

Economic Environment and FHLB Advance Strategies

Jason Hwang

VP / Director, Planning and Research

Kevin Martin

VP / Member Financial Strategies

September 28, 2016

This webinar is being recorded

FHLBBoston

Disclaimer

This information is being presented for general information only. The information contained herein was obtained from sources that we believe to be reliable, but we do not guarantee its accuracy or completeness. Members should not construe any of this information as business, legal, tax, or accounting advice from the Bank. Members should consult with their own independent business, legal, tax, and accounting advisers with respect to any of the material presented here.

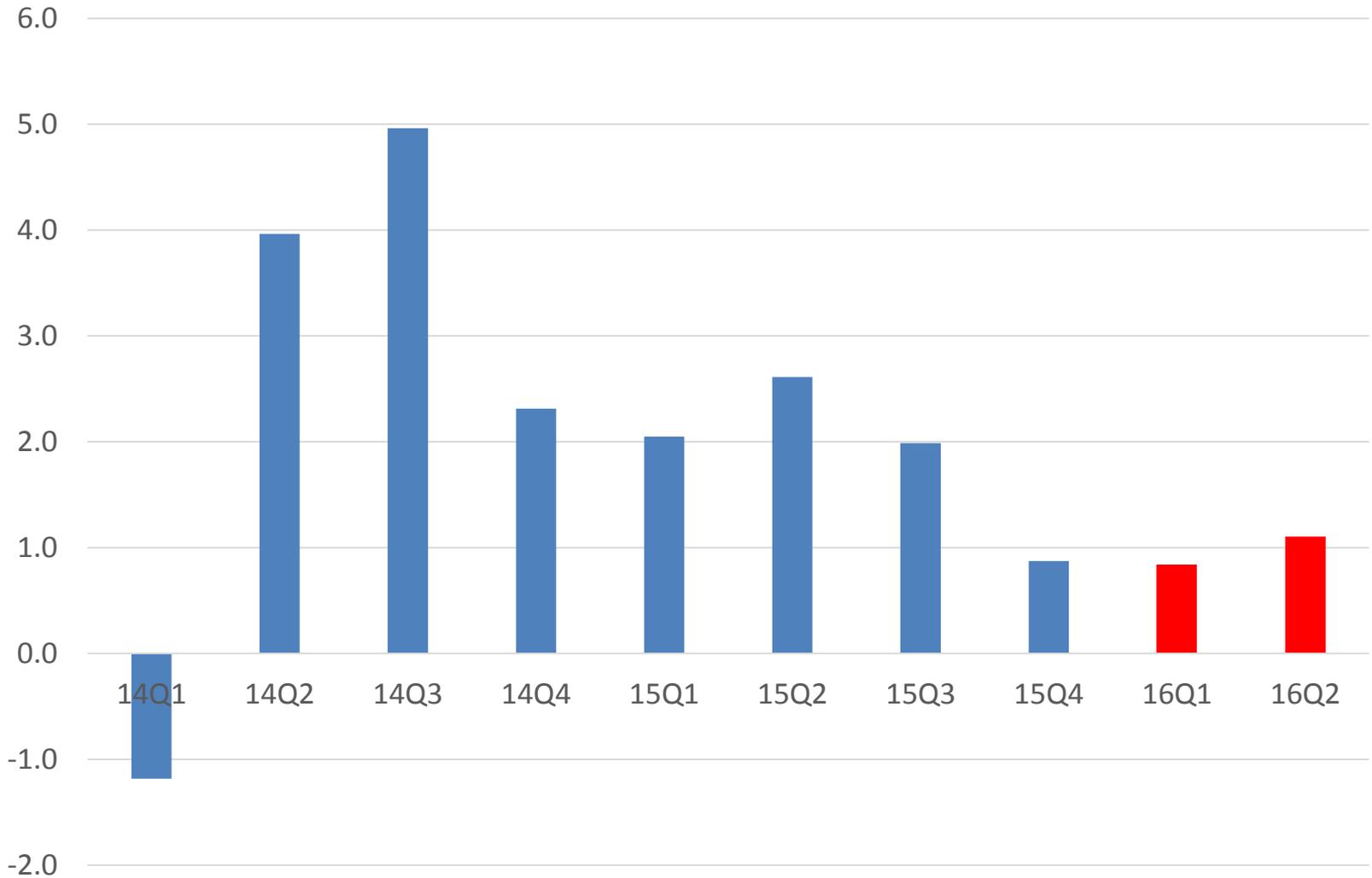
GDP Update and Outlook

Today's topics

- GDP Update and Outlook
- Labor Market, Inflation, and Fed Funds Rate
- Advance Rate Curve
- Advance Strategies: HLB-Option advance and Flipper advance
- Recent Advance Activity
- Upcoming Special Offerings

