



TUCSON UNIFIED  
SCHOOL DISTRICT

# Tucson Unified School District of Pima County, Arizona

Refunding Update and Market Update

December 12, 2017

Stifel Team:

Robert Casillas, Managing Director

Randie Stein, Director

Sandra Day, Vice President

- Potential negative impact to issuers of Municipal Bonds (school districts, cities, towns, counties, universities and other public entities)
- House and Senate bills both repeal Tax-Exempt Advance Refunding Bonds
- Possible repeal of Tax Credit Bonds
- Potential negative impact on Build America Bonds (“BABs”) and Qualified School Construction Bonds (“QSCBs”)
  - TUSD issued BABs in 2010 and a QSCBs Lease Purchase in 2014
  - Potential negative impact to Direct Pay Subsidies from US Treasury
  - Tax Reform could indirectly eliminate or reduce Direct Pay Subsidy (which would negatively impact the District’s outstanding BABs and QSCBs interest subsidy)
- Potential changes to other tax rules that would impact Municipal Bonds

# Principal Amount of Bonds Outstanding (\$000s)

Fiscal Year Ending (July 1)	\$57,000 School Improvement Bonds Project of 2004 Series D (2008) (Class B Bonds) Dated: 7/31/08		\$67,230 School Improvement Bonds Project of 2004 (Build America Bonds - Direct Payment) Federally Taxable Series E-2 (2010) (Class B Bonds) Dated: 7/14/10		\$45,725 Refunding Bonds Series 2010 (Class A and B Bonds) Dated: 12/22/10			\$28,115 Refunding Bonds Tax-Exempt Series 2011 (Class B Bonds) Dated: 12/21/11		\$63,000 Refunding Bonds Series 2016 (Class B Bonds) Dated: 8/25/16			Total Principal	Total Principal	Total	Total Debt for Capacity Purposes
	Principal	Coupon	Principal	Coupon	Class A Principal	Class B Principal	Coupon	Principal	Coupon	Principal	Net OIP	Coupon	Class A	Class B	Net OIP	
2018	\$2,000	4.000%	\$3,720	4.617%	\$55		4.000%	\$2,740	4.000%	\$2,005	\$72.35094	4.000%	\$55	\$10,465	\$72.35094	\$10,592.35094
2019			3,865	4.767%	55		4.000%	2,845	5.000%	4,085	216.11386	4.000%	55	10,795	216.11386	11,066.11386
2020			4,020	4.967%	60		4.000%	2,995	5.000%	4,165	278.33073	4.000%	60	11,180	278.33073	11,518.33073
2021			4,180	5.117%	60		4.000%	3,140	5.000%	4,535	489.77023	5.000%	60	11,855	489.77023	12,404.77023
2022			4,390	5.917%	65		4.000%	3,295	5.000%	4,950	601.98828	5.000%	65	12,635	601.98828	13,301.98828
2023			4,570	5.917%				3,460	5.000%	5,365	718.81402	5.000%	0	13,395	718.81402	14,113.81402
2024			4,800	5.917%				1,045	4.000%	6,070	897.55862	5.000%	0	11,915	897.55862	12,812.55862
2025			5,040	5.917%						10,280	1,647.78406	5.000%	0	15,320	1,647.78406	16,967.78406
2026			5,290	6.312%						11,360	1,938.64298	5.000%	0	16,650	1,938.64298	18,588.64298
2027			5,555	6.312%						9,900	456.70943	3.000%	0	15,455	456.70943	15,911.70943
2028			5,805	6.312%									0	5,805	0.00000	5,805.00000
2029			6,015	6.312%									0	6,015	0.00000	6,015.00000
2030			6,405	6.312%									0	6,405	0.00000	6,405.00000
	<u>\$2,000</u>		<u>\$63,655</u>		<u>\$295</u>	<u>\$0</u>		<u>\$19,520</u>		<u>\$62,715</u>	<u>\$7,318.06315</u>		<u>\$295</u>	<u>\$147,890</u>	<u>\$7,318.06315</u>	<u>\$155,503.0631</u>

Call Features:	Remaining Bonds Non-Callable	7/1/21 and After Callable 7/1/20 @ par Extraordinary Optional Redemption	Non-Callable	7/1/23 and After Callable 7/1/22 @ par	7/1/27 Callable 7/1/26 @ par
Insurer:	FSA	None	None	None	Build Amerca Mutual
Purpose:	School Improvements	School Improvements	Advanced Refunding	Advanced Refunding	Advanced Refunding

