
Monetary Policy – Lower for Longer?

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The views I express here are my own and do not necessarily reflect the views of the Federal Reserve Bank of Chicago, my colleagues on the Federal Open Market Committee (FOMC) or within the Federal Reserve System.

Overview

- **Relatively good near term growth outlook**
- **Lower potential output growth, lower r^***
- **Inflation is too low, its outlook uncertain**
 - Inflation compensation drifted down
 - Low-inflation psychology
 - Global disinflationary forces
- **My view: Monetary policy needs to**
 - Demonstrate symmetry of inflation target
 - Relate the pace of rate increases to progress in achieving the inflation target
 - Take a risk management approach

Long-Run Strategy for Monetary Policy

(January 2012, reaffirmed thereafter every January)

- **π^* = 2% PCE inflation**
 - Symmetric

- **$u_t^n \approx 4.8\%$**
 - Time-varying
 - Median of long-run sustainable level from the latest FOMC Summary of Economic Projections

- **Balanced approach to reducing deviations of inflation and employment from long-run objectives**

Output Growth Likely Rebounding in H2

■ GDP growth recovering from slow H1

- Consumption growth good
- Business spending not as soft

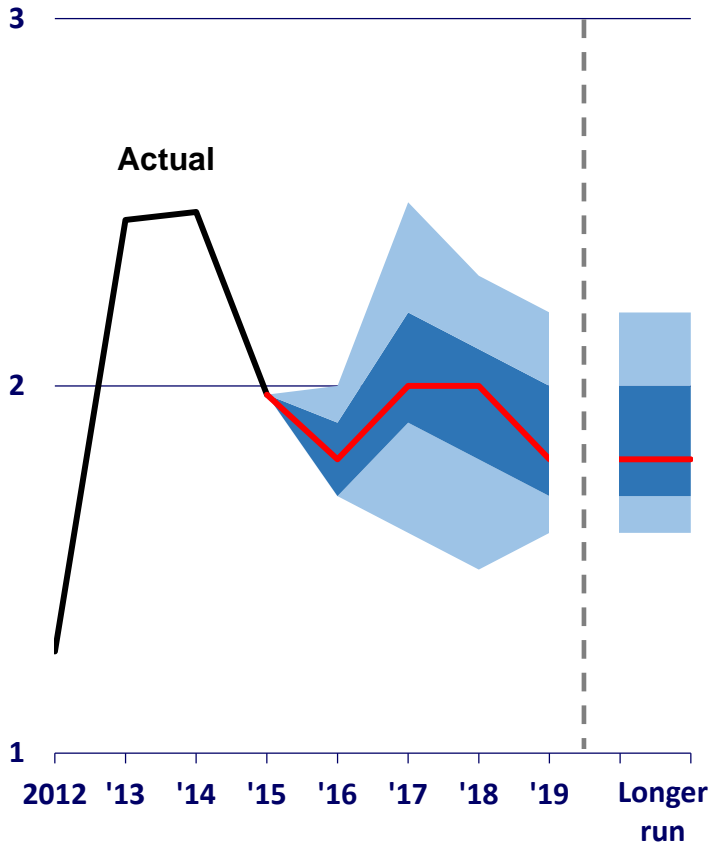
GDP Growth (%)

2015	1.9
2016:H1	1.0
2016:Q3	
MA*	2.5
GDPNow*	2.0

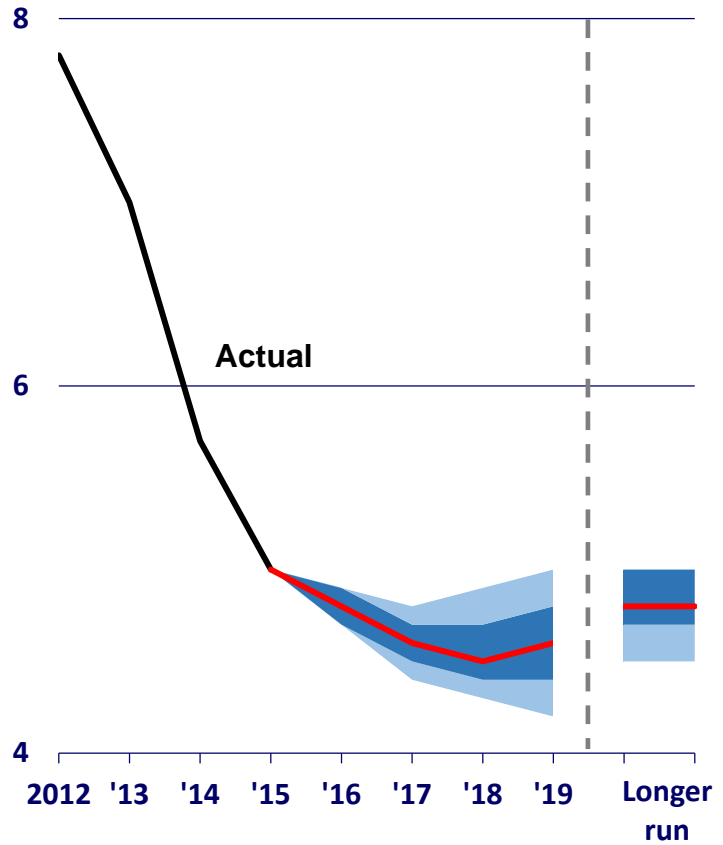
**Forecasts from Macroeconomic Advisers and Federal Reserve Bank of Atlanta as of October 19, 2016*

Growth Projections Above Trend in 2017 and 2018

Change in Real GDP
(percent)



