

Economic Update

Consensus Revenue Estimating Conference

Federal Reserve Bank of Chicago
May 17, 2016

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Senior Business Economist



Main Economic Indicators

Annual Comparison – 2009, 2015 and 2016 March YTD

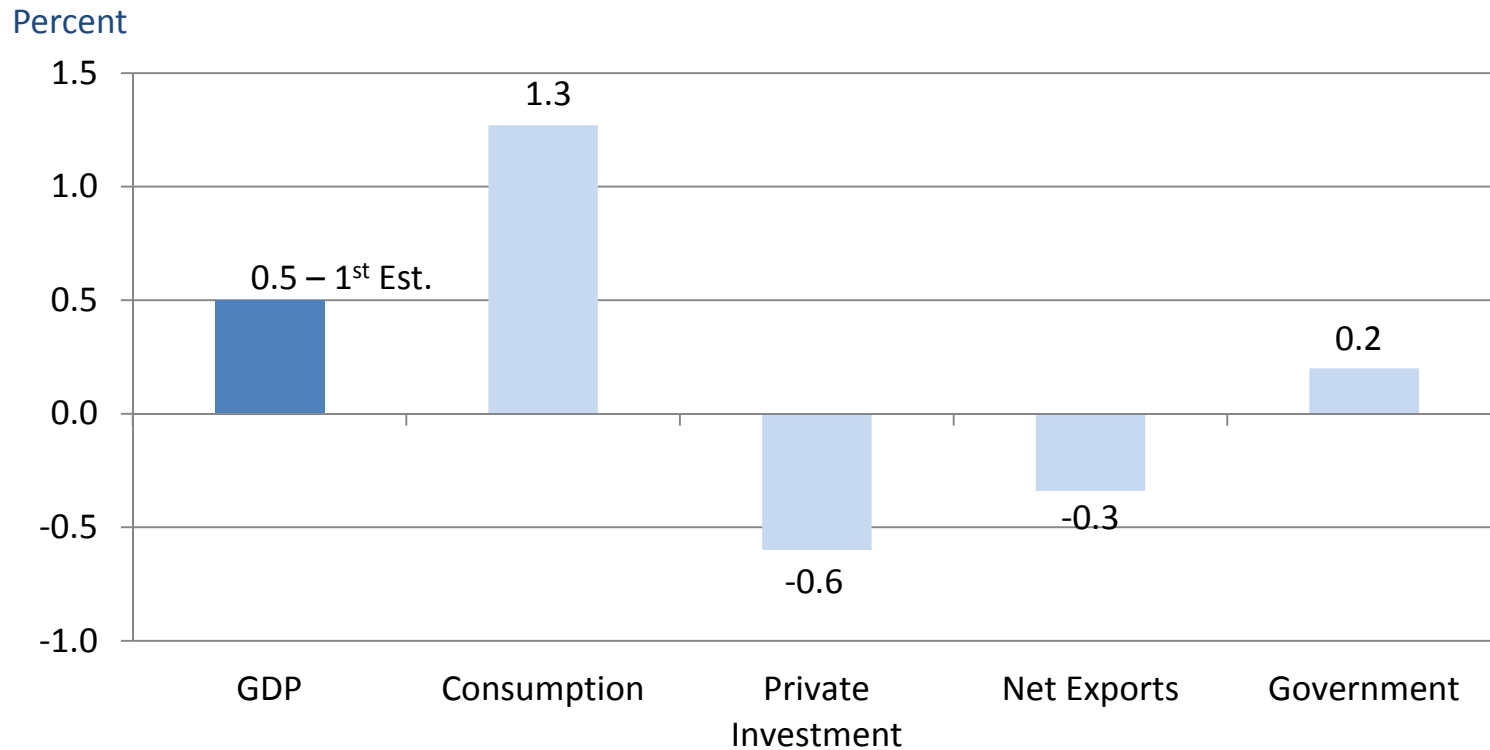
	<u>2009</u>	<u>2015</u>	<u>2016</u>
GDP – Annual Growth Rate	-2.8%	2.4%	1.9% ¹
PCE Core Inflation Yr. / Yr.	1.2%	1.3%	1.7%
Unemployment Rate – Annual Avg.	9.3%	5.3%	4.9%
Participation Rate	65.4%	62.6%	62.9%
Nonfarm Job Growth (Monthly Avg.)	-298,100	228,700	203,000
Initial Unemployment Claims	573,730	278,140	268,767

1. Year-over-year change - Q1 '16 / Q1 '15

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

U.S. Real GDP

Contribution to Percent Change, Q4, 2015 - Q/Q at SAAR

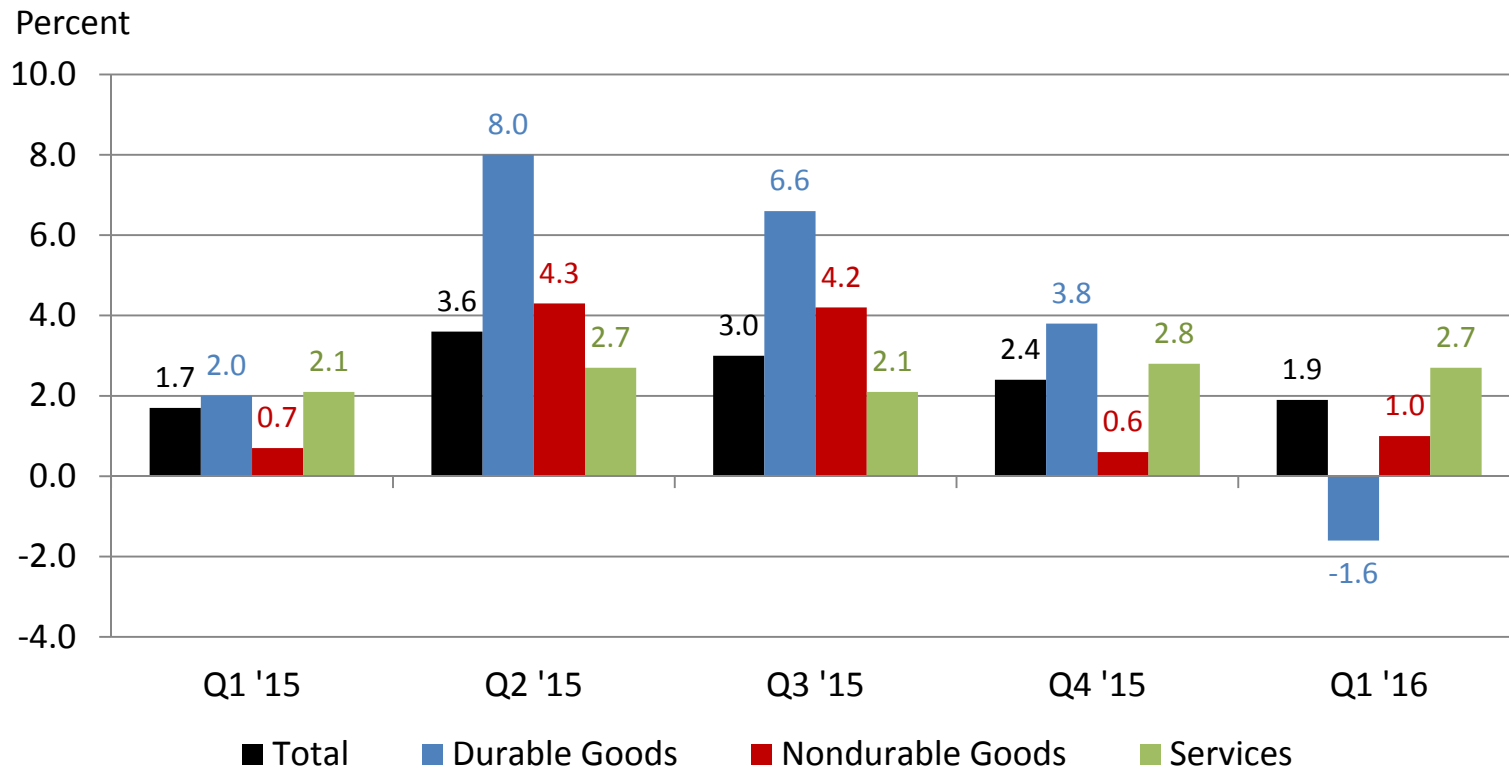


Note: Private domestic investment includes: nonresidential -0.76, residential +0.49, and -0.33 inventory change .
Government Consumption and Investment includes: Federal -0.11 and State and Local 0.31.
Net Exports includes: Exports -0.31 and Imports -0.02.

Source: U.S. Bureau of Economic Analysis

Real Personal Consumption Expenditures

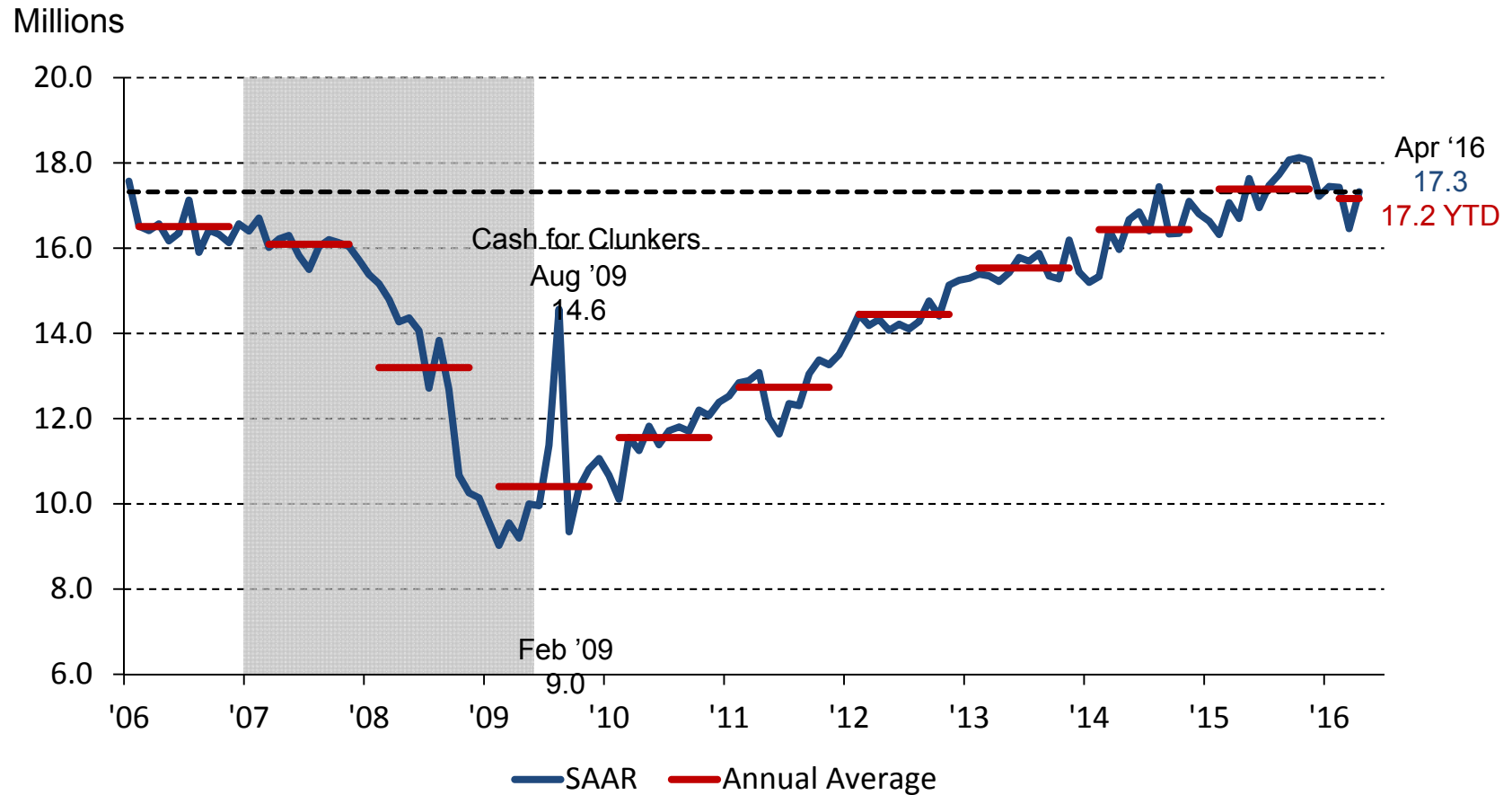
Billions of Chained \$2009, Percent Change - Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

U.S. Light Vehicle Sales

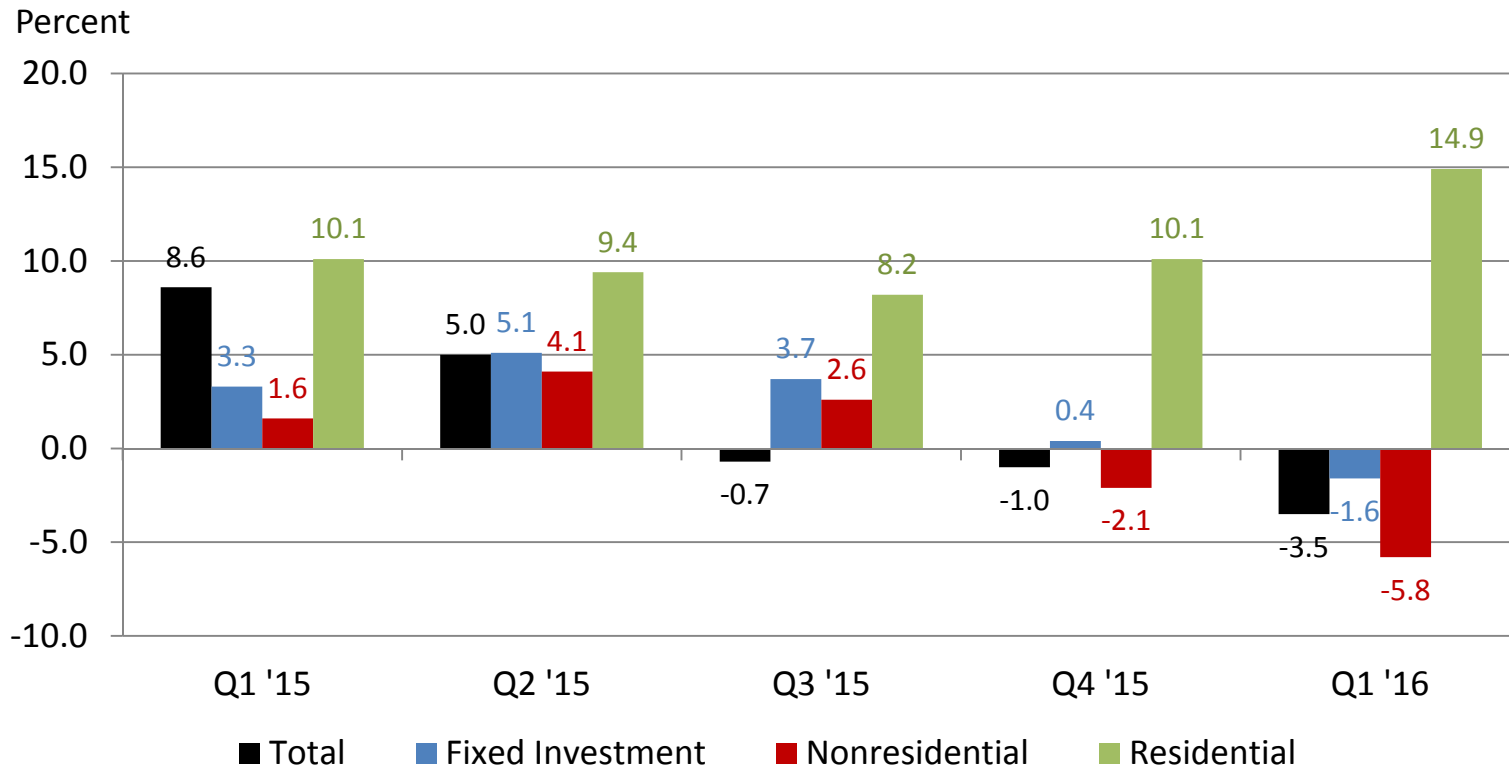
S.A.A.R – Millions of Units



Source: Ward's Automotive and BEA

Private Fixed Investment

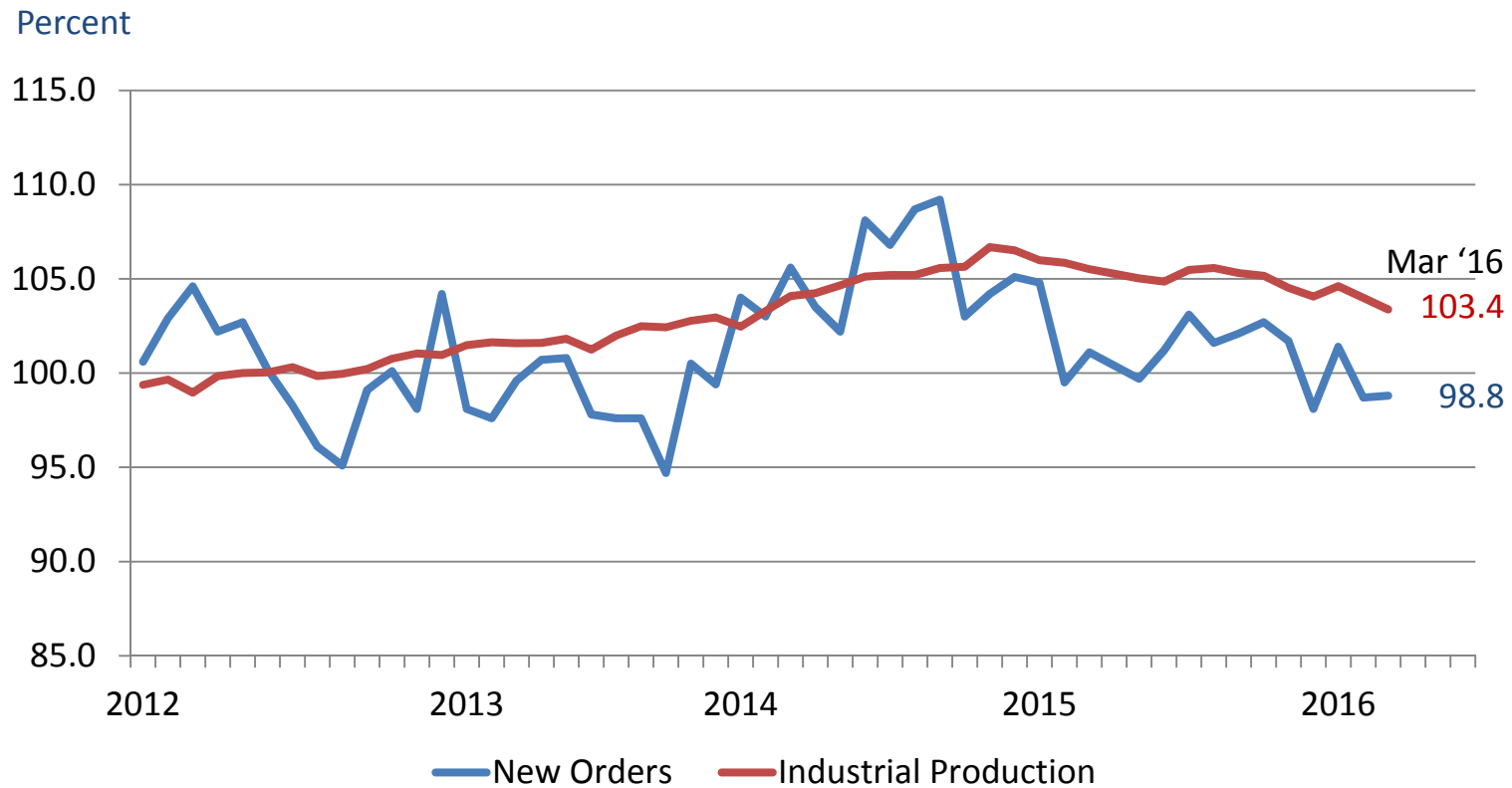
Billions of Chained \$2009, Percent Change - Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

