MSBO Conference

Cash Management…it matters again!

Presented by PFM Asset Management LLC
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GFOA Best Practice

Governments have a **fiduciary responsibility** in managing their funds, including the ongoing management and monitoring of investment activity. Developing a public funds investment program is essential to effective financial management, and it sets the foundation for creating protocols and internal controls, constructing and managing the portfolio, navigating changing economic conditions, and communicating information to stakeholders. While different types and sizes of governments require differing levels of complexity in their investment programs, all governments need to recognize their fiduciary responsibility. Having an established public funds investment program provides the structure to effectively set policy, make decisions, and **safeguard a government's financial assets.**

Reference: Government Finance Officer Association Best Practice – January 2017

Agenda

I. Current Market Conditions

II. Current Banking Situation – Analysis Statement

III. The Opportunity – Cash Management Structure

Market Update

2018 Market Themes

- U.S. economic conditions are characterized by:
  - Stronger growth fueled by consumer spending and improving business investment,
  - Tight labor market conditions and recently accelerating wages,
  - Growing concern about possible late-cycle inflationary pressures,
  - Near-term business optimism as a result of the tax cuts.
- Treasury yields continue to march higher on the back of improving macroeconomic conditions and expectations of continued monetary tightening by the Fed. 2-year and 10-year Treasury yields hit recent highs in February.
  - Jerome Powell replaced Janet Yellen as Federal Reserve Chair. Powell is expected to continue Yellen's gradual, but steady approach towards monetary tightening.
  - During his congressional testimony, Powell offered an optimistic outlook on the U.S. economy, seen as an indication the Fed may raise interest rates as many as four times in 2018.
- After being rocked by a rapid 10% correction in early February, the stock market staged a partial recovery through the remainder of the month, but finished February with its first loss after 15 months of positive returns.
- Geopolitical and economic risks continue to linger with the upcoming elections in a few EU countries and uncertainty surrounding the outcome of global trade negotiations and possible US-imposed tariffs.

FOMC Statement Highlights

March
21

- Information received since the FOMC met in January indicates that the labor market has continued to strengthen and that economic activity has been rising at a **moderate** rate**. Job gains have been strong in recent months and the unemployment rate has stayed low. Recent data suggest that growth rates of** household spending and business fixed investment **have moderated from their strong fourth-quarter readings.**

- On a 12-month basis, inflation – both overall and excluding food and energy – have continued to run below 2 percent. Market based measures of inflation compensation have increased in recent months but remain low.

- The committee's **economic outlook has strengthened in recent months**, while inflation on a 12-month basis is expected to move up **in the coming months** and stabilize around the Committee's 2 percent objective over the medium term.