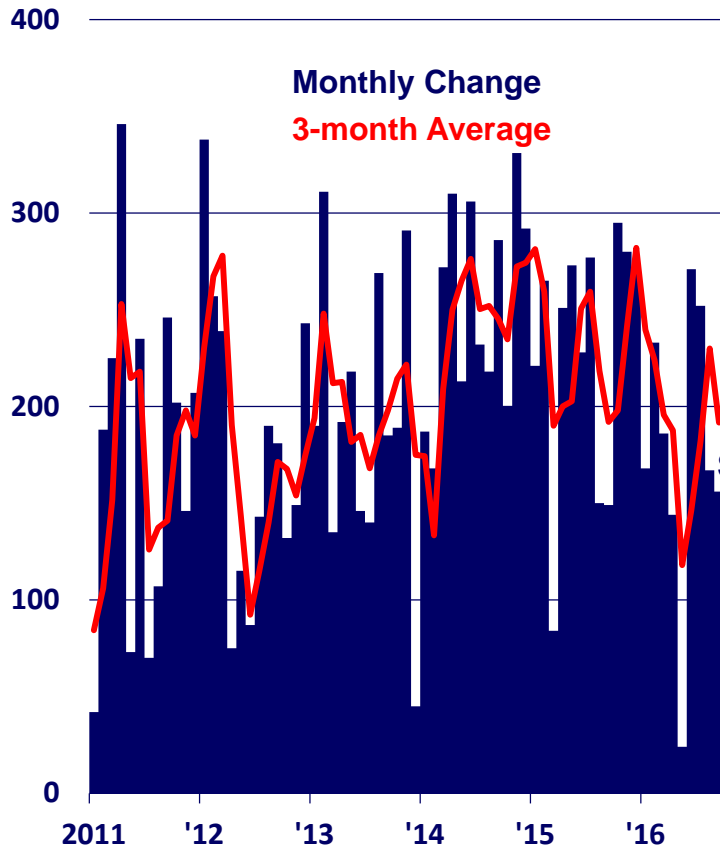
Unemployment Rate
(average)



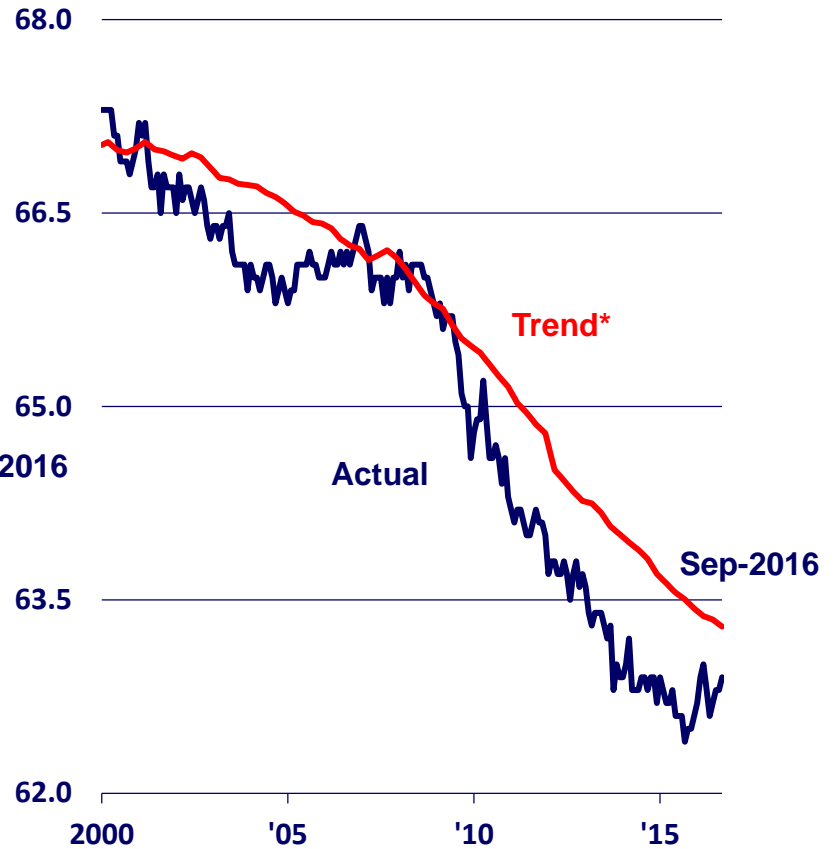
*Forecasts obtained from the September 21, 2016 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (dark blue) and ranges (light blue).

Solid Improvements in Labor Markets

Total Nonfarm Payroll Employment
(change, thousands)



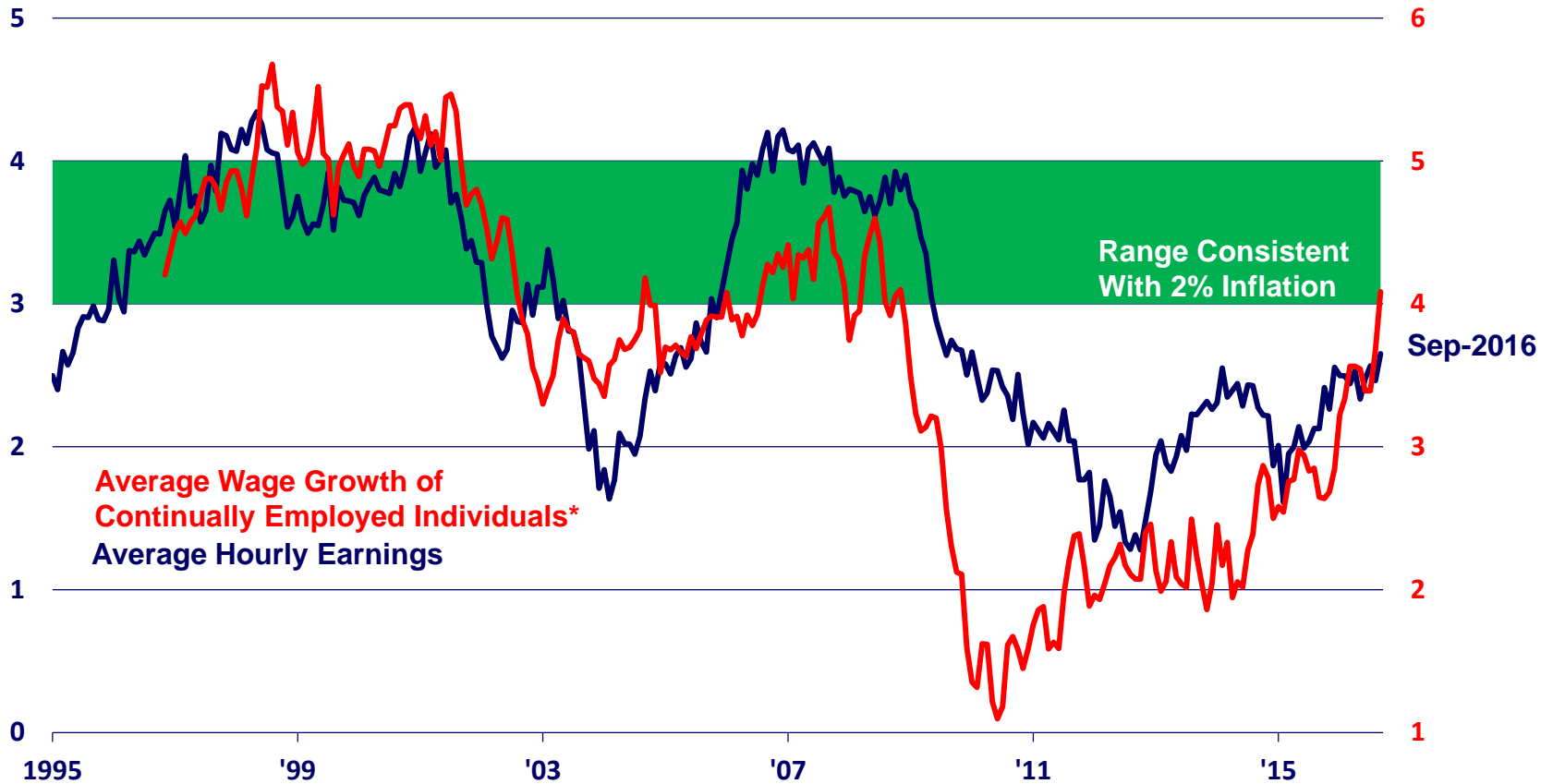
Participation Rate
(percent)