New Orders and Industrial Production

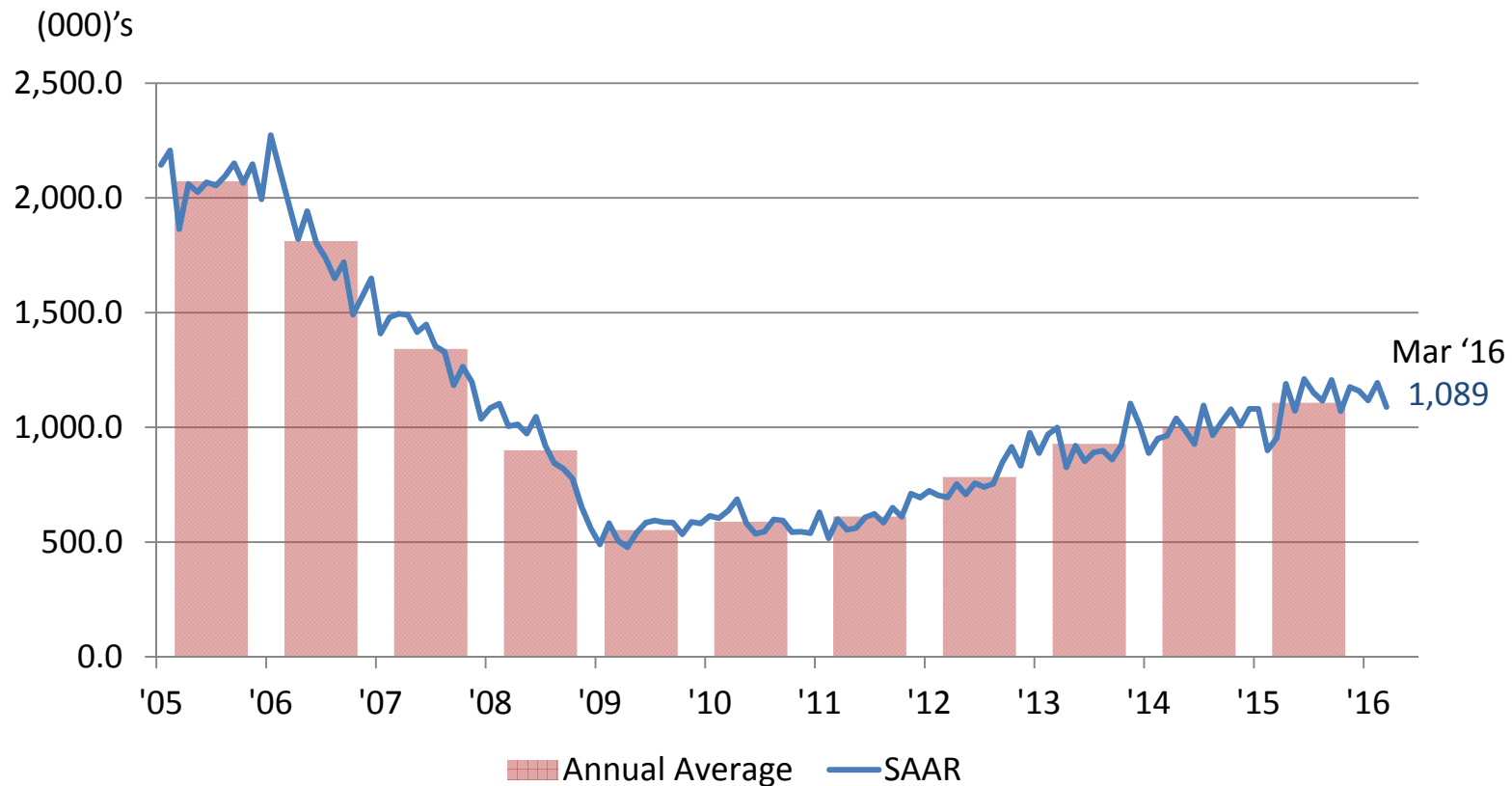
Index – 2012 = 100



Note: New Orders Nondefense Capital Goods Excluding Aircraft.

U.S. Housing Starts

In Thousands of Units (SAAR) and Annual Average

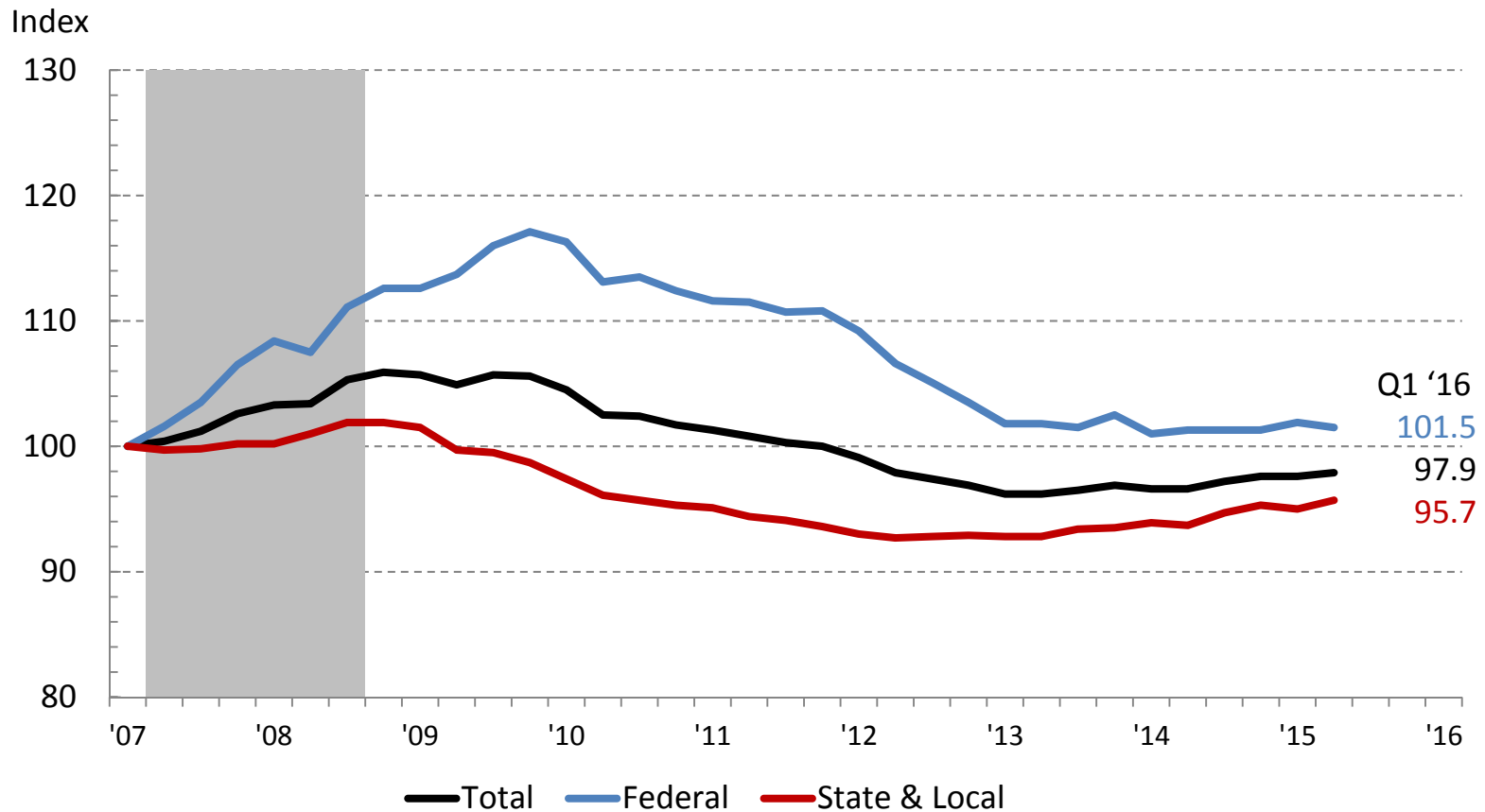


Note: The United States averaged 1.5 million housing starts per year 1990 to 2004.

Source: U.S. Census Bureau

Government Consumption & Investment

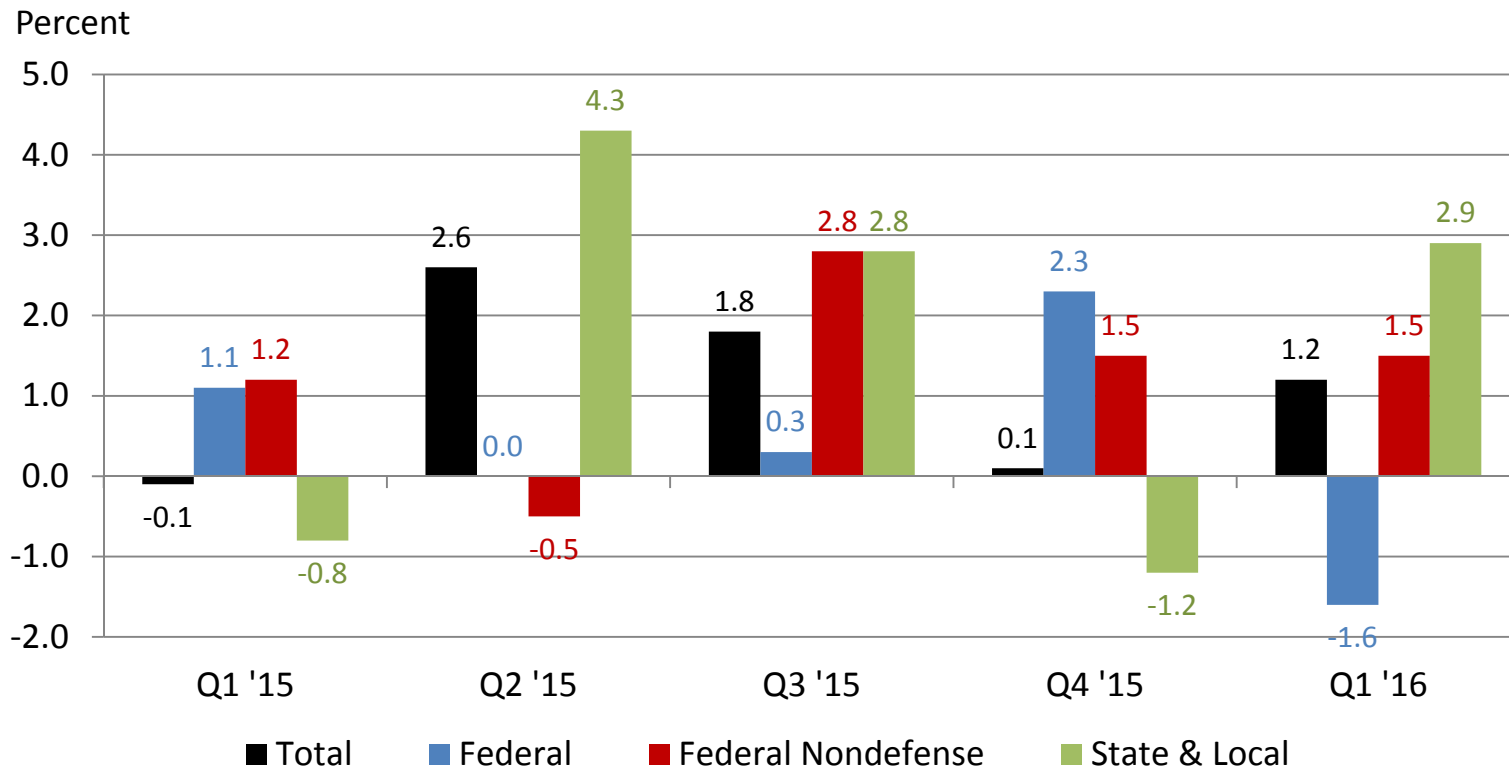
Billions Chained \$2009, Index – Q4 2007 = 100



Source: U.S. Bureau of Economic Analysis

Government Consumption & Investment

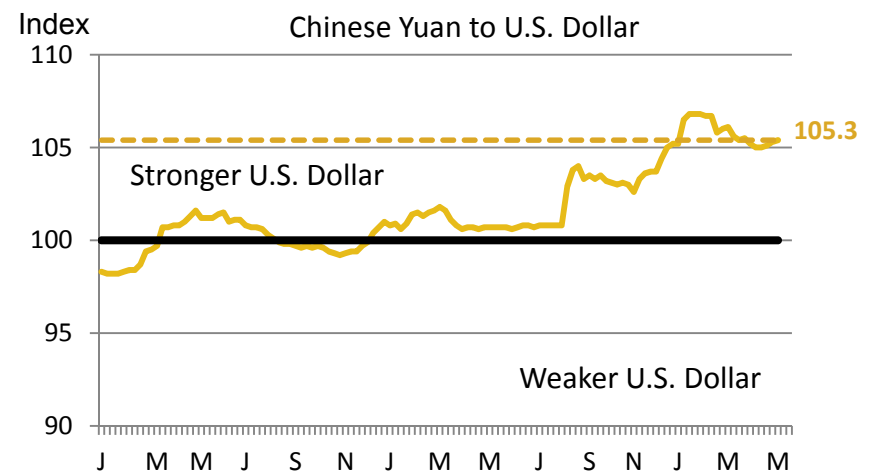
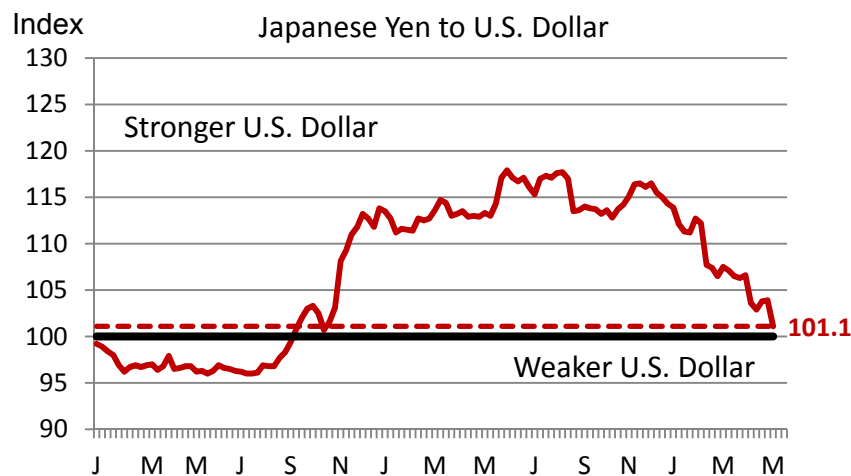
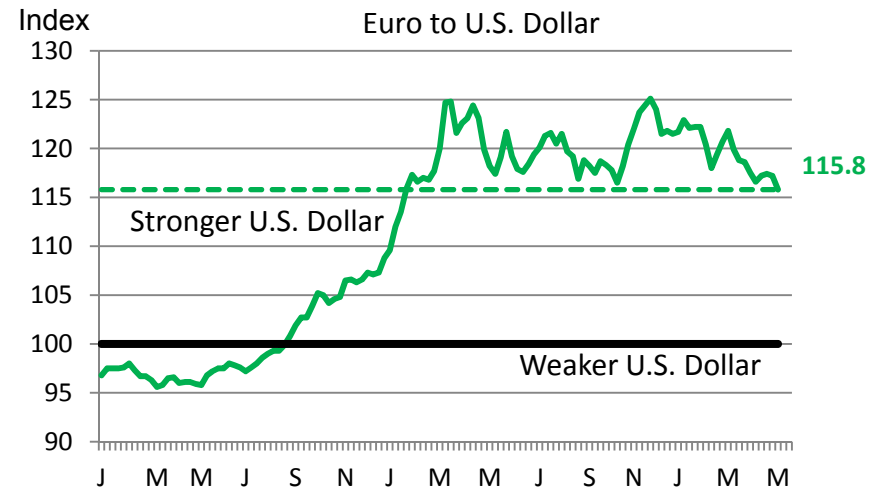
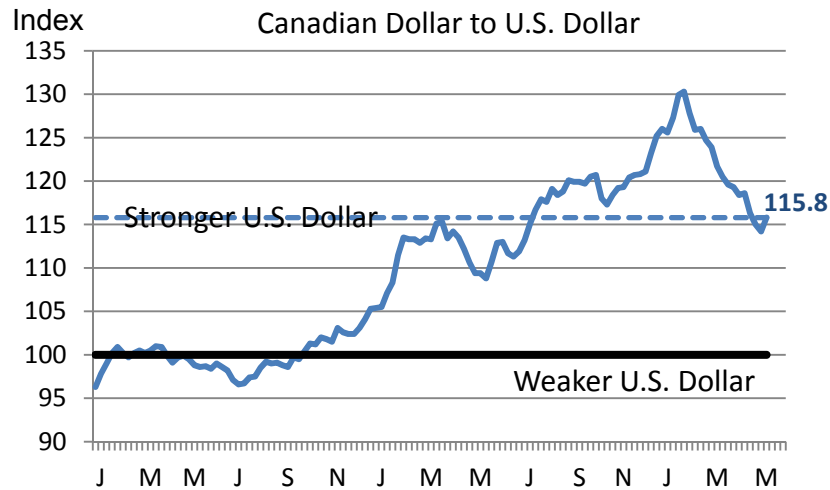
Billions of Chained \$2009, Percent Change - Q/Q at SAAR



Source: U.S. Bureau of Economic Analysis

Stronger U.S. Dollar

Select Currencies Jan 3, 2014 to May 6, 2016, Index – 2014 = 100



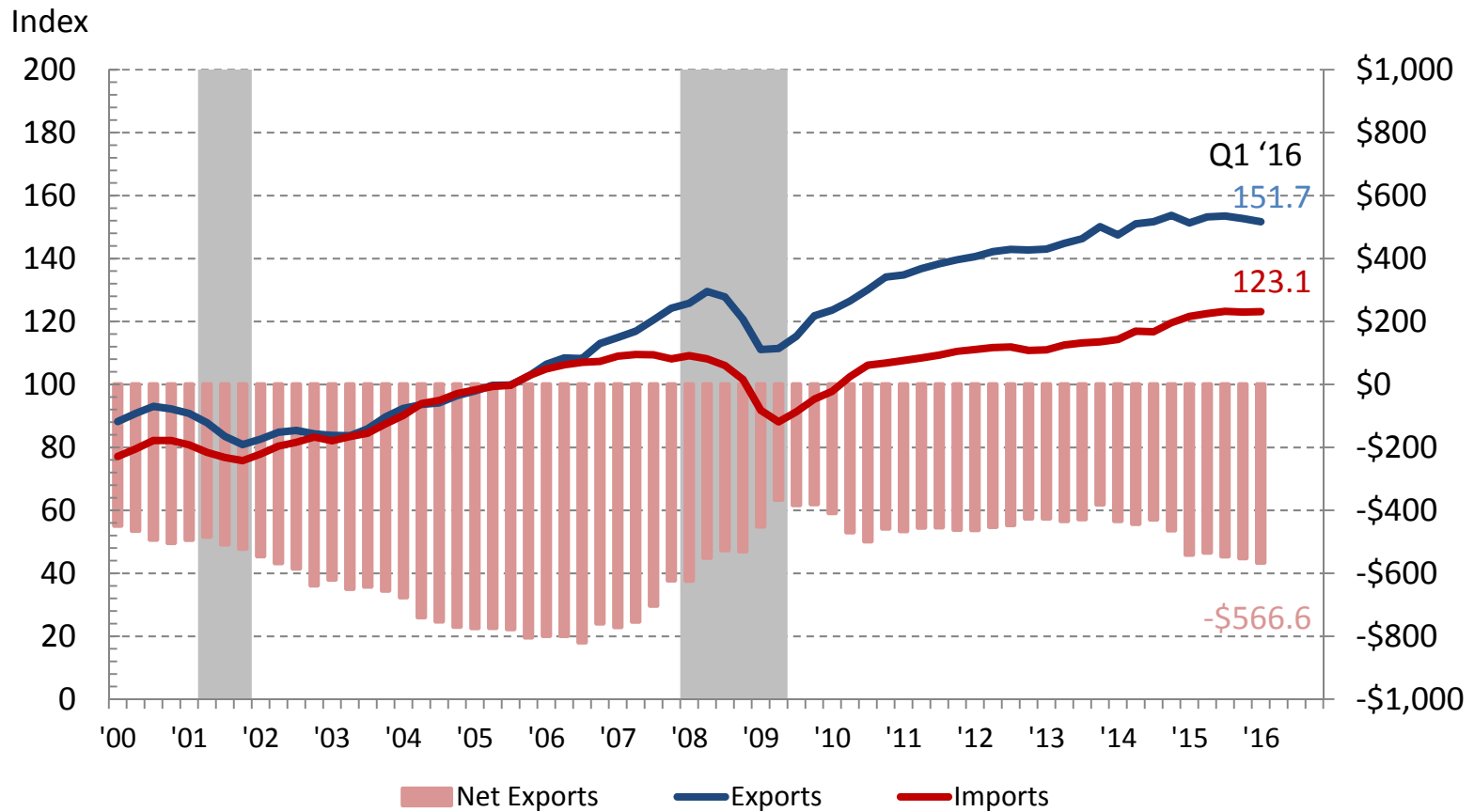
Source: Board of Governors – Federal Reserve System

