Municipal Market Insight

April 2019

Portfolio Advisory Group – U.S. Fixed Income Strategies

What's inside

"Taxing" issues for muni investors

The Tax Cuts and Jobs Act (TCJA) of 2017 placed a $10,000 cap on state and local tax (SALT) deductions, which applies to the combined state/local income taxes or general sales taxes, real estate taxes, and personal property taxes. It also placed limits on the ability of municipal bond issuers to "advance refund" outstanding issues where a municipality issues one bond to pay off another outstanding bond before the typical 10-year non-call date most munis carry.

SALT deduction limits ended up being a boon for muni bonds as investors—especially those in high-tax states such as New York, New Jersey, and California—flocked to munis, placing a higher value on the tax-exempt income.

The limits on advance refundings reduced supply in 2018 as issuers rushed to beat the TCJA effective date. Recently, however, to give themselves more flexibility, issuers have begun to issue debt with call features inside of nine years. For the issuer, this means the bond can be called earlier, but for investors, it shortens the call protection they receive.

Reduced supply and the SALT caps, combined with low interest rates, provided a "one-two punch," driving strong year-to-date performance for munis. In our opinion, we are in a prolonged low-rate environment, which could increase "call risk" in portfolios. As a result, we recommend investors add more—not less—call protection to their portfolios.

U.S. Treasury rate forecasts (% as of March 29, 2019)

	2019				2020			
	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
FF	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
2-yr	2.24	2.40	2.45	2.50	2.55	2.55	2.55	2.60
5-yr	2.21	2.40	2.50	2.60	2.70	2.75	2.75	2.85
10-yr	2.39	2.55	2.65	2.75	2.90	3.00	3.05	3.15
30-yr	2.82	2.95	3.00	3.10	3.20	3.40	3.50	3.65

Source - RBC Economics

Treasuries vs. municipals

	5-yr TSY	5-yr Muni	10-yr TSY	10-yr AAA Muni	30-yr TSY	30-yr AAA Muni
Beginning of month (3/1/19)	2.56%	1.68%	2.76%	2.13%	3.12%	3.00%
Mid-month (3/15/19)	2.40%	1.70%	2.59%	2.04%	3.01%	2.85%
End of month (3/28/19)	2.23%	1.57%	2.41%	1.86%	2.81%	2.60%

Source - Bloomberg (Treasury),
Thomson Reuters TM3 (Municipals)

Click here for authors' contact information.

RBC Wealth Management

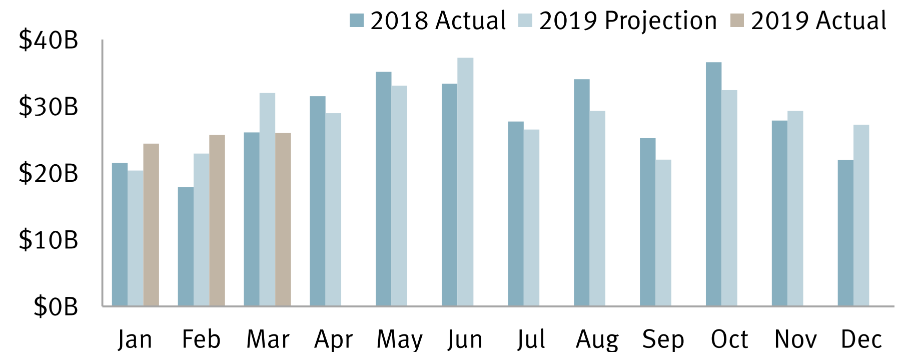
We anticipate tax-bill sticker shock could stoke additional demand for tax-exempt securities.

Market investment strategy and market commentary

Market performance – The rally continues

A global economic slowdown, China trade talks in limbo, and a Treasury rally provided a boost to the muni market, which posted solid gains for a fourth consecutive month. While March volume was in line with last year's $26B, it was well below the month's 10-year average issuance of $34B. Muni volume of $76.3B in Q1 2019 jumped 16% y/y. Volume in Q1 2018 was light at $64B, following Q4 2017's surge in issuance ($94B) after passage of tax reform legislation that directly impacted the muni market and future issuance. Based on Q1 2019's issuance, RBC Capital Markets noted that "we will be running at a $338B annualized pace based on monthly issuance patterns." Going into the year, RBC Capital Markets initially projected volume between $340B and $350B.