\$52,050  
Callable on  
7/1/20

\$4,505  
Callable on  
7/1/22

\$9,900  
Callable on  
7/1/26

\$66,455 = Callable bonds

# Refunding Analysis

*Estimated Refunding NPV Savings: ~\$1.5 million (3.0% of par value refunded)*

Maturity	Prior Bonds Being Refunded		Refunding Bonds		Estimated Gross Savings	Estimated PV Savings
	Debt Service	Principal	Net Interest	Debt Service		
7/1/2018	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7/1/2019	-	-	-	-	-	-
7/1/2020	-	-	-	-	-	-
7/1/2021	7,341,185	3,840,000	3,306,491	7,146,491	194,694	<b>175,898</b>
7/1/2022	7,337,294	4,060,000	3,082,971	7,142,971	194,324	<b>170,865</b>
7/1/2023	7,257,538	4,225,000	2,835,656	7,060,656	196,882	<b>168,361</b>
7/1/2024	7,217,131	4,485,000	2,536,010	7,021,010	196,121	<b>163,333</b>
7/1/2025	7,173,115	4,760,000	2,218,915	6,978,915	194,200	<b>157,531</b>
7/1/2026	7,124,898	5,045,000	1,883,428	6,928,428	196,470	<b>155,265</b>
7/1/2027	7,055,994	5,335,000	1,522,025	6,857,025	198,969	<b>153,130</b>
7/1/2028	6,955,362	5,620,000	1,140,653	6,760,653	194,709	<b>145,948</b>
7/1/2029	6,798,950	5,860,000	739,873	6,599,873	199,077	<b>145,352</b>
7/1/2030	6,809,284	6,230,000	381,360	6,611,360	197,923	<b>140,493</b>
<b>Totals</b>	<b>\$ 71,070,752</b>	<b>\$ 49,460,000</b>	<b>\$ 19,647,384</b>	<b>\$ 69,107,384</b>	<b>\$ 1,963,368</b>	<b>\$ 1,576,175</b>

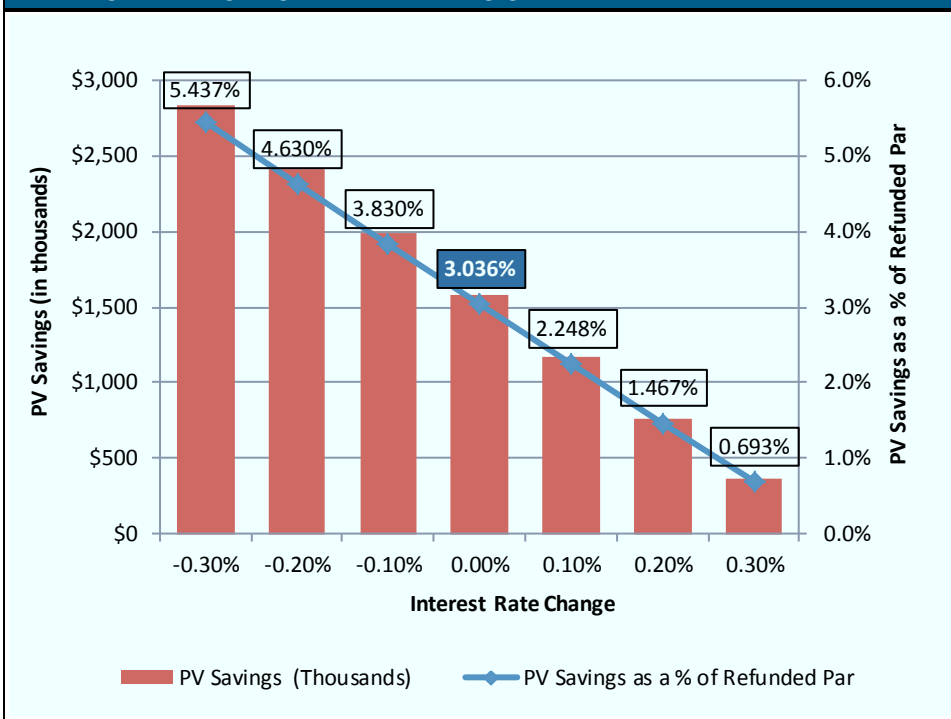
Estimated PV Savings: **\$ 1,576,175**  
 Plus: Refunding Funds: **4,310**  
 Estimated Net PV Savings: **\$ 1,580,486**

