

Economic Outlook: *Higher Rates Amid Continued Moderation, Slower Inflation & Fiscal Uncertainty* October 13, 2017

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Head of Financial Institution Analytics



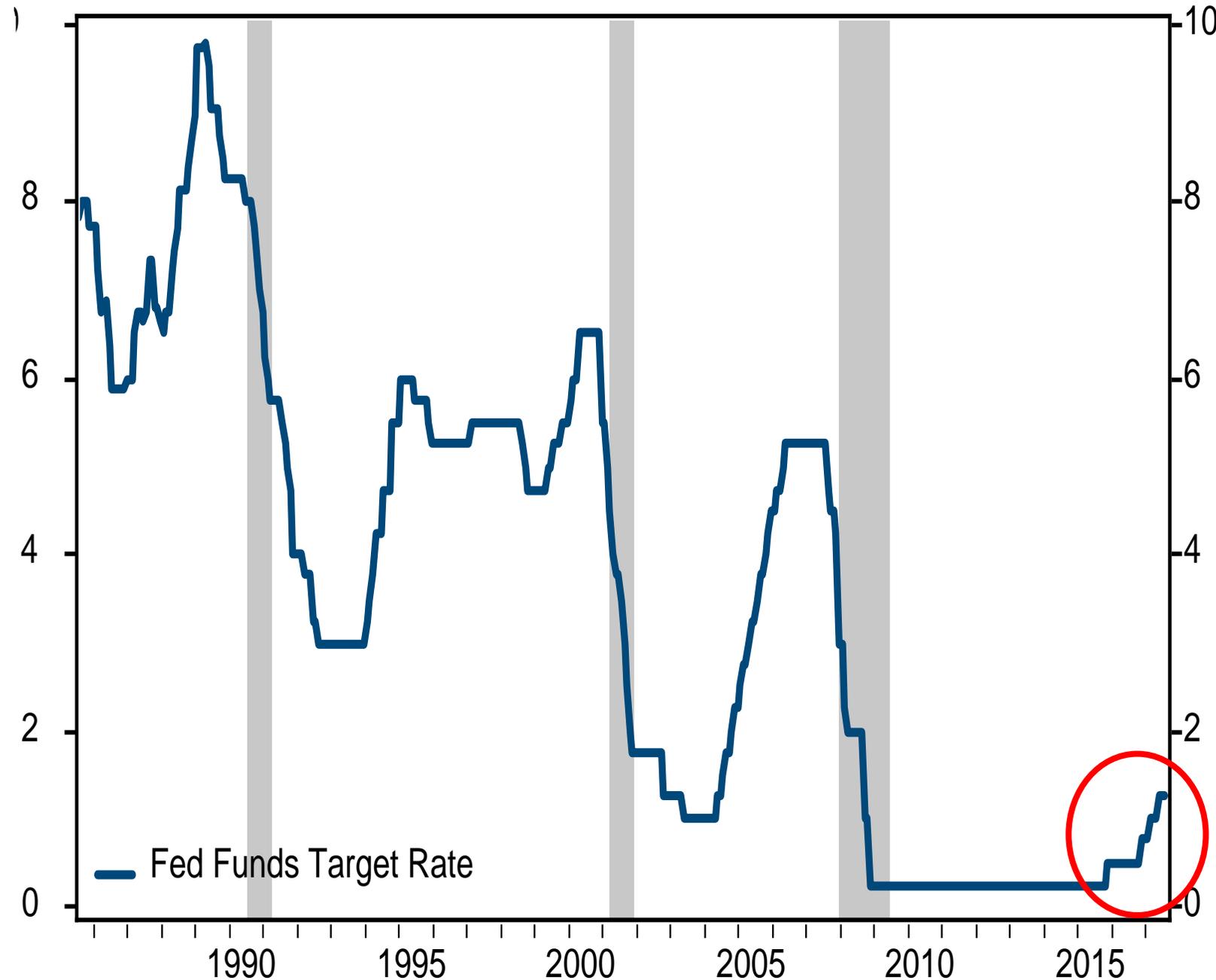
The Fed: Raising Rates with a Cautious Tone

Historically Low Rates

Fed keeps rates steady at a range of 1.00%-1.25% at latest September meeting

Fed raised rates 25bps to **1.25%** at June meeting, the second rate increase in 2017 (March), and the third rate increase since December 2016

Fed raised rates 25bps to 0.75% in December 2016 after seven consecutive meetings of unchanged policy



Source: Federal Reserve Board /Haver Analytics

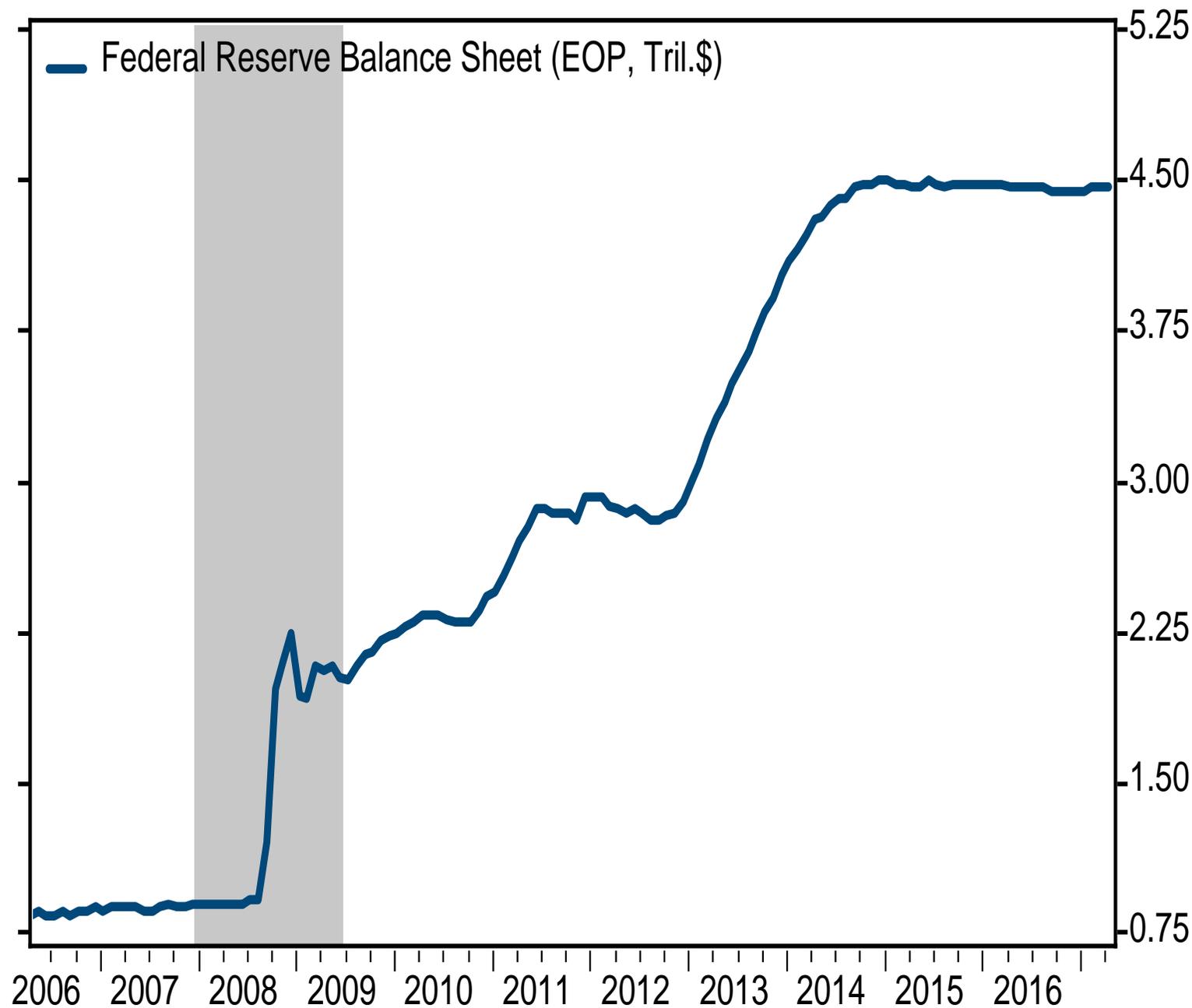
“In October, the Committee will initiate the balance sheet normalization program described in the June 2017 Addendum to the Committee's Policy Normalization Principles and Plans.”

-September 20th FOMC Statement

“For payments of principal from maturing Treasury securities, the Committee anticipates that the cap will be \$6 billion per month initially and will increase in steps of \$6 billion at three-month intervals over 12 months until it reaches \$30 billion per month.”

“For payments of principal from its holdings of agency debt and mortgage-backed securities, the Committee anticipates that the cap will be \$4 billion per month initially and will increase in steps of \$4 billion at three-month intervals over 12 months until it reaches \$20 billion per month.”

-June 14th FOMC Statement



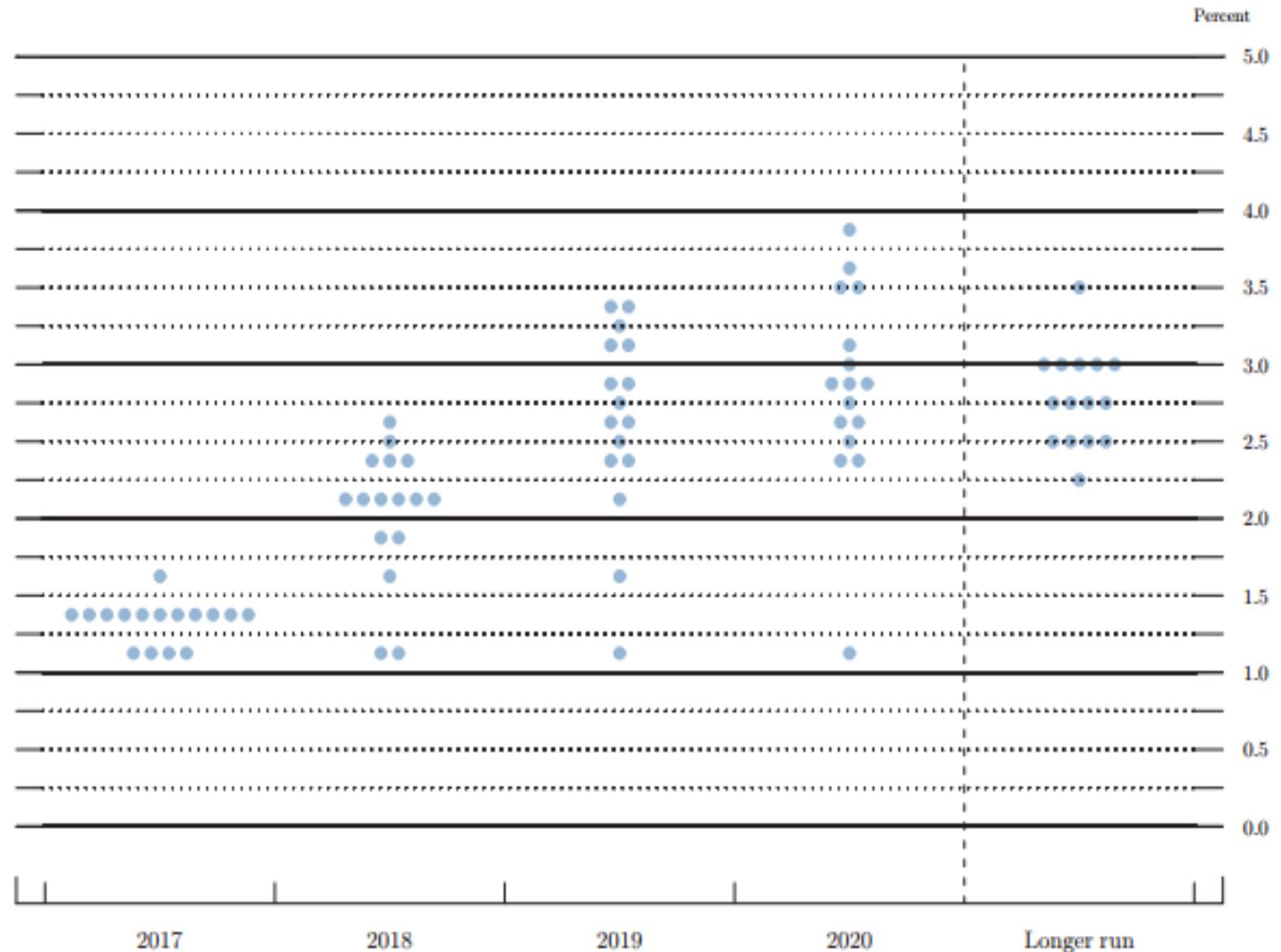
Source: Federal Reserve Board /Haver Analytics

September 20th FOMC Dot Plot

The Fed continues to forecast one additional rate hike in the remaining two months of the year

“The Committee continues to expect that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace, and labor market conditions will strengthen somewhat further.”

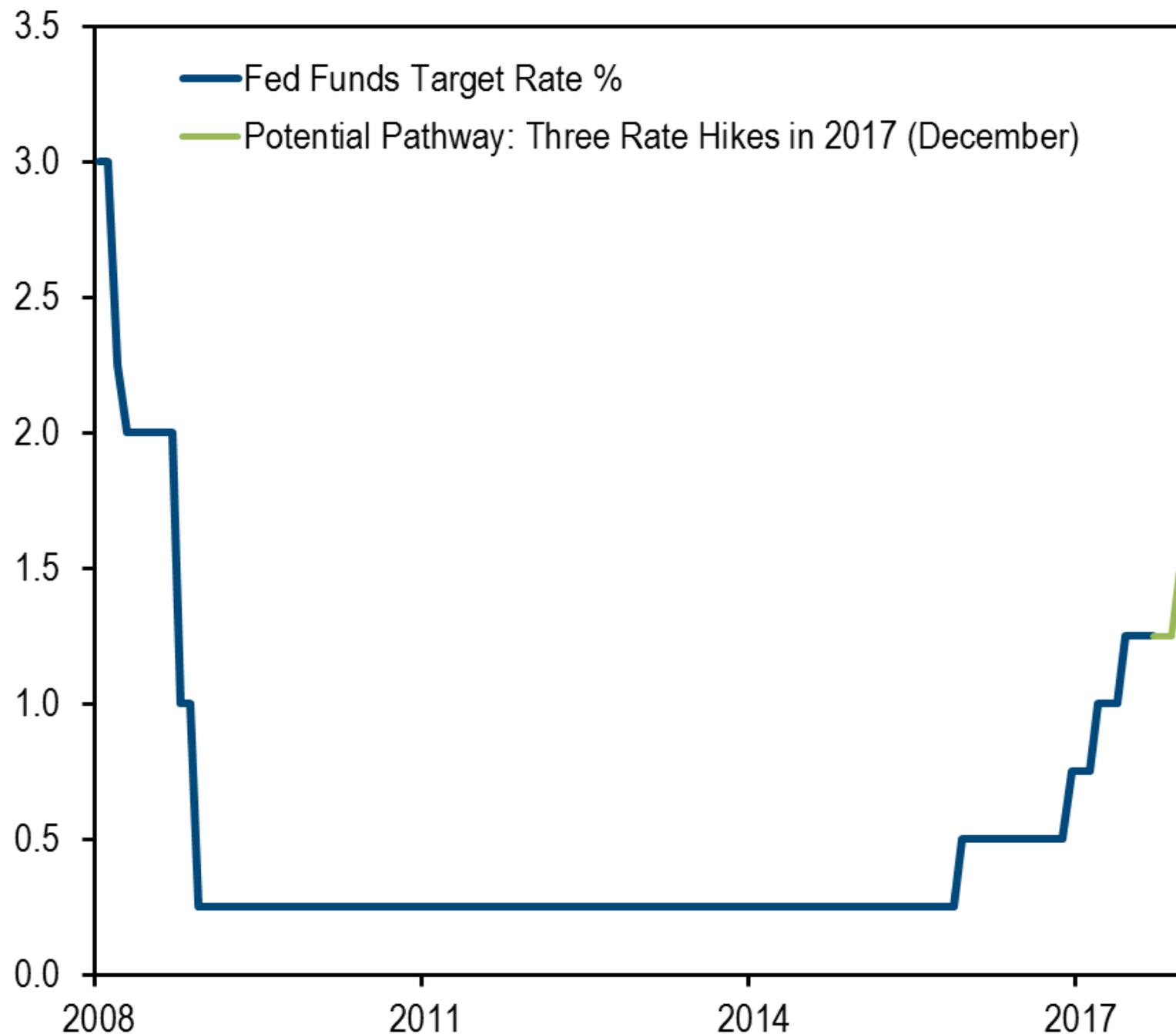
- September 20th FOMC Statement



Source: Federal Reserve

The Fed Continues to Expect a “Gradual” Rise in Rates

Buoyed by the expectation of firmer growth and prices to come, the majority of Fed officials anticipate one additional rate increase by the end of the year and three additional rate hikes in 2018, the same number reported in the June SEP



Source: Bloomberg

Waning Justification: *“Soft”* Inflation

“On a 12-month basis, overall inflation and the measure excluding food and energy prices have declined this year and are running below 2 percent.”

“Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term.”