2019 issuance projections



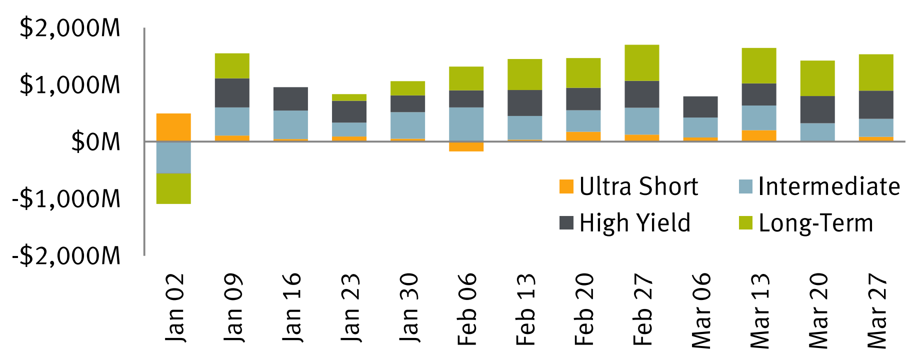
Source - RBC Capital Markets

What's fueling this year's rally?

Multiple factors have contributed to the best Q1 showing for munis in four years. More recently, the Fed's announcement of a pause on future rate hikes injected a dose of calm into the fixed income market. Investors remain focused on the short end of the muni yield curve where muni/Treasury ratios dropped below 70% inside five years.

With tax season upon us, taxpayers are experiencing the effects of the limit on SALT deductions, which in many cases are increasing tax bills. We anticipate tax-bill sticker shock could stoke additional demand for tax-exempt securities. Signs of a surge in demand have been seen firsthand in muni bond funds. After withdrawing funds the first week of the year, investors have added money to muni funds for 12 consecutive weeks. More importantly, in nine of the past 12 weeks fund inflows have exceeded $1B. While all muni fund sub-classes have benefited, investors seem to

2019 muni fund flows



Source - Lipper U.S. Fund Flows, RBC Wealth Management; weekly data through 3/27/19 have shifted their focus to intermediate- and long-term bond funds, and away from short-term bond funds, as the fear of interest rate hikes has subsided.

A strong quarter for fixed income

The fixed income asset class benefited from portfolio reallocation in March. The corporate, Treasury, and muni bond markets all posted strong gains for the month and are enjoying strong returns year-to-date. Corporates and Treasuries outperformed munis in March, returning 2.51% and 1.91%, respectively, while munis posted a respectable 1.58% return, according to the Bloomberg Barclays Indexes. Despite underperforming both corporates and Treasuries, munis' Q1 return of 2.90% marked their best Q1 performance since 2014, while March's performance was the month's best since 2017.

Looking ahead to April

The Fed's pivot in monetary policy, global economic uncertainty, and the SALT deduction cap have and will continue to provide incentives for investors to reallocate cash as they seek safe-haven trades. Furthermore, the recent decline in the muni market's 30-day visible supply to around $6B and the likelihood of continued strong demand from institutional and retail investors should provide the impetus for munis to post strong gains in April.

RBC Capital Markets is projecting April volume of $29B. Approximately $26.1B of debt is expected to be paid off, with an additional $10.3B of interest payments expected during the month, leaving investors flush with cash in a conundrum as demand continues outstripping supply, as has been the case since the beginning of the year.

In light of reduced supply, we caution investors to continue focusing on higher-rated, higher-coupon bonds with extended call protection. The Fed's policy pivot eased investor fears, sparking a rally on the long end of the muni yield curve. Despite the rally, by extending to maturities due in 20 years investors can capture around 92% of the comparable Treasury due in 20 years. The steepness of the muni yield curve offers investors opportunities to extend their positions. The spread between the benchmark 2-year and 30-year muni stood at 111 basis points (bps) at the end of March, which compares favorably to a flatter Treasury yield curve, where the spread between 2-year and 30-year Treasuries was a narrower 55 bps.

