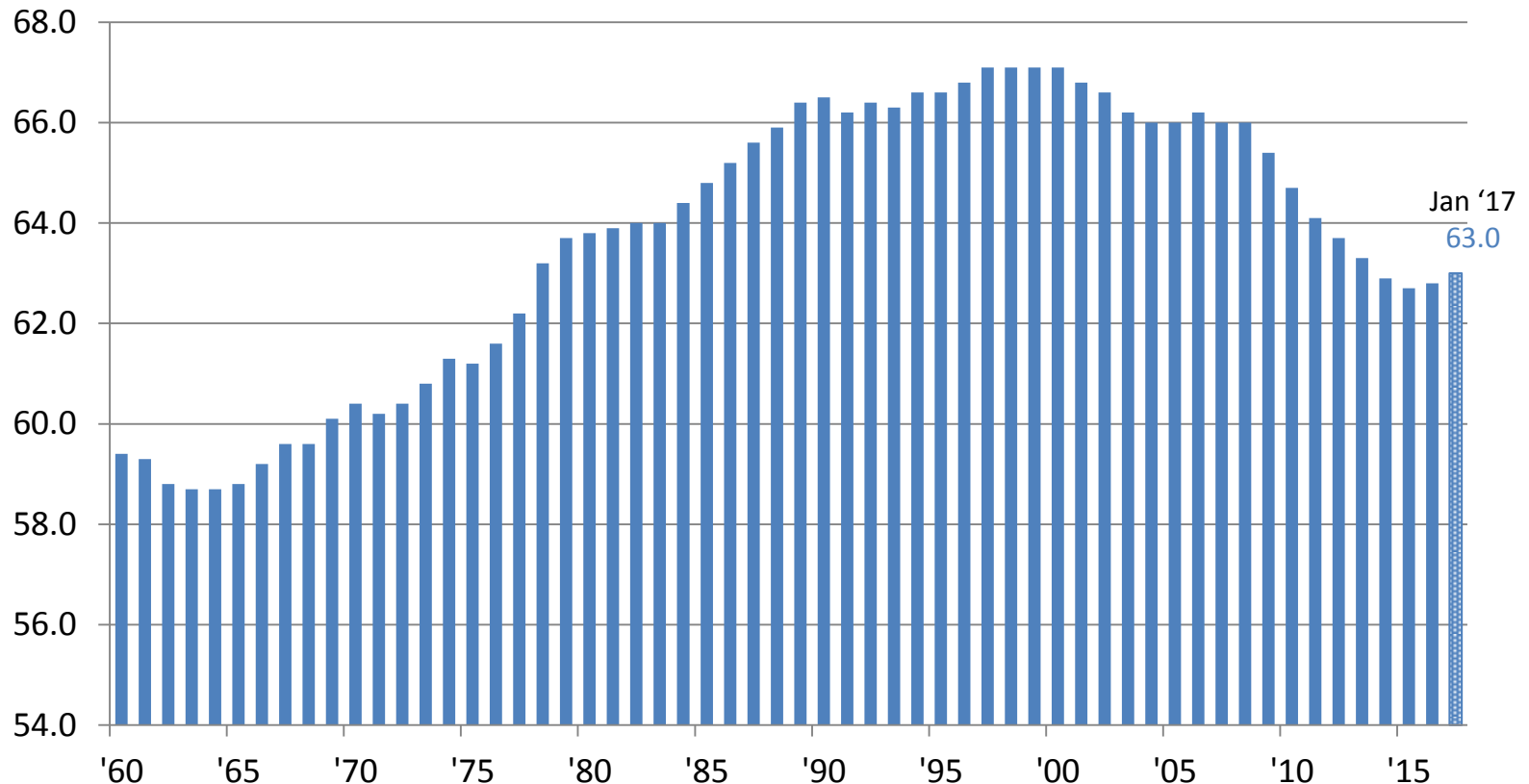
Labor Force and Real Output Per Hour – Average Annual Growth



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

Labor Force Participation Rate

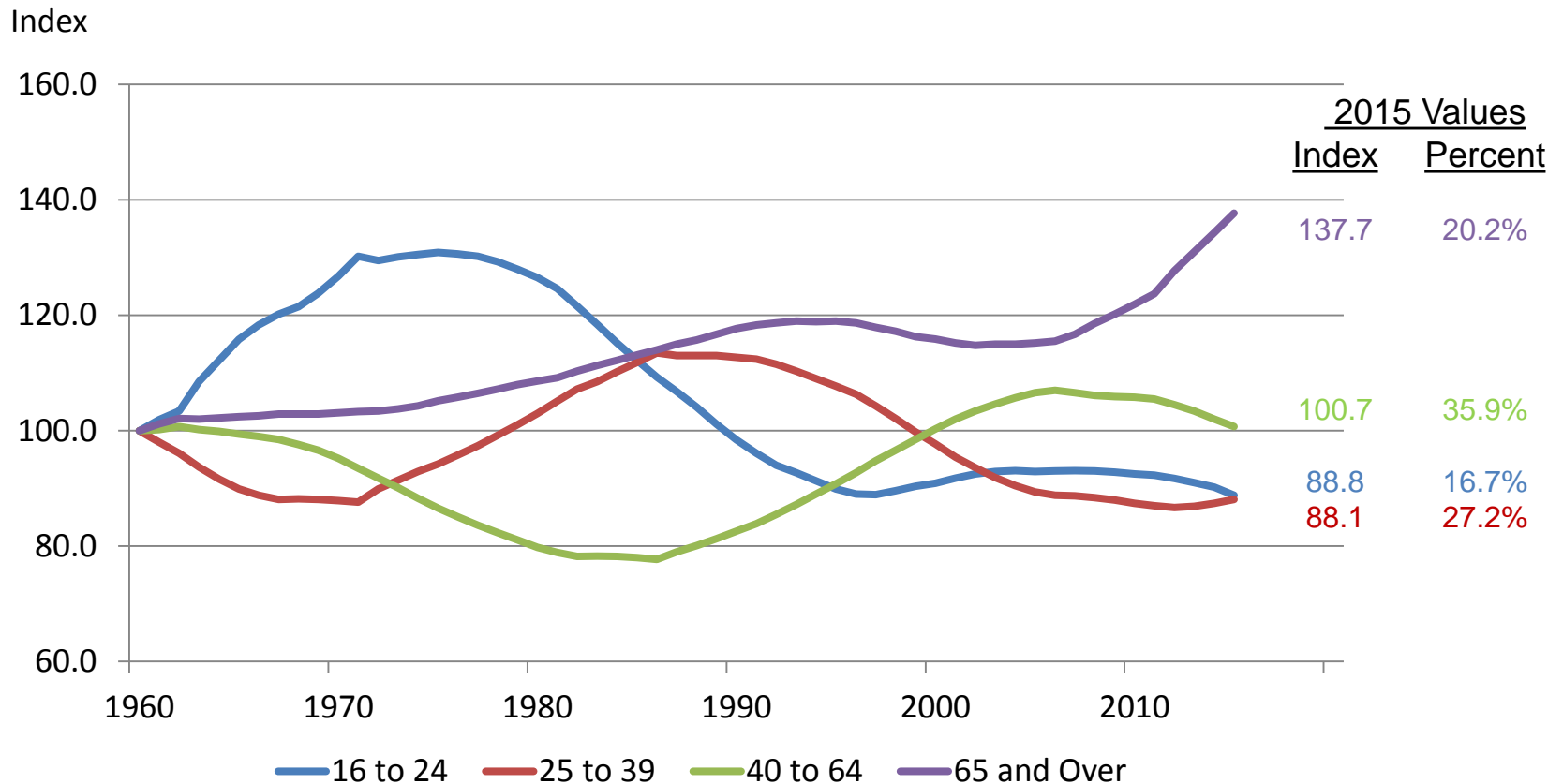
Percent of Noninstitutionalized Civilian Population – Annual Average



Source: U.S. Bureau of Labor Statistics

Working Age Population by Age

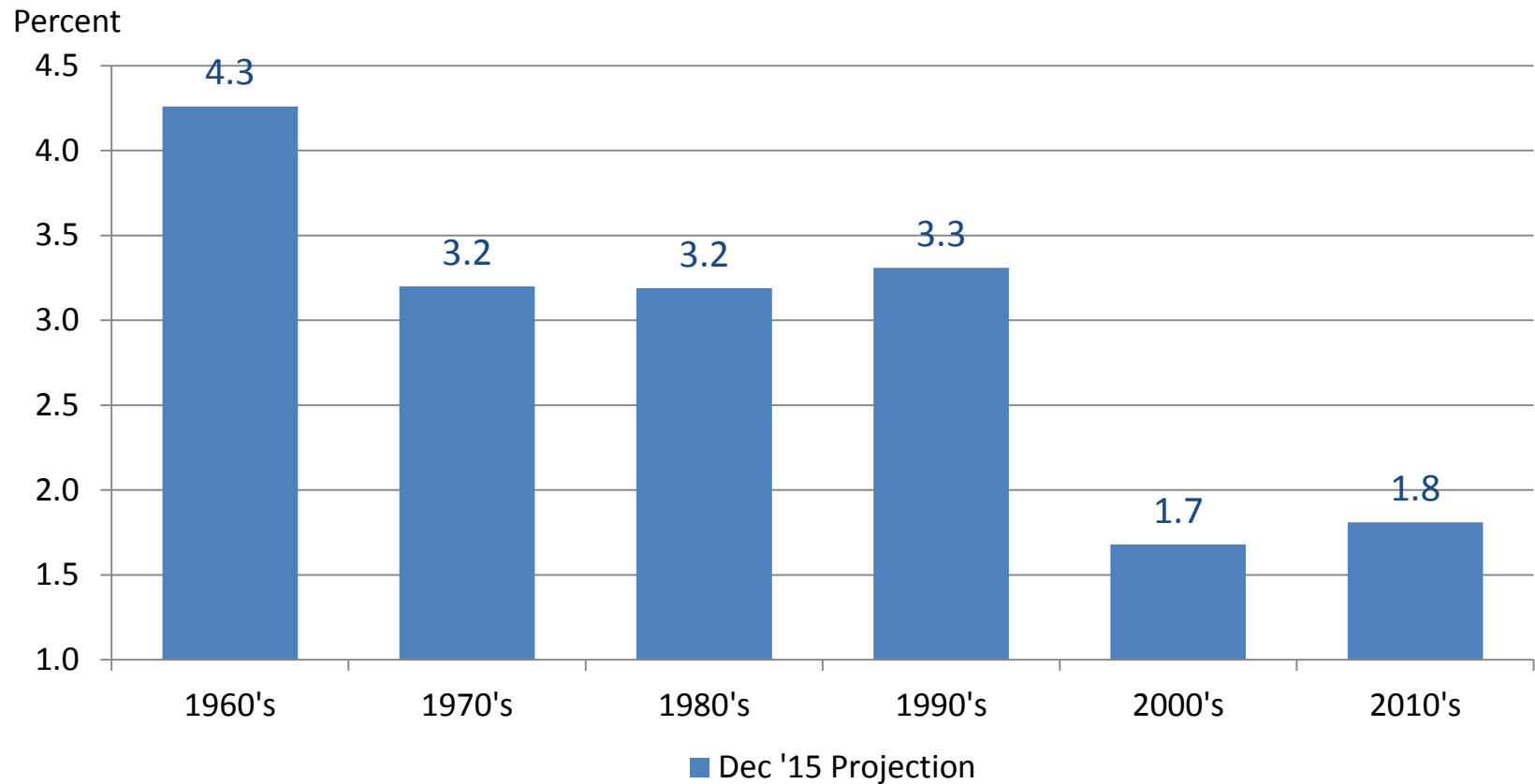
Select Age Categories, Percent of Total, Index – 1960 = 100



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

Economic Potential by Decade

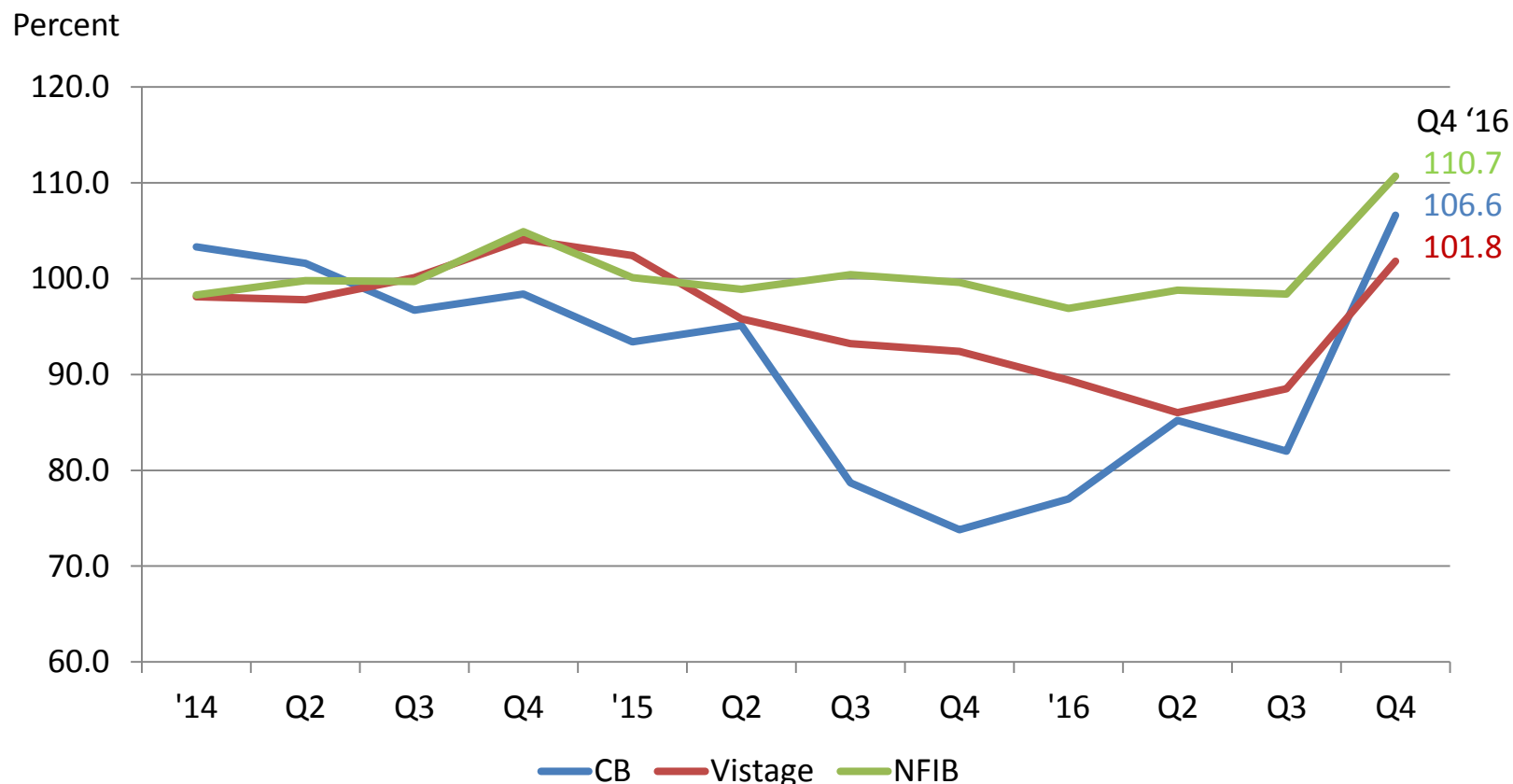
Real GDP Percent Change – Annual Average



Source: U.S. Congressional Budget Office

Business Confidence Surveys

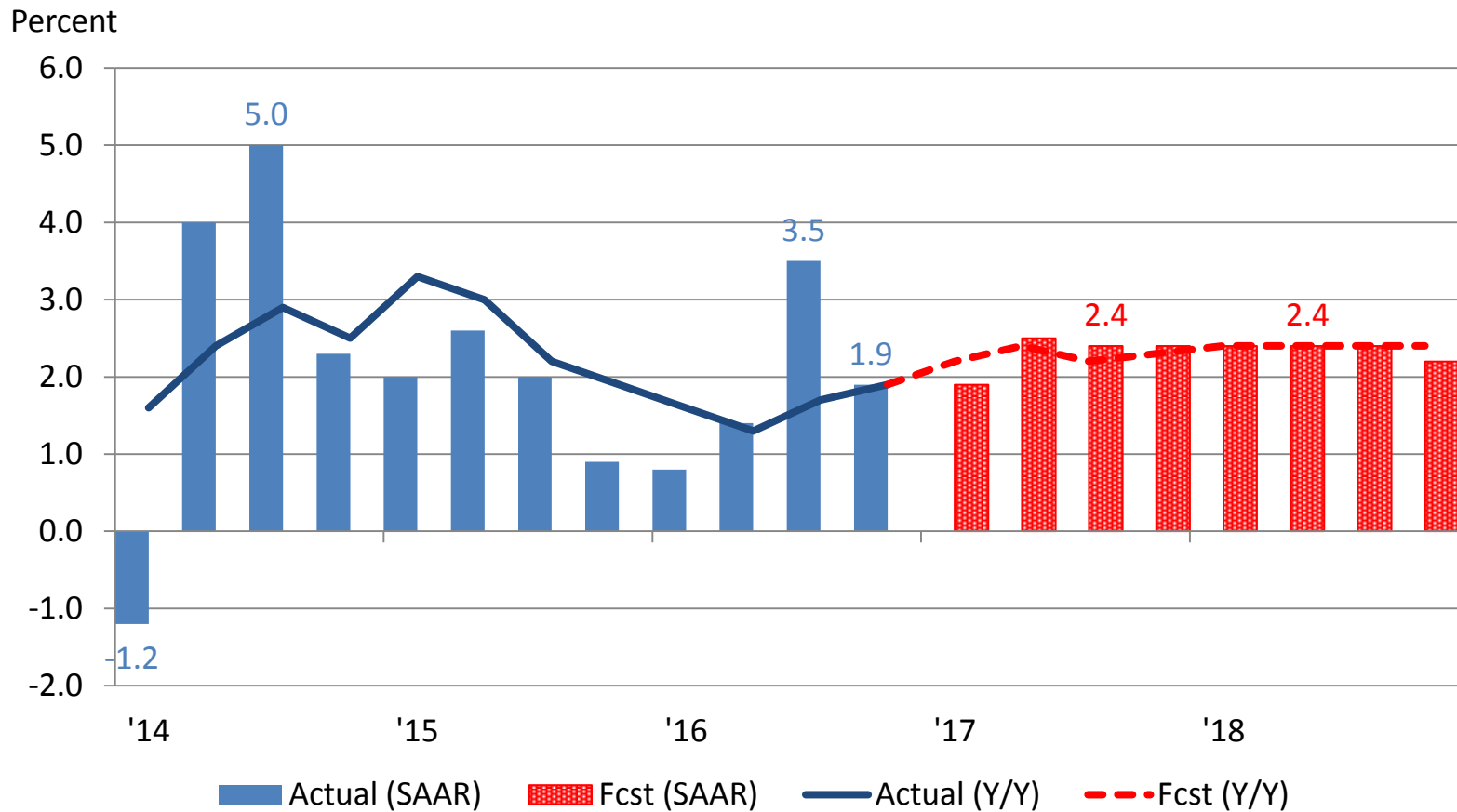
Conference Board, Vistage, and NFIB , Index 2004 = 100