**Estimated All-in TIC: 3.0%**

## STATISTICS

Delivery Date:	12/28/2017
Refunded Par:	\$52,050,000
Refunding Par:	\$49,460,000
Arbitrage Yield:	2.7653%
Escrow Yield:	1.7988%
Value of Negative Arbitrage:	\$1,257,239
True Interest Cost:	2.9100%
All-In True Interest Cost:	2.9680%
Average Life (Years):	8.452
Savings Structure:	Uniform
Net Cash Flow Savings:	\$1,963,368
Est. Net Present Value Savings:	\$1,580,486
Est. Net Present Value Savings (%):	3.036%

## INTEREST RATE SENSITIVITY ANALYSIS



Adjustment to the Bond Yields	Projected Par Value	Projected PV Savings	PV Savings as a % of Refunded Par
-0.30%	\$49,030,000	\$2,829,839	5.437%
-0.20%	49,170,000	2,409,697	4.630%
-0.10%	49,315,000	1,993,299	3.830%
<b>0.00%</b>	<b>49,460,000</b>	<b>1,580,486</b>	<b>3.036%</b>
0.10%	49,605,000	1,170,255	2.248%
0.20%	49,750,000	763,651	1.467%
0.30%	49,895,000	360,733	0.693%

# Refunding Analysis

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fiscal Year	Combined Valuation (a)	Debt Service (b)	Secondary Bond Tax Rate (c)	Bonds Being Refunded \$52,050,000 Refunding Bonds		Refunding Bonds \$49,460,000 Refunding Bonds Series 2017 Bonds Dated: 12/28/17			Bonds Outstanding Net of Refunding		Estimated Annual Secondary Bond Tax Rate Reduction
				Class "B" Principal	Interest	Class "B" Principal	Estimated Interest (d)	Less: Escrow Payments	Estimated Debt Service	Secondary Bond Tax Rate (c)	
2017/18	\$3,215,767,737	\$16,836,432	\$0.55				\$1,155,493	\$1,155,493	\$16,836,432	\$0.55	
2018/19	3,215,767,737	16,773,213	0.52				2,273,100	2,273,100	16,773,213	0.52	\$0.00
2019/20	3,215,767,737	16,727,264	0.52				2,273,100	2,273,100	16,727,264	0.52	0.00
2020/21	3,215,767,737	16,944,070	0.53	\$4,180,000	\$3,161,185	\$3,840,000	2,273,100		15,715,985	0.49	0.04
2021/22	3,215,767,737	17,194,303	0.53	4,390,000	2,947,294	4,060,000	2,119,500		16,036,509	0.50	0.04
2022/23	3,215,767,737	17,284,618	0.54	4,570,000	2,687,538	4,225,000	1,957,100		16,209,179	0.50	0.03
2023/24	3,215,767,737	15,177,875	0.47	4,800,000	2,417,131	4,485,000	1,745,850		14,191,594	0.44	0.03
2024/25	3,215,767,737	18,041,955	0.56	5,040,000	2,133,115	4,760,000	1,521,600		17,150,440	0.53	0.03
2025/26	3,215,767,737	18,652,583	0.58	5,290,000	1,834,898	5,045,000	1,283,600		17,856,285	0.56	0.02
2026/27	3,215,767,737	16,653,165	0.52	5,555,000	1,500,994	5,335,000	1,031,350		15,963,522	0.50	0.02
2027/28	3,215,767,737	6,464,687	0.20	5,805,000	1,150,362	5,620,000	764,600		5,893,925	0.18	0.02
2028/29	3,215,767,737	6,422,897	0.20	6,015,000	783,950	5,860,000	483,600		5,967,547	0.19	0.01
2029/30	3,215,767,737	6,553,010	0.20	6,405,000	404,284	6,230,000	249,200		6,222,927	0.19	0.01
2030/31	3,215,767,737	(132,160)	(0.00)				0		(132,160)	(0.00)	0.00
		\$189,593,913		\$52,050,000	\$19,020,752	\$49,460,000	\$19,131,193	\$5,701,693	\$181,412,661		\$0.25

Est. Nominal Savings:	\$8,181,252
Est. PV Savings:	\$1,580,486
% Savings:	3.0365%

