Municipal Market Quarterly Review

First Quarter 2024

Municipal Market Review

The S&P Main Municipal Bond Index (Municipal Index) fell modestly during the first quarter and returned -0.09%, following the 7.19% return in the final quarter of 2023 (Figure 1). Interest rate volatility drove prices lower as stronger-than-expected economic and inflation data pushed back expectations for policy rate cuts in 2024.

Municipal yields increased across the curve, with short-term yields rising more than intermediate and long-term yields, leading to a flatter municipal yield curve. As the policy rate outlook became incrementally less dovish, the U.S. Treasury (UST) curve also flattened, albeit to a lesser degree. (Figure 2, page 2). The shift in term structure indicated a decreased risk premium for interest rates (Figure 3, page 2). Longer-dated bonds underperformed shorter-dated bonds, despite yields rising at a slower pace, due to higher interest rate sensitivity, or duration. Among quality cohorts, A-rated and BBB-rated bonds outperformed as higher yields helped offset the impact of rising rates.

Figure 1. Fixed Income Returns and Statistics
As of 3/31/2024

S&P Municipal Bond Indices	**Q1 2024 Return**	**2023 Return**	**Yield to Worst**	**Duration**
Main	-0.09%	6.03%	3.70%	5.7
Intermediate	-0.24%	5.26%	3.29%	4.6
Short-Intermediate	-0.14%	3.92%	3.24%	3.0
Short	0.05%	3.34%	3.38%	1.7
General Obligation	-0.41%	5.53%	3.43%	5.4
Revenue	0.12%	6.49%	3.91%	6.2
Taxable	0.22%	7.99%	5.06%	8.0
Bloomberg Indices				
U.S. Treasury	-0.96%	4.05%	4.43%	6.0
U.S. Aggregate	-0.78%	5.53%	4.85%	6.1
U.S. Corporate	-0.40%	8.52%	5.30%	6.9

Sources: S&P Dow Jones Indices LLC, Bloomberg L.P., PNC

KEY THEMES

- The Municipal Index returned -0.09% in the first quarter.
- Yields increased across the municipal curve, with short-term yields rising more than long-term yields, resulting in a flatter yield curve.
- Municipal valuations cheapened versus USTs on a maturity-matched basis, reflected in higher Municipal-to-Treasury (MT) ratios.
- Stronger-than-expected economic data and healthy fundamentals for municipalities support current credit spread levels and may warrant additional spread tightening.
- On an absolute basis, municipal yields offer a compelling option for tax-sensitive investors.

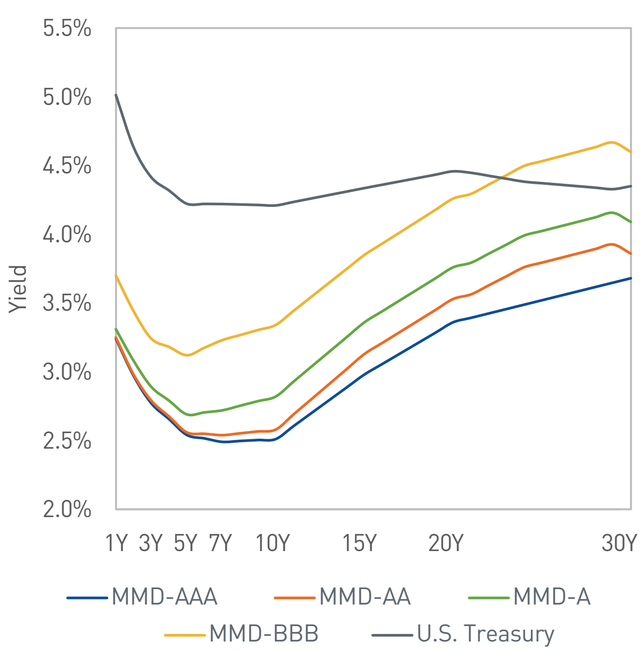
Indices are unmanaged, not available for direct investment, and not subject to management fees, transaction costs or other types of expenses that an account may incur.