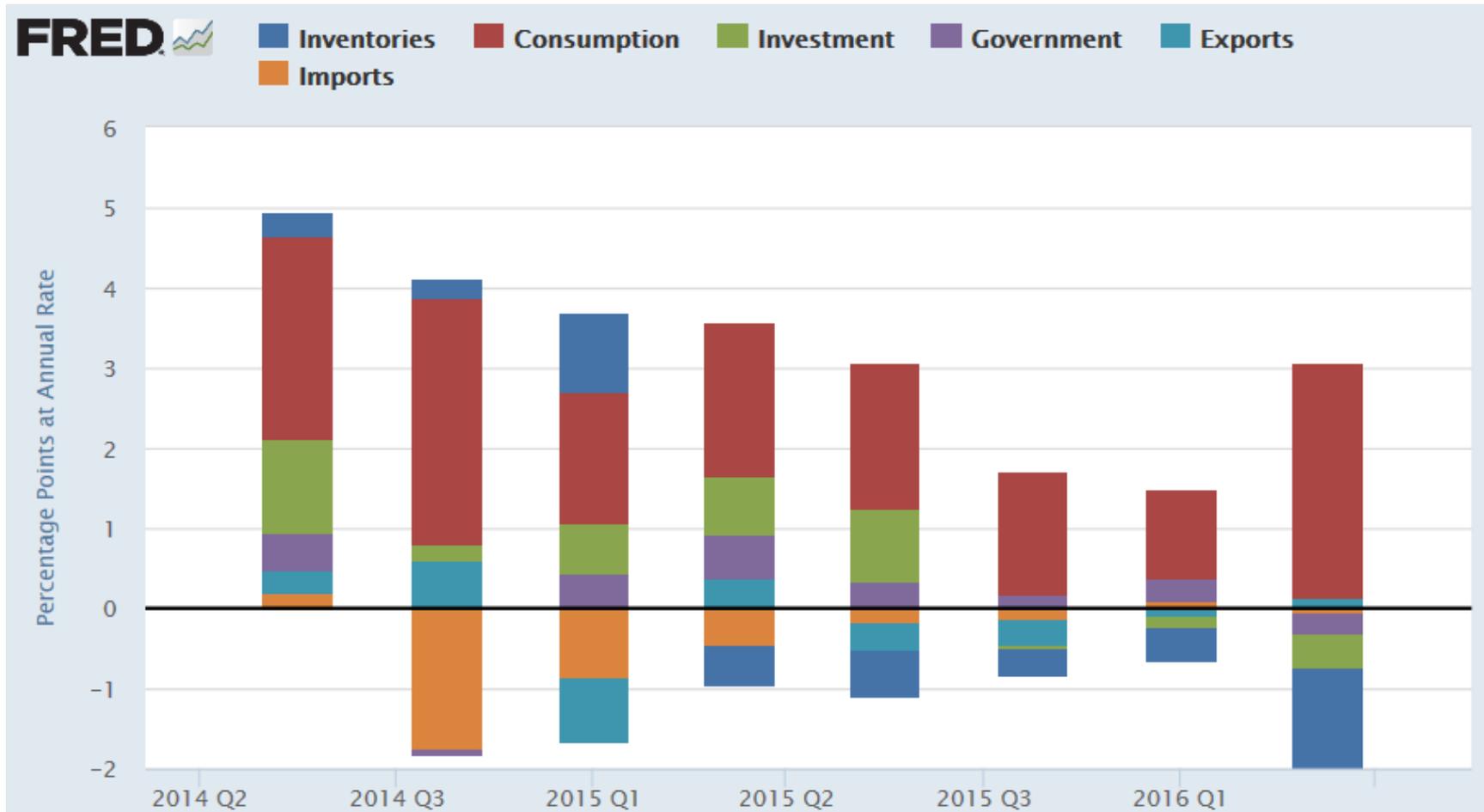
Real GDP Growth, 2014Q1-2016Q2

At 1.0% annualized growth in Q1 and Q2, weakest performance in two years

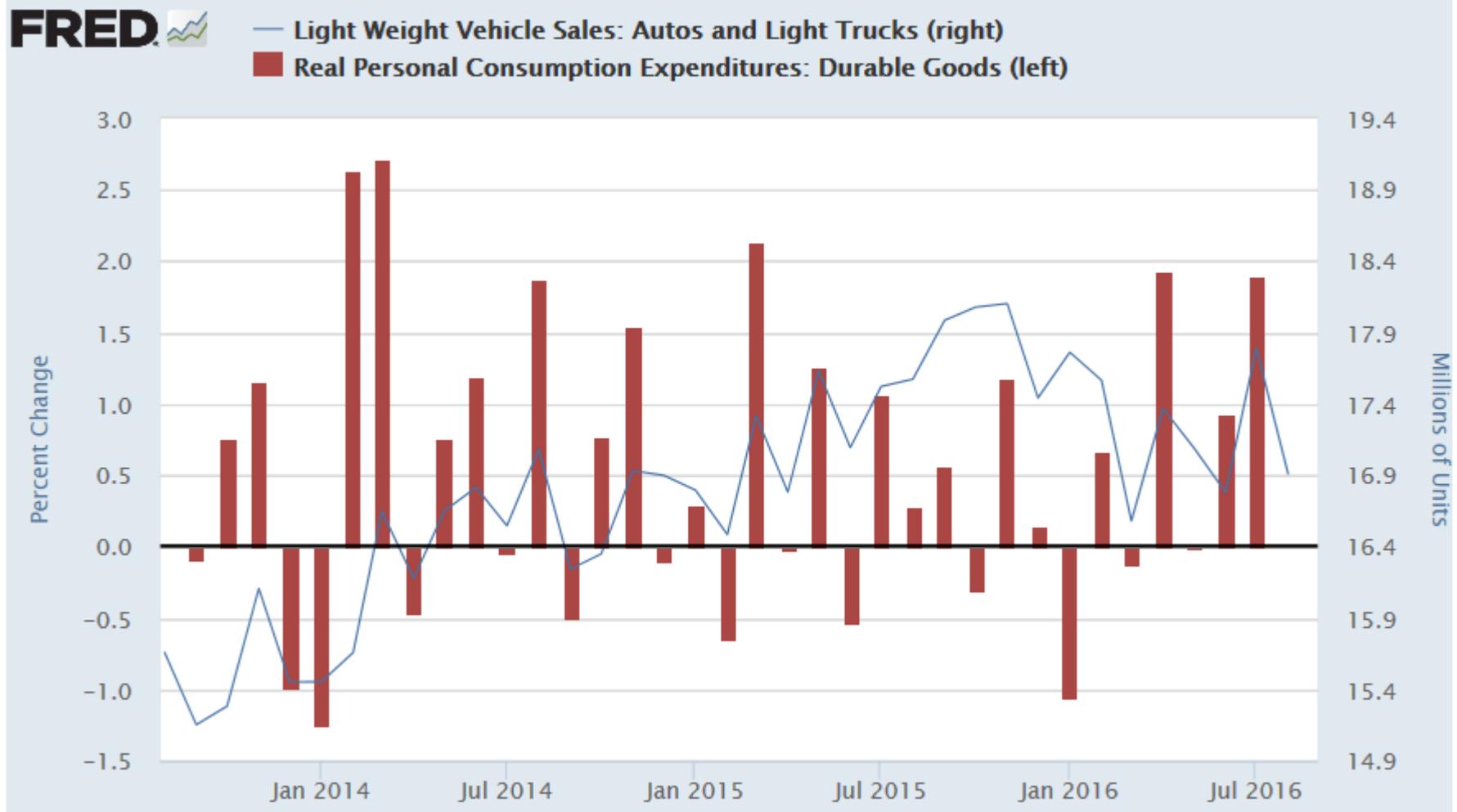


Contribution to Real GDP Growth

Decline in GDP was driven by reduction in inventories; consumption remained strong