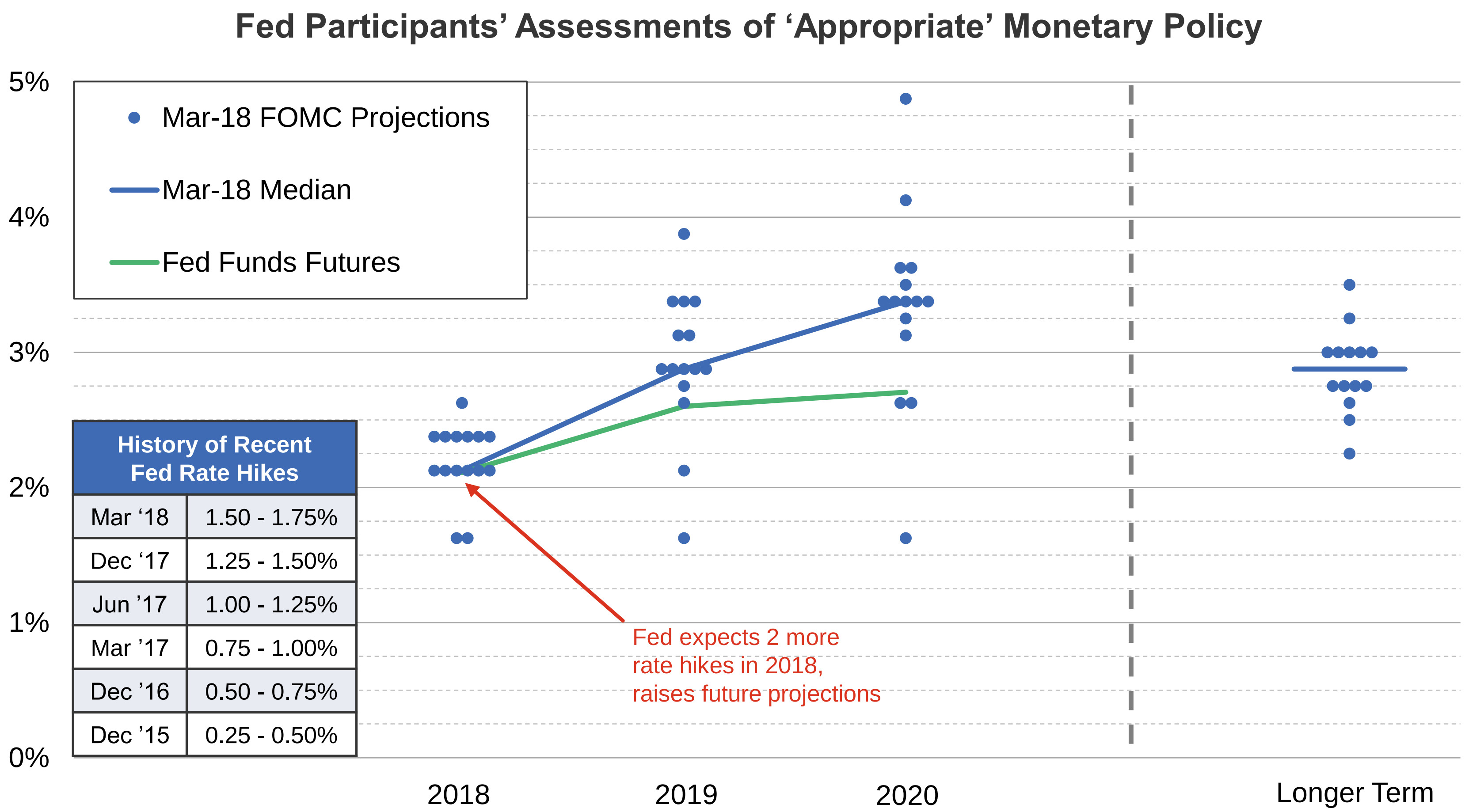
- In view of realized and expected labor market conditions and inflation, the Committee decided to **raise the target range for the federal funds rate to 1½ to 1¾ percent.**

- The Committee expects that economic conditions will evolve in a manner that will warrant **further gradual increases in the federal funds rate.**

- All voting members of the FOMC supported the monetary policy action in a unanimous vote.

Source: Federal Reserve.

