



JOSH MANDEL
STATE TREASURER OF OHIO



STAR Ohio Update

December 19, 2018

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STAR Ohio vs. STAR Plus

STAR Ohio

- Yield is based on portfolio of underlying securities
- Yield of securities is largely based on economic factors and expectations for interest rates, as well as credit risk
- As securities mature, the rate at which they can be reinvested depends on economic conditions at that time
- Current securities include: US Treasuries, US Government Agencies, Commercial Paper, Corporate Bonds, Repurchase Agreements, and Money Market Funds

STAR Plus

- Yield is based on rates paid by a network of federally insured banks
- Yield of bank deposit accounts is based upon each bank's current desire for deposits
- As banks demand for deposits increase, the bank will increase the rate it pays in order to attract deposits
- As banks demand for deposits decreases, the bank will decrease the rate it pays in order to push deposits out of the bank
- Economic outlook has less effect on bank rates



Program Reminders

STAR Ohio

- Please provide 24 hour notice of withdrawals/deposits of \$100 million or more

STAR Plus

- Up to \$50 million in FDIC insurance per participant
- Next day liquidity
- Withdrawals can be made any business day by 11am
- Funds available in account of record within 1 business day
- Tiered rate structure to provide additional yield



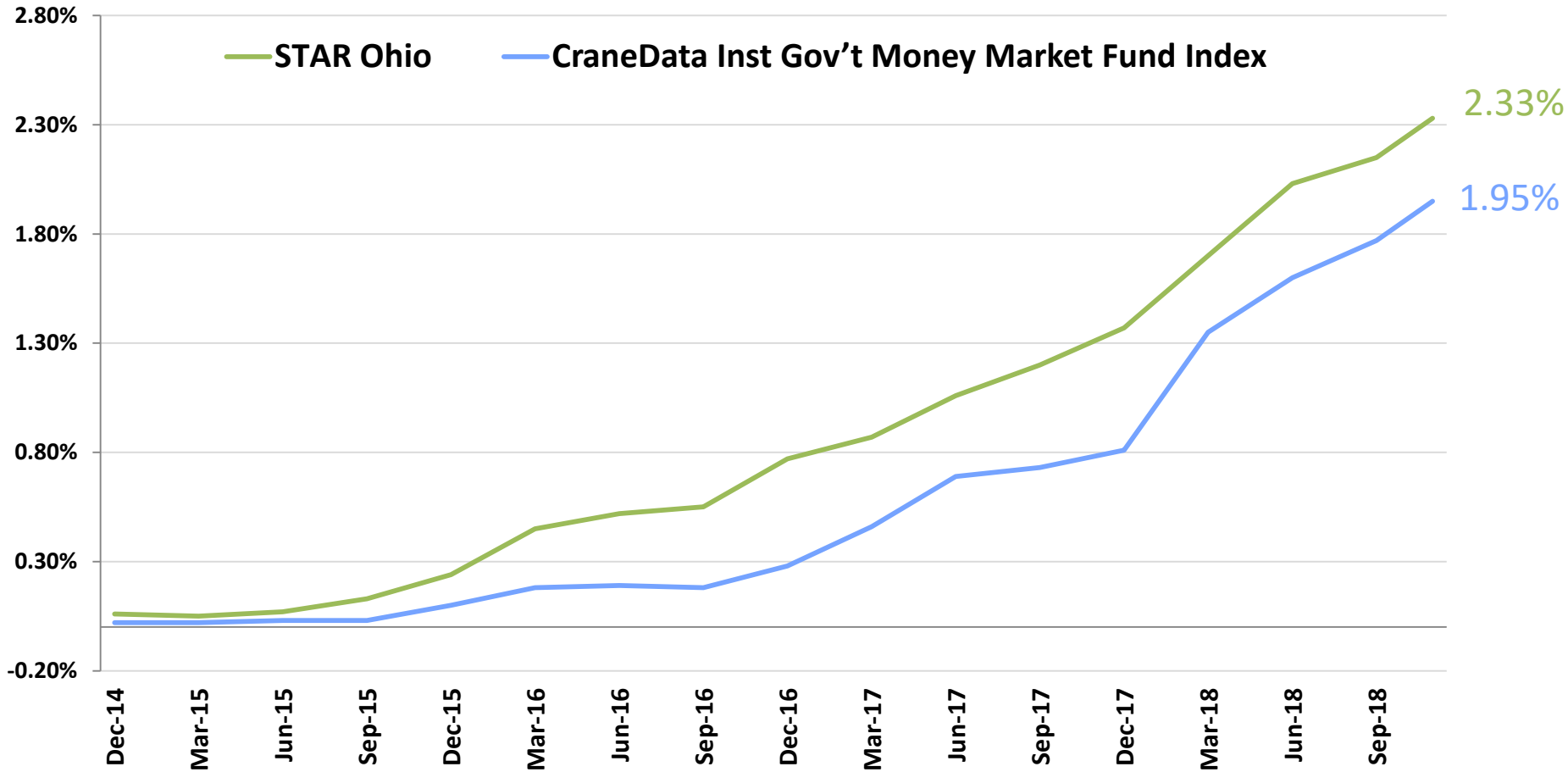
STAR Plus: Higher Yield Tier

- Higher Yielding Tier Structure
 - \$0 - \$2.5 million: Tier 1 Yield currently 2.35%
 - Over \$2.5 million: Tier 2 Yield currently 1.40%
 - Participants with balances in excess of \$2.5 million will earn a blended yield
- Continues to be FDIC-insured
- All STAR Plus clients will experience a significant yield increase
- Deposits in STAR Plus support the growth of local communities from small business to infrastructure to social programs