This month's focus: Illinois governor floating a constitutional amendment

Governor J.B. Pritzker is promoting a constitutional income tax amendment to help boost revenues to improve the state's structural imbalance. The governor is proposing a move from a flat 4.95% income tax to a graduated income tax that the state projects to generate an additional $3.4B annually.

The governor of Illinois is proposing a move from a flat 4.95% income tax to a graduated income tax.

To realize the constitutional change, a three-fifths supermajority legislative vote is needed to put the tax measure on the ballot, which could occur by November 2020, and then a three-fifths supermajority of voters must approve it. Democrats likely can garner the necessary votes to put the measure on the ballot since they hold a supermajority in the General Assembly. Voters may also embrace the proposed graduated income tax structure because 97% of taxpayers would enjoy tax relief. The tax modifications would fall heavily upon a small percentage of high earners making more than $500,000 annually.

Unsurprisingly, Illinois Republicans and the business community oppose the tax increase, and argue lawmakers must show more spending restraint.

FY2020 budget panned

The governor's graduated tax proposal comes after he earlier presented a bridge FY2020 budget that was panned by watchdog groups, investors, and the rating agencies. Criticism centered on the state's lack of progress in addressing its structural imbalance and reducing the unfunded pension liability. Currently, the state is facing $7.5B in accounts payable, a $1B structural deficit, and $134B in unfunded pension liabilities. The governor's proposed budget closes the structural deficit primarily by trimming the scheduled pension contribution and by increasing revenues from a new tax on plastic bags, and license fees for cannabis and sports betting, among other things.

Both Fitch and S&P warned of negative rating action if the proposed budget was enacted. S&P bluntly stated: "If Illinois were to adopt the budget in its current form, it would have negative implications for its credit trajectory." Fitch was equally as harsh: "Fitch has indicated that we would lower the state's IDR [Issuer Default Rating] if Illinois returned to a pattern of deferring payments for near-term budget balancing."

Pritzker countered by stating the FY2020 budget is simply a bridge until the graduated income tax can be voted upon and enacted. The rub is there is no guarantee the income tax amendment will be approved, yet it appears the governor is banking on this solution. Naturally, the investment community is being more circumspect about the income tax modification, especially in light of all the state's other challenges and past unfulfilled promises.

We believe Illinois has the economic backbone to address its financial challenges, but only if politicians make fiscally sound decisions within the next several years instead of politically expedient ones.

The investment community is generally disappointed in Pritzker's budget proposal because correcting the state's negative fiscal trajectory requires more aggressive action.

The governor's FY2020 bridge budget addresses the state's operating deficit albeit with many non-recurring revenues, but does not address the $7.5B in accounts payable or the $134B unfunded pension liability. The governor continues to counter that the income tax amendment should provide the additional revenues necessary to begin tackling the latter two issues.

Nonetheless, the rating agencies have already published stern warnings to state officials about the proposed FY2020 budget. Unless Pritzker can convince the rating agencies otherwise or the budget is sufficiently tweaked, S&P and Fitch have stated there will be negative rating action.

Decisions must align with fiscal reality

Overall, we remain guarded about Illinois' future given its unfunded pension challenges and seeming legal inability to modify any pension benefits. We believe Illinois has the economic backbone to address its financial challenges, but only if politicians make fiscally sound decisions within the next several years instead of politically expedient ones. Future decisions must more closely align with Illinois' fiscal reality if officials expect to improve its pension predicament.

Current decisions will change the future trajectory of the state's financial health. Politicians must take tangible actions to address the state's pension challenges or else risk below-investment-grade ratings and further jeopardize the state's longer-term ability to repay its debt obligations.

The oversight board is battling to achieve its mission.

