

# Municipal Bond Market Performance

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Index Production and Analysis

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of -0.319% in May 2024, consisting of the components displayed in Table 1.

The municipal yield curve flattened in May, as intermediate-term yields shifted up closer to the higher yields at the short and long ends of the curve. In fact, the curve is the flattest it has been since March of 2020 between the 5-year and 30-year terms. This general increase in yields contributed to another month of disappointing returns. The YTD Total Return of -1.672% is the second worst Total Return to this point in the year in the history of the index, with only 2022 having been worse. One bright spot for May, and for the year in general, has been lower-rated bonds. For example, the average option-adjusted spread of BBB-rated bonds has tightened around 40 basis points more than AAA-rated bonds over the course of the year.

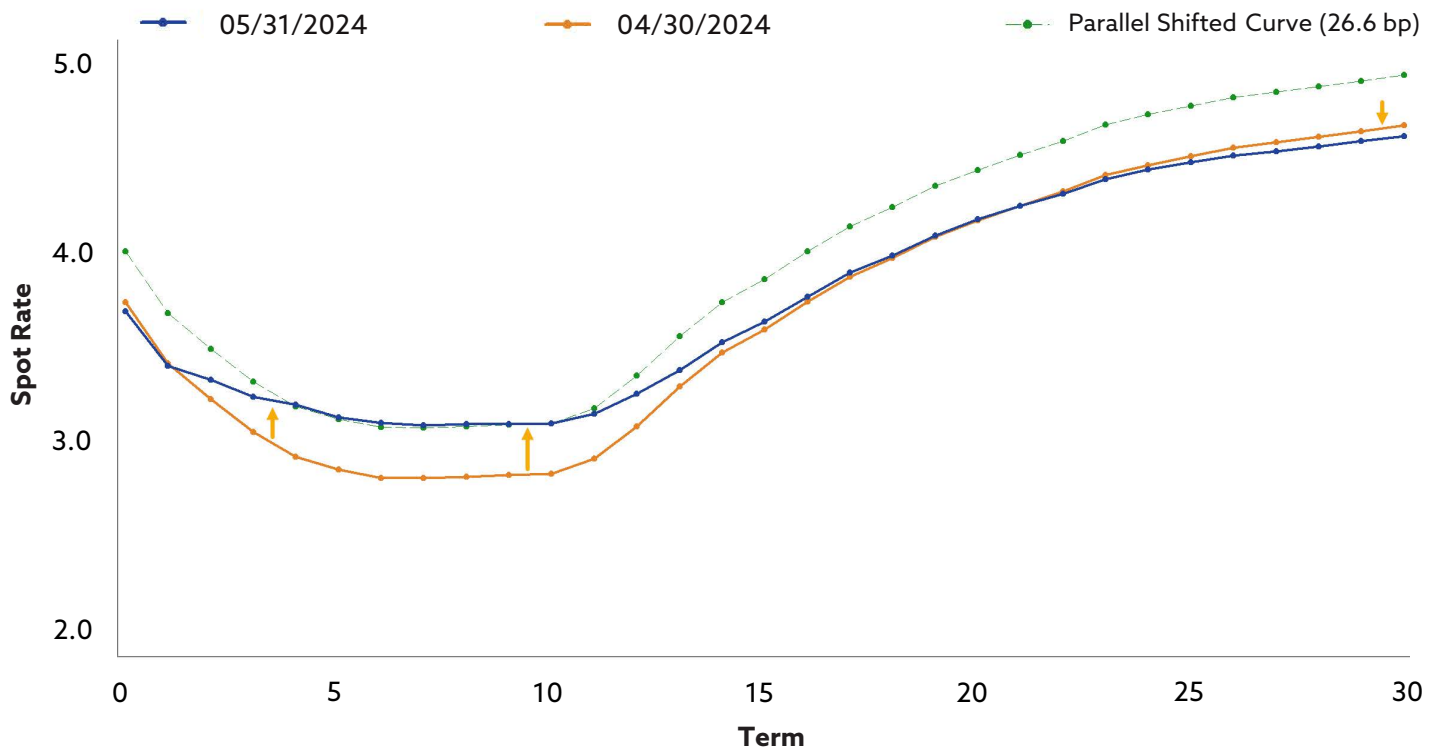
<b>TABLE 1</b>	<b>May</b>	<b>YTD</b>
Total Return	<b>-0.319%</b>	<b>-1.672%</b>
Coupon Return	0.371%	1.761%
Market Amortization Return	-0.048%	-0.299%
Parallel Shift Return	-1.593%	-4.788%
Non-Parallel Shift Return	0.613%	0.449%
Sector/Quality Return	0.208%	1.079%
Residual Price Return	0.130%	0.126%

## Intpretation

Figure 1 shows the overall change in the ICE US Municipal AAA Noncallable spot curve for May. This curve demonstrated a 26.6 bp increase in overall level as measured at the ten-year point.

**FIGURE 1**

**ICE US Municipal AAA Noncallable Spot Curve Change for May 2024**



The green dotted line depicts the parallel shift implied by the ten-year point's spot curve change.

The Parallel Shift Return of -1.593% is calculated from this curve increase, as shown in Table 2.

**TABLE 2**

Change for 10-Year Spot Rate <sup>(a)</sup>	26.59
Total Key Rate Duration <sup>(b)</sup>	5.9899
Parallel Shift Return <sup>(-b*a)</sup>	<b>-1.593</b>

The Non-Parallel Shift Return was 0.613%, due to the 10-year term increasing more than most other terms. In fact, the short and long ends of the curve hardly moved at all over the course of the month, despite the clear movement in the intermediate terms. This type of movement is known as a butterfly shift. See Table 3 for the full calculations for this term.

