Municipal Market Weekly

Ramirez Municipal Strategy

Municipals sold off across the curve in sympathy with Treasuries, which were adversely affected by stronger-than-expected economic data, continued China trade tensions, and various market technical factors. The Muni new issue calendar of $8.5 bil. struggled to gain traction amidst the rates sell-off with substantial balances remaining in dealer hands. Mutual fund outflows were negligible at -$44 mil., bringing YTD flows down to $8.13 billion. Munis outperformed Treasuries on the week by an average of 0.64 ratios as both curves bear steepened. Treasury 2s30s bear steepened by 12 bps to 52 bps after dramatic yield increases of 5 bps in 2yrs, 9 bps in 5 yrs, 14 bps in 10yrs, and 17 bps in 30 yrs. MMD 2s30s bear steepened 10 bps to 132 after cuts of 6 bps in 2yrs, 8 bps in 5yrs, 10 bps in 10yrs, and 16 bps in 30yrs. SIFMA was lower by 3bps at 1.53%, or 78% of 1yr MMD and 67% of 1M LIBOR. The S&P Main Muni index posted its second largest weekly loss YTD at -57 bps (-73 bps YTD), although Treasuries, in contrast, lost -90 bps on the week (-255 bps YTD). Equities sold off in tandem with rates as investors were concerned about the sharp increase in Treasury yields and the potential impact on corporate earnings. The S&P 500 equity index lost -97 bps on the week, but is still up 783 bps YTD. Companies begin to report 3Q18 earnings this week, which is a likely catalyst for both the rates and equity markets.

Treasury yields spiked beginning last Wednesday after Fed Chair Powell said that rates are “a long way” from holding back economic growth, leaving investors unsure of the pace and severity of future Fed rate increases. The rates sell-off intensified after the ADP employment report for Sept., which while weaker due to Hurricane Florence, was still solid and the ISM non-manufacturing index in Sept. was higher than expected and the highest since 1997. The Labor Dept then on Friday reported a significant upward adjustment to July and August jobs, mitigating a weaker Sept. reading, while also reporting an unemployment rate of 3.7%, a 49yr low, beating the consensus estimate of 3.8%. Average weekly hours and average hourly earnings were both in-line with estimates, although Amazon caught the market by surprise with a minimum wage increase to $15/hour for its 250,000 employees. Oil prices hit multi-year highs with Iran sanctions beginning to take effect this week, which is expected to create a supply shortage and higher gas prices. During the week, Comcast priced a $27 bil. issue for its purchase of Sky, which added to an overabundance of supply in IG corporate bonds. Investors are also concerned about increased Treasury supply from a higher Fed balance sheet taper ($50 bil/month) and continued sales of Treasuries to fund the tax-cut and spending bill driven Federal deficit, including this week’s $192 bil. of auctions. There is also waning international demand for Treasuries stemming from higher dollar hedge costs.

Despite the recent and marked rate increases, we expect that Munis will remain attractive for retail investors as the last remaining (and relatively liquid) income tax shelter, particularly following the Federal curb on SALT deductions. The tax-exempt asset class should also continue to attract international investor interest due to the higher absolute yield levels vs global income assets. Munis inside 10yrs continue to benefit from strong retail demand due to flatness of the MMD curve (2s30s = 132 bps), while intermediate and long-dated maturities (~15yrs+) generally have weaker sponsorship due to lower bank and insurance company participation following tax reform. The 2yr and 5yr sectors have outperformed YTD (11.7 ratios and 1.1 ratios, respectively) while the 10yr and 30yr sectors have underperformed YTD (1.7 ratios and 7 ratios), indicating that there is more upside in intermediate and longer-duration. However, the Muni market remains fraught with uncertainty, which includes a chronic and very high level of secondary market supply. For this reason among others, we are carefully watching mutual fund flows for any significant reversal of flows, as a sell-off by investors or dealers would put additional pressure on an already overburdened secondary market. Dealers are now holding a fair amount of unsold new issue balances and inventory (~40% above average) that could be sold towards year-end 2018 to clean up balance sheets. Investors could also begin selling bonds to offset capital gains in the equity markets and reposition for what appears to be higher than expected rates. Fortunately for now, investor bid-wanteds remain relatively manageable, given the mitigating effect of positive fund flows and outperformance vs Treasuries.

Given the negative forecast for rates and projected lower total returns across fixed-income generally, we think it makes sense for investors to adhere to a defensive, shorter duration posture (5-7yrs effective duration), focusing on 5%+ coupons with intermediate maturities (10-15yrs) with shorter-calls (5-8yrs). This structure captures about 90% of the MMD yield curve, has optimal rolldown (~50 bps), and is generally cheaper vs shorter (2-4 yr) call structures. We also think it makes sense to pare back credit risk and improve portfolio credit quality into ‘AA’ or better general market names as higher quality should outperform as rates rise and spreads widen, particularly on lower coupon structures.

