Morgan Stanley
INVESTMENT MANAGEMENT

Municipal Bond Market Monitor

Municipal Bond Group

Q4 2024

Q4 2024 Municipal Market Review

FISCAL POLICY UNCERTAINTY AND SHIFTING INFLATION EXPECTATIONS RESULT IN FIXED INCOME WEAKNESS

- Muni bond Index: -1.22% | HY Muni Index: -1.08% | Taxable Muni Index: -3.57%
- US Treasury: -3.14% | Corporate: -3.04%

YIELDS RISE IN Q4 & END THE YEAR HIGHER ACROSS THE CURVE

Q4 '24 AAA Muni

- 2-Year: 2.30% → 2.82% +52 bps
- 5-Year 2.31% → 2.87% +56 bps
- 10-Year 2.60% → 3.06% +46 bps
- 30-Year 3.52% → 3.90% +38 bps

YTD '24 AAA Muni

- 2-Year: 2.52% → 2.82% +30 bps
- 5-Year 2.28% → 2.87% +59 bps
- 10-Year 2.28% → 3.06% +78 bps
- 30-Year 3.42% → 3.90% +48 bps

MUNICIPAL FUND FLOWS REMAIN POSITIVE FOR THE QUARTER & THE YEAR

- Municipal fund net inflows of $42 billion in 2024
- Long Duration (+$38.6bn) and High Yield (+$15.8bn) flows were particularly strong, while Short Term flows (-$4.6Bn) were consistently negative

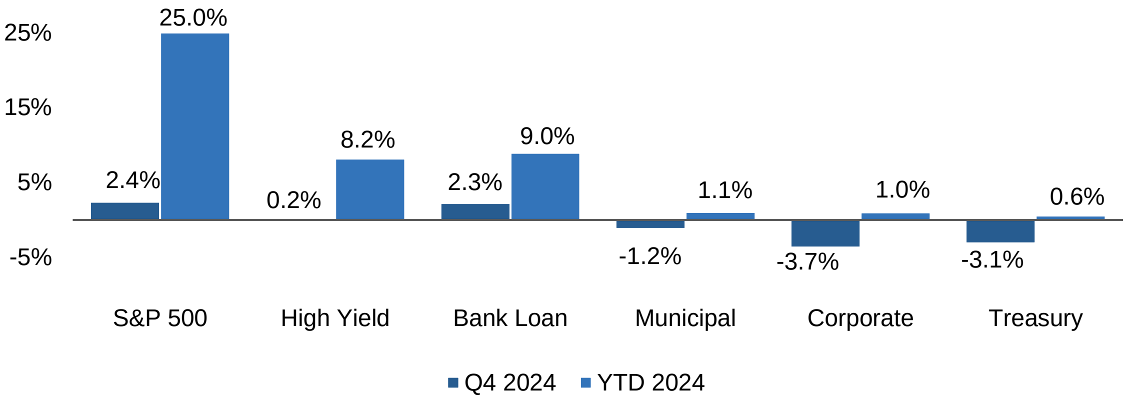
Past performance is no guarantee of future results. It is not possible to invest directly in an index. See end of report for important additional information. This commentary may contain statements that are not historical fats, referred to as "forward looking statements". Actual future results may differ significantly from those stated in any forward-looking statement, depending on factors such as changes in securities or financial markets or general economic conditions.
Source: Index Performance: Bloomberg, AAA YTD changes as of 12/31/2024. Fund Flows: J.P Morgan, Ratios: Bloomberg

Overview

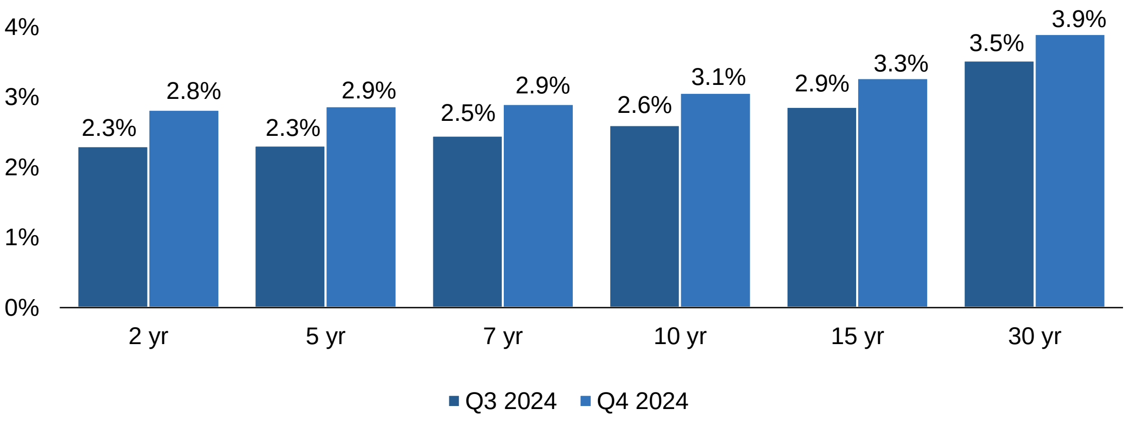
- After cutting Fed Funds 50bps in September, the Fed lowered the policy rate 25bps in both November and December to end the year at 4.25% - 4.50%.
- December's result was characterized as a "hawkish cut" with comments from Chair Powell outlining a more cautious approach to future easing.
- The Fed's December dot plot calls for 50bps of cuts in 2024 compared to a projected 100bps of cuts following the September meeting.

- Despite the rate cuts, Treasury yields rose during the quarter with 2-year, 10-year and 30-year yields 59 bps, 78 bps and 65 bps higher, respectively.
- Municipals yields also rose with 2-year, 10-year and 30-year yields 52 bps, 46 bps and 38 bps higher, respectively.
- With the Q4 weakness, 10-year AAA municipal yields finished the year 78 bps higher, while the 10-year Treasury yield increased 68 bps.

Major Asset Class Returns



AAA Municipal Yields (%)

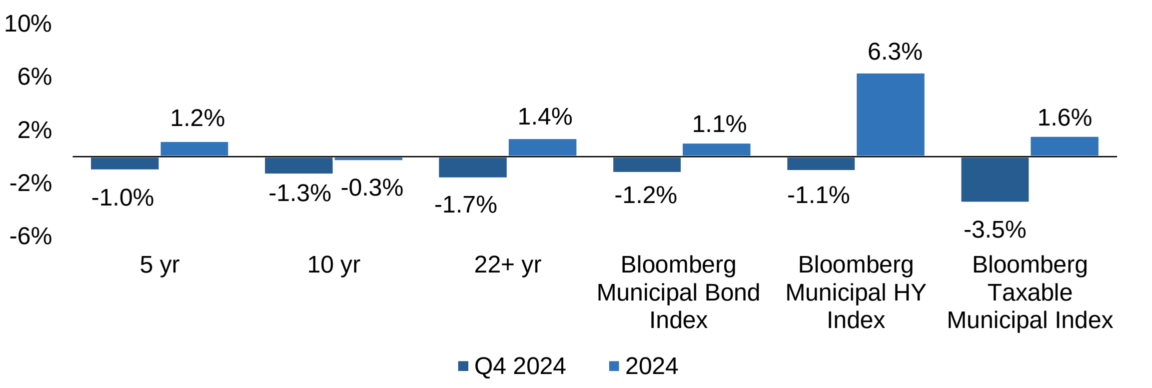


Source: Bloomberg and Morningstar Direct as of 12/31/24. **Past performance is no guarantee of future results.** It is not possible to invest directly in an index. See end of report for important additional information. *Basis points (BPS) is a unit that is equal to 1/100th of 1% and is used to denote the change in a financial instrument.

