



Municipal Bond Credit Report

Second Quarter 2018

[August 2018]

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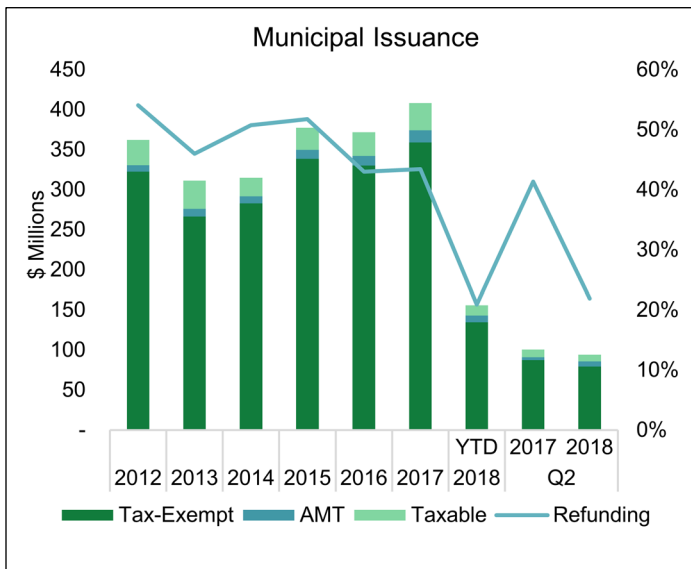
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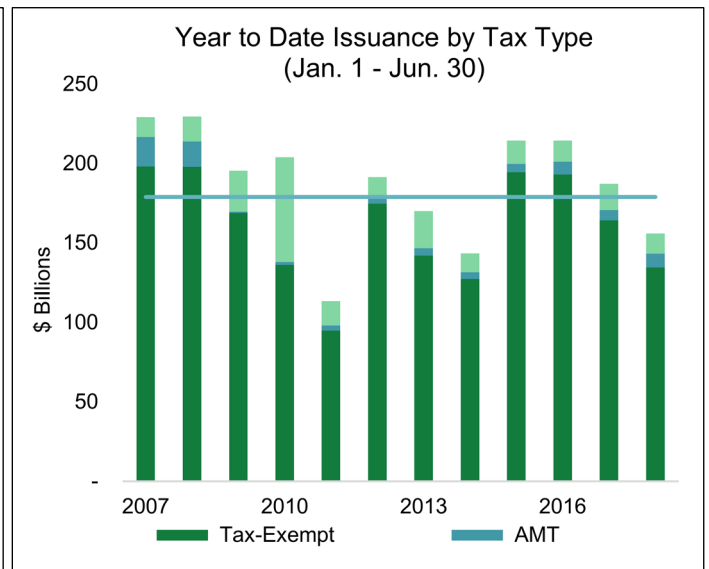
Market Summary

According to Thomson Reuters, long-term public municipal issuance volume totaled \$94.1 billion in the second quarter of 2018, an increase of 52.2 percent from the prior quarter (\$61.8 billion) but a decline of 6.6 percent year-over-year (y-o-y) (\$100.7 billion). Including private placements¹ (\$3.0 billion), long-term municipal issuance for 2Q'18 was \$97.1 billion. Year to date ending the second quarter, issuance volumes totaled \$155.9 billion, well under the 10-year average of \$179.0 billion in issuance in the first two quarters of the year.

Tax-exempt issuance totaled \$79.5 billion in 2Q'18, an increase of 44.6 percent q-o-q but a decline of 9.1 percent y-o-y. Year to date ending June, tax-exempt issuance totaled \$134.5 billion. Taxable issuance totaled \$8.1 billion in 2Q'18, an increase of 75.9 percent q-o-q but a decline of 14.9 percent y-o-y. Year to date ending June, taxable issuance totaled \$12.7 billion. AMT issuance was \$6.5 billion in 2Q'18, an increase of 190.6 percent and 72.8 percent, respectively, q-o-q and y-o-y. Year to date ending June, AMT issuance totaled \$8.7 billion.



Source: Thomson Reuters

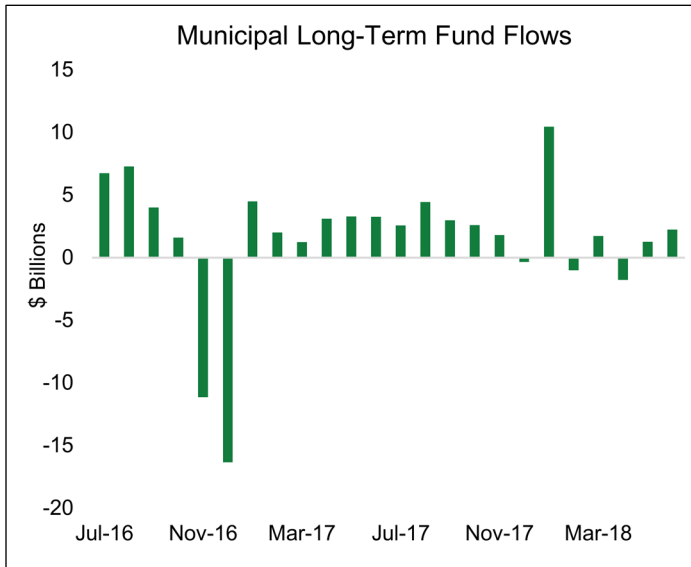


Source: Thomson Reuters

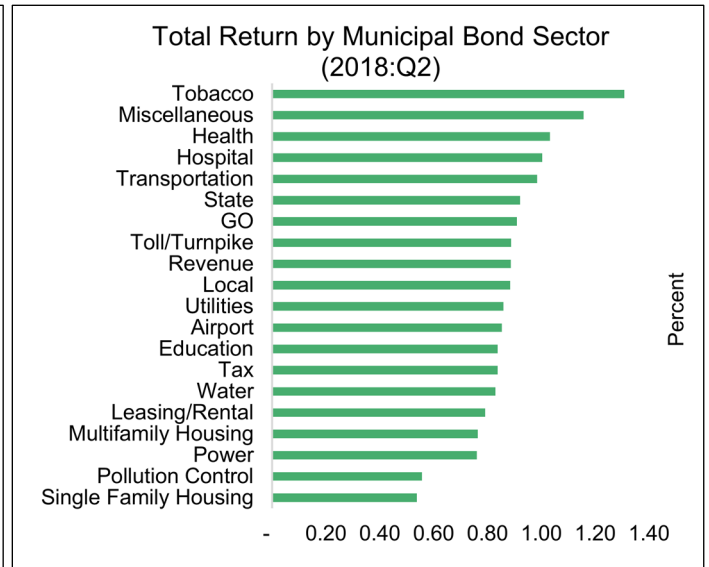
By use of proceeds, general purpose led issuance totals in 2Q'18 (\$26.7 billion), followed by primary & secondary education (\$16.2 billion), higher education (\$8.2 billion), water & sewer facilities (\$6.5 billion) and airports (\$5.6 billion). Refunding volumes rose slightly to 21.9 percent of issuance in 2Q'18 from 19.4 percent

¹ Private placement figures are excluded in charts and tables.

in the prior quarter but remain well below the averages in prior years due to the elimination of advance refundings beginning in 2018 with the passage of the Tax Cuts and Jobs Act.²



Source: ICI



Source: ICE BAML

Yields, Inflows, and Total Return

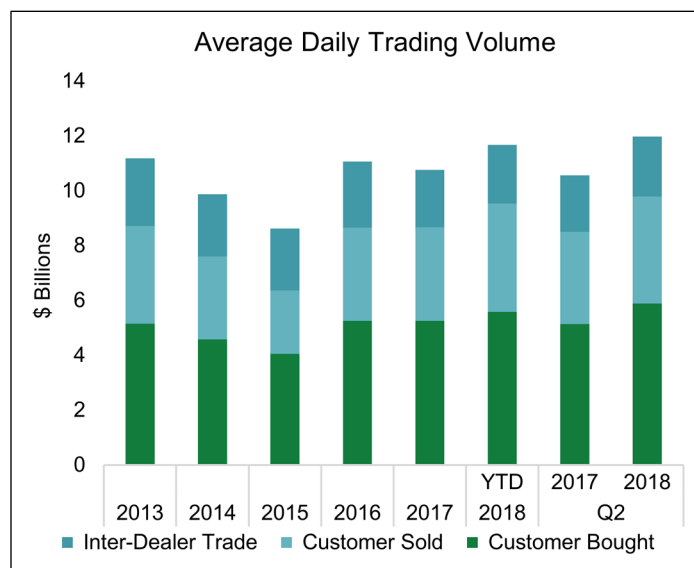
Ratios of 10-year tax-exempt AAA GOs and similar-maturity Treasuries declined slightly in the second quarter on a q-o-q basis, averaging 84.8 percent in 2Q'18 from 85.9 percent in 1Q'18.

