
Economic Outlook and Monetary Policy

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** The views expressed herein are my own 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

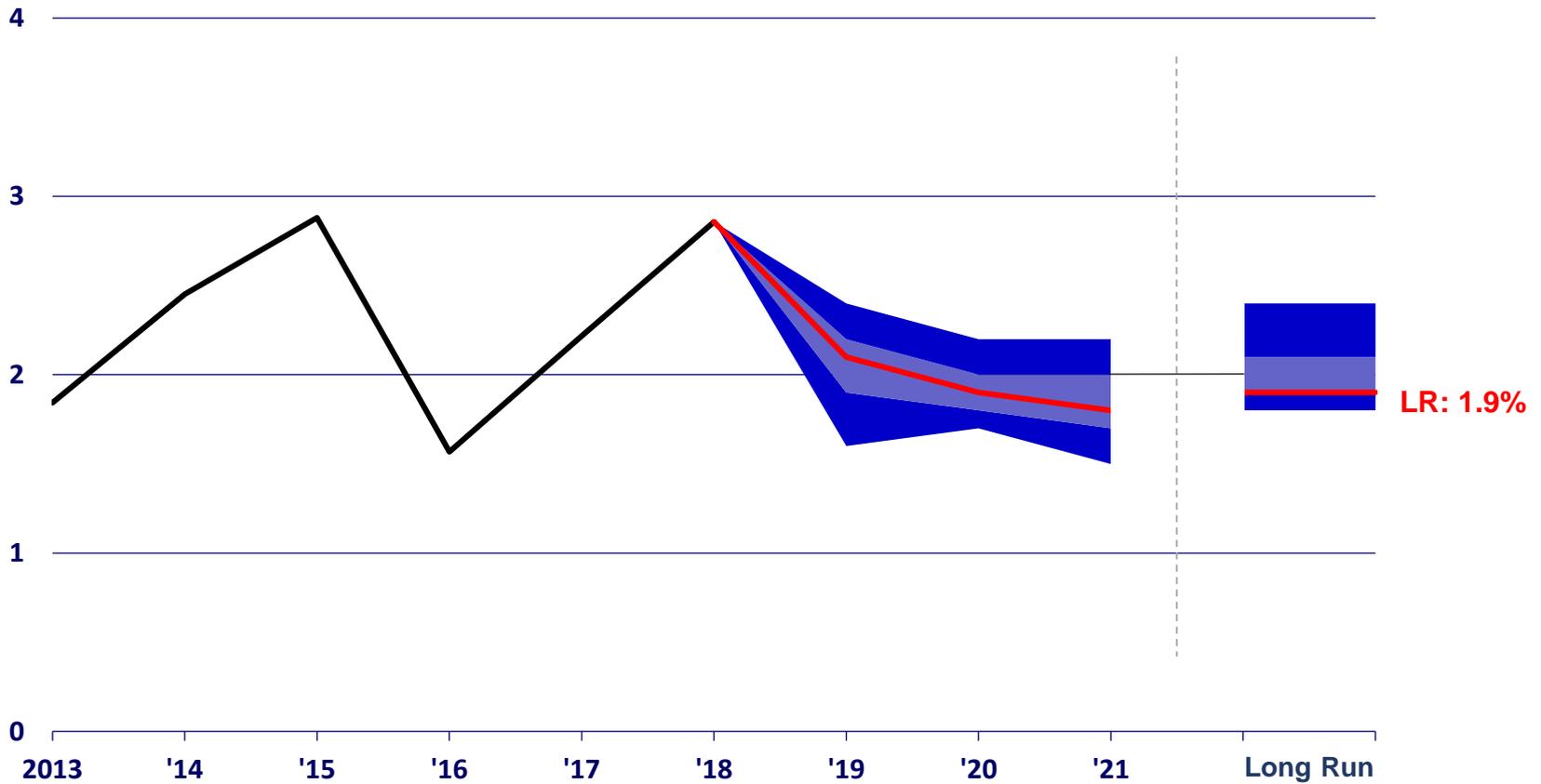
- The appropriate employment goal may change over time for nonmonetary reasons
 - ◆ 4.0-4.6% unemployment rate *currently* consistent with mandate
- Seek an economy operating at its level of potential output

■ Balanced approach

- Take a balanced approach when economy is away from objectives
 - ◆ *PCE inflation* = 1.6% (Mar-2019)
 - ◆ *Unemployment rate* = 3.6% (Apr-2019)

Summary of Economic Projections

Change in Real GDP (percent)

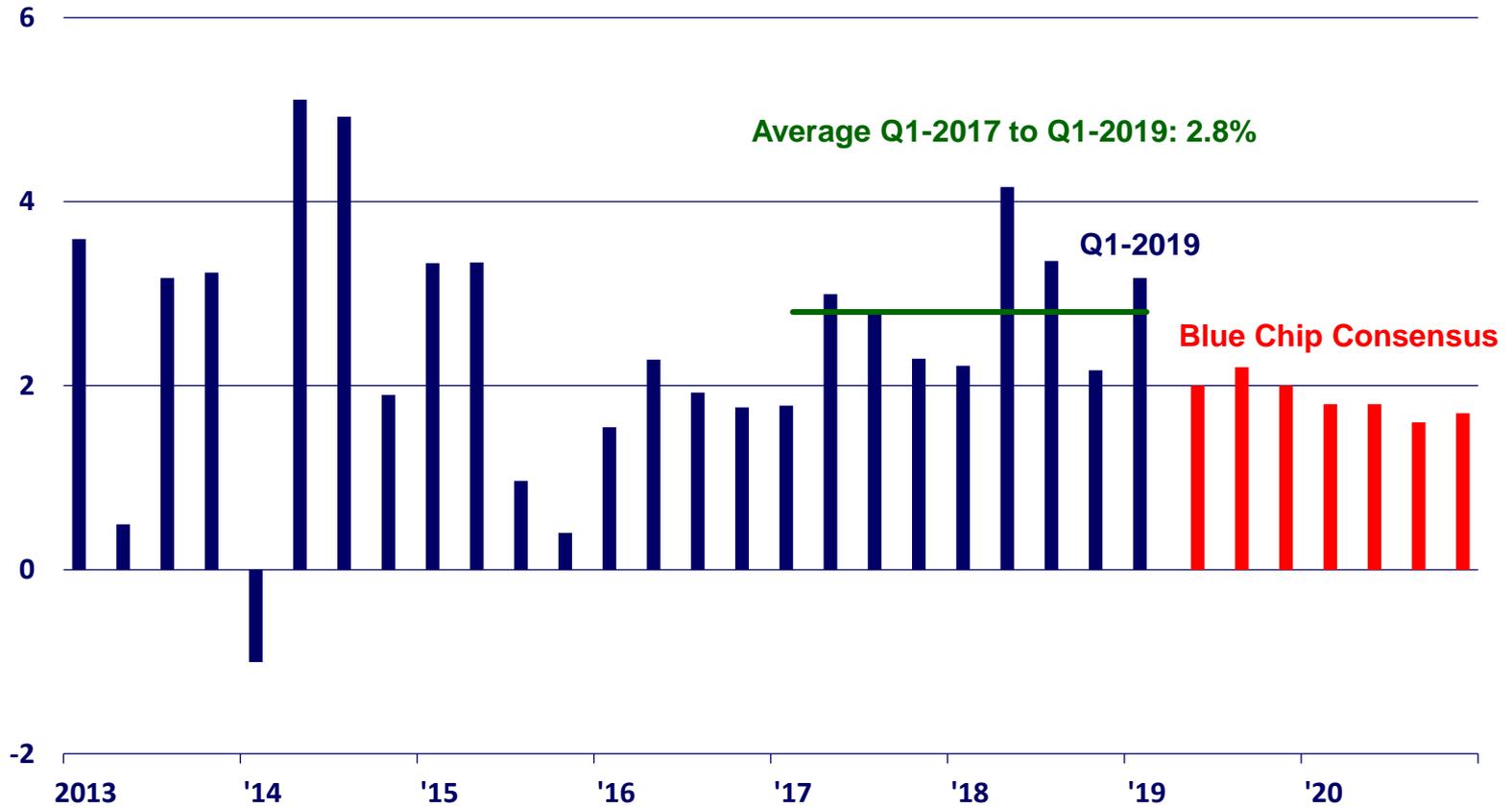


Source: Projections were obtained from the March 2019 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (light area) and ranges (dark area).

U.S. GDP Growth

Real GDP Growth

(quarterly annualized % change)

