

CPIM

CENTER FOR PUBLIC INVESTMENT MANAGEMENT



A PROGRAM BROUGHT TO YOU BY:

JOSH MANDEL

TREASURER OF OHIO

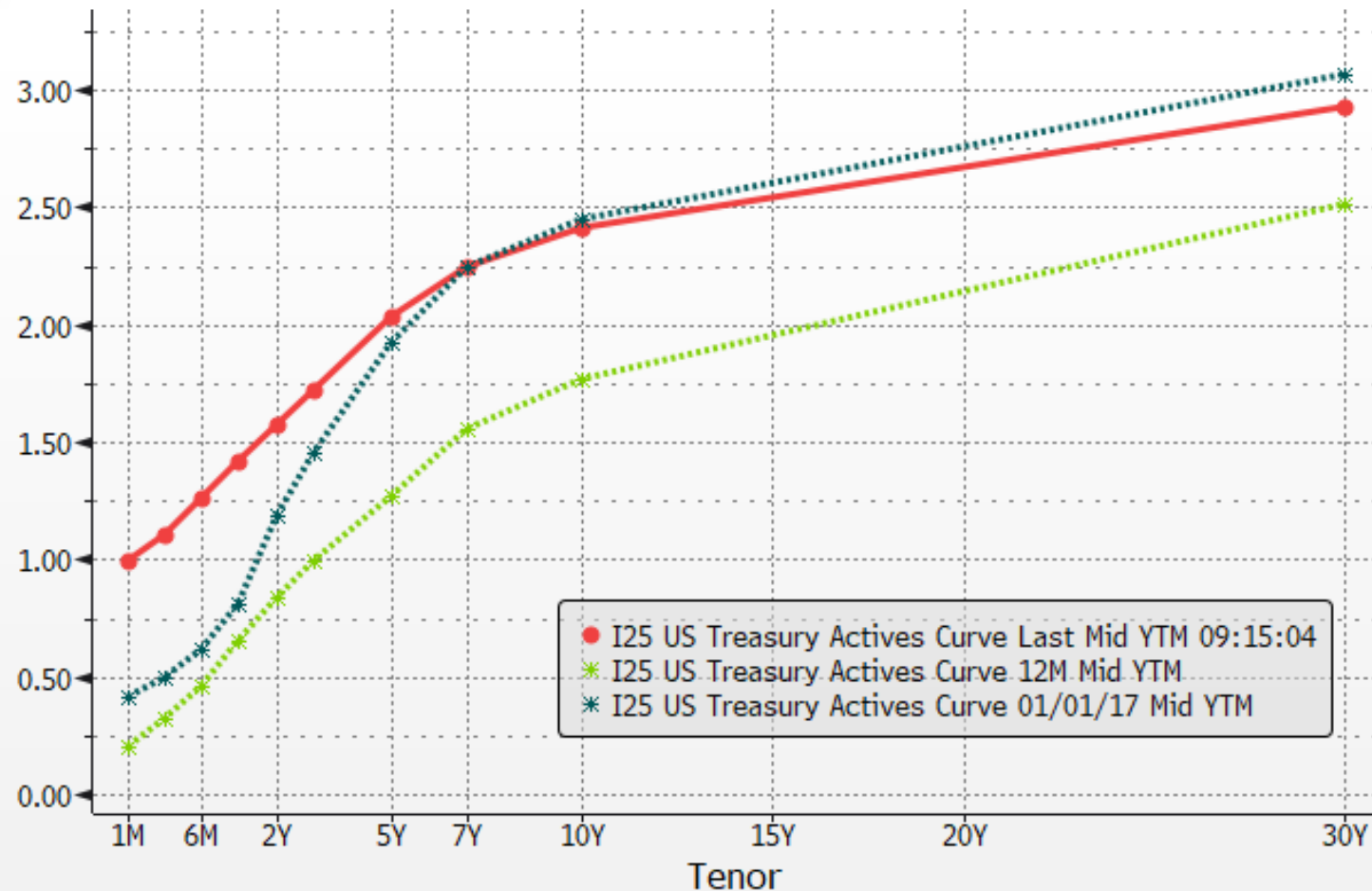
General Session & Market Update

Presenters

- JD Pisula, Director of Investments
- Office of Ohio Treasurer Josh Mandel
- James.Pisula@tos.ohio.gov
- Jason Headings, Director of Fixed Income
- Meeder Investment Management
- jheadings@meederinvestment.com
- Mike Valo, Managing Director
- Huntington Capital Markets
- Michael.Valo@huntington.com

