

Municipal Market Weekly Update

MACKAY MUNICIPAL MANAGERS.™ THE MINDS BEHIND MUNIS.



Scan code above to listen to the Muni 360 podcast to get the latest perspectives from MacKay Municipal Managers

Author:
Eric Kazatsky
Client Portfolio Manager

Muni Tax Time Is Far from an April Thing

KEY TAKEAWAYS

- Munis take a breather vs Treasuries
- Tax is a focus every month of the year
- What drives taxable muni issuance

Relative Performance

MUNI VS. TREASURY RELATIVE PERFORMANCE

Rates moved modestly lower in Municipals last week, while Treasuries rallied more aggressively across the curve. AAA BVAL yields declined just 0.5 bps in 2s and 30s, 1 bp in 5s, and roughly 1.5 bps in 10s. Treasuries, by contrast, saw a much stronger move, with yields falling 8–10 bps in the front and intermediate portions of the curve and roughly 3 bps in 30s.

As a result, Municipals underperformed on a relative basis, reversing a portion of the prior week’s richening. Muni-to-Treasury ratios richened across the curve, with the 2-year ratio declining 0.3 points to 60.43%, while the 5-year ratio fell to 62.13%. The 10-year ratio moved lower by nearly a full point to 67.16%, and the 30-year ratio declined more than a point to 87.93%.

This was another Treasury-led move. Municipals participated in the rally, but not to the same degree, particularly in intermediate maturities. That dynamic continues to define the current environment—macro-driven rate moves are creating short-term relative volatility, while underlying muni technicals remain stable.

The relative underperformance in Municipals creates some time sensitivity. When Treasuries move this sharply, munis don’t typically stay behind for long.

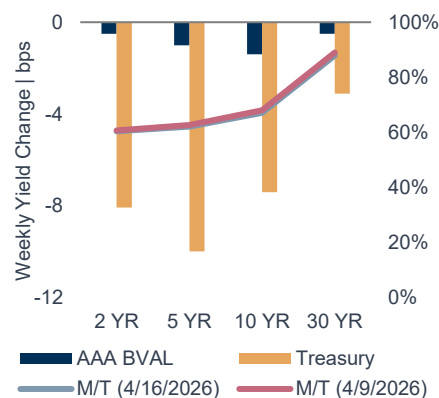
Market Technicals

Taxes are always on our mind. Not just in April, not just at year-end—but consistently as part of how we think about portfolio construction and client outcomes. At the core, the focus is simple: maximize after-tax returns and maintain tax efficiency.

FIGURE 1: INDEX PERFORMANCE¹

	MTD	YTD	2025
Muni Bond 5-Year	0.64%	0.65%	5.03%
Muni Bond 10-Year	1.18%	0.38%	5.92%
Muni Bond 15-Year	1.60%	1.18%	5.31%
Muni Long Bond	1.83%	1.60%	1.95%
Muni Managed Money	1.40%	0.91%	3.94%

FIGURE 2: MUNIS UNDERPERFORM²



1. Data as of April 16, 2026. Source: Bloomberg
2. Data as of April 16, 2026. Source: Bloomberg. Spot Muni, Spot AA rates. AAA BVAL: AAA Municipal yield curve M/T: Municipal/Treasury Yield Ratio - Bloomberg Municipal Bond Index yield / Bloomberg U.S. Treasury Index yield.

Market Technicals (Continued)

That's particularly relevant in an environment like this, where the recent backup in rates has quietly created another compelling entry point—especially for investors in high-tax jurisdictions. Take the recent New York City GO deal that priced in late March. For a highest-bracket Manhattan resident—facing a combined tax rate north of 55% when you layer in federal, state, and local taxes—the math becomes pretty powerful. At the long end of that new issue, investors were able to access tax-equivalent yields north of 10.7%.

And it's not just New York. A Los Angeles Department of Water and Power bond due 2046 came at a yield of roughly 4.48%. For a highest-bracket California investor—combining 40.8% federal and 13.3% state taxes—that translates to a tax-equivalent yield of approximately 9.7%.³

That's not a theoretical exercise—that's real income, available in the market, backed by high-quality municipal credit, and it reinforces a broader point. When rates back up and volatility picks up, the conversation often defaults to price movement and near-term performance. But for high-income investors, the more important question is what that volatility creates from an after-tax income perspective. Right now, the answer is opportunity.

At the same time, tax efficiency goes beyond just income—it's also embedded in how portfolios are managed. True active management is a constant search for opportunity sets, and performance often sits at the intersection of economics and accounting.

It's easy to focus on booking gains when trades move in your favor—that's the visible part of performance. But what often gets underappreciated is how those gains are managed. In a rallying rate environment, portfolios can be combed for seasoned positions where spreads have tightened meaningfully from the original purchase level. Realizing those gains—paired against losses elsewhere—can help manage the tax impact of price appreciation.

Conversely, in a rising rate environment, opportunities to harvest losses become more obvious and forward-looking. But the key point is that this isn't a calendar-driven exercise—it's a portfolio management discipline. The goal isn't to react at year-end, but to continuously evaluate where tax efficiency can be improved without compromising the underlying investment thesis.