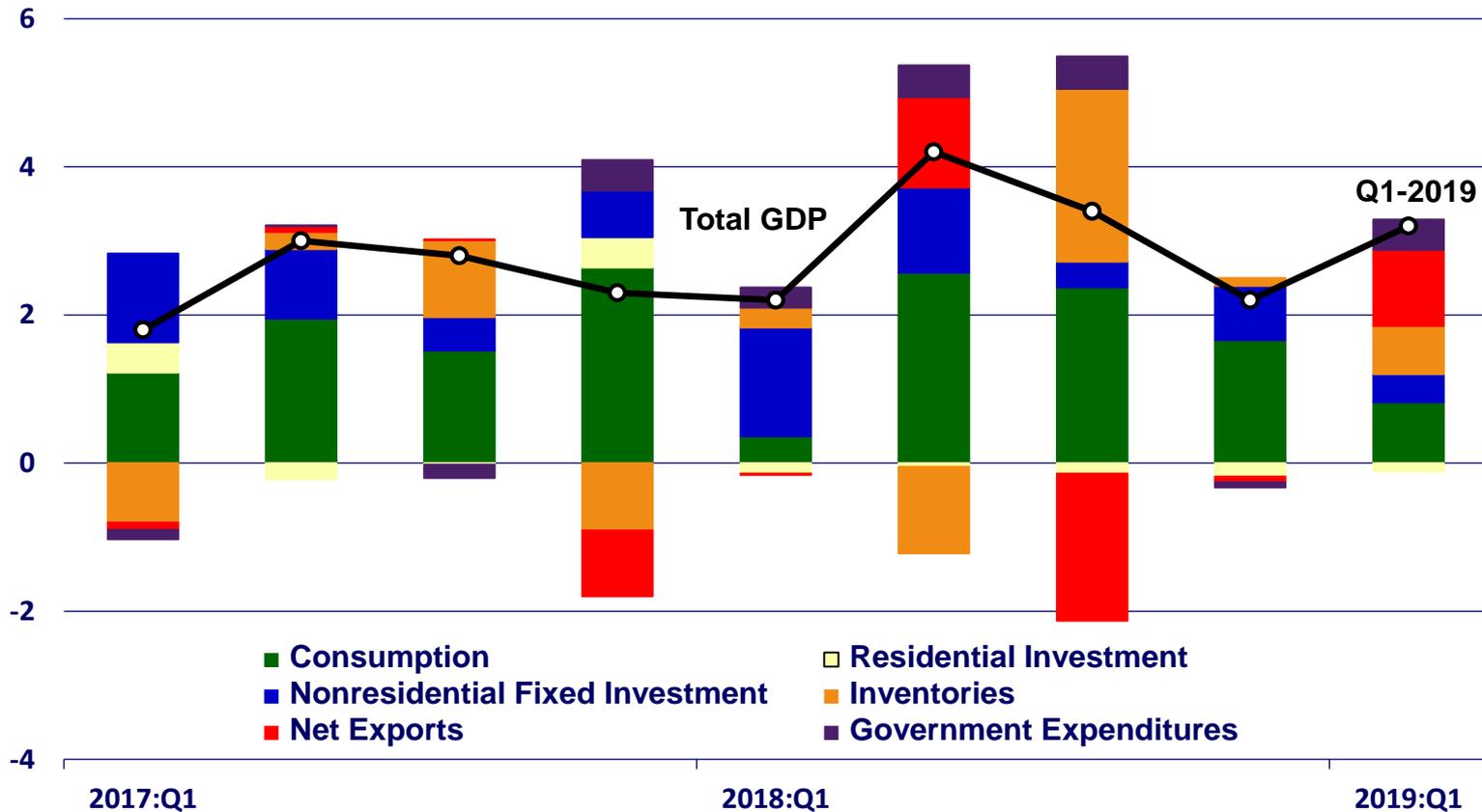


Source: Bureau of Economic Analysis and Blue Chip Economic Indicators accessed via Haver Analytics.

Contributions to Growth by Sector

Contributions to Real GDP Growth

(percent, annual rate)

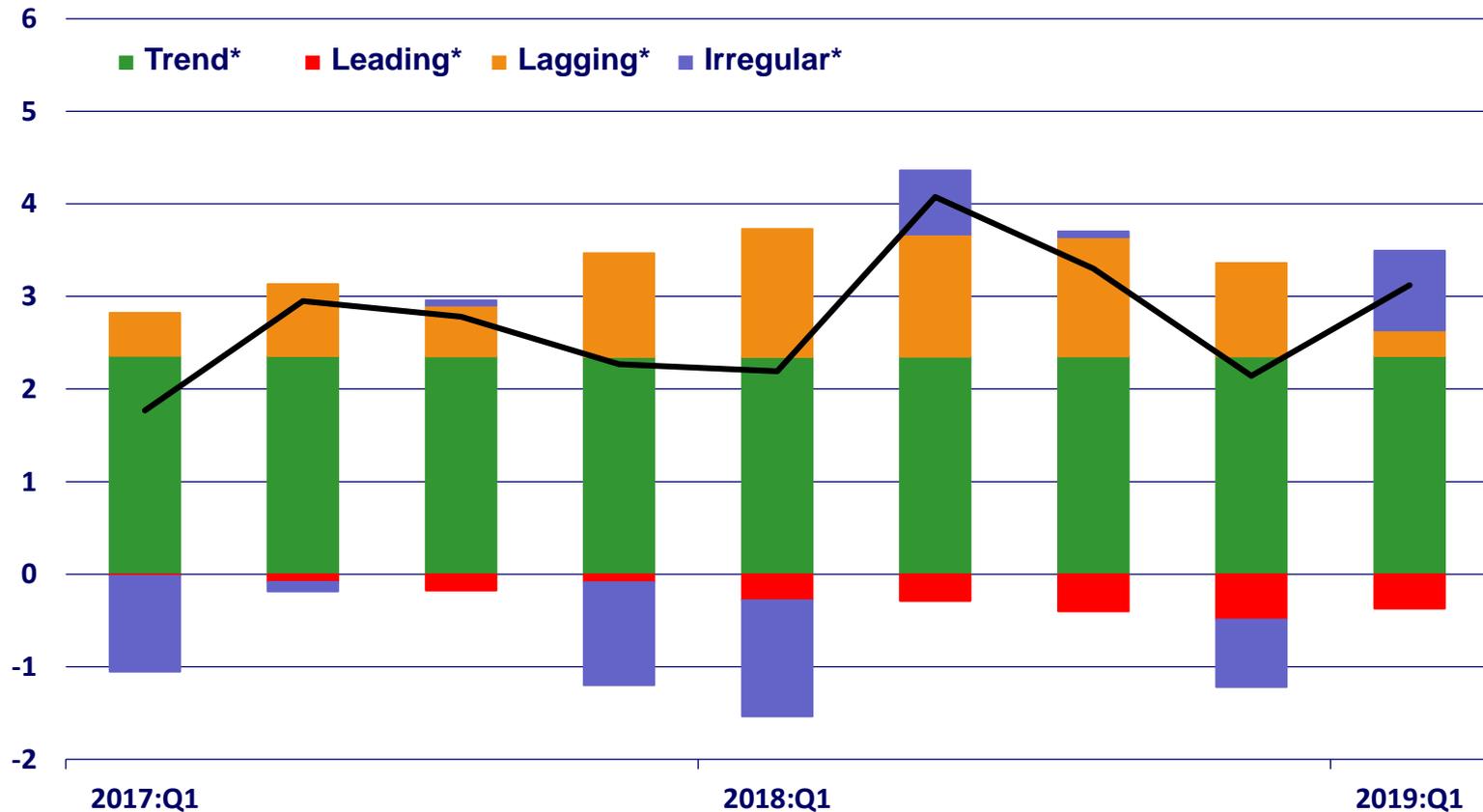


Source: Bureau of Economic Analysis accessed via Haver Analytics.

Is there Momentum?

Brave-Butters-Kelley Decomposition of Real GDP Growth

(log percent annual rate)

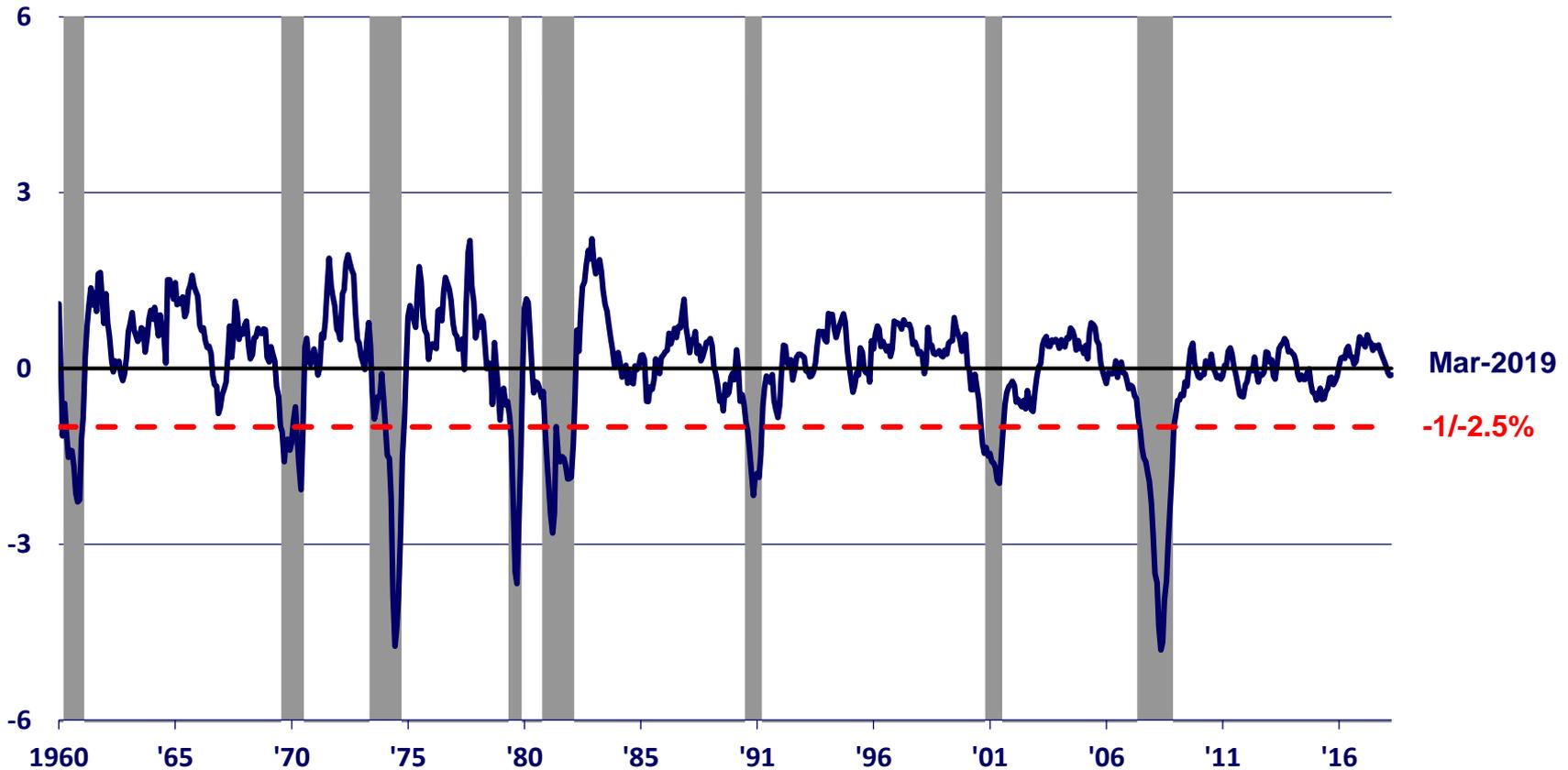


Source: Federal Reserve Bank of Chicago accessed via Haver Analytics

*Estimates updated from "A New "Big Data" Index of U.S. Economic Activity", Economic Perspectives Q1 2019

Where are We in the Business Cycle?