Muni gross supply decelerates this week to $5.1 bil., or 25% below the 12-week moving average. The negotiated space is led by $400 mil. Maricopa Co AZ Healthcare Dist, $346 mil. North TX Tollway, $317 MI Hsg, and $300 mil. LA Dept Wtr/Pwr (Ramirez Senior). The competitive space is led by $249 mil. FL Dept of Mgmt Svcs. Total gross supply YTD is $247 bil., or -11% YoY. We are maintaining our full-year 2018 supply projection at $317 bil., or -27% YoY as we think new-money will decelerate in 4Q18. Over the next 30 days, we see net muni market supply at –$7.33 bil., comprised of $8.81 bil. new issues against $16.1 bil. of maturing ($10 bil.) and announced calls ($6.13 bil. The states that stand to experience the largest change in outstanding debt include California (-$2.99 billion), New York (-$1.56 bil.), Illinois (-$860.4 mil.), Minnesota (+$837.1 mil.), and New Jersey (-$636.9 mil.).

This week has several potential market moving data points, including several Fed speakers, Treasury auctions, PPI, CPI, initial and continuing claims, and U. of Mich. consumer sentiment, import and export prices, 3Q18 corporate earnings, and Trump vs China.

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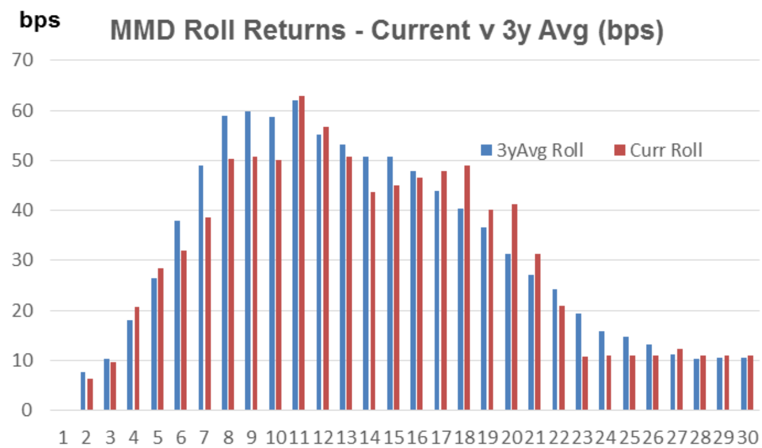
2018 Strategy

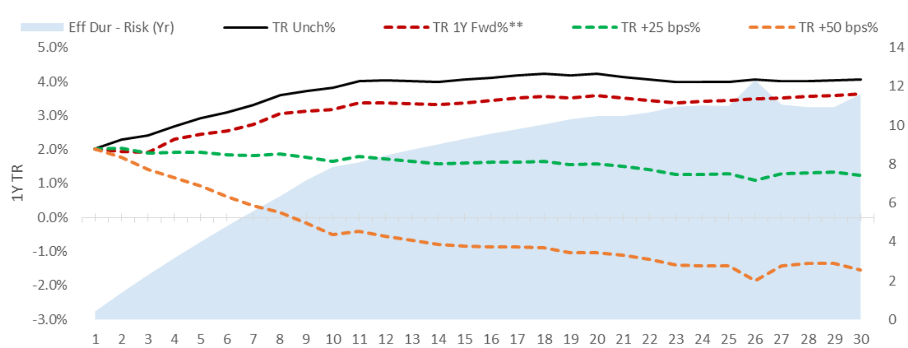
- Ladder or 70/30 Barbell strategy (depending on mandate)
- Defensive posture; 5yr-7yr eff duration
- Intermediate bonds (14-16yr) with shorter calls (5-8yrs); cheaper vs shorter calls, capture ~90% of curve, fast reinvestment, optimal rolldown
- Best rolldown is generally 8-15yrs.
- Coupon: 5%+ (lower convexity vs 4%)
- Credit: 'AA' GOs, 'A' rated or better (select names)

Scenarios (1Y)					
Scenario	Bear	Base		Bull	
Strategy	Ladder	Barbell	Ladder	Barbell	Ladder
Crv Shft (avg bps)*	50	25	25	6	6
Quality	AA GO / A Rev	AA GO / A Rev		AA GO / A Rev	
TR % Proj.	1.90%	3.00%	1.95%	4.16%	4.25%
OAS (bps)*	6	17	11	24	25
Eff Dur (yrs)	0.9	7.1	4.6	8.7	10.8
WAM	1.5	13.5	6.0	19.5	24.3
Cnvx	0.02	-0.35	0.38	-1.17	-1.22

