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Index Production and Analysis

Municipal Bond Market Performance

January 2023

Overview

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of 2.709% in January 2023, consisting of the components displayed in Table 1.

The most salient component of total return in January was the Parallel Shift Return of 2.389%. This term captures the effect of the substantial drop in overall yield curve levels in the month. Overall, January posted one of the best monthly total returns in the history of this index for the second time in three months.

The last three months were a striking change from the previous twelve months in multiple ways. For example, the Consumer Price Index (Urban, Not Seasonally Adjusted) indicates that, although year-over-year inflation remains historically high, the last three months have seen no measurable increase in prices. Similarly, yields are up over the last twelve months, but the 10-year point of the ICE Municipal AAA Rated Noncallable yield curve has now dropped 132 basis points over the last three months, the biggest three-month drop in 14 years. Finally, January completed the second best three month return in the history of this index, also a marked change from the sharply negative returns of the previous twelve months.

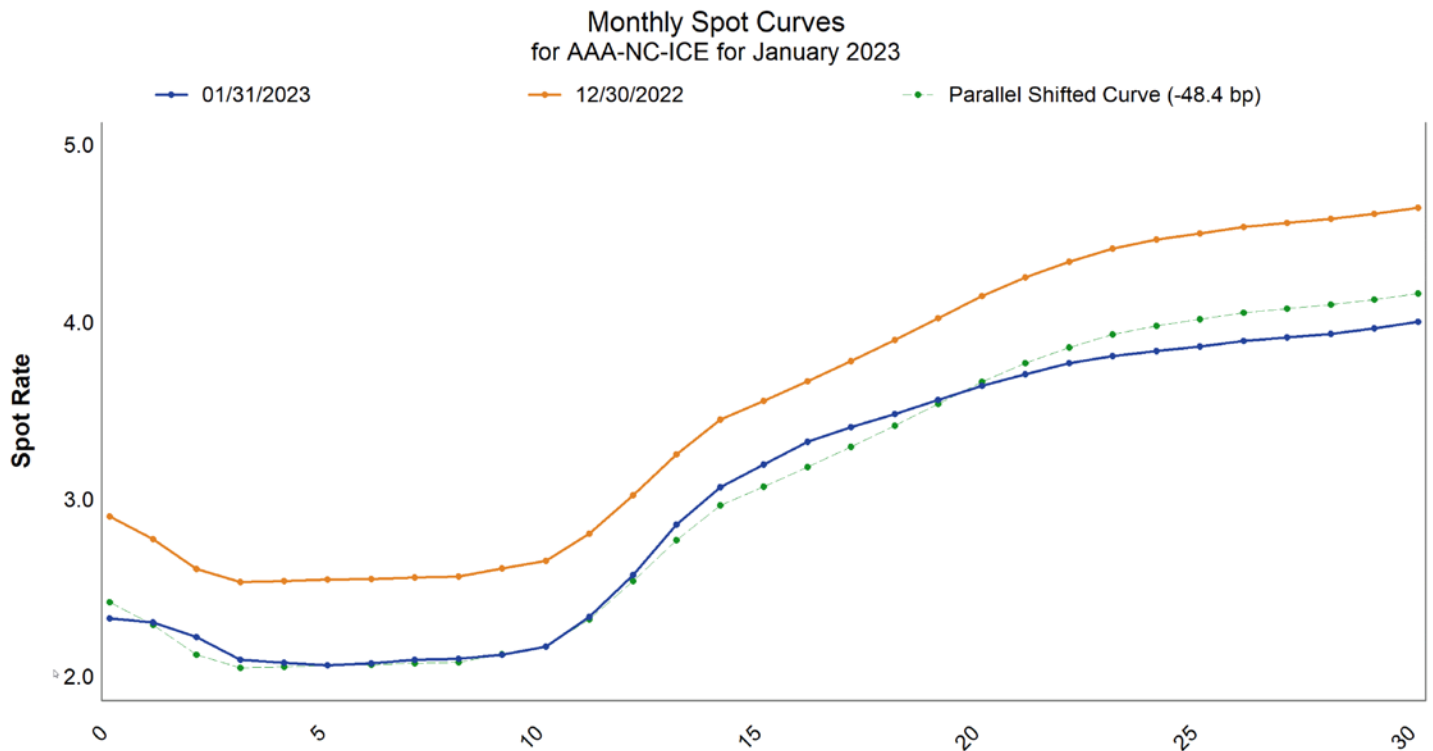
TABLE 1

	JANUARY
Total Return	2.709%
Coupon Return	0.354%
Market Amortization Return	-0.048%
Parallel Shift Return	2.389%
Non-Parallel Shift Return	-0.035%
Sector/Quality Return	-0.377%
Residual Price Return	0.426%

Interpretation

Figure 1 shows the overall change in the ICE Municipal AAA Rated Noncallable spot curve for January which demonstrated a 48.4 bp decrease 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 2.389% is calculated from this curve decrease, as shown in Table 2.

TABLE 2

Change for 10-Year Spot Rate ^(a)	-48.43
Total Key Rate Duration ^(b)	4.933
Parallel Shift Return ^(-b*a)	2.389

The curve shift was mostly parallel this month. The deviations resulted in a Non-Parallel Shift Return of -0.035%. Notably, the fact that the two-year point didn't drop as much as the ten-year point created a slight inversion between those points. 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	-5.65	1.48	9.95	4.63	0.18	1.90	0.00	-2.40	-16.09
