Morgan Stanley

American Association of Port Authorities

# Capital Markets Update

April 18, 2018

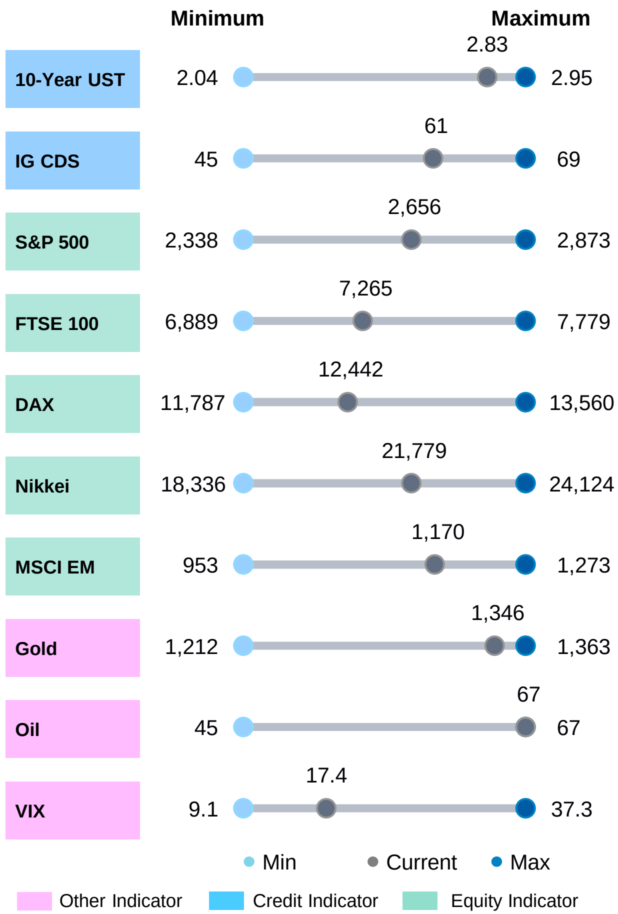
# Global Market Snapshot

## As of April 13, 2018

Overall capital market conditions remain favorable in current environment.

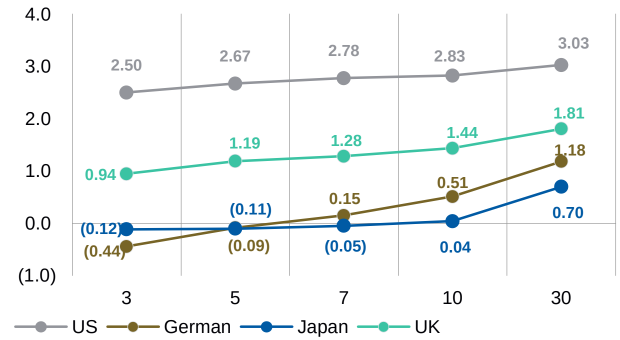
### Market Performance in Last 12 Months

12 Month Period Range




### Global Interest Rates

Repricing of Global Rates Curves




**Source** Bloomberg

### Global Rates Forecasts

Morgan Stanley 10-Year Base Case Interest Rate Outlook

| Country | 2Q18 | 3Q18 | 4Q18 |
|---|---|---|---|
| US | 2.15% | 2.05% | 1.95% |
| Germany | 0.55% | 0.60% | 0.50% |
| Japan | 0.08% | 0.20% | 0.20% |
| UK | 1.50% | 1.55% | 1.55% |

**Source** Morgan Stanley Research

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# What to Watch in 2018

## Navigate execution windows with caution surrounding macroeconomic volatility

### Key Risks in 2018

**Ongoing Geopolitical Tensions**
- North Korea
- Russia / Ukraine
- Middle East
- Global War on Terror
- Cybersecurity

**US Monetary Policy**
- Impact of balance sheet reduction
- Pace of rate hikes & normalization
- New FOMC Chair

**Global Growth**
- Modest growth expected in 2018
- Risks skewed to downside in US & China

**Brexit Negotiations**
- Negotiations move to trade & transition
- UK elections possible as PM May's support wanes

**Impact of US Tax Reform**
- Implementation
- Changes to debt issuance behavior
- Increase in share repurchases or M&A

**US Trade Policy Shifts**
- Possible NAFTA renegotiation
- President Trump's implementation of "America First" policy

### Q1

**January**
- **Jan. 23** BoJ Meeting
- **Jan. 25** ECB Meeting
- **Jan. 31** FOMC Meeting

**February**
- **Feb. 8** BoE Meeting

**March**
- **Mar. 8** ECB Meeting
- **Mar. 9** BoJ Meeting
- **Mar. 21** FOMC Meeting & Press Conf.
- **Mar. 22** BoE Meeting
- **Late Mar.** US Debt Ceiling Limit

### Q2

**April**
- **Before Apr. 8** BoJ Governor Appointment
- **Apr. 26** ECB Meeting
- **Apr. 27** BoJ Meeting

**May**
- **May 2** FOMC Meeting
- **May 10** BoE Meeting
- **Before May 20** Italian General Elections

**June**
- **Jun. 8-9** G7 Summit
- **Jun. 13** FOMC Meeting & Press Conf.
- **Jun. 14** ECB Meeting
- **Jun. 15** BoJ Meeting
- **Jun. 21** BoE Meeting
- **During Jun.** UK/EU Statement on Intent of Transition

### Q3

**July**
- **Jul. 11-12** NATO Summit
- **Jul. 26** ECB Meeting
- **Jul. 31** BoJ Meeting

**August**
- **Aug. 1** FOMC Meeting
- **Aug. 2** BoE Meeting
- **Late Aug.** Jackson Hole Symposium

**September**
- **Sep. 13** BoE Meeting
- **Sep. 13** ECB Meeting
- **Sep. 19** BoJ Meeting
- **Sep. 26** FOMC Meeting & Press Conf.

