CMSBO Regional Meeting:

Cash Management & Investing

December 14, 2018

Presented By:

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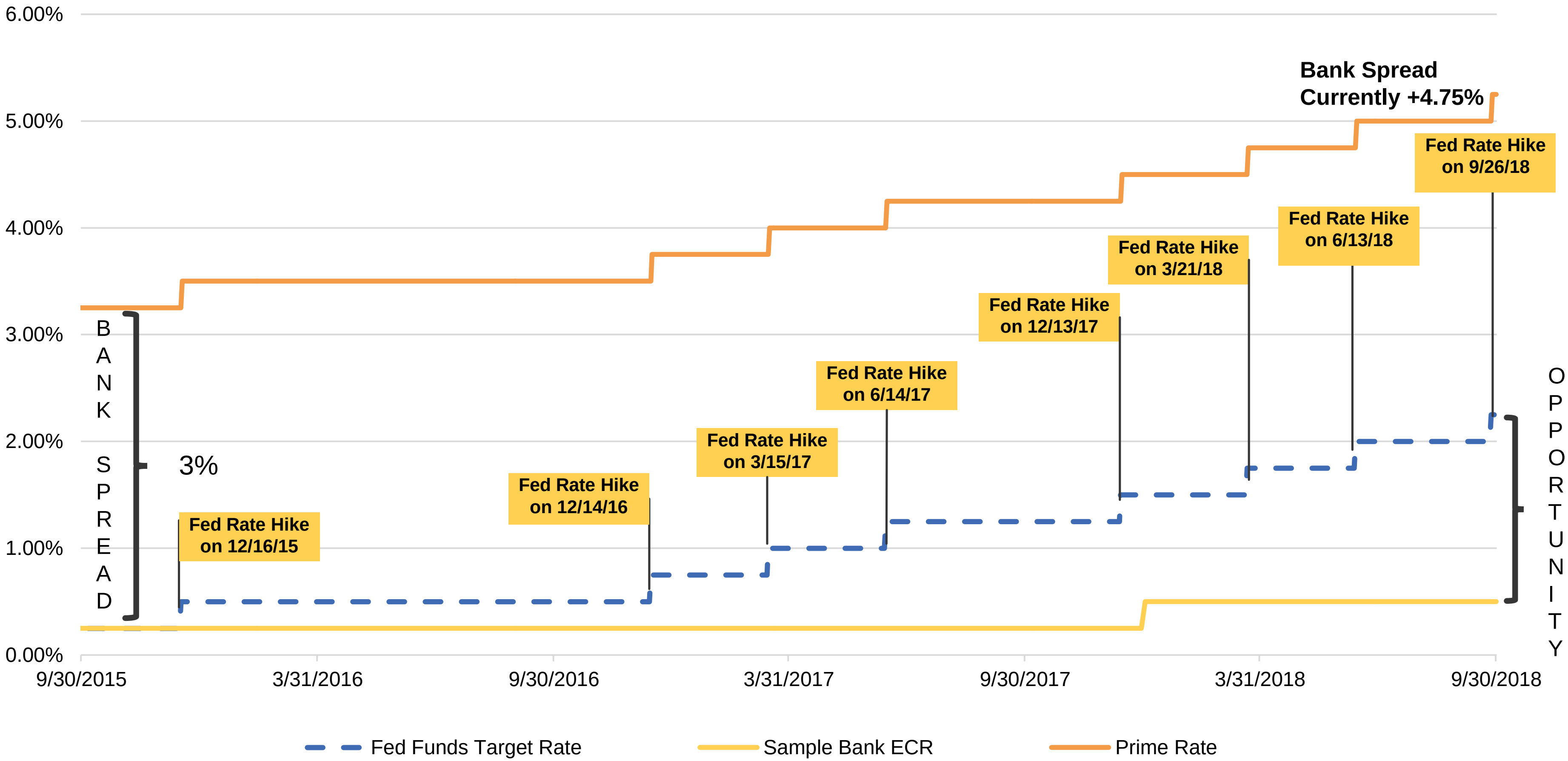
PFM Asset Management	Public Trust Advisors	Meeder Investment Management
Managing Director	Regional Director	Senior Vice President

Agenda

I. Bank Analysis Statement	Brian Quinn, PFM Asset Management, LLC
II. Liquidity Management	Kristin Angel, Public Trust Advisors
III. Investment Opportunities	Jason Headings, Meeder Investment Management

Bank Analysis Statement Review

Historical Rates – 8 rate hikes but bank rates stay flat



Source: Bloomberg

Earnings Credit – In store credit

RELATIONSHIP SUMMARY

BANK	ACCOUNT NUMBER	NAME	NET AVERAGE COLLECTED	EARNINGS CREDIT	BALANCE REQUIRED	ANALYZED CHARGES
[redacted]			0	0	1,826,703	525.49
			0	0	2,214,889	637.16
			503,599	144	1,477,554	425.05
			0	0	429,900	123.67
			15,906,967	4,575	7,857,545	2,260.39

AVERAGE BALANCE ON DEPOSIT

Average Negative Collected Balance	0.00
Average Positive Collected Balance	16,410,566.96
Investable Balance Available for Services	16,410,566.96