**FRBCHI Staff Estimate.*

Only Modest Pick-up in Wage Growth

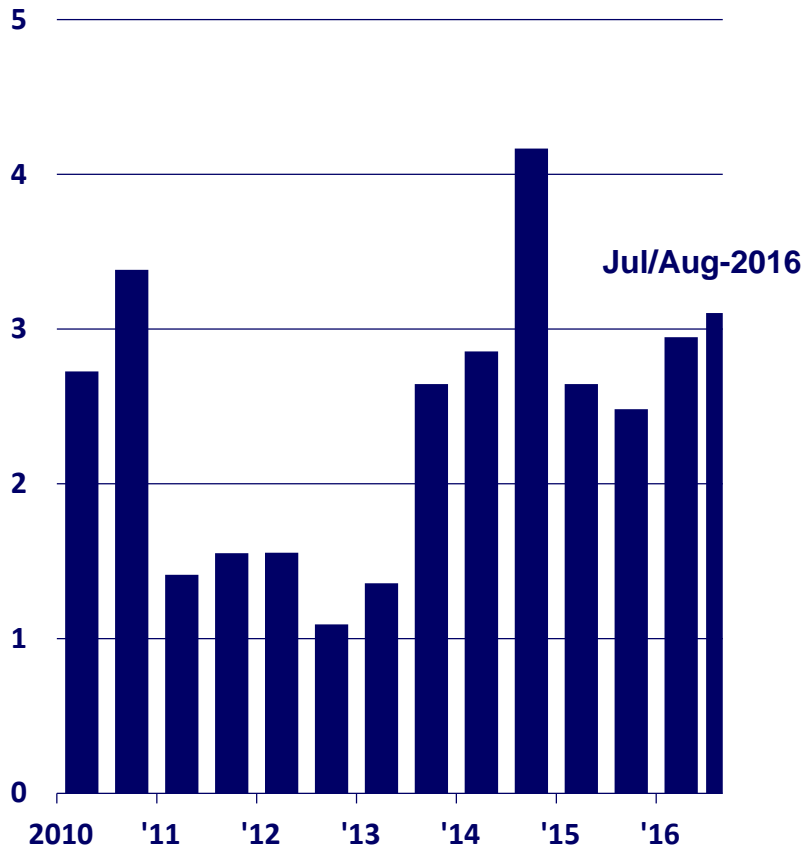
Hourly Wages and Compensation Growth (percent)



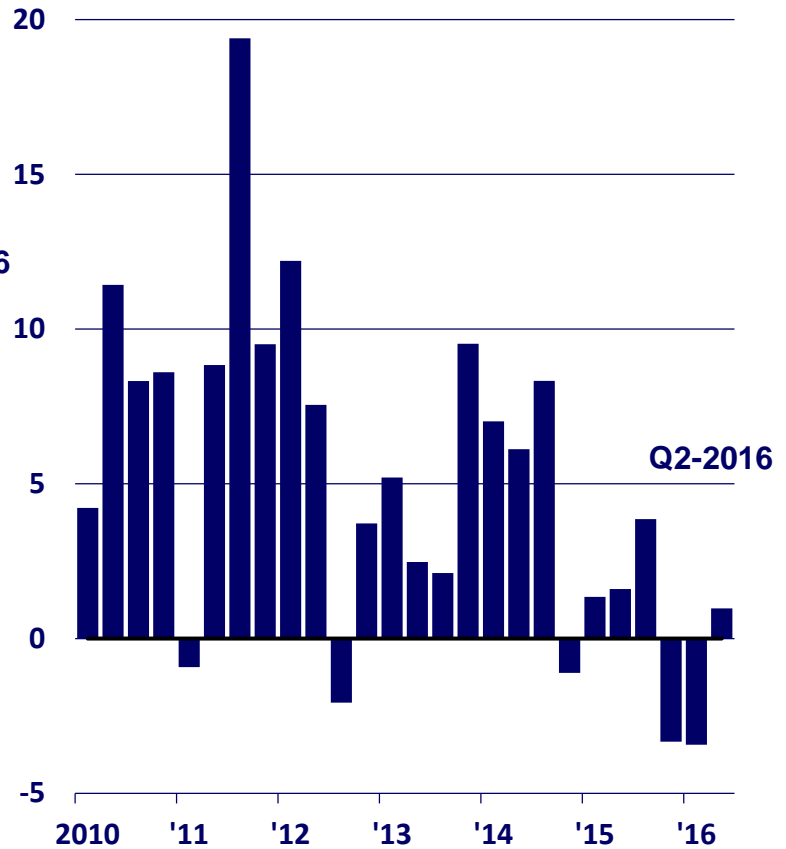
*FRBCHI Staff estimate based on data from the U.S. Census Bureau Current Population Survey.

