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# Economic Outlook and Monetary Policy

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*\* The views expressed herein are those of the author and do not necessarily represent the views of the Federal Reserve System or the Federal Reserve Bank of Chicago.*

# Outline

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## ■ Factors affecting the near-term

- Decomposing Q1 GDP growth
- Consumer and business spending
- Chicago Fed National Activity Index

## ■ Factors affecting the medium-term

- Output and employment gaps
- Trend GDP growth and productivity
- Trend employment growth and labor force participation

## ■ Monetary policy in perspective

- The Dual Mandate
- Summary of Economic Projections

# GDP Growth and Consensus Projections

## Real GDP Growth

(percent change, annual rate)

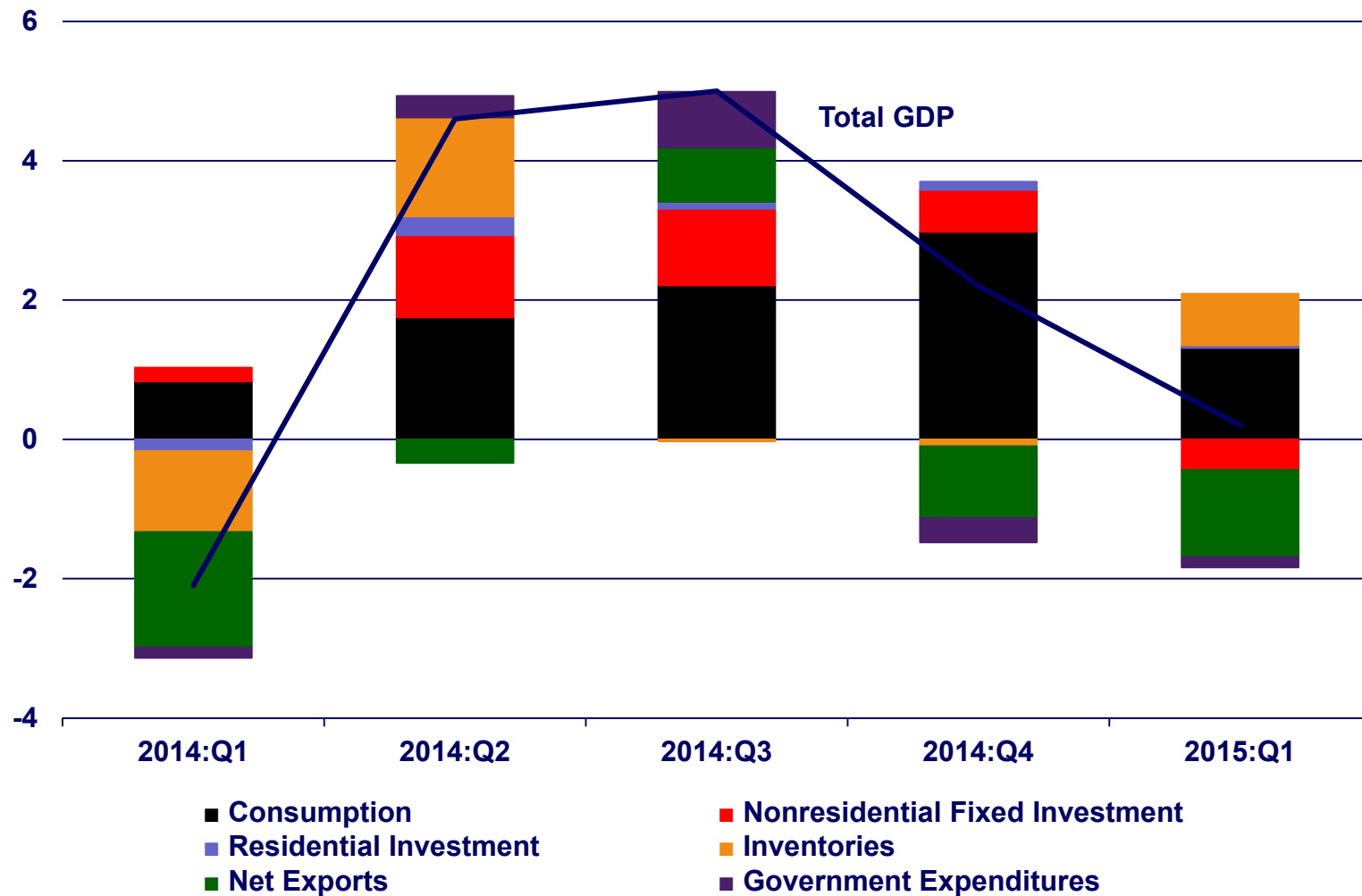


Source: Data from the Bureau of Economic Analysis and Blue Chip Economic Indicators, accessed via Haver Analytics.

# Contributions to Growth

## Contributions to Real GDP Growth

(percent, annual rate)

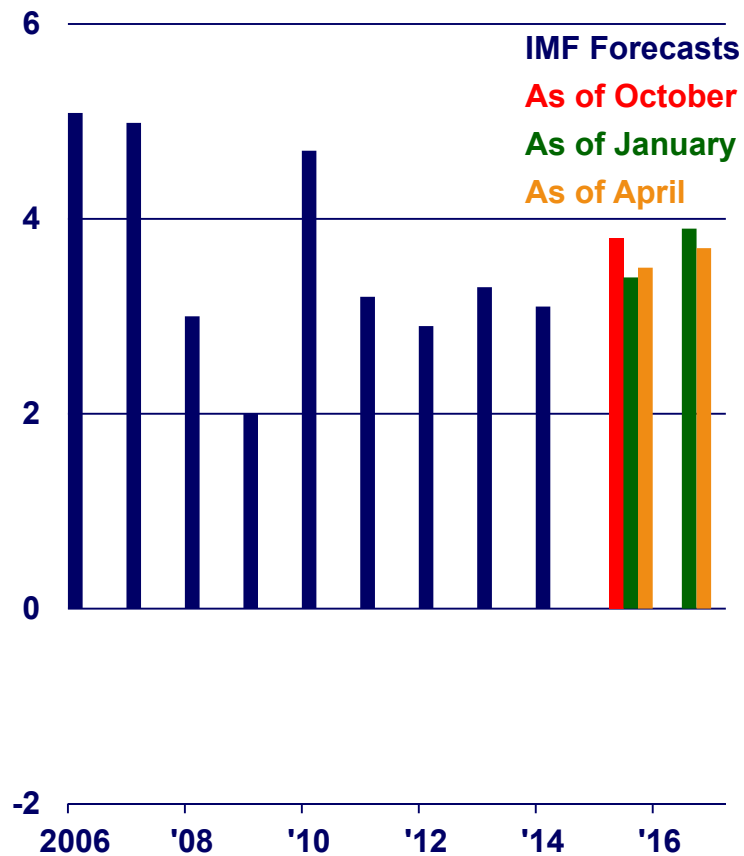


Source: Data from the Bureau of Economic Analysis, accessed via Haver Analytics.

# World Growth and Trade

## Real World GDP Growth

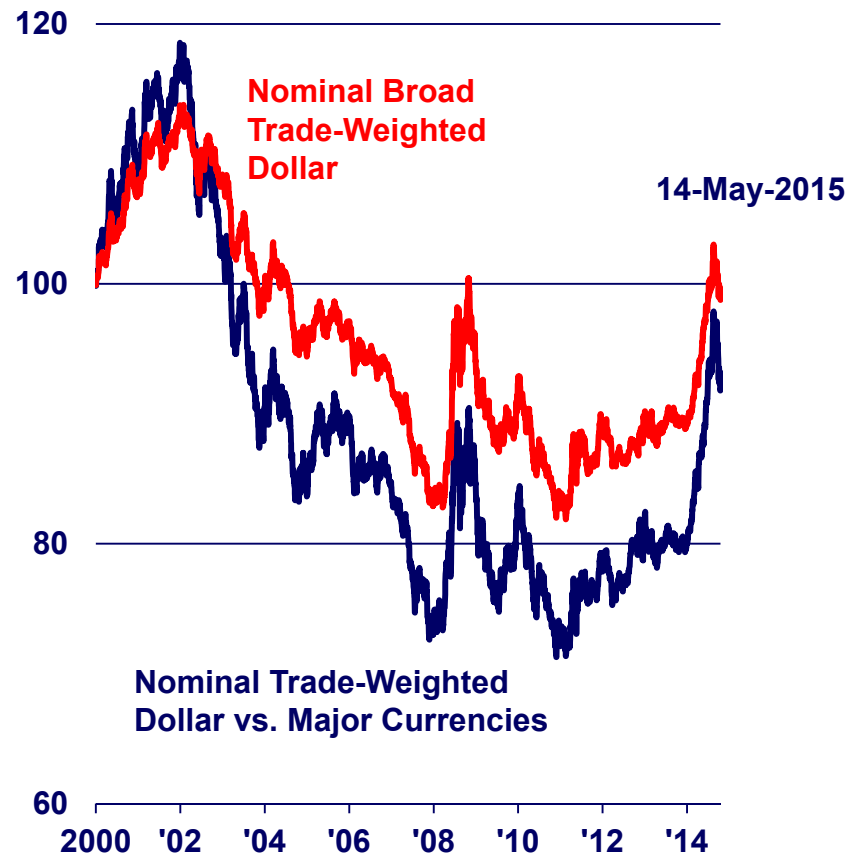
(4-quarter percent change)



Source: Data from the International Monetary Fund.

## Trade Weighted Dollar

(Index, Jan-97=100)