Average Annual Change: **\$0.03**

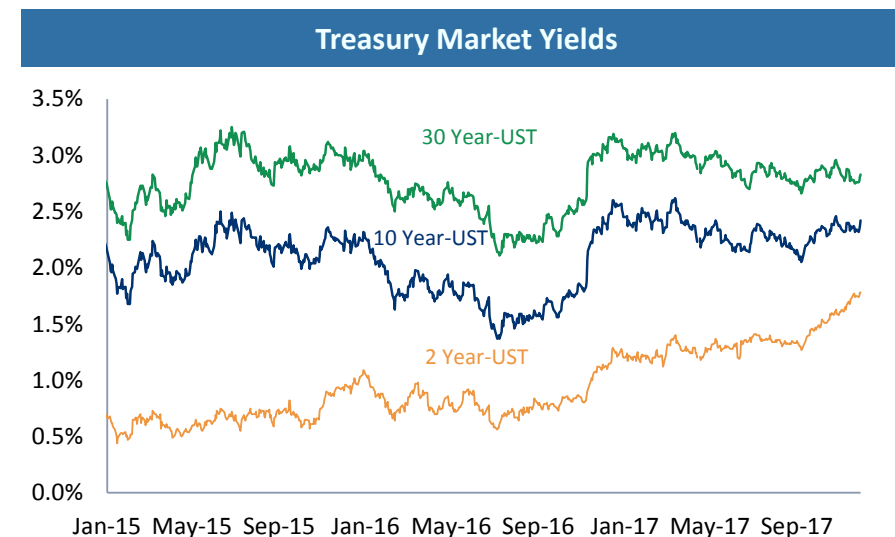
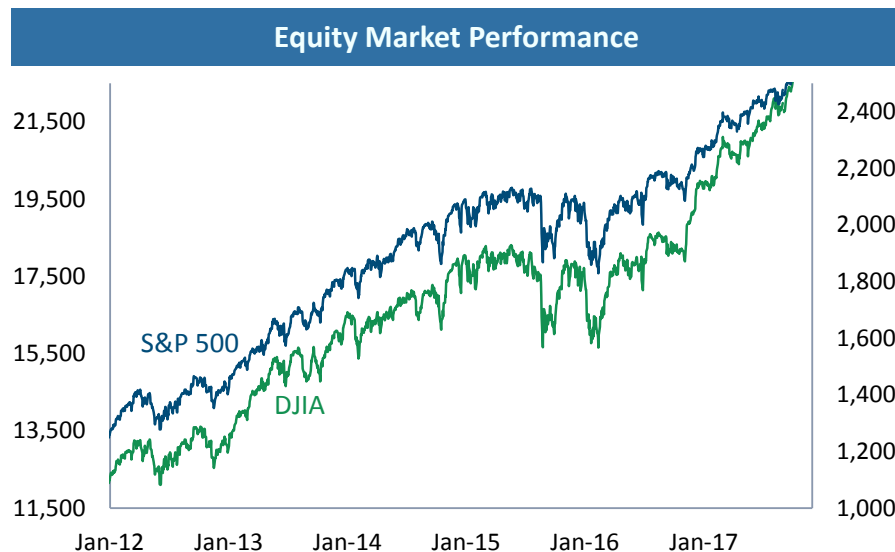
Preliminary and subject to change

- (a) Fiscal year 2017/18 is actual and reflects 4.37% change. Subsequent fiscal years assume 0.00% growth.
- (b) Includes application of 93.400% federal interest subsidy related to the District's School Improvement Bonds, Project of 2004, Federally Taxable Series E-2 (2010) (Build America Bonds - Direct Payment).
- (c) Secondary tax rates are per \$100 of assessed valuation. Fiscal year 2018/19 assumes a delinquency rate of 0.00%. Subsequent projected tax rates are not adjusted for interest earnings, arbitrage rebate or delinquent tax collections (if any).
- (d) Interest is estimated.

December 2017						
S	M	T	W	TH	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