FIGURE 3: NEW YORK CITY GO PRICING⁴

Summary		Maturity	Amount (M)	Coupon	P/Y	Spread	CUSIP	FIGI
SALE DATE	03/23/26	2/1/2030	17315.0	5.000	2.920	43	64966STD8	BBG0215C1C50
AMOUNT	900,000,000.00	2/1/2031	21220.0	5.000	3.030	46	64966STE6	BBG0215C1C69
MANAGER	Bank of America Merrill	2/1/2032	22270.0	5.000	3.140	48	64966STF3	BBG0215C1C78
BOND TYPE	GO ULT	2/1/2033	23395.0	5.000	3.260	49	64966STG1	BBG0215C1C87
DATED DATE	04/09/26	2/1/2034	24550.0	5.000	3.370	52	64966STH9	BBG0215C1C96
1 ST COUPON	08/01/26	2/1/2035	25775.0	5.000	3.470	53	64966STJ5	BBG0215C1CB3
DEAL NUMBER	1120315	2/1/2036	27075.0	5.000	3.530	47	64966STK2	BBG0215C1CC2
RATING/ENHANCEMENT		2/1/2037	28420.0	5.000	3.660	49	64966STL0	BBG0215C1CD1
MOODY'S	Aa2	2/1/2038	29850.0	5.000	3.790	51	64966STM8	BBG0215C1CF9
S&P	AA	2/1/2039	31330.0	5.000	3.880	52	64966STN6	BBG0215C1CG8
FITCH	AA (AA)	2/1/2040	32890.0	5.000	3.970	51	64966STP1	BBG0215C1CH7
KBRA	AA+	2/1/2041	34525.0	5.000	4.020	49	64966STQ9	BBG0215C1CJ5
ENHANCEMENT		2/1/2042	36255.0	5.000	4.130	50	64966STR7	BBG0215C1CK3
SCHEDULES		2/1/2043	38060.0	5.000	4.240	49	64966STS5	BBG0215C1CL2
PREM CALL		2/1/2044	39975.0	5.000	4.350	47	64966STT3	BBG0215C1CM1
PAR CALL	08/01/36	2/1/2045	41955.0	5.000	4.450	44	64966STU0	BBG0215C1CN0
MANDATORY TENDER		2/1/2046	44080.0	5.250	4.500	37	64966STV8	BBG0215C1CP8
OTHER INFO		2/1/2047	46395.0	5.250	4.650	44	64966STW6	BBG0215C1CQ7
1 ST SETTLE	04/09/26	2/1/2048	48825.0	5.250	4.710	44	64966STX4	BBG0215C1CR6
FORM/DEP	Book-Entry, DTC	2/1/2049	51395.0	5.250	4.730	41	64966STY2	BBG0215C1CS5
PRICE STATUS	Final	2/1/2050	54075.0	5.250	4.740	38	64966STZ9	BBG0215C1CT4
VERBAL AWARD	03/25/26	2/1/2053	148190.0	5.250	4.830	42	64966SUA2	BBG0215C1CX9

3. This illustration does not constitute tax advice. The information contained herein should not be used as a substitute for advice from your tax advisor. Neither MacKay Municipal Managers nor MacKay Shields LLC advise clients on tax matters. Consult your tax advisor for further information. At the time of writing, MacKay Shields LLC maintains investments in the securities, issuers and/or companies cited herein. References to such securities, issuers and/or companies are for educational and informational purposes only, and are intended to convey factual information and current market conditions. Such names are not intended, nor should they be construed as, a recommendation to buy and sell any individual security.

4. Data as of April 16, 2026. Source: Bloomberg.

Market Technicals (Continued)

Booking losses isn't just defensive—it has a real economic impact. Those losses can be used to offset gains elsewhere in a portfolio, improving after-tax outcomes in a way that doesn't always show up in headline returns. Over time, that discipline can materially enhance net performance for investors, particularly in taxable accounts. In other words, it's not just about what you make—it's about what you keep.

The combination of higher absolute yields, tax-exempt income, and thoughtful tax management is producing a return profile that is difficult to replicate in taxable markets without taking on significantly more risk. And in high-tax enclaves like New York and California, that advantage becomes even more pronounced.

Bottom line: volatility has reset the market, but it has also reset the opportunity set. For investors focused on after-tax outcomes, we believe Municipals continue to deliver where it matters most.

Questions from the Field

Q. Why do some issuers prefer to issue bonds in the taxable municipal market?

A. Municipal issuers tap the taxable muni market for a handful of structural, regulatory, and investor-demand reasons. It's not just about rates—it's often about flexibility and access to a broader buyer base.

Here are the main drivers:

1. PROJECTS THAT DON'T QUALIFY FOR TAX-EXEMPT STATUS

The IRS restricts tax-exempt financing for projects with significant private-use or private benefit. If a project crosses those thresholds, issuers have to go taxable.

Typical examples:

- Public-private partnerships (P3s)
- Stadiums, convention centers
- Certain housing or infrastructure with private operators

2. ADVANCE REFUNDINGS (HISTORICALLY A BIG DRIVER)

Since the 2017 Tax Cuts and Jobs Act, tax-exempt advance refundings were eliminated. If an issuer wants to refinance debt before the call date, they must do it with taxable bonds. This has been one of the largest sources of taxable muni issuance in recent years.

