



Economic Update and the Fed's Dual Mandate

VACo/VML Investment Pool
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Overview

- The Fed's Dual Mandate
 - Goals of Monetary Policy
 - Long-run Growth Potential
- The Real Economy
 - Output (Real GDP)
 - Consumer Spending
 - Housing
 - Business Investment
 - Labor Markets
- Inflation
 - Personal Consumption Expenditure Index
 - Consumer Price Index
- Monetary Policy

The Fed's Dual Mandate

Goals of Monetary Policy – The “Dual Mandate”

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.**

Long-run Growth Potential

What is the relationship between changes in output and employment (and productivity)?

- Real Output (Y) = Number of Employed \times Worker Productivity
- Therefore, any change in the number of workers **and/or** productivity will change real output:

$$\% \Delta \text{ Output} = \% \Delta \text{ Employed} + \% \Delta \text{ Productivity}$$

$$\% \Delta \text{ Output} = 1.3\% + 1.4\%$$

- Thus, in this example, the real economy's long-run growth potential is 2.7%.

Maximum Employment

What factors determine how fast employment can increase?
(the “Maximum Employment” mandate)

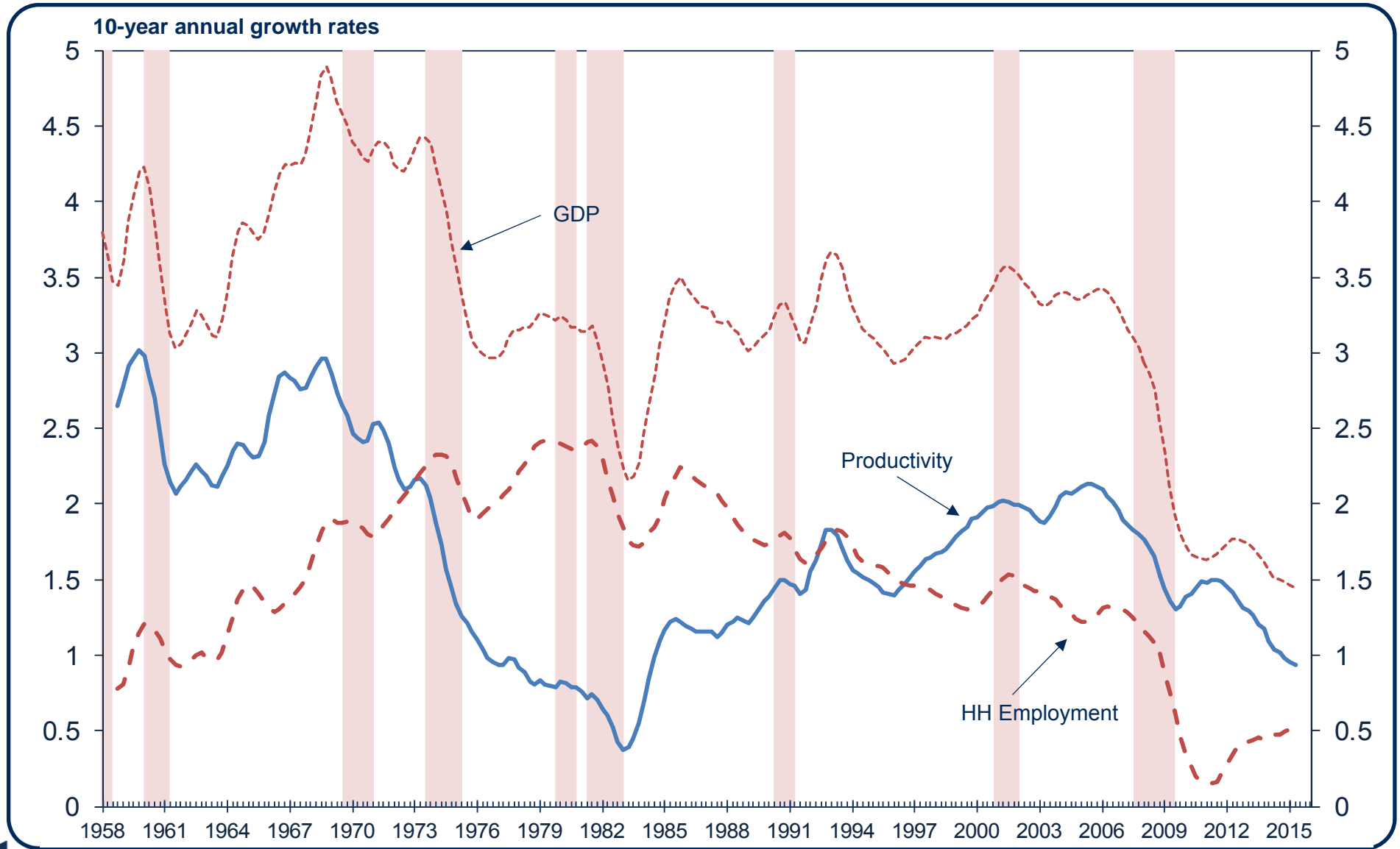
- Population – it only increases so fast
- Labor force participation – not everyone is willing, or able to participate
 - Retirees, homemakers, infirm, unskilled, etc.
- Economists generally think that long-run labor force growth changes very slowly and cannot be influenced by monetary policy.
- Thus, setting an explicit “Maximum Employment” goal is not feasible, nor desirable

Productivity

How much “stuff” can a worker produce?

- Worker productivity is output per worker.
- Factors that influence worker productivity include:
 - Technological innovations (e.g. computing, communications)
 - Industrial organization (e.g. structure of firms and markets)
 - Level of education of the workforce
 - Regulations
- Economists generally think that long-run (average) productivity changes very slowly and cannot be influenced by monetary policy

Decomposition of Real GDP



Note: Productivity is calculated as real GDP per employee, from the Household Survey.

Longer-Run Goals and Monetary Policy Strategy

Price stability

- Inflation is determined primarily by monetary policy (an accepted idea since 1970s)
- Inflation goal: 2 percent average—balances pros and cons.

Maximum employment

- In the long run, employment growth potential is determined by factors outside monetary policy (e.g. population growth)
- Thus, there is no specific employment goal

By sticking to the inflation target, we give ourselves the best chance to meet the maximum employment mandate!

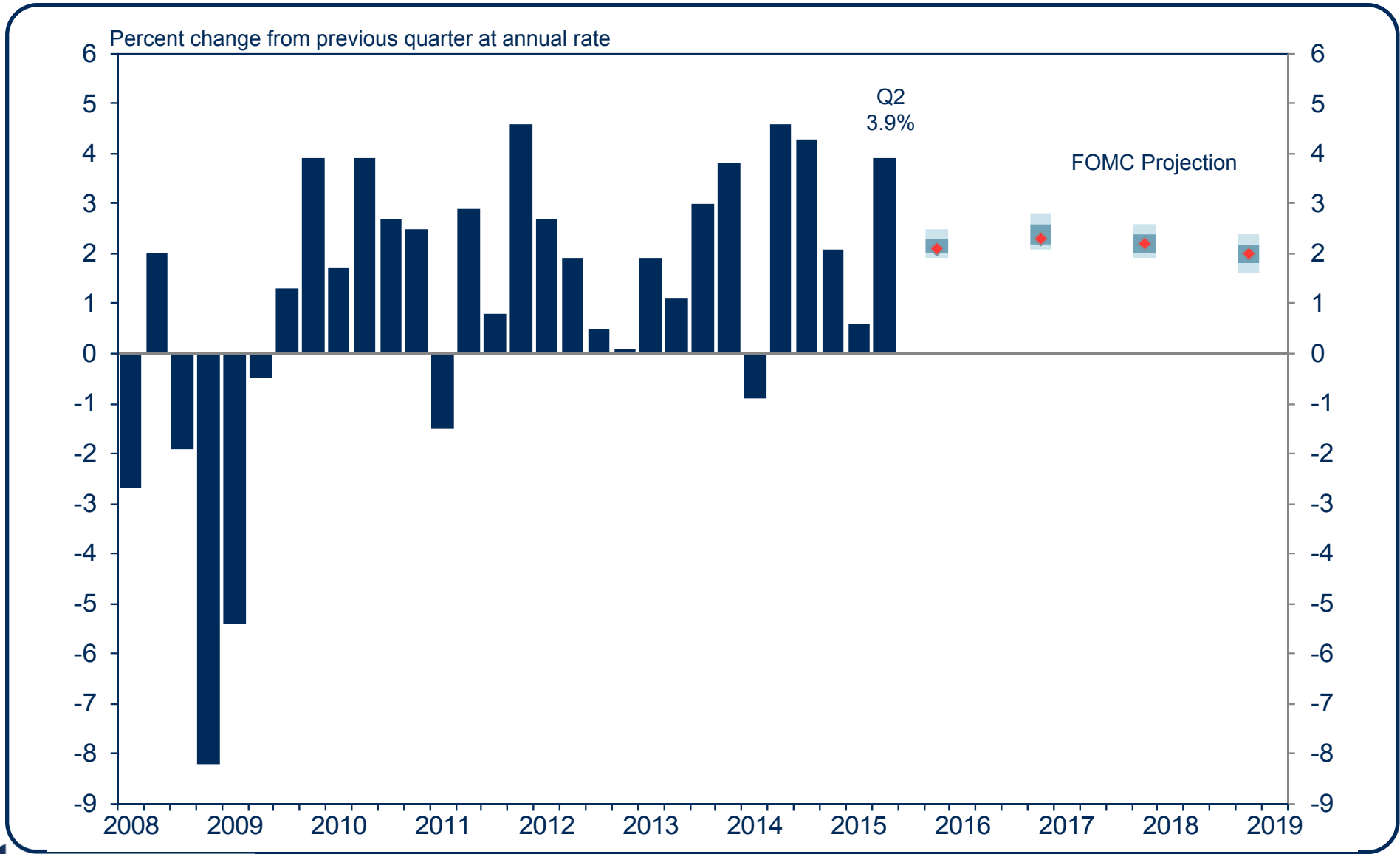
The “Real Economy”



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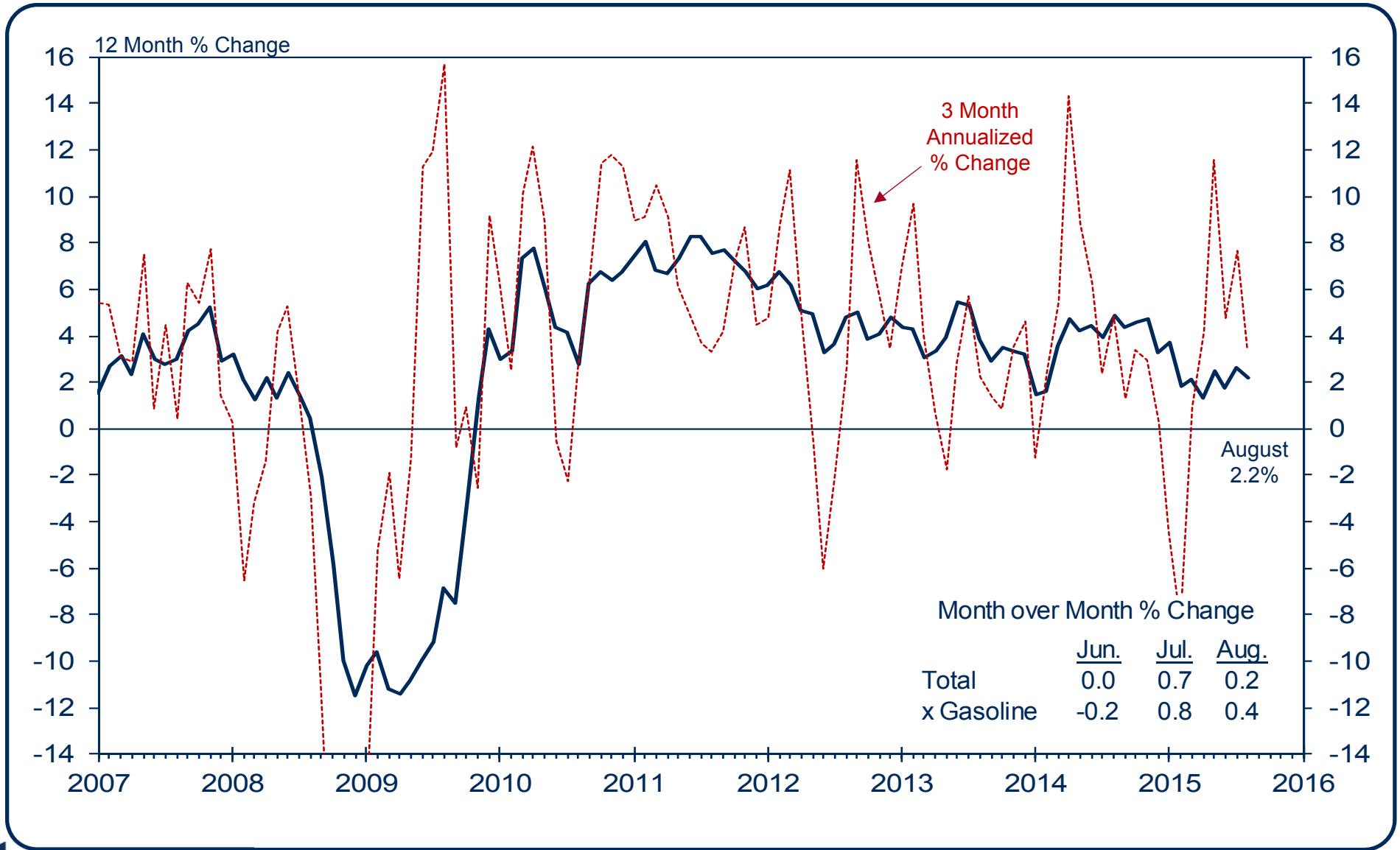
Real Gross Domestic Product