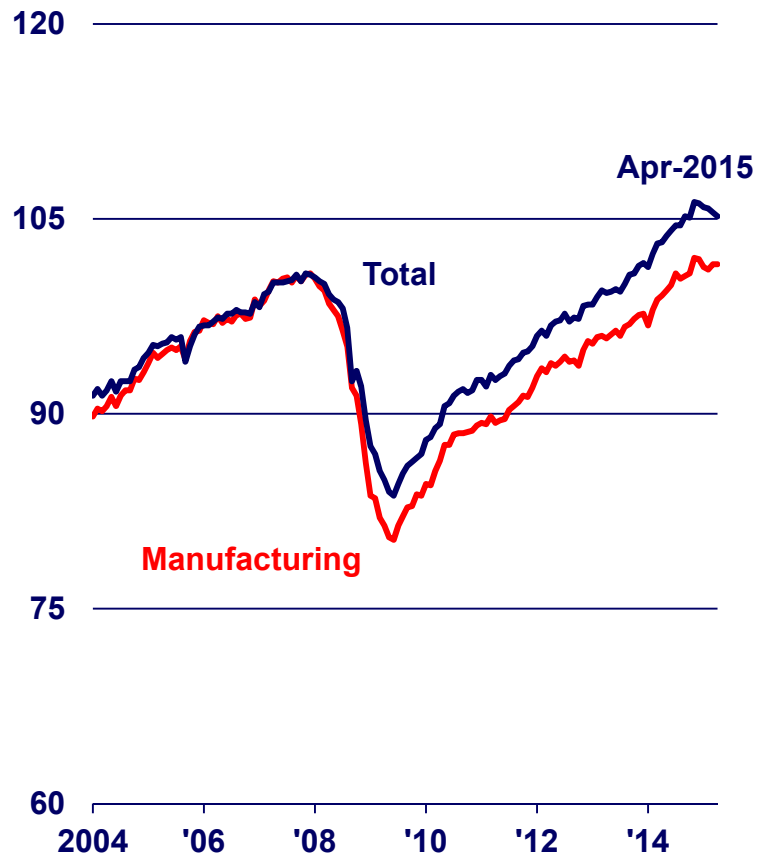


Source: Data from the Federal Reserve Board, accessed via Haver Analytics

# Industrial Production

## Industrial Production

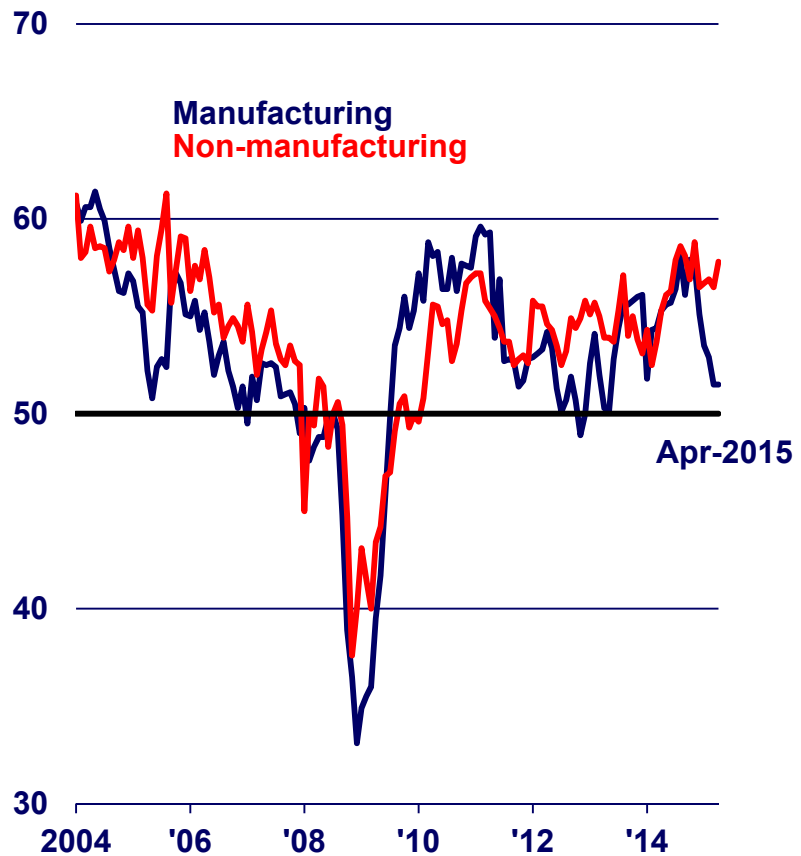
(Indexes, 2007=100)



Source: Data from the Federal Reserve Board, accessed via Haver Analytics.

## Purchasing Managers Indexes

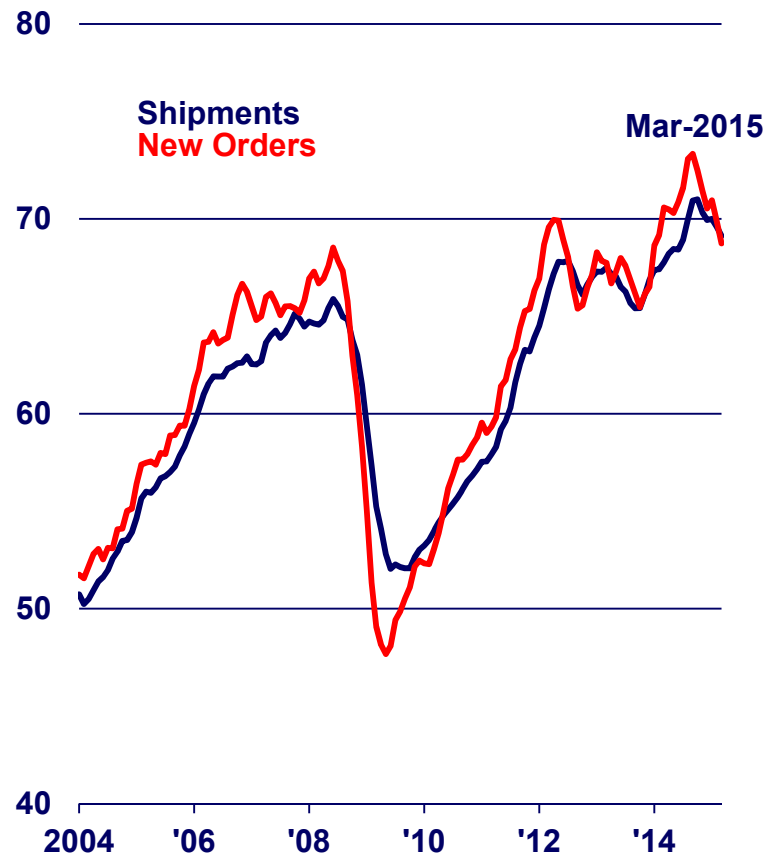
(50+ equals expansion)



Source: Data from the Institute for Supply Management, accessed via Haver Analytics.

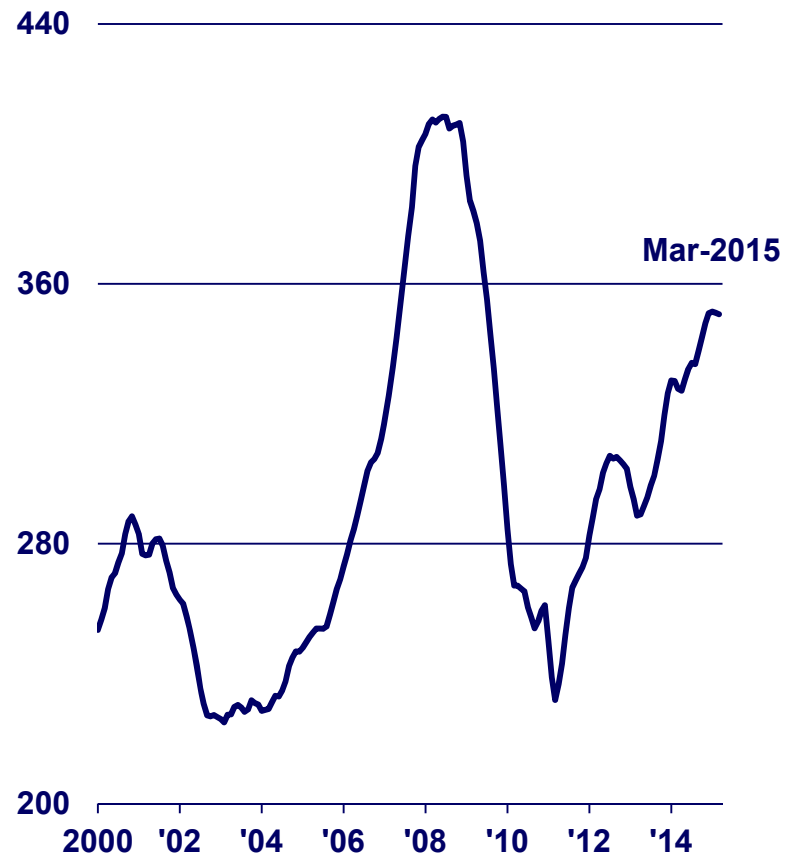
# Business Spending

**Nondefense Capital Goods ex. Aircraft**  
(Bils. \$, 3-month MA)



Source: Data from the Census Bureau, accessed via Haver Analytics.

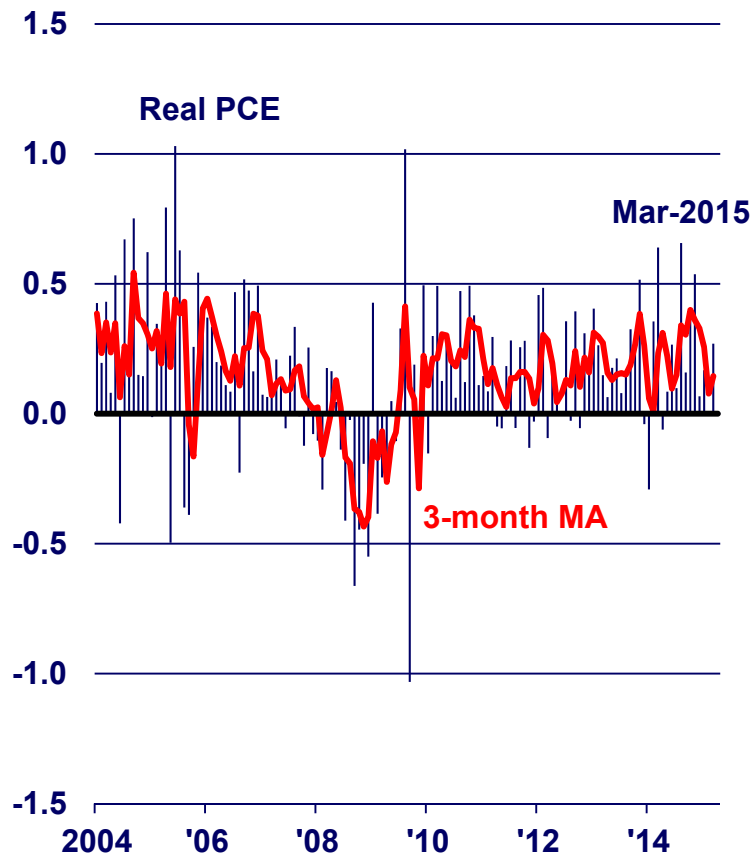
**Nonresidential Private Construction**  
(Bils. \$, 3-month MA)



Source: Data from the Census Bureau, accessed via Haver Analytics.

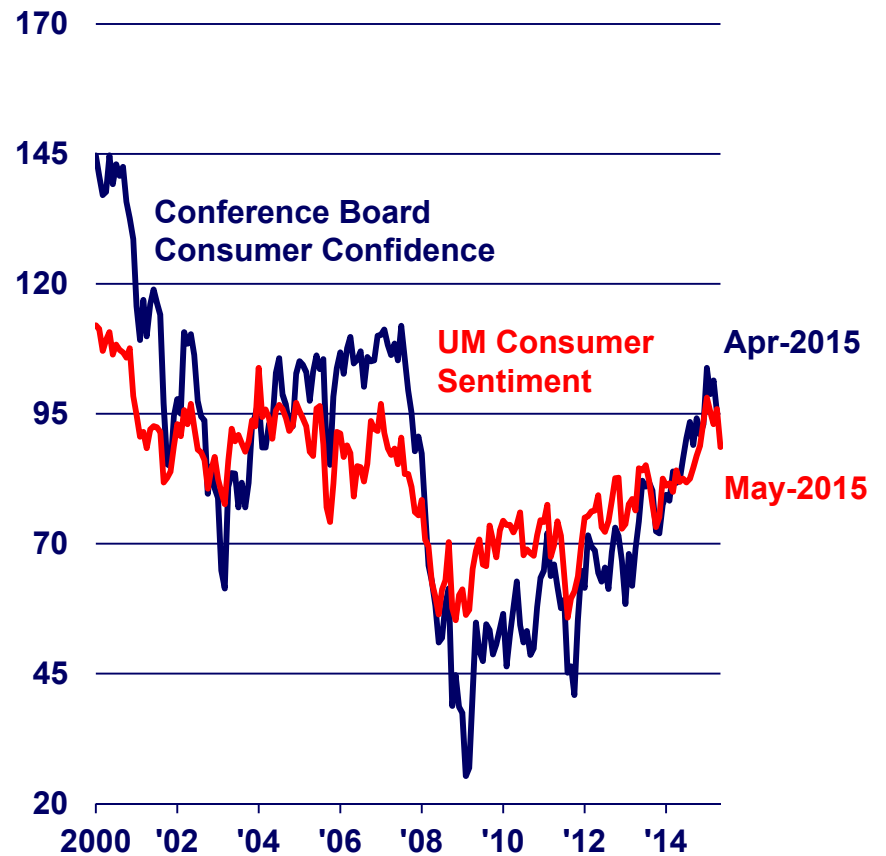
# Consumer Spending

**Personal Consumption Expenditures**  
(percent change)



Source: Data from the Bureau of Economic Analysis, accessed via Haver Analytics.

