



MUNICIPAL BOND CREDIT REPORT

First Quarter 2018

RESEARCH REPORT

TABLE OF CONTENTS

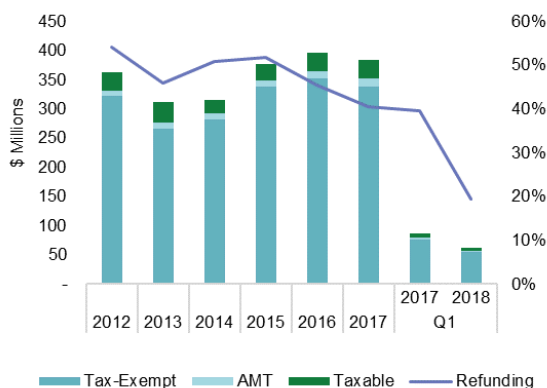
Table of Contents	i
Market Summary	2
Charts & Data.....	4
Long-Term Municipal State Issuance, 1Q'18	4
Long-Term Municipal Issuance by General Use of Proceeds	6
Build America Bonds.....	7
Supply, Yield Curves, Total Return, Spreads & Ratios	7
Trading Summary	9
Municipal CDS	10
Current State GO Rating	10
Outstanding Municipal Debt.....	11

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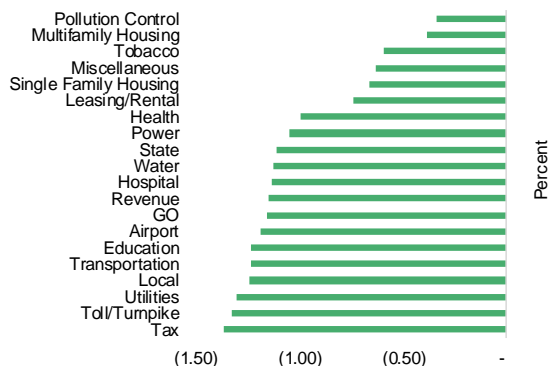
MARKET SUMMARY

Municipal Issuance



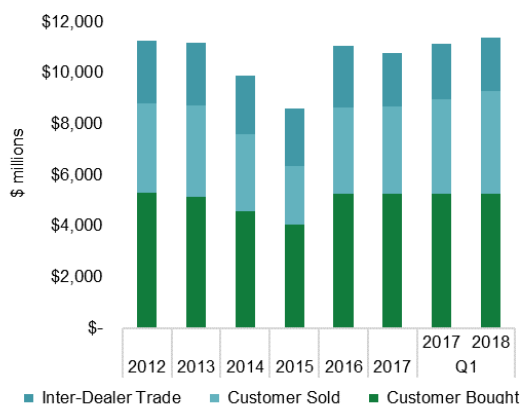
Source: Thomson Reuters

Total Return by Municipal Bond Sector (2018:Q1)



Source: ICE BofAML

Average Daily Trading Volume



Source: EMMA MSRB

Municipal Issuance Overview – Primary Market

According to Thomson Reuters, long-term public municipal issuance volume totaled \$61.9 billion in the first quarter of 2018, a decline of 54.6 percent from the prior quarter (\$136.4 billion) and a decline of 28.5 percent year-over-year (y-o-y) (\$85.5 billion). Including private placements¹ (\$1.4 billion), long-term municipal issuance for 1Q'18 was \$63.3 billion.

Tax-exempt issuance totaled \$55.1 billion in 1Q'18, a decline of 53.9 percent q-o-q and 28.0 percent y-o-y. Taxable issuance totaled \$5.0 billion in 1Q'18, a decline of 59.9 and 36.5 percent, respectively, q-o-q and y-o-y. AMT issuance was \$2.2 billion in 1Q'18, a decline of 59.0 percent q-o-q and 19.6 percent y-o-y.

By use of proceeds, general purpose led issuance totals in 1Q'18 (\$17.2 billion), followed by primary & secondary education (\$14.7 billion), higher education (\$4.2 billion), water & sewer facilities (\$4.1 billion) and toll roads/highways/streets (\$3.3 billion). Refunding volumes plummeted to 19.4 percent of issuance in 1Q'18 from 47 percent in the prior quarter as advance refundings were eliminated beginning in 2018 with the passage of the Tax Cuts and Jobs Act.²

Yields, Inflows, and Total Return

Ratios of 10-year tax-exempt AAA GOs and similar-maturity Treasuries remained unchanged in the first quarter on a q-o-q basis, averaging 86.0 percent in both 1Q'18 and 4Q'17.

According to the Investment Company Institute (ICI), fourth quarter net flow into long-term tax-exempt funds was positive, with \$10.7 billion of net inflow in 1Q'18 compared to to \$2.2 billion of inflow from 4Q'17 and \$7.1 billion of net inflow y-o-y.

According to ICE BofAML indices, municipals lost 1.1 percent in the first quarter of 2018. For the first quarter, pollution control, multifamily, and tobacco bonds outperformed among the individual municipal sectors (a decline of 0.3 percent, 0.4 percent and 0.6 percent respectively) in 1Q'18 while tax, toll/turnpike, and utilities underperformed relative to other municipal sectors (a decline of 1.3 percent in all three sectors). Build America Bonds (BABs) also lost 1.1 percent in 1Q'18, performing similar to tax-exempt bonds but outperforming similarly-rated corporate bonds (a total return loss of 2.3 percent).

Trading Activity

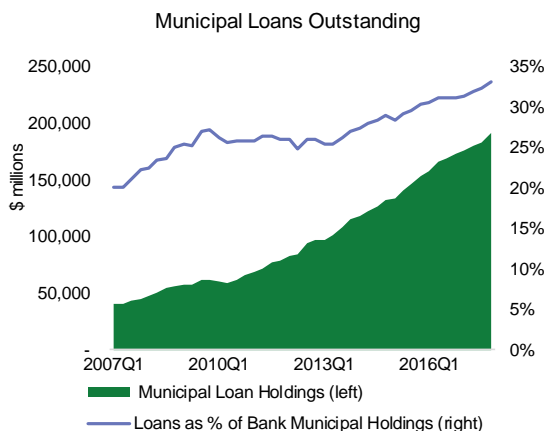
Trading activity fell q-o-q to \$11.4 billion daily in 1Q'18, a 5.5 percent decrease from 4Q'17 (\$12.0 billion) but a 2.0 percent increase from 1Q'17 (\$11.1 billion). By number of trades, trading activity rose 9.4 percent on a q-o-q basis but fell 0.6 percent on a y-o-y basis.

Broker-Dealers and Holdings

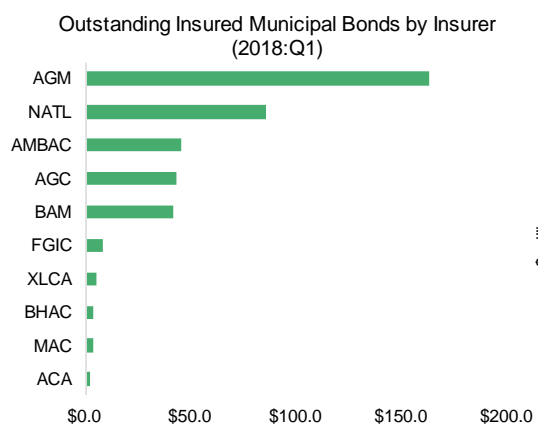
Bank holdings of municipal loans rose in 4Q'17 from the prior quarter to \$190.6 billion (from \$183.4 billion) while holdings of bonds also rose slightly to \$385.9 billion (from \$383.5 billion).

¹ Private placement figures are excluded in charts and tables.

² Percentages represent both full refundings and the half the dollar amount of deals that contain both refundings and new financing.



Source: FDIC, Federal Reserve



Source: Bloomberg

ARS, FRN and VRDO Update

Issuance of variable-rate demand obligations (VRDOs), puttable long-term municipal bonds with interest rates that reset periodically, remain muted in the first quarter. A total of \$462.7 million was issued in 1Q'18, a decline of 74.6 percent and 50.4 percent, respectively, q-o-q and y-o-y.

The SIFMA Municipal Swap index, a seven-day high-grade market index comprised of tax-exempt VRDOs, ended March at 1.58 percent, averaging 1.21 percent throughout 1Q'18, 16 basis points wider than 4Q'17's average (1.05 percent) and 52 basis points wider than 1Q'17's average (0.69 percent).

Floating rate bond issuance declined slightly quarter over quarter with \$690.8 million issued in 1Q'18, an 11.6 percent decline q-o-q and a 27.6 percent decline y-o-y.

Insured Municipal Bonds

For the first quarter of 2018, \$3.3 billion of municipal bonds issued were insured, representing approximately 5.3 percent of all issuance, down slightly year-over-year from the \$5.2 billion insured in 1Q'17 (representing 6.0 percent of issuance). As of the end of the first quarter, approximately \$395.4 billion of insured municipal bonds were outstanding, a decline of 0.4 percent q-o-q and 21.1 percent y-o-y.

Government Update

According to the Nelson A. Rockefeller Institute of Government, preliminary figures for the fourth quarter of 2017 indicate strong growth in state tax revenue with total tax collections increasing by 12.3 percent, personal income growing by 16.7 percent, sales tax income growing by 6.9 percent, and corporate income tax collections increasing by 11.0 percent.³ However, the strong growth might be attributable to the passage of Tax Cuts and Jobs Act, which created incentives to prepay state and local taxes to take advantage of expiring tax breaks.

³SUNY Rockefeller Institute of Government, "[Revenues Likely to Fluctuate Due to the Passage of the Federal Tax Cuts and Jobs Act and as States Explore Ways to Mitigate Its Impact.](#)" March 2018.

