

# Municipal Bond Market Performance

December 2023



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The municipal bond market, as measured by the Standard & Poor's Municipal Bond Investment Grade Index, had a Total Return of 2.303% in December 2023, consisting of the components displayed in Table 1.

The municipal yield curve dropped substantially again in December, bringing the curve almost 130 basis points lower (as measured by the ICE Municipal AAA Noncallable yield curve) than it was at the end of October when parts of the curve had hit more than ten-year highs. This is the largest two-month curve change in the 21-year history of that yield curve. Movements in the treasury curve were similar. This historic drop generated similarly historic gains for the index. The return of 8.265% over the course of November and December is by far the best two-month return in the 25-year history of the index (the next best occurred in August and September of 2009 at 5.767%).

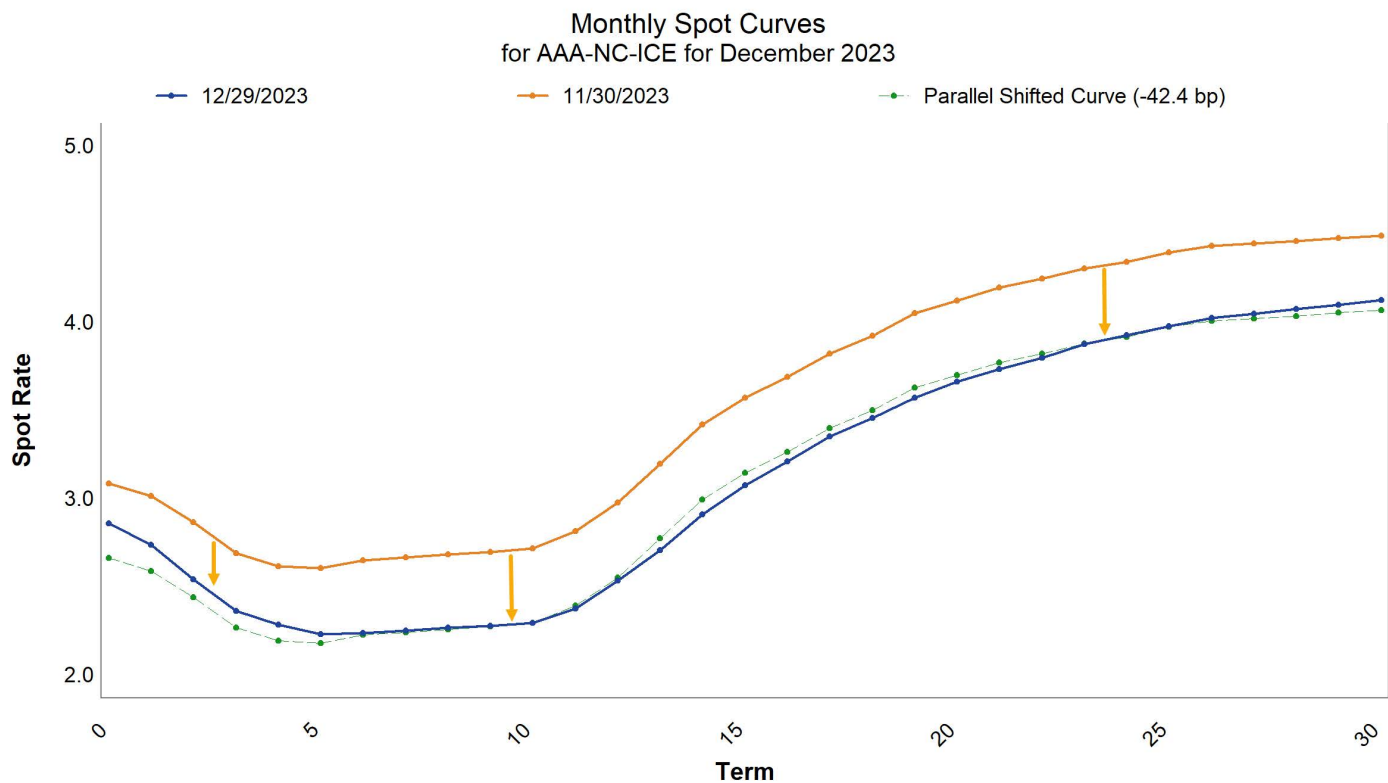
These closing months of 2023 rescued it from being another disappointing year to being one with a solid overall performance.

<b>TABLE 1</b>	<b>December</b>	<b>YTD</b>
Total Return	<b>2.303%</b>	<b>5.824%</b>
Coupon Return	0.368%	4.330%
Market Amortization Return	-0.080%	-0.655%
Parallel Shift Return	2.093%	1.633%
Non-Parallel Shift Return	-0.127%	-0.230%
Sector/Quality Return	-0.505%	0.030%
Residual Price Return	0.555%	0.717%

## Interpretation

Figure 1 shows the overall change in the ICE Municipal AAA Noncallable spot curve for December. This curve demonstrated an 42.4 bp decrease in overall level as measured at the ten-year point.

**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 2.093% is calculated from this curve increase, as shown in Table 2.