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Real Imports and Exports

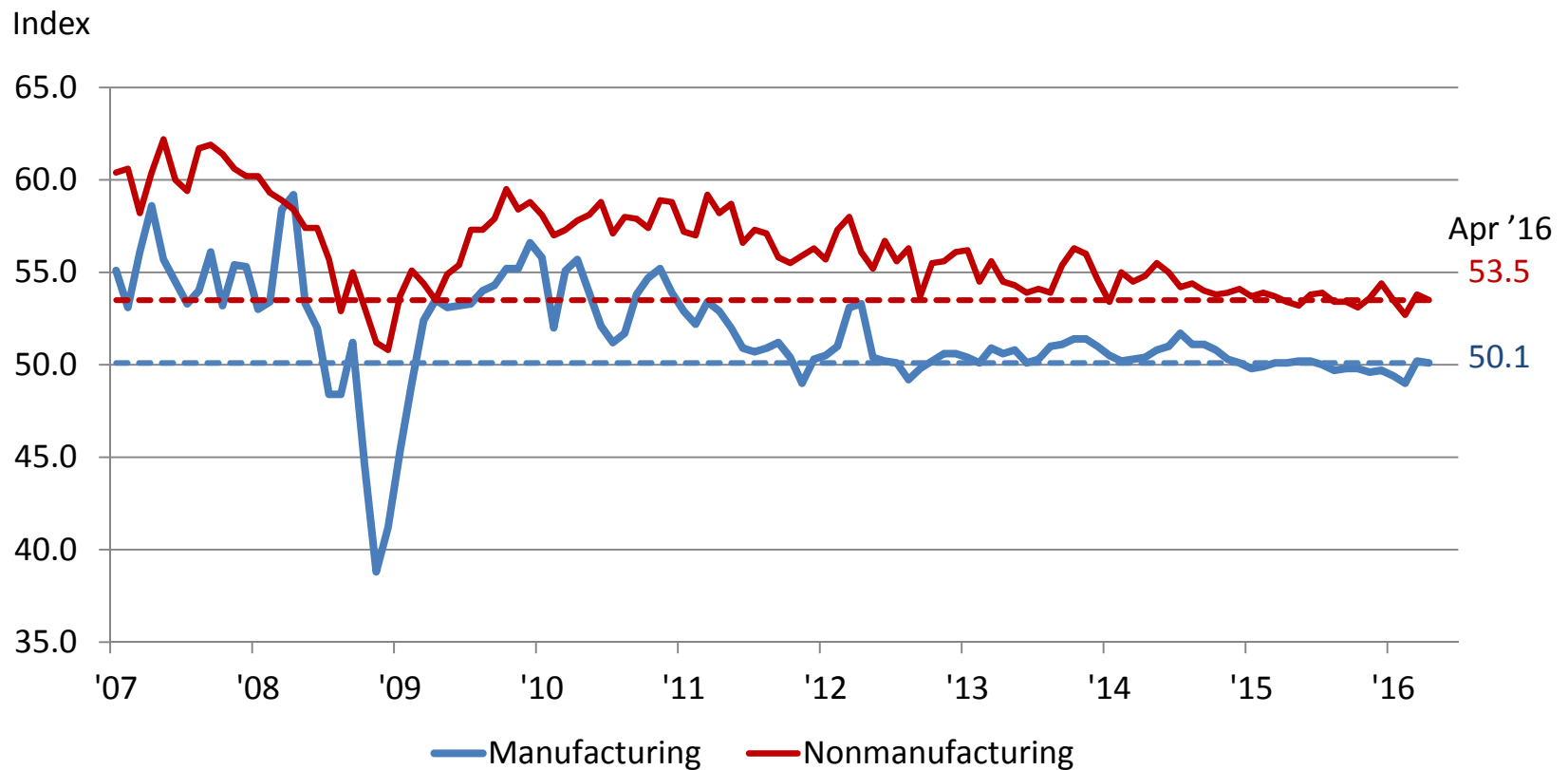
Billions Chained \$2009, Index – 2005 = 100



Source: U.S. Bureau of Economic Analysis

China PMI

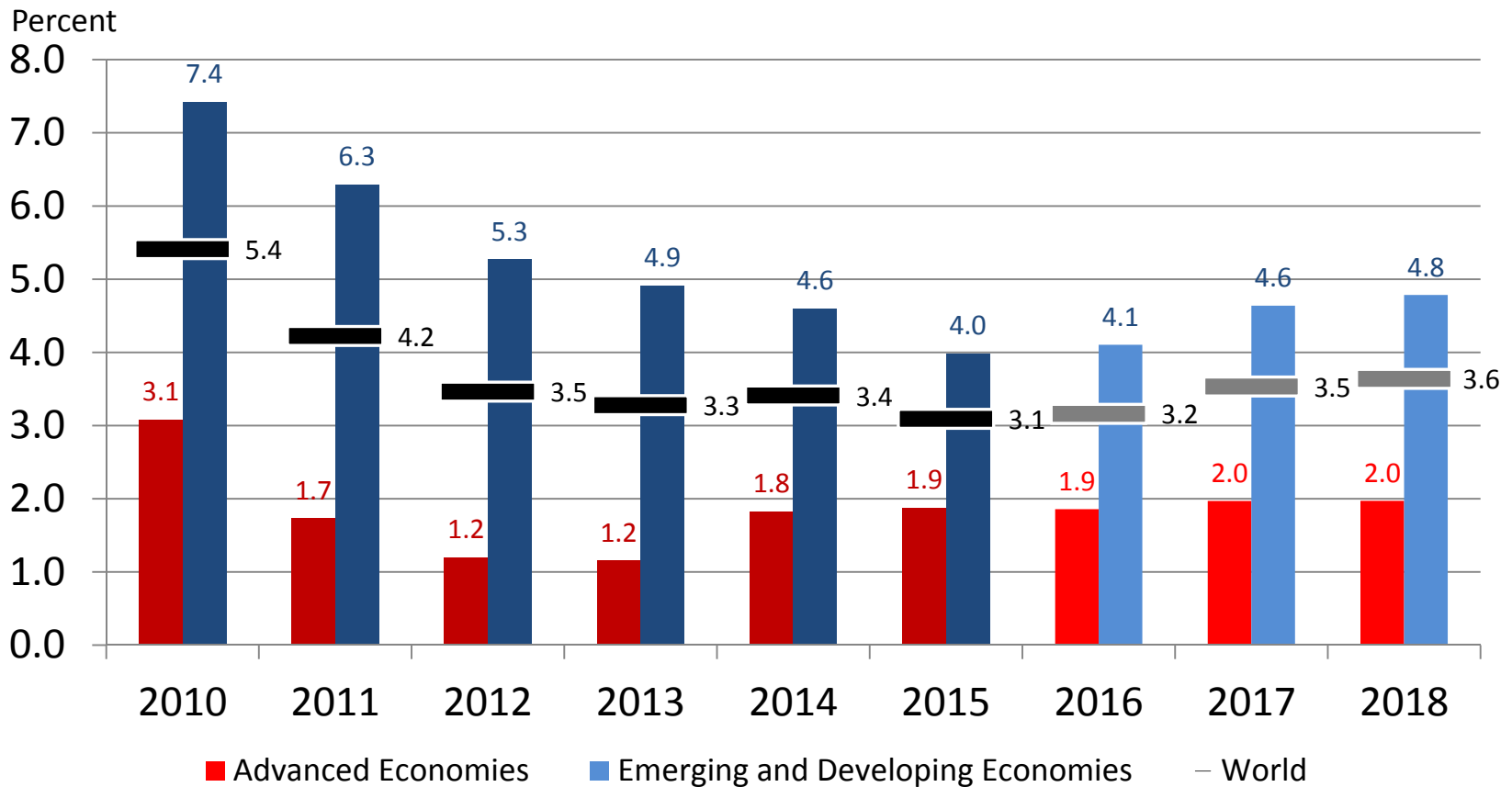
Manufacturing & Nonmanufacturing - SA, +50 Signifies Expansion



Source: China Federation of Logistics & Purchasing and Haver Analytics

Global Outlook

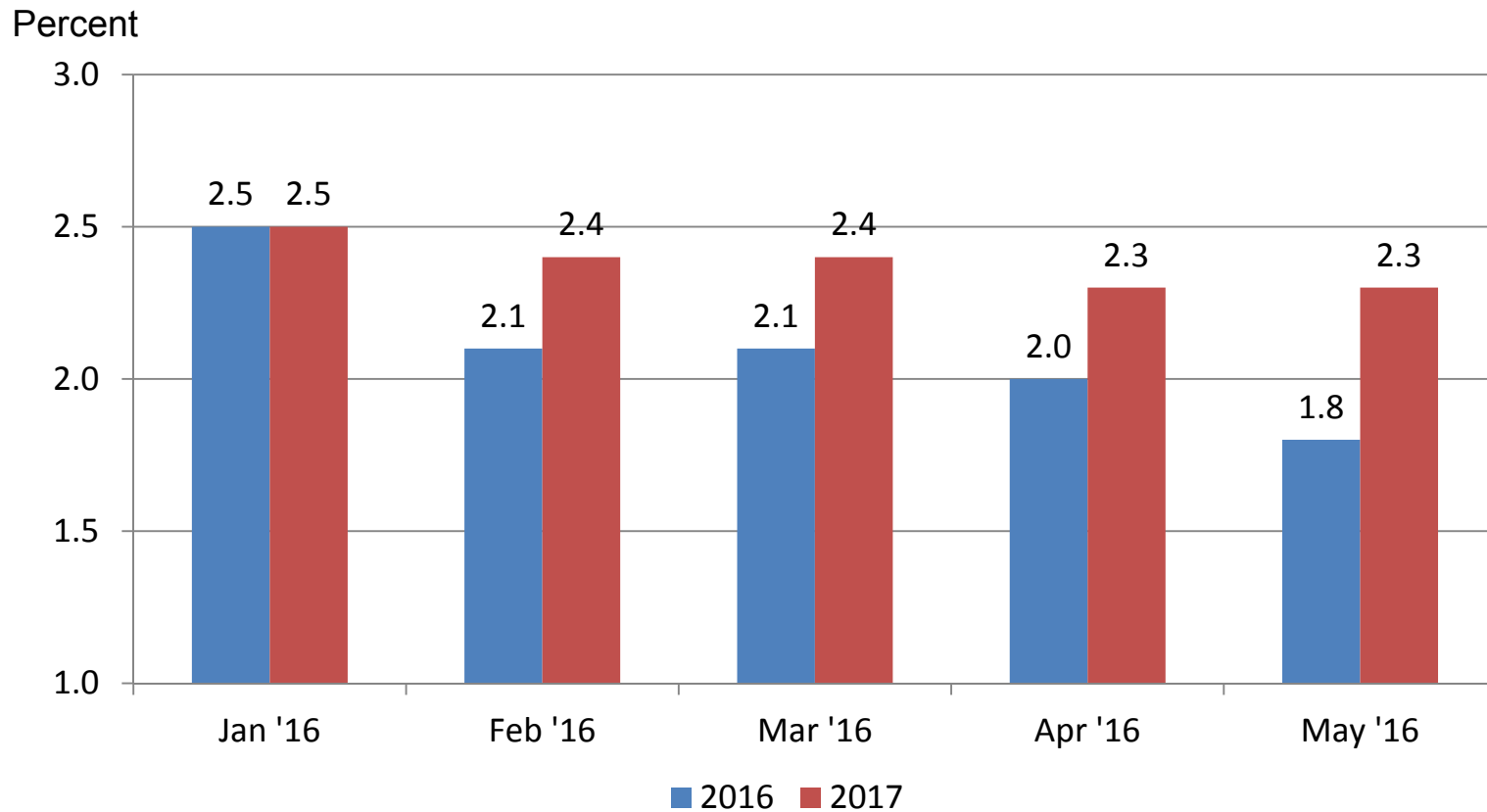
IMF Forecast for Growth (Jan '16 Update), % Chg. Yr./Yr.



Source: IMF - World Economic Outlook

U.S. Real GDP Blue Chip Forecast

Annual Percent Change – Chained \$2009

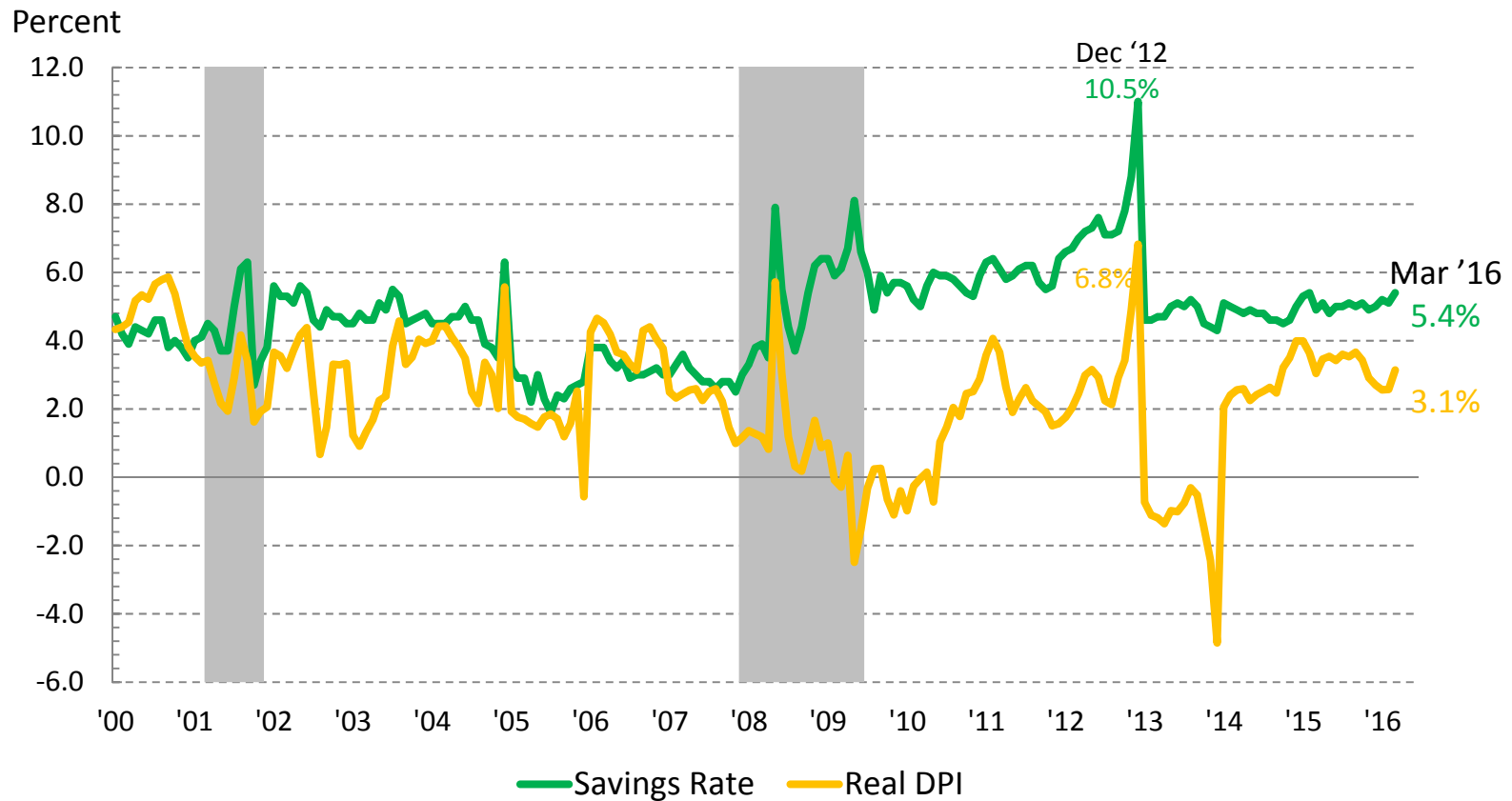


Source: April 2015 Blue Chip Economic Indicators

U.S. Consumer

Real Disposable Personal Income & Savings Rate

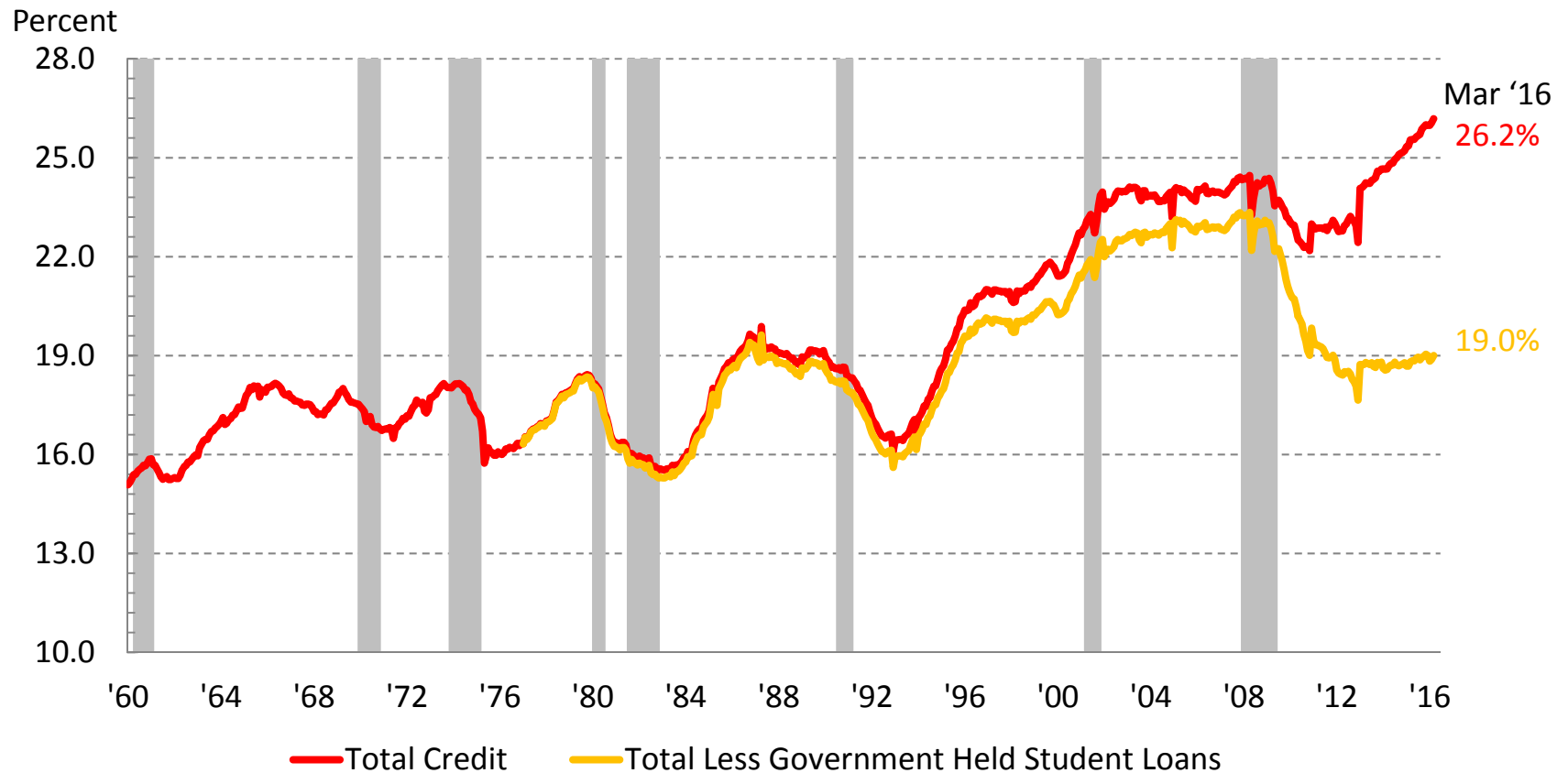
Percent Change Year/Year and Percent of Personal Income