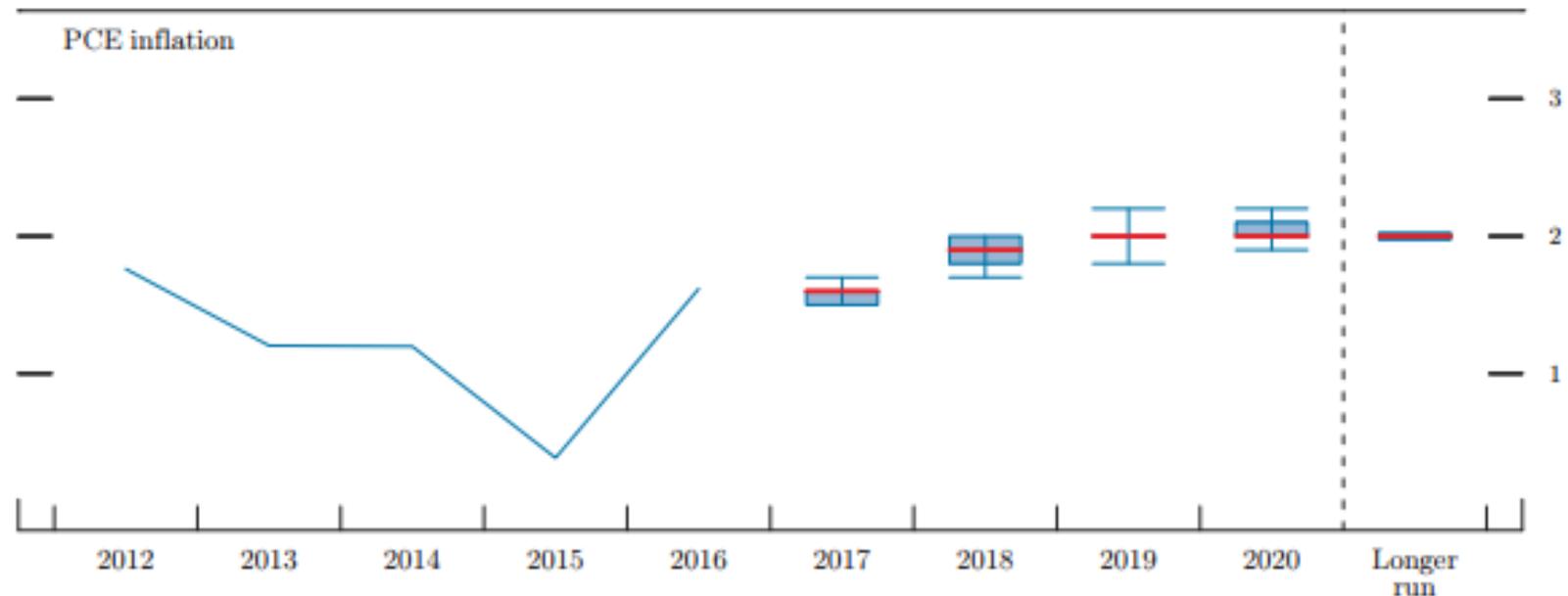
“Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.”
-September 20th FOMC Statement

The FOMC maintained their forecast for headline inflation for 2017 at **1.6%**, but lowered their forecast for core inflation from 1.7% to **1.5%**

The forecast for headline inflation in 2018 was lowered from 2.0% to **1.9%**

September 20th Summary of Economic Projections

| Variable | Median ¹ | | | | | Central tendency ² | | | | | Range ³ | | | | |
|---------------------------------|---------------------|------|------|------|------------|-------------------------------|---------|---------|---------|------------|--------------------|---------|---------|---------|------------|
| | 2017 | 2018 | 2019 | 2020 | Longer run | 2017 | 2018 | 2019 | 2020 | Longer run | 2017 | 2018 | 2019 | 2020 | Longer run |
| PCE inflation | 1.6 | 1.9 | 2.0 | 2.0 | 2.0 | 1.5-1.6 | 1.8-2.0 | 2.0 | 2.0-2.1 | 2.0 | 1.5-1.7 | 1.7-2.0 | 1.8-2.2 | 1.9-2.2 | 2.0 |
| June projection | 1.6 | 2.0 | 2.0 | n.a. | 2.0 | 1.6-1.7 | 1.8-2.0 | 2.0-2.1 | n.a. | 2.0 | 1.5-1.8 | 1.7-2.1 | 1.8-2.2 | n.a. | 2.0 |
| Core PCE inflation ⁴ | 1.5 | 1.9 | 2.0 | 2.0 | | 1.5-1.6 | 1.8-2.0 | 2.0 | 2.0-2.1 | | 1.4-1.7 | 1.7-2.0 | 1.8-2.2 | 1.9-2.2 | |
| June projection | 1.7 | 2.0 | 2.0 | n.a. | | 1.6-1.7 | 1.8-2.0 | 2.0-2.1 | n.a. | | 1.6-1.8 | 1.7-2.1 | 1.8-2.2 | n.a. | |



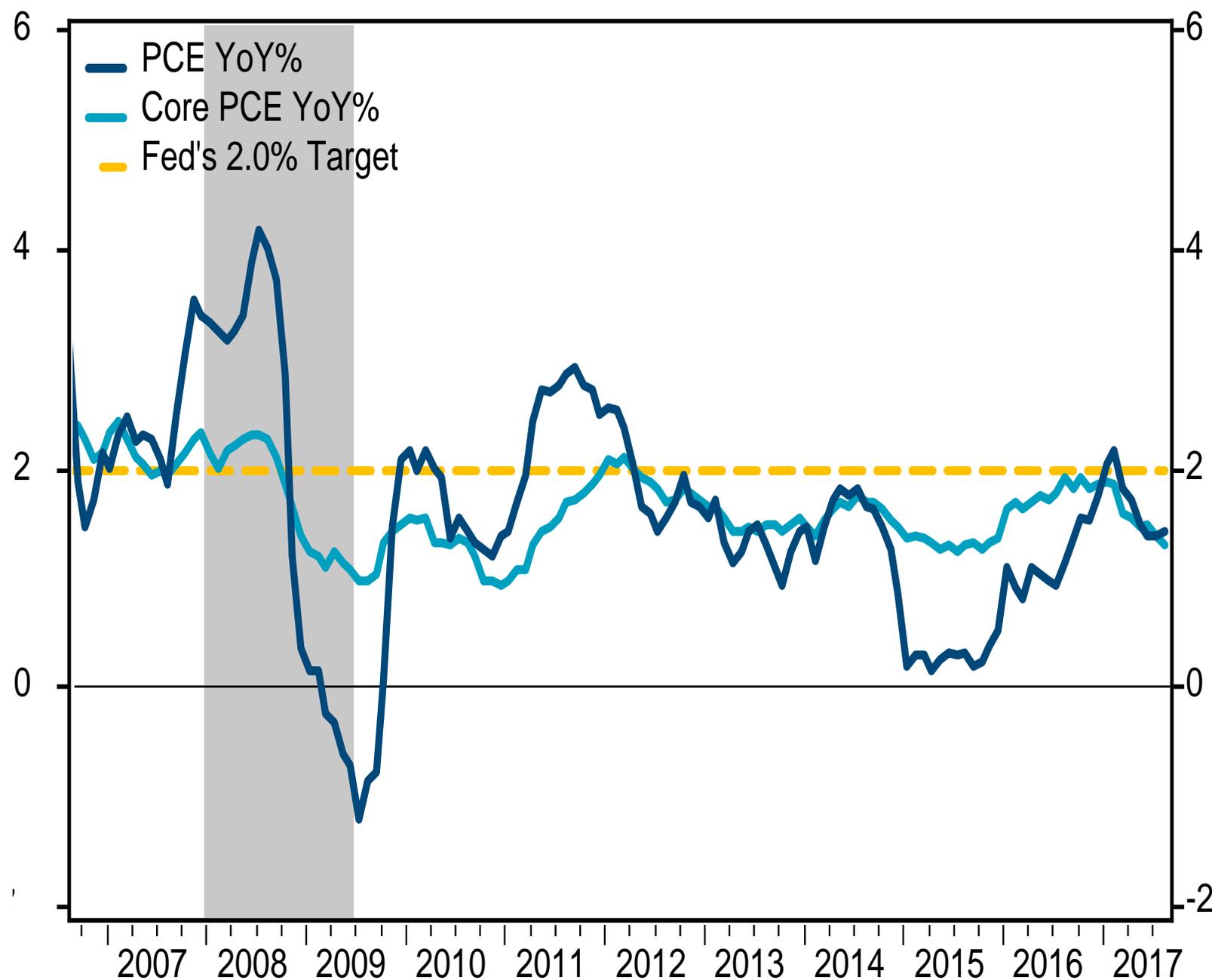
Source: Federal Reserve

“Higher prices for gasoline and some other items in the aftermath of the hurricanes will likely boost inflation temporarily; apart from that effect, inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee’s 2 percent objective over the medium term.”

-September 20th FOMC Statement

The PCE rose **0.2%** in August and rose **1.4%** year-over-year for the third consecutive month, down from a recent peak of 2.2% in February, the first +2% reading since April 2012

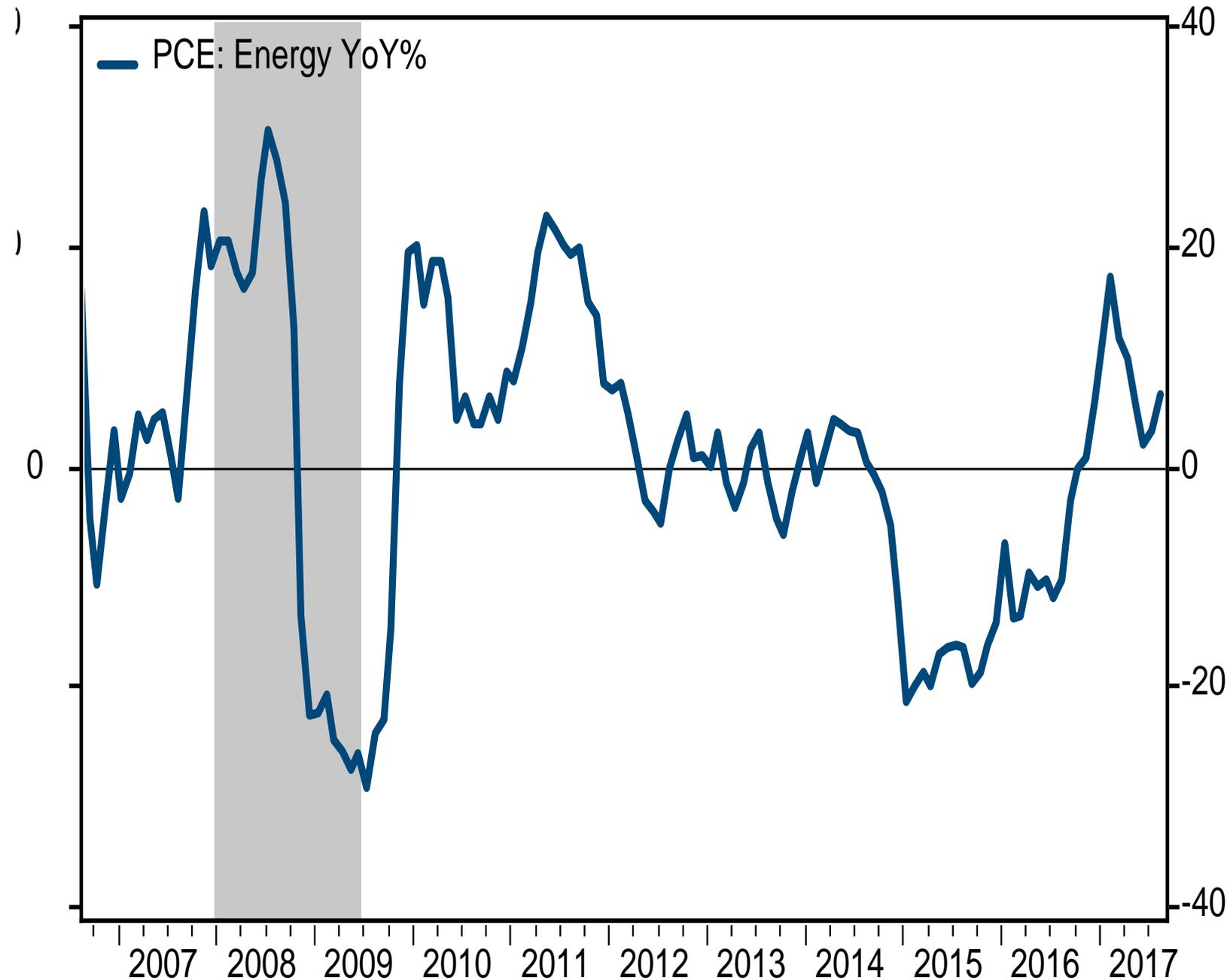
The core PCE rose **0.1%** in August and rose **1.3%** year-over-year, the lowest since October 2015, and down from a peak of 1.8% in January



Source: Bureau of Economic Analysis /Haver Analytics

The energy component of inflation rose from a -7.15% annual pace in 2016 to an 8.6% pace in 2017

In the latest report, energy growth rose from 3.3% to 6.7% in August, down from a recent peak of 17.3% in February



Source: Bureau of Economic Analysis /Haver Analytics

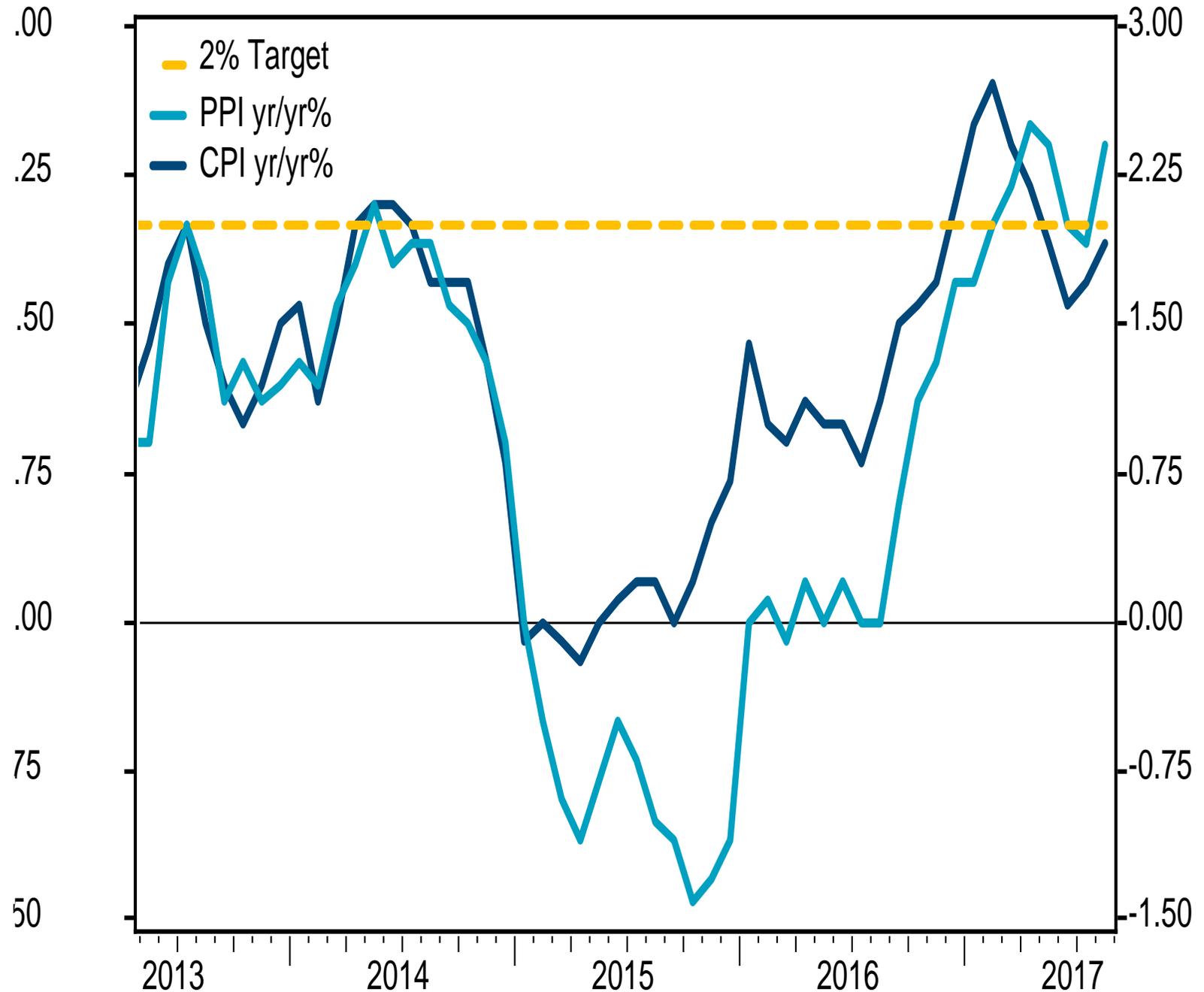
Slower-than-Expected Inflation

The PPI rose 0.2% in August, a four-month high

Year-over-year, headline producer prices increased from 1.9% to **2.4%** in August, a three-month high, but down from a peak of 2.5% in April

The CPI rose 0.4% in August, a seven-month high

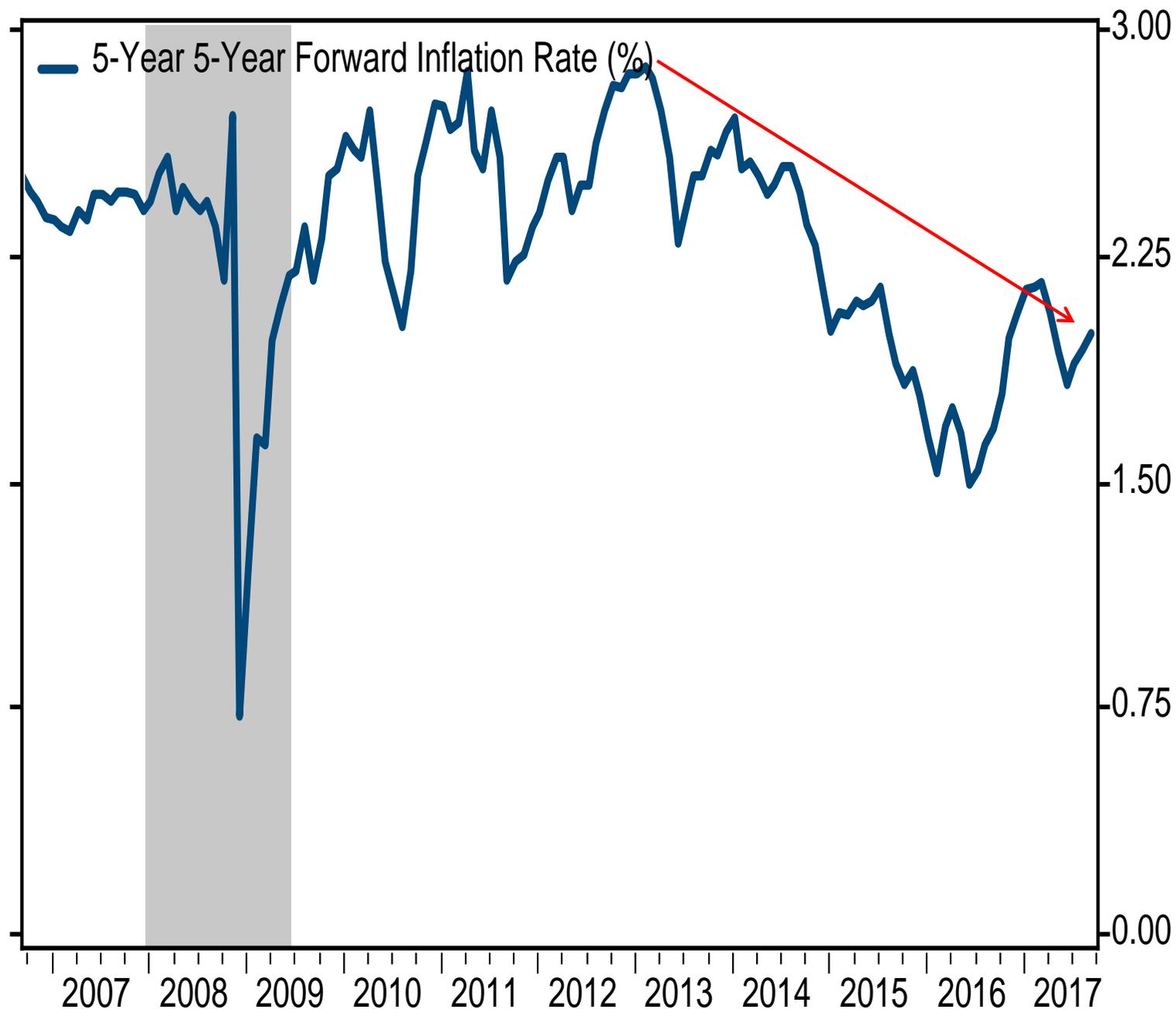
Year-over-year, headline consumer prices rose **1.9%** in August, a three-month high, but down from a peak of 2.7% in February



