
Economic Outlook and Monetary Policy

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Scott A. Brave

Policy Economist

Federal Reserve Bank of Chicago

* 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.

The Federal Reserve's Dual Mandate

■ 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

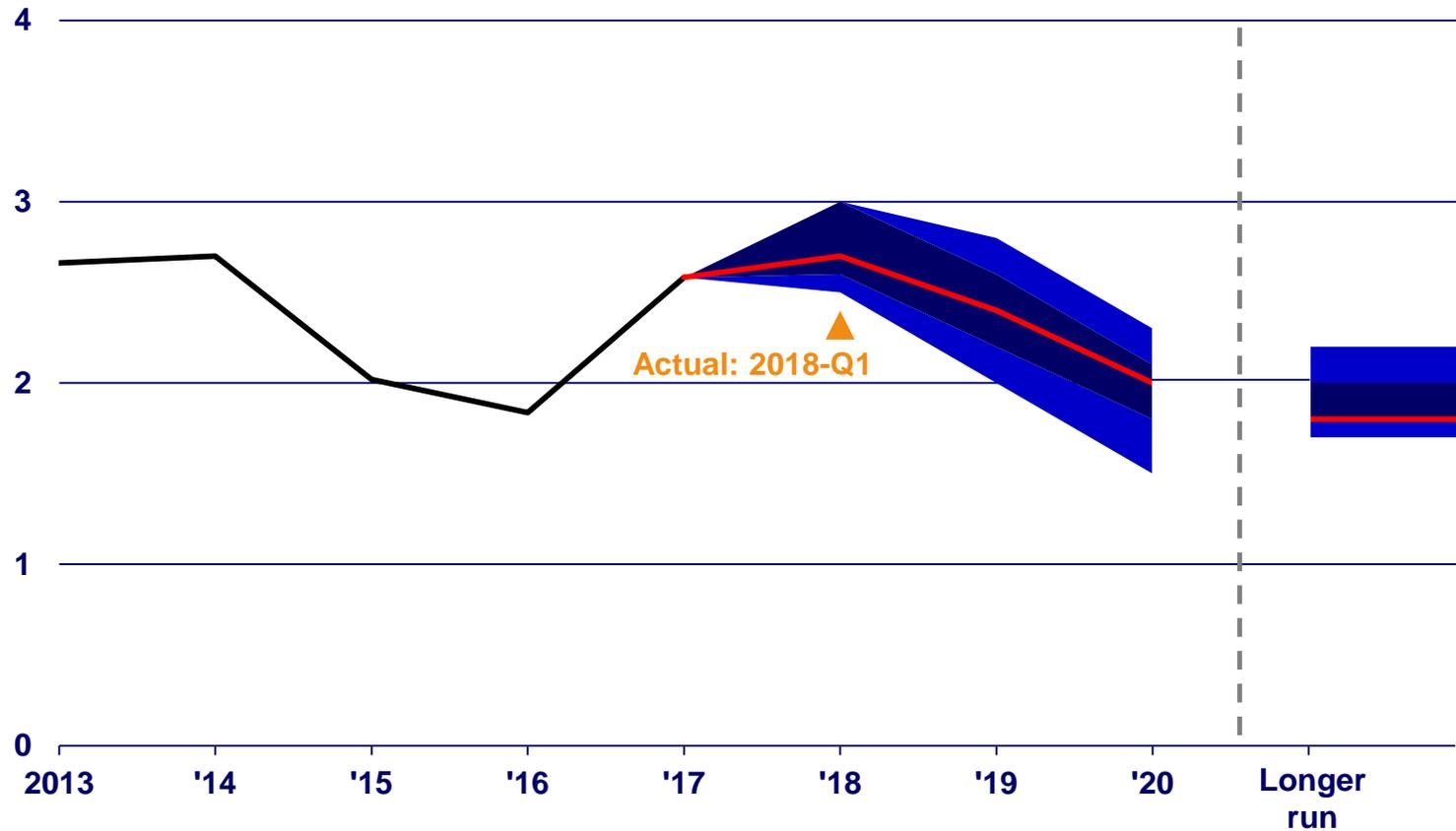
- The appropriate employment goal may change over time for nonmonetary reasons
- 4.3-4.7% unemployment rate *currently* consistent with mandate
- Seek an economy operating at its level of potential output

■ Balanced approach

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

FOMC GDP Growth Projections

Change in Real GDP (percent)

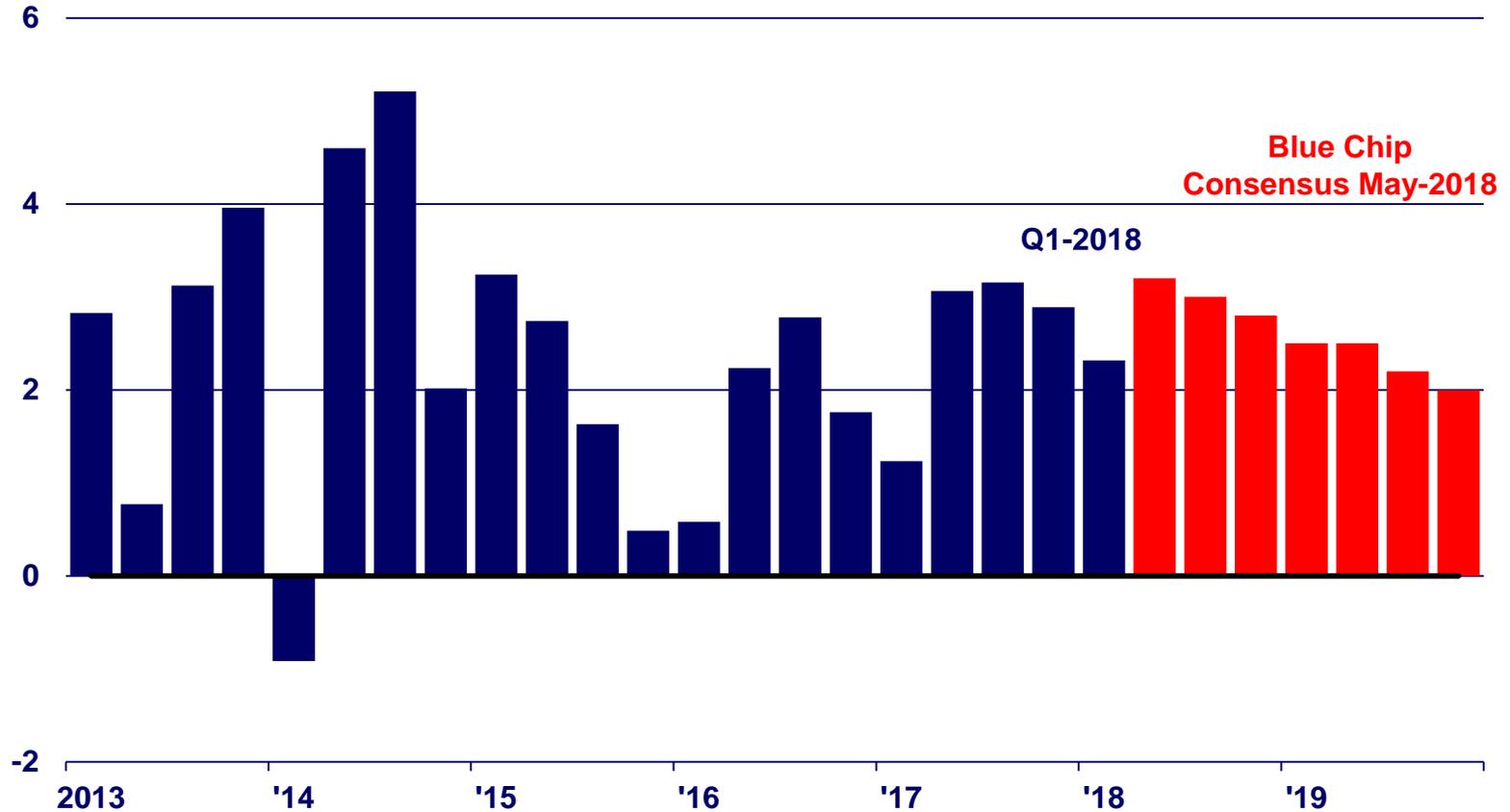


Source: Projections were obtained from the March 21, 2018 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (dark area) and ranges (light area).

Private Sector Growth Forecasts

Real GDP Growth

(percent change, annual rate)