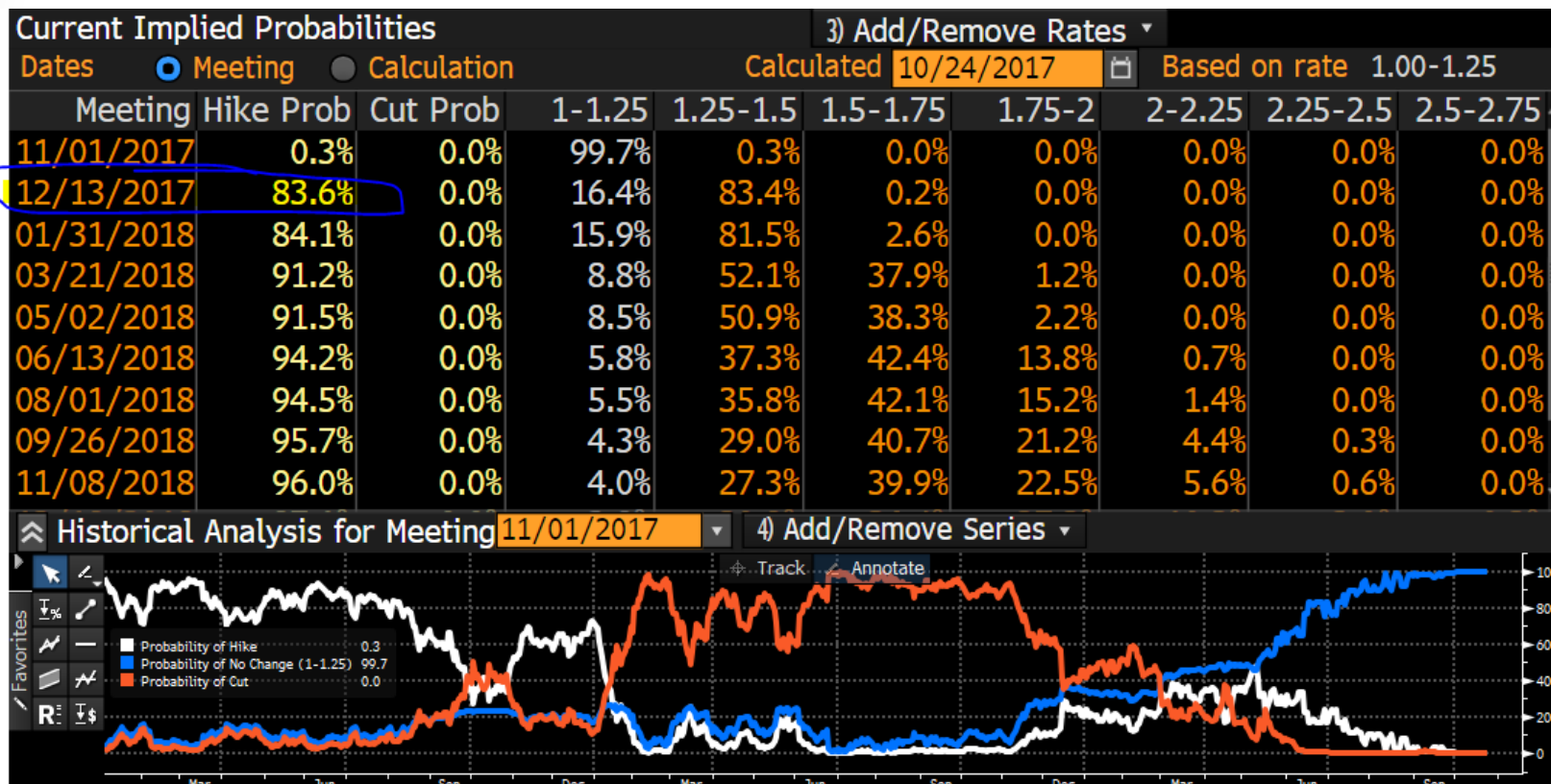
Interest Rate Environment

Over the last year, the yield curve has shift upward. YTD has flattened.



December Rate Hike?

- The Fed Funds implied probability of a rate increase in December >80%
- Fed vs. market expectations on rates are not aligned for 2018 & 2019

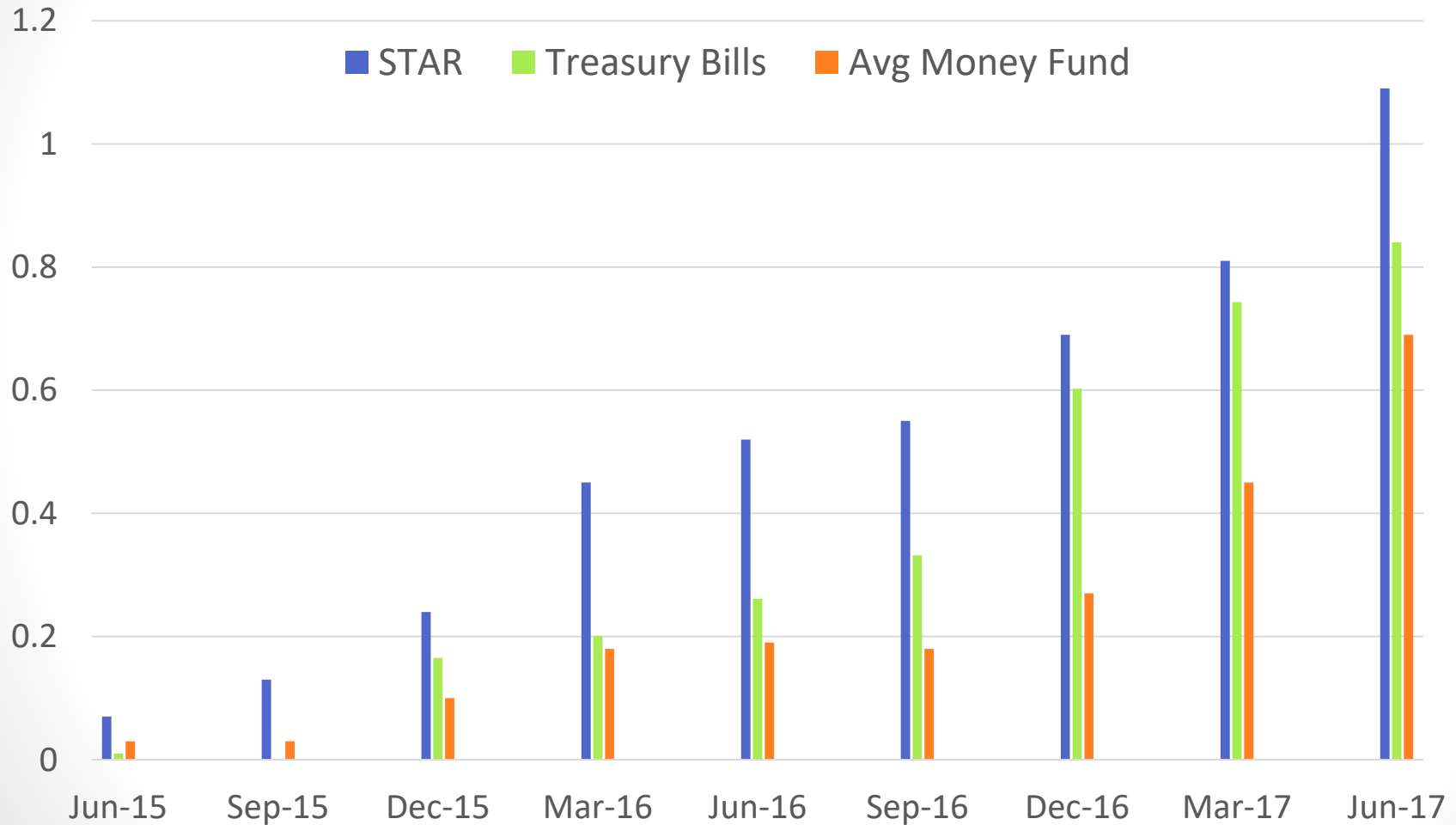


STAR Ohio outlook

- Expect yields in STAR Ohio to continue to increase
 - Economists predicting multiple rate hikes in 2018
 - President Trump to pick next Fed chair soon
 - Will next Fed chair be a hawk or dove? This will influence pace of rate hikes
- STAR Plus rates should keep pace with government funds

Yield Comparison

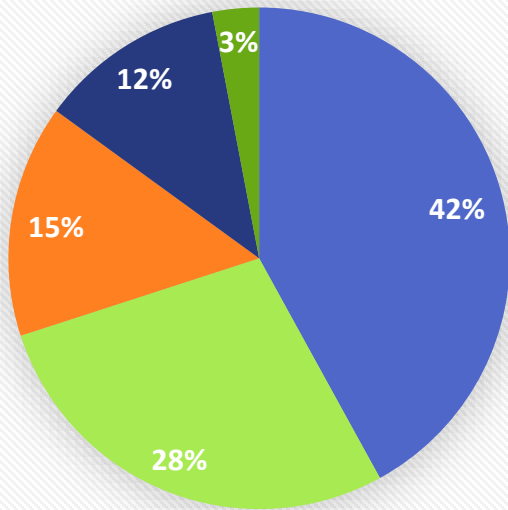
STAR Ohio vs. Treasury vs. Avg Money Fund



