

## Municipals Weekly

## Taxable munis are where it's at

## Industry Overview

## Key takeaways

- Taxable munis are outperforming Treasuries and corporates; more OAS spread value in the 1-10yr part of the curve.
- 2024 year end forward curves also suggest that 1-10yr taxable munis are where the values are.
- Vs tax-exempts on a taxable equivalent basis, taxable munis inside 16yrs look more attractive, particularly from 6-11yrs.

## Taxable munis outperforming Treasuries and corporates

The 10+ year taxable muni index's OAS trades around an all-time low while the 1-10 year taxable muni index's OAS has just returned to its level from the very beginning of this tightening cycle. The long-term history since 2010 suggests that there is more OAS spread value in the 1-10 year part of the curve vs 10+ years and out. Taxable munis began to outperform corporates entering 2024. This outperformance versus corporates likely will continue if January proves to be a peaking point in the strength of the economy.

## Forwards also favor 1-10yr taxable munis

2024 year end forward curves of taxable munis, corporates and Treasuries suggest that 1-10 year taxable muni credit spreads are benign, while 1-10 year corporate credit spreads may have single- to double-digit widenings. In 10+ years, both taxable munis and corporates may have 3-5bp widenings by year end. This also supports the view that 1-10 year taxable munis are where the values are.

## Taxable munis more attractive than exempts 16yr and in

Comparing tax-exempt munis and taxable munis on a taxable equivalent basis, we find that taxable munis 16yrs and in look more attractive than tax-exempts, particularly at the 6-11yr part of the curve. For longer maturities, while tax-exempts still have somewhat more values than taxable munis on a taxable equivalent basis, tax-exempt/taxable muni ratios there are also at the rich end of their last 12-month ranges.

## Key figures: issuance, returns, spreads &amp; trade activity

**Supply:** YTD issuance through 6 March totals \$67.4bn, up 34% y/y. YTD issuance is 94% tax-exempt and 6% taxable; 74% is new money and 26% is refundings. **Returns:** The Muni Master index (UOAO) returned -0.01% YTD through 6 March, outperforming govies and corporates, but underperforming taxable munis (0.39%) and high yield munis (2.09%). Among IG indexes, BBBs' YTD returns strongest at 0.59%, as are the 1-3yr maturities' 0.18%. **Spreads:** For the week ending 6 March, IG spreads tightened 3bp w/w to 18bp, while HY spreads tightened 8bp to 191bp. **Trade activity:** In February, \$204.5bn of muni par value traded in the secondary, with a daily avg of \$10.2bn. MTD in March, about \$30bn of muni par value traded, with a daily avg of \$7.5bn.

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## Recent Municipals Research

[Municipals Weekly: More tax-exempt bonds due to BABs refunding 01 March 2024](#)

[Monthly Municipal ESG Monitor: January 2024 27 February 2024](#)

[Municipals Weekly: Hedging difficulties pressures down dealer inventories 23 February 2024](#)

[Municipals Educational Series: Market discount taxes 21 February 2024](#)

[Municipals Weekly: Counting votes: General Elections & muni rates, issuance and returns 16 February 2024](#)

**Exhibit 1: Strategic and tactical views & key forecasts**

Buy long duration high grade bonds, especially 4% coupons

**Strategic views**

- (1) 15-30yr part of the curve, particularly 4% coupon bonds; (2) AMT bonds\*: overweight
- BBBs and high yield: neutral
- (1) Territories; (2) small private colleges; (3) rural, single-facility hospitals: underweight

**Tactical views**

- Position for ratios to reach historically-rich levels
- 4% coupon bracket to benefit more in a rally
- Swap long-end muni taxables for long-end tax-exempts

**Key forecasts**

- 2024 issuance to total \$400bn; \$300bn of new money and \$100bn of refundings
- 2024 principal redemptions to total \$416bn and coupon payments \$158bn. Cumulative fund inflows positive
- 1s10s slope to stay inverted in 2024; 10s30s to steepen, then flatten; 10s30s max slope of 110bp in 2024
- 10yr muni/Tsy ratio range of 55%-80% and 30yr 75%-92%
- Stable credit spreads in 2024 given non-recessionary environment; any material widening is an opportunity

**Note:** \*If the holder is certain they are not subject to the AMT under current tax law.

**Source:** BofA Global Research

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## Market views & strategies

### Taxable muni investors should stay inside the 10-year

Fed Governor Waller's comments last Friday added an important boost to this round of Treasury market rally that began two weeks ago. He spoke about empirical evidence of the asymmetrical effect of QE versus QT on market yields, as well as the function of liquidity. He also touched on the possibility of Fed balance sheet maneuvering through the purchase of short-term Treasuries and disposal of agency MBS holdings (more like a reverse Operation Twist), thereby steepening yield curves. Although the discussion is more on a theoretical study, bond markets nonetheless rallied on the messages in a surprise bull steepening last Friday. Chair Powell's testimony to Congress this week, together with the market's renewed concern over regional banks' exposure to CRE, provided another boost to the bond market rally, pushing the 10yr Treasury yield to a low of 4.05% on Thursday. Moreover, Chair Powell echoed the possibility of shortening the maturity of Fed holdings on Thursday.

Much as expected, AAA tax-exempt muni rates moved a few bp lower, and ratios to Treasuries inched up across the curve. Taxable munis performed better; they outperformed the Treasury market across the curve, continuing an emerging trend that began at the end of Oct-23. Exhibit 2 shows that the OAS for the 1-10yr ICE BofA Taxable Muni index has fallen to its level from the beginning of this Fed tightening cycle, but the 10+yr ICE BofA Taxable Muni index has fallen a lot further, standing near its all-time lows (which are much lower than at the beginning of the tightening cycle). The trend in OAS for these indexes since 2020 suggests that there is more relative value in the 1-10yr part of the taxable muni curve versus 10+yrs and out.

Versus comparable corporate bond indexes, taxable muni cheapened to corporate across the curve from Mar-23 to Dec-23. Exhibit 3 shows taxable muni index OAS less comparable corporate index OAS for both 1-10 year and 10+ year parts of the curve. In 2024, taxable munis began to outperform corporates slowly. This can be better understood in macro terms. Generally, in an economic downturn or market crisis, both taxable and tax-exempt munis tend to outperform corporates due to the difference in overall credit. Mar-23's regional bank crisis no doubt reflected that, though the Fed's solution (setting up the Bank Term Funding Program, or BTFP) provided a boost to the general economy and the financial market, leading to continuous relative under-performance of taxable munis versus corporates up until Dec-23. Should the surprising strength of the economy for Jan-24 prove to be a peaking point of the trend since Mar-23, taxable munis should continue to outperform corporates going forward. Some preliminary data for the month of February (released in March) seem to point in this direction. Of course, investors need to be aware that, based on the experience of the past two years, the economic trail in this tightening cycle can be somewhat bumpy and

surprising due to uniqueness in the labor market, sticky inflation unseen since the 1980's and Fed's willingness to intervene at any meaningful market kink. A stable trend of economic strength or weakness cannot be assumed and unchallenged. As such, trading and investment must be adjusted accordingly.

#### Exhibit 2: ICE BofA 1-10 year and 10+ year taxable muni index OAS (bp)

10+ year index OAS has fallen to an all-time low

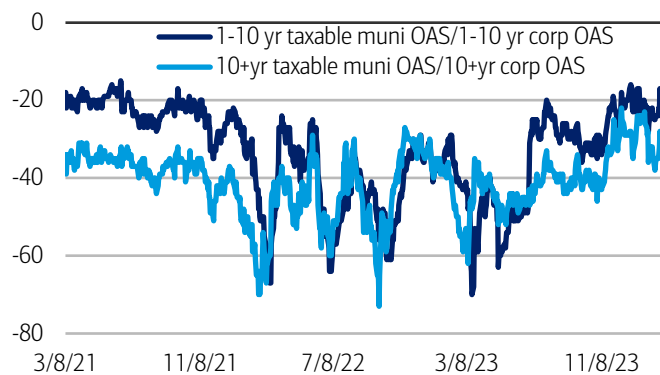


Source: ICE Data Indices LLC

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#### Exhibit 3: Taxable muni indexes began to richen to corporates (bp)

Taxable munis cheapened to corps from March 2023 to November 2023



Source: ICE Data Indices LLC

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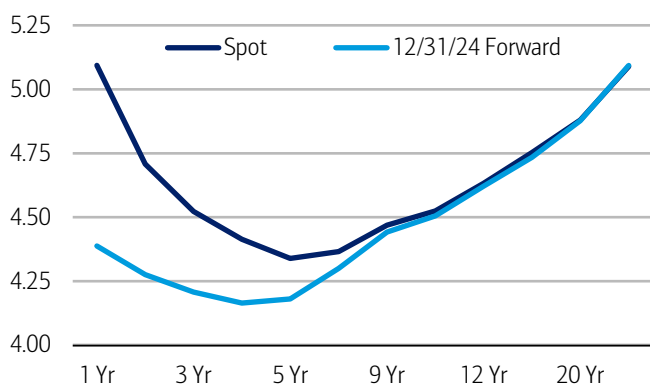
We analyzed taxable munis from a relative value viewpoint vs Treasuries and corporates above. A forward curve analysis may offer extra insight as well. Exhibit 4 shows the spot US Taxable GO AAA Muni BVAL Yield Curve, as well as the 2024 year-end forward curve. The forward of 1yr is a 71bp decline from spot, consistent with the expectation of 75bp Fed rate cuts in 2024. The forward of 5yr shows a 16bp yield decline vs spot while the forward of 10yr is barely a 2bp decline from spot. The forward of the 30yr AAA taxable muni yield is even slightly up vs spot. Comparing with Treasury's spot and forward, the taxable muni curve is expected to have slight credit spread tightening inside 5yr maturities, and 3bp-5bp credit spread widening in 10-30yr sector.

Corporate AA spot and forward curves show something different: the 2024 year-end forward of 1yr AA corporates is a 43bp decline from spot; the forward of 5yr AA corporates is an 8bp decline from spot; and, the 10yr and 30yr are barely changed. So, some credit spread widening in corporates is expected. In 5+ years, these widening are single digits, but inside 5yrs, they can be double digits, especially at the short end.