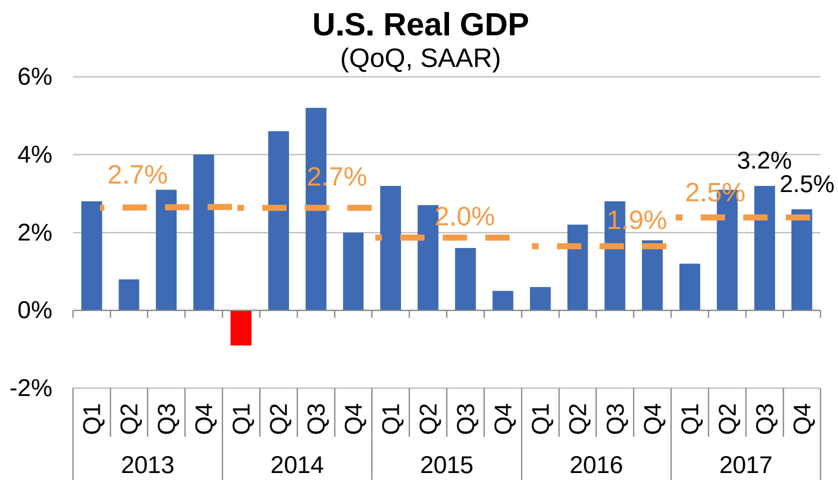
FOMC "Dot Plot" – March 2018

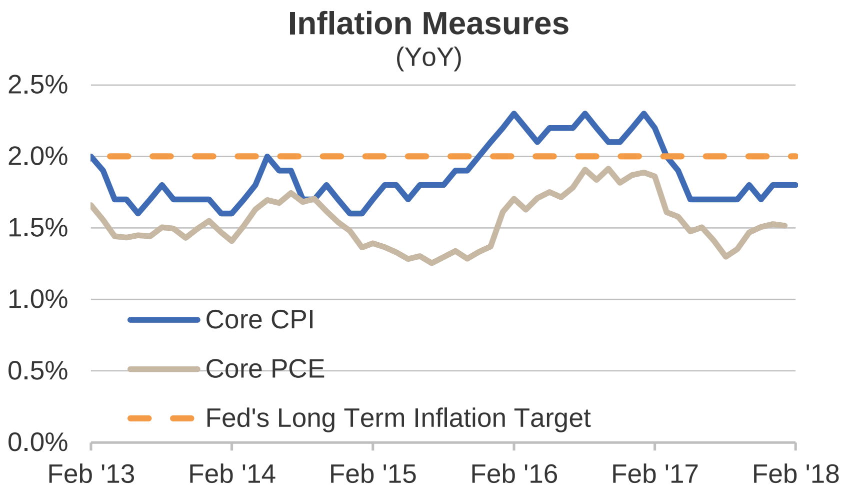


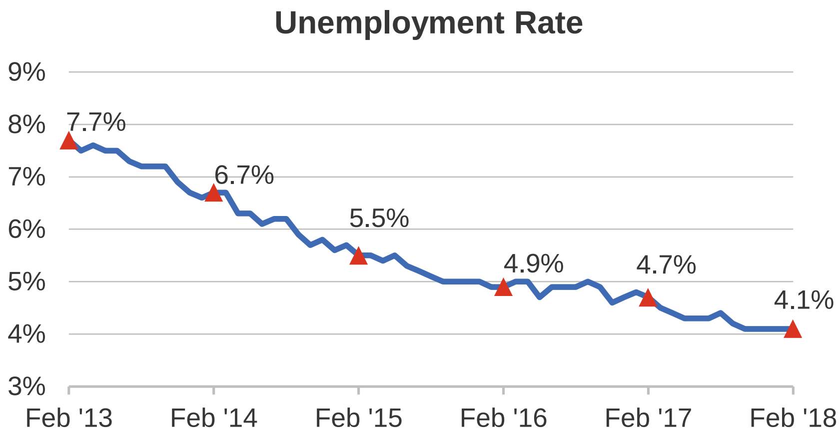
History of Recent Fed Rate Hikes	
Mar '18	1.50 - 1.75%
Dec '17	1.25 - 1.50%
Jun '17	1.00 - 1.25%
Mar '17	0.75 - 1.00%
Dec '16	0.50 - 0.75%
Dec '15	0.25 - 0.50%

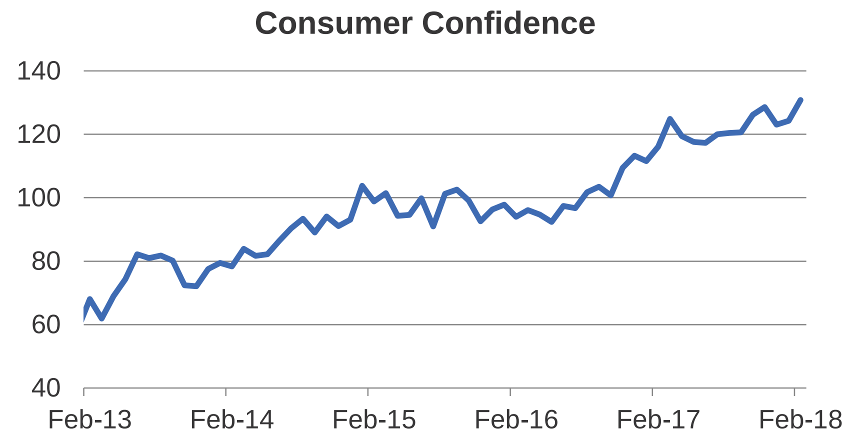
Source: Federal Reserve and Bloomberg. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the Federal Funds rate at each year-end. Fed Funds futures as of 3/21/18.