CHARTS & DATA

LONG-TERM MUNICIPAL STATE ISSUANCE, 1Q'18⁴\$ Millions⁵

	Bond Type			Tax Type			Funding Type			
	Total	G.O.	Revenue	AMT	Tax-Exempt	Taxable	New Financing	Refinancing	Refunding & New Refinancing	Refunding
Alabama	1,053.6	241.7	811.9	-	1,048.0	5.6	1,028.2	-	-	25.4
Alaska	0.0									
American Samoa	0.0									
Arizona	764.3	314.9	449.4	-	736.9	27.3	679.8	-	24.9	59.6
Arkansas	299.5	263.3	36.2	-	298.7	0.9	62.8	-	228.4	8.3
California	8,926.6	4,817.0	4,109.6	653.0	7,737.6	536.0	4,900.3	-	2,754.6	1,271.6
Colorado	1,293.9	762.8	531.1	-	1,015.2	278.8	781.2	-	273.6	239.2
Connecticut	1,843.4	669.6	1,173.8	69.6	1,770.7	3.2	1,500.4	-	-	343.0
District of Columbia	380.6	-	380.6	-	323.1	57.5	47.6	-	-	333.1
Delaware	237.5	237.5	-	-	212.5	25.0	237.5	-	-	-
Florida	1,539.9	-	1,539.9	-	1,496.1	43.9	982.4	-	198.2	359.3
Georgia	1,691.9	272.5	1,419.4	-	1,536.5	155.4	1,528.8	-	163.0	-
Guam	0.0									
Hawaii	1,039.9	681.2	358.7	-	948.0	91.9	681.2	-	282.8	75.8
Idaho	95.3	27.6	67.7	-	95.3	-	66.1	-	-	29.1
Illinois	2,004.3	695.7	1,308.6	119.7	1,240.0	644.5	651.3	-	3.1	1,349.9
Indiana	308.3	79.6	228.7	6.3	289.4	12.6	273.1	-	-	35.3
Iowa	282.7	239.1	43.6	-	270.2	12.4	160.8	-	39.9	82.0
Kansas	286.3	161.1	125.2	-	281.9	4.3	271.8	-	-	14.4
Kentucky	1,473.4	24.4	1,449.0	-	1,458.6	14.8	1,419.7	-	9.5	44.3
Louisiana	209.2	53.8	155.4	56.1	153.1	-	153.1	-	56.1	-
Maine	194.3	44.3	150.0	-	194.3	-	194.3	-	-	-
Maryland	1,897.6	1,326.2	571.4	-	1,847.6	50.0	1,897.6	-	-	-
Massachusetts	1,744.5	1,206.9	537.6	-	1,715.9	28.6	1,621.7	-	115.4	7.3
Michigan	1,071.2	669.8	401.4	-	1,001.4	69.7	827.6	-	43.2	200.4
Minnesota	1,433.9	1,336.7	97.2	1.1	1,392.7	40.1	1,312.8	-	100.7	20.4
Mississippi	148.6	101.8	46.8	-	141.2	7.4	128.6	-	13.3	6.8
Missouri	839.5	313.1	526.4	-	759.9	79.6	621.7	-	150.0	67.8
Montana	158.9	75.6	83.3	-	158.9	-	158.9	-	-	-
Nebraska	164.1	32.1	132.0	32.0	132.1	-	101.1	-	6.2	56.8
Nevada	299.5	284.0	15.5	3.0	296.4	-	220.4	-	-	79.1
New Hampshire	117.3	28.4	88.9	4.5	111.7	1.1	117.3	-	-	-
New Jersey	985.5	573.9	411.6	-	861.0	124.5	931.4	-	52.8	1.3
New Mexico	241.0	84.2	156.8	-	241.0	-	116.7	-	124.3	-
New York	8,222.1	2,738.8	5,483.3	760.4	6,754.0	707.7	5,218.1	-	1,753.4	1,250.5
North Carolina	518.0	308.9	209.1	-	439.5	78.5	480.8	-	-	37.1
North Dakota	20.9	13.6	7.3	-	20.9	-	11.2	-	-	9.7
Ohio	2,442.4	1,299.6	1,142.8	-	2,369.5	72.9	2,253.8	-	5.6	183.0
Oklahoma	2,032.7	424.6	1,608.1	-	1,583.4	449.4	1,983.6	-	49.2	-
Oregon	973.4	507.7	465.7	240.3	722.9	10.2	913.9	-	31.3	28.3
Pennsylvania	2,980.2	730.2	2,250.0	-	2,531.4	448.8	2,623.1	-	156.2	200.9
Puerto Rico	0.0									
Rhode Island	96.7	12.5	84.2	-	51.7	45.0	57.5	-	-	39.2
South Carolina	194.8	157.1	37.7	-	194.4	0.5	194.8	-	-	-
South Dakota	23.4	11.2	12.2	-	23.4	-	6.5	-	-	16.9
Tennessee	461.8	321.5	140.3	-	429.2	32.6	383.5	-	4.1	74.2
Texas	5,729.5	3,543.4	2,186.1	267.6	5,368.0	93.8	4,154.5	-	1,377.8	197.2
Utah	1,022.2	610.5	411.7	-	1,020.8	1.4	714.0	-	199.3	108.9
Vermont	45.8	-	45.8	-	8.0	37.8	45.8	-	-	-
Virgin Islands	0.0									
Virginia	1,099.7	416.5	683.2	-	1,013.4	86.3	1,013.4	-	-	86.3
Washington	1,485.3	701.4	783.9	-	1,483.4	1.9	949.8	-	36.0	499.5
West Virginia	84.0	-	84.0	-	43.5	40.5	8.4	-	-	75.6
Wisconsin	1,415.5	835.4	580.1	15.0	1,228.5	172.0	1,013.4	-	75.5	326.6
Wyoming	0.0									
ALL	61,874.9	28,251.7	33,623.2	2,228.6	55,051.8	4,594.4	45,702.3	0.0	8,328.4	7,844.1
QoQ	-54.6%	-42.7%	-61.4%	-59.0%	-53.9%	-59.9%	-15.9%	N/A	-66.1%	-86.3%
YoY	-28.5%	-27.0%	-29.7%	-19.6%	-28.0%	-36.5%	12.8%	N/A	-64.7%	-64.9%

⁴ Issuance totals do not include private placements.⁵ Due to securities falling into more than one category within subcategories, state breakdowns are not identical to other non-state-specific breakdowns, particularly related to coupon types (e.g., zeros are higher by dollar amount when broken out by state but would instead be assigned to the convertible or fixed rate categories when not broken out by state). This is a quirk of the SDC database.