3. ACCESS TO A BROADER INVESTOR BASE

Taxable munis appeal to:

- Pension funds
- Foreign investors
- Insurance companies
- Corporate bond buyers

These investors don't benefit from tax exemption, so taxable munis allow issuers to:

- Diversify demand
- Potentially achieve better execution on large deals

4. RELATIVE VALUE VS. TAX-EXEMPT MARKET

Sometimes taxable financing is simply cheaper on an all-in basis, especially when:

- The tax-exempt market is technically weak
- Treasury yields are low relative to muni yields
- Credit spreads are favorable in the taxable space

Issuers will opportunistically choose whichever market offers the lowest borrowing cost after adjusting for taxes and structure.

Questions from the Field (continued)

5. GREATER STRUCTURING FLEXIBILITY

Taxable bonds come with fewer constraints:

- No IRS limits on use of proceeds
- More flexibility on maturities, call features, and structures
- Easier to combine multiple project types

This matters for complex capital programs.

6. LARGE-SCALE FINANCING NEEDS

For very large deals, the taxable market can:

- Absorb size more easily
- Provide deeper liquidity

This was especially evident during the Build America Bonds (BABs) era and still shows up today for mega-issuers.

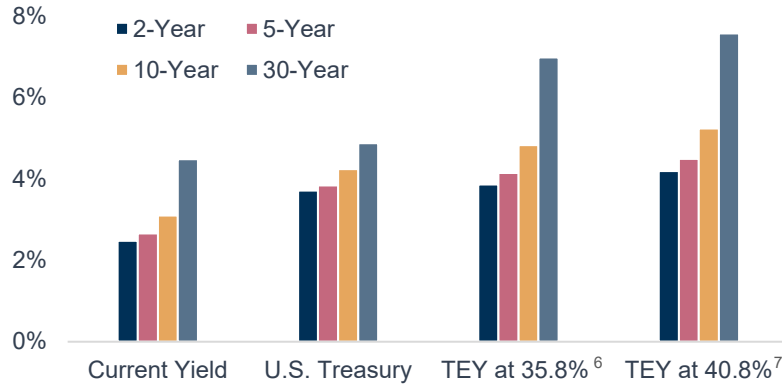
7. MATCHING LIABILITIES OR INVESTOR PREFERENCES

Some issuers (or their investor base) prefer taxable structures to:

- Align with pension or global portfolios
- Avoid reliance on U.S. tax policy
- Appeal to ESG-focused or international buyers

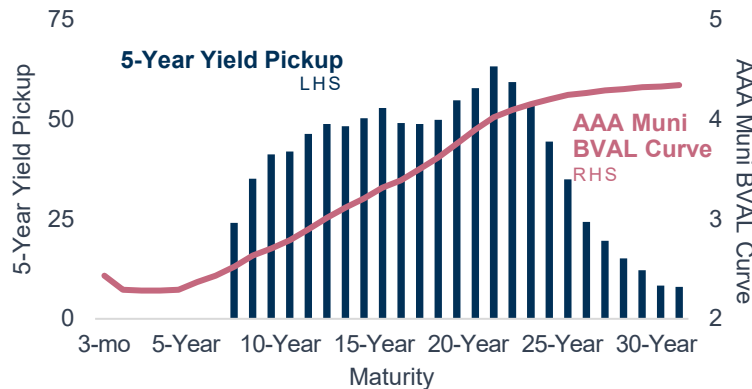
Issuers don't default to taxable—but they choose it when tax-exempt constraints, refinancing rules, or market conditions make it more efficient or necessary. In many cases, it's less about preference and more about regulatory limits + opportunistic pricing + investor reach.

FIGURE 4: TAX-ADJUSTED YIELDS OF MUNICIPAL BOND INDEX VS US TREASURY INDEX⁵



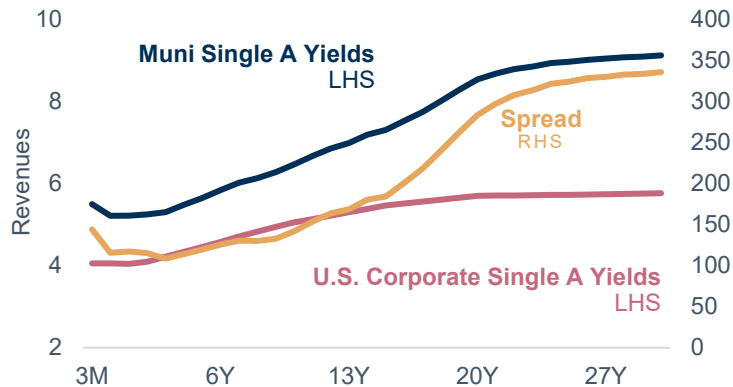
On a tax-adjusted basis munis handily lead across tenors

FIGURE 5: YIELD CURVE STEEPNESS⁸



Our relative value lens focus on the area of the curve where steepness benefits returns