Over \$9 billion in Deposits

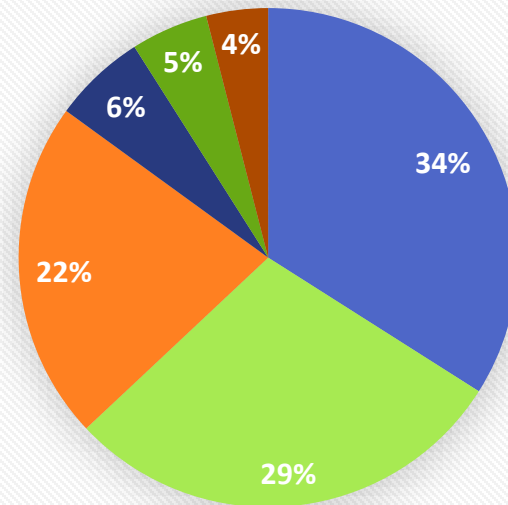
Composition

6/30/2016



■ Cash - 42% ■ Commercial Paper - 28%
■ Gov't Bond - 15% ■ Corporate Bond - 12%
■ Repo - 3%

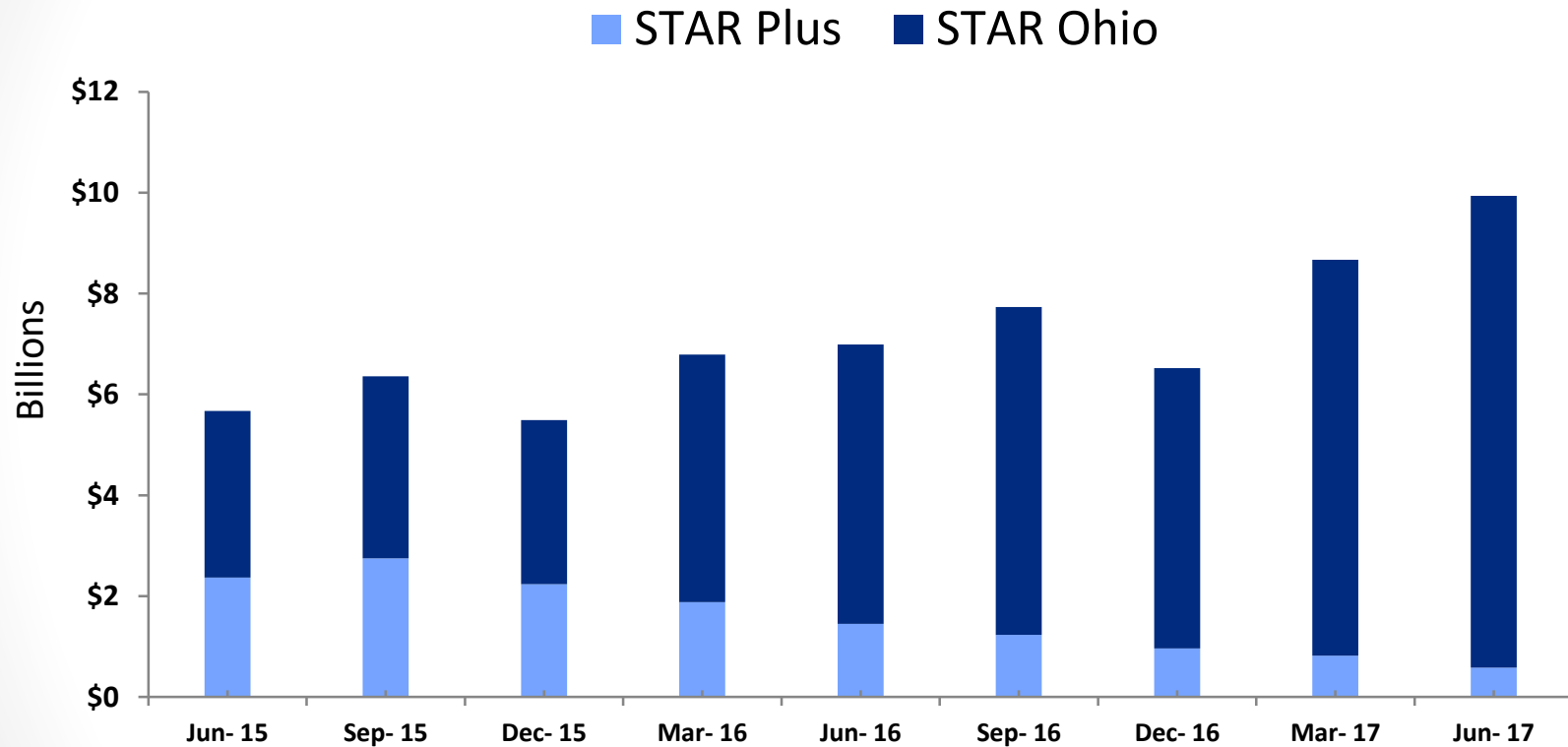
6/30/2017



■ Commercial Paper - 34% ■ Cash - 29%
■ Gov't Bond - 22% ■ Repo - 6%
■ Corporate Bond - 5% ■ Bank Deposit - 4%

Program Assets

Star Ohio vs Star Plus



Data as of 6/30/2017

Federal Reserve Outlook

Near Term Policy Outlook

- Fed expected to raise rates in 18 months
- One more rate hike likely in 2017

Longer Term Policy Outlook

- Janet Yellen and Board of Governors service TBD
- Further rate increases with expanding economy
- Balance sheet unwind