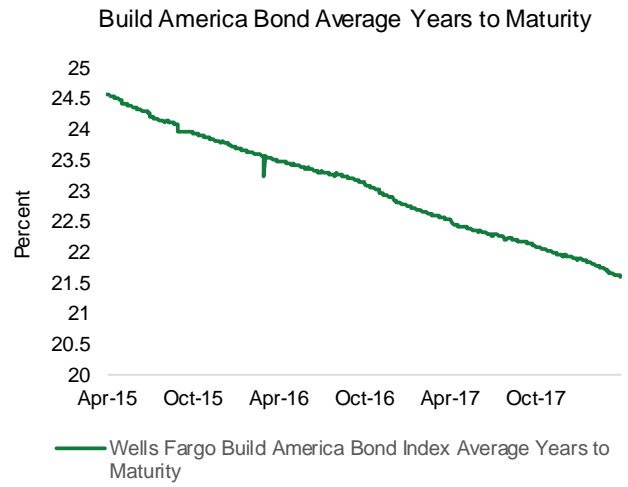
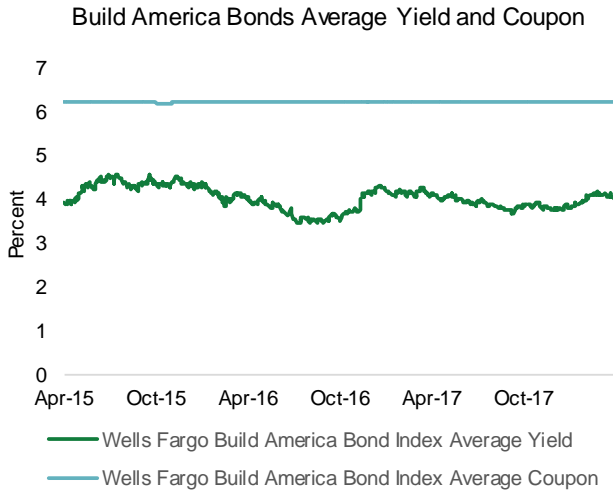
State	Coupon Type							
	Total	Convertible	Fixed Rate	Linked Rate	Variable Rate Long	Variable Rate No Put	Variable Rate Short (VRDO)	Zero
Alabama	1,053.6	-	390.1	350.0	313.6	-	-	-
Alaska	0.0	-	-	-	-	-	-	-
American Samoa	0.0	-	-	-	-	-	-	-
Arizona	764.3	-	764.2	-	-	-	-	-
Arkansas	299.5	-	299.5	-	-	-	-	-
California	8,926.6	-	8,896.5	-	-	-	-	30.0
Colorado	1,293.9	-	1,259.0	-	-	-	35.0	-
Connecticut	1,843.4	-	1,795.9	-	-	-	47.5	-
District of Columbia	380.6	-	380.6	-	-	-	-	-
Delaware	237.5	-	237.5	-	-	-	-	-
Florida	1,539.9	-	1,539.9	-	-	-	-	-
Georgia	1,691.9	-	617.7	270.0	804.2	-	-	-
Guam	0.0	-	-	-	-	-	-	-
Hawaii	1,039.9	-	1,039.9	-	-	-	-	-
Idaho	95.3	-	95.3	-	-	-	-	-
Illinois	2,004.3	-	2,001.4	-	-	-	-	2.8
Indiana	308.3	-	304.9	-	3.4	-	-	-
Iowa	282.7	-	282.6	-	-	-	-	-
Kansas	286.3	-	286.2	-	-	-	-	-
Kentucky	1,473.4	-	619.1	-	853.0	-	1.3	-
Louisiana	209.2	-	209.2	-	-	-	-	-
Maine	194.3	-	194.3	-	-	-	-	-
Maryland	1,897.6	-	1,897.6	-	-	-	-	-
Massachusetts	1,744.5	-	1,744.5	-	-	-	-	-
Michigan	1,071.2	-	1,071.1	-	-	-	-	-
Minnesota	1,433.9	-	1,341.0	-	-	-	-	92.9
Mississippi	148.6	-	148.6	-	-	-	-	-
Missouri	839.5	-	830.0	-	9.5	-	-	-
Montana	158.9	-	158.9	-	-	-	-	-
Nebraska	164.1	-	132.1	-	-	-	32.0	-
Nevada	299.5	-	299.5	-	-	-	-	-
New Hampshire	117.3	-	117.3	-	-	-	-	-
New Jersey	985.5	-	985.5	-	-	-	-	-
New Mexico	241.0	-	241.0	-	-	-	-	-
New York	8,222.1	-	7,559.1	-	472.3	-	190.6	-
North Carolina	518.0	-	517.9	-	-	-	-	-
North Dakota	20.9	-	20.9	-	-	-	-	-
Ohio	2,442.4	-	2,335.2	-	-	-	107.2	-
Oklahoma	2,032.7	-	2,020.9	-	11.9	-	-	-
Oregon	973.4	-	815.1	-	-	-	-	158.3
Pennsylvania	2,980.2	-	2,909.4	70.8	-	-	-	-
Puerto Rico	0.0	-	-	-	-	-	-	-
Rhode Island	96.7	-	96.7	-	-	-	-	-
South Carolina	194.8	-	194.8	-	-	-	-	-
South Dakota	23.4	-	23.4	-	-	-	-	-
Tennessee	461.8	-	461.7	-	-	-	-	-
Texas	5,729.5	-	5,624.1	-	104.2	-	-	1.1
Utah	1,022.2	-	1,022.2	-	-	-	-	-
Vermont	45.8	-	45.8	-	-	-	-	-
Virgin Islands	0.0	-	-	-	-	-	-	-
Virginia	1,099.7	-	1,099.7	-	-	-	-	-
Washington	1,485.3	-	1,480.3	-	-	-	5.0	-
West Virginia	84.0	-	84.0	-	-	-	-	-
Wisconsin	1,415.5	-	1,371.4	-	-	-	44.1	-
Wyoming	0.0	-	-	-	-	-	-	-
ALL	61,874.9	0.0	57,863.5	690.8	2,572.1	0.0	462.7	285.1
QoQ	-54.6%	-100.0%	-55.6%	-11.6%	-3.3%	-100.0%	-74.6%	-50.6%
YoY	-28.5%	-100.0%	-30.2%	-27.6%	132.0%		-50.4%	-42.8%

LONG-TERM MUNICIPAL ISSUANCE BY GENERAL USE OF PROCEEDS

\$ Millions

Use of Proceeds	1Q'17	4Q'17	1Q'18	Q-o-Q	Y-o-Y
Airports	3,039.0	3,342.3	2,051.0	-38.6%	-32.5%
Assisted Living	56.2	544.6	90.4	-83.4%	60.9%
Bridges	2,511.2	1,040.3	351.9	-66.2%	-86.0%
Childrens hospital	209.6	870.6	330.7	-62.0%	57.8%
Churches Temples and Mosques	41.9				-100.0%
Civic & convention centers	123.3	760.5	646.4	-15.0%	424.2%
Combined utilities	184.0	217.6	203.4	-6.5%	10.5%
Cont Care Retirement Community	726.1	2,087.9	180.3	-91.4%	-75.2%
Correctional facilities	124.0	479.8	148.8	-69.0%	20.0%
Economic development	1,841.1	4,554.8	1,524.4	-66.5%	-17.2%
Fire stations & equipment	92.0	65.2	77.1	18.3%	-16.2%
Flood control	69.3	516.2	32.2	-93.8%	-53.5%
Gas	58.9	1,426.8	2,541.7	78.1%	4215.3%
General acute care hospital	4,693.3	11,810.4	2,609.3	-77.9%	-44.4%
General Medical	402.1	250.2		-100.0%	-100.0%
General purpose /public improvement	21,639.6	35,647.3	17,169.5	-51.8%	-20.7%
Government buildings	189.7	670.8	670.4	-0.1%	253.4%
Higher education	12,150.5	12,299.9	4,194.6	-65.5%	-65.5%
Industrial development		777.3	294.7	-62.1%	
Libraries & museums	146.7	255.5	53.1	-79.2%	-63.8%
Mass transportation	3,249.9	8,226.8	2,070.5	-74.8%	-36.3%
Multi family housing	1,292.5	2,879.6	831.2	-71.1%	-35.7%
Nursing homes	23.1	12.5	31.3	150.4%	35.5%
Office buildings	8.5		22.6		165.9%
Other education	162.5	295.1	165.3	-44.0%	1.7%
Other recreation	46.5	49.9	58.7	17.6%	26.2%
Parking facilities	69.6	183.0	68.6	-62.5%	-1.4%
Parks, Zoos & Beaches	143.4	350.4	75.8	-78.4%	-47.1%
Police stations & equipment	25.0	24.8	11.1	-55.2%	-55.6%
Pollution control	270.5	208.8		-100.0%	-100.0%
Primary & secondary education	18,697.6	18,268.9	14,744.6	-19.3%	-21.1%
Public power	1,812.2	4,106.5	1,191.0	-71.0%	-34.3%
Sanitation	51.8	148.0	47.3	-68.0%	-8.7%
Seaports /marine terminals	286.1	596.1	103.0	-82.7%	-64.0%
Single family housing	1,687.0	3,378.2	1,079.1	-68.1%	-36.0%
Single speciality hospital	200.6	312.2	4.8	-98.5%	-97.6%
Solid waste	29.3	482.7	30.5	-93.7%	4.1%
Stadiums & sports complexes	203.0	776.7	642.5	-17.3%	216.5%
Student loans	430.0	167.0		-100.0%	-100.0%
Telecommunications	19.7	79.1	15.6	-80.3%	-20.8%
Theatres	20.0	74.8	69.1	-7.6%	245.5%
Toll roads, highways & streets	2,882.1	8,053.6	3,306.1	-58.9%	14.7%
Water & sewer facilities	6,580.4	10,125.7	4,135.9	-59.2%	-37.1%
ALL	86,489.8	136,418.4	61,874.5	-54.6%	-28.5%

BUILD AMERICA BONDS

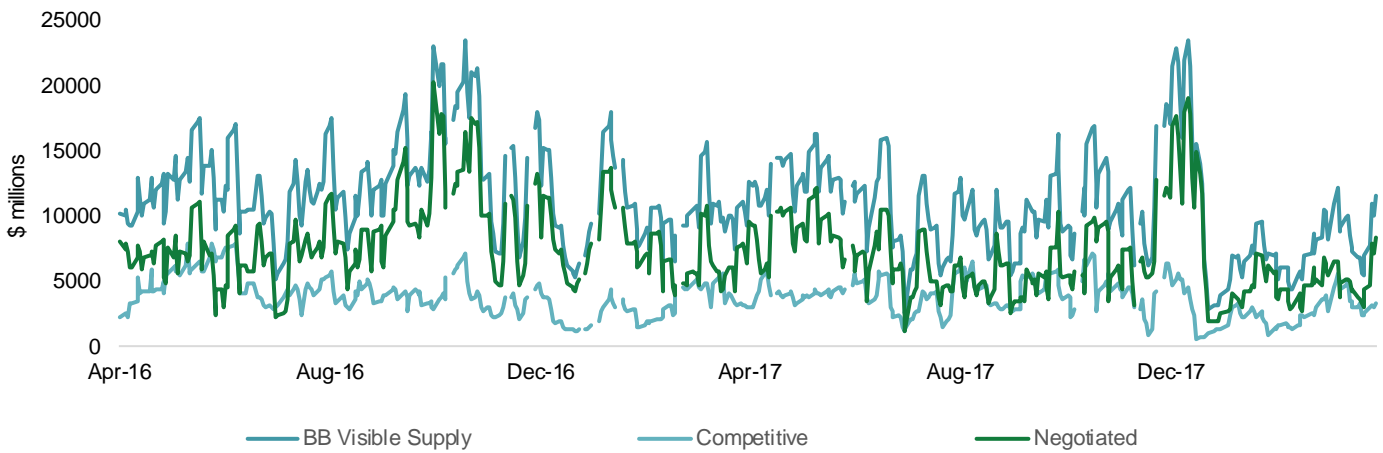


Source: Wells Fargo

Source: Wells Fargo

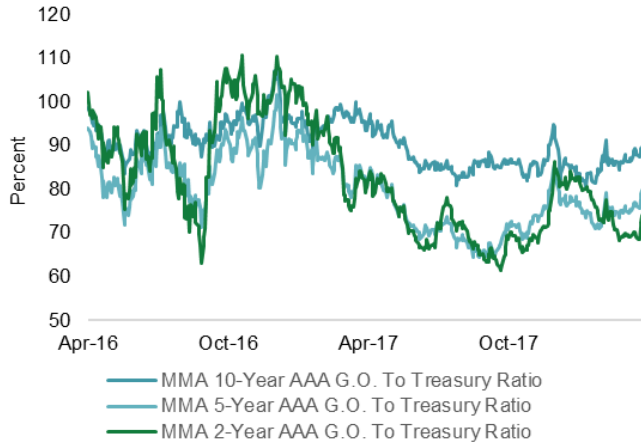
SUPPLY, YIELD CURVES, TOTAL RETURN, SPREADS & RATIOS