FIGURE 6: MUNI EXCEEDS CORPORATE SPREADS⁹



Tax equivalent munis continue to exceed corporate spread/yields

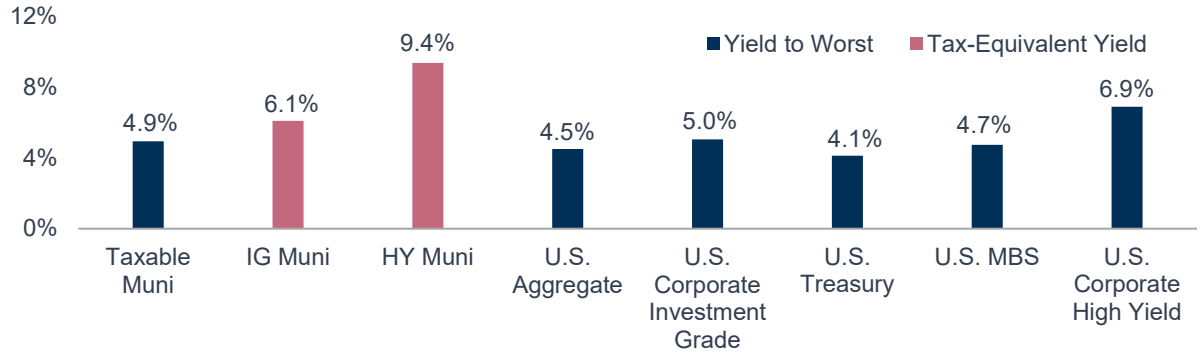
5. Source: Bloomberg. Data as of April 17, 2026.

6. Tax Equivalent Yield is using 32% federal tax rate, including 3.8% Net Investment Income Tax.

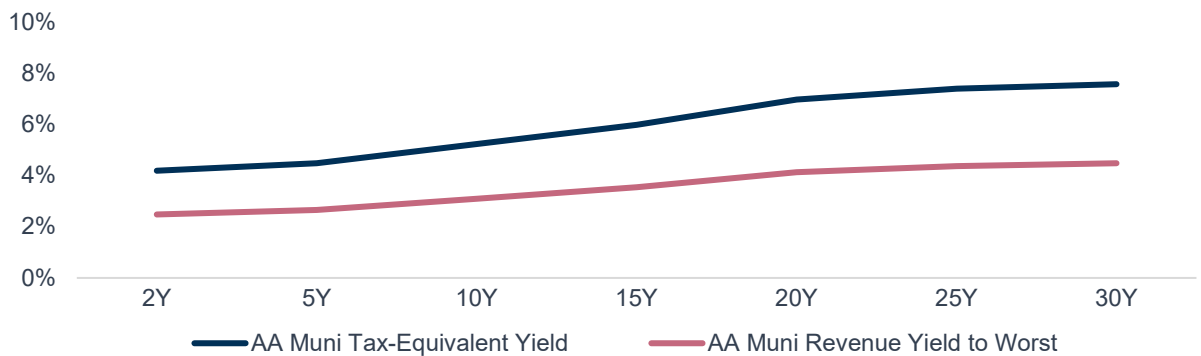
7. Tax Equivalent Yield is using 37% federal tax rate, including 3.8% Net Investment Income Tax.

8. Source: Bloomberg. Data as of April 17, 2026. Muni Single A Yields: Bloomberg Municipal Bond Index; U.S. Corporate Single A Yields: Bloomberg Corporate Bond Index