Yield Comparison

STAR Ohio vs. CraneData Inst Gov't Money Market Fund Index as of 11/30/18

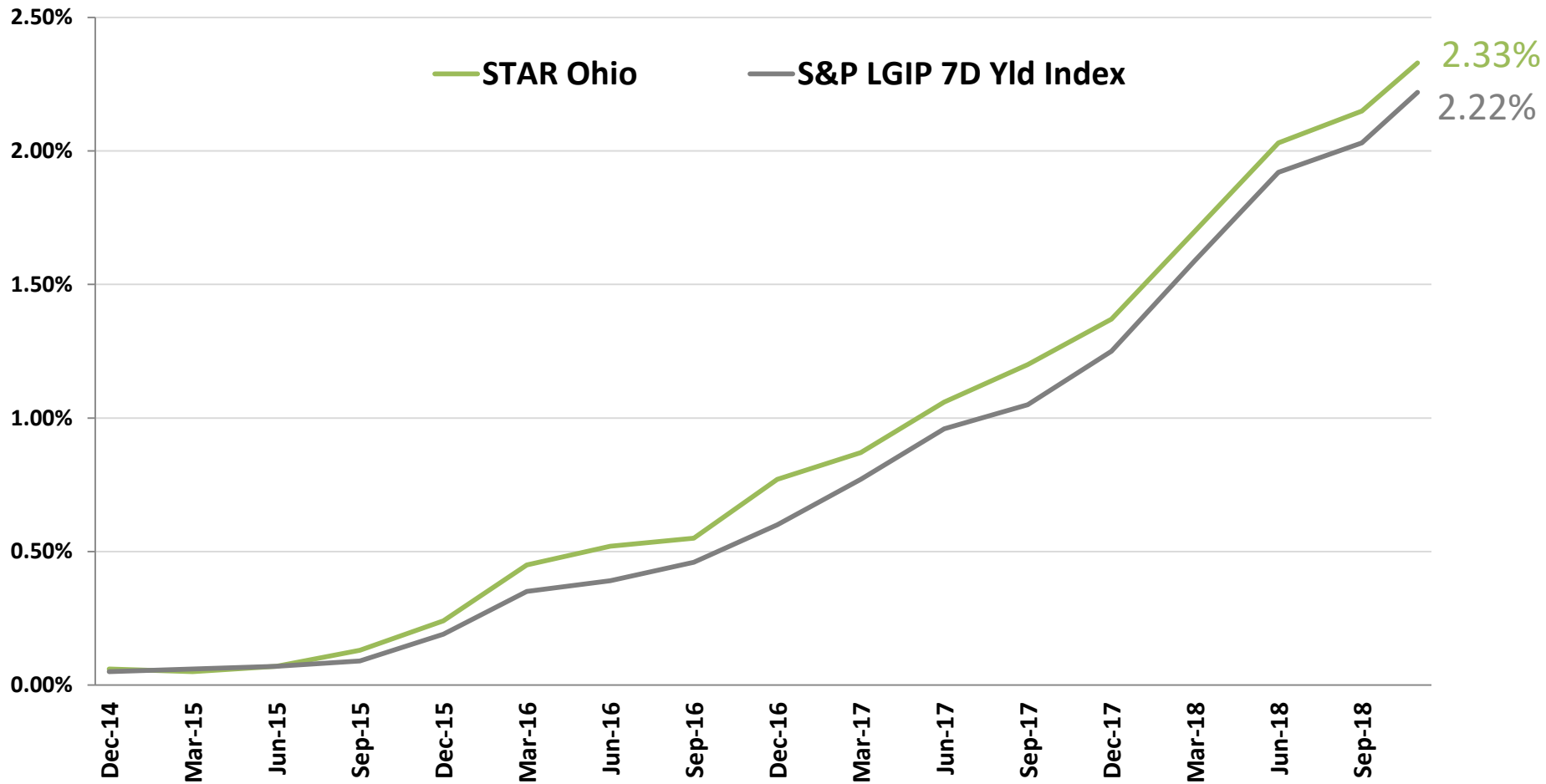


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Yield Comparison

STAR Ohio vs. S&P Average LGIP 7D Yield Index as of 11/30/18

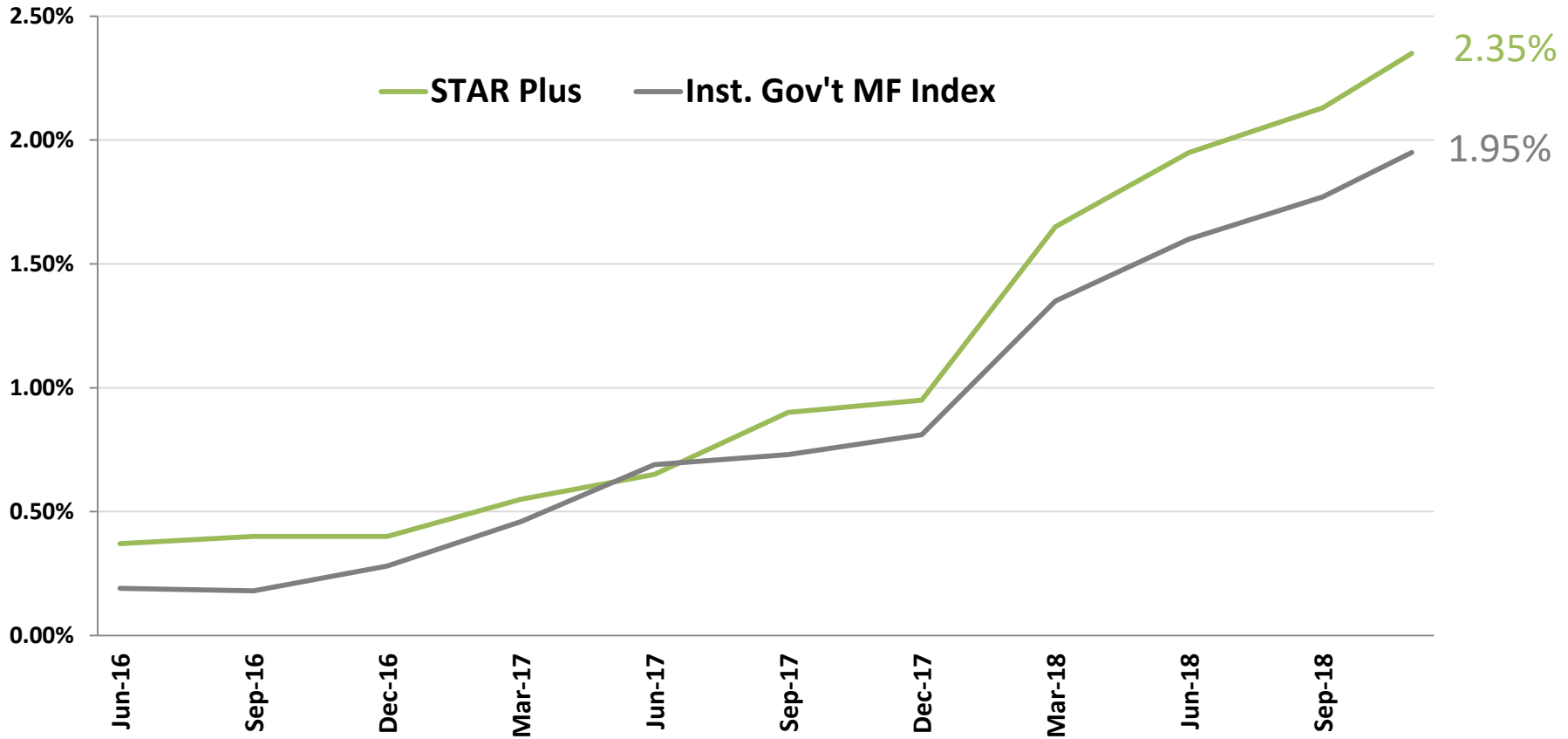


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Yield Comparison

STAR Plus vs. CraneData Inst Gov't Money Market Fund Index as of 11/30/18



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2018 Review