Index Returns

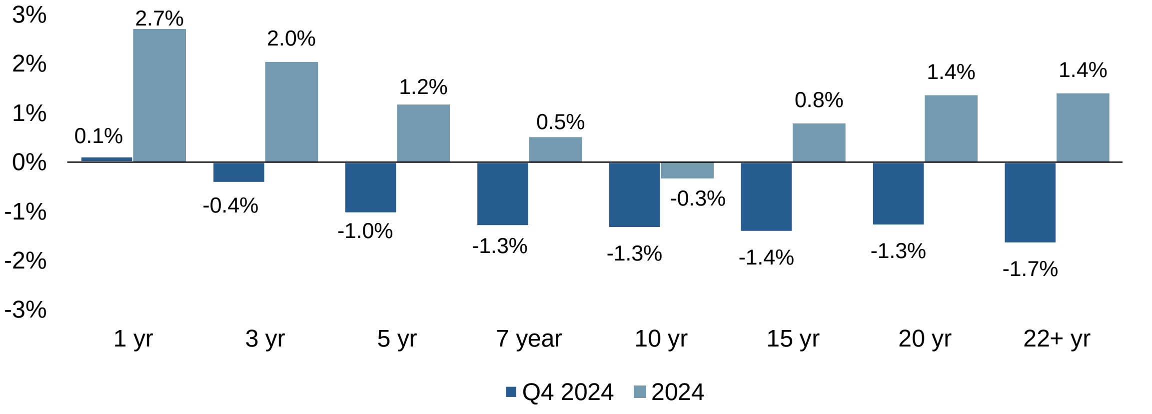
- Except for very short maturities, municipal performance was negative across the municipal curve and credit spectrum in the fourth quarter.
- Down 1.1%, high yield municipals slightly outperformed investment grade for the quarter. Year-to-date, high yield municipals outperformed by over 500bps.

Tax-Exempt and Taxable Index Returns



- Year-to-date, performance has been strongest at the very short end and the very long end of the municipal curve.
- We believe barbell curve positioning should continue to be beneficial heading into 2025.

Investment Grade Tax-Exempt Index Returns

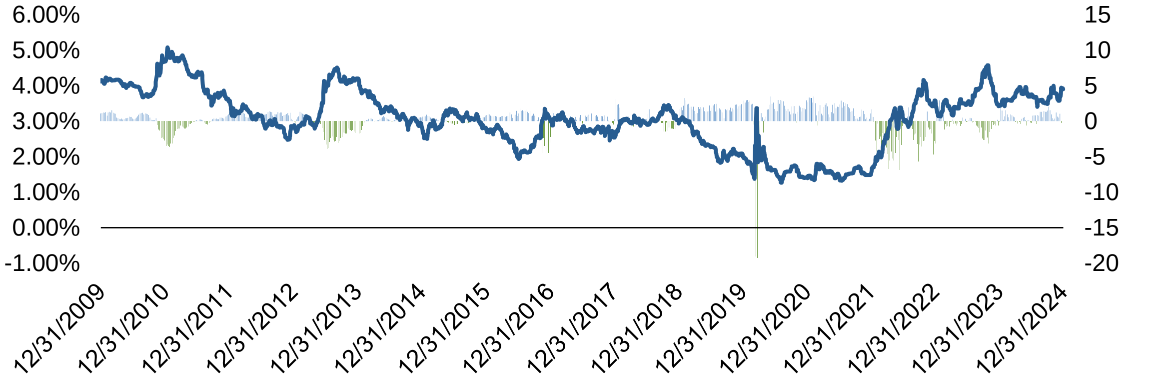


Source: Bloomberg, MMA and Morningstar Direct as of 12/31/24. **Past performance is no guarantee of future results.** Performance less than one year is cumulative. It is not possible to invest directly in an index. See end of report for important additional information.

Municipal Fund Flows

- Though yield volatility resulted in outflows in the final weeks of December, municipal fund flows were consistently positive throughout the year.
- For the year, municipal fund inflows were approximately ~$42bn. Of the total, ~$26bn entered open-end funds while ETFs received ~$16bn.

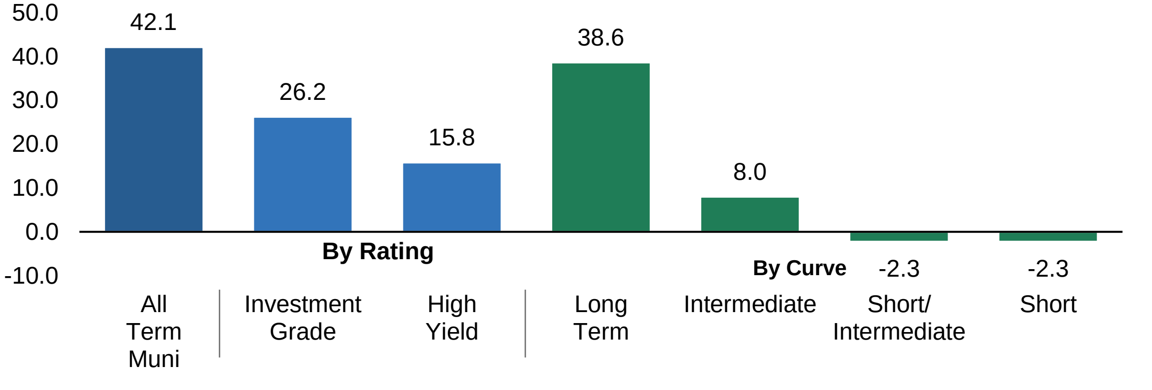
Muni Mutual Fund Flows



- By duration, long-term funds posted the highest inflows, while short/intermediate and short-term funds experienced outflows.
- By credit quality, both investment grade and high yield funds posted significant inflows.