Figure 2. Quarter-over-Quarter Yield Curve Change (bps) (12/31/2023 – 3/31/2024)

Maturity	AAA	AA	A	BBB	UST
1 Year	57	57	57	57	26
2 Year	45	45	45	45	37
3 Year	40	40	40	40	40
5 Year	26	25	26	28	37
7 Year	24	25	24	24	33
10 Year	23	23	27	23	32
15 Year	21	21	21	21	28
20 Year	28	28	28	28	25
30 Year	26	26	26	26	30

Sources: Refinitive, S&P Dow Jones Indices, Bloomberg L.P., PNC

Figure 3. Municipal Market and UST Yield Curves As of 3/31/2024



Sources: Refinitive, S&P Dow Jones Indices, Bloomberg L.P., PNC

Relative to taxable fixed income sectors, the Municipal Index outperformed the Bloomberg U.S. Treasury Index by 87 basis points (bps) in the first quarter as municipal yields rose less than Treasuries for maturities from 3 to 15 years. Municipals also outperformed the Bloomberg U.S. Aggregate Index and Bloomberg U.S. Corporate Index by 69 bps and 31 bps, respectively, partly driven by differences in index-level duration.

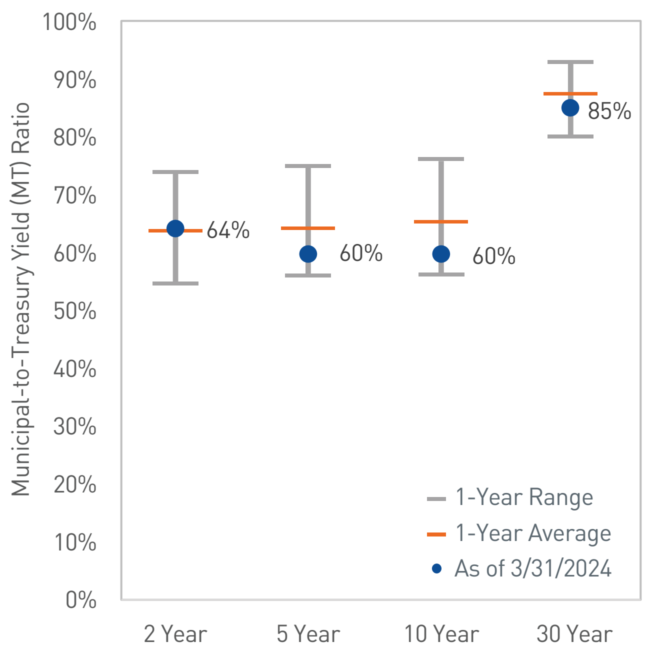
From a technical perspective, investor demand for municipals improved in the first quarter, with municipal mutual fund net inflows of $10.4 billion compared to last quarter's outflow of $16.6 billion. On the supply side, lower interest rates spurred a 24% increase in year-to-date municipal bond issuance compared to the same period in 2023. Only 5% of all municipal bonds issued in 2024 have been taxable compared to 18% during the same period in 2023.

Tax-Exempt Municipal Valuations

Rising municipal yields resulted in slightly more attractive MT ratios for prospective tax-exempt investors. The shift in relative value was sharpest in the front-end of the yield curve as the 2-year MT ratio increased to 64% from 59%, while 5-, 10- and 30-year MT ratios increased by 1% or less. The 2-year MT ratio is now above its 1-year average, but the 5-, 10- and 30-year MT ratios remain below their respective 1-year averages (Figure 4, page 3). The shift in yields makes tax-exempt municipal bonds more attractive on a tax-equivalent basis versus taxable alternatives. Assuming an estimated federal tax rate of 40.8% (37% maximum federal income tax level and 3.8% Medicare tax that may apply to some taxpayers), the tax-equivalent yield of a 10-year AAA-rated municipal bond now offers 101% of the 4.2% yield offered by the 10-year UST, up from 99% at the end of last quarter. For investors with an effective tax rate of 40.8%, tax-equivalent MT ratios are now above 100% across the yield curve. Comparatively, tax-equivalent MT ratios for investors with a tax rate of 30% are below 100% prior to 16 years to maturity (Figure 5, page 3).

