FEDERAL RESERVE BANK OF BOSTON™

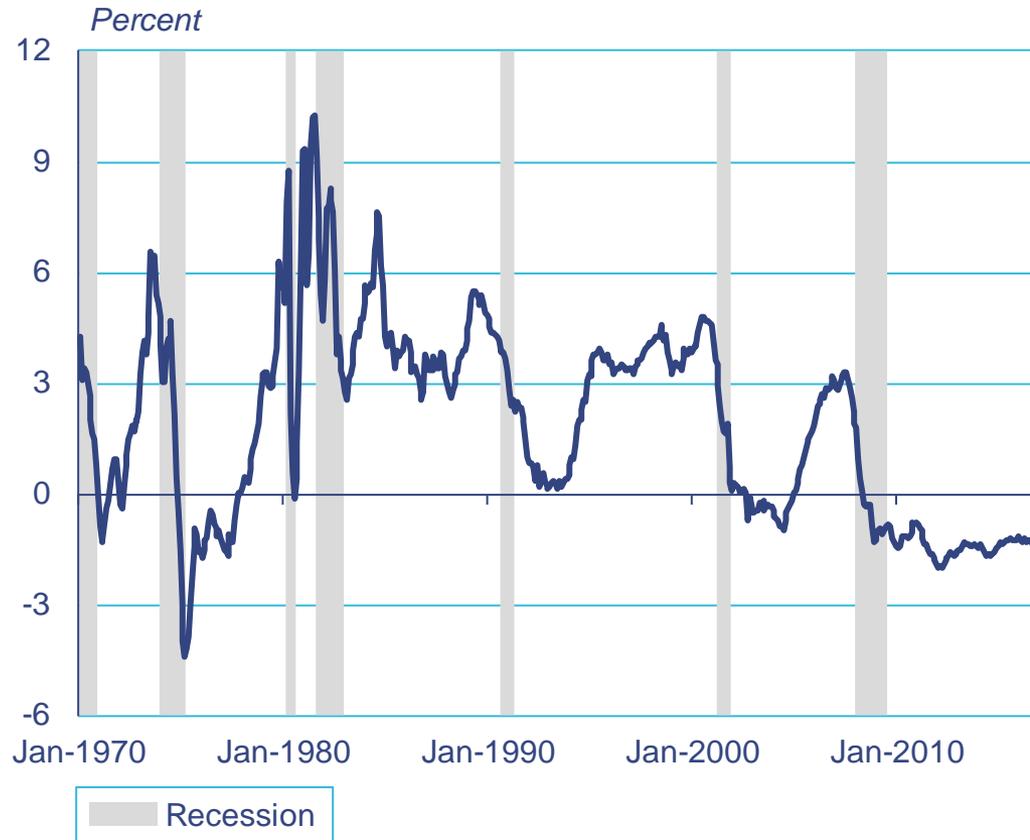# The Case for Gradual but Regular Monetary Policy Normalization

Eric S. Rosengren
President & CEO
Federal Reserve Bank of Boston

March 29, 2017

The Boston Economic Club
Hosted by the Federal Reserve Bank of Boston
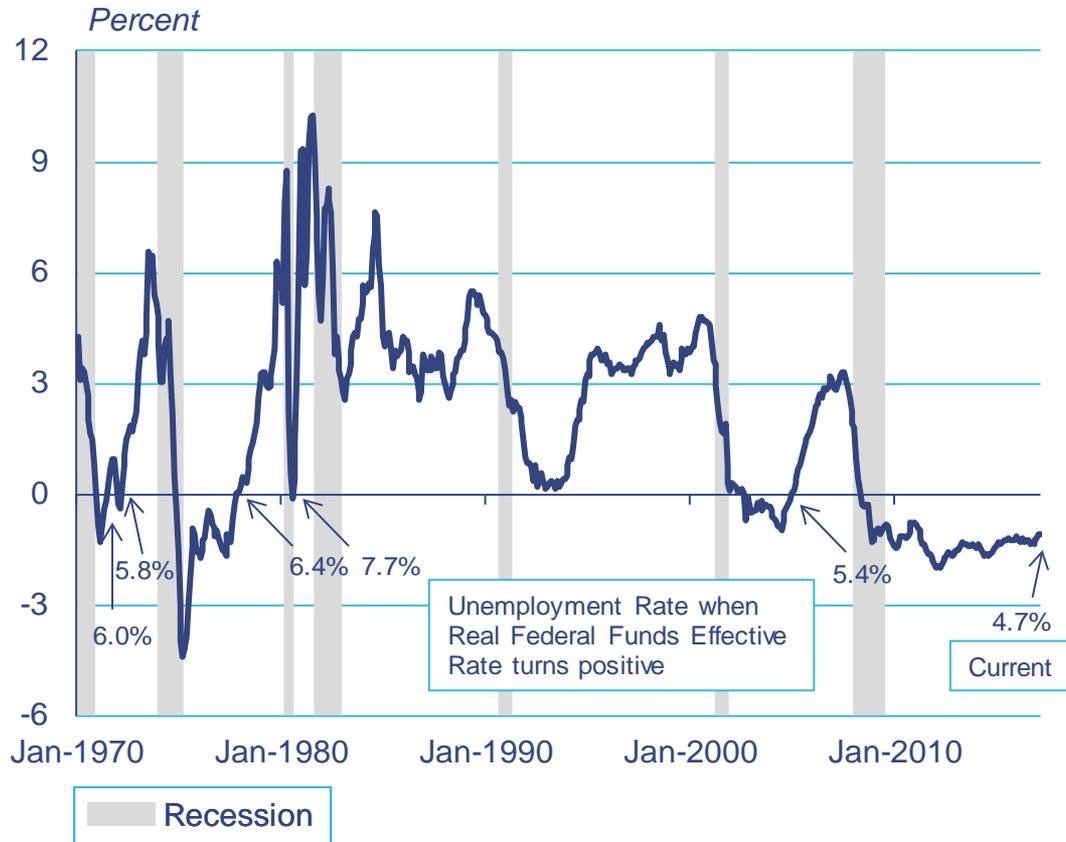Boston, Massachusetts