Muni Fund Flows By Category

YTD Municipal Fund Flows ($Bn)



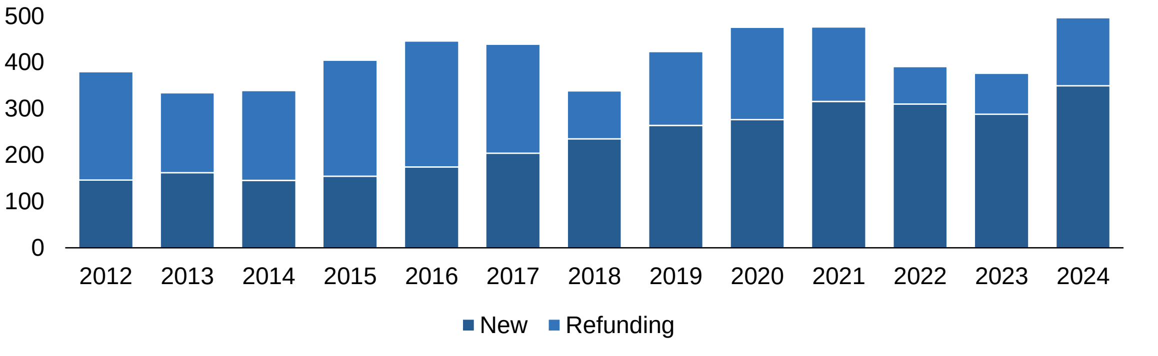
Source: Thomson Reuters Municipal Market Data. Date Range: December 2009– December 2024.
Flow data provided by J.P. Morgan as of 12/31/2024.

Municipal Issuance

- 2024 issuance reached a record $496bn, up 32% year-over-year. Approximately 70% of issuance was new money and 30% refunding deals.
- We anticipate issuance to remain elevated in 2024 as COVID era federal aid dries up and economic growth creates new infrastructure needs.

Municipal Bond Issuance: New vs. Refunding

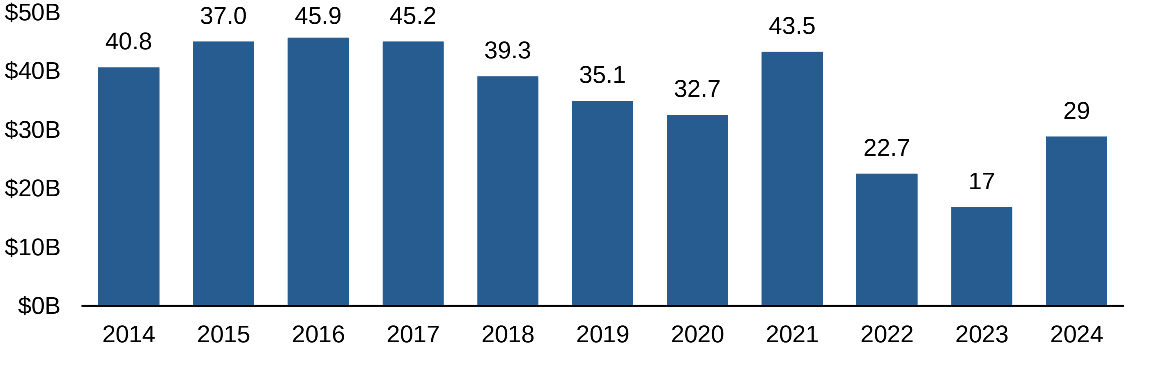
Issuance (Billions)



- At $29bn, high yield municipal issuance was down significantly relative to its historical average of ~$40bn per year.
- Elevated yields, moderate issuance and strong fund flows continue to provide a supportive backdrop for the high yield municipal market in 2025.

Municipal Bond Issuance: High Yield

HY Muni Gross Issuance

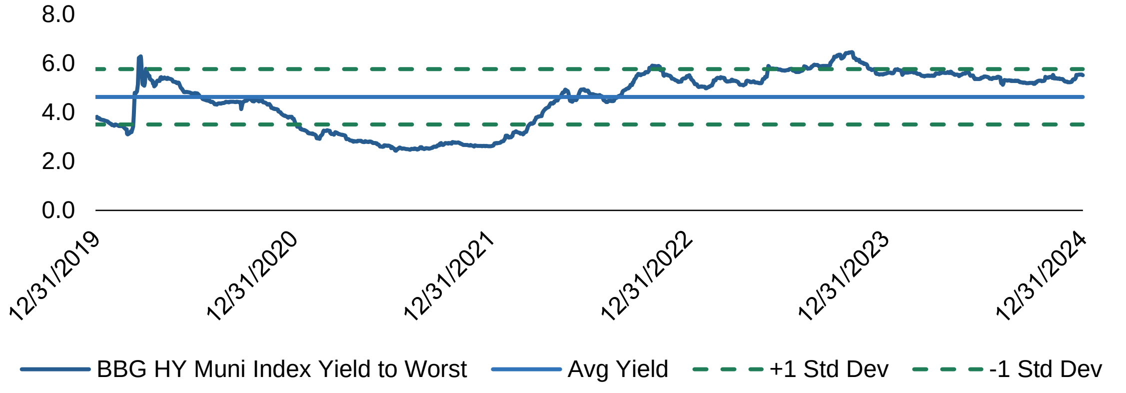


Source: Municipal Bond Issuance data from Bloomberg Barclays Research and J.P. Morgan as of 12/31/2024. Private placement issuance counted as new capital.

High Yield Municipals

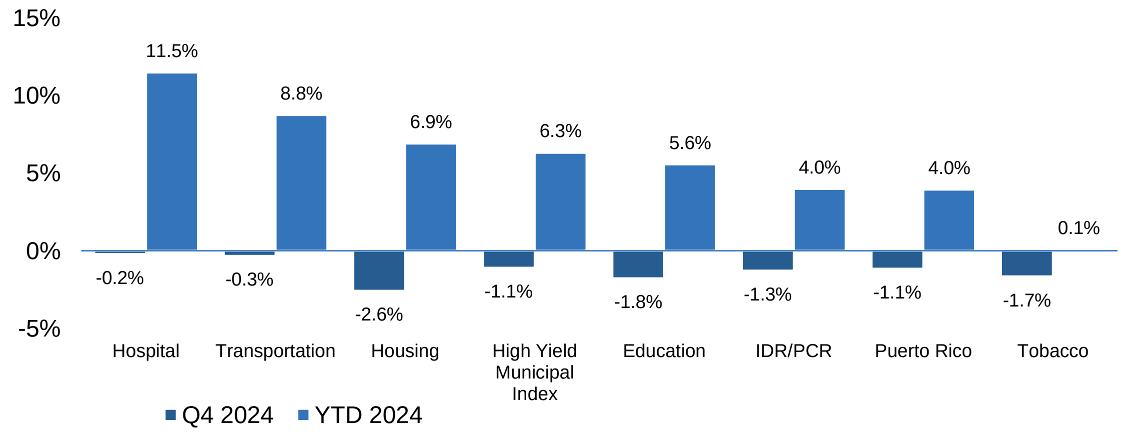
- The yield-to-worst on the High Yield Municipal Index increased 32bps during the quarter from 5.20% to 5.52%.
- At 5.52%, yields remain attractive and are one standard deviation wide to the Index's 5-year average of 4.63%.

High Yield Municipal Index YTW



- The Hospital, Housing, and Transportation have been top performing sectors in the High Yield Municipal Index on a year-to-date basis.
- Despite being one of the most liquid areas of the high yield market, the tobacco sector has underperformed materially due to declining MSA payments.