Bank ECR Math

Balance Required ECR Rate * 365 days in year / 30 days*

*$15,906,967 * .0035 ECR rate * 365 / 30 = $4,575*

IMPORTANT NOTE: EXCESS ECR DEFAULTS TO BANK

Interest Calculation

Average collected – Required Balance = Available Balance

$16,410,566 - 13,806,592 = $2,603,974

Available Balance Int Rate / 365 days in year / 30 days*

*$2,603,974 * .0035 int rate / 365 / 30 = $749 interest*

Opportunity Cost: Leaving Money at Bank

Description		Current	Reduce Bank Balances	Invest Excess in Money Market	Total
Average Collected		$16,410,566	$4,410,566	$12,000,000	$16,410,566
Less: Balance Req		(13,806,592)	0	0	
Available Balance		$2,603,974	$4,410,566	$12,000,000	$16,410,566
Yield / Earnings					
Earnings Credit	.35%	$3,972	$4,410,566	$12,000,000	$16,410,566
+Interest Earned	.35%	749	.35%	2.00%	1.56%
Total Earnings	.35%	$4,721	$1,269	19,726	$20,995
Projected Annual		$57,439	$15,437	240,000	$255,437
IMPACT		Net Yield is less than 1% and A credit rating	Lower bank balances to offset charges	Difference in Yield is Substantial	**Nearly $200k difference**

Summary of Benefits:

- Increased Interest earnings of $198k annually & do not give up liquidity
- Reduce credit risk associated with single bank depository (Footnote 3 – uninsured deposit)
- Increase diversification through AAAm rated fund

Note: Interest Earned assumed to be invested at Fed Funds (proxy for Government Money Market)
Fed Funds currently in 2.00-2.25% range as of 11/30/18

Banking Optimization

Strategies to Reduce Fees / Increase Efficiency

- Reduce bank balances to minimize “Deposit Charge”.
- Utilize Money Market Fund for State Aid Depository – move money to bank as needed to cover payroll and payables.
- Based on Cash flows, invest available funds to increase return

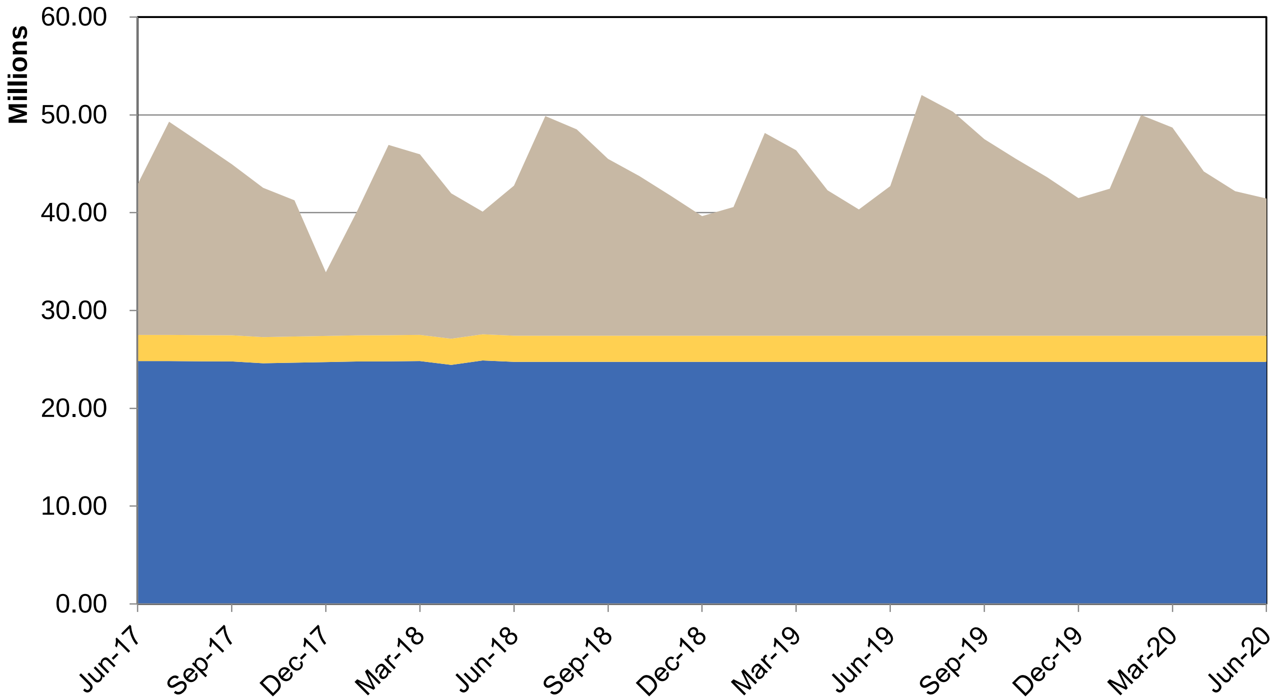
Utilize Bank for what they do best – transactions and data

- Look for opportunities to become more efficient / enhance internal controls through bank services (positive pay, reconciliation services, data exports, etc.)
- Evaluate usage of banking services to determine which services could be eliminated or replaced with more inexpensive services
- Review bank analysis statement with banker at least annually to eliminate unnecessary services and creepage.

Cash Flow Analysis Leads to Prudent Investment Decisions

- Excess liquidity in an investment management program can be an opportunity cost
- Detailed cash flow analysis can help prudently define fund balances that can be invested in intermediate – to longer-term investments at potentially higher yields.

Sample Cash Flow Analysis
June 2017 through June 2020



Overnight Liquidity
- **100% liquid**
- **Fully flexible**
- **Overnight**

Liquidity Surplus
- **Laddered investments to known upcoming cash flows**

Core Reserves
- **Intermediate and longer investments**
- **Potentially higher returns over time**
- **Employ active management tactics**

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Liquidity Management

Liquidity Vehicle Options:

In addition to bank accounts, there are several liquidity vehicles available for schools:

- Bank Sweep Accounts – nightly sweep of balances above peg. Typically, have a fee associated with sweep and must ensure it qualifies under School Code

- Government Money Market Fund – comprised of school code compliant investments.