*W.A. bps shift = implied by FWD rates = 6

*OAS Vol = 20



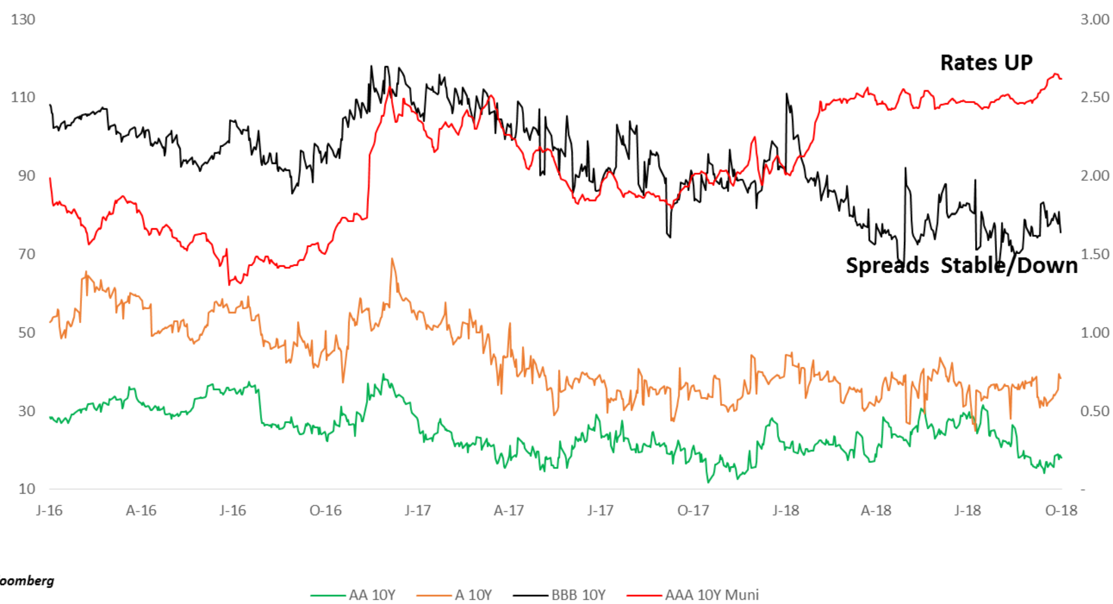


Source: MMD, Bloomberg, Ramirez & Co.

*OAS; **MMD / UST Implied

MMD Callable Curve (5% Cpn) - 12M FWD Total Return Projections*								
	Mty	1-30y	1-5y	6-10y	11-15y	16-20y	21-25y	26-30y
	Eff Dur	8.4	2.8	6.5	8.8	10.1	10.8	11.4
Scenarios	Unch	3.94%	2.64%	3.56%	4.02%	4.19%	4.03%	4.04%
	1Y Fwd Rates	3.35%	2.22%	2.97%	3.35%	3.52%	3.44%	3.56%
	Parallel +25 bps	1.51%	1.93%	1.77%	1.67%	1.61%	1.34%	1.25%
	Parallel +50 bps	-0.89%	1.24%	0.03%	-0.65%	-0.94%	-1.32%	-1.51%

As Muni rates have risen...credit spreads have stabilized or declined



Source: Bloomberg

SECTOR CREDIT SPREADS (10Y)									
			2Y STATISTICS						
Sector	Rating	10/5/18	Avg	Min	Max	SD	2y Z-Scr	Value	Sharpe
GO	AA	18	25	12	40	6	-1.13	Rich	0.7
	A	39	53	25	86	13	-1.09	Rich	1.9
HOSP	AA	30	37	24	60	7	-1.09	Rich	2.5
	A	61	64	48	102	7	-0.48	Fair	6.7
HI ED	AA	13	24	4	40	8	-1.46	Rich	-0.1
	A	38	51	33	94	10	-1.30	Rich	2.3
TRANS	AA	13	25	11	47	8	-1.51	Rich	0.0
	A	36	45	23	87	10	-0.84	Fair	2.1
POWER	AA	9	17	5	32	6	-1.34	Rich	-0.8
	A	35	46	29	72	8	-1.49	Rich	2.7
WTR / SWR	AA	14	22	10	41	5	-1.68	Rich	0.0
	A	38	57	27	104	17	-1.17	Rich	1.5
HY	<BBB-	160	277	159	472	72	-1.63	Rich	2.0