bostonfed.org

Figure 1: Real Federal Funds Effective Rate
January 1970 - February 2017

Percent

Recession

Note: The real federal funds effective rate is calculated by subtracting the core PCE inflation rate from the nominal federal funds effective rate. A core PCE inflation rate of 1.7% is assumed for February.

Source: Federal Reserve Board, BEA, NBER, Haver Analytics

Figure 2: Real Federal Funds Effective Rate
January 1970 - February 2017

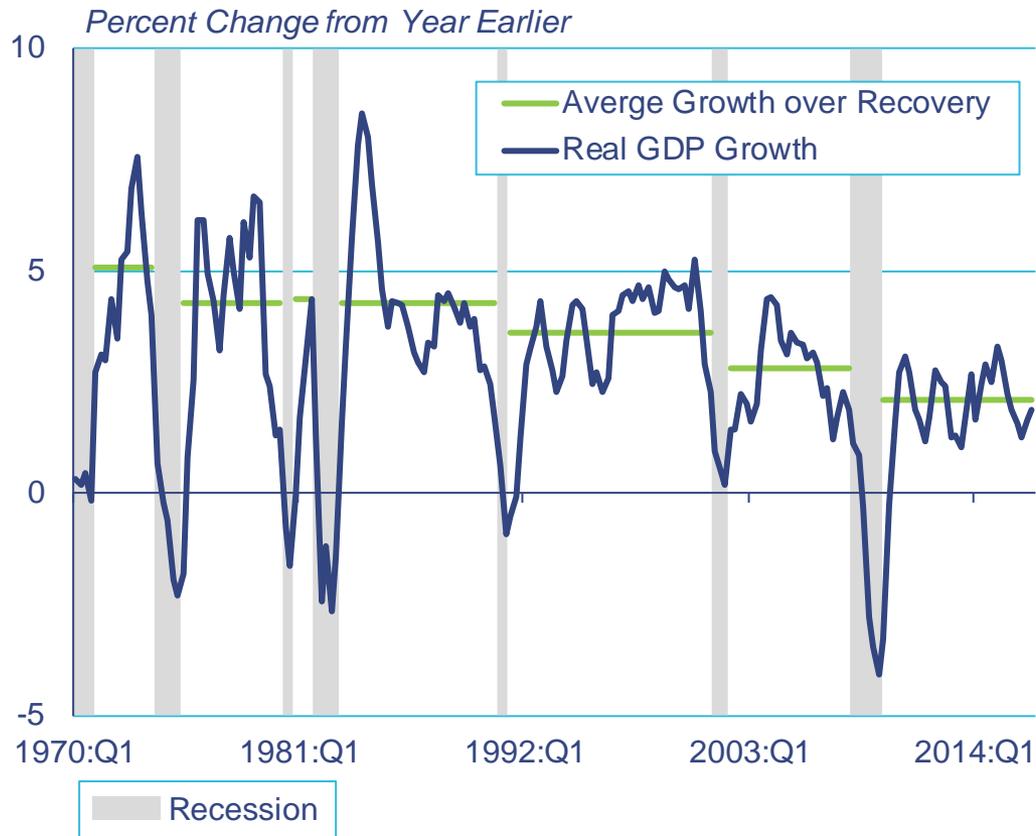*Percent*

Legend:
- ▮ Recession

Note: The real federal funds effective rate is calculated by subtracting the core PCE inflation rate from the nominal federal funds effective rate. A core PCE inflation rate of 1.7% is assumed for February.

Source: Federal Reserve Board, BEA, NBER, Haver Analytics

Figure 3: Real GDP Growth
1970:Q1 - 2016:Q4

Note: Real GDP growth is displayed on a year-over-year basis to smooth the series. The average growth over recovery is calculated as the average annual growth in real GDP from the previous trough to the peak.