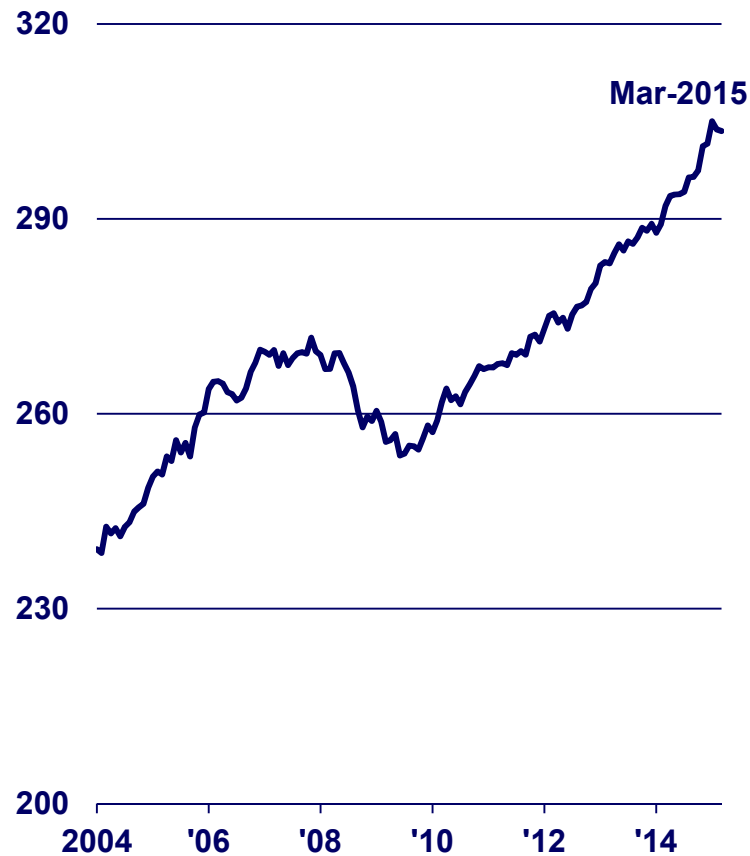
**Indices of Overall Consumer Sentiment**  
(Michigan: Q1-1966=100; Conference Board: 1985=100)



Source: Data from the Conference Board and the University of Michigan, accessed via Haver Analytics.

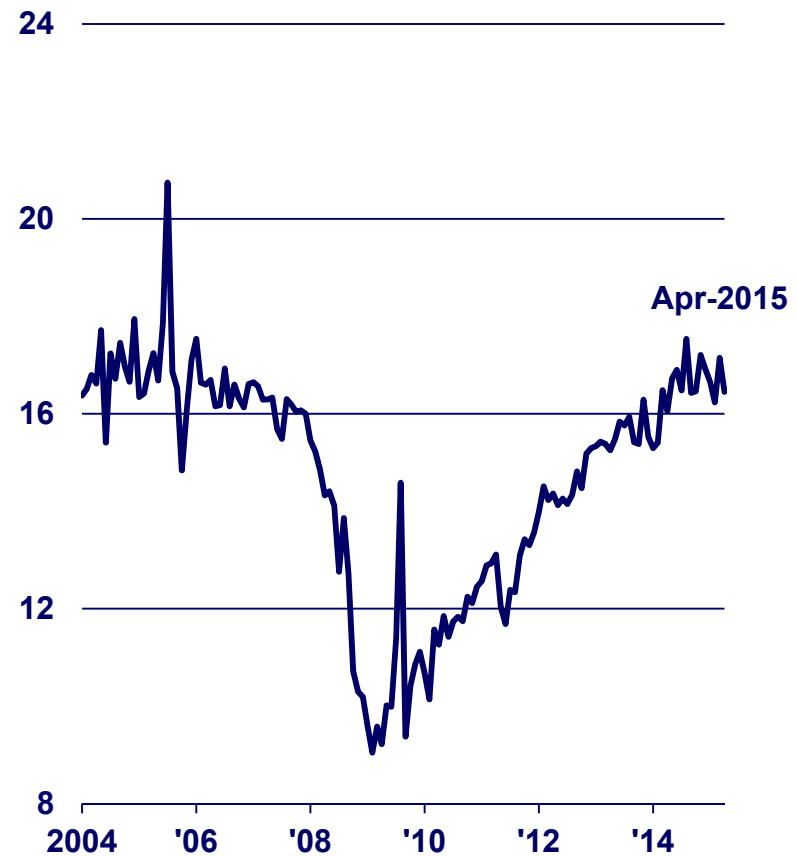
# Nondurables and Services vs. Durables

**Real Retail Sales ex. Motor Vehicles**  
(Bils. 2009\$)



*Source: Data from the Bureau of Economic Analysis, accessed via Haver Analytics.*

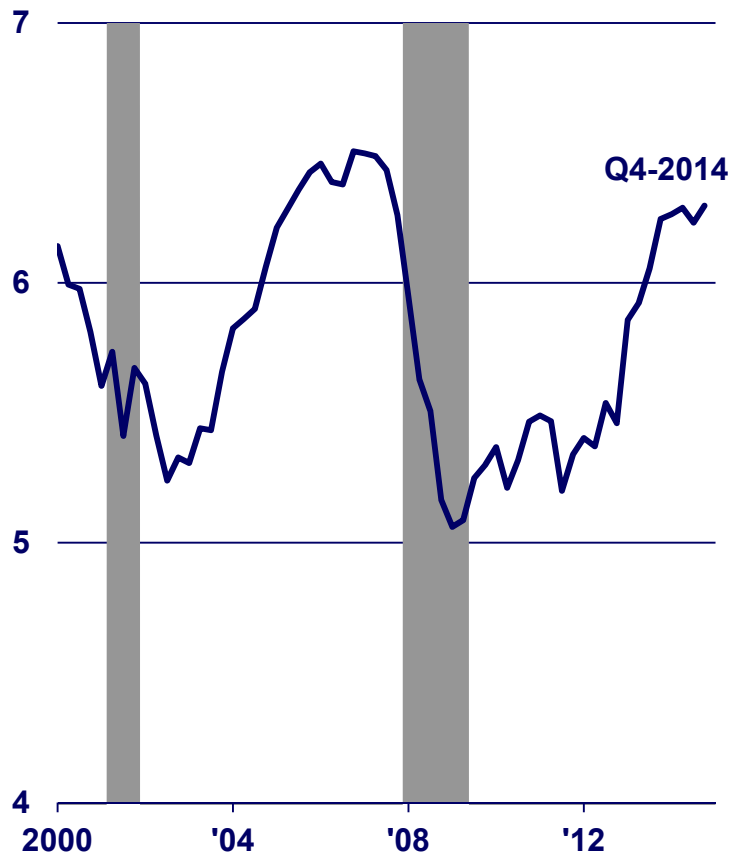
**Light Vehicle Sales**  
(millions of autos and light trucks, SAAR)



*Source: Data from Autodata Corporation, accessed via Haver Analytics.*

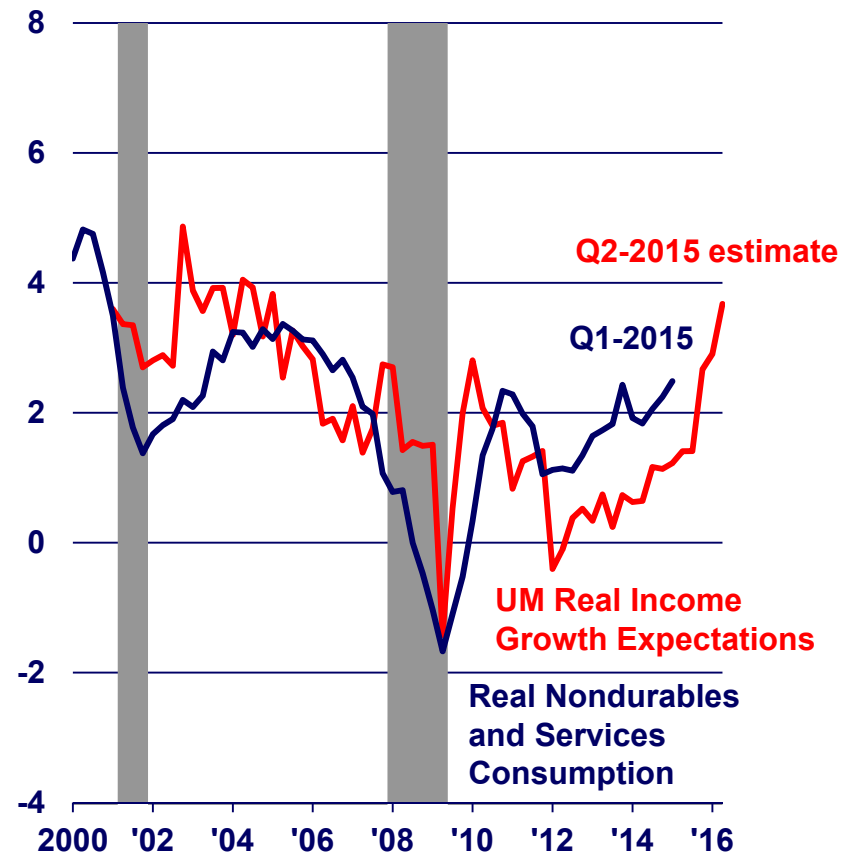
# Household Wealth and Income

**Ratio of Household Net Worth to DPI**  
(hundreds of percent)



Source: Data from the Federal Reserve Board, accessed via Haver Analytics.

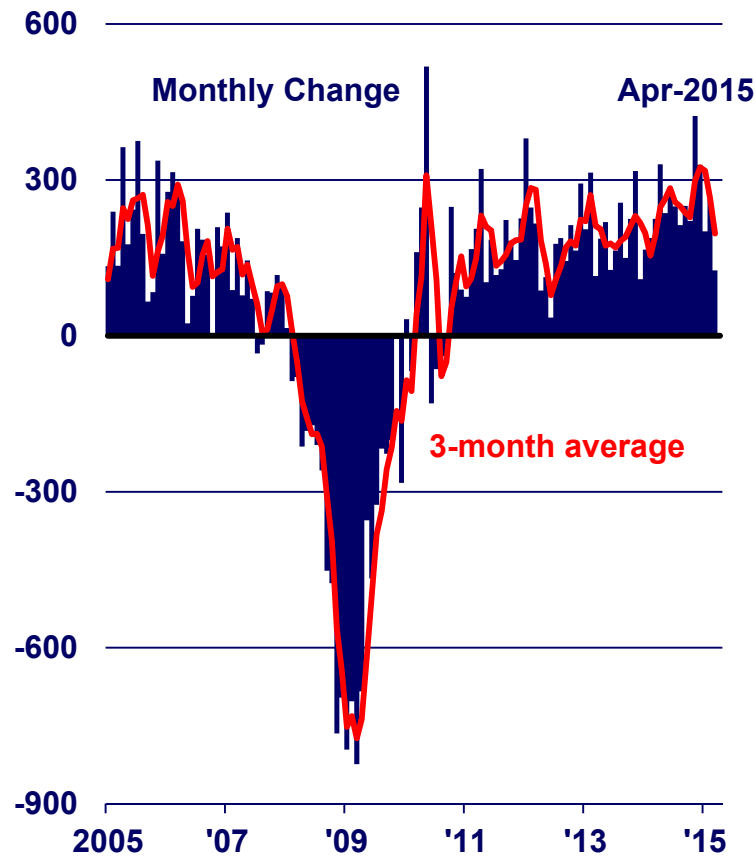
**Real Income Growth and Expectations**  
(year-over-year percent change)



Source: Based on "Expected Income Growth and the Great Recession," *Economic Perspectives*, 2013. Data from the Bureau of Economic Analysis, accessed via Haver Analytics, and from the University of Michigan Survey of Consumers.