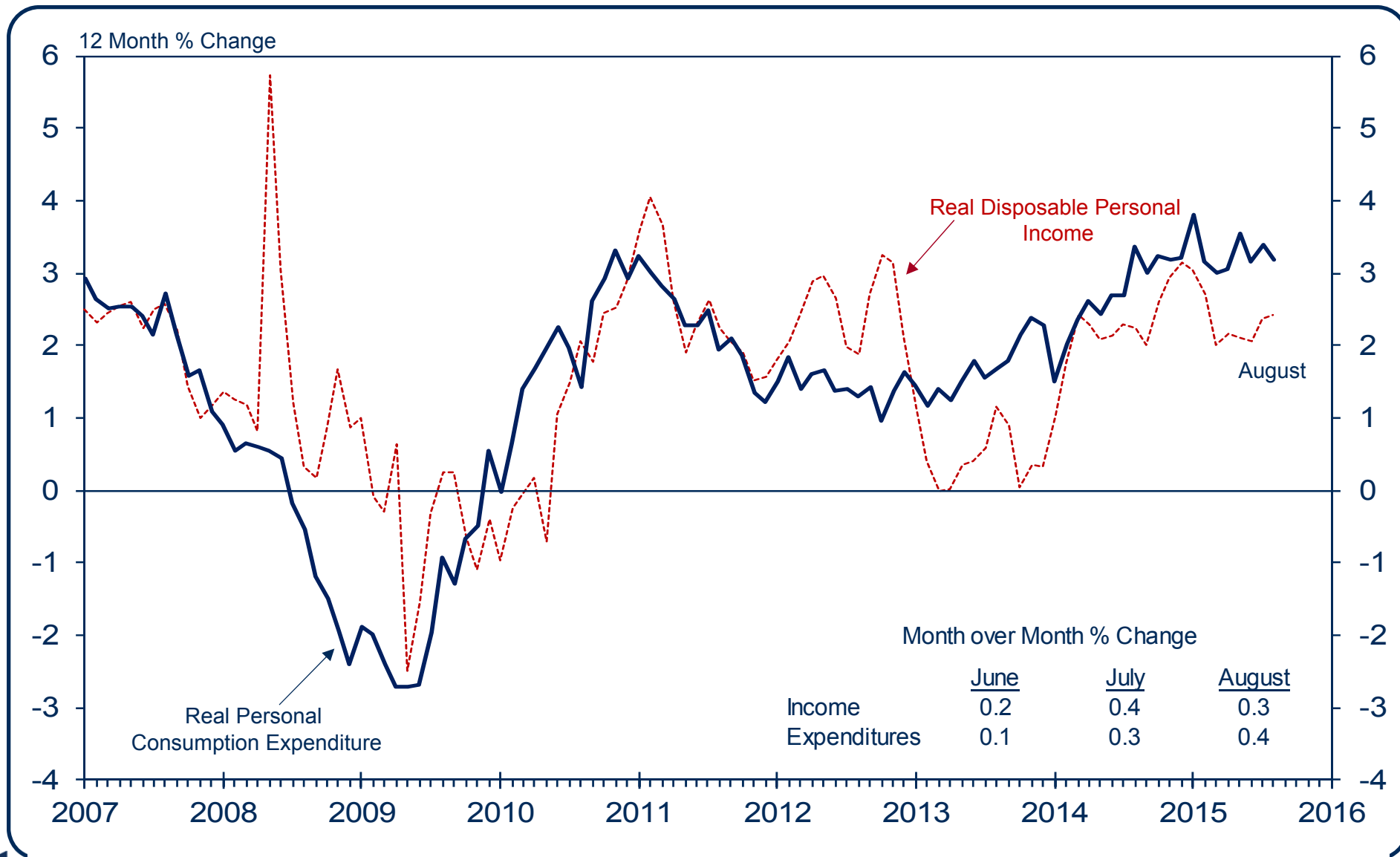
Note: Projection is the median, central tendency, and range from the September 2015 Summary of Economic Projections. Red dots indicate median projections. Projections of change in real gross domestic product (GDP) are from the fourth quarter of the previous year to the fourth quarter of the year indicated.

Source: Bureau of Economic Analysis via Haver Analytics & Federal Reserve Board

Retail Sales



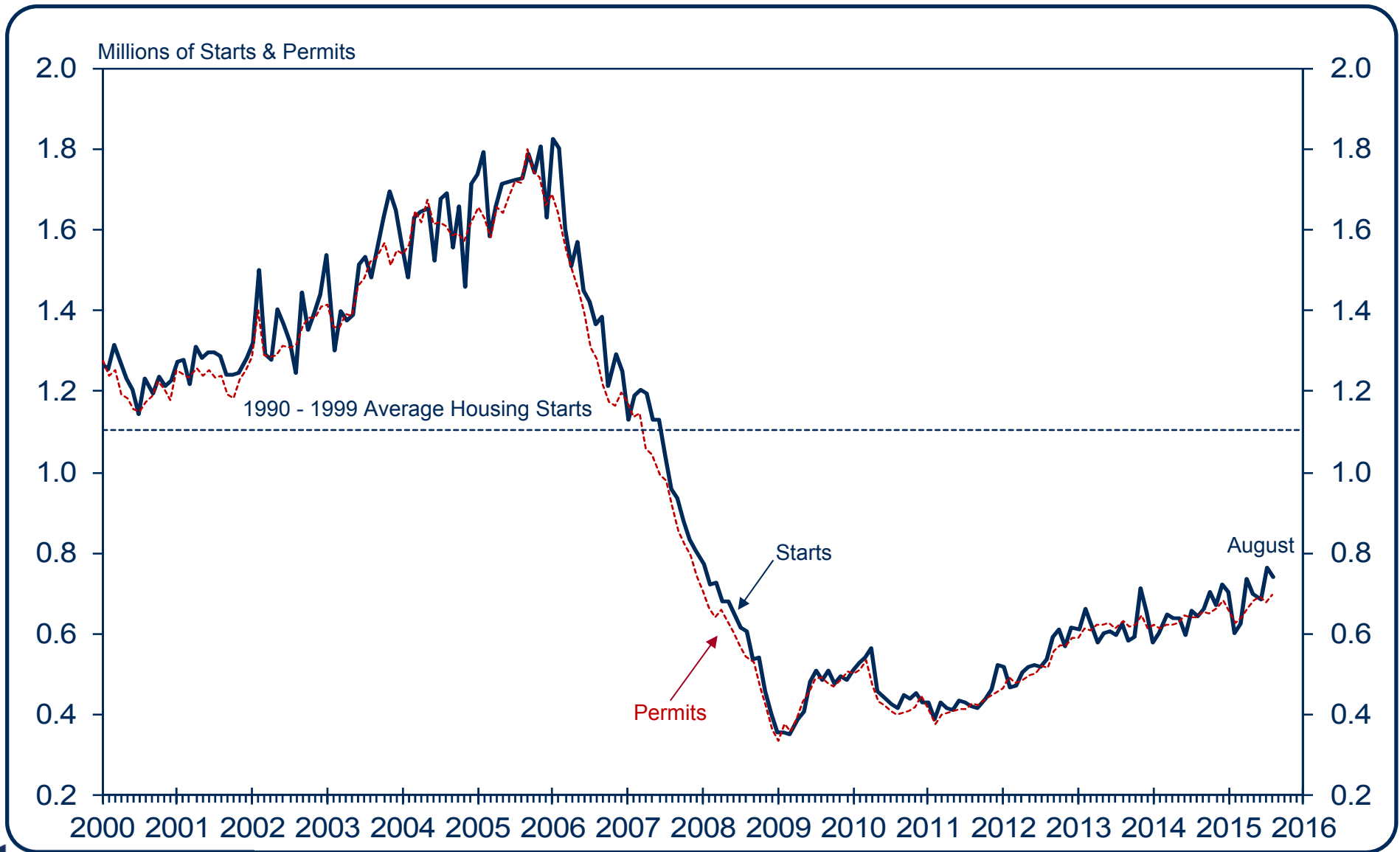
Disposable Personal Income & Expenditures



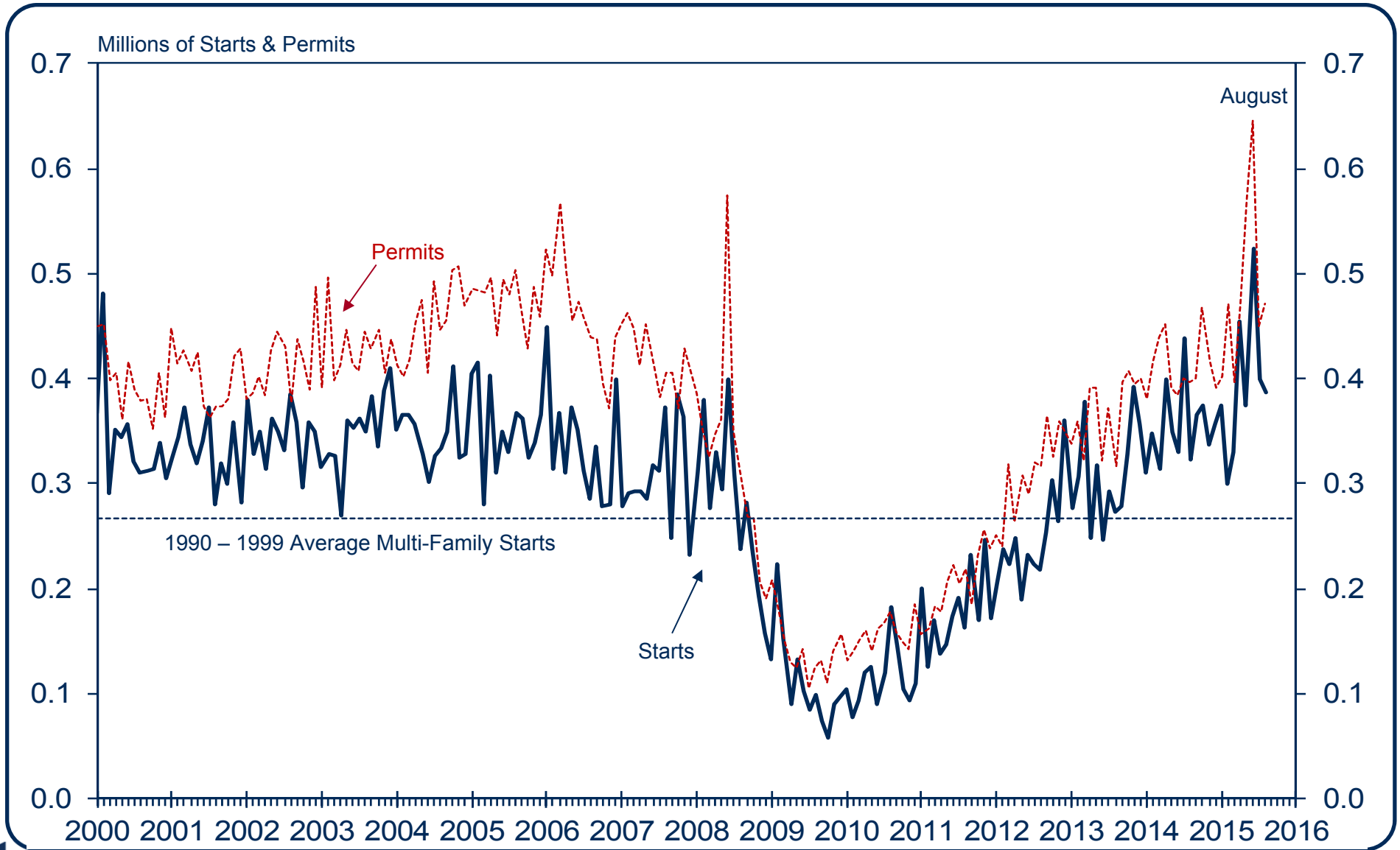
Note: Real disposable personal Income was adjusted to remove tax-induced income shifting near end of 2012.