Current Economic Conditions







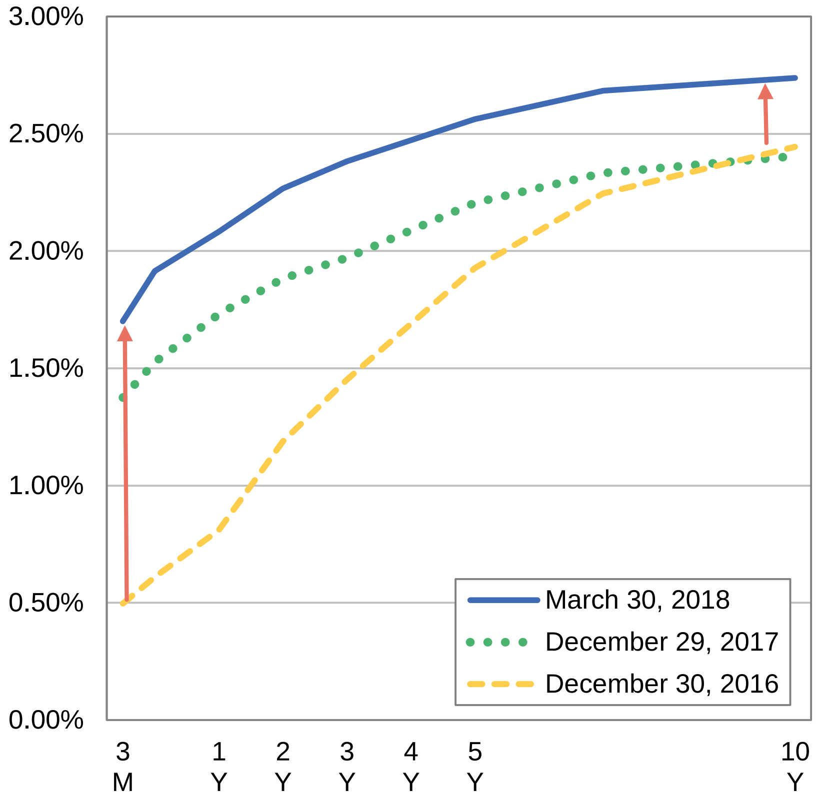


Source: Bloomberg, data available as of 2/28/18. SAAR is seasonally adjusted annualized rate.

Treasury Curve Update

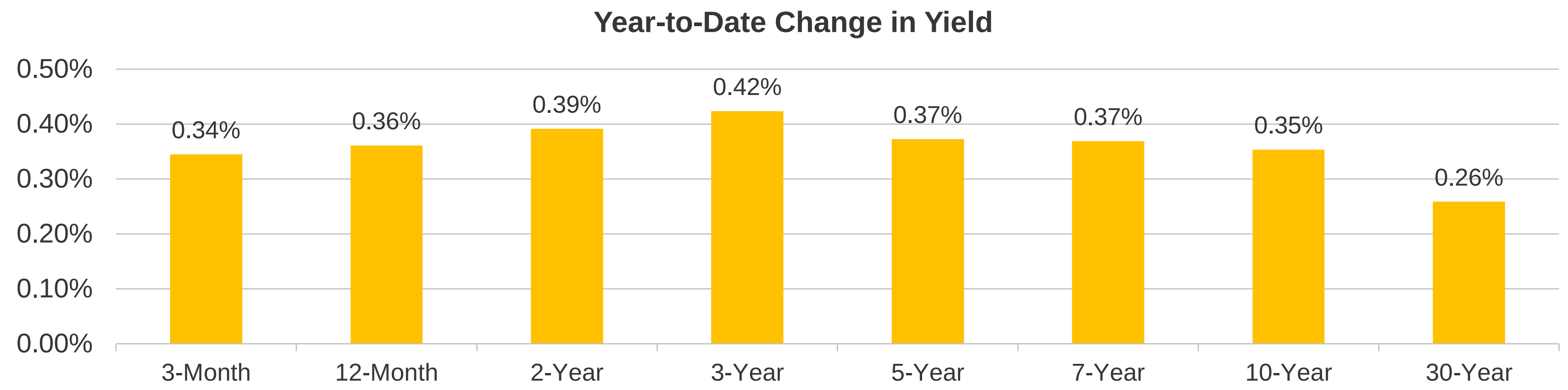
- Yield on short end of the curve has more than tripled since 2016 - +1.20%
- Whereas 10 year has only increased by .30%