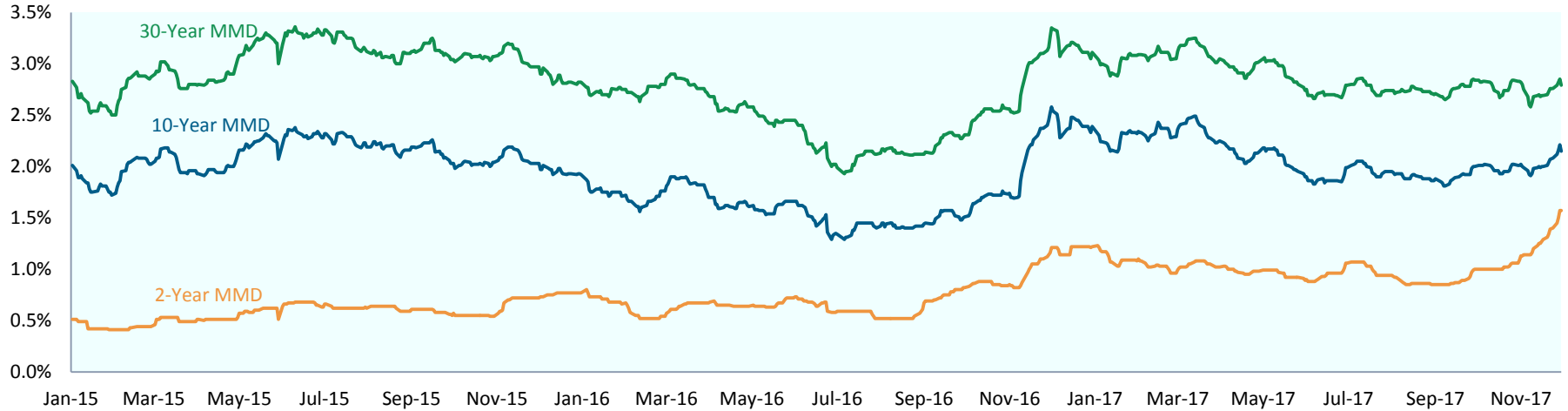
Date	Event
December 12 <sup>th</sup>	<b>Governing Board considers a resolution(s) authorizing the issuance of Refunding Bonds, Series 2017 (the “Bonds”) and granting authority to the Superintendent and/or Executive Director of Finance to approve the final terms to complete the financing(s).</b>
December 13 <sup>th</sup>	Secure credit ratings; receive insurance quotes; select insurance company (if any) based on cost benefit analysis.
December 13 <sup>th</sup>	Finalize POS and distribute electronically.
December 19 <sup>th</sup>	<b>Price Bonds and execute Bond Purchase Agreement.</b>
Week of December 18 <sup>th</sup>	Prepare final official statement and distribute to Bond investors and financing team; prepare all closing documents; and issue closing letter.
December 21 <sup>st</sup>	Closing documents sent to District; secure signatures from the Board President, Superintendent, Executive Director of Finance and Board Clerk.
December 28 <sup>th</sup>	Close the Bond issue.

- Strong equity markets through Q4 2017
  - Dow, NASDAQ and S&P 500 have consistently hit new records
- Federal Reserve expected to continue “gradual” pace of rate increases with economic recovery
  - Federal Funds Target Rate has been raised three times since December 2016, most recently from 1.00% to 1.25% at June 14, 2017 meeting
  - FOMC will implement its plan to unwind the Fed’s balance sheet
  - Economic data such as Q2 GDP growth of 3.1% supporting arguments for further rate hikes
  - Market implied probability of a December rate hike now over 96%
- Volatile fixed income markets in 2017
  - Sharp rise in rates following Trump election victory
  - Downward drift through first 10 months with geopolitical tensions and federal policy setbacks, and disappointing inflation data
  - Since September 2017 10-year Treasury yields were as low as 2.07% on 9/5/17, but have risen to 2.42% on 11/30/17