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

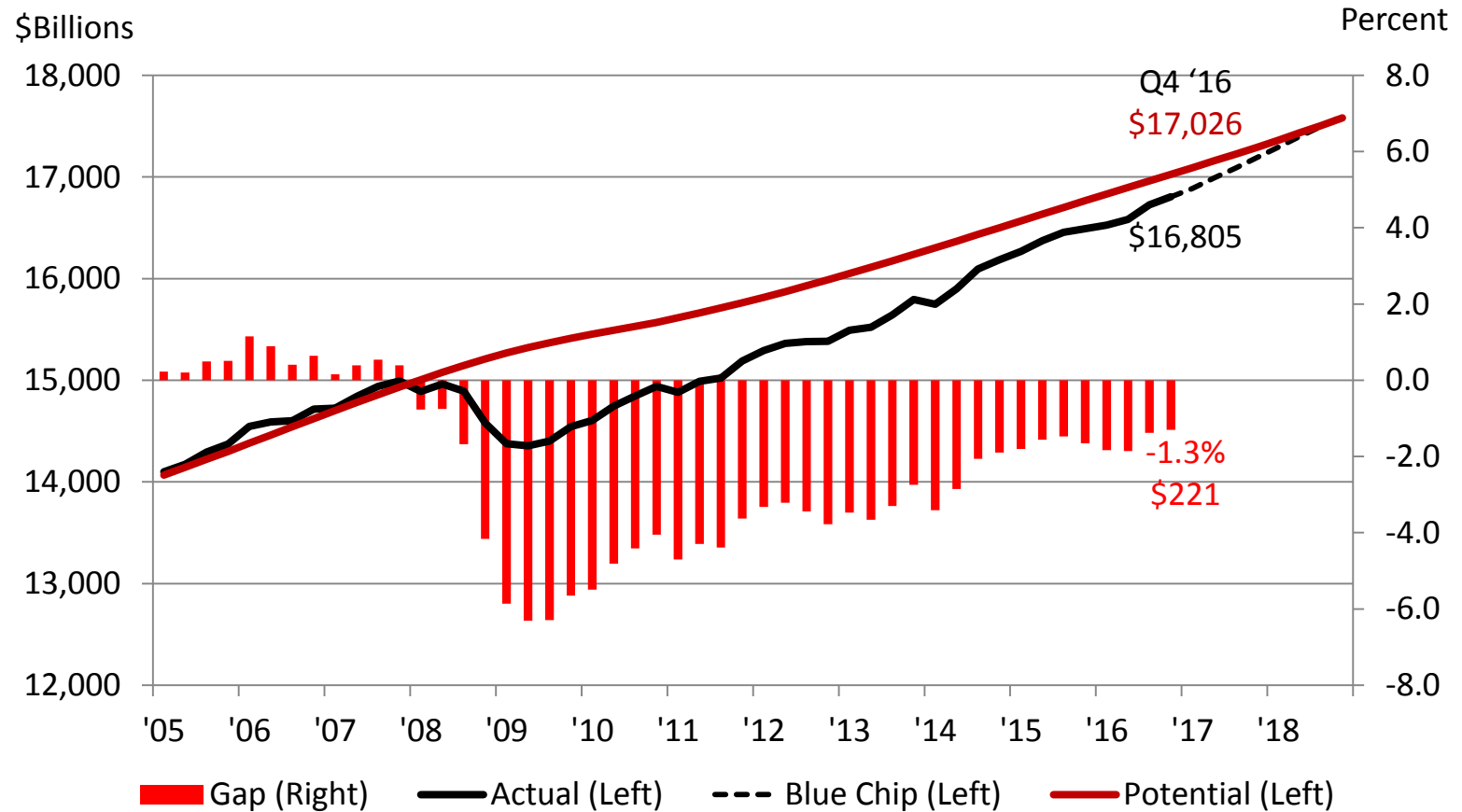
Annual Percent Change – Chained \$2009



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

March 23, 2017

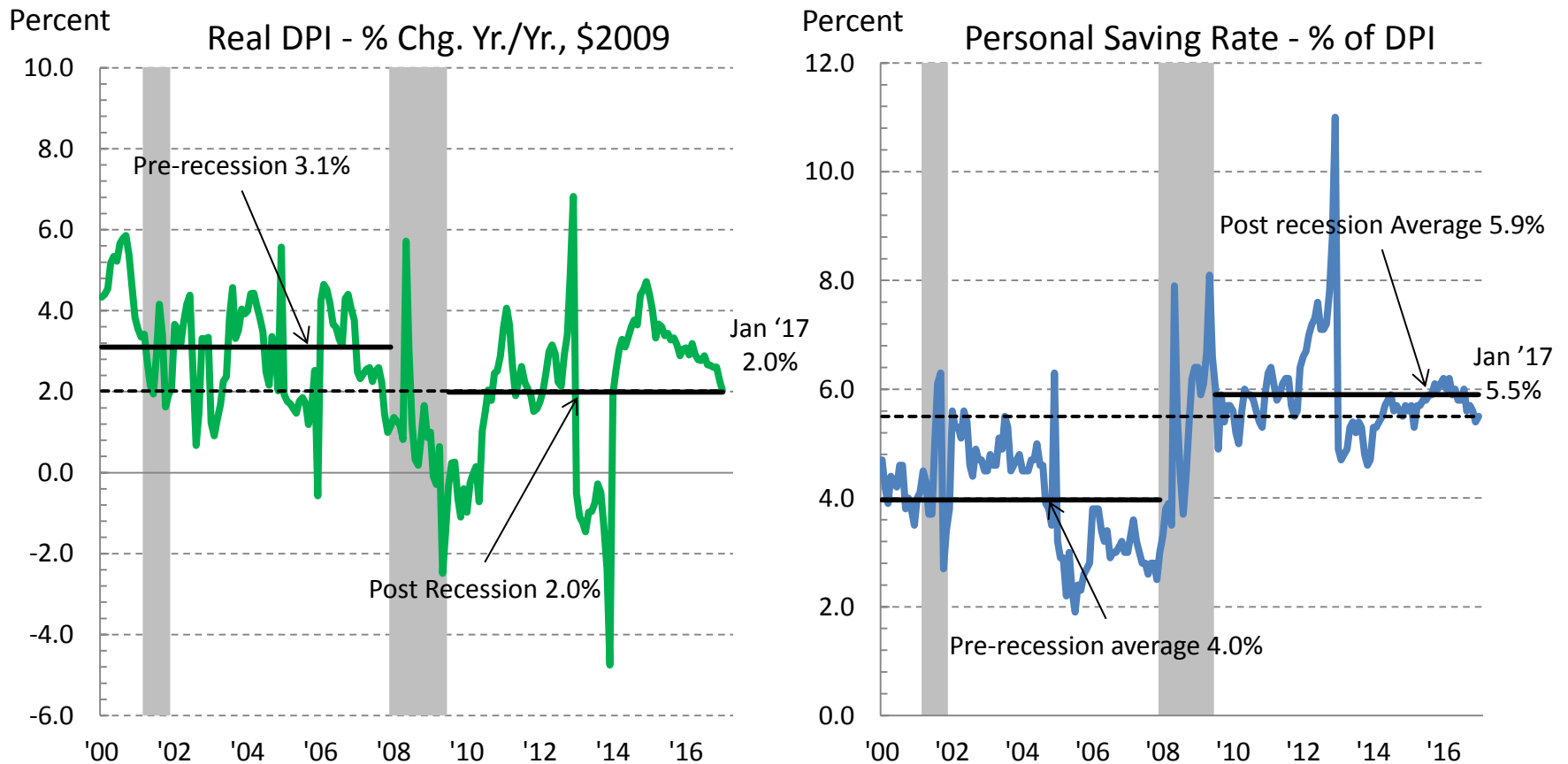
Federal Reserve Bank of Chicago

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U.S. Consumer

Income and Savings Rate

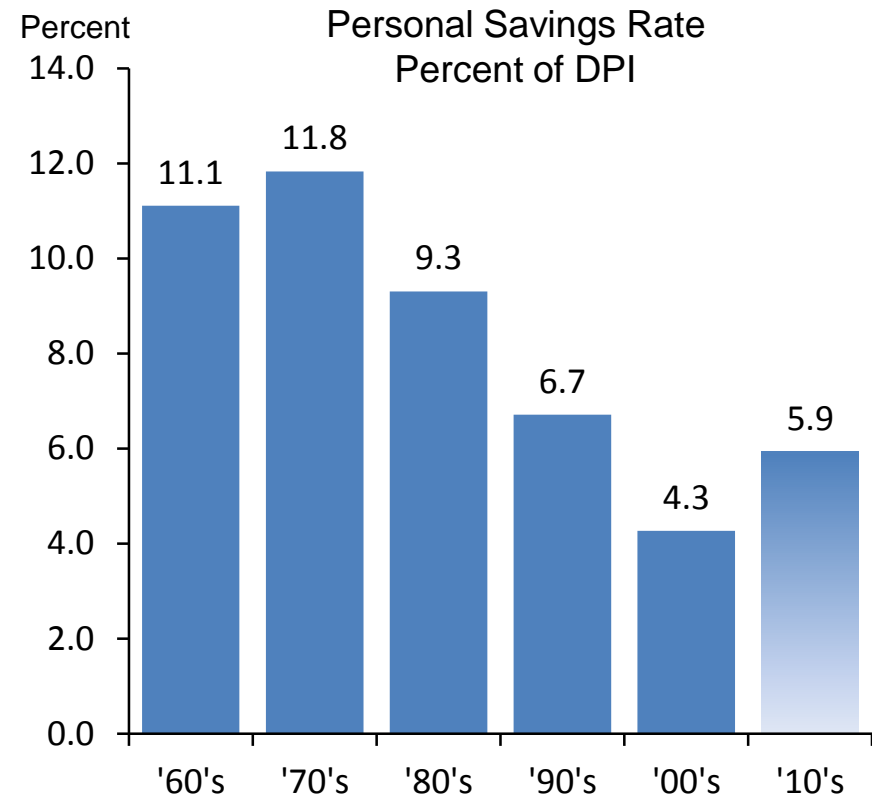
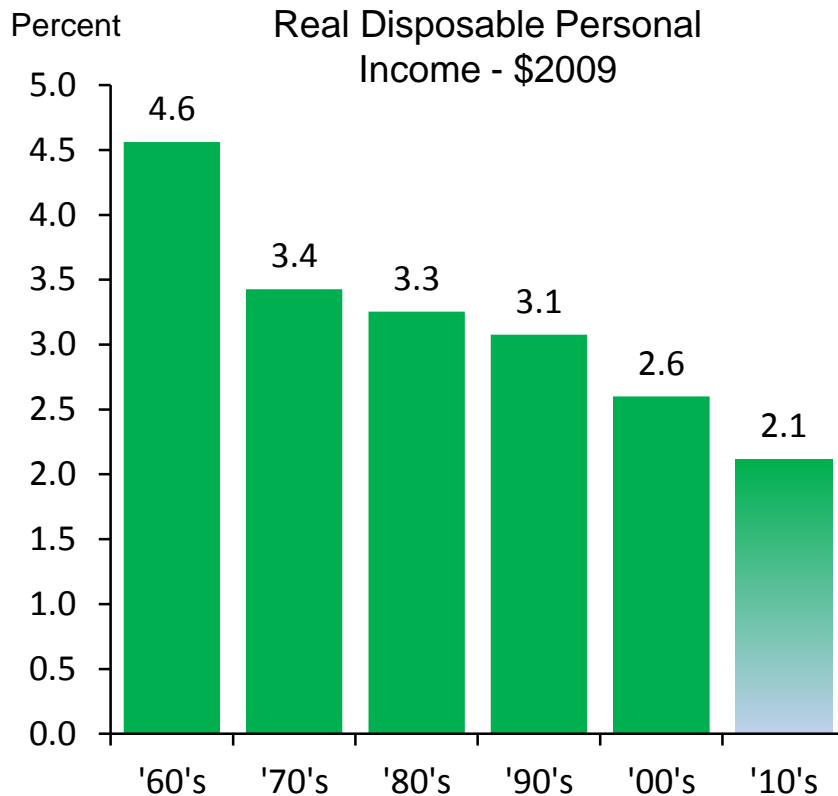
Percent Change and Percent of DPI



Source: U.S. Bureau of Economic Analysis

Real DPI & Personal Savings Rate

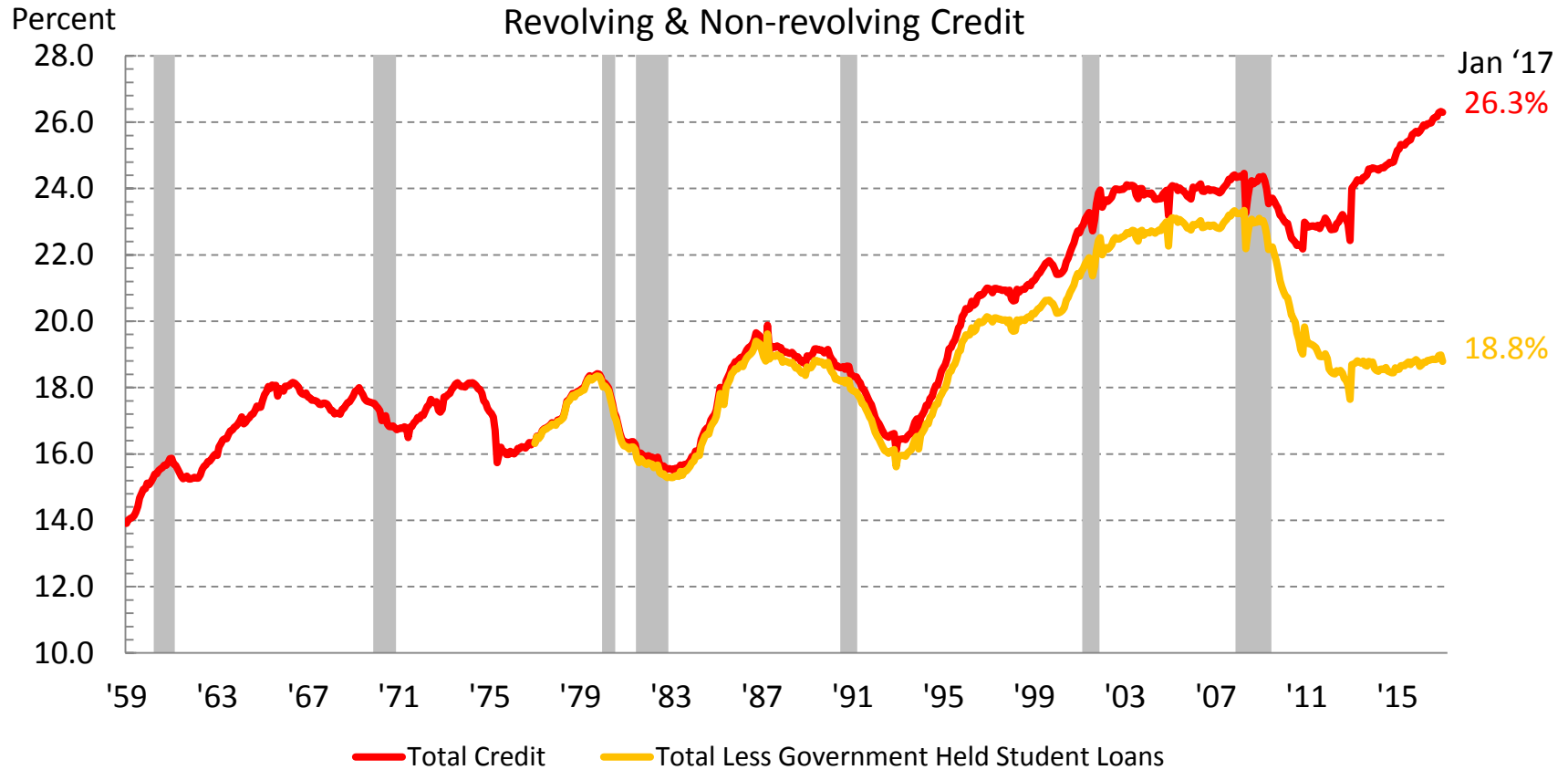
As Percent of Personal Income



Source: U.S. Bureau of Economic Analysis

Consumer Credit

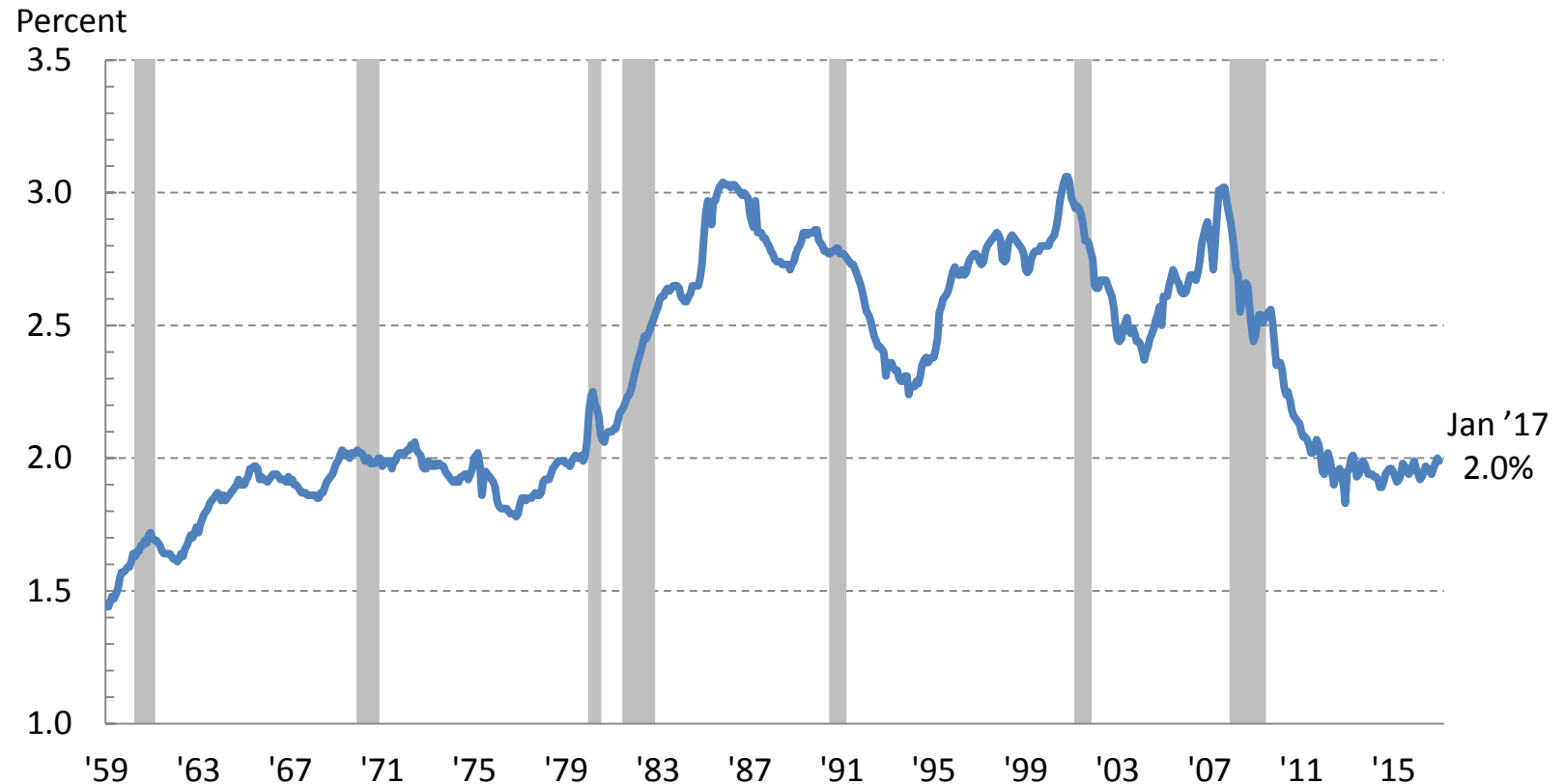
As a Percent of Disposable Personal Income