Source: U.S. Bureau of Economic Analysis

Total Consumer Credit

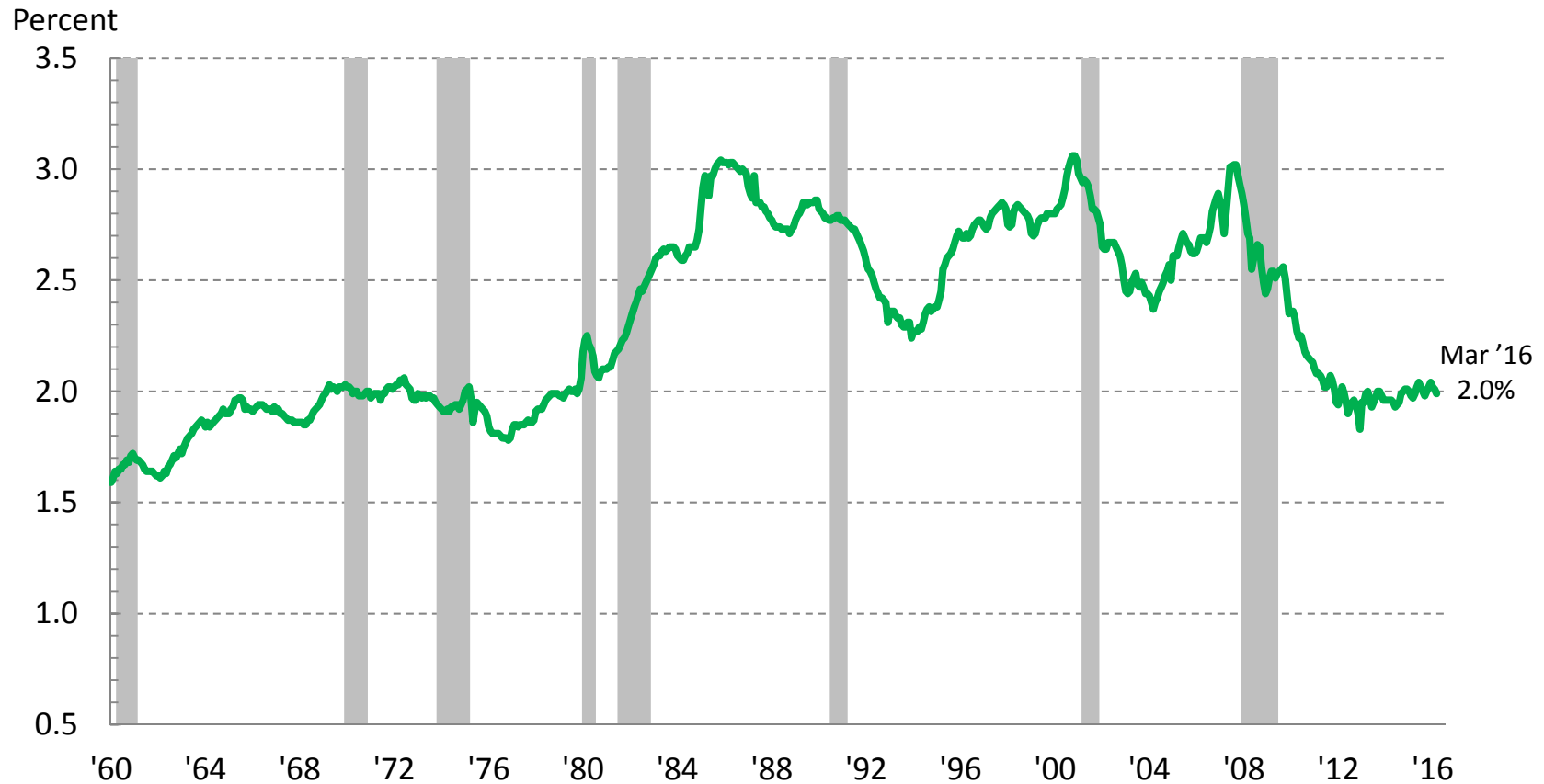
Revolving and Non-revolving Credit as % of DPI



Source: Federal Reserve Bank - Board of Governors

Personal Interest Payments

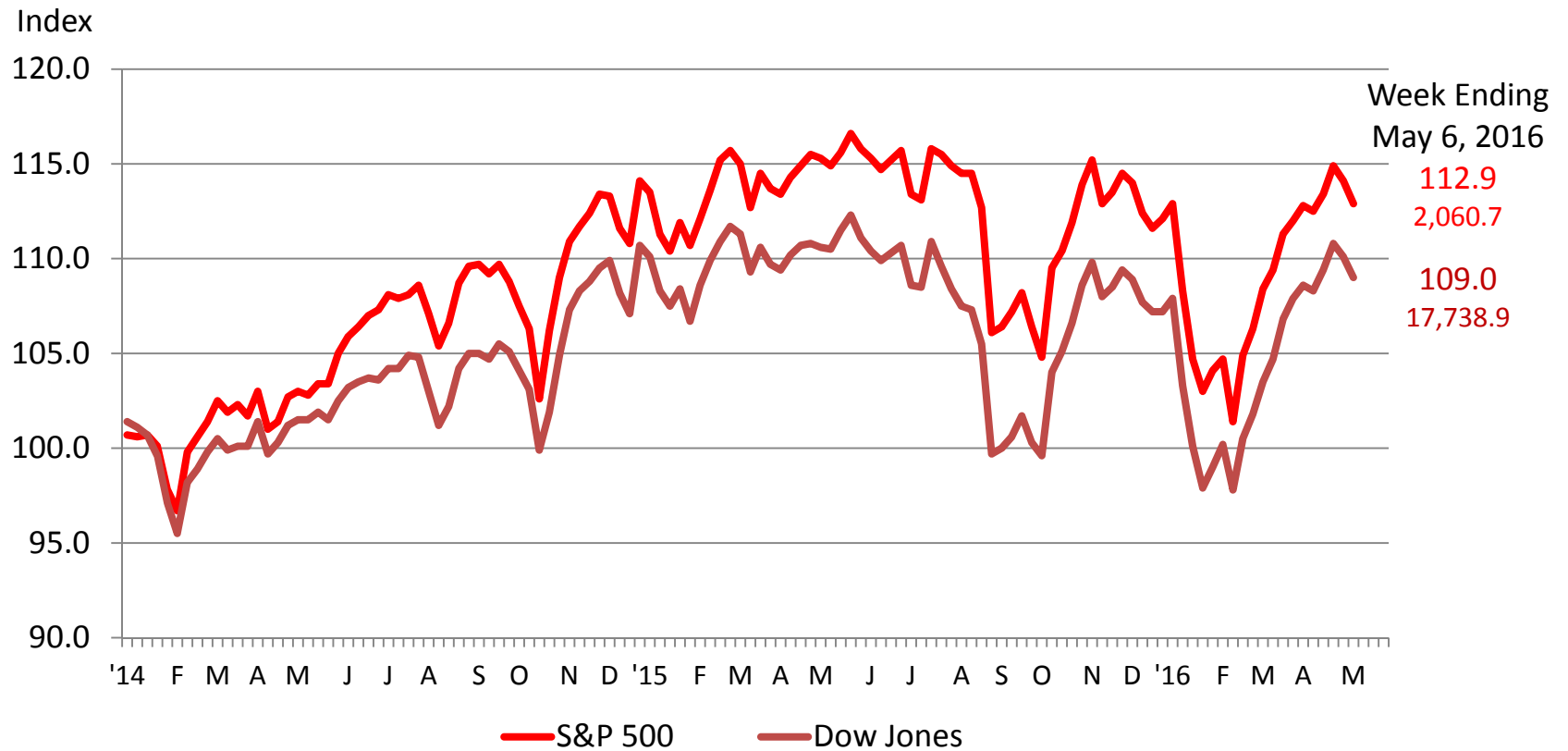
As a Percent of Disposable Personal Income



Source: U.S. Bureau of Economic Analysis

Stock Market

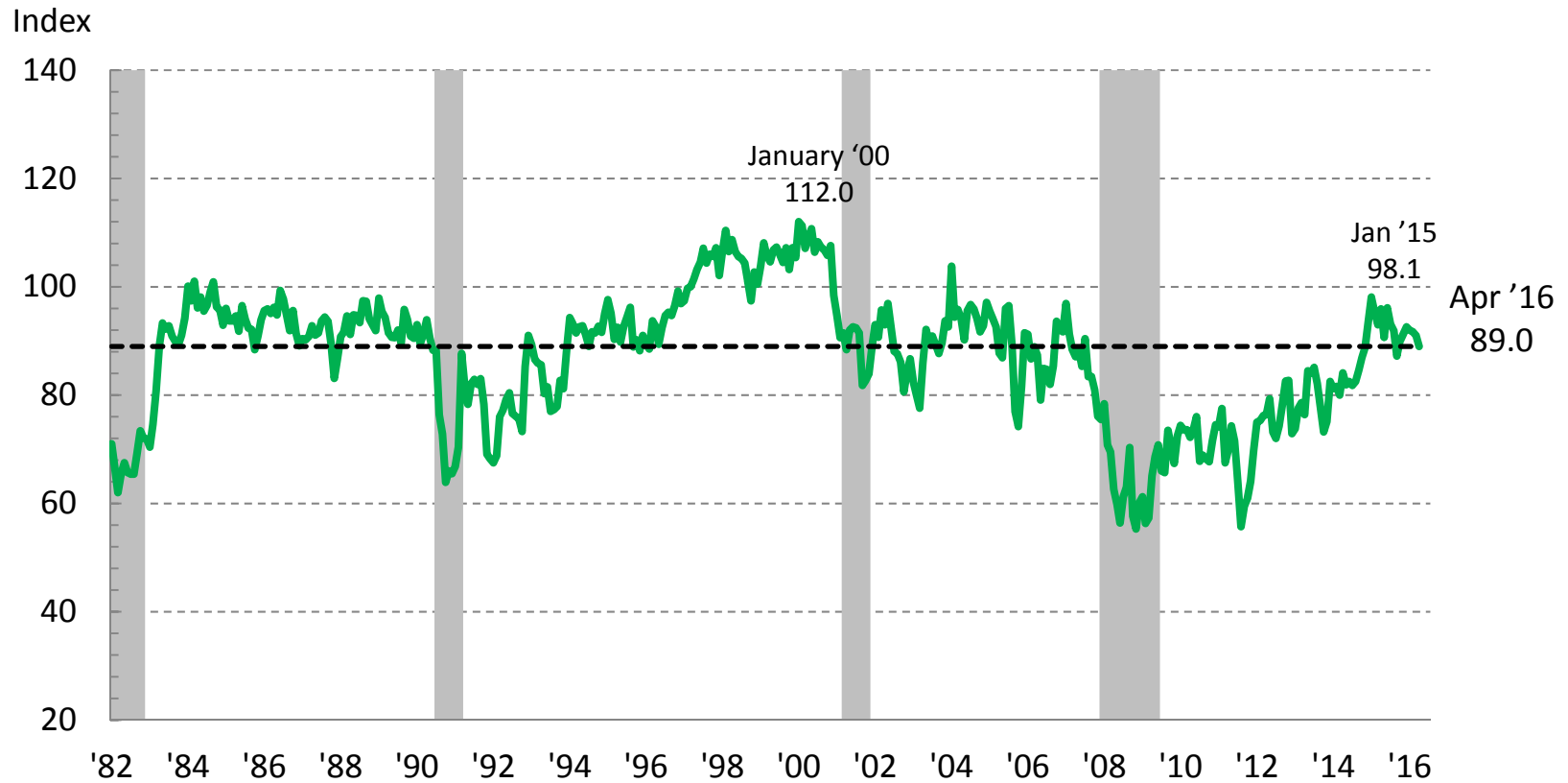
S&P 500 and Dow Jones Indices, Index Jan, 2014 = 100



Source: St Louis Fed and S&P Dow Jones

Consumer Sentiment

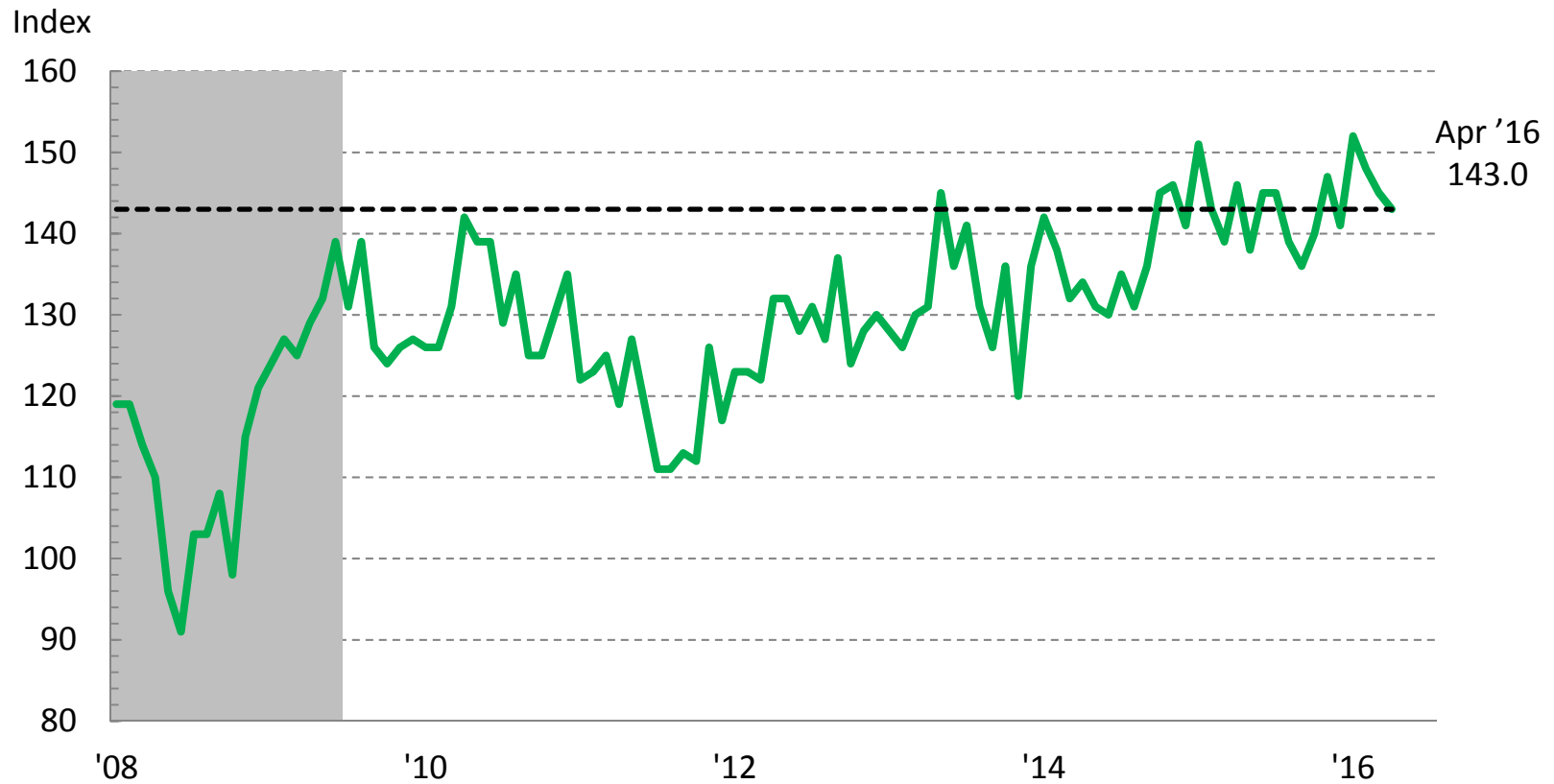
University of Michigan



Source: Thomson Reuters / University of Michigan

Buying Conditions for Vehicles

University of Michigan

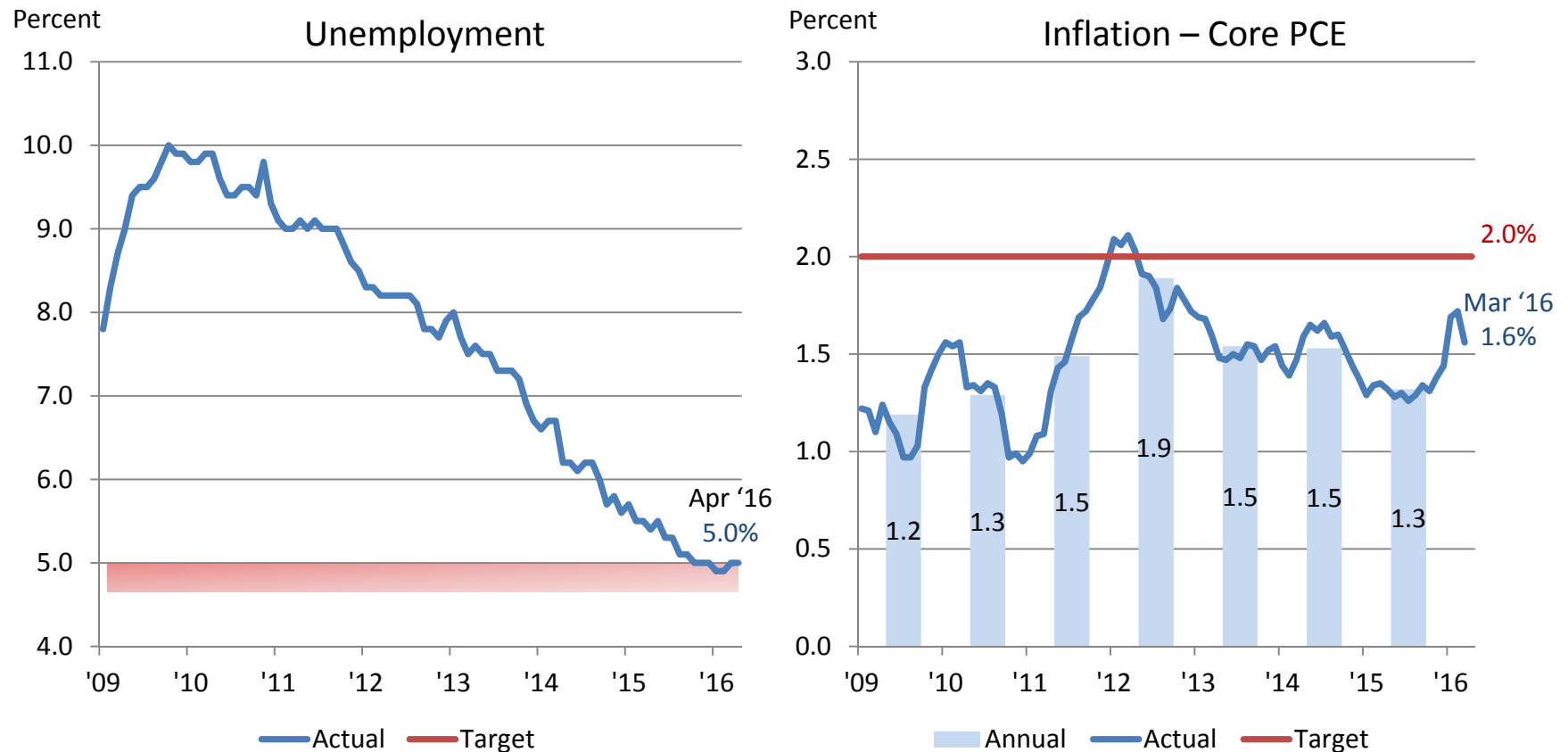


Source: Thomson Reuters / University of Michigan

Monetary Policy Employment & Inflation

Unemployment Rate & PCE Inflation

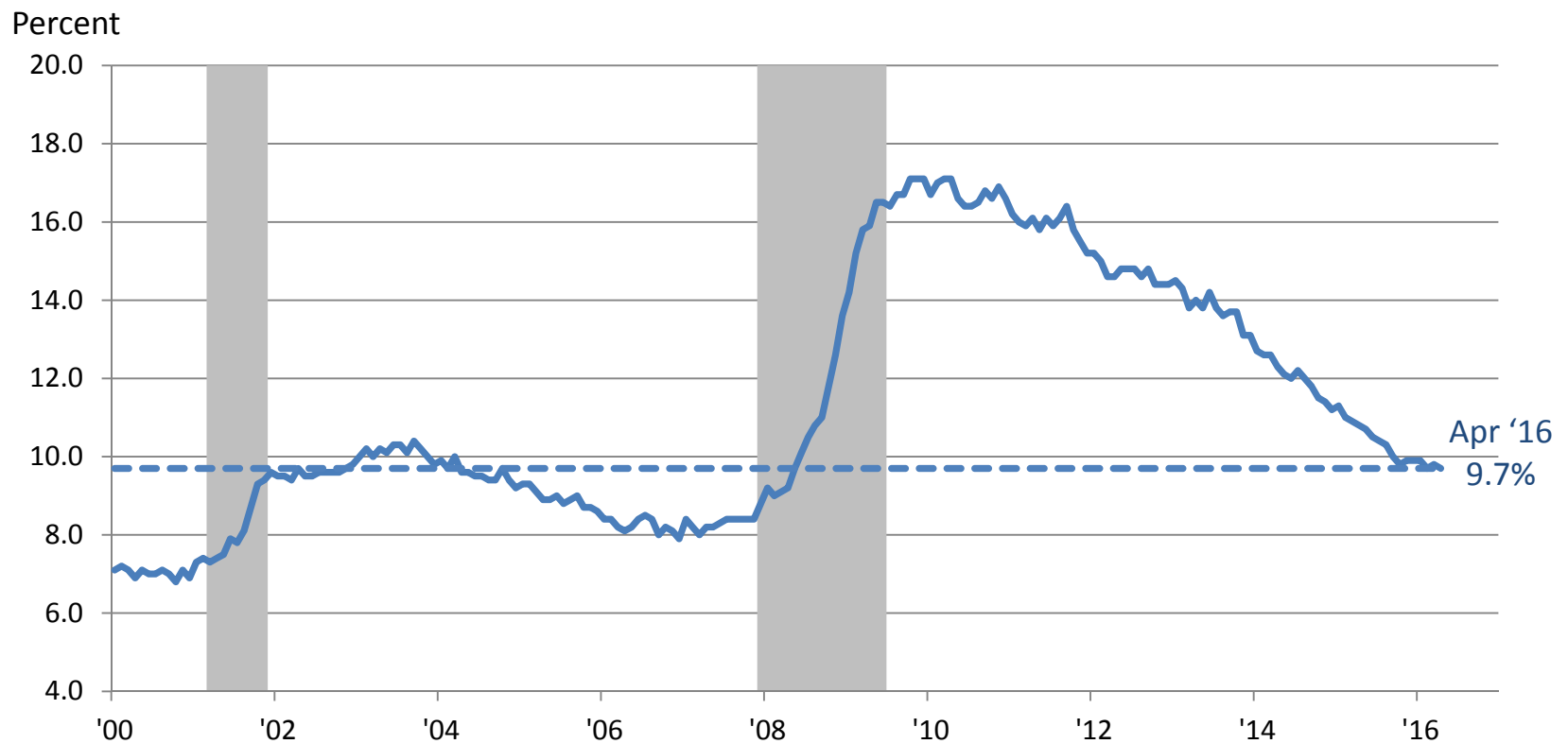
Percent Unemployed, PCE % Change Yr./Yr.