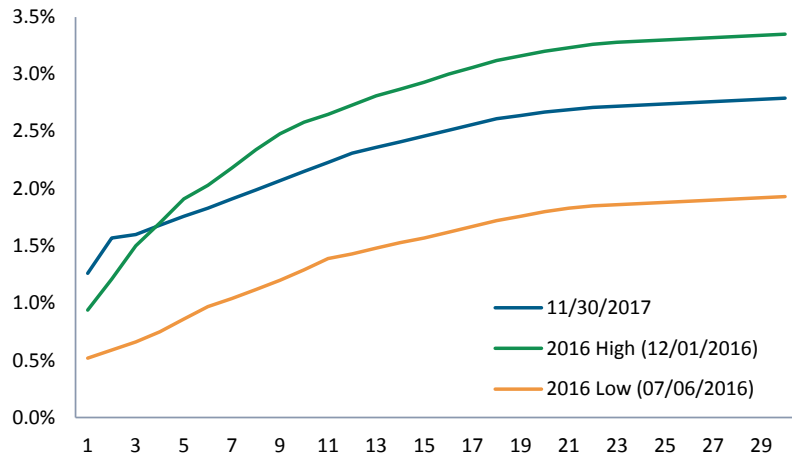




## 'AAA' Municipal Market Data Yields



## MMD Yield Curve



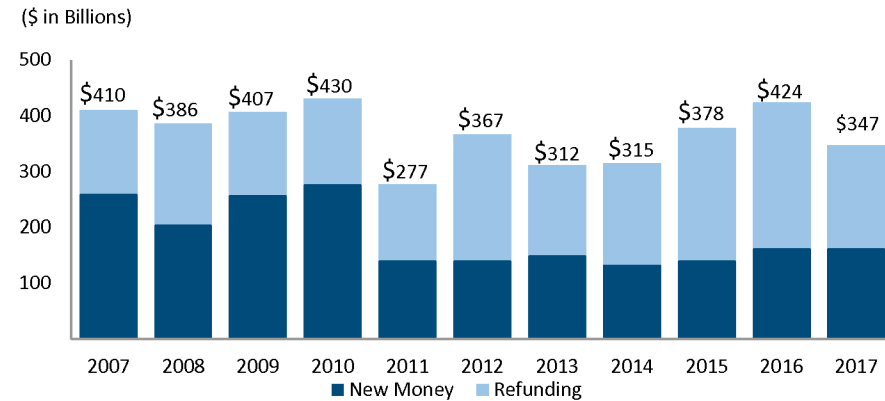
## Market Indices Snapshot

	11/30/2017	11/30/2016	Change on Year (bps)	3-Year Average	10-Year Average
<b>US Treasury</b>					
2 Year	1.78%	1.11%	67	0.94%	0.87%
10 Year	2.42%	2.37%	5	2.10%	2.63%
30 Year	2.83%	3.02%	(19)	2.78%	3.50%
<b>AAA MMD</b>					
2 Year	1.57%	1.16%	41	0.76%	0.77%
10 Year	2.15%	2.52%	(37)	1.96%	2.45%
30 Year	2.79%	3.26%	(47)	2.81%	3.62%
<b>SIFMA 7DAY</b>	0.97%	0.87%	10	0.35%	0.53%
<b>MIG 1 - 1YR</b>	1.30%	0.91%	39	0.60%	0.54%

# Municipal Market Supply and Demand

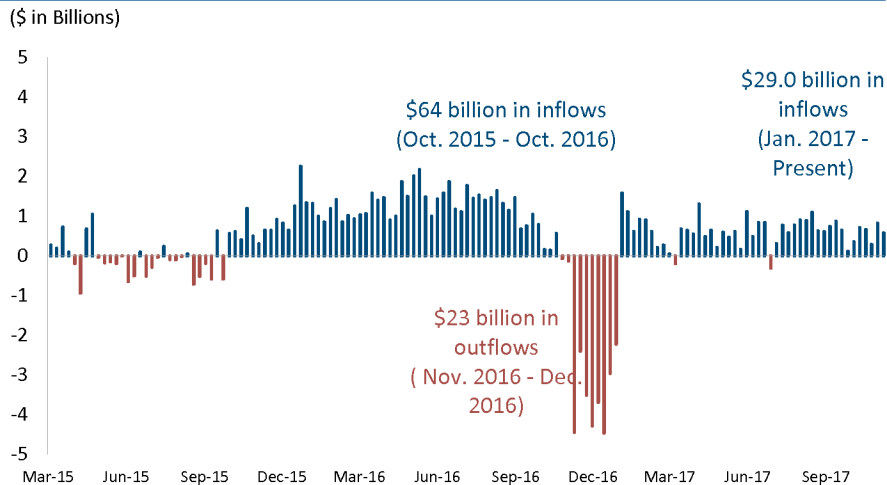
- New negotiated calendar is expected to increase
  - \$12 billion estimated this week
  - Up from the \$5 billion that priced last week
- Municipal bond funds have reported inflows this week for the second week in row
- Demand for municipal bonds is strong
  - Nearly constant inflows since the beginning of 2017
  - Supply has been manageable, dominated by refundings