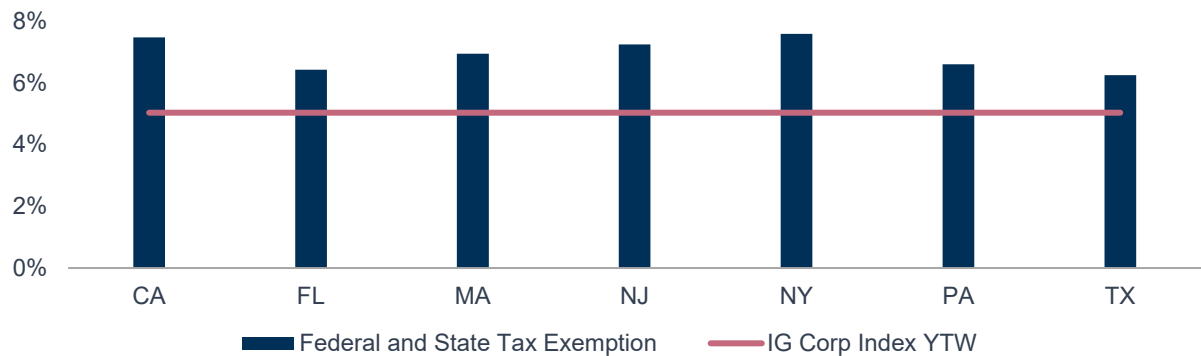
INDEX YIELDS⁹



AA MUNI TAX-EQUIVALENT YIELD CURVE¹⁰



IN-STATE MUNI TAX-EQUIVALENT YTW¹⁰

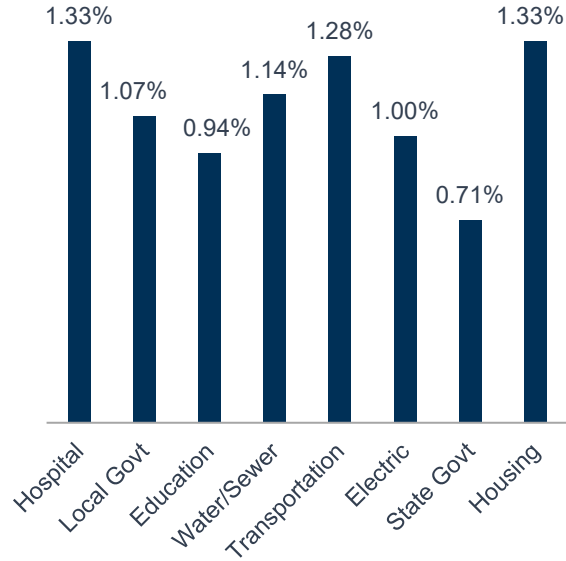


9. Data as of April 17, 2026. Tax Equivalent Yield is using 40.8% federal tax rate, including 3.8% Net Investment Income Tax. Source: Bloomberg.

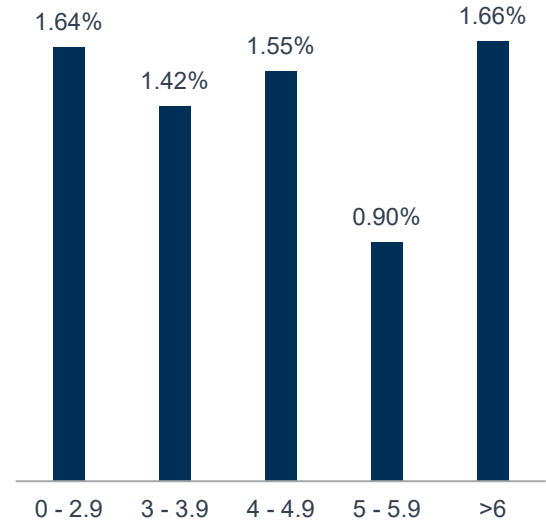
10. Data as of April 17, 2026. Using 40.8% federal tax rate, including 3.8% Net Investment Income Tax. Source: Bloomberg

MacKay Shields and its affiliates do not provide tax, legal or accounting advice. This material has been prepared for informational purposes only, and is not intended to provide, and should not be relied on for, tax, legal or accounting advice. You should consult your own tax, legal and accounting advisors before engaging in any transaction. Past performance is no guarantee of future results, which will vary. It is not possible to invest directly in an index.

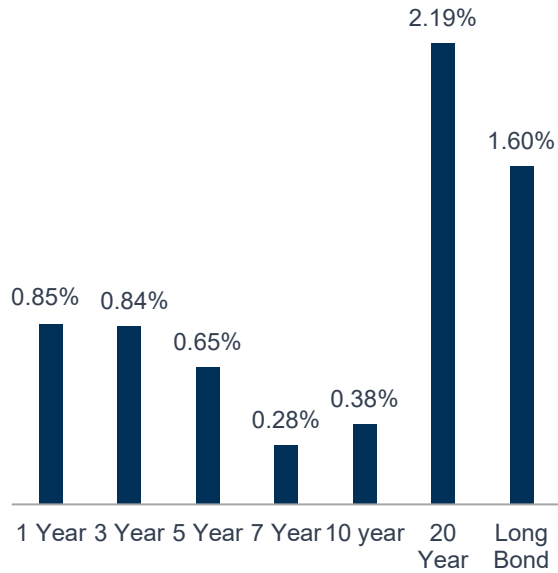
YTD TOTAL RETURNS BY SECTOR¹¹



YTD TOTAL RETURNS BY COUPON¹¹



YTD TOTAL RETURNS BY MATURITY¹¹



YTD TOTAL RETURNS BY RATING CATEGORY¹¹



10. Data as of April 17, 2026. Source: Bloomberg.

Past performance is no guarantee of future results, which will vary. It is not possible to invest directly in an index.

BLOOMBERG MUNICIPAL YIELD-TO-WORST¹² (YTW)



MUNI YIELDS

Tenor	4/16/2026	4/9/2026	Change (+/-)
Bloomberg AAA Muni Key Rate Yields¹³			
2-year	2.28%	2.29%	-0.01%
5-year	2.43%	2.45%	-0.01%
10-year	2.90%	2.91%	-0.02%
30-year	4.34%	4.35%	0.00%
U.S. Treasury Key Rate Yields¹³			
2-year	3.78%	3.78%	0.00%
5-year	3.91%	3.91%	0.00%
10-year	4.32%	4.29%	+0.03%
30-year	4.93%	4.90%	+0.03%
U.S. Treasury & AAA Muni Curve Slopes¹⁴			
	2s10s	10s30s	2s30s
U.S. Treasury Curve Slope	+54 bps	+61 bps	+115 bps
AAA Muni Curve Slope	+61 bps	+145 bps	+206 bps

Data as of April 16, 2026.