Source: Bloomberg

Market Performance

WEEK ENDING: 10/5/18

INDEX	Eff Dur	WTD	4Q18	3Q18	2Q18	1Q18	2018	2017	2016	2015	10/5/18	WTD Δ	YTD Δ	Lo 12M	Hi 12M	Mean 12M	Vol 12M	Z-score 12M	Z-score 3Y
		TOTAL RETURN (%)									YIELD (%)								
TREASURY-TERM																			
TREASURY - ALL	5.94	-0.90	-0.90	-0.59	0.10	-1.18	**-2.55**	2.31	0.63	0.84	3.07	0.12	0.83	1.95	3.07	2.56	0.29	1.75	2.16
SHORT	1.98	-0.11	-0.11	0.34	0.28	-0.20	0.31	0.87	1.25	0.67	3.04	0.09	0.96	1.67	3.04	2.46	0.38	1.52	2.21
SHORT-INT	3.78	-0.41	-0.41	0.14	0.04	-0.86	-1.09	1.75	1.84	1.57	3.34	0.12	0.92	2.08	3.34	2.80	0.34	1.57	2.32
INTRMD	5.33	-0.71	-0.71	0.12	0.02	-1.21	-1.78	2.59	1.78	1.25	3.57	0.13	0.76	2.59	3.57	3.12	0.26	1.69	2.24
LONG-INT	6.88	-1.09	-1.09	-0.09	0.00	-1.80	-2.96	3.51	2.20	1.09	3.82	0.17	0.80	2.86	3.82	3.36	0.25	1.84	2.26
LONG	13.51	-2.59	-2.59	-0.47	-1.43	-3.57	-7.85	10.47	5.77	-3.26	4.16	0.11	0.60	3.45	4.16	3.83	0.18	1.83	1.70
MUNICIPAL-TERM																			
SHORT	1.96	-0.11	-0.11	0.03	0.58	0.24	0.74	1.16	0.39	0.88	2.15	0.06	0.45	1.17	2.15	1.74	0.22	1.86	2.32
SHORT-INT	3.27	-0.26	-0.26	-0.02	0.73	-0.33	0.12	2.39	0.12	1.96	2.40	0.08	0.52	1.45	2.40	1.99	0.21	1.87	2.24
INTRMD	4.80	-0.51	-0.51	-0.01	0.82	-1.09	-0.80	4.74	0.28	3.27	2.80	0.11	0.61	1.94	2.80	2.42	0.21	1.87	2.01
LONG-INT	5.20	-0.58	-0.58	0.01	0.85	-1.35	-1.08	5.42	0.38	3.68	2.92	0.11	0.64	2.08	2.92	2.54	0.21	1.83	1.92
LONG	7.59	-0.95	-0.95	-0.48	0.92	-1.56	-2.07	8.19	0.97	4.52	3.65	0.14	0.72	2.79	3.65	3.24	0.19	2.16	1.91
MUNICIPAL-QUALITY																			
MUNI-EXEMPT	5.22	-0.57	-0.57	-0.14	0.91	-0.92	**-0.73**	4.95	0.90	3.32	2.97	0.11	0.60	2.14	2.97	2.57	0.19	2.11	2.14
MUNI-TAXABLE	7.93	-1.22	-1.22	-0.37	0.06	-0.80	-2.32	6.81	4.16	1.30	4.34	0.13	0.57	3.69	4.34	3.98	0.16	2.21	2.41
HIGH-GRADE	5.22	-0.54	-0.54	-0.13	0.70	-1.21	-1.18	4.22	-0.09	3.21	2.64	0.11	0.63	1.74	2.64	2.24	0.21	1.90	2.08
'A' RATED	5.09	-0.55	-0.55	-0.19	0.84	-1.07	-0.97	5.40	0.82	3.60	3.00	0.10	0.63	2.17	3.00	2.59	0.20	2.08	2.03
'BBB' RATED	5.24	-0.62	-0.62	0.12	1.14	-0.94	-0.32	7.97	0.94	4.31	3.49	0.12	0.57	2.79	3.49	3.14	0.16	2.16	1.42
HIGH YIELD	7.35	-0.82	-0.82	0.76	3.06	0.58	3.59	9.69	3.52	1.81	5.00	0.12	-0.15	4.64	5.45	5.05	0.23	-0.23	-1.08
MUNICIPAL-SECTOR																			
PRE-RE	2.41	-0.13	-0.13	0.03	0.56	0.10	0.56	1.07	0.32	0.95	2.07	0.05	0.41	1.10	2.07	1.67	0.22	1.80	2.25
GO	5.19	-0.61	-0.61	-0.20	0.79	-1.19	-1.21	4.56	0.08	2.99	2.84	0.11	0.63	1.97	2.84	2.43	0.20	2.00	2.20
DED TAX	5.73	-0.54	-0.54	0.01	1.27	-0.84	-0.12	3.73	1.92	1.24	3.09	0.10	0.59	2.30	3.09	2.72	0.19	1.95	1.59
WTR-SWR	5.34	-0.63	-0.63	-0.31	0.81	-1.24	-1.37	5.31	0.53	3.92	2.91	0.13	0.64	2.07	2.91	2.50	0.19	2.08	1.97
PUB PWR	4.56	-0.46	-0.46	-0.04	0.89	-0.99	-0.61	3.20	1.18	4.57	2.75	0.10	0.53	1.96	2.75	2.40	0.19	1.86	1.39
HEALTHCARE	6.06	-0.70	-0.70	-0.30	1.03	-0.99	-0.96	7.00	1.24	4.65	3.54	0.12	0.70	2.72	3.54	3.13	0.18	2.22	1.81
HIGHER ED	5.83	-0.67	-0.67	-0.26	0.86	-1.14	-1.21	6.20	0.62	3.87	3.23	0.11	0.63	2.44	3.23	2.85	0.19	2.05	1.89
TRANSPORT	5.17	-0.54	-0.54	-0.18	0.87	-1.28	-1.13	6.25	0.93	3.76	3.07	0.10	0.64	2.21	3.07	2.66	0.21	1.96	1.99
HOUSING	10.13	-0.79	-0.79	-0.34	0.75	-0.66	-1.04	5.59	1.52	3.71	3.45	0.13	0.65	2.66	3.45	3.04	0.18	2.33	2.41
TOBACCO	8.86	-1.23	-1.23	0.26	4.87	1.72	5.63	17.82	6.17	13.48	4.01	0.09	-0.59	3.18	5.20	4.19	0.56	-0.31	-1.26
IDB	4.90	-0.50	-0.50	0.00	1.04	-0.35	0.18	6.41	1.53	3.66	3.39	0.10	0.44	2.73	3.40	3.10	0.17	1.71	1.22
GLOBAL / CORP / EQUITY																			
S&P 500	N/A	-0.97	-0.98	7.20	2.93	-1.22	7.93	19.42	10.77	-0.73	1.85	0.03	-0.07	1.84	2.07	1.93	0.05	0.17	-1.37
GLOBAL AGG	7.11	-1.05	-1.06	-0.92	-2.78	1.36	-3.40	7.39	1.77	-3.15	2.26	0.10	0.57	1.58	2.26	1.88	0.17	2.18	2.45
US CORP-IG	7.34	-1.06	-1.06	0.97	-0.98	-2.32	-3.37	6.42	5.84	-0.68	4.21	0.14	0.90	3.11	4.21	3.71	0.33	1.50	2.27
US CORP-HY	4.15	-0.44	-0.44	2.40	1.03	-0.86	2.12	7.50	18.37	-4.47	6.41	0.16	0.69	5.31	6.54	6.07	0.32	1.06	-0.12