Brave-Butters-Kelley Monthly Business Cycle Index*
(standard deviation from trend real GDP growth)



Shading indicates U.S. recessions according to the National Bureau of Economic Research.

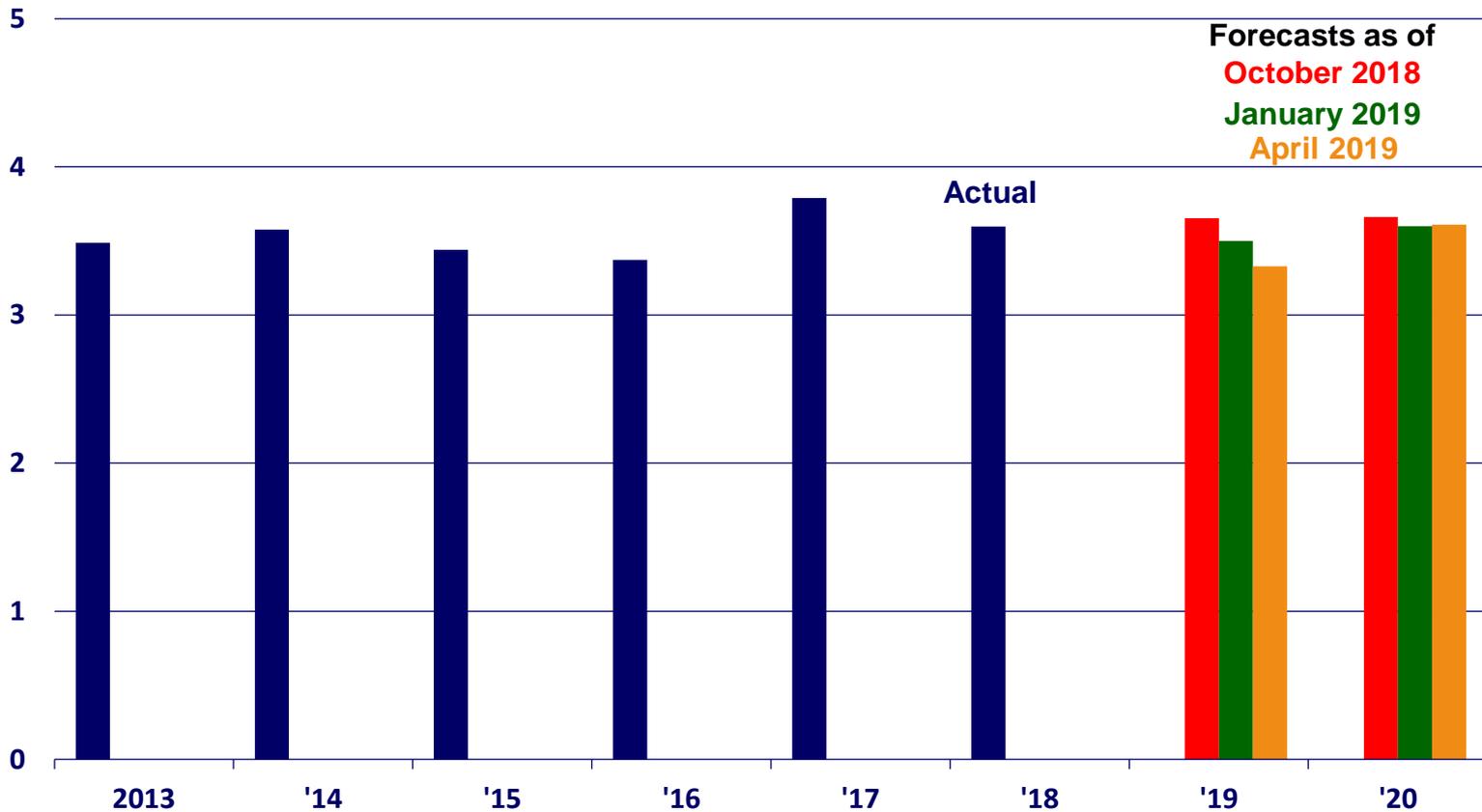


Source: Federal Reserve Bank of Chicago accessed via Haver Analytics

**Estimates updated from "A New "Big Data" Index of U.S. Economic Activity", Economic Perspectives Q1 2019*

World GDP Growth Forecasts

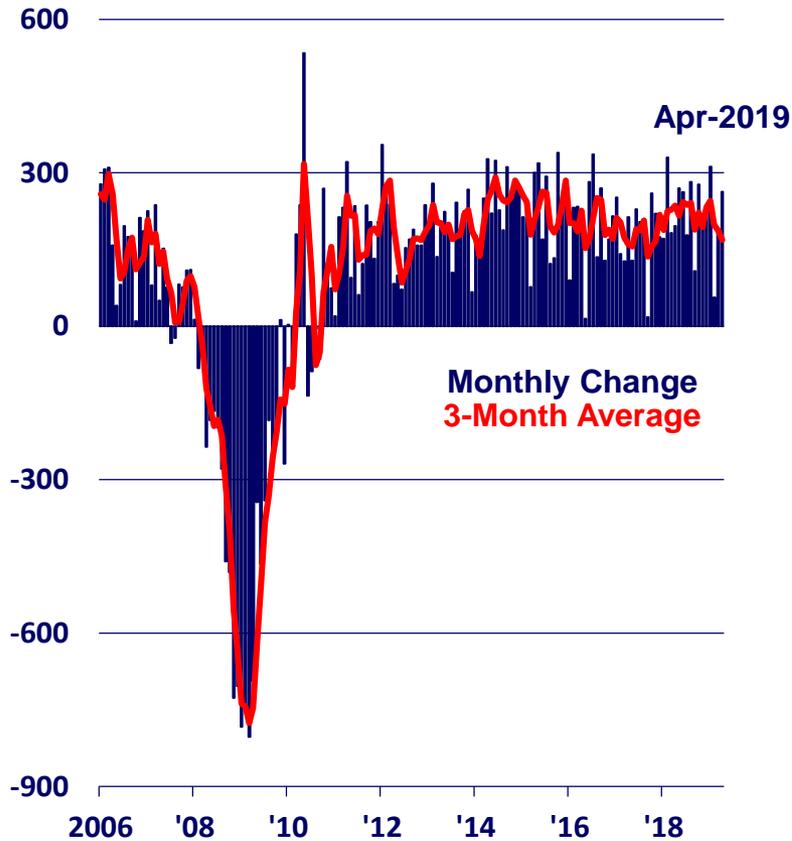
Real World GDP Growth (4-quarter percent change)



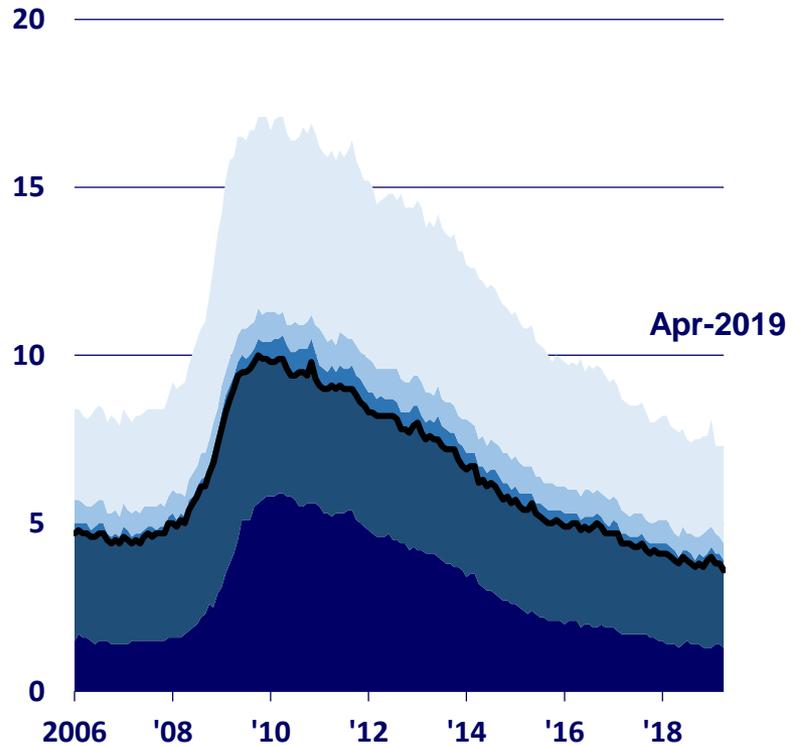
Source: International Monetary Fund World Economic Outlook, October 2018, January 2019, and April 2019

The Labor Market

Nonfarm Payroll Employment
(change, thousands)



Labor Underutilization Measures
(percent)