Solid Consumption, Weak Business Investment

Personal Consumption Expenditures
(percent change, annualized*)



Nonresidential Fixed Investment
(quarterly percent change, annualized)



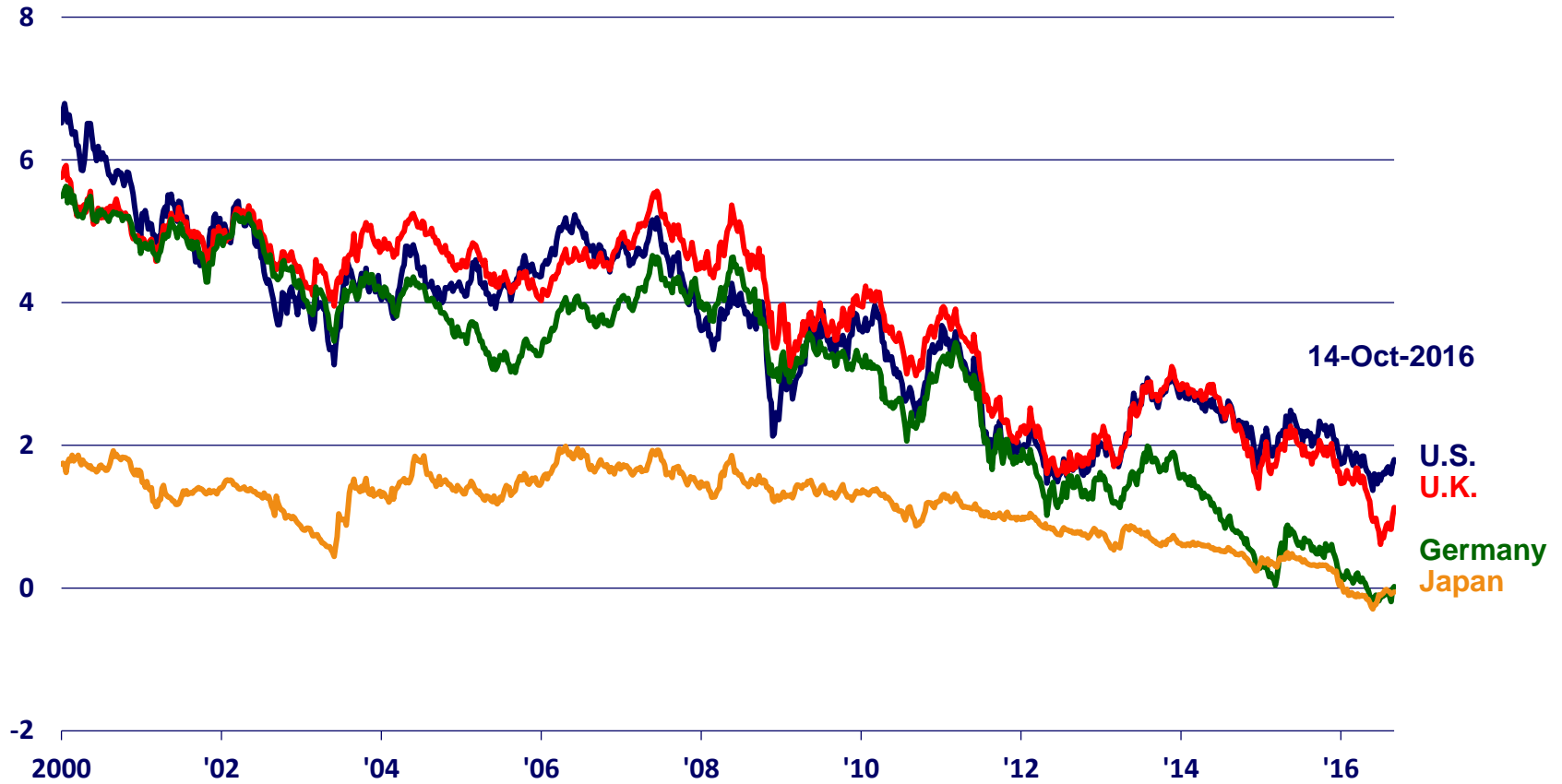
*Annualized half-year growth rates except for the last bar, which shows the annualize growth rate from the average of April and May, to the average of July and August.

Lower Potential Output Growth

- **FOMC participants' projections of longer run trend growth (long-run potential) have been declining**
- **Many reasons for lower potential output growth**
 - Slower growth in labor force
 - Plateauing labor quality
 - Weak capital investment
 - Slower pace of technological improvement
- **Real equilibrium interest rates are lower in an economy with lower potential output growth**

Declining Long-term Government Bond Yields

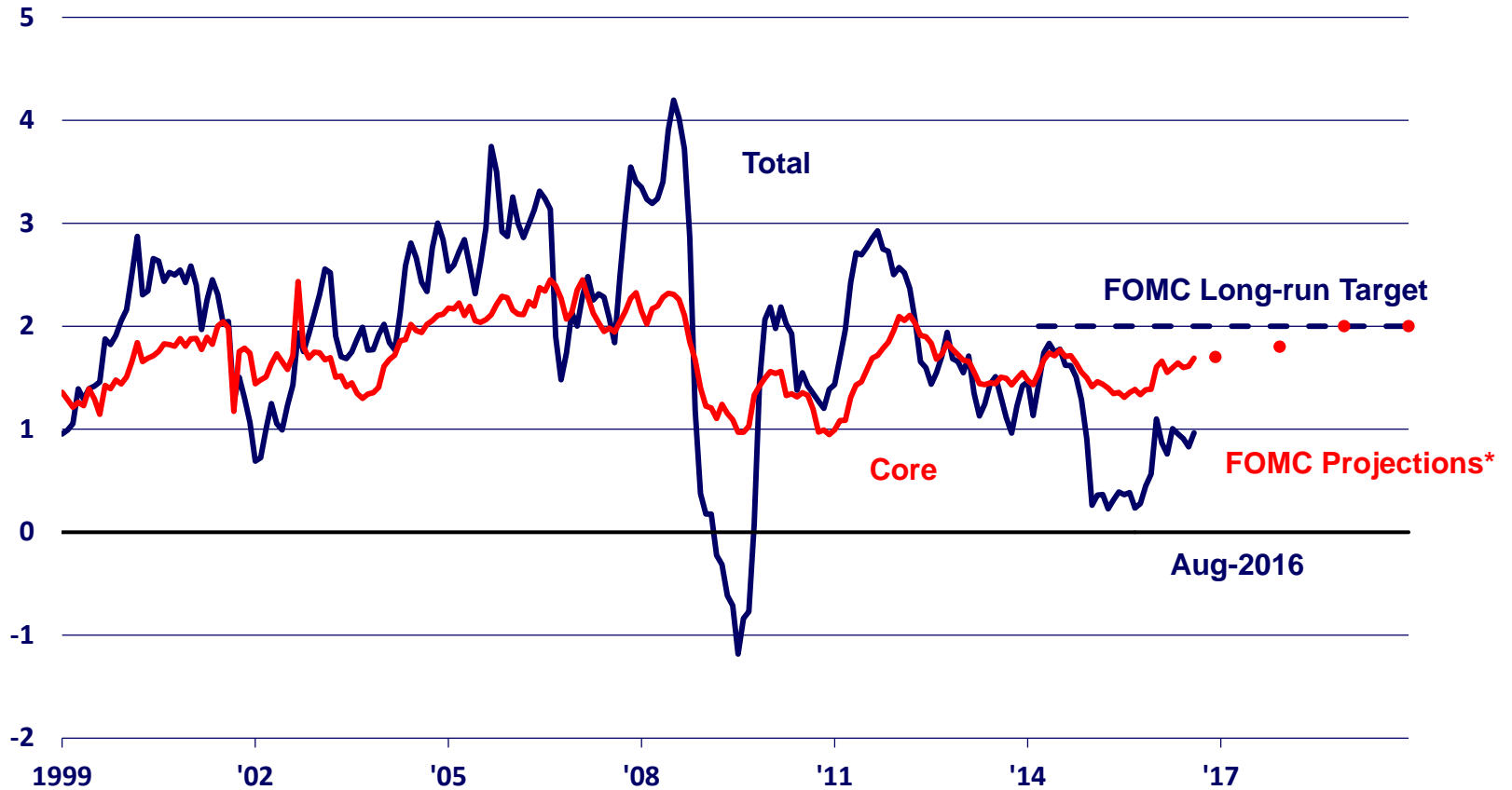
10-year Government Bond Yield
(percent)