- Local Government Investment Pool (LGIP) – specifically structured to meet Michigan public acts.

Benefits of Investing in Liquidity Vehicles

Safety

- Many Liquidity Vehicles require that the portfolio is rated by a national recognized statistical rating organization (NRSRO).
  - For example, a ‘AAAm’ rating by S&P Global Ratings is the highest money market rating that can be obtained.
- Liquidity Vehicles are managed in a manner that complies with state legislation and/or requirements.
  - Liquidity Vehicles are typically managed by investment professionals, many of whom have extensive experience managing public funds in the state of Michigan.
- Investment policies govern which types of investments are permitted.
  - Investment policy guidelines strive to limit risky investments resulting in conservative investing.
- Liquidity Vehicles are typically annually audited by an independent accounting firm.

Benefits of Investing in Liquidity Vehicles

Liquidity

- Assets are professionally managed in order to safely and conservatively optimize yields while providing for maximum liquidity.

- Many Liquidity Vehicles offer same-day availability of funds.
  - Often times without additional penalties or fees.

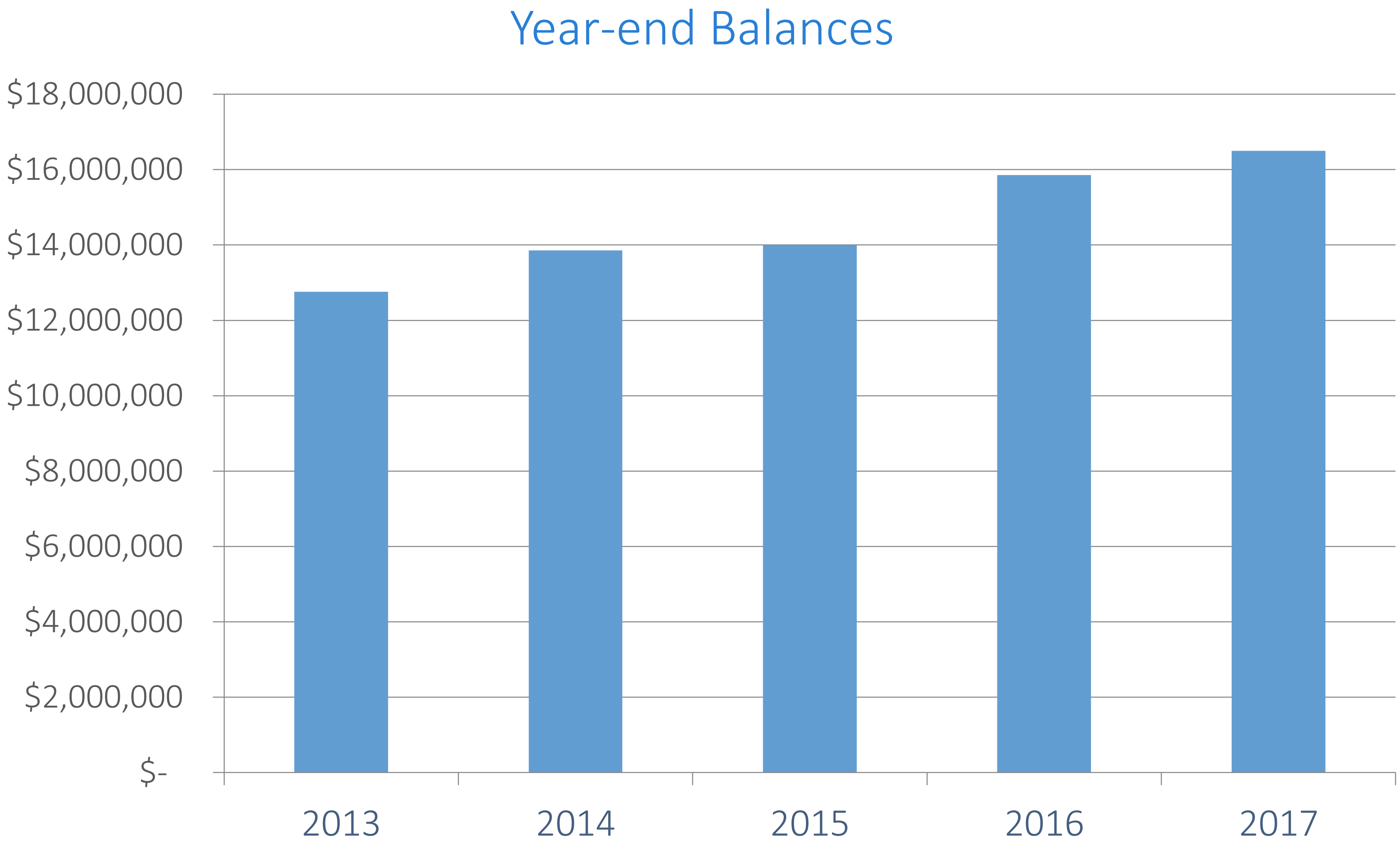
- Local government investment pool managers have an understanding of Michigan specific cash flows, tax cycles, state and federal payments, etc. This knowledge allows for the portfolio's best execution.

Yield

- Liquidity Vehicles offer economies of scale.
    - Even the smallest school district will earn the same interest as the largest county.
- Competitive yields often correlated to Fed interest rate raises.
- Interest is earned on a daily basis.
- Most LGIPs have very reasonable fees and yields are typically quoted net of fees.