Source: Bureau of Economic Analysis via Haver Analytics

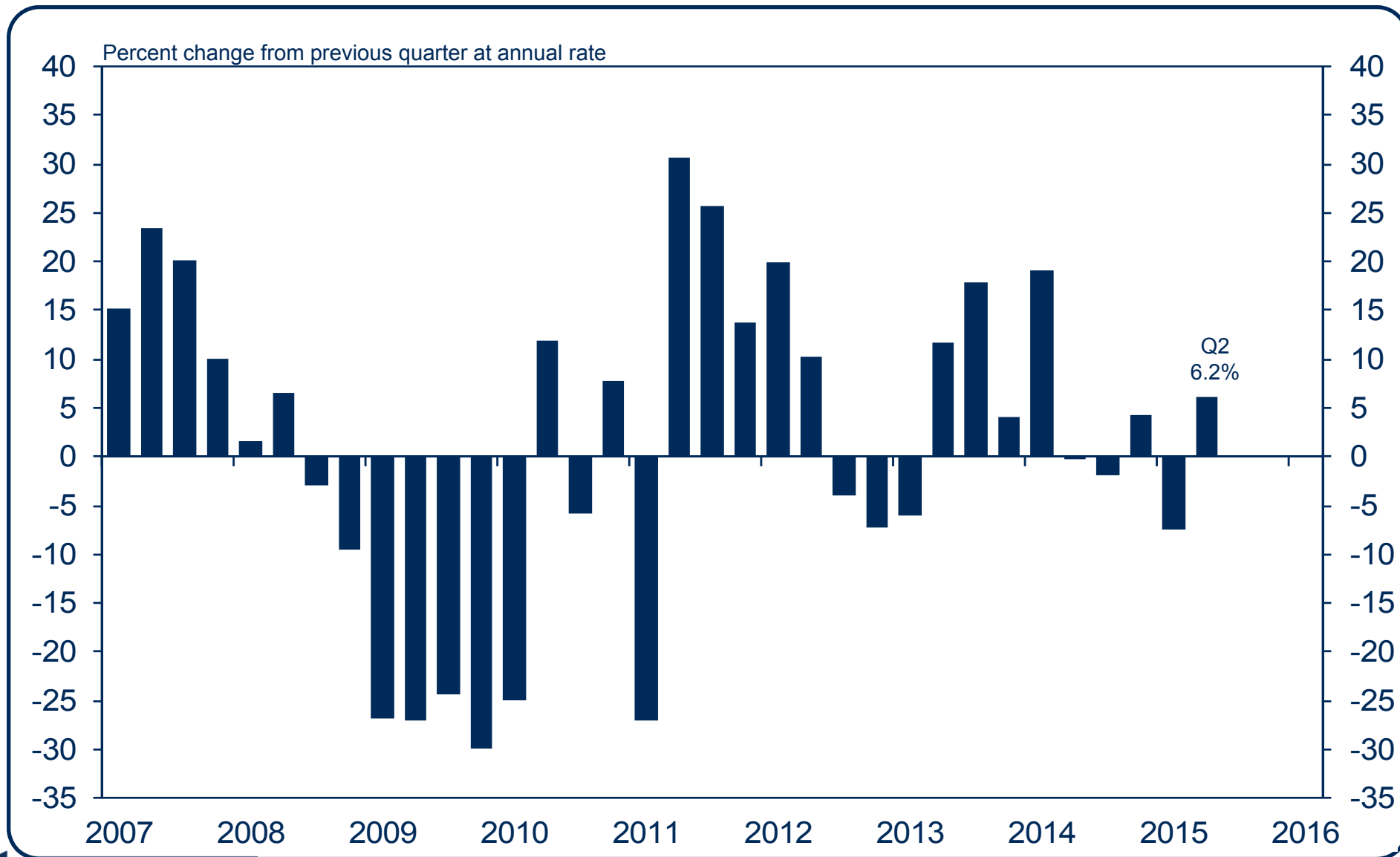
Private Single-Family Housing Starts & Permits



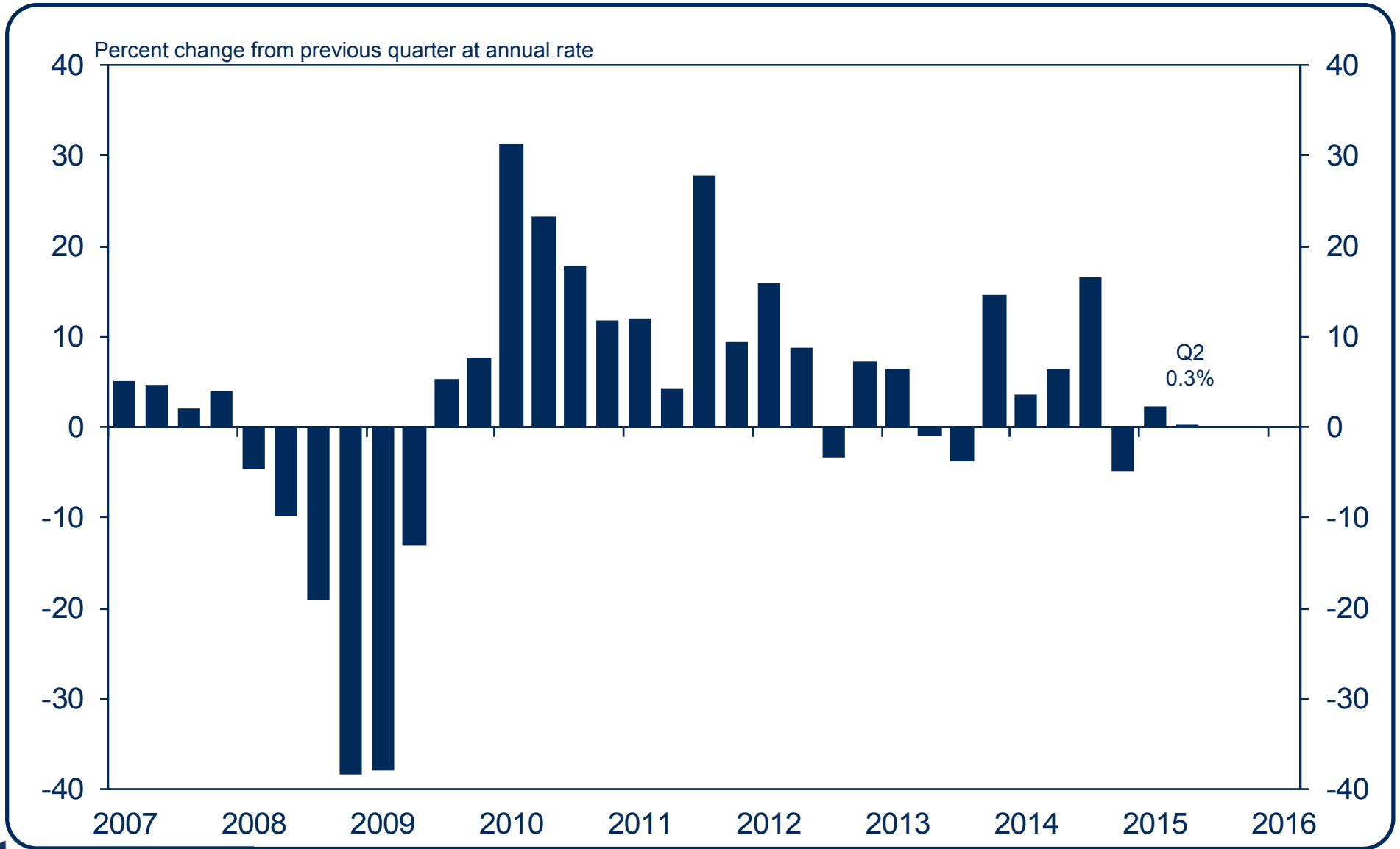
Private Multi-Family Housing Starts & Permits



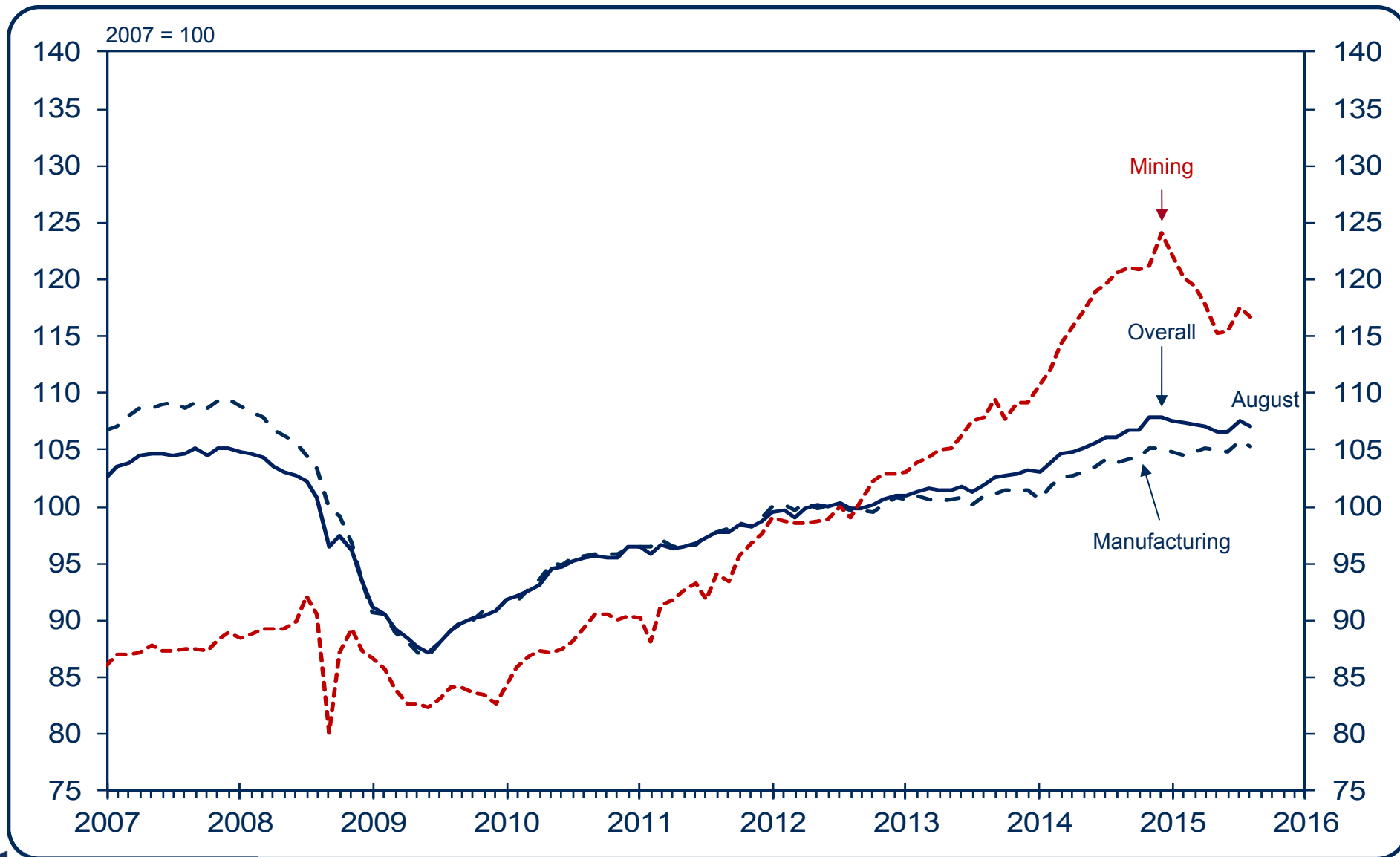
Real Investment in Nonresidential Structures