Economic Fundamentals

2018 Review

- Economic Growth
 - Highest Reported GDP since 2014
- Path of Federal Funds Interest Rate
 - Early 2018 vs Late 2018
- U.S. Housing Market
 - Slowing since December 2017
- Yield Curve Flattening/Inversion



2019 Outlook

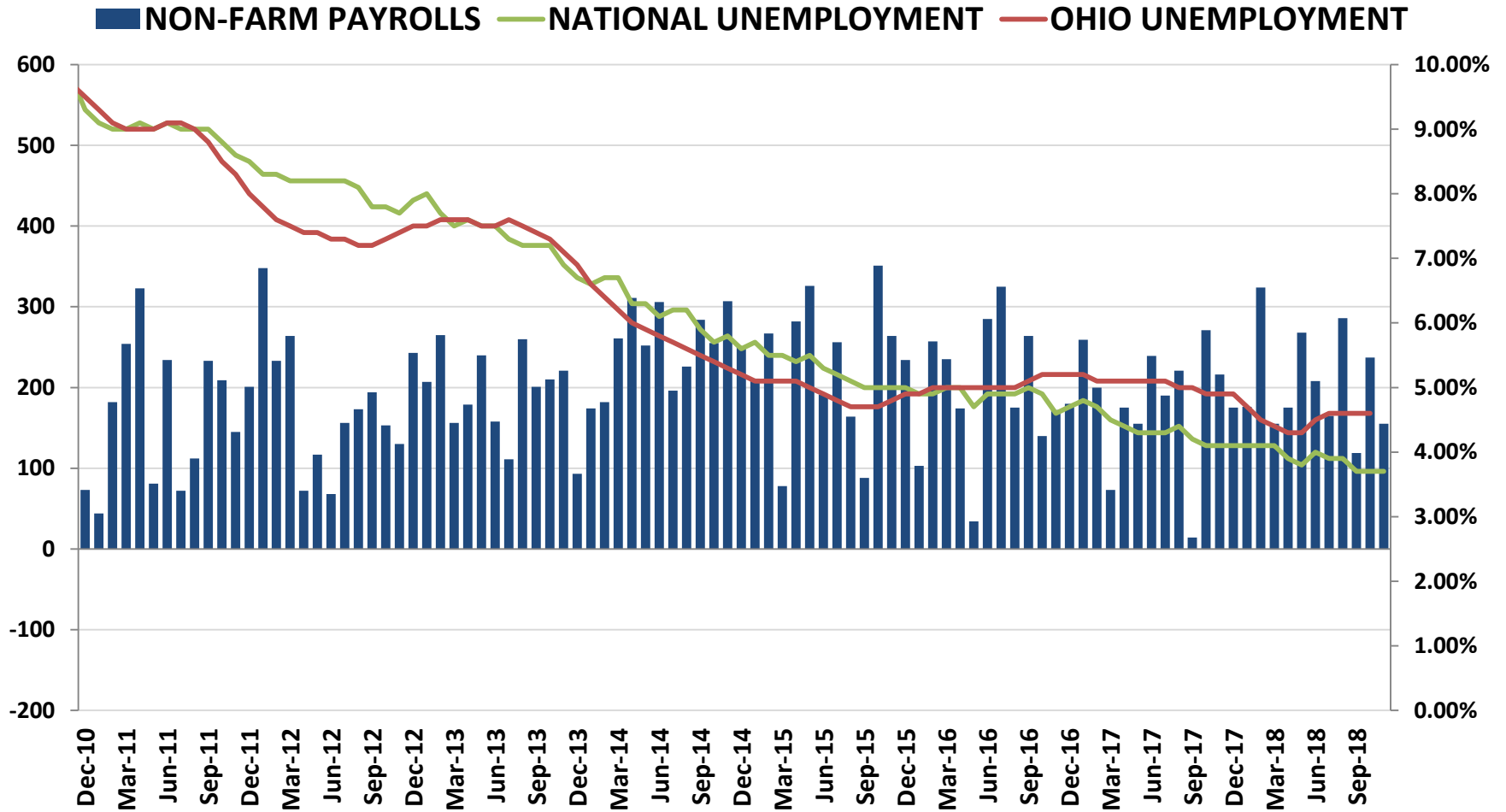
Economic Fundamentals

2019 Economic Outlook

- Economic Growth Persist?
- Path of Federal Funds Interest Rate
- Inflation
- Yield Curve Flattening/Inversion
- Odds of Recession
- Federal Reserve Balance Sheet Reduction