These forward curve comparisons support the idea again that values for taxable munis currently are in 1-10yr maturities.

#### Exhibit 4: Taxable AAA muni curves: spot and forward (%)

Yearend forward yield of 10yr taxable munis is only 2bp lower than current

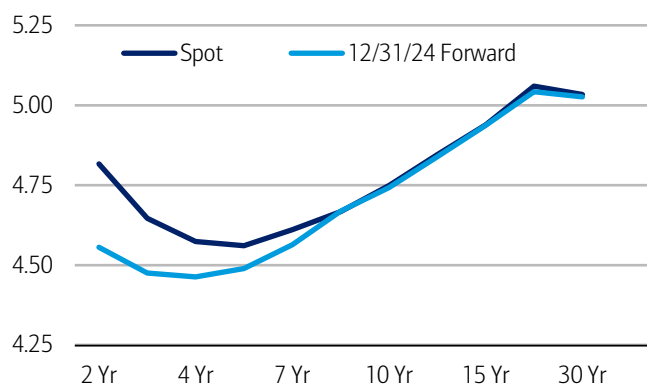


Source: Bloomberg

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#### Exhibit 5: AA corporates curves: spot and forward (%)

Yearend forward of AA 10yr corporates remains the same as current

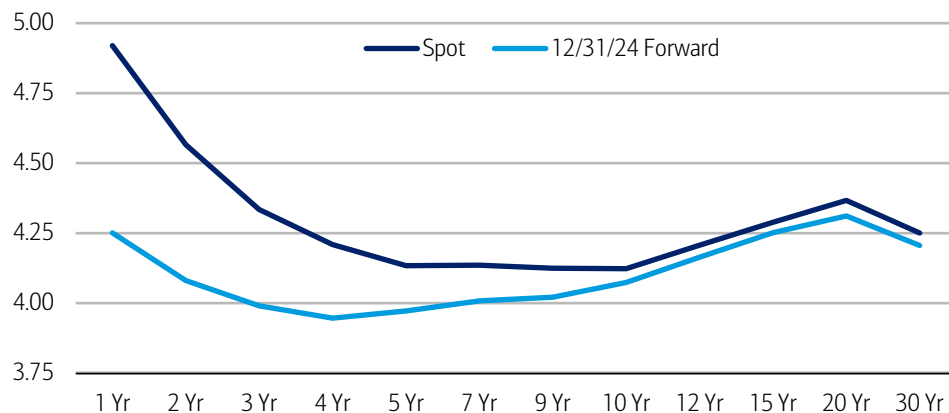


Source: Bloomberg

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**Exhibit 6: Treasury curves: spot on 3/7/24 and 12/31/24 forward (%)**

Forward yields are down 67bp at 1yr, 16bp at 5yr and 5bp at 10- and 30-yr



Source: Bloomberg

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Taxables also look attractive to exempts 16 years and in, but particularly at the 6-11yr part of the curve, even when adjusting for taxes. Exhibit 7 below left shows, taxable equivalent MMD yields are sub-90% of taxable muni yields at that part of the curve across the rating buckets. Indeed, the taxable equivalent yield ratio to taxable munis for AA munis at the 7yr is just 86.7%.

**Exhibit 7: Taxable equivalent yield\* ratio to taxable muni (%)**

Ratios 100%+ 17yrs and out; lowest between 6 and 11yrs

Maturity	AAA	AA	A	BBB
1	98.4	95.9	94.7	93.1
2	99.8	97.0	97.1	94.2
3	97.4	94.5	94.7	91.7
4	92.8	90.1	91.1	89.3
5	93.5	91.1	92.1	91.9
6	89.8	87.7	90.1	90.7
7	88.1	86.7	87.4	92.3
8	88.2	87.3	88.9	92.8
9	88.6	88.3	89.9	93.3
10	87.3	87.2	89.0	92.0
11	88.8	89.4	90.6	92.8
12	91.4	91.5	93.0	94.3
13	94.1	94.4	95.7	96.1
14	97.2	97.6	98.4	98.0
15	99.3	99.6	100.1	99.3
16	97.7	98.3	99.0	98.2
17	100.1	100.8	101.2	100.2
18	101.6	102.3	102.6	101.8
19	102.8	103.9	103.7	102.9
20	104.0	105.1	105.1	104.4
21	105.2	106.7	106.9	105.4
22	106.6	107.7	107.9	106.8
23	108.0	109.1	109.1	107.9
24	109.4	110.4	110.3	109.2
25	110.4	111.7	111.3	110.0
26	110.8	112.1	111.7	110.4
27	110.9	112.2	111.8	110.5
28	111.7	112.9	112.4	111.0
29	111.8	113.0	112.5	111.1
30	111.9	113.1	112.6	111.2

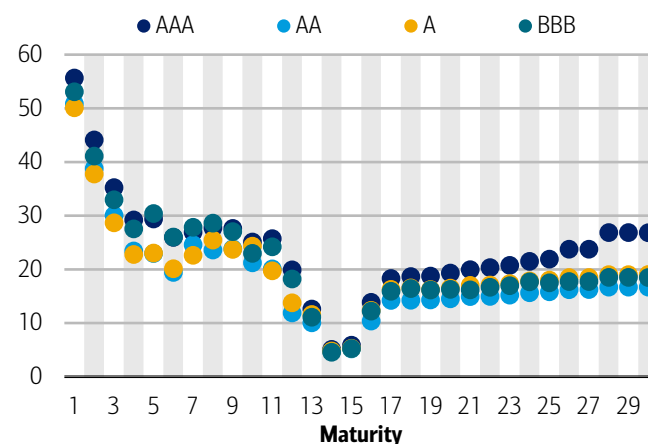
Note: Adjusted using top federal marginal rate of 37% + 3.8% Medicare surtax. As of 1 Mar 2024.

Source: BofA Global Research, Refinitiv

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**Exhibit 8: Current ratio's percentile of L12M range**

While longer ratios are higher, they are also richer vs their L12M range



Source: BofA Global Research, Refinitiv

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While exempts' ratios out the curve are certainly more attractive, they are also at the richer end of their last 12-month (L12M) range. In fact, if we look at the 17yr maturity

and out, ratios are below the 25<sup>th</sup> percentile of their L12M for AA, single-A and BBB munis through 30yrs; for AAA munis, through 27yrs.

Yet, as we noted in [our last Weekly report](#), muni/Treasury ratios may cheapen some over the course of March and April, but more so on the short- than long-end. These ratios to taxable munis could cheapen too, similarly more pronounced at the short-end.

## Performance

### Exempt IG fails to keep pace with rates rally

While both Treasury and muni rates rallied this week, munis moved proportionately less, resulting in exempt IG's underperformance versus govies, corporates and taxable munis. With its 25bp of total returns for the week, exempt IG underperformed govies by 84bp, corporates by 76bp and taxable munis by 124bp. Exempt IG also underperformed muni high yield by 33bp for the week. While exempt IG is still outperforming govies by 60bp and corporates by 32bp for the YTD with its -1bp of total returns, it is underperforming taxable munis by 40bp and muni high yield by 211bp. Among IG rating brackets, BBBs' returns were strongest for the week at roughly 38bp, and remain strongest YTD at 59bp of total returns; AAAs' -34bp YTD are weakest. GOs continue to underperform revenue bonds for the YTD by 20bp, with only BBB GOs outperforming their revenue bond counterparts. We continue to see the shorter maturity indexes with the strongest returns: for the YTD, the 1-3yr index is outperforming the 22+yr index by 28bp.

#### Exhibit 9: Municipal total returns (%) monitor, as of 6 March 2024

Exempt IG failed to keep pace with taxable market rate rally, leading to underperformance this week

Index	Ticker	1d	1wk	MTD	1mo	3mo	YTD	1yr
Govt Master	GOAO	0.187	1.088	0.903	0.262	1.148	-0.616	3.464
Corporate Master	COAO	0.239	1.014	0.930	0.151	2.016	-0.333	7.053
<b>IG munis</b>	<b>UOAO</b>	<b>0.041</b>	<b>0.250</b>	<b>0.201</b>	<b>0.566</b>	<b>1.722</b>	<b>-0.012</b>	<b>5.979</b>
AAA	UOA1	0.029	0.206	0.159	0.446	1.337	-0.336	5.241
AA	UOA2	0.044	0.234	0.191	0.516	1.535	-0.102	5.561
A	UOA3	0.036	0.277	0.221	0.640	2.112	0.216	6.750
BBB	UOA4	0.056	0.375	0.300	0.997	2.711	0.591	8.069
1-3yr	U1A0	0.030	0.101	0.090	0.303	0.719	0.184	3.442
3-7yr	U2A0	0.047	0.167	0.144	0.428	1.107	-0.030	4.287
7-12yr	U3A0	0.064	0.226	0.183	0.522	1.570	-0.070	4.977
12-22yr	U4A0	0.038	0.261	0.196	0.627	2.027	0.013	6.951
22+yr	U5A0	0.029	0.375	0.304	0.746	2.401	-0.098	7.903
<b>HY munis</b>	<b>UOHY</b>	<b>0.084</b>	<b>0.579</b>	<b>0.496</b>	<b>1.407</b>	<b>4.008</b>	<b>2.094</b>	<b>7.582</b>
Non-rated	UONR	0.043	0.472	0.378	1.800	4.195	1.988	9.615
<b>General Obligation</b>	<b>UOAG</b>	<b>0.041</b>	<b>0.211</b>	<b>0.178</b>	<b>0.462</b>	<b>1.350</b>	<b>-0.162</b>	<b>5.280</b>
AAA	UGA1	0.031	0.207	0.167	0.422	1.127	-0.412	5.014
AA	UGA2	0.044	0.214	0.189	0.472	1.365	-0.142	5.225
A	UGA3	0.041	0.176	0.107	0.414	1.628	0.174	5.530
BBB	UGA4	0.029	0.305	0.242	0.832	2.326	0.704	7.618
State	UOAA	0.047	0.196	0.152	0.428	1.257	-0.075	4.854
Local	UOAB	0.034	0.227	0.209	0.503	1.455	-0.263	5.778
<b>Revenue</b>	<b>UOAR</b>	<b>0.041</b>	<b>0.262</b>	<b>0.208</b>	<b>0.600</b>	<b>1.843</b>	<b>0.036</b>	<b>6.206</b>
AAA	URA1	0.028	0.203	0.152	0.461	1.479	-0.286	5.395
AA	URA2	0.044	0.243	0.192	0.534	1.607	-0.086	5.705
A	URA3	0.036	0.286	0.231	0.659	2.152	0.220	6.857
BBB	URA4	0.058	0.380	0.304	1.009	2.742	0.581	8.013
Airport	UOAV	0.036	0.345	0.298	0.725	2.002	0.288	6.504
Education	UOAE	0.030	0.220	0.170	0.494	1.765	-0.139	6.004
Health	UOHL	0.010	0.768	0.655	1.904	5.148	1.979	10.262
Hospital	UOAH	0.037	0.308	0.233	0.640	2.229	0.074	7.077
Industrial Development Rev	UOID	0.097	0.408	0.379	1.072	2.814	0.705	7.910
Leases, COPs & Appropriations	UOAL	0.052	0.231	0.191	0.581	1.647	-0.010	5.628
Miscellaneous	UOAM	0.066	0.222	0.166	0.623	1.322	-0.366	4.979
Multi-family Housing	UOAU	0.055	0.257	0.206	0.608	1.899	-0.124	6.212
Pollution Control	UOAP	0.046	0.190	0.148	0.620	1.810	0.231	5.124
Power	UOAP	0.037	0.245	0.190	0.566	1.704	0.077	5.176
Single-family Housing	UOAS	0.055	0.267	0.196	0.629	1.646	-0.071	5.277
Tax Revenue	UOTX	0.054	0.253	0.192	0.509	1.535	-0.273	6.025