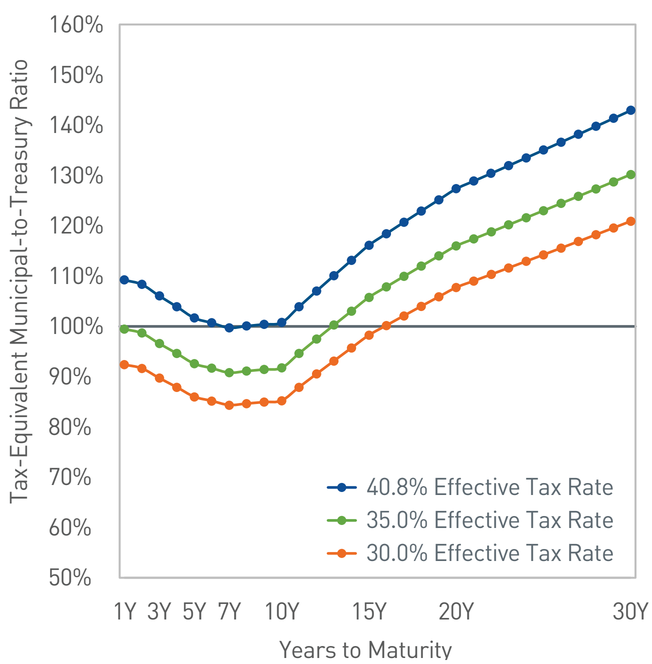
Indices are unmanaged, not available for direct investment, and not subject to management fees, transaction costs or other types of expenses that an account may incur.

Figure 4. Municipal-to-Treasury Yield Ratios
As of 3/31/2024



Sources: Refinitive, S&P Dow Jones Indices, Bloomberg L.P., PNC

Figure 5. Tax Equivalent MT Yield Ratios
As of 3/31/2024



Sources: Refinitive, S&P Dow Jones Indices, Bloomberg L.P., PNC

Taxable Municipals Outperform Tax-Exempt

The S&P Taxable Municipal Bond Index (Taxable Municipals) returned 0.22% in the first quarter, outperforming tax-exempt municipals by 31 bps despite higher index-level duration, as credit spreads tightened amid a more favorable technical environment. Taxable municipals also outperformed the Bloomberg U.S. Corporate index by 62 bps, due to a higher degree of relative credit spread tightening. As a result, yields for A-rated taxable municipal bonds yields are now largely in line with A-rated corporates across the yield curve. We believe supply-side technicals remain supportive of valuations given the 62% decrease in taxable municipal issuance year over year.

Municipal Credit Review

In the first quarter, municipal credit spreads narrowed, taking a cue from the broad asset rally during the final quarter of 2023 (Figure 6, page 4). Among investment-grade categories, A-rated bonds performed the best, followed by the BBB-rated cohort. While municipal credit spreads are at the low-end of their two-year range, incremental improvement in credit pricing could be sustainable, in our view. Corporate spreads, after diverging with municipal spreads and tightening 20 bps in the fourth quarter, have continued to narrow to post-financial-crisis lows. As municipal investors try to keep pace, this suggests there is room for marginal credit improvement, particularly among BBB-rated bonds given historical spread dynamics.

Moody's Investors Service has yet to resolve its negative outlook for the U.S. credit rating, which the agency initiated in November 2023. The rating agency gives itself up to 18 months to decide on a subsequent action. A confirming Moody's one-notch downgrade of the UST means AAA-rated municipals would present as higher quality compared to USTs, while AA+-rated municipals would be considered equivalent from a credit quality perspective. This carries the potential to permanently impact relative valuation measures and place downward pressure on the equilibrium point of MT ratios, the traditional measure of cross-market relative value. Of note, most municipal obligor credit ratings are not anchored to the U.S. sovereign rating.

Indices are unmanaged, not available for direct investment, and not subject to management fees, transaction costs or other types of expenses that an account may incur.