According to the Investment Company Institute (ICI), second quarter net flow into long-term tax-exempt funds was positive although with reduced flows: there was \$1.7 billion of net inflow in 2Q'18 compared to \$11.2 billion of inflow from 1Q'18 and \$9.7 billion of net inflow y-o-y.

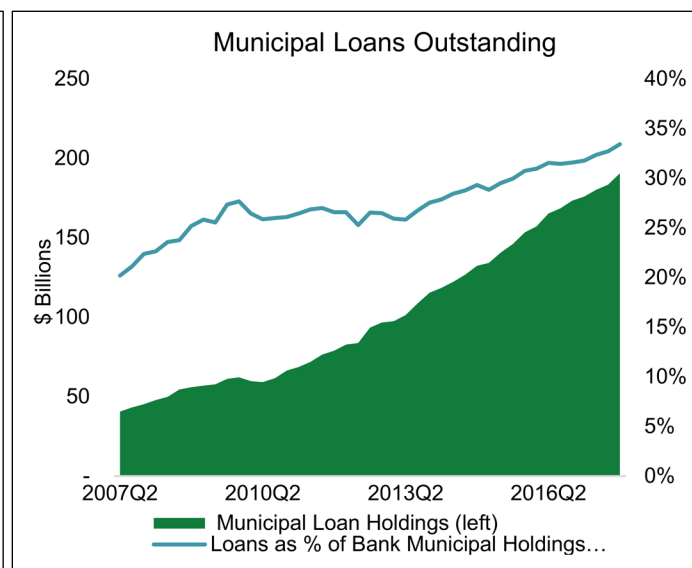
According to the ICE BofAML indices, municipals gained 0.9 percent in the second quarter of 2018, down from the 2.0 percent gain in 2Q'17. For the second quarter, the tobacco, health, and hospital sectors outperformed among the individual municipal sectors (a gain of 1.31 percent, 1.03 percent and 1.00 percent respectively) while single-family, pollution control, and power underperformed relative to other municipal sectors (a gain of

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

0.54 percent, 0.56 percent, and 0.76 percent, respectively). On the other hand, Build America Bonds (BABs) lost 0.04 percent in 2Q'18, but outperformed similarly-rated corporate bonds (a total return loss of 0.7 percent).



Source: EMMA MSRB



Source: FDIC, Federal Reserve

Trading Activity

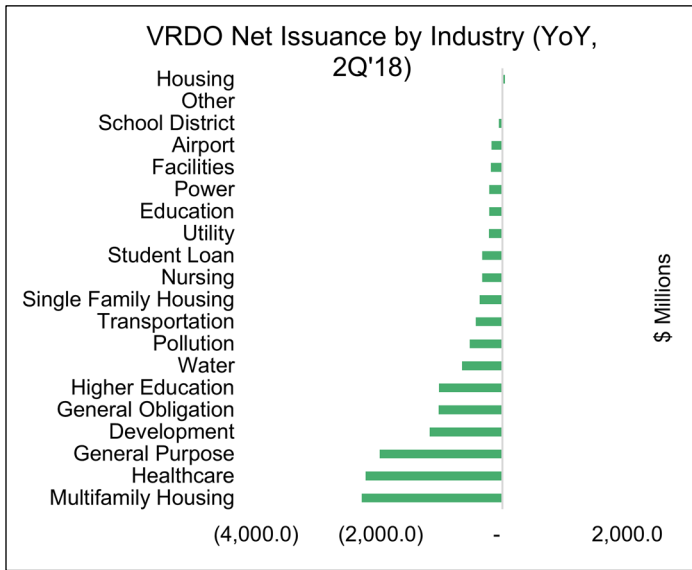
Trading activity rose q-o-q to \$12.0 billion daily in 2Q'18, a 5.4 percent increase from 1Q'18 (\$11.4 billion) and was a 13.3 percent increase from 2Q'17 (\$10.6 billion). By number of trades, however, trading activity declined 3.8 percent on a q-o-q basis but rose 1.3 percent on a y-o-y basis.

Broker-Dealers and Holdings

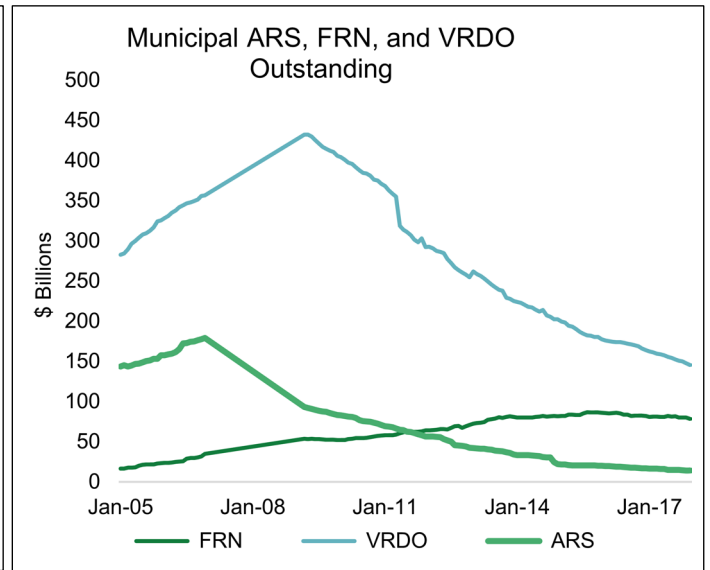
Bank holdings of municipal loans rose in 1Q'18 from the prior quarter to \$191.0 billion (from \$190.6 billion) while holdings of bonds declined to \$363.4 billion (from \$379.6 billion).

ARS, FRN and VRDO Update

Issuance of variable-rate demand obligations (VRDOs), puttable long-term municipal bonds with interest rates that reset periodically, remain relatively quiet in the second quarter. A total of \$2.1 billion was issued in 2Q'18, a threefold increase q-o-q and an increase of 85.1 percent y-o-y. Year to date ending June, VRDO issuance totaled \$2.5 billion, on track to match issuance volumes expected by respondents to the SIFMA Municipal Survey 2018. Outstanding volumes continue to decline, with \$142.4 billion outstanding as of the end of June 2018, a slight increase of 0.1 percent q-o-q but a decline of 8.5 percent from June 2017.



Source: EMMA, Bloomberg, SIFMA



Source: EMMA, Bloomberg, SIFMA

The SIFMA Municipal Swap index, a seven-day high-grade market index comprised of tax-exempt VRDOs, ended June at 1.51 percent, averaging 1.46 percent throughout 2Q'18, 26 basis points wider than 1Q'18's average (1.21 percent) and 63 basis points wider than 2Q'17's average (0.84 percent).

As of end-June 2018, \$19.4 billion of VRDO liquidity facilities were scheduled to expire in 2018 with an additional \$29.7 billion in 2019 for a total of \$49.1 billion of liquidity facilities on 2,151 CUSIPs, a manageable rate given the relative stability of liquidity providers in this space. VRDO liquidity facility renewals with the same liquidity provider on approximately 785 unique CUSIPs averaged 634.4 days from the original expiration date, rising slightly from 632.8 days in 4Q'17. The median extension, however, continues to remain unchanged at 1 year (365 days). The average tenor of a liquidity facility of the entire universe of VRDOs was approximately 5.22 years, rising from the 5.18 years in 4Q'17. However, excluding self-liquidity deals (which typically have an expiration date set to the bond maturity date), the average remaining tenor of liquidity facilities in the entire VRDO universe was 4.02 years, down slightly from the 4.04 years in 4Q'17.

Floating rate bond issuance rose quarter over quarter with \$1.5 billion issued in 2Q'18, a 30.5 percent increase q-o-q and a 71.6 percent increase y-o-y. Year to date ending June, \$2.2 billion of floating rate bonds were issued. At end-June, \$78.9 billion of floating rate bonds were outstanding, a decline of 0.5 percent q-o-q and a 3.7 percent decline y-o-y. Both the LIBOR and SIFMA swap index remain popular benchmark indices for floating rate issuance.

Auction rate securities (ARS) continue to remain in run off mode, with \$12.5 billion of ARS outstanding end-June, a decline of 7.5 percent q-o-q and 17.2 percent y-o-y. While student loan ARS continues to remain an outsized portion (40 percent) of remaining ARS outstanding, all sectors of ARS have declined at approximately the same rate.

State and Government Update

State and government tax revenue rose substantially in late 2017, a growth attributable to the passage of the Tax Cuts and Jobs Act (TCJA) and other factors. Total state government revenue saw a 9.4 percent increase in the fourth quarter of 2017, compared to the previous growth average of 2.7 percent for the last four quarters.³ General state sales tax grew at 4.8 percent, corporate income tax grew 12.5 percent, and motor fuel sales tax grew at 8.1% when compared to the same quarter a year ago.

The TCJA prompted a spike in tax payments and property tax prepayments as high-income taxpayers sought to take advantage of expiring tax breaks. Additional factors contributed to the upsurge in tax payments in 2017: stabilizing commodities market benefited oil and mineral-dependent states, and more generally, the strong 2017 performance in the equities market also resulted in greater capital gains. The December 2017 deadline for hedge fund managers to repatriate accumulated offshore gains also induced a spike in tax revenue through increased estimated payments.