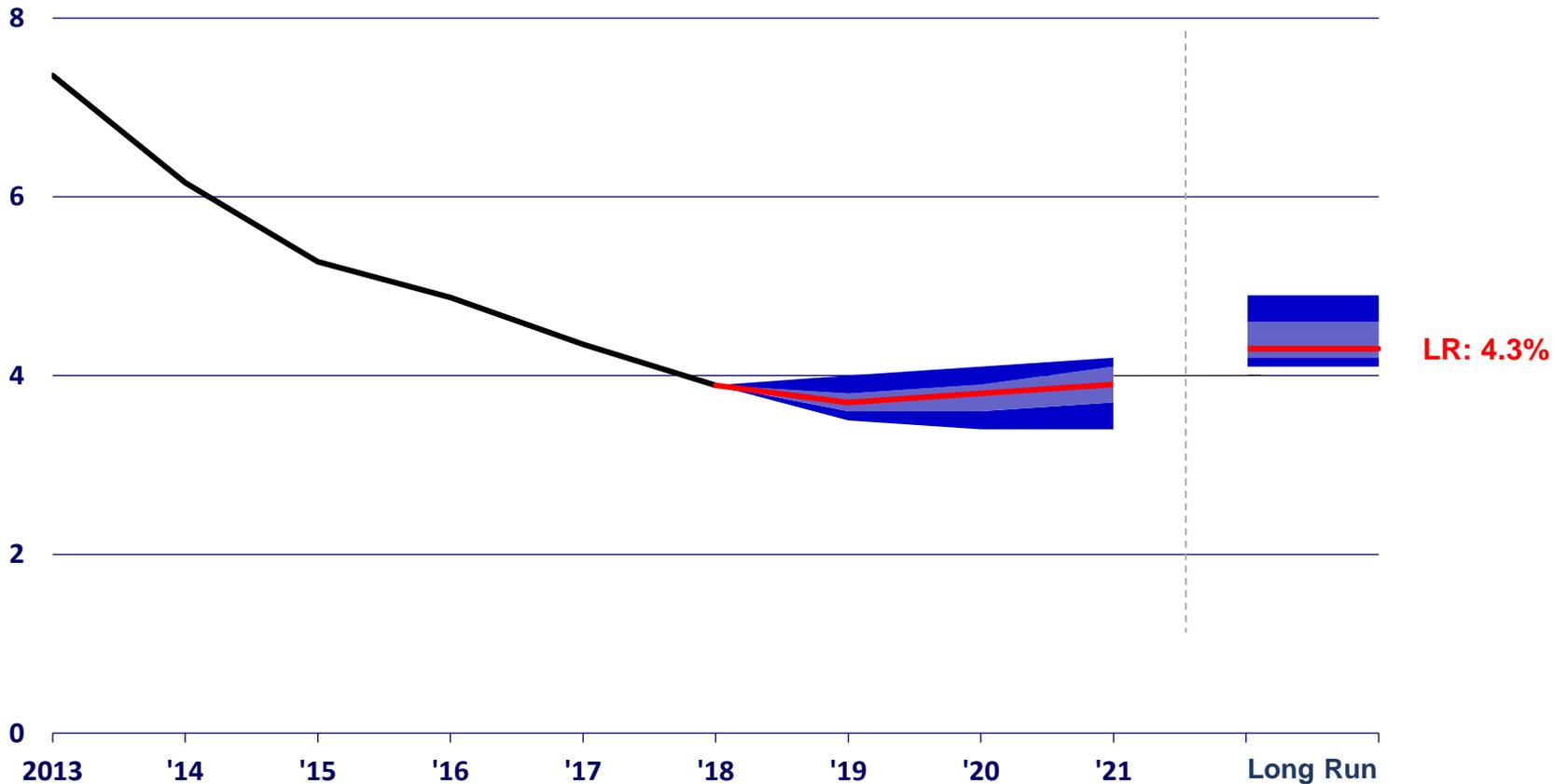
- Unemployment Rate
- Unemployed >15 Weeks
- Unemployed <15 Weeks
- Marginal, not Discouraged
- Marginal, Discouraged
- PT for Economic Reasons

Source: Bureau of Labor Statistics accessed via Haver Analytics

Summary of Economic Projections Cont

Unemployment Rate

(fourth quarter average, percent)

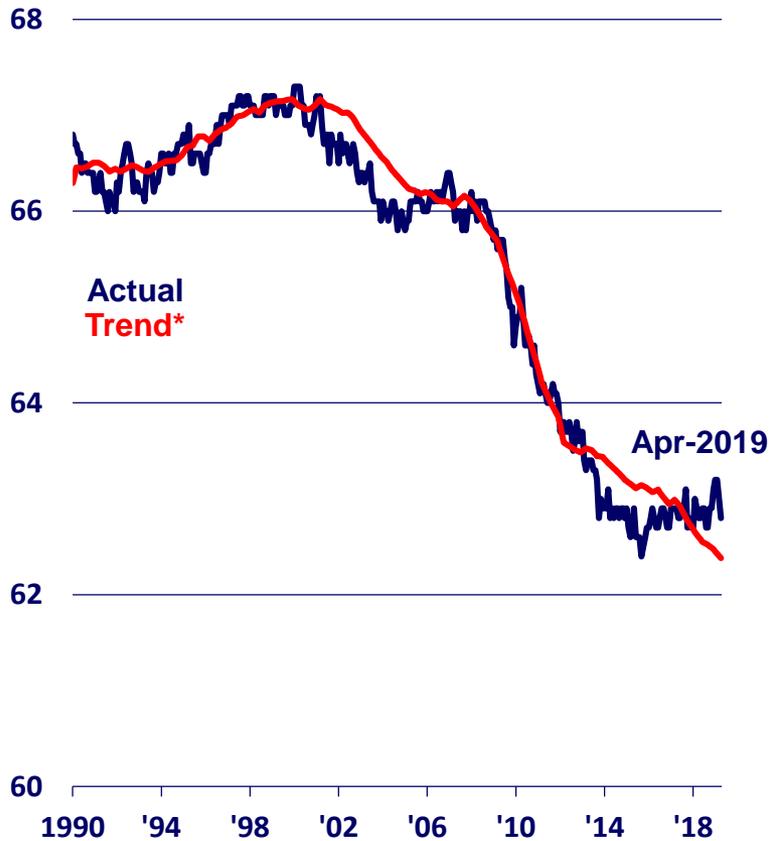


Source: Projections were obtained from the March 2019 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (light area) and ranges (dark area).

Measures of Labor Market Slack

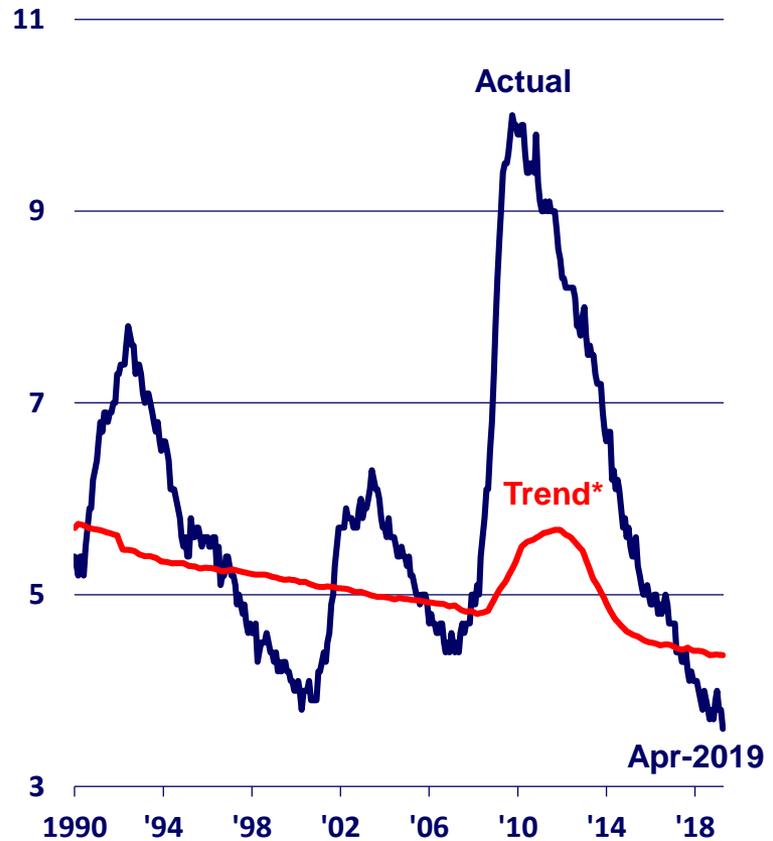
Labor Force Participation

(fraction of the civilian noninstitutional population 16+)



Unemployment Rate

(percent)

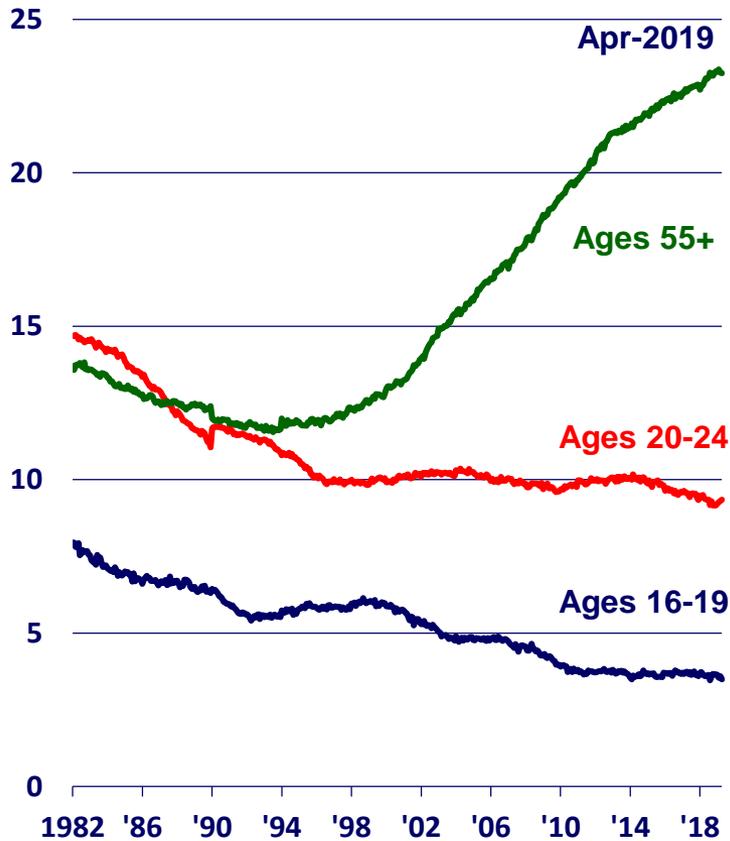


Source: Bureau of Labor Statistics accessed via Haver Analytics.