Territorial updates

Puerto Rico Public Buildings Authority

A group of ad hoc investors is urging the bankruptcy court to rule against a claim by Puerto Rico's Financial Oversight and Management Board that debt issued by the Puerto Rico Public Buildings Authority should have been included in the island's calculation of its constitutional debt limit. The oversight board is arguing that the Authority's leases are not valid and are "disguised financial transactions." The Authority has approximately $4B of debt outstanding, which is guaranteed by the commonwealth and could have an impact on the final recovery for general obligation (GO) bondholders.

Puerto Rico oversight board – Time is running out

The oversight board, whose authorization is set to run out on May 16 following a decision in February by the First Circuit Court of Appeals that its members' appointment was unconstitutional, is battling with both the local and federal governments to achieve its mission. The oversight board returned Governor Ricardo Rossello's last budget with an eight-page rebuttal highlighting what it perceives as deficiencies.

State news

State ratings roundup – A quiet month with no rating changes

Connecticut – On March 21, Kroll Bond Rating Agency affirmed the state's AA- rating with a negative outlook. The rating affirmation reflects the state's high wealth levels that provide strong support to Connecticut's above-average debt and pension burdens. Kroll maintains a negative outlook on the state as a result of past difficulty in maintaining structural balance due to uneven revenue cycles.

Other state news

Illinois – State issues new debt amid strong demand

On March 15, Moody's affirmed the state's Baa3 rating with a stable outlook. The affirmation came ahead of the state's $450M bond offering. Moody's highlighted the state's diverse economic base that is large and comparatively wealthy. Illinois' strong economy has been overshadowed by unfunded pension liabilities and rising fixed costs in recent years, according to Moody's.

Governor J.B. Pritzker has proposed $1.1B of new revenues for the fiscal year beginning July 1, changes to pension contributions, and additional debt to pay down past due bills and unfunded pension liabilities. *The Wall Street Journal* recently reported that Illinois ranks second behind New Jersey with debt and pension liability per capita at $13,116. Despite the state's challenges, with investors remaining flush with cash we expect it will benefit from strong demand.

New Jersey – Q4 revenue collections pivotal to budget balance

April is a pivotal revenue month for the state, which needs revenues to top projections to offset lagging tax collections for the current fiscal year. The state's Department of Treasury reported state revenues grew 3.7% y/y through Q3 FY2019 (ends June 30), below the state's already-revised forecast for growth of 5.5%. New Jersey needs to see a 17% increase in personal income tax receipts over the next quarter to meet the state's revenue target of $38.6M for FY2019. Half of New Jersey's FY2019 budgeted spending is set aside for a $554M increase for the state's general fund pension contribution. The state is expected to make a $3.8B contribution in FY2019, bringing the state to 70% of its actuarially determined contribution.

State/territory credit ratings

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

Source - Fitch Ratings, Moody's Investors Service

Regional updates and other market news

Local issuer rating updates

Hartford, CT – On March 21, Moody's upgraded the capital city's GO debt to B1 and revised its outlook on the city to positive from stable. The upgrade reflects Hartford's stabilizing financial position and improved liquidity. Moody's cited the state's support of the city through its contract assistance program as another key driver to the upgrade.

Other municipal-related news

Airport infrastructure

Since 2017, airports across the country have raised approximately $30B from the bond market to finance infrastructure projects, amid record levels of air travelers. On March 26, a group of airport executives urged lawmakers in Washington to almost double the passenger facility charge (PFC), which is currently capped at $4.50. The PFC is used to fund airport infrastructure projects. The group of executives is urging Congress to raise the PFC to $8.50, arguing that the current $4.50 cap forces airports to finance projects over a longer period of time, causing them to pay as much for interest as for the infrastructure project. Doubling the PFC would directly impact the price of an airline ticket and could adversely affect passenger air travel.

Airport executives urged lawmakers in Washington to almost double the passenger facility charge.

City management has improved Chicago's long-term financial stability, making significant progress on its path to structural balance.