Durable Consumption and Automobile Sales





Preliminary Results for September 2016

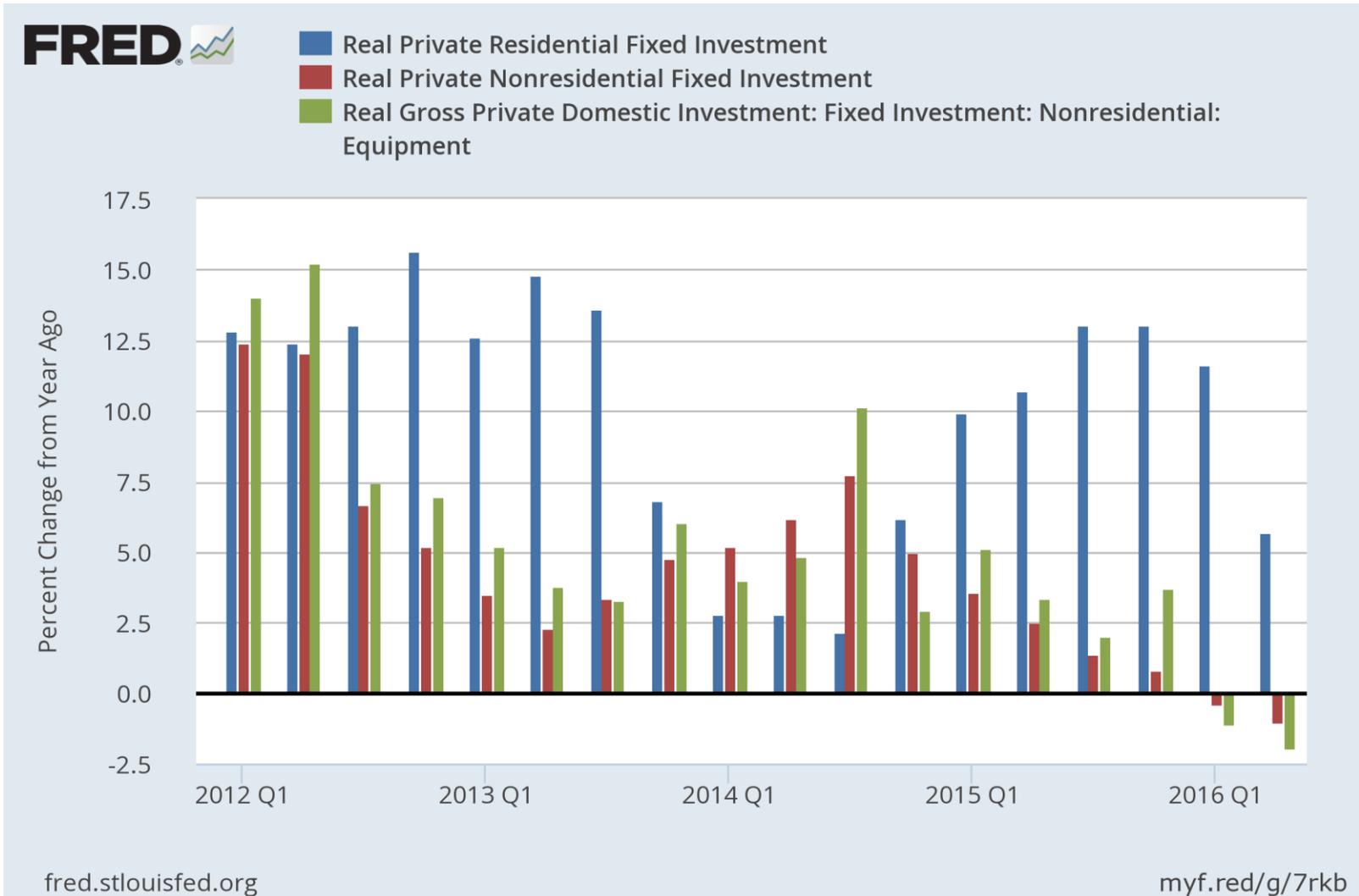
	Sep 2016	Aug 2016	Sep 2015	M-M Change	Y-Y Change
Index of Consumer Sentiment	89.8	89.8	87.2	+0.0%	+3.0%
Current Economic Conditions	103.5	107.0	101.2	-3.3%	+2.3%
Index of Consumer Expectations	81.1	78.7	78.2	+3.0%	+3.7%

- Current Economic Conditions
 - Do you think now is a good or bad time for people to buy major household items?
- Consumer Expectations
 - A year from now, will you be better off financially or worse off?
- Consumer Sentiment: Combination of Both