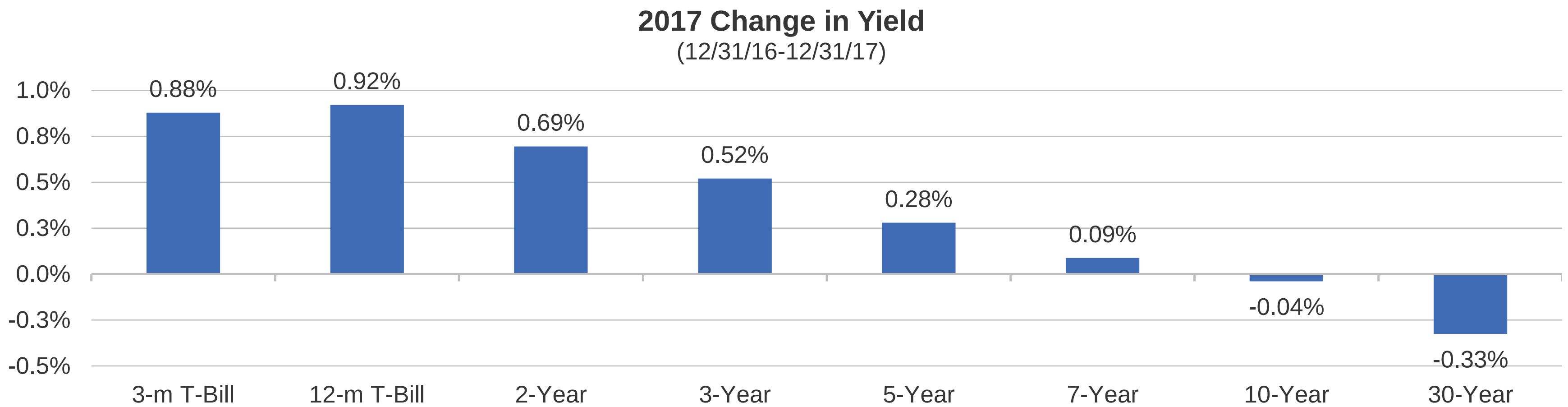
	Current 3/30/18	Year-End 12/29/17	Year-End 12/30/16
3 month	**1.70%**	1.38%	0.50%
6 month	**1.91%**	1.53%	0.61%
1 year	**2.08%**	1.73%	0.81%
2 year	**2.27%**	1.88%	1.19%
3 year	**2.38%**	1.97%	1.45%
5 year	**2.56%**	2.21%	1.93%
10 year	**2.74%**	2.41%	2.44%



Source: Bloomberg

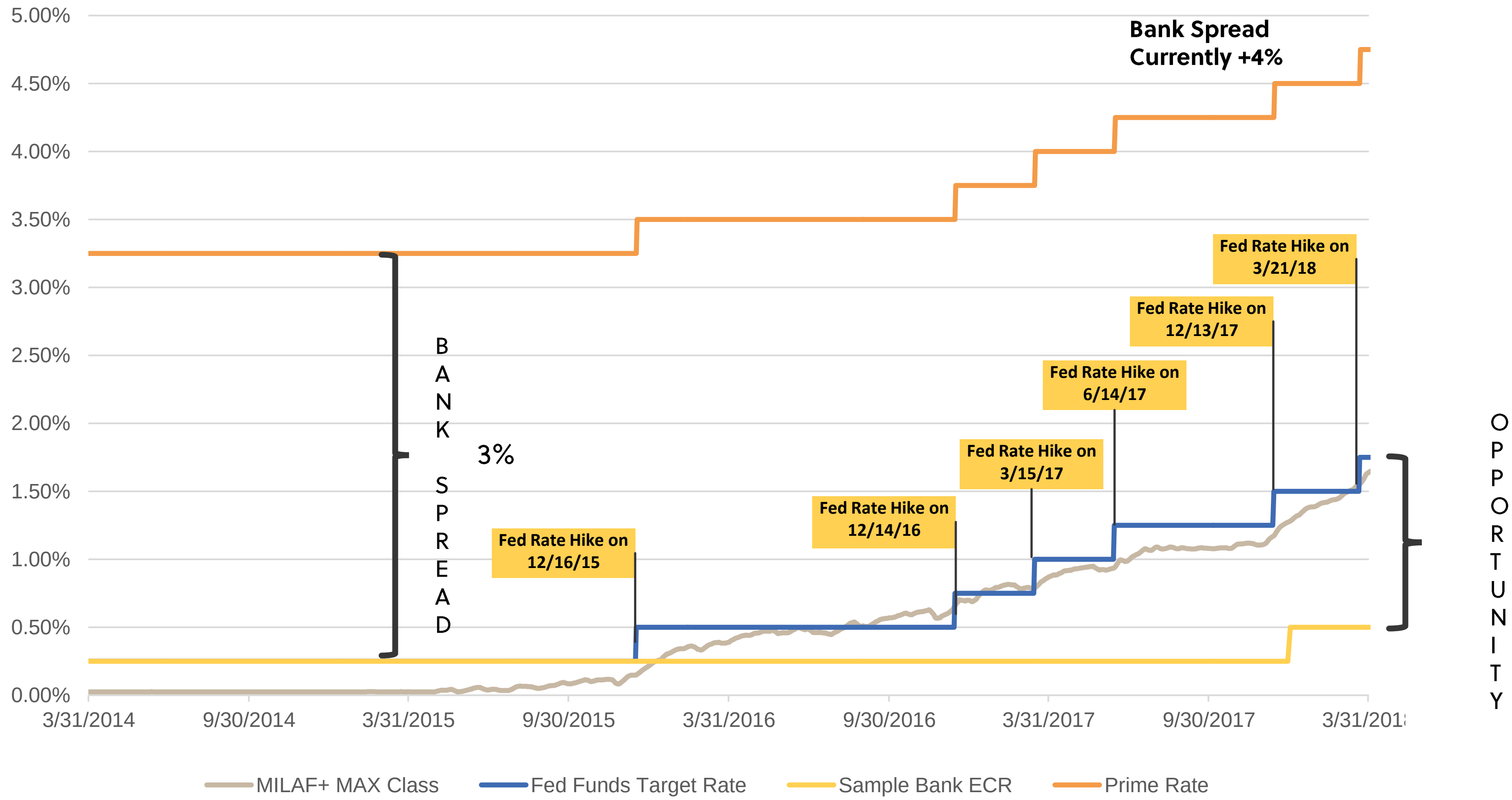
Rates Up YTD as the Yield Curve Steepens