Source: Federal Reserve Bank - Board of Governors

Interest Payments

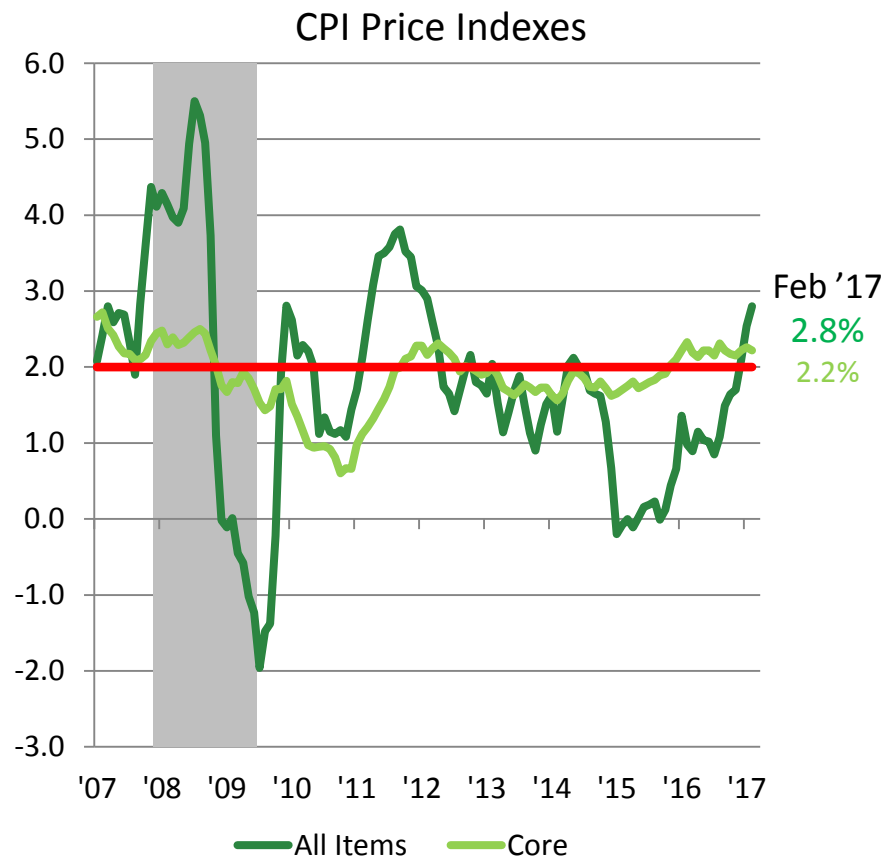
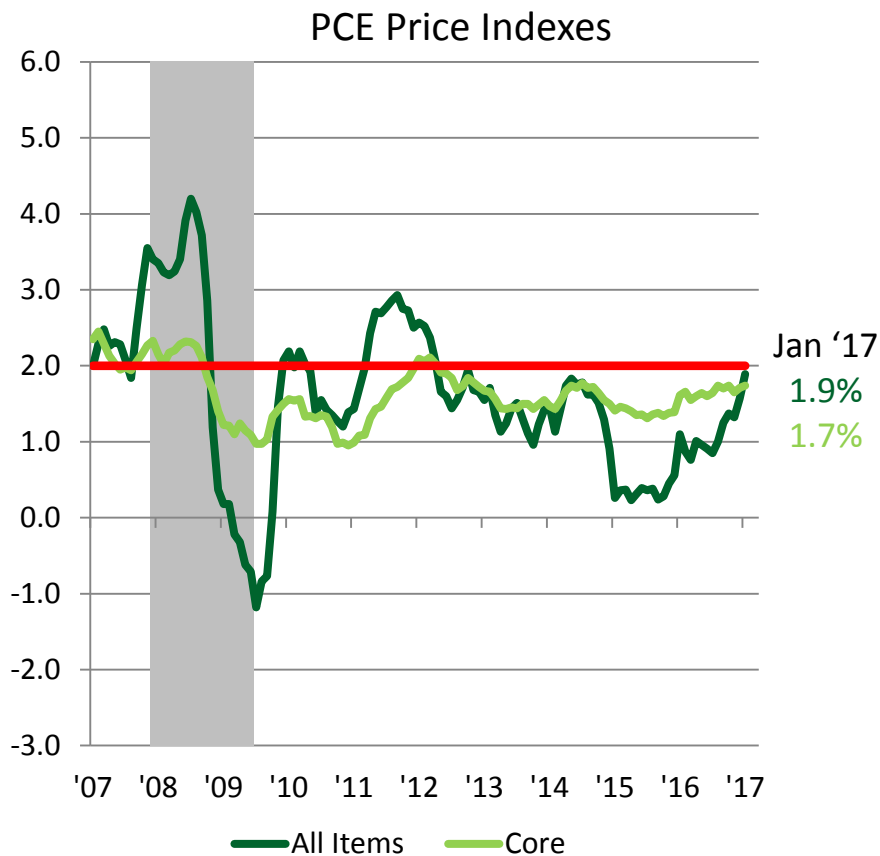
As a Percent of Disposable Personal Income



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

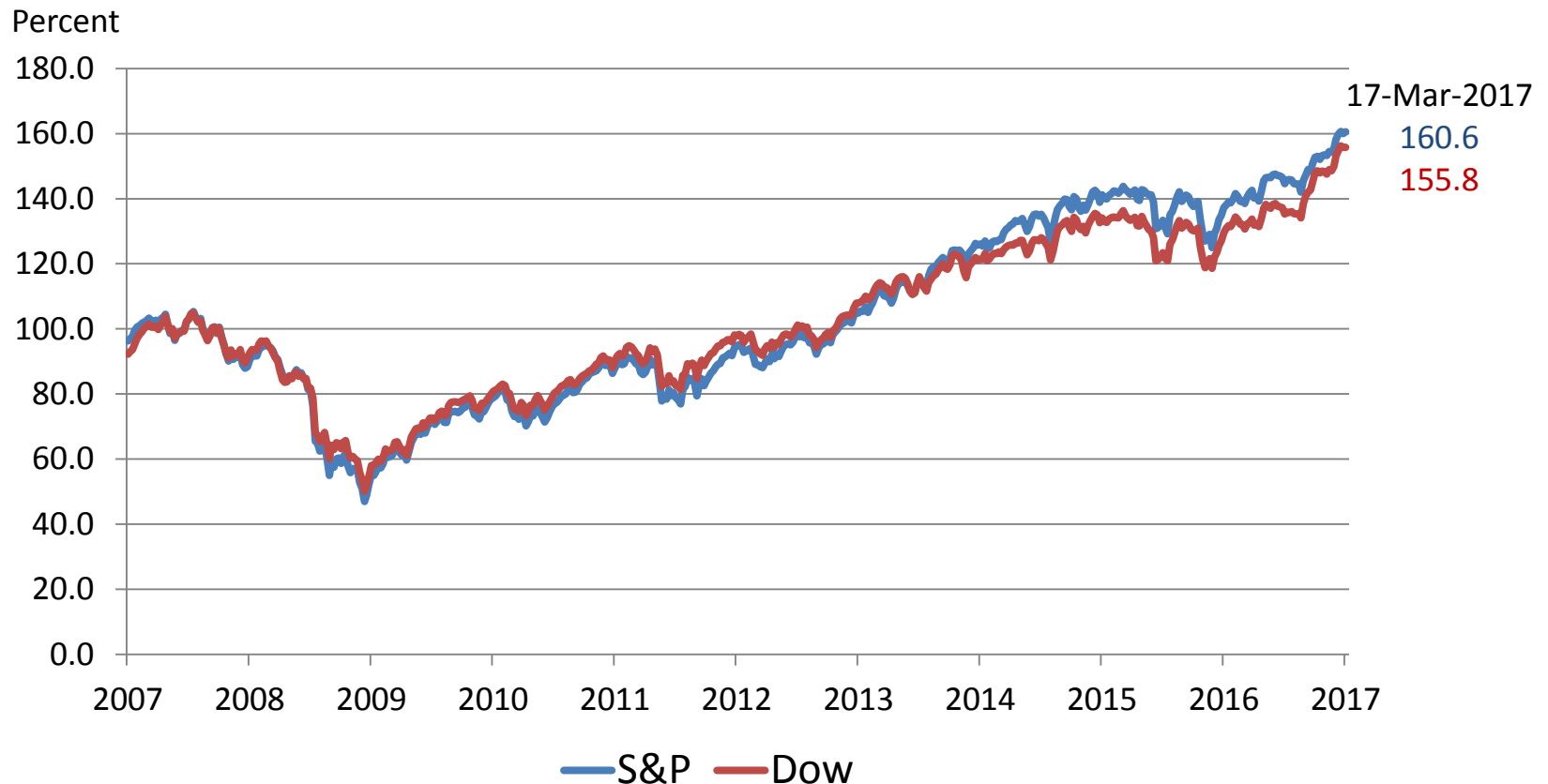
Monthly Average as Percent of Nonfarm Employment



Source: U.S. Bureau of Labor Statistics

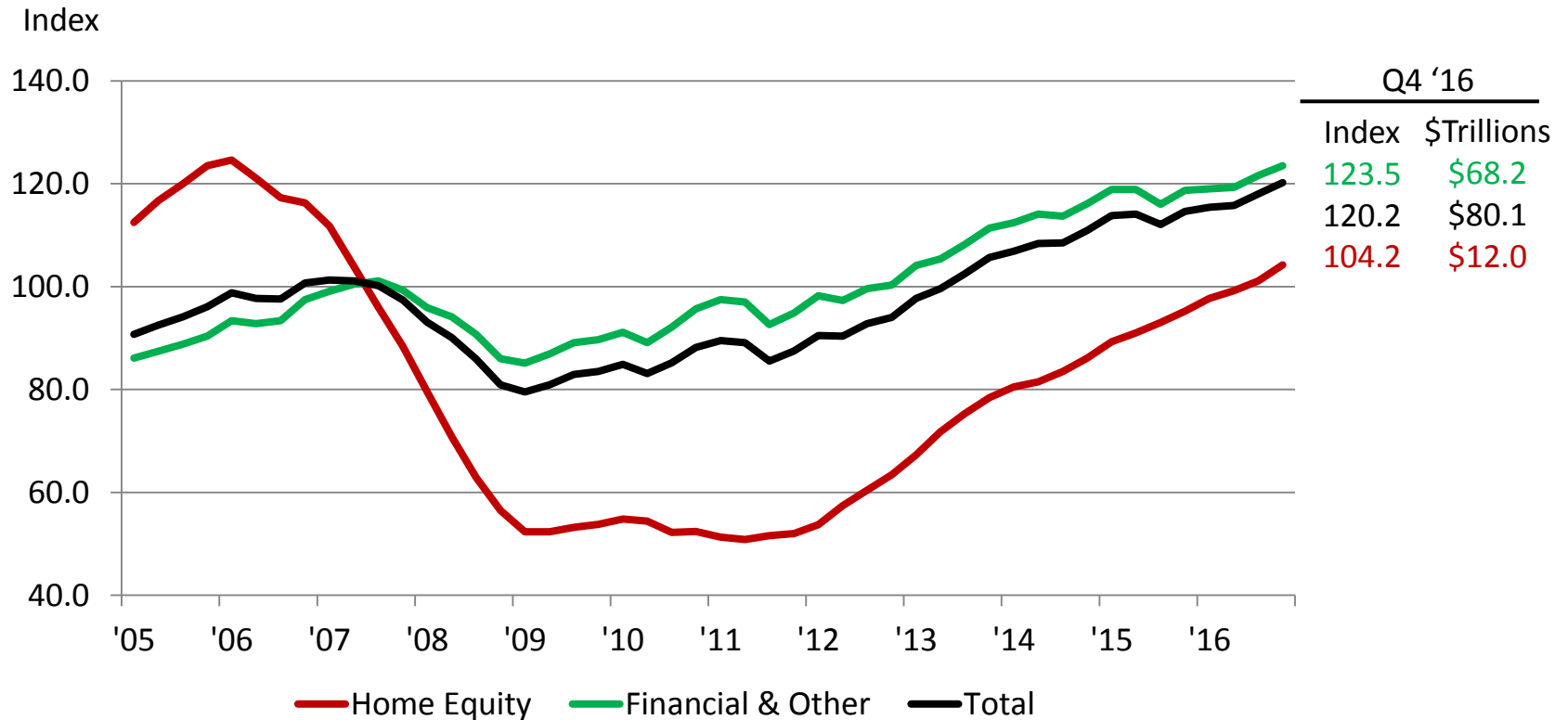
Stock Market

S&P 500 and Dow Jones Industrials, Index – Dec '07 = 100



Real Household Net Worth

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

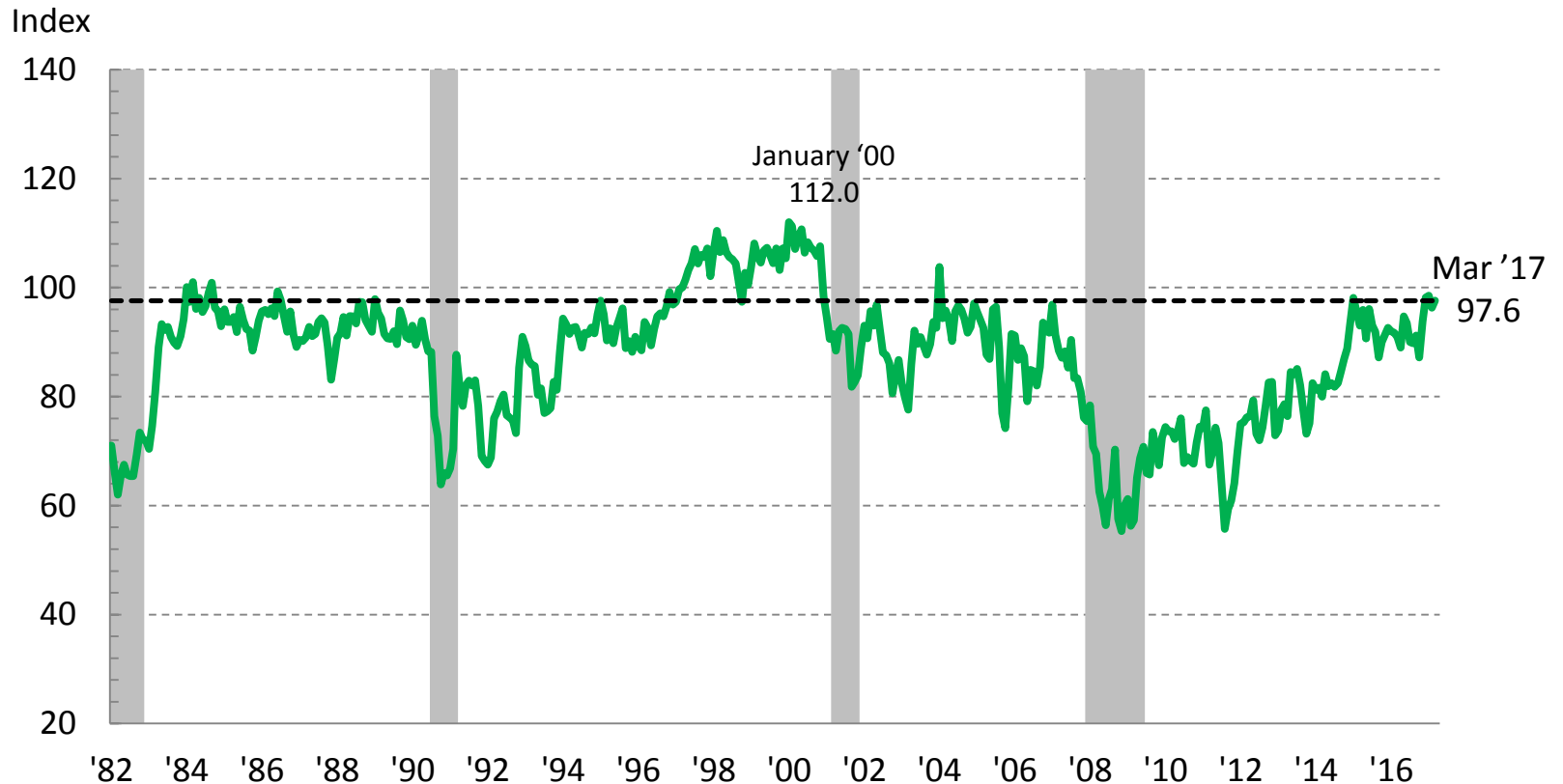


Note: Total Household Net Worth in Current Dollars is \$89.3 Trillion.

Source: Author's calculations using Federal Reserve data.