High Yield Municipal Sector Returns

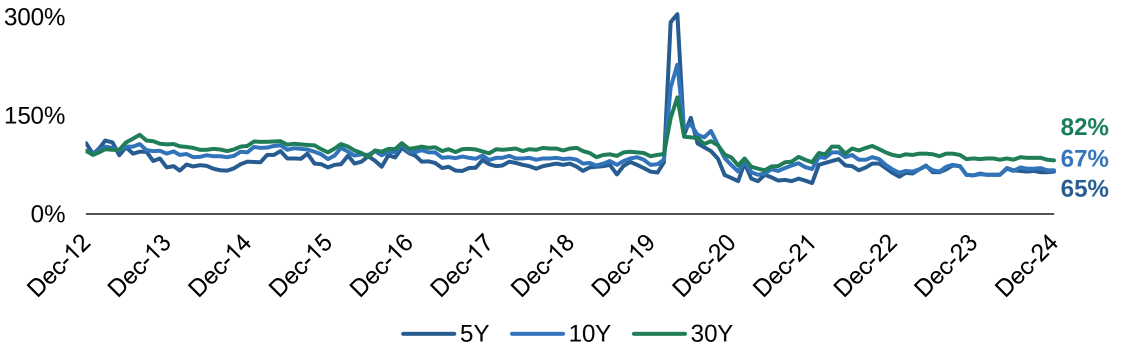


Source: Barclays and Bloomberg, as of 12/31/2024. The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment. **Past performance is no guarantee of future results.**

Muni-to-Treasury Yield Ratios

- Short term muni-to-treasury ratios cheapened slightly in Q4 while longer term ratios richened.
- Specifically, the 5-year muni/treasury ratio increased from 65% to 66%, while the 10-year decreased from 69% to 67% and the 30-year decreased from 85% to 82%.

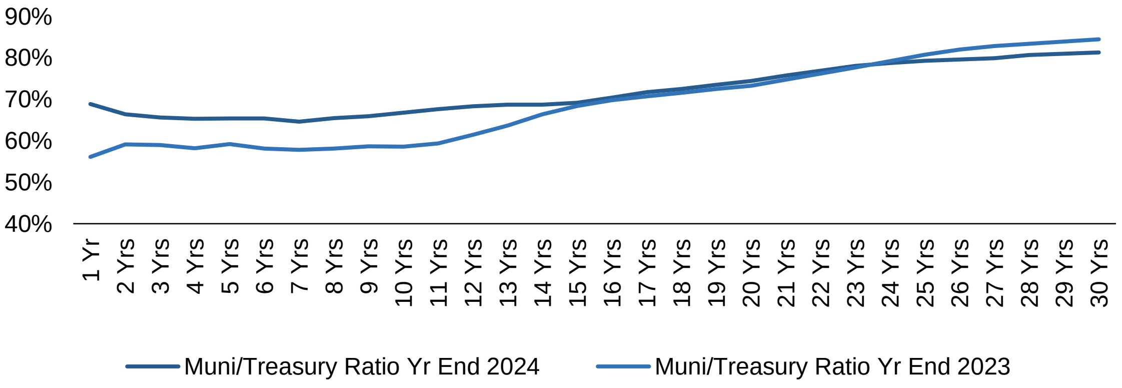
AAA Muni-to-Treasury Yield Ratios (%)



- For the year, Muni/Treasury ratios cheapened meaningfully with the 8yr, 9yr, and 10yr easing the most.
- Even with the YTD cheapening, investors may benefit from moving down in quality for attractive value and should consider active strategies focused on income and total return.

Muni/Treasury Ratios YTD

Muni/Treasury Ratio Comparison



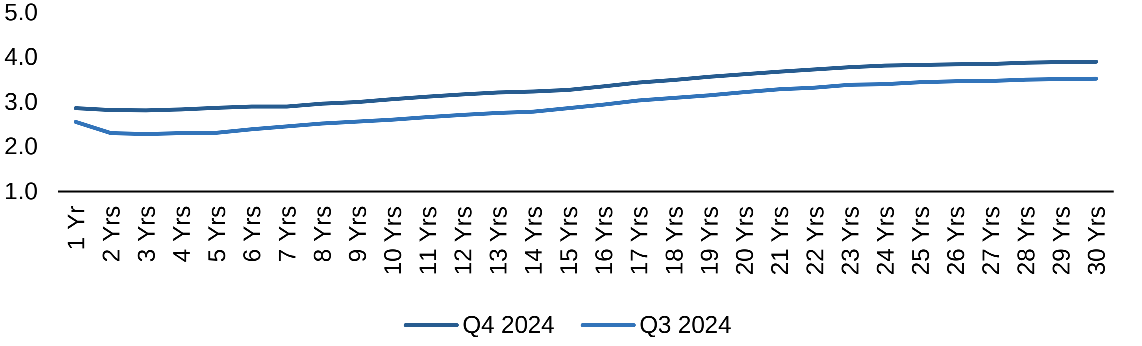
Source: Thomson Reuters as of 12/31/24, Bloomberg as of 12/31/24. **Past performance is no guarantee of future results.** See end of report for important additional information.

Municipal Yield Curve

- The municipal curve flattened in Q4 as 2-year yields increased 52bps, and 30yr yields increased 38bps.
- In contrast, the treasury curve steepened slightly as the 2-year yield increased 59 bps while the 30-year yield rose 65bps.

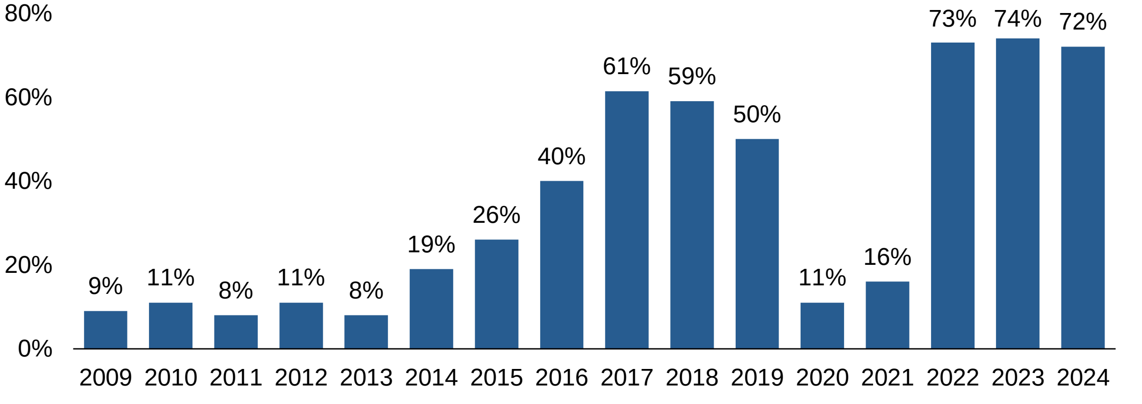
AAA Muni Yield Curve Comparison

Municipal AAA Yield Curve



- With the Q4 flattening, the 2-year municipal now captures 72% of the 30yr yield compared to 74% at the beginning of the year.
- Short-term municipal yields remain attractive particularly compared to taxable alternatives. We believe investors should continue to consider a barbelled approach by adding duration and locking in longer-term yields.