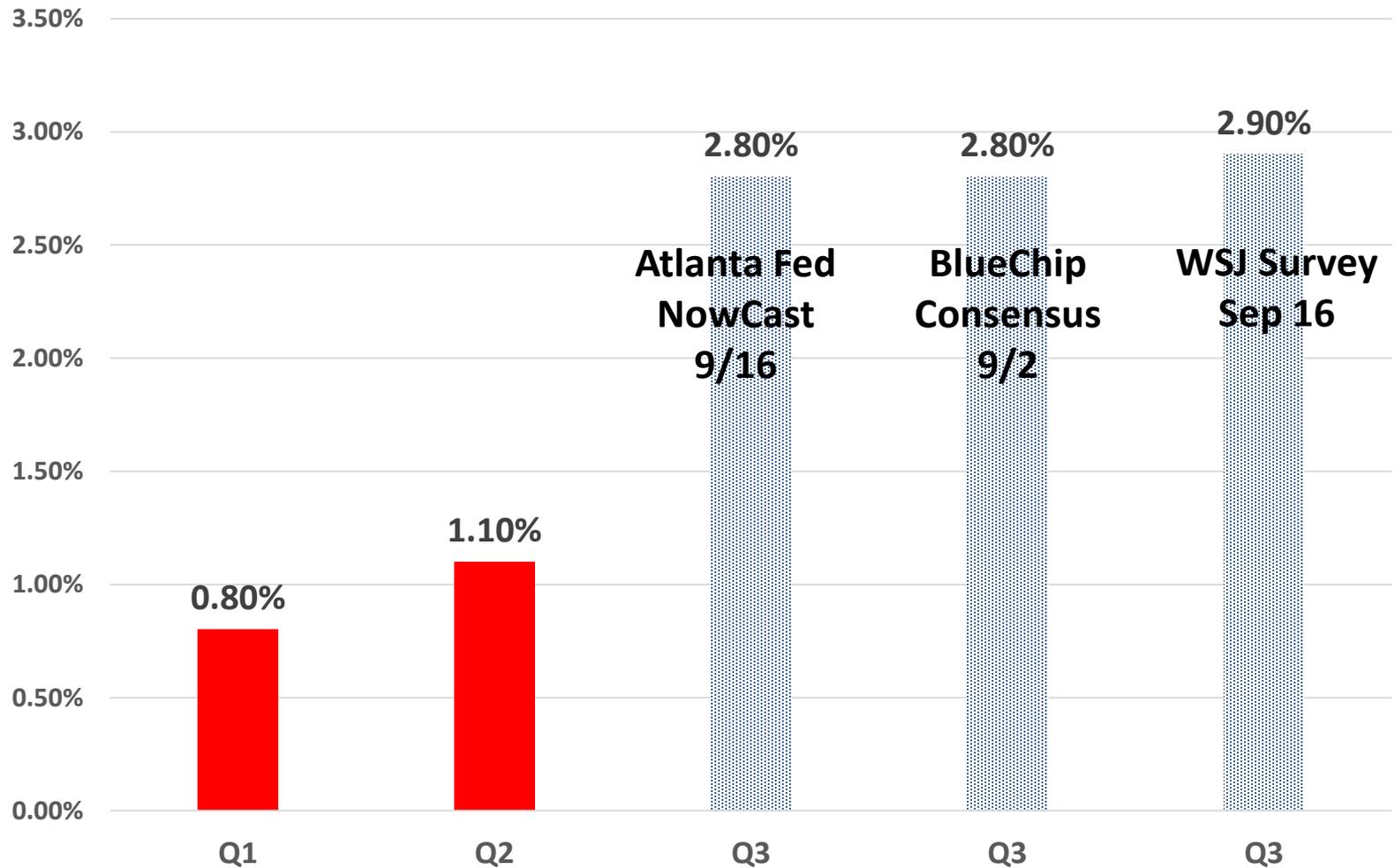
Source: <http://www.sca.isr.umich.edu/>

Residential and Nonresidential Investment

Business investment continues downward trend, driven significantly by energy industry



Projections of Q3 GDP



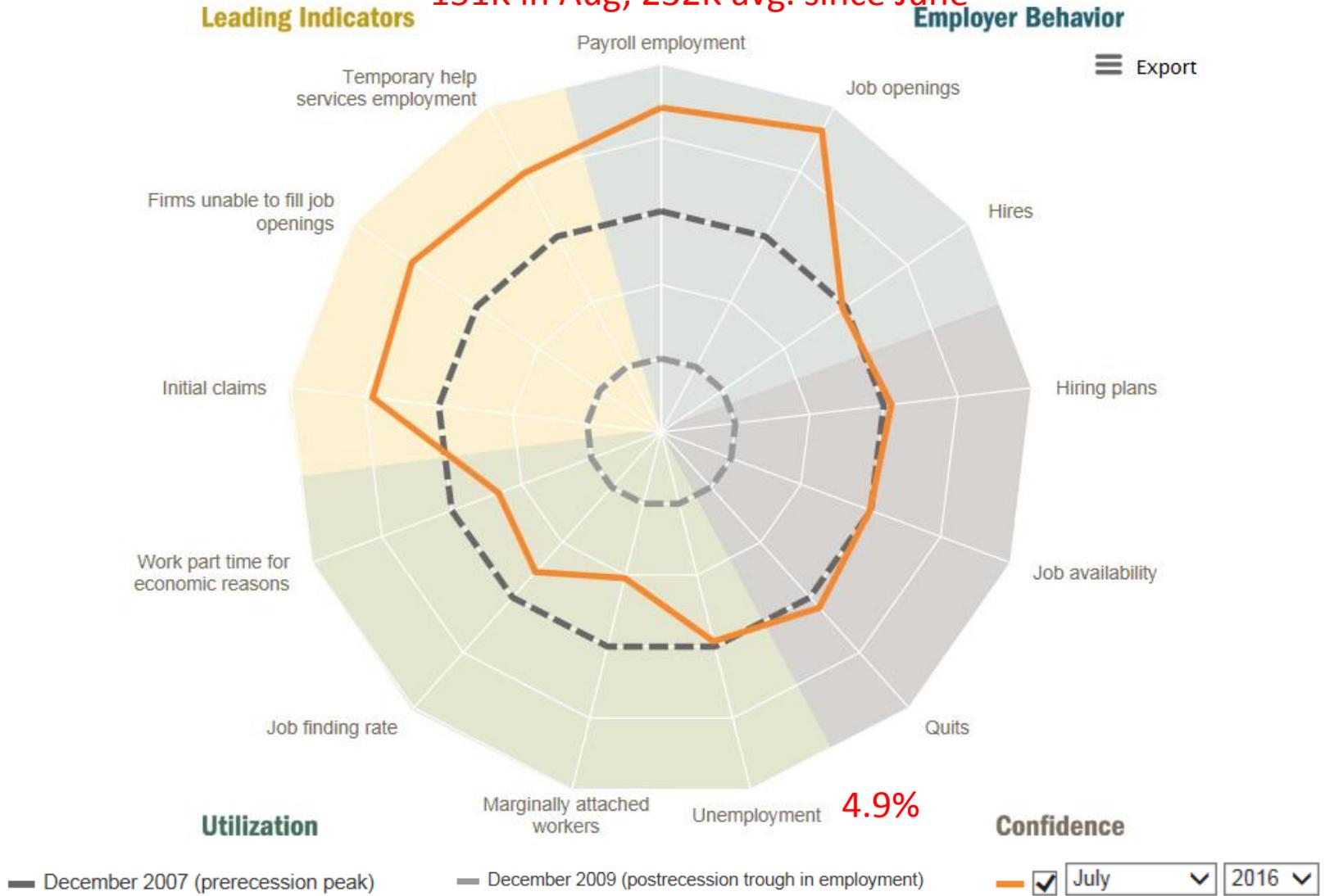
Labor Market, Inflation, and Fed Funds Rate

Labor Market Spider Chart

On most metrics, current conditions better than pre-recession, except for utilization