Consumer Sentiment

University of Michigan



Source: Thomson Reuters / University of Michigan

Consumer Sentiment

University of Michigan – Partisan Impact on Sentiment

	Opinion Change			Level Data		
	June - December 2016			Jan to Feb 2017		
	Dem	Ind	Rep	Dem	Ind	Rep
Index of Consumer Expcations	-24.1	+14.1	50.5	58.5	91.2	122
Partisan Divide (Dem - Rep)	-74.6			-63.5		
Year-ahead Income Expectations (median %)	-1.3	+1.0	+2.3	1.4	1.8	1.5
Year-ahead Inflation Expectations (median %)	+0.3	-0.7	-0.7	3.3	2.5	2.0
Year-ahead underemployment						
More Unemployment (percentage)	+29	-17	-38	41	24	7
Less Unemployment (percentage)	-18	+18	+53	16	36	58

Source: Thomson Reuters / University of Michigan

Monetary Policy Employment & Inflation

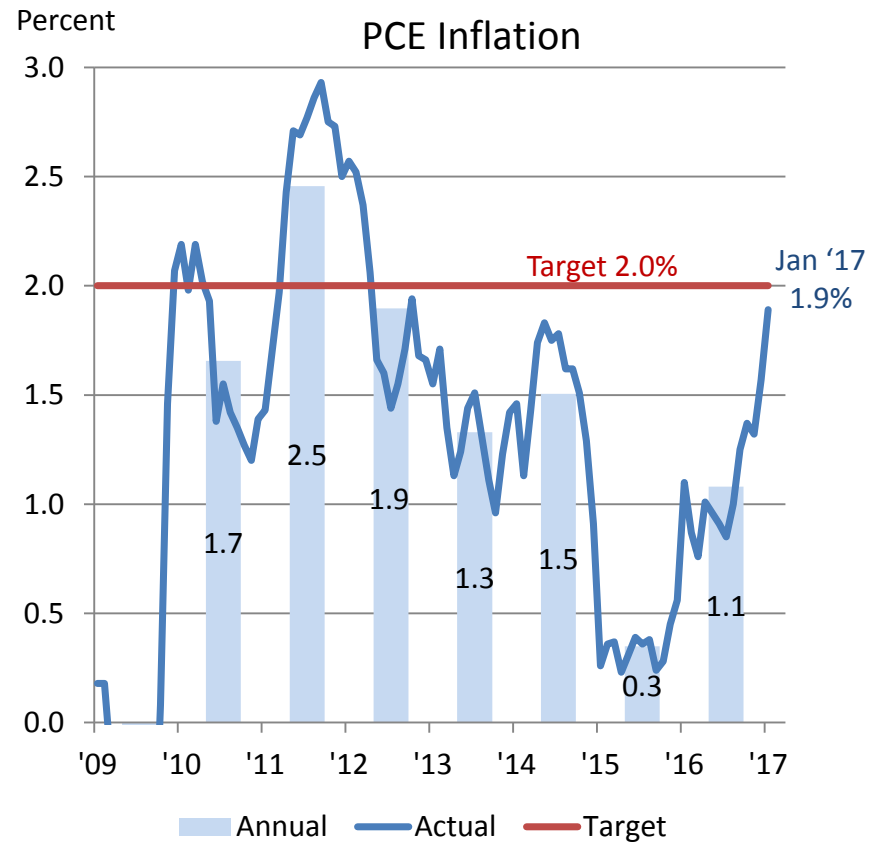
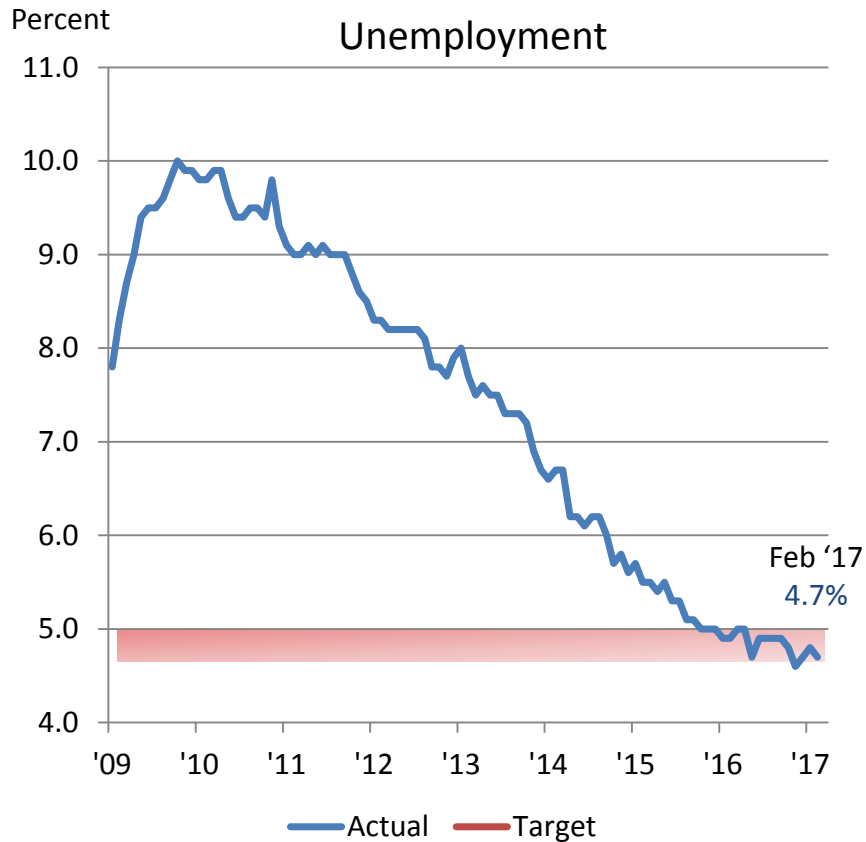
F.O.M.C Statement

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

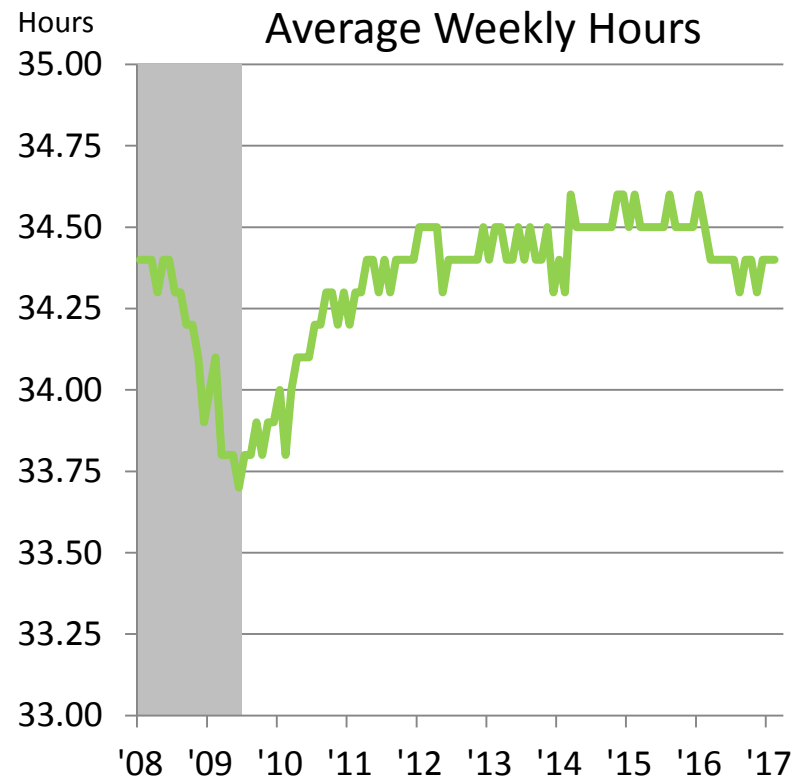
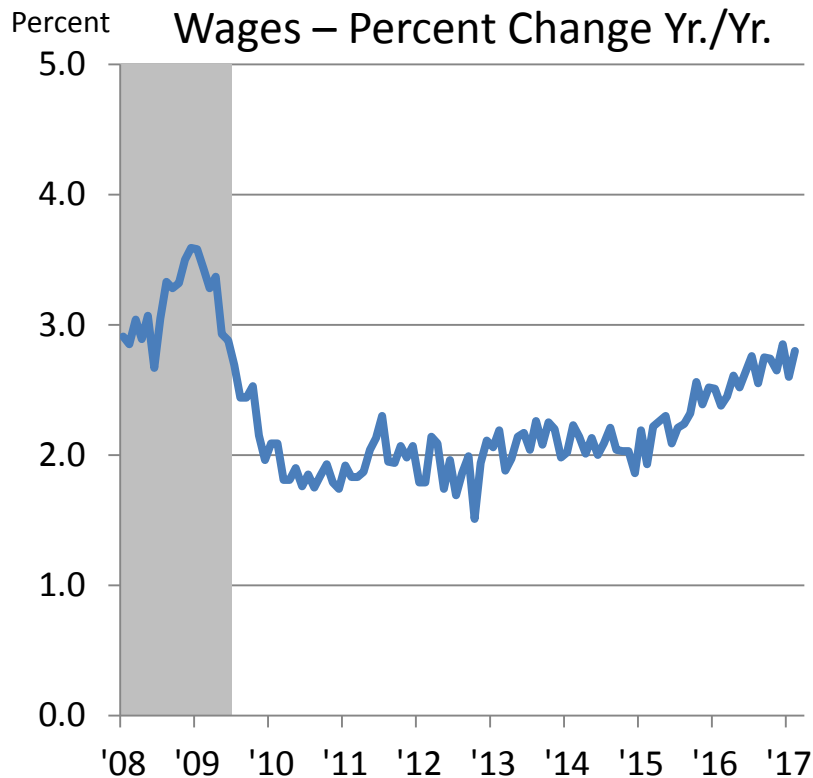
Percent Unemployed, PCE % Change Yr./Yr.



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

Wages and Hours

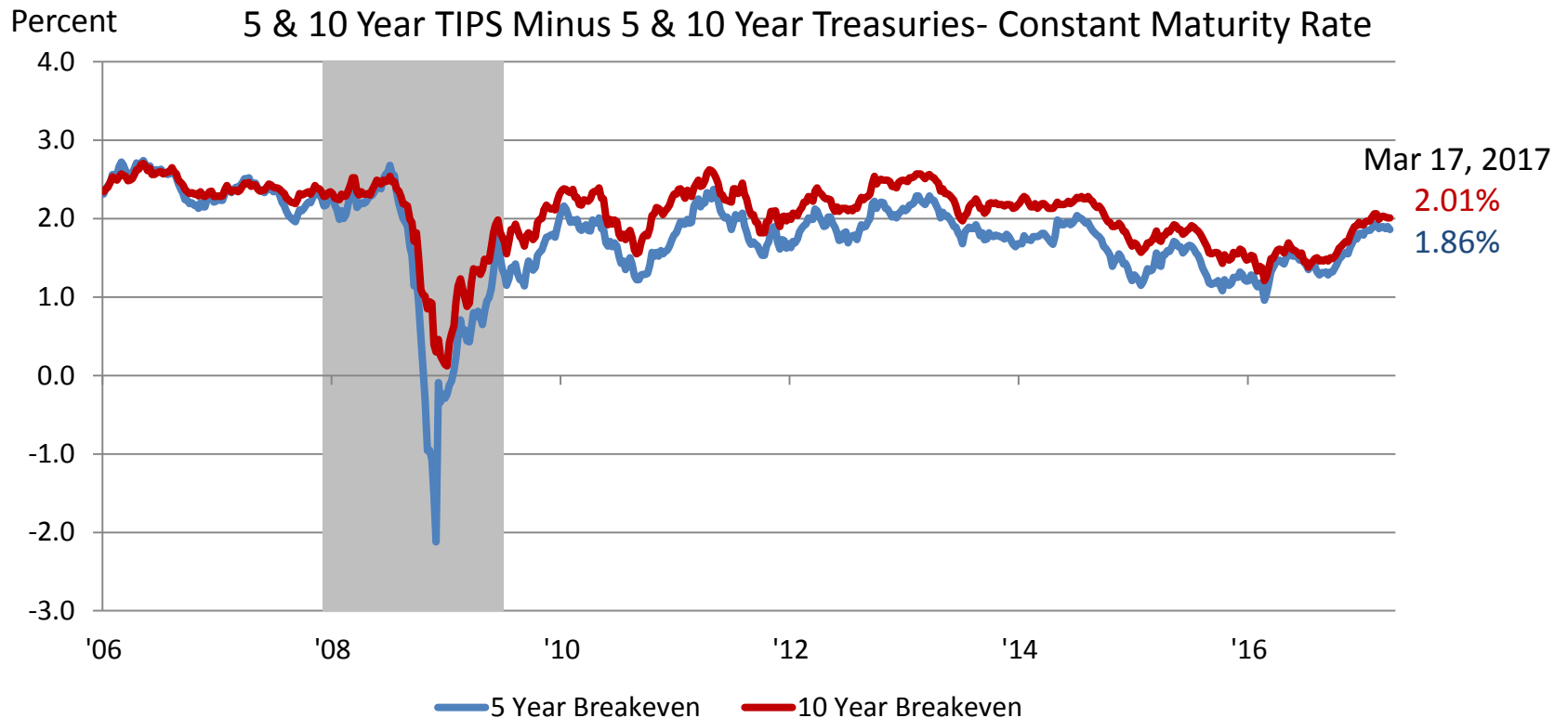
Total Private – All Employees



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

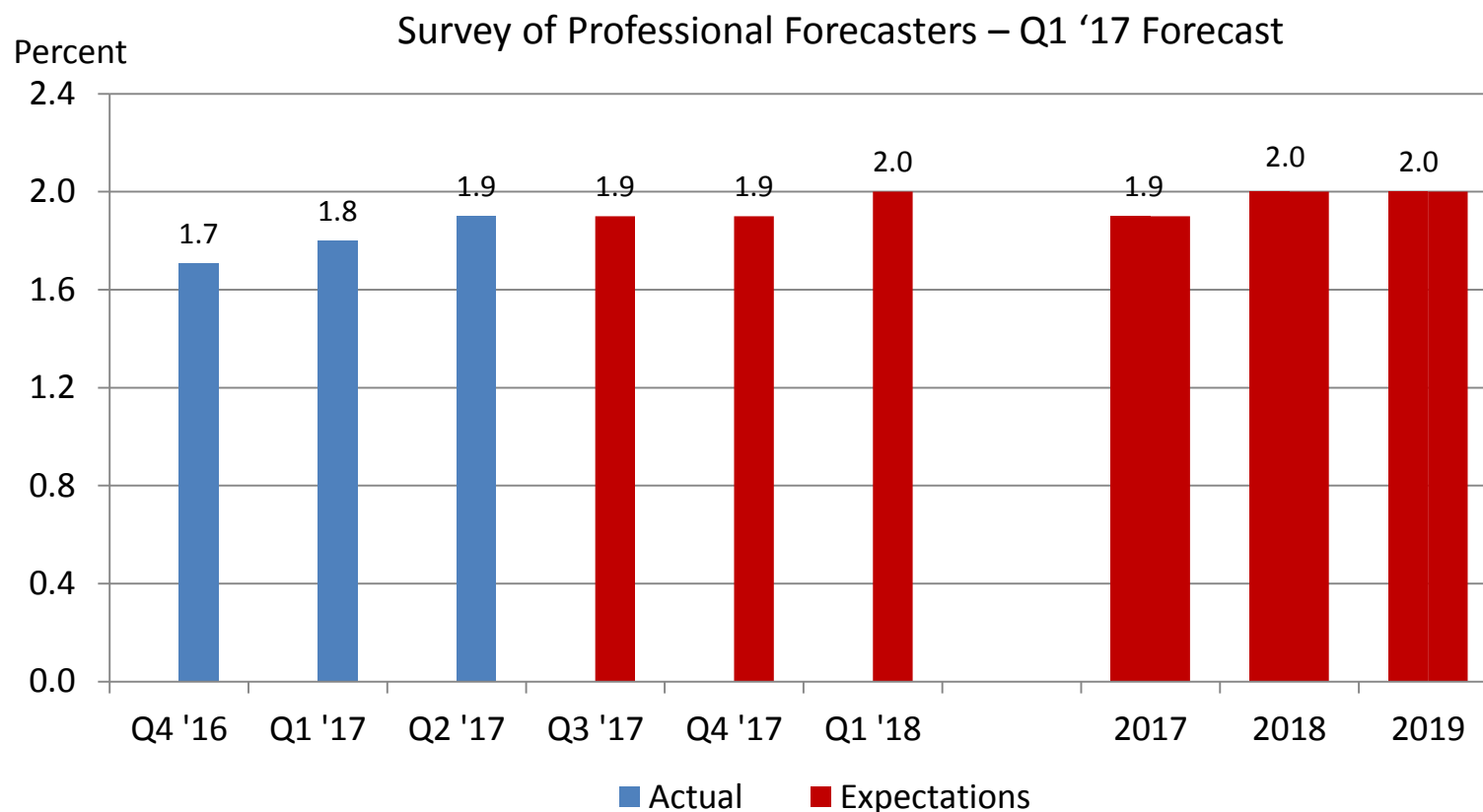


Source: Author's calculation using Federal Reserve System data.