Source: Bloomberg, as of 4/02/2018.

Historical Rates – 6 rate hikes but banks barely budge



Source: Bloomberg

Bank Analysis Review

Banking Math

- **Banks make most of their income through spread**

Loan Rate – Deposit Rate = Spread

- Interest Spread was compressed when Fed Funds went to 0%. Deposit rates bottomed at 0% while loan rates continued spiral down = compression
- Banks focused on service fees and ancillary revenue areas (brokerage, wealth management, etc) to bolster revenues
- Although Fed Funds have been increased 6 times in 27 months, bank deposit rates have not moved in step with the Fed.

Banking Analysis Review

- Bank ECR Math

  *Investible Balance * ECR Rate / 365 days in year * 28 days in month*

  *$828,592 * .00375 ECR rate / 365 * 28 = $238 earnings credit to offset fees*

- Net ECR Identification

Earnings Credit Rate	*0.375%*	*(Store Credit)*
Deposit Admin Fee	*0.110%*	*(aka FDIC Charge)*
Net ECR	*0.265%*	

- **IMPORTANT NOTE: EXCESS ECR DEFAULTS TO BANK**

Opportunity Cost: Leaving Money at Bank

Description	Current	Reduce Bank Balances	Invest Excess in Money Market	Net Advantage
Investable Balance	$9,861,174	1,861,174	$8,000,000	0
Earnings Credit	1,249	535	0	(714)
- Deposit Fee	(1,085)	(157)	0	928
- Other Bank Fees	(1,804)	(1,804)	0	0
Net Bank Fees	(1,640)	(1,426)		214
+Interest Earned	1,479	0	10,003	8,524
Monthly Net Benefit	(161)	(1,426)	10,003	8,738
Projected Annual	(2,099)	(18,589)	130,400	**113,910**
	Almost $10mm and still pay net fees to bank	Lower bank balances reduce fees	Difference in Yield is Substantial	Cash Management Matters!

Summary of Benefits

- Increased Interest earnings of $130,000 annually & do not give up liquidity
- Reduce bank fees by +$12,000 annually
- Reduce credit risk associated with single bank depository (Footnote 3 – uninsured deposit)
- Increase diversification through AAAm rated fund
- No money left on the table through excess ECR

Note: Interest Earned assumed to be invested in MILAF+ Max account at 1.63% * $8,000,000
MILAF+ Max 7 day yield as of April 3, 2018