Cash vs. Core

CASH VS. CORE



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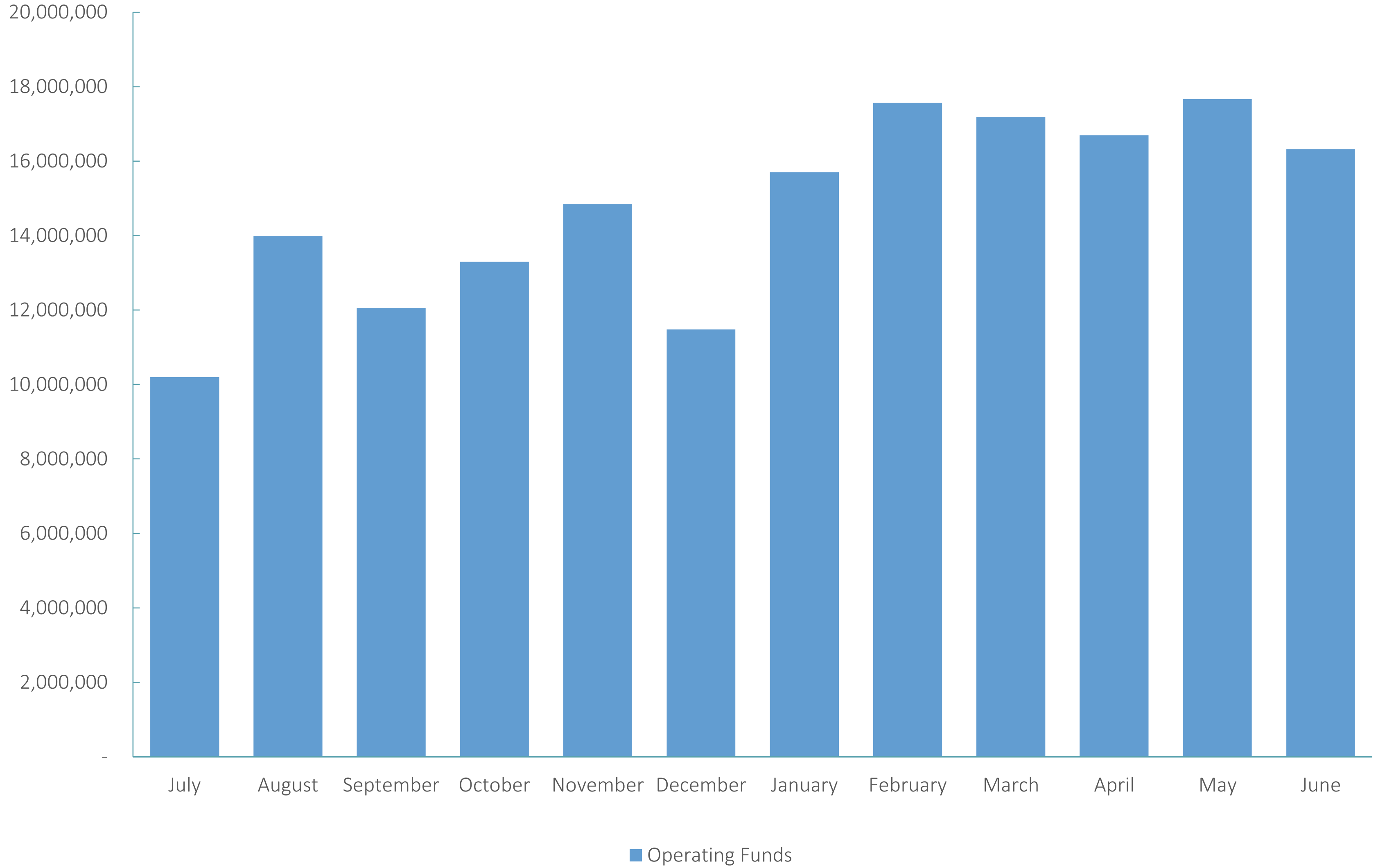
CASH VS. CORE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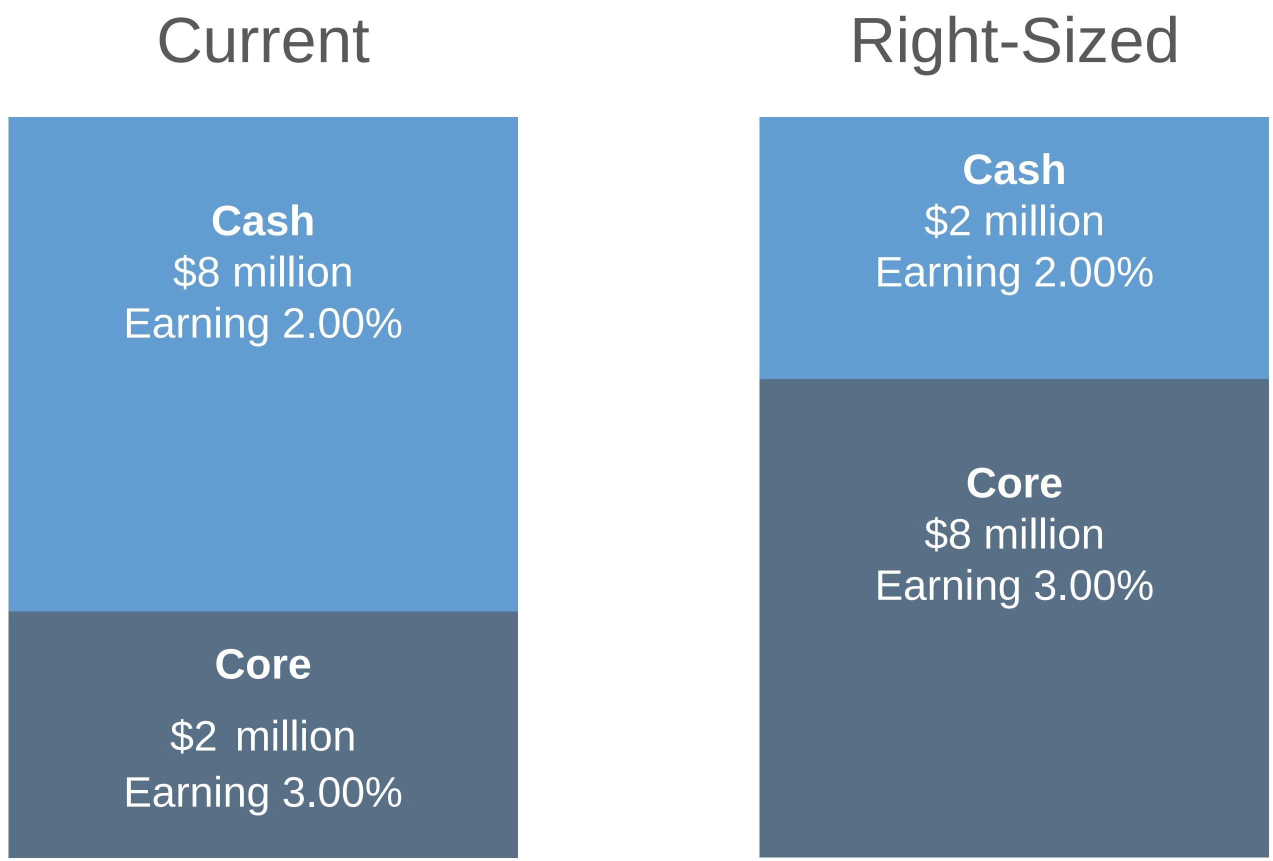
March
April
May
June
Operating Funds