### Q4

**October**
- **Oct. 25** ECB Meeting
- **Oct. 31** BoE Meeting

**November**
- **Nov. 1** BoE Meeting
- **Nov. 6** US Midterm Elections
- **Nov. 8** FOMC Meeting

**December**
- **Dec. 13** ECB Meeting
- **Dec. 19** FOMC Meeting & Press Conf.
- **Dec. 20** BoE Meeting
- **Dec. 20** BoJ Meeting
- **Mid/Late Dec.** UK/EU Package Deal

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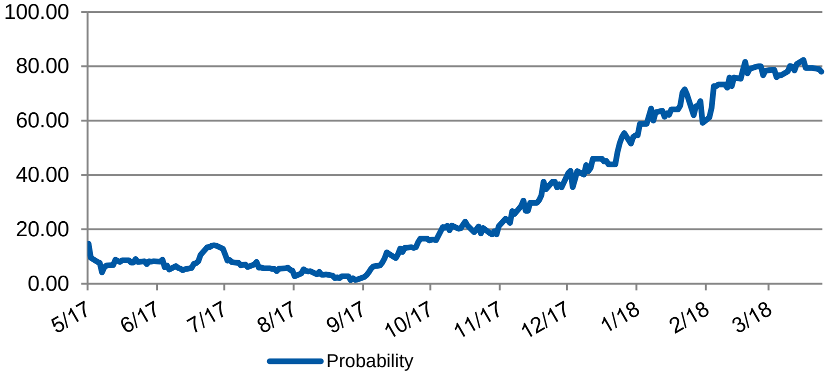
# Potential for Additional Fed Hikes This Year

- ✓ On March 21, the FOMC raised the fed funds target rate by 25bps to 1.75%
- ✓ The Fed "dot plot" shows market and FOMC member expectations for where rates will be in the future
- ✓ The Fed is expected to raise interest rates 2 more times in 2018, followed by additional raises in 2019
- ✓ The updated summary of economic projections reflect a median forecast for a faster pace of economic activity
- ✓ The market is currently pricing a 28% probability of a May rate hike

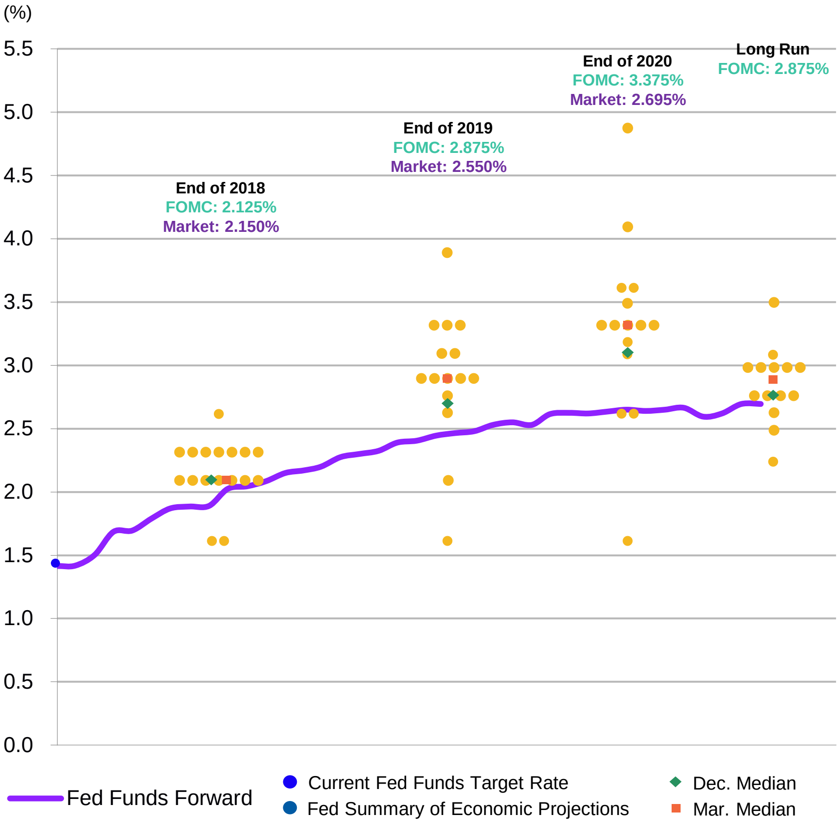
## Probability of a June Fed Hike

As of April 16, 2018




## Federal Reserve Expectations for US Interest Rates

March 2018 Summary of Economic Projections

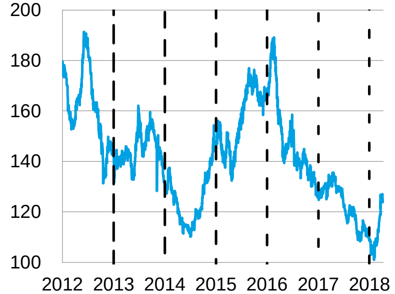



Source Bloomberg, US Federal Reserve

# All-In Yields Continue To Trend Higher

- Current 10-Year All-in Corporate Investment Grade yield of **4.01%** is 44 bps higher than the 2017 average
- The average 10-Year All-in Corporate Investment Grade Yield of 2018 year-to-date is **3.87%**