151K in Aug; 232K avg. since June

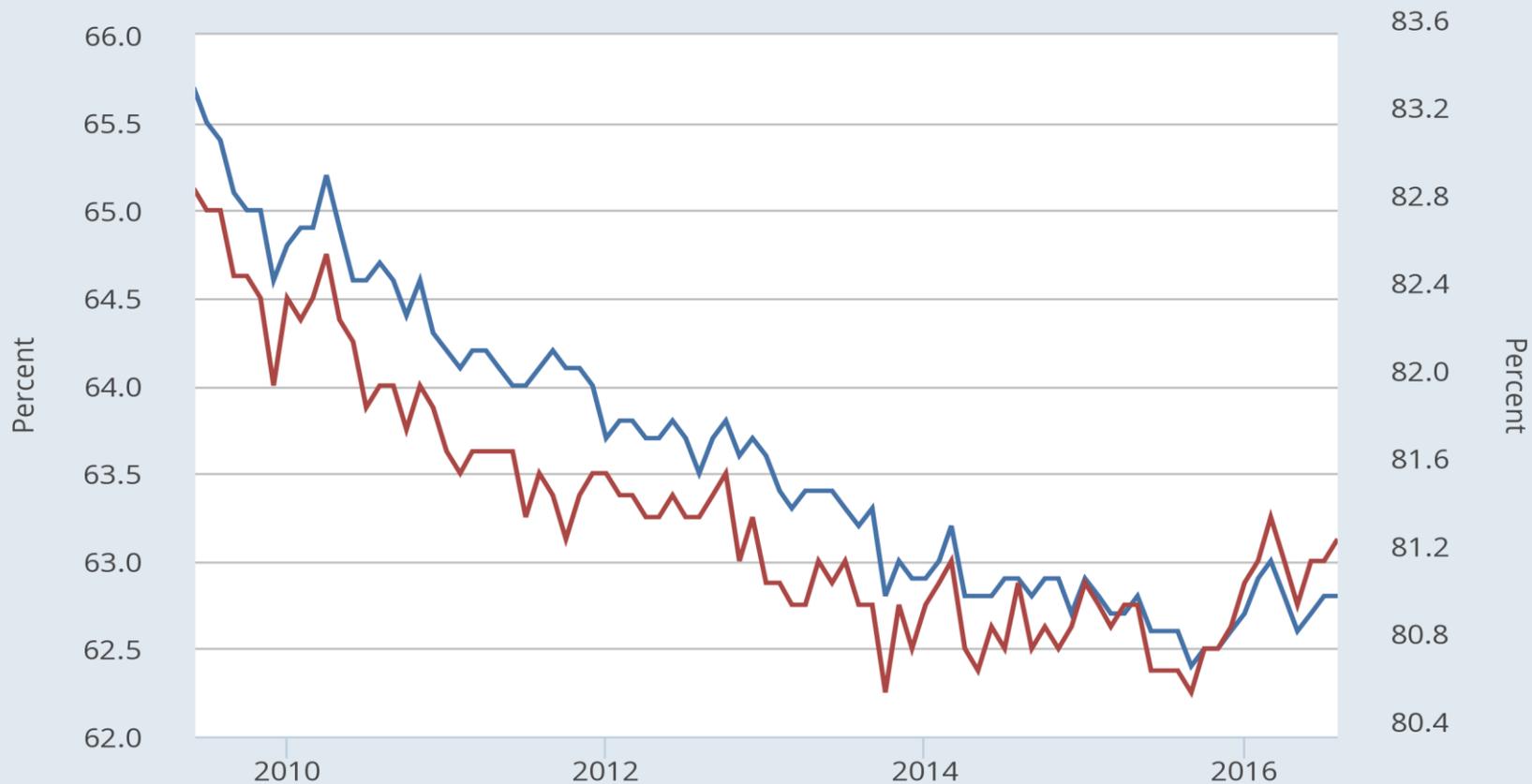


Labor Force Participation

Participation rate appears to have reached a bottom in late 2015



- Civilian Labor Force Participation Rate (left)
- Civilian Labor Force Participation Rate: 25 to 54 years (right)