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

Underutilization of Labor

U6 Unemployment Rate - SA

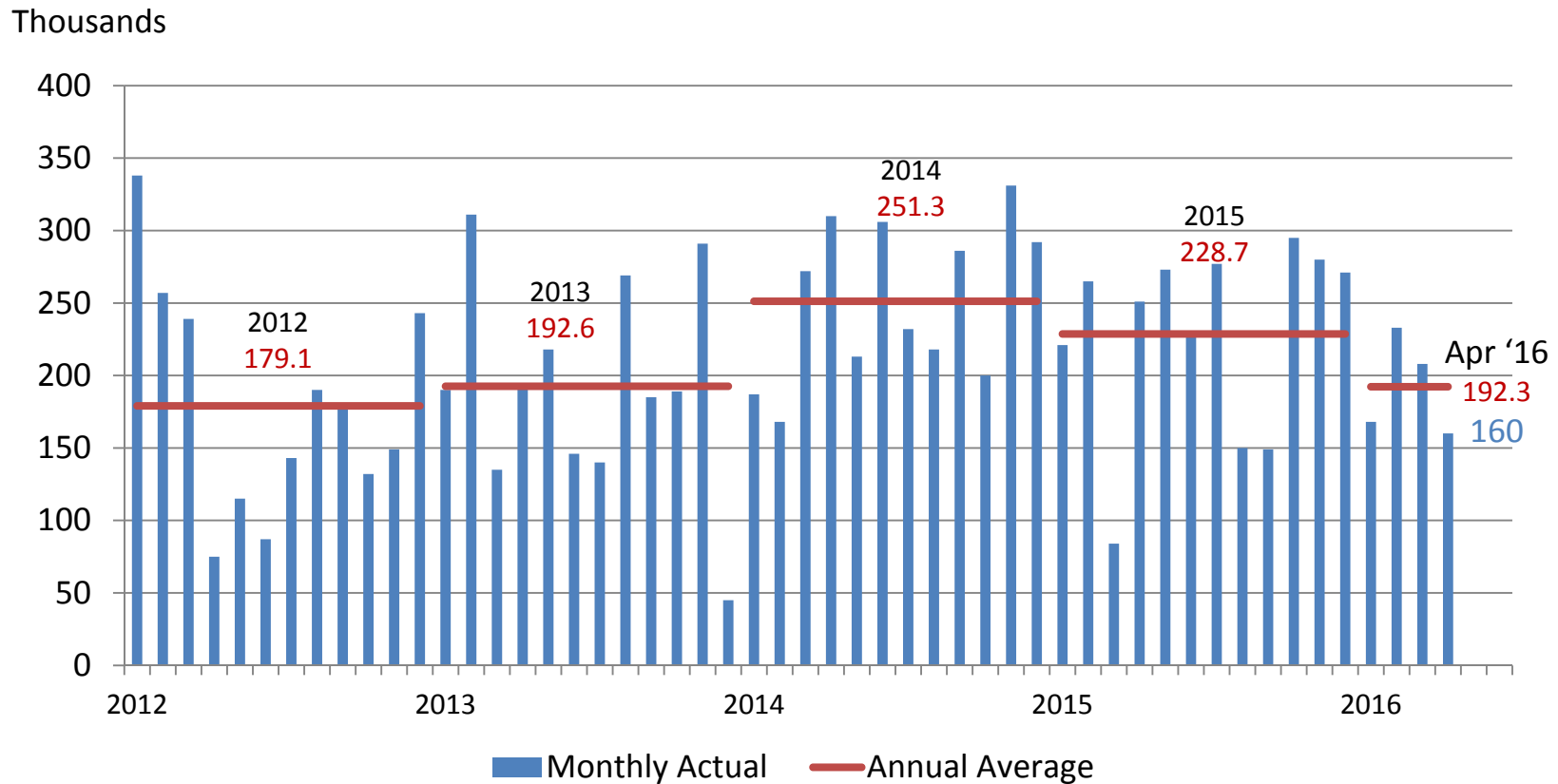


Includes total unemployed plus marginally attached workers plus employed part-time for economic reasons.

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

U.S. Nonfarm Payrolls

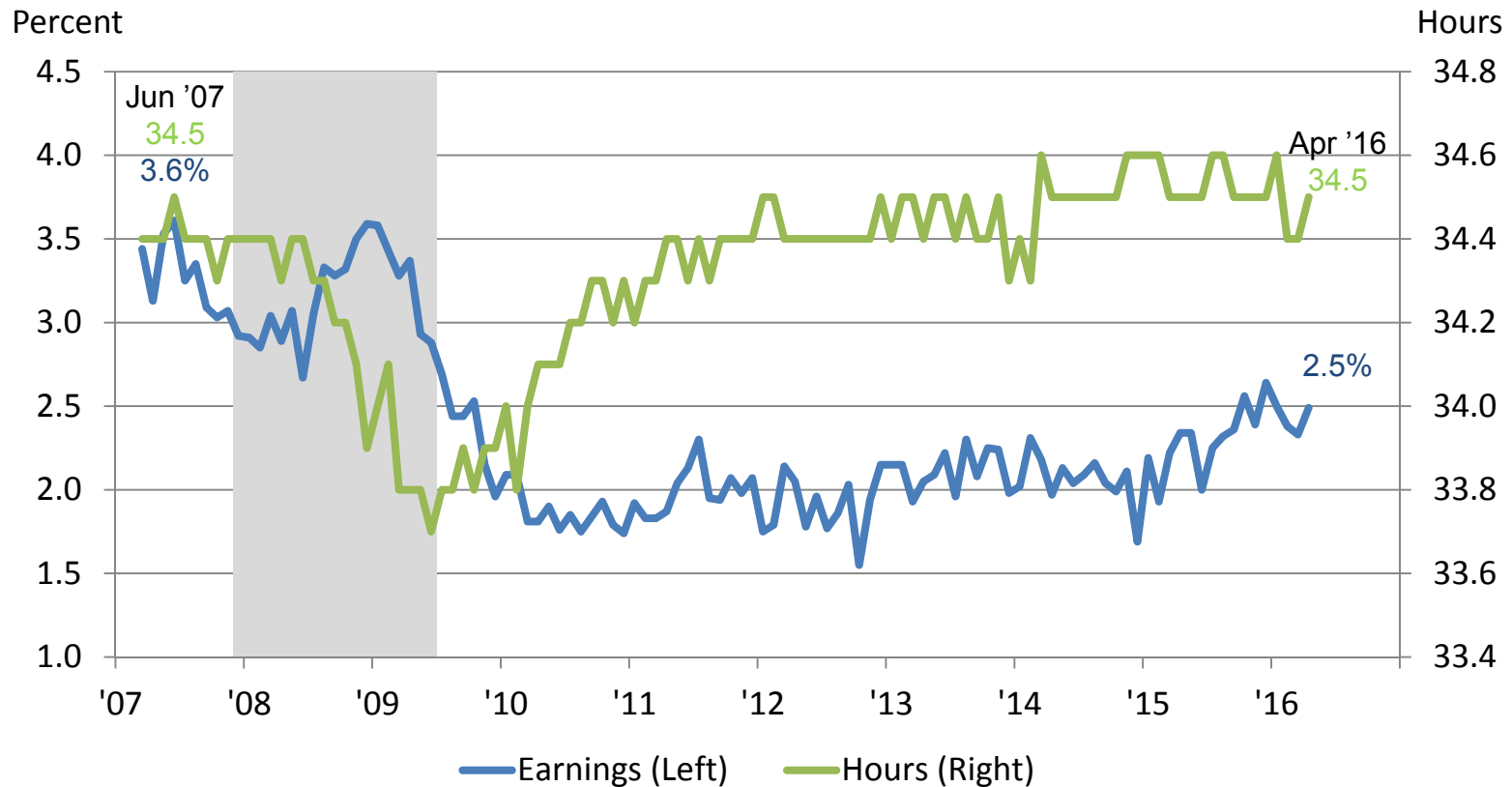
Monthly and Annual Average Job Change – In Thousands



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

Average Hourly Earnings & Hours Worked

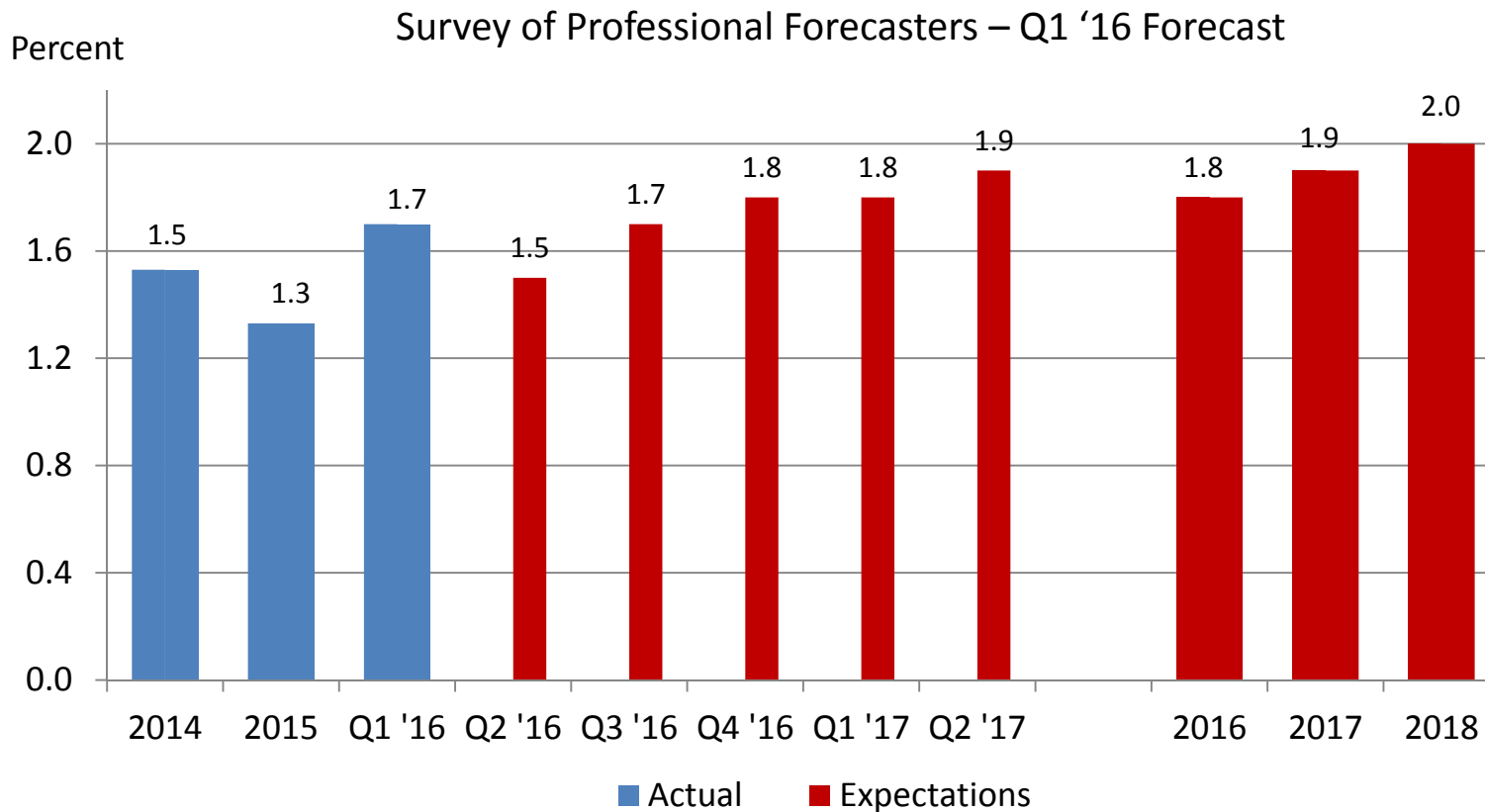
Total Private, All Employees – % Change Y/Y and Hours, SA



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

Inflation Expectations

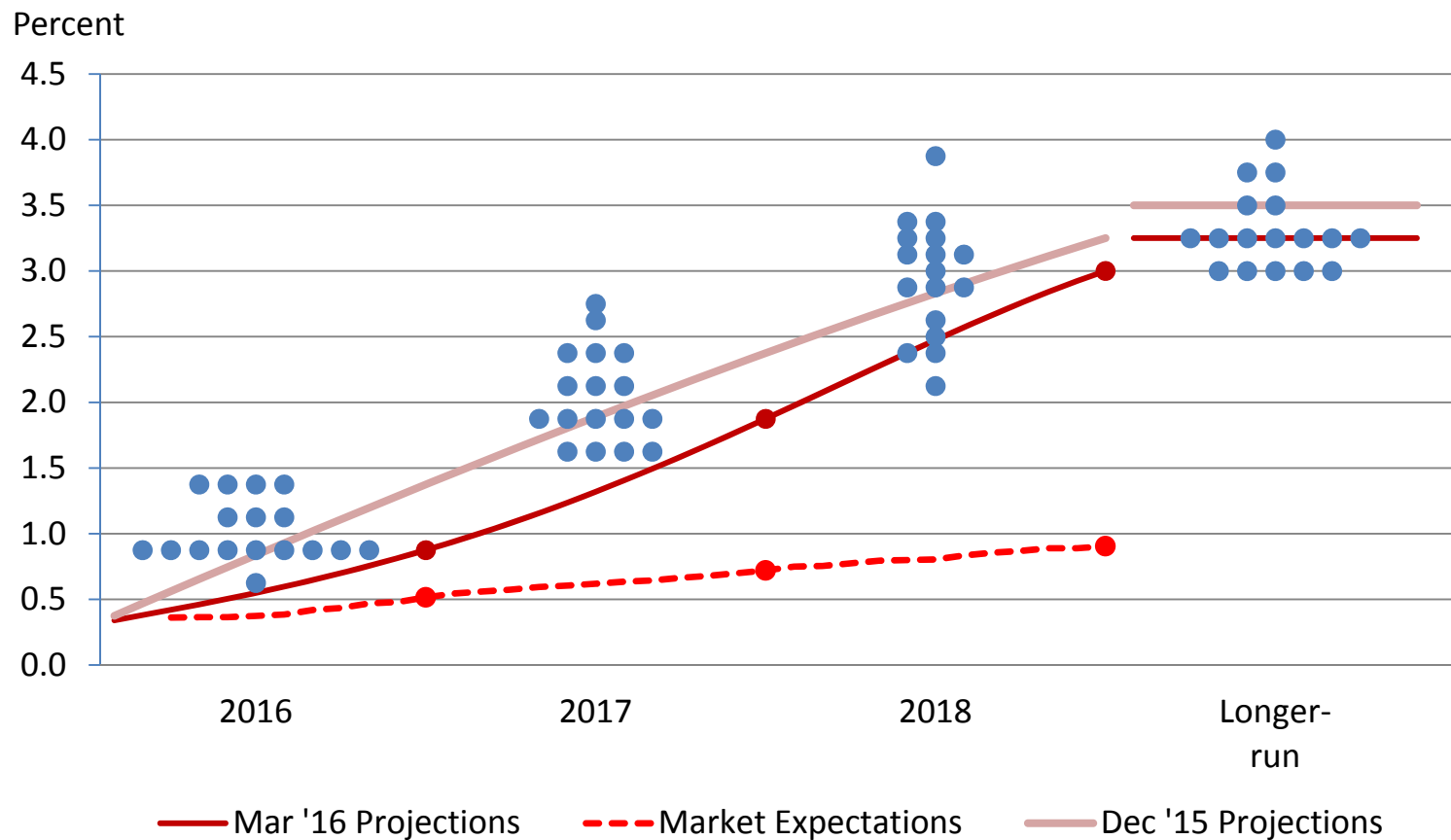
PCE Core Inflation – Yr./Yr. & Q4/Q4



Source: Bureau of Economic Analysis and FRB Philadelphia Q1 '16 Survey

Appropriate pace of policy firming

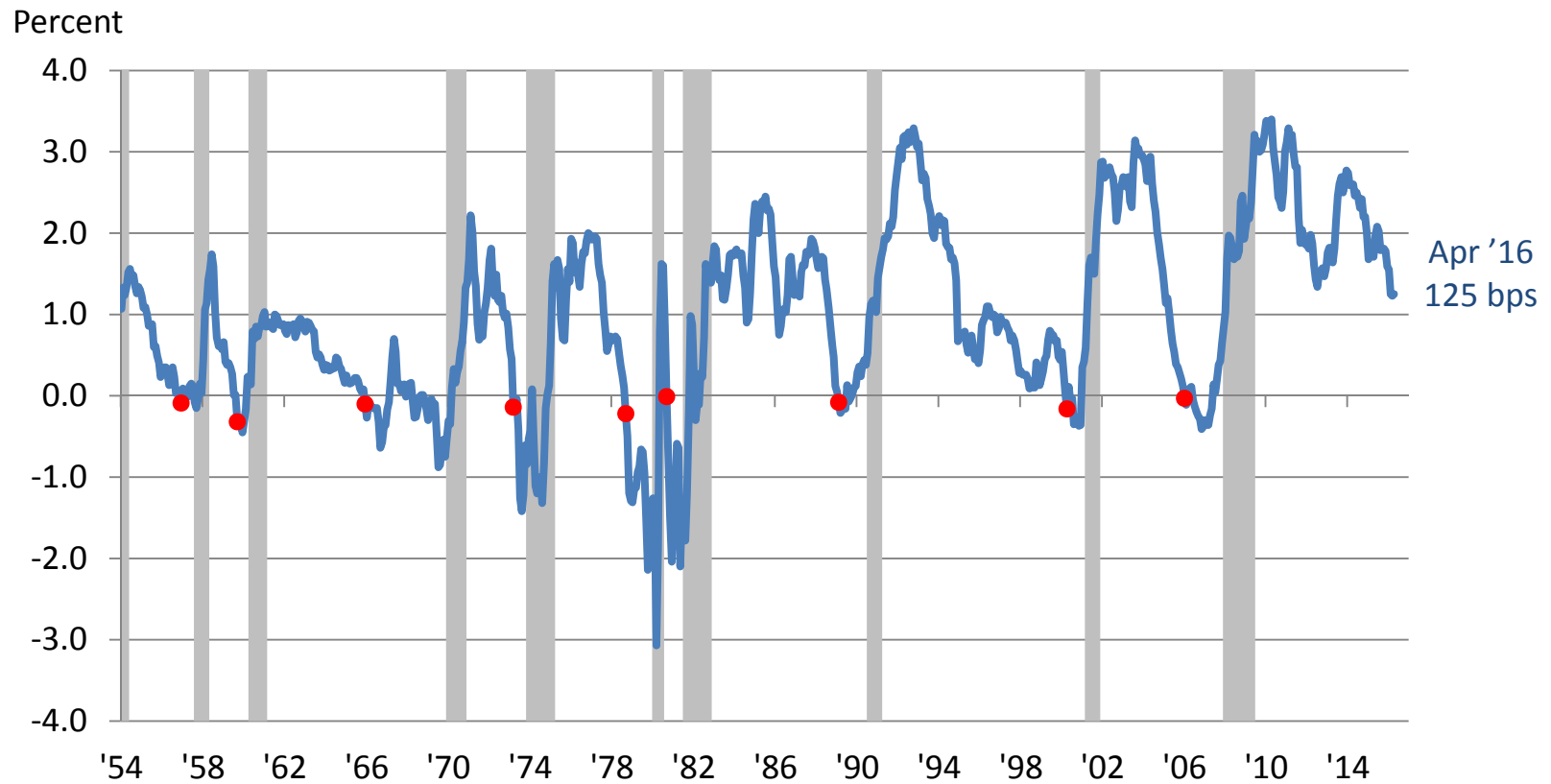
Midpoint of target range or target level of the Fed Funds Rate