CASH VS. CORE



Projected Additional Interest Income of $60,000

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FOMC STATEMENT **HIGHLIGHTS**

September 2018

For the third time this year; the Committee voted to raise the fed funds target range to 2.00% -2.25%

The decision to raise at the September meeting was a unanimous decision in favor of the rate hike

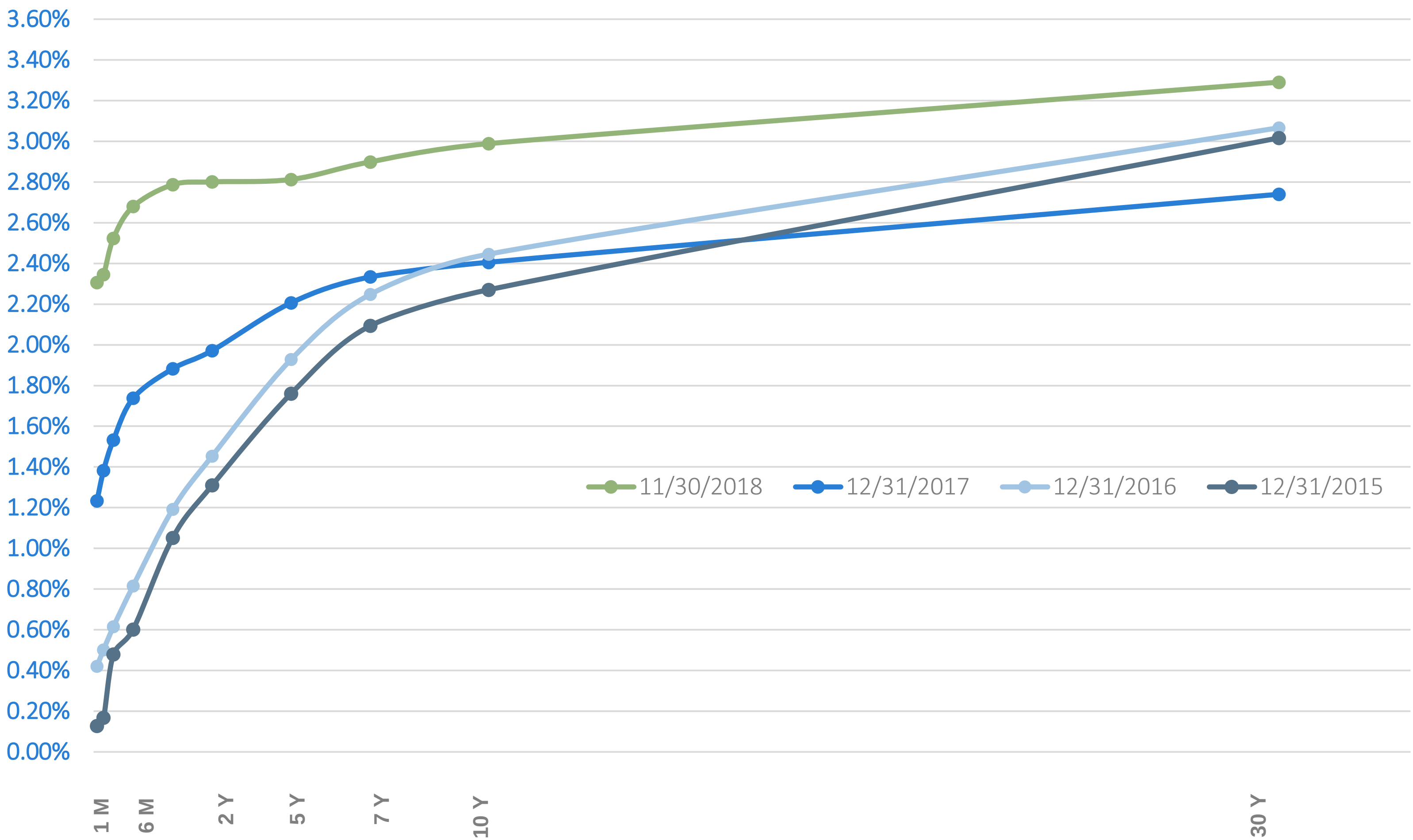
Inflation remains near 2 percent while longer-term inflation expectations are little changed

“Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability.”