Overall, the growth was mixed across different revenue sources and regions: while the Mid-Atlantic⁴ saw a 19.7 percent rise y-o-y ending 4Q'17 in personal income tax collection, the Southeast⁵ only rose 6.1 percent; the average increase in all regions was 15.1 percent. States still face fiscal uncertainty as they prepare to enact state legislation following the Supreme Court's ruling in *South Dakota v. Wayfair*, which permits states to collect tax from online retailers even if they lack a physical presence in the state.

In April, Moody's Investors Service (Moody's) upgraded Hartford's rating to A2 from Caa3, reflecting the strong legal provisions governing the state's obligation to make contract assistance payments on the bonds pursuant to a contract for financial assistance and the state of Connecticut's agreement to pay off the city's \$550 million in general obligation debt. While S&P Global Ratings (S&P) upgraded Hartford's rating to A from CCC to reflect the state's commitment to Hartford's annual debt payments, the agency also lowered the state's roughly \$18.5

³ Rockefeller Institute of Government, [Robust State and Local Revenue Growth in the Fourth Quarter of 2017; Federal Tax Cut Clouds Horizon](#). April 2018.

⁴ Mid-Atlantic states consist of New York, New Jersey, Pennsylvania, Delaware and Maryland.

⁵ Southeast states consist of Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Virginia, and West Virginia.

billion of general obligation (GO) debt outstanding to A from A+, having concerns about the state's budget problems, underfunded pensions, high debt levels and a dim economic outlook.

In May, Moody's downgraded St. Louis, MS's rating to Baa1 from A3, reflecting the city's weakened reserve position which will remain challenged in the near future despite revenue enhancements, while S&P downgraded Fort Worth, TX's rating to AA from AA+, reflecting the city's growing pension liability and weak budgetary performance.

In terms of upgrades in May, Moody's upgraded Detroit, MI's GO rating to Ba3 from B1, reflecting the quickly improving financial position and operating liquidity of the city since its bankruptcy.

In June, Moody's upgraded Florida's GO rating to Aaa from Aa1, reflecting a sustained trend of improvement in Florida's economy and finances, low state debt and pension ratios, and reduced near-term liability risks. This marks the first time that the state is triple-A rated from the three major rating agencies.

For June downgrades, Moody's downgraded to Aa2 from Aa1 on the State of New Mexico's GO bonds due to the state's extremely large pension liabilities.

Shortly after the end of the quarter, both Standard & Poor's and Fitch bond rating services upgraded the District of Columbia's GO bond rating from AA to AA+ due to the district's strong financial performance and a growing economy despite federal contraction.

Charts & Data

Long-Term Municipal State Issuance, 2Q'18

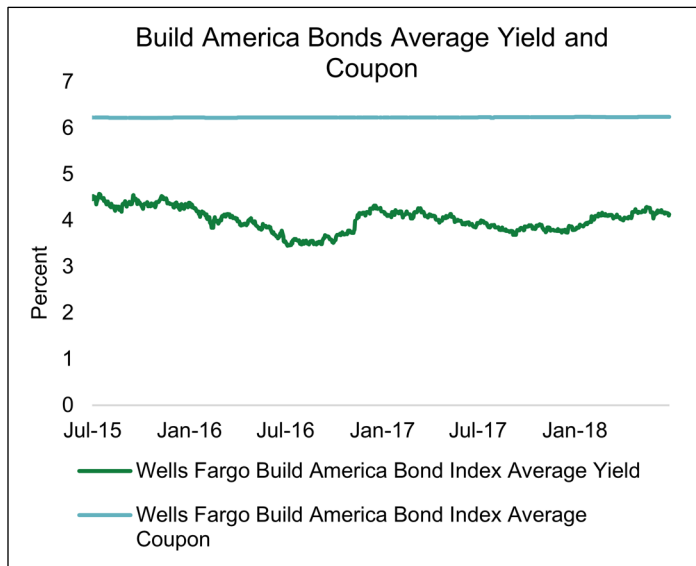
State	Bond Type			Tax Type			Funding Type			
	Total	G.O.	Revenue	AMT	Tax-Exempt	Taxable	New Financing	Refinancing	Refunding & New Refinancing	Refunding
Alabama	1,053.6	241.7	811.9	-	1,048.0	5.6	1,028.2	-	-	25.4
Alaska	0.0									
American Samoa	0.0									
Arizona	764.3	314.9	449.4	-	736.9	27.3	679.8	-	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%

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%

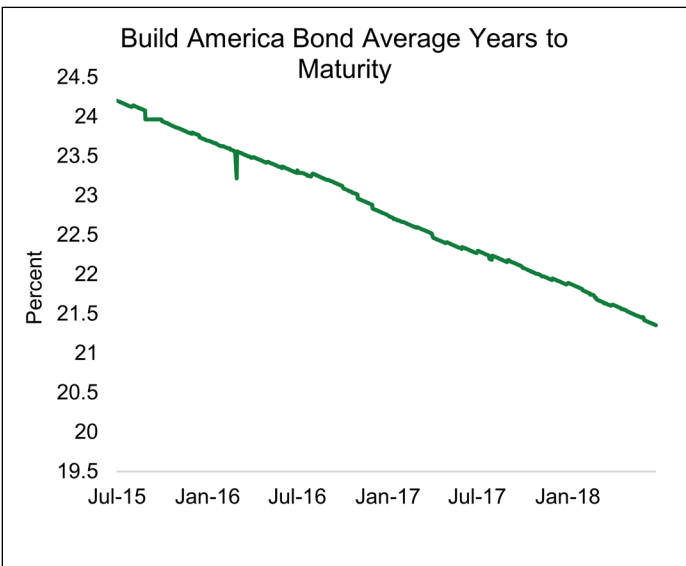
Long Term Municipal Issuance by General Use of Proceeds

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	-65.9%	-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