Bond Buyer 30-Day Visible Supply



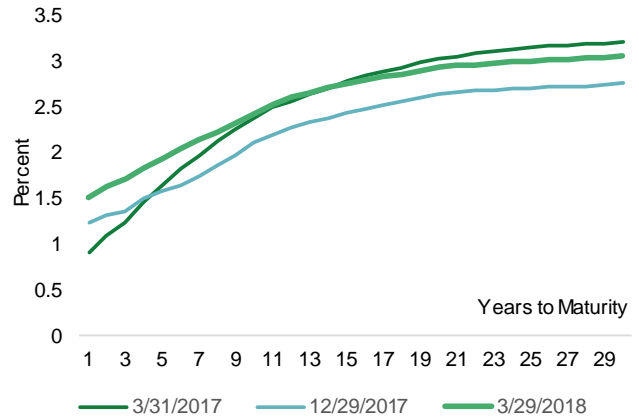
Source: Bond Buyer

2-, 5-, and 10-Year AAA G.O. to Treasury Ratios



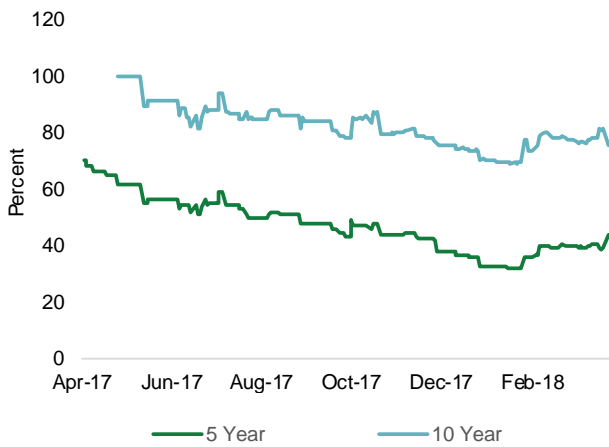
Source: MMA

MMA Yield Curves



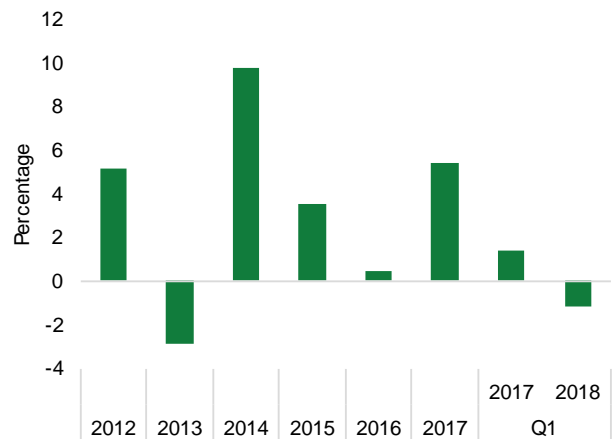
Source: MMA

MCDX (5- and 10- Year)



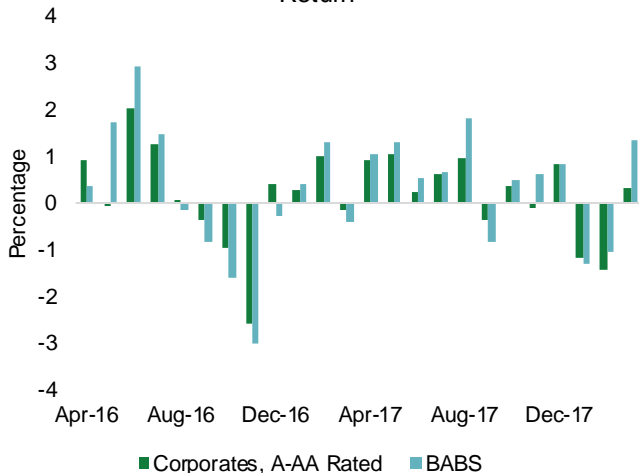
Source:Markit

Municipal Total Return



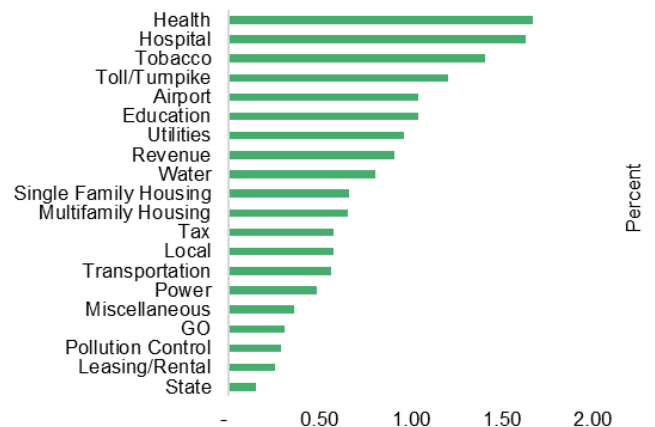
Source: ICE BofAML

Corporate versus Build America Bonds Total Return



Source:ICE BofAML

Total Return by Municipal Bond Sector (2017)



Source: ICE BofAML

TRADING SUMMARY

Total Number of Trades								
	# of Trades				Par Amount (Millions)			
	Customer Bought	Customer Sold	Inter-Dealer Trade	All Trades	Customer Bought	Customer Sold	Inter-Dealer Trade	All Trades
2017:Q4	958,373	542,705	922,019	2,423,097	382,671	235,811	138,386	\$756,868
2018:Q1	981,319	603,197	981,143	2,565,659	321,589	243,838	127,253	\$692,680
%Change	2%	11%	6%	6%	-16%	3%	-8%	-8%

	# of Trades				Par Amount (Millions)					
	0 - 100,000	100,001 - 500,000	500,001 - 1,000,000	1,000,000+	All Trades	0 - 100,000	100,001 - 500,000	500,001 - 1,000,000	1,000,000+	All Trades
2017:Q4	79%	14%	3%	4%	2,423,097	9%	11%	7%	73%	\$756,868
2018:Q1	82%	12%	2%	4%	2,565,659	10%	11%	7%	72%	\$692,680

Trades by Sector								
	Education	Health	Utility	Various Purpose	Transportation	Tax-Revenue	Other	Total (Millions)
2017:Q4	17%	12%	11%	12%	9%	10%	29%	\$756,868
2018:Q1	18%	11%	12%	12%	8%	10%	29%	\$692,680

Trades by Maturity						
	1 Year or Less	1+ Year to 5 Years	5+ Years to 10 Years	10+ Years to 20 Years	20+ Years	Total (Millions)
2017:Q4	6%	11%	15%	35%	32%	\$756,868
2018:Q1	5%	11%	16%	34%	33%	\$692,680

Trades by Source of Repayment					
	Revenue	General Obligation	Double Barrel	Not Available	Total (Millions)
2017:Q4	70%	27%	2%	1%	\$756,868
2018:Q1	69%	28%	2%	1%	\$692,680

Trades by Coupon Type					
	Fixed Rate	Variable Rate	Zero Coupon	Not Available	Total (Millions)
2017:Q4	64%	34%	2%	0%	\$756,868
2018:Q1	61%	36%	3%	0%	\$692,680

Source: MSRB EMMA

MUNICIPAL CDS

CDS Yield Curves for Single Name States and New York City (bps) as of March 29, 2018

	6M	1Y	2Y	3Y	4Y	5Y	7Y	10Y
CA California	22.7	24.6	29.4	37.7	47.1	57.1	74.5	94.4
CT Connecticut	21.4	25.9	37.5	45.5	53.1	61.0	69.7	94.4
DE Delaware	12.9	15.8	20.1	24.7	27.7	29.7	36.6	50.0
FL Florida	8.3	9.6	18.3	28.2	40.8	50.3	65.3	79.7
IL Illinois	113.4	119.7	152.7	203.4	249.2	277.0	303.6	320.0
MA Massachusetts	24.0	26.4	28.9	45.8	51.9	59.1	66.7	72.6
MD Maryland	6.0	8.3	11.9	18.7	25.2	31.9	43.3	51.6
MI Michigan	7.6	7.5	11.9	19.6	28.9	38.6	59.7	77.7
MN Minnesota	10.2	12.0	16.0	21.8	27.2	35.3	49.5	59.6
NC North Carolina	10.2	13.7	16.9	25.7	30.0	32.7	40.3	66.1
NJ New Jersey	28.8	30.1	50.2	75.6	95.1	114.2	139.0	158.1
NV Nevada	9.7	10.1	14.1	19.4	22.3	26.2	37.5	46.7
NY New York	7.8	9.4	15.4	19.9	26.8	33.3	45.8	54.4
OH Ohio	7.5	10.1	13.9	21.1	30.4	36.1	49.6	62.2
PA Pennsylvania	24.1	27.8	34.0	53.0	59.2	62.6	72.2	107.7
RI Rhode Island	5.5	9.9	20.3	36.6	413.4	46.4	66.1	96.5
SC South Carolina	4.4	4.5	9.3	14.4	22.8	27.1	36.0	46.9
TX Texas	13.5	14.3	16.7	23.5	32.7	40.3	53.9	71.0
UT Utah	6.6	7.6	13.1	18.0	24.1	28.9	37.2	43.8
VA Virginia	10.3	13.7	16.6	20.8	22.0	23.3	28.1	40.7
WA Washington	6.3	8.7	15.5	24.2	34.0	41.8	52.4	65.0
WI Wisconsin	14.5	16.9	19.7	26.7	32.4	39.4	49.8	67.5
NYC New York City	9.9	11.9	19.5	25.3	34.0	42.2	56.8	65.9