Banking Optimization

Strategies to Reduce Fees / Increase Efficiency

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

Utilize Bank for what they do best – transactions and data

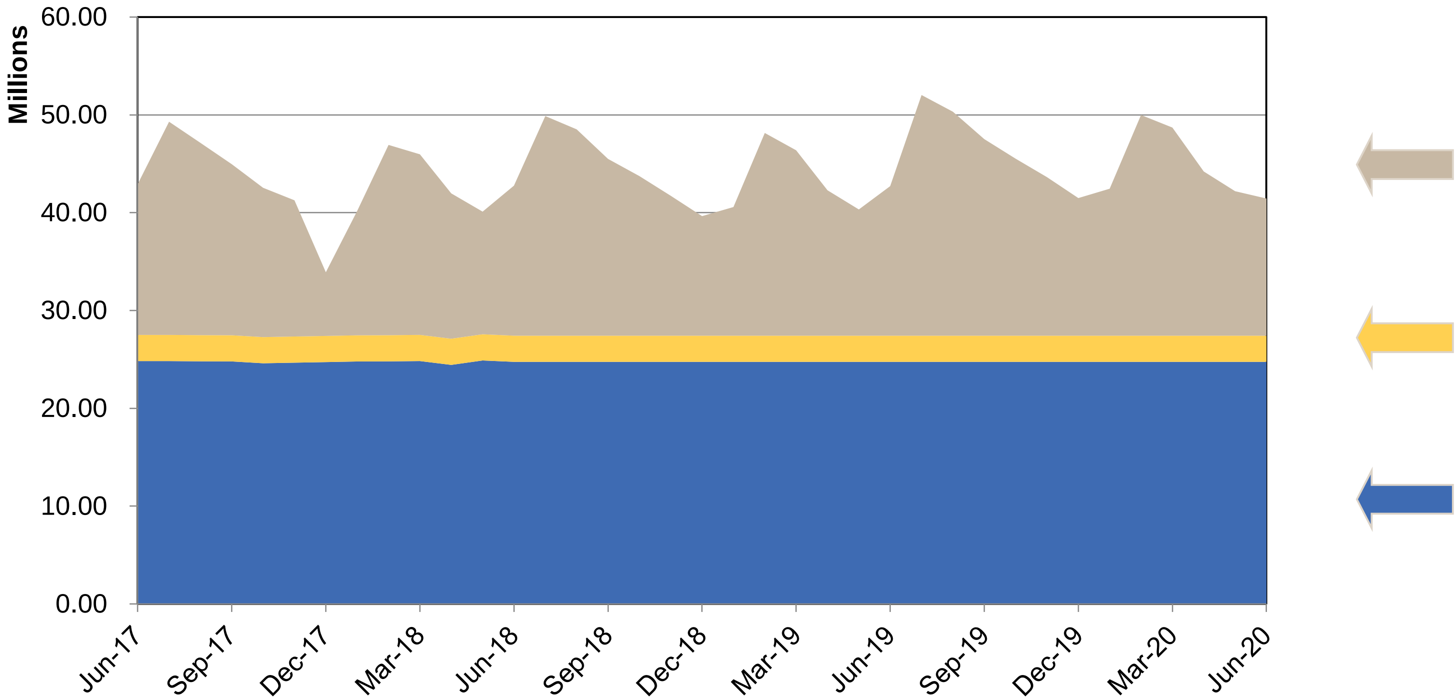
- Look for opportunities to become more efficient / enhance internal controls through bank services (positive pay, reconciliation services, data exports, etc.)
- Evaluate usage of banking services to determine which services could be eliminated or replaced with more inexpensive services
- Review bank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

Cash Management Platform

Cash Flow Segmentation

- 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**

For Illustrative purposes only

Basics of a Cash Management Program

Overnight Liquidity

GOAL: meet daily operating expenses

Key Components:
- Safety and 100% liquidity
- Low cost banking relationship
- Online banking
- Transaction functionality
- ACH/Wire capability
- Daily fund balances and monthly statements

Proposed Investment Strategy:
- Bank deposits
- LGIP
- Money market funds

Liquidity Surplus

GOAL: match assets to future liabilities

Key Components:
- Safety and liquidity
- Understanding of known cash flow dates
- Ladder investments with maturities aligned to known future payment dates
- Enhance earnings potential

Typical Investment Types:
- MILAF+ TERM
- Treasury Bills/Notes
- Federal Agency Securities
- Certificates of Deposit