Source: Board of Governors – Federal Reserve System, December 2015

Yield Curve

10 Year – 1 Year Treasuries



Source: Board of Governors – Federal Reserve System

Michigan Economy

Main Economic Indicators

Annual Comparison – 2009, 2015 and 2016 March YTD

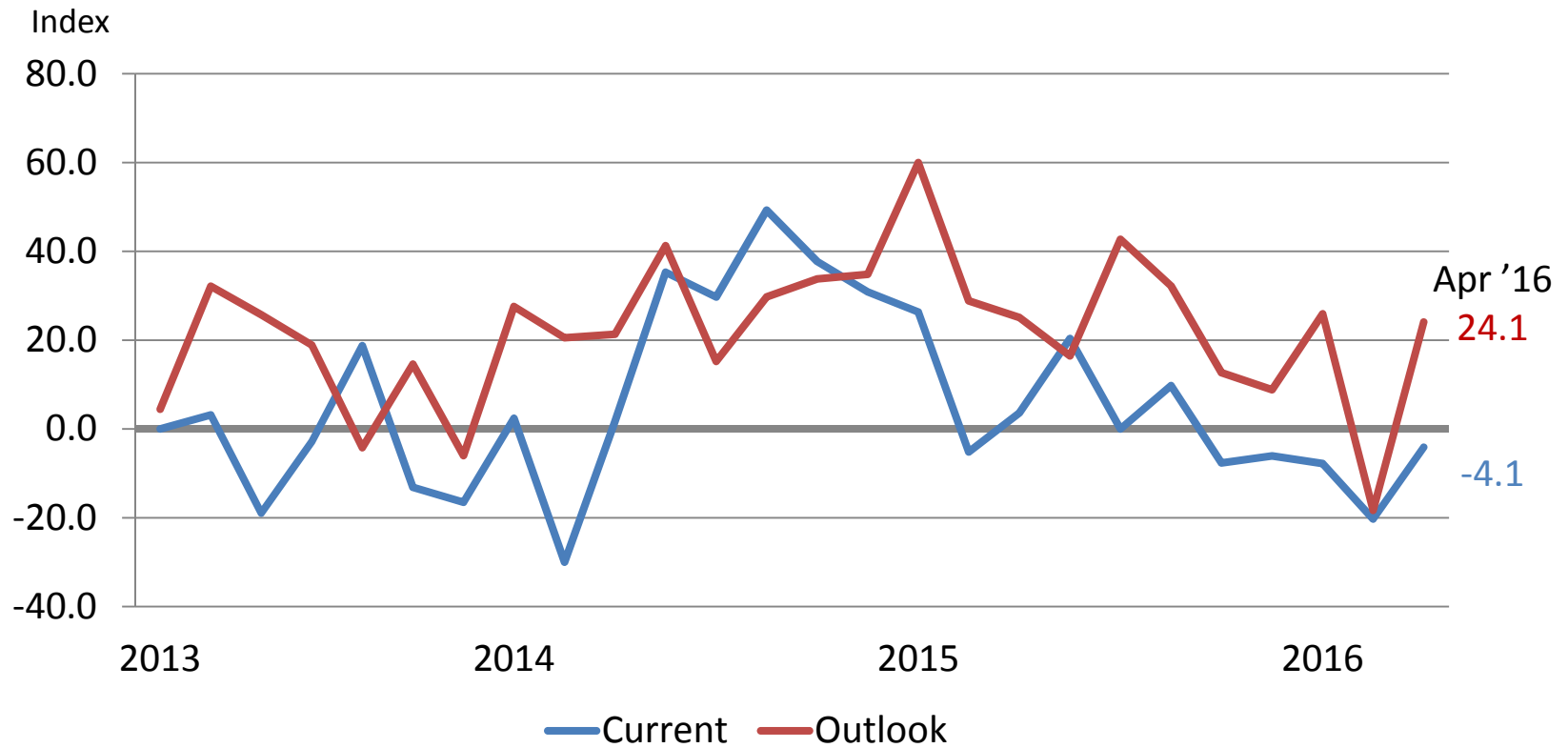
	<u>2009</u>	<u>2015</u>	<u>2016</u>
GDP – Annual Growth Rate	-8.2%	2.5% Est.	N/A
CPI Core Inflation Yr. / Yr. ¹	1.0%	1.7%	2.2%
Unemployment Rate – Annual Avg.	13.8%	5.4%	4.8%
Participation Rate	63.1%	60.3%	61.2%
Nonfarm Job Growth (Monthly Avg.)	-18,400	5,900	10,700
Initial Unemployment Claims	28,000	8,720	9,250

1. CPI for Detroit/Ann Arbor/Flint CSA includes Macomb, Oakland, Wayne, Lapeer, Livingston, St. Clair, Monroe and Washtenaw counties.

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

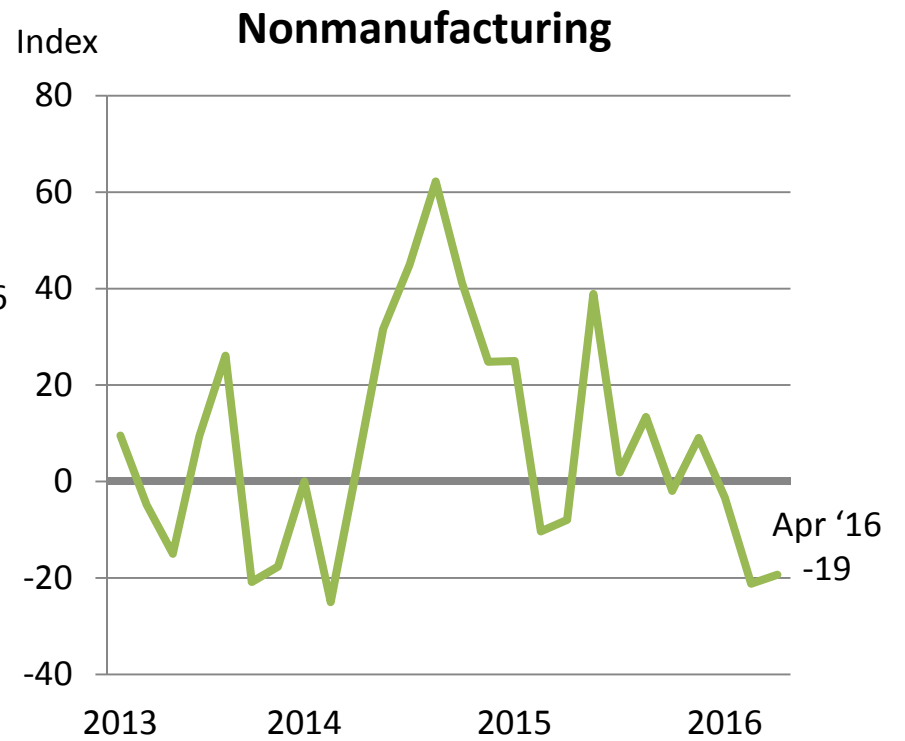
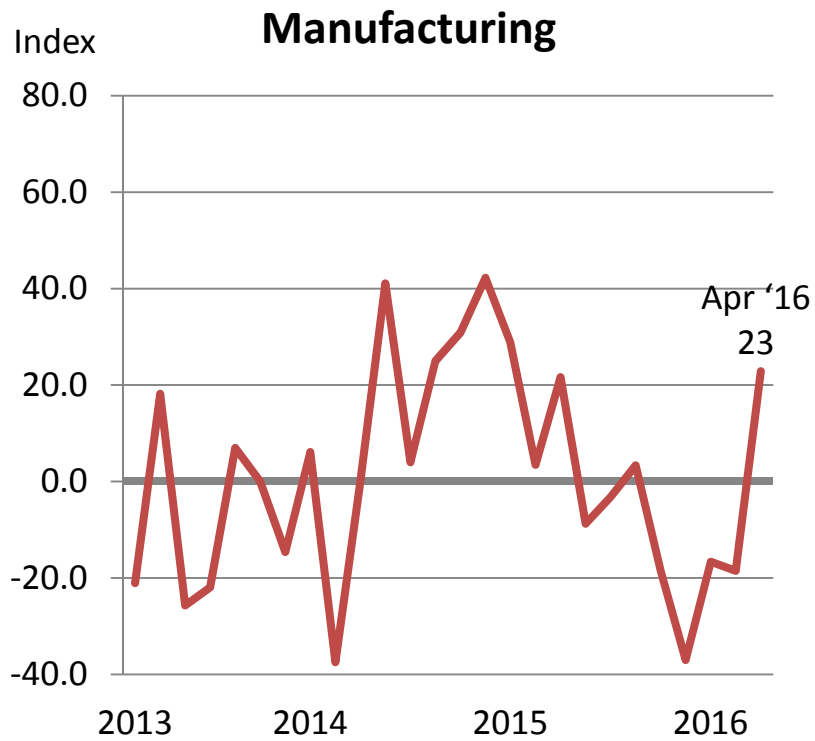
Chicago Fed Survey of Business Conditions

Activity Index: Overall



Chicago Fed Survey of Business Conditions

Activity Index: by Sector



Current Economic Conditions

April Beige Book Summary, Seventh District - Chicago

- Contacts expressed a renewed optimism as growth in economic activity pick up to a moderate pace in late February and March.
- Growth in consumer spending maintained a steady yet modest pace. Retailers again expressed disappointment that lower gasoline prices and improvements in the labor market were not providing more of a boost to consumer spending.
- Growth in business spending rose to a moderate pace in late February and March.
 - Retailers and manufacturers indicated comfortable inventory levels though the mild winter left some retailers with excess stock of winter related items.
 - Hiring picked up to a moderate pace, as did the number of contacts indicating they planned to increase workforces in the future.
 - Strong demand continued for skilled workers, particularly for professional and technical occupations, sales, and skilled manufacturing and building trades.
- Construction and real estate activity increased slightly over the reporting period. Residential construction increased for new single-family markets and in urban areas.

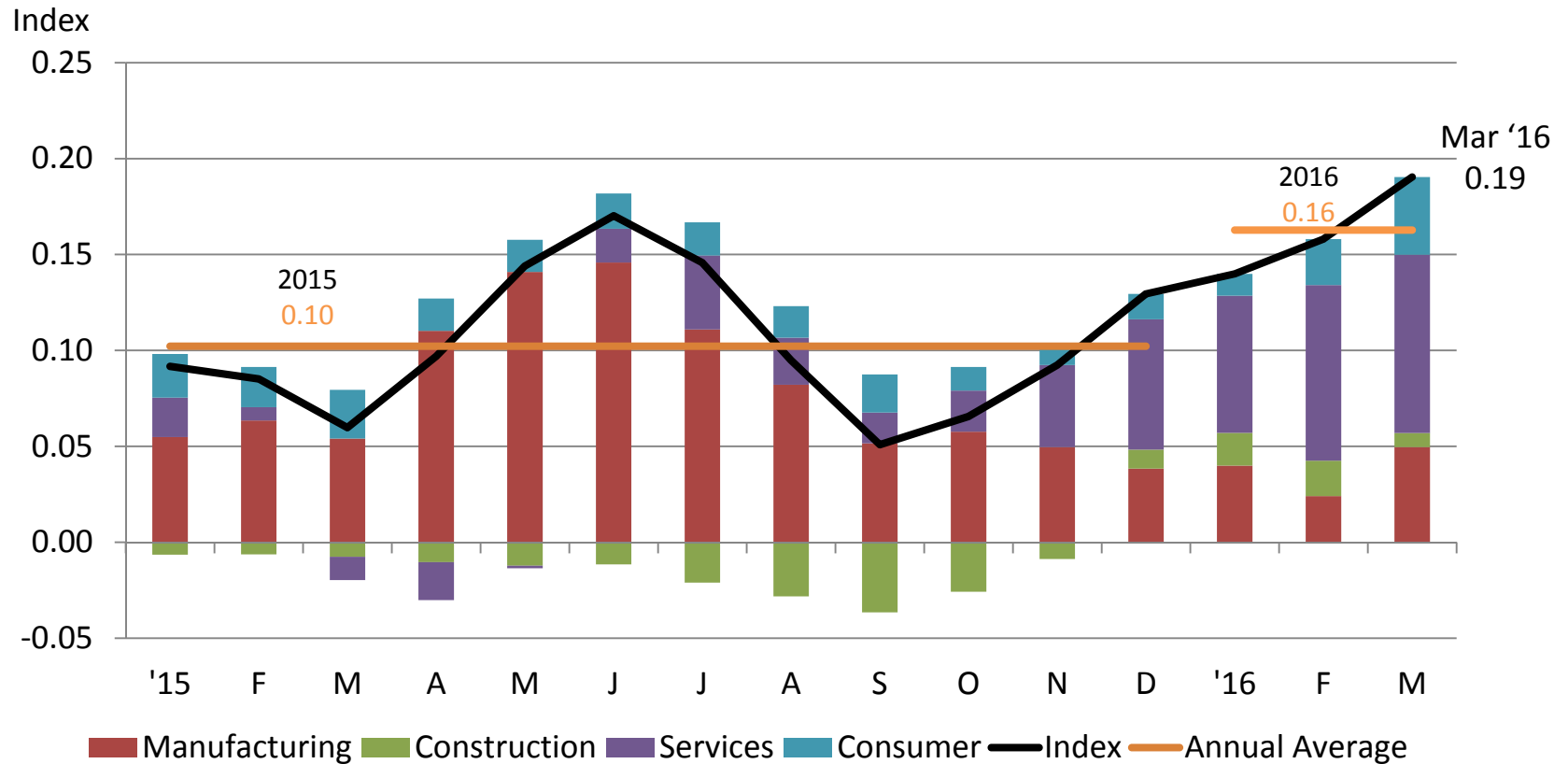
Current Economic Conditions (Continued)

April Beige Book Summary, Seventh District - Chicago

- Manufacturing production rose at a modest rate in most industries and activity remained strong in the automotive and aerospace industries. Soft demand for agricultural and mining machinery continued to hurt the heavy machine industry. However, manufacturers primarily serving the oil and gas industry reported adjusting their product offerings toward other industries.
- Overall, financial conditions improved some over the reporting period. Equity markets regained much of their losses and volatility subsided. Business loan demand improved marginally and loan pricing remains competitive. Commercial real estate loan demand remains strong. Credit card utilization increased though balances remained steady. Residential real estate demand declined some while auto loan volumes continued to grow.
- In the agricultural sector, spring arrived early allowing field work to begin. Corn, soybean, and wheat prices moved up, and rents and fertilizer prices moved down. Cattle prices edged higher, while hog and dairy prices were somewhat lower. Dairy prices dropped and some operations that had not made forward contracts at higher prices now face losses.