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

Inflation Expectations

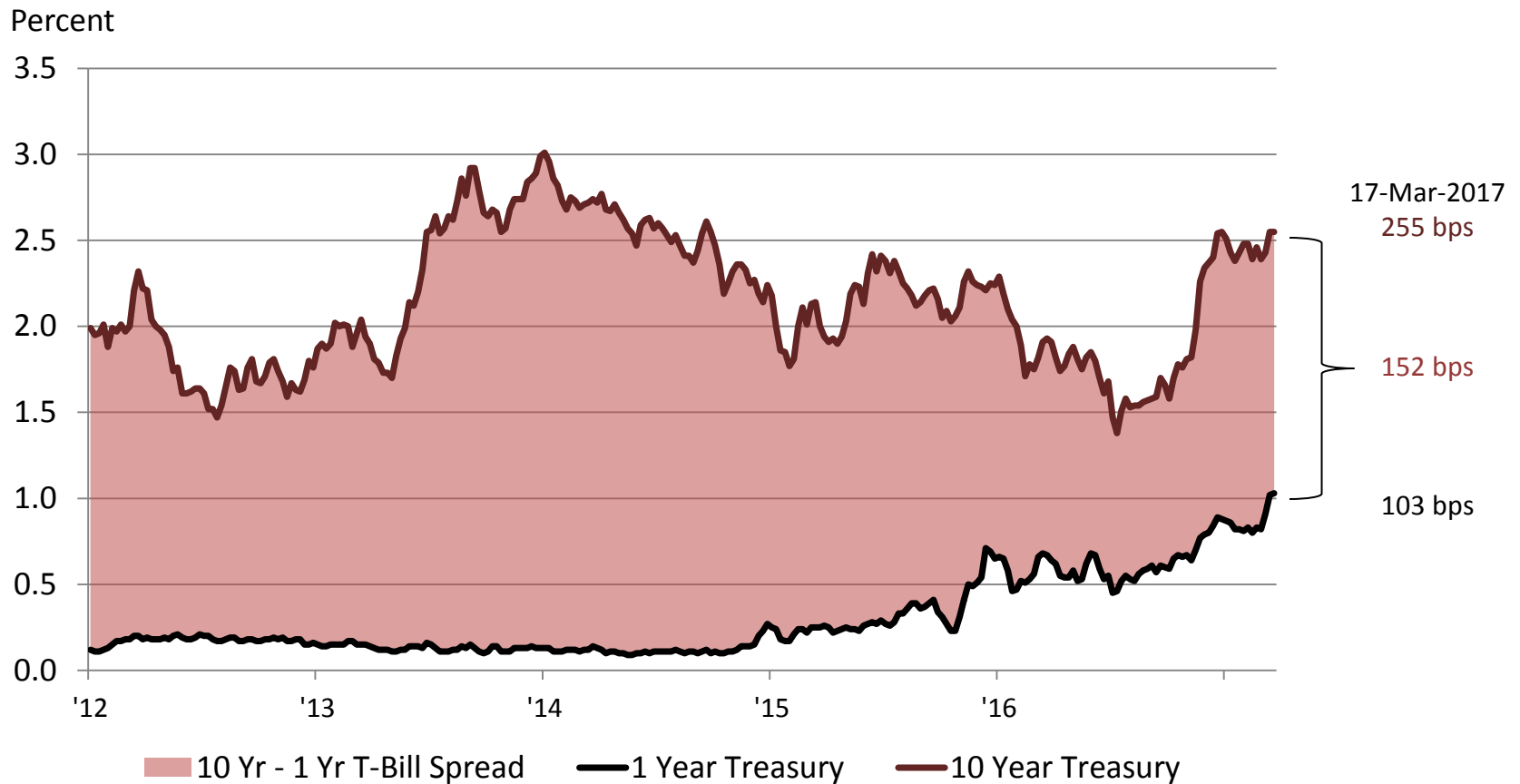
Headline PCE Inflation – Yr./Yr. & Q4/Q4



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

Yield Curve

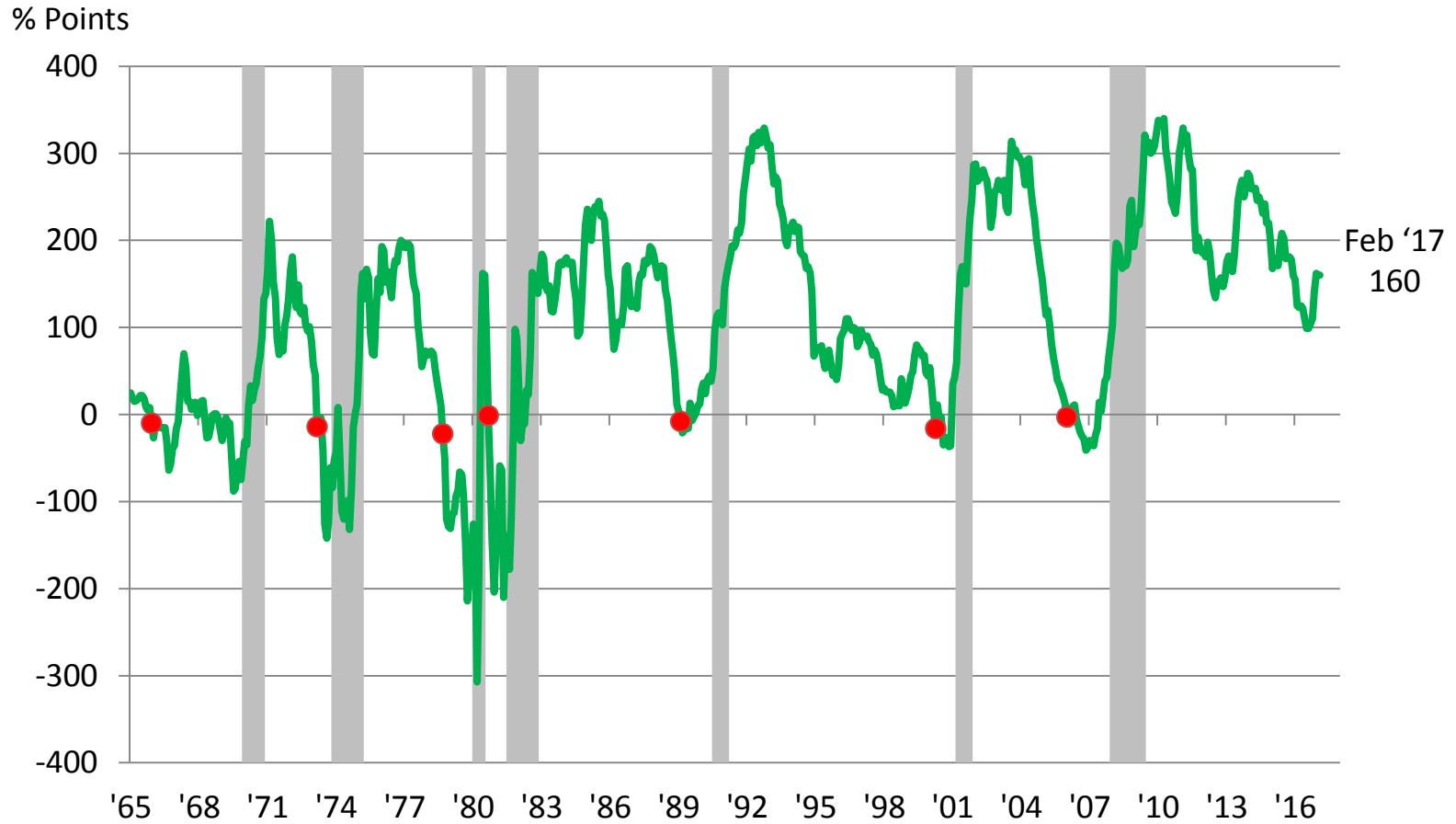
10 Year – 1 Year Treasuries in Basis Points



Source: Board of Governors – Federal Reserve System

Yield Curve

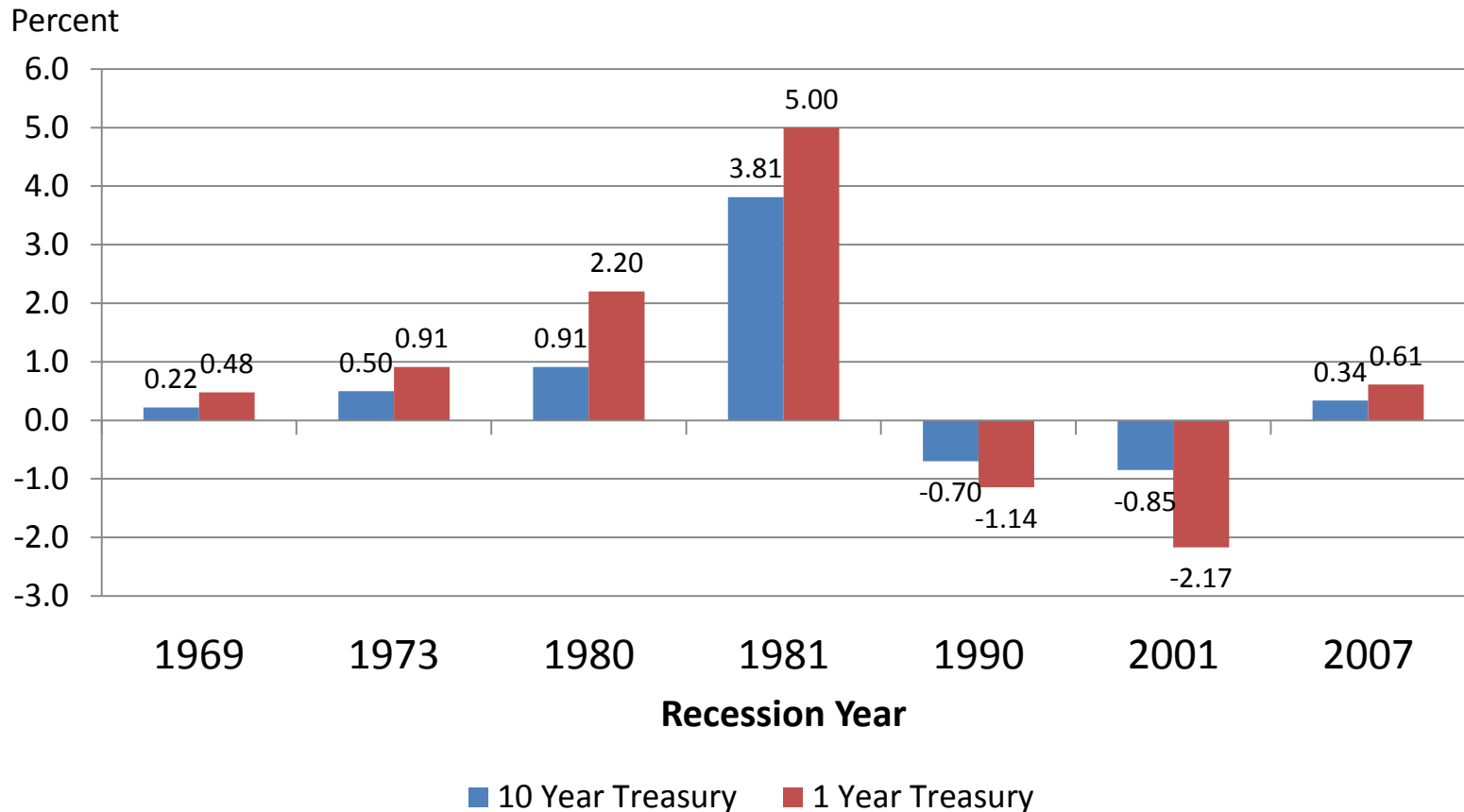
10 Year Minus 1 Year Treasury



Source: Board of Governors – Federal Reserve System

10 Year Treasury Rate Change

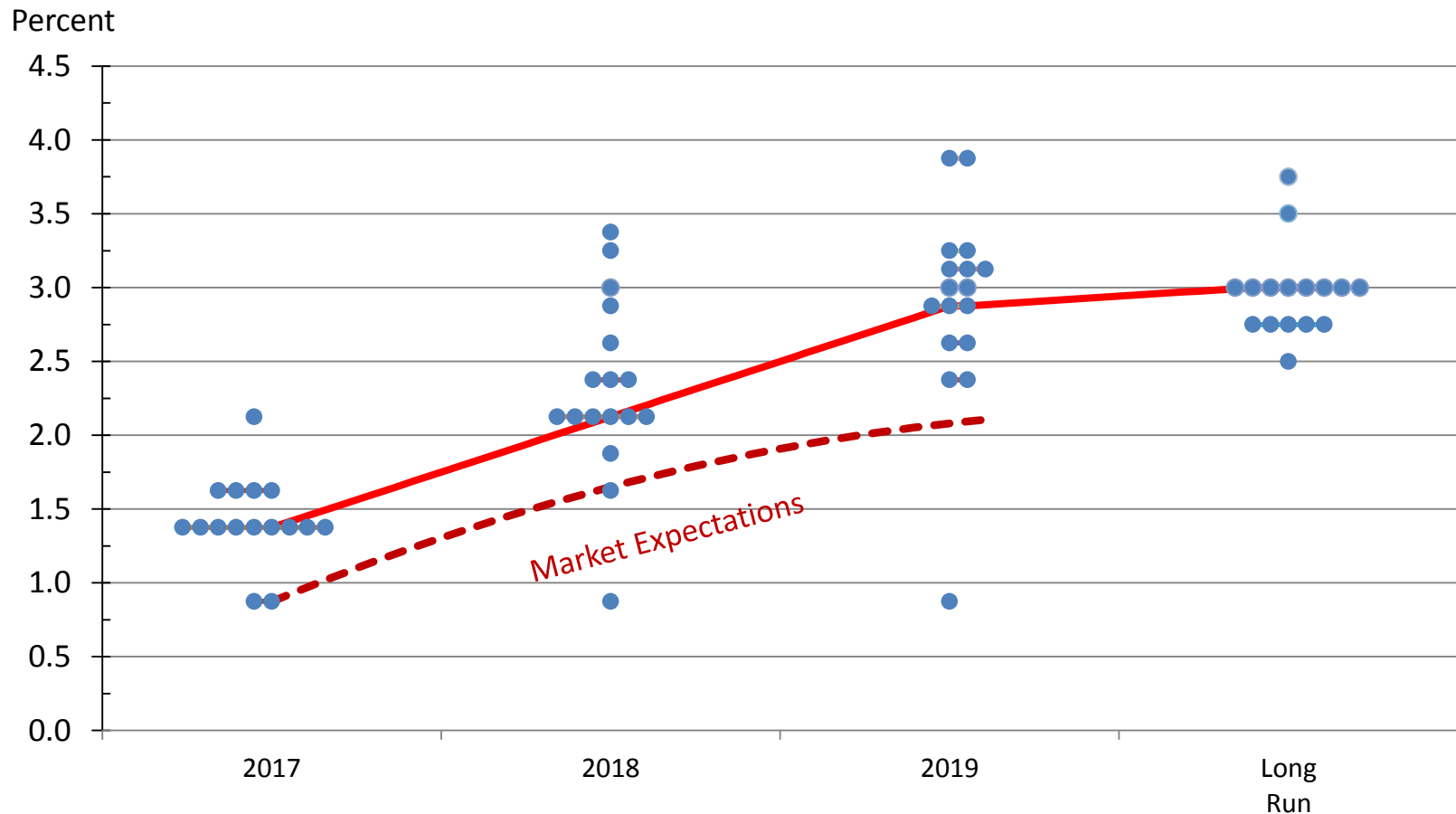
12 Months Following Yield Curve Turning Negative



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

Economic Projections of the Federal Reserve

Presidents Assessments – Median Values

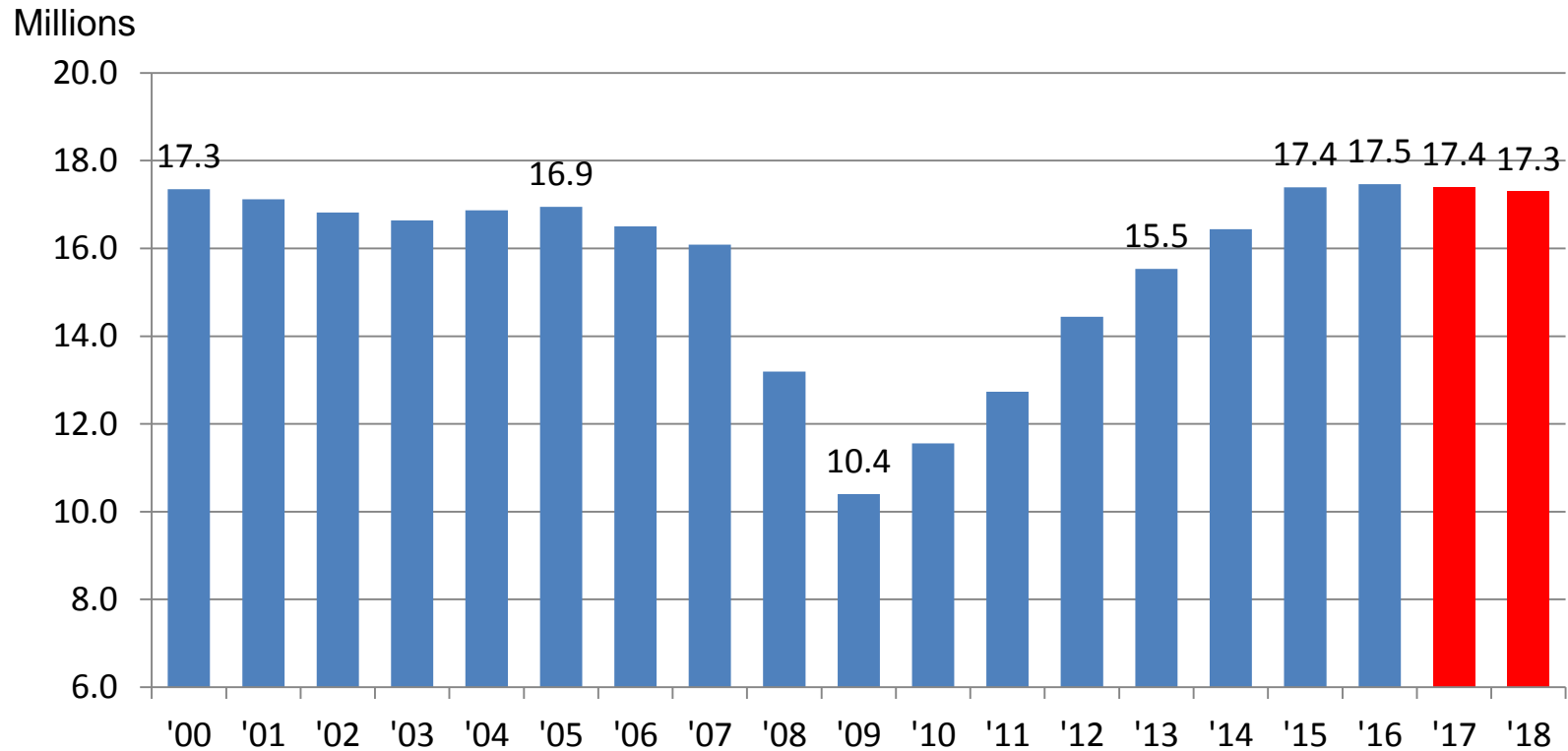
Variable	2017	2018	2019	Longer-run
Change in Real GDP	2.1	2.1	1.9	1.8
Unemployment Rate	4.5	4.5	4.5	4.7
PCE Inflation	1.9	2.0	2.0	2.0
PCE Core Inflation	1.9	2.0	2.0	

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

U.S. Auto Industry

U.S. Light Vehicle Sales

Millions of Units

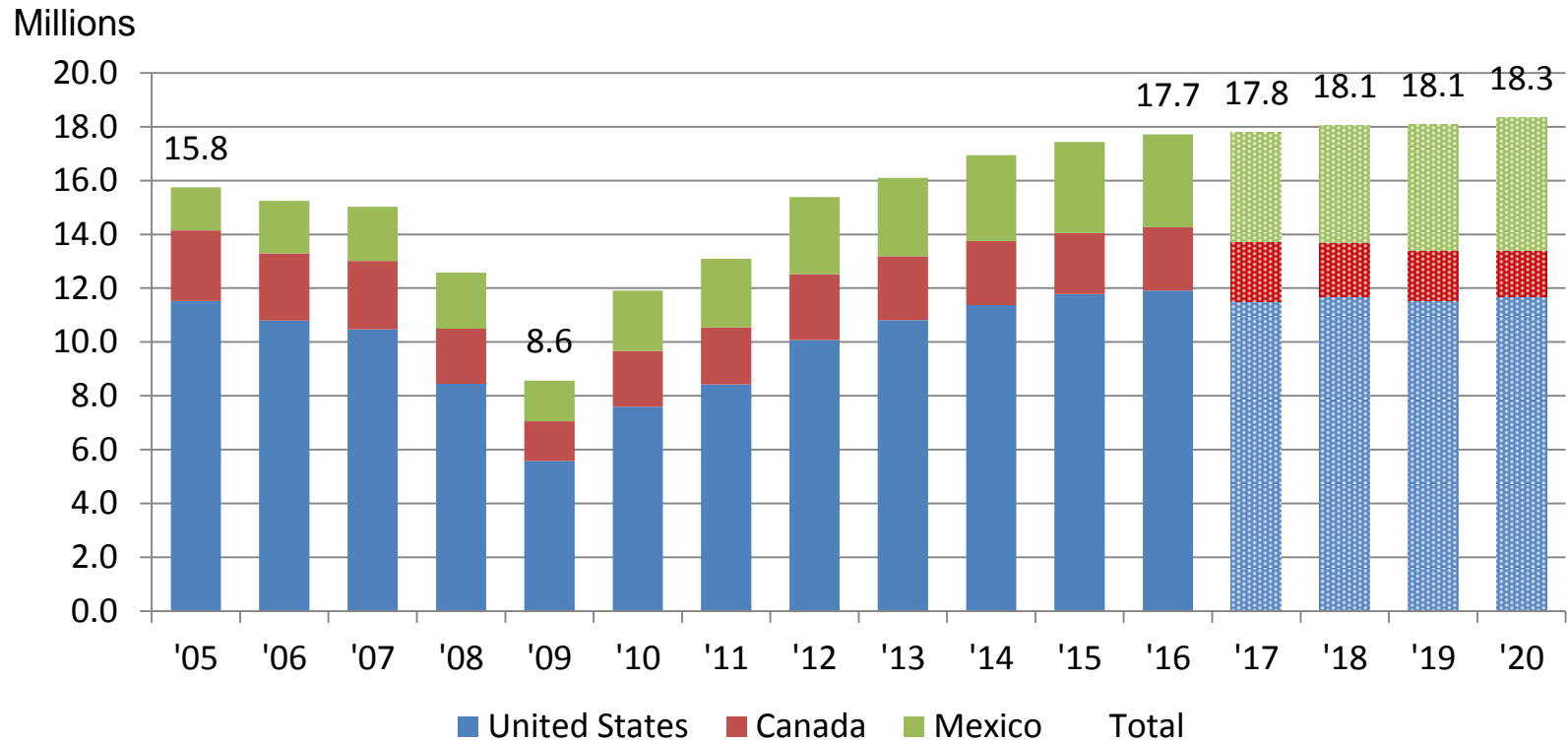


Note: 2016 Total Vehicle Sales Including M/H: 17,866,260.