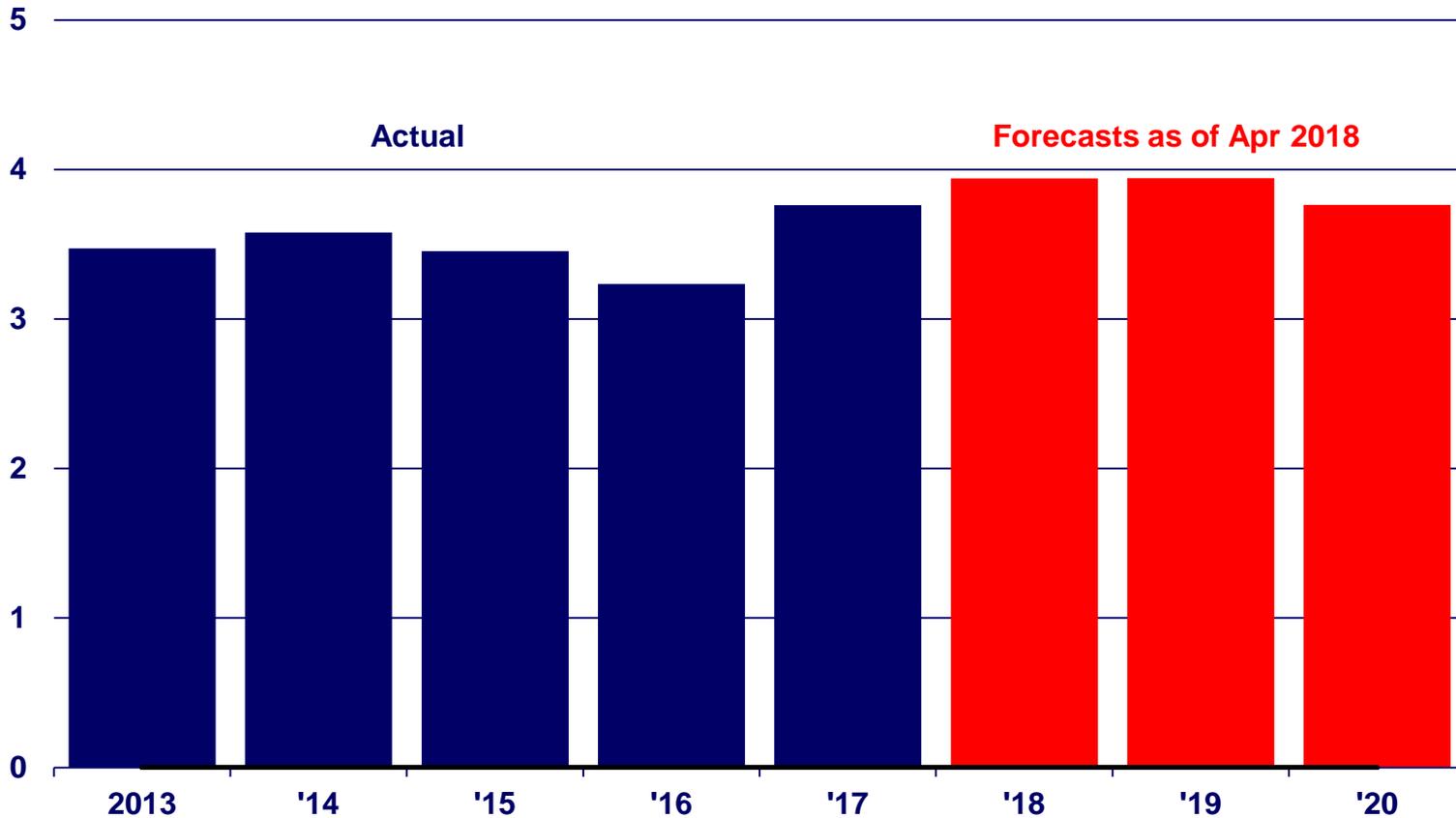


Source: Data from the Bureau of Economic Analysis and Blue Chip Economic Indicators, accessed via Haver Analytics.

Global Growth Forecasts

Real World GDP Growth

(4-quarter percent change)

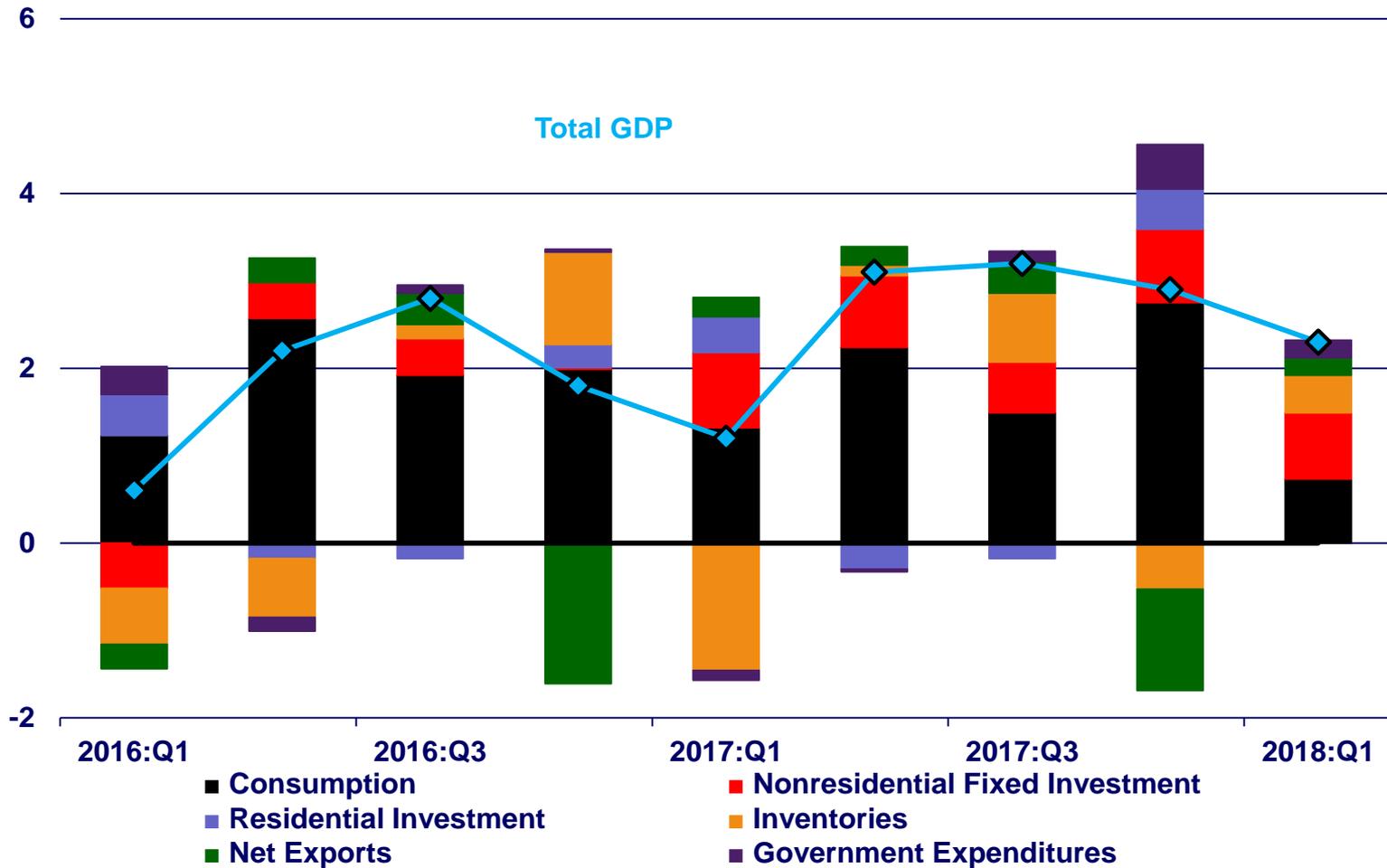


Source: Data from the International Monetary Fund, accessed via Haver Analytics.

Contributions to U.S. Growth by Sector

Contributions to Real GDP Growth

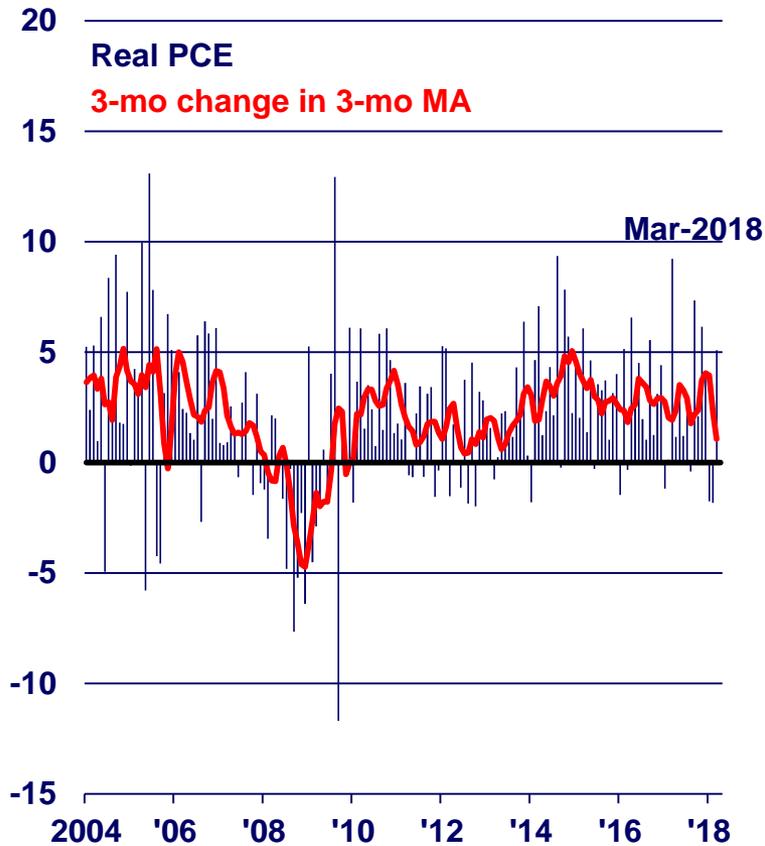
(percent, annual rate)



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

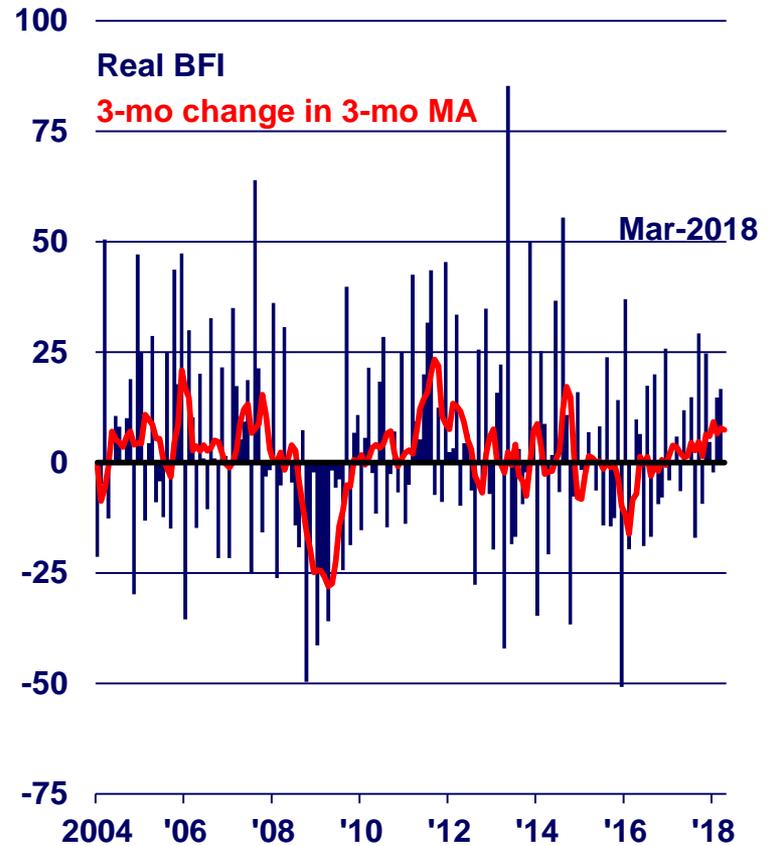
Consumer and Business Spending

Consumer Spending (percent change, annual rate)