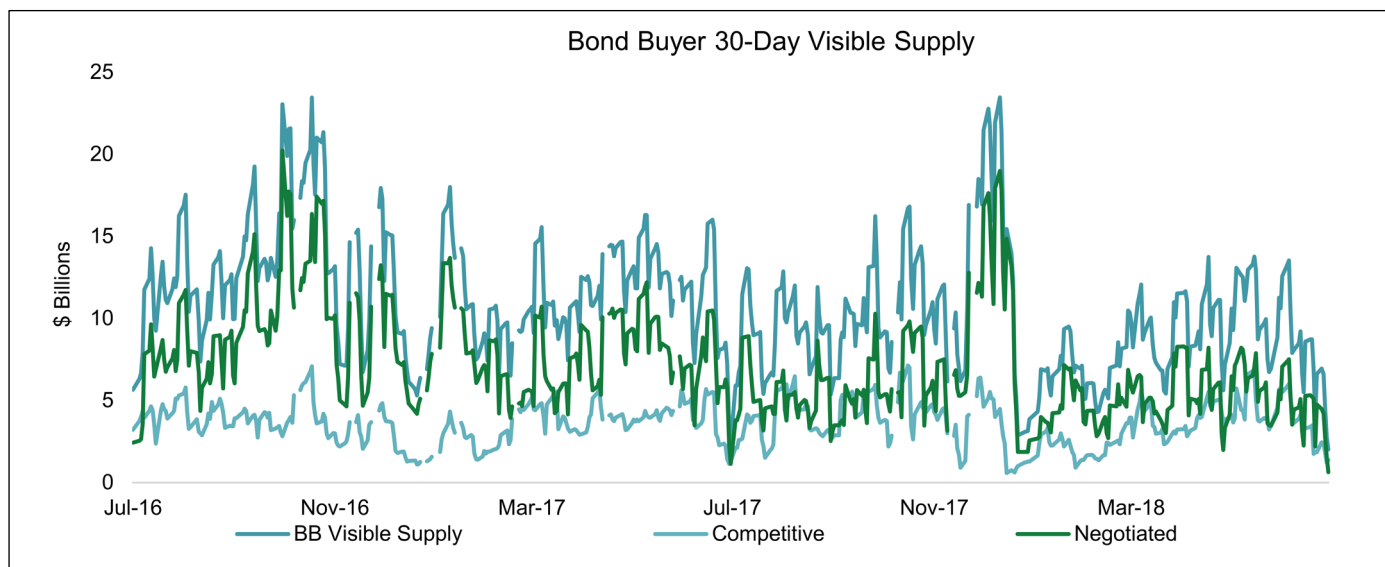


Source: Wells Fargo

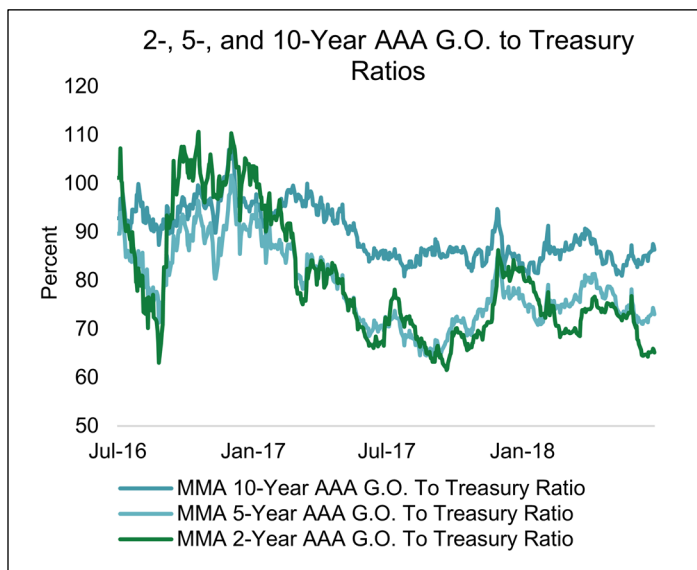


Source: Wells Fargo

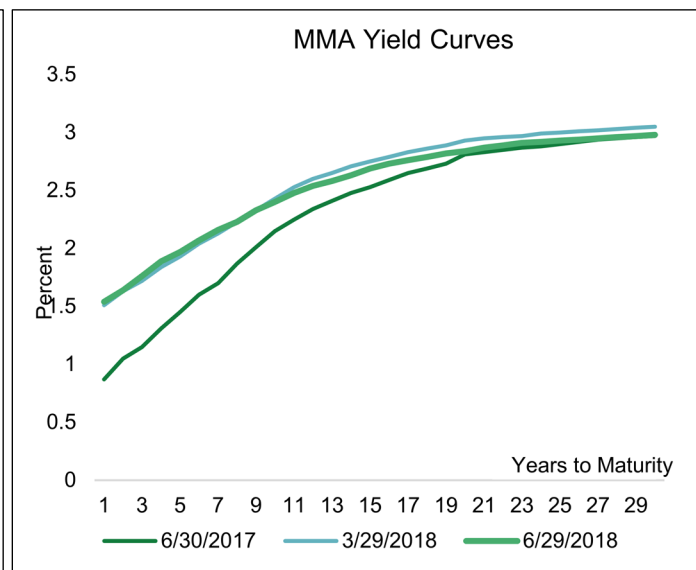
Supply, Yield Curves, Total Return, Spreads & Ratios



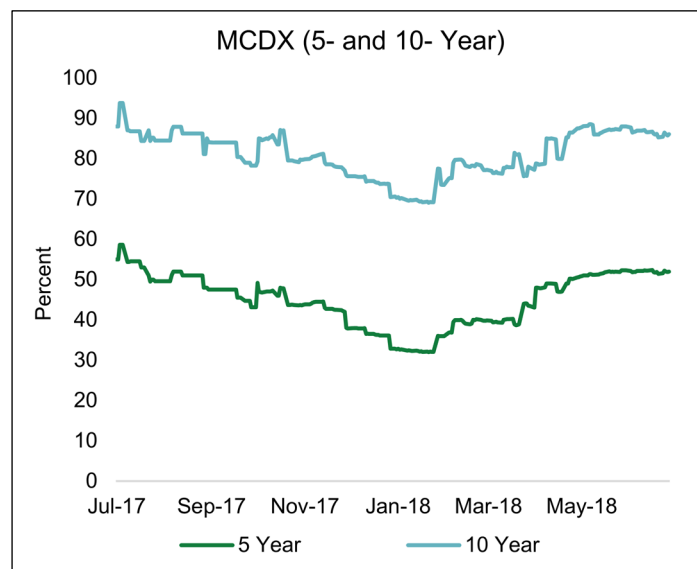
Source: Bond Buyer



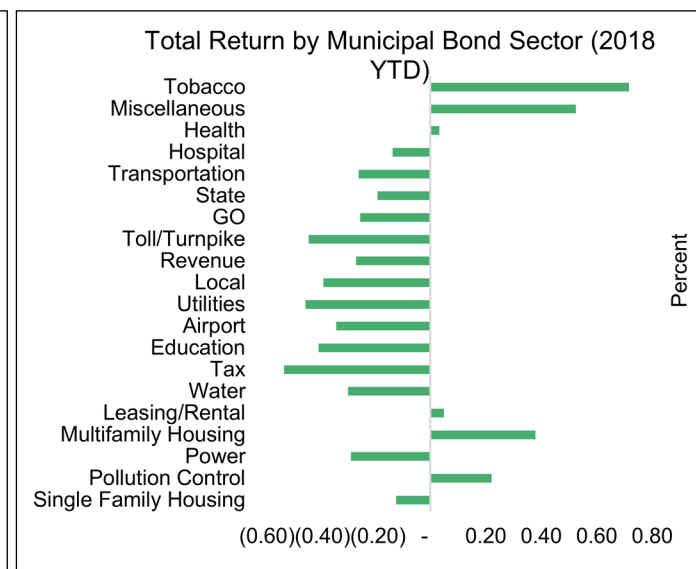
Source: MMA



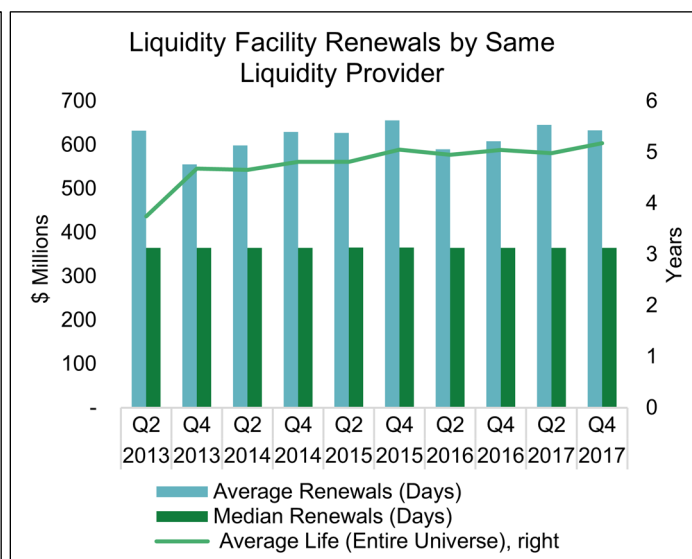
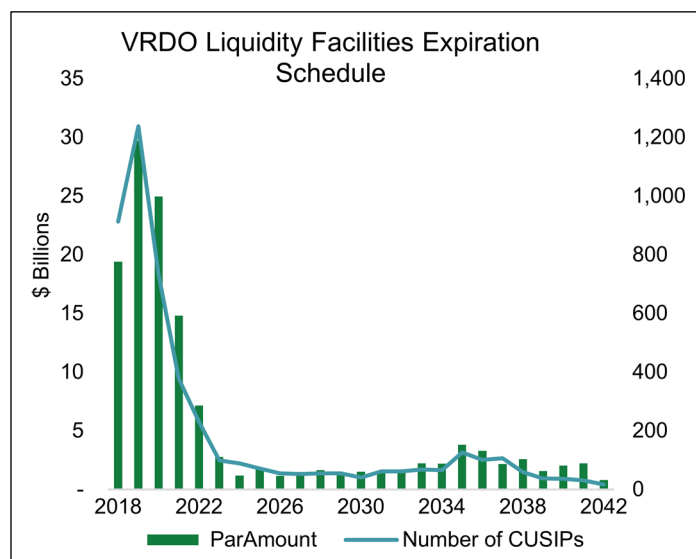
Source MMA



Source: Markit



Source: ICE BAML



Source: EMMA, Bloomberg, SIFMA

Source: EMMA, Bloomberg, SIFMA

By Type of Provider (\$ Millions)	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Bank	750.4	1,944.7	4,595.8	3,859.1	3,552.5	3,455.2	1,498.8	2,033.5	3,076.0	2,648.8	2,636.9	3,651.3
Corporate/Other			18.1		16.9	185.4					9.8	
US Agency	3.2	192.8	78.7	66.7	111.6	173.5	137.0	51.0	314.9	170.7	197.7	73.4
By Number of Facilities												
# CUSIPs	62	131	184	155	157	209	98	85	136	124	119	171
By Type of Provider (\$ Millions)	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Bank	1,950.2	2,538.1	1,758.3	2,209.7	1,614.5	2,283.0	1,606.3	653.2	1,884.8	1,698.0	1,893.3	2,441.9
Corporate/Other		318.7		25.0	45.5					33.6		147.7
US Agency	128.6	75.7	76.8	39.4	27.1	125.3	109.1		242.5		43.8	68.1
By Number of Facilities												
# CUSIPs	131	88	62	68	70	86	59	28	68	47	67	86
By Type of Provider (\$ Millions)	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
Bank	2,219.5	2,091.3	1,353.5	2,400.0	1,909.7	3,711.1	1,977.2	785.0	2,833.3	1,118.5	1,006.1	1,068.8
Corporate/Other		176.3	20.0			59.7	30.2			37.5		64.7
US Agency	43.8	31.2	15.1	11.8	21.1	65.2		5.3	218.1	17.2	275.8	168.9
By Number of Facilities												
# CUSIPs	55	57	54	63	48	102	36	22	42	30	42	38
By Type of Provider (\$ Millions)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Bank	13,618.1	6,015.7	1,831.1	311.4	850.0	57.0	31.3	217.4	12.5	44.2		43.0
Corporate/Other	333.3	450.1	738.8	523.4	692.2	510.5	459.0	783.9	851.5	1,227.2	767.7	1,206.9
US Agency	861.2	680.2	190.7	353.5	227.7	591.6	913.0	658.9	556.8	232.6	624.4	463.6
By Number of Facilities												
# CUSIPs	378	229	99	89	71	55	53	55	55	41	62	62