Source: BEA, NBER, Haver Analytics

Figure 4: Inflation Rate: Change in Personal Consumption Expenditures (PCE) Price Index
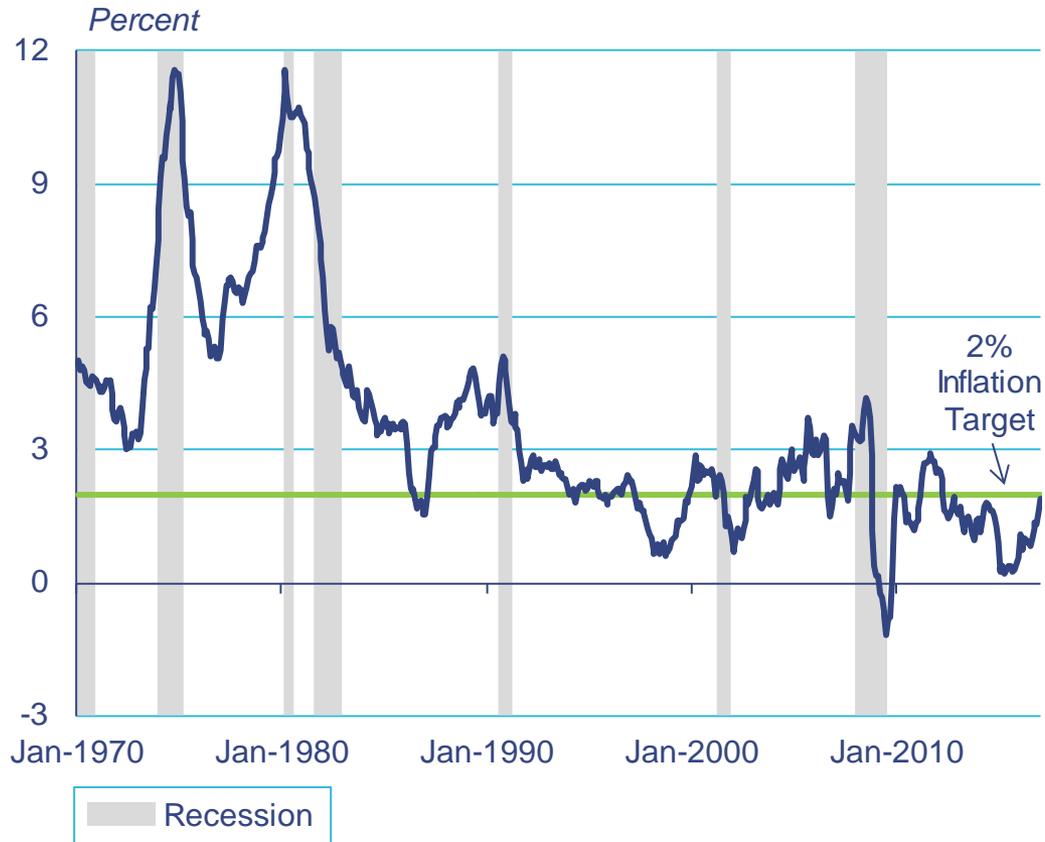January 1970 - January 2017

Figure 5: Survey of Professional Forecasters: Median Inflation Rate Forecast
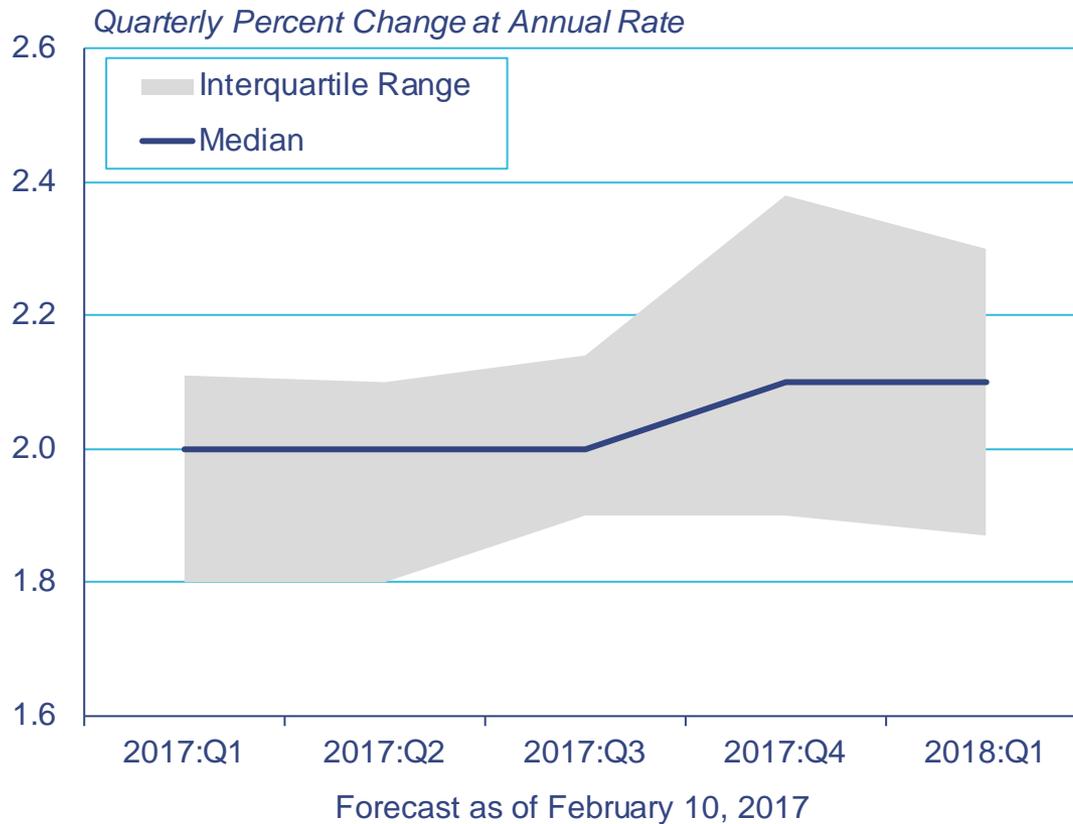
2017:Q1 - 2018:Q1