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

Business Spending (percent change, annual rate)

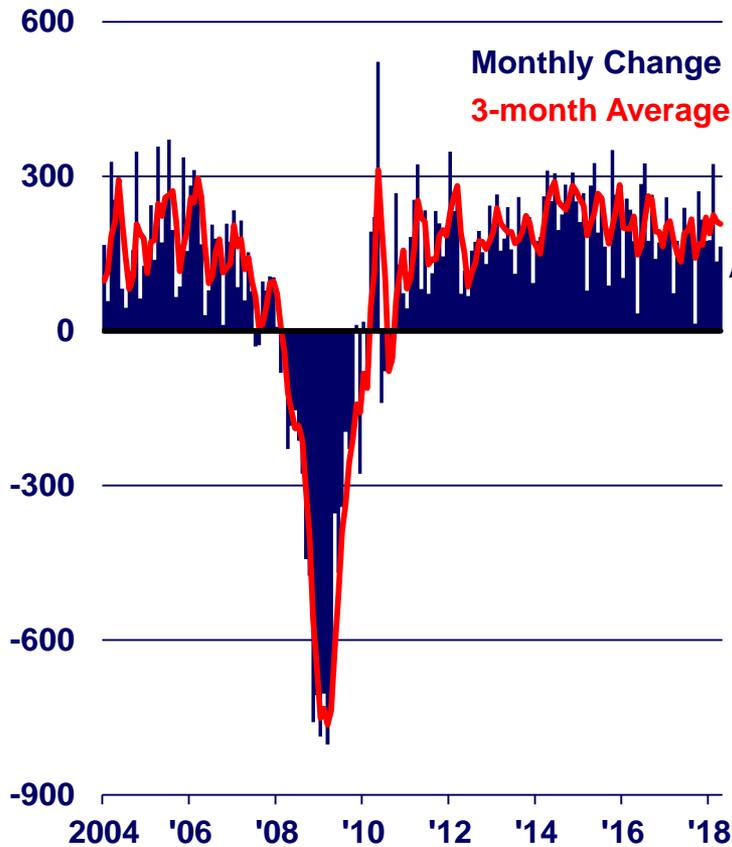


Source: Author's calculations based on data from the Bureau of Economic Analysis and Census Bureau, accessed via Haver Analytics.

The Labor Market

Nonfarm Payroll Employment

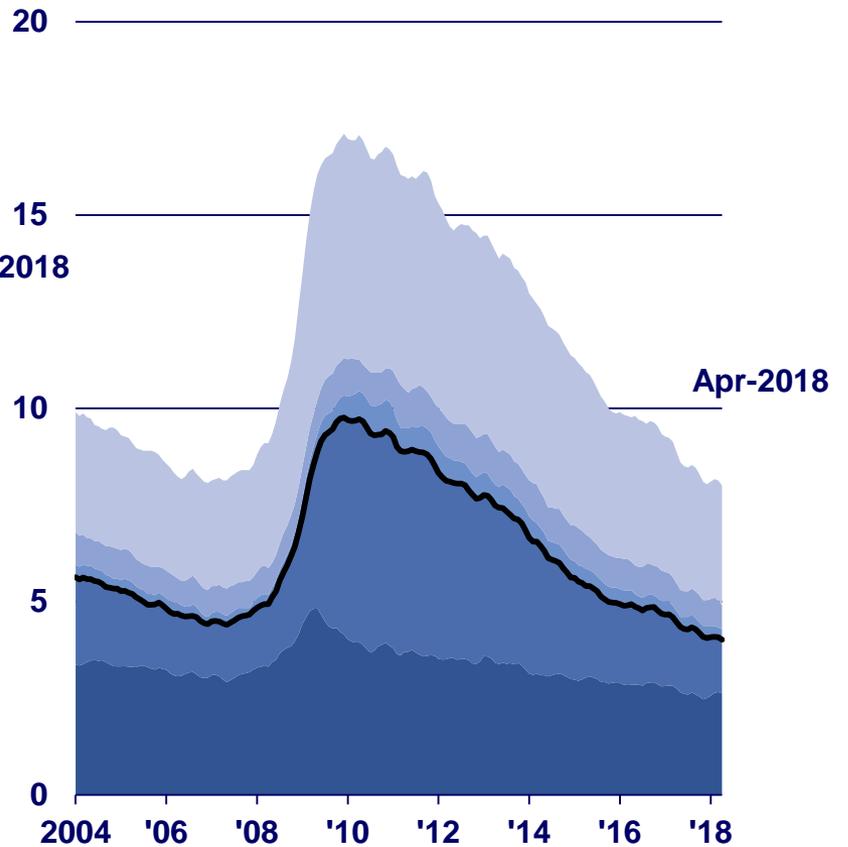
(change, thousands)



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

Labor Underutilization Measures

(percent)



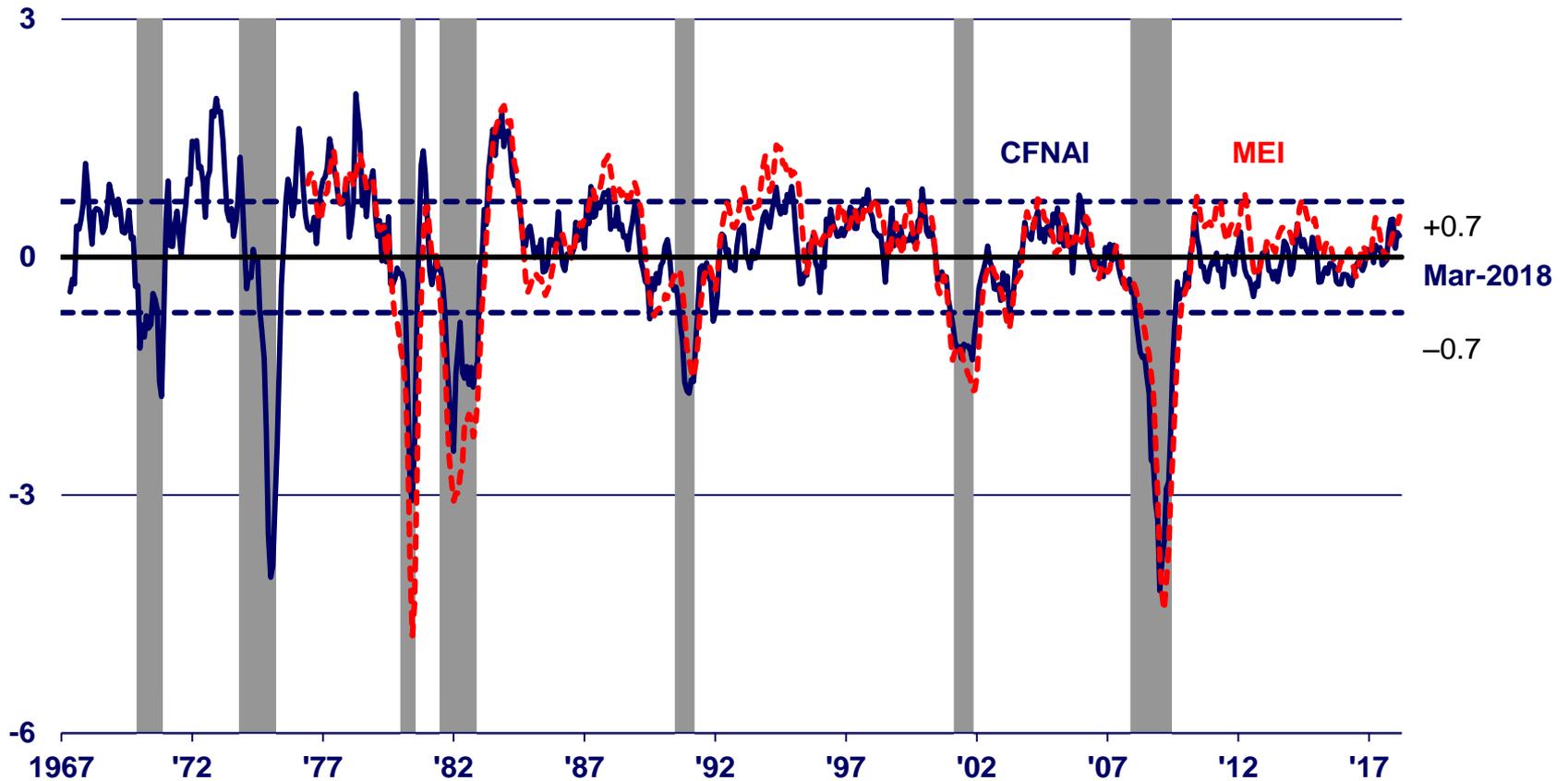
- Unemployment Rate
- Unemployed < 15 Weeks
- Unemployed > 15 Weeks
- Marginal, Discouraged
- Marginal, not Discouraged
- PT for Economic Reasons

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

U.S. and Midwest Economic Activity

Chicago Fed Activity Indexes

(standard deviation from trend, 3-month average)

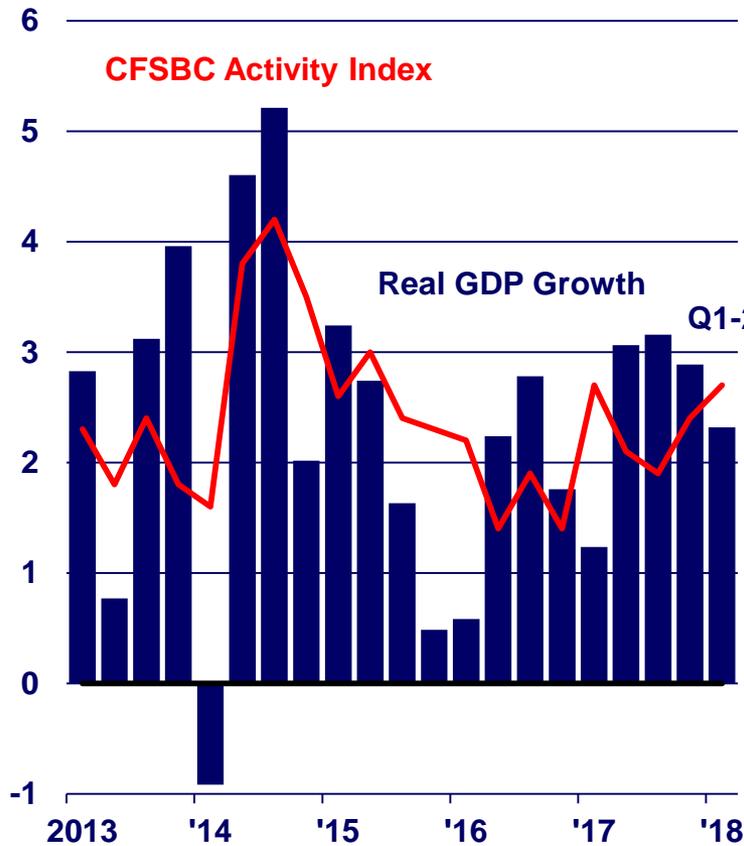


Source: Data from the Federal Reserve Bank of Chicago, accessed via Haver Analytics.
Shading indicates US recessions according to the National Bureau of Economic Research.

