

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 -0.185% in April 2023, consisting of the components displayed in Table 1.

The beginning of April saw a widespread decrease in yields, with some intermediate terms on the municipal curve reaching lows not seen in over a year. Mid-month, the municipal curve reversed course, finishing the month very near where it started for intermediate and longer terms. Shorter-term yields, however, finished the month substantially up; some increased by as much as 50 basis points, more than twice the size of corresponding changes in the treasury curve. The Non-Parallel Shift Return of -0.336% reflects these changes.

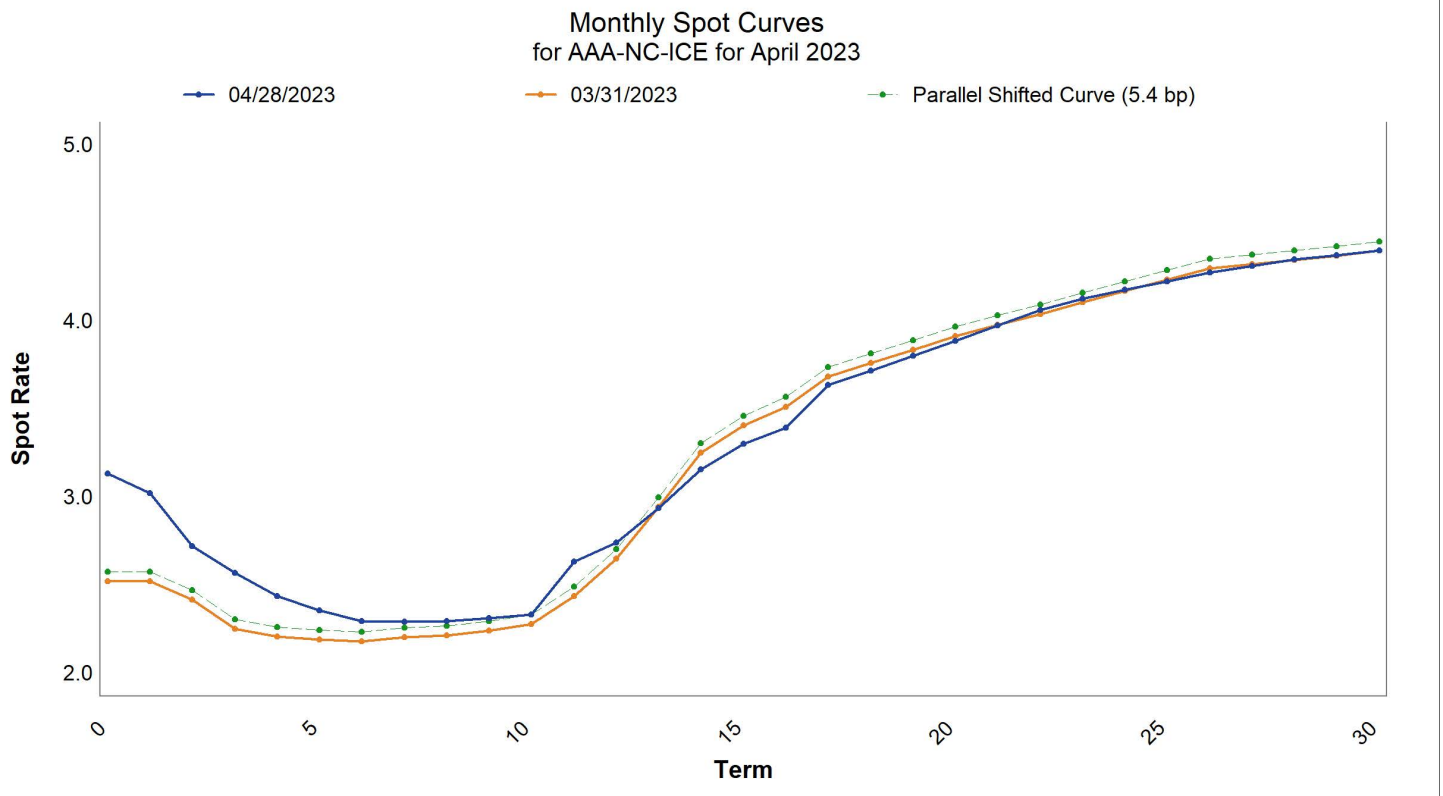
Although the index has as many months in 2023 with negative returns as it has months with positive returns, the year-to-date total return remains strong at 2.316%. Additionally, the index's total return from November 2022 through April 2023 is the best six-month return since January 2012. And inflation (as measured by the Consumer Price Index for All Urban Consumers, Non-Seasonally Adjusted) is showing encouraging trends: year-over-year inflation decreased for the ninth straight month to more moderate levels not seen in almost two years.