**Exhibit 9: Municipal total returns (%) monitor, as of 6 March 2024**

Exempt IG failed to keep pace with taxable market rate rally, leading to underperformance this week

Index	Ticker	1d	1wk	MTD	1mo	3mo	YTD	1yr
Tobacco	UOTB	0.024	0.279	0.197	0.951	2.560	0.971	6.257
Toll & Turnpike	UOTL	0.041	0.249	0.198	0.610	1.734	0.163	6.221
Transportation - other	UOAT	0.050	0.248	0.204	0.709	1.921	0.089	6.911
Utilities - other	UOUT	0.031	0.309	0.262	0.546	2.224	0.390	6.199
Water & Sewer	UOAW	0.008	0.163	0.128	0.480	1.524	-0.053	5.435
<b>Taxable</b>	<b>TXMB</b>	<b>0.222</b>	<b>1.490</b>	<b>1.224</b>	<b>0.565</b>	<b>2.582</b>	<b>0.388</b>	<b>5.963</b>
Build America Bonds	BABS	0.180	1.313	1.038	-0.044	2.029	-0.104	4.798
<b>VRDOs</b>	<b>VRDO</b>	<b>0.009</b>	<b>0.064</b>	<b>0.054</b>	<b>0.256</b>	<b>0.798</b>	<b>0.552</b>	<b>3.261</b>
Daily reset	VRDD	0.009	0.066	0.056	0.249	0.723	0.473	3.074
Weekly reset	VRDW	0.009	0.062	0.053	0.260	0.843	0.598	3.369

Source: ICE Data Indices, LLC

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**IG spreads 3bp tighter w/w overall; HY spreads 8bp tighter**

IG muni spreads tightened 3bp w/w overall to 18bp and are at the low of their 52-week range. Muni HY spreads tightened 8bp to 191bp or the 8<sup>th</sup> percentile. Non-rated spreads tightened 7bp w/w to 194bp. GO spreads tightened 1bp w/w and Revenue Bond spreads tightened 3bp. Among IG muni revenue bond sectors, the Health and Pollution Control sectors narrowed the most by 8bp each. No sector experienced spread widening w/w.

**Exhibit 10: Muni YTW spread monitor as of 6 March 2024**

IG muni spreads 3bp tighter w/w overall while HY spreads tightened 8bp

	52wk				Current 3/6/24	Change from				Current as % of 52wk range	Price	Yield
	Tights	Wides	T-1wk	T-1d		Tights	Wides	T-1wk	T-1d			
<b>Investment Grade</b>	<b>18</b>	<b>35</b>	<b>21</b>	<b>19</b>	<b>18</b>	<b>0</b>	<b>-17</b>	<b>-3</b>	<b>-1</b>	<b>0</b>	<b>102</b>	<b>3.50</b>
AA	2	12	5	3	2	0	-10	-3	-1	0	103	3.34
A	47	77	50	47	47	0	-30	-3	0	0	100	3.79
BBB	94	142	103	98	97	3	-45	-6	-1	6	97	4.29
<b>High Yield</b>	<b>178</b>	<b>350</b>	<b>199</b>	<b>193</b>	<b>191</b>	<b>13</b>	<b>-159</b>	<b>-8</b>	<b>-2</b>	<b>8</b>	<b>95</b>	<b>5.23</b>
Non-rated	174	247	201	195	194	20	-53	-7	-1	27	66	5.26
<b>General Obligation</b>	<b>-12</b>	<b>-4</b>	<b>-10</b>	<b>-10</b>	<b>-11</b>	<b>1</b>	<b>-7</b>	<b>-1</b>	<b>-1</b>	<b>13</b>	<b>102</b>	<b>3.21</b>
AA	-19	-9	-16	-16	-17	2	-8	-1	-1	20	102	3.15
A	-15	29	4	1	0	15	-29	-4	-1	34	105	3.32
BBB	50	115	75	70	69	19	-46	-6	-1	29	97	4.01
State	-30	-20	-28	-29	-30	0	-10	-2	-1	0	106	3.02
Local	7	17	12	13	12	5	-5	0	-1	50	98	3.44
<b>Revenue</b>	<b>28</b>	<b>49</b>	<b>31</b>	<b>29</b>	<b>28</b>	<b>0</b>	<b>-21</b>	<b>-3</b>	<b>-1</b>	<b>0</b>	<b>102</b>	<b>3.60</b>
AA	10	22	13	11	10	0	-12	-3	-1	0	103	3.42
A	50	81	54	51	50	0	-31	-4	-1	0	99	3.82
BBB	96	147	105	101	100	4	-47	-5	-1	8	97	4.32
Airport	52	84	55	54	54	2	-30	-1	0	6	104	3.86
Education	8	30	13	8	8	0	-22	-5	0	0	105	3.40
Health	135	174	143	136	135	0	-39	-8	-1	0	96	4.67
Hospital	60	89	63	60	60	0	-29	-3	0	0	100	3.92
Industrial Development Rev	67	123	76	72	71	4	-52	-5	-1	7	101	4.03
Leases, COPs & Appropriations	-4	13	1	-3	-3	1	-16	-4	0	6	104	3.29
Miscellaneous	-3	17	16	13	10	13	-7	-6	-3	65	103	3.42
Multi-family Housing	54	89	64	62	61	7	-28	-3	-1	20	95	3.93
Pollution Control	30	64	58	51	50	20	-14	-8	-1	59	98	3.82
Power	22	39	24	23	22	0	-17	-2	-1	0	105	3.54
Single-family Housing	69	89	86	84	83	14	-6	-3	-1	70	99	4.15
Tax Revenue	1	16	4	3	1	0	-15	-3	-2	0	102	3.33
Tobacco	-22	37	-3	-9	-9	13	-46	-6	0	22	102	3.23
Toll & Turnpike	23	49	29	26	25	2	-24	-4	-1	8	99	3.57
Transportation - other	23	51	27	24	23	0	-28	-4	-1	0	100	3.55
Utilities - other	64	105	68	64	64	0	-41	-4	0	0	104	3.96
Water & Sewer	3	20	12	10	9	6	-11	-3	-1	35	103	3.41

Note: YTW spread to the ICE BofA AAA US Municipal Securities Index (UOAT1).

Source: BofA Global Research, ICE Data Indices, LLC

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# Supply & demand

## YTD issuance totals \$67.4bn, up 34% y/y

YTD issuance as of 6 March 2024 totals \$67.4bn, up 34% y/y. 74% of YTD issuance is new money and 26% is refundings. New money volumes are up 28% y/y while refunding volumes are up 57% y/y. MTD issuance totals \$4.5bn, which is up 7% y/y. Refunding volumes MTD are up 10% y/y while new money volumes are down 16%.

### Exhibit 11: Issuance summary (\$mn)

YTD-24 issuance of \$67.4bn was up 34% y/y; new money up 28% y/y while refundings up 57% y/y

	Month-to-date			Year-to-date		
	3/6/24	3/6/23	y/y % Δ	3/6/24	3/6/23	y/y % Δ
<b>Total</b>	<b>4,447.4</b>	<b>4,155.1</b>	<b>7%</b>	<b>67,400.2</b>	<b>50,221.9</b>	<b>34%</b>
New Money	4,051.6	3,683.5	10%	49,698.4	38,938.4	28%
Total Refunding	395.8	471.7	-16%	17,701.8	11,283.6	57%
Advanced refunding	134.0	5.4	2363%	5,526.2	1,380.9	300%
Unknown refunding	5,720.7	4,093.3	40%	10,543.0	8,187.0	29%
Current & Forward refunding	317.0	89.1	256%	318.6	1,243.9	-74%
Insured	327.6	339.9	-4%	4,884.4	4,336.3	13%
Fixed Rate	4,419.1	3,010.1	47%	59,679.1	42,728.2	40%
Variable Rate Long	15.5	1,006.5	-98%	4,452.3	5,422.1	-18%
Variable Rate Short	0.0	59.6	-100%	2,279.1	1,815.5	26%
Convertible	12.8	0.0	-	12.8	4.1	213%
Zero Coupon	0.0	3.0	-100%	361.7	126.1	187%
Linked Rate	0.0	76.0	-	615.3	126.0	388%
Variable rate no put	0.0	0.0	-	-	-	-
Tax Exempt	3,916.3	3,505.2	12%	63,603.3	43,652.6	46%
Taxable	531.1	83.8	533%	3,708.1	5,098.3	-27%
Alternate Minimum Tax	0.0	566.1	-100%	88.9	1,471.1	-94%
Education	2,222.5	937.9	137%	21,366.2	18,282.5	17%
General Purpose	562.6	296.8	90%	13,107.6	8,448.2	55%
Utilities	1,394.7	742.8	88%	10,983.2	6,531.5	68%
Housing	185.5	773.1	-76%	5,981.4	4,772.1	25%
Development	73.9	18.0	310%	1,316.6	1,277.1	3%
Transportation	5.7	1,310.5	-100%	7,022.0	5,096.0	38%
Public Facilities	2.4	0.0	-	660.1	491.1	34%
Healthcare	0.0	76.0	-100%	4,436.3	2,029.2	119%
Electric Power	0.0	0.0	-	2,218.9	3,144.3	-29%
Environmental Facilities	0.0	0.0	-	308.1	150.0	105%
Muni-backed corporates	0.0	88.7	-100%	0.0	88.7	-100%