Rates & Ratios

	This Wk 10/5/18	Last Wk 9/28/18	End Qtr 9/28/18	End Yr 12/29/17	Mean 12M	Mean 3Y	Value 12M	Value 3Y	WTD	WTD Perf	MTD	MTD Perf	QTD	QTD Perf	YTD	YTD Perf
AAA MMD / UST									Ratios		Ratios		Ratios		Ratios	
2 Yr	70%	70%	70%	82%	70%	78%	Fair	Fair	0.4	Under	0.8	Under	0.8	Under	-11.7	Out
5 Yr	74%	75%	74%	76%	74%	77%	Fair	Fair	-0.7	Out	0.3	Under	0.3	Under	-1.1	Out
10 Yr	83%	84%	84%	81%	85%	89%	Fair	Rich	-1.1	Out	-0.6	Out	-0.6	Out	1.7	Under
30 Yr	99%	100%	99%	92%	97%	98%	Fair	Fair	-1.2	Out	-0.3	Out	-0.3	Out	7.0	Under
UST									BPS		BPS		BPS		BPS	
2 Yr	2.88	2.81	2.83	1.90	2.28	1.44	Cheap	Cheap	7.0		5.4		5.4		98.2	
5 Yr	3.07	2.95	2.97	2.22	2.57	1.90	Cheap	Cheap	12.0		9.4		9.4		84.1	
10 Yr	3.23	3.07	3.08	2.43	2.76	2.29	Cheap	Cheap	16.2		14.3		14.3		79.4	
30 Yr	3.40	3.22	3.23	2.78	3.01	2.85	Cheap	Cheap	18.0		17.1		17.1		62.5	
AAA MMD									BPS		BPS		BPS		BPS	
2 Yr	2.03	1.97	1.97	1.56	1.59	1.08	Cheap	Cheap	6.0		6.0		6.0		47.0	
5 Yr	2.28	2.21	2.20	1.68	1.89	1.45	Cheap	Cheap	7.0		8.0		8.0		60.0	
10 Yr	2.68	2.58	2.58	1.98	2.34	2.04	Cheap	Cheap	10.0		10.0		10.0		70.0	
30 Yr	3.35	3.21	3.19	2.54	2.92	2.79	Cheap	Cheap	14.0		16.0		16.0		81.0	

Muni Primary Market

Gross Supply ($ in millions)

	As of 10/5/18
Last Week	8,527.3
12wk Moving Avg.	6,827.1
YTD	247,009.9

Source: Bloomberg

Weekly Visible Supply ($ in millions)

	Week of 10/9/18
Total	5,087.4
Comp.	1,094.7
Neg.	3,992.7

Source: Bloomberg, Ramirez

30-Day Visible Supply ($ in millions)