12. Source: Bloomberg. "Post GIFC Average" measures the period from 01/01/2010–04/16/2026.

13. Source: Bloomberg.

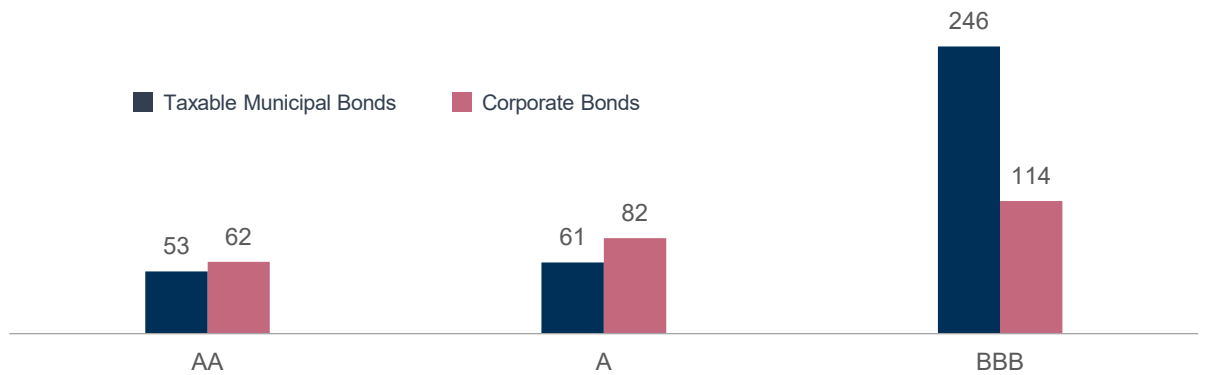
14. Source: Bloomberg. 2s10s–is spread between 10yr and 2yr yield; 10s30s–refers to spread between 30yr and 10yr yield; 2s30s–refers to spread between 30yr and 2yr yield.

Past performance is no guarantee of future results, which will vary. It is not possible to invest directly in an index.

BLOOMBERG MUNICIPAL HIGH YIELD | AAA YIELD DIFFERENTIAL¹⁵



TAXABLE MUNICIPAL AND CORPORATE CREDIT SPREADS¹⁶



15. Data as of April 16, 2026. Source: Bloomberg.

16. Data as of April 16, 2026. Source: Bloomberg. The spread, better known as the option-adjusted spread (OAS) is the measurement of the yield of a fixed income security over that of a risk-free rate of return, which is adjusted to take into account an embedded option.

Past performance is no guarantee of future results, which will vary. It is not possible to invest directly in an index.

DISCLOSURES

Availability of this document and products and services provided by MacKay Shields LLC may be limited by applicable laws and regulations in certain jurisdictions and this document is provided only for persons to whom this document and the products and services of MacKay Shields LLC may otherwise lawfully be issued or made available. None of the products and services provided by MacKay Shields LLC are offered to any person in any jurisdiction where such offering would be contrary to local law or regulation. It does not constitute investment advice and should not be construed as an offer to buy securities. The contents of this document have not been reviewed by any regulatory authority in any jurisdiction. This material contains the opinions of the MacKay Municipal Managers™ team of MacKay Shields LLC but not necessarily those of MacKay Shields LLC. The opinions expressed herein are subject to change without notice. This material is distributed for informational purposes only. Forecasts, estimates, and opinions contained herein should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed. Any forward-looking statements speak only as of the date they are made and MacKay Shields assumes no duty and does not undertake to update forward-looking statements. No part of this document may be reproduced in any form, or referred to in any other publication, without express written permission of MacKay Shields LLC.

©2026, MacKay Shields LLC. All Rights Reserved.

MacKay Shields LLC does not offer or sponsor any funds registered under the Investment Company Act of 1940, as amended (“Registered Funds”). MacKay Shields LLC serves in the capacity as investment manager of certain Registered Funds through sub-advisory arrangements.

MacKay Municipal Managers is a trademark of MacKay Shields LLC.

MacKay Shields LLC is a wholly owned subsidiary of New York Life Investment Management Holdings LLC, which is wholly owned by New York Life Insurance Company. “NEW YORK LIFE INVESTMENT MANAGEMENT” is both a service mark, and the common trade name of certain investment advisers affiliated with New York Life Insurance Company. Investments are not guaranteed by New York Life Insurance Company or NEW YORK LIFE INVESTMENT MANAGEMENT. Securities distributed by NYLIFE Distributors LLC, 30 Hudson Street, Jersey City, NJ 07302, Member FINRA/SIPC.

It is not possible to invest directly into an index. Past performance is not indicative of future results.

NOTE TO UK AND EUROPEAN UNION INVESTORS

This document is intended only for the use of professional investors as defined in the Alternative Investment Fund Manager’s Directive and/or the UK Financial Conduct Authority’s Conduct of Business Sourcebook. To the extent this document has been issued in the United Kingdom, it has been issued by NYL Investments UK LLP, 200 Aldersgate Street, London UK EC1A 4HD, which is authorised and regulated by the UK Financial Conduct Authority. To the extent this document has been issued in the EEA, it has been issued by NYL Investments Europe Limited, 77 Sir John Rogerson’s Quay, Block C Dublin D02 VK60 Ireland. NYL Investments Europe Limited is authorized and regulated by the Central Bank of Ireland (i) to act as an alternative investment fund manager of alternative investment funds under the Alternative Investment Fund Managers Directive (Directive 2011/61/EU) and (ii) to provide the services of individual portfolio management, investment advice and the receipt and transmission of orders as defined in Regulation

7(4) of the AIFMD Regulations to persons who meet the definition of “professional client” as set out in the MiFID Regulations. It has passported its license in additional countries in the EEA.