Driving Forces Behind Fed Policy

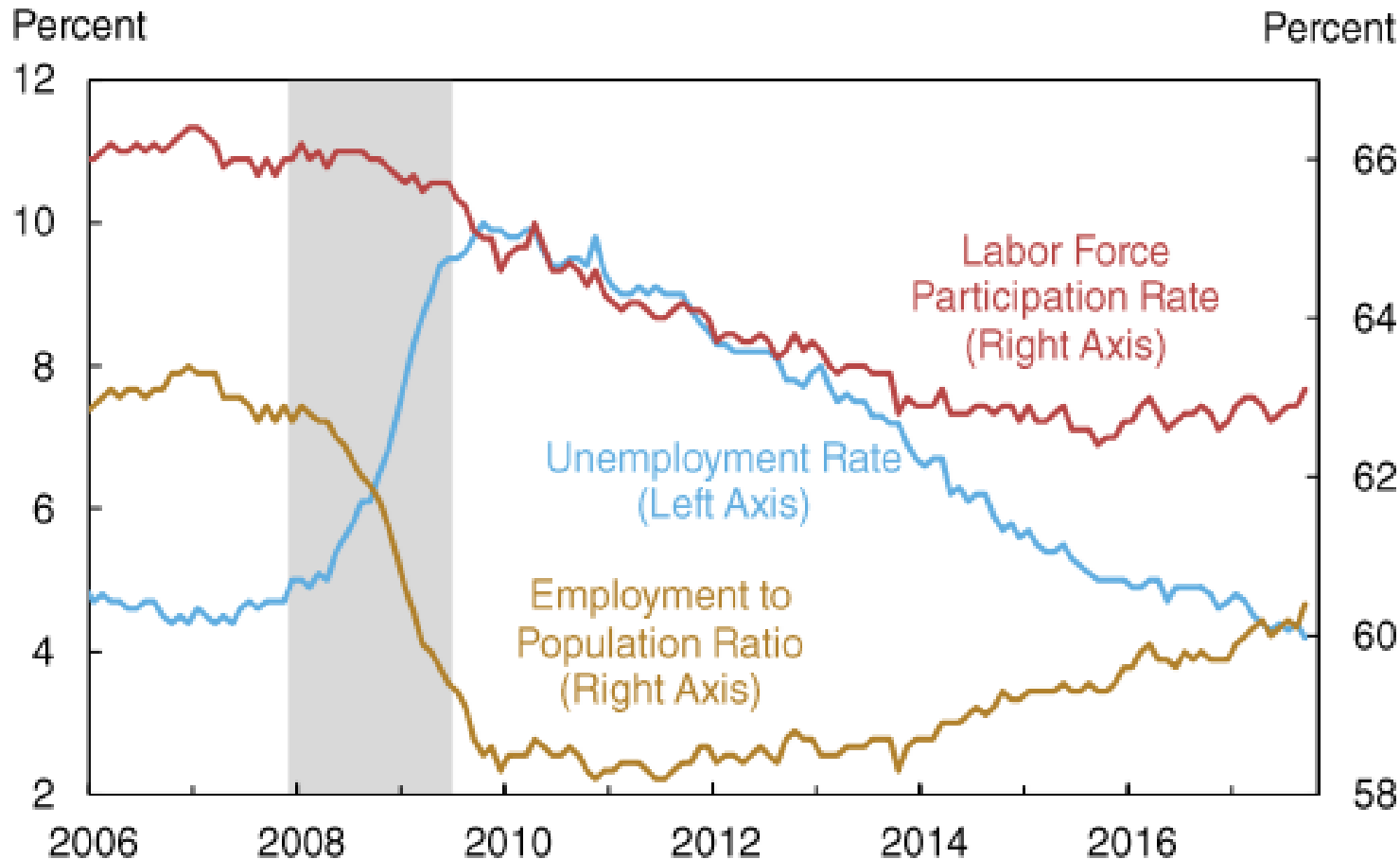
U.S. economy is betting on the consumer

- The labor market is nearing full employment (unemployment ~ 4.00%)
- Personal earnings and consumption growth holding up
- GDP growing at a moderate pace (2.00% target being achieved)

Geopolitical Concerns

- Protectionism
- Trade War
- Real War

Labor Market Indicators



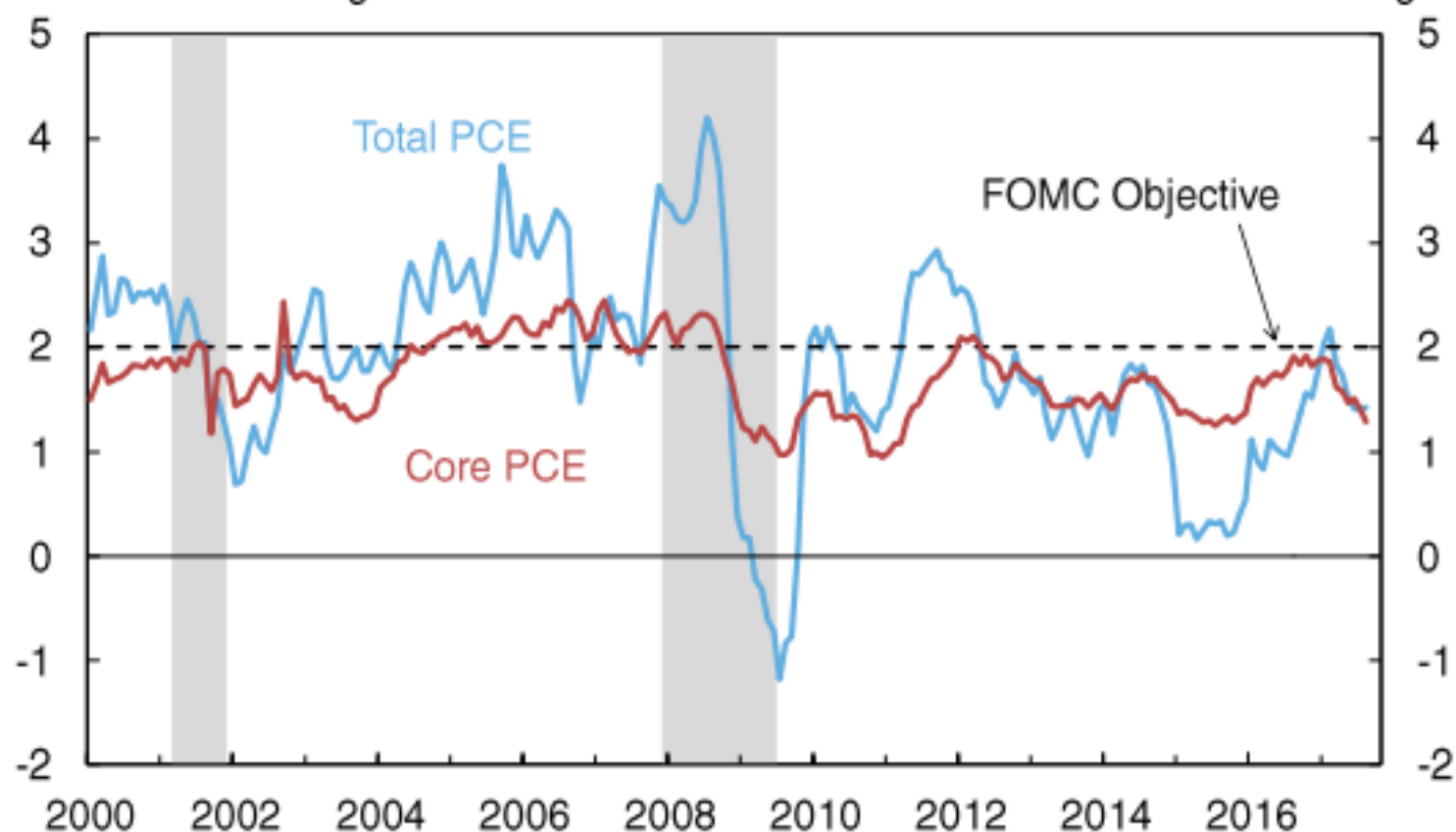
Source: Bureau of Labor Statistics
via Haver Analytics

Note: Shading shows NBER recessions.