	Current	2018 High		2018 Low	
	Total	$	Date	$	Date
Total	9,320.3	16,653.6	(8/13)	2,017.8	(6/28)
Comp.	3,784.7	6,795.3	(5/14)	903.1	(1/26)
Neg.	5,535.6	14,292.2	(8/9)	635.2	(6/28)

Source: Bond Buyer

Top Competitive Issuances Coming to Market

Issuer	State	Amount ($ 000's)
Florida Dept of Mgmt Svcs	FL	249,265
Fremont USD	CA	127,000
Suffolk Co	NY	71,175
Stockton Un SD	CA	70,760
Collier Co	FL	62,965

Source: Bloomberg

Top Negotiated Issuances Coming to Market

Issuer	State	Amount ($ 000's)
Maricopa Co Spl Hlthcare Dist	AZ	400,000
N Texas Tollway Auth	TX	346,825
MI St Hsg Dev	MI	317,550
Los Angeles Dept Wtr Pwr	CA	300,000
Indiana Fin Auth - St Rev Fd	IN	292.070

Source: Bloomberg

Underwriters will attempt to market $5.1 bil. of munis in the week of 10/9, led in the negotiated space by $400 mil. Maricopa Co Spl Hltcare Dist, $347 mil. NTTA, $318 mil. MI St Hsg Dev, and $300 mil LADWP (Senior Mgr). The competitive calendar is highlighted by $249 bil. FL Dept of Mgmt Svcs.

Ramirez Negotiated Issuances Coming to Market

Issuer	State	Amount ($ 000's)	Senior Manager	Ramirez Role
Los Angeles Dept Wtr Pwr	CA	300,000	SAR	Senior
New York HFA Affordable Hsg	NY	135,965	SAR	Senior
Indiana Fin Auth - St Rev Fd	IN	292,070	BAML	Co-Manager
Pennsylvania Turnpike	PA	141,045	Wells	Co-Manager
Connecticut HFA MFH	CT	76,445	MS	Co-Manager

Economic Calendar

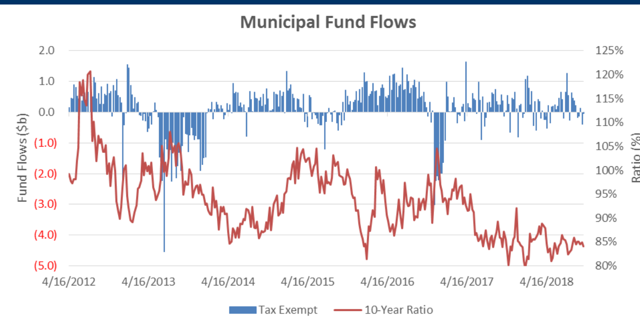
Monday (10/8)	Tuesday (10/9)	Wednesday (10/10)	Thursday (10/11)	Friday (10/12)
Market Closed	NFIB Small Business Optimism	MBA Mortgage Applications	CPI MoM	Import Price Index MoM
	U.S. to Sell USD48 Bln 3-Month Bills	PPI Final Demand MoM	CPI Ex Food and Energy MoM	U. of Mich. Sentiment
	U.S. to Sell USD 42 Bln 6-Month Bills	PPI Final Demand YoY	CPI YoY	Fed Speakers - Evans / Bostic / Quarles
	U.S. to Sell USD40 Bln 4-Week Bills	Wholesale Inventories MoM	Initial Jobless Claims	
	U.S. to Sell USD26 Bln 52-Week Bills	U.S. to Sell USD36 Bln 3-Year Notes	Continuing Claims	
	Fed Speakers - Kaplan / Harker / Williams	U.S. to Sell USD23 Bln 10-Year Notes Reopening	Bloomberg Consumer Comfort	
		Fed Speakers - Evans / Bostic	Monthly Budget Statement	
			U.S. to Sell USD15 Bln 30-Year Bonds Reopening	

Source: Bloomberg

Municipal Market Weekly
Ramirez Municipal Strategy

Muni Market Demand

Tax-exempt mutual funds reported outflows for the second consecutive week of $44 million for the week ending October 3rd. This compares to the 12-week moving average of a $276 million inflow.