Midwest Economic Index

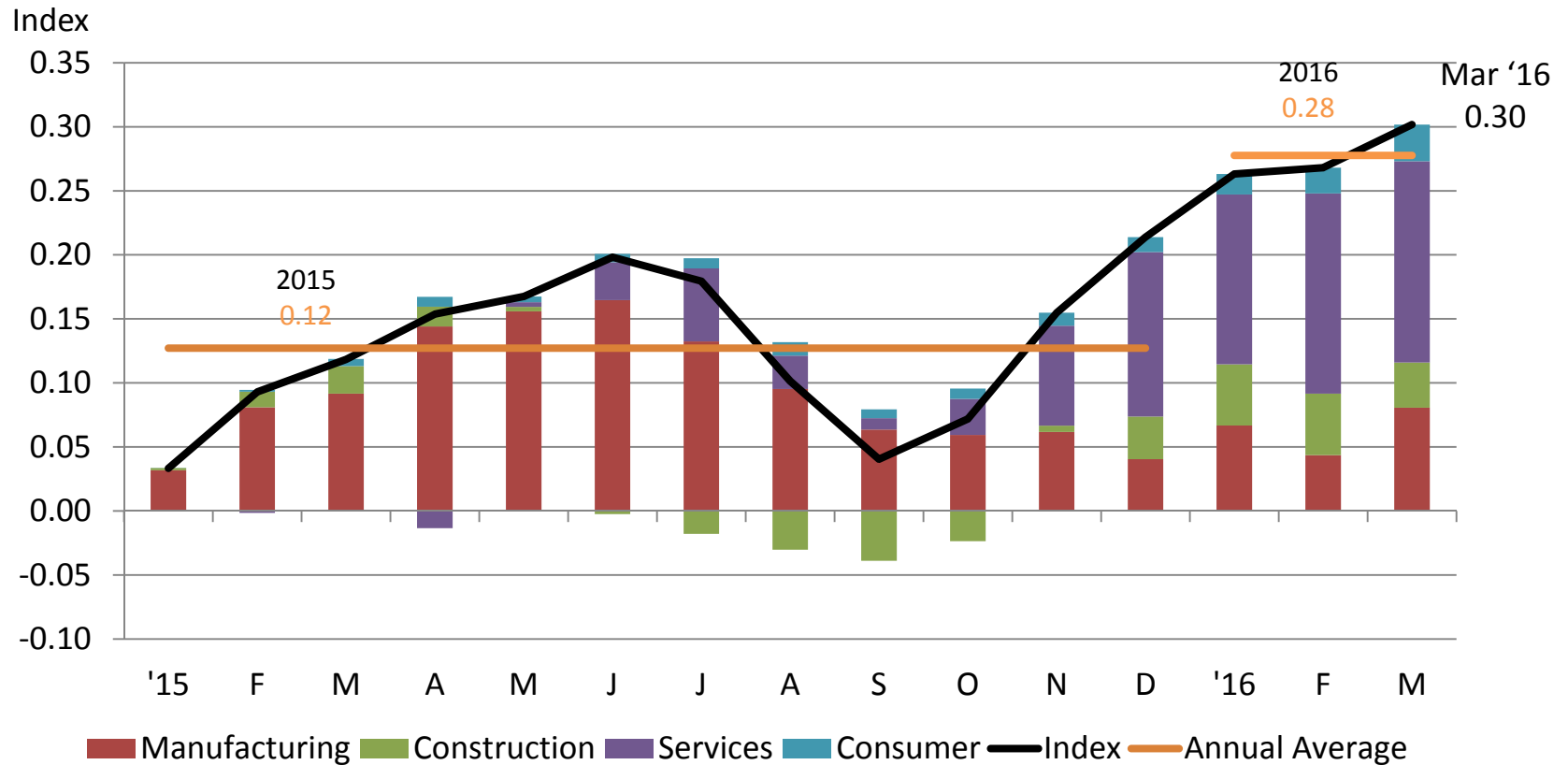
Michigan's Contribution to the MEI



Source: Federal Reserve Bank of Chicago

Relative Midwest Economic Index

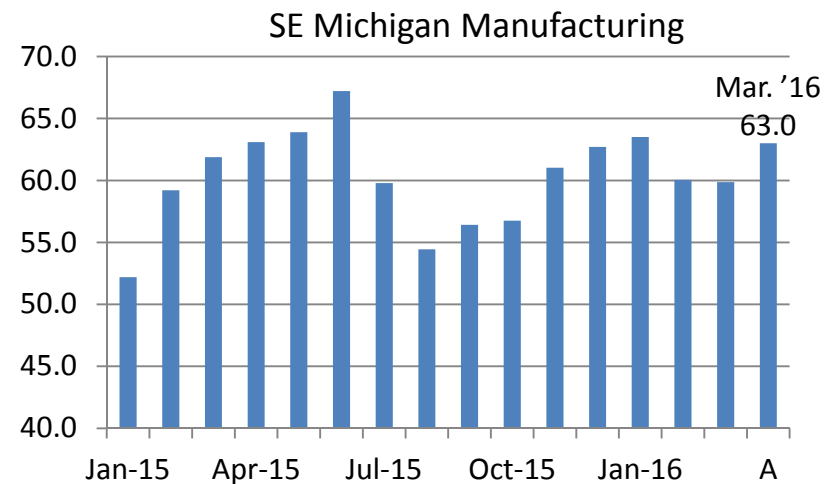
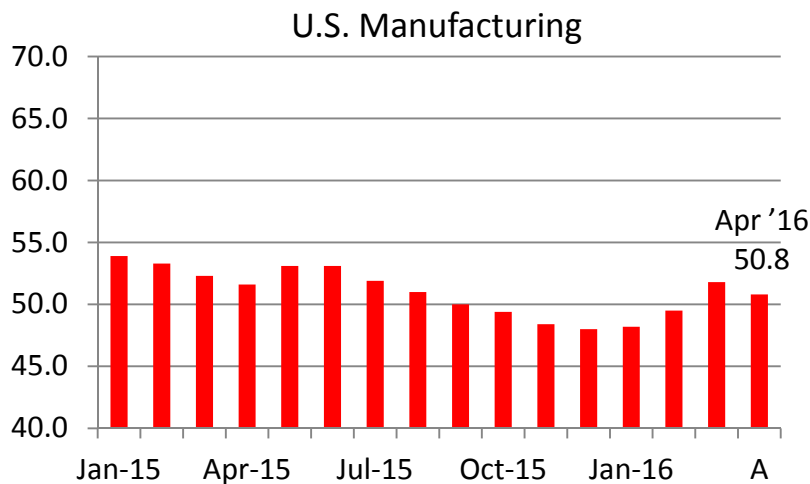
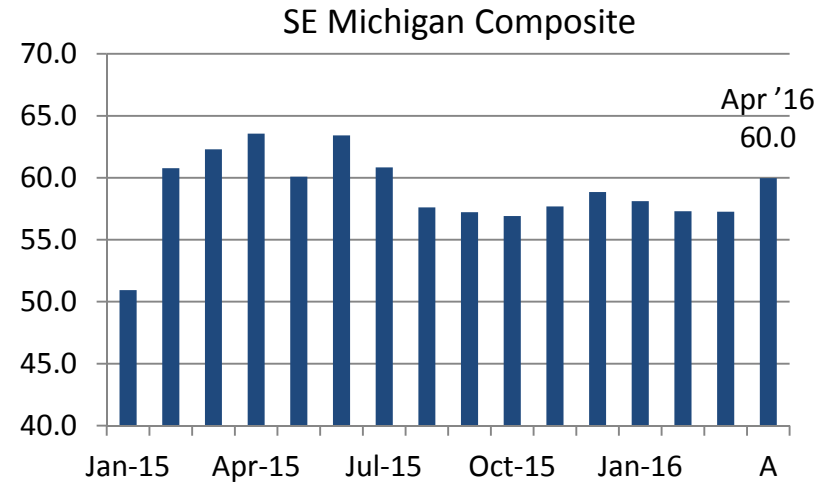
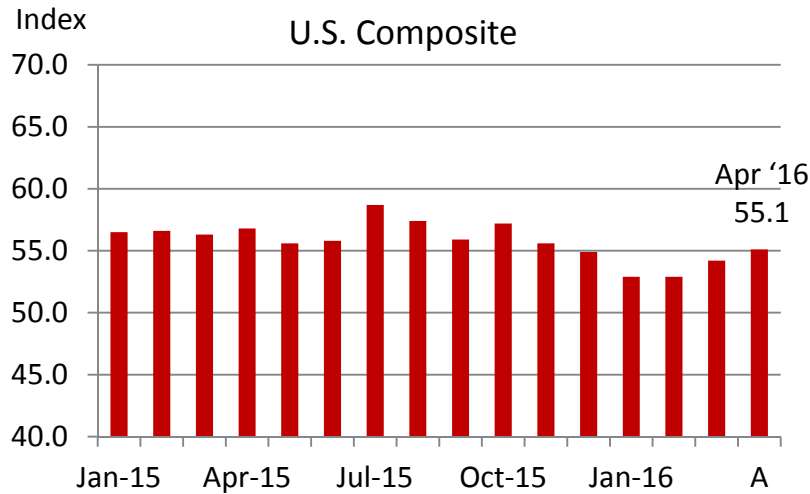
Michigan's Contribution to the Relative MEI



Source: Federal Reserve Bank of Chicago

ISM Purchasing Managers Index

Composite and Manufacturing, SA - Greater than 50 = Expansion



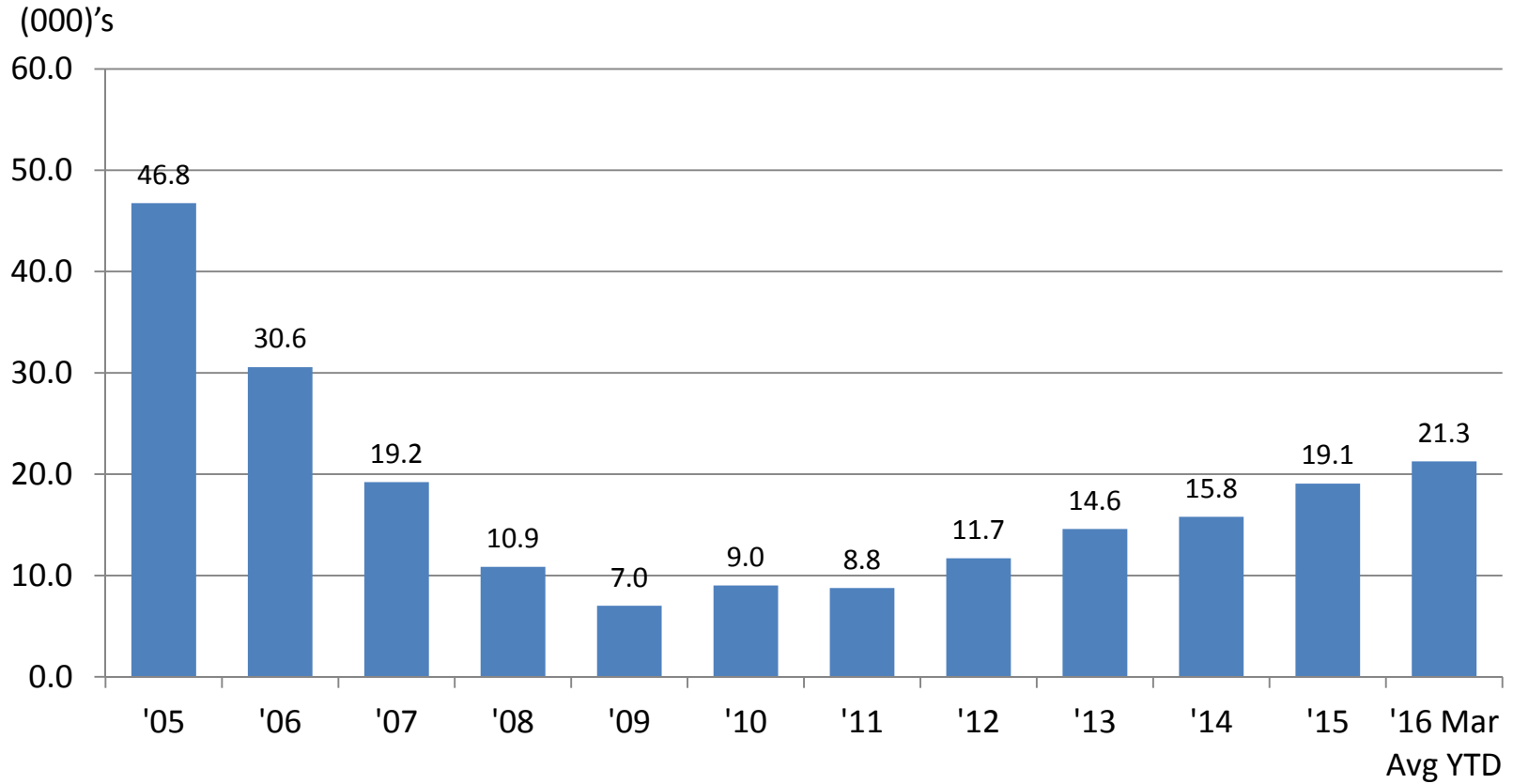
Source: Institute for Supply Management , Haver Analytics and FRED

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Michigan Housing Starts

In Thousands of Units

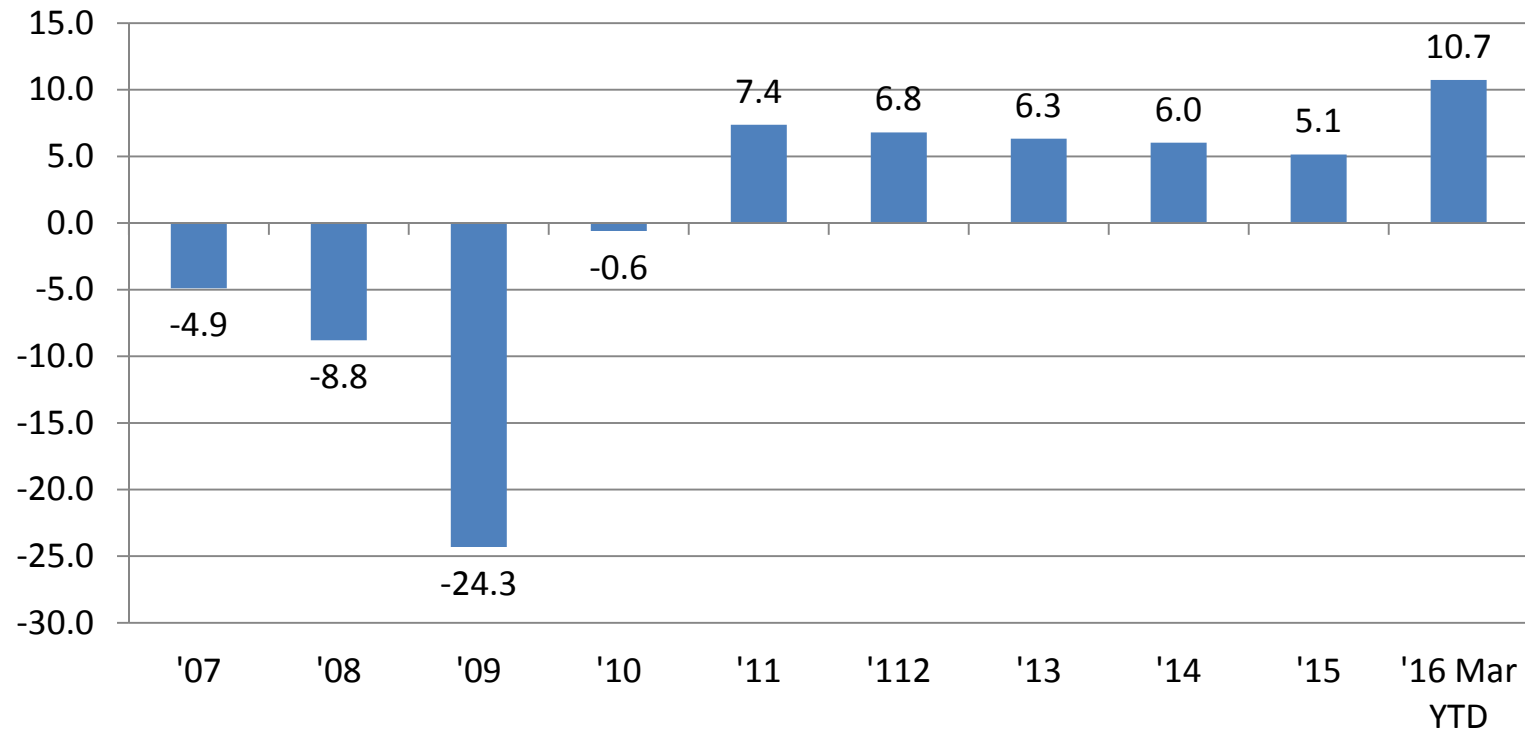


Source: U.S. Census Bureau

Michigan Nonfarm Payrolls

Monthly Average Job Change In Thousands

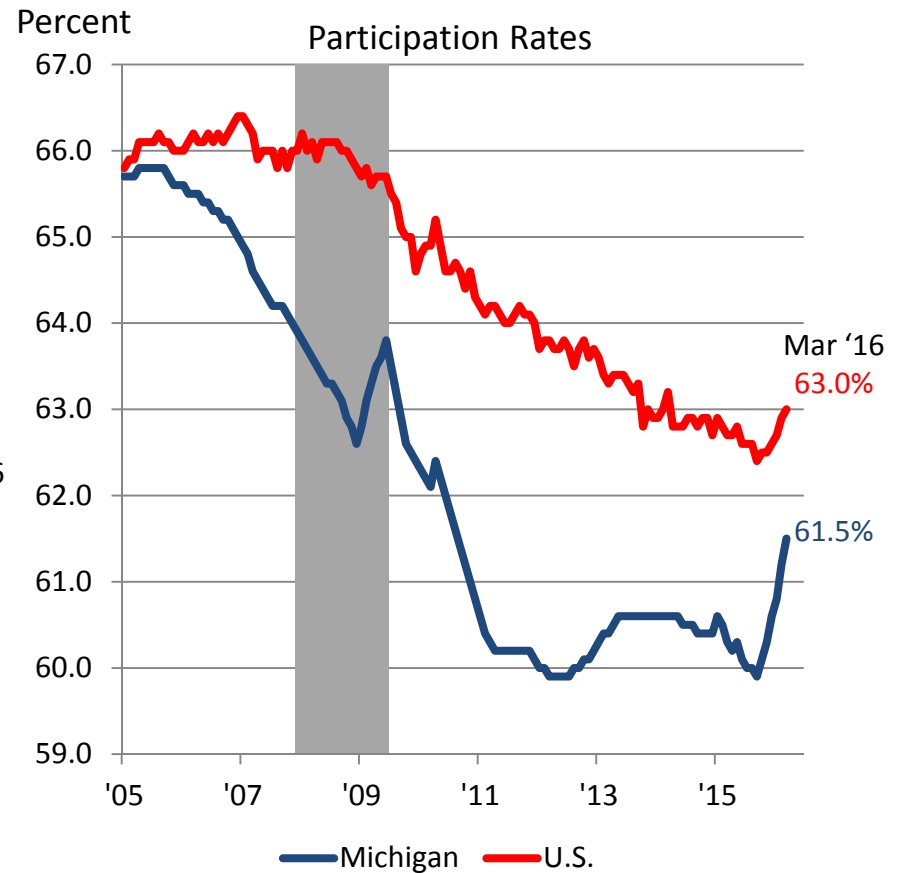
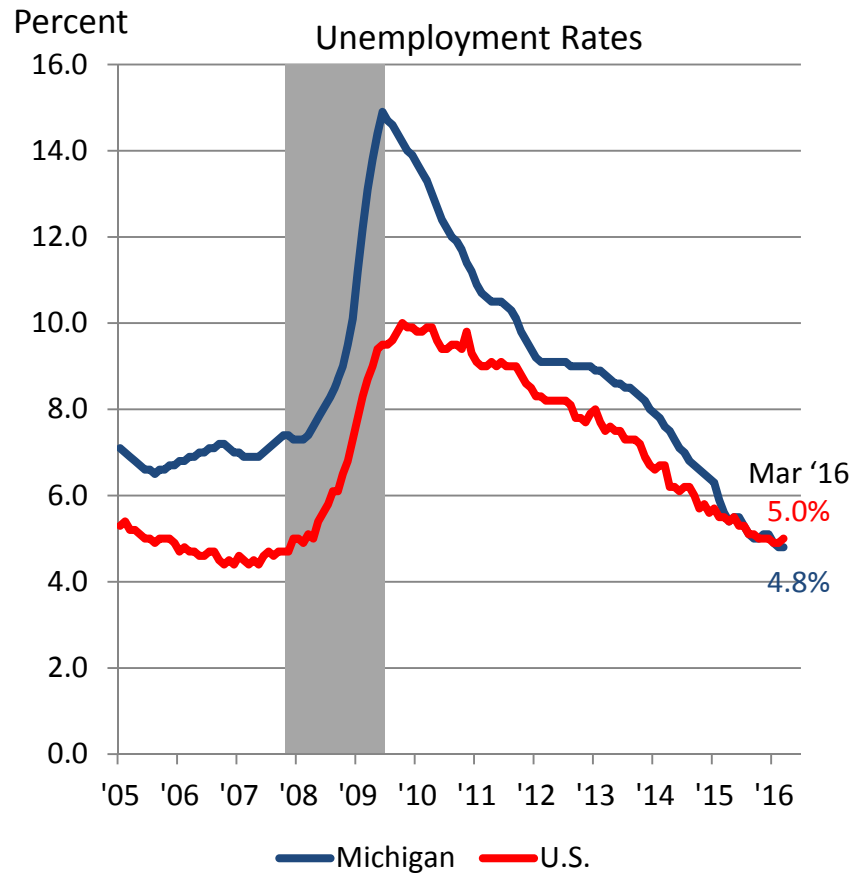
Thousands



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

Unemployment & Participation Rates

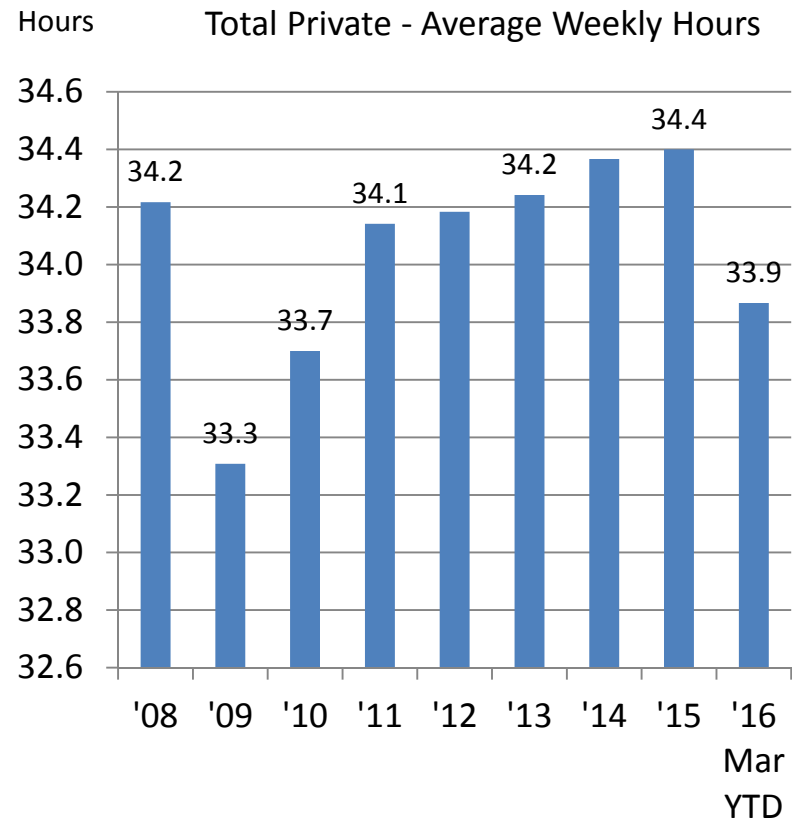
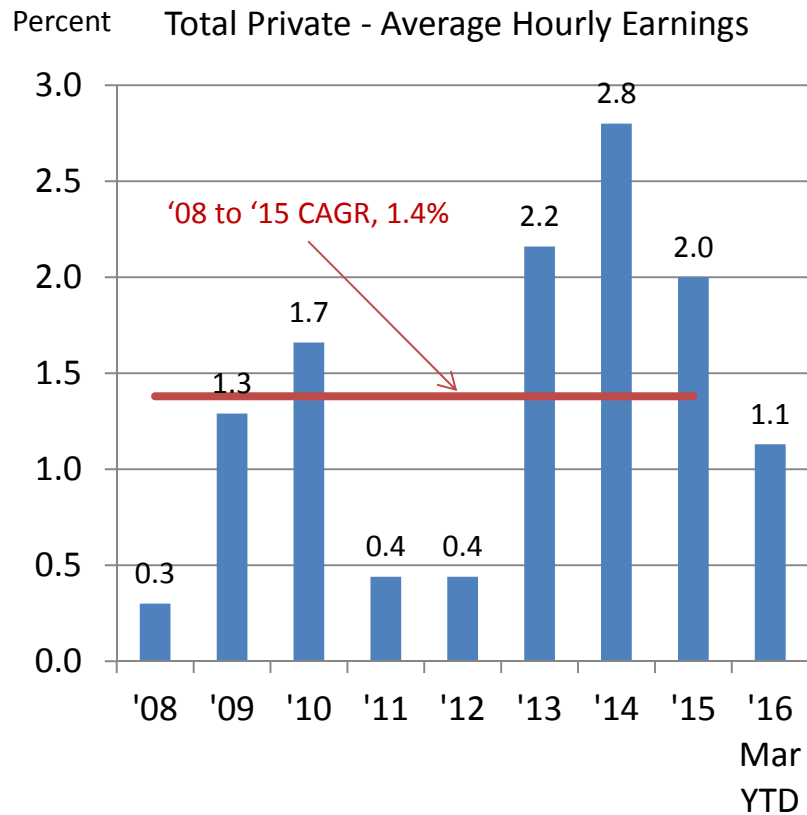
Percent of Labor Force - SA