Quarterly Percent Change at Annual Rate

Interquartile Range
Median

Forecast as of February 10, 2017

Figure 6: Real GDP Growth: Actual and Forecast
2016:Q1 - 2017:Q4

Quarterly Percent Change at Annual Rate

Actual

Survey of Professional
Forecasters Median

4.0

3.0

2.0

1.0

0.0

2016:Q1   2016:Q3   2017:Q1   2017:Q3

Forecast as of February 10, 2017
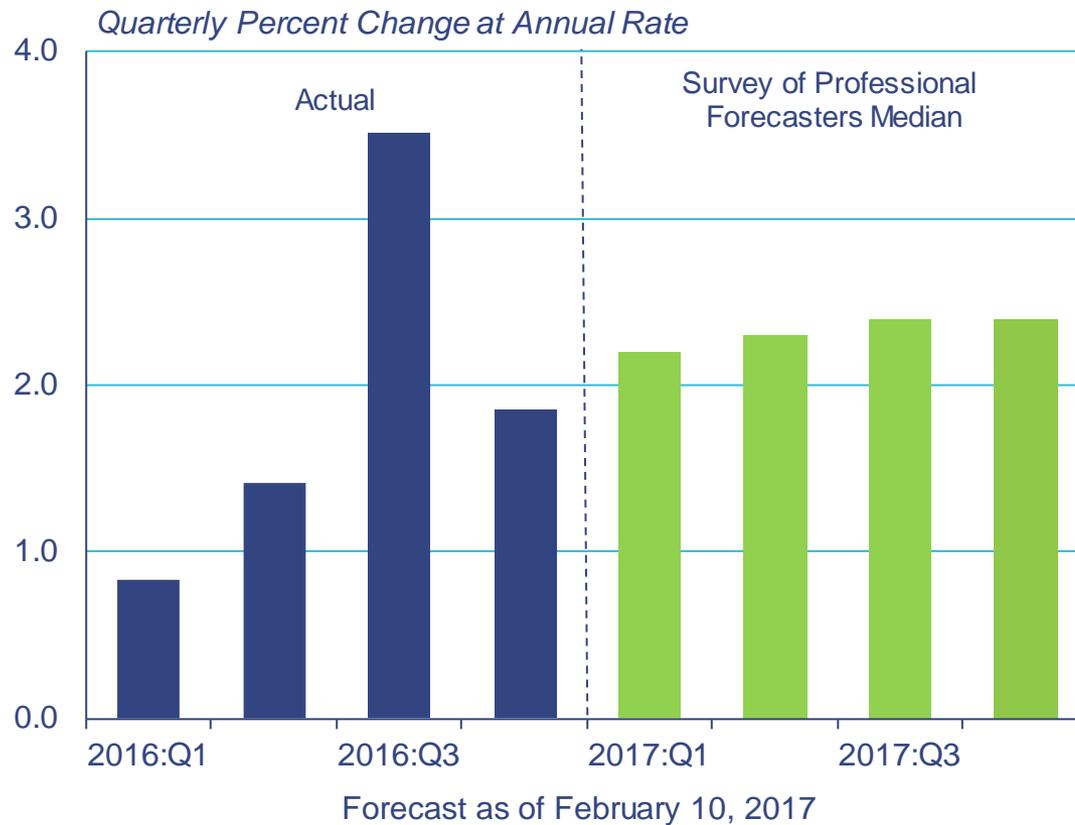
Figure 7: Survey of Professional Forecasters: Median Civilian Unemployment Rate Forecast
2017:Q1 - 2018:Q1