CURRENT STATE GO RATING

State	Moody's	S&P	Fitch	State	Moody's	S&P	Fitch
Alabama	Aa1	AA	AA	Montana	Aa1	AA	AA+
Alaska	Aa3	AA	AA	Nebraska			
American Samoa				Nevada	Aa2	AA	AA+
Arizona				New Hampshire	Aa1	AA	AA+
Arkansas	Aa1	AA		New Jersey	A3	A-	A
California	Aa3	AA-	AA-	New Mexico	Aa1	AA	
Colorado				New York	Aa1	AA+	AA+
Connecticut	A1	A+	A+	North Carolina	Aaa	AAA	AAA
District of Columbia	Aa1	AA	AA	North Dakota			
Delaware	Aaa	AAA	AAA	Ohio	Aa1	AA+	AA+
Florida	Aa1	AAA	AAA	Oklahoma	Aa2	AA	AA
Georgia	Aaa	AAA	AAA	Oregon	Aa1	AA+	AA+
Guam		BB-		Pennsylvania	Aa3	A+	AA-
Hawaii	Aa1	AA+	AA	Puerto Rico	Ca	D	D
Idaho				Rhode Island	Aa2	AA	AA
Illinois	Baa3	BBB-	BBB	South Carolina	Aaa	AA+	AAA
Indiana				South Dakota			
Iowa				Tennessee	Aaa	AAA	AAA
Kansas				Texas	Aaa	AAA	AAA
Kentucky	Aa3	A+		Utah	Aaa	AAA	AAA
Louisiana	Aa3	AA-	AA-	Vermont	Aaa	AA+	AAA
Maine	Aa2	AA		Virgin Islands			
Maryland	Aaa	AAA	AAA	Virginia	Aaa	AAA	AAA
Massachusetts	Aa1	AA	AA+	Washington	Aa1	AA+	AA+
Michigan	Aa1	AA-	AA	West Virginia	Aa2	AA-	AA
Minnesota	Aa1	AA+	AAA	Wisconsin	Aa1	AA	AA+
Mississippi	Aa2	AA	AA	Wyoming			
Missouri	Aaa	AAA	AAA				

OUTSTANDING MUNICIPAL DEBT

Outstanding by Type, Maturity, and Security Type⁶

\$ Millions

State	Total Outstanding	G.O.	Revenue	Due in 13 Months	Long-Term	2017:Q4 Total Outstanding	% Change
AK Alaska	10,569.6	2,643.0	7,926.6	603.5	9,966.1	10,540.9	0.3%
AL Alabama	36,526.7	6,884.3	29,642.4	1,488.7	35,038.0	36,084.7	1.2%
AR Arkansas	14,315.7	5,943.3	8,372.4	669.7	13,645.9	14,376.9	-0.4%
AS American Samoa	76.1		76.1		76.1	76.1	0.0%
AZ Arizona	56,148.5	11,755.4	44,393.1	2,650.2	53,498.4	57,680.2	-2.7%
CA California	585,600.4	224,631.3	360,969.1	25,754.7	559,845.7	585,234.4	0.1%
CO Colorado	65,990.9	16,308.1	49,682.8	3,348.9	62,642.0	64,736.4	1.9%
CT Connecticut	52,531.5	27,965.5	24,566.0	4,331.3	48,200.2	51,472.7	2.1%
DC District of Columbia	31,453.1	4,385.4	27,067.7	695.1	30,758.0	31,596.6	-0.5%
DE Delaware	7,743.0	3,395.8	4,347.2	367.9	7,375.1	7,598.9	1.9%
FL Florida	146,566.9	16,305.2	130,261.7	6,674.4	139,892.5	145,487.2	0.7%
GA Georgia	74,141.3	16,898.5	57,242.8	3,556.5	70,584.8	74,962.8	-1.1%
GU Guam	3,234.7	239.5	2,995.2	51.6	3,183.0	3,241.7	-0.2%
HI Hawaii	21,366.9	14,227.9	7,139.0	1,057.5	20,309.4	20,156.3	6.0%
IA Iowa	22,306.1	6,786.4	15,519.7	1,371.4	20,934.8	22,048.5	1.2%
ID Idaho	7,308.3	2,006.1	5,302.2	708.2	6,600.1	7,374.7	-0.9%
IL Illinois	172,212.6	82,622.8	89,589.8	8,852.4	163,360.2	176,392.4	-2.4%
IN Indiana	47,504.9	1,212.9	46,291.9	2,695.2	44,809.7	49,677.8	-4.4%
KS Kansas	26,832.5	12,682.2	14,150.3	1,778.4	25,054.2	26,337.7	1.9%
KY Kentucky	36,076.9	2,066.1	34,010.7	2,271.6	33,805.3	35,546.1	1.5%
LA Louisiana	37,553.3	7,920.4	29,632.8	1,607.1	35,946.2	38,138.4	-1.5%
MA Massachusetts	106,733.6	41,670.6	65,063.0	7,327.4	99,406.2	106,426.5	0.3%
MD Maryland	61,589.7	33,546.0	28,043.7	3,997.7	57,592.0	60,930.8	1.1%
ME Maine	8,569.3	2,057.8	6,511.5	546.2	8,023.2	8,445.4	1.5%
MI Michigan	79,168.5	25,929.6	53,239.0	4,527.6	74,641.0	78,648.0	0.7%
MN Minnesota	53,462.9	28,203.0	25,259.9	3,307.2	50,155.7	54,429.1	-1.8%
MO Missouri	48,745.4	10,155.1	38,590.3	2,235.4	46,510.0	49,881.0	-2.3%
MS Mississippi	17,531.1	6,746.4	10,784.7	779.3	16,751.8	17,827.2	-1.7%
MT Montana	4,054.3	1,504.0	2,550.3	159.6	3,894.7	4,224.4	-4.0%
NC North Carolina	52,494.1	12,323.6	40,170.5	2,821.2	49,672.9	54,133.5	-3.0%
ND North Dakota	5,878.1	2,107.3	3,770.8	288.8	5,589.3	6,005.1	-2.1%
NE Nebraska	20,372.5	6,169.4	14,203.1	1,154.2	19,218.3	21,007.9	-3.0%
NH New Hampshire	8,386.8	2,327.0	6,059.8	459.8	7,927.0	8,596.2	-2.4%
NJ New Jersey	123,627.3	25,055.5	98,571.8	11,860.2	111,767.1	124,107.4	-0.4%
NM New Mexico	14,364.9	3,531.6	10,833.4	1,025.5	13,339.4	14,258.7	0.7%
NV Nevada	26,371.0	14,476.9	11,894.1	1,269.4	25,101.6	26,424.2	-0.2%
NY New York	408,906.0	78,242.6	330,663.4	22,745.5	386,160.4	407,282.2	0.4%
OH Ohio	112,698.5	33,912.5	78,786.0	5,602.9	107,095.6	112,856.4	-0.1%
OK Oklahoma	22,661.0	4,206.3	18,454.7	1,869.7	20,791.3	21,399.5	5.9%
OR Oregon	43,635.2	24,780.2	18,855.0	2,498.8	41,136.4	42,862.3	1.8%
OT Other Territories	10,773.7	50.0	10,723.8	1,597.4	9,176.3	10,420.5	3.4%
PA Pennsylvania	138,293.9	47,035.3	91,258.6	6,823.8	131,470.0	137,119.0	0.9%
PR Puerto Rico	99,637.4	12,191.7	87,445.7	4,014.9	95,622.5	99,663.5	0.0%
RI Rhode Island	11,519.8	1,837.3	9,682.5	507.5	11,012.3	11,514.0	0.1%
SC South Carolina	38,873.0	9,951.9	28,921.1	2,450.3	36,422.7	39,953.4	-2.7%
SD South Dakota	5,835.7	1,202.2	4,633.5	219.9	5,615.8	5,886.6	-0.9%
TN Tennessee	43,710.9	16,966.6	26,744.2	2,944.1	40,766.7	44,687.7	-2.2%
TT Trust Territories	108.2	74.5	33.7		108.2	110.5	-2.1%
TX Texas	362,263.4	183,094.4	179,169.0	18,729.3	343,534.1	371,816.1	-2.6%
UT Utah	25,821.7	7,302.8	18,518.9	1,075.3	24,746.4	24,893.9	3.7%
VA Virginia	68,444.4	15,518.3	52,926.2	3,426.5	65,018.0	68,725.2	-0.4%
VI Virgin Islands	2,213.3		2,213.3	104.5	2,108.8	2,213.3	0.0%
VT Vermont	4,566.7	802.3	3,764.4	160.9	4,405.8	4,556.8	0.2%
WA Washington	91,063.4	45,954.8	45,108.6	4,676.3	86,387.0	92,194.1	-1.2%
WI Wisconsin	57,990.5	26,861.3	31,129.2	4,067.5	53,923.0	57,029.3	1.7%
WV West Virginia	10,655.3	727.6	9,927.7	374.2	10,281.1	10,666.0	-0.1%
WY Wyoming	2,212.0	131.9	2,080.1	81.4	2,130.6	2,342.4	-5.6%
TOTAL (3/31/2018)	3,649,293.1	1,193,528.0	2,455,765.1	196,264.3	3,453,028.7	3,662,299.6	-0.4%
TOTAL (12/31/2017)	3,662,299.6	1,196,367.4	2,465,932.1	194,162.2	3,468,137.4		
% Change	-0.4%	-0.2%	-0.4%	1.1%	-0.4%		

⁶ As of the first quarter 2017, outstanding totals includes both short- and long-term municipal debt and now includes all refunded (inclusive of preredefined) debt, but does not include municipal derivatives. Data prior to 1Q'17 excluded refunded debt from general totals. "Due in 13 months" looks at original maturity and will not include securities with short puts unless original maturity is within 13 months. Differences between this data and the Federal Reserve Flow of Funds are due to underlying database differences (Fed: Mergent; these tables: Bloomberg) as well as the growth of the municipal direct loan market. Fixed rate debt does not include those multimodal bonds that are currently in long-term fixed rate mode.