**10-Year Corporate Index Over Time**
January 2012 – Present
(Bps)



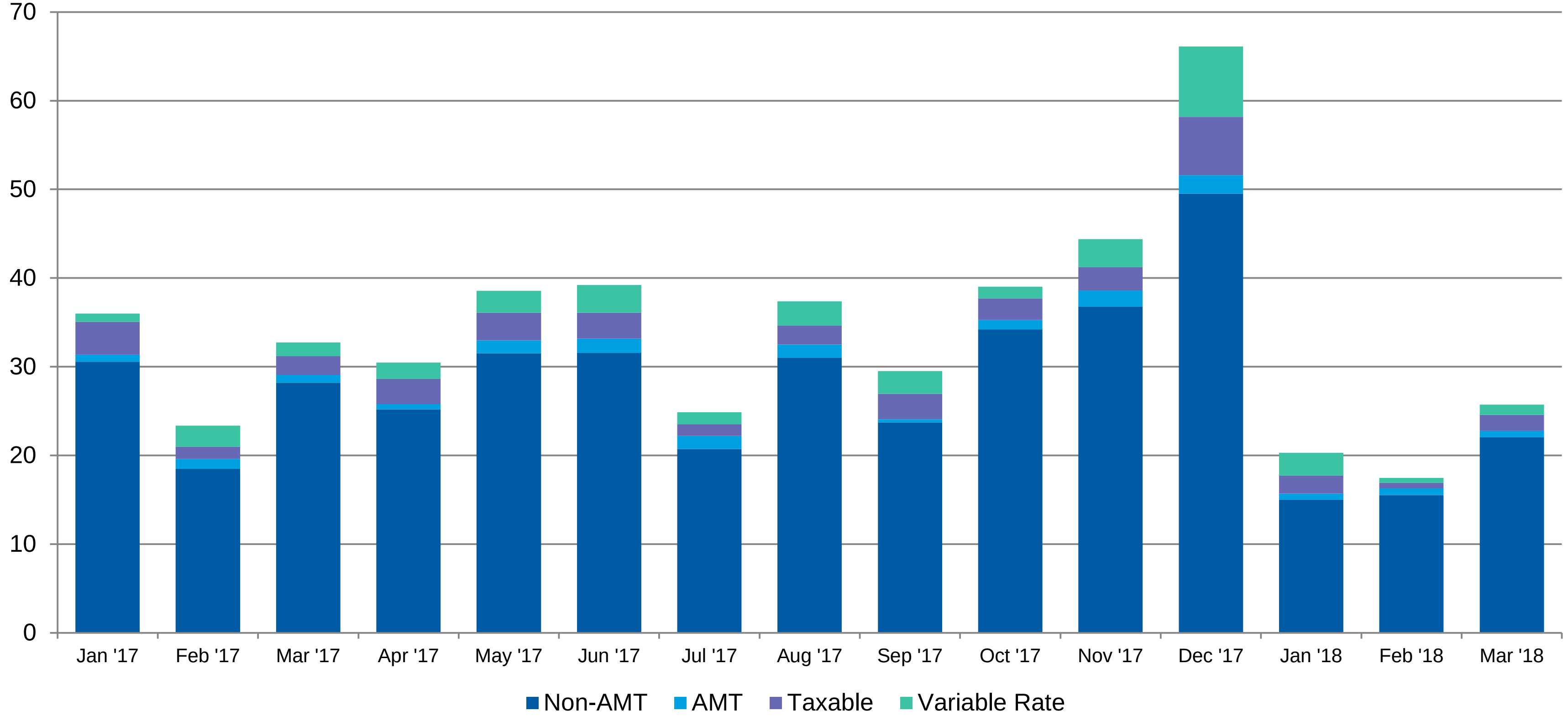

## All-In Yields Over Time

January 2012 – Present


**Source** Bloomberg

# Municipal Market Issuance – New Issue Supply

**Long-Term Municipal Issuance**
2018 YTD = $77.43 Bn (Down 27% YoY)
Monthly Issuance ($Bn)

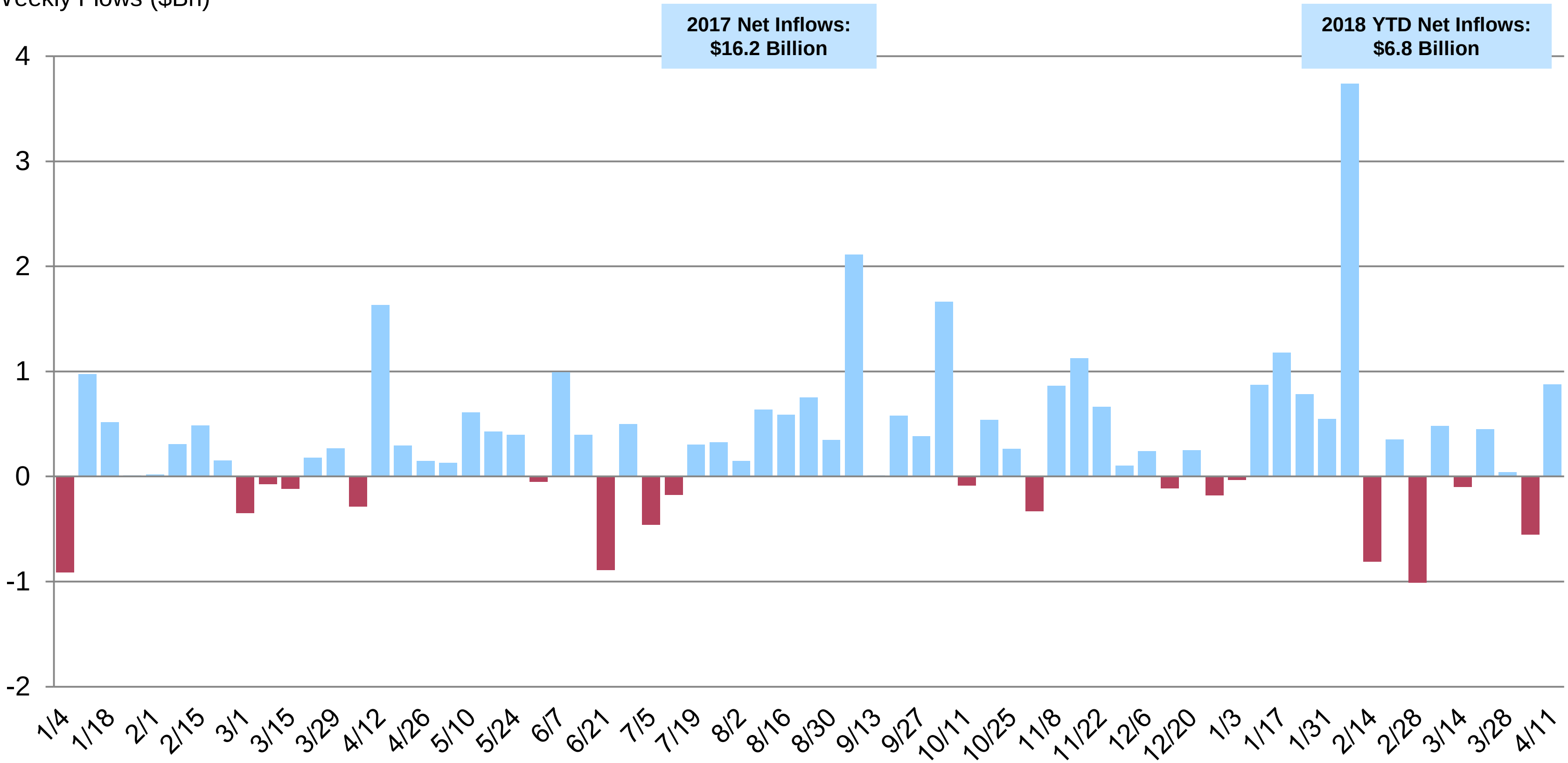


# Municipal Bond Fund Flows – New Issue Demand

**Municipal Bond Fund Flows**

Lipper Fund Flows (Calendar Year 2017 = +$16.2Bn Net, Calendar Year 2018 YTD = +$6.8 Bn Net)