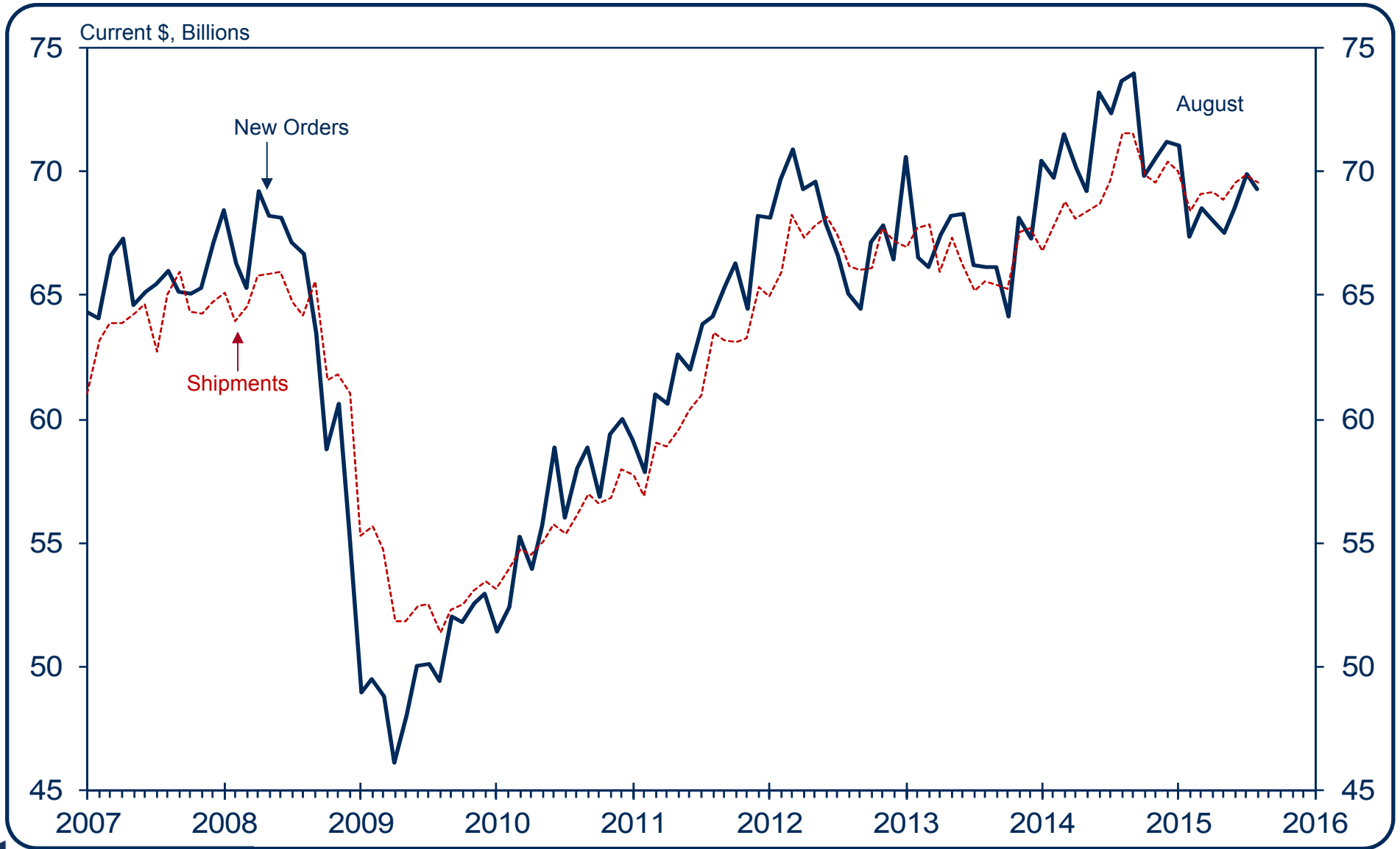
Real Investment in Equipment



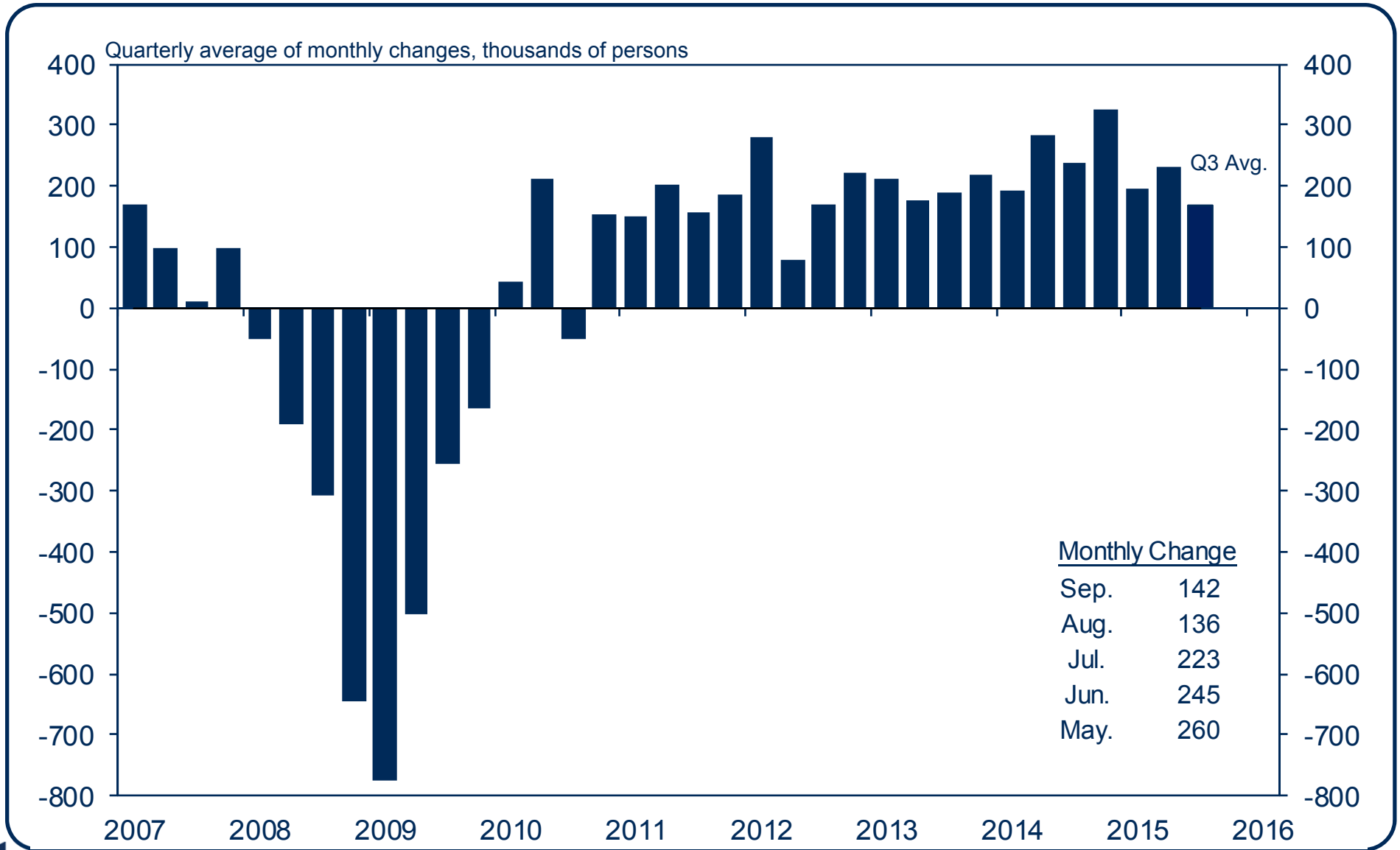
Industrial Production



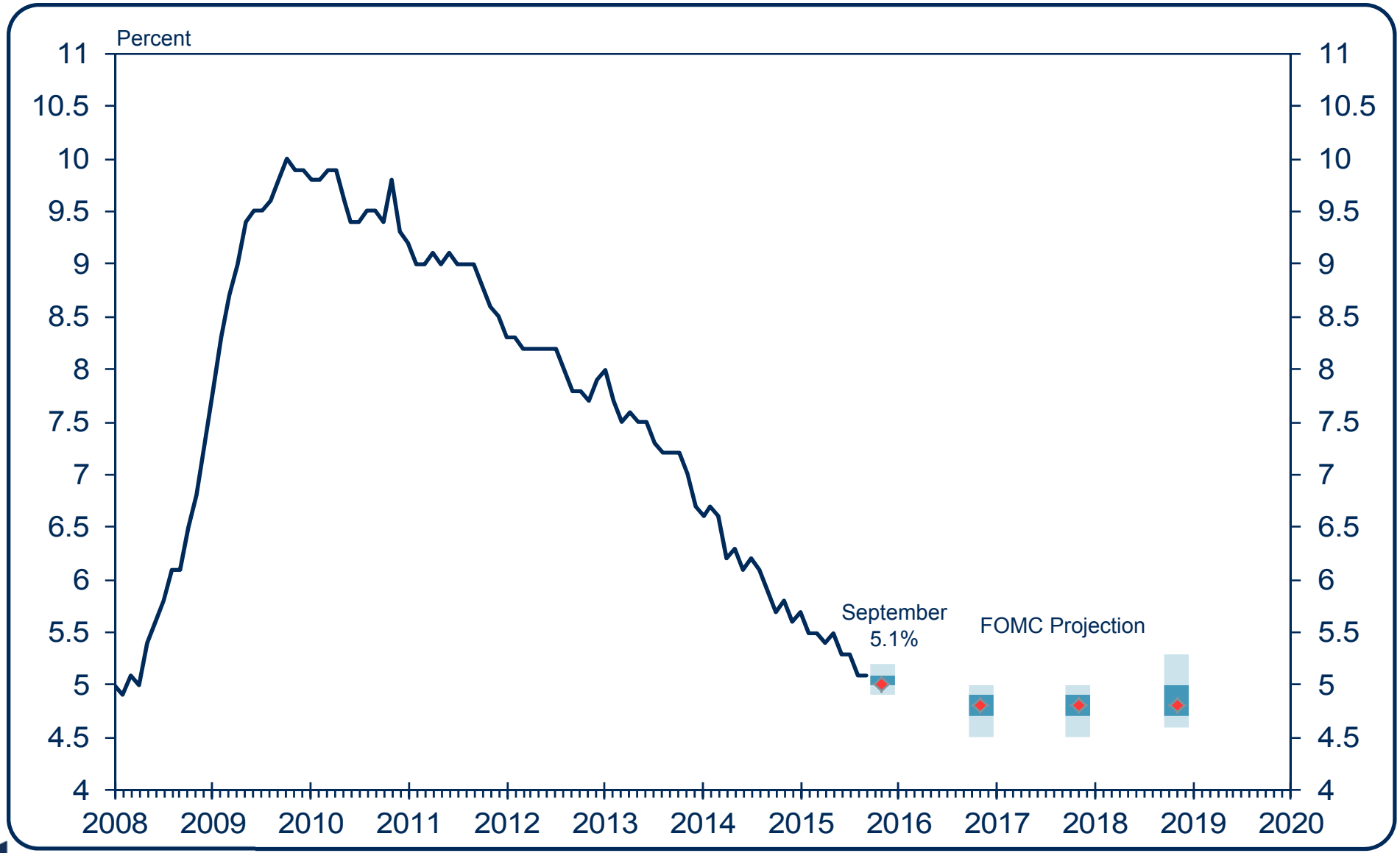
Core Capital Goods



Nonfarm Payroll Employment



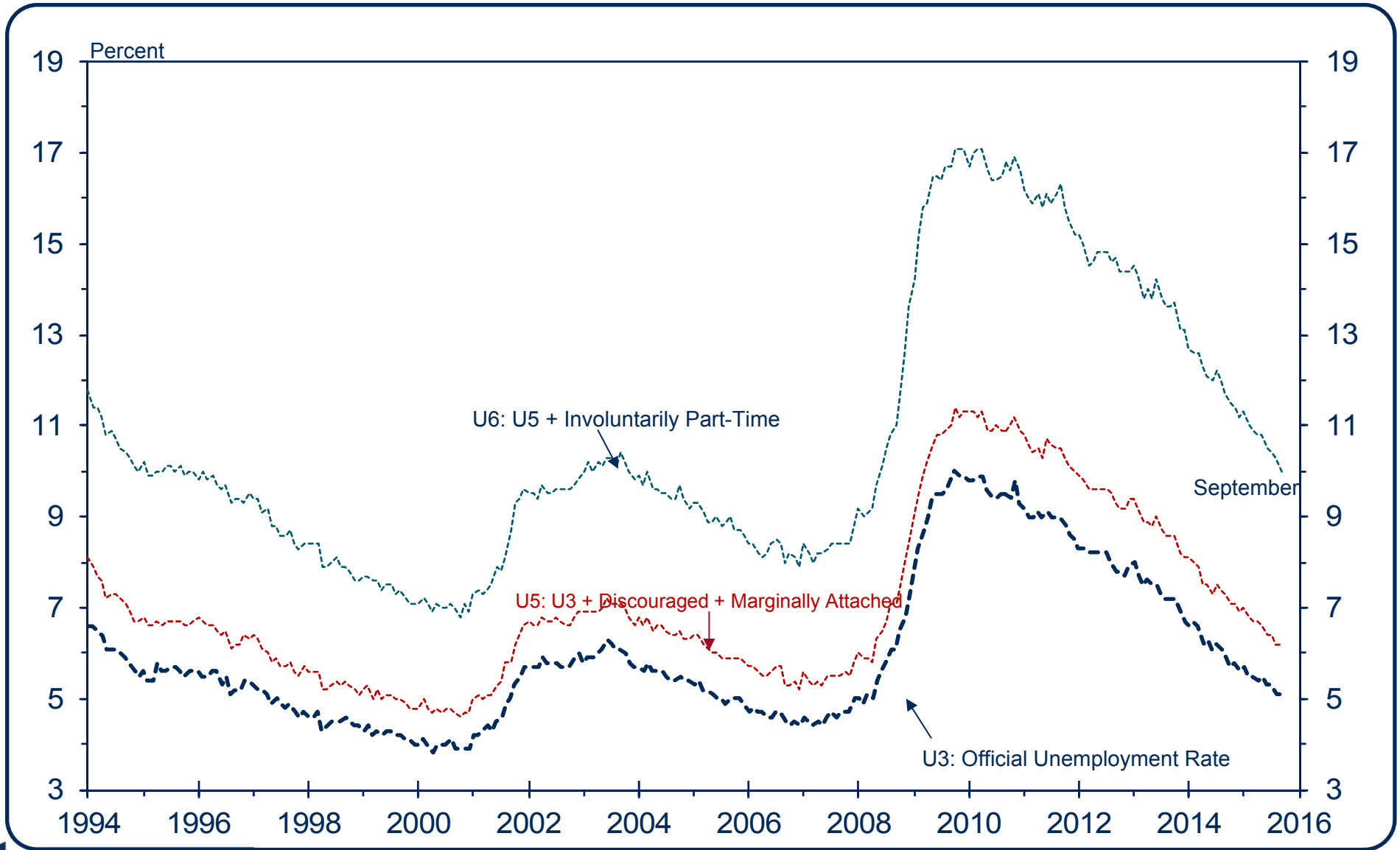
Unemployment Rate



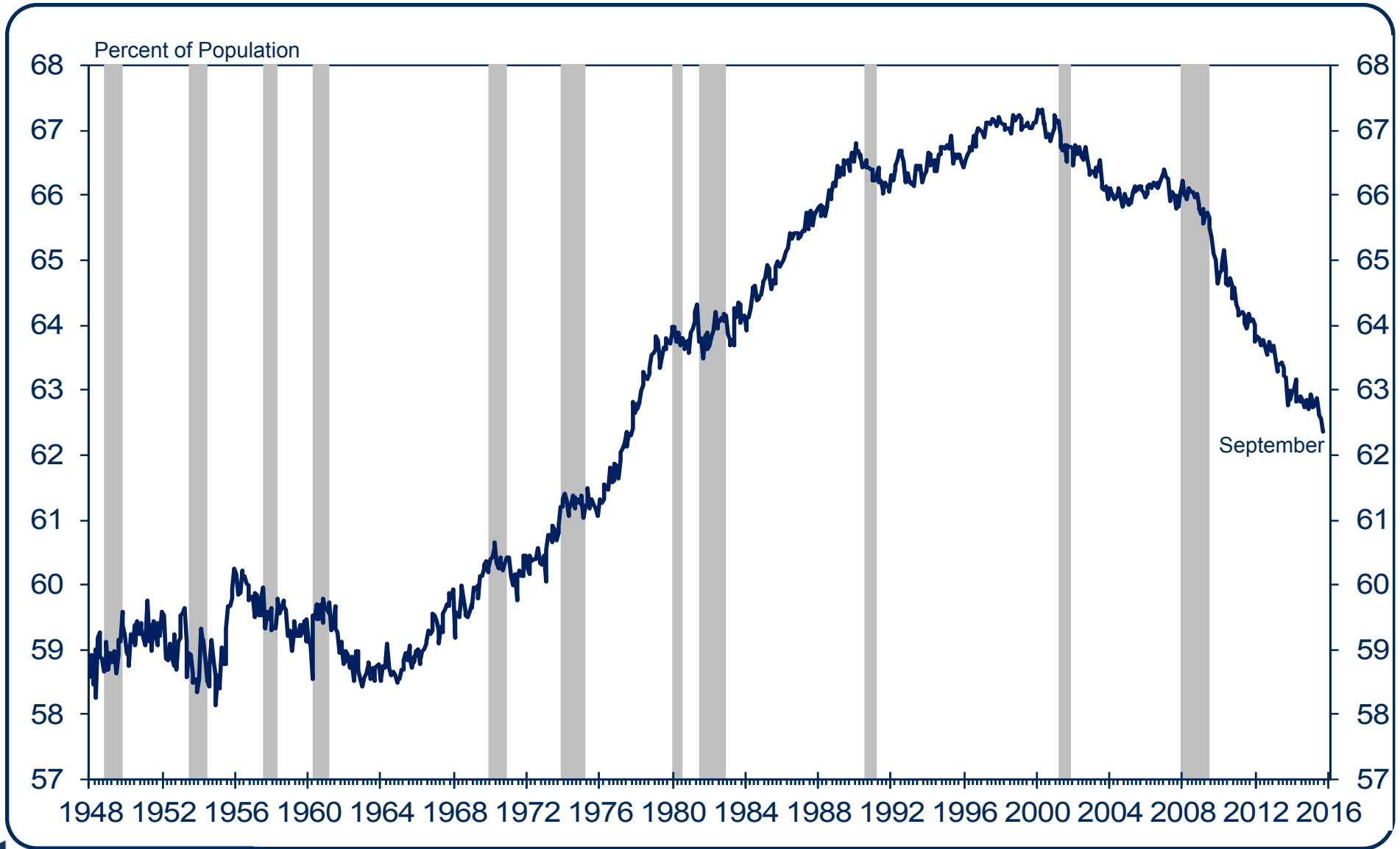
Notes: FOMC projection is the median, range, and central tendency for the Q4 levels, from the September 2015 meeting. Red dots indicate median projections