Source: Ward's Automotive and BEA

N.A. Light Vehicle Production

Millions of Units



Note: 2016 Total Vehicle Production Including M/H: 18,148,667.

Source: Ward's Automotive

Inventory to Sales Ratio

Total Light Vehicles - SA

Percent



Source: U.S. Census Bureau and WardsAuto.

U.S. Light Vehicle Incentives

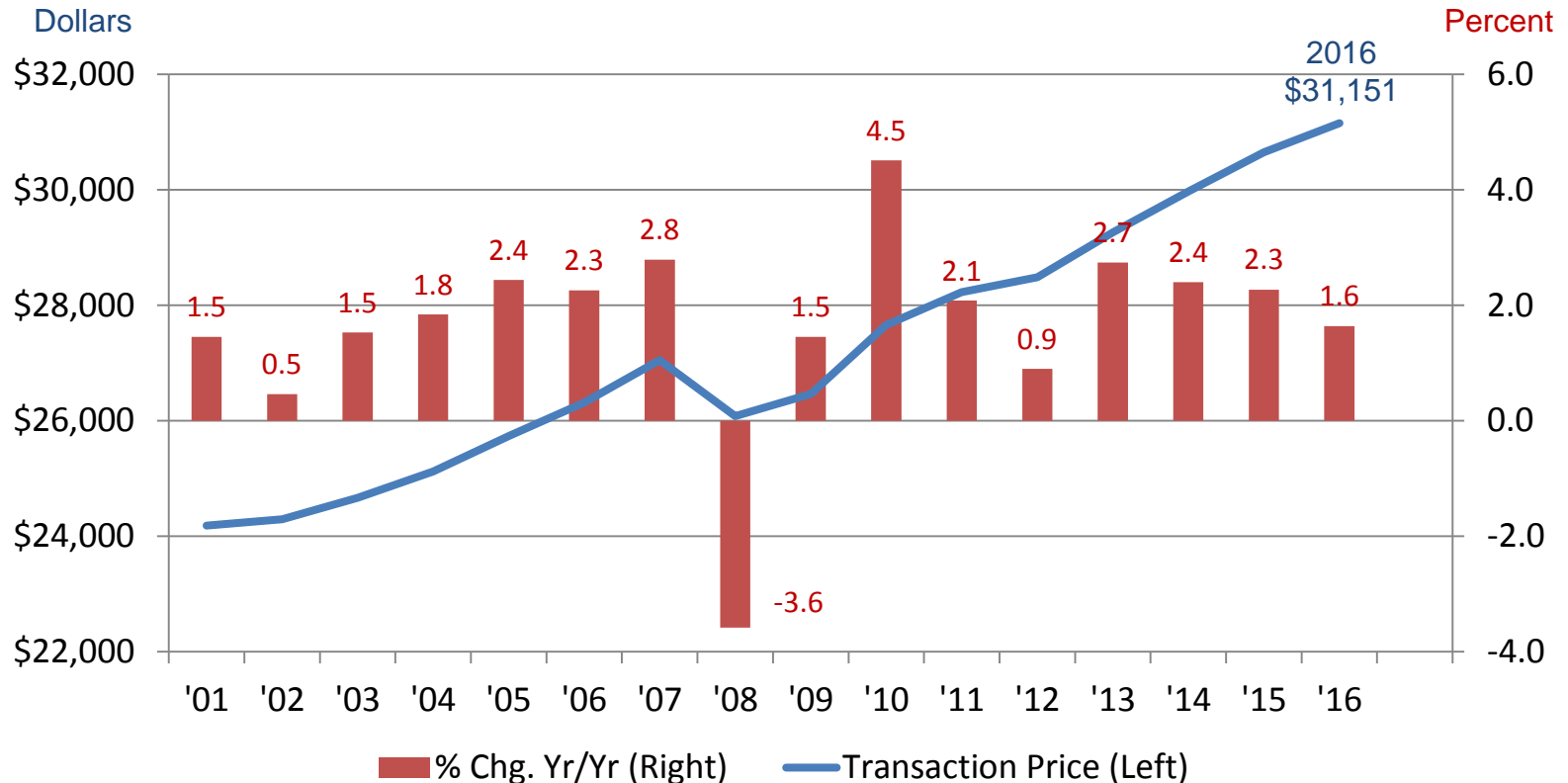
As Percent of Transaction Price - SA



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

Light Vehicle Transaction Price

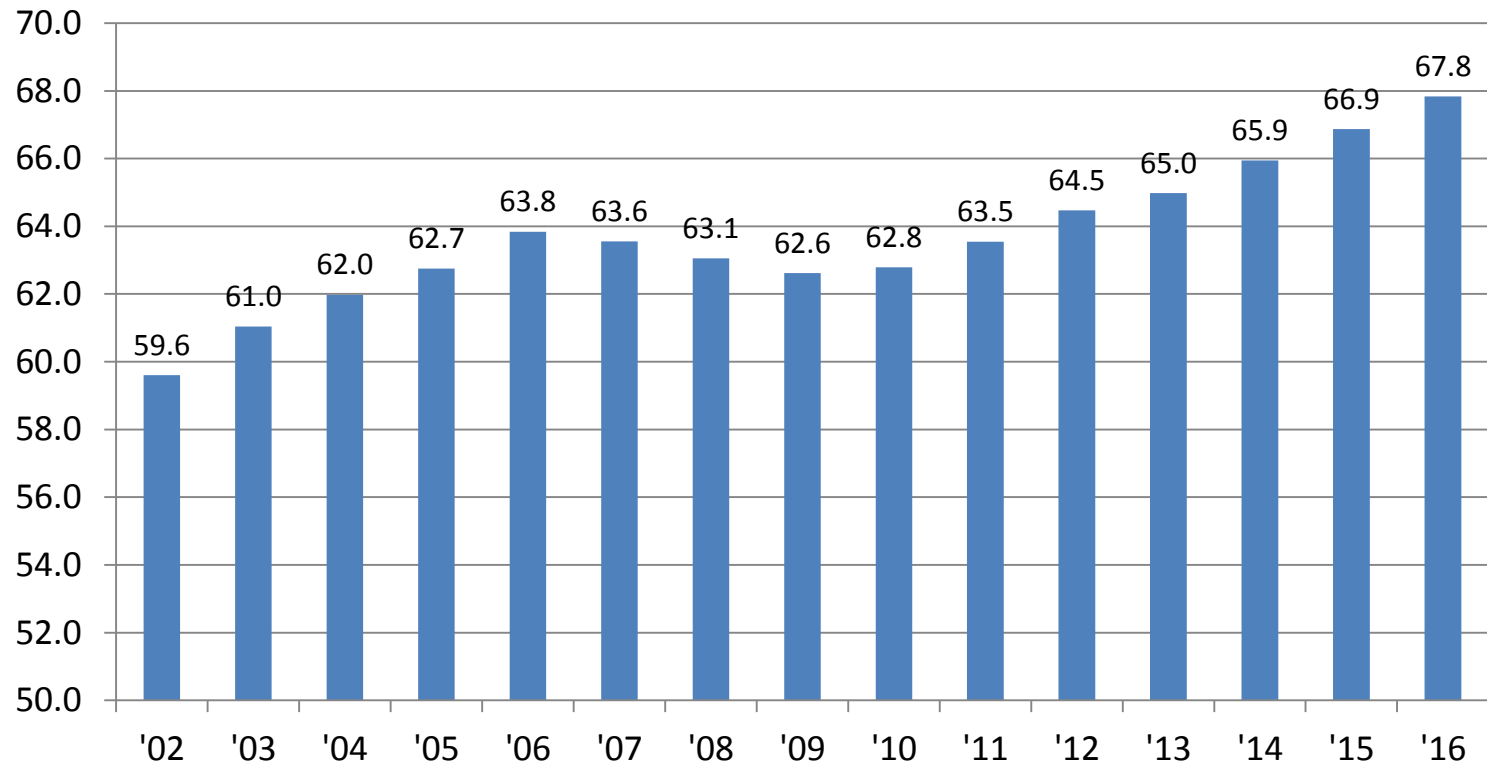
Annual Average & Percent Change Yr./Yr.



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

Finance Term

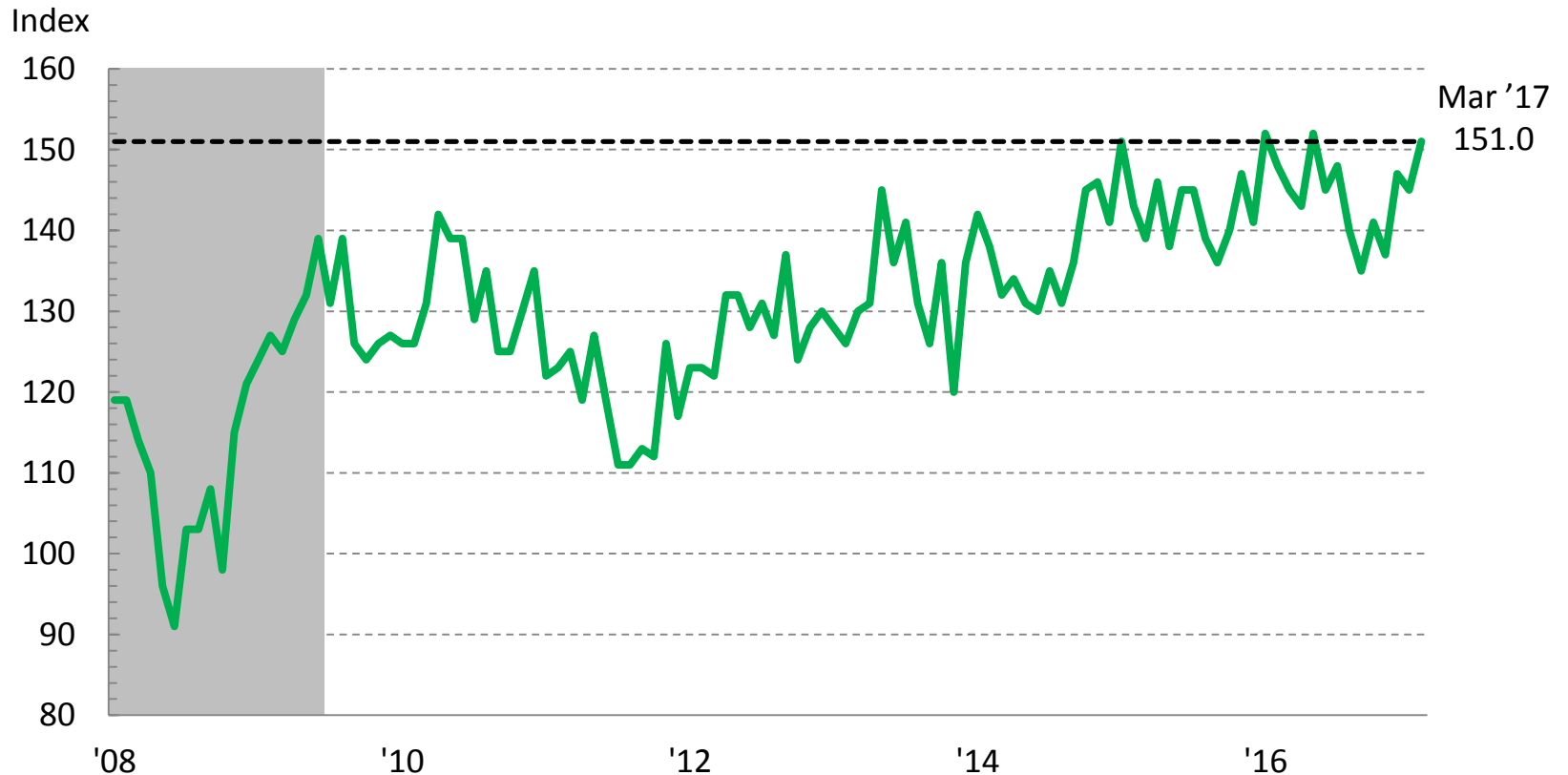
Length of Loan in Months



Source: J.D Power data.