Key Rate Duration	0.040	0.125	0.269	0.545	0.784	0.889	1.421	0.755	0.104
Non-Parallel Shift Return	0.002	-0.002	-0.027	-0.025	-0.001	-0.017	0.000	0.018	0.017

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 -0.377%.

The only sector exhibiting overall tightening in average option-adjusted spread (weighted by both market value and duration) was the Prerefunded/ETM sector. The sectors exhibiting the largest overall widening were Housing, Other Utility, and Public Power. Quality-based groupings exhibited a modest reach for yield, with lower-rated categories experiencing more spread tightening or less widening than higher-rated categories.

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

	AA-rated Tax-Supported (Excl. GO's)	AAA-rated Local GO	AA-rated Local GO	AA-rated Transportation
Change in Duration-Adjusted Average OA Spread ^(a)	9.544	7.092	6.450	9.164
Total Key Rate Duration ^(b)	5.288	5.054	5.134	5.326
Sector/Quality Return ^(-b*a)	-0.505	-0.358	-0.331	-0.488
Market Value Weight ^{%(c)}	7.962	9.748	9.529	5.309
Contribution to Duration ^(b*c)	0.42098	0.49260	0.48917	0.28277
Contribution to Sector/Quality Return ^(-b*c*a)	-0.04018	-0.03493	-0.03155	-0.02591

TABLE 5

	BBB-rated State GO	BBB-rated Other Revenue	BBB-rated Housing	AA-rated Prerefunded/ ETM
Change in Duration-Adjusted Average OA Spread ^(a)	-39.927	-209.515	-8.075	-0.841
Total Key Rate Duration ^(b)	4.145	3.538	7.371	1.517
Sector/Quality Return ^(b*a)	1.655	7.412	0.595	0.013
Market Value Weight ^(c)	0.697	0.087	0.149	3.611
Contribution to Duration ^(b*c)	0.02890	0.00309	0.01097	0.05479
Contribution to Sector/Quality Return ^(b*c*a)	0.01154	0.00648	0.00089	0.00046

Coupon Return was 0.354%, based on the index's average coupon of 4.305%. The average beginning-of-month market yield was 3.491%, resulting in a Market Amortization Return of -0.048%. These two terms sum to a total income effect of 0.306%.

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 remaining 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 0.426%, reflecting the positive effects of rolling down the yield curve as well as the effects of convexity.

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

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