Source: U.S. Department of Labor: Bureau of Labor Statistics and Haver Analytics

Average Hourly Earnings & Hours Worked

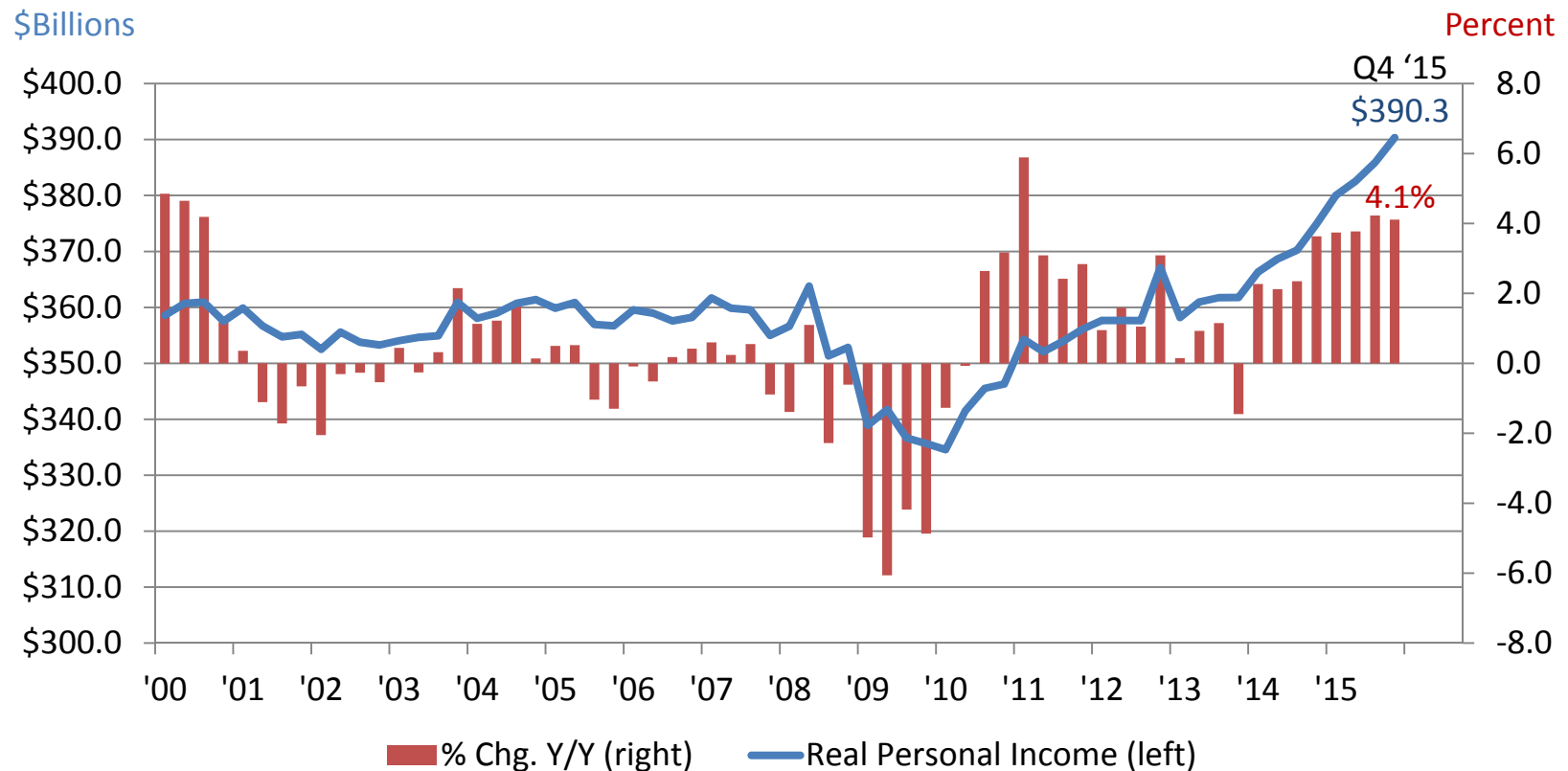
Michigan Nonfarm - Total Private, % Chg. Y/Y & Hours, SA



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

Michigan Real Personal Income

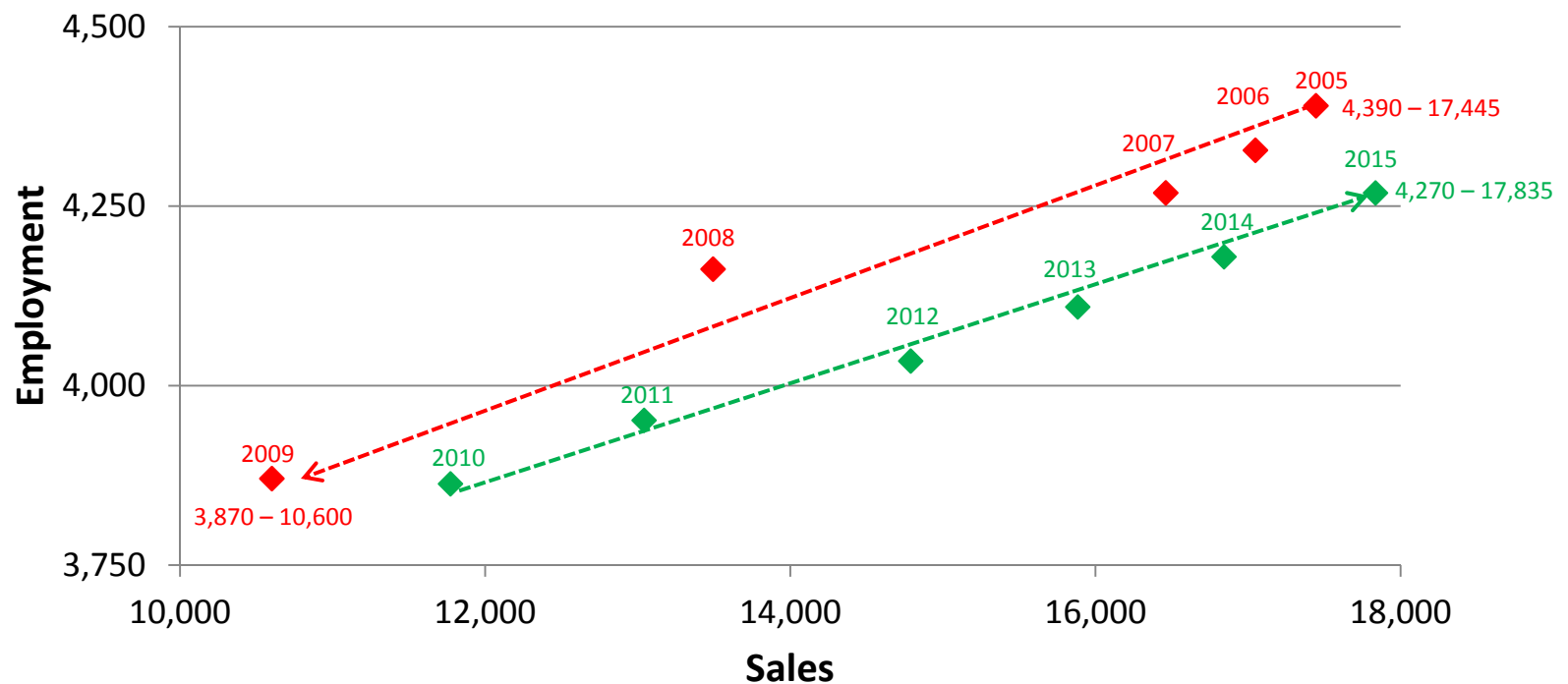
In Billions of \$2009 and % Change Year/Year



Source: Bureau of Economic Analysis and Haver Analytics

Michigan Employment & Auto Sales

Thousands of Employees and Sales – 1990 to 2015



Source: Bureau of Labor Statistics and Ward's Automotive

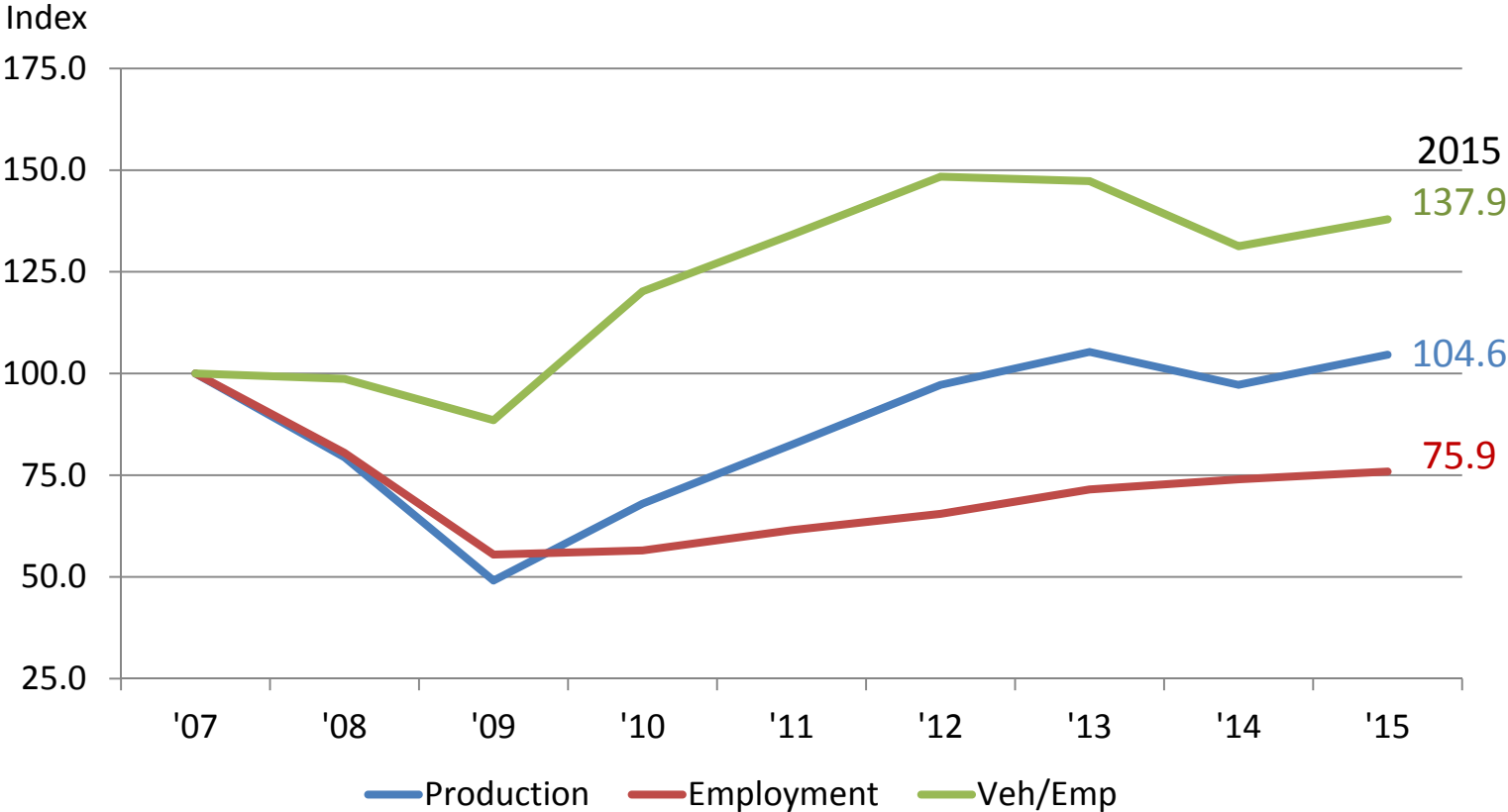
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Michigan Automotive Industry

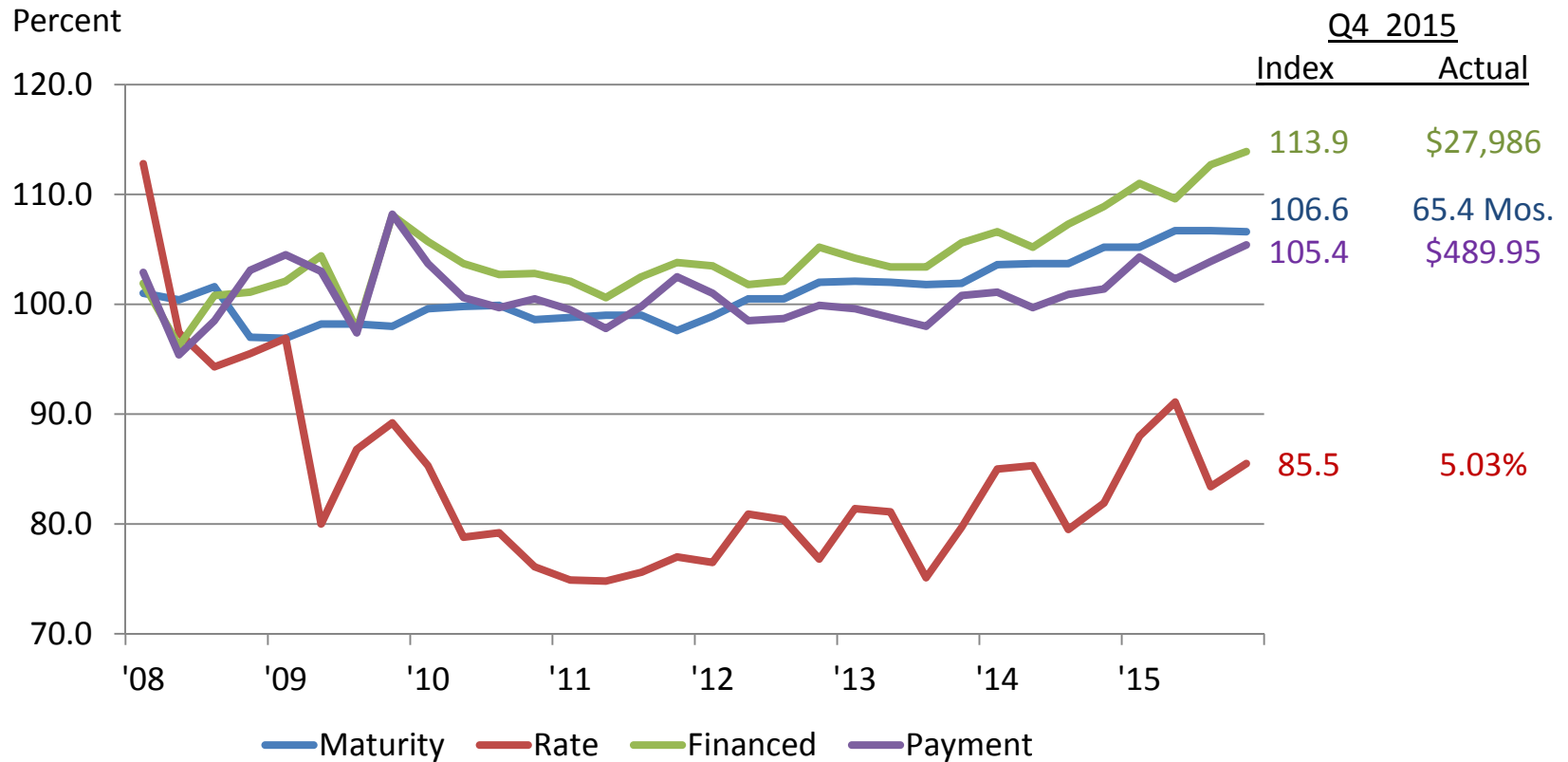
Production, Employment, and Vehicles/Employee - Index 2007 = 100



Source: Author's calculations using data from Bureau of Labor and Ward's Automotive.

Average Financing at Finance Companies

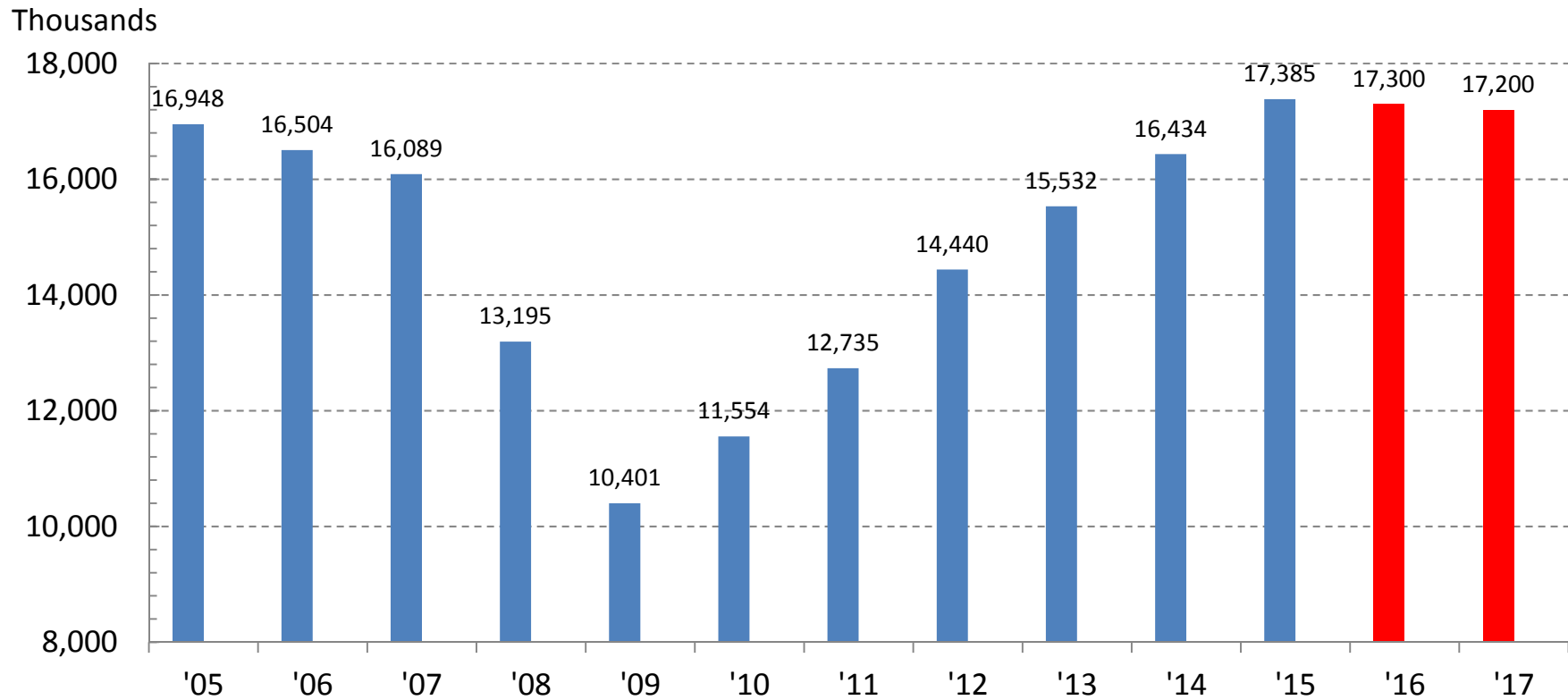
New Car Loan Parameters – Index 2008 = 100, NSA



Source: Author's calculations using Federal Reserve Board of Governors data

U.S. Light Vehicle Sales

Thousands of Units – Calendar Year



Source: Ward's Automotive and BEA and Blue Chip Consensus Forecast.

Thank You!