Percent

Legend:
- Interquartile Range
- Median

X-axis: 2017:Q1, 2017:Q2, 2017:Q3, 2017:Q4, 2018:Q1

Y-axis: 4.0, 4.2, 4.4, 4.6, 4.8, 5.0

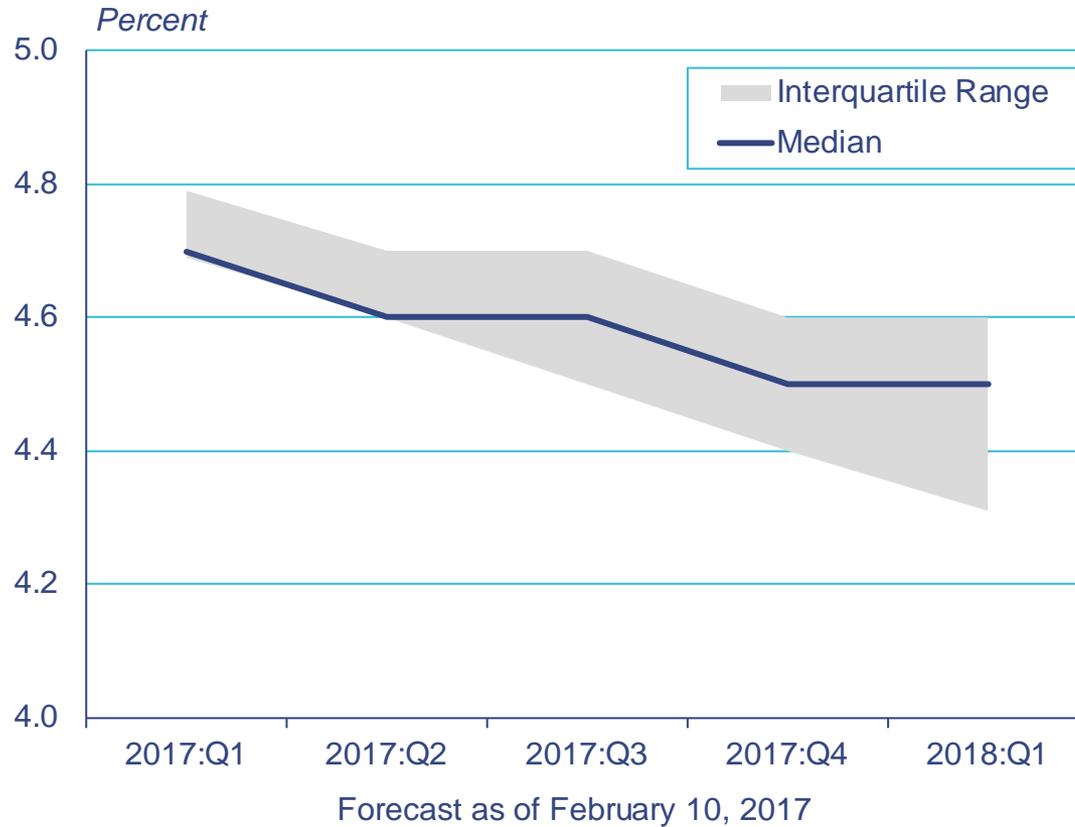Forecast as of February 10, 2017

Figure 8: Unemployment Rate Forecast from the Summary of Economic Projections

2017:Q4 - 2019:Q4 and the Longer Run

Civilian Unemployment Rate (Percent)											
Median				Central Tendency				Range			
2017	2018	2019	Longer Run	2017	2018	2019	Longer Run	2017	2018	2019	Longer Run
4.5	4.5	4.5	4.7	4.5 - 4.6	4.3 - 4.6	4.3 - 4.7	4.7 - 5.0	4.4 - 4.7	4.2 - 4.7	4.1 - 4.8	4.5 - 5.0

Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Longer-run projections represent each participant's assessment of the rate to which the unemployment rate would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy.
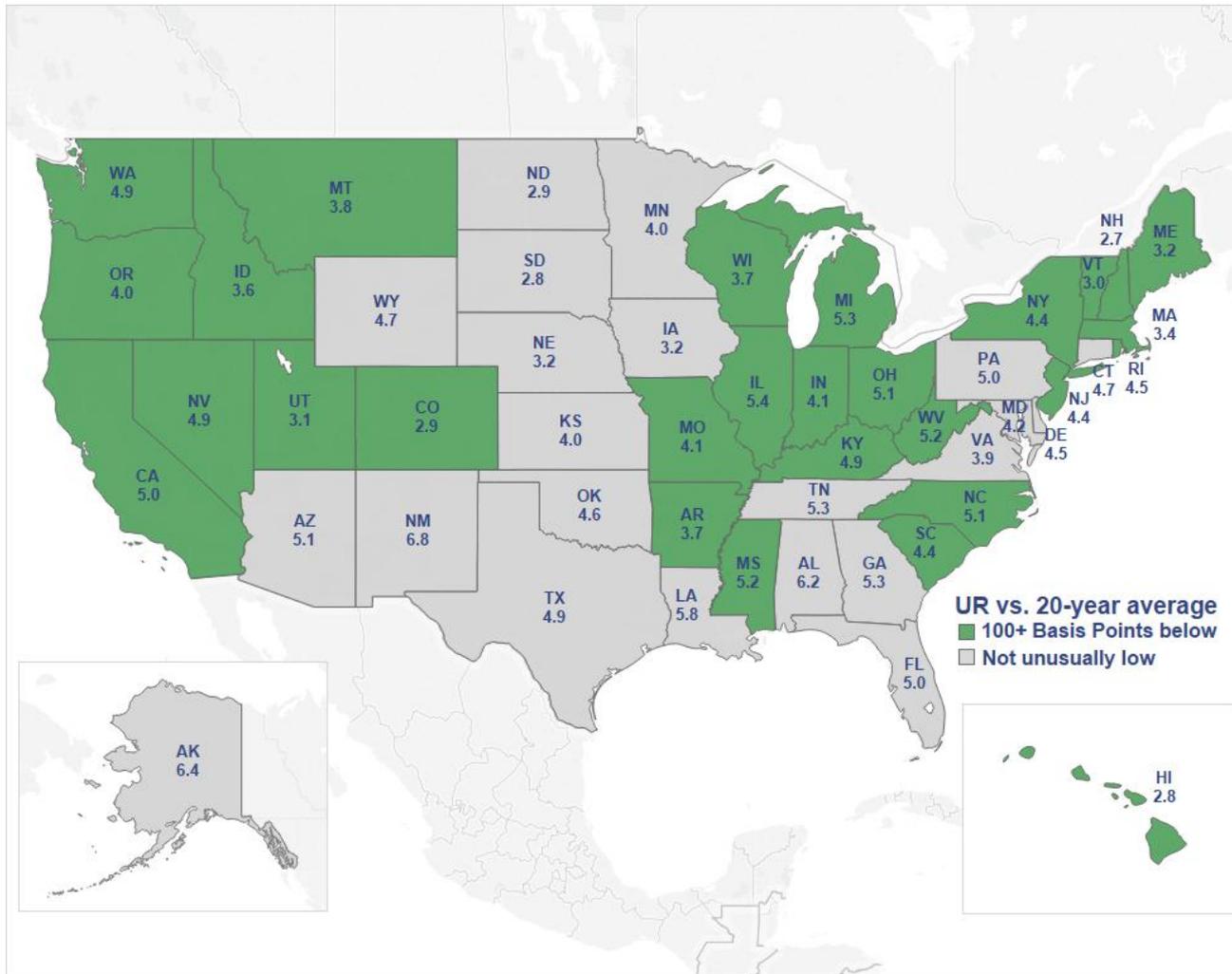
Forecast as of March 15, 2017