Chicago Fed Survey of Business Conditions

Real GDP and CFSBC Activity Index

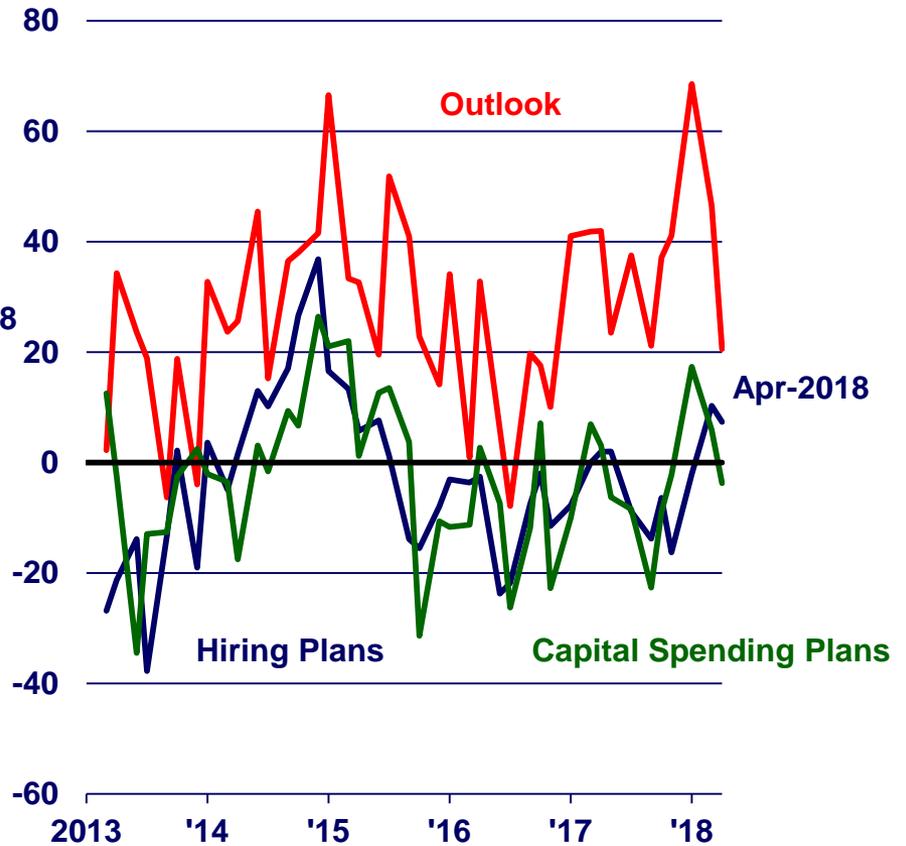
(GDP: percent change, annualized;
Index: 0 = trend growth)



* Source: Data from the Bureau of Economic Analysis and the Federal Reserve Bank of Chicago.

CFSBC Outlook Index and Capital Spending and Hiring Plans

(Index: 0 = trend growth)

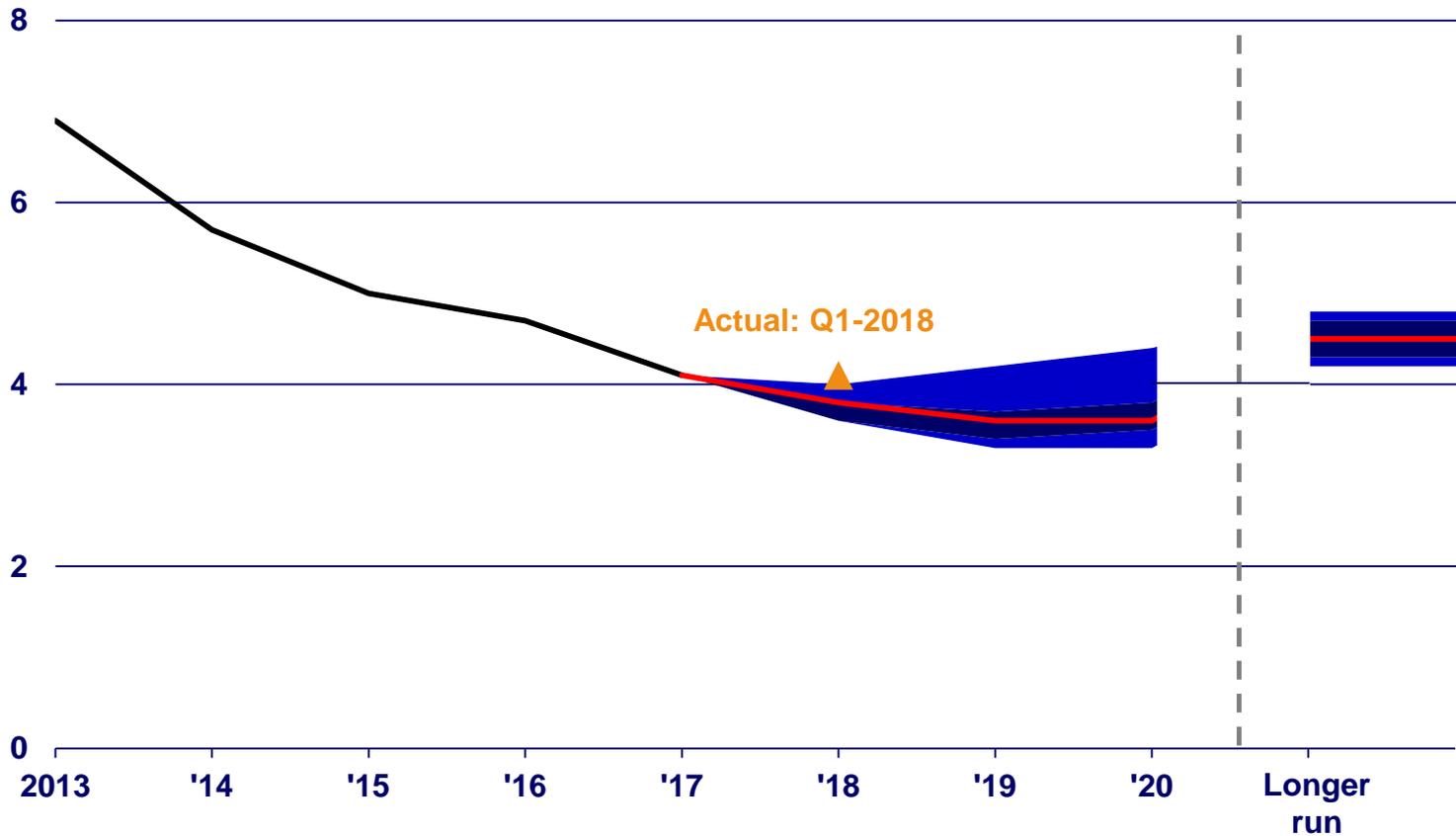


* Source: Data from the Federal Reserve Bank of Chicago.

FOMC Unemployment Projections

Unemployment Rate

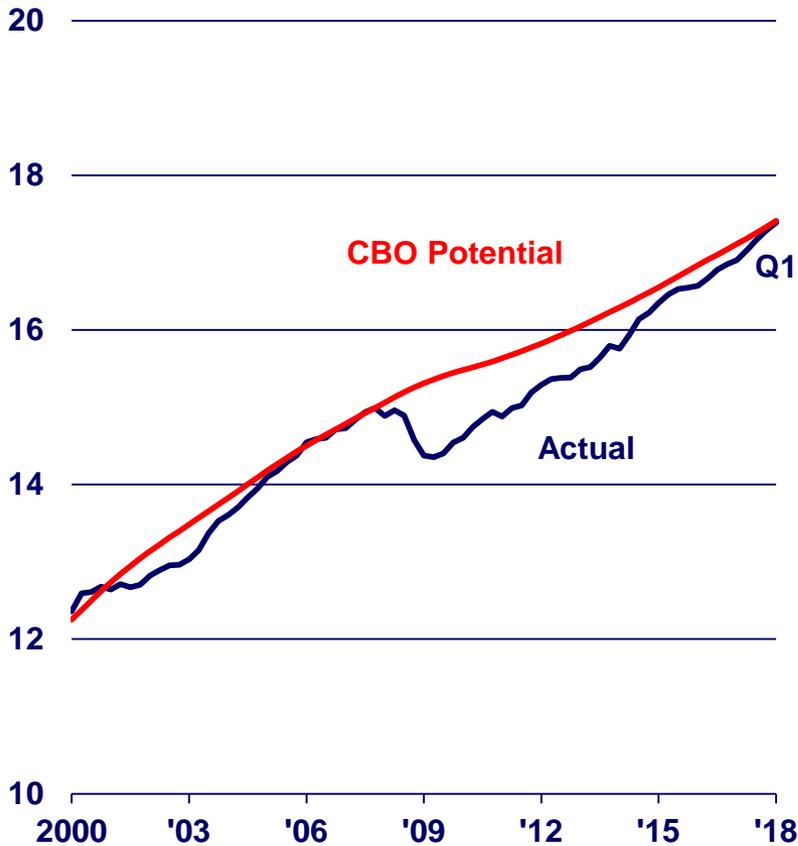
(fourth quarter average, percent)



Source: Projections were obtained from the March 21, 2018 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (dark area) and ranges (light area).

