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Municipal Bond Market Performance

January 2020

Overview

The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of 1.604% in January 2020, consisting of the components displayed in Table 1. That total return was dominated by a nearly-parallel 28 basis point drop in the spot curve.

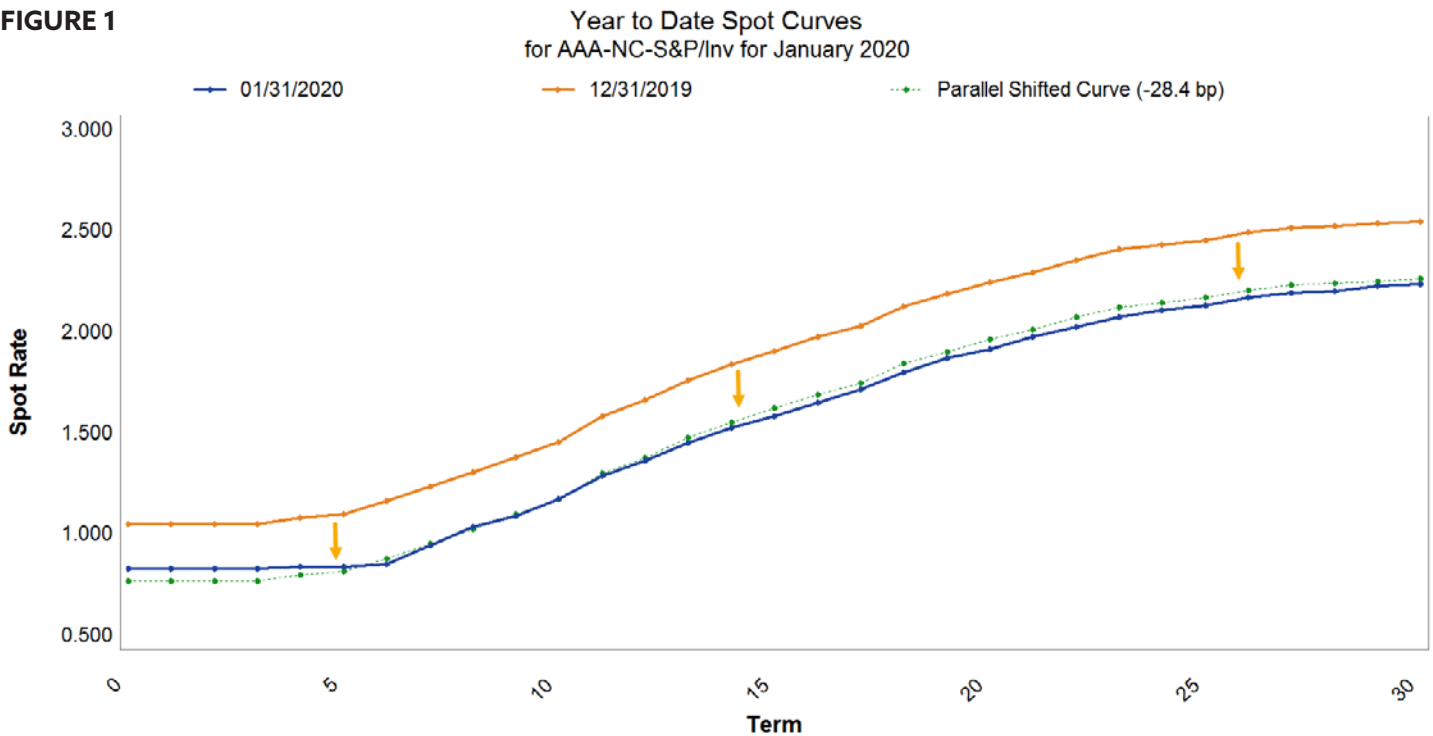
TABLE 1

Total Return	1.604%
Coupon Return	0.330%
Market Amortization Return	-0.184%
Parallel Shift Return	1.480%
Non-Parallel Shift Return	-0.029%
Sector/Quality Return	-0.064%
Residual Price Return	0.071%

Interpretation

The biggest story for January, the decline in the spot curve, is depicted in Figure 1. The 28.4 bp decrease, measured at the ten-year point, resulted in a Parallel Shift Return of 1.480% (see 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)	-28.35
Total Key Rate Duration ^(b)	5.218
Parallel Shift Return ^(b*a)	1.480

In addition, there was a very slight flattening in the curve, causing a slight Non-Parallel Shift Return of -0.029%. This was a negative effect overall because, on the short end of the curve, flattening occurred at terms with substantial key rate durations, particularly the three- and five-year points. The flattening effects at the long end were smaller in magnitude. Table 3 shows the non-parallel effect at each key point of the curve.

TABLE 3

	6 Mos	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	20 Yrs	30 Yrs
Key Rate Duration	0.032	0.101	0.248	0.555	0.977	1.254	1.051	0.785	0.216
Non-Parallel Change	6.4	6.4	6.4	6.4	2.3	-0.9	0.0	-4.7	-2.5
Non-Parallel Shift Return	-0.002	-0.006	-0.016	-0.035	-0.022	0.011	0.000	0.037	0.005

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

After curve effects, income effects were next in significance. The Coupon Return of 0.330% was based on the index's average coupon of 4.427% and the Market Amortization Return of -0.184% was based on the index's average beginning-of-month market yield of 1.720%. These two terms sum to a total income effect of 0.146%.

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.

Sector/Quality Return captures return from changes in average option-adjusted spread (adjusted by duration) in various sector/quality categories. The State GO, Resource Recovery, IDR / PCR, and Tax-Supported (Excl. GO's) sectors saw spreads tighten on average for all or most rating categories. However, more sectors saw spreads widen on average, notably Housing, Tobacco Settlement, and Health Care. For other sectors like Local GO, the performance was more mixed.

Due to the mixed performance and the relatively small sizes of the average changes in option-adjusted spread, the overall Sector/Quality Return was quite small: only -0.064%. The sector/quality categories with the biggest negative contributions, considering both weight 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 Housing	AA-rated Local GO	A-rated Health Care	AAA-rated Housing
Change in Duration-Adjusted Average OA Spread ^(a)	14.597	1.624	4.705	14.928
Total Key Rate Duration ^(b)	7.492	5.533	6.224	8.377
Sector/Quality Return ^(-b*a)	-1.094	-0.090	-0.293	-1.251
Market Value Weight ^(c)	1.716	10.217	2.914	0.641
Contribution to Duration ^(b*c)	0.12855	0.56527	0.18138	0.05371
Contribution to Sector/Quality Return ^(-b*c*a)	-0.01876	-0.00918	-0.00853	-0.00802

TABLE 5

	BBB-rated State GO	AA-rated Tax-Supported	AA-rated State GO	AAA-rated Tax-Supported
Change in Duration-Adjusted Average OA Spread ^(a)	-21.616	-0.956	-0.827	-1.740
Total Key Rate Duration ^(b)	4.481	5.059	4.619	4.976
Sector/Quality Return ^(b+a)	0.969	0.048	0.038	0.087
Market Value Weight ^(c)	0.686	7.976	5.558	2.403
Contribution to Duration ^(b+c)	0.03073	0.40355	0.25670	0.11956
Contribution to Sector/Quality Return ^(b+c+a)	0.00664	0.00386	0.00212	0.00208

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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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