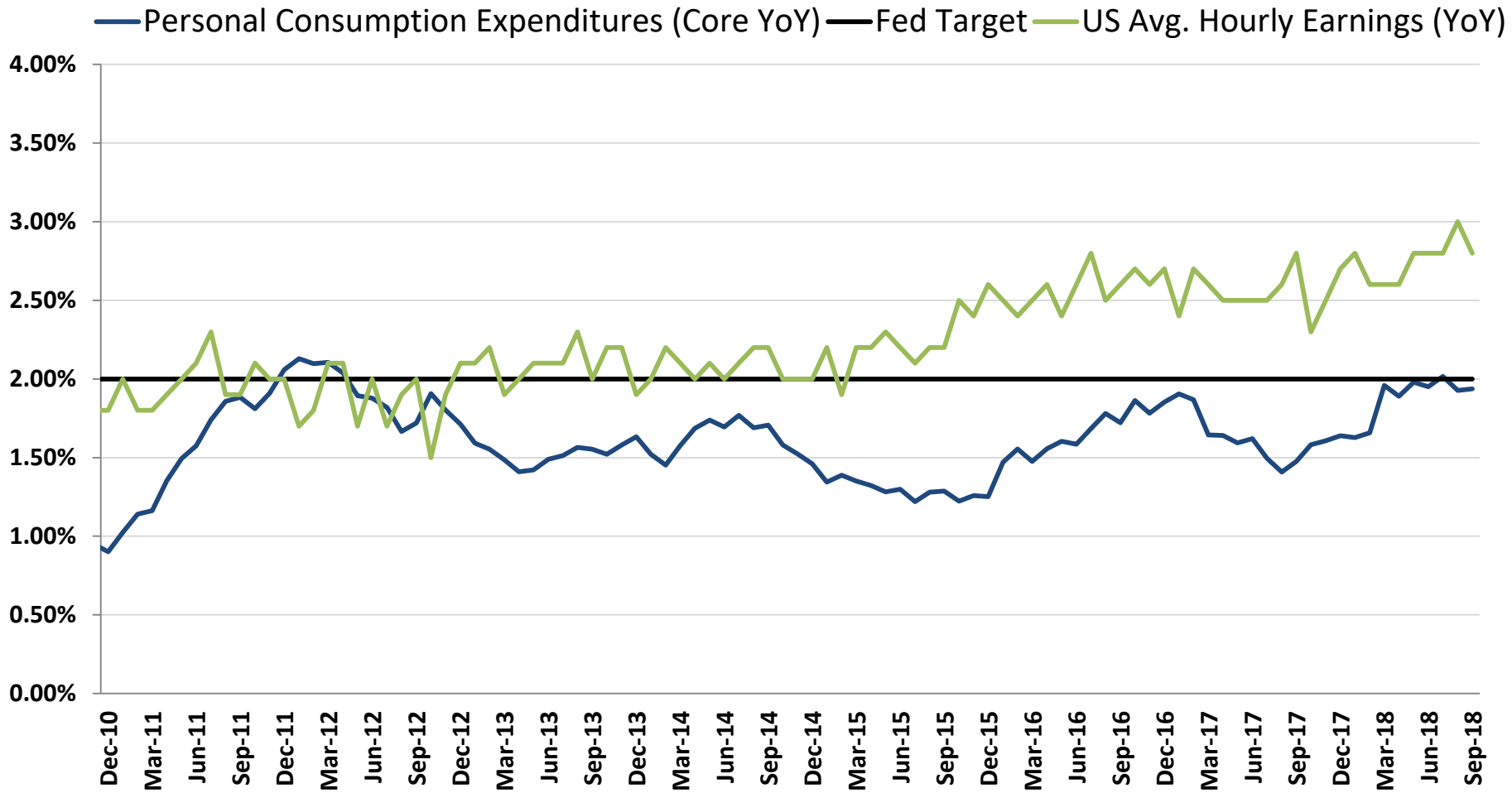


U.S. & Ohio Labor Market



Source: Bloomberg as of 12/12/2018

Inflation



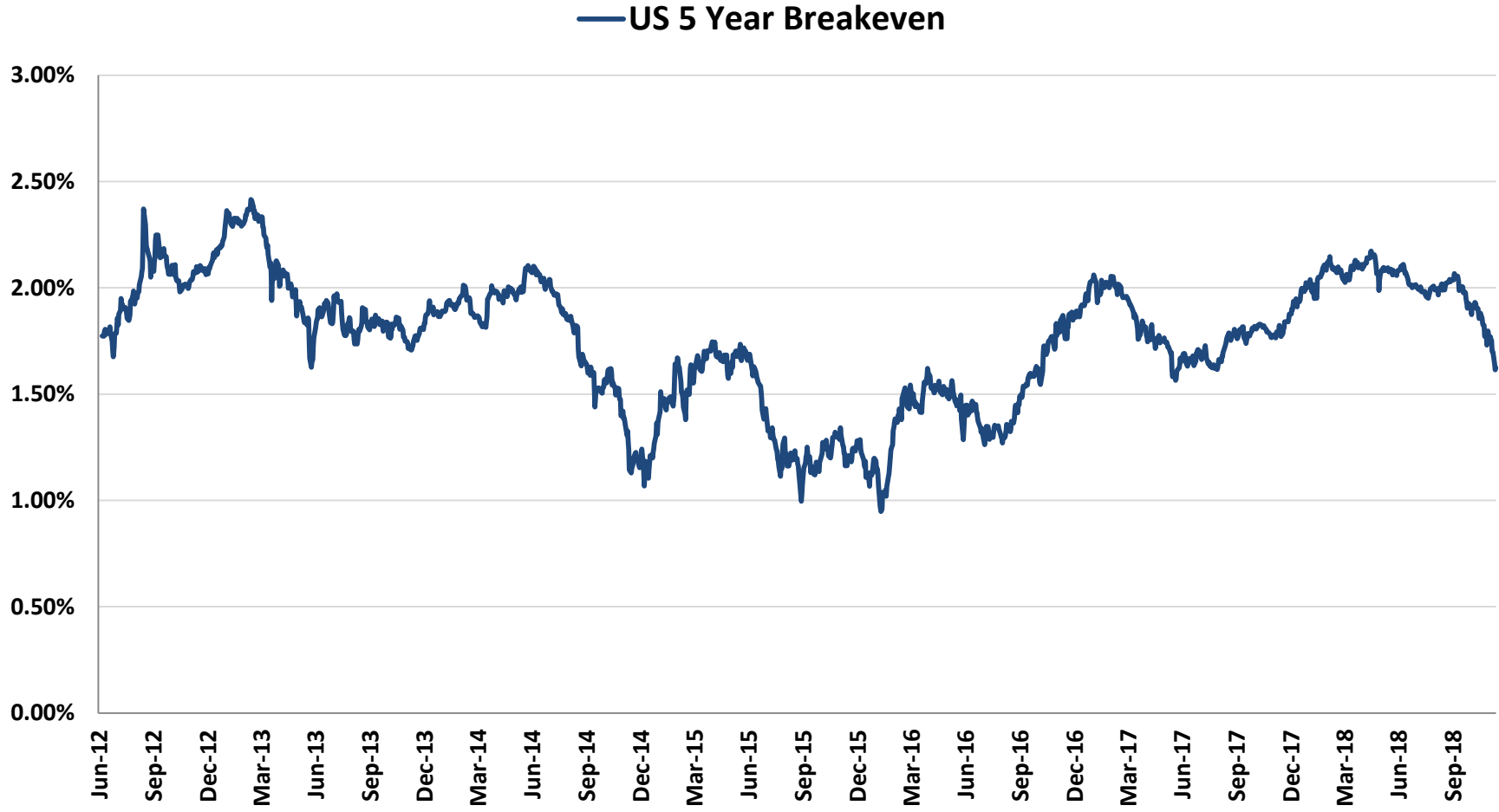
Source: Bloomberg as of 12/12/18



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Market Expectations of Inflation