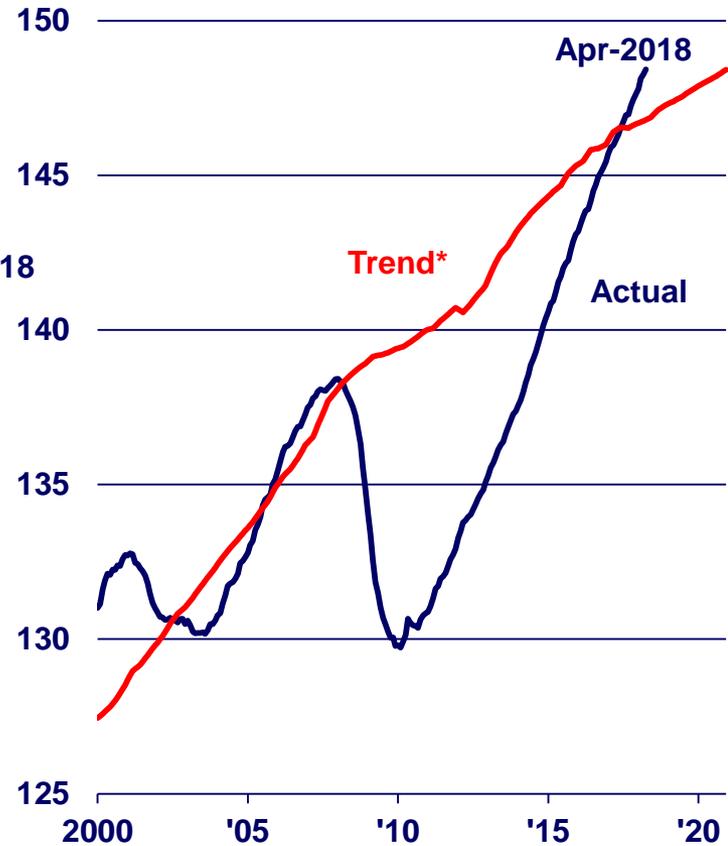
Output and Employment Gaps

Gross Domestic Product
(Trils. 2009\$)



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

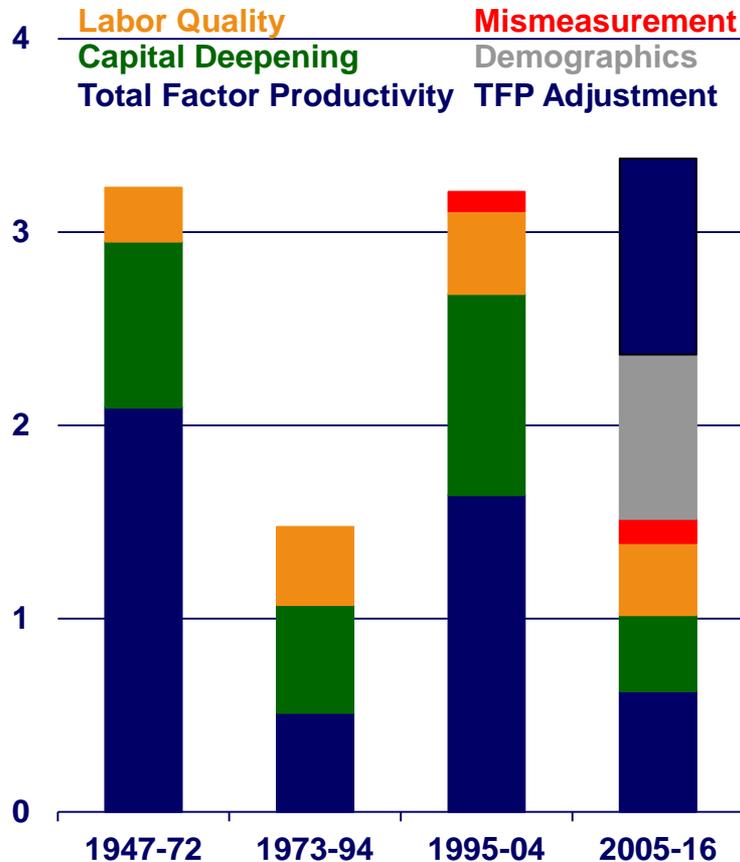
Nonfarm Payroll Employment
(SA, millions)



Source: Data from the Bureau of Labor Statistics, accessed via Haver Analytics. Estimates updated from "Is There Still Slack in the Labor Market?", Chicago Fed Letter May 2016.

Sources of Productivity Growth

Contributions to Output per Hour
(business sector, percent change, annual rate)



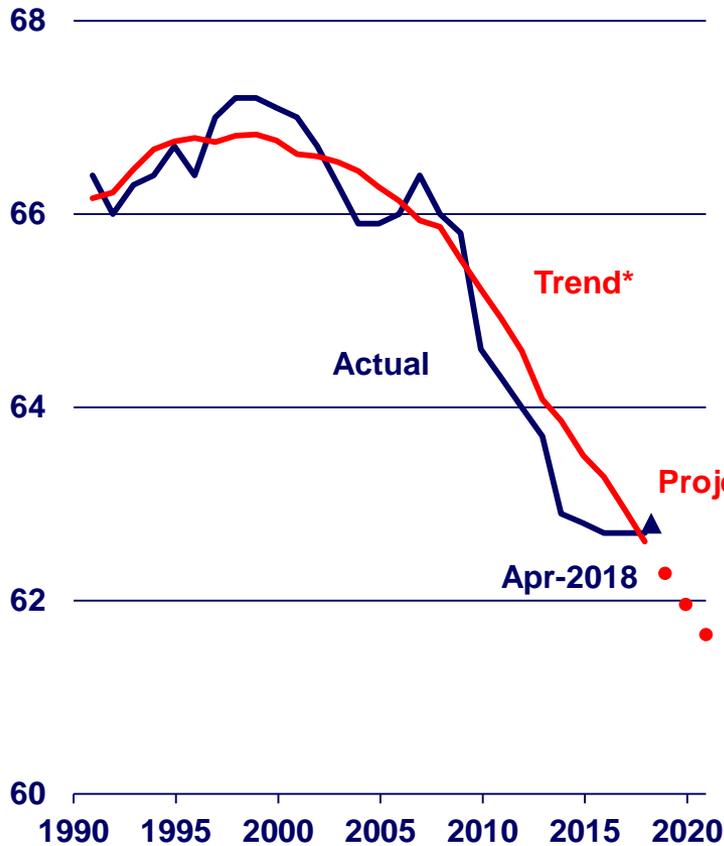
- **Periods of low and high productivity growth are common**
- **Current slowdown predates the Great Recession, consistent with ~\$3 tril. in “missing” output**
- **Possible mismeasurement likely accounts for only a fraction**
 - Gains to innovation in IT (prices),
 - Intangible capital,
 - Offshore profit shifting, etc.
- **Slower technical progress (TFP) and changing demographics are by far the biggest drivers**

Source: Author’s calculations using data from “Productivity and Potential Output Before, During, and After the Great Recession” (Fernald, 2014), “Offshore Profit Shifting and Domestic Productivity Measurement” (Guvenen, Mataloni, Jr., Rassier, and Ruhl, 2017), “Does the United States have a productivity slowdown or a measurement problem?” (Byrne, Fernald, and Reinsdorf, 2016), and “The Disappointing Recovery of Output After 2009” (Fernald, Hall, Stock, and Watson, 2017).

Measures of Labor Market Slack

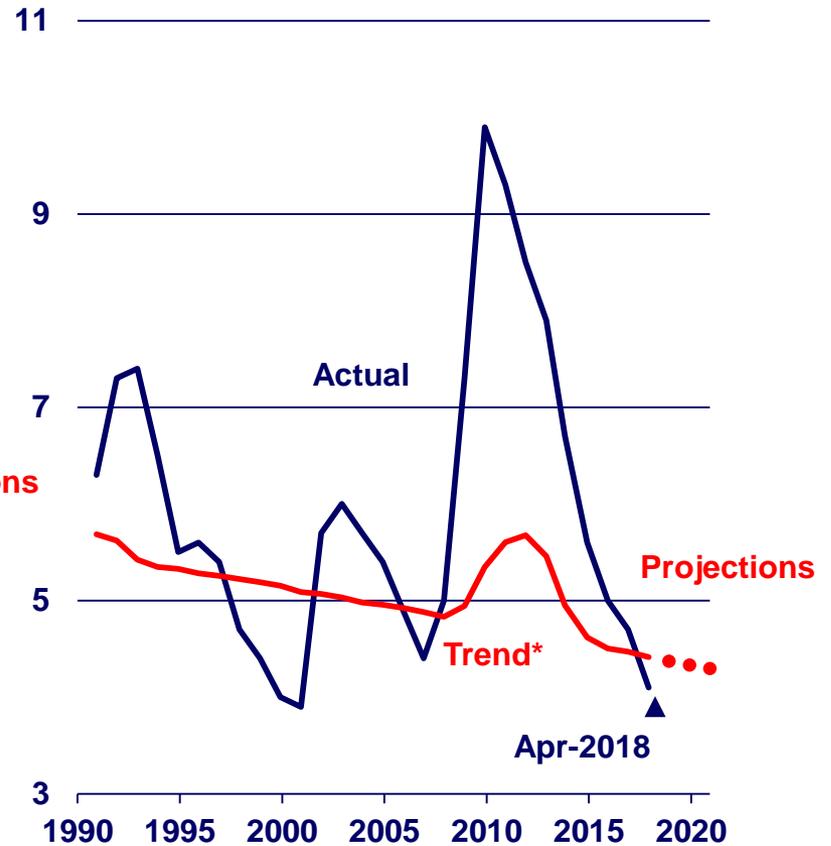
Labor Force Participation

(fraction of the civilian noninstitutional population 16+)