**TABLE 2**

Change for 10-Year Spot Rate <sup>(a)</sup>	-42.41
Total Key Rate Duration <sup>(b)</sup>	4.9343
Parallel Shift Return <sup>(-b*a)</sup>	<b>2.093</b>

The Non-Parallel Shift Return was -0.127%. This negative return was primarily driven by the short end of the curve decreasing less than the rest of the curve, increasing the inversion there. 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	18.61	14.89	10.17	9.73	5.08	0.86	0.00	-3.84	5.85
Key Rate Duration	0.040	0.130	0.265	0.519	0.735	0.942	1.462	0.746	0.095
Non-Parallel Shift Return	<b>-0.007</b>	<b>-0.019</b>	<b>-0.027</b>	<b>-0.050</b>	<b>-0.037</b>	<b>-0.008</b>	<b>0.000</b>	<b>0.0029</b>	<b>-0.006</b>

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 -0.505%.

The IDR / PCR sector exhibited the largest overall tightening in average option-adjusted spread (weighted by both market value and duration) of any sector. The sectors exhibiting the largest overall widening were Tobacco Settlement, Transportation, Housing, and Water / Sewer. Quality-based groupings exhibited no significant trend.

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**

	AAA-rated Local GO	AA-rated Tax- Supported (Excl. GO's)	AA-rated Local GO	A-rated Transporation
Change in Dur-Adj Average OA Spread <sup>(a)</sup>	10.097	11.139	8.356	15.726
Total Key Rate Duration <sup>(b)</sup>	5.054	5.197	5.135	5.314
Sector/Quality Return <sup>(b*a)</sup>	-0.510	-0.579	-0.429	-0.836
Market Value Weight <sup>(c)</sup>	10.274	8.009	9.903	4.985
Contribution to Duration <sup>(b*c)</sup>	0.51931	0.41627	0.50848	0.26492
Contribution to Sector/Quality Return <sup>(-b*c*a)</sup>	<b>-0.05244</b>	<b>-0.04637</b>	<b>-0.04249</b>	<b>-0.04166</b>

**TABLE 5**

	A-rated IDR/PCR	A-rated Insured	AA-rated IDR/PCR	A-rated Other Revenue
Change in Dur-Adj Average OA Spread <sup>(a)</sup>	-5.600	-3.516	-0.692	-0.816
Total Key Rate Duration <sup>(b)</sup>	4.235	4.570	4.351	4.147
Sector/Quality Return <sup>(b*a)</sup>	0.237	0.161	0.030	0.034
Market Value Weight <sup>(c)</sup>	2.358	0.363	0.757	0.200
Contribution to Duration <sup>(b*c)</sup>	0.09988	0.01660	0.03294	0.00829
Contribution to Sector/Quality Return <sup>(b*c*a)</sup>	<b>0.00559</b>	<b>0.00058</b>	<b>0.00023</b>	<b>0.00007</b>

Coupon Return was 0.368%, based on the index's average coupon of 4.352%. The average beginning-of-month market yield was 3.619%, resulting in a Market Amortization Return of -0.080%. These two terms sum to a total income effect of 0.288%.

*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 yields being lower than most coupon rates. 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 0.555%, reflecting the positive effects of rolling down the yield curve as well as the more substantial effects of convexity.

## 2023 Year in Review

Table 6 contains the 2023 monthly and annual total returns and their breakdowns. Additional year-in-review analysis will be published separately.

**TABLE 6**

	Total Return	Coupon Return	Mkt Amort Return	Parallel Shift Return	Non-Parallel Shift Return	Sector/Quality Return	Residual Price Return
<b>Year</b>	<b>5.824%</b>	<b>4.330%</b>	<b>-0.655%</b>	<b>1.633%</b>	<b>-0.230%</b>	<b>0.030%</b>	<b>0.717%</b>
Dec	2.303%	0.368%	-0.080%	2.093%	-0.127%	-0.505%	0.555%
Nov	5.828%	0.363%	0.007%	4.271%	0.146%	-0.114%	1.155%
Oct	-1.051%	0.382%	-0.004%	-0.998%	0.111%	-0.200%	-0.342%
Sep	-2.639%	0.347%	-0.047%	-2.736%	0.111%	0.174%	-0.489%
Aug	-1.116%	0.353%	-0.051%	-1.312%	0.042%	0.279%	-0.428%
Jul	0.246%	0.364%	-0.065%	0.011%	-0.082%	0.023%	-0.005%
Jun	0.826%	0.342%	-0.044%	0.429%	0.076%	-0.047%	0.069%
May	-0.781%	0.362%	-0.056%	-1.548%	0.126%	0.410%	-0.075%
Apr	-0.185%	0.337%	-0.091%	-0.263%	-0.336%	0.057%	0.110%
Mar	2.146%	0.391%	-0.085%	1.565%	0.324%	-0.176%	0.127%
Feb	-2.294%	0.311%	-0.078%	-2.094%	-0.560%	0.484%	-0.357%
Jan	2.709%	0.354%	-0.048%	2.389%	-0.035%	-0.377%	0.426%

Of the various terms, Coupon Return had the largest positive contribution over the course of the year. Parallel Shift Return was the next largest contributor, as yields finished the year somewhat lower than they started. Of the months, November had the largest positive contribution. In fact, November's return was slightly greater than the entire year's return. The year's gain of 5.824% is the best overall return since 2019.

### CONTACT US

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