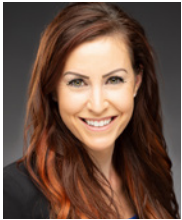


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Municipal Bond Market Performance

January 2022

Overview

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of -2.371% in January 2022, consisting of the components displayed in Table 1.

January 2022 saw the worst monthly total return since March 2020 and the worst January total return since 2018. The Parallel Shift Return was the worst we have seen since beginning this report in October 2019, and the monthly curve increase was the largest since November 2016. The municipal yield curve crept up in the days leading up to the Federal Open Market Committee meetings and surged in the days after the Federal Reserve's indication of plans to start raising short-term interest rates in the next few months.

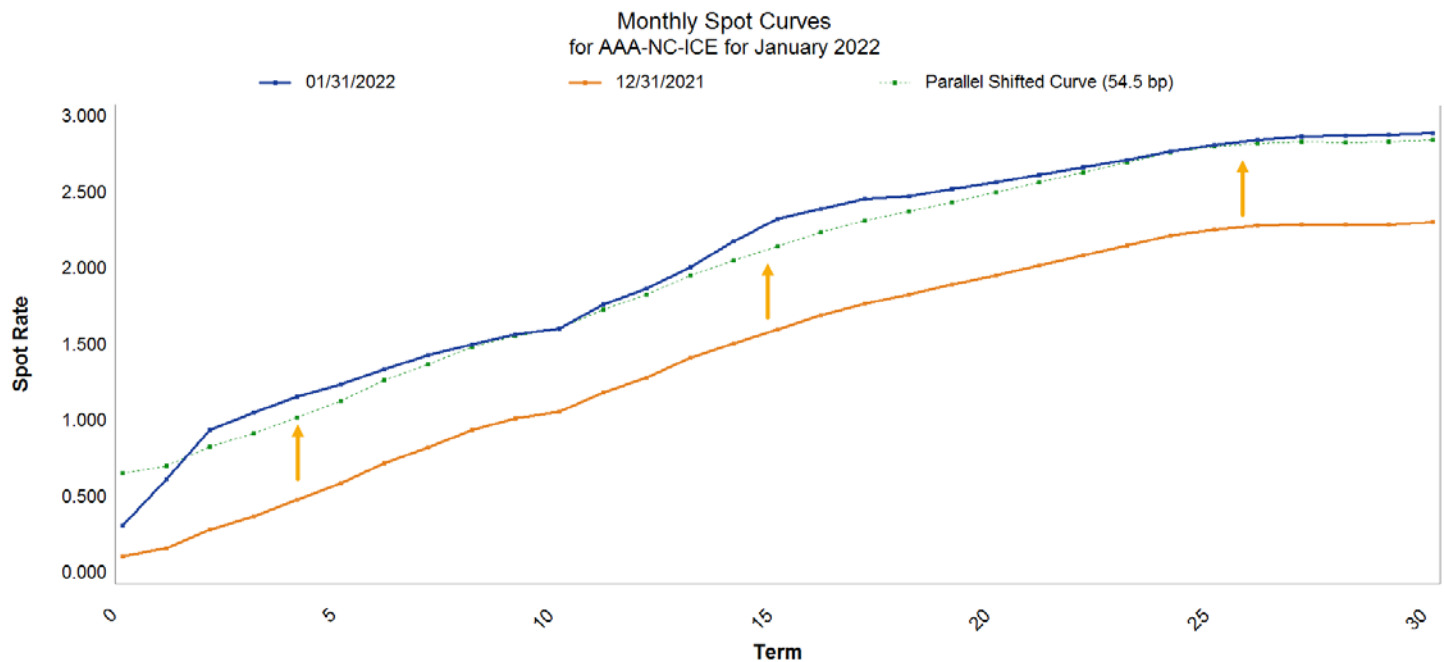
TABLE 1

	JANUARY
Total Return	-2.371%
Coupon Return	0.316%
Market Amortization Return	-0.231%
Parallel Shift Return	-2.425%
Non-Parallel Shift Return	-0.270%
Sector/Quality Return	1.402%
Residual Price Return	-1.163%

Interpretation

Figure 1 shows the overall change in the municipal AAA non-callable spot curve for January. The biggest driver of the month's total return was the spot curve's close-to-parallel increase of 54.5 bp (measured at the ten-year point), 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 -2.425% is calculated from this curve increase, as shown in Table 2.

Portfolios with a longer duration than the index would have likely experienced an even more negative Parallel Shift Return than that, whereas for shorter portfolios Parallel Shift Return would have likely been not as negative.

TABLE 2

Change for 10-Year Spot Rate ^(a)	54.54
Total Key Rate Duration ^(b)	4.446
Parallel Shift Return ^(-b*a)	-2.425

The Non-Parallel Shift Return was -0.270, mostly from additional curve increases in the two-to seven-year term range of the curve. 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	-26.10	-9.11	10.99	14.04	10.52	6.14	0.00	6.61	4.00
Key Rate Duration	0.042	0.137	0.283	0.594	0.862	0.908	1.115	0.450	0.056
Non-Parallel Shift Return	0.011	0.013	-0.031	-0.083	-0.091	-0.056	0.000	-0.030	-0.002

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 1.402%.

The sectors exhibiting the largest tightening in average option-adjusted spread (weighted by both market value and duration) were Other Utility, Housing, Health Care, and Water/Sewer. The only sector exhibiting overall spread widening was Prerefunded/ETM. Quality-based groupings did not exhibit any strong trends this month. Spread tightening tended to be more pronounced in callable bonds.

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 Prerefunded/ ETM	AAA-rated Prerefunded/ ETM	A-rated State GO	A-rated Prerefunded/ ETM
Change in Duration-Adjusted Average OA Spread ^(a)	2.963	2.544	6.938	3.043
Total Key Rate Duration ^(b)	1.682	1.939	4.728	1.396
Sector/Quality Return ^(-b*a)	-0.050	-0.049	-0.328	-0.042
Market Value Weight ^(c)	4.464	2.070	0.234	1.226
Contribution to Duration ^(b*c)	0.07507	0.04014	0.01106	0.01711
Contribution to Sector/Quality Return ^(-b*c*a)	-0.00222	-0.00102	-0.00077	-0.00052

TABLE 5

	AA-rated Local GO	AAA-rated Local GO	AA-rated Tax-Supported (Excl. GO's)	A-rated Transportation
Change in Duration-Adjusted Average OA Spread ^(a)	-30.094	-32.168	-28.263	-32.952
Total Key Rate Duration ^(b)	4.705	4.645	4.679	4.933
Sector/Quality Return ^(b*a)	1.416	1.494	1.322	1.625
Market Value Weight ^(c)	9.587	8.878	7.709	5.617
Contribution to Duration ^(b*c)	0.45107	0.41239	0.36068	0.27710
Contribution to Sector/Quality Return ^(b*c*a)	0.13574	0.13265	0.10194	0.09131

Coupon Return was 0.316%, based on the index's average coupon of 4.3%. The average beginning-of-month market yield was 1.0%, resulting in a Market Amortization Return of -0.231%. These two terms sum to a total income effect of 0.085%.

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, Residual Price Return reflects the positive effect of rolling down the yield curve as well as the much larger effect 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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