Source: Bureau of Labor Statistics & Board of Governors via Haver Analytics

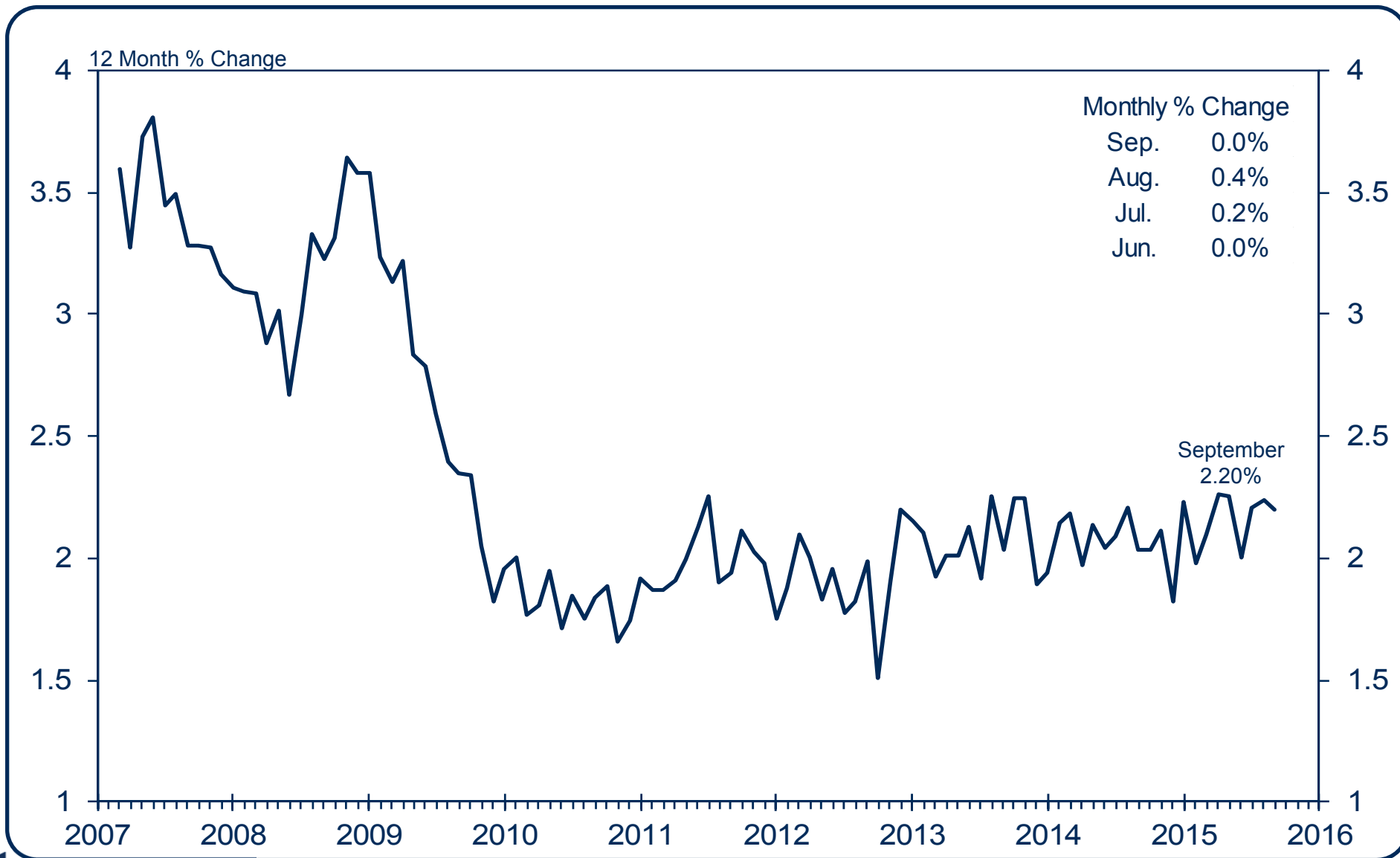
Measures of Labor Utilization



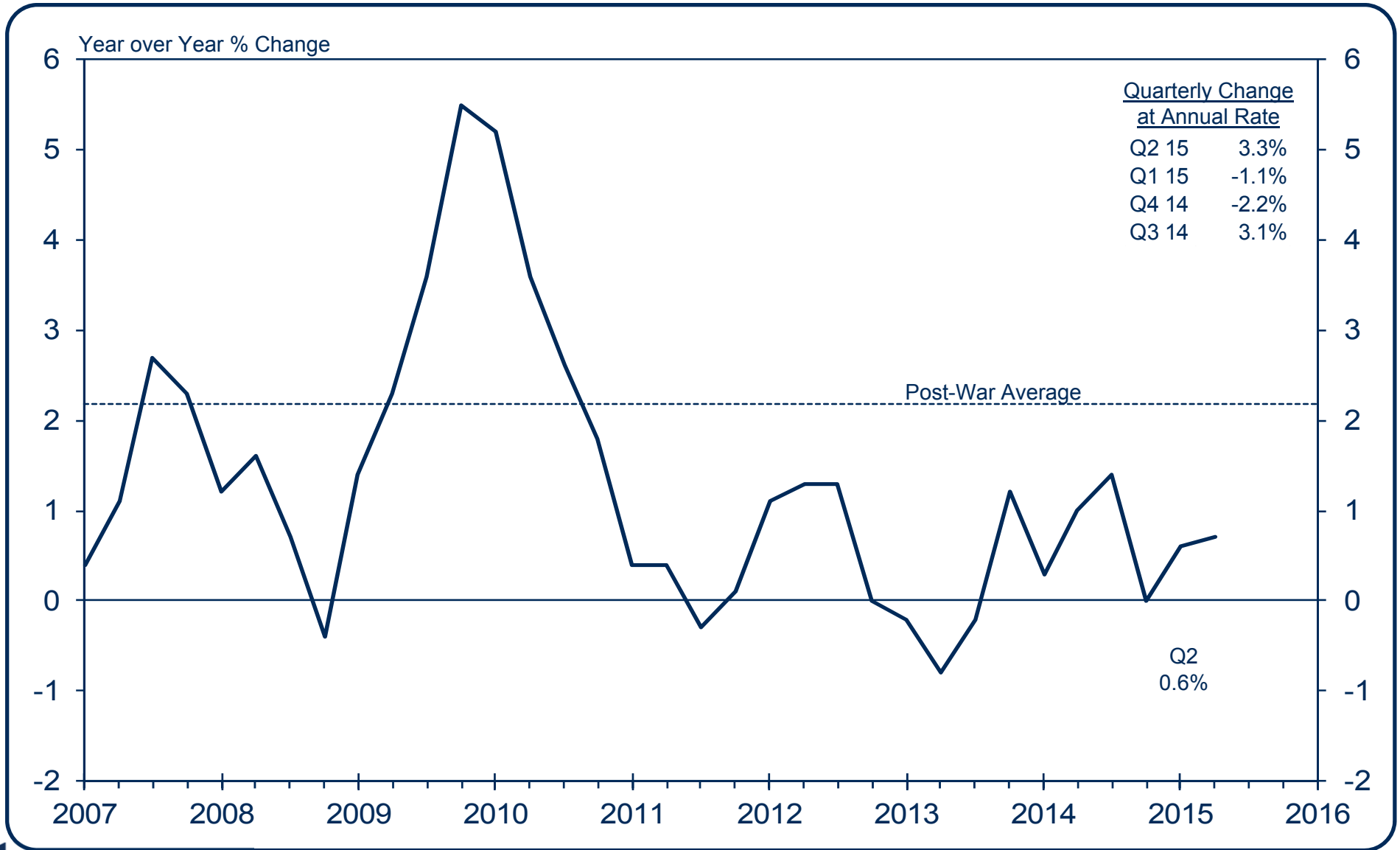
Labor Force Participation



Average Hourly Earnings

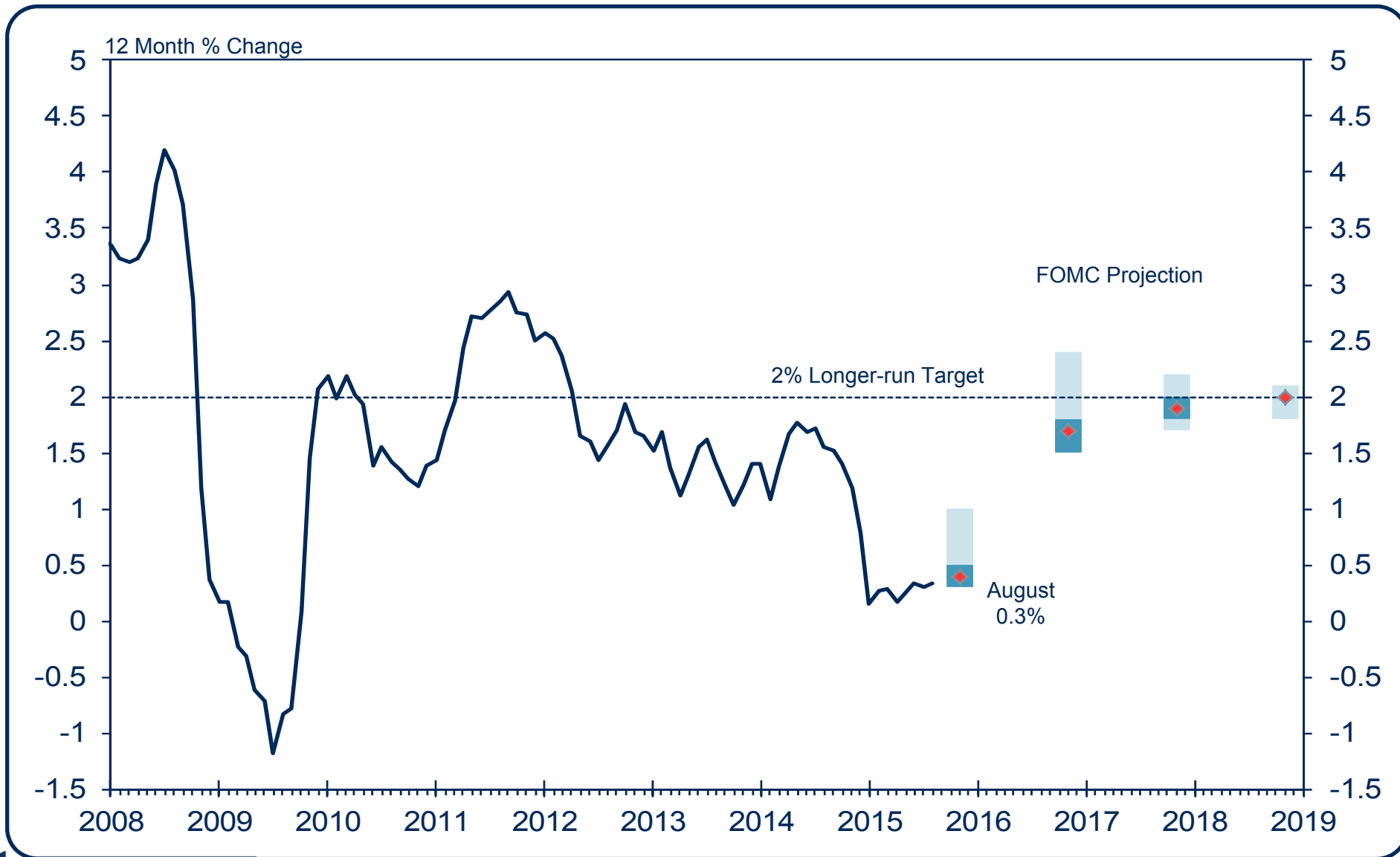


Labor Productivity, Nonfarm Business



Inflation

Personal Consumption Expenditure Price Index



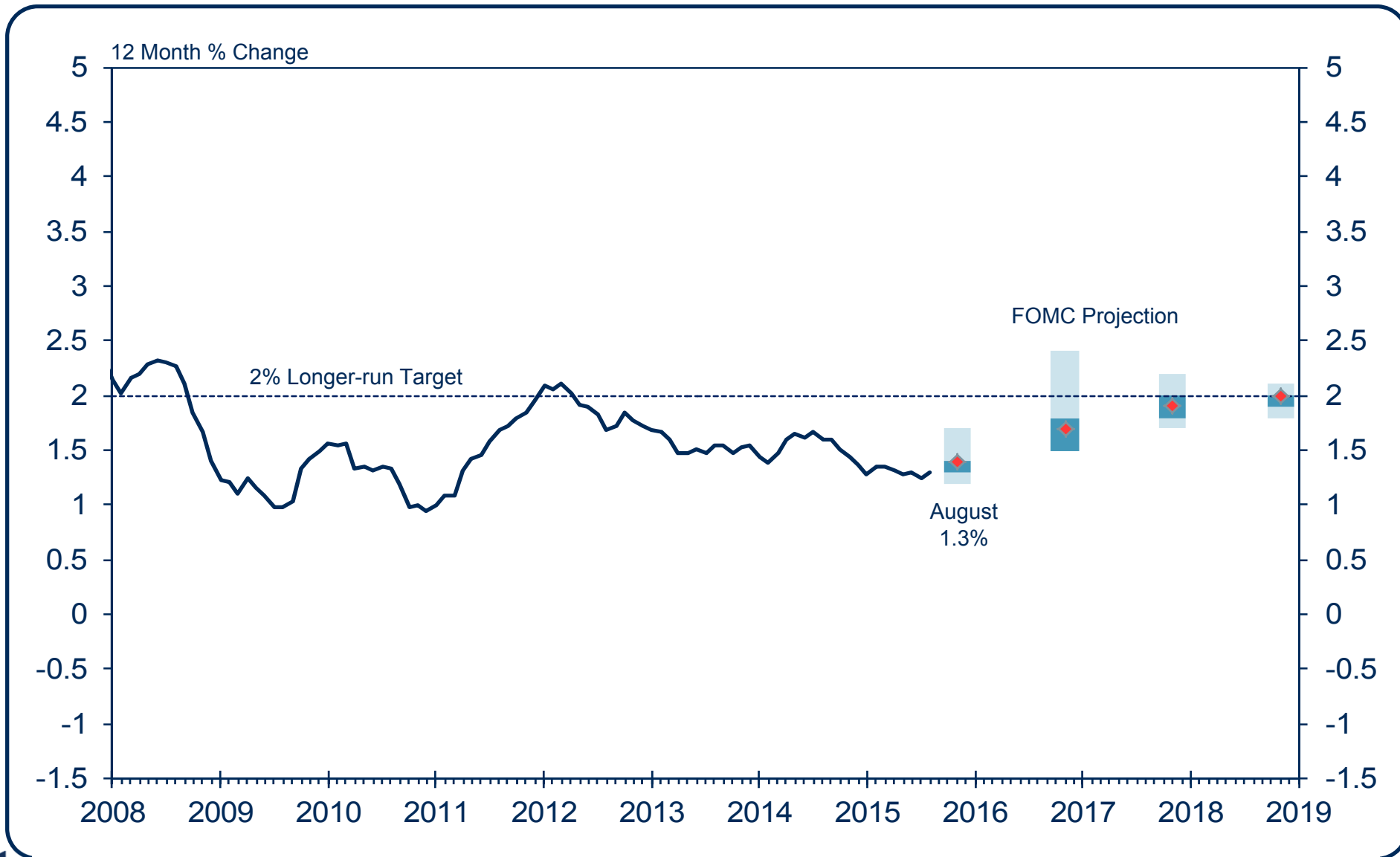