PCE Deflator

12 Month % Change

12 Month % Change



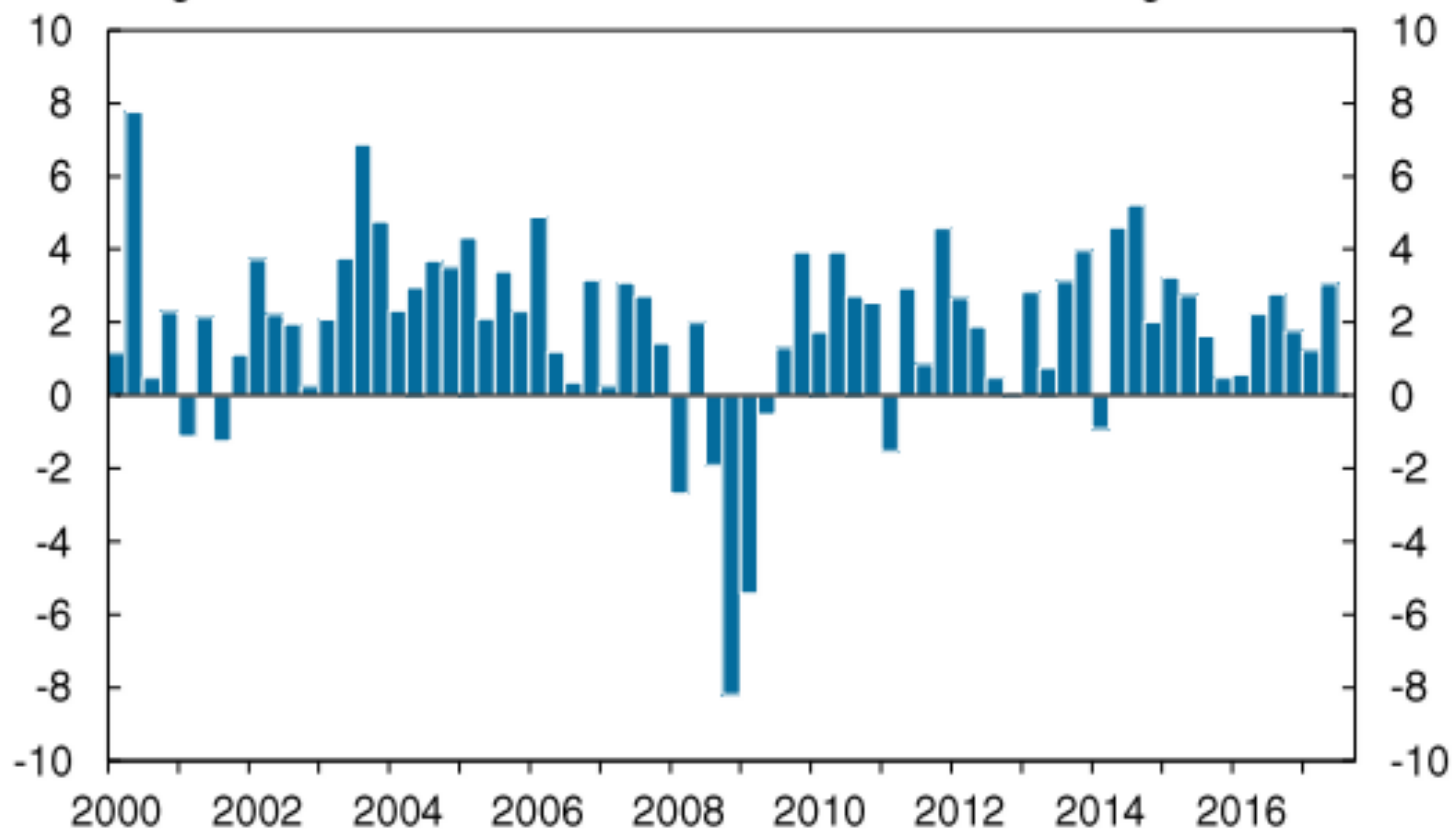
Source: Bureau of Economic Analysis
via Haver Analytics

Note: Shading shows NBER recessions.