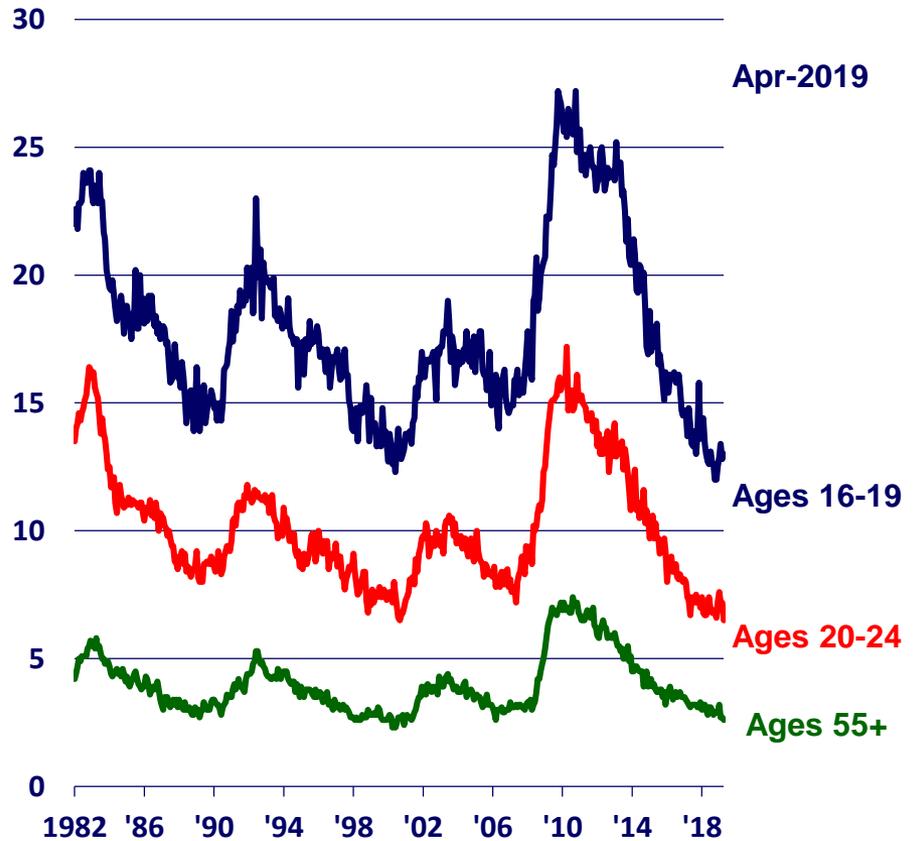
*Estimates updated from "Is There Still Lack in the Labor Market?", Chicago Fed Letter May 2016

An Aging Labor Force

Share of Labor Force in Age Group
(percent)



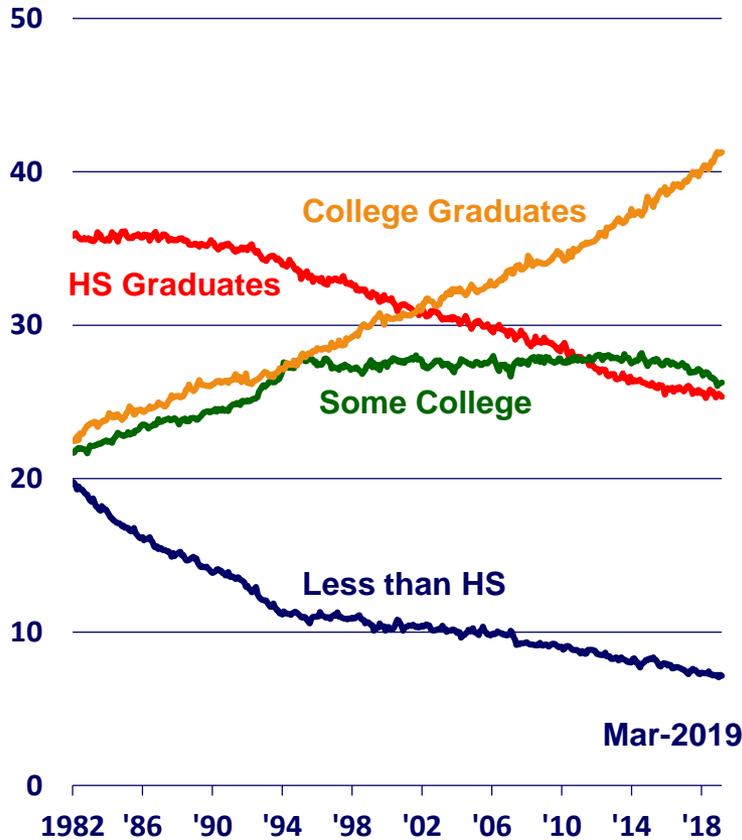
Unemployment Rate by Age Group
(percent)



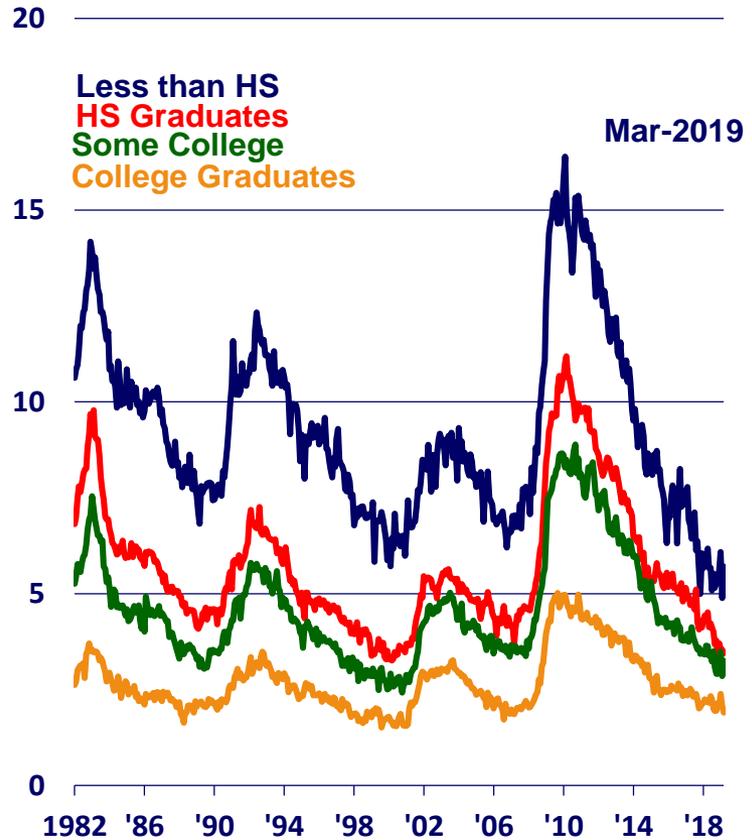
Source: Bureau of Labor Statistics accessed via Haver Analytics

But A More Educated One As Well

Share of Labor Force by Educational Attainment (Age 25+)
(percent)



Unemployment by Education Level (Age 25+)
(percent)



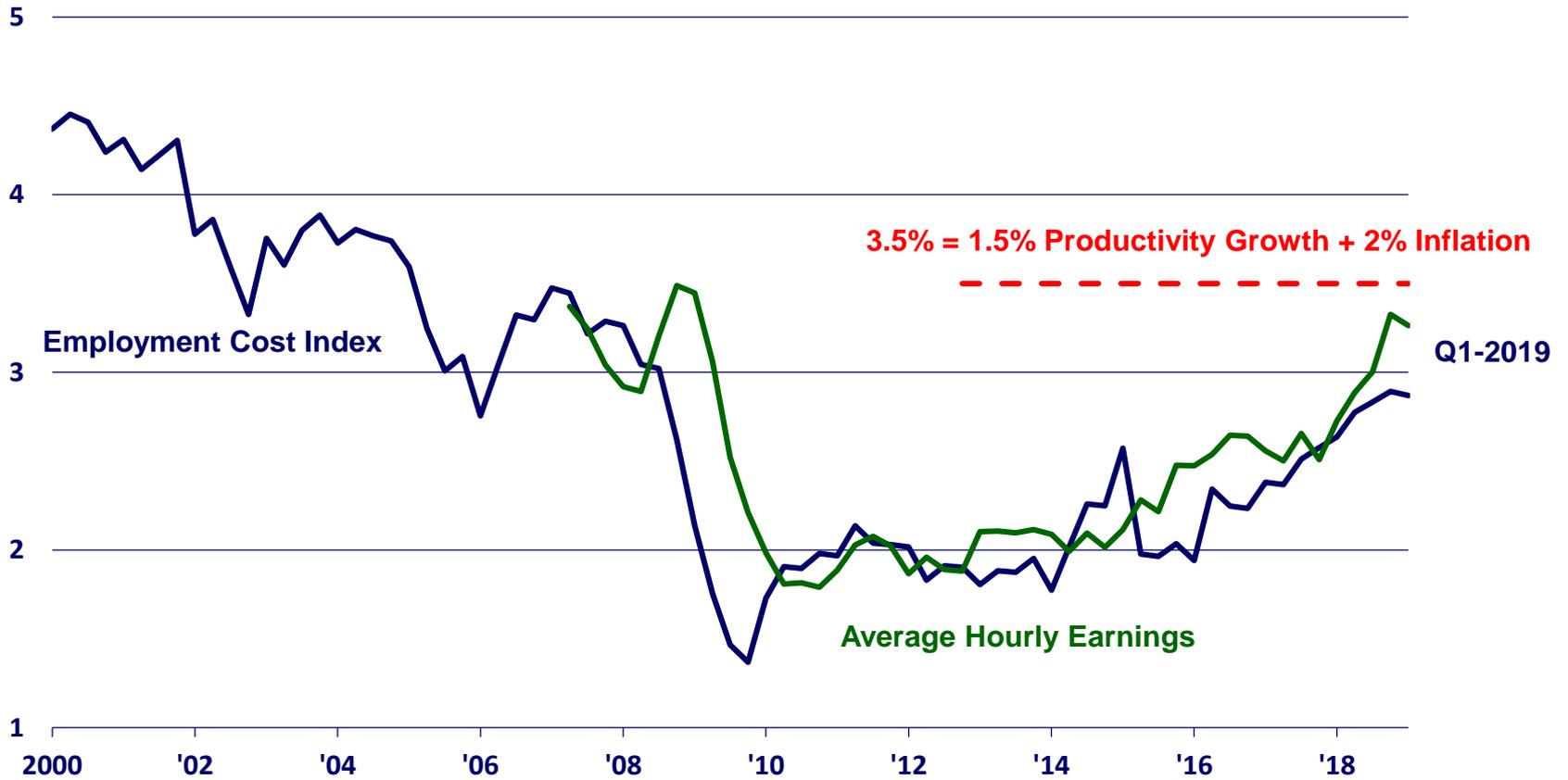
Source: Bureau of Labor Statistics accessed via Haver Analytics