Notes: FOMC projection is the median, range, and central tendency for Q4/Q4 percent changes, from the September 2015 meeting. Red dots indicate median projections.

Source: Bureau of Economic Analysis & Board of Governors via Haver Analytics

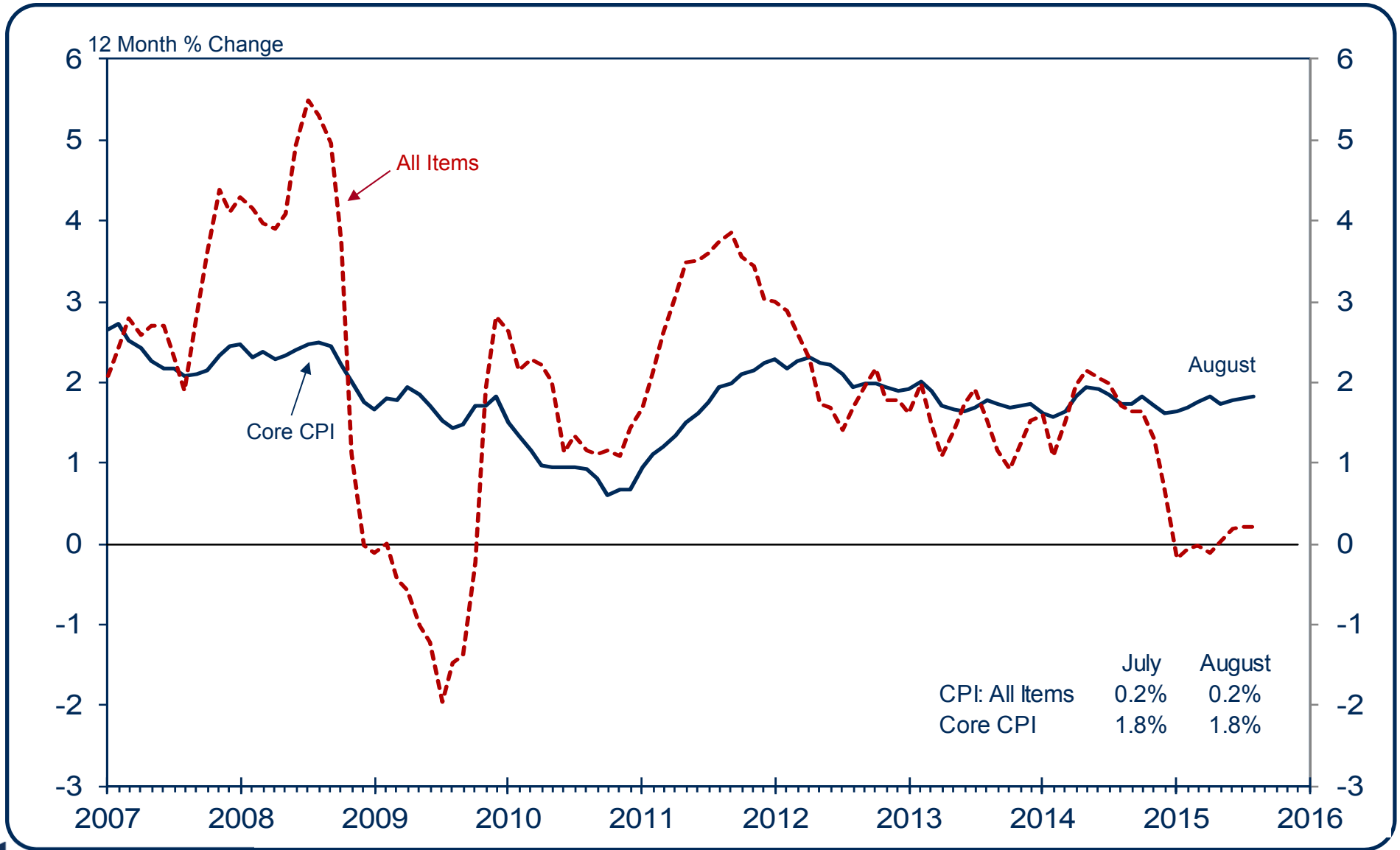
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Core Personal Consumption Expenditure Price Index