Weekly Flows ($Bn)



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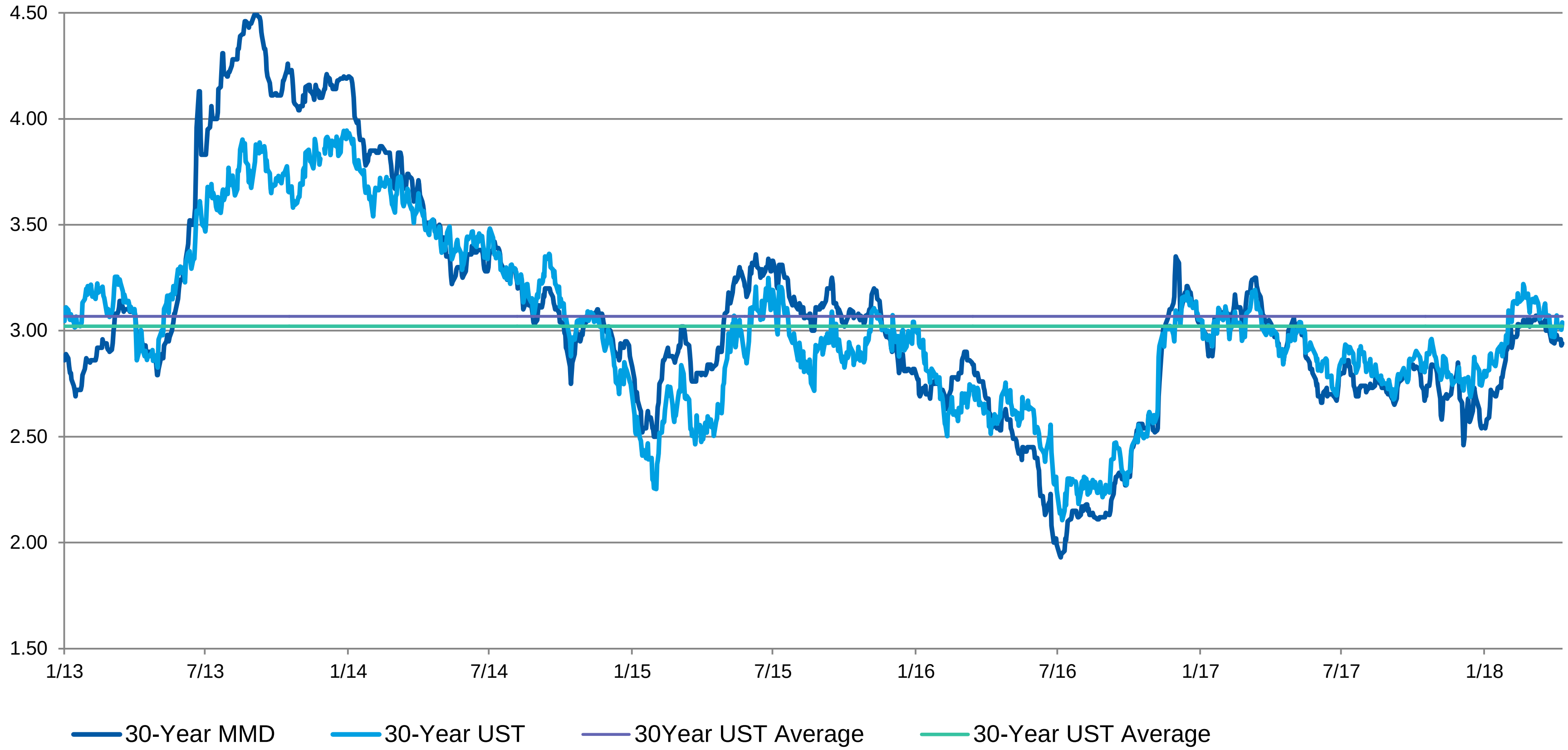
# Historical Tax Exempt Interest Rates

## Historical 10-Year and 30-Year MMD

2013 to Present

(%)