Baltimore, MD – Class-action lawsuit
The city filed a class-action lawsuit against 10 major banks, accusing them of violating federal antitrust and state laws by colluding to manipulate the pricing of variable-rate municipal bond securities.

Bond insurers – Lose in appeals court
On March 26, the First Circuit U.S. Court of Appeals upheld Title III Bankruptcy District Court Judge Laura Taylor Swain's decision that payment on the Puerto Rico Highways and Transportation Authority's (PRHTA) special revenue bonds is voluntary and not mandatory. The case, Assured Guaranty Corp. et al v. Fin. Oversight and Mgt. Bd. for Puerto Rico et al, will likely be appealed to a higher court by the bond insurers. Bond insurers argued that PRHTA bonds were secured by special revenues and exempt from the PRHTA bankruptcy's automatic stay, and failure to pay was a violation of Chapter 9 of the bankruptcy code. Following the ruling, Kroll Bond Rating Agency issued a statement that said it was analyzing the potential implications of the decision for the broader market.

Chicago, IL – Takes advantage of strong demand
On March 14, Kroll Bond Rating Agency affirmed Chicago's A rating, maintaining a stable outlook on the city's GO debt, ahead of Chicago's $728M GO offering. Kroll said city management has improved Chicago's long-term financial stability, making significant progress on its path to structural balance. The city's move to put its four pension funds on the road to fiscal solvency was also a factor in the affirmation. The city is ramping up its pension contributions to actuarial funding levels beginning in 2020.

Georgia Power – Federal loan guarantee
U.S. Energy Secretary Rick Perry, while visiting Georgia Power's Vogtle nuclear project, announced the closing of an additional $1.67B of loan guarantees for Georgia Power to complete construction of its Vogtle units 3 & 4. Following the announcement Moody's said, "The loan guarantee indicates the government's ongoing support for the Vogtle nuclear project despite delays and cost increases and is credit positive for Georgia Power because it lowers the project's financing cost."

JPMorgan Chase – Agrees to fund transit project
The bank announced it would help fund enhancements to Grand Central Terminal in Manhattan, which is located near the bank's headquarters. The funds would upgrade the train shed and cover the costs for a new terminal entrance on 48th Street. New York City has been increasingly seeking out corporate donations to fund infrastructure improvements.

Kansas City, MO – Nearly 50-year old airport to get a facelift
The city is planning a $1.5B renovation of its antiquated airport, which opened in 1971. The renovation, which is expected to take up to four years, is the largest public works project in state history. John Green, the airport's CEO, announced that the first round of bonds—approximately $800M to $900M—is expected to be sold during the summer. The construction project is essentially building a new airport with major tarmac renovations.

New York City – Congestion pricing gaining momentum
Life for New Yorkers could change forever with congestion pricing gaining momentum. Legislative leaders said they have the votes to pass congestion pricing for people that drive south of 61st Street. The electronic toll for motorists could reach $11.52, although the toll is yet to be determined. Congestion pricing was introduced to fund the needs of the cash-strapped Metropolitan Transportation Authority (MTA), which anticipates it needs $40B for capital improvements over the next 10 years. The toll is expected to raise $1B annually, which is enough to finance approximately $15B in bond issues to fund capital improvements.

The legislature is also considering other funding methods for the MTA, including a tax on non-resident-owned apartments worth more than $5M, which is expected to raise an additional $650M a year—sufficient to generate around $9B in borrowing authority.

New York City ferry system – In need of additional taxpayer subsidies
New York's ferry system, implemented to connect transit-poor sections of the Bronx, Brooklyn, and Queens, is costing taxpayers a whopping $10.73 subsidy per ride. Mayor Bill de Blasio is pushing for the MTA to take over and help finance the waterway system.

The ferry system's operating costs exceeded $56M last year, while revenues from its 4 million riders generated $11M based on its $2.75 fare (same cost of a subway trip) for a service that is estimated to cost $13.83 per ride. The system's inefficiency was highlighted in a report issued by the Citizen's Budget Commission, which concluded high operating costs and low revenues (based on a policy to keep fares low) are causing taxpayers to pay more than 10 times what they pay to subsidize the city's subways and buses.