GDP Growth

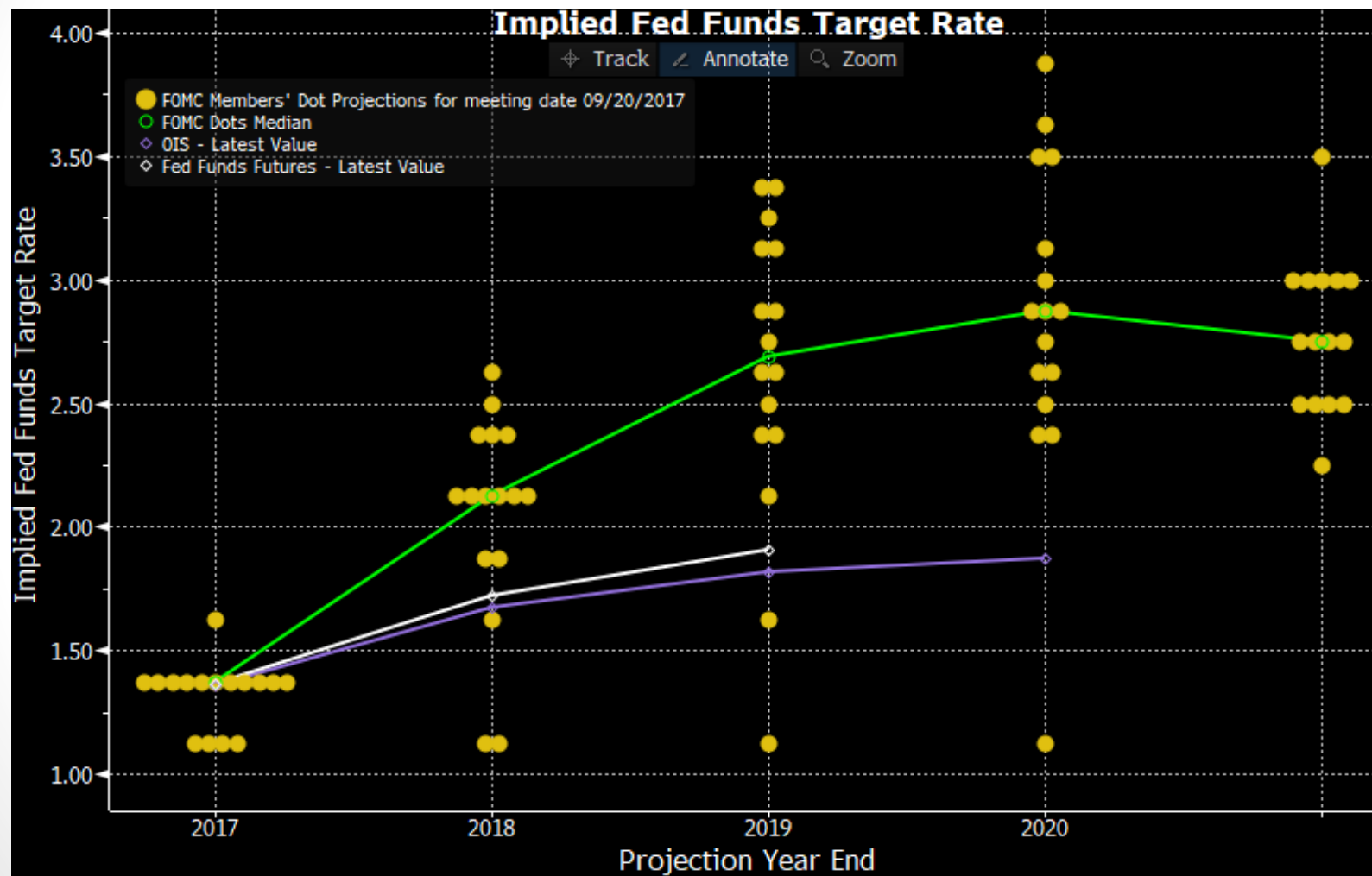
% Change – Annual Rate

% Change – Annual Rate



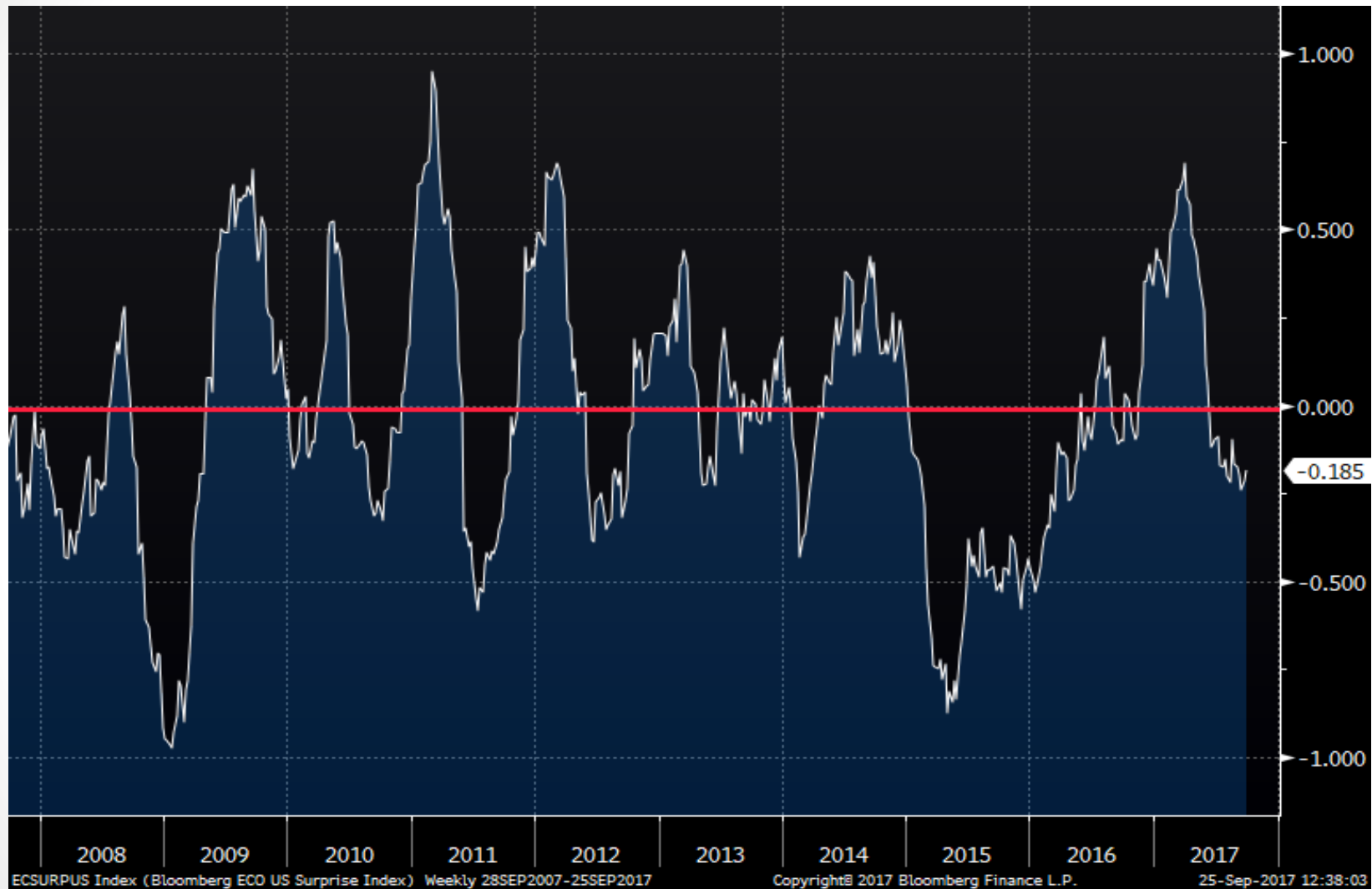
Source: Bureau of Economic Analysis via Haver Analytics

Pace of rate hikes



“Soft” vs. “Hard” data

Spread between “soft” consumer-sentiment and “hard” economic data



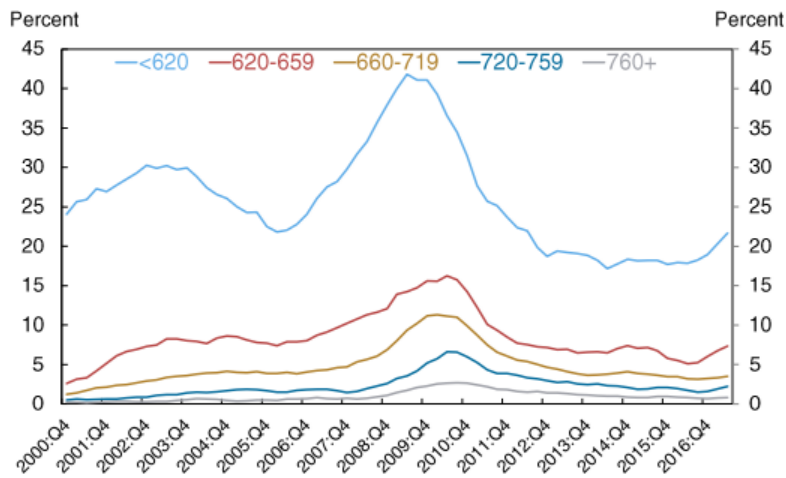
Bloomberg as of 9/25/2017

Other factors

- Student loan delinquencies continue to rise
- Subprime auto loans growth
- Credit card balance delinquencies
- “Two economies”?