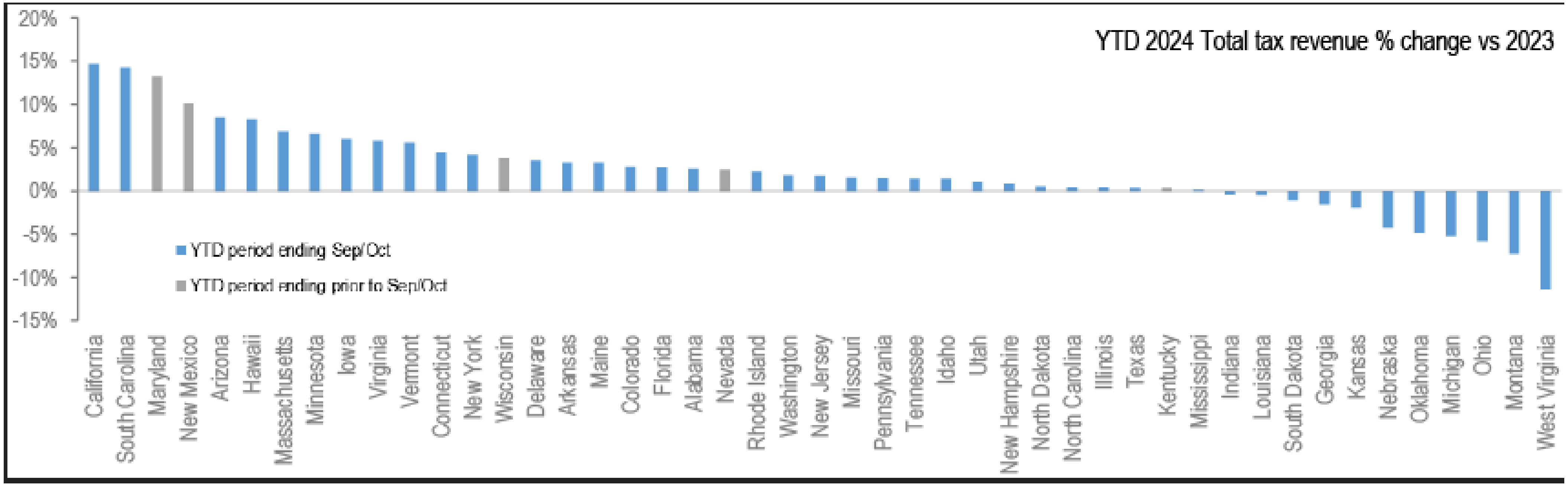
% of Municipal Curve Captured by 2-Yr Municipal Bond



Source: Thomson Reuters as of 12/31/24, Bloomberg as of 12/31/24. **Past performance is no guarantee of future results.** See end of report for important additional information.

Increasing Tax Revenue Collection

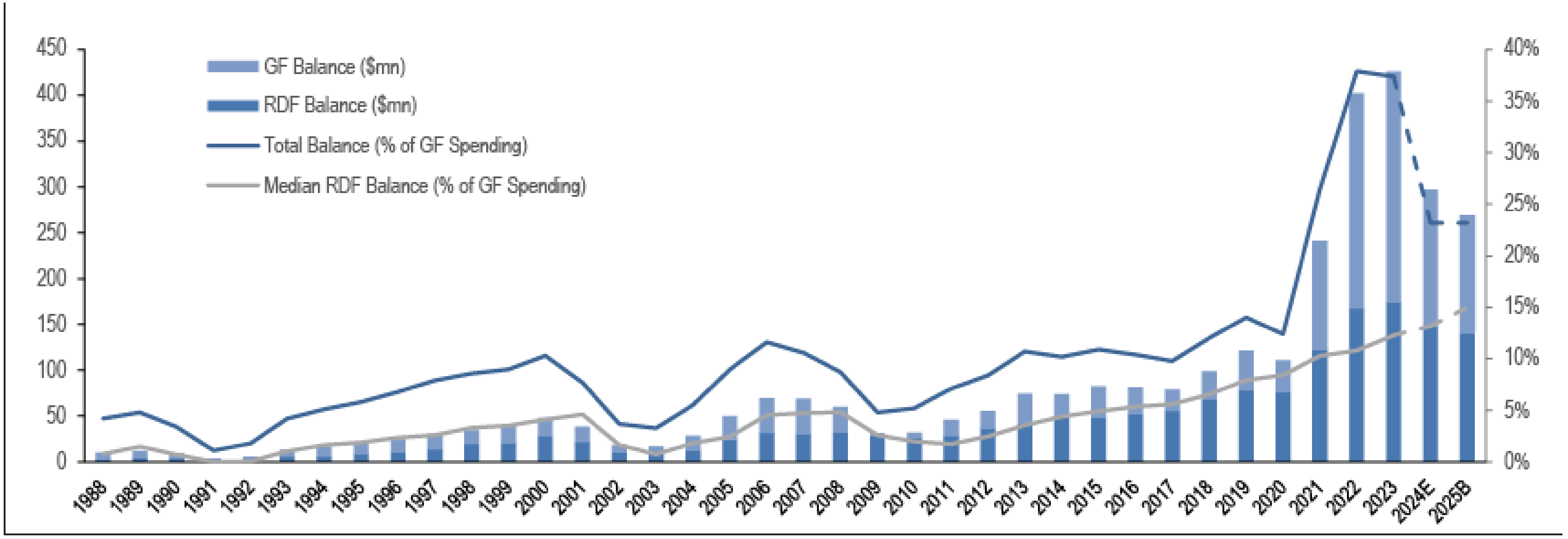
Majority of states reported positive year-to-date growth in tax revenues, indicating stable growth heading into 2025



Source: J.P. Morgan, Individual state monthly tax reports.

Rainy Day Funds Remain Near Historical Record Highs

States’ Rainy Day Funds indicate strong fiscal management



*

Source: National Association of Budget Officers. Note: Figures for fiscal year 2024 are estimates and fiscal 2024 are projections based on governors’ recommended budgets. GF and total balance figures for FY24 exclude WI, and figures for FY25 exclude MS, VA, and WI. “2024E” refers to the expected Rainy Day Fund Balance, while “2025B” refers to the forecast Rainy Day Fund Balance.