Pennsylvania Turnpike Commission
The Pennsylvania Auditor General highlighted the unsustainable financial burden of the Pennsylvania Turnpike Commission (PTC), as it is obligated to pay the Pennsylvania Department of Transportation (PennDOT) a $450M annual payment. As a result, the PTC is overleveraged, which, in turn, is forcing it to increase tolls to support the escalating obligation. Despite the annual toll increases since 2009, toll rates per mile are still competitive, and road usage has increased 5% over the past four years.

The Pennsylvania Turnpike Commission is overleveraged, which is forcing it to increase tolls.

We believe the PTC can manage the debt load with toll increases, and users must absorb them because the turnpike is an essential thoroughfare for both interstate and intrastate traffic.

Furthermore, the PennDOT payments decline by $400M in 2023, which will remove a meaningful financial burden on the system. Current debt service coverage ratios allow for some buffer if future revenues do not meet projections or if there is severe political backlash against toll increases. We believe the PTC will sufficiently increase toll revenues (legally required to do so), but we are not as confident about future road usage given potential fuel spikes, economic downturns, and toll affordability for a subset of users.

PG&E – Creditors pitch a recovery plan
Distressed debt investors PIMCO, Elliott Management Corp., and Davidson Kempner Capital Management have been meeting with California lawmakers and other bondholders to discuss a proposal that would allow PG&E to emerge from bankruptcy within a year. The plan would establish a $14B cash trust, whose proceeds would then be used to pay claims tied to the state's 2017 and 2018 wildfires that forced the utility to seek bankruptcy protection.

Virgin Trains USA – Coming to market for Florida rail expansion
Virgin Trains USA, which operates Florida's private rail line formerly known as Brightline, plans to borrow $1.5B from the municipal market to expand the rail line to Orlando. The rail line currently offers service to West Palm Beach, Fort Lauderdale, and Miami. The expansion into the state's biggest tourist area is seen as crucial to the train line becoming profitable, according to Bloomberg. The Orlando expansion is expected to take three years to complete. Virgin Trains is planning to expand rail service to Tampa in the coming years.

RBC Wealth Management retail trading (3/1/19 – 3/31/19)

Top 10 CUSIPs selling volume to retail customers

CUSIP	Description	Maturity	Coupon	Volume
79768HCG1	SAN FRANCISCO UTILS-B	10/01/2042	4.00	5,225
64972HWB4	NYC TRANS FIN AUTH-S1	07/15/2043	5.00	4,653
19427PBZ1	CLG MAINLAND-BAM	08/15/2049	5.00	4,268
667825Q22	NW ISD-SCH BLDG	02/15/2045	5.00	4,202
13063C5D8	CALIFORNIA	08/01/2046	5.00	3,663
66285WYF7	N TX TOLLWAY AUTH-BAM	01/01/2048	5.00	3,649
04184RBR0	ARLINGTON-SPL TAX-A	02/15/2043	5.00	3,480
585488UK3	MELISSA ISD-BLDG	08/01/2048	5.00	2,982
271014C59	EAST BAY MUN UTL DT-C	06/01/2045	4.00	2,897
68442CBH8	ORANGE CO WTR DT-A	08/15/2041	4.00	2,711

Top 10 CUSIPs buying volume from retail customers

CUSIP	Description	Maturity	Coupon	Volume
74529JPX7	PR SALES TAX FING-A1	07/01/2058	5.00	4,220
585488UK3	MELISSA ISD-BLDG	08/01/2048	5.00	3,046
74529JPY5	PR SALES TAX FING-A2	07/01/2040	4.55	2,266
13033LW52	CA HLTH FACS-A-SUTTER	08/15/2052	5.00	2,172
254839P49	DISTRICT COLUMBIA	04/01/2040	5.00	2,051
64966MHH5	NEW YORK-B-1	12/01/2035	5.00	1,697
13063DAZ1	CALIFORNIA ST	11/01/2047	4.00	1,588
74529JPW9	PR SALES TAX FING-A1	07/01/2053	4.75	1,528
13063CZU7	CALIFORNIA ST	09/01/2045	5.00	1,422
74529JQG3	PR SALES TAX FING-A1	07/01/2046	0.00	1,404