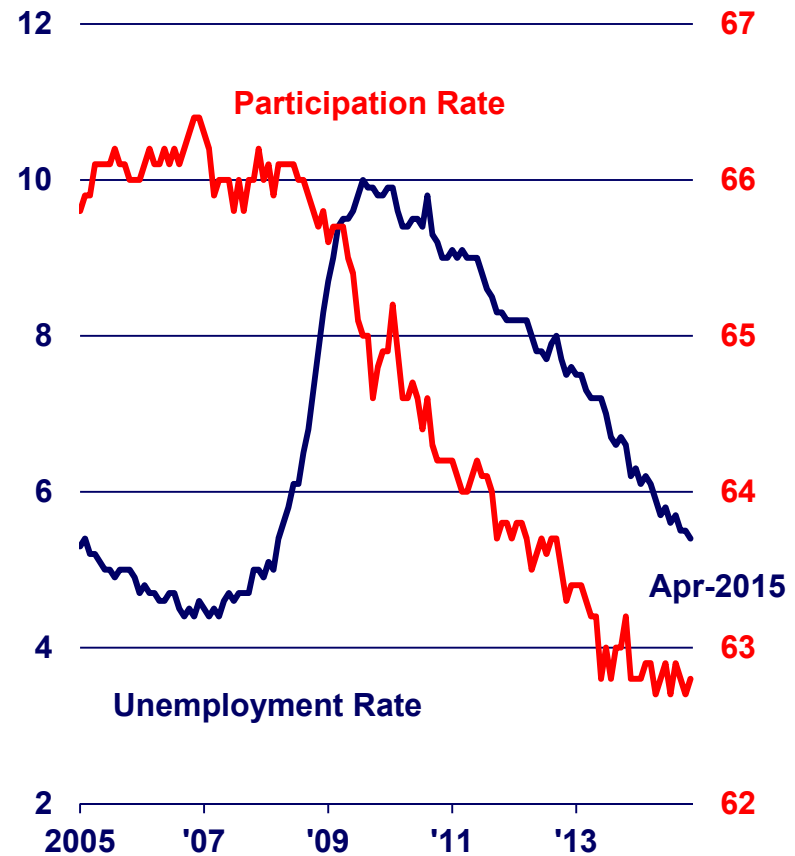
# The Labor Market

**Nonfarm Payroll Employment**  
(change, thousands)



Source: Data from the Bureau of Labor Statistics, accessed via Haver Analytics.

**Unemployment and Participation Rates**  
(percent)

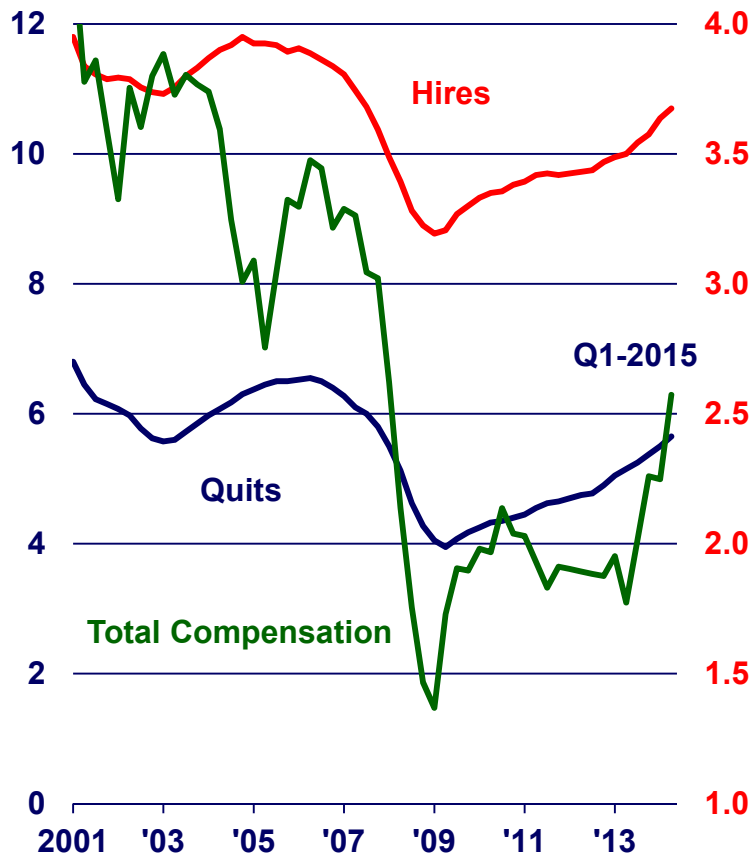


Source: Data from the Bureau of Labor Statistics, accessed via Haver Analytics.

# Labor Market Dynamics

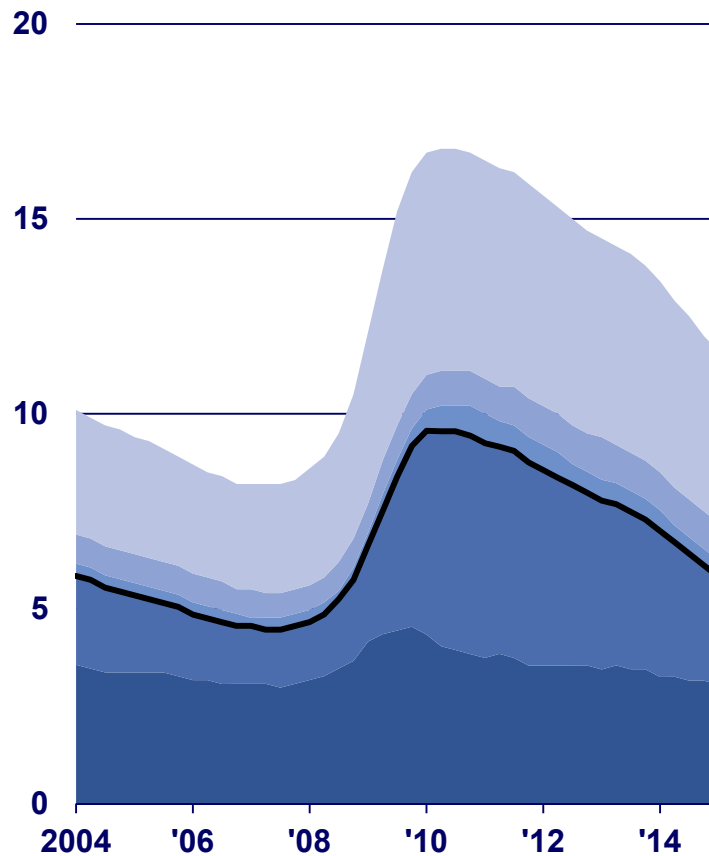
## JOLTS and ECI

(SA, JOLTS: 4-qtr MA; ECI: y/y % change)



## Labor Underutilization Measures

(12-month moving averages)



Source: Based on "Job Switching and Wage Growth," Chicago Fed Letter, May 2015.

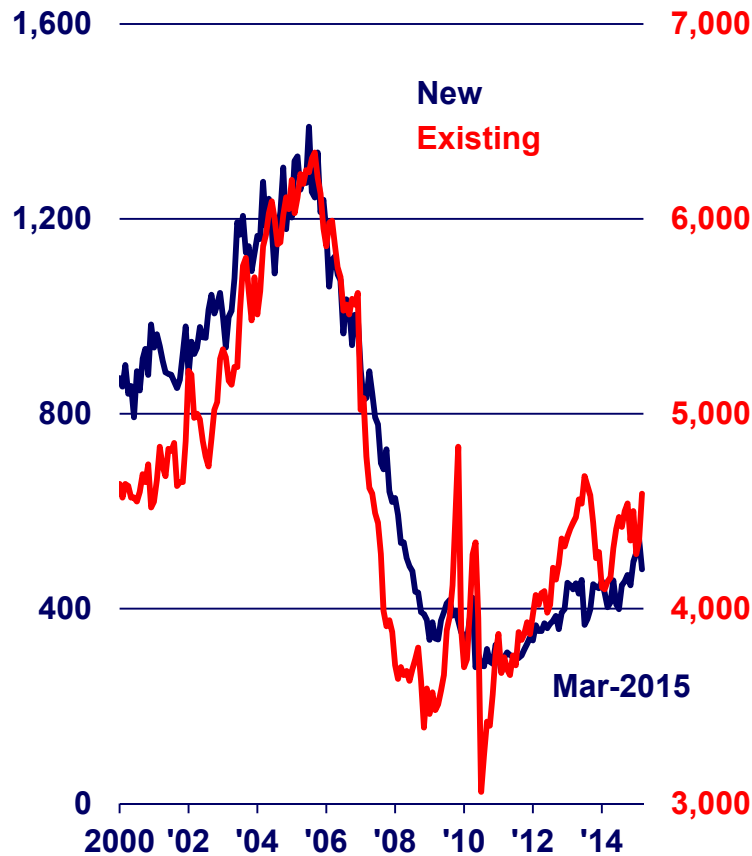
Data from the Bureau of Labor Statistics, accessed via Haver Analytics.

■ Unemployment Rate  
■ Unemployed < 15 Weeks  
■ Unemployed > 15 Weeks  
■ Marginal, Discouraged  
■ Marginal, not Discouraged  
■ PT for Economic Reasons

Source: Data from the Bureau of Labor Statistics, accessed via Haver Analytics.

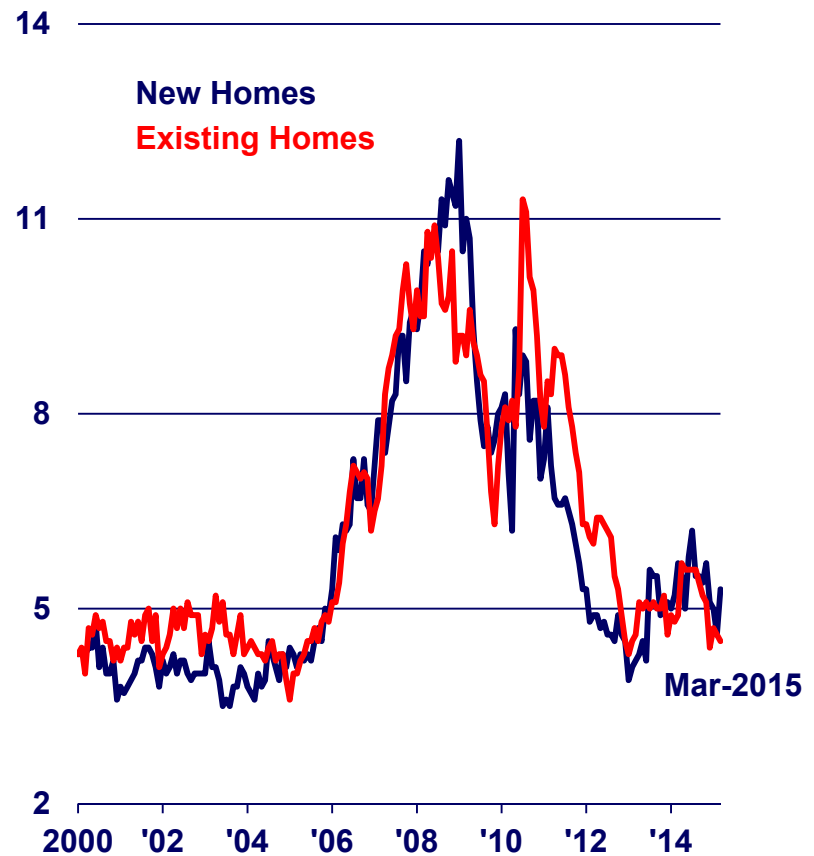
# The Housing Market

**Single Family Home Sales**  
(thousands)



Source: Data from the Census Bureau and the National Association of Realtors, accessed via Haver Analytics.

**Inventory of Unsold Homes**  
(months supply)

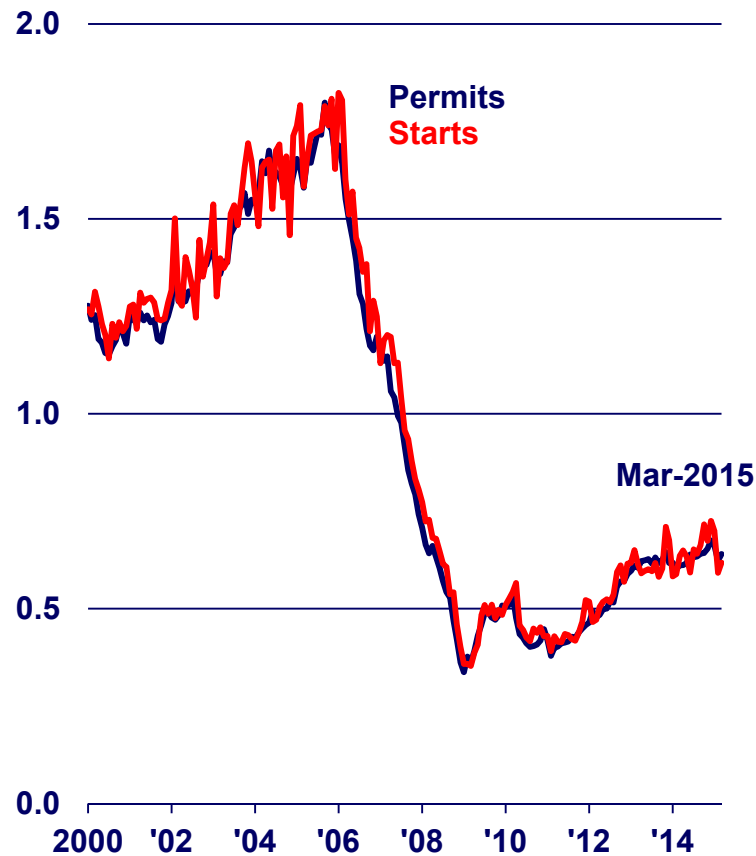


Source: Data from the Census Bureau and the National Association of Realtors, accessed via Haver Analytics.