## Municipal Market Annual Volume

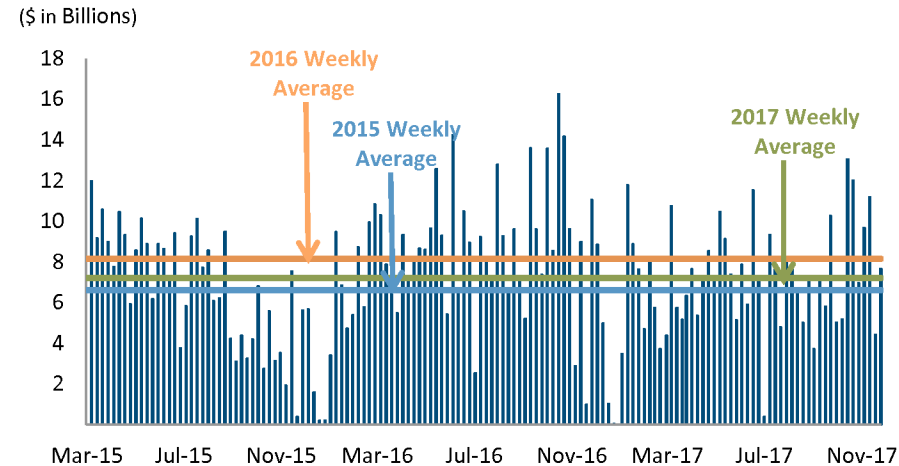


2017 Municipal Market Volume through November 30<sup>th</sup>

## Weekly Municipal Mutual Fund Flows



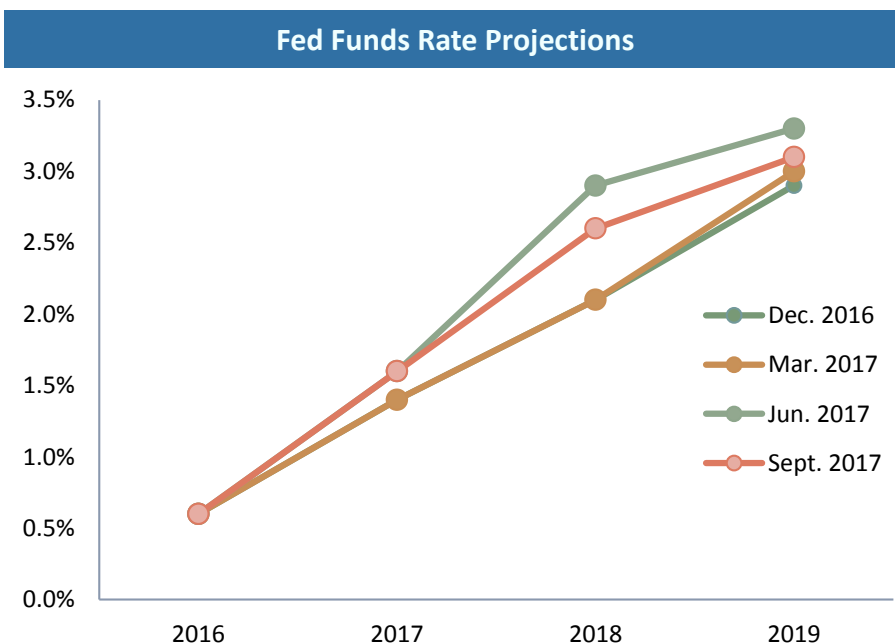
## Municipal Market Weekly Supply



<sup>1</sup>Long term issues only. Weekly averages of estimated 30-day visible supply.  
Sources: SDC, Thomson Reuters, Investment Company Institute. As of 11/30/17

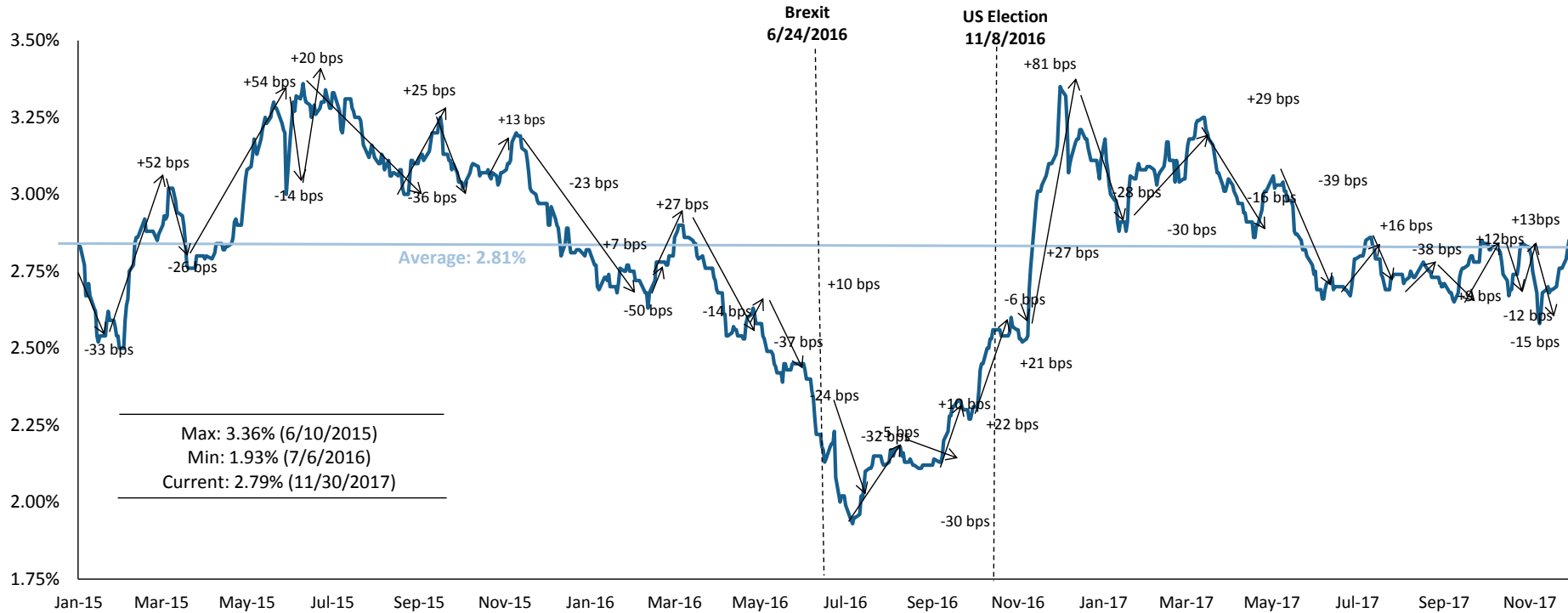
- Market consensus and Stifel expect the Fed to tighten in 2017 but at a slower pace than anticipated at the beginning of the year
  - Weak inflation data is leading to uncertainty of the future pace of rate hikes
  - Market probability of a rate hike in December stands at over 96%
- Fed meeting on June 14<sup>th</sup> hiked the federal funds rate from 1.00% to 1.25%