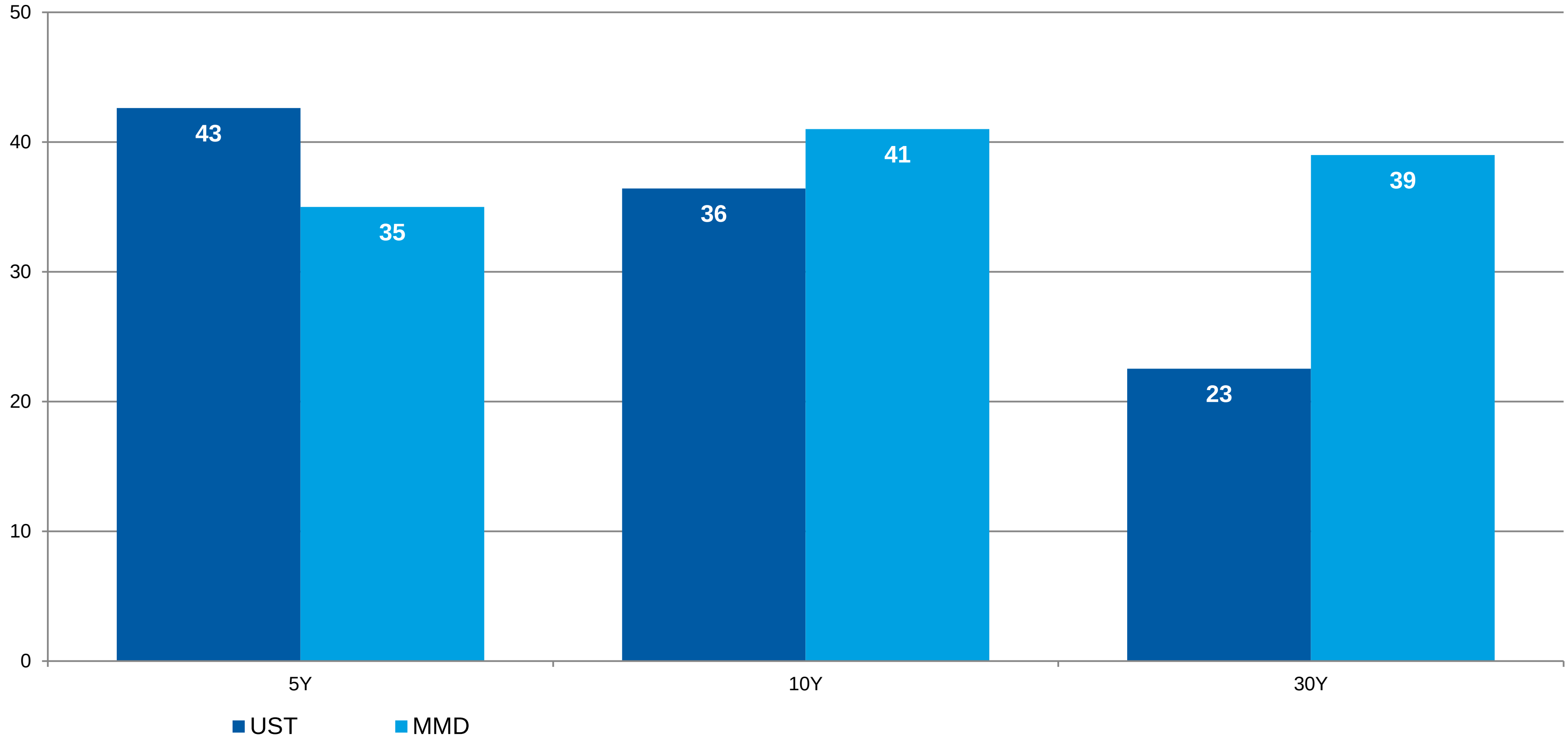


# UST and MMD Movement in 2018

## UST & MMD Movement in 2018YTD

January 2, 2018 to April 13, 2018

(bps)



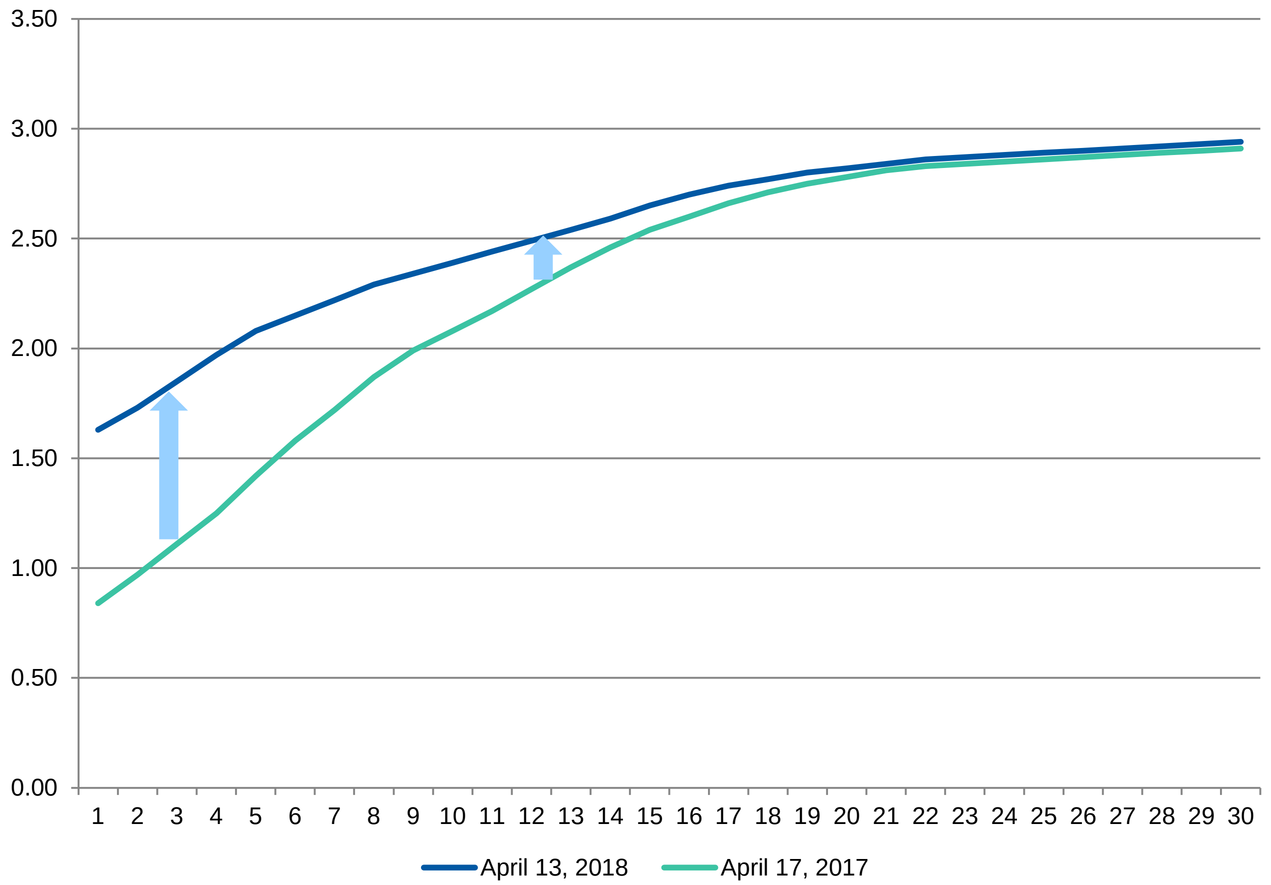
# Flat Yield Curve Supports Long-Term Issuance