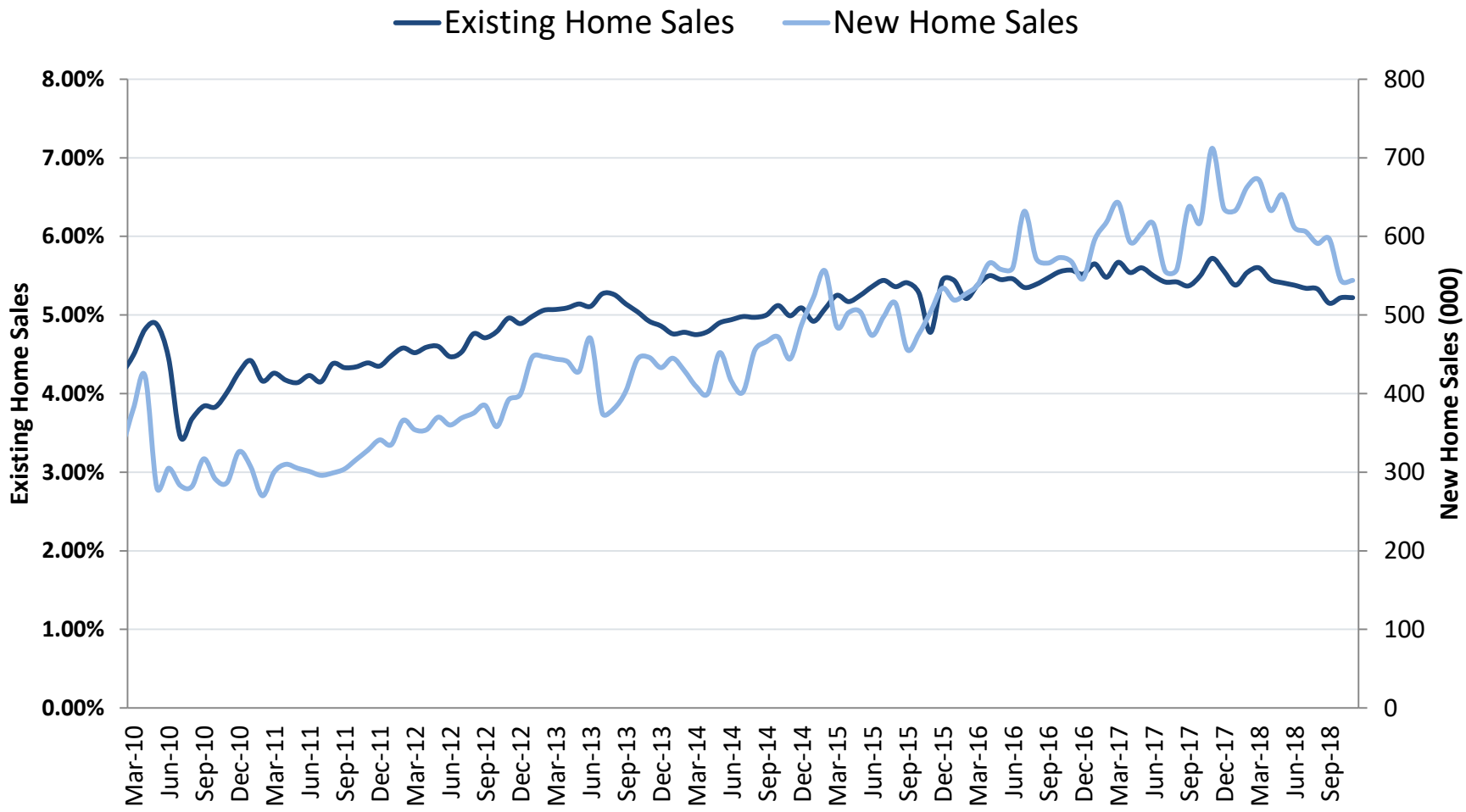
Source: Bloomberg as of 12/12/18



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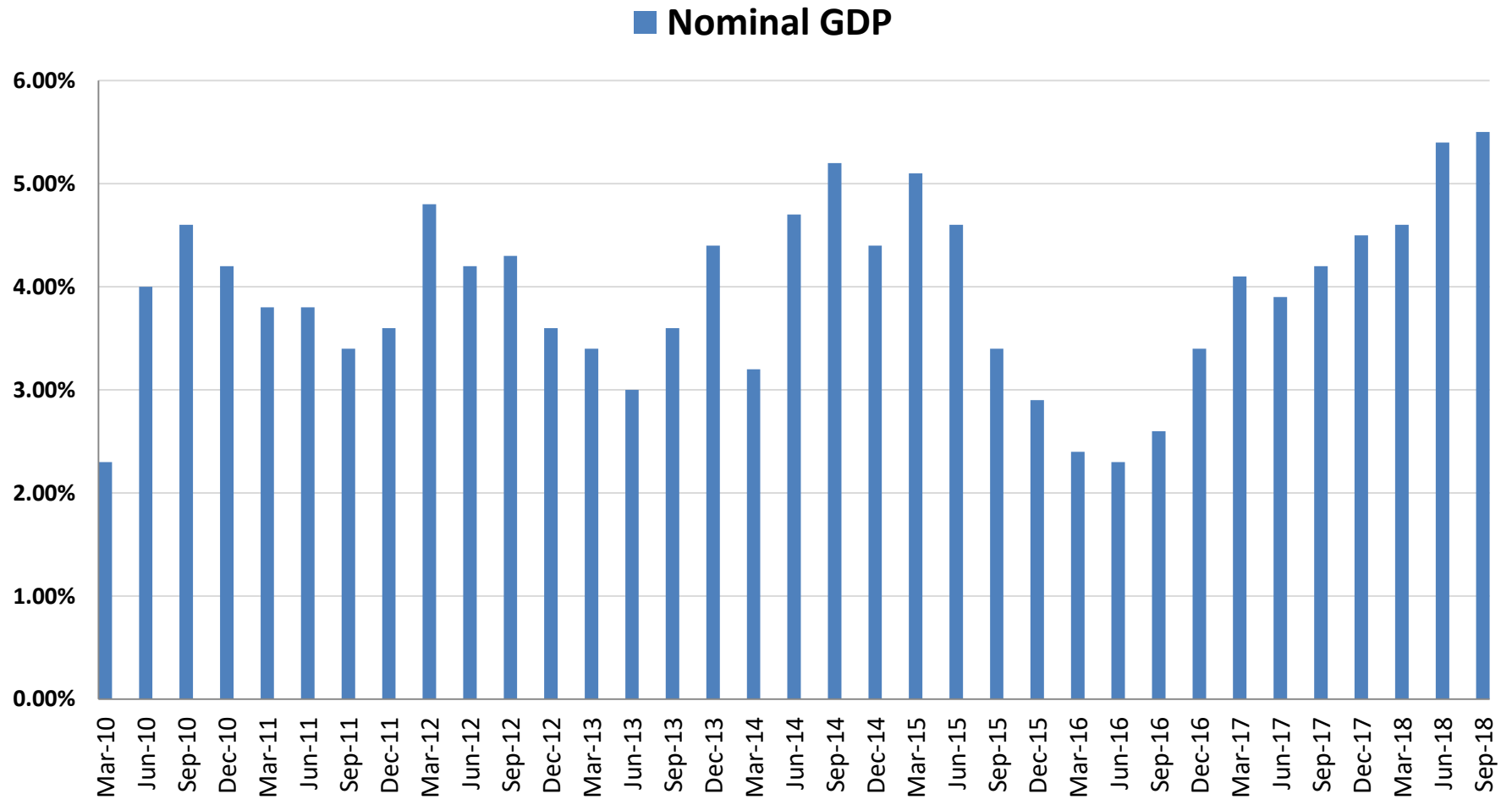
U.S. Home Sales



Source: U.S. Census Bureau, Natl. Assoc. of Realtors



Economic Growth Persist?