Source: EMMA, Bloomberg, SIFMA

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
2018:Q1	981,297	603,196	981,140	2,565,633	\$321,591	\$243,838	\$127,253	\$692,682
2018:Q2	1,002,456	588,227	998,839	2,589,522	\$376,773	\$249,981	\$139,485	\$766,239
%Change	2%	-2%	2%	1%	17%	3%	10%	11%

	# 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
	2018:Q1	82%	12%	2%	4%	2,565,633	10%	11%	7%	72%	\$692,682				
2018:Q2	81%	13%	2%	4%	2,589,522	9%	11%	6%	74%	\$766,239					

	Trades by Sector							Total (Millions)
	Education	Health	Utility	Various Purpose	Transportation	Tax-Revenue	Other	Total (Millions)
	2018:Q1	18%	11%	12%	12%	8%	10%	30%
2018:Q2	17%	10%	12%	11%	8%	9%	33%	\$766,239

	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)	
	2018:Q1	5%	11%	16%	34%	33%	\$692,682
2018:Q2	6%	11%	15%	34%	34%	\$766,239	

	Trades by Source of Repayment				
	Revenue	General Obligation	Double Barrel	Not Available	Total (Millions)
	2018:Q1	69%	28%	2%	1%
2018:Q2	69%	26%	2%	2%	\$766,239

	Trades by Coupon Type				
	Fixed Rate	Variable Rate	Zero Coupon	Not Available	Total (Millions)
	2018:Q1	61%	36%	3%	0%
2018:Q2	62%	36%	3%	0%	\$766,239

Source: EMMA MSRB

Municipal CDS

	6M	1Y	2Y	3Y	4Y	5Y	7Y	10Y	3/31/18 6M%	% Change	3/31/18 10Y%	% Change
CA California	15.0	15.5	17.3	21.9	26.7	31.6	42.3	57.9	-33.9%		-38.7%	
CT Connecticut	38.9	47.6	67.5	79.5	89.8	98.4	128.5	171.2	81.8%		81.4%	
DE Delaware	19.3	24.9	28.8	32.0	34.7	36.1	41.4	54.9	49.6%		9.8%	
FL Florida	7.4	8.1	14.2	21.6	31.3	36.9	48.9	62.0	-10.8%		-22.2%	
MA Massachusetts	20.2	21.1	21.5	32.6	36.9	40.7	55.0	67.9	-15.8%		-6.5%	
MD Maryland	4.3	8.7	13.2	20.4	28.9	37.3	48.1	57.6	-28.3%		11.6%	
MI Michigan	6.5	7.1	12.6	21.6	30.8	38.8	54.9	67.4	-14.5%		-13.3%	
MN Minnesota	10.9	13.3	17.0	21.4	25.2	31.8	43.4	51.3	6.9%		-13.9%	
NC North Carolina	13.8	18.5	20.7	28.7	32.3	34.5	41.1	66.1	35.3%		0.0%	
NJ New Jersey	20.7	21.0	34.6	52.6	65.7	79.0	99.5	115.8	-28.1%		-26.8%	
NV Nevada	18.1	18.4	23.2	31.7	36.3	41.6	56.2	66.1	86.6%		41.5%	
NY New York	6.6	8.3	14.6	17.9	23.6	29.2	40.8	51.5	-15.4%		-5.3%	
OH Ohio	10.3	13.8	17.2	25.2	34.4	39.8	53.6	66.9	37.3%		7.6%	
PA Pennsylvania	31.9	35.8	43.7	67.3	74.8	82.5	105.6	147.2	32.4%		36.7%	
RI Rhode Island	8.3	14.5	27.3	46.0	84.9	51.2	69.7	99.3	50.9%		1.8%	
SC South Carolina	5.9	6.3	12.7	18.8	27.7	32.8	41.7	51.9	34.1%		10.7%	
TX Texas	11.8	13.4	16.1	20.7	30.7	39.5	53.5	72.4	-12.6%		2.0%	
UT Utah	10.6	12.4	19.6	23.9	30.3	34.9	42.4	48.0	60.6%		9.6%	
VA Virginia	10.6	15.3	18.7	21.5	23.5	25.1	30.2	44.8	2.9%		10.1%	
WA Washington	7.5	10.1	16.2	24.3	33.0	38.4	47.7	59.5	19.0%		-8.5%	
WI Wisconsin	16.0	18.4	19.0	25.0	29.5	34.7	49.6	65.4	10.3%		-3.1%	
NYC New York City	10.0	12.5	21.6	26.6	35.0	43.3	58.6	71.0	1.0%		7.7%	

Source: CMA Datavision

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	Aa2	AA	
Colorado				New York	Aa1	AA+	AA+
Connecticut	A1	A	A+	North Carolina	Aaa	AAA	AAA
District of Columbia	Aaa	AA+	AA+	North Dakota			
Delaware	Aaa	AAA	AAA	Ohio	Aa1	AA+	AA+
Florida	Aaa	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	AAA	AAA	Wisconsin	Aa1	AA	AA+
Mississippi	Aa2	AA	AA	Wyoming			
Missouri	Aaa	AAA	AAA				