fred.stlouisfed.org

myf.red/g/7rIP

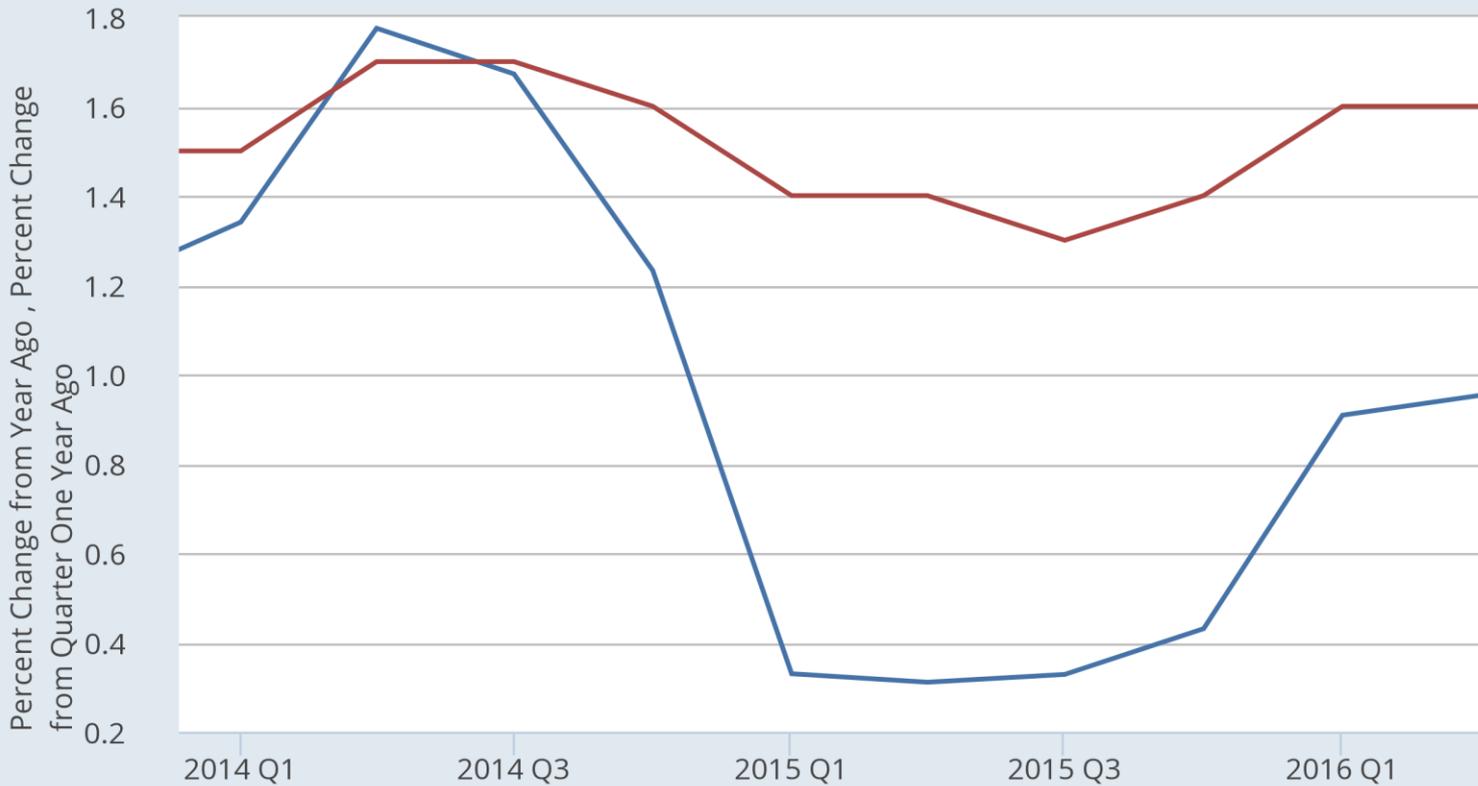
PCE Inflation

Remains below 2% target but trend appears positive



FRED 

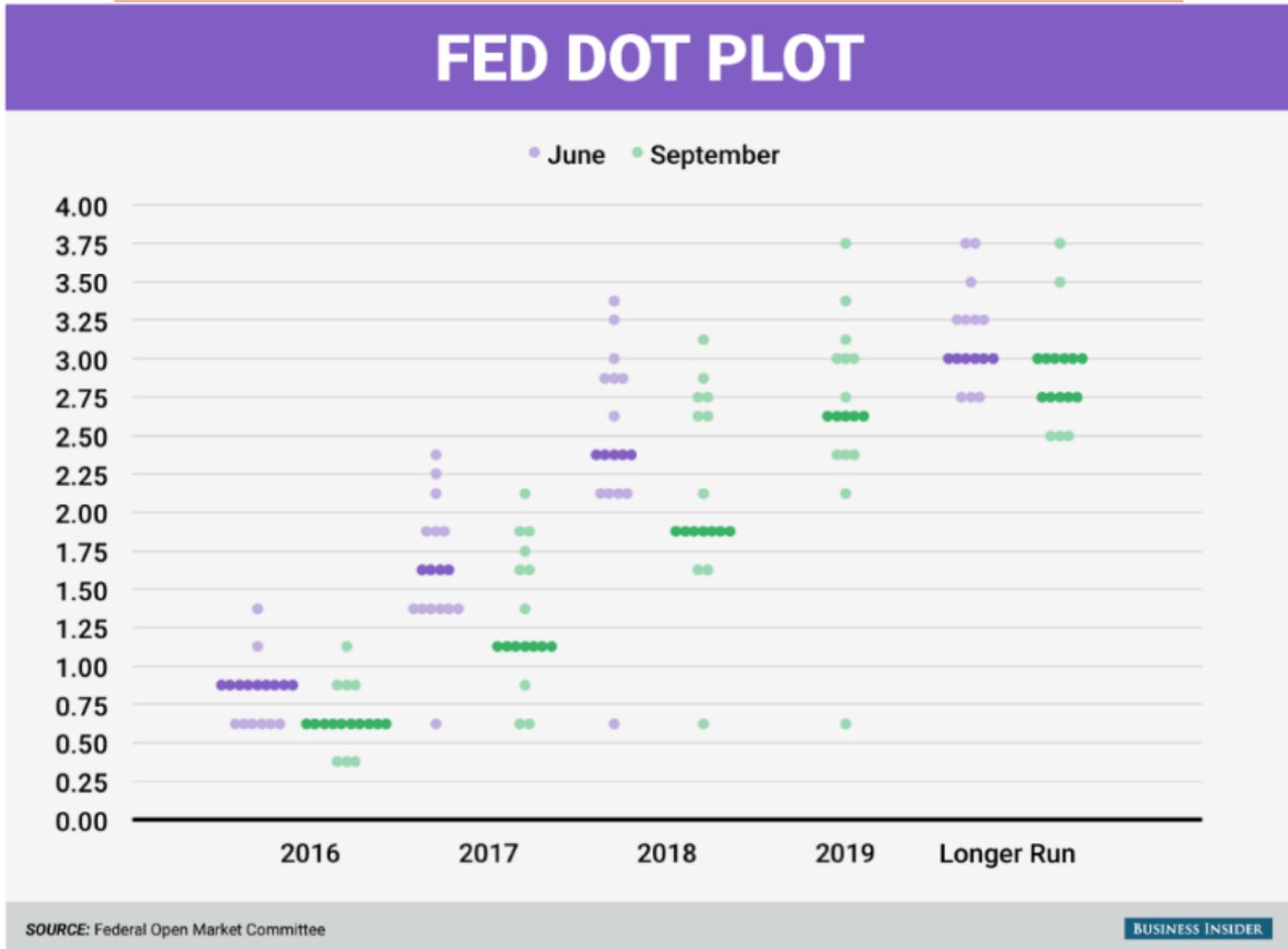
- Personal Consumption Expenditures: Chain-type Price Index
- Personal Consumption Expenditures excluding Food and Energy (chain-type price index)



fred.stlouisfed.org

myf.red/g/7rn7

FOMC Projected Fed Funds Rate June 2016 vs September 2016



Longer Term Projections of Key Economic Indicators

FOMC, 9/21/2016

Percent

Variable	Median ¹				
	2016	2017	2018	2019	Longer run
Change in real GDP	1.8	2.0	2.0	1.8	1.8
June projection	2.0	2.0	2.0	n.a.	2.0
Unemployment rate	4.8	4.6	4.5	4.6	4.8
June projection	4.7	4.6	4.6	n.a.	4.8
PCE inflation	1.3	1.9	2.0	2.0	2.0
June projection	1.4	1.9	2.0	n.a.	2.0
Core PCE inflation ⁴	1.7	1.8	2.0	2.0	
June projection	1.7	1.9	2.0	n.a.	
Memo: Projected appropriate policy path					
Federal funds rate	0.6	1.1	1.9	2.6	2.9
June projection	0.9	1.6	2.4	n.a.	3.0