This document only describes capabilities of certain affiliates of New York Life Investment Management and/or MacKay Shields LLC. No such affiliates will accept subscriptions in any funds not admitted to marketing in your country or provide services to potential customers in your country, including discretionary asset management services, except where it is licensed to do so or can rely on an applicable exemption.

MacKay Shields LLC is a wholly owned subsidiary of New York Life Investment Management Holdings LLC, which is wholly owned by New York Life Insurance Company. “New York Life Investment Management” is the brand name and service mark used to represent a group of affiliated investment advisors of New York Life Insurance Company, including New York Life Investment Management LLC, a registered investment advisor.

NOTE TO CANADIAN RECIPIENTS

The information in these materials is not an offer to sell securities or a solicitation of an offer to buy securities in any jurisdiction of Canada. In Canada, any offer or sale of securities or the provision of any advisory or investment fund manager services will be made only in accordance with applicable Canadian securities laws. More specifically, any offer or sale of securities will be made in accordance with applicable exemptions to dealer and investment fund manager registration requirements, as well as under an exemption from the requirement to file a prospectus, and any advice given on securities will be made in reliance on applicable exemptions to adviser registration requirements.

NOTE TO JAPANESE RECIPIENTS

In Japan, this is issued by New York Life Investment Management Asia Limited (Financial Instruments Business Operator, Kanto Local Finance Bureau (FIBO) No. 2964, Member of the Investment Management Association of Japan and the Type 2 Financial Instruments Firms Association) for institutional investors only. As costs and/or fees to be borne by investors vary depending on circumstances such as products, services, investment period and market conditions, the total amount nor the calculation methods cannot be disclosed in advance. All investments involve risks, including market fluctuation and investors may lose the principal amount invested. Investors should obtain and read the prospectus and/or information set forth in Article 37-3 of the Financial Instruments and Exchange Act carefully before making investment decisions.

COMPARISONS TO AN INDEX

Comparisons to a financial index are provided for illustrative purposes only. Comparisons to an index are subject to limitations because portfolio holdings, volatility and other portfolio characteristics may differ materially from the index. Unlike an index, portfolios within the composite are actively managed and may also include derivatives. There is no guarantee that any of the securities in an index are contained in any managed portfolio. The performance of an index may assume reinvestment of dividends and income, or follow other index-specific methodologies and criteria, but does not reflect the impact of fees, applicable taxes or trading costs which, unlike an index, may reduce the returns of a managed portfolio. Investors cannot invest in an index. Because of these differences, the performance of an index should not be relied upon as an accurate measure of comparison.

SOURCE INFORMATION (Continued)

“Bloomberg®”, “Bloomberg Indices®”, Bloomberg Fixed Income Indices, Bloomberg Equity Indices and all other Bloomberg indices referenced herein are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited (“BISL”), the administrator of the indices (collectively, “Bloomberg”) and have been licensed for use for certain purposes by MacKay Shields LLC (“MacKay Shields”). Bloomberg is not affiliated with MacKay Shields, and Bloomberg does not approve, endorse, review, or recommend MacKay Shields or any products, funds or services described herein. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to MacKay Shields or any products, funds or services described herein.

All ICE Data indices referenced herein (each such index, the “Index”), are products of ICE data indices, LLC (“ICE Data”), and are used with permission. ICE® is a registered trademark of ICE Data or its affiliates, and BofA® is a registered trademark of Bank of America Corporation licensed by Bank of America Corporation and its affiliates (“BofA”) and may not be used without BofA’s prior written approval. ICE Data, its affiliates and their respective third-party suppliers disclaim any and all warranties and representations, express and/or implied, including any warranties of merchantability or fitness for a particular purpose or use, including the indices, index data and any data included in, related to, or derived therefrom. Neither ICE Data, its affiliates nor their respective third-party suppliers shall be subject to any damages or liability with respect to the adequacy, accuracy, timeliness or completeness of the indices or the index data or any component thereof, and the indices and index data and all components thereof are provided on an “as is” basis and your use is at your own risk. Inclusion of a security within an index is not a recommendation by ICE Data to buy, sell, or hold such security, nor is it considered to be investment advice. ICE Data, its affiliates and their respective third-party suppliers do not sponsor, endorse, or recommend MacKay Shields LLC, or any of its products or services.

DEFINITION OF TERMS

Option-Adjusted Spread

The option-adjusted spread (OAS) measures the spread between a bond’s rate and the risk-free rate, while adjusting for any embedded options like callables or mortgage-backed securities.

Standard Deviation

Standard deviation is a statistical measurement that looks at how far discrete points in a dataset are dispersed from the mean of that set. It is calculated as the square root of the variance.

Tax Equivalent Yield

The tax-equivalent yield is the return a taxable bond needs to equal the yield on a comparable tax-exempt municipal bond. Investors use this calculation to compare the returns between a tax-free investment and a taxable alternative.

Tax Equivalent Yield to Worst

Tax Equivalent YTW is calculated by dividing the tax-exempt yield by one minus the marginal income tax. This is used to compare YTW on a tax-exempt investment to a taxable investment.

Volatility

Volatility is a measurement of how varied the returns of a given security or market index are over time. It is often measured from either the standard deviation or variance between those returns. In most cases, the higher the volatility, the riskier the security.