TABLE 1	April	YTD
Total Return	-0.185%	2.316%
Coupon Return	0.337%	1.411%
Market Amortization Return	-0.091%	-0.307%
Parallel Shift Return	-0.263%	1.539%
Non-Parallel Shift Return	-0.336%	-0.630%
Sector/Quality Return	0.057%	0.002%
Residual Price Return	0.110%	0.300%

Interpretation

Figure 1 shows the overall change in the ICE Municipal AAA Rated Noncallable spot curve for April which demonstrated a 5.4 bp increase in overall level as measured at the ten-year point.

FIGURE 1



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

The Parallel Shift Return of -0.263% is calculated from this curve increase, as shown in Table 2.

TABLE 2

Change for 10-Year Spot Rate ^(a)	5.38
Total Key Rate Duration ^(b)	4.889
Parallel Shift Return ^(-b*a)	-0.263

The Non-Parallel Shift Return was -0.336%. As discussed above, this return largely represents the return from the curve increase at shorter terms. See Table 3 for the full calculations for this term.

TABLE 3

	6 Mos	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	20 Yrs	30 Yrs
Non-Parallel Change	51.32	44.87	24.94	26.33	11.27	3.35	0.00	-8.17	-5.37
Key Rate Duration	0.038	0.126	0.270	0.546	0.763	0.882	1.407	0.754	0.103
Non-Parallel Shift Return	-0.019	-0.057	-0.067	-0.144	-0.086	-0.030	0.000	0.062	0.006

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 0.057%.

The sectors exhibiting the largest tightening in average option-adjusted spread (weighted by both market value and duration) were IDR / PCR and Tobacco Settlement. The sectors exhibiting the largest widening in average option-adjusted spread were Housing, Prerefunded/ETM, and Local GO. Quality-based groupings exhibited a mild "reach for yield" dynamic.

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

TABLE 4

	AA-rated Local GO	AAA-rated Local GO	AAA-rated Housing	AA-rated Housing
Change in Dur-Adj Average OA Spread ^(a)	0.928	0.901	6.026	2.868
Total Key Rate Duration ^(b)	5.140	5.037	6.014	6.368
Sector/Quality Return ^(-b*a)	-0.048	-0.045	-0.362	-0.183
Market Value Weight ^{%(c)}	9.642	9.758	1.063	1.944
Contribution to Duration ^(b*c)	0.49564	0.49147	0.06391	0.12377
Contribution to Sector/Quality Return ^(-b*c*a)	-0.00460	-0.00443	-0.00385	-0.00355

TABLE 5

	A-rated IDR / PCR	A-rated Transportation	AA-rated Tax-Supported (Excl. GO's)	AA-rated Health Care
Change in Dur-Adj Average OA Spread ^(a)	-19.046	-5.266	-1.413	-2.259
Total Key Rate Duration ^(b)	4.462	5.385	5.208	5.618
Sector/Quality Return ^(b*a)	0.850	0.284	0.074	0.127
Market Value Weight ^(c)	2.242	5.241	7.741	3.382
Contribution to Duration ^(b*c)	0.10005	0.28220	0.40318	0.19001
Contribution to Sector/Quality Return ^(b*c*a)	0.01906	0.01486	0.00570	0.00429

Coupon Return was 0.337%, based on the index's average coupon of 4.311%. The average beginning-of-month market yield was 3.207%, resulting in a Market Amortization Return of -0.091%. These two terms sum to a total income effect of 0.246%.

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 0.110%, reflecting the positive effects of rolling down the yield curve as well as the 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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