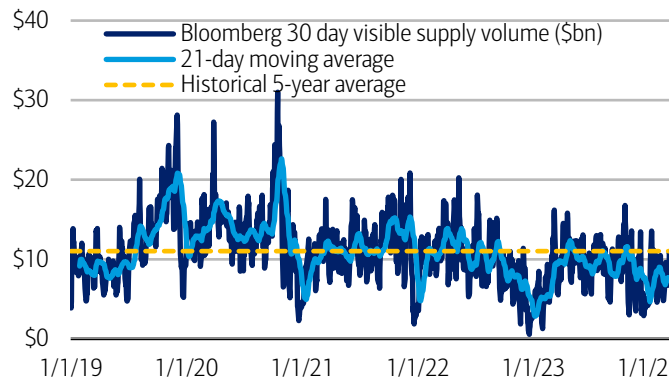
**Note:** Long-term bonds only. Reflects any data revisions by LSEG or Bloomberg.

**Source:** BofA Global Research, LSEG, Bloomberg

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### Exhibit 12: Bloomberg 30-day visible supply (\$bn)

30-day visible supply was \$8.2bn as of 7 March 2024



**Source:** Bloomberg

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### Exhibit 13: 2024 gross issuance, redemption forecasts vs actuals (\$bn)

Gross issuance forecast of \$400bn vs \$574bn of prin. & cpn. redemptions

Month	Issuance		Prin. & cpn redemptions	
	Forecast	Actual	Forecast	Actual
January	\$26	30	\$46	\$45
February	27	32	49	46
March	32	4*	39	
April <sup>1</sup>	31		31	
May	32		39	
June	39		63	
July	30		63	
August	38		66	
September	34		37	
October	42		45	
November	33		43	
December	36		52	

**Note:** Totals may not add up due to rounding. Data as of 6 March 2024.

**Source:** BofA Global Research, LSEG, Bloomberg

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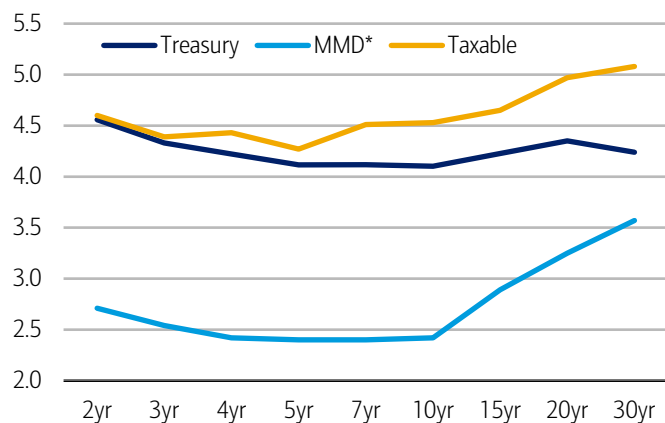
## Curve

### Curve richens 4bp w/w on avg and down 2bp m/m

The AAA MMD curve was down 4bp w/w on average, and richened 2bp m/m. For the week, the 1s5s slope inverted a further 1bp to -55bp, 23bp more inverted y/y; the 5s10s was unchanged w/w at 2bp, but is 7bp steeper y/y; the 10s20s slope steepened 2bp w/w to 83bp and is 4bp steeper y/y; the 20s30s was unchanged w/w at 32bp but is 14bp steeper y/y. We expect the 1s10s muni AAA curve to stay lightly inverted throughout 2024 unless the Fed's rate cutting becomes more aggressive than currently anticipated. The 10s30s should steepen mildly during the start of the year, and then flatten some when the 30-year AAA yield crosses a key level to alleviate the fear for the long end.

#### Exhibit 14: AAA GO muni, Treasury and taxable yield curves (%)

On average, Tsy, MMD and Taxable all richened w/w



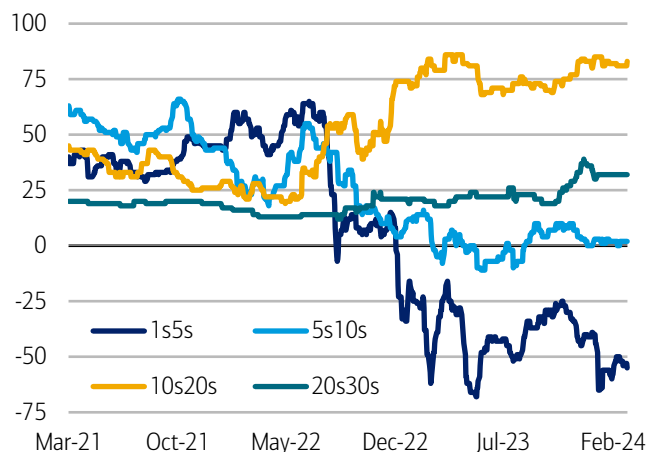
Note: \*MMD AAA GO yield curve. As of 6 March 2024.

Source: BofA Global Research, Refinitiv, Bloomberg

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#### Exhibit 15: Curve slope (bp)

5s10s and 20s30s remain unchanged w/w

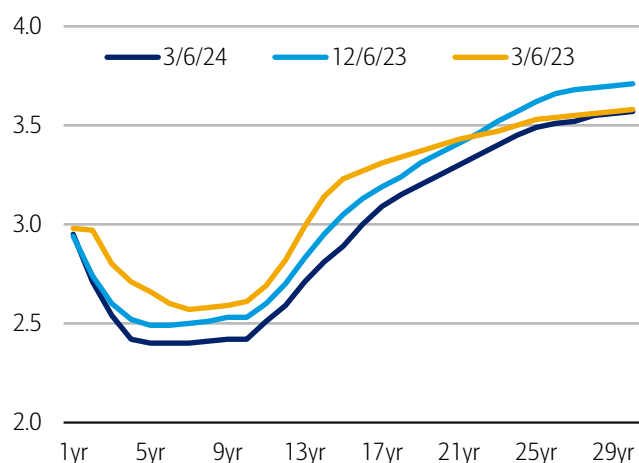


Source: Refinitiv

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#### Exhibit 16: AAA GO municipal curve movement (%)

AAA is richer than three months ago across the curve outside of 1yr



Source: Refinitiv

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## Relative value

At 7-12yr maturities, AA Utilities-other' and Single-A Power's OAS are very cheap, while AA Higher Education are cheap. AAA Pollution Control and AAA Power are rich. At 22+yr maturities, BBB State GO and Utilities-other are very rich, while AAA State & Local GO and AA Hospital are cheap, among others.



**Exhibit 17: Rich/cheap analysis of 7-12yr indexes' OAS (bp)**

AA Utilities - Other's current OAS of 118bp at 7-12yrs is currently very cheap against its 3yr OAS average of 12bp

Sector	Current OAS				Rich/cheap analysis				3yr OAS average			
	AAA	AA	A	BBB	AAA	AA	A	BBB	AAA	AA	A	BBB
Airports		35	29	68		N	N	N		32	29	52
Higher Education	-10	-11	42		N	C	N		-9	-5	38	
GO Local	-3	5	50	104	N	N	N	N	-2	7	42	108
GO State	-5	-8	46	0	N	N	N	R	-7	-6	42	89
Health		0	68	102		R	N	N		18	71	105
Hospital		12	35	77		N	N	N		15	36	94
IDR		54	66	75		N	N	N		36	52	78
Leases COPs & Appr.		7	19	112		N	N	N		9	32	109
Pollution Control	2		104		VR		N		-2		72	
Power	-8	-7	101		N	N	VC		-5	-5	28	
Tax Revenues	0	0	55	111	R	R	N	N	1	6	55	113
Tobacco			23				N				47	
Toll & Turnpike		18	15	68		N	N	N		20	16	79
Transportation - Other	0	13	36	68	R	N	N	N	3	11	51	84
Utilities - Other	0	118	138		R	VC	C		-3	12	47	
Water & Sewer	-10	-14	12	23	N	N	N	N	-6	-8	11	99

**Note:** Data as of 5 March 2024. Only includes non-prerefunded bonds. Benchmark is 3-yr avg.

**Source:** ICE Data Indices, LLC

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**Exhibit 18: Rich/cheap analysis of 22yr+ indexes' OAS (bp)**

BBB Utilities - Other's current OAS of 0bp at 22yr+ is currently very rich against its 3yr OAS average of 52bp

Sector	Current OAS				Rich/cheap analysis				3yr OAS average			
	AAA	AA	A	BBB	AAA	AA	A	BBB	AAA	AA	A	BBB
Airports		37	32	-9		N	N	N		26	24	8
Higher Education	40	7	30	91	N	N	N	N	26	-9	17	75
GO Local	19	12	21	76	C	N	N	N	-8	2	20	73
GO State	-4	11		0	N	C		VR	-25	-19		79
Health		-32	56	145		N	N	N		-19	38	114
Hospital		20	32	70		N	N	N		7	24	56
IDR			64	75			N	N			55	68
Leases COPs & Appr.	25	10	20	53	C	N	N	N	-4	-6	28	45
Pollution Control			34				N				18	
Power		11	24	41		N	N	N		-5	15	43
Tax Revenues	35	17	61	65	C	N	N	N	8	3	48	70
Tobacco				84				N				86
Toll & Turnpike			15	38			N	N			10	39
Transportation - Other		0	19	74		N	N	C		9	29	48
Utilities - Other		20	39	0		C	N	VR	-8	-7	22	52
Water & Sewer	4	3	16		C	N	N		-18	-14	-5	

**Note:** Data as of 5 March 2024. Only includes non-prerefunded bonds. Benchmark is 3-yr avg.

**Source:** ICE Data Indices, LLC

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**MWIs had small increases in the overpriced space**

Our market width indicator (MWI) – which measures muni sectors' recent market momentum by calculating the percentage of a sectors' CUSIPs whose current YTW are below their moving 20-week average – shows that most sectors' MWIs had small increases in the overpriced space w/w, with Health, Single Family Housing and Tobacco increasing the most. ETM, Multi-Family Housing and Utilities' MWI are the lowest.

