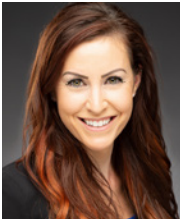




Joel A. Buursma, CIPM
Vice President,
Senior Software Architect



Denise Wilson
Index Operations Manager

Municipal Bond Market Performance

October 2020

Overview

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of -0.168% in October 2020, consisting of the components displayed in Table 1.

The month of October posted a minimal negative total return, largely due to the 9-point increase in the spot curve level. This month we saw Prerefunded/ETM spreads broadly widen, while many other sectors experienced a modest reach for yield. Overall, the relatively small moves suggested a market waiting for election results.

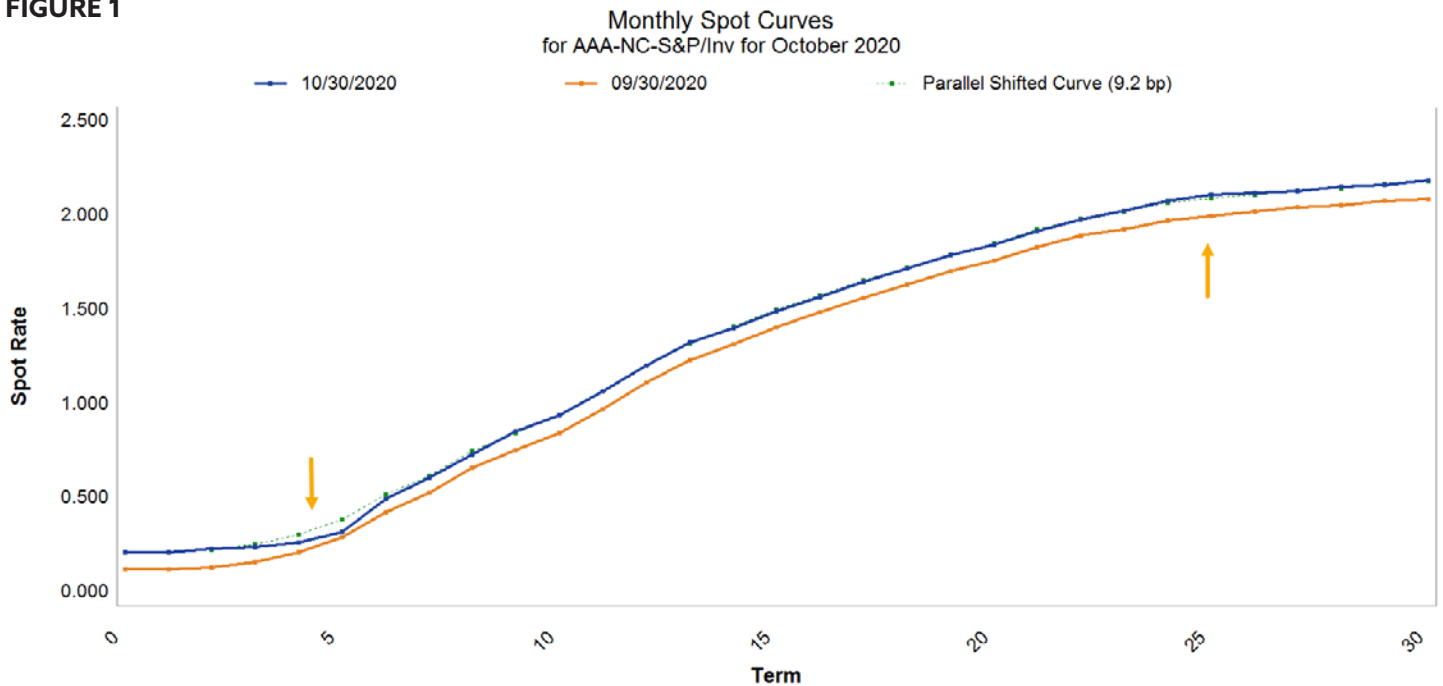
TABLE 1

Total Return	-0.168%
Coupon Return	0.333%
Market Amortization Return	-0.235%
Parallel Shift Return	-0.480%
Non-Parallel Shift Return	0.082%
Sector/Quality Return	0.136%
Residual Price Return	-0.004%

Interpretation

The biggest contributor to Total Return was the Parallel Shift Return. Figure 1 shows the overall change in the muni AAA non-callable spot curve for October. The ten-year point increased by 9.2 bp, resulting in a Parallel Shift Return of -0.480%, as shown in Table 2.

FIGURE 1



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

TABLE 2

Change in 10-Year Spot Rate ^(a)	9.22
Total Key Rate Duration ^(b)	5.2086
Parallel Shift Return ^(-b*a)	-0.480

The minimal Non-Parallel Shift Return of 0.082% came largely from a few points on the spot curve, particularly the 5-year point, that increased less than the 10-year point did. See Table 3 for the 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	-0.22	-0.22	0.78	-1.23	-6.25	-1.13	0.00	-0.74	0.79
Key Rate Duration	0.0315	0.1139	0.2517	0.5424	0.9627	1.0635	1.2293	0.8484	0.1652
Non-Parallel Shift Return	0.000	0.000	-0.002	0.007	0.060	0.012	0.000	0.006	-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 Coupon Return was 0.333%, based on the index's average coupon of 4.397%. The average beginning-of-month market yield was 1.195%, resulting in a Market Amortization Return of -0.235%. These two terms sum to a total income effect of 0.098%.

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.

The overall Sector/Quality Return was 0.136%. The only sector experiencing any widening in average option-adjusted spread (weighting by both market value and duration) was clearly Prerefunded/ETM, with every rating subcategory falling in line. The sectors with the largest overall tightening in option-adjusted spread were Tobacco Settlement, Housing, Health Care, and Transportation.

The sector/quality categories with the biggest negative contributions, considering both weight and the groupings' own sector/quality returns, are listed in Table 4. (Note that the Sub B-rated Prere/ETM category consists of unrated bonds with investment-grade escrow accounts.) The biggest positive contributors this month are listed in Table 5.

TABLE 4

	AA-rated Prere/ETM	A-rated Prere/ETM	AAA-rated Prere/ETM	Sub B-rated Prere/ETM
Change in Duration-Adjusted Average OA Spread ^(a)	1.329	3.257	1.377	1.181
Total Key Rate Duration ^(b)	1.816	1.516	2.191	1.970
Sector/Quality Return ^(b*a)	-0.024	-0.049	-0.030	-0.023
Market Value Weight ^(c)	3.840	1.088	1.741	1.103
Contribution to Duration ^(b*c)	0.06974	0.01650	0.03813	0.02174
Contribution to Sector/Quality Return ^(b*c*a)	-0.00093	-0.00054	-0.00053	-0.00026

TABLE 5

	A-rated Transportation	AAA-rated Local GO	A-rated Health Care	AA-rated Health Care
Change in Duration-Adjusted Average OA Spread ^(a)	-6.349	-2.566	-5.335	-4.303
Total Key Rate Duration ^(b)	5.950	5.421	6.295	6.077
Sector/Quality Return ^(-b*a)	0.378	0.139	0.336	0.262
Market Value Weight ^{%(c)}	5.553	9.215	3.037	3.599
Contribution to Duration ^(b*c)	0.33042	0.49952	0.19119	0.21872
Contribution to Sector/Quality Return ^(-b*c*a)	0.02098	0.01282	0.01020	0.00941

CONTACT US

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

For more information about Investortools, please visit www.invtools.com or [click here to contact us](#).

To request a product demonstration, please contact sales@invtools.com.

For more information about **Custom Index Manager**, please [click here](#).