Buying Conditions for Vehicles

University of Michigan

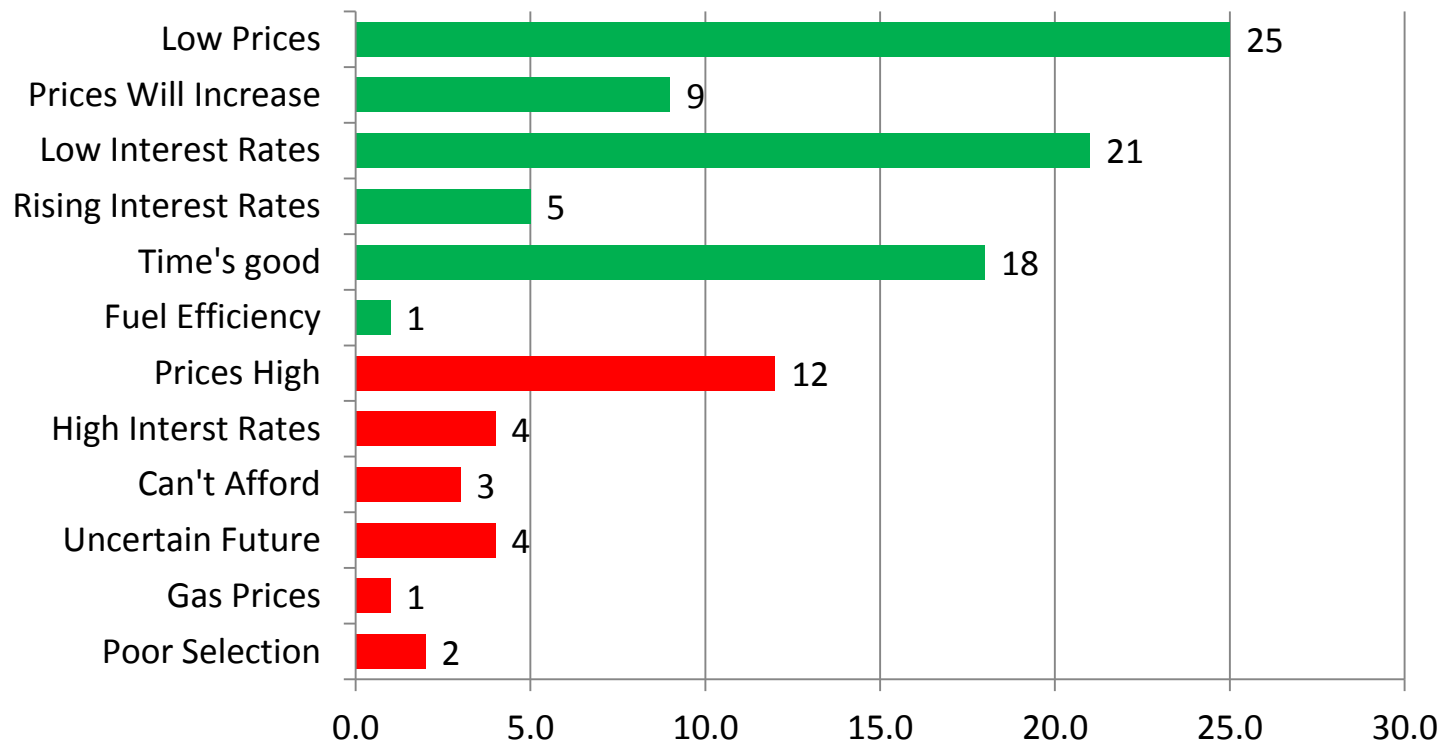


Source: Thomson Reuters / University of Michigan

Reasons for Buying Conditions for Vehicles

University of Michigan

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

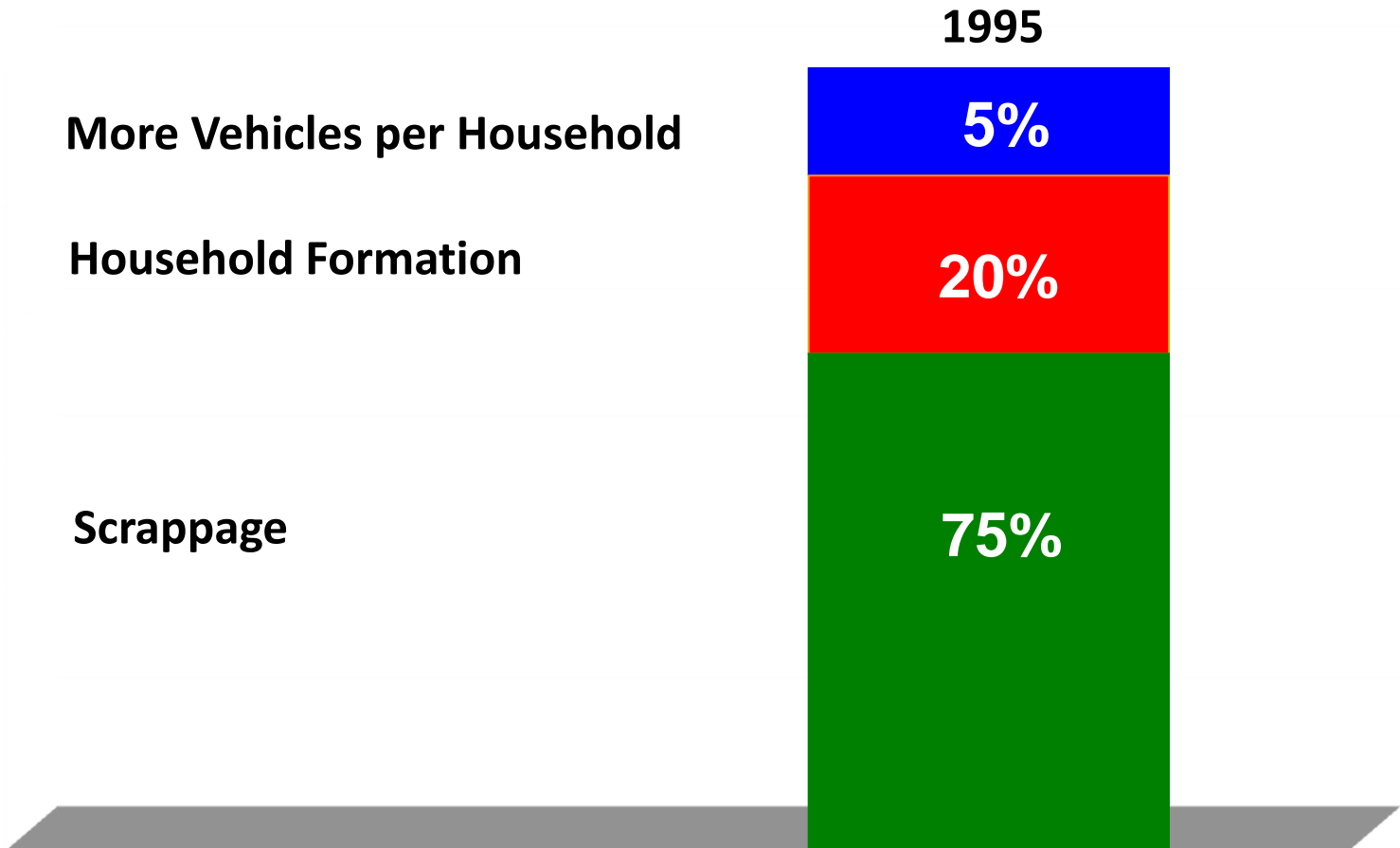


Note: May add to more than a 100 due to multiple mentions.

Source: University of Michigan Survey of Consumers

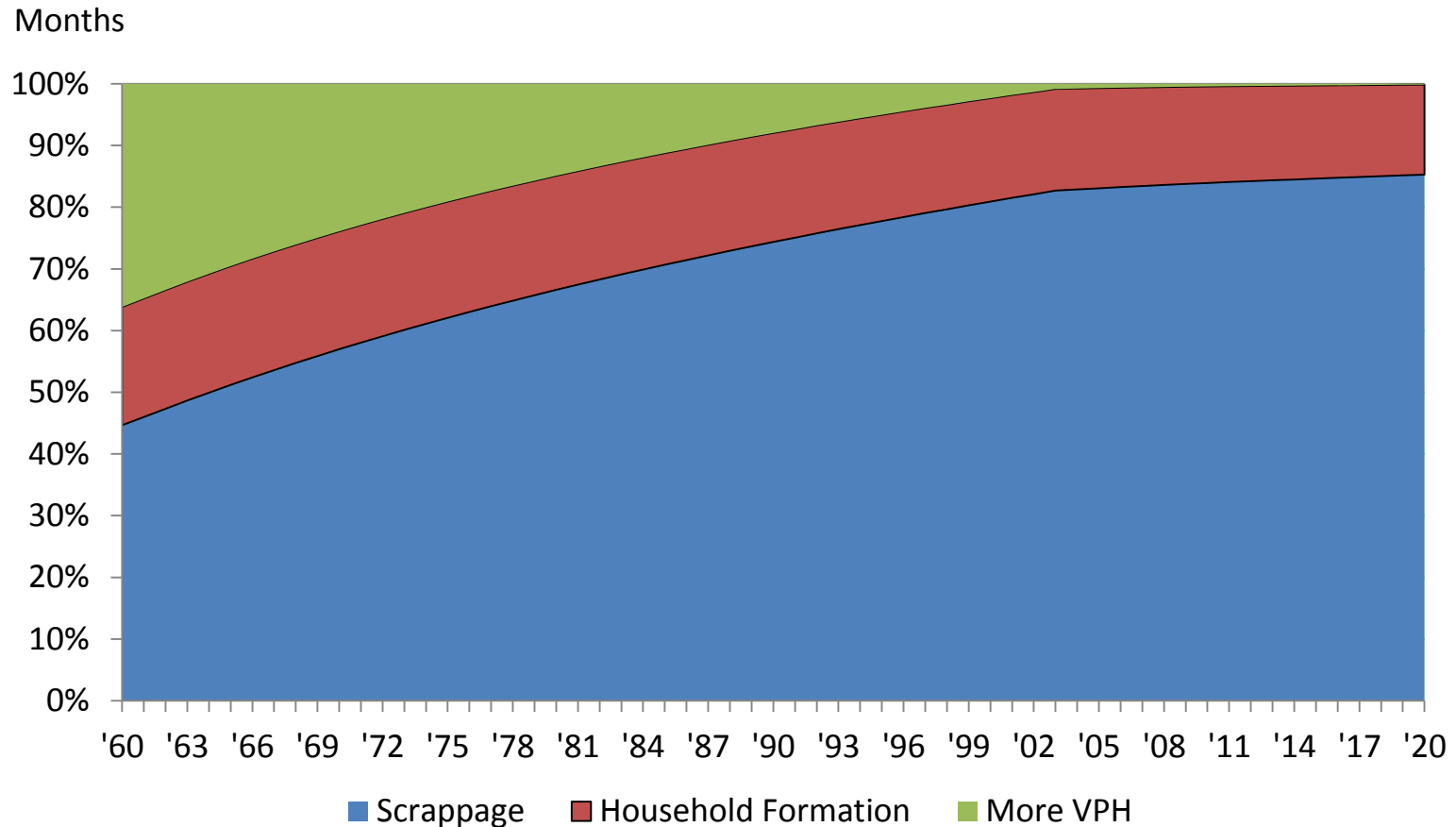
Origin of New Vehicle Sales

Determinates of Long-Run Vehicle Sales Trend



Origin of New Vehicle Sales

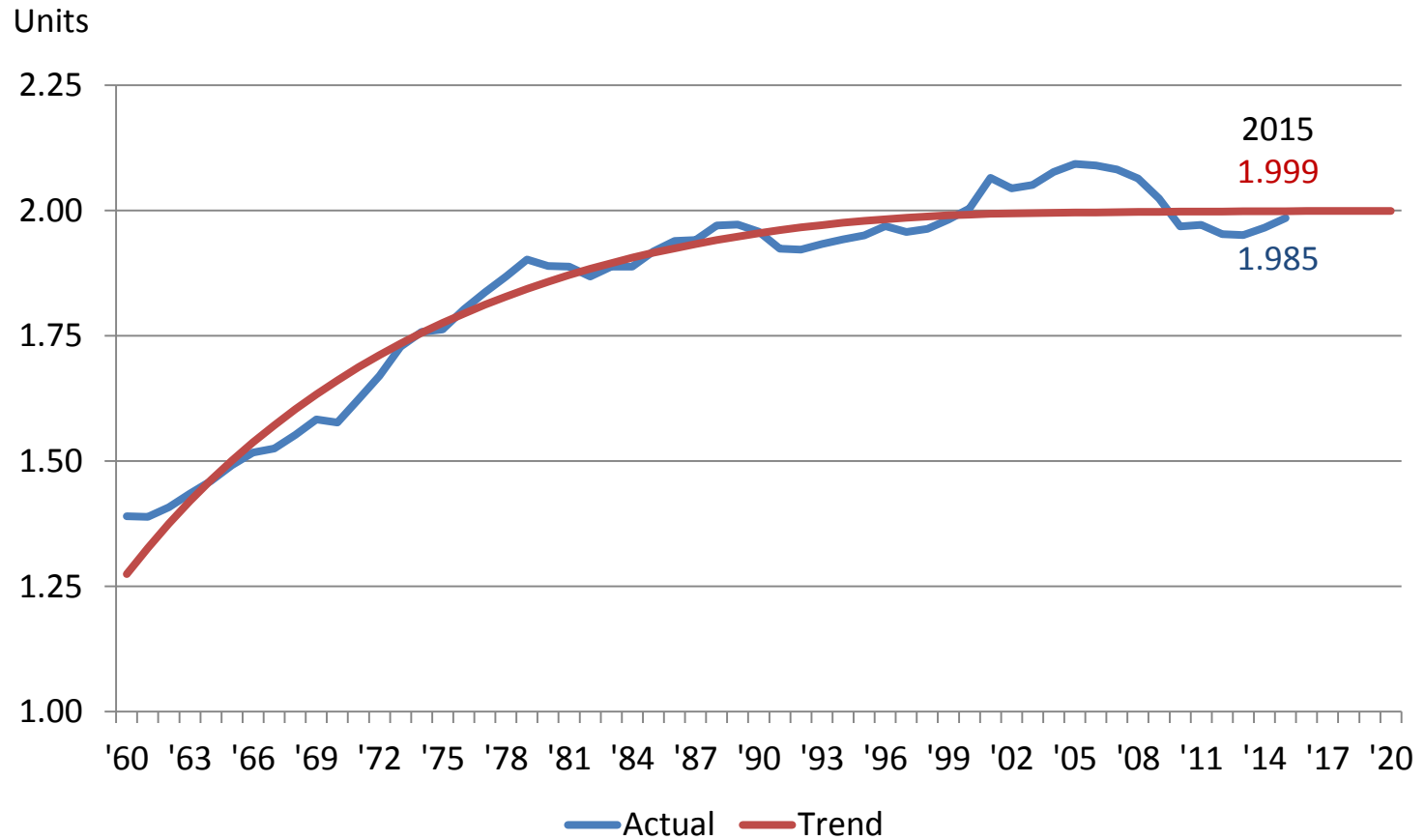
Determinates of Long-Run Vehicle Sales Trend



Source: Author's calculations

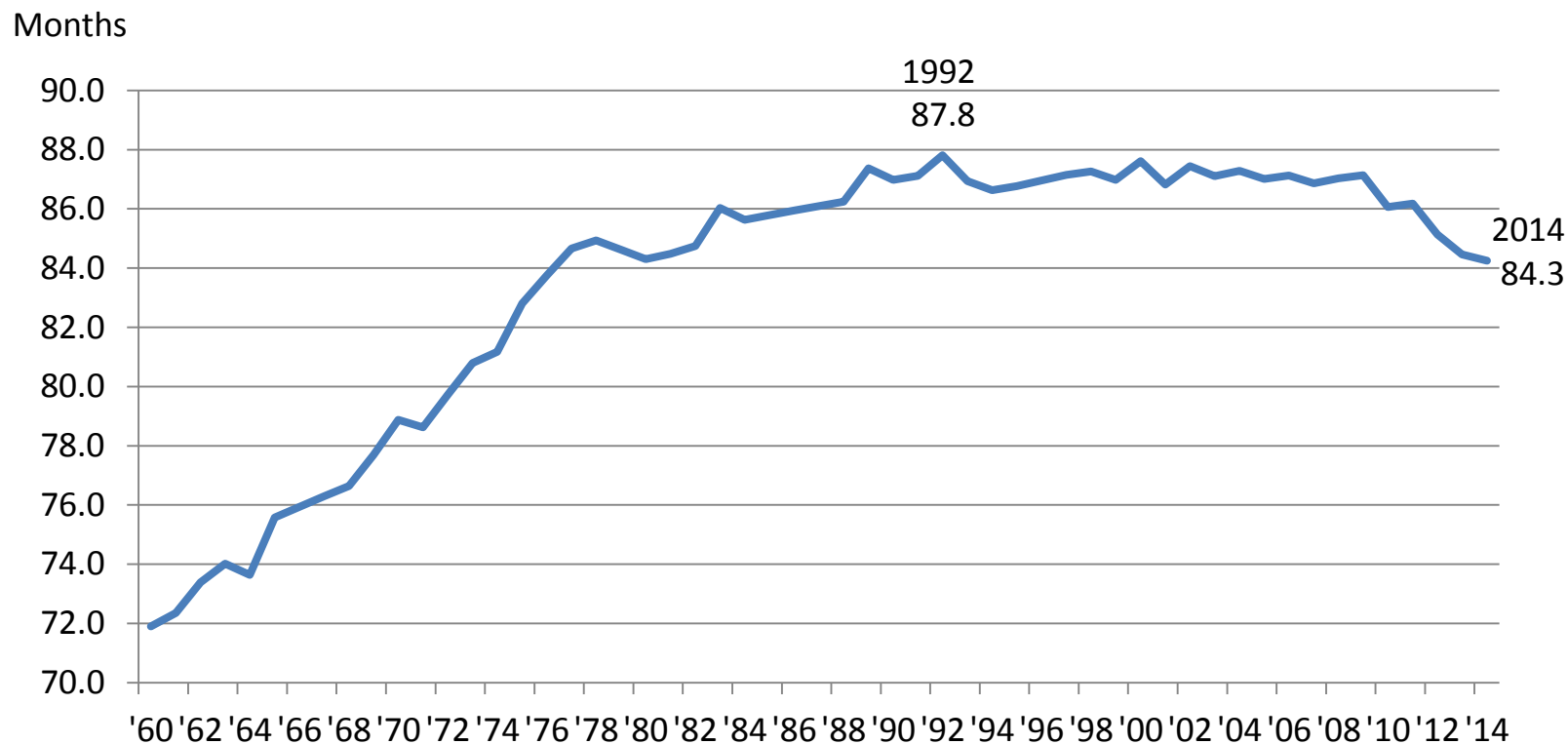
Vehicles Per Household

In Units



Drivers to Driving Age Population Ratio

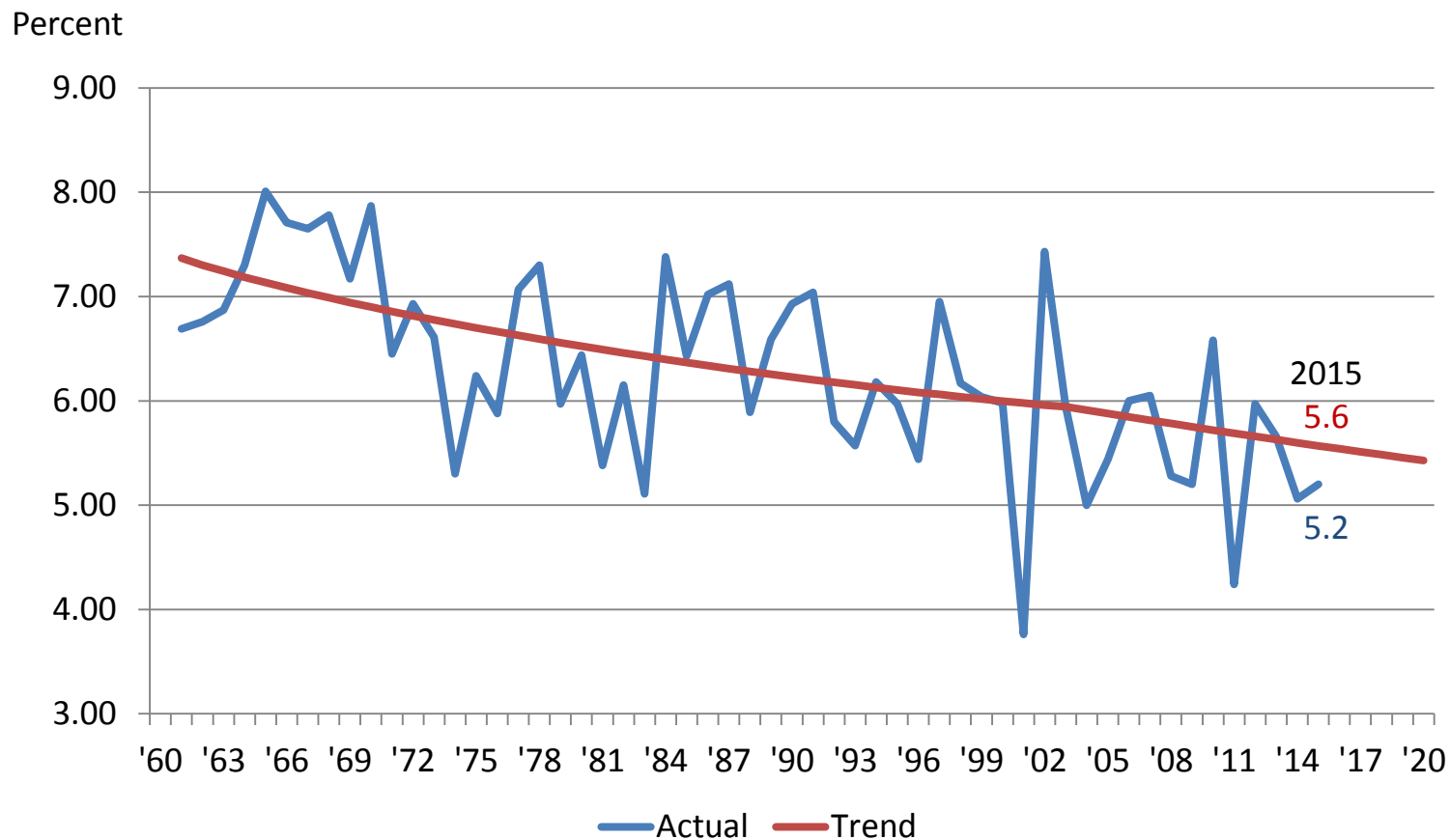
Percent of Population 16 Years and Older