- The yield curve has flattened considerably in the past year

| 30Y MMD-2Y MMD | |
|---|---|
| 4/13/2017 | 194 |
| 4/13/2018 | 121 |

**MMD Yield Curve**

Today vs. 1 Year Ago

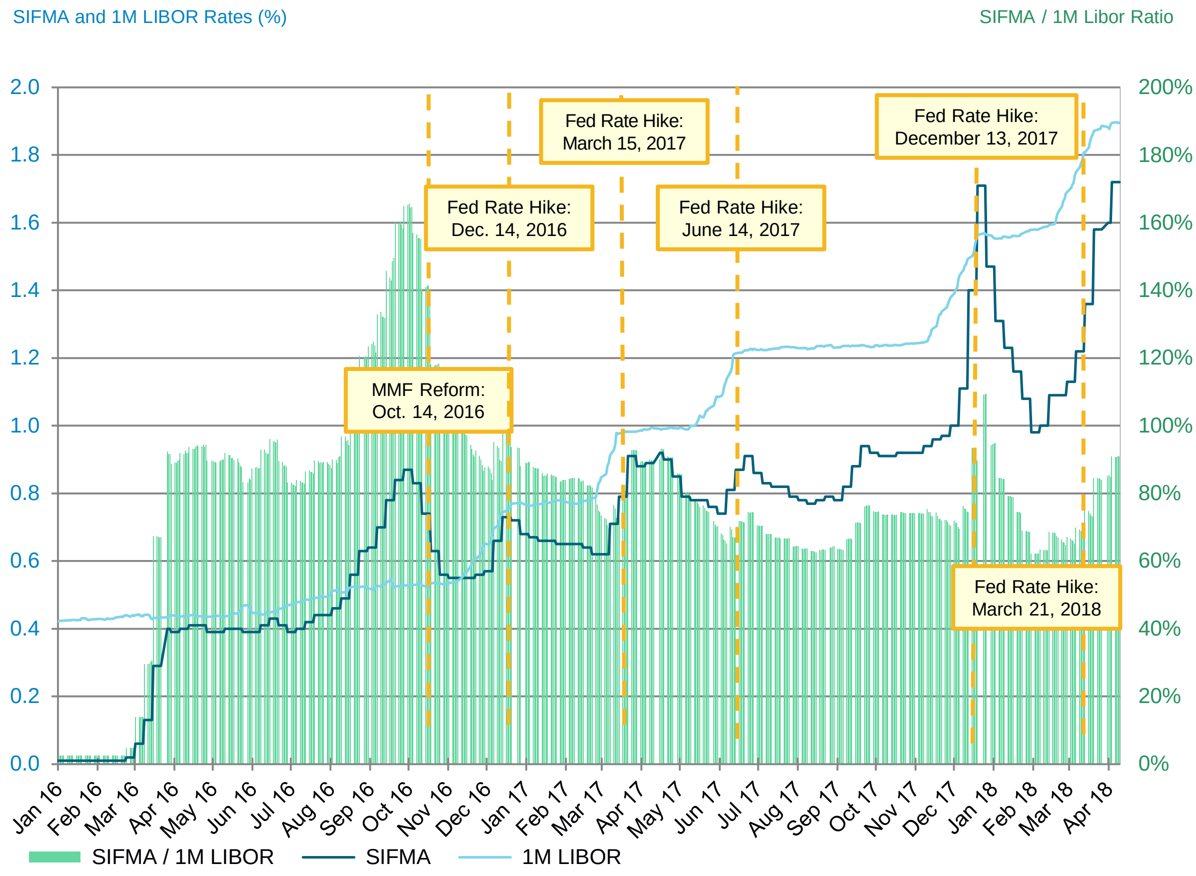


# Short-Term Interest Rate Backdrop

- The short-term market, as shown by the movements of SIFMA and 1M LIBOR, has moved in tandem with the Fed rate hikes that have occurred since January 1, 2016

**Short-Term Rates and Ratios: SIFMA, 1-Month LIBOR**

2016 to Present

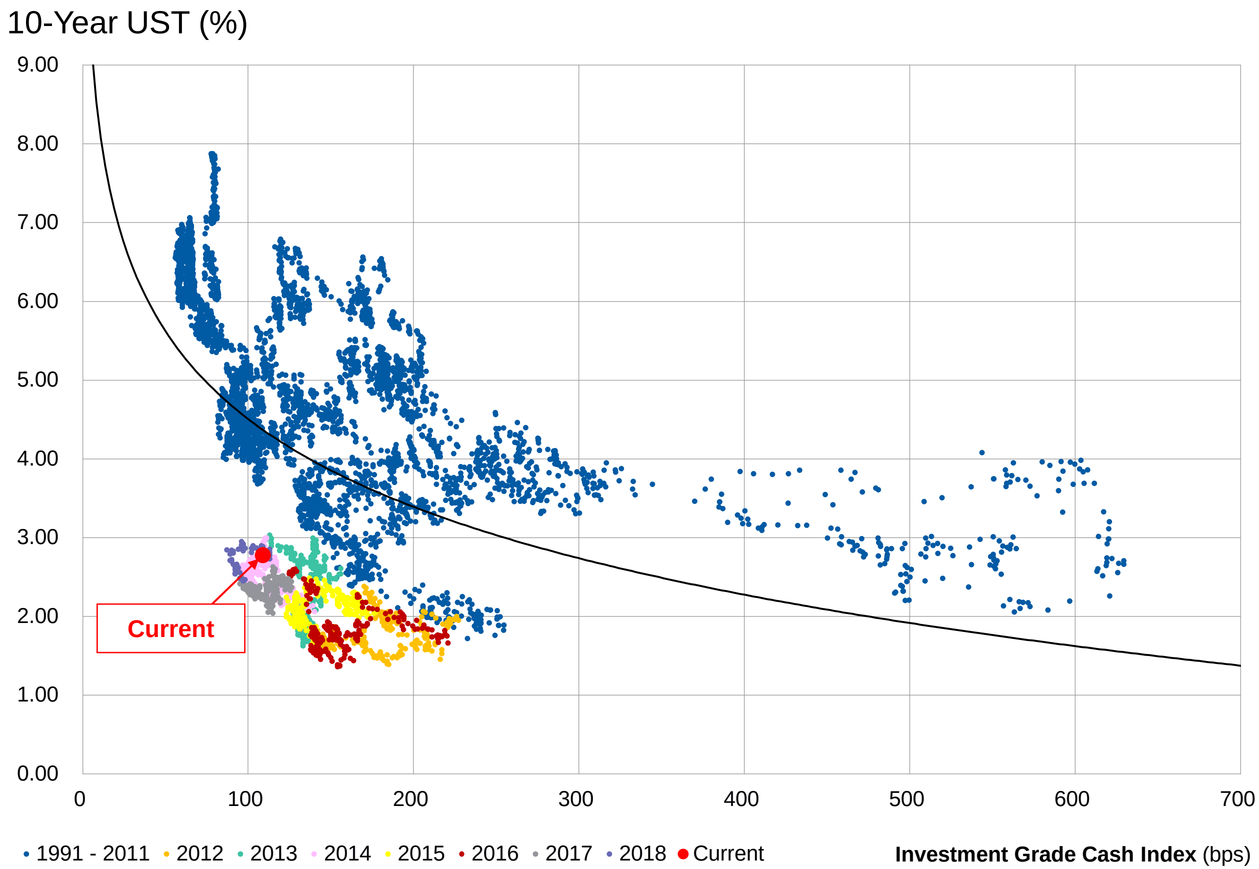


# Low Rates + Tight Spreads = Cheap Financing

## Historically Compelling Combination of Investment Grade Bond Dynamics

- Historically, lower Treasury yields have been correlated with higher investment grade credit spreads
- Since 2011, however, markets diverged from this trend, with credit supported by record inflows into the asset class
- In comparison to previous years, 2017 saw relatively range-bound Treasury rates and gradually tighter Investment Grade spreads
- In 2018 thus far, we have seen both the IG index and the 10-Year UST widen, although still attractive relative to years prior