Outstanding and by Tax Status, Coupon⁷

\$ Millions

State	Total Outstanding	Tax-Exempt	BQ	AMT	Taxable	Fixed	Zero
AK Alaska	10,569.6	8,931.4	40.6	386.6	1,210.9	8,330.2	157.4
AL Alabama	36,526.7	28,499.7	3,808.4	838.5	3,380.1	28,379.6	963.6
AR Arkansas	14,315.7	9,709.1	3,207.0	267.8	1,131.8	13,185.3	240.1
AS American Samoa	76.1	44.2			31.9	76.1	
AZ Arizona	56,148.5	50,264.7	848.7	1,142.4	3,892.7	50,390.9	29.6
CA California	585,600.4	473,531.5	9,858.0	18,641.5	83,569.5	447,765.2	69,205.7
CO Colorado	65,990.9	52,656.5	2,661.6	2,491.6	8,181.3	52,891.9	5,856.6
CT Connecticut	52,531.5	41,311.1	1,518.7	1,344.5	8,357.2	44,385.7	454.9
DC District of Columbia	31,453.1	25,051.2	2.0	3,092.3	3,307.5	22,248.2	5,586.4
DE Delaware	7,743.0	6,097.8	59.8	197.7	1,387.7	6,401.2	0.4
FL Florida	146,566.9	119,299.8	951.4	12,103.7	14,212.0	126,624.7	3,055.9
GA Georgia	74,141.3	59,466.3	1,336.8	2,949.7	10,388.5	57,577.5	1,976.0
GU Guam	3,234.7	3,033.5		172.5	28.7	3,119.2	115.5
HI Hawaii	21,366.9	17,530.6		1,034.8	2,801.5	20,587.4	13.0
IA Iowa	22,306.1	14,730.7	4,986.7	625.1	1,963.7	18,930.7	551.8
ID Idaho	7,308.3	5,803.3	358.3	242.1	904.7	6,431.1	103.4
IL Illinois	172,212.6	122,229.2	10,732.8	4,873.2	34,377.4	138,491.2	20,877.4
IN Indiana	47,504.9	35,649.5	3,173.0	3,423.6	5,258.8	38,014.2	801.7
KS Kansas	26,832.5	18,740.6	4,156.6	300.2	3,635.1	25,667.2	267.2
KY Kentucky	36,076.9	26,258.3	3,902.1	1,234.3	4,682.2	30,855.3	360.3
LA Louisiana	37,553.3	30,333.9	1,544.2	1,993.7	3,681.5	31,152.3	1,043.5
MA Massachusetts	106,733.6	91,145.3	3,449.4	3,687.7	8,451.1	92,945.1	1,047.0
MD Maryland	61,589.7	52,848.9	205.8	1,568.4	6,966.6	56,281.0	118.8
ME Maine	8,569.3	6,667.2	568.7	450.3	883.2	7,957.6	
MI Michigan	79,168.5	59,933.3	4,667.5	2,489.7	12,078.0	61,200.4	6,836.5
MN Minnesota	53,462.9	40,142.7	6,866.1	1,215.2	5,238.8	47,617.3	931.5
MO Missouri	48,745.4	32,681.6	5,098.4	898.8	10,066.6	38,413.2	820.3
MS Mississippi	17,531.1	12,292.0	1,633.9	204.5	3,400.8	13,399.8	3.0
MT Montana	4,054.3	2,912.2	617.6	159.9	364.6	3,416.8	8.9
NC North Carolina	52,494.1	44,488.6	288.3	1,000.8	6,716.3	44,894.2	283.1
ND North Dakota	5,878.1	4,337.4	937.7	163.3	439.7	5,610.8	
NE Nebraska	20,372.5	14,708.6	3,510.1	486.6	1,667.2	18,808.6	-
NH New Hampshire	8,386.8	6,028.8	301.8	418.6	1,637.6	6,840.6	61.7
NJ New Jersey	123,627.3	96,128.2	5,846.0	5,728.1	15,925.0	103,387.2	12,805.1
NM New Mexico	14,364.9	11,901.1	868.2	313.7	1,281.9	12,083.9	7.5
NV Nevada	26,371.0	21,859.1	213.0	1,506.3	2,792.5	22,134.4	977.5
NY New York	408,906.0	331,172.6	7,281.3	18,947.5	51,504.5	340,761.9	15,589.7
OH Ohio	112,698.5	85,434.0	6,539.0	2,218.4	18,507.1	88,748.3	8,484.0
OK Oklahoma	22,661.0	17,277.1	1,669.0	755.2	2,959.6	21,211.5	45.5
OR Oregon	43,635.2	30,642.0	1,373.3	1,318.6	10,301.3	37,273.9	4,066.4
OT Other Territories	10,773.7	4,777.3		5,961.1	35.3	785.1	
PA Pennsylvania	138,293.9	106,551.2	12,082.4	5,348.8	14,311.4	116,897.2	4,107.2
PR Puerto Rico	99,637.4	81,444.6		203.9	17,988.9	55,760.7	37,222.6
RI Rhode Island	11,519.8	9,696.1	222.7	592.5	1,008.6	9,088.9	1,542.3
SC South Carolina	38,873.0	32,826.7	610.9	904.8	4,530.5	32,581.4	2,385.8
SD South Dakota	5,835.7	4,044.5	823.4	142.4	825.5	5,533.7	
TN Tennessee	43,710.9	34,105.0	2,790.3	918.7	5,896.8	36,405.0	1,925.2
TT Trust Territories	108.2	74.5		33.7	-	108.2	
TX Texas	362,263.4	280,464.8	25,860.8	15,864.2	40,073.6	304,231.6	15,792.3
UT Utah	25,821.7	19,248.9	702.3	1,001.5	4,869.0	21,686.7	110.3
VA Virginia	68,444.4	56,221.0	251.0	2,733.5	9,238.9	62,621.7	1,618.1
VI Virgin Islands	2,213.3	2,082.4		24.9	106.0	2,165.1	48.1
VT Vermont	4,566.7	3,404.6	12.3	370.9	778.9	3,753.1	
WA Washington	91,063.4	73,615.0	3,153.4	3,722.8	10,572.2	84,761.0	1,732.7
WI Wisconsin	57,990.5	40,377.5	7,705.4	1,758.2	8,149.3	53,267.2	1,020.2
WV West Virginia	10,655.3	6,370.0	351.5	578.5	3,355.4	7,302.5	2,056.3
WY Wyoming	2,212.0	1,564.8	75.3	414.4	157.5	1,546.3	
TOTAL (3/31/2018)	3,649,293.1	2,868,642.4	159,723.3	141,462.3	479,465.1	2,992,987.0	233,307.7
TOTAL (12/31/2017)	3,662,299.6	2,875,341.6	162,428.2	142,269.2	482,260.6	2,998,037.1	233,768.1
% Change	-0.4%	-0.2%	-1.7%	-0.6%	-0.6%	-0.2%	-0.2%

⁷ As of the first quarter 2017, outstanding totals includes both short- and long-term municipal debt and now includes all refunded (inclusive of preredempted) debt, but does not include municipal derivatives. Data prior to 1Q'17 excluded refunded debt from general totals. "Due in 13 months" looks at original maturity and will not include securities with short puts unless original maturity is within 13 months. Differences between this data and the Federal Reserve Flow of Funds are due to underlying database differences (Fed: Mergent; these tables: Bloomberg) as well as the growth of the municipal direct loan market. Fixed rate debt does not include those multimodal bonds that are currently in long-term fixed rate mode.