Source: Moody's, Standard and Poor's, Fitch Ratings

Outstanding Municipal Debt

Outstanding by Type, Maturity and Security Type⁶
\$ Millions

State	Total Outstanding	G.O.	Revenue	Due in 13 Months	Long-Term	2018:Q1 Total Outstanding	% Change
AK Alaska	10,703.7	2,790.7	7,913.0	637.0	10,066.6	10,569.6	1.3%
AL Alabama	38,334.0	7,245.2	31,088.8	1,559.9	36,774.1	36,526.7	4.9%
AR Arkansas	14,311.6	6,394.5	7,917.1	672.8	13,638.8	14,315.7	0.0%
AS American Samoa	76.1		76.1		76.1	76.1	0.0%
AZ Arizona	57,113.4	12,243.2	44,870.1	4,679.0	52,434.4	56,148.5	1.7%
CA California	594,676.7	229,277.6	365,399.1	29,341.5	565,335.1	585,600.4	1.5%
CO Colorado	65,829.1	16,783.5	49,045.6	2,172.7	63,656.4	65,990.9	-0.2%
CT Connecticut	52,860.1	27,712.7	25,147.4	4,219.7	48,640.4	52,531.5	0.6%
DC District of Columbia	32,518.4	4,661.0	27,857.4	811.8	31,706.7	31,453.1	3.4%
DE Delaware	8,046.3	3,385.2	4,661.1	517.4	7,528.9	7,743.0	3.9%
FL Florida	145,068.2	15,700.4	129,367.8	8,168.3	136,899.9	146,566.9	-1.0%
GA Georgia	76,074.0	18,212.0	57,862.0	4,109.4	71,964.6	74,141.3	2.6%
GU Guam	3,305.6	239.5	3,066.1	58.7	3,246.9	3,234.7	2.2%
HI Hawaii	20,922.1	13,760.8	7,161.2	1,108.0	19,814.1	21,366.9	-2.1%
IA Iowa	21,775.6	6,417.8	15,357.8	1,574.7	20,200.9	22,306.1	-2.4%
ID Idaho	7,929.0	2,701.0	5,227.9	1,280.9	6,648.0	7,308.3	8.5%
IL Illinois	171,077.6	82,849.9	88,227.7	8,362.7	162,714.9	172,212.6	-0.7%
IN Indiana	47,692.8	1,339.1	46,353.7	3,439.3	44,253.6	47,504.9	0.4%
KS Kansas	27,156.2	12,917.3	14,238.9	1,705.4	25,450.8	26,832.5	1.2%
KY Kentucky	35,737.1	2,018.3	33,718.8	2,301.6	33,435.5	36,076.9	-0.9%
LA Louisiana	37,274.1	7,917.4	29,356.7	1,709.3	35,564.8	37,553.3	-0.7%
MA Massachusetts	107,623.7	41,112.5	66,511.2	7,020.4	100,603.2	106,733.6	0.8%
MD Maryland	61,476.2	33,683.5	27,792.7	4,234.7	57,241.5	61,589.7	-0.2%
ME Maine	8,613.8	2,125.3	6,488.5	596.6	8,017.2	8,569.3	0.5%
MI Michigan	76,931.7	24,140.6	52,791.1	4,858.6	72,073.0	79,168.5	-2.8%
MN Minnesota	54,644.1	29,259.6	25,384.5	3,321.9	51,322.2	53,462.9	2.2%
MO Missouri	48,784.7	10,253.2	38,531.5	2,190.5	46,594.2	48,745.4	0.1%
MS Mississippi	17,434.8	6,697.7	10,737.1	797.3	16,637.5	17,531.1	-0.5%
MT Montana	4,019.0	1,473.2	2,545.7	224.8	3,794.2	4,054.3	-0.9%
NC North Carolina	52,298.3	11,830.2	40,468.1	2,880.6	49,417.7	52,494.1	-0.4%
ND North Dakota	6,021.9	2,059.5	3,962.4	277.2	5,744.7	5,878.1	2.4%
NE Nebraska	20,500.2	6,206.0	14,294.2	1,182.7	19,317.5	20,372.5	0.6%
NH New Hampshire	8,318.9	2,339.6	5,979.3	544.2	7,774.7	8,386.8	-0.8%
NJ New Jersey	121,163.4	25,293.5	95,869.9	10,974.2	110,189.2	123,627.3	-2.0%
NM New Mexico	14,543.1	3,693.9	10,849.2	1,307.4	13,235.7	14,364.9	1.2%
NV Nevada	26,730.2	13,871.6	12,858.5	1,401.8	25,328.4	26,371.0	1.4%
NY New York	411,058.9	77,563.0	333,495.9	24,457.4	386,601.5	408,906.0	0.5%
OH Ohio	112,526.7	33,988.7	78,538.0	5,544.0	106,982.7	112,698.5	-0.2%
OK Oklahoma	22,385.1	4,319.7	18,065.4	2,197.3	20,187.8	22,661.0	-1.2%
OR Oregon	42,441.4	24,014.8	18,426.6	2,651.4	39,790.0	43,635.2	-2.7%
OT Other Territories	11,024.3	50.0	10,974.4	1,828.9	9,195.4	10,773.7	2.3%
PA Pennsylvania	139,724.6	48,232.8	91,491.8	7,245.5	132,479.0	138,293.9	1.0%
PR Puerto Rico	99,558.4	12,191.7	87,366.7	5,088.0	94,470.4	99,637.4	-0.1%
RI Rhode Island	11,519.0	1,963.9	9,555.2	536.5	10,982.5	11,519.8	0.0%
SC South Carolina	39,057.4	9,828.9	29,228.6	2,310.8	36,746.6	38,873.0	0.5%
SD South Dakota	5,803.6	1,199.7	4,603.9	229.3	5,574.2	5,835.7	-0.6%
TN Tennessee	43,264.2	16,490.4	26,773.8	2,908.4	40,355.8	43,710.9	-1.0%
TT Trust Territories	105.0	71.2	33.7		105.0	108.2	-3.0%
TX Texas	369,184.8	186,733.0	182,451.8	18,944.4	350,240.4	362,263.4	1.9%
UT Utah	25,263.0	7,080.9	18,182.2	1,504.5	23,758.6	25,821.7	-2.2%
VA Virginia	69,058.4	15,533.2	53,525.3	3,425.6	65,632.8	68,444.4	0.9%
VI Virgin Islands	2,212.4		2,212.4	107.7	2,104.7	2,213.3	0.0%
VT Vermont	4,465.2	817.0	3,648.2	161.0	4,304.2	4,566.7	-2.2%
WA Washington	93,048.8	46,507.6	46,541.3	5,859.5	87,189.3	91,063.4	2.2%
WI Wisconsin	56,973.8	25,995.4	30,978.5	4,047.9	52,925.9	57,990.5	-1.8%
WV West Virginia	11,443.0	1,461.0	9,982.0	556.1	10,886.9	10,655.3	7.4%
WY Wyoming	2,208.5	110.0	2,098.5	76.4	2,132.1	2,212.0	-0.2%
TOTAL (6/30/2018)	3,669,912.1	1,202,759.5	2,467,152.5	209,923.7	3,459,988.3	3,649,293.1	0.6%
TOTAL (3/31/2018)	3,649,293.1	1,193,528.0	2,455,765.1	196,264.3	3,453,028.7		
% Change	0.6%	0.8%	0.5%	7.0%	0.2%		

⁶ 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.

Outstanding by Tax Status and Coupon

\$ Millions

State	Total Outstanding	Tax-Exempt	BQ	AMT	Taxable	Fixed	Zero	FRN	Other
AK Alaska	10,703.7	9,014.2	40.6	359.6	1,289.4	8,351.4	157.4	394.7	1,800.1
AL Alabama	38,334.0	30,256.1	3,747.9	804.0	3,526.1	28,646.3	959.1	997.7	7,730.8
AR Arkansas	14,311.6	9,767.1	3,163.9	266.5	1,114.1	13,164.4	240.1	528.2	378.9
AS American Samoa	76.1	44.2			31.9	76.1			-
AZ Arizona	57,113.4	51,179.5	871.4	1,138.9	3,923.6	51,320.6	31.0	706.4	5,055.4
CA California	594,676.7	478,076.7	9,855.1	19,991.9	86,753.1	455,299.5	68,910.9	9,756.5	60,709.8
CO Colorado	65,829.1	52,479.8	2,690.2	2,459.8	8,199.4	52,617.5	5,855.0	1,544.6	5,812.1
CT Connecticut	52,860.1	41,577.3	1,518.2	1,308.1	8,456.4	44,669.3	454.9	1,881.7	5,854.2
DC District of Columbia	32,518.4	25,576.3	2.0	3,649.4	3,290.7	22,932.6	5,586.4	318.8	3,680.7
DE Delaware	8,046.3	6,183.6	58.5	196.5	1,607.7	6,706.1			1,340.3
FL Florida	145,068.2	117,791.9	915.8	11,988.4	14,372.2	125,170.8	3,041.3	2,090.6	14,765.5
GA Georgia	76,074.0	61,219.2	1,293.3	2,914.9	10,646.6	58,618.2	1,975.4	2,816.1	12,664.2
GU Guam	3,305.6	3,062.9		195.6	47.0	3,190.1	115.5		-
HI Hawaii	20,922.1	17,155.1		1,057.2	2,709.8	20,142.0	13.0	464.7	302.4
IA Iowa	21,775.6	14,662.0	4,585.9	618.9	1,908.8	18,476.3	551.8	644.8	2,102.7
ID Idaho	7,929.0	6,388.9	355.0	196.9	988.1	7,167.8	32.8	359.5	368.9
IL Illinois	171,077.6	121,328.5	10,790.1	4,833.8	34,125.2	138,001.9	20,701.4	1,674.7	10,699.6
IN Indiana	47,692.8	35,825.1	3,303.7	3,377.8	5,186.2	38,395.5	788.0	956.0	7,553.4
KS Kansas	27,156.2	19,069.6	4,180.7	295.7	3,610.2	25,855.3	267.2	248.7	785.0
KY Kentucky	35,737.1	26,037.2	3,825.5	1,299.4	4,575.0	30,434.5	360.3	1,659.3	3,282.9
LA Louisiana	37,274.1	30,072.2	1,525.6	1,981.1	3,695.2	30,866.4	1,079.1	1,338.0	3,990.6
MA Massachusetts	107,623.7	91,874.3	3,436.5	3,763.5	8,549.4	93,871.4	1,038.3	2,645.5	10,068.6
MD Maryland	61,476.2	52,797.9	195.2	1,543.6	6,939.6	56,278.0	118.8	20.0	5,059.4
ME Maine	8,613.8	6,749.1	573.4	451.5	839.8	8,105.1		15.0	493.7
MI Michigan	76,931.7	58,374.7	4,278.5	2,608.2	11,670.2	59,160.2	6,740.5	2,579.9	8,451.0
MN Minnesota	54,644.1	40,964.8	7,187.8	1,195.4	5,296.0	48,892.4	931.5	775.8	4,044.4
MO Missouri	48,784.7	32,743.8	5,187.5	791.4	10,062.1	38,132.8	810.5	3,889.4	5,952.0
MS Mississippi	17,434.8	12,261.7	1,582.3	197.0	3,393.8	13,224.6	3.0	225.1	3,982.1
MT Montana	4,019.0	2,895.4	617.7	147.5	358.4	3,384.4	8.9	281.9	343.8
NC North Carolina	52,298.3	44,479.4	269.4	964.3	6,585.3	44,751.5	283.1	2,179.5	5,084.1
ND North Dakota	6,021.9	4,482.1	919.7	160.3	459.7	5,731.3		87.7	202.8
NE Nebraska	20,500.2	14,838.9	3,537.7	484.2	1,639.3	18,931.0	5.9	205.9	1,357.4
NH New Hampshire	8,318.9	5,979.1	295.4	418.6	1,625.8	6,786.9	61.7	762.2	708.2
NJ New Jersey	121,163.4	93,857.3	5,866.6	5,896.0	15,543.5	103,548.9	11,728.0	1,882.1	4,004.3
NM New Mexico	14,543.1	12,112.2	855.3	314.3	1,251.3	12,411.2	6.3	1,118.6	1,007.1
NV Nevada	26,730.2	22,257.2	201.0	1,497.5	2,774.4	21,742.3	1,868.5	146.7	2,972.7
NY New York	411,058.9	332,331.9	6,906.1	19,666.6	52,154.3	342,529.5	15,562.7	5,683.6	47,283.0
OH Ohio	112,526.7	85,476.5	6,482.8	2,214.7	18,352.7	88,623.5	8,483.9	1,078.5	14,340.9
OK Oklahoma	22,385.1	16,826.4	1,672.9	747.9	3,137.8	20,970.6	45.5	654.6	714.4
OR Oregon	42,441.4	30,077.3	1,299.9	1,194.5	9,869.7	36,265.5	4,005.1	397.4	1,773.5
OT Other Territories	11,024.3	5,068.2		5,918.3	37.8	893.5			10,130.9
PA Pennsylvania	139,724.6	108,484.9	12,119.5	5,257.4	13,862.7	118,699.8	3,946.8	5,375.1	11,702.9
PR Puerto Rico	99,558.4	81,952.0		203.9	17,402.5	55,642.0	37,222.6	1,677.3	5,016.6
RI Rhode Island	11,519.0	9,655.3	210.7	618.1	1,034.9	9,031.3	1,542.3	570.8	374.7
SC South Carolina	39,057.4	32,769.4	594.7	1,227.0	4,466.4	32,802.8	2,385.8	2,214.2	1,654.6
SD South Dakota	5,803.6	4,040.1	814.9	131.5	817.2	5,503.9		136.5	163.1
TN Tennessee	43,264.2	34,073.5	2,557.9	898.2	5,734.5	35,694.4	1,905.1	749.0	4,915.7
TT Trust Territories	105.0	71.2		33.7	-	105.0			-
TX Texas	369,184.8	287,414.6	26,025.8	15,907.7	39,836.8	309,623.4	15,727.9	10,048.4	33,785.2
UT Utah	25,263.0	18,759.1	673.8	1,001.5	4,828.7	21,029.4	110.3	2,102.2	2,021.2
VA Virginia	69,058.4	56,893.9	246.1	2,730.6	9,187.9	62,999.2	1,432.0	131.3	4,495.8
VI Virgin Islands	2,212.4	2,081.5		24.9	106.0	2,164.3	48.1		-
VT Vermont	4,465.2	3,319.0	12.3	381.0	752.9	3,686.7		1,343.7	(565.2)
WA Washington	93,048.8	75,041.2	3,161.2	4,243.0	10,603.4	86,821.0	1,671.3	836.1	3,720.5
WI Wisconsin	56,973.8	39,891.5	7,586.2	1,735.9	7,760.2	52,072.0	1,020.2	634.0	3,247.7
WV West Virginia	11,443.0	7,131.2	342.1	632.9	3,336.9	8,018.9	2,049.5	50.2	1,324.4
WY Wyoming	2,208.5	1,602.5	54.2	405.6	146.2	1,528.4			680.1
TOTAL (6/30/2018)	3,669,912.1	2,886,406.7	158,488.1	144,542.7	480,474.6	3,009,759.9	231,884.4	78,878.8	349,389.0
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	79,284.6	343,713.7
% Change	0.6%	0.6%	-0.8%	2.2%	0.2%	0.6%	-0.6%	-0.5%	1.7%