Effective in October, the monthly pace of shrinking the balance sheet hit the maximum of $50 billion per month

“Gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity and strong labor market conditions.”

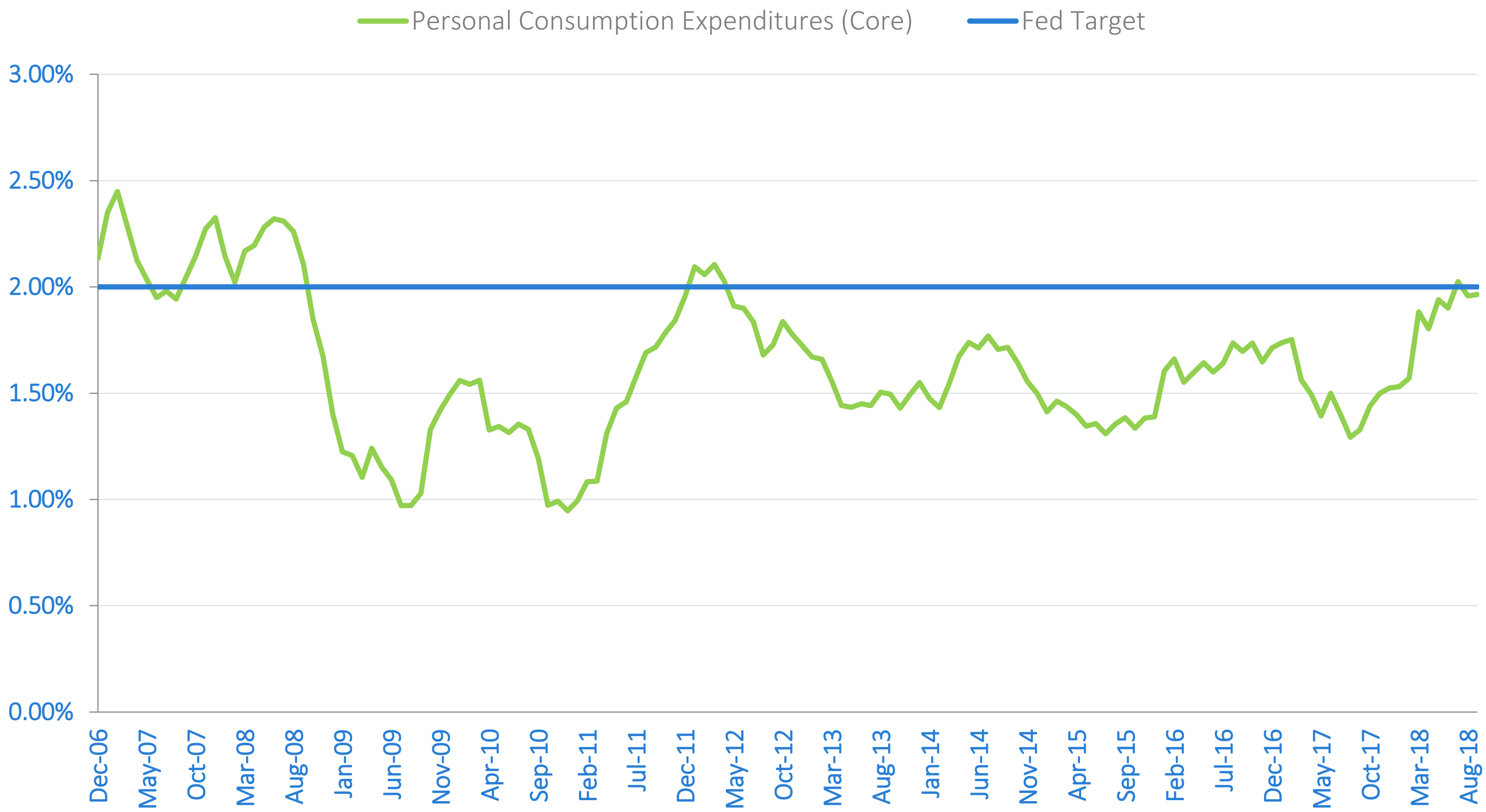
YIELD CURVE COMPARISON



Source: Bloomberg

INFLATION

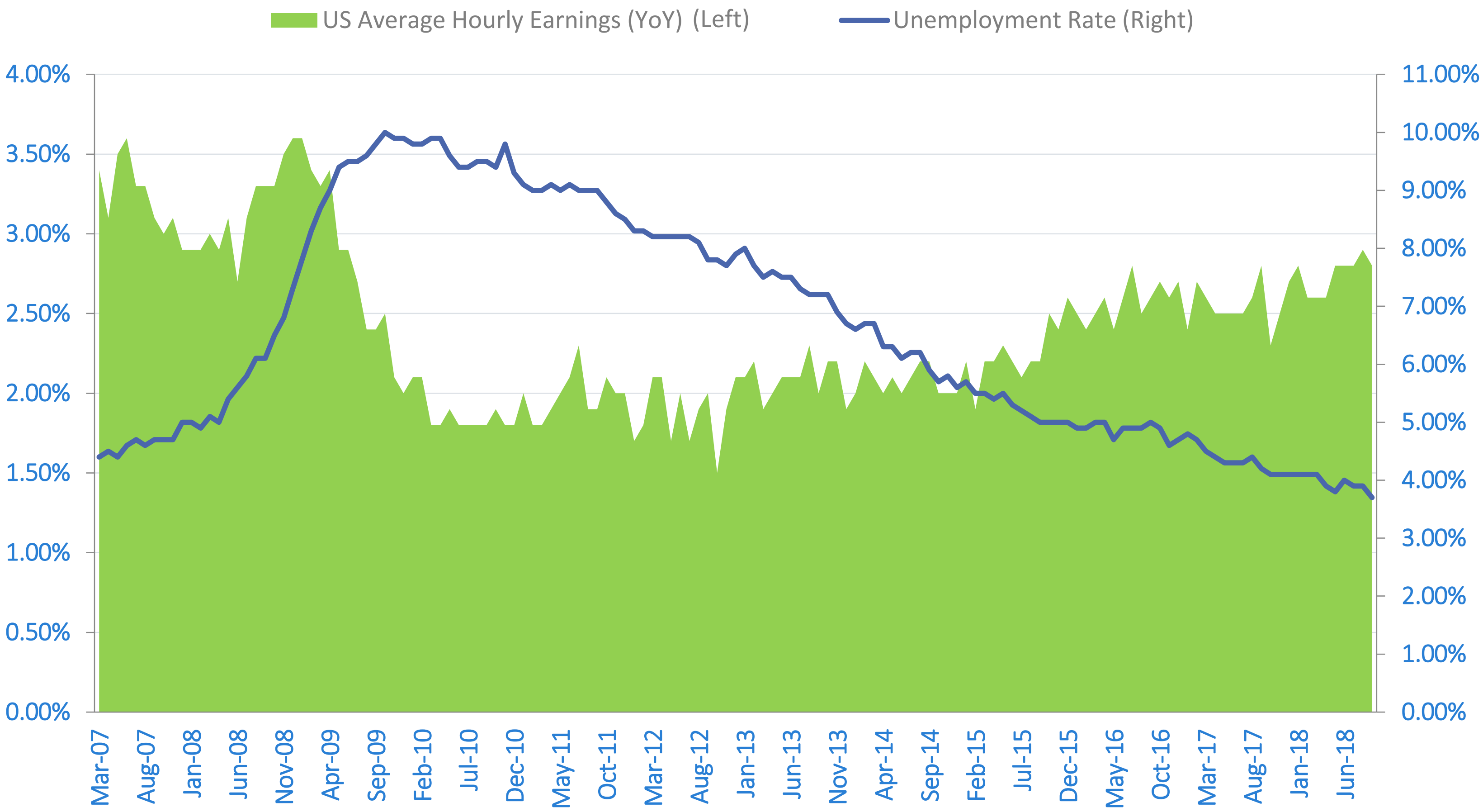
Personal Consumption Expenditures (PCE)