Yield to Worst

Yield to worst is a measure of the lowest possible yield that can be received on a bond that fully operates within the terms of its contract. It is a type of yield that is referenced when a bond has provisions that would allow the issuer to close it out before it matures. YTW helps

investors manage risks and ensure that specific income requirements will still be met even in the worst scenarios.

Dividend Yield

Dividend yield is a financial ratio that measures the annual dividend income a company pays to its shareholders, expressed as a percentage of its current share price. It represents the “dividend-only” return on investment for a stock.

INDEX DESCRIPTIONS

Bloomberg U.S. Taxable Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term taxable bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody’s, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate and must be at least one year from their maturity date. Remarketed issues (unless converted to fixed rate), bonds with floating rates, and derivatives, are excluded from the benchmark.

Bloomberg Municipal AMT index refers to a specific Bloomberg municipal bond index that includes bonds subject to the Alternative Minimum Tax (AMT). Unlike most municipal bond indices, which exclude AMT-subject securities, these indices contain bonds that typically offer higher yields to individuals who are subject to the AMT.

Muni IG ex. AMT and ex Territories Index is the Bloomberg Municipal Bond Index excluding AMT and U.S. Territory exposure.

Bloomberg Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following agencies: Moody’s, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate, have a date-date after December 31, 1990, and must be at least one year from their maturity date. Remarketed issues, taxable municipal bonds, bonds with floating rates, and derivatives, are excluded from the benchmark. The index has four main sectors: general obligation bonds, revenue bonds, insured bonds (including all insured bonds with a Aaa/AAA rating), and pre-refunded bonds. Most of the index has historical data to January 1980. In addition, sub-indices have been created based on maturity, state, sector, quality, and revenue source, with inception dates later than January 1980.

Bloomberg 5-Year Muni Index is a capitalization weighted bond index created by Bloomberg intended to be representative of major municipal bonds of all quality ratings with an average maturity of approximately five years.

Bloomberg Municipal 1-10 Year Blend 1-12 Year Index measures the performance of short and intermediate components of the Municipal Bond Index — an unmanaged, market value-weighted index which covers the U.S. investment grade, tax-exempt bond market.

Bloomberg Municipal Long Bond 22+ Index (often referred to as the Bloomberg Long-Term Municipal Bond Index) tracks the performance of long-term, tax-exempt U.S. municipal bonds with maturities of 22 years or longer. This index serves as a benchmark for high-quality municipal debt and covers various sectors, including general obligation, revenue, insured, and pre-refunded bonds.

INDEX DESCRIPTIONS (continued)

Bloomberg High Yield Municipal Bond Index is a flagship measure of the U.S. municipal tax-exempt non-investment grade bond market. Included in the index are securities from all 50 U.S. States and four other qualifying regions (Washington DC, Puerto Rico, Guam, and the Virgin Islands). The index includes state and local general obligation bonds and revenue bonds. All bonds in the Municipal High Yield Bond Index are tax exempt and hence are not eligible for other indices that include taxable high yield bonds, such as the U.S. High Yield Index and EM USD Aggregate Index.

Bloomberg U.S. Aggregate Bond Index measures the performance of investment grade, U.S. dollar-denominated, fixed rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS. It rolls up into other flagship indices, such as the multi-currency Global Aggregate Index and the U.S. Universal Index, which includes high yield and emerging markets debt.

Bloomberg U.S. Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD-denominated securities publicly issued by U.S. and non-US industrial, utility, and financial issuers. The index is a component of the U.S. Credit and U.S. Aggregate Indices, and provided the necessary inclusion rules are met, U.S. Corporate Index securities also contribute to the multi-currency Global Aggregate Index. The index includes securities with remaining maturity of at least one year.

Bloomberg U.S. Treasury Index measures the performance of public obligations of the U.S. Treasury, including securities that roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices

Bloomberg Securitized Bond Index The Bloomberg U.S. Securitized: MBS, ABS, and CMBS Index tracks all USD-denominated, investment grade, securitized issues within the "Parent Index". MBS must have a weighted average maturity of at least one year. CMBS and ABS must have a remaining average life of at least one year.

Bloomberg U.S. Municipal Bond Index Total Return Index Value Unhedged Index covers the USD-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and pre-refunded bonds

Bloomberg U.S. Aggregate Total Return Value Unhedged Index (LBUSTRUU:IND) is a benchmark that measures the performance of the U.S. investment-grade, fixed-rate, taxable bond market, excluding any currency hedging. It tracks a broad universe of U.S. dollar-denominated securities, including U.S. Treasuries, government-related debt, corporate bonds, mortgage-backed securities (MBS), and asset-backed securities (ABS).

Bloomberg U.S. Treasury Total Return Unhedged Index measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury.

Bloomberg U.S. Mortgage-Backed Securities Index is formed by grouping the universe of individual TBA-deliverable MBS pools into pool cohorts and then applying the index inclusion rules at the cohort level. Each cohort is a representation of its mapped individual pools and contributes their total amount outstanding to the U.S. MBS Index.

Bloomberg U.S. Corporate High Yield Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below.

Bloomberg Global Aggregate Bond Index is a flagship measure of global investment grade debt from twenty-seven local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