Source: Bureau of Labor Statistics /Haver Analytics

Inflation Expectations Slow

Inflation expectations climbed to a more than one-year high at 2.2% in March amid expectations of increased fiscal investment being stimulative and becoming reflationary, but have since lost momentum, currently at 2.0% as of September, and further below a peak of 2.9% in February 2013



Source: Federal Reserve Board/Haver Analytics

Waning Justification: Labor Market Stable but Far from Robust

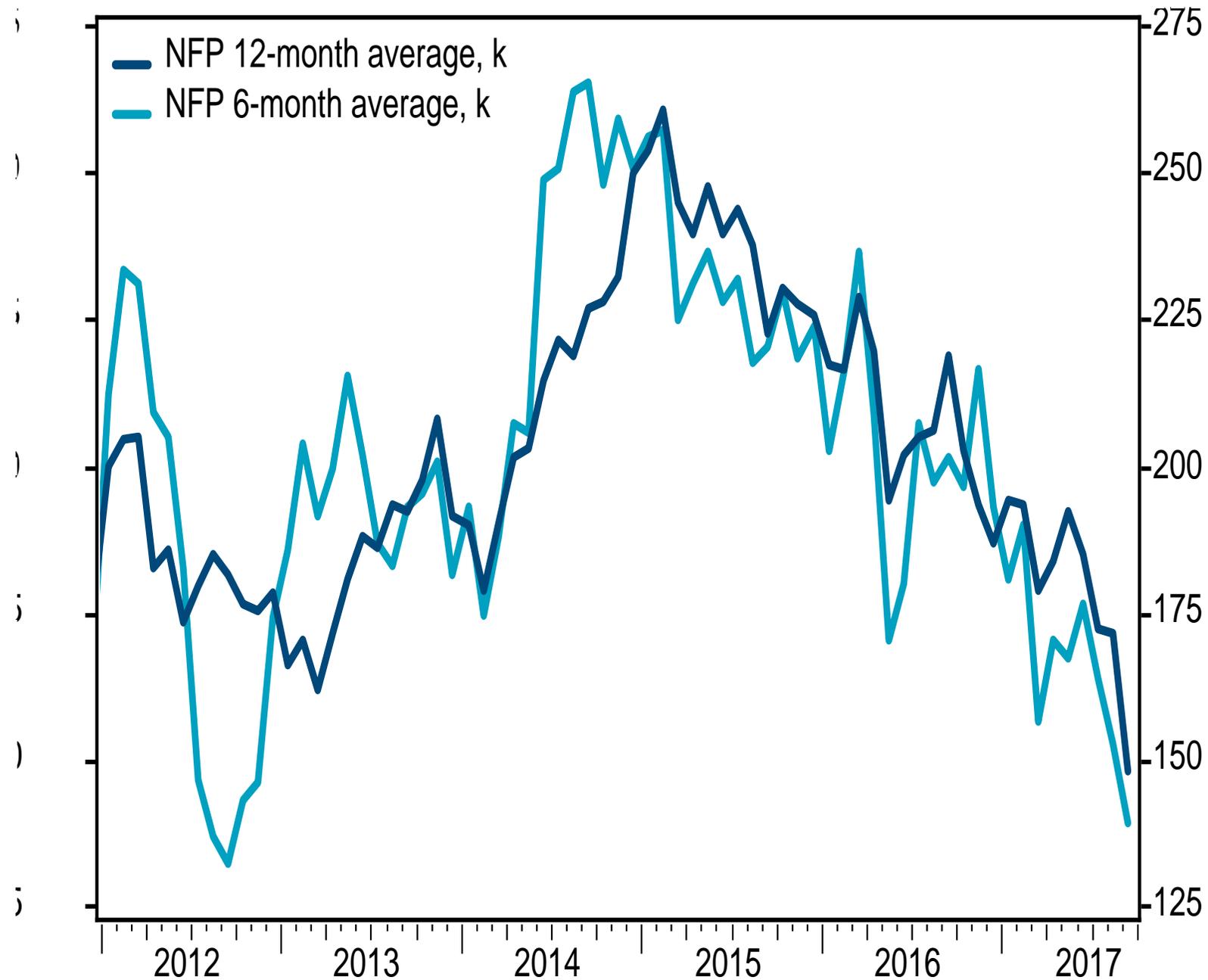
“Job gains remained solid in recent months, and the unemployment rate has stayed low.”

-September 20th FOMC Statement

September payrolls fell 33k, the first monthly decline since September 2010

12-month average fell from 172k to 148k in September, the lowest since August 2011

Payroll growth averaged **180k** in 2016 compared to 229k in 2015 and 251k in 2014



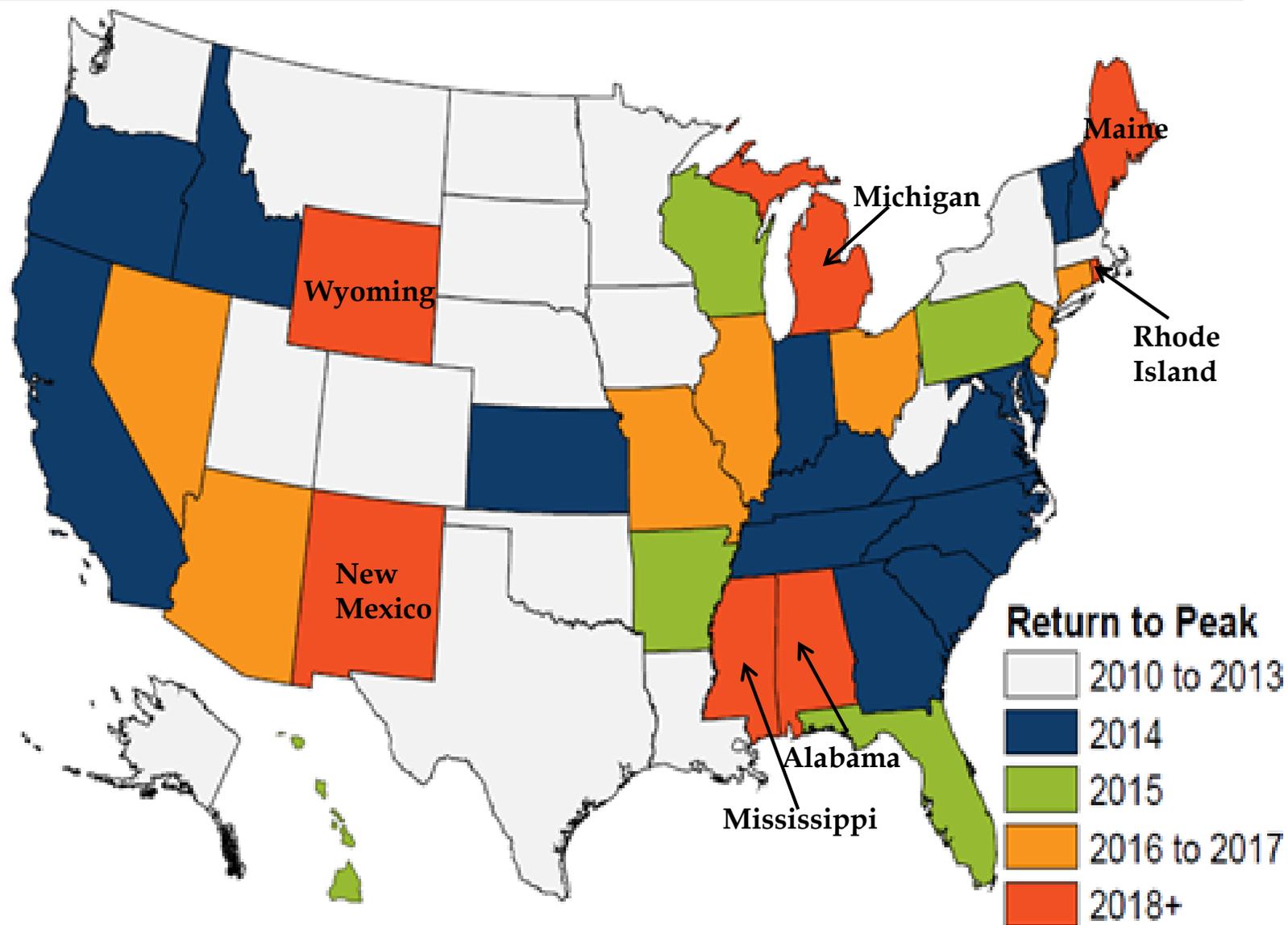
Source: Bureau of Labor Statistics /Haver Analytics

The recovery has been notably uneven across state lines

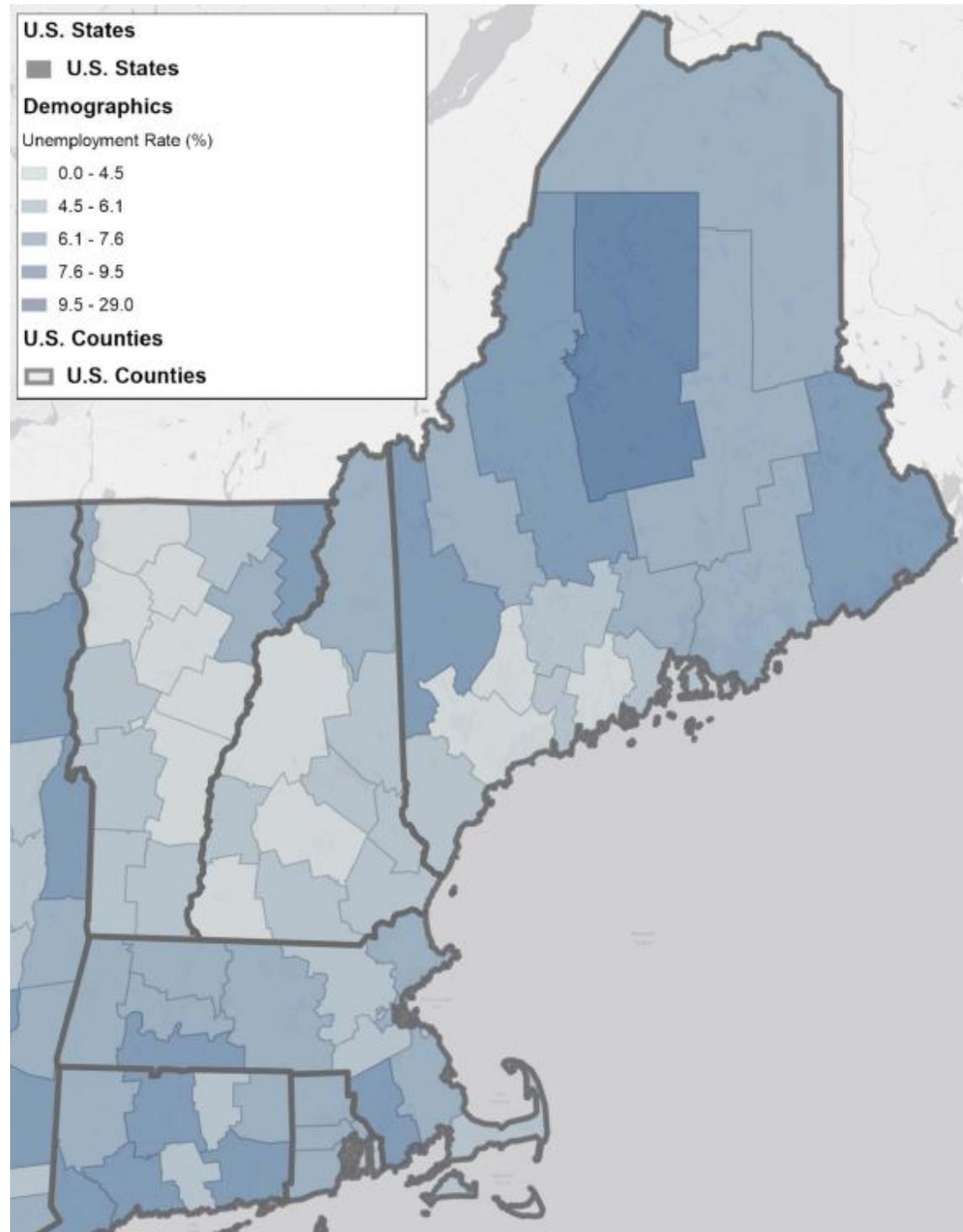
States in the Central Plains were among the earliest states to reach and surpass their previous peaks in employment

However, several states in the Deep South and West are among the slowest labor markets to recover

Employment Recovery post Recession



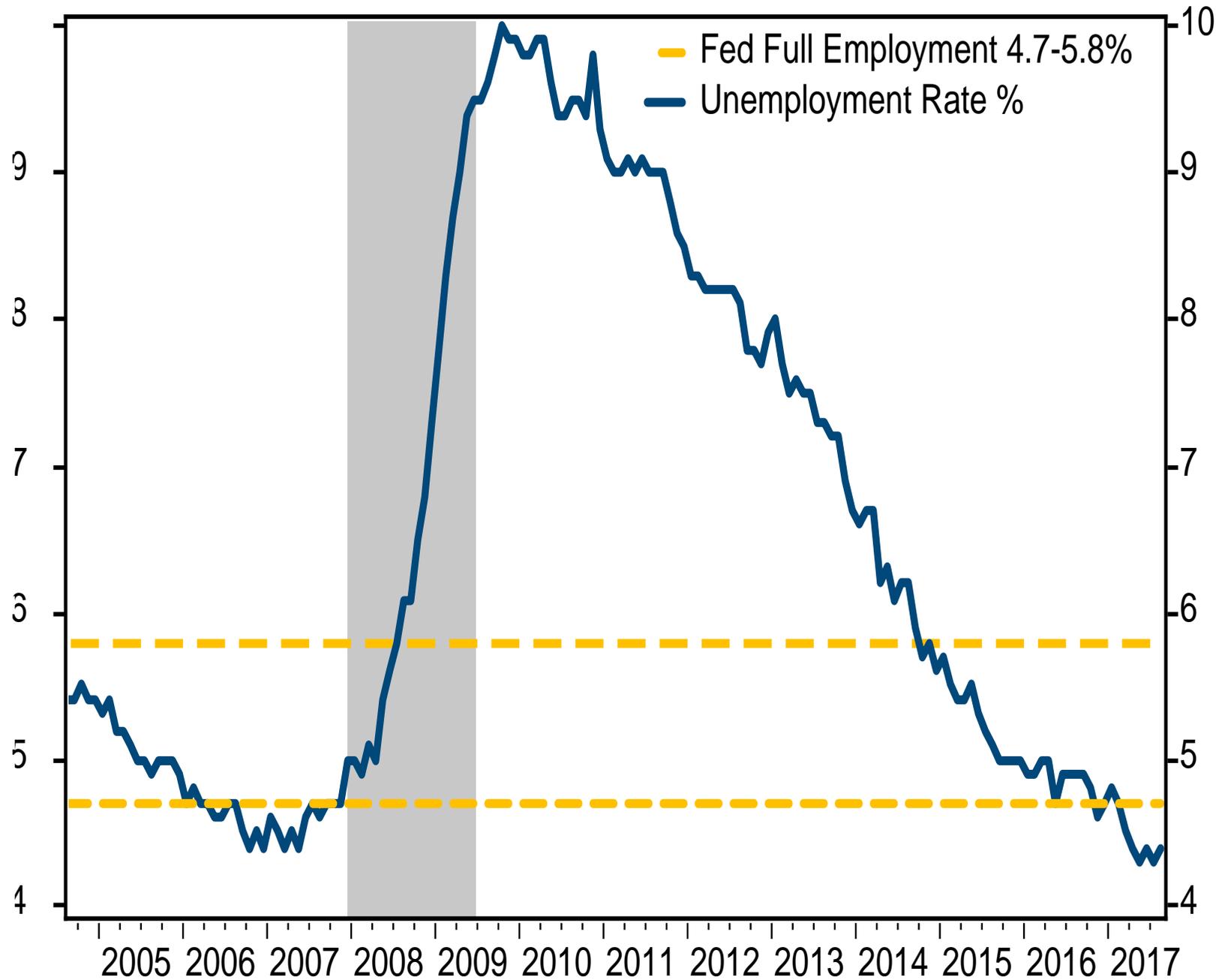
Northeast Unemployment



Unemployment at 4.2%

Unemployment fell two-tenths of a percentage point to **4.2%** in September, the lowest since February 2001

The unemployment rate has been well within the Fed's full employment range since October 2014 and now falling below the Fed's target range since March 2017