# Residential Investment

## Single Family Housing Market

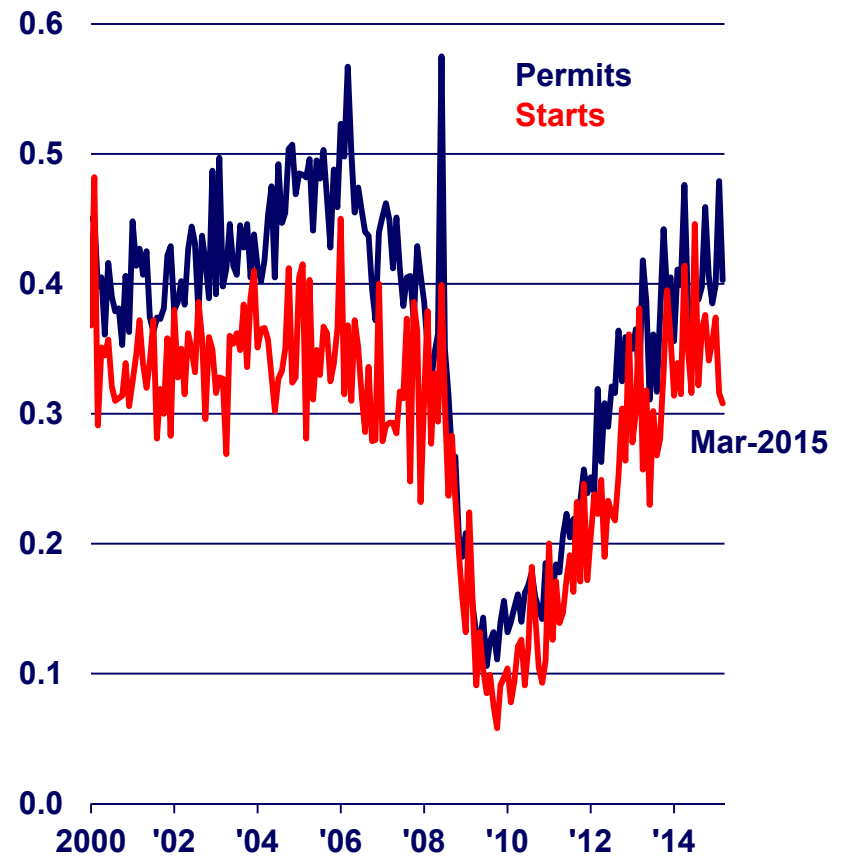
(millions of units, annual rate)



Source: Data from the Census Bureau, accessed via Haver Analytics.

## Multi-Family Housing Market

(millions of units, annual rate)

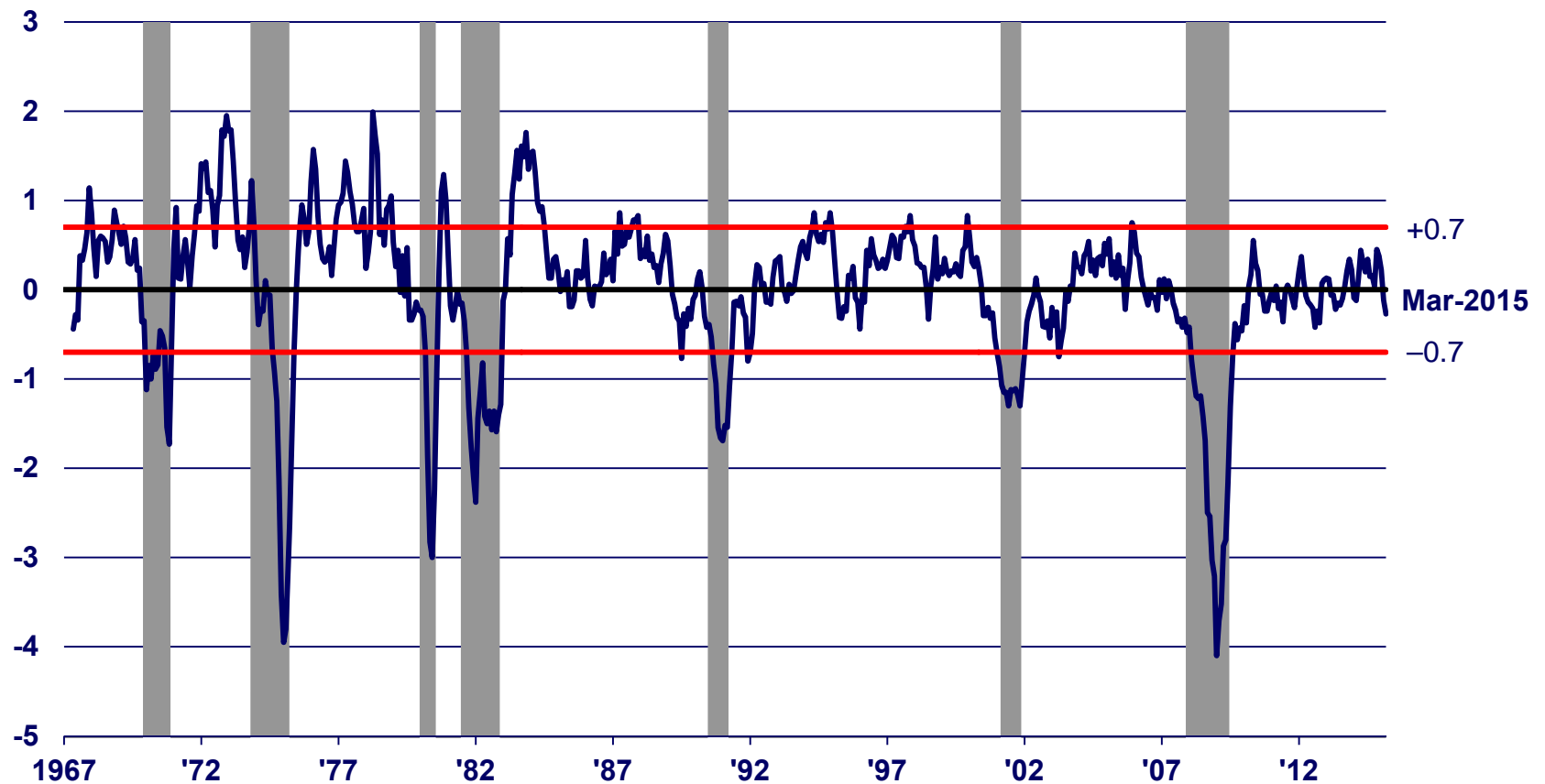


Source: Data from the Census Bureau, accessed via Haver Analytics.

# U.S. Economic Activity

## Chicago Fed National Activity Index

(standard deviation from trend, 3-month average)



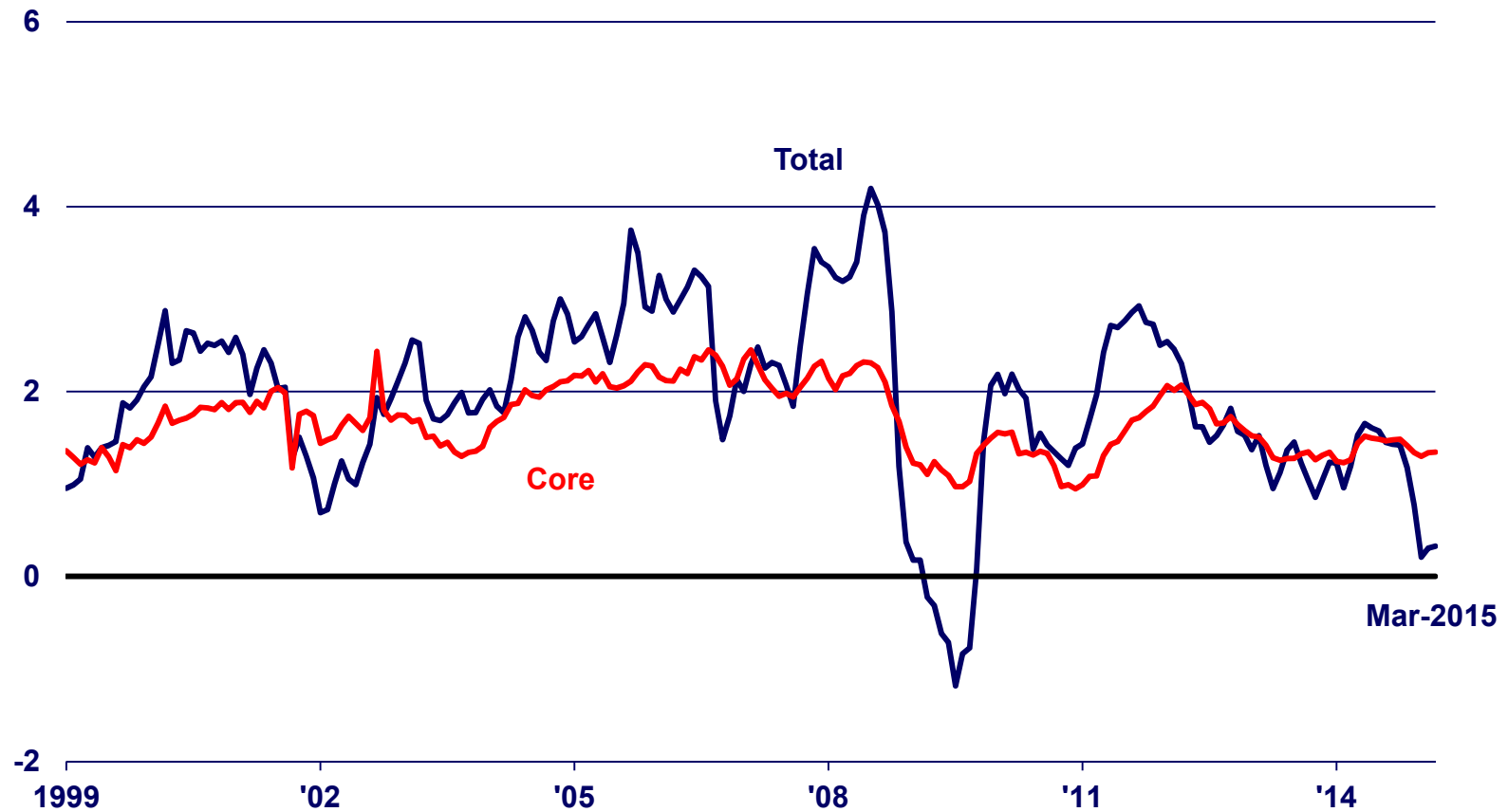
*Shading indicates US recessions according to the National Bureau of Economic Research.*

*Source: Data from the Federal Reserve Bank of Chicago, accessed via Haver Analytics.*

# Inflation

## PCE Price Index

(12-month percent change)