Source: Bureau of Economic Analysis

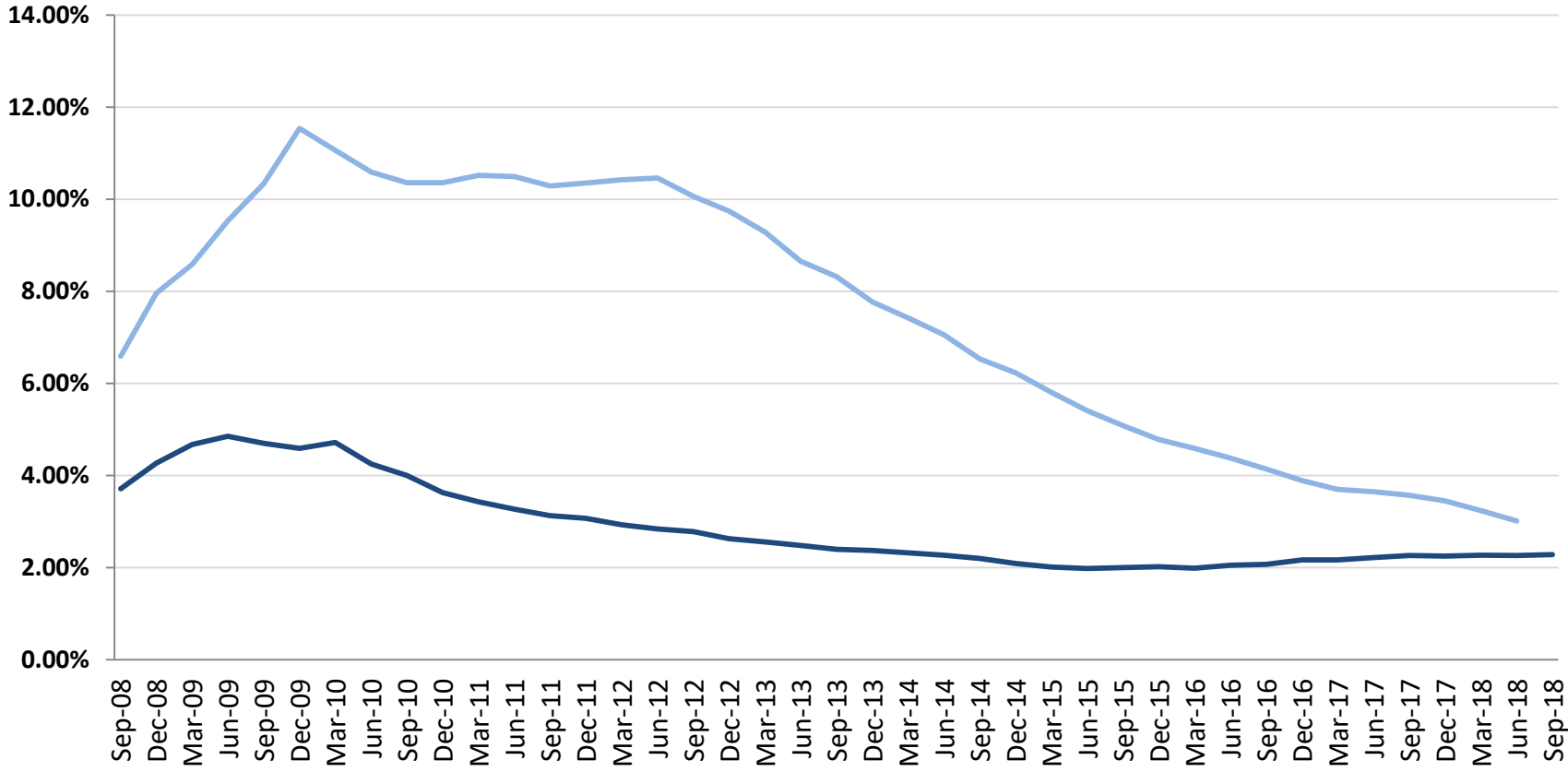


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Low Delinquency Rates (%)