**Exhibit 19: MWIs – sector momentum (%) as of 5 March 2024**

Most sectors' MWIs had small creases over the past week

Sector	MWI	m/m Δ	Sector	MWI	m/m Δ
<b>UOA0 Index</b>	<b>99.2%</b>	<b>0.9%</b>	Miscellaneous	100.0%	0.3%
ETM	96.3%	-0.4%	Multi-Family Housing	96.7%	0.1%
GO - Local	99.1%	0.0%	Pollution Control	98.5%	0.0%
GO - State	99.0%	0.2%	Power	97.6%	-0.8%
Pre-Re	100.0%	0.0%	Single Family Housing	97.3%	2.5%
Airport	100.0%	4.4%	Tax revenue	99.9%	1.7%
Education	99.3%	0.4%	Tobacco	97.5%	12.5%



**Exhibit 19: MWIs – sector momentum (%) as of 5 March 2024**

Most sectors' MWIs had small creases over the past week

Sector	MWI	m/m Δ	Sector	MWI	m/m Δ
Health	100.0%	8.6%	Toll & Turnpike	99.9%	0.9%
Hospitals	99.6%	0.3%	Transportation	99.6%	-0.1%
Industrial Development Rev	100.0%	9.4%	Utilities - Other	96.4%	-1.9%
Leasing COPS & Appropriations	99.4%	-0.1%	Water & Sewer	99.6%	1.8%

Source: BofA Global Research, ICE Data Indices, LLC

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## Trade activity

### Most actively traded CUSIPs for the week

The most actively traded CUSIP over the last week by total volume was 5977833H0, totaling \$188.8mn. Those are Midland Texas Independent School District school building bonds due in 2054. By number trades it was 76221SBL4, totaling 157 trades. These are Rhode Island Housing and Mortgage Finance Corp Homeownership Opportunity bonds due in 2049.

**Exhibit 20: Most actively traded muni CUSIPs over the week ending 6 March 2024**225472BV0 was the most frequently traded CUSIP. <sup>1</sup>Last trade

CUSIP	Short name	ST	Coupon/Maturity	Yield <sup>1</sup>	Spread	# of trades	Avg Vol (\$mn)
5977833H0	MIDLAND ISD	TX	4s of '54	4.16	56	108	1.75
447819KL6	HURST-EULESS-BEDFORD	TX	4s of '50	4.16	61	131	1.10
5977833G2	MIDLAND ISD	TX	5s of '50	4.00	46	98	1.31
64972GG73	NYC MUNI WTR FIN-BB-2	NY	5s of '36	2.90	18	57	1.95
64972GH56	NYC MUNI WTR FIN-BB-2	NY	5s of '39	3.03	-4	62	1.72
64972GG32	NYC MUNI WTR FIN-BB-1	NY	5.25s of '54	3.94	34	80	1.31
64972GG99	NYC MUNI WTR FIN-BB-2	NY	5s of '36	2.81	9	45	2.29
64972GH72	NYC MUNI WTR FIN-BB-2	NY	5.25s of '47	3.74	27	47	2.14
91412HRV7	UNIV OF CALIFORNIA-BV	CA	5s of '40	3.07	-5	48	2.08
91412HRR6	UNIV OF CALIFORNIA-BV	CA	5s of '36	2.57	-14	28	3.08
4952893L2	KING CNTY SWR-REF-A	WA	4s of '39	3.75	68	149	0.56
76221SBL4	RHODE ISLAND HSG-82-A	RI	4.6s of '49	4.50	96	157	0.51
70870EEY1	PA ECO DEV FIN AUTH-B	PA	4.375s of '53	4.37	77	126	0.63
402207AD6	GULF COAST INDL DEV	TX	3.7s of '41	--	9	19	3.64
91412HRT2	UNIV OF CALIFORNIA-BV	CA	5s of '38	2.70	-28	42	1.61

Source: Bloomberg

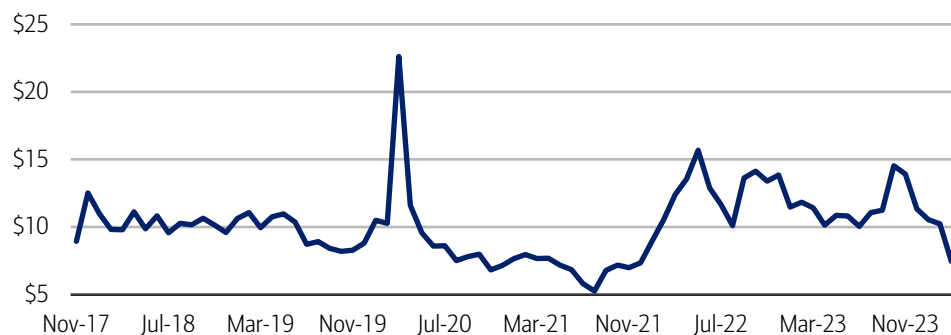
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### Updated Feb-24's avg daily secondary trading at \$10.2bn

Current Bloomberg data shows average daily secondary trading volume in Feb-24 reached \$10.2bn – just a 3% decrease on a m/m basis but nearly 14% decrease y/y. A total of \$204.5bn of muni bond par value traded during the month. Early data for March shows an average daily trading volume of roughly \$7.5bn. We expect that figure to climb over the course of the month.

**Exhibit 21: Daily avg secondary trading volume (\$bn)**

Feb-24 daily avg volume of \$10.2bn down roughly 3% m/m; early Mar-24 daily avg volume of \$7.5bn



Note: Data as of 6 March 2024.

Source: BofA Global Research, Bloomberg



**Exhibit 21: Daily avg secondary trading volume (\$bn)**

Feb-24 daily avg volume of \$10.2bn down roughly 3% m/m; early Mar-24 daily avg volume of \$7.5bn

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## Credit corner

### Feb-24 net upgrade rates

**UGRs improve for 6 of 19 sectors m/m in February**

We previously discussed muni index net upgrade rates (UGR; the trailing 12-month total of par upgrades less downgrades divided by the total index par) in our Weeklies. We now have data through February 2024 and find that, of the 19 different muni sector indexes maintained by ICE, only 6 saw m/m increases in their UGRs. That is down from the 8 sectors in January 2023 and 11 sectors in December 2023. That said, only two sector indexes' UGRs are currently at a 12-month high: the Healthcare (UOHL) index's at -0.8% and the Water & Sewer (UOAW) index's at 5.2%. In contrast, six indexes UGRs are at 12-month lows: Airport (UOAV) at 1.7%; Education (UOAE) at -0.2%; Leases, COPs & Appropriations (UOAL) at 7.0%; Multi-Family Housing (UOAU) at 0.0%; Single Family Housing (UOAS) at 0.1%; and Tobacco (UOTB) at -0.7%. This data supports our view, expressed in our [Municipals Year Ahead 2024](#) report, that while 2024 will be a positive rating year, activity will moderate from recent years' levels.

**Exhibit 22: Muni sector UGRs, Mar-23 through Feb-24**

7 of 19 sectors' UGRs improved m/m; only 2 sectors' are at 12-month highs while 6 are at 12-month lows

Index	Ticker	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24
IG munis	UOA0	9.6%	8.0%	6.6%	6.2%	6.3%	6.1%	5.7%	6.1%	6.3%	6.3%	6.4%	6.2%
AA	UOA2	3.9%	1.1%	1.1%	1.0%	0.7%	0.6%	0.6%	1.0%	1.0%	1.2%	1.1%	0.9%
A	UOA3	10.8%	16.5%	14.2%	13.1%	14.8%	14.9%	14.9%	14.8%	14.8%	14.3%	15.7%	15.3%
BBB	UOA4	43.7%	44.3%	36.5%	37.4%	37.0%	36.7%	19.4%	22.7%	26.3%	25.3%	23.7%	22.6%
HY munis	UOHY	0.5%	16.8%	16.6%	16.2%	19.7%	19.2%	20.3%	19.7%	13.8%	12.5%	13.4%	13.5%
GO-S	UOAA	11.2%	11.3%	10.1%	10.1%	10.2%	10.3%	10.2%	10.1%	10.2%	11.0%	10.8%	10.7%
GO-L	UOAB	1.0%	1.2%	1.4%	0.7%	0.2%	-0.4%	-0.1%	1.0%	1.0%	1.0%	0.6%	1.1%
AIR	UOAV	26.4%	25.1%	27.4%	19.1%	18.2%	7.2%	5.1%	2.3%	2.7%	2.6%	2.7%	1.7%
EDU	UOAE	2.9%	1.3%	1.3%	1.3%	1.2%	0.8%	1.1%	1.0%	0.8%	0.4%	0.0%	-0.2%
HLTH	UOHL	-4.0%	-3.5%	-3.3%	-3.3%	-3.6%	-3.2%	-3.1%	-5.1%	-4.7%	-2.2%	-0.8%	-0.8%
HOSP	UOAH	-0.8%	-0.3%	0.2%	-0.2%	0.1%	-0.5%	-3.2%	-4.1%	-3.6%	-3.0%	-2.2%	-2.4%
IDR	UOAI	4.6%	4.6%	12.4%	12.2%	8.9%	9.2%	8.2%	8.1%	8.1%	4.8%	0.0%	0.1%
LCA	UOAL	13.1%	14.6%	13.2%	12.7%	10.3%	10.3%	8.6%	8.5%	8.4%	8.4%	7.9%	7.0%
MISC	UOAM	1.8%	2.0%	2.6%	1.9%	2.0%	0.2%	-0.6%	-0.6%	-0.6%	-0.6%	-2.5%	-2.2%
MFH	UOAU	3.3%	2.6%	2.6%	2.6%	2.5%	2.5%	2.5%	1.9%	1.9%	1.8%	1.8%	0.0%
PC	UOAP	-0.1%	-0.1%	-0.1%	-1.7%	-1.6%	0.0%	0.0%	0.4%	0.4%	0.4%	0.4%	0.4%
PWR	UOAP	-0.8%	-0.6%	-0.8%	-0.8%	0.3%	-0.7%	-1.1%	-1.1%	-1.1%	-1.0%	-1.0%	-1.0%
SFH	UOAS	4.9%	4.9%	6.6%	6.3%	6.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
TAX	UOTX	18.3%	6.6%	1.8%	1.9%	2.1%	2.6%	2.6%	4.1%	7.0%	7.1%	7.0%	6.4%
TBCO	UOTB	5.0%	5.0%	5.1%	5.1%	5.1%	4.2%	4.0%	7.1%	2.9%	-0.7%	-0.7%	-0.7%
T&T	UOTL	7.9%	7.2%	7.1%	7.2%	8.0%	17.3%	17.1%	18.5%	19.5%	20.3%	26.0%	24.1%
TRAN	UOAT	35.6%	37.6%	26.1%	26.6%	25.4%	24.8%	23.7%	24.3%	24.6%	22.8%	23.2%	23.0%
UTL	UOUT	-1.2%	-1.1%	2.2%	4.9%	12.2%	12.2%	12.5%	12.3%	6.3%	5.9%	5.9%	5.8%
W&S	UOAW	2.2%	2.8%	1.4%	1.7%	1.8%	2.4%	2.5%	4.6%	5.1%	5.1%	5.2%	5.3%