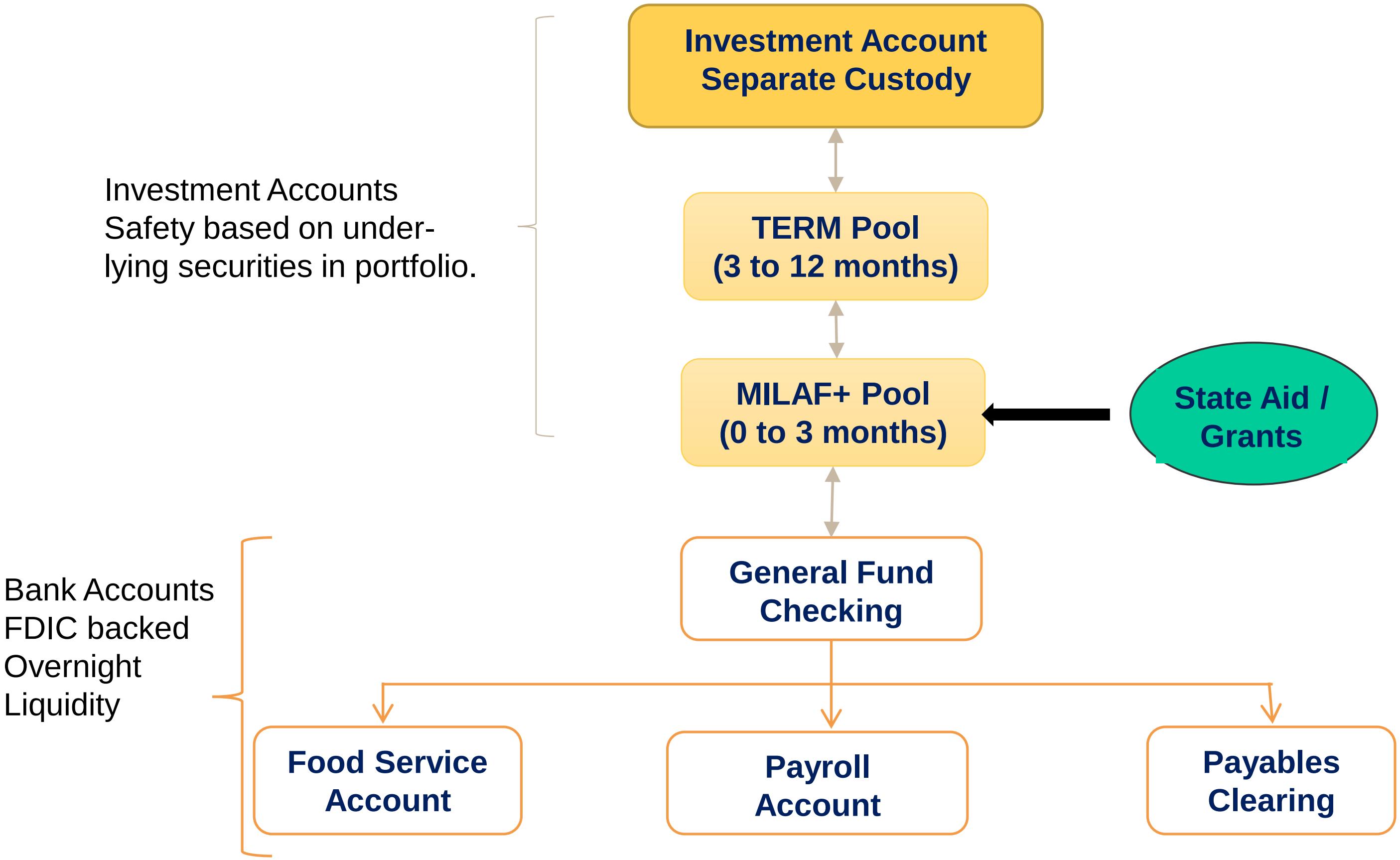
Core Reserves

GOAL: actively manage reserve fund to provide long-term growth

Key Components:
- Safety, liquidity, and return
- Prudent reserve balance should not be anticipated to withdrawn on for at least 1-5 years
- Total return strategy
- Understanding of historical cash needs and month-end balances

Typical Investment Types:
- Treasury Notes
- GNMA MBS
- Agency Notes
- Corporate Securities

Sample Bank Structure



MILAF Rates

Investment Rates

As of April 3, 2018

MILAF+ TERM RATES		
Maturity	Date	Net Rate
60 Days	May	**1.96%**
90 Days	June	**2.20%**
120 Days	July	**2.21%**
150 Days	August	**2.28%**
180 Days	September	**2.33%**
210 Days	October	**2.34%**
240 Days	November	**2.35%**
270 Days	December	**2.42%**
300 Days	January	**2.01%**
330 Days	February	**2.02%**
365 Days	April	**2.06%**

MILAF+ CD PURCHASE PROGRAM		
Maturity	Date	Net Rate
180 Days	September	**2.00%**
270 Days	December	**2.10%**
365 Days	April	**2.25%**

Current 7 Day Yields	
MILAF+ Cash Management Class	**1.47%**
MILAF+ MAX Class	**1.63%**

Please contact the **MILAF+** Client Services Group

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Disclosures

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Rates for MILAF+ Cash Management Class, MILAF+ Max Class, and GovMIC Portfolio represent current seven-day SEC yield(s) as of the date indicated. The current seven-day yield, also referred to as the current annualized yield, represents the net change, exclusive of capital changes and income other than investment income, in the value of a hypothetical account with a balance of one share (normally $1.00 per share) over a seven-day base period expressed as a percentage of the value of one share at the beginning of the seven-day period. This resulting net change in account value is then annualized by multiplying it by 365 and dividing the result by 7. Past performance is not indicative of future results and yields may vary. Past performance is not indicative of future results and yields may vary. The yields shown above may reflect fee waivers by service providers that subsidize and reduce the total operating expenses of the Fund. Fund yields would be lower if there were no such waivers.

Disclosures

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