Addendum Tables –Build America Bonds, Prerefunded, Derivatives and Insured⁸

\$ Millions

State	Total Outstanding	BAB Only	Prerefunded Only	All Refunded	Derivatives Only	Insured
AK Alaska	10,569.6	354.3	695.5	846.7	131.0	626.6
AL Alabama	36,526.7	552.8	2,640.0	2,947.3	562.0	7,034.9
AR Arkansas	14,315.7	25.1	495.1	584.4		1,471.0
AS American Samoa	76.1					
AZ Arizona	56,148.5	1,896.7	5,338.4	7,386.0	1,235.3	6,627.6
CA California	585,600.4	37,206.9	42,316.4	59,702.7	17,093.4	87,533.4
CO Colorado	65,990.9	3,959.0	4,396.7	8,416.3	3,272.6	7,154.9
CT Connecticut	52,531.5	1,836.4	1,999.1	2,442.9	1,058.7	3,486.7
DC District of Columbia	31,463.1	1,851.9	1,703.9	1,861.3	1,376.8	3,307.4
DE Delaware	7,743.0	485.6	682.2	907.1	420.9	125.9
FL Florida	146,566.9	5,390.3	11,956.8	15,901.7	4,995.9	17,131.1
GA Georgia	74,141.3	3,642.4	6,526.4	8,475.6	1,605.0	6,919.2
GU Guam	3,234.7		646.8	660.6	29.0	410.9
HI Hawaii	21,366.9	1,136.3	3,188.4	3,937.4	231.0	298.4
IA Iowa	22,306.1	481.8	1,922.0	2,385.3	429.6	1,261.3
ID Idaho	7,308.3	159.9	543.9	634.2	91.3	511.3
IL Illinois	172,212.6	9,384.8	9,130.6	17,395.3	6,562.4	32,142.5
IN Indiana	47,504.9	1,758.9	3,482.0	4,495.8	1,112.8	4,217.5
KS Kansas	26,832.5	1,401.7	2,009.9	3,296.0	239.3	3,289.8
KY Kentucky	36,076.9	1,880.7	3,151.4	3,610.5	423.2	4,071.9
LA Louisiana	37,553.3	585.9	3,436.6	5,128.0	445.4	5,749.8
MA Massachusetts	106,733.6	4,789.1	10,490.8	11,761.5	3,480.6	7,988.4
MD Maryland	61,589.7	3,179.7	6,144.7	7,386.4	747.1	1,415.0
ME Maine	8,569.3	74.7	513.1	747.1	20.4	469.6
MI Michigan	79,168.5	1,675.0	4,470.3	5,538.3	2,237.9	12,186.7
MN Minnesota	53,462.9	904.8	3,222.5	4,338.4	605.4	1,552.8
MO Missouri	48,745.4	2,752.2	1,802.0	3,313.8	1,354.9	3,107.7
MS Mississippi	17,531.1	764.9	1,594.1	1,719.2	79.0	1,419.0
MT Montana	4,054.3	27.1	179.0	195.2	276.5	122.4
NC North Carolina	52,494.1	1,561.9	6,255.4	7,343.4	966.5	3,002.7
ND North Dakota	5,878.1	18.9	155.2	198.5	69.0	566.1
NE Nebraska	20,372.5	893.4	1,511.7	2,297.3	448.7	324.2
NH New Hampshire	8,386.8	344.9	983.7	1,002.3	96.9	436.5
NJ New Jersey	123,627.3	6,498.2	8,407.9	10,753.3	6,732.7	23,684.1
NM New Mexico	14,364.9	236.8	972.6	1,173.5	309.6	476.6
NV Nevada	26,371.0	2,122.1	2,074.4	2,609.6	887.7	2,030.2
NY New York	408,906.0	20,390.4	21,128.9	31,257.1	11,907.6	25,742.3
OH Ohio	112,698.5	6,615.6	8,301.9	9,213.1	1,962.3	6,901.0
OK Oklahoma	22,661.0	551.4	1,670.9	1,820.9	164.8	1,381.1
OR Oregon	43,635.2	928.0	3,704.9	3,976.8	226.7	5,523.0
OT Other Territories	10,773.7				7,027.8	100.0
PA Pennsylvania	138,293.9	4,807.7	14,207.2	16,704.3	5,513.3	27,661.8
PR Puerto Rico	99,637.4	1,013.0	13.0	666.8	1,116.8	22,723.6
RI Rhode Island	11,519.8		916.4	1,185.4	25.0	1,562.0
SC South Carolina	38,873.0	831.5	2,746.3	3,275.5	861.8	2,526.2
SD South Dakota	5,835.7	281.7	397.3	615.1	98.5	217.1
TN Tennessee	43,710.9	1,764.7	3,087.0	5,683.4	546.7	2,943.2
TT Trust Territories	108.2					
TX Texas	362,263.4	16,327.3	27,376.6	32,574.0	4,944.3	32,635.6
UT Utah	25,821.7	2,842.3	2,672.5	3,660.0	763.5	2,107.6
VA Virginia	68,444.4	3,400.2	8,015.3	9,450.9	909.2	1,117.7
VI Virgin Islands	2,213.3	37.3		2.2		294.1
VT Vermont	4,566.7	119.7	349.0	353.8	16.6	257.9
WA Washington	91,063.4	5,787.0	9,090.2	9,820.5	1,707.0	4,356.2
WI Wisconsin	57,990.5	1,525.4	5,695.6	7,486.3	1,452.7	4,242.2
WV West Virginia	10,655.3	88.2	562.3	650.6	50.2	864.2
WY Wyoming	2,212.0	124.0	84.3	88.9		96.0
TOTAL (3/31/2018)	3,649,293.1	167,270.5	265,059.0	349,878.3	98,923.2	395,406.9
TOTAL (12/31/2017)	3,662,299.6	167,795.7	282,315.1	352,681.7	97,249.0	410,796.8
% Change	-0.4%	-0.3%	-6.1%	-0.8%	1.7%	-3.7%

⁸ As of the first quarter 2017, outstanding totals includes both short- and long-term municipal debt and now includes all refunded (inclusive of prerefunded) debt, but does not include municipal derivatives. Data prior to 1Q'17 excluded refunded debt from general totals. "Due in 13 months" looks at original maturity and will not include securities with short puts unless original maturity is within 13 months. Differences between this data and the Federal Reserve Flow of Funds are due to underlying database differences (Fed: Mergent; these tables: Bloomberg) as well as the growth of the municipal direct loan market. Fixed rate debt does not include those multimodal bonds that are currently in long-term fixed rate mode.

Addendum Tables –Rating⁹

\$ Millions

State	Total Outstanding	Rated	AAA	AA	A	BBB	HY
AK Alaska	10,569.6	9,148.0	265.4	5,538.6	2,591.5	434.5	318.0
AL Alabama	36,526.7	31,400.8	833.9	15,542.6	11,367.9	863.7	2,792.7
AR Arkansas	14,315.7	11,974.2	233.7	8,853.4	2,175.1	658.8	53.3
AS American Samoa	76.1	76.1	-	-	-	-	-
AZ Arizona	56,148.5	44,343.9	2,191.1	28,727.6	9,946.8	2,063.2	1,415.3
CA California	585,600.4	475,682.6	17,039.5	306,579.1	108,826.8	29,474.4	13,762.8
CO Colorado	65,990.9	49,081.5	2,873.4	28,565.3	9,965.8	6,991.4	685.6
CT Connecticut	52,531.5	47,821.0	10,397.2	5,923.9	29,339.5	1,630.5	529.8
DC District of Columbia	31,453.1	23,729.1	290.9	15,491.5	4,717.2	2,839.0	390.5
DE Delaware	7,743.0	6,710.3	2,644.6	2,283.3	856.4	846.6	79.3
FL Florida	146,566.9	113,727.4	2,434.0	48,597.1	56,432.5	4,857.8	1,406.0
GA Georgia	74,141.3	55,986.7	13,629.3	18,061.6	21,239.6	2,681.6	374.6
GU Guam	3,234.7	2,862.4	-	-	902.7	1,876.5	83.2
HI Hawaii	21,366.9	17,061.3	141.8	14,046.7	2,299.5	462.0	111.4
IA Iowa	22,306.1	17,779.0	2,244.6	7,063.4	5,709.4	436.4	2,325.2
ID Idaho	7,308.3	5,382.5	542.1	2,476.9	2,148.9	99.9	114.8
IL Illinois	172,212.6	148,150.2	5,503.2	35,048.8	37,987.7	44,870.9	24,739.6
IN Indiana	47,504.9	37,183.9	3,914.6	18,126.5	12,318.4	2,240.5	583.8
KS Kansas	26,832.5	21,288.0	1,656.5	11,860.6	7,226.7	352.8	191.3
KY Kentucky	36,076.9	30,666.9	1,059.7	4,763.4	20,610.3	3,042.2	1,191.3
LA Louisiana	37,553.3	29,675.4	1,220.0	10,233.5	15,145.7	2,555.5	520.7
MA Massachusetts	106,733.6	88,900.2	11,015.7	64,503.2	8,820.3	3,937.6	623.4
MD Maryland	61,589.7	49,729.5	23,992.6	16,767.2	6,141.6	2,416.0	412.0
ME Maine	8,569.3	7,610.4	118.6	4,727.4	2,023.3	51.7	689.4
MI Michigan	79,168.5	62,763.6	5,420.1	32,887.2	19,559.0	2,021.4	2,875.8
MN Minnesota	53,462.9	44,871.8	7,576.6	29,670.1	6,198.8	889.5	536.9
MO Missouri	48,745.4	39,198.6	3,032.6	23,607.7	10,550.0	1,649.7	358.7
MS Mississippi	17,531.1	14,219.9	213.1	10,595.9	1,880.1	1,348.3	182.4
MT Montana	4,054.3	3,542.7	119.1	1,660.0	1,747.8	15.7	-
NC North Carolina	52,494.1	42,569.9	13,078.3	18,667.9	9,035.3	1,765.6	22.7
ND North Dakota	5,878.1	5,031.9	231.0	2,876.9	1,232.5	626.7	64.7
NE Nebraska	20,372.5	15,213.6	356.8	8,497.0	4,769.5	1,565.2	25.1
NH New Hampshire	8,386.8	7,012.1	503.6	4,110.5	1,788.1	537.2	72.7
NJ New Jersey	123,627.3	105,287.0	7,408.7	16,198.4	33,620.0	43,557.0	4,502.9
NM New Mexico	14,364.9	12,859.2	1,025.6	9,233.3	1,893.4	702.3	4.5
NV Nevada	26,371.0	20,657.0	205.5	11,916.8	7,190.4	867.8	476.6
NY New York	408,906.0	344,754.4	22,900.4	235,979.9	68,724.0	13,909.5	3,240.5
OH Ohio	112,698.5	86,250.6	8,858.4	43,263.0	22,961.9	3,759.0	7,408.3
OK Oklahoma	22,661.0	18,671.4	2,495.5	8,154.8	5,630.1	1,128.7	1,262.4
OR Oregon	43,635.2	37,407.1	3,117.4	29,314.7	4,396.6	548.7	29.7
OT Other Territories	10,773.7	9,119.2	2,667.9	6,260.1	27.7	163.5	-
PA Pennsylvania	138,293.9	114,254.1	2,651.5	29,097.6	72,105.4	6,656.6	3,743.1
PR Puerto Rico	99,637.4	82,305.2	148.4	(366.3)	2,445.1	1,032.8	79,045.1
RI Rhode Island	11,519.8	9,966.6	898.4	4,324.2	2,100.3	913.1	1,730.6
SC South Carolina	38,873.0	30,532.3	2,033.5	11,224.7	16,371.4	894.4	8.3
SD South Dakota	5,835.7	4,969.0	1,198.2	1,812.1	1,888.4	18.7	51.5
TN Tennessee	43,710.9	34,928.6	3,316.7	21,239.4	6,286.0	4,044.4	42.2
TT Trust Territories	108.2	33.7	-	-	-	-	33.7
TX Texas	362,263.4	302,083.3	134,815.3	92,806.8	53,844.4	16,016.4	4,600.4
UT Utah	25,821.7	20,618.9	6,922.1	9,856.6	3,472.1	268.4	99.8
VA Virginia	68,444.4	55,659.2	15,311.7	31,541.3	2,733.9	3,604.5	2,467.8
VI Virgin Islands	2,213.3	1,635.1	-	-	100.3	193.2	1,341.6
VT Vermont	4,566.7	3,906.5	50.7	2,242.4	1,410.3	187.1	16.0
WA Washington	91,063.4	78,744.1	4,661.8	62,606.3	9,336.8	2,009.9	129.3
WI Wisconsin	57,990.5	43,733.4	2,067.6	30,258.3	9,307.6	1,514.8	585.1
WV West Virginia	10,655.3	8,910.1	256.4	522.4	4,445.1	967.2	2,719.1
WY Wyoming	2,212.0	2,096.9	196.8	886.7	919.5	67.2	26.8
TOTAL (3/31/2018)	3,649,293.1	2,989,778.3	357,982.5	1,464,728.4	766,765.6	229,127.8	171,098.0
TOTAL (12/31/2017)	3,662,299.6	2,994,085.7	356,668.9	1,467,259.9	781,264.4	219,679.4	169,137.0
% Change	-0.4%	-0.1%	0.4%	-0.2%	-1.9%	4.3%	1.2%