**Note:** See sector definitions in Exhibit 33 below.

**Source:** BofA Global Research, ICE Data Indices, LLC.

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## State & local governments

**Early state collection reporting points to a moderately down month in February**

A few of the final states reported their January 2024 collections this week, bringing the total number of reporting states to 43. The data continues to show a modestly up month on a y/y basis in January: state collections overall are up 2.5% on median, with personal income collections up 0.6%, corporate collections down 2.5% and sales collections up 1.6%. Initial indications point to a modestly down February, though it is too early to be certain that these early medians will hold. Still, for the 12 states reporting February 2024 collections thus far, we see median total y/y growth of -0.5%, with median personal income tax collection growth of -0.1% and sales tax collection growth of -0.2%. Among these early reporting states, corporate collections are up on median 44.3% y/y.



### **Mississippi's outlook revised to negative by S&P on economics, tax cuts**

S&P revised its outlook on Mississippi's GO, appropriation-backed special obligation and moral obligation-backed debt issued by the Mississippi Development Bank to negative from stable on 1 March, while also affirming their respective ratings. Per the rating agency, the revision to negative reflects Mississippi's "persistently weak economic and demographic trends, which could result in an increasingly challenging budget environment as the state manages through its phased-in income tax reductions." In 2024, Mississippi's income tax is set to be reduced to 4.7% from 5.0% on income exceeding \$10,000. Rates are set to decline to 4.4% in 2025 and 4% in 2026. State data shows that for the 12 months ending in January, Mississippi collected roughly \$2.8bn of individual income taxes, representing 25.7% of total collections. That is down from the roughly \$3.0bn of collections for the 12 months ending Jan-23, which represented 28.0% of total collections over that period.

### **MN FY24-25 surplus estimate grows to \$3.7bn driven by higher revenues**

Minnesota's "budget and economic outlook has improved since November," according to a February 2024 Budget and Economic Forecast released by Minnesota Management and Budget (MMB). Indeed, MMB estimated a larger FY24-25 surplus on the back of stronger-than-anticipated revenues. MMB now expects a \$3.7bn surplus, up \$1.3bn or 55% from its November forecast. Revenues, too, are expected to surpass previous estimates by \$1.3bn to just shy of \$61bn (corporate franchise tax estimates were increased by \$749mn, individual income tax by \$449mn and general sales tax by \$126mn) while spending is roughly flat to earlier estimates. Still, MMB warns that structural imbalance remains in FY26-27 to the tune of about \$1.5bn, which would leave a remaining balance in FY26-27 of \$2.2bn.

### **NYC's budget outlook improves on revenues and savings – NY comptroller**

Like Minnesota's, New York City's budget outlook has also improved driven by "better-than-projected revenues and planned savings," according to the state comptroller's analysis of the city's January 2024 financial plan. Originally, the city projected a \$5.1bn budget gap for FY25, along with a \$6.8bn gap in FY26 and \$7.9bn gap in FY27. In November, the city estimated a larger \$7.1bn gap for FY25, but smaller \$6.5bn and \$6.4bn gaps in FY26 and FY27, respectively. Under the city's January plan, the FY25 gap was eliminated and the FY26 and FY27 gaps were reduced to roughly \$5.1bn each. Versus the city's November financial plan, the January plan expects \$1.3bn more in tax collections in FY24, coming predominantly from larger business and personal income tax collections. It expects tax collections to grow 2.6% y/y in FY25 to just under \$75bn. Tax collections are currently expected to total \$76.9bn in FY26, \$79.6bn in FY27 and \$81.7bn in FY28.

### **PREPA confirmation hearings underway**

Confirmation hearings began on Monday for PREPA's plan of adjustment. During the hearings, familiar arguments both for and against the plan of adjustment were raised. Meanwhile, the PREPA bond trustee argued the plan violates PREPA's trust agreement; per the trustee, it "dramatically violate[s] the all-for-one and one-for-all provisions of the trust agreement, undermining their approval and the plan constructed on them," per the trustee's attorney as, among other reasons, a subgroup of bondholders claim to settle lien and recourse claims in contravention of the trust agreement. As a reminder, under the plan of adjustment, bondholders that signed onto its restructuring support agreement (RSA) would recover 12.5% of their claim asserted at the time PREPA entered into bankruptcy in 2017 while those that did not sign would recover just 3.5%. Those that signed onto the RSA would also receive two contingent value instruments (CVIs): one from the "revenue from the fixed fee element of the PREPA legacy debt charge if PREPA repays its new bonds sooner than the expected 35 years and electricity demand exceeds the PREPA Fiscal Plan projections" and one from a "share of the savings in the cost of fuel generated by the operator of PREPA's power plants for the term of the operator's agreement," per an earlier press release from the FOMB.

Confirmation hearings are currently scheduled to last through 19 March. Otherwise, we highlight: (a) the Puerto Rico government's and its instrumentalities' combined bank account balances as of Jan-24 of \$23.9bn, which was up 7% m/m but 28.8% vs those balances as of Jan-23; (b) TSA balances of \$9.2bn as of 23 February that were down \$199mn w/w, but for the YTD are up 30.4% above adopted liquidity plan (LP) estimates; and, (c) FY24 General Fund collections through 23 February of \$8.8bn that were up 7.6% vs collections LP estimates.

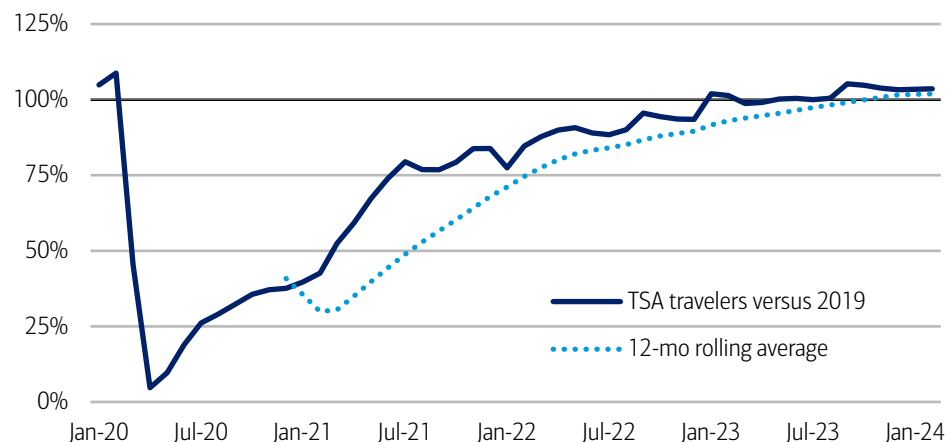
## Airports

### Air travel passenger recovery was 103.6% in February

Air travel demand continued to be strong in February with the number of passengers coming in at 103.6% of 2019 levels. February saw 64.6 million travelers versus 57.3 million travelers in February 2019. With 58.1 million travelers in February 2023, the number of travelers was up 11.1% y/y. Checkpoint growth was up 0.2% m/m while the 12-month rolling average recovery level was stable at 102%. For the YTD, passenger levels are up 10.5% compared to 2019 and 8.7% versus last year. Pre-pandemic level recovery has remained above 100% since May 2023.

#### Exhibit 23: Monthly TSA checkpoint travel numbers versus 2019

February 2024 air travel was 103.6%; 12-month rolling average of 102%



Source: Transportation Security Administration

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### ATP grants, issuance and spreads: BBBs and shortest maturities are cheap

In February, over 100 airports received notice of their federal grant awards as part of the 2021 Bipartisan Infrastructure Law's Airport Terminal Program (ATP) which provides nearly \$1bn annually for five years to fund safe, sustainable and accessible airport terminals, on-airport rail access projects and airport-owned traffic control towers. The funding will help offset the costs of these airports' capital programs. Fort Lauderdale's \$50mn allocation was the largest for FY24 and will partially fund a portion of the T1-T2-T3 Terminal Connector, which will complete post-security connectivity between all terminals at the airport.