Municipal Credit Remains Solid

The pace of upgrades to downgrades ratio is moderating but remains strong at over 2:1

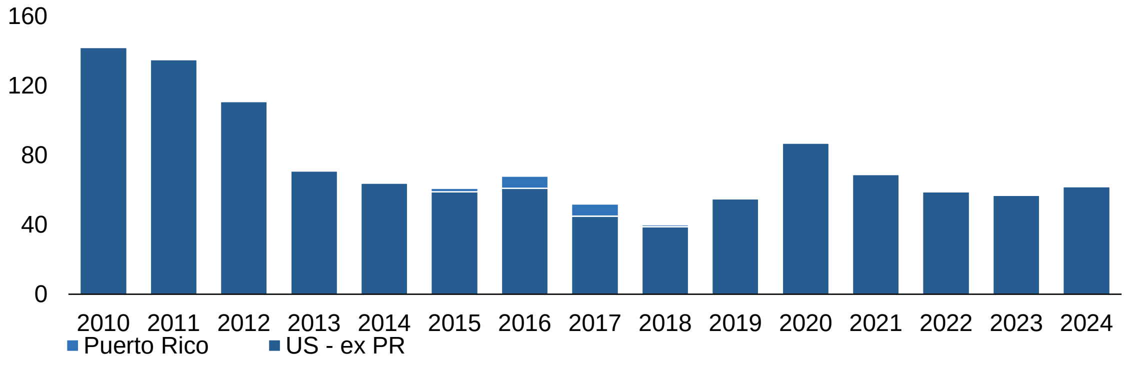
Historical Upgrade to Downgrade Ratio

Source: BofA Global Research, Moody's Ratings, S&P Global Ratings

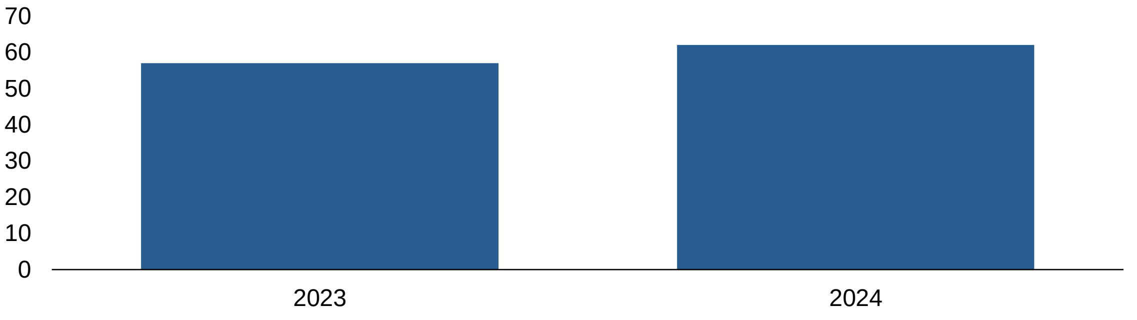
Municipal Default Overview

Number of Unique Annual Defaults

Number of Unique Defaults

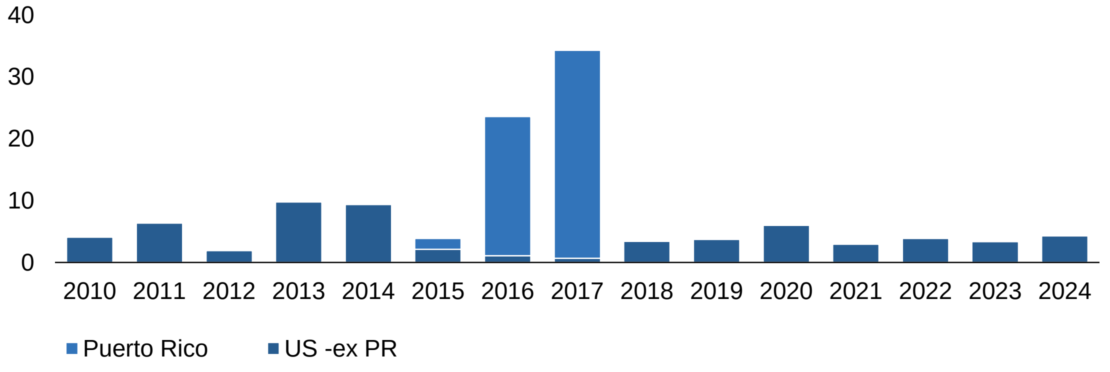


2024 Number of Unique Defaults was Up Slightly YoY

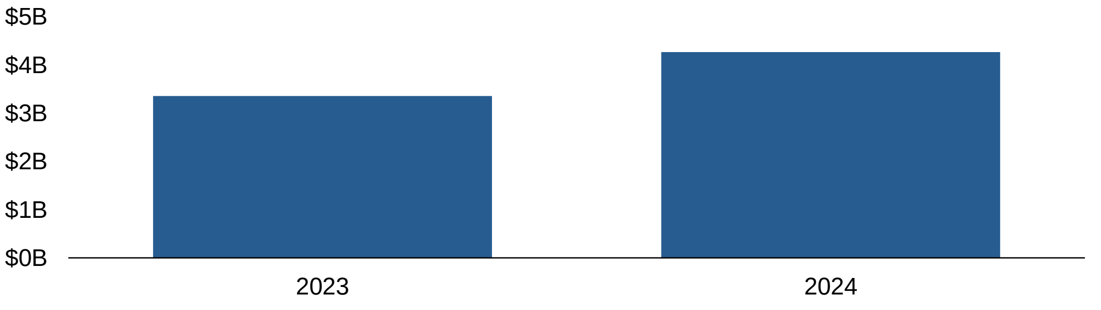


Dollar Value of Annual Defaults ($ Billions)

Dollar Value of Defaults ($ Billions)