Source: U.S. Department of Transportation, Federal Highway Administration

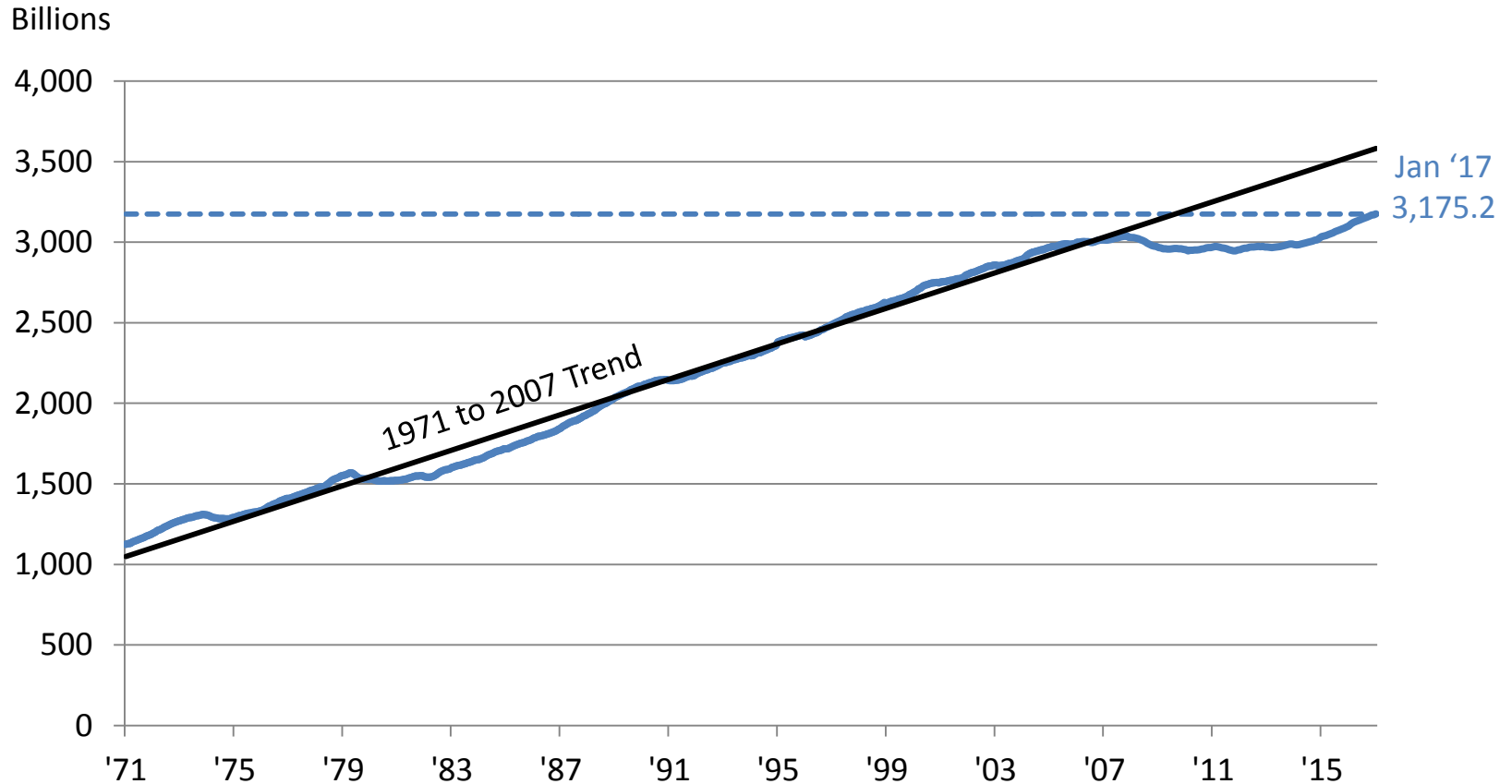
Scrappage Rate

In Percent



Vehicle Miles Traveled

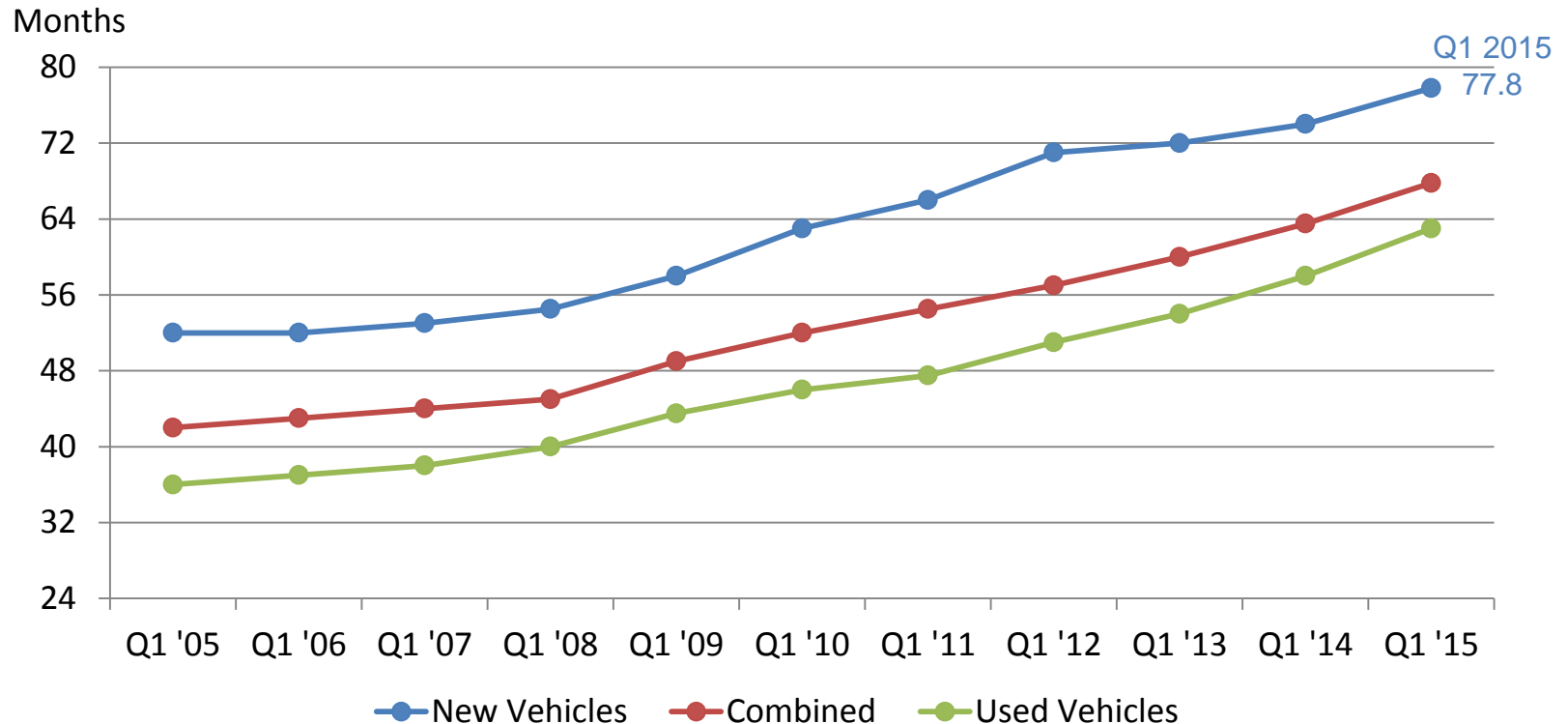
12 Month Total Miles Traveled in Billions



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

Length of Vehicle Ownership

Average Months Owned

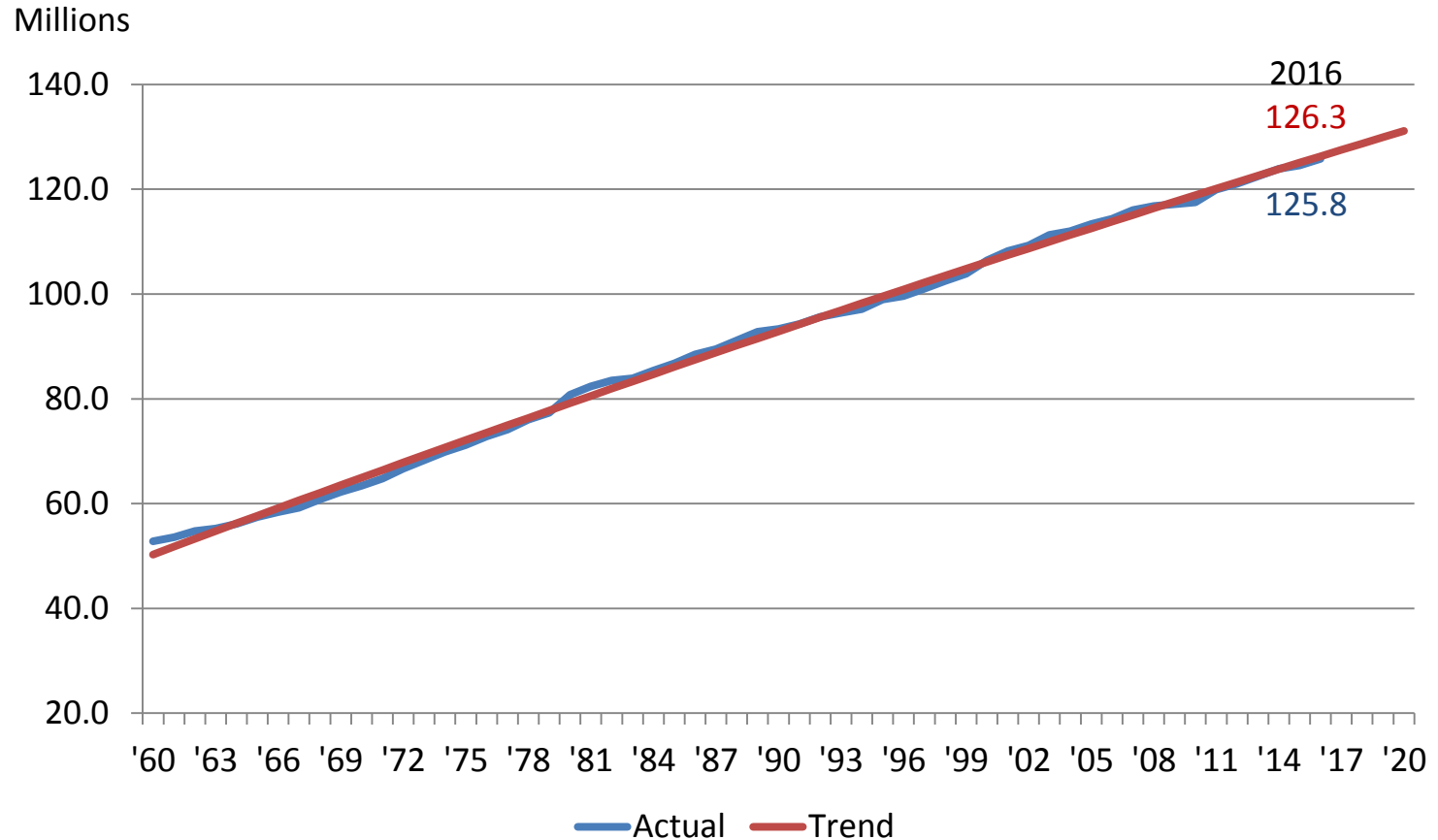


Note: Average age for passenger cars and light trucks increased to 11.5 years in 2015.
Vehicles in operation (VIO) increased to 258 million up 2.1% between 2014 and 2015.

Source: HIS Automotive : <http://press.ihs.com/press-release/automotive/average-age-light-vehicles-us-rises-slightly-2015-115-years-ihs-reports>

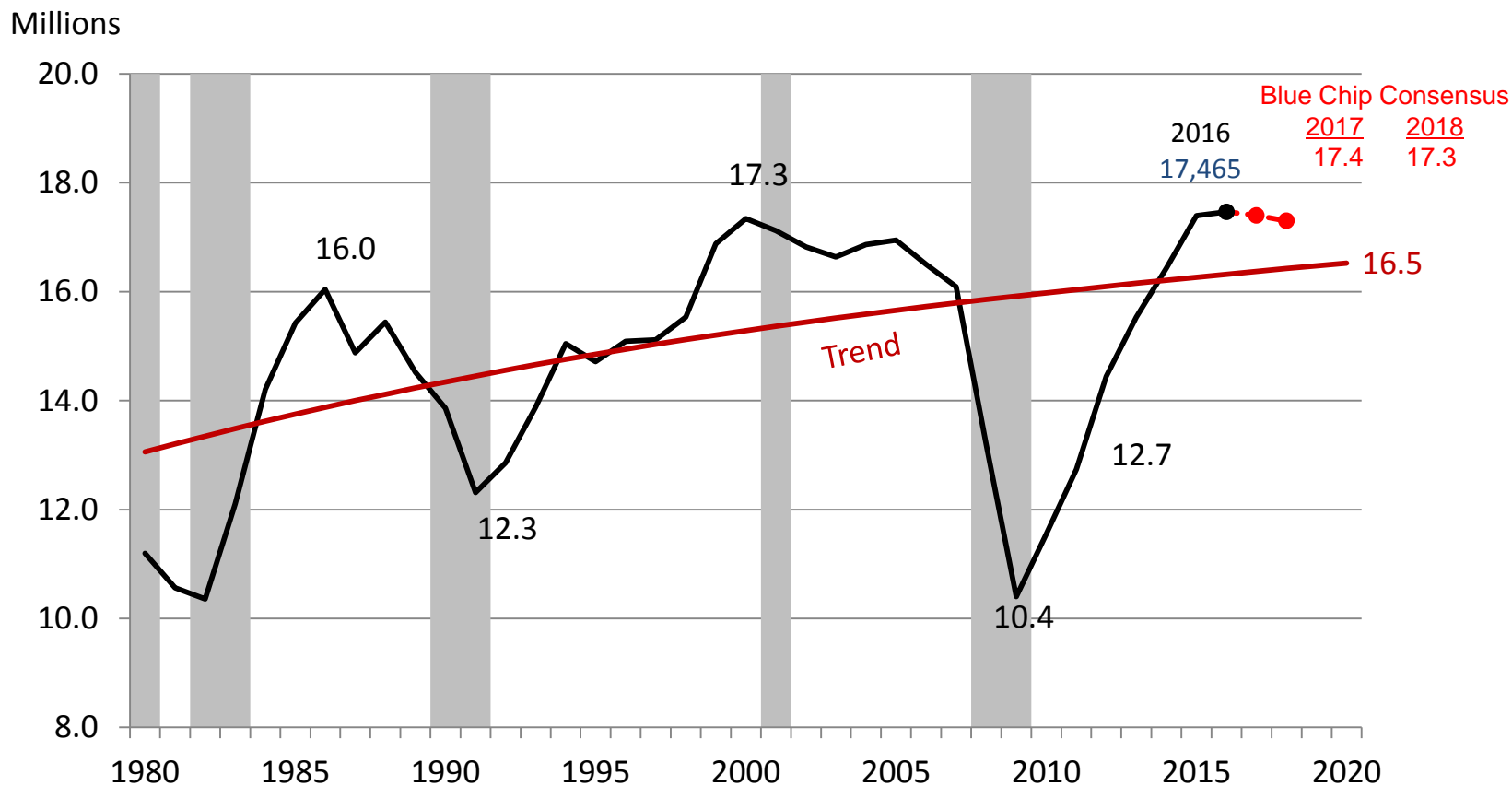
Household Formation

In Millions



U.S. Light Vehicle Industry

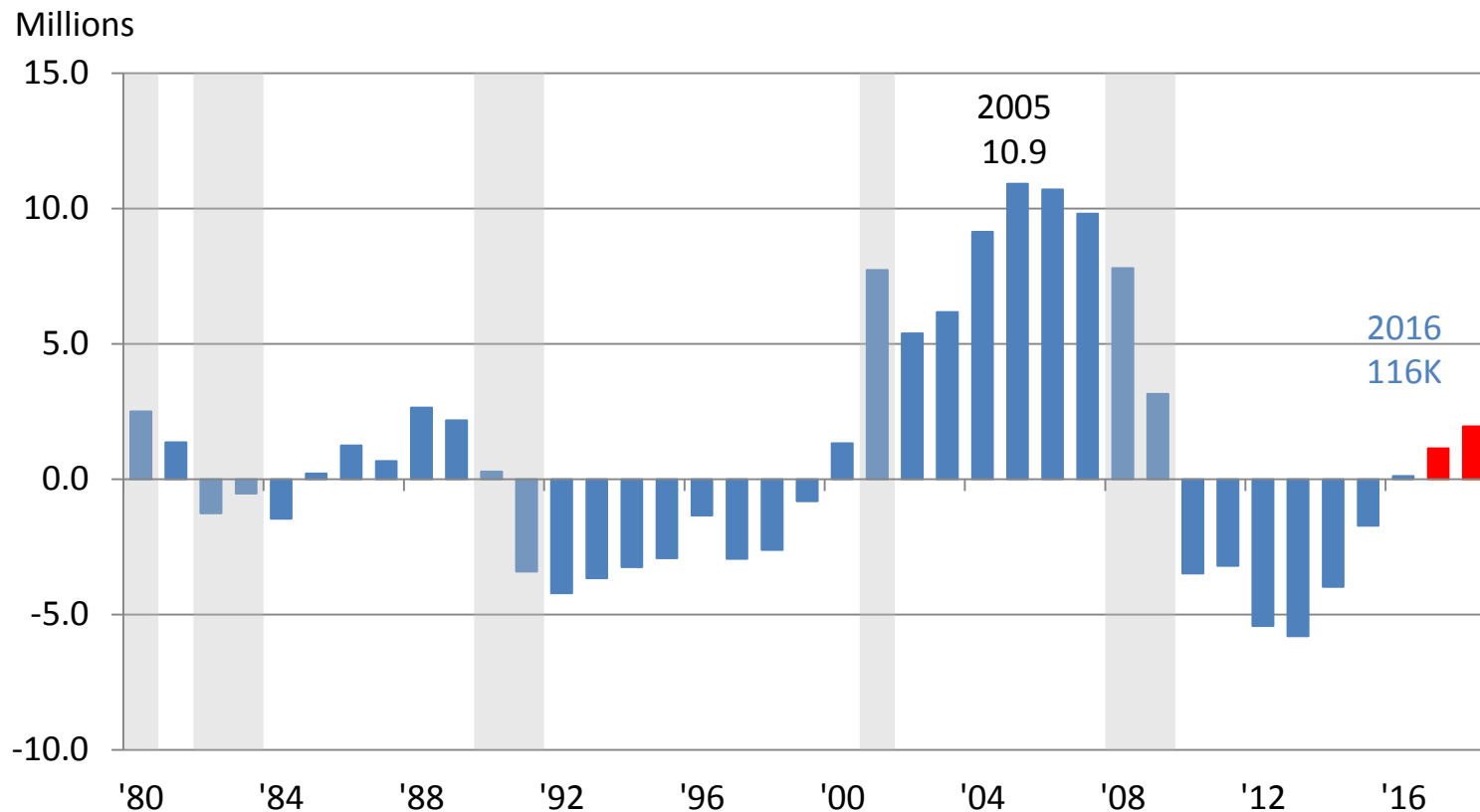
Millions of Units



Source: Ward's Automotive

U.S. Light Vehicle Pent-Up Demand

Millions of Units



Thank You!

