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Municipal Bond Market Performance

May 2022

Overview

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of 1.457% in May 2022, consisting of the components displayed in Table 1.

May was the first month of 2022 to post a positive Total Return or Parallel Shift Return. In early May, the markets noted the Federal Open Market Committee (FOMC) raising the Federal Funds rate by 50 bp for the first time in more than two decades, with more increases expected over the next year or two. However, the FOMC said that it was not considering rate hikes greater than 50 bp at this time. Mid-May, amidst easing inflation concerns and a stock market slump, the municipal bond curve halted its months-long upward climb and fell around 50 bp (measured at the ten-year point) to finish down for the month.

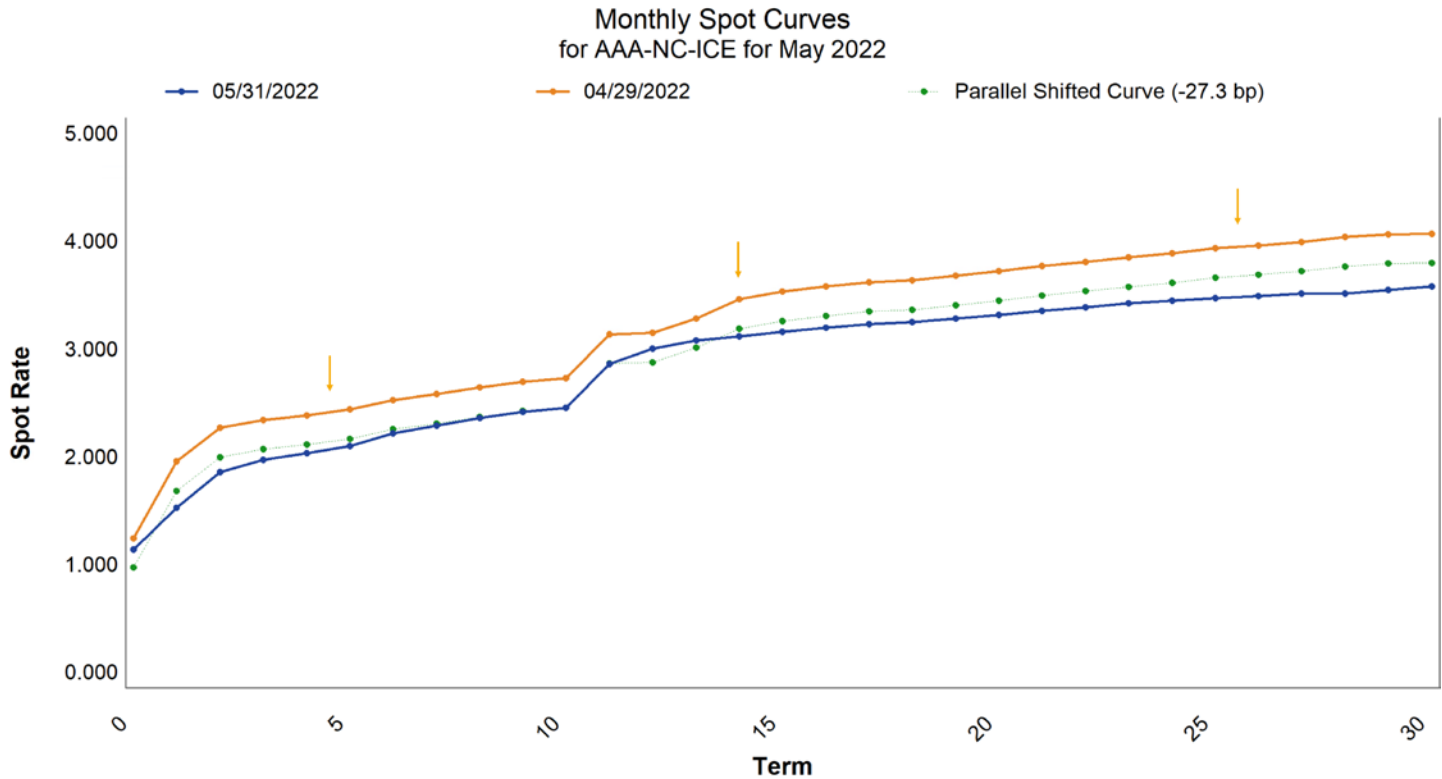
TABLE 1

	MAY	YTD
Total Return	1.457%	-6.596%
Coupon Return	0.357%	1.584%
Market Amortization Return	-0.097%	-0.819%
Parallel Shift Return	1.057%	-5.901%
Non-Parallel Shift Return	0.251%	-0.326%
Sector/Quality Return	-0.842%	1.744%
Residual Price Return	0.730%	-2.879%

Interpretation

Figure 1 shows the overall change in the municipal AAA non-callable spot curve for May. The ten-year point decreased by 27.3 bp, as depicted in Figure 1.

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 1.057% is calculated from this change, as shown in Table 2.

TABLE 2

Change for 10-Year Spot Rate ^(a)	-27.27
Total Key Rate Duration ^(b)	3.878
Parallel Shift Return ^(-b*a)	1.057

The Non-Parallel Shift Return was an additional 0.251% due to the short & long ends of the curve largely decreasing more than the ten-year point. This is sometimes called a "butterfly" shift. See Table 3 for full calculations.

TABLE 3

	6 Mos	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	20 Yrs	30 Yrs
Non-Parallel Change	7.70	-15.57	-13.68	-9.60	-6.98	-2.11	0.00	-13.48	-21.51
Key Rate Duration	0.041	0.167	0.324	0.573	0.721	0.711	0.902	0.383	0.056
Non-Parallel Shift Return	-0.003	0.026	0.044	0.055	0.050	0.015	0.000	0.052	0.012

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 -0.842%.