— Consumer Loan Delinquency Rates
 — Residential Mortgage Delinquency Rates



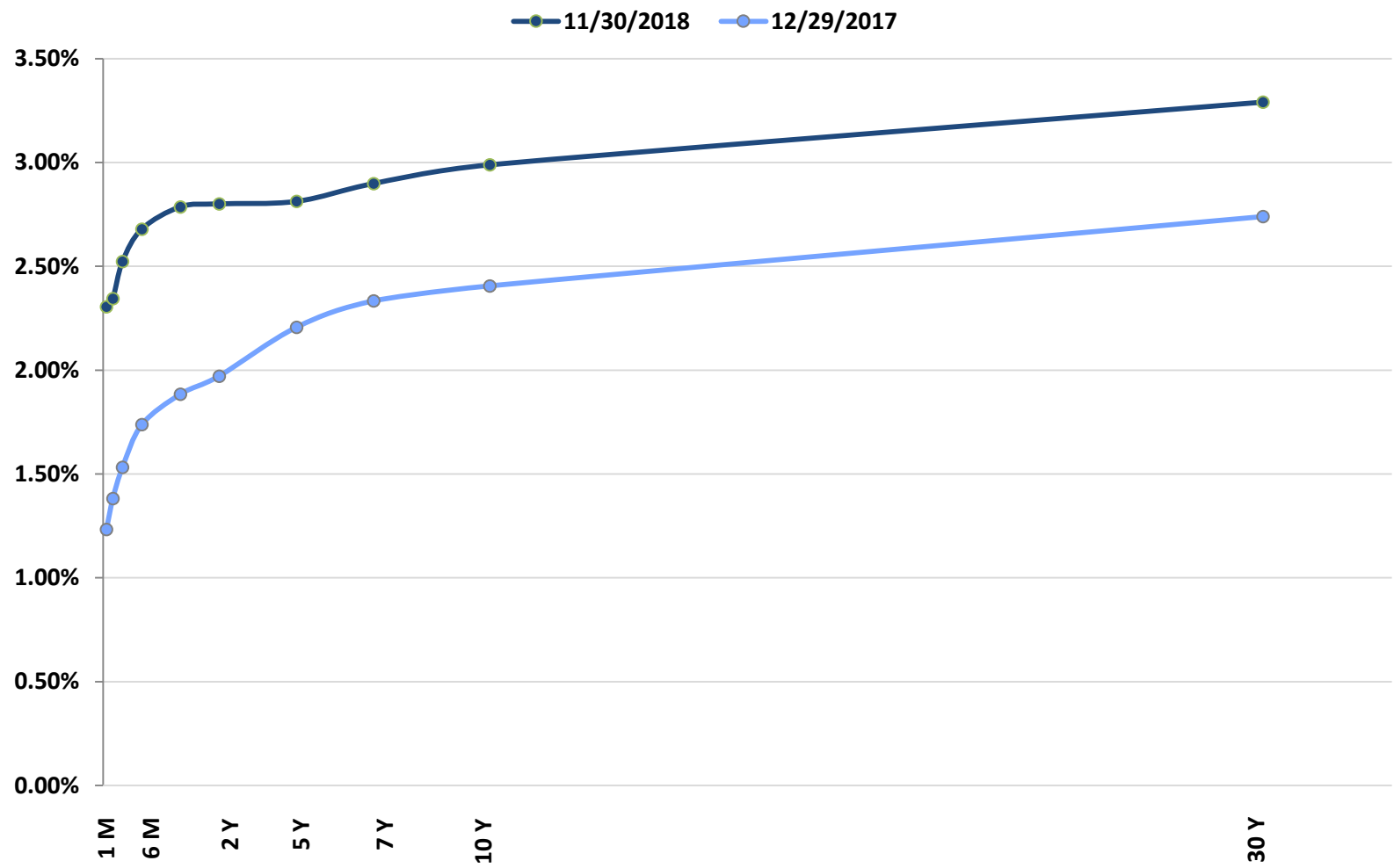
Source: Federal Reserve Bank of St. Louis