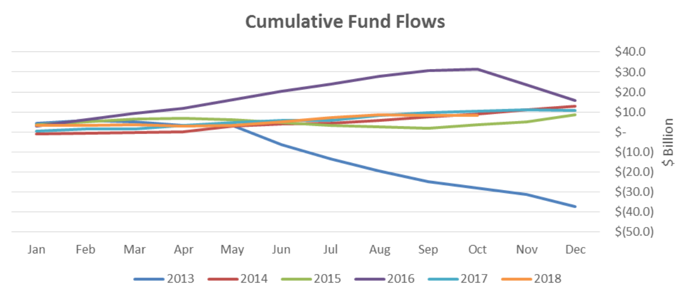


Source: Lipper Fund Flows

US Lipper Fund Flows

Sector	Flow Change ($B)	YTD ($B)
Tax-Exempt	Outflow: -0.044	Inflow: 8.132
Money Market	Outflow: -10.056	Outflow: -22.878
Taxable	Outflow: -0.235	Inflow: 66.396
Equities	Inflow: 1.530	Outflow: -3.465

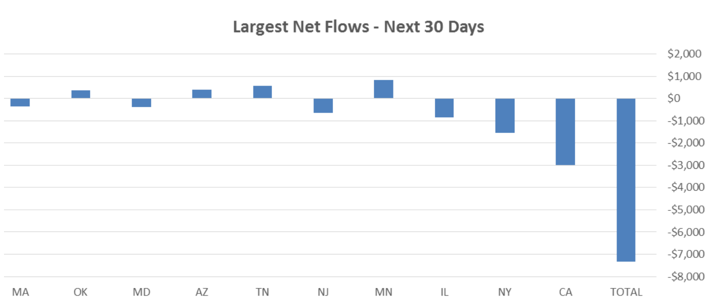
Source: Lipper Fund Flows



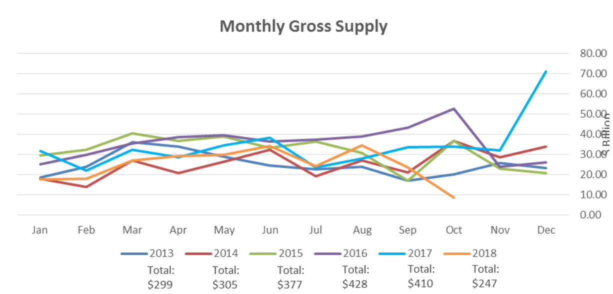
Source: Bloomberg

Muni Market Supply

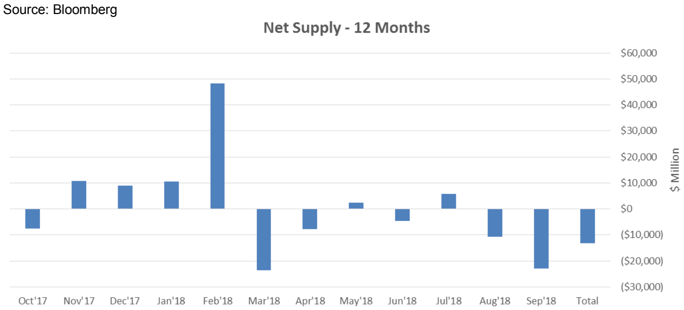
Over the next 30 days, we see net muni market supply at –$7.33 bil., comprised of $8.81 bil. new issues, $10.01 bil. maturing, and $6.13 bil. announced calls. The states that stand to experience the largest change in outstanding debt include California (-$2.99 billion), New York (-$1.56 bil.), Illinois (-$860.4 mil.), Minnesota (+$837.1 mil.), and New Jersey (-$636.9 mil.).



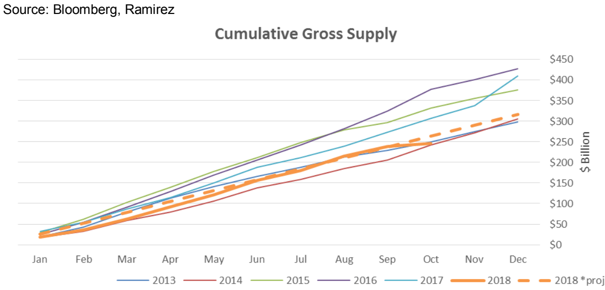
Source: Bloomberg



Source: Bloomberg, Ramirez



Source: Bloomberg



Source: Bloomberg, Ramirez

$300,000,000
Department of Water and Power of the City of Los Angeles
Power System Revenue Bonds

$237,820,000 2018 Series B **$62,180,000 2018 Series C**

Issue: Rated Aa2/AA/AA. Pricing Wednesday, October 10, 2018. Ramirez & Co. is **Senior Manager** of this transaction. The proceeds of the Department of Water and Power of the City of Los Angeles (LADWP) 2018 Series B Bonds will currently refund certain outstanding debt of LADWP and pay costs of issuance. The proceeds of LADWP's 2018 Series C Bonds will finance capital improvements to its power system and pay costs of issuance.

Security: The Bonds payable from revenues of LADWP's power system, which is on parity with $8.86 billion of outstanding debt. The rate covenant requires 1.0x debt service coverage (DSC) and the additional bonds test (ABT) requires 1.25x coverage of maximum annual debt service (MADS).