Figure 9: Civilian Unemployment Rate by State
February 2017
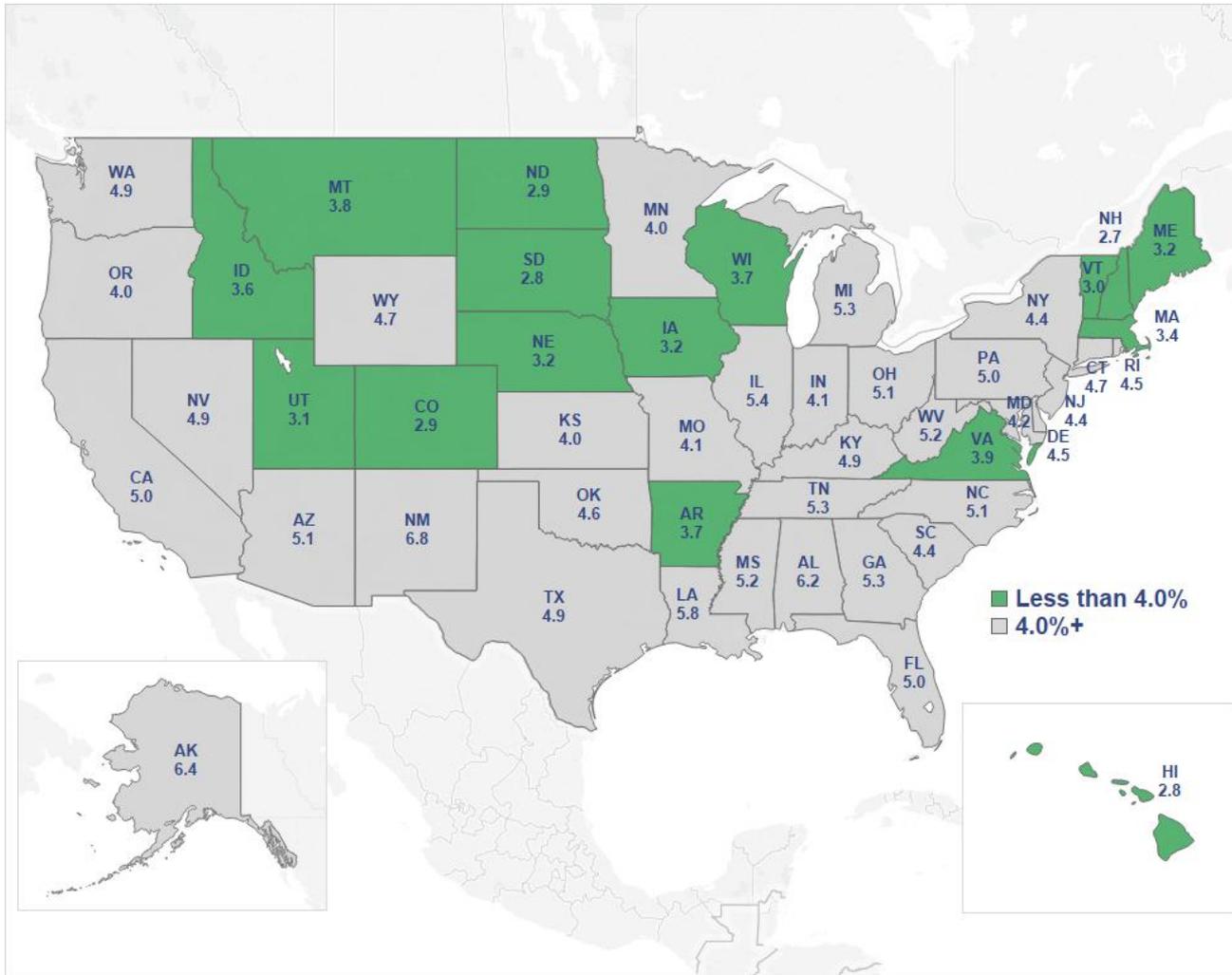
Source: BLS, Haver Analytics