Consumer Price Indexes



Crude Oil Prices

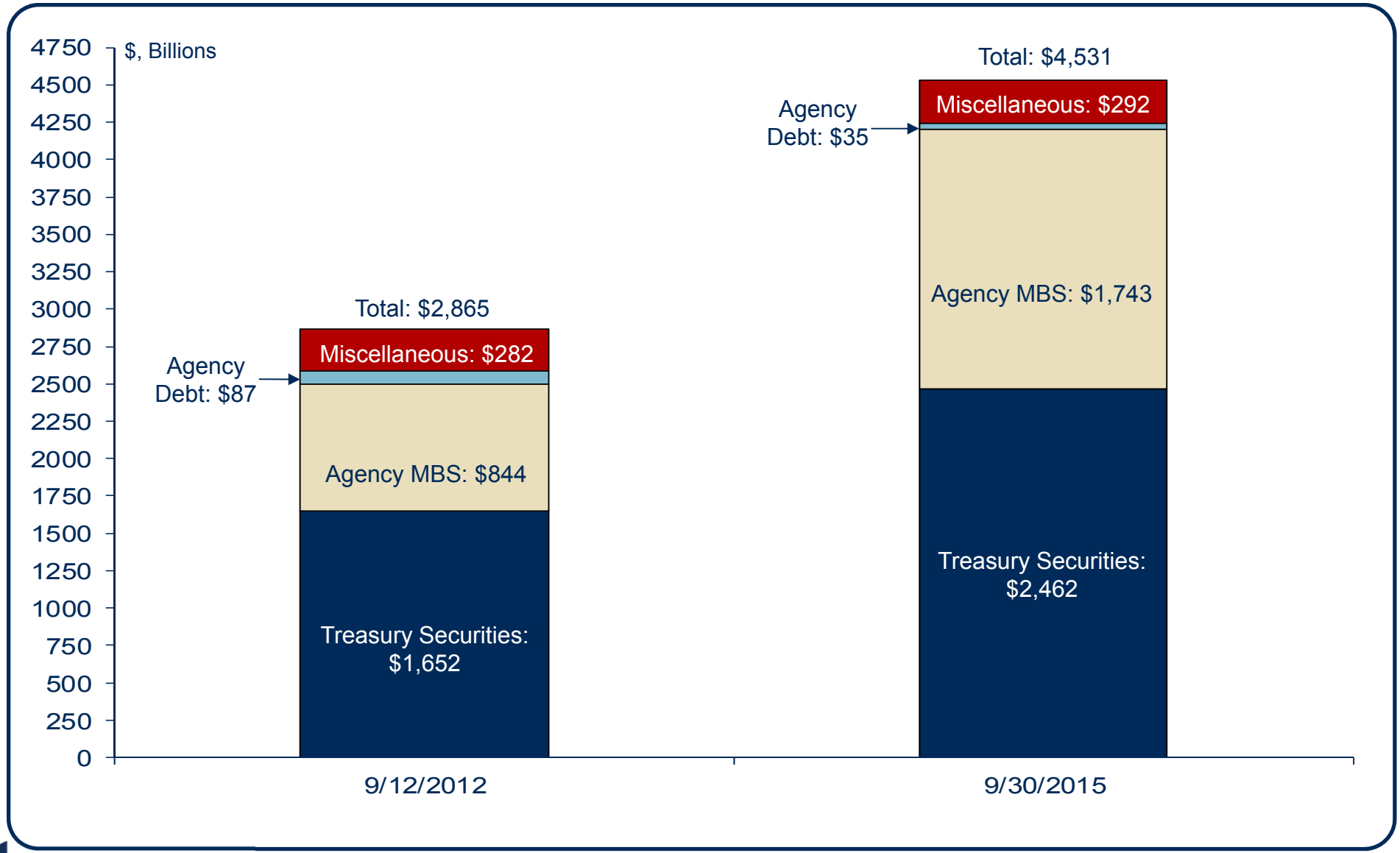


Notes: Spot and Futures Prices are for Brent Crude Oil.

Source: Financial Times & New York Mercantile Exchange via Haver Analytics & Bloomberg

Monetary Policy

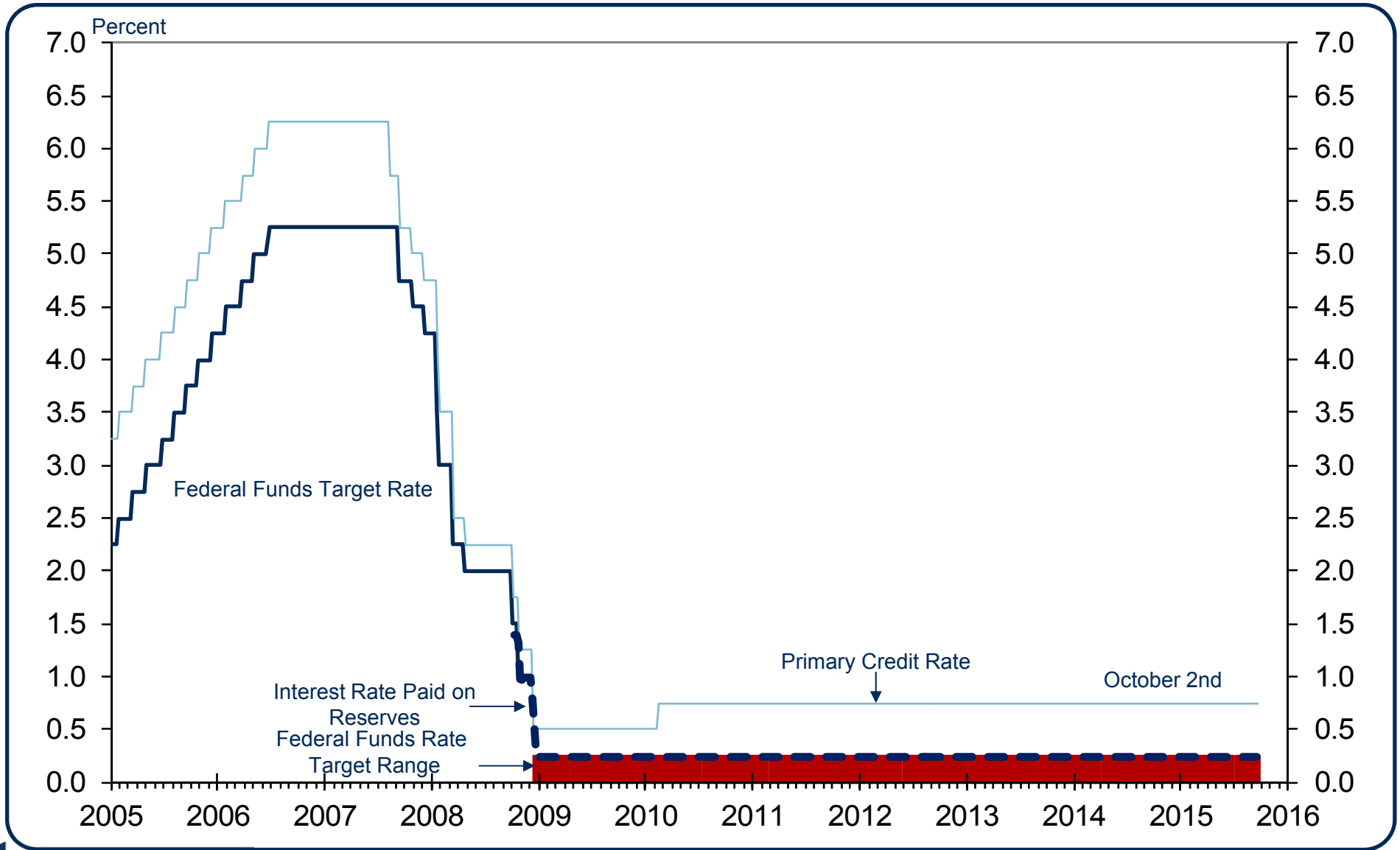
Federal Reserve System Assets



Note: Numbers may not add up due to rounding.

Source: Board of Governors via Haver Analytics

Monetary Policy Instruments



FOMC Statement – September 17, 2015

“Information received since the Federal Open Market Committee met in July suggests that **economic activity is expanding at a moderate pace**. Household spending and business fixed investment have been increasing moderately, and the housing sector has improved further; however, net exports have been soft. **The labor market continued to improve, with solid job gains and declining unemployment**. On balance, labor market indicators show that underutilization of labor resources has diminished since early this year. **Inflation has continued to run below the Committee's longer-run objective, partly reflecting declines in energy prices and in prices of non-energy imports**. Market-based measures of inflation compensation moved lower; survey-based measures of longer-term inflation expectations have remained stable....

...The Committee continues to see the risks to the outlook for economic activity and the labor market as nearly balanced but is monitoring developments abroad. Inflation is anticipated to remain near its recent low level in the near term but **the Committee expects inflation to rise gradually toward 2 percent over the medium term as the labor market improves further and the transitory effects of declines in energy and import prices dissipate**. The Committee continues to monitor inflation developments closely.

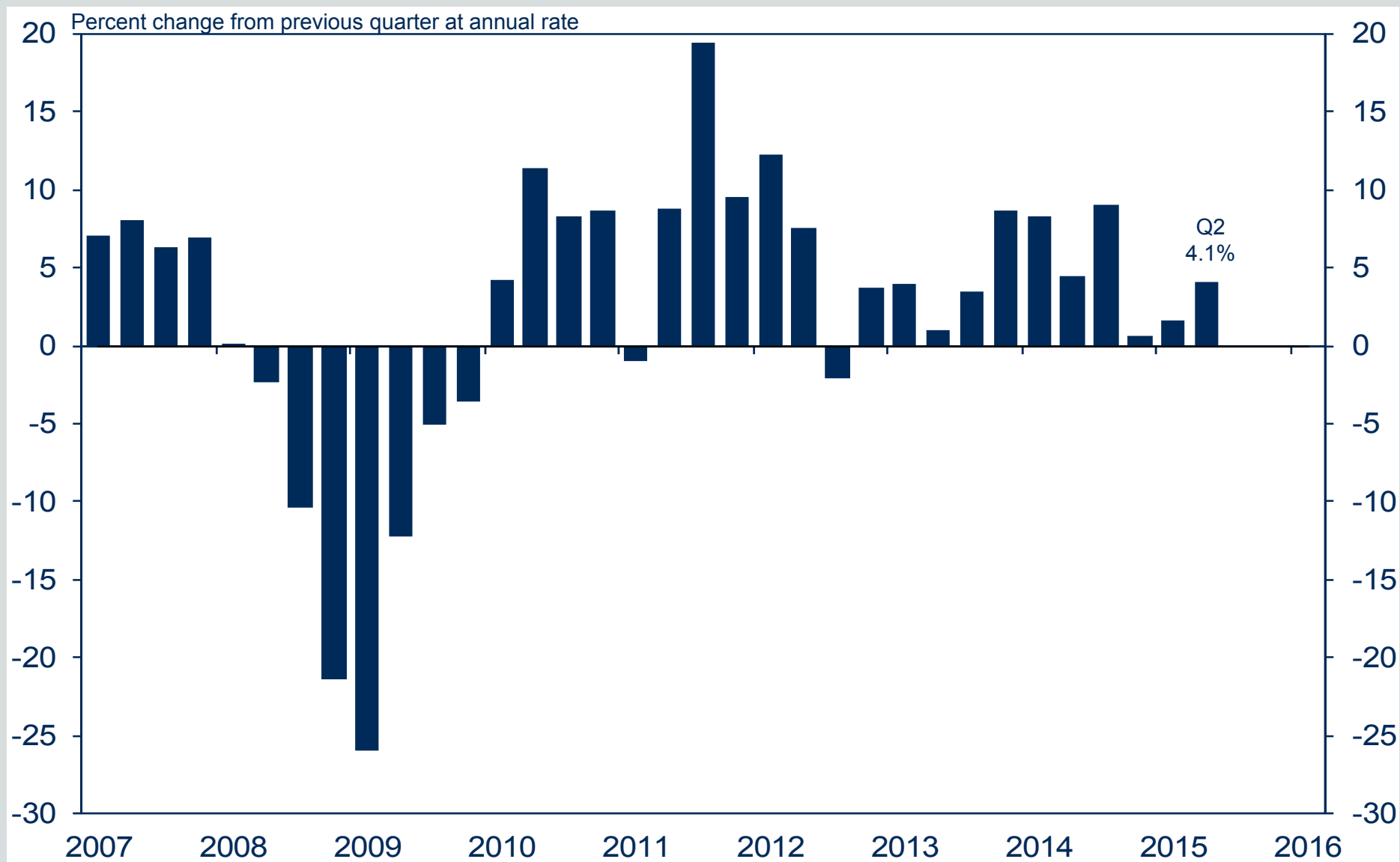
To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to 1/4 percent target range for the federal funds rate remains appropriate. **In determining how long to maintain this target range, the Committee will assess progress--both realized and expected--toward its objectives of maximum employment and 2 percent inflation**. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. **The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen some further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term**.

