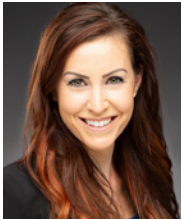


Joel A. Buursma, CIPM
Vice President,
Senior Software Architect



Denise Wilson
Index Operations Manager

Municipal Bond Market Performance

March 2021

Overview

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of 0.537% in March 2021, consisting of the components displayed in Table 1.

After February's large negative Total Return, March was tame. Its Total Return was dominated by Coupon and Sector/Quality Returns. While the US treasury curve hit highs at the 3-, 5-, 7-, and 10-year maturities that have not been seen since early 2020, the muni curve's movements were slight. Additionally, there was broad tightening of option-adjusted spreads, led by callable bonds.

TABLE 1

Total Return	0.537%
Coupon Return	0.358%
Market Amortization Return	-0.251%
Parallel Shift Return	0.103%
Non-Parallel Shift Return	0.035%
Sector/Quality Return	0.296%
Residual Price Return	-0.005%

Interpretation

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 0.296%.

The sectors exhibiting the largest tightening in option-adjusted spread (weighting by both market value and duration) were IDR / PCR, Education, and Water / Sewer. No sectors exhibited any widening in option-adjusted spread this month. Quality-based groupings did not show any substantive trends this month. In general, spread tightening tended to be more pronounced in callable bonds.

The sector/quality categories with the biggest positive contributions, considering both weight and the groupings' own sector/quality returns, are listed in Table 2.

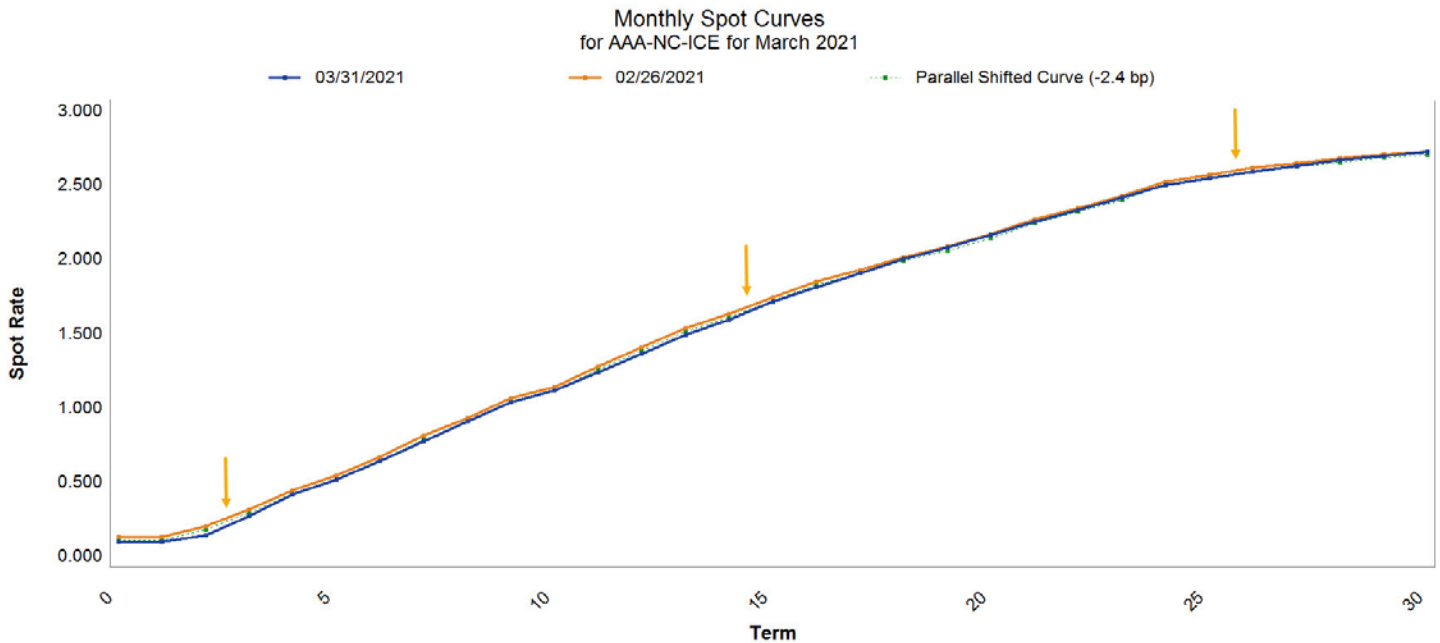
TABLE 2

	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)	-6.804	-5.743	-6.261	-7.553
Total Key Rate Duration ^(b)	4.540	4.556	4.362	4.817
Sector/Quality Return ^(b*a)	0.309	0.262	0.273	0.364
Market Value Weight ^(c)	9.651	8.916	7.701	5.529
Contribution to Duration ^(b*c)	0.43815	0.40623	0.33593	0.26633
Contribution to Sector/Quality Return ^(b*c*a)	0.02981	0.02333	0.02103	0.02012

The only sector/quality category to demonstrate any negative contribution was AAA-rated Insured, and as it was minimal there is no table for those this month.

Figure 1 shows the overall change in the muni AAA non-callable spot curve for March. As depicted, the spot curve had minimal yield curve movement on the short end and a decrease beginning at the ten-year point, resulting in a very modest overall flattening.

FIGURE 1



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

In sharp contrast, the ICE Treasury spot curve demonstrated a 37.6 bp increase at the 10-year point, and a 32.3 bp increase at the 30-year point.

The Parallel Shift Return of 0.103% can be calculated from the -2.4 bp change in the ten-year point of the spot curve, as shown in Table 3.

TABLE 3

Change in 10-Year Spot Rate ^(a)	-2.41
Total Key Rate Duration ^(b)	4.282
Parallel Shift Return ^(-b*a)	0.103

The Non-Parallel Shift Return was 0.035%. See Table 4 for the full calculations.

TABLE 4

	6 Mos	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	20 Yrs	30 Yrs
Non-Parallel Change (bp)	-1.09	-0.89	-3.50	-1.90	-0.80	-1.23	0.00	2.33	2.27
Key Rate Duration	0.039	0.134	0.286	0.624	0.973	0.954	0.935	0.306	0.030
Non-Parallel Shift Return	0.000	0.001	0.010	0.012	0.008	0.012	0.000	-0.007	-0.001

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

The month's Coupon Return was 0.358%, based on the index's average coupon of 4.365%. The average beginning-of-month market yield was 1.184%, resulting in a Market Amortization Return of -0.251%. These two terms sum to a total income effect of 0.107%.

Note that Coupon Return reflects both interest payments and changes in accrued interest throughout the month. And 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.

CONTACT US

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

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