Inflation is Too Low

PCE Price Index

(12-month percent change)



**Projections are the median values for core PCE inflation from the FOMC Summary of Economic Projections as of September 21, 2016.*

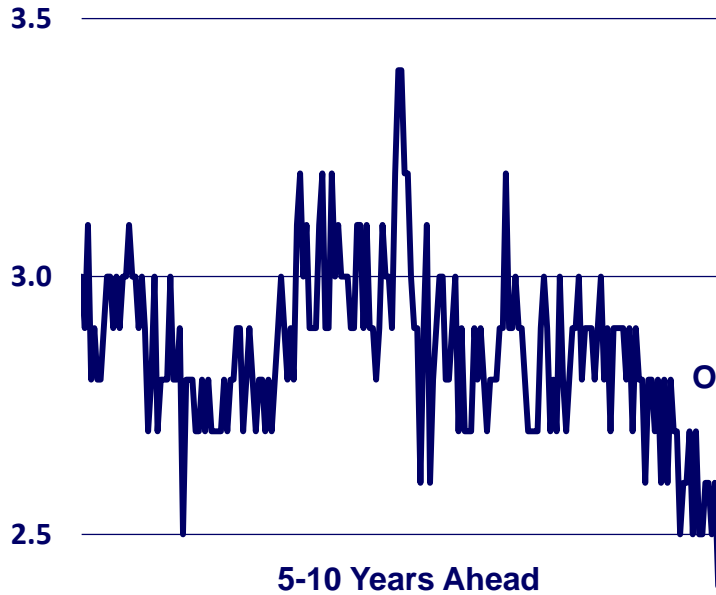
Inflation Outlook Still Quite Uncertain

- **Supporting higher inflation projections:**
 - Energy price and dollar stabilization
 - Tighter labor market

- **However:**
 - Financial market and survey indicators of inflation expectations at very low levels
 - Low inflation psychology among many contacts
 - Global disinflationary forces
 - ◆ Inflation is below target in all major advanced economies

Survey-Based Inflation Expectations Are Low

University of Michigan Median Inflation
(percent)



Survey of Professional Forecasters
(percent)



So Are TIPS Inflation Compensation

Implicit Inflation Compensation Embedded in TIPS

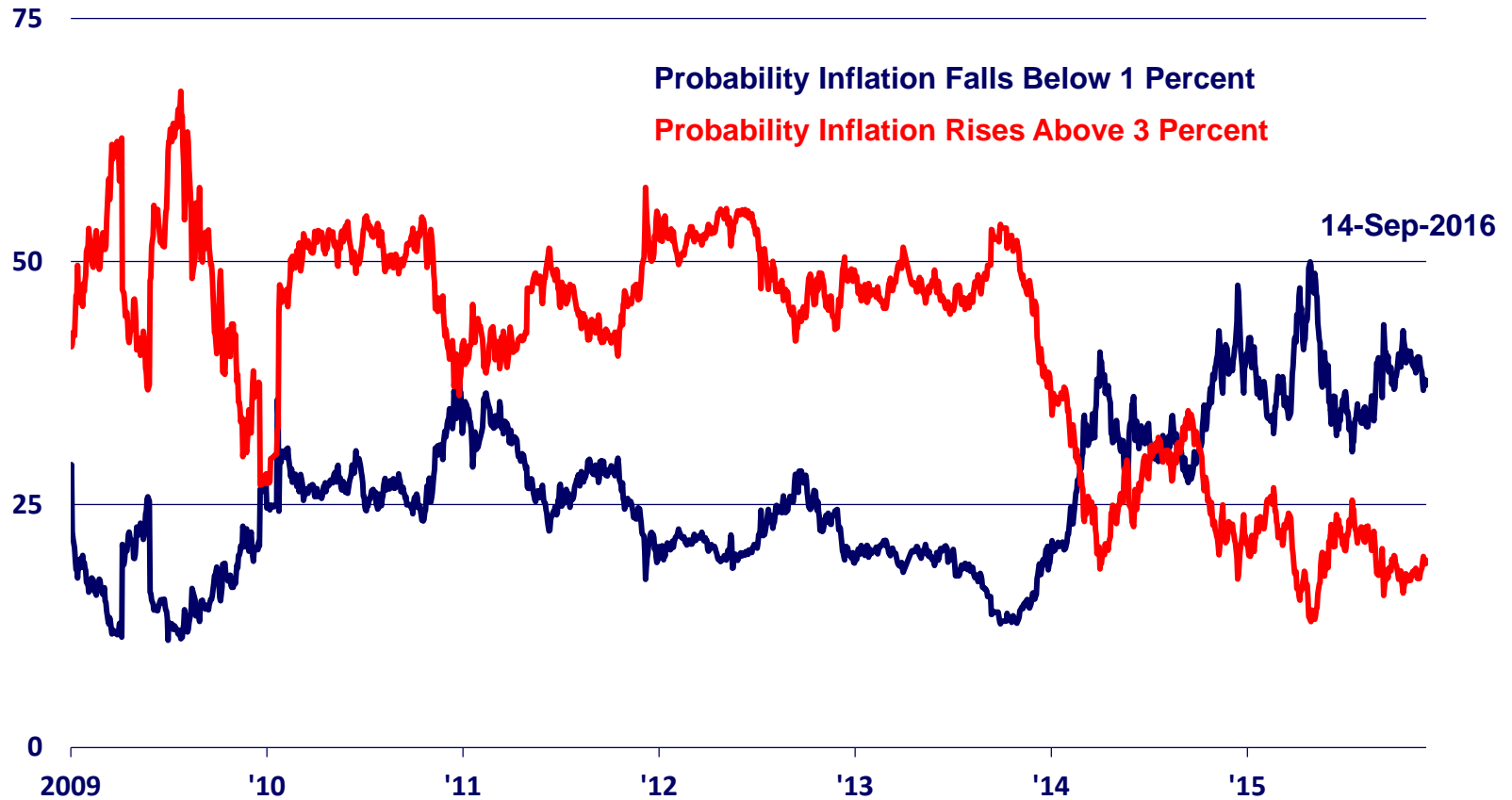
(percent)