Wage Growth and Slack

Wages

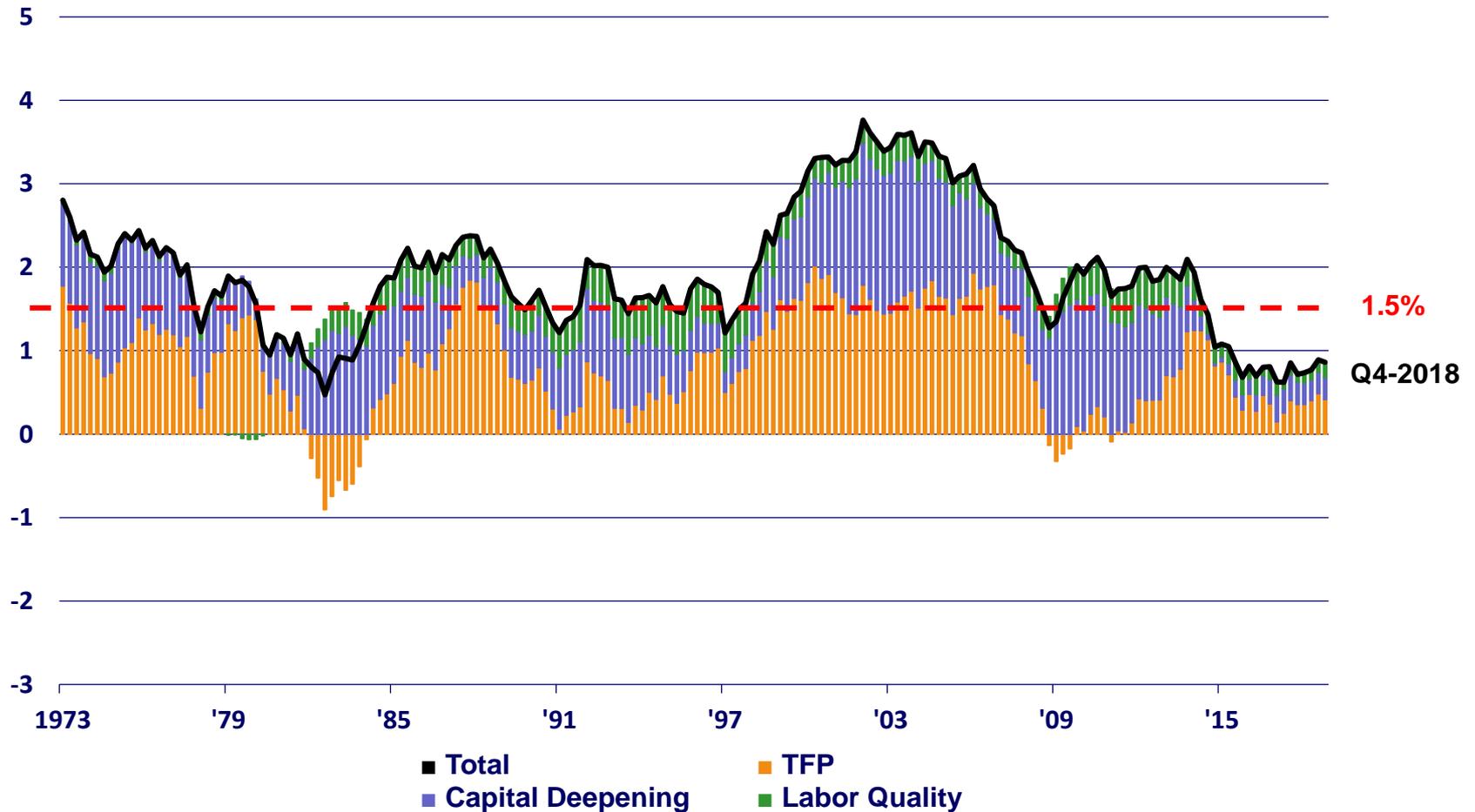
(4-quarter percent change)



Source: Bureau of Labor Statistics accessed via Haver Analytics

Productivity Growth

Business Sector Labor Productivity (20-qtr moving average of quarterly percent change)

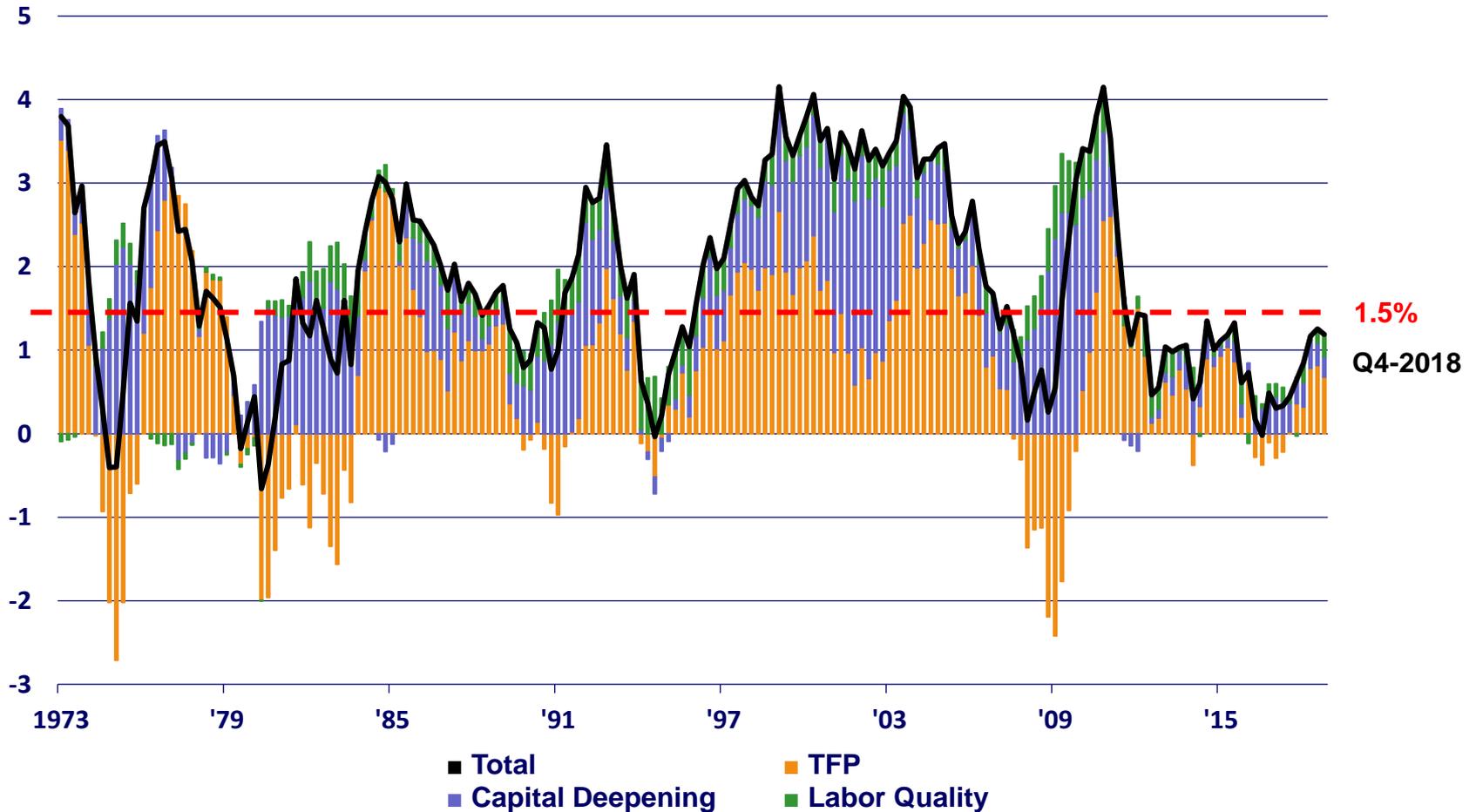


Source: Federal Reserve Bank of San Francisco accessed via Haver Analytics

Are We Turning a Corner?