#### Exhibit 24: Top-10 largest FY24 Airport Terminal Program allocations

FLL was the top recipient with \$50mn in funding

Code	Name	Award (\$mn)	Code	Name	Award (\$mn)
FLL	Fort Lauderdale	50.0	LAX	Los Angeles	31.0
ORD	Chicago O'Hare	40.0	SFO	San Francisco	31.0
AUS	Austin	39.5	MIA	Miami	27.0
PHX	Phoenix Sky Harbor	36.0	CLT	Charlotte	27.0
IAD	Washington Dulles	35.0	DEN	Denver	26.6

Source: Federal Aviation Administration

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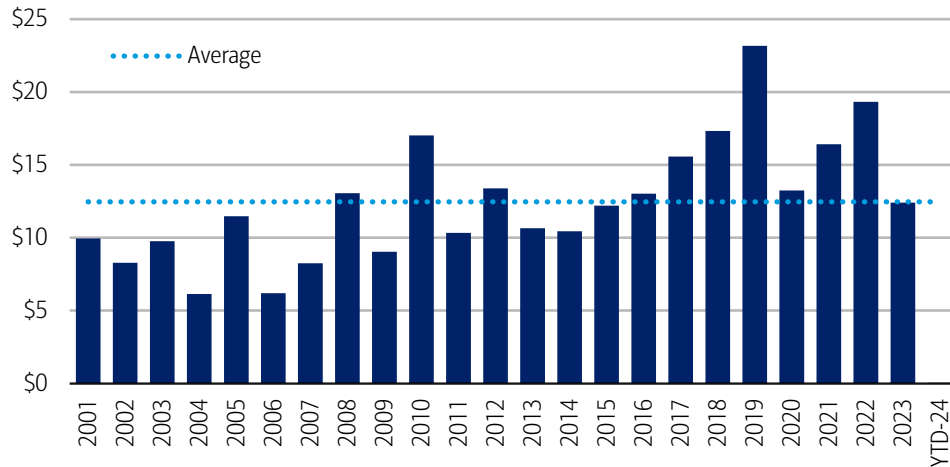
Annual airport bond issuance was steadily increasing up until the pandemic, when it dropped nearly 43% in 2020. It began to pick up again in 2021 and 2022 before coming



back down to about the average level of \$12.4bn since 2001. Issuance is expected to tick up as airports resume or ramp up capital programs for expansion and modernization. YTD-24 issuance has been light at \$41mn. Clark County, NV is expected to issue nearly \$500mn of bonds next week for the Harry Reid International Airport.

#### Exhibit 25: Annual airport bond issuance (\$bn)

Average annual issuance of \$12.5bn since 2001



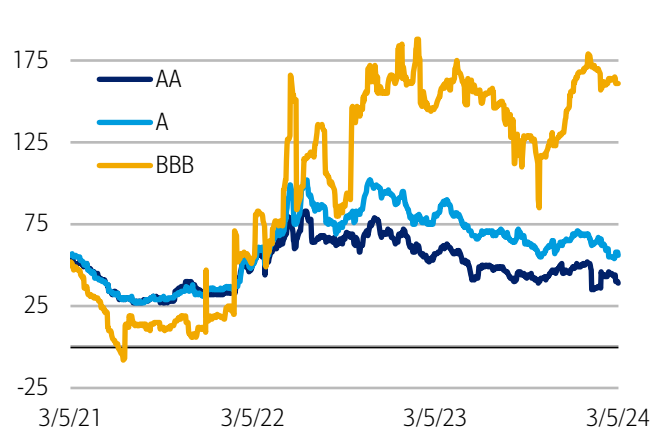
Source: Bloomberg

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Based on a z-score analysis, the 54bp YTW spread against the ICE BofA AAA US Municipal Securities Index (UOA1) for the ICE BofA US Airport Municipal Securities Index (UOAV) is rich on both a short-term and intermediate-term basis, and neutral on a long-term basis. However, we do see value in the ICE BofA BBB US Airport Municipal Securities Index (UVA4) with a YTW spread of 161bp, which is cheap on a long-term basis. We note that over 94% of the index is comprised of LaGuardia Airport Terminal B Redevelopment Project Special Facilities Bonds issued in 2016. The ICE BofA 1-3 Year US Airport Municipal Securities Index (U1AV) also appears cheap on a long-term basis, with a spread of -9bp.

#### Exhibit 26: US Airports YTW spread to AAA by rating category (bp)

BBB airports are cheap on a long-term basis

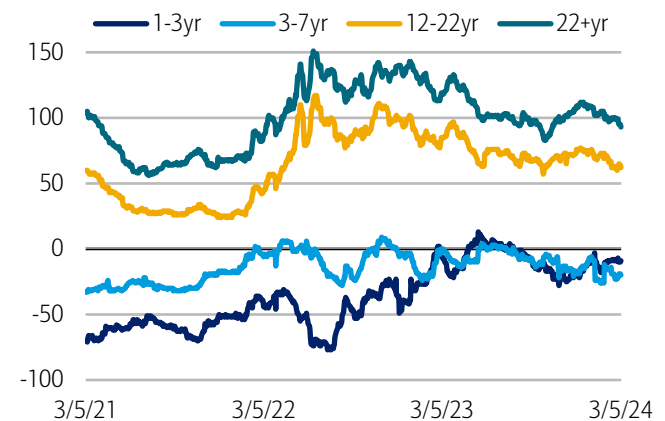


Source: BofA Global Research, ICE Data Indices LLC

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#### Exhibit 27: US Airports YTW spread to AAA by maturity bucket (bp)

1-3yr airport bond maturities cheap on a long-term basis



Source: BofA Global Research, ICE Data Indices LLC

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## Mass Transit

### MTA ridership has inched upward and continues the trend into 2024

Paid MTA subway ridership in January was down compared to December, but as the MTA notes, January is one of the lowest ridership months historically. On a y/y basis, January subway ridership was up 2.0%, 2.9% on mid-weekdays. Should fare evasion in January

match recent trends of 13.0%, average weekday ridership would be 3.94 million riders. The latest update from the American Public Transit Association (APTA) monitoring ridership trends shows the week of February 25 – March 2 ridership of MTA New York City Transit at 82% of pre-pandemic ridership, continuing a slow trend upward from 74% recovery this time last year. Paid bus ridership dropped just 1.0% m/m but 11.5% y/y as the MTA continues to struggle with increased fare evasion in the bus system, at rates far surpassing fare evasion on the way subway. Fare evasion rates on buses in 4Q23 crossed 46%, and should that trend continue in January 2024, paid and unpaid average weekday bus ridership would total roughly 2.21 million riders vs the 1.19 million paid riders.

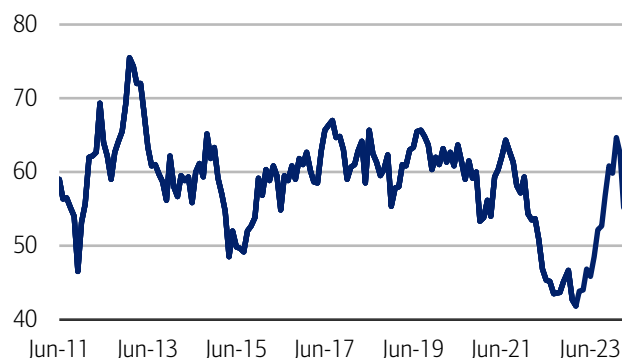
## Defaults, distress & HY

### Tracking: material credit events and Ch. 9 filings

For the week ending 6 March, our tracking of those Moody's-defined material credit events (MCEs) shows 11 postings, up 3 on a w/w basis, with the MTD total of 10 as of 6 March. See Exhibit 28. There were no new Chapter 9 bankruptcy petitions filed for the week ending on 6 March; it has now been 288 days since the last bankruptcy petition was filed by Hazel Hawkins Memorial Hospital on 23 May 2023 – that is the 3<sup>rd</sup> longest period since July 1987 between Chapter 9 filings. Note that the only longer periods – 346 days and 447 days – began in the post-pandemic period.

#### Exhibit 28: 6-mo mov avg of material credit events posted to EMMA

Filings posted to EMMA in February were half of January's total



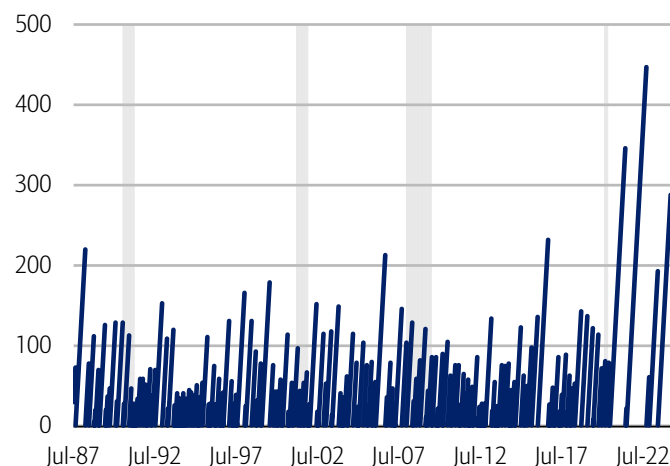
**Note:** Data as of 6 March 2024. Material credit events (MCE) reflect: 1. Bankruptcy, insolvency, receivership or similar event, 2. Financial obligation-event reflecting financial difficulties, 3. Nonpayment related default, 4. Principal/interest payment delinquency, 5. Unscheduled draw on credit enhancement reflecting financial difficulties, and 6. Unscheduled draw on debt service reserve reflecting financial difficulties.

**Source:** EMMA

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#### Exhibit 29: Calendar days since last Chapter 9 petition filed

288 days since Hazel Hawkins Memorial Hosp. filed Ch. 9 petition



**Source:** BofA Global Research, PACER, US Courts

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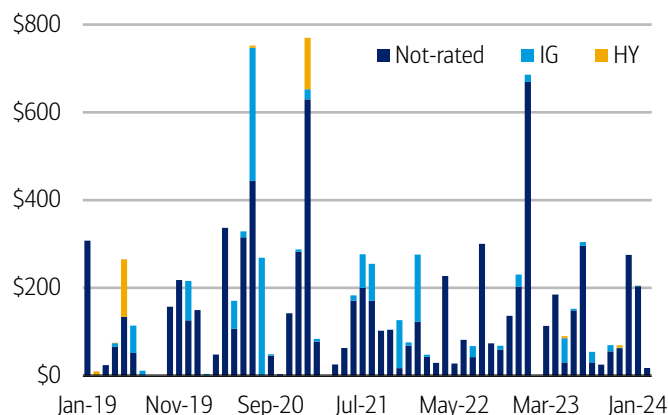
### YTD default & distress through Feb-24

As discussed in our [1 March Municipals Weekly report](#), first-time payment defaults totaled \$17mn in Feb-24, bringing YTD defaults to \$250mn, down 64% y/y. First-time distressed debt totaled \$186mn in February, bringing YTD first-time distress to \$309mn, up 22% y/y. The total cumulative first-time distressed debt since 2019 totals \$14.8bn; of that, 37.1% defaulted while 6% exited distressed status and 7% is no longer outstanding. As a reminder, total defaults in 2023 were \$2.0bn – hitting our estimate. Our forecast for first time payment defaults in 2024 is \$1.9bn-\$2.3bn. See our [Municipals Year Ahead 2024 report](#). We expect defaults emanating from this distress to be concentrated in the Nursing Home, Hospital and Industrial Development sectors.