Market Consensus Yield Curve Projections					
	Current	4Q17	1Q18	2Q18	3Q18
Fed Funds	<b>1.25%</b>	1.50%	1.65%	1.85%	1.95%
2-Year UST	<b>1.79%</b>	1.65%	1.79%	1.97%	2.13%
10-year UST	<b>2.41%</b>	2.39%	2.52%	2.64%	2.76%
30-year UST	<b>2.87%</b>	2.94%	3.08%	3.20%	3.30%



# Market Volatility: A Defining Characteristic

30-Year AAA MMD Since January 1, 2015



**STIFEL**

2325 E. Camelback Road  
Suite 750  
Phoenix, AZ 85016

**ROBERT CASILLAS**  
*Managing Director*

Phone: (602) 794-4001  
Fax: (602) 794-4046  
Cell: (602) 432-4884  
rcasillas@stifel.com

**STIFEL**

2325 E. Camelback Road  
Suite 750  
Phoenix, AZ 85016

**RANDIE STEIN**  
*Director*

Phone: (602) 794-4002  
Fax: (602) 794-4046  
Cell: (602) 573-0414  
rstein@stifel.com

**STIFEL**

2325 E. Camelback Road  
Suite 750  
Phoenix, AZ 85016

**SANDRA DAY**  
*Vice President*

Phone: (602) 794-4010  
Fax: (602) 794-4046  
sday@stifel.com

Stifel, Nicolaus & Company, Incorporated (“Stifel”) is providing the information for discussion purposes and is declaring that it has done so within the regulatory framework of MSRB Rule G-23 as a financial advisor, as defined therein, and not an underwriter to the issuer for this proposed issuance of municipal securities. A “financial advisory relationship” shall be deemed to exist when a firm enters into an agreement to render financial advisory or consultant services to or on behalf of an issuer with respect to the issuance of municipal securities, including advice with respect to the structure, timing, terms and other similar matters. Accordingly, any services provided by Stifel as they relate to our role as financial advisor should not be construed as those of an underwriter or placement agent.

These materials have been prepared by Stifel for the client or potential client to whom such materials are directly addressed and delivered for discussion purposes only. All terms and conditions are subject to further discussion and negotiation. Stifel does not express any view as to whether financing options presented in these materials are achievable or will be available at the time of any contemplated transaction. These materials do not constitute an offer or solicitation to sell or purchase any securities and are not a commitment by Stifel to provide or arrange any financing for any transaction or to purchase any security in connection therewith and may not be relied upon as an indication that such an offer will be provided in the future. Where indicated, this presentation may contain information derived from sources other than Stifel. While we believe such information to be accurate and complete, Stifel does not guarantee the accuracy of this information. This material is based on information currently available to Stifel or its sources and are subject to change without notice. Stifel does not provide accounting, tax or legal advice; however, you should be aware that any proposed indicative transaction could have accounting, tax, legal or other implications that should be discussed with your advisors and /or counsel as you deem appropriate.