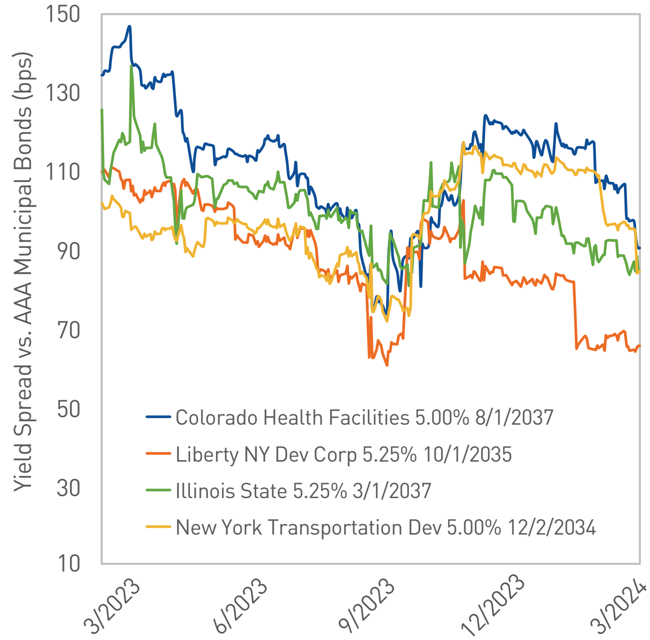
Looking Ahead

We believe stronger-than-expected economic data combined with the strong fundamental position of most municipalities, supports current credit spread levels and may warrant further spread tightening. This reflects our view that better-than-anticipated economic activity and looser financial conditions have increased the chances for the economy to achieve a soft landing following an aggressive monetary policy tightening cycle.

In the short term, seasonality related to tax season has historically weighed on investor demand for municipal bonds, partly due to selling associated with funding outstanding tax bills. We view any resulting spread widening as an opportunity and expect demand to normalize thereafter. Additionally, congressional brinkmanship on government funding appears to be over (for now) due to an expected appropriations package that would provide funding to government agencies through the September 30 fiscal year end.

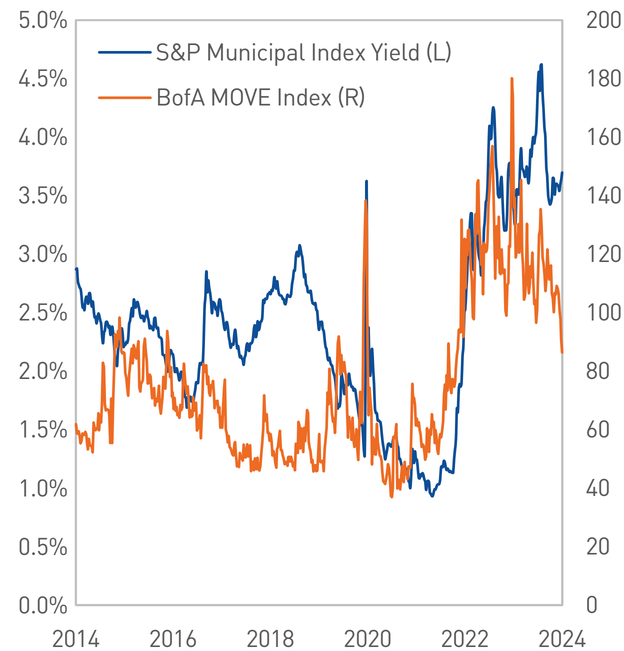
In the long term, we remain constructive on the value proposition of tax-exempt municipals. While valuations relative to taxable alternatives remain expensive, investors in the highest tax brackets can still find value in tax-equivalent municipal bond yields. The S&P Municipal Bond Index yield remains in the 93rd percentile of weekly observations over the last 10 years (Figure 7). As such, long-term return expectations for the asset class remain much improved, in our view.