EXTRA SLIDES

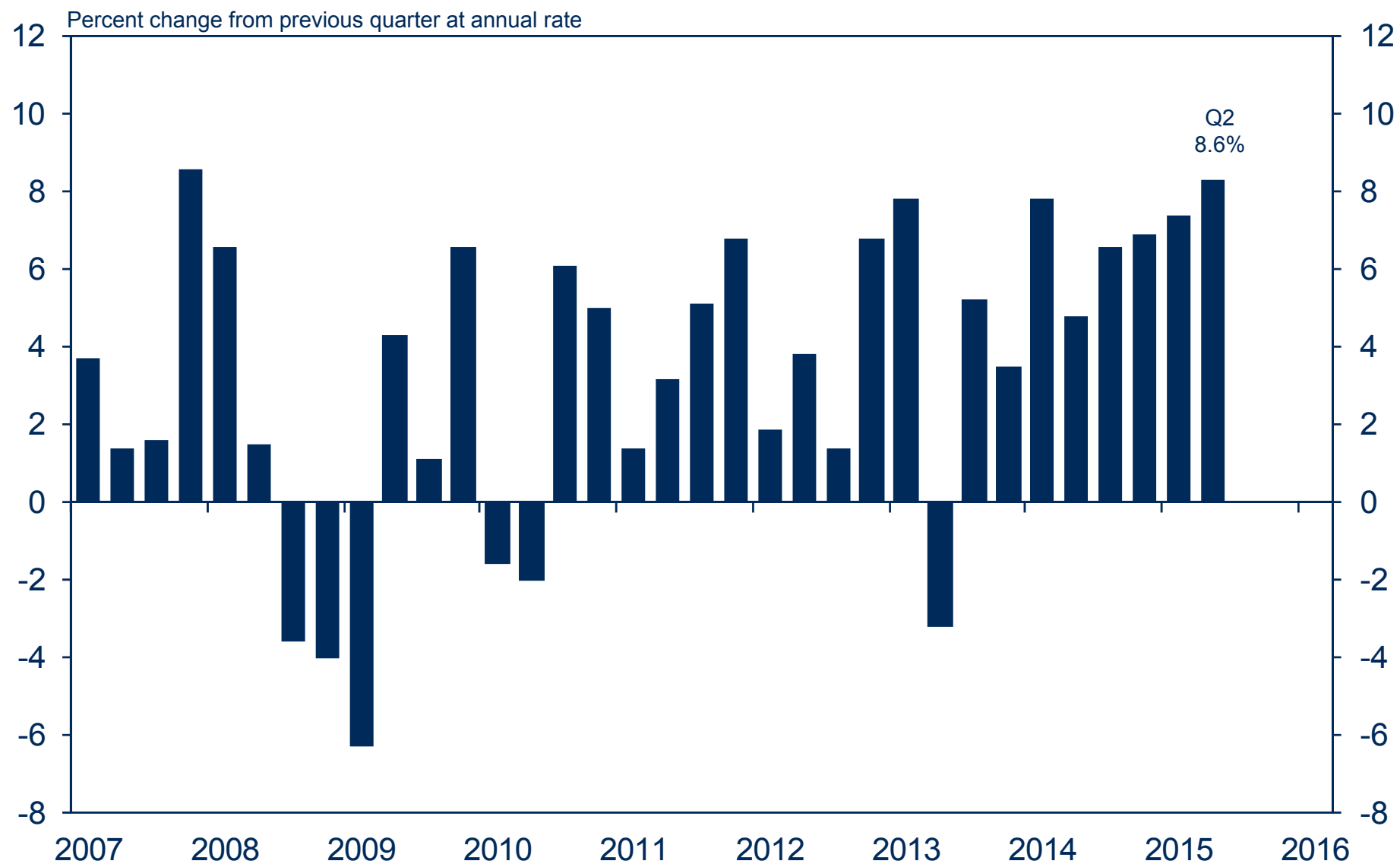
Real Gross Domestic Product

Change from previous quarter at compound annual rate, %	Q2	2014		2015	
		Q3	Q4	Q1	Q2
Gross Domestic Product	4.6	4.3	2.1	0.6	3.9
Personal Consumption Expenditures	3.8	3.5	4.3	1.8	3.6
Nonresidential Fixed Investment	4.4	9.0	0.7	1.6	4.1
Structures	-0.2	-1.9	4.3	-7.4	6.2
Equipment	6.5	16.4	-4.9	2.3	0.3
Intellectual Property	4.8	6.6	6.9	7.4	8.3
Residential Fixed Investment	10.4	3.4	10.0	10.1	9.3
Exports of Goods & Services	9.8	1.8	5.4	-6.0	5.1
Imports of Goods & Services	9.6	-0.8	10.3	7.1	3.0
Government Consumption Expenditures & Gross Investment	1.2	1.8	-1.4	-0.1	2.6
Final Sales to Domestic Purchasers	3.6	3.8	3.0	1.7	3.7
Billions of chained (2009) dollars					
Change in Private Inventories	77.1	79.9	78.2	112.8	113.5
Net Exports of Goods & Services	-443.3	-429.1	-463.6	-541.2	-534.6

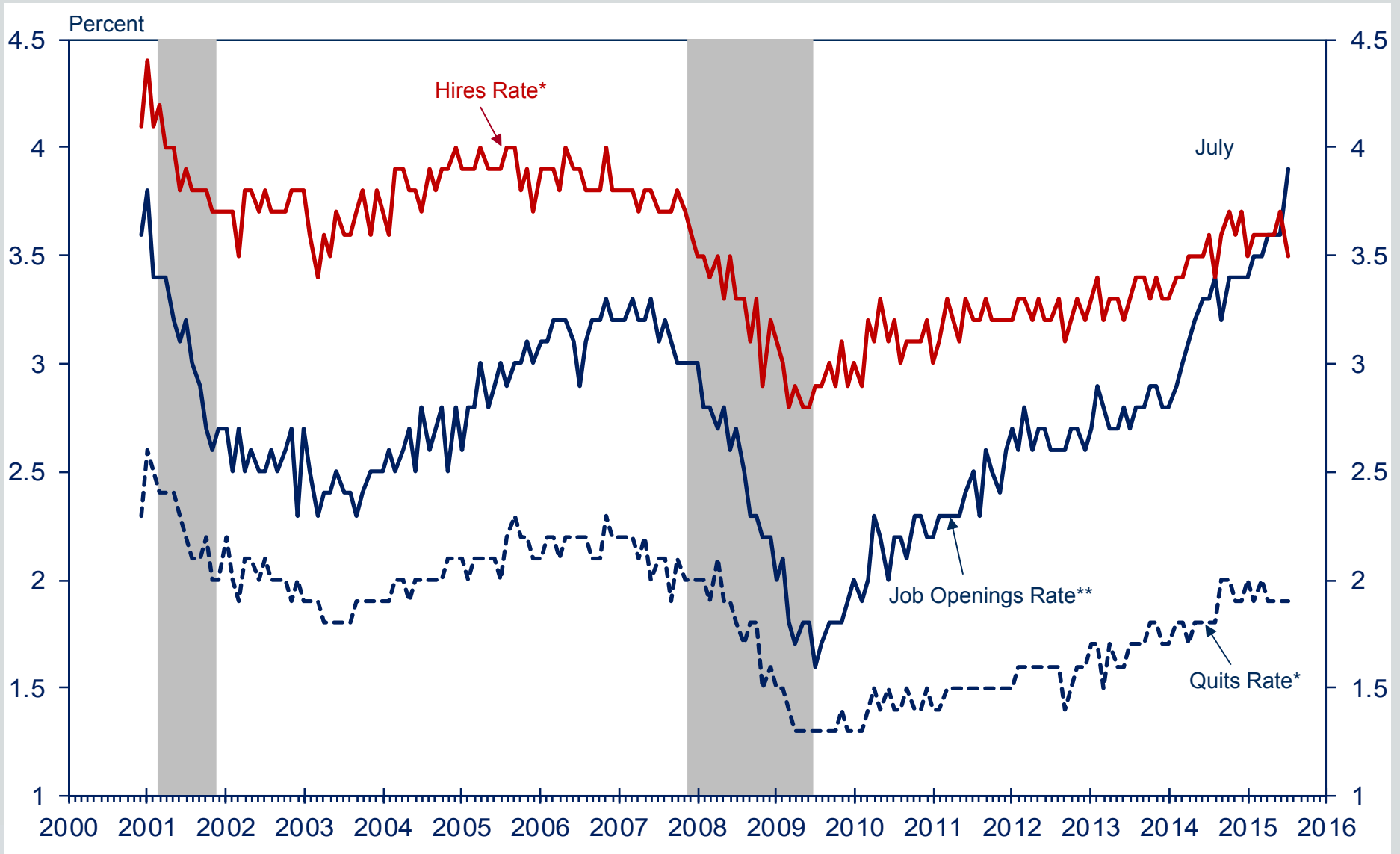
Real Nonresidential Fixed Investment



Real Investment in Intellectual Property



Labor Market Flows



Note: *Percent of total employment. **Percent of total employment plus job openings.

Source: JOLTS via Haver Analytics 40

Gauges of Inflation

Expenditure Price Indexes	[Percent Change from Previous Month at Annual Rate]:		
	July	Aug.	YoY %
Personal Consumption Expenditures	1.0	0.0	0.3
Core (excludes Food and Energy)	0.9	1.3	1.3

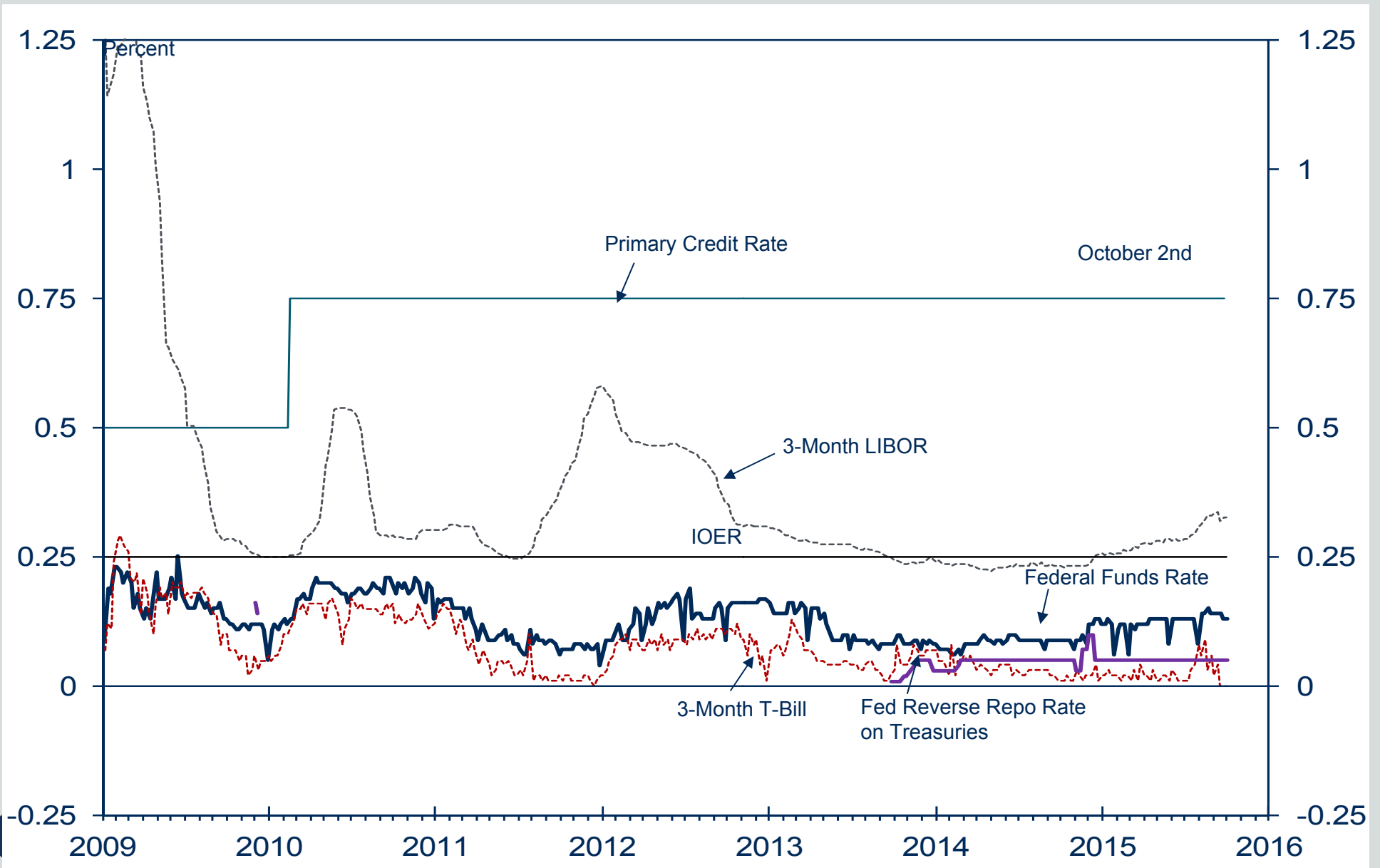
Consumer Price Indexes	[Percent Change from Previous Month at Annual Rate]:		
	July	Aug.	YoY %
All Items	1.6	-0.8	0.2
Core (excludes Food and Energy)	1.6	0.9	1.8

Producer Price Indexes	[Percent Change from Previous Month at Annual Rate]:		
	July	Aug.	YoY %
Finished Goods	-1.2	-5.9	-2.9
Core (excludes Food and Energy)	1.3	-0.6	2.1
Core Intermediate Goods	0.6	-2.5	-3.5
Crude Goods	-29.9	-41.6	-23.7

Spot Commodity Price Index	[Percent Change from Previous Month]:		
	Aug.	Sep.	YoY %
CRB Spot Commodity Price Index	-0.9	-0.8	-14.9

Notes: Core PCE Price Index includes expenditures on food services.

Money Market Rates



Capital Market Rates