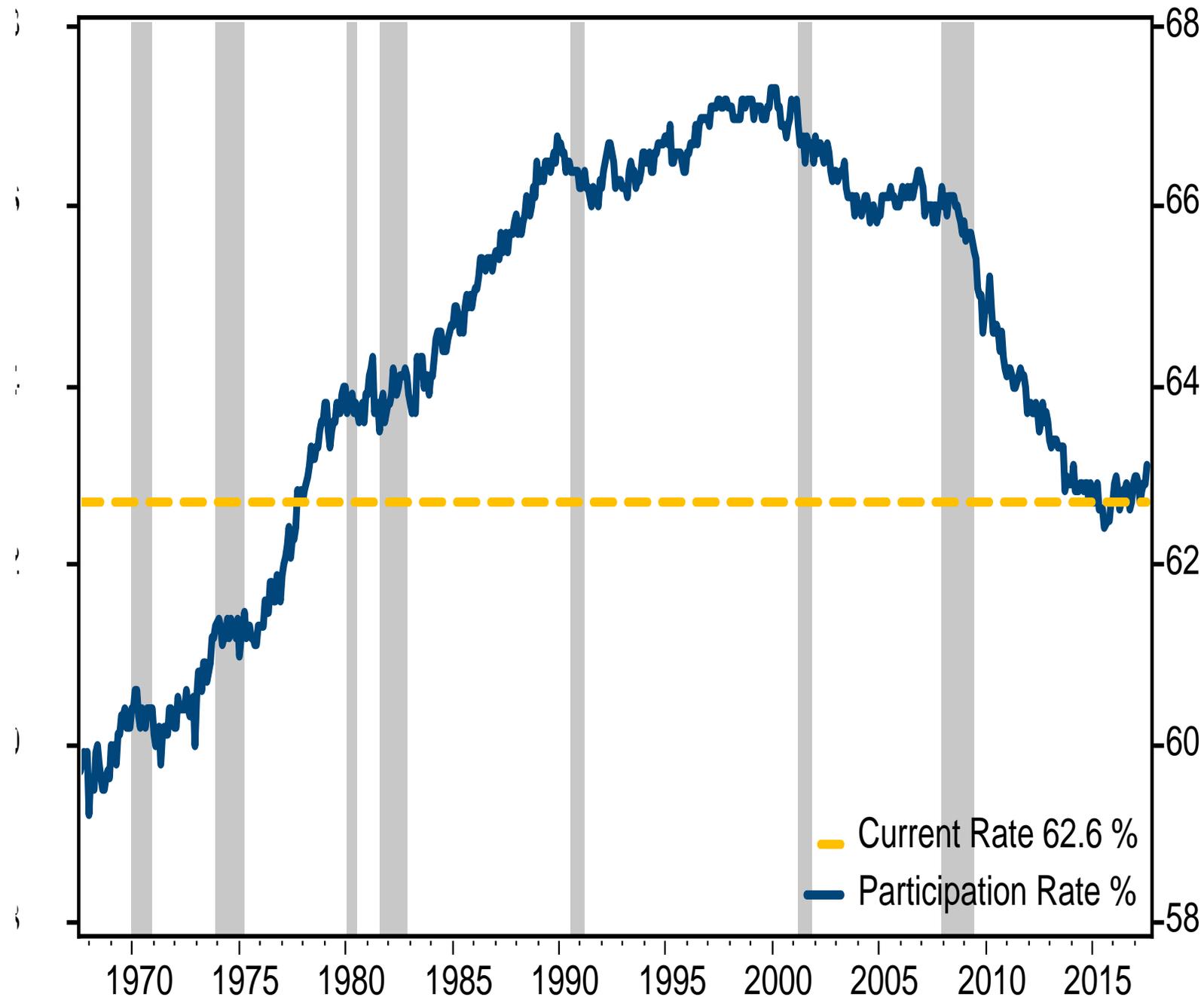


Source: Bureau of Labor Statistics /Haver Analytics

Participation Rate Still Declining

Participation rate at a multi-decade low, **63.1%** in September

20-55 year olds account for the majority of the decline in the labor force, **8.0m** Americans (only 59% of working age population)

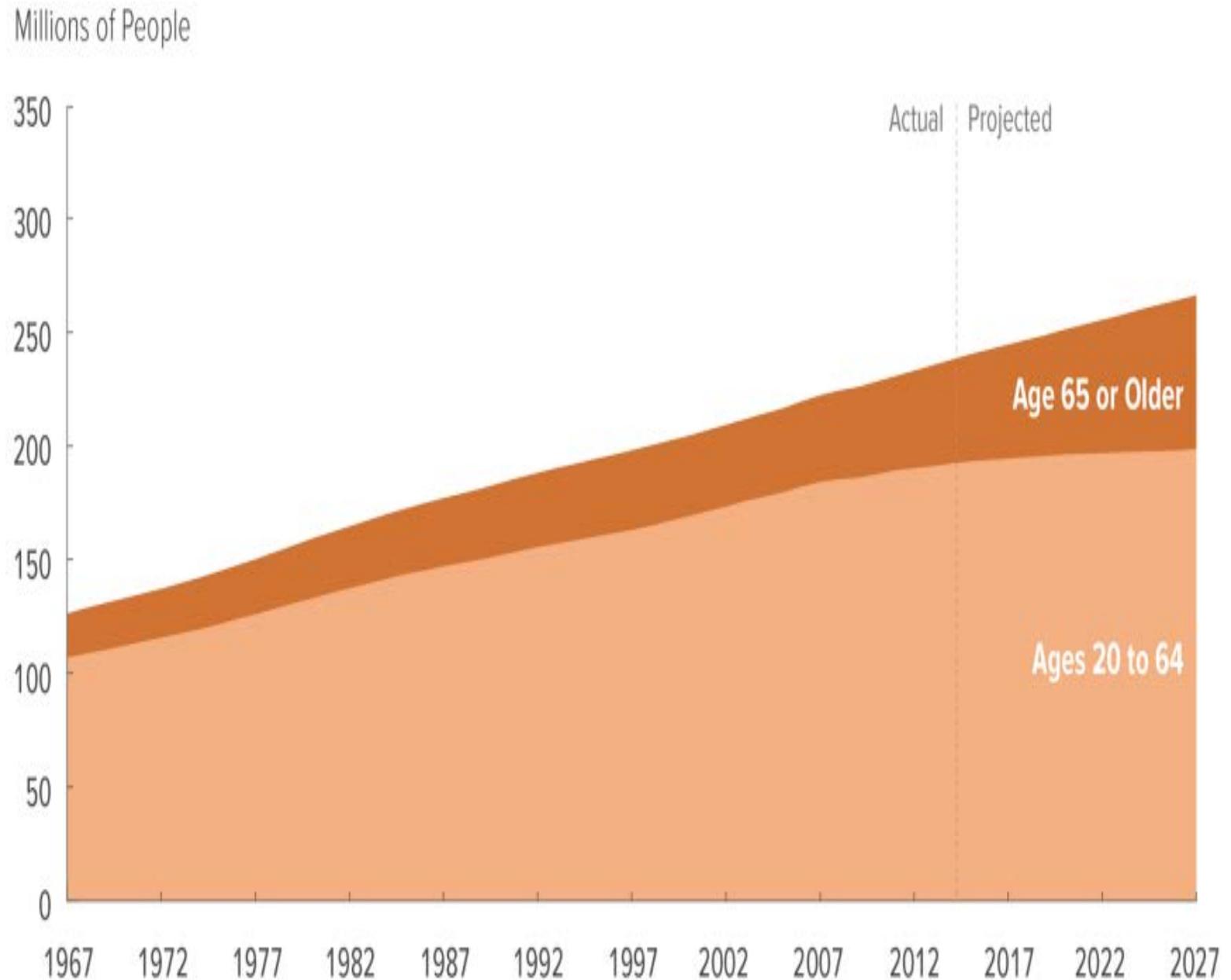


Source: Bureau of Labor Statistics /Haver Analytics

Rapidly Aging U.S. Population

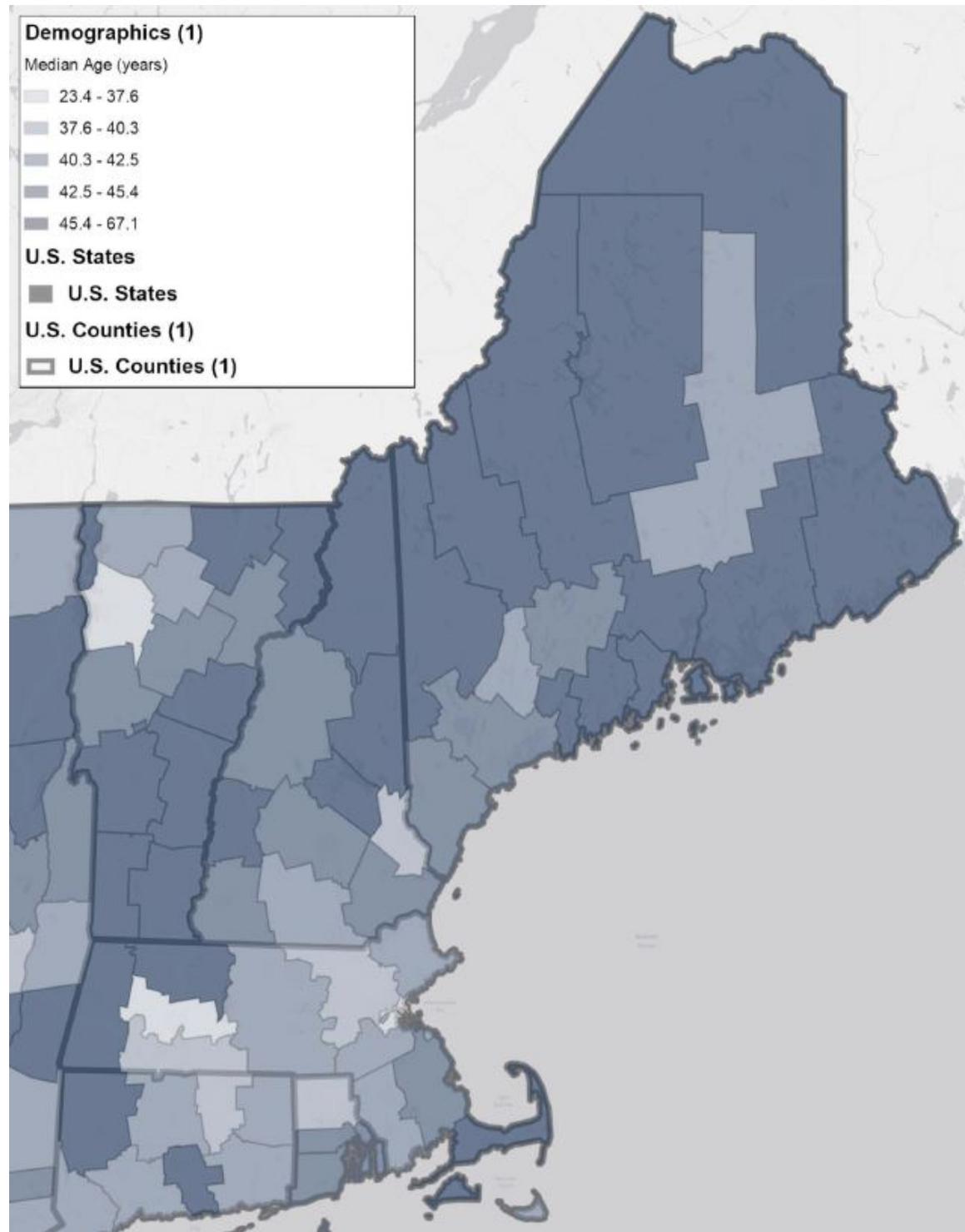
A rapidly rising aging population in the U.S. will affect many sectors in the economy

By 2046 the proportion of 65 and older to 20-64 will increase to 38%



Source: Congressional Budget Office.

Northeast Median Age

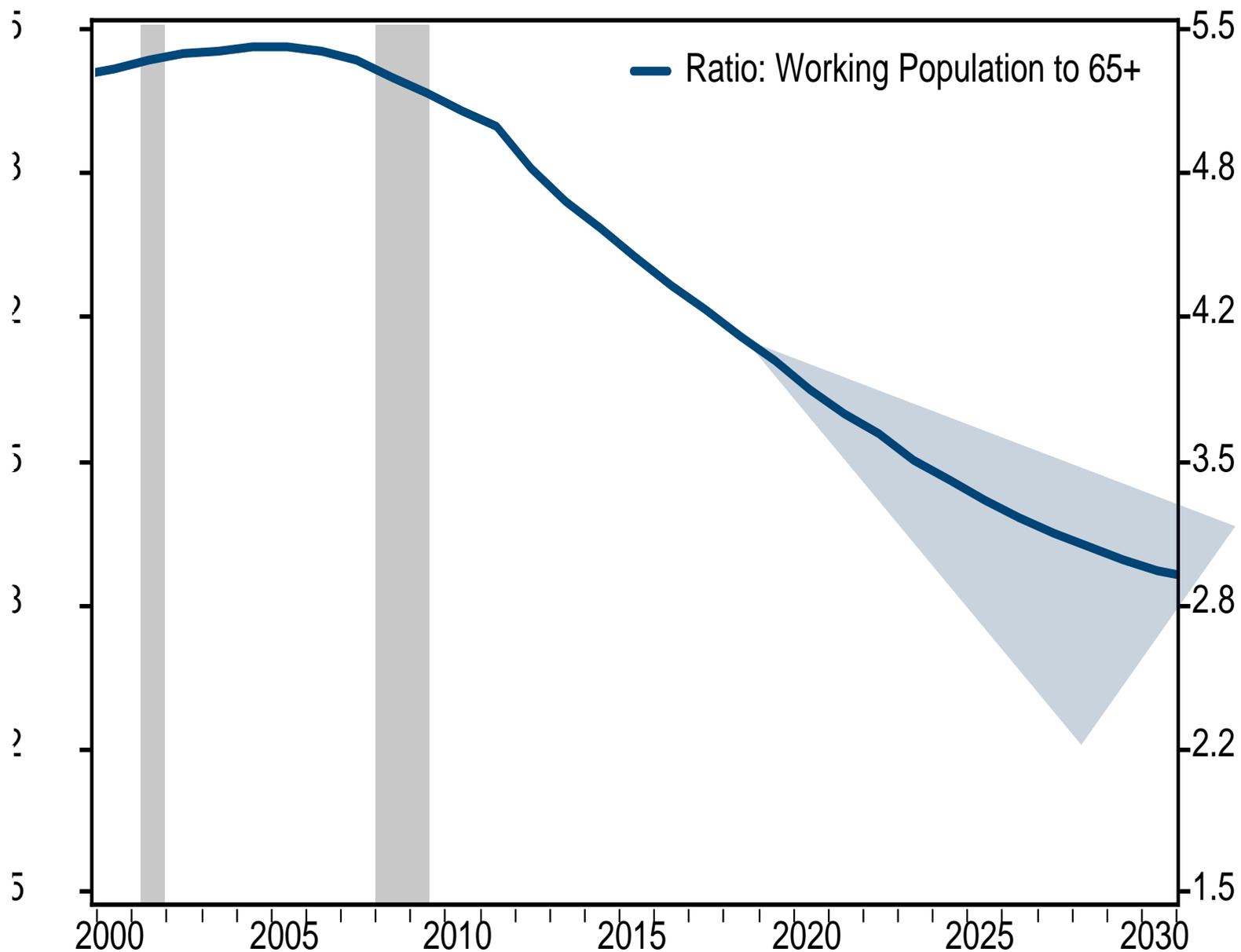


Ratio of Employed to Retired

76.4m Baby Boomers

The amount of retirees continues to increase in the U.S. as **10,000** Baby Boomers retire every day

From 2010-2030, about **4m** Americans will retire each year while the population is increasing at **3.3m** a year



Source: Haver Analytics

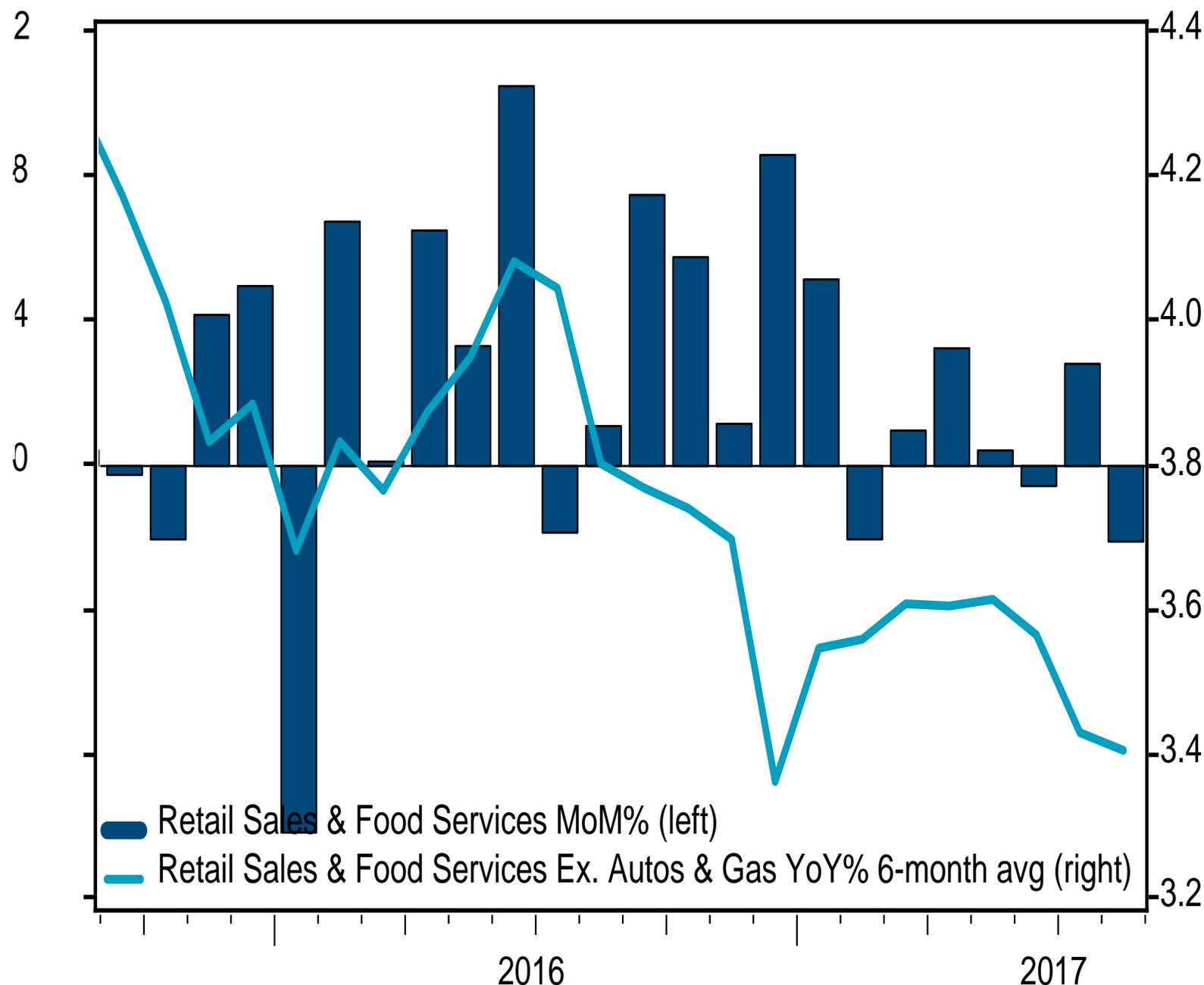
Still-Moderate Labor Market Conditions, Consumers Losing Momentum

August sales fell **0.2%**,
a six-month low
Y/Y sales rose **3.2%**
vs. 3.5% in July