2024 Dollar Value of Defaults ($ Billions) Increased by 27%

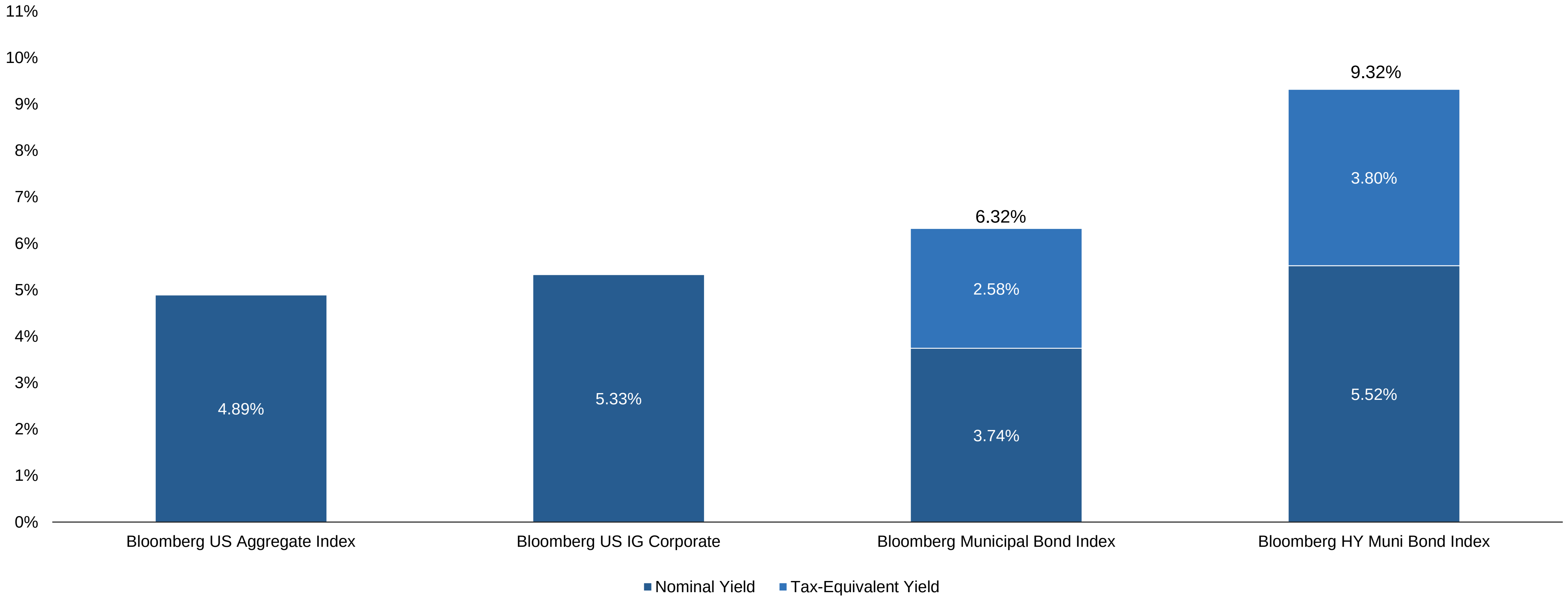


Source: MMA. Default data as of 12/31/2024

Taxable Equivalent Yields

Municipal Taxable-equivalent Yields Appear Very Attractive Relative to Other High-Quality Options

Taxable Equivalent Yields



Sources: Barclays Live as of 12/31/24, Tax Policy Center. This table is for illustrative purposes only and uses the highest current applicable federal tax rates plus 3.8% health care tax. **Past performance is no guarantee of future results.** It is not possible to invest directly in an index. See end of report for important additional information.

Municipal Market Outlook

- Though the Fed cut an additional 25 bps in its December FOMC meeting, Chairman Powell indicated a reduction in the forecasted number of rate cuts to be expected in 2025.
- After the volatility in Q4, municipal yields are higher, up anywhere from 30-50 bps from Q3, providing investors a buying opportunity to lock in near decade high starting yields.
- Given the expectation for additional, albeit less, rate cuts in 2025 and higher absolute yields resulting from Q4 volatility, we anticipate a continuation of net positive flows to the asset class next year.
- Barbell curve positioning has outperformed this year and should continue to be beneficial going into 2025.
- With the election behind us but most individual tax cuts set to expire at the end of 2025, we remain focused on proposed legislation related to changes to marginal tax rates, the standard deduction, the cap on State and Local Tax deductions (SALT) and the phaseout of the Alternative Minimum Tax (AMT) exemption.
- Bottom line: With a more hawkish Fed and several potential risks stemming from fiscal policy, we are advocating for neutral duration exposure with an active management tilt to take advantage of any near-term volatility in rates.

Appendix: Additional Slides

Overview of Legislation and Municipal-Related Spending in Relief Bills

The Below Table Provides a High-level Summary of the Fiscal Support for Municipals Through the Four Most Recent Pieces of Legislation Passed by Congress. In Aggregate, over $1.7 Trillion of Capital has Been Allocated to Various Parts of the Municipal Bond Market.

	2021 Infrastructure Bill	American Rescue Plan	Dec. Federal Stimulus	CARES Act
Total Muni Market Support	**$550**	**$650**	**$157**	**$347**
States	$136	$408	$30	$169
Locals	--	$182	$30	$164
Community based orgs.	--	–	–	$1
Not for Profits	--	$0.8	$15	–
Healthcare	--	$13	$4	$108
Primary/Sec Education	--	$137	$58	$25
Higher education	--	$40	$26	$17
Airports/Ports	$42	$11	$2	$10
Surface transit	$110	–	$10	–
Mass transit	$39	$30	$14	$25
Other Transportation	$78	$2	$2	–
Housing	--	$39	$25	–
Utilities	$143	–	–	–

Source: US Congress, J.P Morgan. Note: Sum of individual sector amounts may not add up to aggregate total due to double counting, as much of the capital is shared across sectors.

RISK CONSIDERATIONS

An imbalance in supply and demand in the municipal market may result in valuation uncertainties and greater volatility, less liquidity, widening credit spreads and a lack of price transparency in the market. There generally is limited public information about municipal issuers. Investments in income securities may be affected by changes in the credit worthiness of the issuer and are subject to the risk of non-payment of principal and interest. The value of income securities also may decline because of real or perceived concerns about the issuer's ability to make principal and interest payments. As interest rates rise, the value of certain income investments is likely to decline. Diversification cannot ensure a profit or eliminate the risk of loss. Debt securities are subject to risks that the issuer will not meet its payment obligations. Low rated or equivalent unrated debt securities of the type in which a strategy will invest generally offer a higher return than higher rated debt securities, but also are subject to greater risks that the issuer will default. Unrated bonds are generally regarded as being speculative.

ADDITIONAL INFORMATION

Credit ratings that may be referenced are based on Moody's, S&P or Fitch, as applicable. Credit ratings are based largely on the rating agency's investment analysis at the time of rating and the rating assigned to any particular security is not necessarily a reflection of the issuer's current financial condition. The rating assigned to a security by a rating agency does not necessarily reflect its assessment of the volatility of a security's market value or of the liquidity of an investment in the security. Ratings of BBB or higher by Standard and Poor's or Fitch (Baa or higher by Moody's) are considered to be investment grade quality.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market. **A separately managed account may not be appropriate for all investors. Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required. For important information about the investment managers, please refer to Form ADV Part 2.**

The views and opinions and/or analysis expressed are those of the author or the investment team as of the date of preparation of this material and are subject to change at any time without notice due to market or economic conditions and may not necessarily come to pass. Furthermore, the views will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date of publication.

The views expressed do not reflect the opinions of all investment personnel at Morgan Stanley Investment Management (MSIM) and its subsidiaries and affiliates (collectively "the Firm"), and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors or the investment team. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific strategy or product the Firm offers. Future results may differ significantly depending on factors such as changes in securities or financial markets or general economic conditions.

This material has been prepared on the basis of publicly available information, internally developed data and other third-party sources believed to be reliable. However, no assurances are provided regarding the reliability of such information and the Firm has not sought to independently verify information taken from public and third-party sources.

This material is a general communication, which is not impartial and all information provided has been prepared solely for informational and educational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. The information herein has not been based on a consideration of any individual investor circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, investors should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision.

The Firm does not provide tax advice. The tax information contained herein is general and is not exhaustive by nature. It was not intended or written to be used, and it cannot be used by any taxpayer, for the purpose of avoiding penalties that may be imposed on the taxpayer. Each Jurisdiction tax laws are complex and constantly changing. You should always consult your own legal or tax professional for information concerning your individual situation.

Charts and graphs provided herein are for illustrative purposes only. **Past performance is no guarantee of future results.**

The indexes are unmanaged and do not include any expenses, fees or sales charges. It is not possible to invest directly in an index. Any index referred to herein is the intellectual property (including registered trademarks) of the applicable licensor. Any product based on an index is in no way sponsored, endorsed, sold or promoted by the applicable licensor and it shall not have any liability with respect thereto.