**Exhibit 30: Monthly first-time defaults (\$mn) by avg rating at issue**

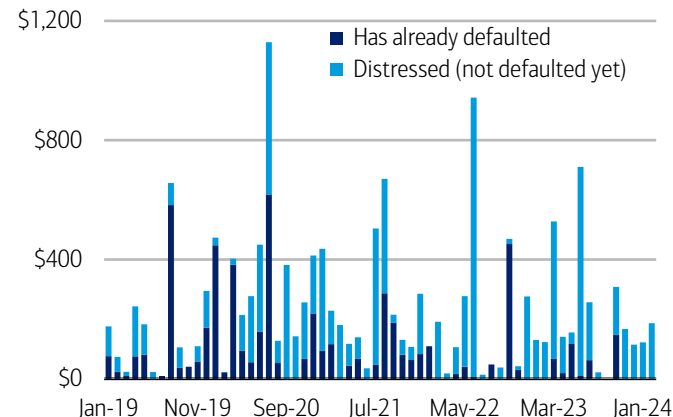
Feb-24 first-time defaults \$17mn; YTD defaults \$250mn, down 64% y/y

**Note:** We may revise data if Bloomberg revises its data.**Source:** BofA Global Research, Bloomberg

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**Exhibit 31: Monthly first-time distressed debt (\$mn)**

Feb-24 first-time distress \$186mn; YTD distress \$309mn, up 22% y/y

**Note:** We may revise data if Bloomberg revises its data.**Source:** BofA Global Research, Bloomberg

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## Cross currency equivalent yields

Taxable munis look attractive for most countries on a cross-currency equivalent basis, with only a few exceptions: 5yr and 10yr taxable munis are less attractive for Italy and Spain; 5yr taxable munis are less attractive for Japan and South Korea.

**Exhibit 32: Cross currency equivalent yields as of 6 March 2024**

Taxable munis are generally attractive for foreign investors with a few exceptions

Country	Government bond yield (in investor country's currency)			Cross currency equivalent yield*						Can foreign investors buy?					
	5 yr	10 yr	30 yr	US Treasury			US AAA taxable muni			US Treasury			US AAA taxable muni		
				5 yr (4.094)	10 yr (4.096)	30 yr (4.254)	5 yr (4.27)	10 yr (4.53)	30 yr (5.08)	5 yr	10 yr	30 yr	5 yr	10 yr	30 yr
Canada	3.447	3.359	3.249	3.613	3.656	4.043	3.789	4.089	4.862	Yes	Yes	Yes	Yes	Yes	Yes
United Kingdom	3.952	3.995	4.397	4.015	3.904	4.162	4.193	4.337	4.986	Yes			Yes	Yes	Yes
France	2.622	2.750	3.210	2.578	2.646	3.564	2.754	3.078	4.366			Yes	Yes	Yes	Yes
Germany	2.338	2.304	2.447	2.578	2.646	3.564	2.754	3.078	4.366	Yes	Yes	Yes	Yes	Yes	Yes
Italy	3.154	3.614	4.202	2.578	2.646	3.564	2.754	3.078	4.366						Yes
Spain	2.810	3.116	3.647	2.578	2.646	3.564	2.754	3.078	4.366						Yes
Portugal	2.520	2.941	3.330	2.578	2.646	3.564	2.754	3.078	4.366	Yes		Yes	Yes	Yes	Yes
Netherlands	2.492	2.605	2.633	2.578	2.646	3.564	2.754	3.078	4.366	Yes	Yes	Yes	Yes	Yes	Yes
Switzerland	0.667	0.613	0.600	2.578	2.646	3.564	2.754	3.078	4.366	Yes	Yes	Yes	Yes	Yes	Yes
Japan	0.373	0.724	1.750	0.090	0.459	2.543	0.265	0.883	3.310			Yes		Yes	Yes
Australia	3.665	4.006	4.356	4.127	4.573	4.484	4.305	5.006	5.314	Yes	Yes	Yes	Yes	Yes	Yes
South Korea	3.321	3.366	3.314	2.537	3.237	3.844	2.712	3.667	4.651			Yes		Yes	Yes
China	2.174	2.285	2.429	4.558	4.359	4.378	4.734	4.792	5.207	Yes	Yes	Yes	Yes	Yes	Yes
Taiwan	1.168	1.209	1.495	1.046	2.414	3.457	1.219	2.841	4.246		Yes	Yes	Yes	Yes	Yes
Singapore	2.964	2.995	2.931	3.486	3.763	4.094	3.661	4.195	4.911	Yes	Yes	Yes	Yes	Yes	Yes

**Note:** Cross currency equivalent yield is the yield for an international buyer to purchase US bond in dollar and convert back to its own country's currency.**Source:** BofA Global Research, Bloomberg

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## Acronyms

**Exhibit 33: Common acronyms used in our Municipals reports**

This list is subject to change

Acronym	Definition	Acronym	Definition	Acronym	Definition
1Q	First Quarter	HOSP	Hospital	PA	Pennsylvania
2Q	Second Quarter	HY	High Yield	PC	Pollution Control
3Q	Third Quarter	IA	Iowa	PL	Plains
4Q	Fourth Quarter	ICE	Intercontinental Exchange	PPFI	Milliman's Public Pension Funding Index
AIR	Airport	ICMA	International Capital Market Association	Ppt	Percentage point
AK	Alaska	ID	Idaho	PR	Puerto Rico
AL	Alabama	IDR	Industrial Development Revenue	PRE-RE	Pre-refunded
AMT	Alternative Minimum Tax	IG	Investment Grade	PREPA	Puerto Rico Electric Power Authority

**Exhibit 33: Common acronyms used in our Municipals reports**

This list is subject to change

Acronym	Definition	Acronym	Definition	Acronym	Definition
Apr	April	IL	Illinois	PROMESA	Puerto Rico Oversight, Management, and Economic Stability Act
AR	Arkansas	IN	Indiana	PWR	Power
ARPA	American Rescue Plan Act	INT	Intermediate term	Q/Q	Quarter-over-quarter
Aug	August	Jan	January	QTD	Quarter-to-date
Avg	Average	Jun	June	R	Rich
AZ	Arizona	KS	Kansas	RI	Rhode Island
BEA	Bureau of Economic Analysis	KY	Kentucky	RM	Rocky Mountain
BLS	Bureau of Labor Statistics	LA	Louisiana	S&L	State and Local
BofA	Bank of America	LCA	Leases, COPs & Appropriations	S&P	Standard & Poor's
Bp	Basis points	LT	Long term	SC	South Carolina
BTN	Back-to-Normal Index	M	Mideast	SD	South Dakota
C	Cheap	M/M	Month-over-month	SE	Southeast
CA	California	MA	Massachusetts	Sep	September
CARES	Coronavirus Aid, Relief, and Economic Security Act	Mar	March	SFH	Single Family Housing
CB	Census Bureau	MD	Maryland	ST	Short term
CO	Colorado	ME	Maine	SA	Seasonally adjusted
COPs	Certificates of Participation	MFH	Multi-Family Housing	T&T	Toll & Turnpike
CPI	Consumer Price Index	MI	Michigan	TAX	Tax Revenue
CT	Connecticut	MISC	Miscellaneous	TBCO	Tobacco
CUSIP	Committee on Uniform Security Identification Procedures	MMD	Municipal Market Data	TEU	Twenty-Foot Equivalent Units
DC	District of Columbia	MN	Minnesota	TN	Tennessee
DE	Delaware	MO	Missouri	TRAN	Transportation - other
Dec	December	MS	Mississippi	TSA	For Puerto Rico, Treasury Single Account; otherwise, Transportation Security Administration
EAI	Puerto Rico Economic Activity Index	MSA	Metropolitan Statistical Area	TX	Texas
EDU	Education	MT	Montana	US	United States
ESG	Environmental, Social, Governance	MTD	Month-to-date	USVI	US Virgin Islands
ETF	Exchange Traded Fund	N	Neutral	UT	Utah
ETM	Escrowed to Maturity	NASBO	National Association of State Budget Officers	UTL	Utilities - other
Feb	February	NC	North Carolina	VA	Virginia
Fed	Federal Reserve	ND	North Dakota	VC	Very Cheap
FEMA	Federal Emergency Management Agency	NE	Nebraska	VPI	Value of construction put in place
FL	Florida	NED	New England	VR	Very Rich
FOMB	Financial Oversight & Management Board for Puerto Rico	NH	New Hampshire	VRDO	Variable Rate Demand Obligation
FW	Far West	NJ	New Jersey	VT	Vermont
FY	Fiscal year	NM	New Mexico	W&S	Water & Sewer
GA	Georgia	Nov	November	W/W	Week-over-week
GDP	Gross Domestic Product	NV	Nevada	WA	Washington
GL	Great Lakes	NY	New York	WI	Wisconsin
GO	General Obligation	OAS	Option Adjusted Spread	WV	West Virginia
GO-L	Local GO	Oct	October	WY	Wyoming
GO-S	State GO	OH	Ohio	Y/Y	Year-over-year
Govt	Government	OK	Oklahoma	YTD	Year-to-date
HI	Hawaii	OR	Oregon	YTM	Yield to Maturity
HLTH	Healthcare	P&C	Property & Casualty insurance company	YTW	Yield to Worst

Source: BofA Global Research

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