Figure 6. Select Tax-Exempt BBB-Rated Municipal Credit Spreads
As of 3/31/2024



Sources: Bloomberg L.P., PNC

Figure 7. S&P Municipal Bond Index Yield & Rate Volatility
As of 3/31/2024



Sources: Bloomberg L.P., PNC

Indices are unmanaged, not available for direct investment, and not subject to management fees, transaction costs or other types of expenses that an account may incur.

Investment Management Team

Adam Mackey
Managing Director

Ken Weinstein
Senior Credit Analyst

William Bonawitz, CFA
Director of Credit Research

William Davis
Senior Quantitative Analyst

Robert Howells
Senior Portfolio Manager

Matthew Feda
Client Portfolio Manager

Daniel Salahub, CFA
Portfolio Manager

Jamie Horn
Client Portfolio Manager

Cesar Avila
Senior Credit Analyst

Walid Baki, CFA
Client Portfolio Associate

Lisa Kreiling, Ph.D., CFA
Senior Credit Analyst

Elvi Sopiqoti
Trader

Jonathan Mann, CFA
Senior Credit Analyst

If you have questions regarding this commentary, please contact one of our Municipal Specialists at MIG@pnc.com

These materials are furnished for the use of PNC and its clients and do not constitute the provision of investment, legal, or tax advice to any person. They are not prepared with respect to the specific investment objectives, financial situation, or particular needs of any person. Use of these materials is dependent upon the judgment and analysis applied by duly authorized investment personnel who consider a client's individual account circumstances. Persons reading these materials should consult with their PNC account representative regarding the appropriateness of investing in any securities or adopting any investment strategies discussed or recommended herein and should understand that statements regarding future prospects may not be realized. The information contained herein was obtained from sources deemed reliable. Such information is not guaranteed as to its accuracy, timeliness, or completeness by PNC. The information contained and the opinions expressed herein are subject to change without notice. Forward looking projections are based on historical trends, actual results will differ. **Past performance is no guarantee of future results.** Neither the information presented nor any opinion expressed herein constitutes an offer to buy or sell, nor a recommendation to buy or sell, any security or financial instrument. Accounts managed by PNC and its affiliates may take positions from time to time in securities recommended and followed by PNC affiliates.

Indices or Benchmarks. Indices are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that an account may incur. Indices performance results do not represent, and are not necessarily indicative of, the results that may be achieved in accounts investing in the corresponding investment strategy; actual account returns may vary significantly. For definitions of Indices/Benchmarks used herein, please refer to www.pnc.com/indexdefinitions.

The PNC Financial Services Group, Inc. ("PNC") provides investment consulting and wealth management, fiduciary services, FDIC-insured banking products and services, and lending of funds to individual clients through PNC Bank, National Association ("PNC Bank"), which is a **Member FDIC**, and provides specific fiduciary and agency services to individual clients through PNC Delaware Trust Company or PNC Ohio Trust Company. PNC provides various discretionary and nondiscretionary investment, trustee, custody, consulting, and related services to institutional clients through PNC Bank. Securities products, brokerage services as well as managed account advisory services to US based clients may be offered by PNC Investments, LLC, ("PNCI") a registered broker-dealer and a registered investment adviser and Member FINRA and SIPC. Managed account advisory services for non-US based clients may be offered by PNC Managed Account Solutions, Inc., an SEC registered investment adviser. Annuities and other insurance products are offered through PNC Insurances Services, LLC, a licensed insurance agency. This material is produced by PNC; if it has been provided to you by PNCI it has been done so as a courtesy. PNCI relies on PNC's investment strategists and economists for market and/or economic insights. PNCI is an indirect, wholly owned subsidiary of PNC.

PNC does not provide legal, tax, or accounting advice unless, with respect to tax advice, PNC Bank has entered into a written tax services agreement. PNC Bank is not registered as a municipal advisor under the Dodd-Frank Wall Street Reform and Consumer Protection Act.

"PNC" is a registered mark of The PNC Financial Services Group, Inc.

Investments, Brokerage and Insurance Products: Not FDIC Insured. No Bank Guarantee. Not a Deposit. Not Insured By Any Federal Government Agency. May Lose Value.

©2024 The PNC Financial Services Group, Inc. All rights reserved.