Business Sector Labor Productivity

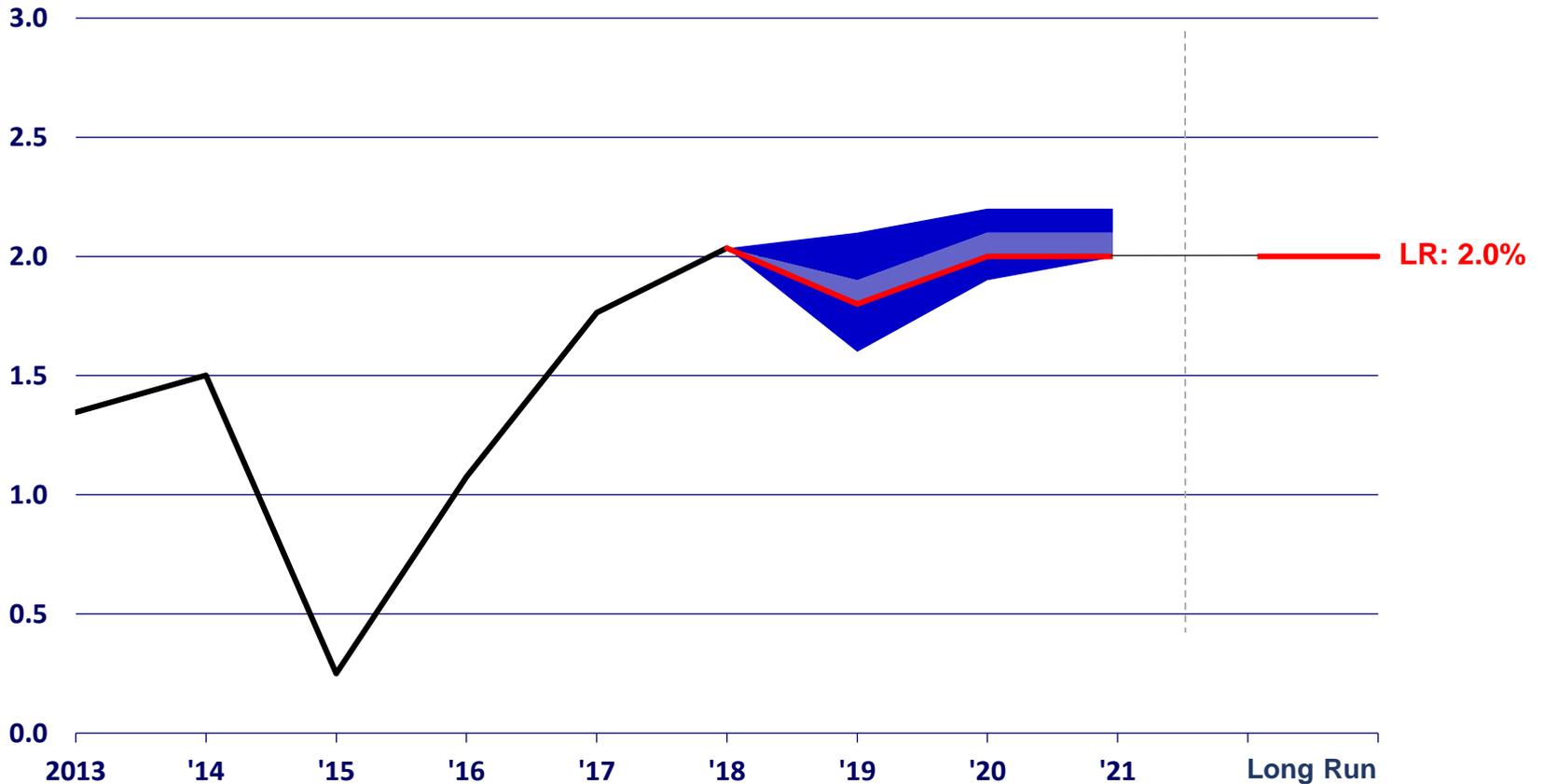
(8-qtr moving average of quarterly percent change)



Source: Federal Reserve Bank of San Francisco accessed via Haver Analytics

Summary of Economic Projections Cont.

Total PCE Inflation (percent)

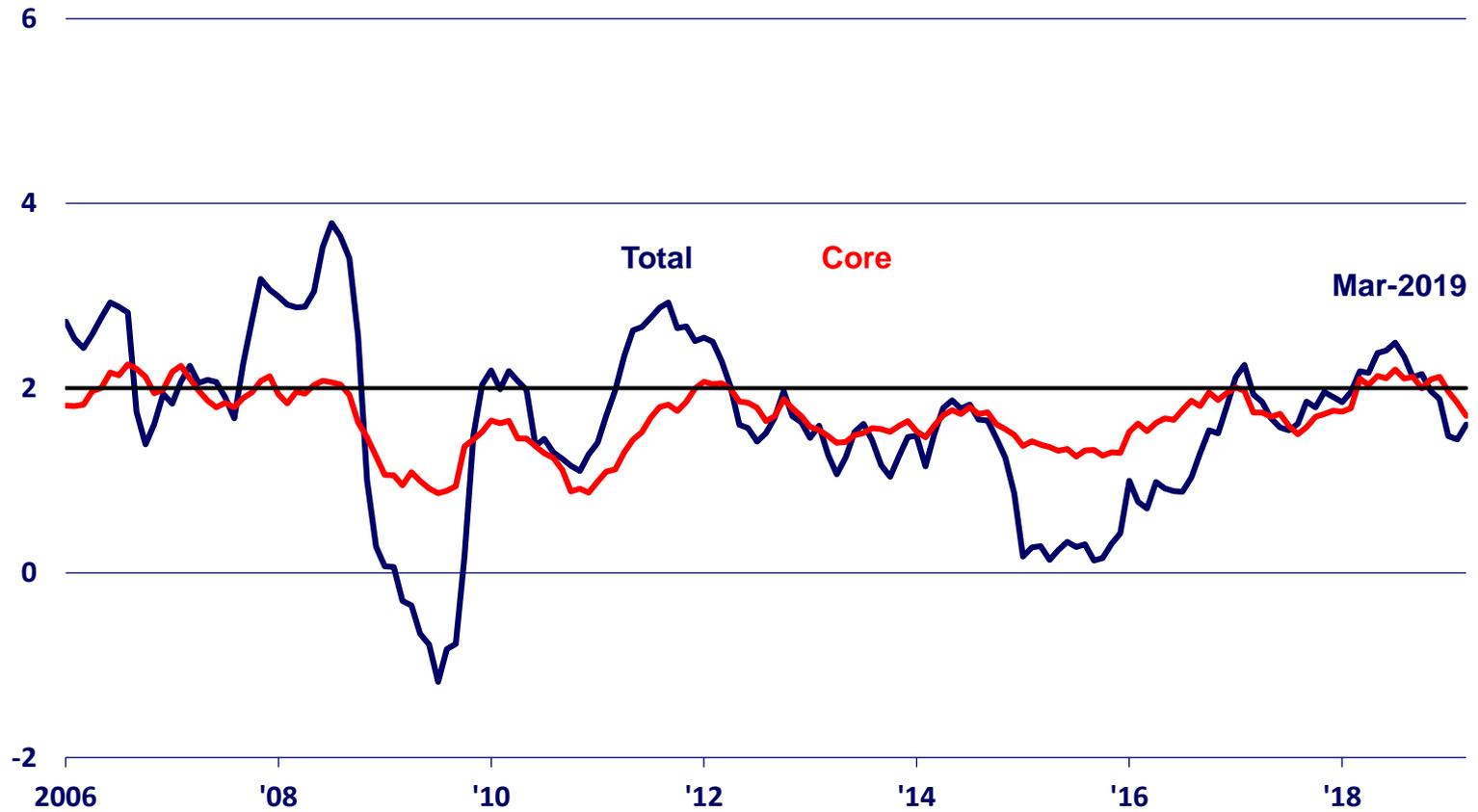


Source: Projections were obtained from the March 2019 FOMC Summary of Economic Projections. The red line is the median forecast. Shaded areas depict forecast central tendencies (light area) and ranges (dark area).

Inflation

PCE Inflation

(12-month percent change)



Source: Bureau of Economic Analysis accessed via Haver Analytics.

Monetary Policy and the Economy

Fed must accept Aggregate Supply

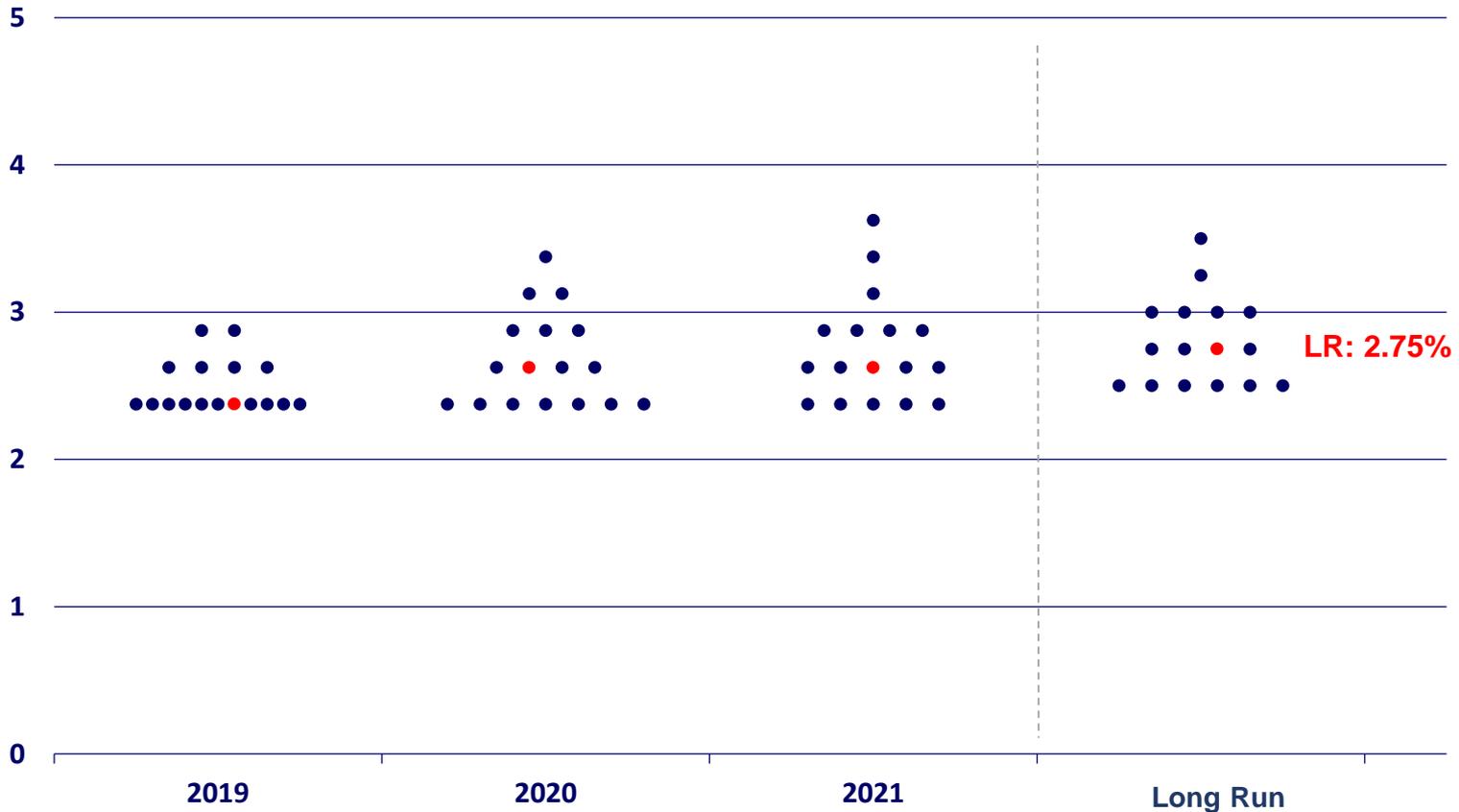
- **Available labor**
 - Labor force adjusted for the natural rate of unemployment
- **Effective capital stock**
 - Plant, equipment, software, housing stock, etc.
- **Productivity**
 - Technological capabilities
 - Institutions and regulations