Credit Overview: LADWP provides water and electric service to the City of Los Angeles (City) and is the largest municipal utility in the United States, with a service area encompassing 473 square miles and a population of 4.0 million. Electric customer growth has averaged 0.45% annually between fiscal 2012 to fiscal 2017 with a total customer count of 1.51 million in fiscal 2017, including residential (89.8% of customers) accounting for 36.3% of energy sales and commercial/industrial (10.13%) at 63.7% of energy sales. The power system has a dependable energy capacity of 7,850 MW (120% of peak demand) in fiscal 2017, comprised of 60.7% owned generation and 39.3% purchased power. Power fuel mix is natural gas (34% of sales), renewables (29%), coal (19%), nuclear (9%), and hydro (3%). LADWP's power supply is gradually shifting to cleaner fuels in order to achieve compliance with State mandates for 50% of retail sales from renewables by 2030. Electric rates, which include base rates and uncapped cost pass-through adjustments, are determined by the Board of Water and Power Commissioners, subject to approval only by City Council. Electric rates through nine months of fiscal 2018 averaged 15.8 cents / kWh for residential users and 14.5 cents / kWh for commercial / industrial users. EIA data indicate LADWPs competitive advantage relative to the neighboring investor-owned utility, Southern California Edison. LADWP's electric rate action between fiscal 2016 and fiscal 2020 set annual average rate increases of 2.5% for low-power users, 3% for mid-range users, and about 4.7% for top-tier users. LADWPs rate structure supports capital expenditures and mitigates energy sales declines that averaged -2.0% between fiscal 2013 and fiscal 2017. Revenue growth averaged 4.2% annually between fiscals 2013 and 2017 to total $3.7 billion in fiscal 2017 for average DSC of 2.45x and no less than 1.5x fixed charge coverage. Fixed charge coverage in fiscal 2017 was 1.7x and is projected to remain above 1.6x through fiscal 2023. Total unrestricted reserves in fiscal 2017 were $1.5 billion, or 200 days cash on hand (DCOH). Debt-to-capitalization in fiscal 2017 was about 62%. LADWP's 2018-2023 capital improvement plan is $8.7 billion, which will be 53.3% debt-financed.

$137,160,000
New York State Housing Finance Agency
Affordable Housing Revenue Bonds, 2018 Series H
(Climate Bond Certified / Green Bonds)

Issue: Rated Aa2. Pricing Thursday, October 11, 2018. Ramirez & Co. is **Senior Manager** of this transaction. The proceeds of the 2018 Bonds will be used to finance mortgage loans for the construction of certain multi-family projects.

Security: The Bonds are special revenue obligations of the New York State Housing Finance Agency (the HFA or Agency), secured by first-lien mortgage loans and investments held in accounts under the Affordable Housing Revenue Bonds General Resolution (the Resolution). Mortgages are uninsured or enhanced by supplemental security, including mortgage insurance policies, a guaranteed mortgage-backed security, a letter of credit, a surety bond, or an escrow deposit, which may be obtained through a GSE. Most properties securing the mortgages also receive State and/or Federal rental assistance. All mortgage loans pledged under the Resolution carry credit enhancement. Cash flows and rating confirmation is required for various actions, including additional bonds, release of general revenues to the HFA, mortgage sales, cross-calls, and/or application of principal other than to redeem outstanding bonds. The Bonds are also secured by a Debt Service Reserve Fund (DSRF) and the General Reserve Fund. As of July 31, 2018, there was approximately $3.12 billion bonds outstanding under the Resolution.

Credit Overview: The Agency was created in 1960 as a public benefit corporation. The legislation creating the Agency determined its purpose to be the providing of safe and sanitary housing accommodations, at rentals which families and persons of low income can afford, and which the ordinary operations of private enterprise cannot provide. The Agency utilizes the Affordable Housing Revenue Program ("the Program"), established in 2007, as its primary vehicle to finance mortgage loans for low-income multi-family housing throughout the State. As of July 31, 2018, the Resolution's aggregate mortgage loan balance was $3.12 billion, representing 210 mortgage loans. 128 loans (or 33% of total) were permanent loans and 82 loans (67%) were construction loans. The construction loans are enhanced by bank-provided LOCs, and upon permanent financing, insured by the State of New Mortgage Agency ("SONYMA") Mortgage Insurance Fund's ("MIF") project pool insurance (Aa1/Stable), or covered by a Fannie Mae or Freddie Mac credit enhancement. Approximately 95% of the permanent loans are insured by SONYMA's MIF. Projects securing the mortgages may also receive State or Federal mortgage or rental assistance (Section 8/236). As of July 31, 2018, Resolution reserves, which include the DSRF and the General Reserve Fund, totaled $69.8 million. The Resolution's loan loss coverage is provided by a high level of overcollateralization, given an asset to liability ratio of 111% in fiscal 2017.

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1 For purposes of the debt Rule FINRA 2242, a "debt security" excludes any equity security, municipal security and security-based swap (each as define under the Exchange Act) and any US Treasury (as defined in FINRA Rule 6710 (p)).