Ex-autos & gas
August sales fell 0.1%
Y/Y up **3.4%** vs. 3.5%
in July

Ex-autos & gas 12-
month avg: **0.3%**

Three months of flat
or negative sales since
end of Q1



Source: Census Bureau/Haver Analytics

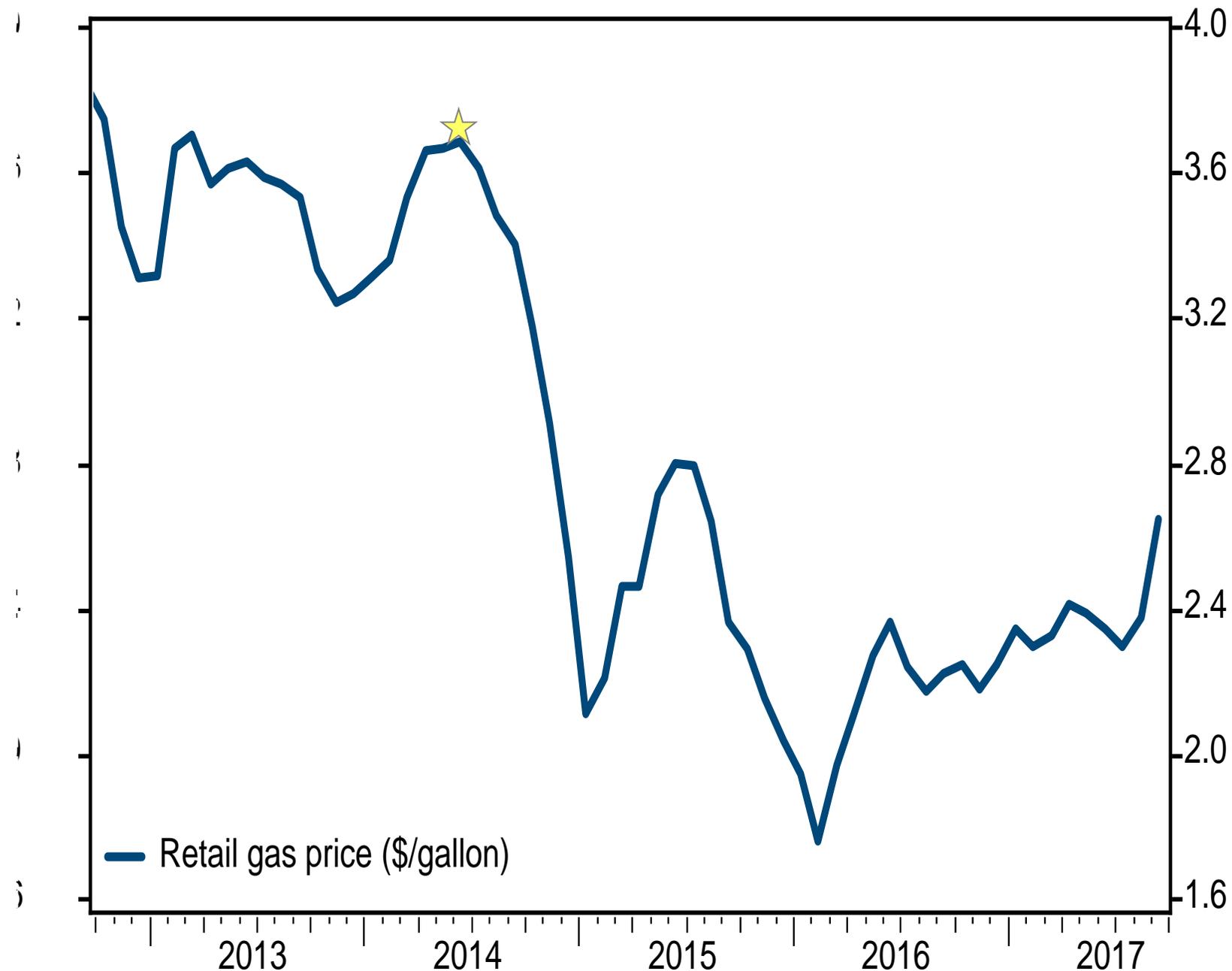
Gas Prices Give Muted Boost

September price of
\$2.65 near 2009 low

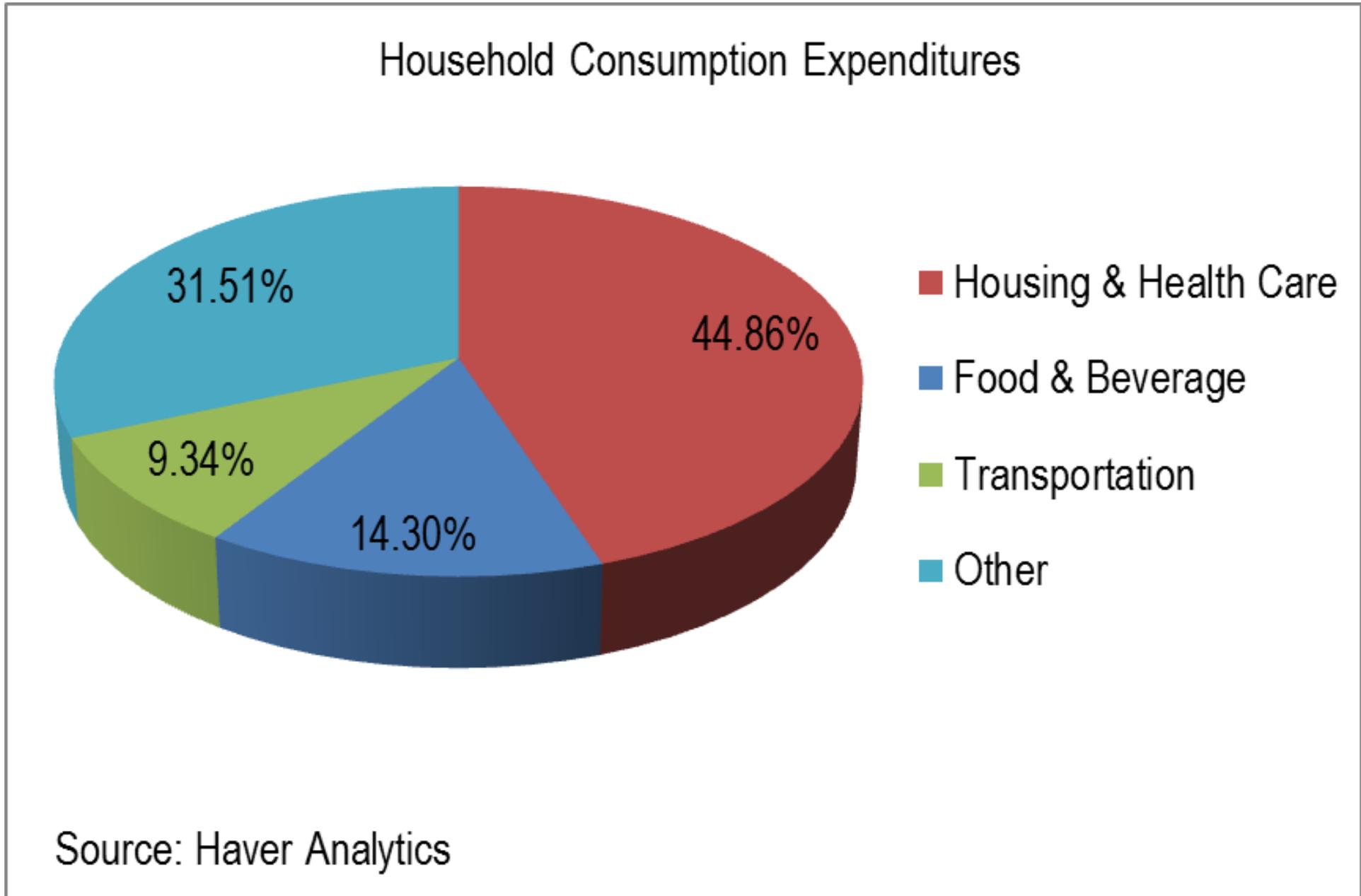
\$2.41 six-month
average vs. **\$2.78** long-
term average

Down **\$1.28** and **28%**
from a peak monthly
average of **\$3.69** in
June 2014 (star)

Gas prices are up **19%**
from **\$2.22** a year ago



Source: Haver Analytics



Avg. Hourly Earnings Edging Lower

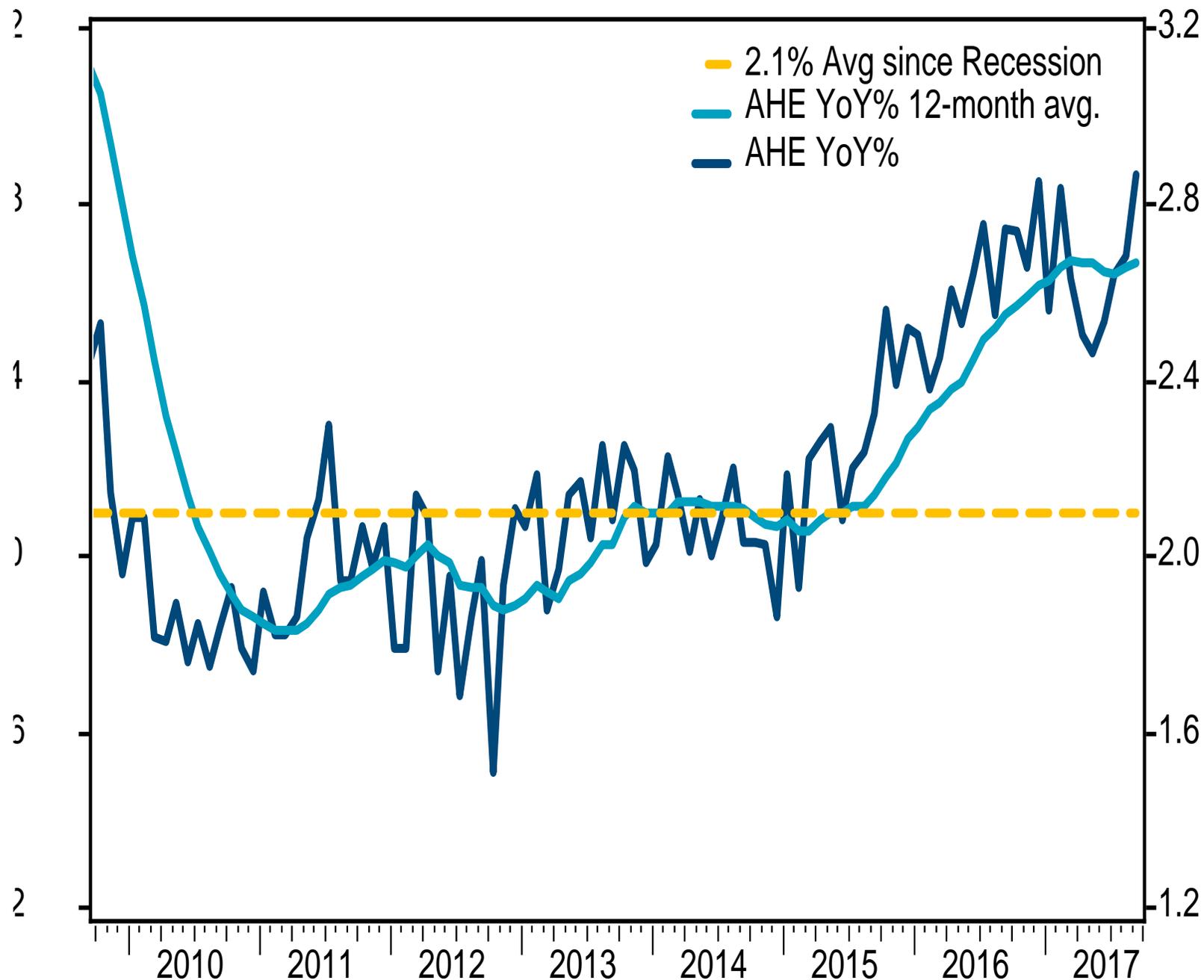
Wages rose **0.5%** in September, following a 0.2% rise the month prior

Up **2.9%** Y/Y as of September, the highest since December 2016

2.7% 3-month average in September

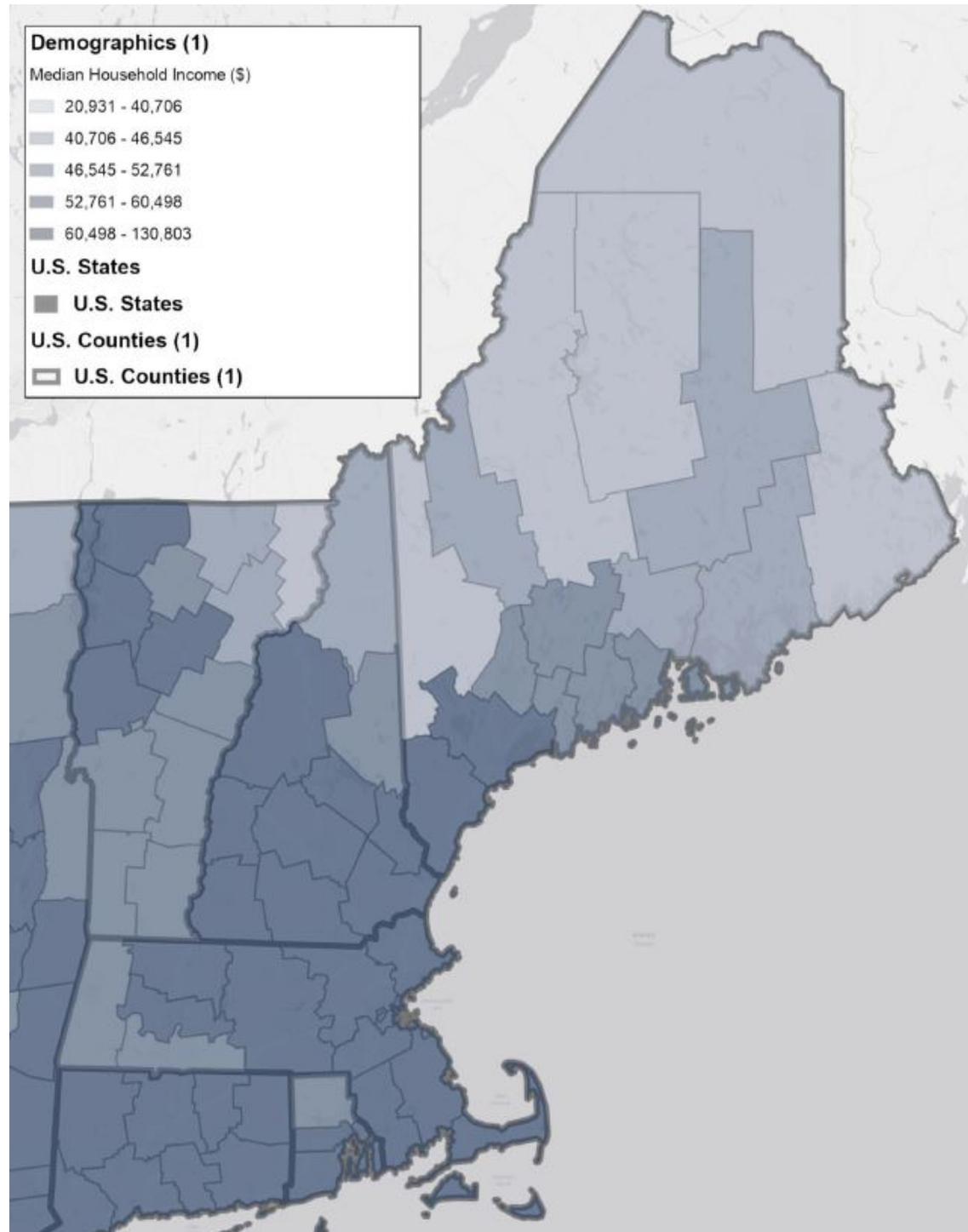
2.7% 12-month average in September

2.1% average since Recession



Source: Bureau of Labor Statistics /Haver Analytics

Northeast Household Income



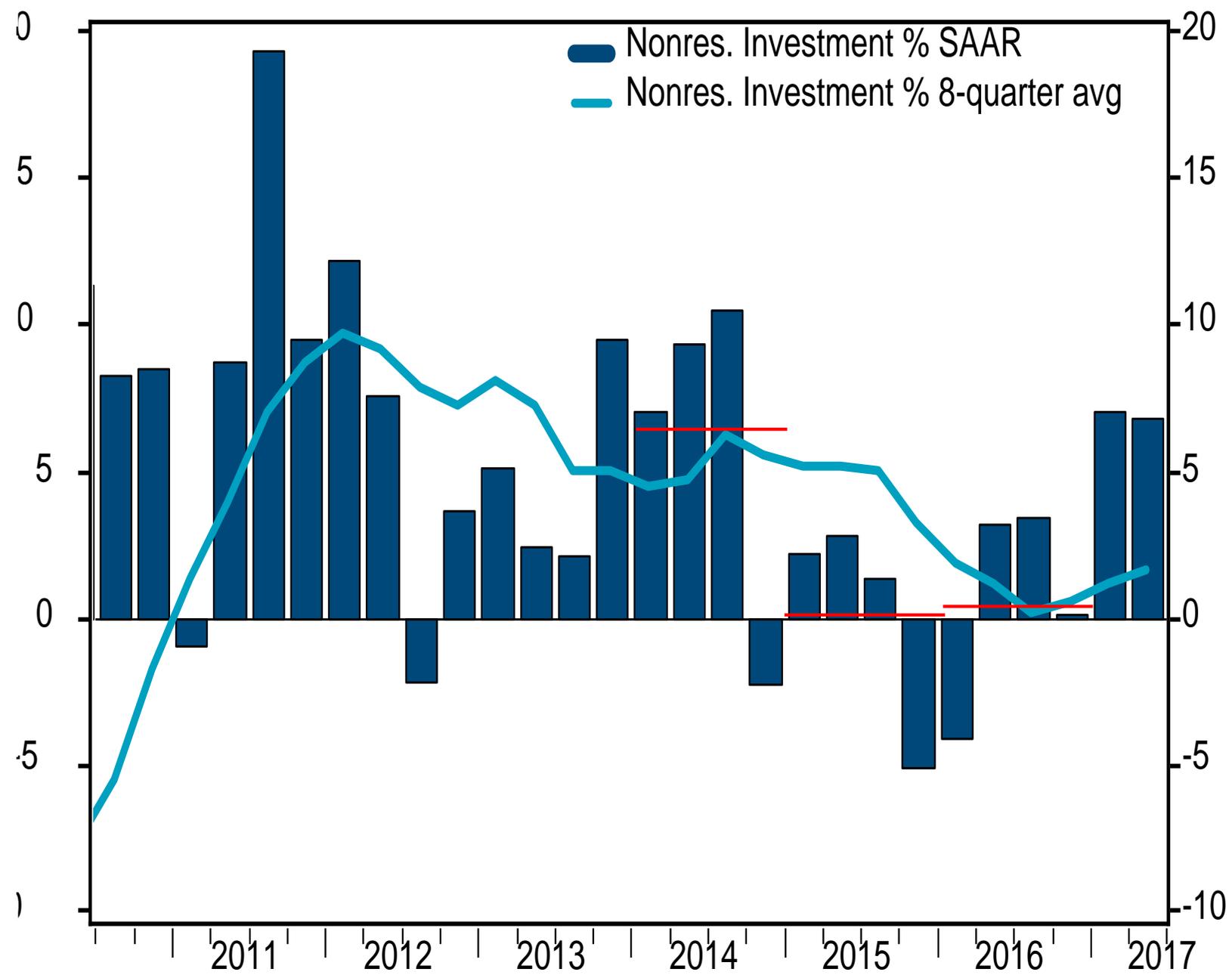
Business Investment Sluggish

Modest Business Investment

Nonresidential fixed investment fell 5.1% at end of 2015, the largest quarterly decline since Q2 2009