Markets More Concerned About Low Inflation

10-Year CPI Inflation Probabilities as Priced by Inflation Derivatives

(probability)

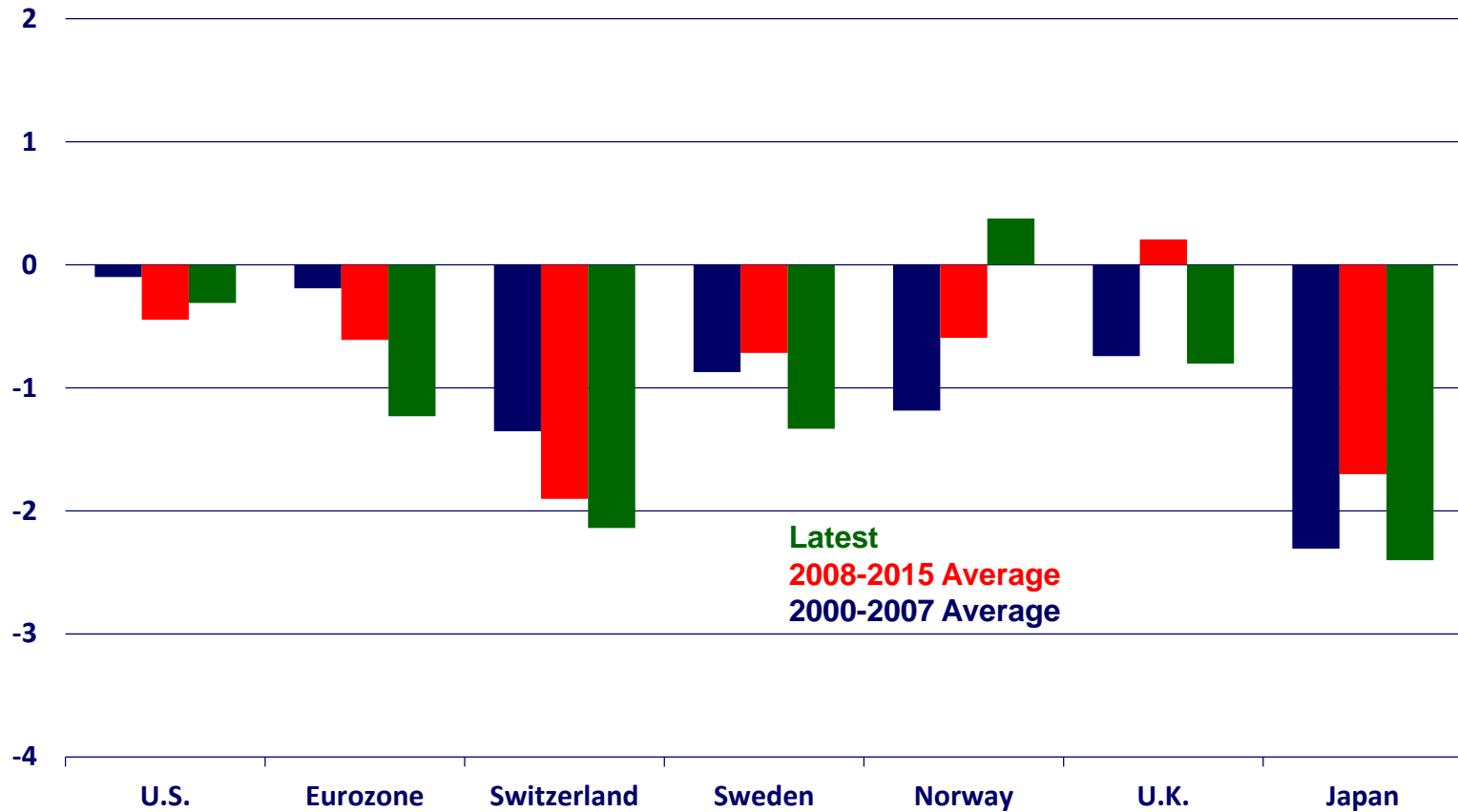


**Board of Governors, staff calculations.*

Inflation is Too Low Globally

Consumer Inflation

(year-over-year percent change, deviation from target)