**TABLE 3**

	6 Mos	1Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	20 Yrs	30 Yrs
Non-Parallel Change	-29.58	-28.07	-16.30	-7.94	1.07	1.41	0.00	-25.79	-32.42
Key Rate Duration	0.038	0.118	0.244	0.465	0.646	0.856	1.725	1.568	0.330
Non-Parallel Shift Return	0.011	0.033	0.040	0.037	-0.007	-0.012	0.000	0.404	0.107

Each value in the Non-Parallel Shift Return row is calculated by multiplying together the two cells above it, dividing by 100 and reversing the sign

Sector/Quality Return captures return from changes in average option-adjusted spread (adjusted by duration) for sector/quality groupings. The index's overall Sector/Quality Return was 0.208%.

The sector exhibiting the largest overall tightening in average option-adjusted spread (weighted by both market value and duration) was, by far, IDR / PCR. The sector exhibiting the most overall widening was Prerefunded/ETM. Quality-based groupings once again saw lower-rated groupings outperform their higher-rated counterparts.

The sector/quality categories with the biggest negative contributions to Sector/Quality Return, considering both weightings and the groupings' own sector/quality returns, are listed in Table 4. The biggest positive contributors are listed in Table 5.

**TABLE 4**

	A-rated Local GO	Sub B-rated Prerefunded/ ETM	A-rated Prerefunded/ ETM	A-rated Insured
Change in Dur-Adj Average OA Spread <sup>(a)</sup>	1.604	1.963	1.128	0.247
OA Spread Duration <sup>(b)</sup>	4.216	1.747	0.957	4.939
Sector/Quality Return <sup>(b*a)</sup>	-0.068	-0.034	-0.011	-0.012
Market Value Weight <sup>(c)</sup>	0.384	0.636	0.469	0.334
Contribution to Duration <sup>(b*c)</sup>	0.01618	0.01112	0.00449	0.01652
Contribution to Sector/Quality Return <sup>(b*c*a)</sup>	-0.00026	-0.00022	-0.00005	-0.00004

**TABLE 5**

	A-rated IDR/PCR	AA-rated Transporation	A-rated Transporation	AA-rated Tax- Supported (Excl.GOs)
Change in Dur-Adj Average OA Spread <sup>(a)</sup>	-18.521	-5.832	-7.699	-3.006
OA Spread Duration <sup>(b)</sup>	4.651	5.201	5.343	5.363
Sector/Quality Return <sup>(b*a)</sup>	0.861	0.303	0.411	0.161
Market Value Weight <sup>(c)</sup>	2.460	6.059	4.279	7.925
Contribution to Duration <sup>(b*c)</sup>	0.11443	0.31513	0.22861	0.42500
Contribution to Sector/Quality Return <sup>(b*c*a)</sup>	0.02119	0.01838	0.01760	0.01278

Table 6 below shows the states and territories with the five best state-specific spread returns while Table 7 shows the states and territories with the five worst state-specific spread returns. This is the portion of return from change in spread after adjusting for the sector/quality composition of the state's bonds, capturing the extent to which the state's bonds' performance differed from national averages.

Arizona performed similarly to the national average in many sectors except the Education sector, which saw substantially better spread tightening in Arizona than in other states. As previously mentioned, the IDR / PCR sector performed well across the nation, but particularly well in Alabama and Georgia. Guam's Tax Supported (Excl. GOs) sector performed well above the national average, and Puerto Rico's Insured bonds continued their outperformance.

On the other hand, Arkansas and Kansas once again underperformed the national average. For both of those states and for Delaware, no particular sector was to blame as almost all sectors lagged behind. For Minnesota, the State GO and Local GO sectors were the primary source of the state's relative underperformance. Finally, while the IDR / PCR sector was especially strong across the nation, Wyoming's IDR / PCR sector actually saw widening spreads, leading to that state's underperformance.

**TABLE 6**

State or Territory	Total Return Weight	Return from Sector/Quality Composition	State-Specific Spread Return	Total Spread Return
Guam	0.06%	0.497%	0.363%	0.190%
Puerto Rico	0.09%	0.276%	0.197%	0.291%
Alabama	1.60%	0.563%	0.196%	0.141%
Georgia	2.38%	0.340%	0.091%	-0.120%
Arizona	1.61%	0.205%	0.084%	-0.177%

**TABLE 7**

State or Territory	Total Return Weight	Return from Sector/Quality Composition	State-Specific Spread Return	Total Spread Return
Minnesota	1.35%	0.138%	-0.198%	-0.648%
Arkansas	0.27%	0.181%	-0.234%	-0.522%
Kansas	0.45%	0.106%	-0.254%	-0.557%
Delaware	0.25%	0.199%	-0.255%	-0.607%
Wyoming	0.05%	0.330%	-0.514%	-0.794%

Coupon Return was 0.371%, based on the index's average coupon of 4.376%. The average beginning-of-month market yield was 3.796%, resulting in a Market Amortization Return of -0.048%. These two terms sum to a total income effect of 0.323%.

*Note that Coupon Return reflects both interest payments and changes in accrued interest throughout the month. Market Amortization Return is negative because of the large number of premium bonds in the index due to yields being lower than most coupon rates. Premium bond prices, absent any change in yield, naturally decline over time to their redemption price. This decline is called market amortization.*

Finally, the Residual Price Return was 0.130%, reflecting the positive effects of rolling down the yield curve as well as the more substantial effects of convexity.

## CONTACT US

All table data and figures in this report were produced using Investortools, Inc.'s **Custom Index Manager™** product.

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