Credit Card Balances: Flow into Serious Delinquency

By origination score

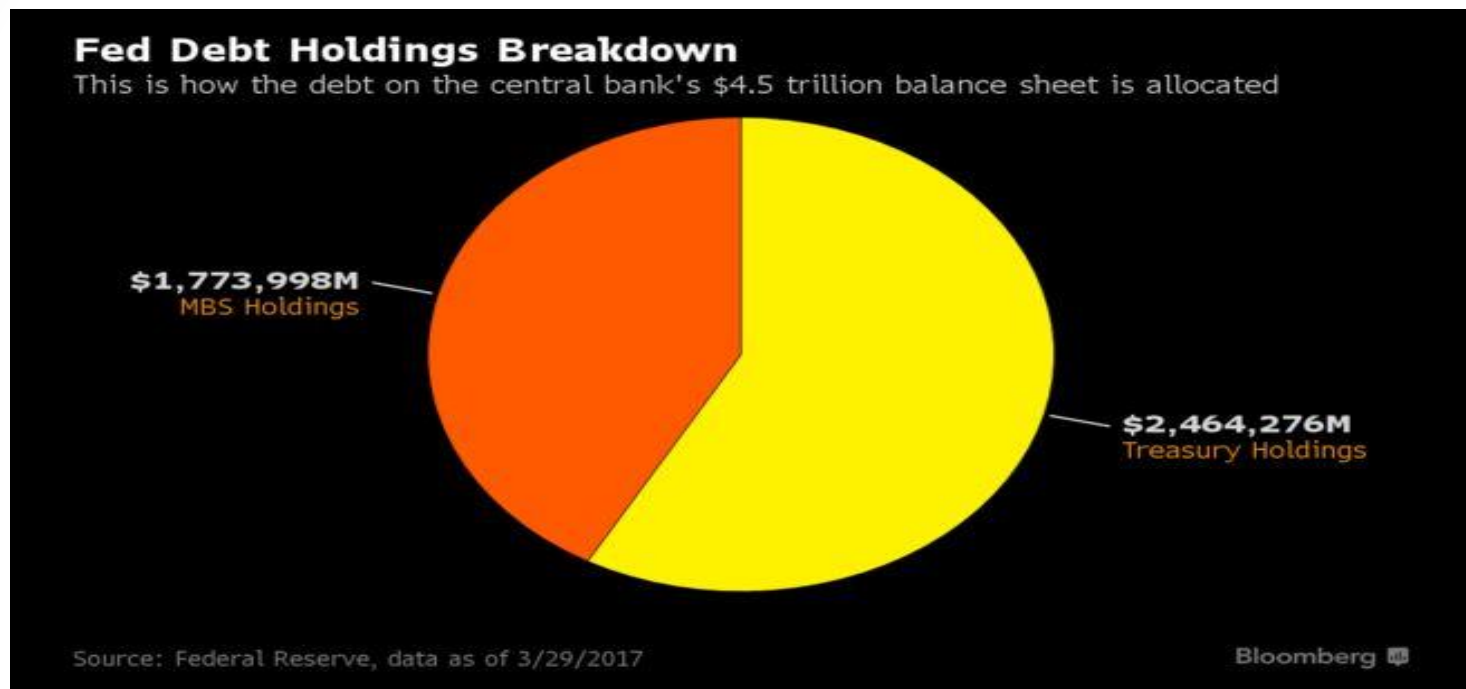


Source: New York Fed Consumer Credit Panel/Equifax Note: This is a 4-quarter moving sum.

Uptick in delinquency transitions for cards

- The flow into 90+ day delinquency for credit cards rates have increased for three consecutive quarters after several years of stability.
- The increase is primarily notable in borrowers with credit scores under 660; prime borrowers have been mostly unaffected.
- This increase is unusual given the low unemployment rate and generally strong economy. The recent loosening in underwriting may account for some of the difference as the composition of borrowers has somewhat shifted.

Fed Balance Sheet Unwinding



	Months 1-3	Months 4-6	Months 7-9	Months 10-12	Terminal Cap
U.S. Treasuries	6	12	18	24	30
Agency Debt and MBS	4	8	12	16	20

Source: Federal Open Market Committee.

Fed Chair Candidates

Janet Yellen

Current Fed
Chairwoman



Jerome Powell

Current Fed Governor



Gary Cohn

Chief Economic
Advisor



Kevin Warsh

Former Fed Governor



John Taylor

Stanford Professor of
Economics



Probability of
Appointment

6%

55%

2%

22%

14%

Impact on
Equities

Best

Positive

Positive

Moderately
Negative

Worst

Impact on Rates

Dovish

Dovish

Dovish

Hawkish

Hawkish

Strengths

Current Fed Chair /
Predictable

Current Fed Gov /
Predictable

Career in Banking

Former Fed
Governor

Taylor Rule

Weaknesses

Pro Regulation

Work Focused on
Regulation

Lack of Monetary
Policy Experience

Too Hawkish / No
"Fed Put"

Taylor Rule

Investing in Rising Rate Environment

Be Opportunistic

- Interest rate volatility will create moments of opportunity
- Keep cash on hand, but be willing to put it to work

Be Disciplined

- Following a laddered or barbell strategy will keep portfolio balanced
- Investing regularly will be smartest in the long run

Be Flexible

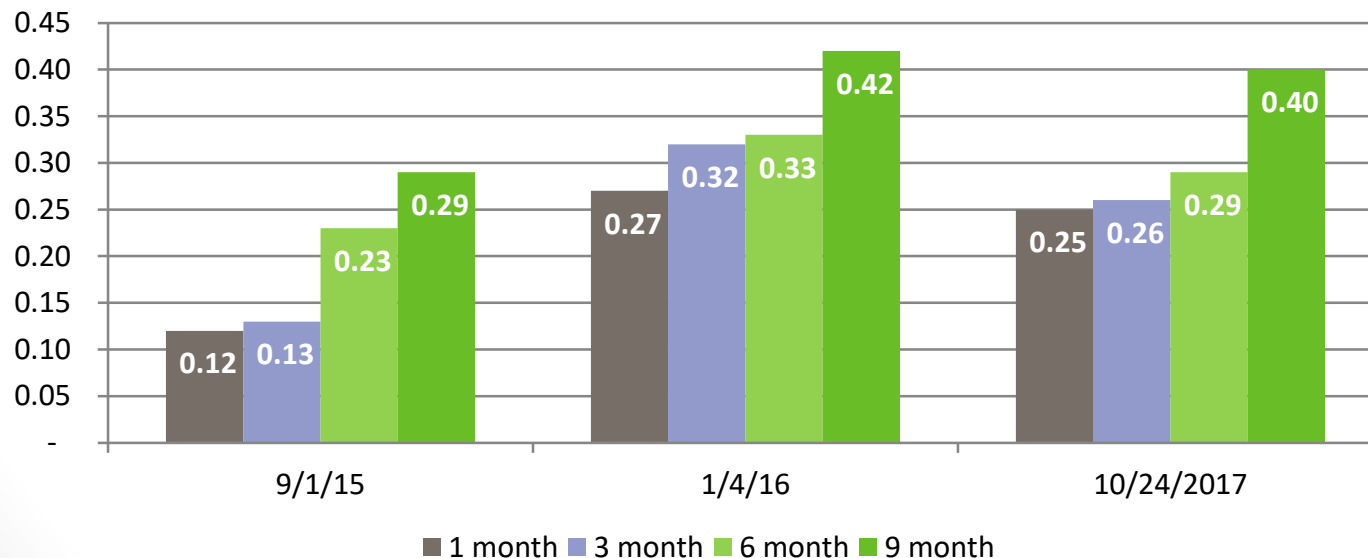
- Keep your paradigm adaptable to a changing environment
- New products and programs will come into favor while others will fade

Commercial Paper

Spreads Have Widened

- Money market reform resulted in changes to prime funds
- As a result, over \$900B in assets moved to government funds
- Commercial paper is a large component of prime funds
- Decreased demand resulted in increased commercial paper yields