Source: Bloomberg

WAGE INFLATION

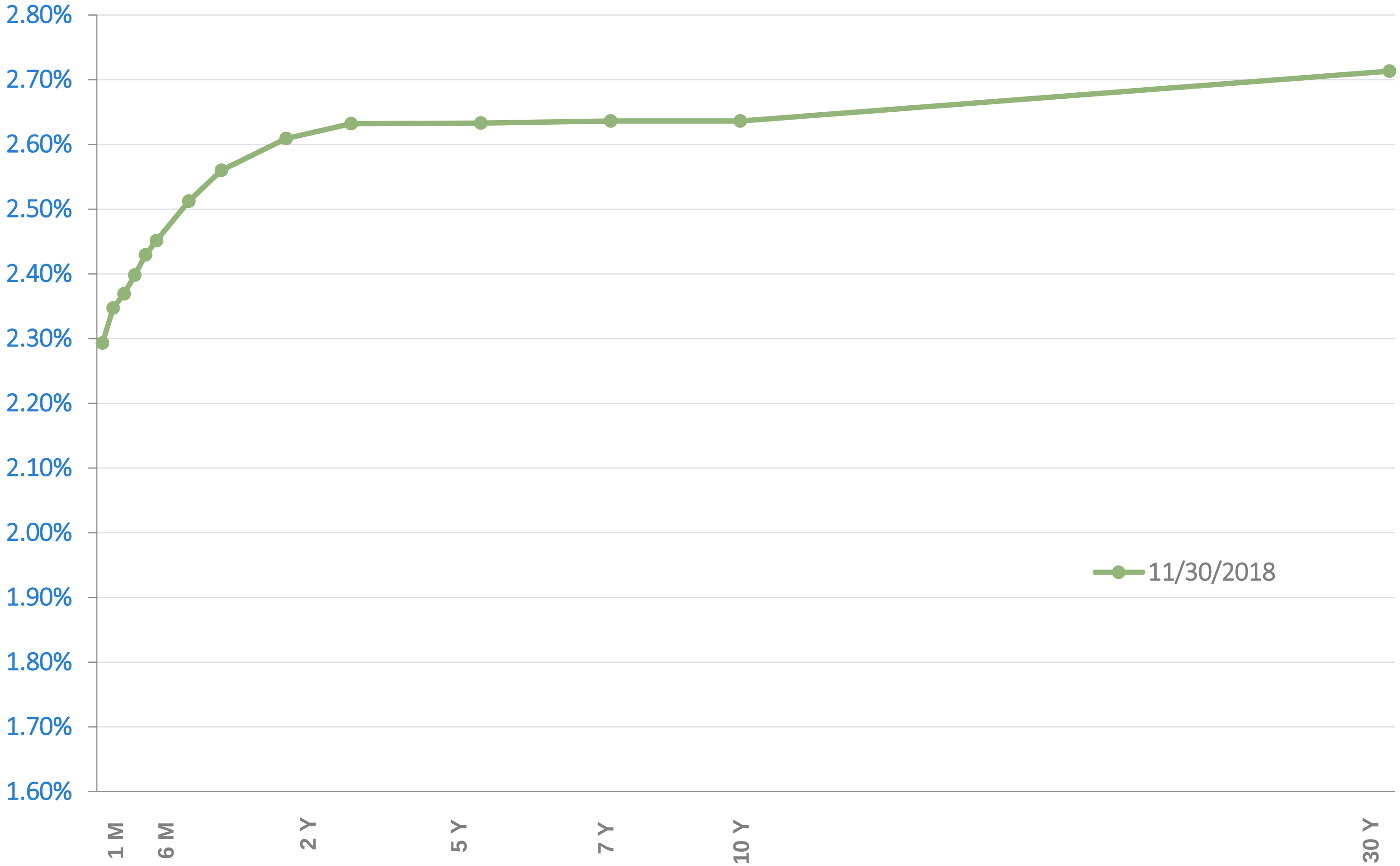
US Average Hourly Earnings



Source: Bloomberg

INTEREST RATE OUTLOOK

US Overnight Interest Rate Swaps



Source: Bloomberg

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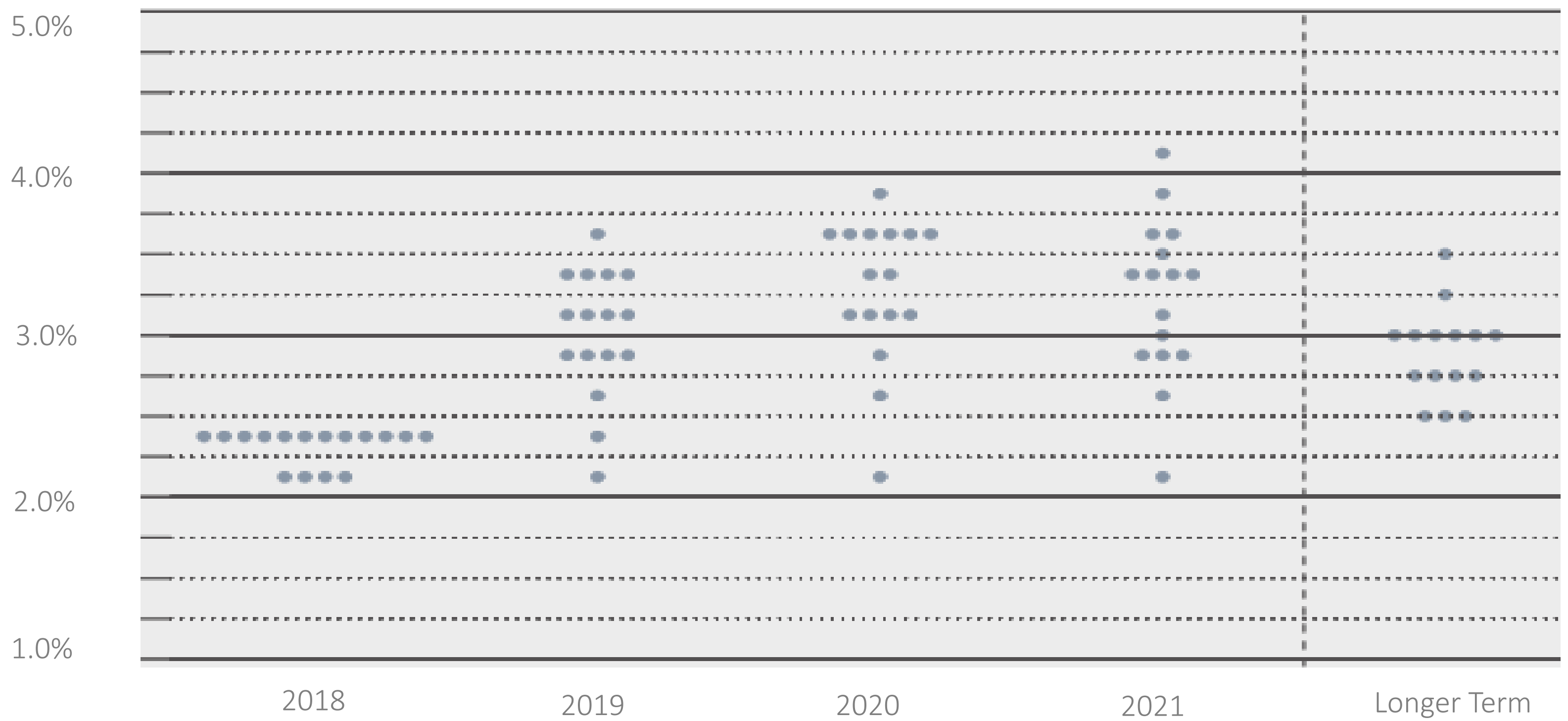
INTEREST RATE OUTLOOK

FED Dot Plot



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

Source: Federal Reserve

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