Source - RBC Wealth Management

RBC Capital Markets institutional trading (3/1/19 – 3/31/19)

Top 10 CUSIPs selling volume to institutional customers

CUSIP	Description	Maturity	Coupon	Volume
51771FAU0	LAS VEGAS CONVENTION	07/01/2049	4.00	50,154
56035DAK8	MAIN STREET NATURAL G	04/01/2048	4.00	45,464
623040KE1	MT SAN ANTONIO CCD-A	08/01/2049	4.00	35,319
25476FXV5	DIST OF COLUMBIA	10/15/2044	5.00	31,076
56035DAL6	MAIN ST GAS-B-VAR	04/01/2048	2.42	30,783
79766DMB2	SAN FRANCISCO APRT-A	05/01/2049	5.00	28,213
914302CP7	UNIV OF HOUSTON-A-REF	02/15/2037	5.00	25,400
64972GRW6	NEW YOR MUNI WTR-FF	06/15/2039	5.00	24,015
13077DEY4	CA UNIV REV-A-REF	11/01/2048	5.00	23,163
91412HBB8	UNIV OF CALIFORNIA-AZ	05/15/2048	5.00	22,935

Top 10 CUSIPs buying volume from institutional customers

CUSIP	Description	Maturity	Coupon	Volume
56035DAK8	MAIN STREET NATURAL G	04/01/2048	4.00	46,048
51771FAU0	LAS VEGAS CONVENTION	07/01/2049	4.00	44,694
25476FXV5	DIST OF COLUMBIA	10/15/2044	5.00	31,038
623040KE1	MT SAN ANTONIO CCD-A	08/01/2049	4.00	30,028
79766DMB2	SAN FRANCISCO APRT-A	05/01/2049	5.00	28,189
64972GRW6	NEW YOR MUNI WTR-FF	06/15/2039	5.00	23,991
91412HBB8	UNIV OF CALIFORNIA-AZ	05/15/2048	5.00	22,866
414009HC7	HARRIS CO CULTL ED-A	12/01/2031	4.00	18,682
93100PAA6	WAKE FOREST UNIV BMC	06/01/2026	3.09	16,726
91412HFG3	UNIV OF CALIFORNIA-BD	07/01/2029	3.35	16,583

Source - RBC Capital Markets

Bond Buyer indexes

Weekly	Current 3/28/19	Previous 3/21/19	2019 high	Date	2019 low	Date
Bond Buyer Revenue Bond Index	4.26%	4.39%	4.71%	(2/14)	4.51%	(3/14)
Bond Buyer 20-Bond Index	3.79%	3.92%	4.24%	(2/14)	4.04%	(3/14)
Bond Buyer 11-Bond Index	3.30%	3.43%	3.71%	(2/14)	3.53%	(3/14)