### Regression Analysis: 1991 to Present




**Source** Morgan Stanley Research, Bloomberg

# Impacts of Tax Cuts and Jobs Act

| | |
|---|---|
| **Advance Refundings** | • Authority to issue tax-exempt advance refunding bonds repealed effective 1/1/2018<br>– Current refundings still be permitted |
| **Alternative Minimum Tax** | • Corporate Alternative Minimum Tax ("AMT") repealed<br>• Individual AMT exemption is $70,300 (single), $109,400 (joint). Phases out above $500,000 (single) and $1,000,000 (joint). Individual AMT changes sunset after 2025 |
| **Direct Placements Gross-Up Provisions** | • Reduction in marginal corporate tax rate (from 35 % to 21%) has triggered "gross-up" provisions of direct placements, in certain situations<br>• Increased interest rate for many direct placements (depending on specific documentation and lenders' practices) |

# Impact of Corporate Federal Income Tax Rate on the Municipal Investor Base

- Municipal market is dominated by individuals, via individual retail accounts, institutional bonds funds, and separately managed accounts
  - Market is affected primarily by technical factors such as inflows/outflows from these accounts
  - Tax reform only affects insurance companies, corporations and bank investors
- When the market outperforms, banks and insurance companies are only incremental buyers
  - However, in times of significant outflows and less bond fund demand they become buyers of last resort
  - The effect of the corporate tax rate on the municipal market will largely be based on market conditions

## Bank Purchasers

- Segment of the market most affected by the lower tax rate as smaller after tax gross up likely to cause banks to demand an incremental yield for municipal bonds
- Banks will always need long duration, high quality bonds because they hold municipal bonds when there is not demand for loans
  - Banks may demand incremental yield to compensate for the lower tax rate
  - However, may not have enough loan demand and have to settle and buy municipal bonds at market yields in order to put deposits to work

## Property and Casualty Insurance Companies

- For every dollar of tax-exempt income received, required to reduce other tax deductions by 15 cents; effectively a tax on owning municipal bonds

# Impact of Corporate Federal Income Tax Rate on the Municipal Investor Base (Cont'd)

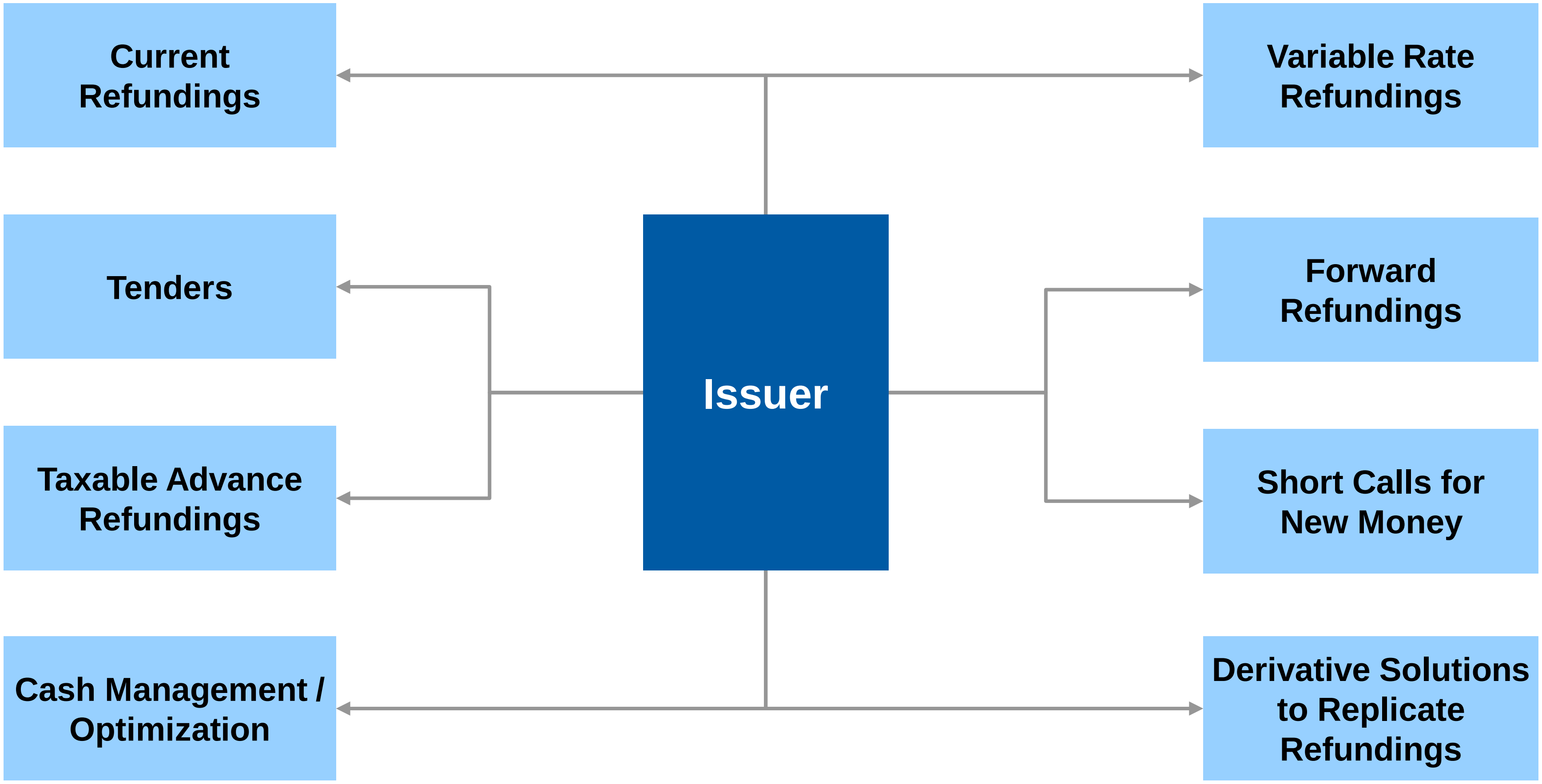
## Property and Casualty Insurance Companies (Cont'd)