Addendum Tables –Build America Bonds, Prerefunded, Derivatives and Insured \$ Millions

State	Total Outstanding	BAB Only	VRDO Only	ARS Only	Prerefunded Only	All Refunded	Derivatives Only	Insured
AK Alaska	10,703.7	350.8	1,625.9		681.8	788.2	131.0	585.8
AL Alabama	38,334.0	550.9	2,265.4	342.2	2,476.9	2,736.0	562.0	6,935.9
AR Arkansas	14,311.6	23.6	292.0		481.9	564.1		1,703.3
AS American Samoa	76.1							
AZ Arizona	57,113.4	1,893.6	1,955.5	89.7	5,380.8	7,554.7	1,252.3	6,681.4
CA California	594,676.7	37,196.0	18,882.6	1,103.3	40,694.7	58,953.4	17,037.7	85,291.2
CO Colorado	65,829.1	3,957.3	2,301.8	104.0	3,986.8	8,015.7	3,044.9	6,812.6
CT Connecticut	52,860.1	1,821.6	1,894.9	262.9	1,953.7	2,479.4	1,137.1	3,598.2
DC District of Columbia	32,518.4	1,835.6	1,147.3	120.0	1,703.9	1,792.8	1,359.6	3,250.1
DE Delaware	8,046.3	485.6	489.5	2,290.9	682.2	907.1	410.4	118.3
FL Florida	145,068.2	5,379.7	4,856.5	370.5	11,087.6	14,570.1	4,981.9	16,282.9
GA Georgia	76,074.0	3,639.4	2,915.1		6,107.9	8,030.2	1,702.7	6,626.9
GU Guam	3,305.6				646.8	660.6	29.0	410.9
HI Hawaii	20,922.1	1,136.3	19.8		2,933.1	3,629.3	323.4	298.4
IA Iowa	21,775.6	441.6	1,587.7	88.4	1,786.2	2,103.5	364.1	1,238.5
ID Idaho	7,929.0	159.6	231.3		517.5	572.7	91.3	507.2
IL Illinois	171,077.6	9,344.4	5,987.9	41.4	8,517.4	16,630.5	6,660.8	31,191.4
IN Indiana	47,692.8	1,754.8	2,439.8	220.0	3,289.8	4,304.1	1,102.9	4,066.8
KS Kansas	27,156.2	1,399.4	378.4	121.9	2,005.1	3,285.3	274.3	3,276.7
KY Kentucky	35,737.1	1,880.7	1,115.0		2,732.3	3,114.3	402.8	3,761.2
LA Louisiana	37,274.1	585.0	2,964.7	265.3	3,265.4	4,943.1	456.9	5,738.8
MA Massachusetts	107,623.7	4,787.7	4,493.9	623.0	10,492.4	11,846.2	3,613.3	7,276.0
MD Maryland	61,476.2	3,168.2	1,984.3	13.4	5,971.6	7,131.5	862.1	1,405.5
ME Maine	8,613.8	69.0	403.3		509.8	742.8	10.0	467.7
MI Michigan	76,931.7	1,649.8	3,164.2		3,336.3	4,264.6	2,214.2	10,868.8
MN Minnesota	54,644.1	890.9	1,660.7	125.5	3,067.4	4,153.3	605.3	1,544.0
MO Missouri	48,784.7	2,722.9	2,028.7	763.5	1,749.9	3,006.4	1,431.2	3,001.5
MS Mississippi	17,434.8	764.9	3,095.2		1,591.4	1,615.8	70.2	1,429.7
MT Montana	4,019.0	26.7	39.9		142.3	153.5	276.5	98.7
NC North Carolina	52,298.3	1,818.2	2,494.2	45.6	5,813.3	6,850.7	1,042.0	2,655.6
ND North Dakota	6,021.9	18.4	191.7		128.0	151.2	69.0	537.2
NE Nebraska	20,500.2	891.5	632.8		1,443.1	2,224.0	431.3	305.3
NH New Hampshire	8,318.9	343.4	470.5	89.3	981.2	998.1	96.9	430.6
NJ New Jersey	121,163.4	6,498.2	1,822.1	69.5	8,304.3	10,519.2	3,978.9	23,440.1
NM New Mexico	14,543.1	235.9	415.5		856.1	1,046.1	309.6	413.9
NV Nevada	26,730.2	2,112.3	1,825.9		918.8	1,543.5	897.4	1,898.8
NY New York	411,058.9	20,372.8	32,777.4	2,332.8	20,178.7	29,366.3	12,593.3	24,591.6
OH Ohio	112,526.7	6,551.4	4,247.3	235.2	7,557.6	8,382.2	2,158.5	6,400.7
OK Oklahoma	22,385.1	551.4	198.6	66.9	1,215.4	1,342.4	139.3	886.0
OR Oregon	42,441.4	921.9	916.4	235.0	3,119.0	3,231.7	245.4	5,146.7
OT Other Territories	11,024.3						7,415.8	100.0
PA Pennsylvania	139,724.6	4,782.3	4,506.3	22.5	12,928.0	15,216.2	5,428.8	27,342.9
PR Puerto Rico	99,558.4	1,013.0			13.0	649.7	1,116.8	22,706.9
RI Rhode Island	11,519.0		457.6		839.6	1,065.4	52.1	1,453.5
SC South Carolina	39,057.4	823.9	493.5		2,957.8	3,511.2	891.6	2,209.8
SD South Dakota	5,803.6	276.8	113.0	10.0	372.4	589.1	98.5	141.0
TN Tennessee	43,264.2	1,754.4	2,105.0		2,348.5	4,682.7	688.2	2,564.0
TT Trust Territories	105.0							
TX Texas	369,184.8	16,433.1	11,227.8	1,929.9	27,144.0	31,512.6	5,749.9	32,257.9
UT Utah	25,263.0	2,826.3	1,336.9	391.1	1,853.3	2,780.3	781.0	1,681.4
VA Virginia	69,058.4	3,372.1	1,800.5	15.1	7,718.3	8,770.1	998.4	1,114.0
VI Virgin Islands	2,212.4	37.3				2.2		294.1
VT Vermont	4,465.2	119.7	85.3		217.7	225.5	16.6	125.6
WA Washington	93,048.8	5,785.7	1,783.3		8,389.9	9,792.7	1,772.8	3,748.7
WI Wisconsin	56,973.8	1,504.6	1,157.2		5,230.6	6,766.2	1,460.5	3,590.1
WV West Virginia	11,443.0	88.2	511.2	77.3	556.8	634.6	50.2	838.4
WY Wyoming	2,208.5	121.6	589.5		84.3	88.5	20.0	94.9
TOTAL (6/30/2018)	3,669,912.1	167,170.1	142,380.9	12,388.7	248,962.8	330,491.4	98,910.7	381,438.2
TOTAL (3/31/2018)	3,649,293.1	167,270.5	142,177.4	13,470.6	265,059.0	349,878.3	98,923.2	395,406.9
% Change	0.6%	-0.1%	0.1%	-8.0%	-6.1%	-5.5%	0.0%	-3.5%