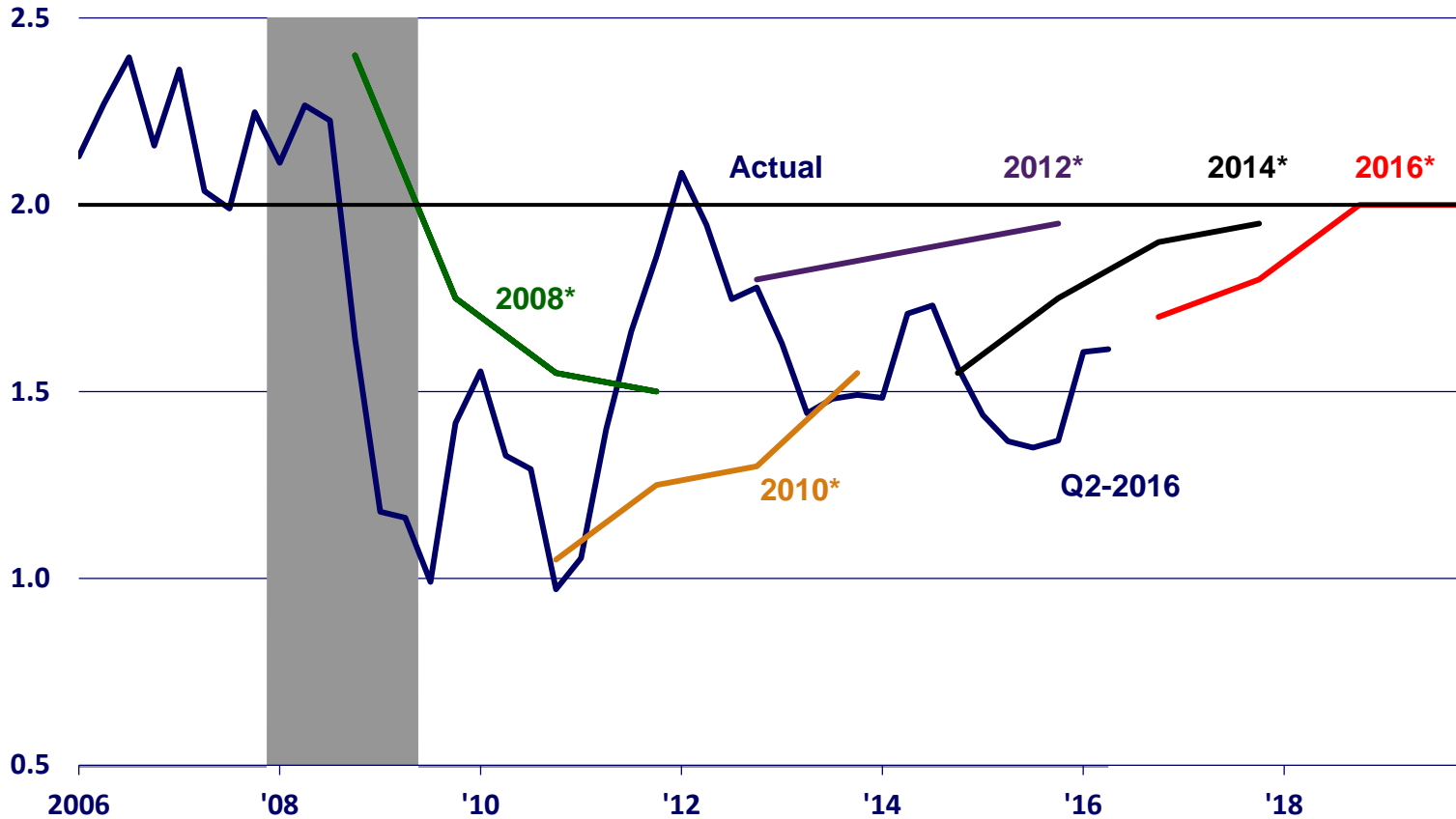


Consumer inflation in the U.S. is as measured by the core price index for Personal Consumption Expenditures; in other countries, it is measured by the core Consumer Price Index. Latest data are year-over-year changes in the most recently published monthly price index.

FOMC Inflation Projections Too High

Core PCE Inflation

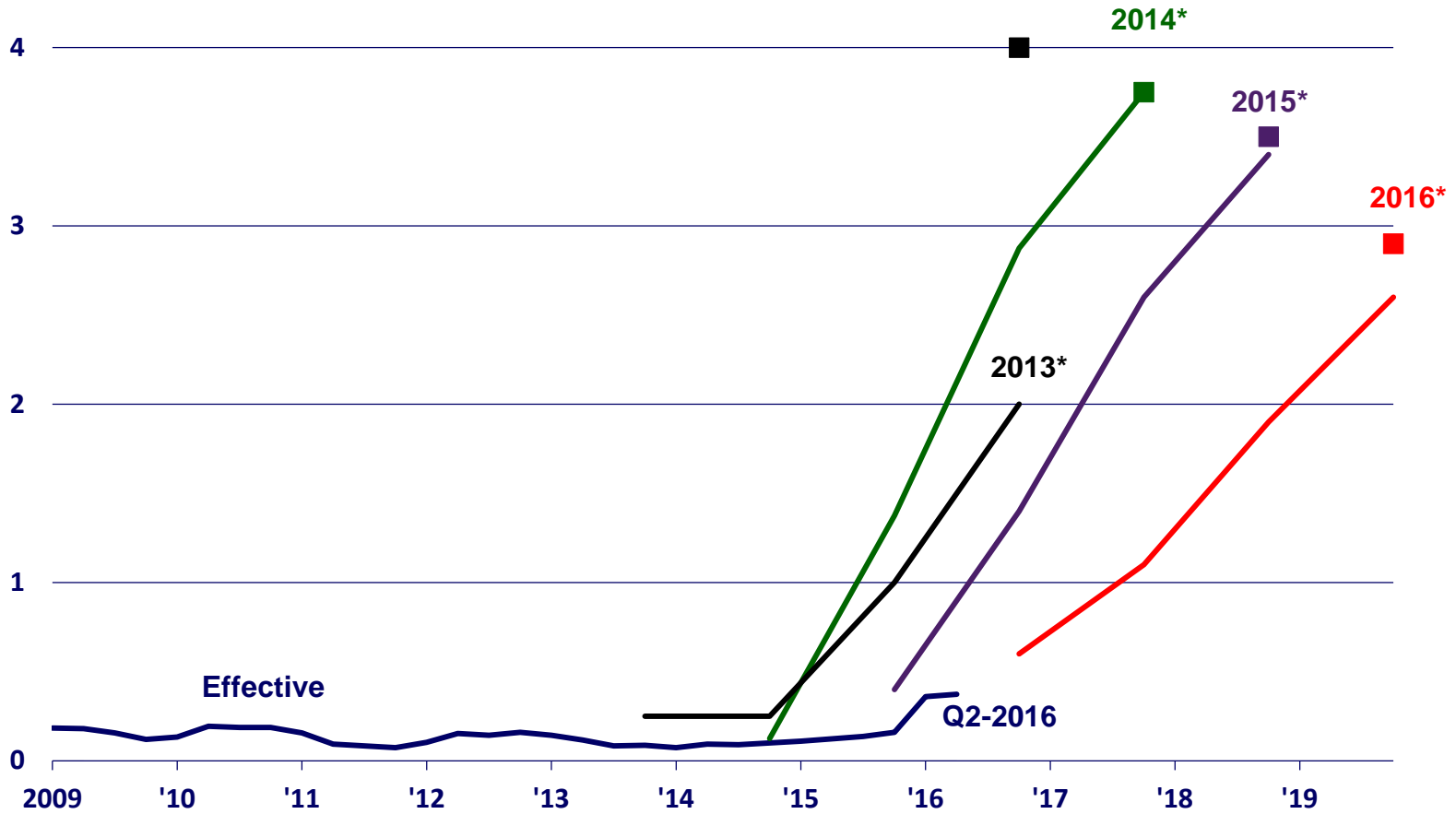
(year-over-year percent change)