Unemployment Rate

(percent)

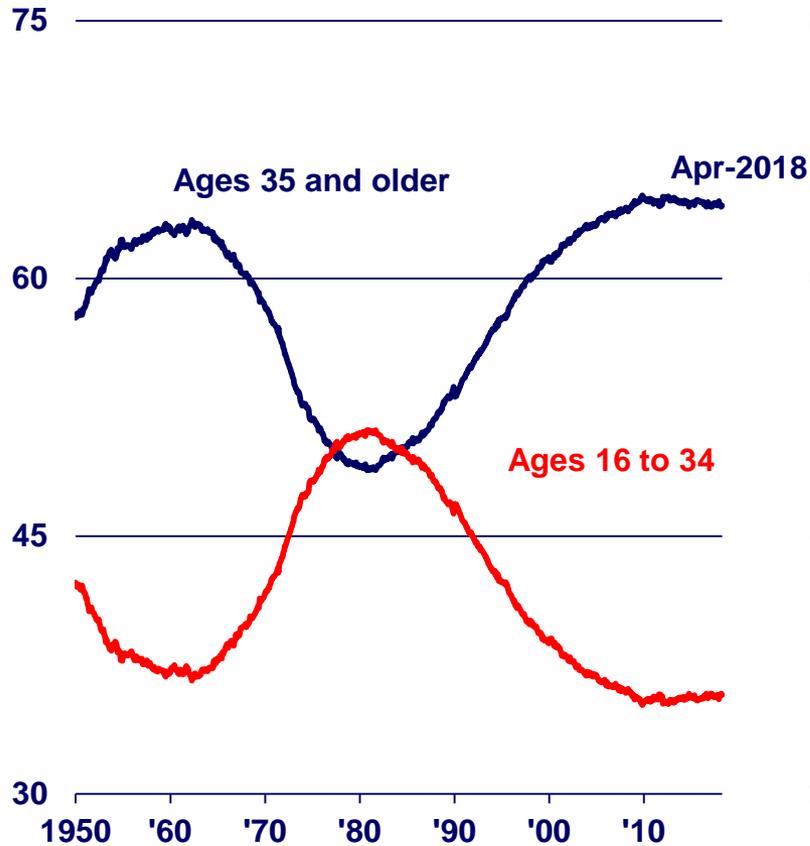


Source: Data from the Bureau of Labor Statistics, accessed via Haver Analytics.

* Estimates updated from "Is There Still Slack in the Labor Market?", Chicago Fed Letter May 2016.

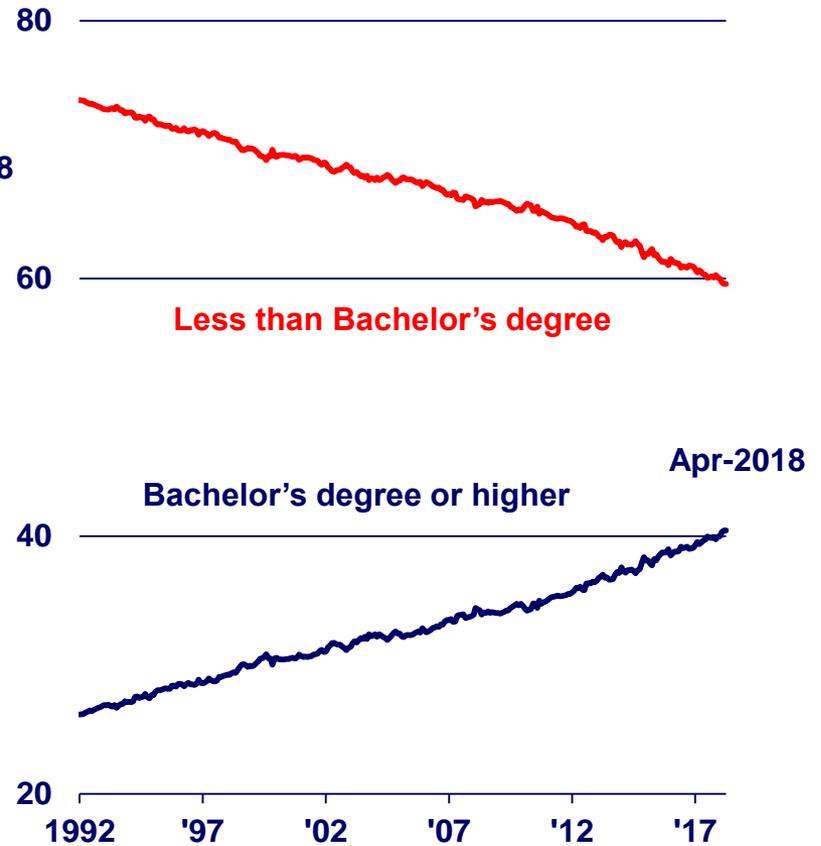
Demographic Considerations

Labor Force Age Composition
(percent of the total labor force age 16+)



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

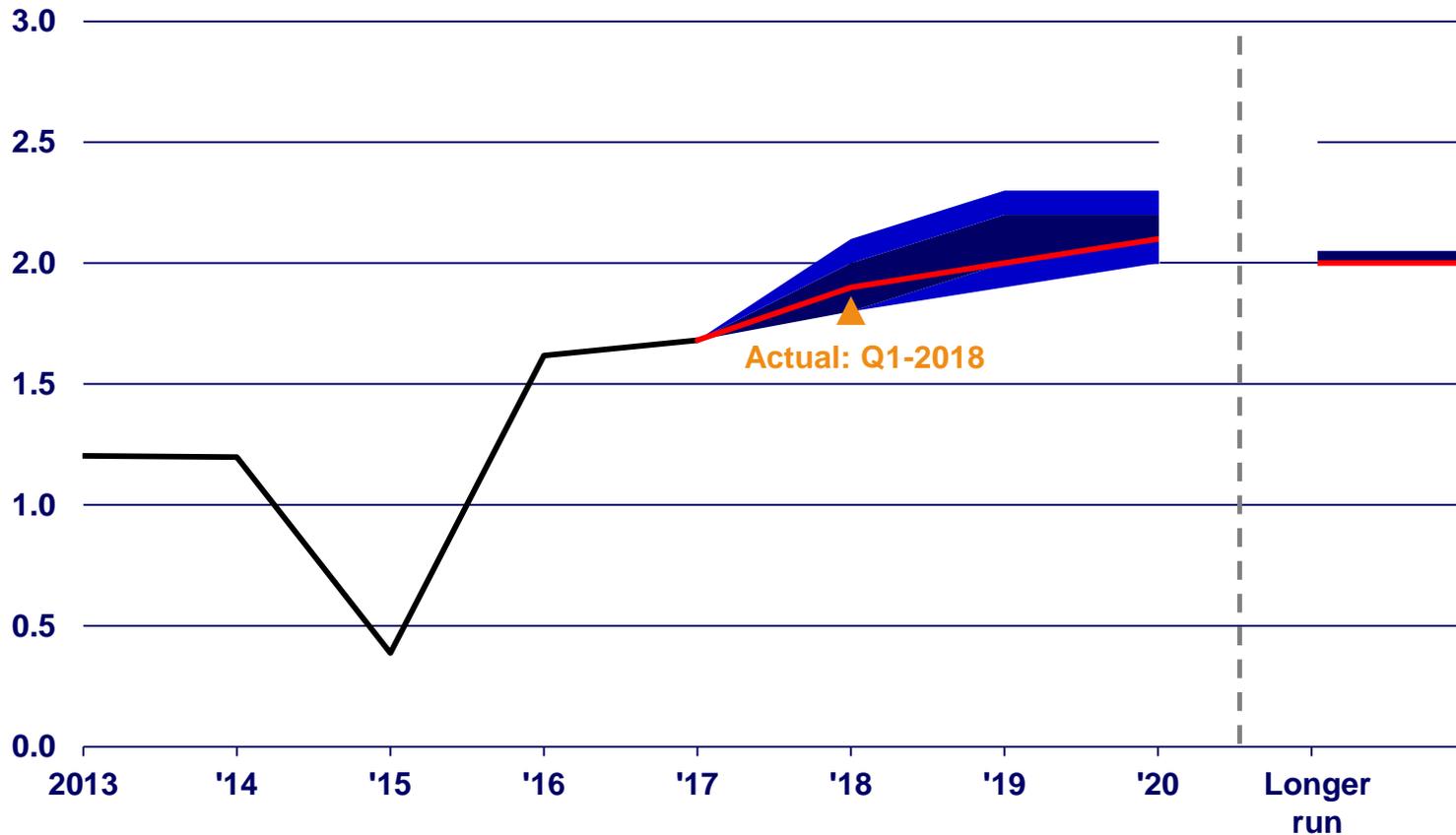
Labor Force Education Composition
(percent of the total labor force age 25+)



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

FOMC Inflation Projections

Total PCE Inflation (percent)