Survey of Professional Forecasters, Philadelphia Fed, August 2016

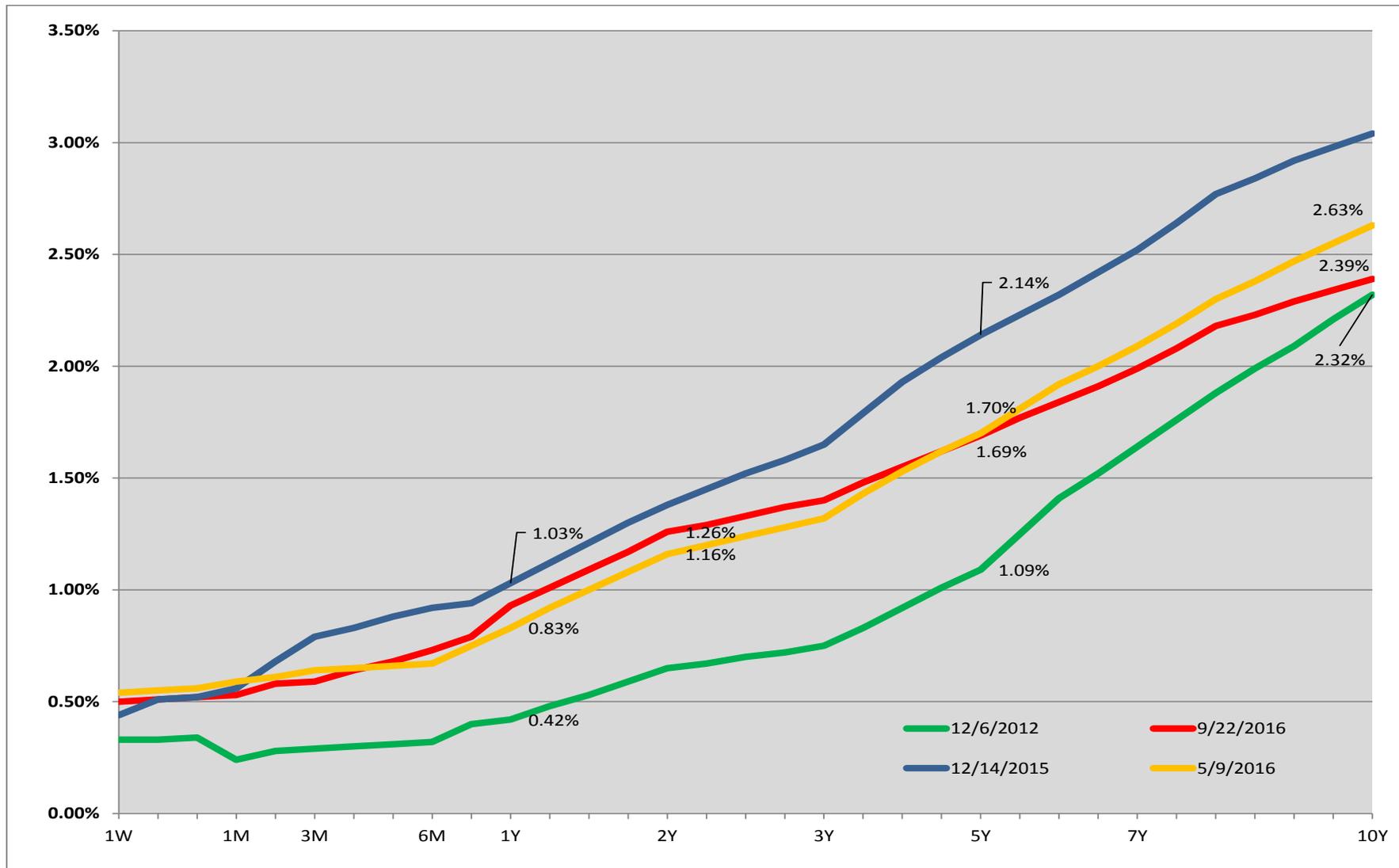
Median Forecasts for Selected Variables in the Current and Previous Surveys						
	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
<i>Annual data (projections are based on annual-average levels):</i>						
2016	1.7	1.5	4.8	4.8	212.4	204.6
2017	2.4	2.3	4.6	4.6	178.4	161.1
2018	2.4	2.2	4.6	4.6	N.A.	N.A.
2019	2.2	2.2	4.6	4.7	N.A.	N.A.

Summary

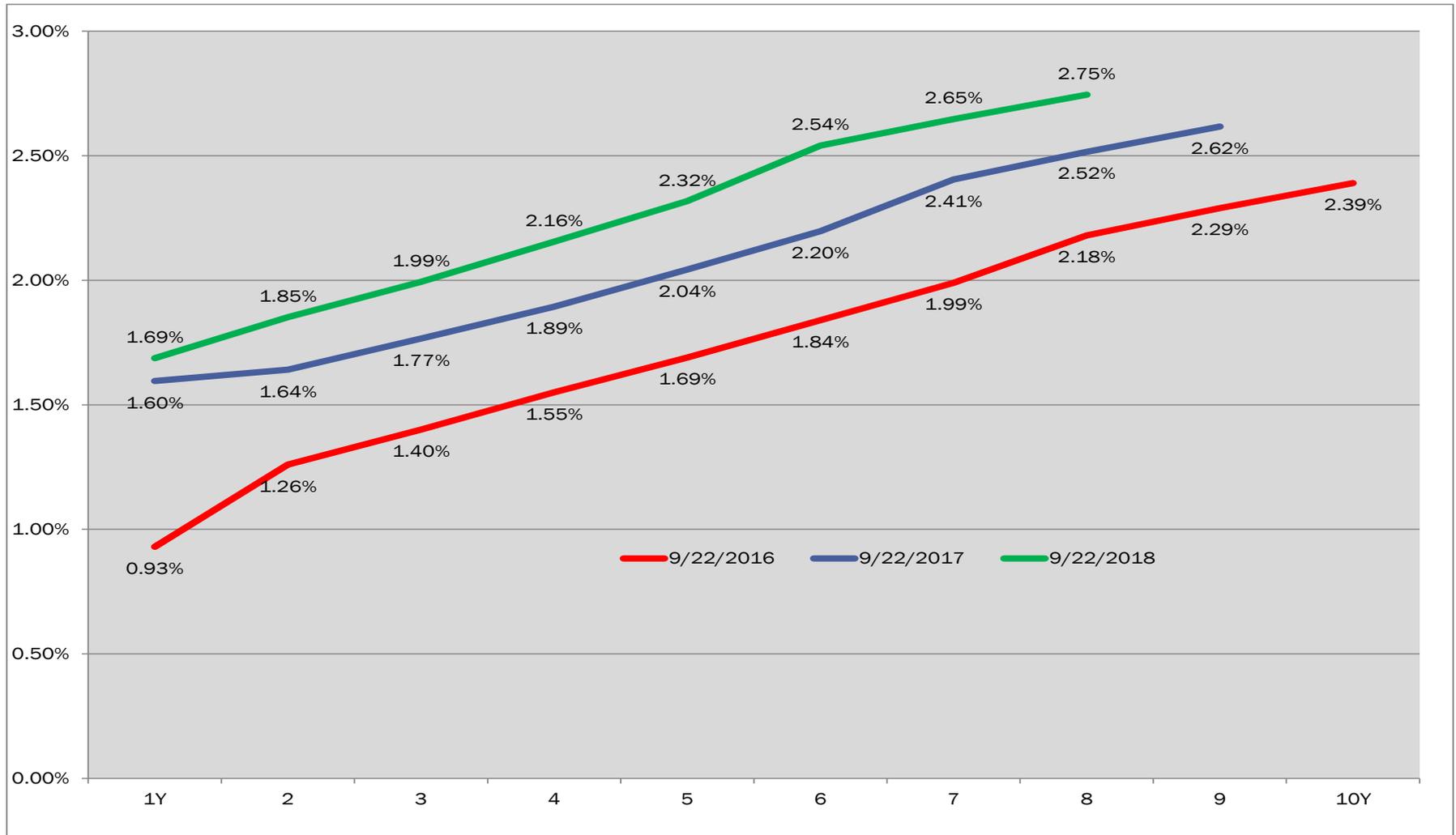
- U.S. economy remains resilient
 - Unemployment at 4.9%; at or near full employment
 - Core PCE inflation at 1.6%, gradually rising to 2% target
 - Average 232,000 payroll employment growth per month since June; strong for this stage of economic cycle
- Real GDP growth was disappointing in first half of year
 - 1% annualized growth
 - Consumption remains robust and inventory effects expected to be transitory
 - Q3 GDP projected to be substantially stronger
- Overseas risks (Brexit, China) appear contained
 - Strong emerging market stock performance
- FOMC guidance on fed funds rate reduced substantially
 - Pattern of market participants anticipating even more gradual rate hike continues

Advance Rate Curve and Strategies

FHLB Boston Classic Advance Curves



FHLB Boston – Implied Forward Advance Rates



What is an FHLB Boston Structured Advance?