- Tax Cuts and Jobs Act lowered the corporate tax rate but increased this proration resulting in the implied tax effect of owning municipal bonds remaining the same
- Some firms manage all Fixed Income assets against a benchmark and use the tax rate to measure benefit of a municipal bond; in this case, would need municipal bonds to cheapen in order to maintain the same level of demand

## Life Insurance Companies

- Not a major player in the municipal market as they require long duration assets to properly match assets and liabilities of long term insurance policies
- Most tax-exempt municipal bonds are callable with a risk that the bonds may be called before final maturity and not be there to match liabilities
  - Prefer long duration non-callable corporate bonds that do not expose firms to call risk
  - Increase in long duration non-callable municipal bonds would increase their demand

# Alternatives to Advance Refundings



# Taxable Refunding -- Virginia Port Authority

## $243,195,000 Port Facilities Revenue Refunding Bonds, Series 2016AB

- Morgan Stanley worked extensively with the Authority to craft a new Resolution in order to establish the new flow of funds
- Morgan Stanley served as dealer manager on a tender for certain outstanding bonds, providing additional debt service savings
- The underwriting syndicate generated over $521 million of orders for the Series 2016A bonds
- The Series 2016A taxable bonds achieved an all-in-TIC of 4.131%

THE PORT OF VIRGINIA

$243,195,000

**Virginia Port Authority**

Port Facilities Revenue Refunding Bonds

**$143,965,000 Series 2016A (Taxable)**

***Morgan Stanley: Bookrunner***

**$99,230,000 Series 2016B (AMT)**

***Morgan Stanley: Co-Senior Manager***

***Tender Dealer Manager:***

***Morgan Stanley***

Ratings

Senior Bonds: A1/A- (M/S)

**Transaction Highlights**

- On November 8, 2016, Morgan Stanley served as senior manager on Virginia Port Authority's $143.965 million Port Facilities Revenue Refunding Bonds Series 2016A and as co-senior manager on the $99.230 million Port Facilities Revenue Refunding Bonds Series 2016B
- The Series 2016AB Bonds were issued to refund and defease all of VPA's outstanding Port Facilities Revenue Bonds and Equipment Lease Obligations in connection with VPA's lease transaction with Virginia International Gateway ("VIG")
- Morgan Stanley and BAML conducted an extensive pre-marketing campaign, including investor presentations in Boston and New York and an online roadshow
- Ultimately over 28 investors viewed the online roadshow
- The taxable bonds were well received with maturities oversubscribed, including the 2036 term bond which was 8.0x oversubscribed, allowing spreads to be tightened by 2-15 basis points after the indications of interest period
- ***Final taxable spreads to Treasury securities ranged from 45 bps to 92 bps in 2018-2024 and from 102 bps to 185 bps in 2025-2045***

# Enhancing Flexibility – Alternate Call Options

## Use of Short Calls

- With the elimination of tax-exempt advance refundings, issuers are considering shorter call features
- Benefits of a shorter call:
  - –Option value (e.g. flexibility to take advantage of future market conditions that generate savings or to restructure debt)
  - –Lower stated yield / yield-to-call
- Cost of a shorter call:
  - –Higher yield-to-maturity if bonds remain outstanding past their call date
- The market witnessed an increase in short calls starting in November 2017, and their value (on a yield-to-call basis) has fluctuated
- A short-call can be applied to a portion of, or different maturities of a financing. For example:
  - –State of California March GO Bonds ($2.2 billion): Combination of 5- and 8-year par calls

## Yield Comparison: 5-Year, 7-Year, 10-Year Call Date

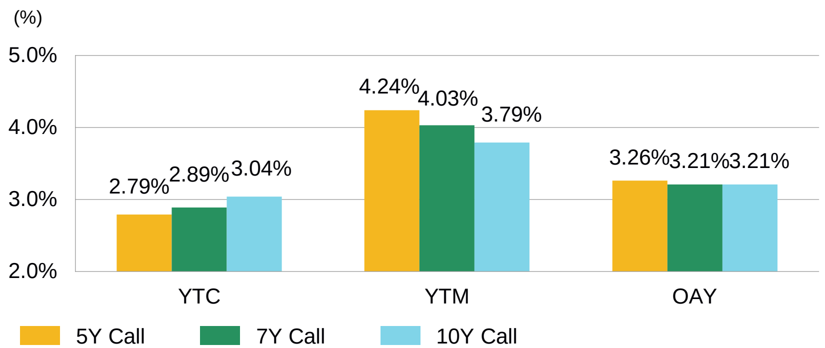
Current Market Conditions

| | 5-Year Call | 7-Year Call | 10-Year Call |
|---|---|---|---|
| Maturity (20 Year) | 6/1/2038 | 6/1/2038 | 6/1/2038 |
| Call Date | 6/1/2023 | 6/1/2025 | 6/1/2028 |
| Coupon | 5.00% | 5.00% | 5.00% |
| MMD | 2.84% | 2.84% | 2.84% |
| Spread | -5 bps | +5 bps | +20 bps |
| Stated Yield | 2.79% | 2.89% | 3.04% |
| Pricing to Date | 6/1/2023 | 6/1/2025 | 6/1/2028 |
| Yield-to-Call | 2.79% | 2.89% | 3.04% |
| Yield-to-Maturity | 4.24% | 4.03% | 3.79% |
| Theoretical Option Value (in Price) | 15.13 | 13.01 | 9.55 |
| Option-Adjusted-Yield | 3.26% | 3.21% | 3.21% |

**Note:** Option value assumes 15% volatility

## Yield Comparison: 5-Year, 7-Year, and 10-Year Call Date

Current Market Conditions




YTC = Yield-to-Call (Stated Yield)
YTM = Yield-to-Maturity
OAY = Option Adjusted Yield

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APPENDIX A

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