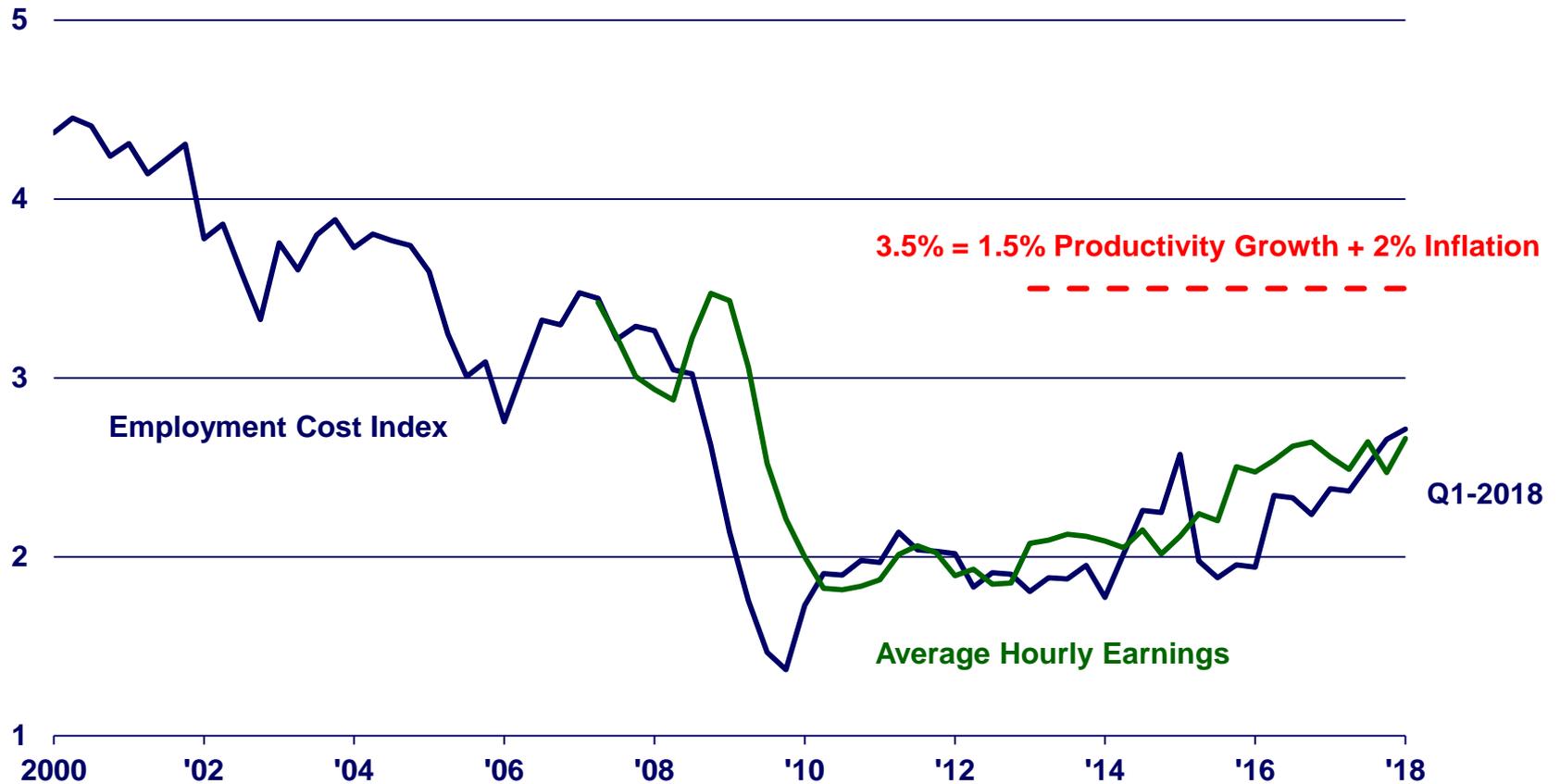


Source: Projections were obtained from the March 21, 2018 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (dark area) and ranges (light area).

Wage Growth

Wages

(4-quarter percent change)

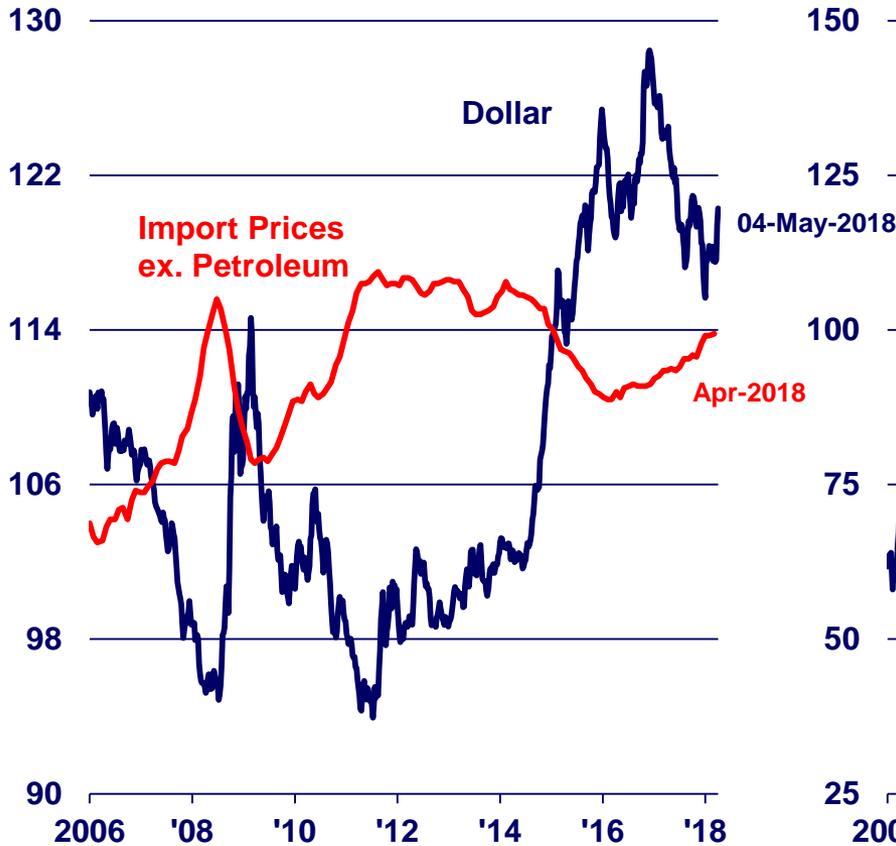


Source: Data from the Bureau of Labor Statistics, accessed via Haver Analytics.

Other Inflation Factors

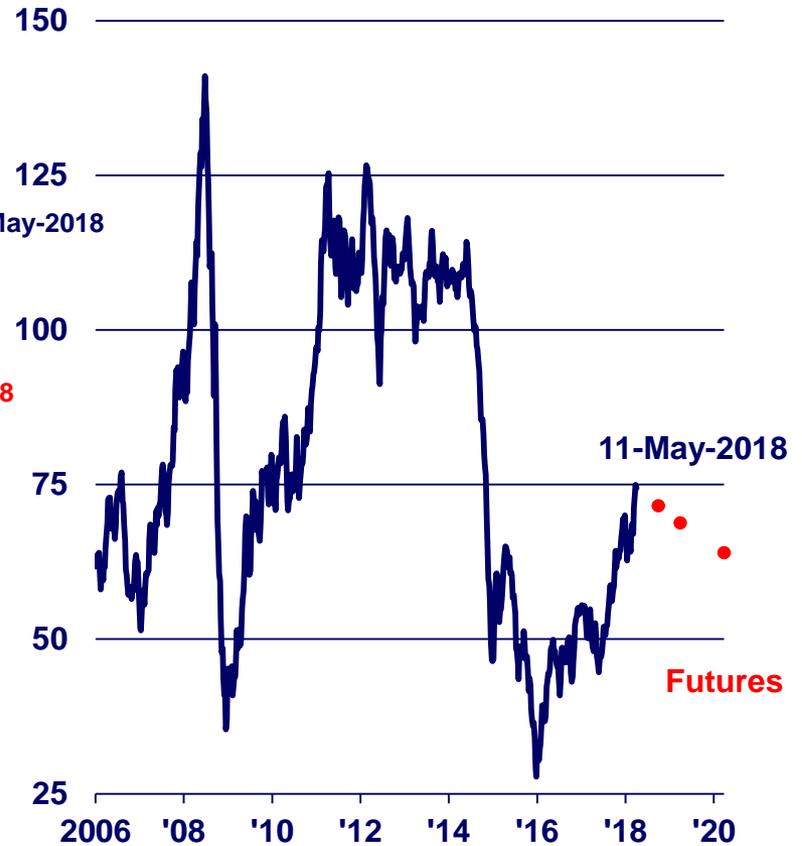
Dollar and Import Prices

(Dollar: Index, Jan-97=100; Import: Index, 2000=100)



Brent Crude Oil Prices and Futures

(dollars)