Addendum Tables –Rating⁷

\$ Millions

State	Total Outstanding	Rated	AAA	AA	A	BBB	HY
AK Alaska	10,703.7	9,299.5	256.6	5,816.7	2,499.5	434.5	292.2
AL Alabama	38,334.0	33,490.4	814.0	16,189.3	12,755.0	1,005.6	2,726.4
AR Arkansas	14,311.6	11,951.1	226.9	8,864.4	2,150.1	656.5	53.3
AS American Samoa	76.1	76.1	-	-	-	-	-
AZ Arizona	57,113.4	45,134.0	2,304.5	29,457.4	9,862.1	2,099.6	1,410.4
CA California	594,676.7	480,094.9	16,992.8	316,433.3	103,598.1	29,436.4	13,634.3
CO Colorado	65,829.1	50,117.8	3,083.3	29,812.6	9,561.2	7,004.0	656.7
CT Connecticut	52,860.1	48,096.8	10,714.3	5,840.1	29,594.4	1,686.2	261.8
DC District of Columbia	32,518.4	24,391.6	290.0	16,310.2	4,585.5	2,815.9	390.0
DE Delaware	8,046.3	7,016.4	2,637.2	2,493.2	890.7	916.0	79.3
FL Florida	145,068.2	113,529.1	2,634.1	48,960.3	55,699.8	4,836.1	1,399.0
GA Georgia	76,074.0	58,206.7	14,917.1	18,406.2	21,839.8	2,669.1	374.5
GU Guam	3,305.6	2,501.7	-	(431.6)	902.7	1,948.0	82.6
HI Hawaii	20,922.1	16,893.5	141.8	13,879.0	2,299.4	462.0	111.4
IA Iowa	21,775.6	17,642.4	2,329.9	7,081.2	5,512.2	397.5	2,321.6
ID Idaho	7,929.0	5,559.9	605.5	2,648.7	2,091.3	99.7	114.8
IL Illinois	171,077.6	148,088.2	5,507.5	34,522.2	39,652.9	43,743.1	24,662.4
IN Indiana	47,692.8	37,599.7	3,895.2	18,751.1	12,404.2	1,965.4	583.8
KS Kansas	27,156.2	21,597.9	1,674.5	12,185.5	7,204.1	348.8	185.0
KY Kentucky	35,737.1	30,746.6	1,045.5	5,612.9	19,858.1	3,047.7	1,182.5
LA Louisiana	37,274.1	29,579.2	1,207.4	10,430.7	14,772.2	2,554.1	614.8
MA Massachusetts	107,623.7	90,192.4	11,084.1	65,335.6	7,969.4	5,179.9	623.4
MD Maryland	61,476.2	49,986.0	24,385.3	16,439.1	6,109.6	2,370.9	681.1
ME Maine	8,613.8	7,747.6	118.2	4,894.5	1,993.9	51.6	689.4
MI Michigan	76,931.7	61,621.0	5,323.2	32,226.5	19,242.8	2,243.1	2,585.4
MN Minnesota	54,644.1	46,188.8	7,933.4	30,661.3	6,182.9	874.5	536.6
MO Missouri	48,784.7	39,567.1	3,000.4	24,064.5	10,498.8	1,688.6	314.8
MS Mississippi	17,434.8	14,146.2	200.6	10,658.7	1,770.8	1,346.3	169.8
MT Montana	4,019.0	3,547.7	119.1	1,632.7	1,732.6	63.2	-
NC North Carolina	52,298.3	42,387.3	13,052.3	18,873.6	8,749.4	1,689.4	22.6
ND North Dakota	6,021.9	5,182.6	359.6	2,982.4	1,151.4	625.7	63.5
NE Nebraska	20,500.2	15,322.7	351.6	8,677.1	4,715.6	1,553.4	25.1
NH New Hampshire	8,318.9	6,928.2	515.3	4,120.5	1,684.3	535.5	72.7
NJ New Jersey	121,163.4	104,078.1	7,532.6	17,902.5	32,856.7	43,863.6	1,922.7
NM New Mexico	14,543.1	13,181.6	1,152.2	9,518.8	1,804.2	701.9	4.5
NV Nevada	26,730.2	21,163.7	198.3	12,840.9	6,833.4	772.2	518.8
NY New York	411,058.9	346,968.3	22,811.5	238,511.9	67,250.6	15,159.3	3,234.9
OH Ohio	112,526.7	86,113.1	8,965.5	44,428.3	22,981.3	3,825.7	5,912.4
OK Oklahoma	22,385.1	18,659.4	2,457.8	8,378.6	5,319.7	989.3	1,514.1
OR Oregon	42,441.4	37,119.7	3,317.3	28,921.4	4,310.4	499.4	71.1
OT Other Territories	11,024.3	9,258.5	2,667.9	6,399.5	27.7	163.4	-
PA Pennsylvania	139,724.6	117,130.3	3,047.0	31,458.1	72,625.4	6,761.5	3,238.4
PR Puerto Rico	99,558.4	81,917.6	147.0	(366.3)	2,445.1	1,032.8	78,659.0
RI Rhode Island	11,519.0	10,001.0	899.9	4,426.4	2,116.4	827.8	1,730.5
SC South Carolina	39,057.4	30,404.0	2,006.0	10,961.5	16,657.3	771.0	8.3
SD South Dakota	5,803.6	4,966.8	1,273.4	1,800.3	1,825.4	16.4	51.3
TN Tennessee	43,264.2	35,128.0	3,426.7	21,011.6	6,475.2	4,172.4	42.1
TT Trust Territories	105.0	33.7	-	-	-	-	33.7
TX Texas	369,184.8	308,654.6	138,820.5	94,230.9	54,660.4	16,689.0	4,253.8
UT Utah	25,263.0	20,890.5	6,794.4	10,331.1	3,377.1	301.1	86.8
VA Virginia	69,058.4	56,983.8	15,929.8	32,155.6	2,698.0	3,707.5	2,492.9
VI Virgin Islands	2,212.4	1,634.2	-	-	99.4	193.2	1,341.6
VT Vermont	4,465.2	3,934.3	50.3	2,360.8	1,315.6	191.6	16.0
WA Washington	93,048.8	80,632.9	4,808.0	64,123.2	9,556.3	2,006.1	139.3
WI Wisconsin	56,973.8	43,257.8	1,872.3	30,383.1	8,808.3	1,534.1	660.0
WV West Virginia	11,443.0	9,759.0	266.6	1,255.7	4,781.9	889.1	2,565.7
WY Wyoming	2,208.5	2,111.7	196.8	924.7	918.6	44.8	26.8
TOTAL (6/30/2018)	3,669,912.1	3,018,413.8	366,362.9	1,495,788.4	759,279.1	231,461.6	165,445.8
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
% Change	0.6%	1.0%	2.3%	2.1%	-1.0%	1.0%	-3.3%

⁷ 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.

Credits

SIFMA Research

Kyle Brandon

Managing Director, Head of Research

Sharon Sung

Vice President, Research

Rohan Desai

Municipal ULF Forum

Yuki Lau

Municipal ULF Forum

SIFMA Municipal

Leslie Norwood

Managing Director, Associate General Counsel, Co-Head of the Municipal Division

Michael Decker

Managing Director, Co-Head of the Municipal Division