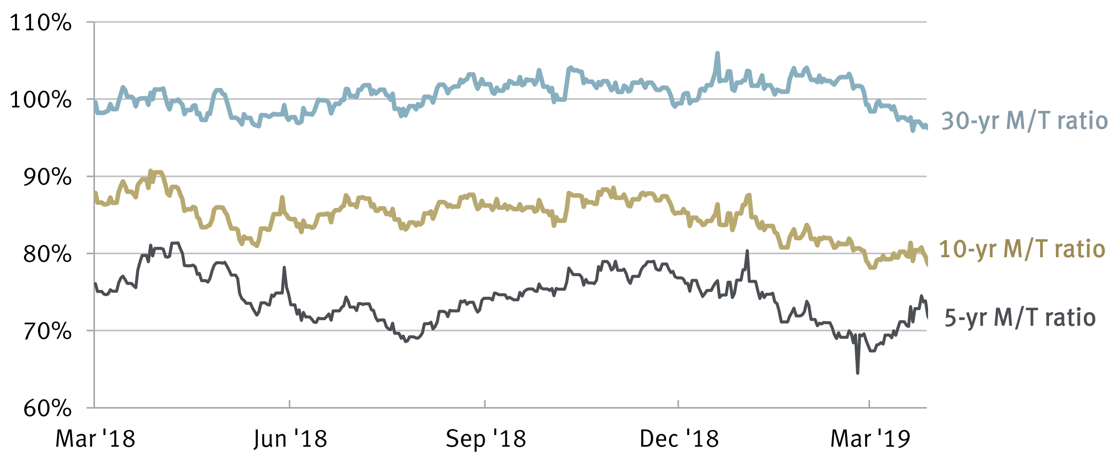
Source - *The Bond Buyer*

Barclays Municipal Index returns

	INDEX								
	1 month	5 year (4-6)	10 year (8-12)	15 year (12-17)	Long bond (22+)	AAA	AA	A	BAA
Month-to-date total return	1.58%	0.70%	1.48%	2.00%	2.62%	1.39%	1.48%	1.74%	2.11%
Year-to-date total return	2.90%	2.11%	3.15%	3.44%	3.85%	2.67%	2.74%	3.13%	3.59%

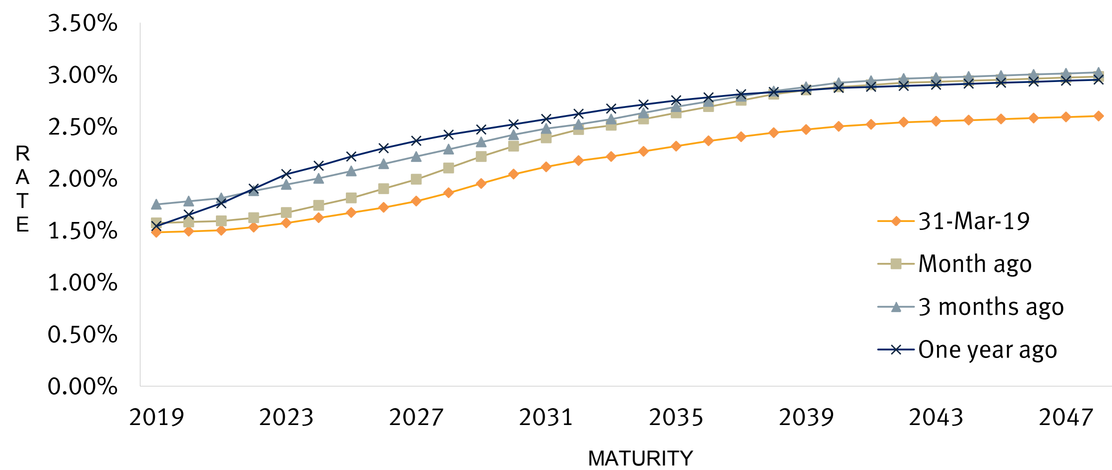
Source - Barclays; data through 3/31/19

Muni/Treasury ratio comparison



Source - RBC Wealth Management, Bloomberg; data through 3/31/19

Muni market data AAA yield curve



Source - RBC Wealth Management, Thomson Reuters TM3

Municipal bond insurers

Insurer	Moody's	Kroll Ratings
ACA	Not rated	Not rated
AMBAC	Not rated	Not rated
Assured Guaranty (AGC)	A3 (stable outlook)	AA (stable outlook)
Assured Guaranty Municipal Corp. (AGM)	A2 (stable outlook)	AA+ (stable outlook)
Berkshire Hathaway (BHAC)	Aa1 (stable outlook)	Not rated
Build America Mutual (BAM)	Not rated	Not rated
FGIC	Not rated	Not rated
Municipal Assurance Corporation	Not rated	AA+ (stable outlook)
National Public Finance (MBIA)	Baa2 (stable outlook)	Not rated
Syncora	Not rated	Not rated

Source - RBC Wealth Management; data through 3/31/19

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Third-party disclaimer

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