The sectors exhibiting the largest widening in average option-adjusted spread (weighted by both market value and duration) were Health Care, Other Utility, Housing, Education, and Transportation. The only sector exhibiting overall spread tightening was Prerefunded/ETM at -5 bps.

Quality-based groupings showed a flight to quality this month, with A and BBB spreads widening.

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, all Prerefunded/ETM.

TABLE 4

	A-rated Health Care	A-rated Transportation	AA-rated Health Care	AAA-rated Local GO
Change in Duration-Adjusted Average OA Spread ^(a)	54.731	28.121	40.819	16.034
Total Key Rate Duration ^(b)	4.472	4.338	4.410	4.079
Sector/Quality Return ^(-b*a)	-2.448	-1.220	-1.800	-0.654
Market Value Weight ^(c)	3.064	5.803	3.406	8.900
Contribution to Duration ^(b*c)	0.13701	0.25176	0.15023	0.36302
Contribution to Sector/Quality Return ^(-b*c*a)	-0.07499	-0.07080	-0.06132	-0.05821

TABLE 5

	AA-rated Prerefunded/ ETM	AAA-rated Prerefunded/ ETM	Sub B-rated Prerefunded/ ETM	A-rated Prerefunded/ ETM
Change in Duration-Adjusted Average OA Spread ^(a)	-5.561	-3.952	-4.852	-5.094
Total Key Rate Duration ^(b)	1.482	1.724	1.466	1.202
Sector/Quality Return ^(-b*a)	0.082	0.068	0.071	0.061
Market Value Weight ^(c)	4.542	2.053	1.206	1.340
Contribution to Duration ^(b*c)	0.06731	0.03541	0.01769	0.01610
Contribution to Sector/Quality Return ^(-b*c*a)	0.00374	0.00140	0.00086	0.00082

Coupon Return was 0.357%, based on the index's average coupon of 4.293%. The average beginning-of-month market yield was 2.969%, resulting in a Market Amortization Return of -0.097%. These two terms sum to a total income effect of 0.260%. The rising yields of the last few months have resulted in less negative Market Amortization Returns and a rising total income effect.

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 the low yield curve environment. 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 0.730%, reflecting the positive effects of rolling down the yield curve as well as the more substantial 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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