Investment rose 6.2% in 2014, 0.4% in 2015 and 0.7% in 2016

Investment rose 6.9% in Q2 following a 7.2% rise in Q1 2017, thanks to a 6.2% increase in structures, an 8.8% increase in equipment and a 4.9% increase in intellectual property investment in Q2



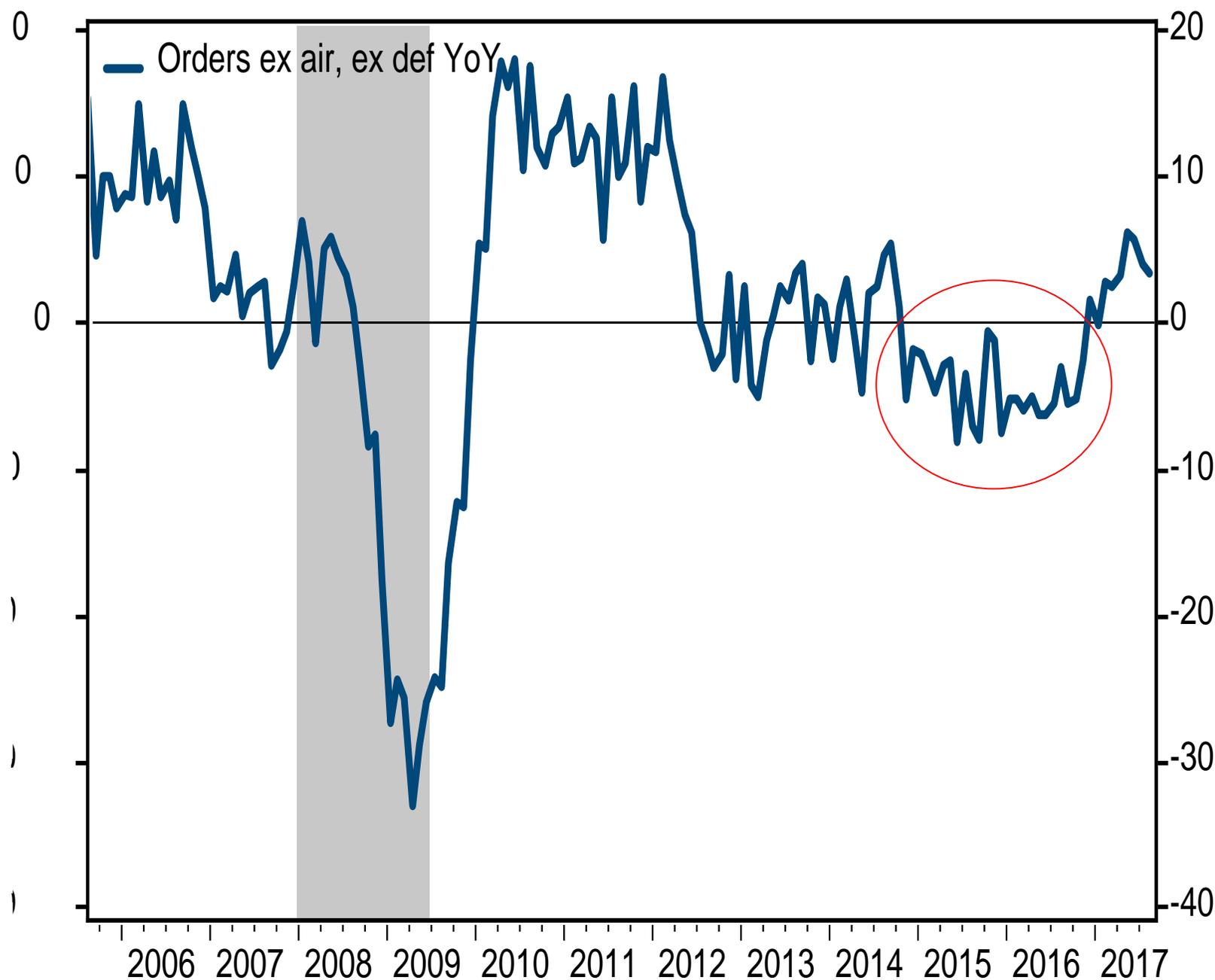
Source: Bureau of Economic Analysis /Haver Analytics

Durable Goods Orders Positive in August

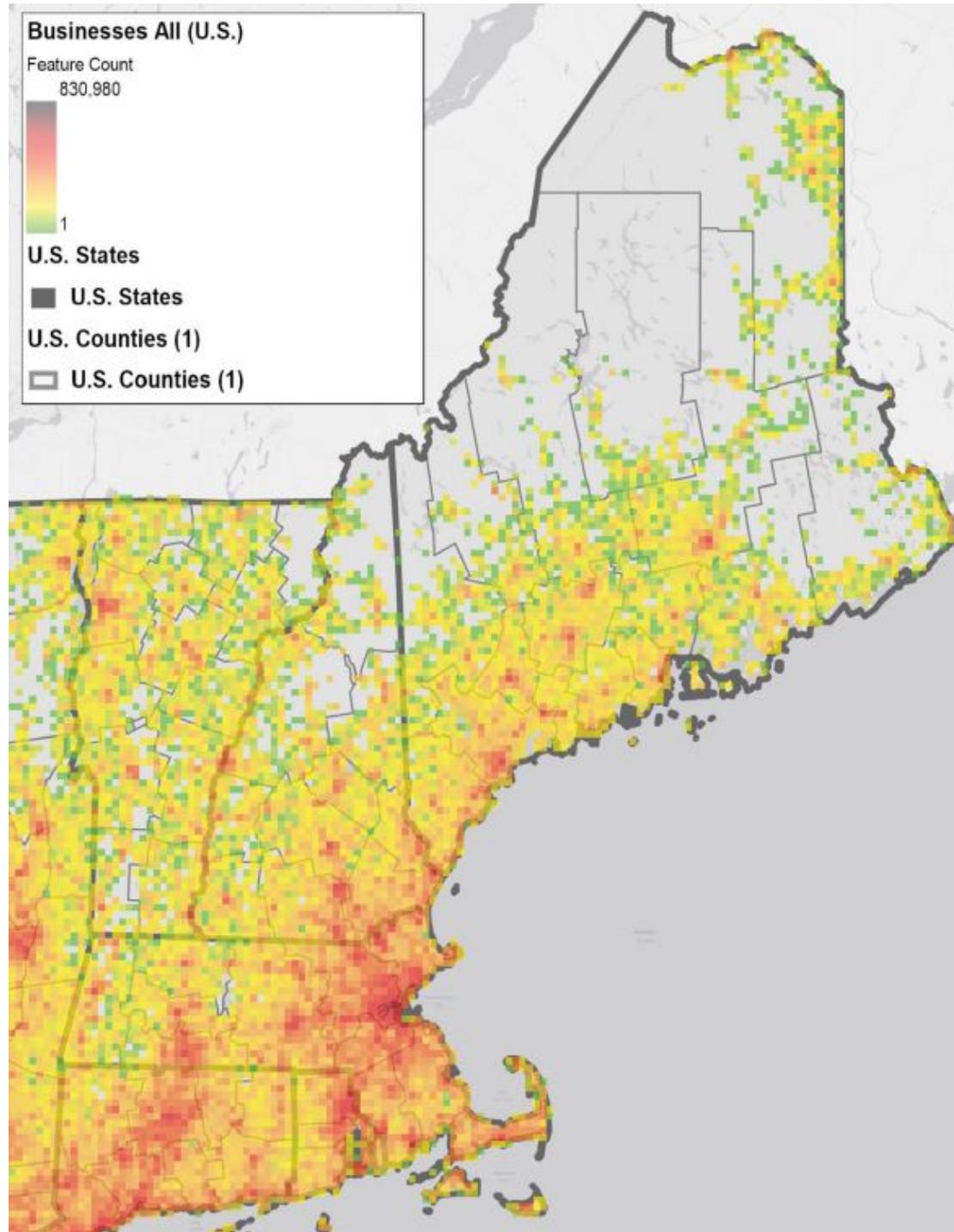
Orders ex-air, ex-def rose 0.9% in August, up 3.4% Y/Y, the eighth month of reported gain after 23 months of near-zero or negative growth

Durable goods rose 1.7% in August and rose 5.0% year-over-year, a two-month high

Transportation orders rose 4.9% in August and rose 3.1% year-over-year



Source: Census Bureau /Haver Analytics



Fiscal Policy Agenda

- Simplified tax plan with reduced brackets (12%, 25% and 35% vs. current 10%, 15%, 25%, 28%, 33%, 35% and 39.6%) and a reduced corporate tax rate to 20%.
- Reduce regulation, repeal Dodd-Frank and sweeping bank reforms, and eliminate ones that “*needlessly kill jobs.*” Undoing the Obama administration’s policies on energy and climate control.
- Repeal & reform the Affordable Care Act while keeping coverage for people with pre-existing conditions, and allowing Americans under the age of 26 to stay on their parents’ plans.

- Additional discretionary income resulting from a direct tax cut or indirect cost reduction will help alleviate mounting pressure from moderate employment opportunities and waning income growth, and reflate the household balance sheet.
- A simplified tax and reduced regulatory burden will boost corporate participation in the market, helping to reverse the restrained activity of the past several years.

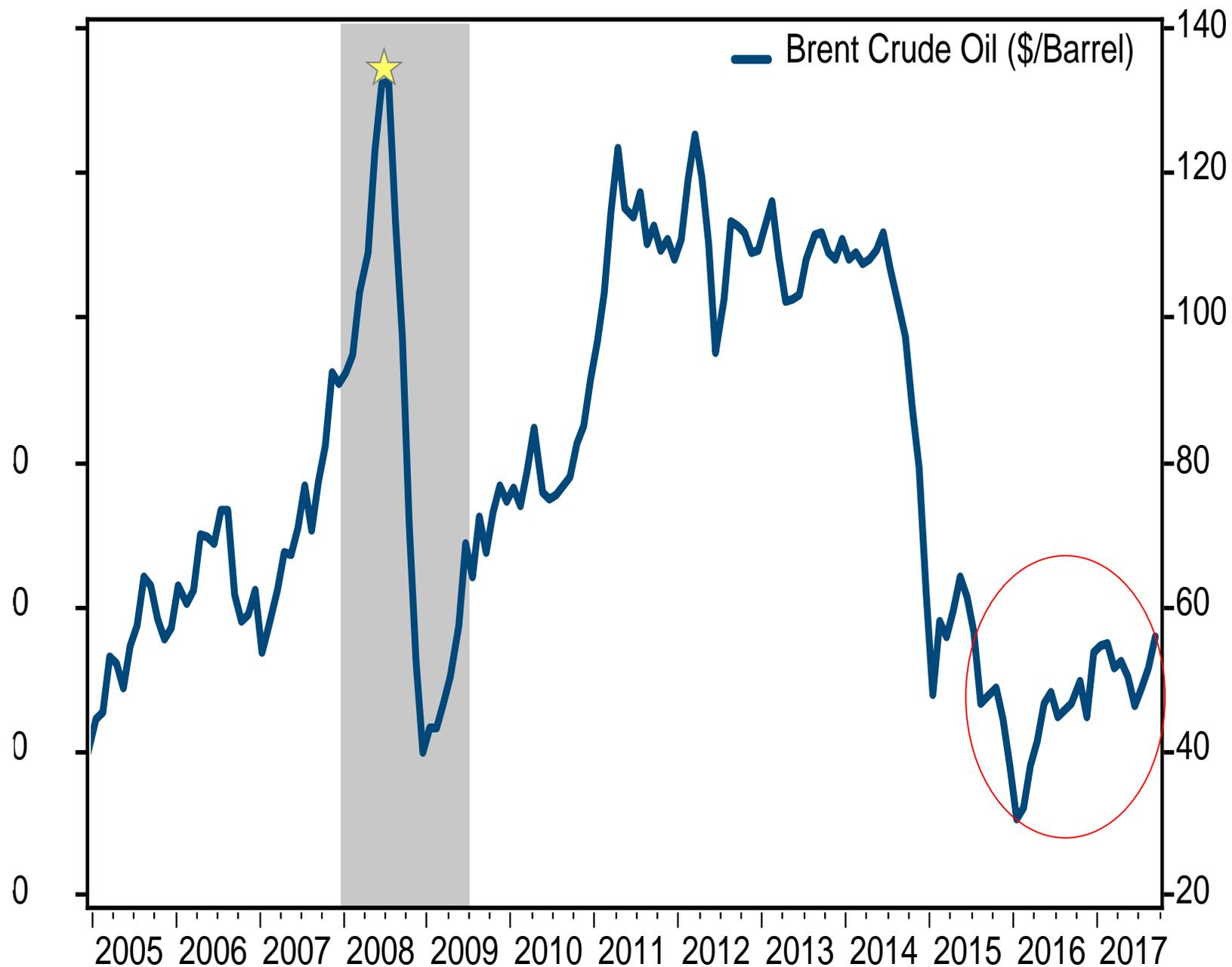
Limited Fiscal Impact: Crude Oil Prices Improving Modestly

Monthly prices for September averaged **\$56.15**, following a \$51.70 monthly average in August

The price of oil is down **55+%** from 2008 high

Prices pushed above \$55 for the first time since July 2015

Oil prices up **83%** (\$25.45 a barrel) from a low in January 2016



Source: EIA/WSJ /Haver

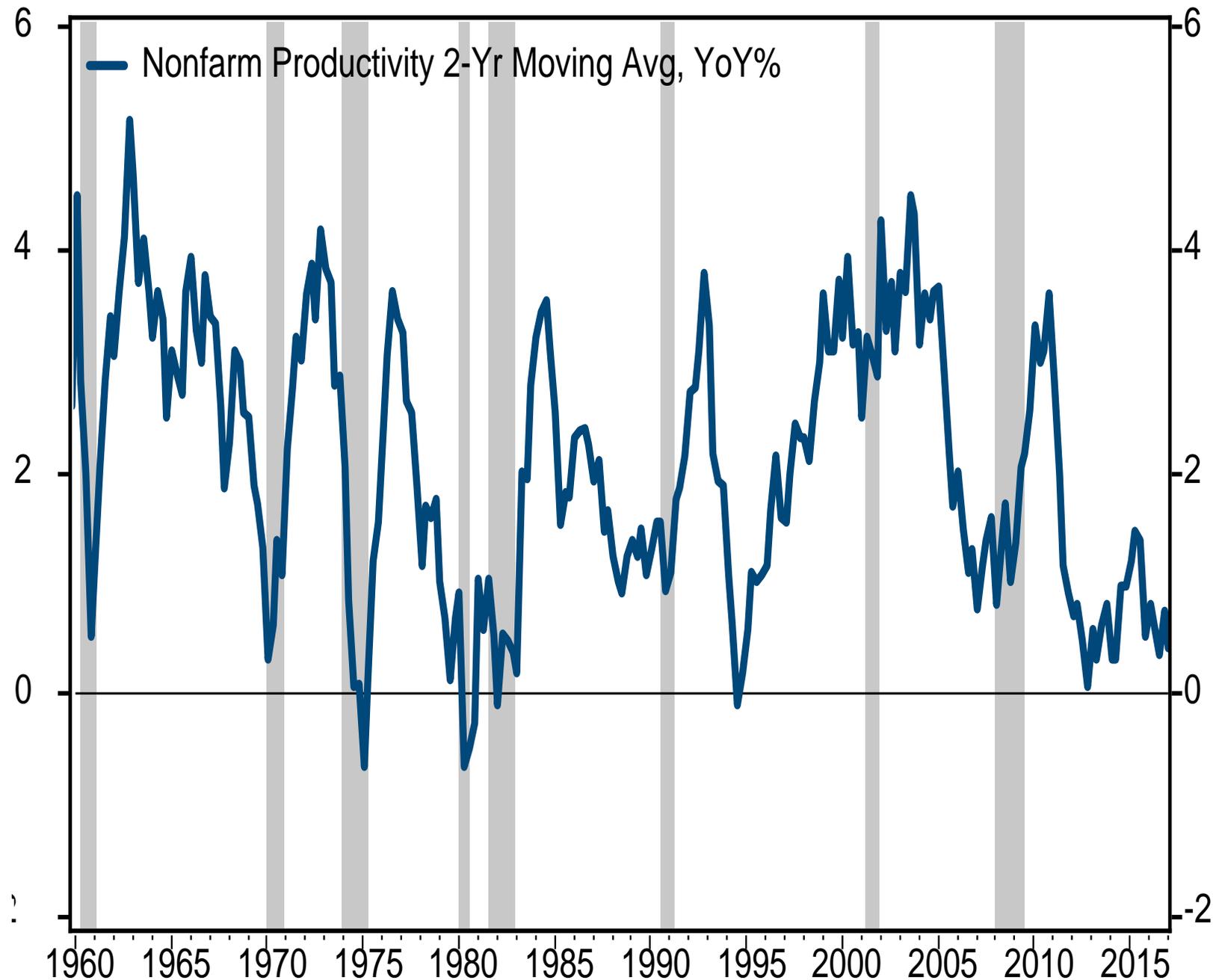
Limited Fiscal Impact: Low Productivity in U.S.

"I've continued to highlight the importance of spurring productivity growth, that I think that would be something that's beneficial for the economy."

-Chair Janet Yellen,
December 2016 Press
Conference

Productivity has hit
historic lows since
2014

Productivity in Q2
was **0.5%**, averaging
0.6% in 2016 and **0.7%**
over the past 5 years



Source: Bureau of Labor Statistics /Haver Analytics

- Infrastructure spending to build roads, bridges, schools and airports “*second to none*,” potentially totaling \$1 trillion.