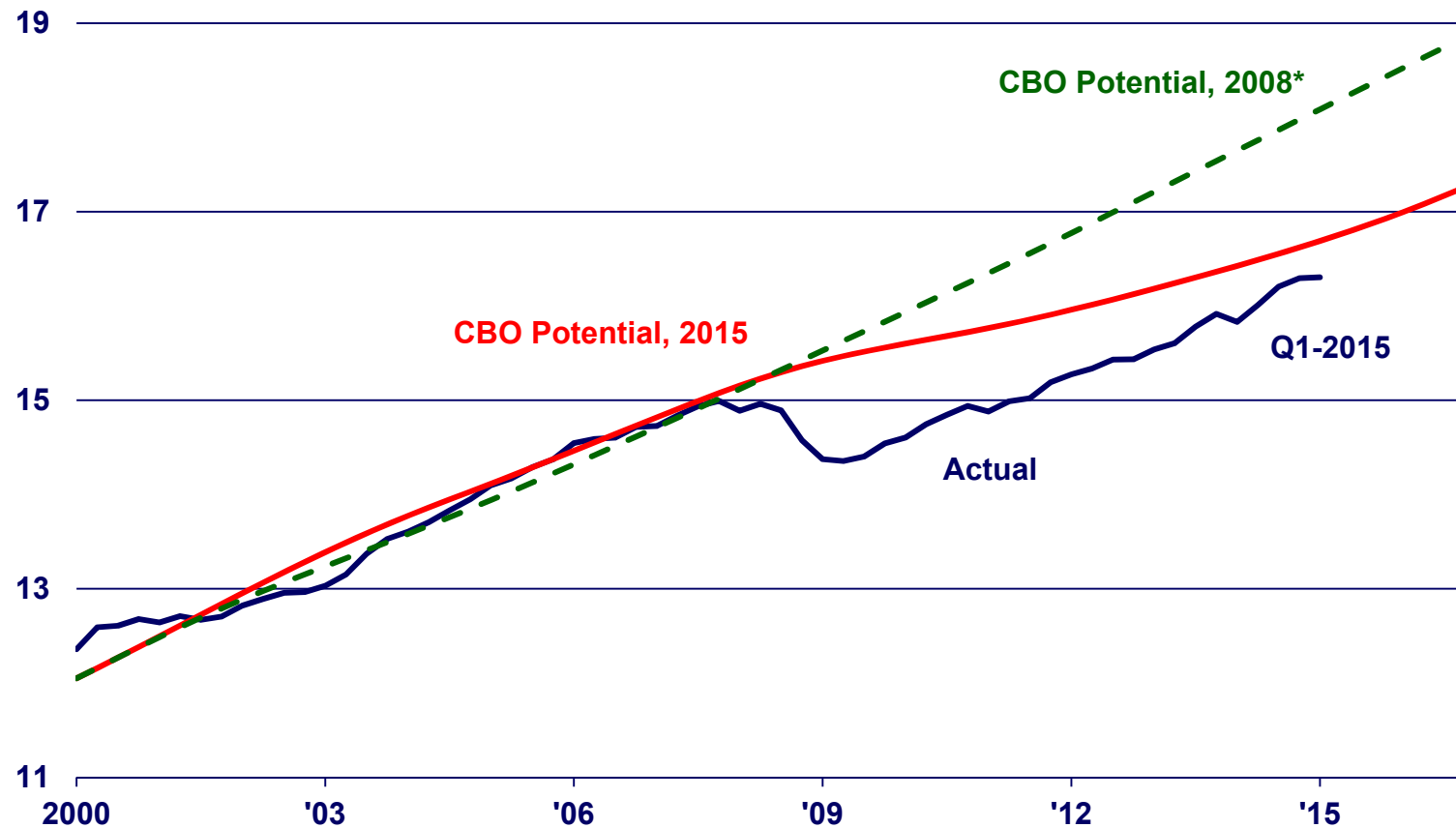


Source: Data from the Bureau of Economic Analysis, accessed via Haver Analytics.

# The Output Gap

## Gross Domestic Product

(Trils. 2009\$)



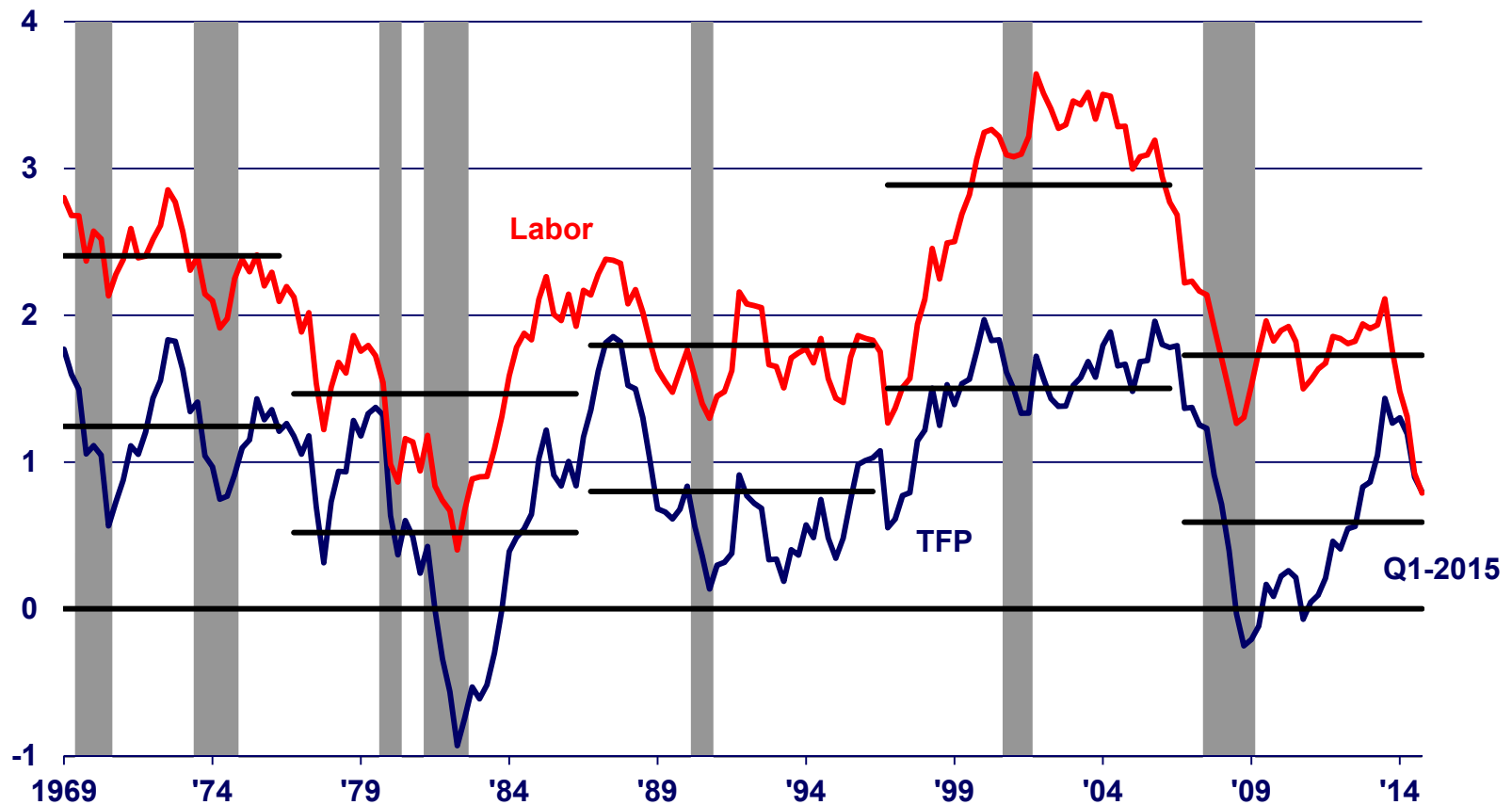
*2008 Potential GDP indexed to 2014 potential as of Q1-2000.*

*Source: Data from the Bureau of Economic Analysis and the Congressional Budget Office, accessed via Haver Analytics.*

# Productivity Growth

## Nonfarm Business Productivity

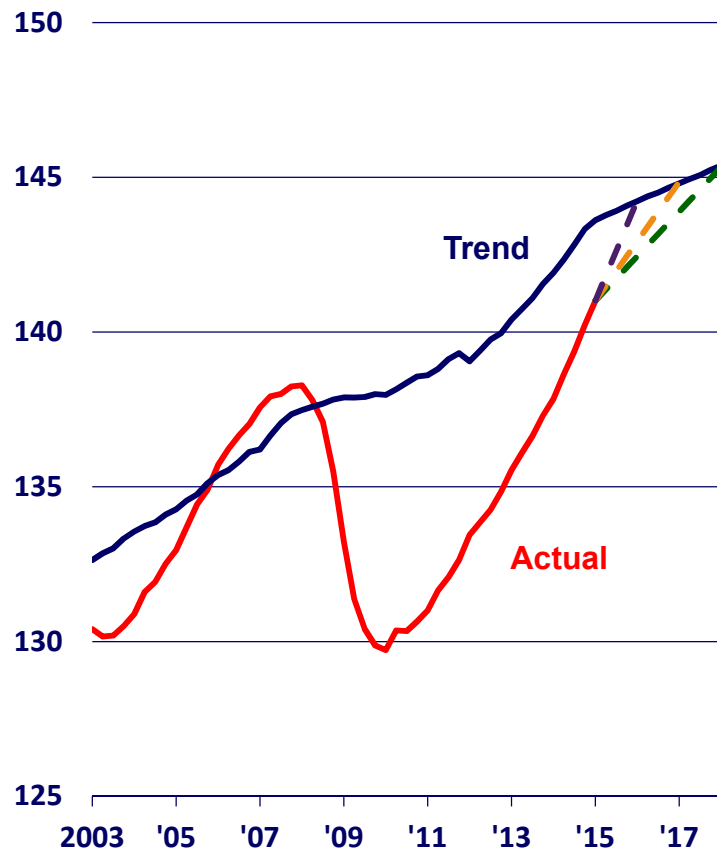
(20-quarter moving average of quarterly percent change)



Source: Based on estimates from the Federal Reserve Bank of San Francisco, accessed via Haver Analytics.

# The Employment Gap

## Nonfarm Payroll Employment (SA, millions)



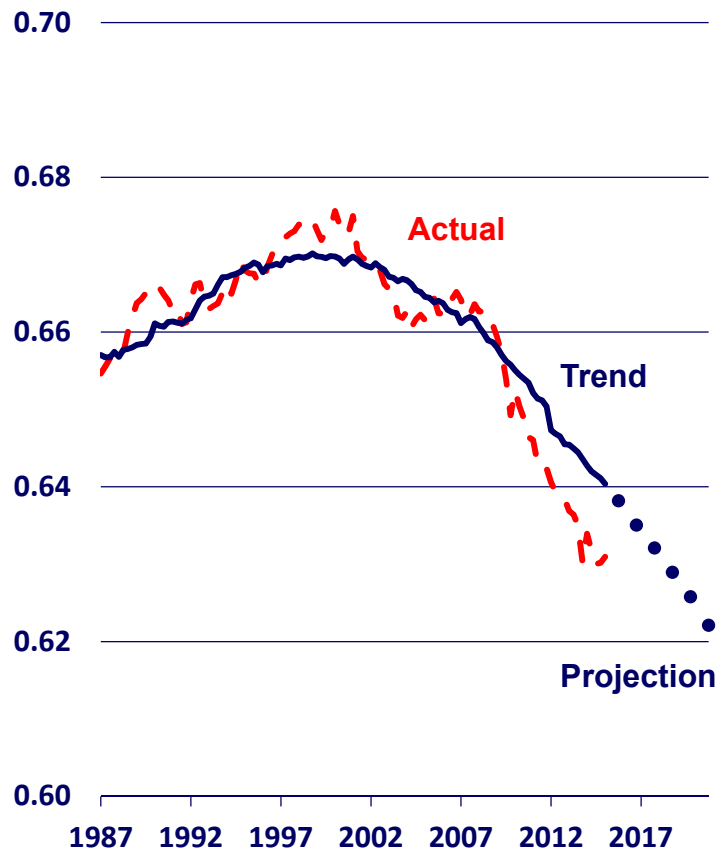
- Employment ~2.5 million below a reasonable notion of its maximum sustainable level
- Trend job growth expected to slow further over the rest of the decade
  - From ~100k to ~25k per month
- Growth needed to close the employment gap:
  - 120,000 / month for 3 years
  - 160,000 / month for 2 years
  - 270,000 / month for 1 year

Source: Based on "Estimating the trend in Employment Growth", Chicago Fed Letter July 2013.