Commercial Paper (A1/P1) vs. Agency Discount Notes

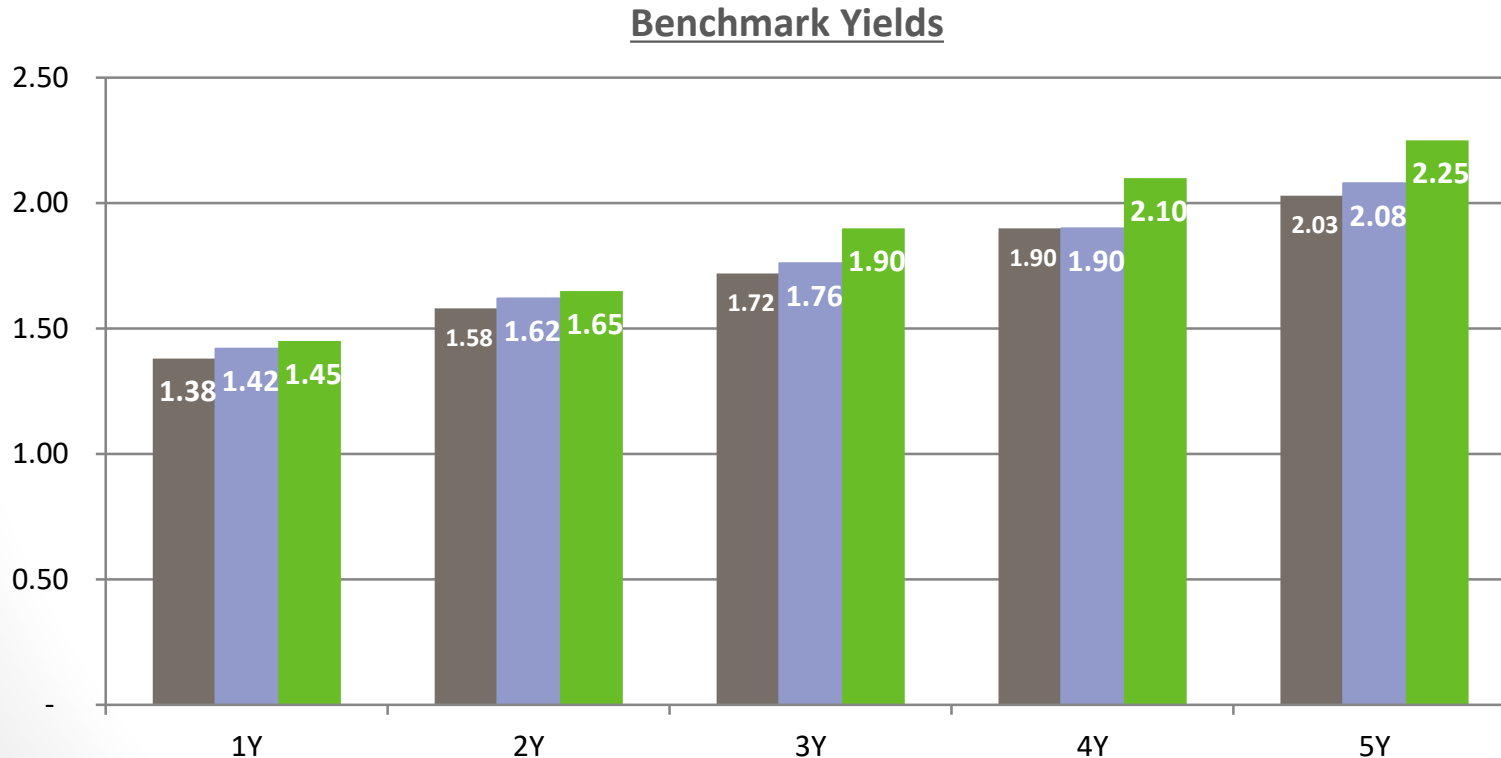


Source: Bloomberg
As of 10/24/2017

Certificates of Deposit

CD Yields are Highest Amongst Other Bullet Options

- As agency spreads have narrowed, CD spreads have maintained
- Negotiable CD rates are 15-30 bps higher than 2–5 year agency bullets



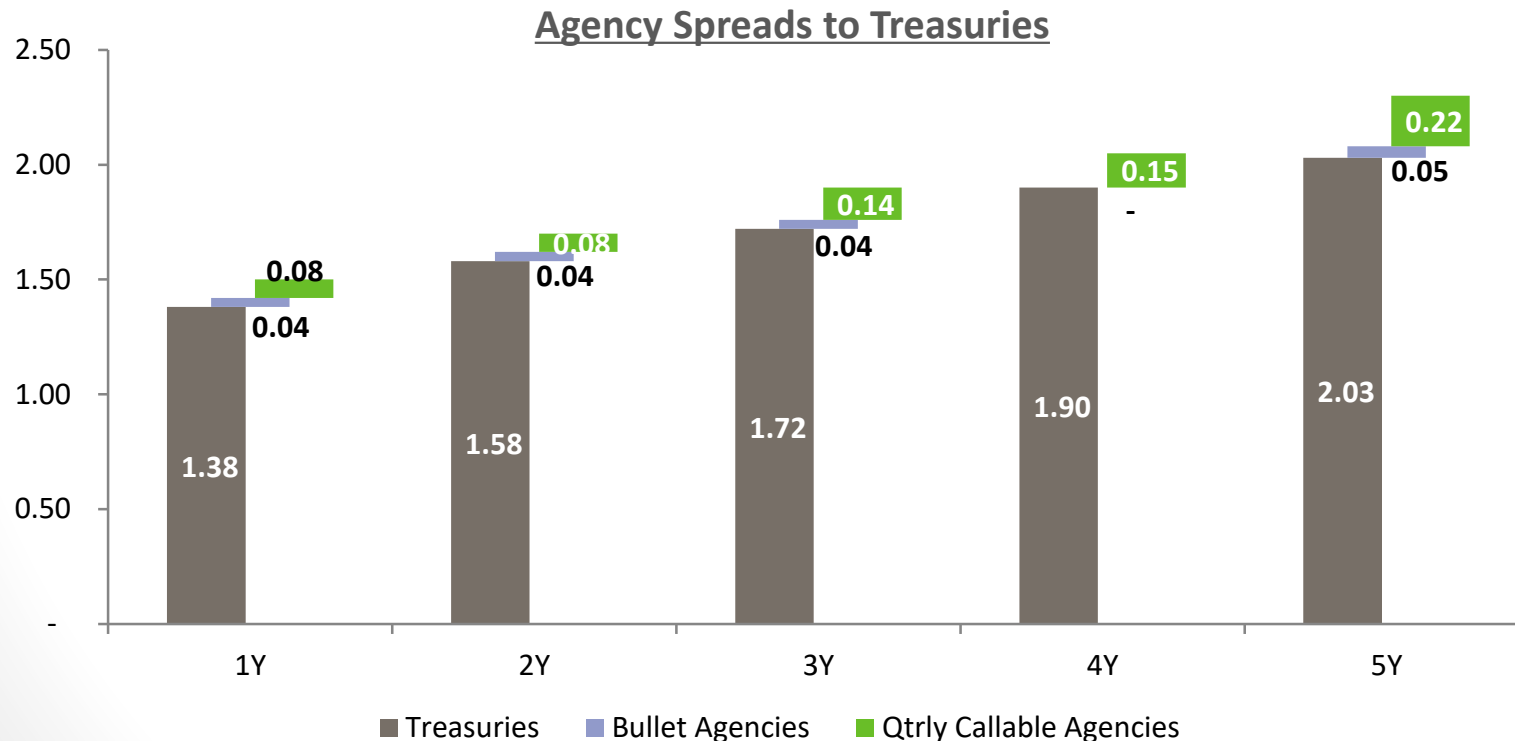
Source: Bloomberg
As of 10/24/2017

■ Treasuries ■ Agencies ■ CDs

Callable Agency Bonds

Provides Yield Enhancement Over Bullets

- Callables can achieve incremental yield compared to noncallable agencies
- Required liquidity is an important factor when deciding to add callable agency bonds to a portfolio.



Source: Bloomberg
As of 10/24/2017

That's all folks!

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