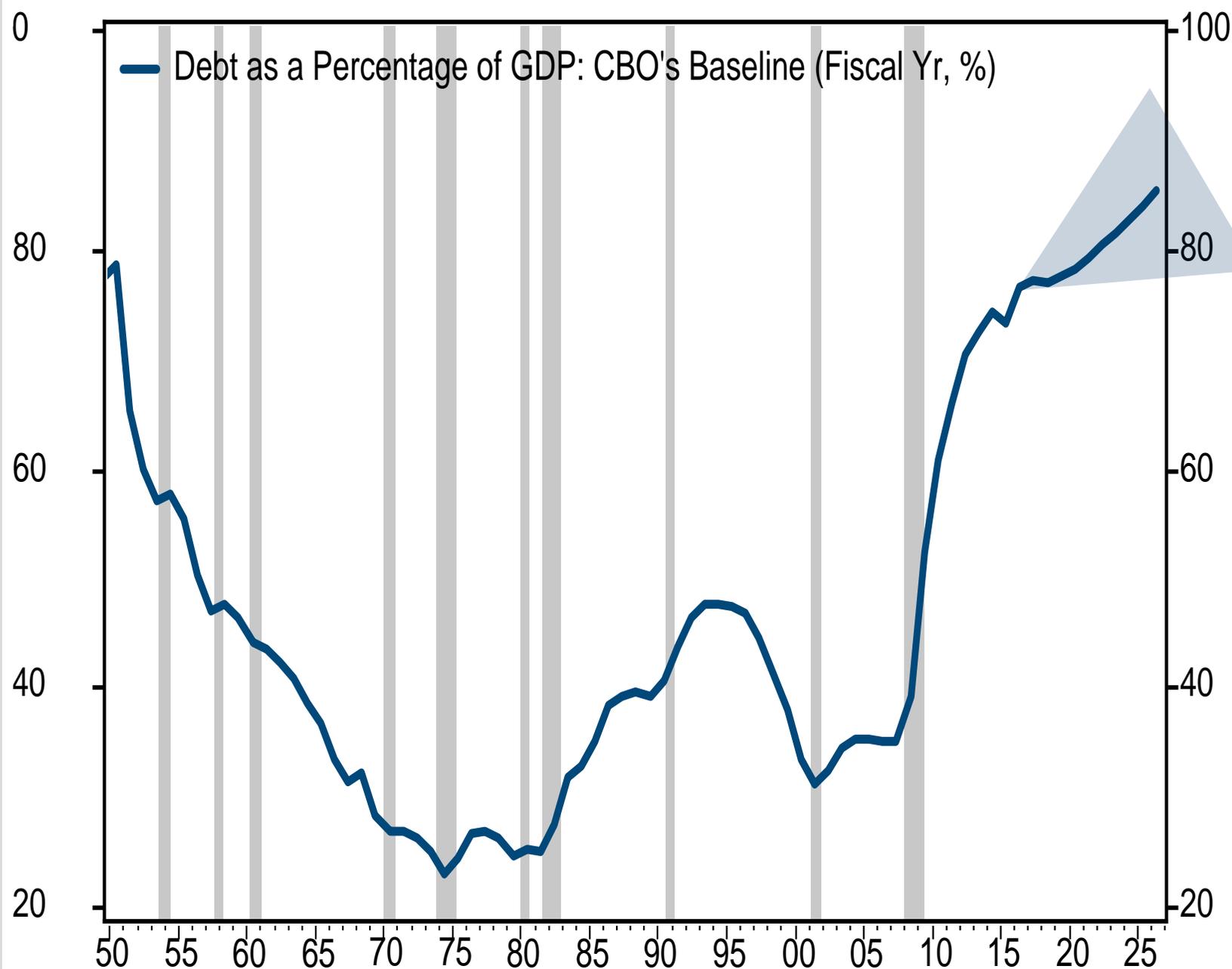
Debt Appetite Diminished

77% of GDP, the highest level relative to the size of the economy since 1950

1950s decade-long expansion posting over 4.5% GDP vs. stagnant 2%

According to the CBO, financing the debt coupled with rising interest rates would result in a four-fold increase

Federal interest outlays totaled more than **\$330b**

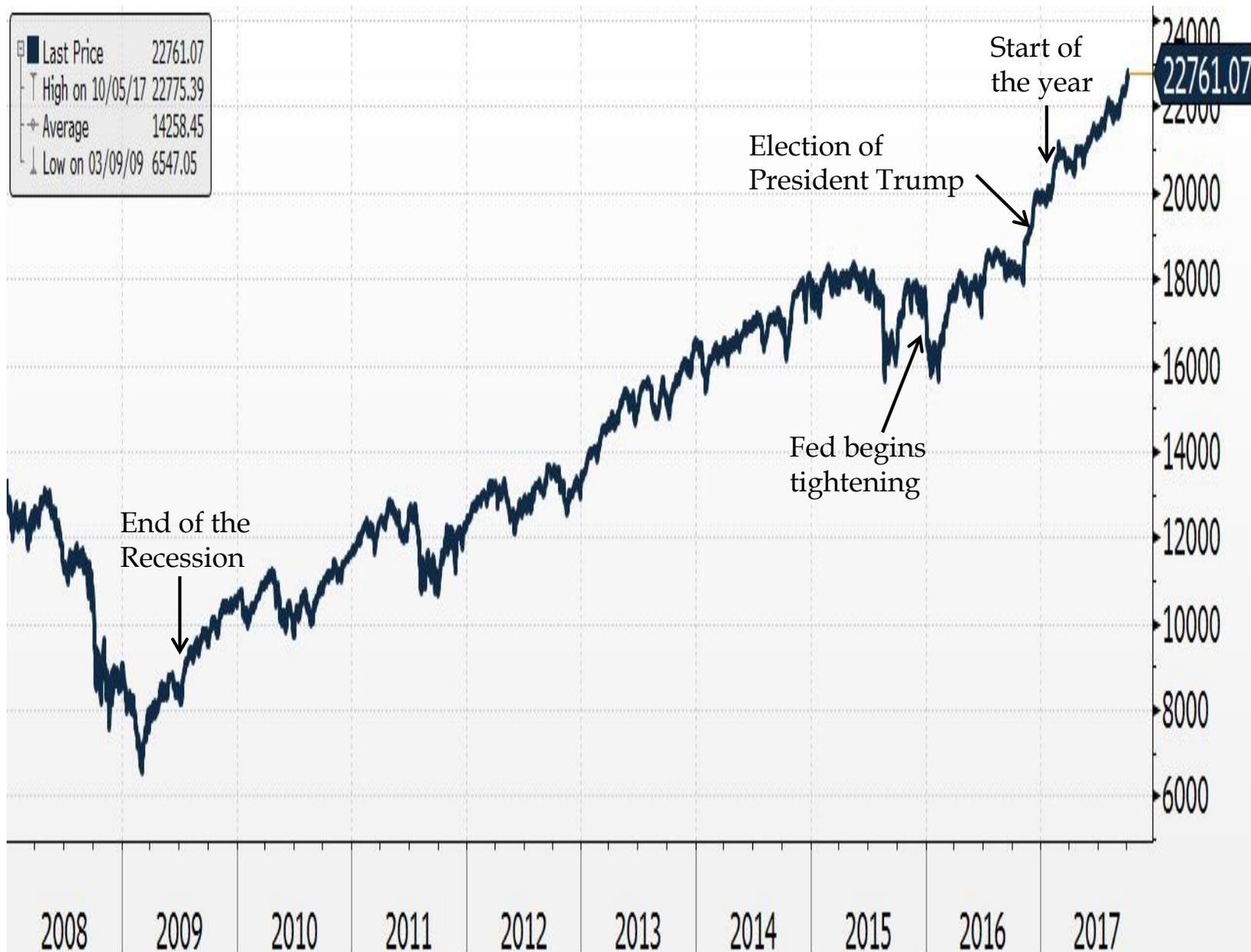


Source: Congressional Budget Office /Haver Analytics

Market Optimism

Positive Market Reaction: Equities Rally on Optimism

Dow Jones Industrial Average



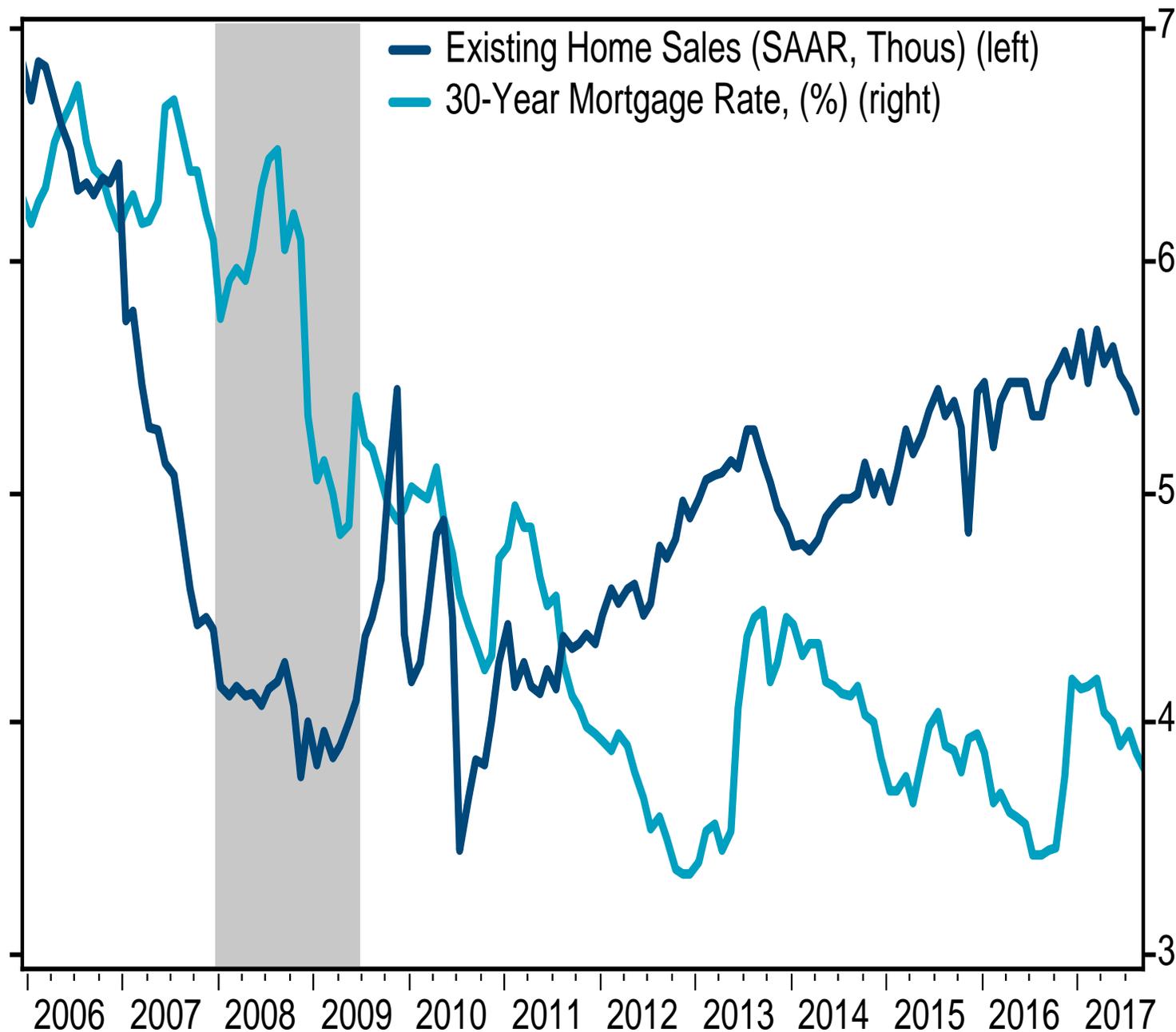
After an initial fallout on election day, equities have since rebounded, pushing the Dow to a record high as of October 9th

Since the start of the year, the Dow is up 15% and up 24% since election day

Existing Home Sales vs. 30-yr Mortgage

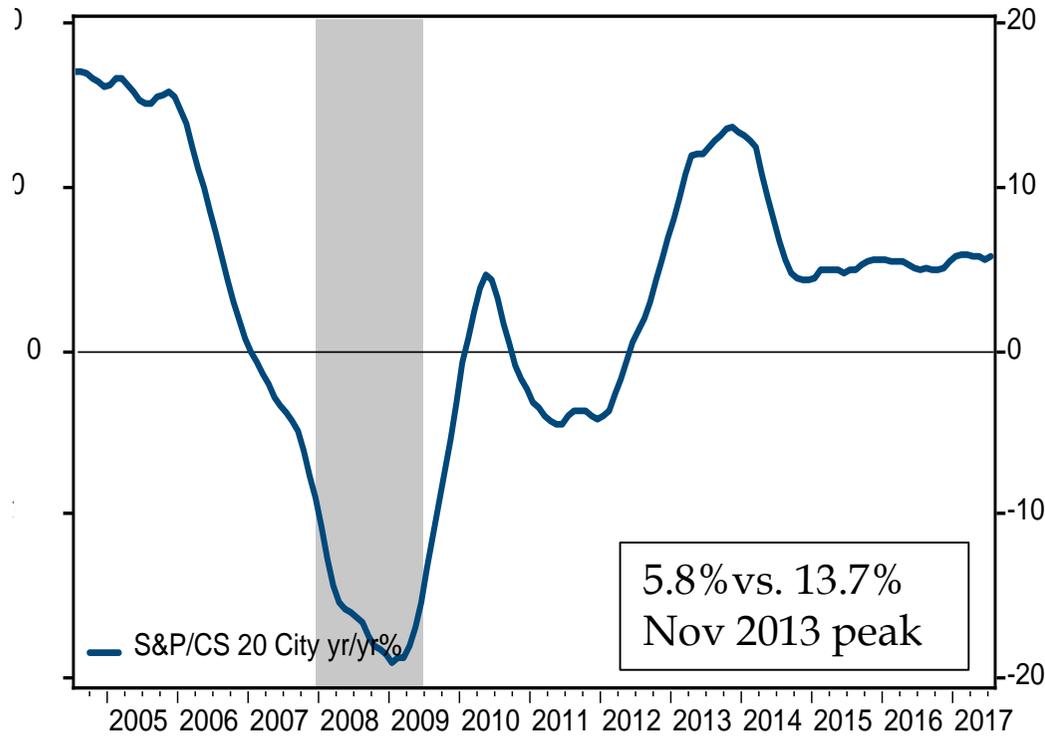
Existing home sales fell 1.7% in August from 5.44m to a 5.35m unit pace, a one-year low

Mortgage rates have been on the decline, but surged in the weeks since the presidential election, currently at 3.8% as of September

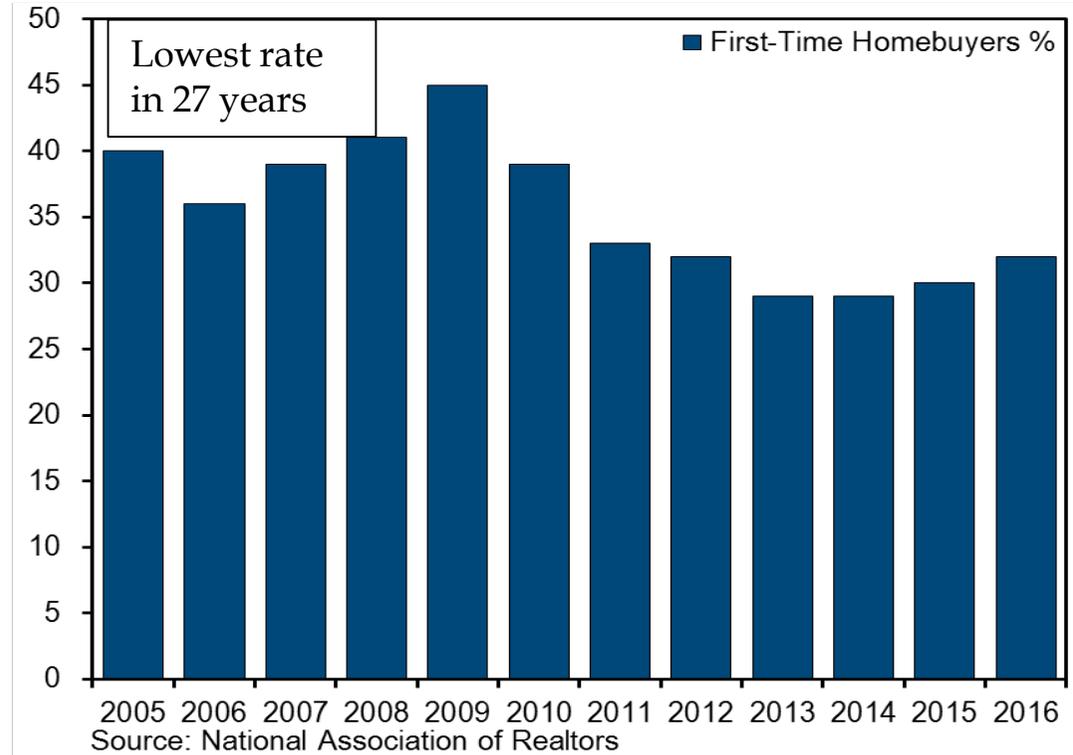


Sources: NAR, FHLMC /Haver

Housing Showing Signs of Weakness? Inability to Finance/Change in Preferences

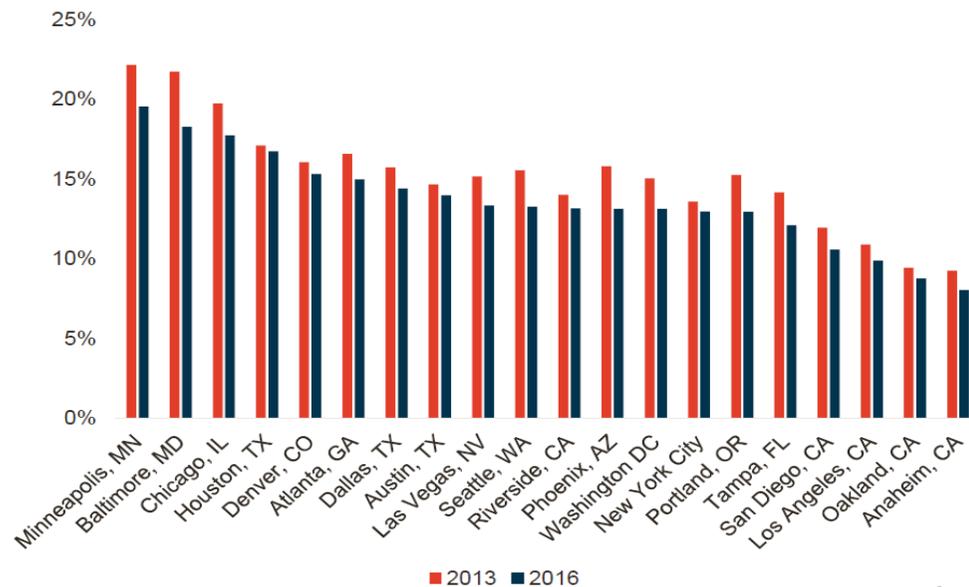


Source: Standard & Poor's /Haver Analytics



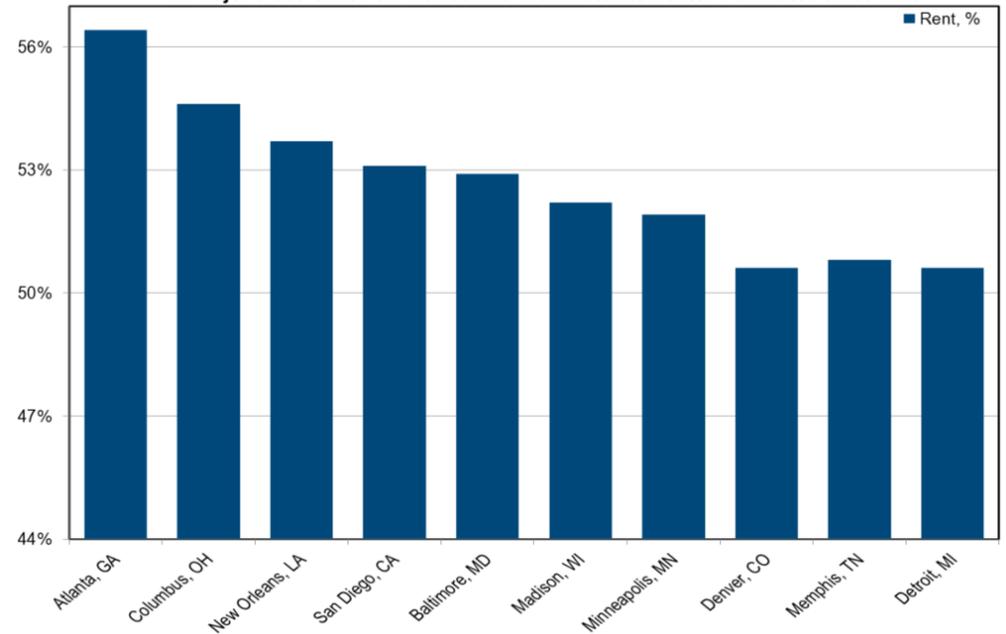
Millennial Purchase Demand is Declining...