- Fixed- or floating-rate advance containing an embedded option, including:
 - Caps
 - Floors
 - Puttable swaps
- Terms of one through twenty years

What is an FHLB Boston Structured Advance?

- Involves the *purchase* or *sale* of an option embedded in the advance
 - *Purchase* = higher advance rate
 - *Sale* = lower advance rate
- No FAS133 implications

What is an FHLB Boston Structured Advance?

- Principal due at maturity or on cancellation date
- Interest due monthly or, if floater, on rate-reset dates
- \$2 million minimum
 - Smaller amounts aggregated through “specials”
- [FHLB Credit Products: Overview](#)

HLB-Option Advance

- Fixed rate, nonamortizing advance
- Members customize structure of advance
 - Final maturity – out to 20 years
 - Lockout period – three months to 10 years
 - Number and frequency of cancellation dates
- First opportunity to cancel advance by FHLB Boston is at the end of the lockout period
 - You are guaranteed the funding during this lockout period

HLB-Option Advance

- Member receives a lower advance rate than on Classic advances of same maturity
- Member sells FHLB Boston the option to cancel the advance prior to final maturity
 - Contains a puttable swap
 - “Bermudan” – a series of cancellation dates
 - » Monthly, quarterly, semi-annual, or annual
 - “European” – one cancellation date
- Disburses two Boston business days after the trade date

HLB-Option Advance

- Recent Offering
 - 15-Year / One-Year; “Bermudan” quarterly
 - Advance rate 0.39%
 - FHLB Boston holds quarterly option to cancel the advance
 - You are guaranteed funding for one year at 0.39%
- First opportunity to cancel advance is after one year
- Generally:
 - rates  advance cancelled
 - rates  advance extends

Flipper Advance

- Floating-to-fixed-rate advance where member chooses:
 - Final maturity — out to 20 years, and
 - Lockout period — three months to 10 years
- Sub-LIBOR floater during lock-out period
 - Generally, starting rate is less than 1 basis point
 - Advance rate resets quarterly during lockout period
 - The rate can reset at an interest rate less than *zero*
- Two versions of the advance
 - Flipper advance — FHLB Boston has option to cancel after floating-rate period
 - Flipper advance with “Guaranteed” Flip — “Guaranteed” to flip to fixed rate after floating-rate period until maturity
 - Hybrid — floating- to fixed-rate advance

Flipper Advance

- FHLB Boston has option to cancel advance
 - “Bermudan” – cancellation date at end of lock-out period and every three months thereafter
 - “European” – one cancellation date at end of lock-out period
- If the advance is not cancelled then...
 - “Bermudan” – “Flips” to a fixed-rate advance until next cancellation date
 - “European” – “Flips” to a fixed-rate advance until final maturity

How does FHLB Boston decide to “Flip” or cancel?

- Five-Year / One-Year Flipper (Bermudan), 3mL less 85 basis points
- Fixed rate of 1.32% if “Flipped”
 - 3mL 0.85389%
 - Start rate of 0.00389%
 - Advance rate resets quarterly at 3mL less 85 basis points
- At first cancellation date the advance is either cancelled or “Flipped”
 - If the 3-month advance rate is above 1.32% then advance will likely be cancelled
 - If the 3-month advance rate is below 1.32% then advance will likely be “Flipped” to a fixed-rate advance at 1.32%
- FHLB Boston has option to cancel the advance quarterly thereafter

Recent Discounted Offerings

- Markdown Offering
 - Each Tuesday and Thursday
- Long-Term Bullets
 - Terms from one- to ten-years
- Structured Specials
 - Flipper
 - HLB Option
 - Member Option

Recent Structured Advance Offerings

■ Member Option Advance

- Fixed-term, fixed-rate – Member holds option to prepay
- September 15
 - 2yr/1yr – 1.23%; 3yr/2yr – 1.38%; One-time cancellation
 - Two-year Classic – 1.23%
 - Three-Year Classic – 1.38%

■ Flipper Advance

- Floating- to fixed-rate – Bank holds option to cancel
- September 14
 - 5yr/1yr – 3mL – 85bps
 - Flips to fixed rate of 1.32% if not cancelled (quarterly putable after lockout)
 - One-year Classic – 0.96%

Recent Structured Advance Offerings

- **HLB Option Advance**
- Fixed-term, Fixed-rate – Bank holds option to cancel
 - September 21: 15yr/1yr – 0.39%; Quarterly Put
 - *One-year Classic – 0.94%*
 - September 21: 15yr/2yr – 0.65%; Quarterly Put
 - *Two-year Classic – 1.27%*
 - September 13: 10yr/3yr – 0.99%; Quarterly Put
 - *Three-year Classic – 1.45%*

Advance Renewal Discount Program

- **Members can receive an automatic discount if they roll a maturing advance into a new advance if:**
 - New advance is a Classic Advance of one year or longer in maturity
 - New advance is at least 50% of the maturing advance amount and a minimum of \$1 million
 - Member calls two days in advance of maturity to book the new advance

Advance Amount <i>and</i>	% of Maturing Advance	Term of New Advance	
		GT=1Y	GT=2Y
GT = \$1 million	50%	3 bp	8 bp
GT = \$1 million	125%	5 bp	10 bp

- **Since September 2015: 41 members – 103 loans - \$844 million**

Upcoming Advance Specials

- **Thursday, September 29, 2016, between 11:00 a.m. and noon**
- **HLB-Option Advance**
 - 10yr/1yr – Quarterly Put
 - 5yr/1yr – Quarterly Put
 - *One-year Classic – 0.91%*

Call the *Money Desk*
1-800-357-3452
moneydesk@fhlbboston.com



Questions?