**Projections obtained from the October 2008, November 2010, and September 2012, 2014, and 2016 releases of the Summary of Economic Projections of the FOMC. Projections are median values of the central tendency through September 2014, and median values for September 2016.*

FOMC Fed Funds Projections Revised Lower

Federal Funds Rate (percent)



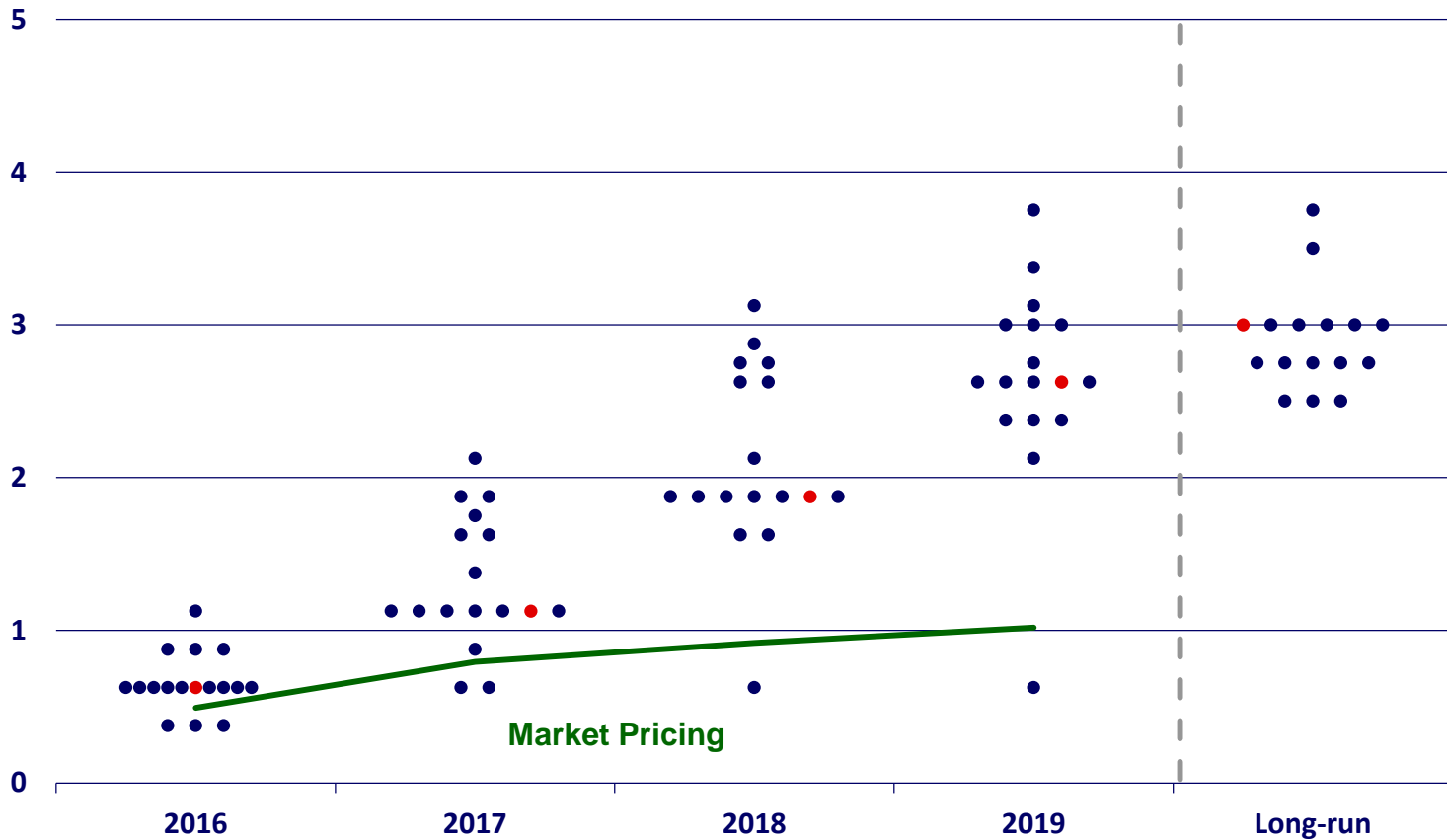
**Projections are the median values obtained from the September releases of the Summary of Economic Projections of the FOMC for each year from 2013 to 2016.*

Evans' Appropriate Monetary Policy

- **The need to demonstrate commitment to achieving the inflation target sustainably, symmetrically, and sooner rather than later**
- **Lower r^* means current policy not as accommodative**
 - Have less headroom to increase rates
- **Relate pace of rate increases to markers on inflation fundamentals**
 - Sustained higher readings on core inflation
 - Higher private-sector inflation expectations
 - Lower unemployment rate and other resource slack
- **Might require:**
 - Undershooting the unemployment rate, overshooting the inflation target

Appropriate Pace of Policy Firming

Federal Funds Rate at Year-End (percent)



Source: Interest rate projections are from the September 21, 2016 FOMC Summary of Economic Projections. Red dots indicate the median projection. Market expectations are from OIS futures as of October 20, 2016.