Share of Purchase Mortgage Applications for Borrowers Under 30 Years of Age

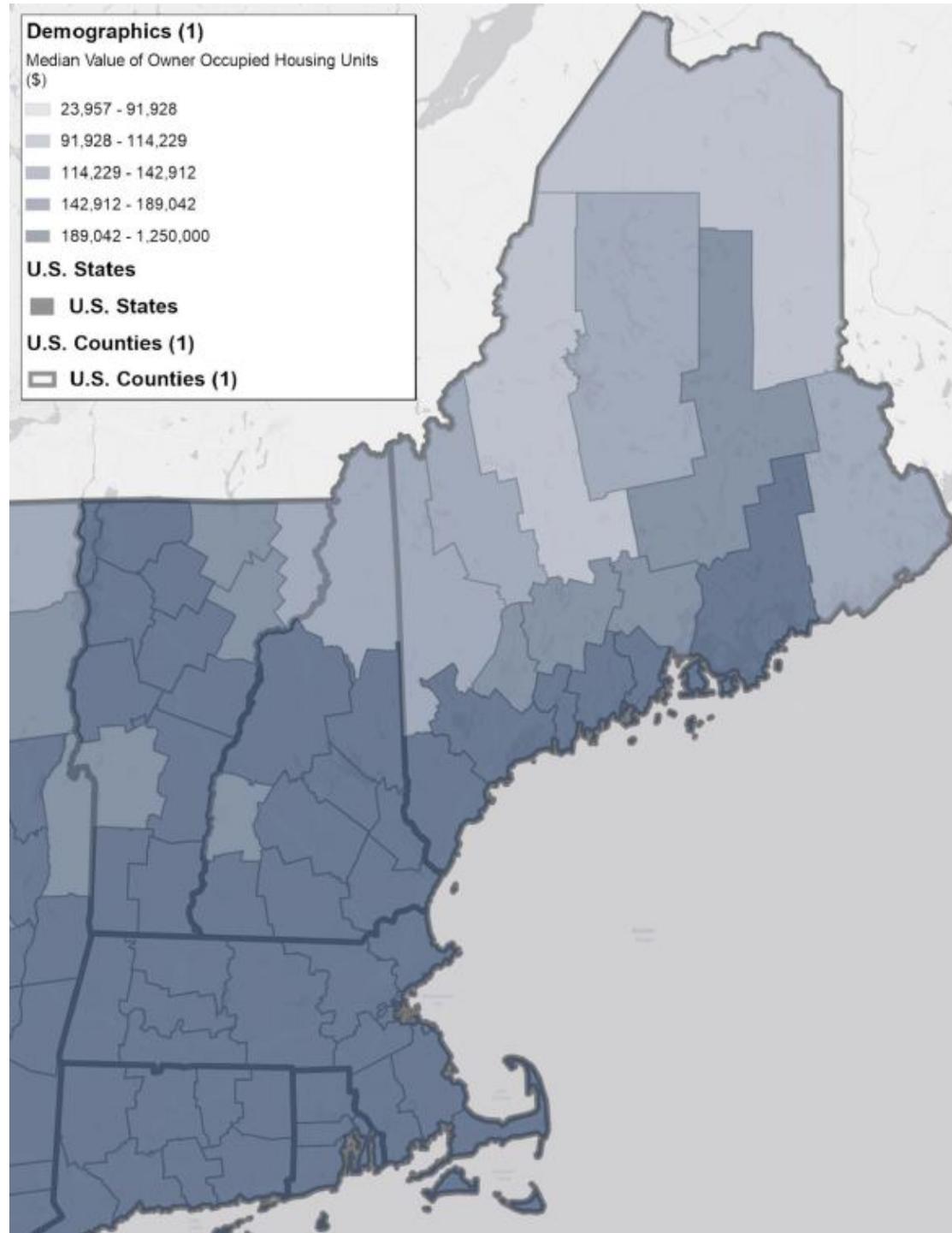


Source: CoreLogic

21 Major Cities Shift from Homeowner-Dominated to Renter-Dominated Since 2009



Northeast Owner Occupied Home Value



Continued Moderation

Q2 GDP rose **3.1%**, the highest since Q1 2015, and following a 1.2% rise in Q1

Average growth since Recession: **2.2%**

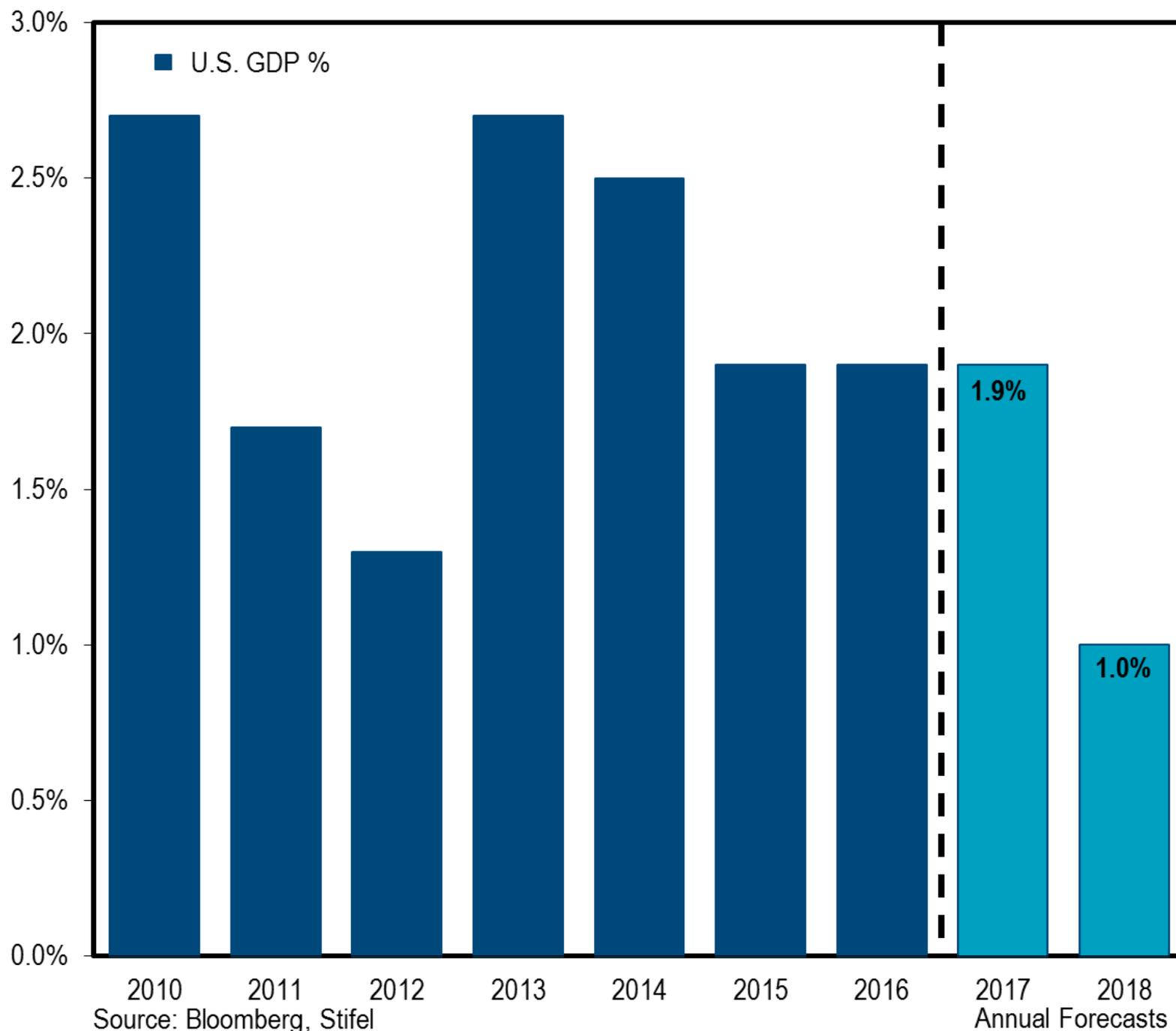
2014: **2.5%**

2015: **1.9%**

2016: **2.0%**

2017: **1.9%**

2018: **1.0%**



U.S. treasury yields surged after election day with the 10-year pushing over 2% for the first time since January 2015

10-year UST reached a high of 2.63% on March 13th, the highest level since September 2014

10-year UST is down 28bps since March peak; up 49bps since the November election to **2.35%**

U.S. 10-Year Treasury



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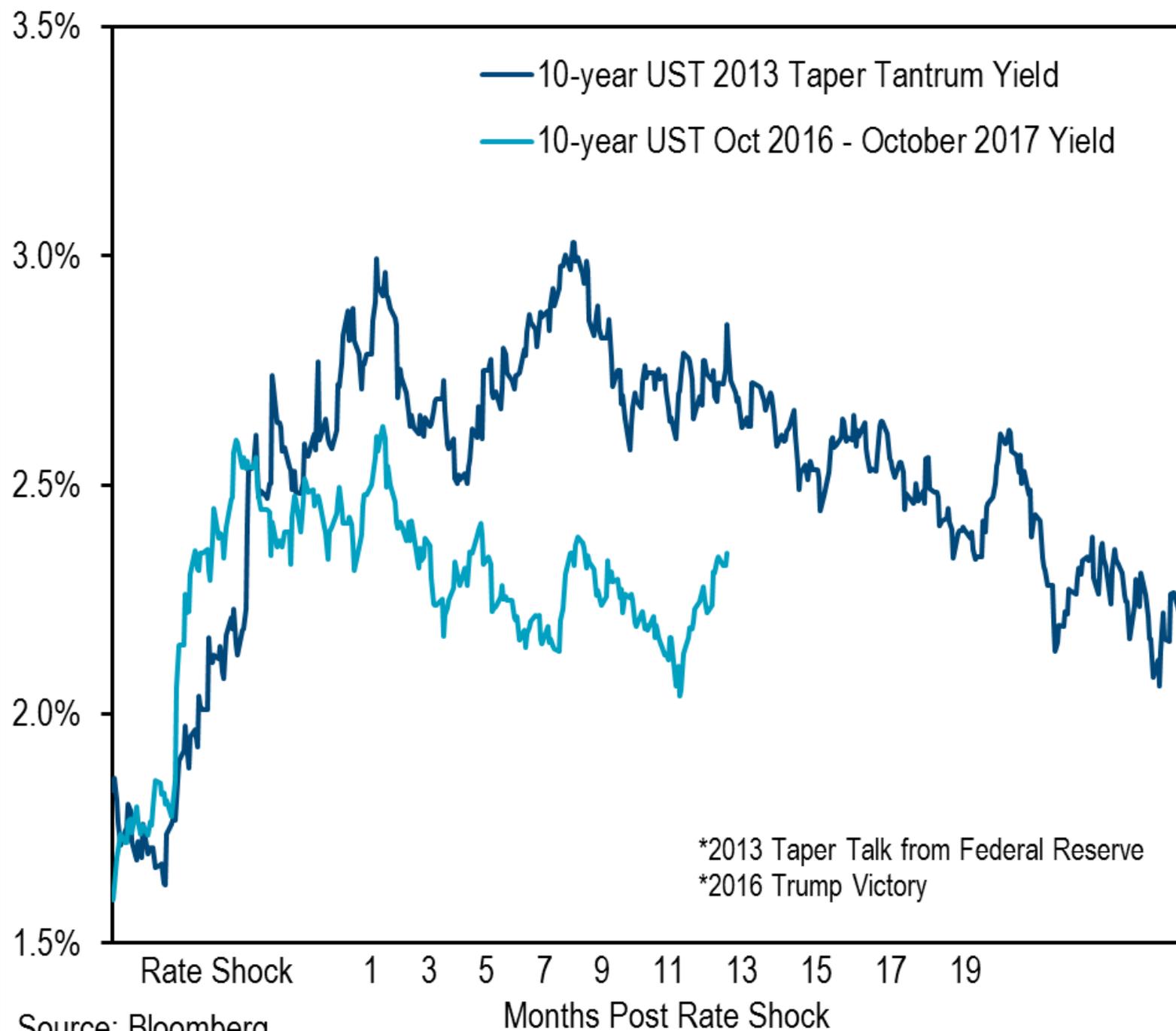
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During the Taper Tantrum of 2013 yields rose more than 100bps January to December before recapturing 79bps 35 months later

10-yr yield rose 80bps from November 1st to 2.63% on March 13th, the highest since July 2014

10-yr yield is down 28bps from March 13th peak, at **2.35%**



Interest Rate Forecast Grid

End of Quarter Figures

Average Annual Figures

| | Q1 2016 | Q2 2016 | Q3 2016 | Q4 2016 | Q1 2017 | Q2 2017 | Q3 2017 | Q4 2017 | Q1 2018 | Q2 2018 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|-------|-------|
| Growth indicators | | | | | | | | | | | | | | |
| GDP, QoQ % | 0.6% | 2.2% | 2.8% | 1.8% | 1.2% | 3.1% | 1.8% | 1.6% | 0.9% | 1.1% | 1.9% | 1.9% | 1.9% | 1.0% |
| Fixed Investment, % | -0.2% | 1.4% | 1.5% | 1.7% | 8.1% | 3.2% | 2.2% | 2.8% | 2.6% | 1.8% | 3.4% | 1.1% | 4.1% | 2.1% |
| Housing Starts, k | 1,128 | 1,190 | 1,062 | 1,268 | 1,189 | 1,217 | 1,190 | 1,185 | 1,120 | 1,115 | 1,131 | 1,162 | 1,195 | 1,118 |
| Car Sales, M | 16.77 | 16.99 | 17.65 | 18.05 | 16.72 | 16.59 | 14.33 | 16.90 | 16.85 | 17.05 | 17.45 | 17.37 | 16.14 | 16.95 |
| Unemployment Rate, % | 5.0% | 4.9% | 4.9% | 4.7% | 4.7% | 4.4% | 4.3% | 5.0% | 5.0% | 5.1% | 5.3% | 4.9% | 4.6% | 5.1% |
| Participation Rate, % | 63.0% | 62.7% | 62.9% | 62.7% | 63.0% | 62.8% | 63.1% | 62.9% | 62.7% | 62.6% | 62.6% | 62.8% | 63.0% | 62.7% |
| Savings Rate, % | 5.7% | 5.3% | 4.8% | 3.6% | 3.9% | 3.8% | 6.1% | 5.9% | 6.3% | 6.5% | 5.8% | 4.9% | 4.9% | 6.4% |
| Inflation indicators, YoY% | | | | | | | | | | | | | | |
| CPI | 0.9% | 1.0% | 1.5% | 2.1% | 2.4% | 1.6% | 1.5% | 1.3% | 1.2% | 1.2% | 0.2% | 1.5% | 1.7% | 1.2% |
| PCE | 0.8% | 1.0% | 1.4% | 1.8% | 1.8% | 1.4% | 1.3% | 1.1% | 1.0% | 1.0% | 0.4% | 1.3% | 1.4% | 1.0% |
| Core PCE | 1.6% | 1.7% | 1.8% | 1.9% | 1.6% | 1.5% | 1.5% | 1.2% | 1.2% | 1.2% | 1.4% | 1.8% | 1.5% | 1.2% |
| Interest rate, % | | | | | | | | | | | | | | |
| FF | 0.50 | 0.50 | 0.50 | 0.75 | 1.00 | 1.25 | 1.25 | 1.50 | 1.50 | 1.75 | 0.31 | 0.56 | 1.25 | 1.69 |
| 3month UST bills | 0.20 | 0.26 | 0.28 | 0.50 | 0.75 | 1.01 | 1.05 | 1.22 | 1.15 | 1.30 | 0.05 | 0.31 | 1.01 | 1.28 |
| 2yr UST notes | 0.72 | 0.58 | 0.76 | 1.19 | 1.26 | 1.38 | 1.49 | 1.43 | 1.39 | 1.55 | 0.72 | 0.81 | 1.39 | 1.54 |
| 5yr UST notes | 1.21 | 1.00 | 1.15 | 1.93 | 1.92 | 1.89 | 1.94 | 1.85 | 1.73 | 1.88 | 1.54 | 1.32 | 1.90 | 1.78 |
| 10yr UST notes | 1.77 | 1.47 | 1.60 | 2.45 | 2.39 | 2.31 | 2.33 | 2.11 | 2.07 | 2.13 | 2.15 | 1.82 | 2.28 | 2.02 |
| 30yr UST bonds | 2.61 | 2.29 | 2.32 | 3.07 | 3.01 | 2.84 | 2.86 | 2.85 | 2.75 | 2.78 | 2.88 | 2.57 | 2.89 | 2.71 |
| 2s to 10s Spread bps | 105 | 89 | 84 | 126 | 113 | 92 | 85 | 68 | 68 | 58 | 143 | 101 | 90 | 48 |

Lindsey Piegza, Ph.D. - Chief Economist

Source: Bloomberg, Stifel Please see *Economic Insight*, "Politics and Policy: An Improved Forecast of Continued Moderation," for further forecast analysis

Questions?

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