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

Appropriate Pace of Policy Firming

Target Federal Funds Rate at Year-End (percent)



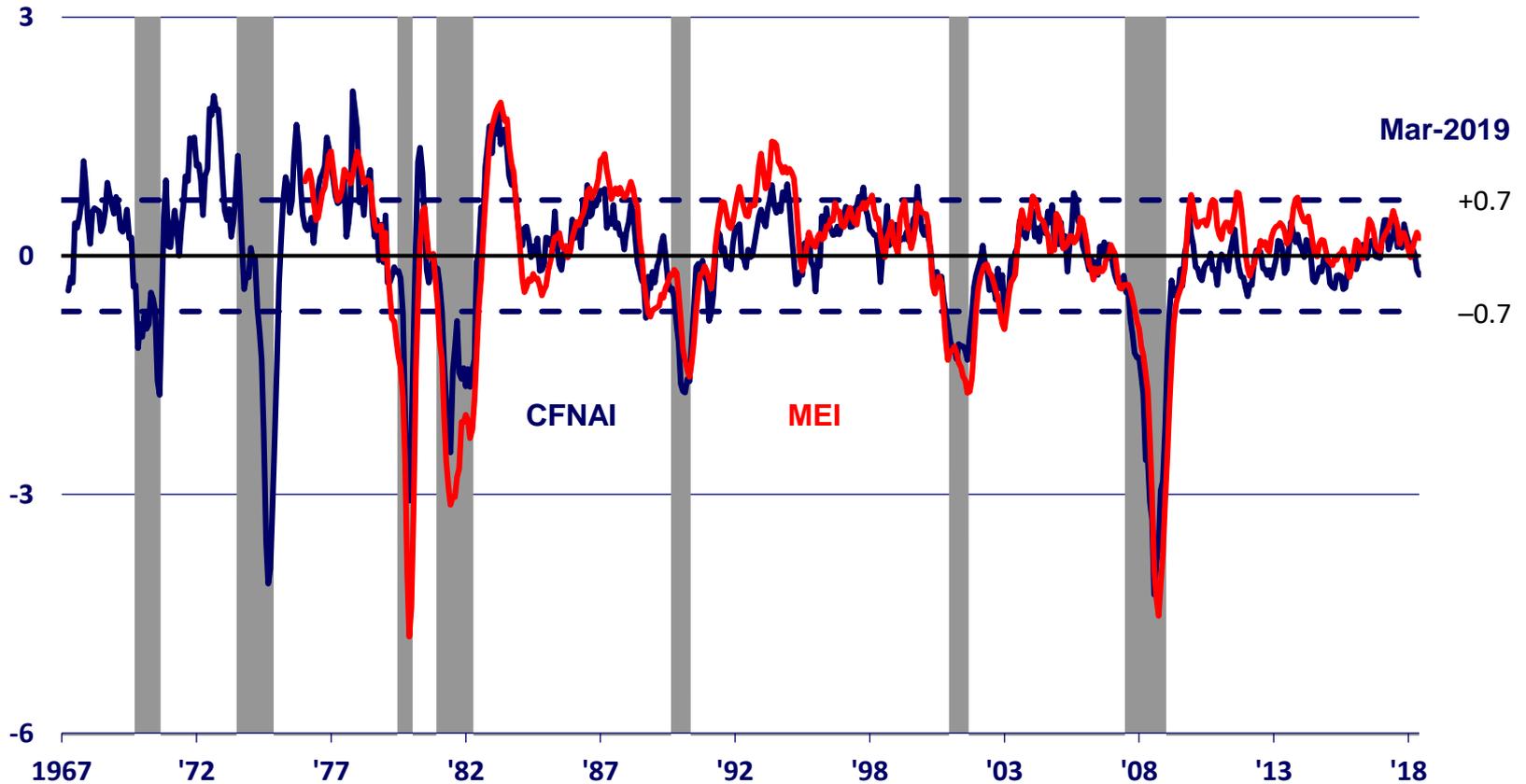
Source: March 2019 Summary of Economic Projections. Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run. Red dots indicate the median projection.

Appendix

U.S. and Midwest Economic Activity

Chicago Fed Economic Activity Indexes

(standard deviation from trend, 3-month average)



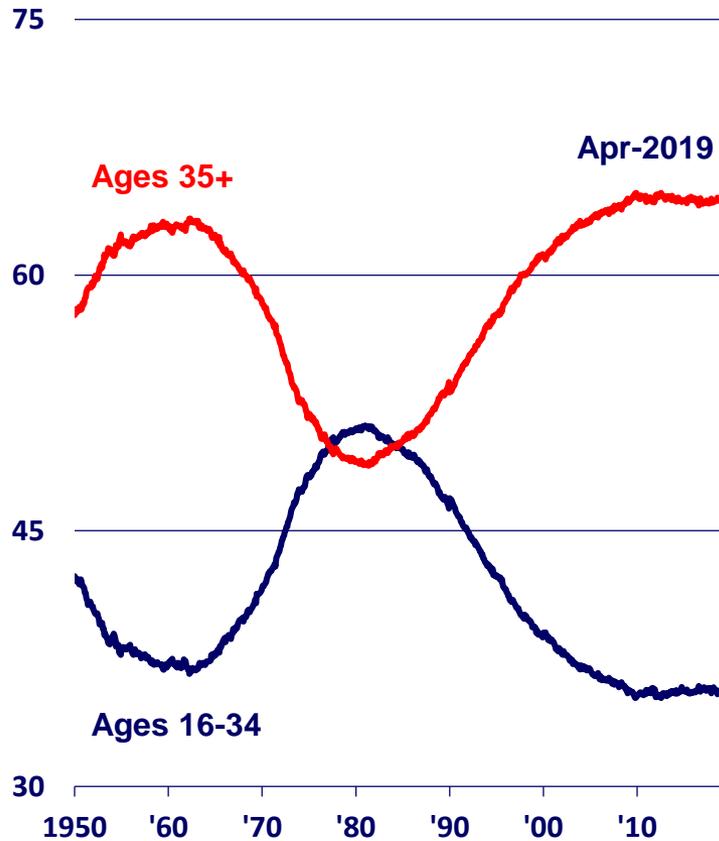
Source: Federal Reserve Bank of Chicago, accessed via Haver Analytics.
Shading indicates US recessions according to the National Bureau of Economic Research.



Demographic Considerations

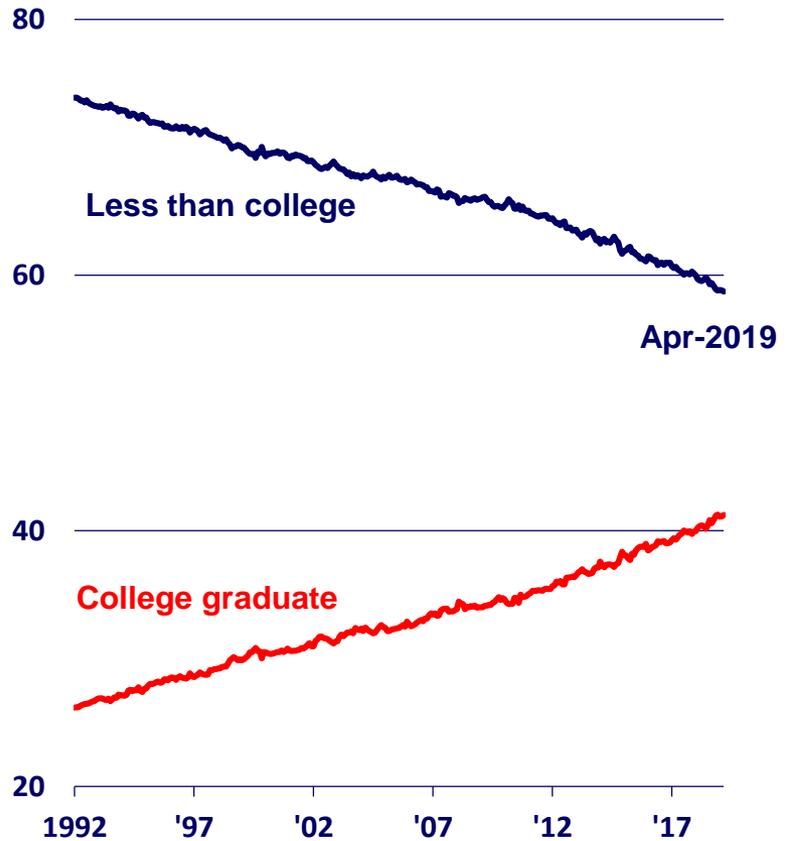
Labor Force Age Composition

(percent of the total labor force age 16+)



Labor Force Education Composition

(percent of the total labor force age 25+)



Source: Bureau of Labor Statistics accessed via Haver Analytics