# Demographics and Population Growth

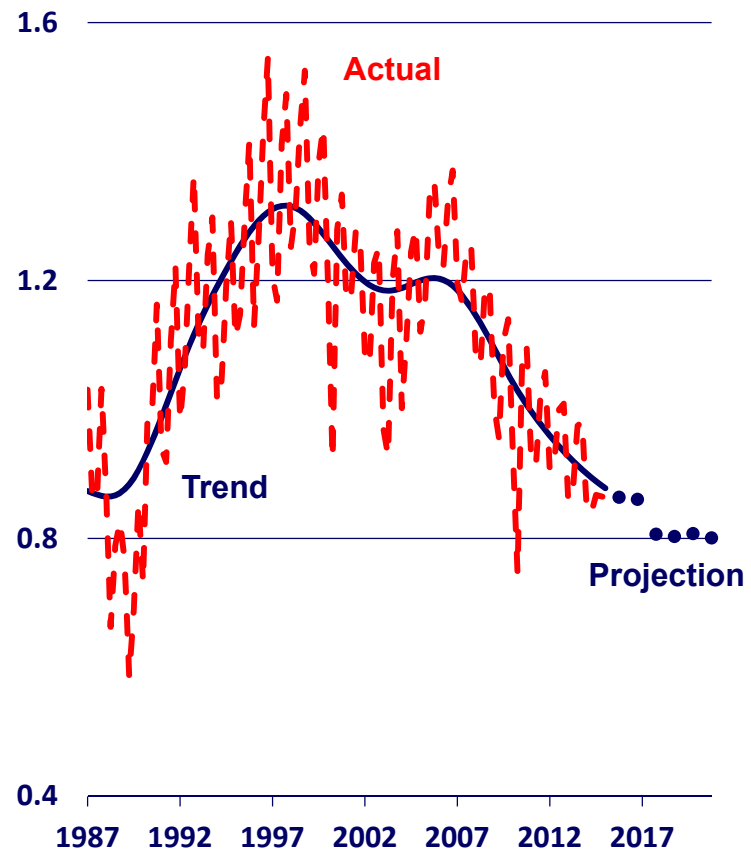
## Labor Force Participation

(fraction of the civilian noninstitutional population 16+)



## Population Growth

(percent)

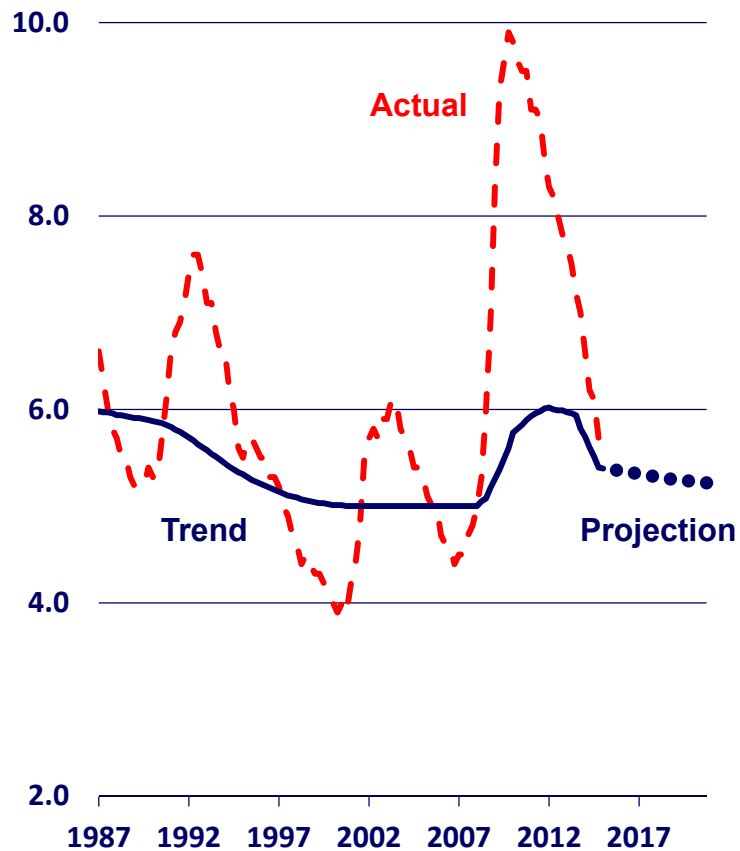


Source: Based on "Estimating the trend in Employment Growth", Chicago Fed Letter July 2013.

# Measures of Labor Market Slack

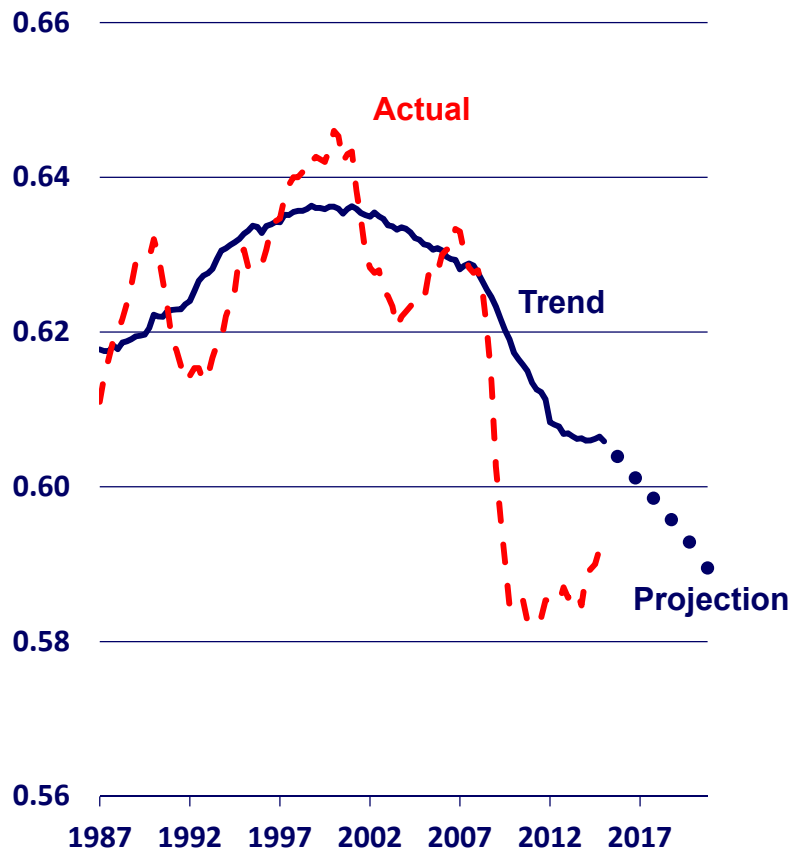
## Unemployment Rate

(percent)



## Employment-to-Population Ratio

(fraction)



Source: Based on "Estimating the trend in employment growth." Chicago Fed Letter, July 2013.

# Monetary Policy and the Real Economy

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## **Fed must accept Aggregate Supply**

### ■ **Available labor**

- Labor force adjusted for the natural rate of unemployment

### ■ **Effective capital stock**

- Plant, equipment, software, housing stock, etc.

### ■ **Productivity**

- Technological capabilities
- Institutions and regulations

## **Fed can change Aggregate Demand**

### ■ **Household spending**

- Incentive to save
- Wealth effects

### ■ **Business investment**

- Cost of capital
- Prospective product demand

### ■ **Net exports**

- Effects on dollar

# The Federal Reserve's Dual Mandate

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## ■ Price stability

- Sets 2% objective for PCE inflation
- Target is for an average over medium term – it is not a ceiling
- Explicit statement should help to anchor inflation expectations

## ■ Full employment

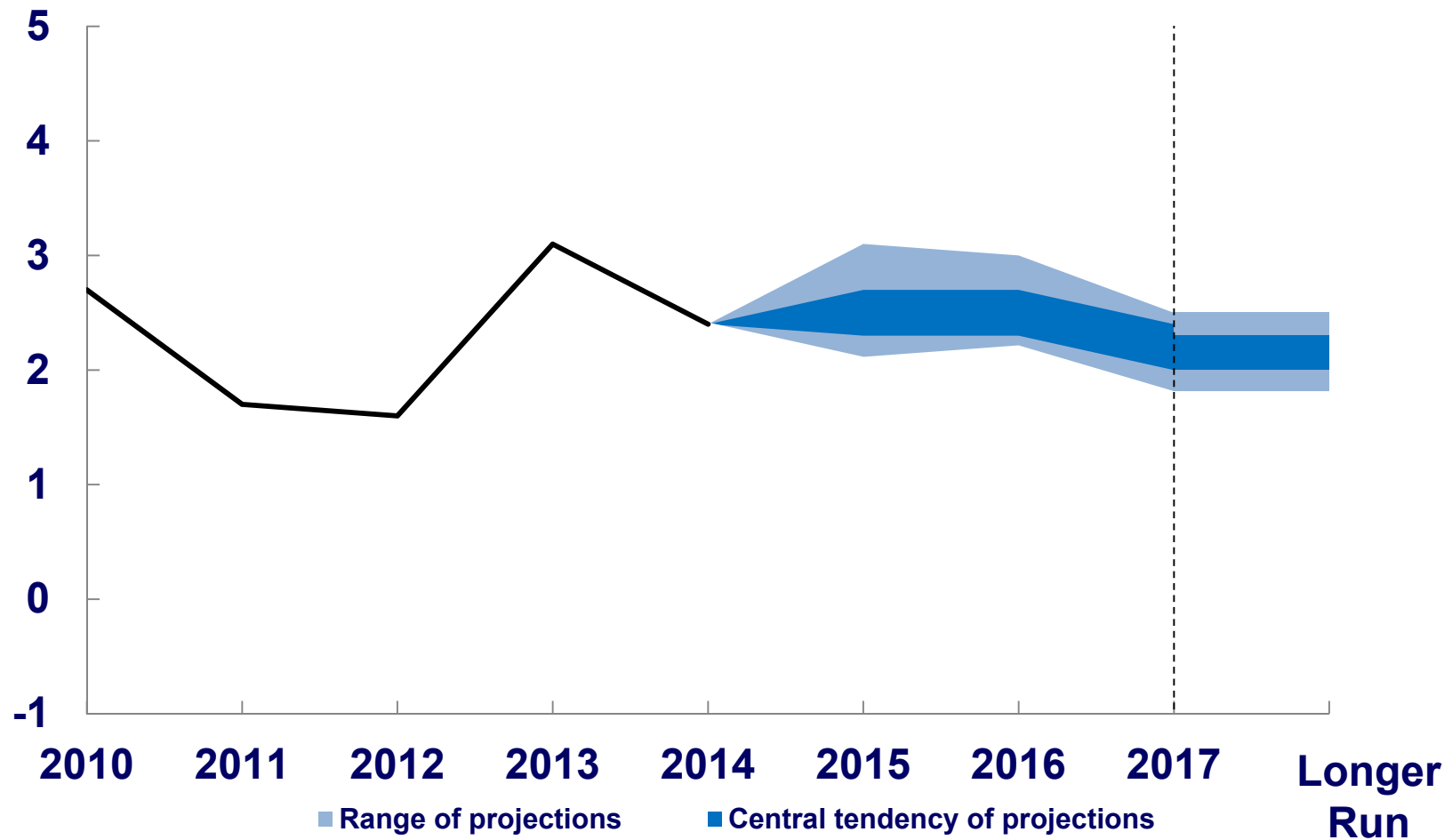
- The appropriate employment goal may change over time for nonmonetary reasons
- 5.0-5.2% unemployment rate *currently* consistent with mandate
- Seek an economy operating at its level of potential output