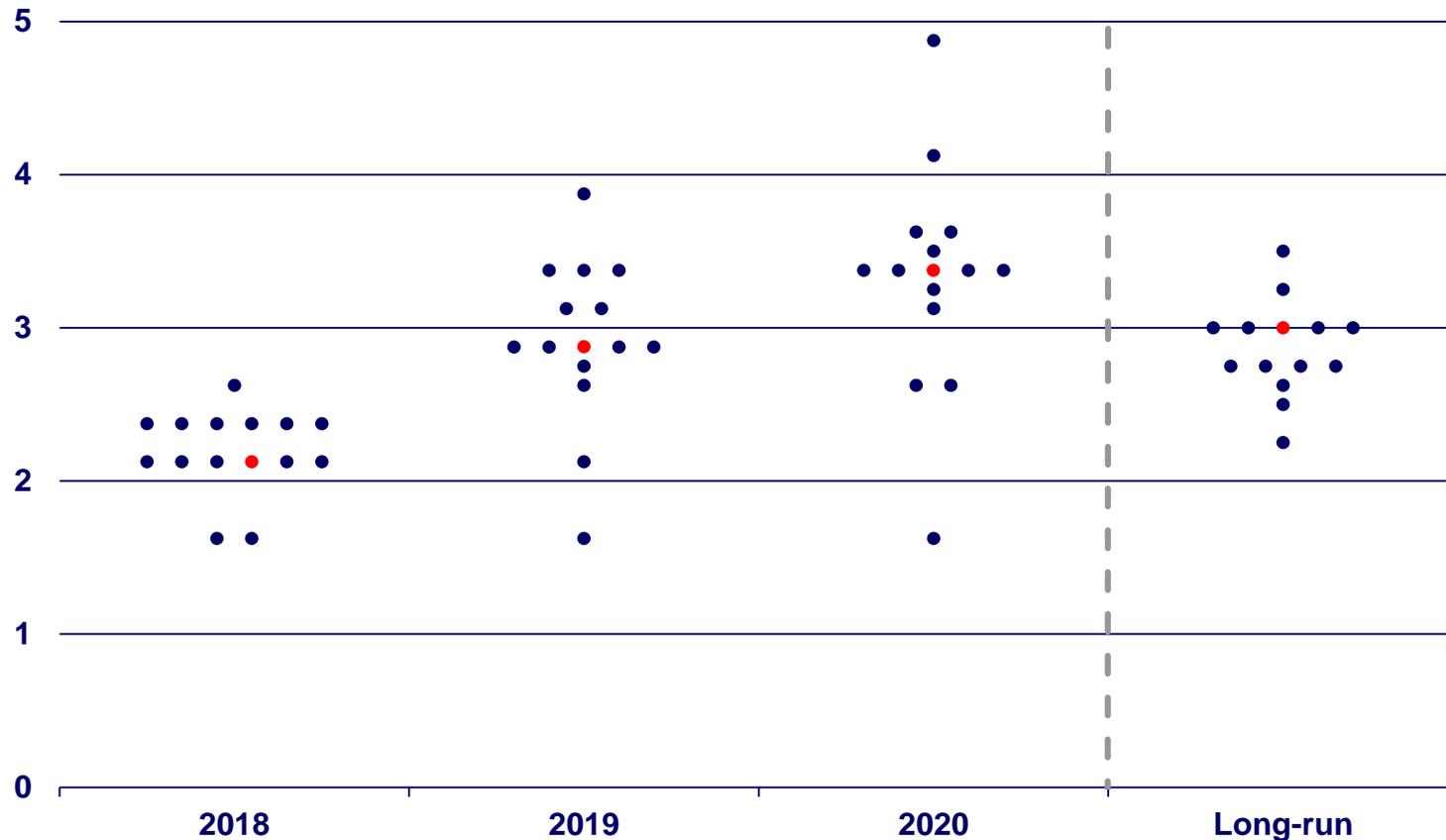


* Source: Data from the Board of Governors of the Federal Reserve System and Bureau of Labor Statistics, accessed via Haver Analytics.

Source: Data from the DOE and Intercontinental Exchange, accessed via Haver Analytics.

Appropriate Pace of Policy Firming

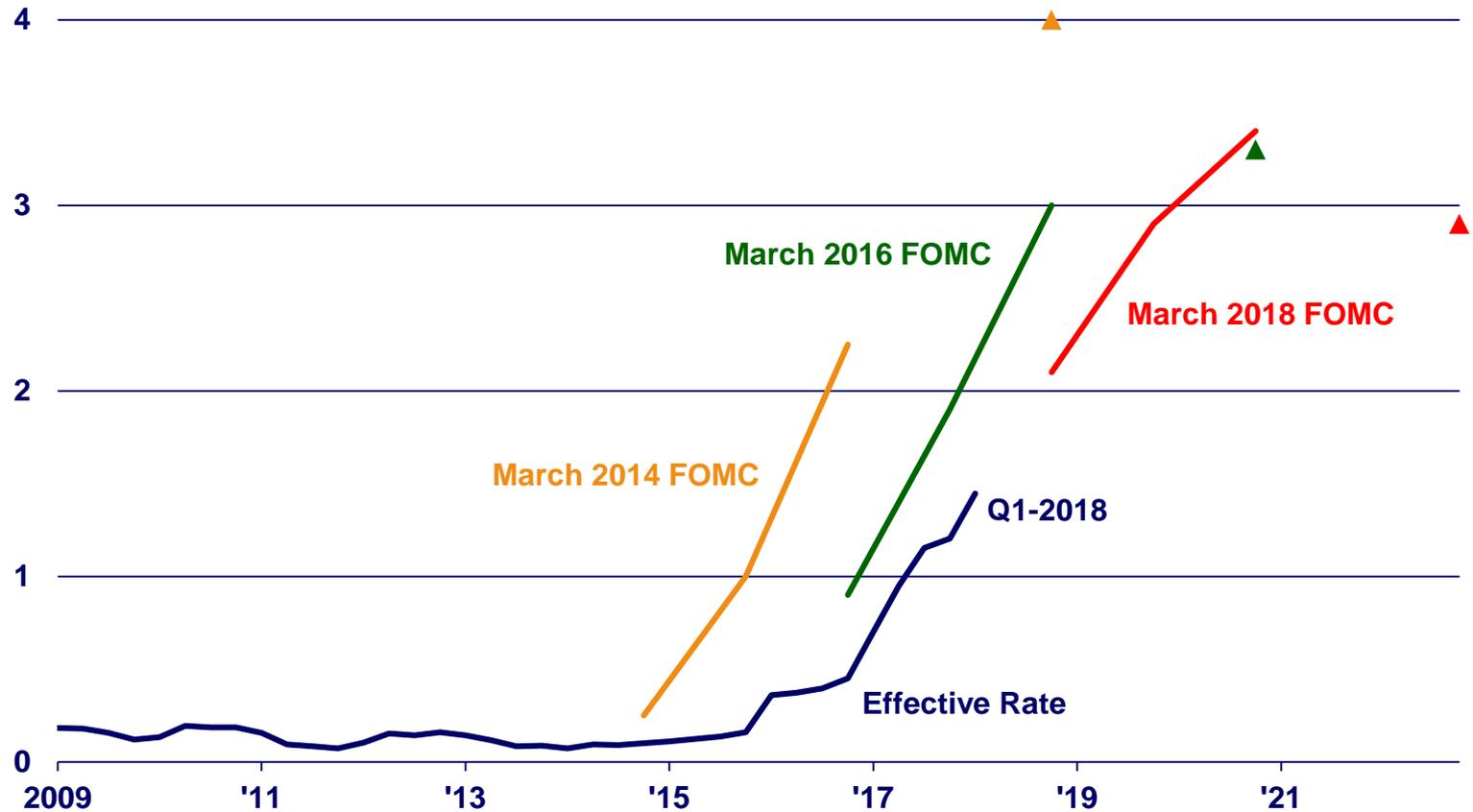
Federal Funds Rate at Year-End (percent)



Source: Interest rate projections are from the March 21, 2018 FOMC Summary of Economic Projections. Red dots indicate the median projection.

FOMC March Fed Funds Projections

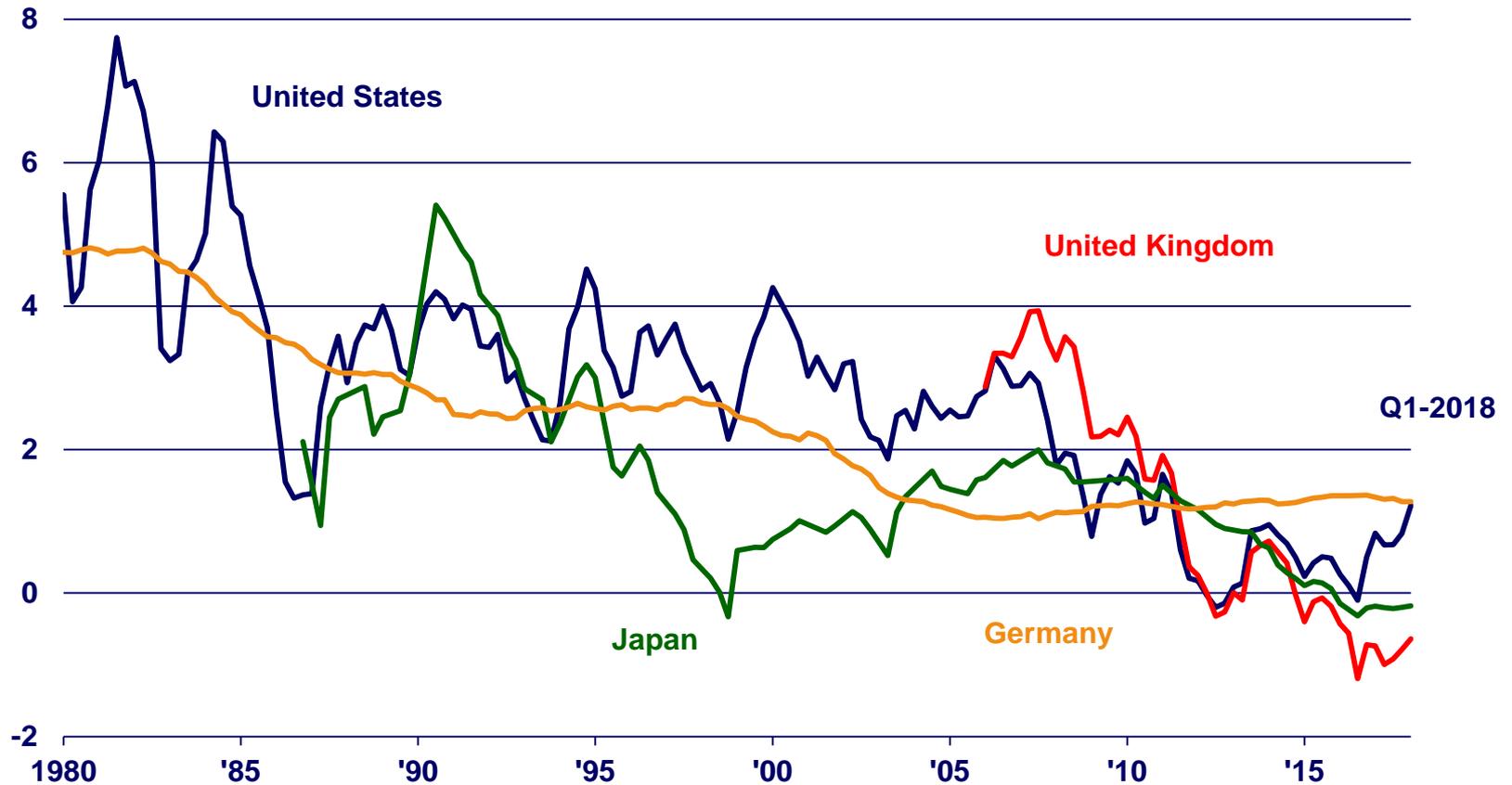
Federal Funds Rate (percent)



* Source: Projections are the median values from the March 2018, 2016 and 2014 FOMC Summary of Economic Projections. Triangle markers indicate the longer run projections.

Global Real Rates

Real 10-Year Rate*
(percent)



Source: Data accessed via Haver Analytics.

* The 10-year real rate for the U.S., U.K., Japan, and Germany are 10-Year government bond rates less 40-quarter annualized core PCE or CPI inflation.