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Yield Curve Flattening



Source: Bloomberg as of 12/12/18



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Federal Reserve Policy

Near Term Policy Outlook

- FOMC increased Federal Funds Rate in September
- Market currently predicts a roughly 70% chance of next rate hike in December 2018
 - Current expectations mixed for 2019

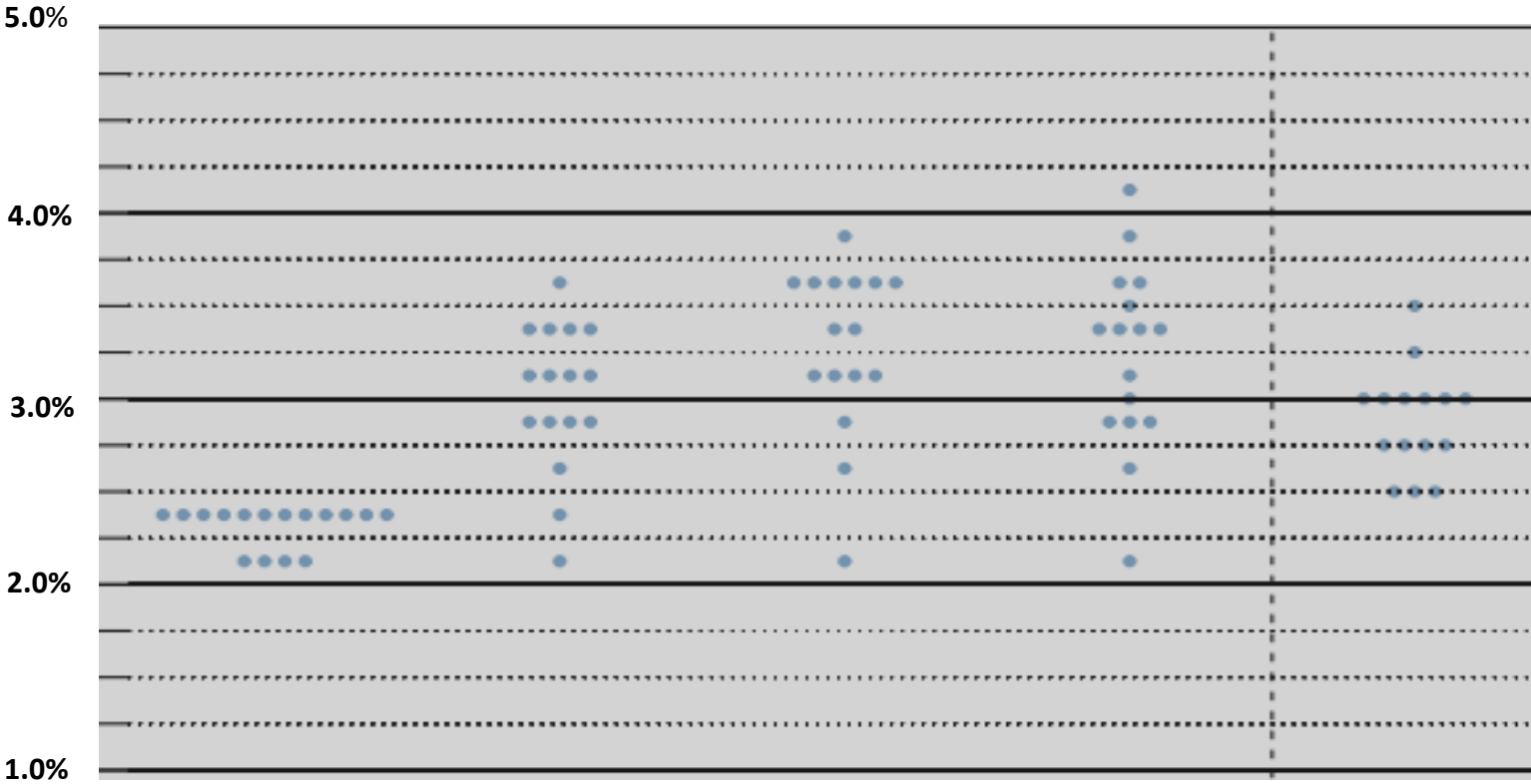
Longer Term Policy Outlook

- Prefer to manage inflation to a range going forward
- Powell is optimistic on U.S. labor market and economic growth



Rate path expectations

“Dot Plot” from September Meeting



Federal Reserve Policy Projections	2018 Estimate	2019 Estimate	2020 Estimate	2021 Estimate	Longer Term
FOMC Median Dots	2.38%	3.13%	3.38%	3.38%	3.00%
Federal Funds Futures	2.39%	2.94%	2.96%	N/A	N/A
Overnight Interest Rate Swaps	2.35%	2.83%	2.77%	2.66%	N/A



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What does this mean for STAR Ohio?

- **Expect yields in STAR Ohio to continue to increase**
 - Economists predicting further rate hike in 2018
- **Credit conditions continue to be favorable**
 - Portfolio should remain diversified in credit for near term
- **STAR Ohio portfolio will maintain ample liquidity**
 - The portfolio continues to maintain high levels of liquidity which allow STAR Ohio to take advantage of movements in interest rates



Questions?

Thank You

Thank you for your time today. If you have questions regarding the presentation, please feel free to contact us or the STAR Ohio Co-Administrator Public Funds Administrators (PFA).

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