## ■ Balanced approach

- Take a balanced approach when shocks push the economy away from objectives

# FOMC Real GDP Growth Projections

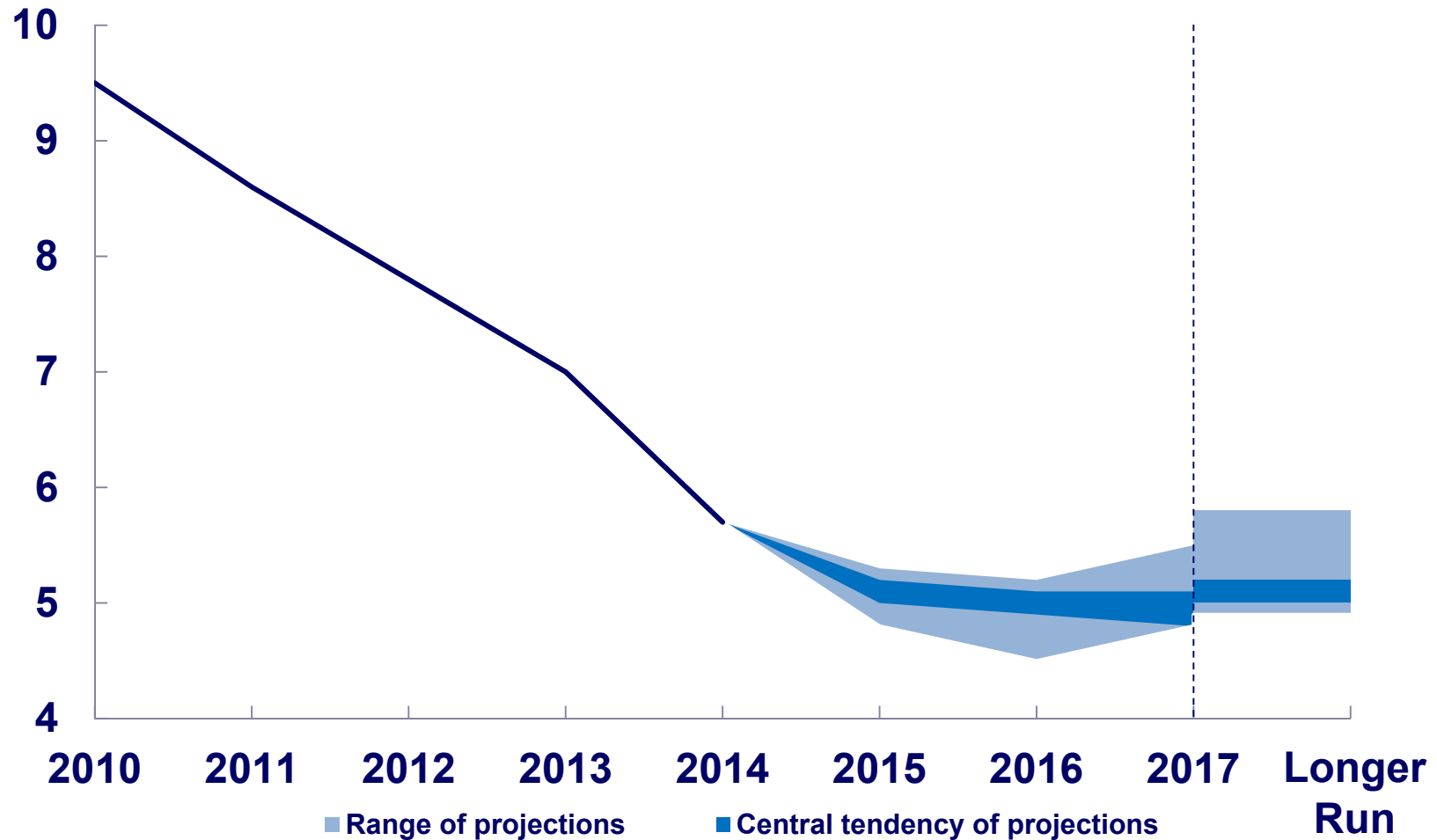
*percent, Q4 over Q4*



*Source: Summary of Economic Projections released following March 2015 FOMC meeting.*

# FOMC Unemployment Rate Projections

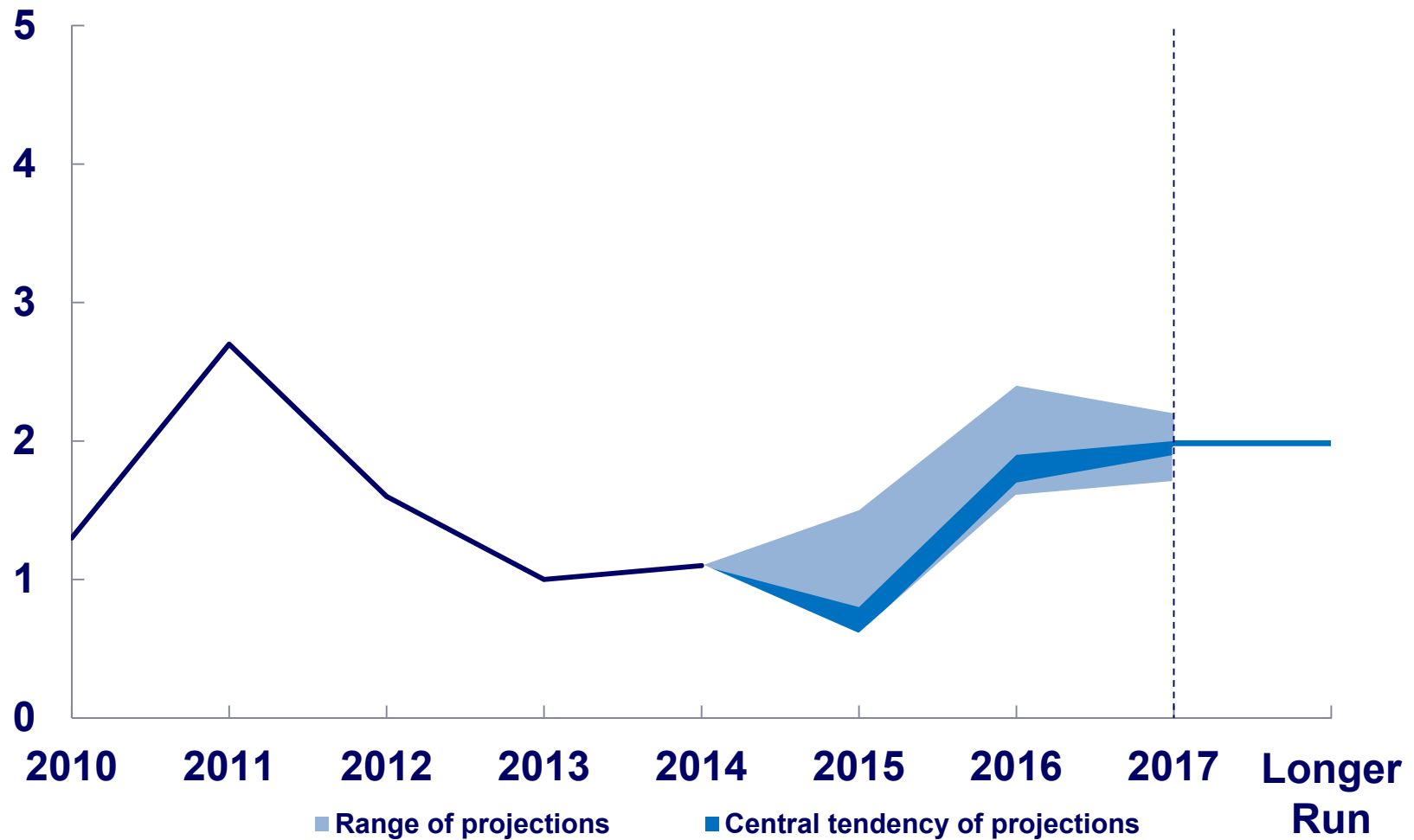
percent, Q4 average



Source: Summary of Economic Projections released following March 2015 FOMC meeting.

# FOMC PCE Inflation Projections

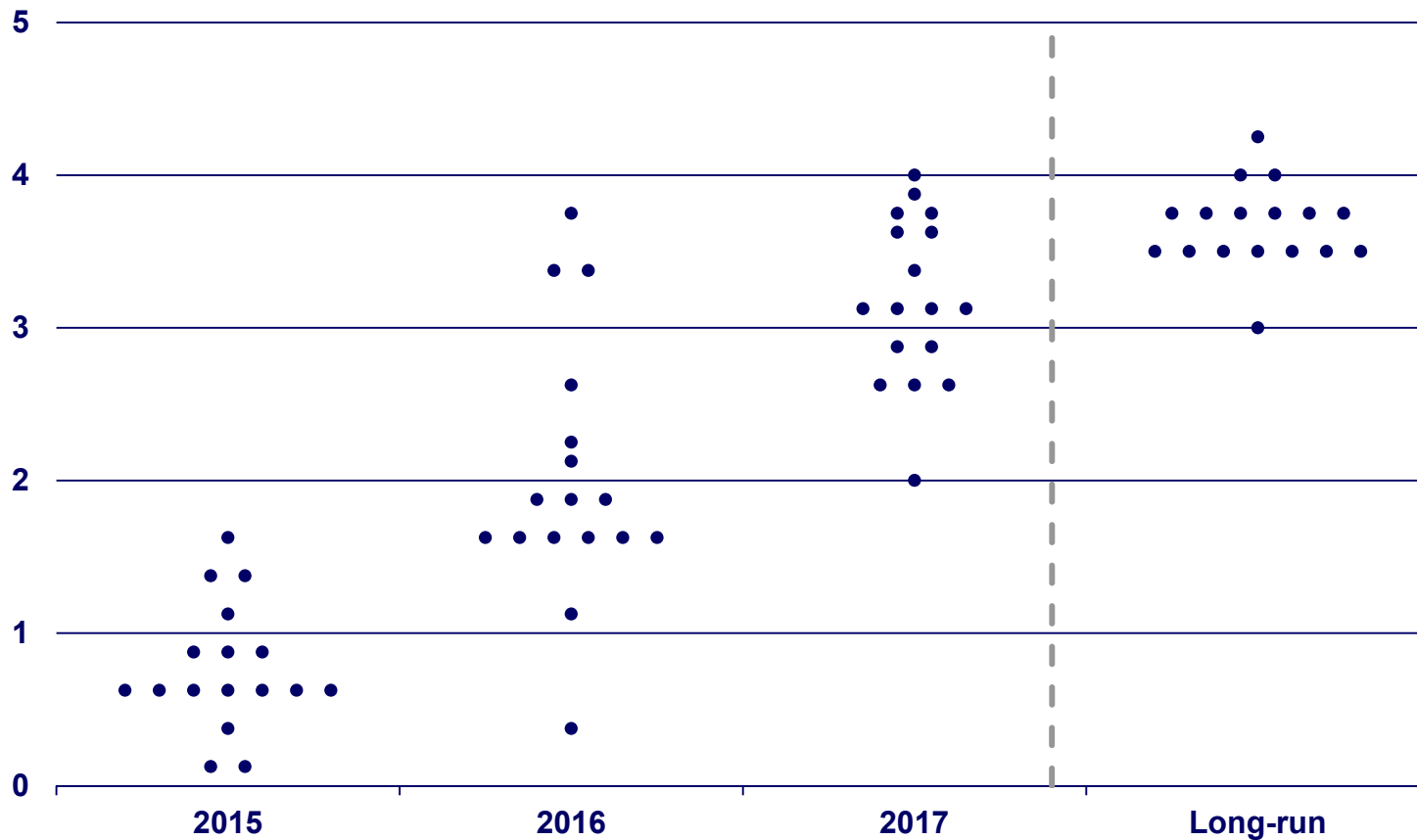
*percent, Q4 over Q4*



*Source: Summary of Economic Projections released following March 2015 FOMC meeting.*

# FOMC Federal Funds Rate Projections

*Number of FOMC Participants*



*Source: Interest rate projections are from the March 18, 2015 FOMC Summary of Economic Projections.*