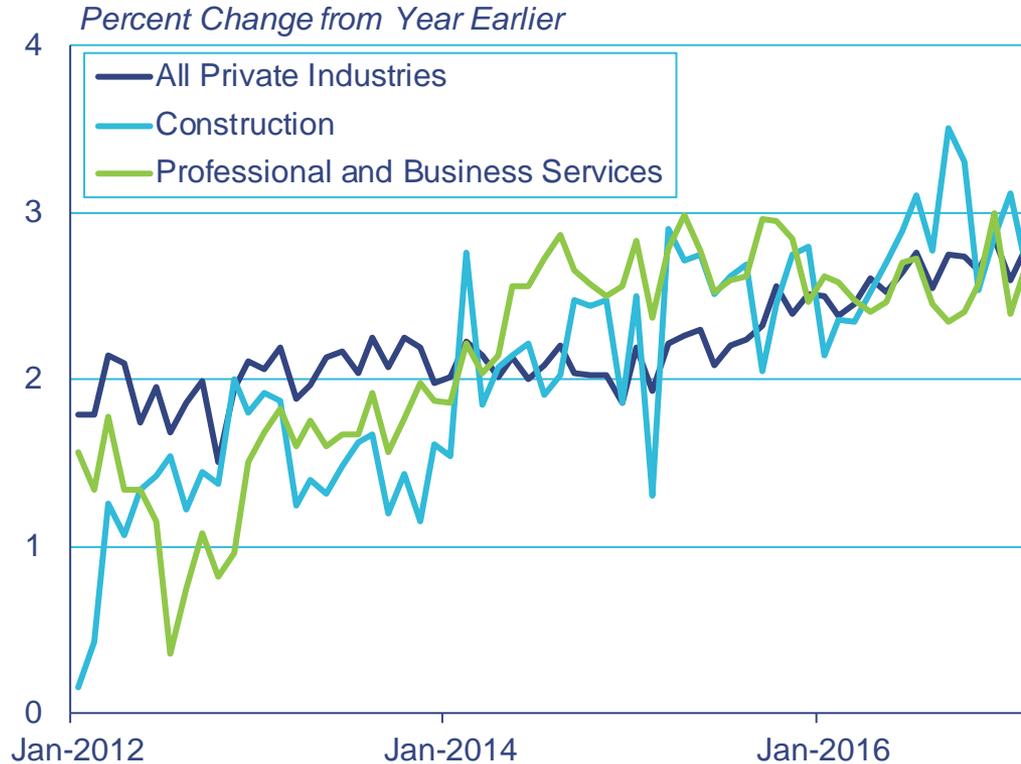# Figure 10: Civilian Unemployment Rate by State
February 2017

Note: The 20-year average is calculated using the most recent 240 months, March 1997 through February 2017.

Source: BLS, Haver Analytics

Figure 11: Wage Growth for Private Industry Workers and for Selected Industries

January 2012 - February 2017

Percent Change from Year Earlier

Legend:
- All Private Industries
- Construction
- Professional and Business Services

X-axis: Jan-2012, Jan-2014, Jan-2016

Y-axis: 0, 1, 2, 3, 4

Note: Wage growth is calculated as the change in average hourly earnings.