⁹ As of the first quarter 2017, outstanding totals includes both short- and long-term municipal debt and now includes all refunded (inclusive of prereduced) debt, but does not include municipal derivatives. Data prior to 1Q'17 excluded refunded debt from general totals. Rating based on the lowest long-term rating assigned to the bond by Fitch Ratings, Moody's Investor Services, or Standard and Poor's; split-rated debt are therefore included in the HY category. Differences between this data and the Federal Reserve Flow of Funds are due to underlying database differences (Fed: Mergent; these tables: Bloomberg) as well as the growth of the municipal direct loan market. Fixed rate debt does not include those multimodal bonds that are currently in long-term fixed rate mode.

Addendum Tables –Industry¹⁰

Industry	2018Q1	2017Q4	QoQ Change	YoY Change
Other	525.0	551.50	-4.8%	-0.2%
Appropriations	111,862.4	114,253.61	-2.1%	-0.5%
Airport	97,530.7	97,641.67	-0.1%	0.3%
Airport Tax-Guaranteed	94.7	86.46	9.6%	-5.1%
Assisted Living	1,930.6	1,959.92	-1.5%	12.6%
Ad Valorem Backed Lease Revenue	7,098.2	7,026.54	1.0%	5.8%
Bond Bank	12,362.5	12,862.70	-3.9%	-5.1%
Continuing Care Retirement	30,866.2	31,219.16	-1.1%	5.4%
Community Development	7,066.2	6,844.43	3.2%	4.5%
Charter Schools	14,499.3	14,420.30	0.5%	14.0%
Community College District	42,021.0	40,567.88	3.6%	1.0%
Other	7.2	7.20	0.0%	0.0%
Economic/Industrial Development	86,913.7	87,949.67	-1.2%	-1.7%
Secondary Education	31,648.0	28,321.49	11.7%	-3.4%
Secondary Education - Lease Backed	55,383.7	54,586.02	1.5%	3.3%
Gas Contract	21,981.9	19,689.48	11.6%	14.4%
General Obligation	688,591.3	694,816.35	-0.9%	-0.4%
General Obligation Districts (Other)	26,335.2	26,623.39	-1.1%	0.1%
General Obligation Hospital	7,682.0	7,376.07	4.1%	-0.2%
Government Paid Lease	86,769.6	86,022.43	0.9%	-1.0%
General Revenue Tax-Guaranteed	16,469.6	16,516.99	-0.3%	-4.2%
Higher Education	246,303.8	246,207.64	0.0%	1.5%
Healthcare (General) Tax-Guaranteed	2,007.4	1,992.11	0.8%	-10.1%
Hospital	261,176.7	263,015.00	-0.7%	1.4%
Hotel Occupancy	5,050.6	5,343.21	-5.5%	-6.4%
Housing Tax- Guaranteed	1,052.6	1,152.02	-8.6%	3.2%
Intergovernmental Lease	5,422.4	5,440.70	-0.3%	-1.0%
Income Tax	71,985.1	73,241.90	-1.7%	1.9%
Independent Living	8.1	8.10	0.0%	0.0%
Correctional Facilities	2,664.1	2,655.73	0.3%	2.1%
Local multifamily housing	34,004.5	34,737.79	-2.1%	2.9%
Loan Pool	14,152.0	13,557.03	4.4%	33.8%
Lottery	4,788.8	4,820.33	-0.7%	0.9%
Local Single family housing	2,306.5	2,354.14	-2.0%	-12.6%
Metro Development	5,177.2	4,772.89	8.5%	9.2%
Melloroos	12,094.8	12,093.07	0.0%	-7.8%
Miscellaneous	41,899.0	41,994.14	-0.2%	-7.3%
Miscellaneous Tax	65,791.3	67,751.63	-2.9%	-6.1%
Mobile Home	724.4	738.97	-2.0%	6.2%
Tobacco	87,480.0	85,954.14	1.8%	1.0%
Municipal Utilities	61,187.5	62,164.17	-1.6%	-3.5%
Not for Profit Cultural	7,285.4	7,730.33	-5.8%	-9.0%
Not for Profit Foundation	1,120.4	1,065.90	5.1%	9.9%
Not for Profit Human Service Provider	3,697.7	4,113.84	-10.1%	-4.7%
Not for Profit Membership Organizatio	529.8	530.23	-0.1%	3.2%
Not for Profit Research	3,201.3	3,284.78	-2.5%	21.2%
Non-Toll Highway	40,062.9	39,097.12	2.5%	3.5%
Nuclear Power	16,872.3	16,984.47	-0.7%	-4.1%
Nursing Home	2,611.2	2,989.95	-12.7%	-12.7%
Pension	18,582.2	18,727.68	-0.8%	-3.9%
Payment in Lieu of Taxes	8,058.4	8,067.10	-0.1%	-5.9%
Parking Facility	3,133.9	3,180.32	-1.5%	-2.6%
Parking Facility - Guaranteed	1,170.6	1,173.10	-0.2%	0.4%
Port/Marinas	40,021.6	39,731.61	0.7%	1.1%
Public Power Systems	82,952.5	85,240.81	-2.7%	-1.0%
Public Transportation	38,458.1	37,365.78	2.9%	16.4%
Private Religious School	2,563.0	2,648.12	-3.2%	-10.7%
Sales	108,947.6	107,314.24	1.5%	5.3%
School Districts	411,442.0	412,817.56	-0.3%	0.2%
Self Appropriation	11,701.8	10,774.51	8.6%	9426.4%
Shell Record	1,144.5	1,110.08	3.1%	3.2%
State Multifamily Housing	39,439.8	39,024.92	1.1%	0.6%
Solid Waste	4,724.7	4,591.16	2.9%	0.4%
Special Assessment	5,358.8	5,255.94	2.0%	2.7%
State Single-family Housing	41,409.5	42,492.57	-2.5%	1.0%
Student Housing	10,613.3	10,586.60	0.3%	8.5%
Student Loan Revenue	23,497.2	24,524.65	-4.2%	-11.7%
Telecom	1,065.0	1,065.63	-0.1%	7.3%
Tax Increment Financing	30,012.0	32,322.76	-7.1%	-3.1%
Toll Roads	130,752.2	133,289.88	-1.9%	4.5%
Indian Tribal	1,296.1	1,377.52	-5.9%	-21.9%
Municipal Utility District	10,183.7	10,102.67	0.8%	3.1%
Water & Sewer Guaranteed	3,348.4	3,426.45	-2.3%	-15.4%
Water & Sewer	271,119.3	273,943.15	-1.0%	-2.0%
Total	3,649,293.1	3,665,289.4	-0.4%	0.6%

¹⁰ As of the first quarter 2017, outstanding totals includes both short- and long-term municipal debt and now includes all refunded (inclusive of prerefunded) debt, but does not include municipal derivatives. Data prior to 1Q'17 excluded refunded debt from general totals. Rating based on the lowest long-term rating assigned to the bond by Fitch Ratings, Moody's Investor Services, or Standard and Poor's; split-rated debt are therefore included in the HY category. Differences between this data and the Federal Reserve Flow of Funds are due to underlying database differences (Fed: Mergent; these tables: Bloomberg) as well as the growth of the municipal direct loan market. Fixed rate debt does not include those multimodal bonds that are currently in long-term fixed rate mode.

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