Source: BLS, Haver Analytics

Figure 12: S&P 500 Composite Price to Operating Earnings Ratio
January 1990 - February 2017
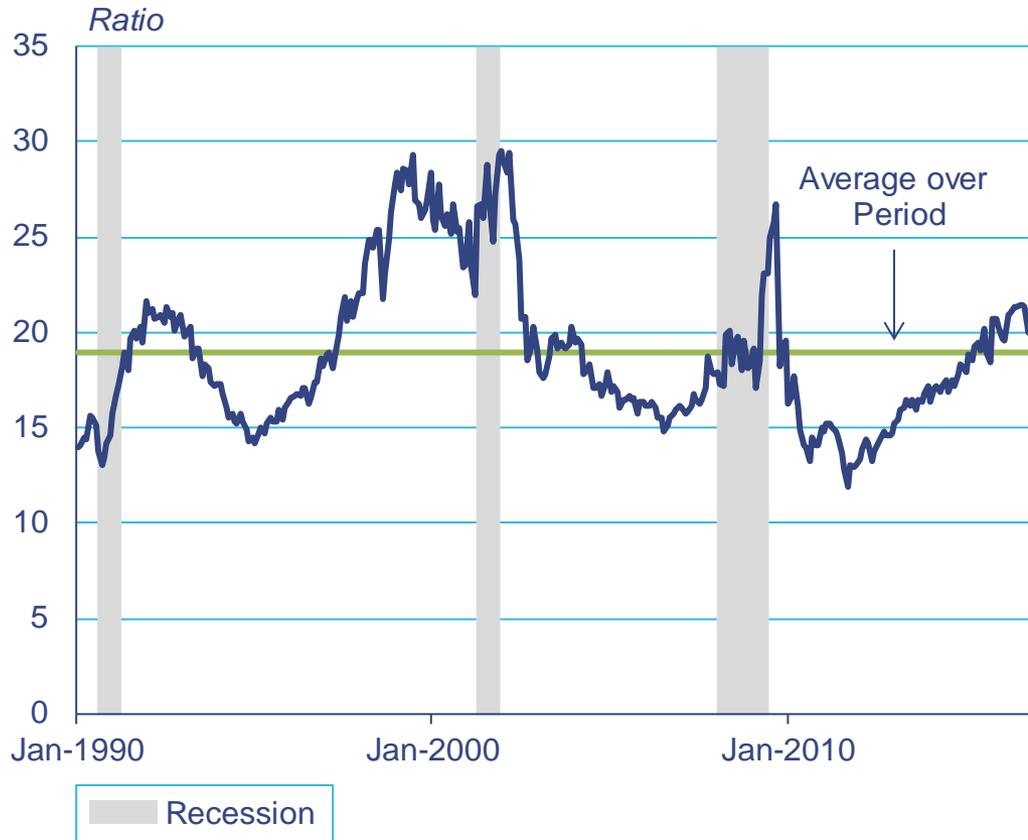
Source: S&P, NBER, Haver Analytics

Figure 13: High-Yield Corporate Bond Spread over 10-Year U.S. Treasury Yield

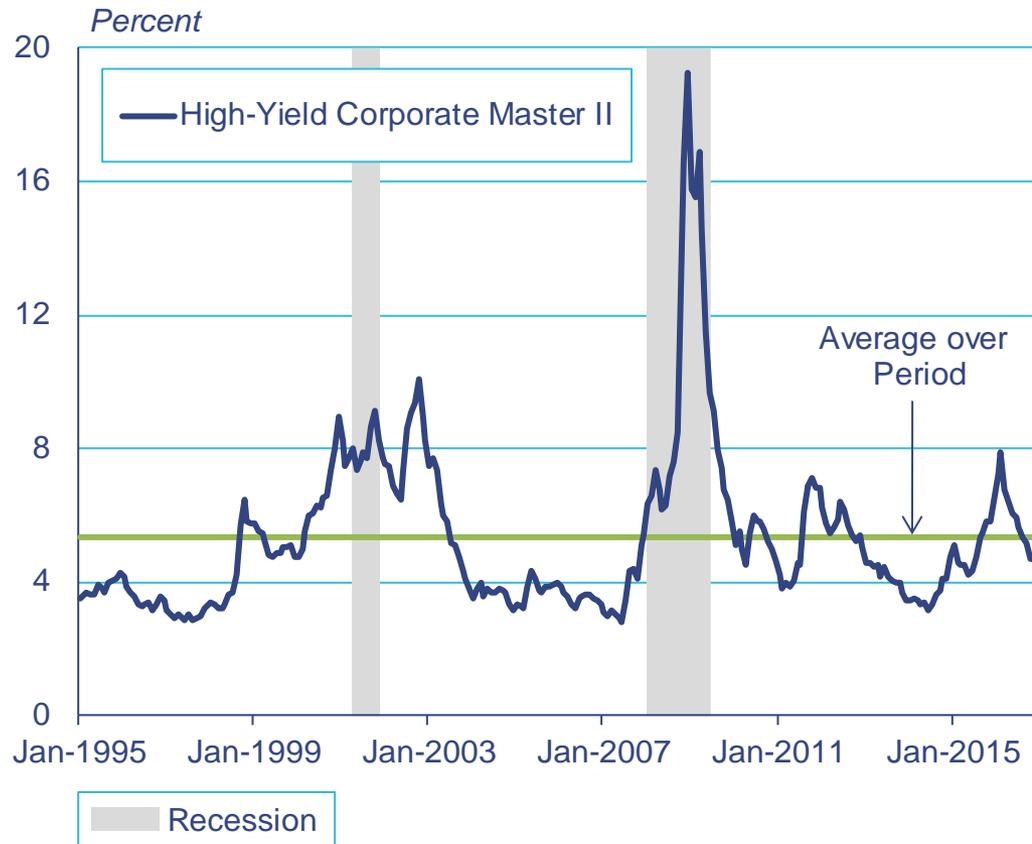January 1995 - February 2017

Figure 14: Apartment Capitalization Rate
2001:Q1 - 2016:Q4

Note: The capitalization or "cap" rate is the ratio of net operating income produced by a property to the price paid for the property, calculated at the time of a transaction. Based on properties of $2.5 million or more.

Source: Real Capital Analytics, NBER, Haver Analytics