This material is not a product of Morgan Stanley's Research Department and should not be regarded as a research material or a recommendation.

ADDITIONAL INFORMATION

Important Information and Disclosure

TERMS

Municipal-to-Treasury Yield Ratios are relative value indicators that measure the richness or cheapness of Municipal bond yields to comparable maturity Treasury bond yields.

Yield to Worst is a measure which reflects the lowest potential yield earned on a bond without the issuer defaulting. The yield to worst is calculated by making worst-case scenario assumptions by calculating the returns that would be received if provisions, including prepayment, call or sinking fund, are used by the issuer.

INDEX DEFINITIONS

Bloomberg Municipal Bond Index is an unmanaged index of municipal bonds traded in the U.S.

Bloomberg High Yield Municipal Bond Index is an unmanaged index of non-Investment Grade Municipal bonds traded in the U.S.

Bloomberg Taxable Municipal Bond Index is an unmanaged index of Taxable Municipal Bonds traded in the U.S.

Bloomberg U.S. Treasury Index measures public debt instruments issued by the U.S. Treasury.

Bloomberg U.S. Aggregate Index is an unmanaged index of domestic investment-grade bonds, including corporate, government and mortgage-backed securities.

Bloomberg U.S. Corporate High Yield Index measures USD-denominated, non-investment grade corporate securities.

Bloomberg U.S. Corporate Index is an unmanaged index that measures the performance of investment-grade corporate securities within the Barclays Capital U.S. Aggregate Index.

S&P/LSTA Leveraged Loan Index is an unmanaged index of the institutional leveraged loan market.

Standard & Poor's 500 Index is an unmanaged index of large-cap stocks commonly used as a measure of U.S. stock market performance.

"Bloomberg®" and the Bloomberg Index/Indices used are service marks of Bloomberg Finance L.P. and its affiliates, and have been licensed for use for certain purposes by Morgan Stanley Investment Management (MSIM). Bloomberg is not affiliated with MSIM, does not approve, endorse, review, or recommend any product, and. does not guarantee the timeliness, accurateness, or completeness of any data or information relating to any product.

ADDITIONAL INFORMATION

The Firm has not authorised financial intermediaries to use and to distribute this material, unless such use and distribution is made in accordance with applicable law and regulation. Additionally, financial intermediaries are required to satisfy themselves that the information in this material is appropriate for any person to whom they provide this material in view of that person's circumstances and purpose. The Firm shall not be liable for, and accepts no liability for, the use or misuse of this material by any such financial intermediary.

This material may be translated into other languages. Where such a translation is made this English version remains definitive. If there are any discrepancies between the English version and any version of this material in another language, the English version shall prevail.

Eaton Vance and is part of Morgan Stanley Investment Management. Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

DISTRIBUTION

This material is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.

MSIM, the asset management division of Morgan Stanley (NYSE: MS), and its affiliates have arrangements in place to market each other's products and services. Each MSIM affiliate is regulated as appropriate in the jurisdiction it operates. MSIM's affiliates are: Eaton Vance Management (International) Limited, Eaton Vance Advisers International Ltd, Calvert Research and Management, Eaton Vance Management, Parametric Portfolio Associates LLC, and Atlanta Capital Management LLC.

This material has been issued by any one or more of the following entities:

EMEA

This material is for Professional Clients/Accredited Investors only.

In the EU, MSIM and Eaton Vance materials are issued by MSIM Fund Management (Ireland) Limited ("FMIL"). FMIL is regulated by the Central Bank of Ireland and is incorporated in Ireland as a private company limited by shares with company registration number 616661 and has its registered address at 24-26 City Quay, Dublin 2 , DO2 NY19, Ireland.

Outside the EU, MSIM materials are issued by Morgan Stanley Investment Management Limited (MSIM Ltd) is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

In Switzerland, MSIM materials are issued by Morgan Stanley & Co. International plc, London (Zurich Branch) Authorised and regulated by the Eidgenössische Finanzmarktaufsicht ("FINMA"). Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland.

Outside the US and EU, Eaton Vance materials are issued by Eaton Vance Management (International) Limited ("EVMI") 125 Old Broad Street, London, EC2N 1AR, UK, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority.

Italy: MSIM FMIL (Milan Branch), (Sede Secondaria di Milano) Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy. **The Netherlands:** MSIM FMIL (Amsterdam Branch), Rembrandt Tower, 11th Floor Amstelplein 1 1096HA, Netherlands. **France:** MSIM FMIL (Paris Branch), 61 rue de Monceau 75008 Paris, France. **Spain:** MSIM FMIL (Madrid Branch), Calle Serrano 55, 28006, Madrid, Spain. **Germany:** MSIM Fund Management Frankfurt Branch, Grosse Gallusstrasse 18, 60312 Frankfurt am Main, Germany (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG**). Denmark:** MSIM FMIL (Copenhagen Branch), Gorrissen Federspiel, Axel Towers, Axeltorv2, 1609 Copenhagen V, Denmark.

ADDITIONAL INFORMATION

MIDDLE EAST

Dubai: MSIM Ltd (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158). This document is distributed in the Dubai International Financial Centre by Morgan Stanley Investment Management Limited (Representative Office), an entity regulated by the Dubai Financial Services Authority ("DFSA"). It is intended for use by professional clients and market counterparties only. This document is not intended for distribution to retail clients, and retail clients should not act upon the information contained in this document. This document relates to a financial product which is not subject to any form of regulation or approval by the DFSA. The DFSA has no responsibility for reviewing or verifying any documents in connection with this financial product. Accordingly, the DFSA has not approved this document or any other associated documents nor taken any steps to verify the information set out in this document, and has no responsibility for it. The financial product to which this document relates may be illiquid and/or subject to restrictions on its resale or transfer. Prospective purchasers should conduct their own due diligence on the financial product. If you do not understand the contents of this document, you should consult an authorised financial adviser.

U.S.

NOT FDIC INSURED | OFFER NO BANK GUARANTEE | MAY LOSE VALUE | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | NOT A DEPOSIT

Latin America (Brazil, Chile Colombia, Mexico, Peru, and Uruguay) This material is for use with an institutional investor or a qualified investor only. All information contained herein is confidential and is for the exclusive use and review of the intended addressee, and may not be passed on to any third party. This material is provided for informational purposes only and does not constitute a public offering, solicitation or recommendation to buy or sell for any product, service, security and/or strategy. A decision to invest should only be made after reading the strategy documentation and conducting in-depth and independent due diligence.

ASIA PACIFIC

Hong Kong: This material is disseminated by Morgan Stanley Asia Limited for use in Hong Kong and shall only be made available to "professional investors" as defined under the Securities and Futures Ordinance of Hong Kong (Cap 571). The contents of this material have not been reviewed nor approved by any regulatory authority including the Securities and Futures Commission in Hong Kong. Accordingly, save where an exemption is available under the relevant law, this material shall not be issued, circulated, distributed, directed at, or made available to, the public in Hong Kong. **Singapore:** This material is disseminated by Morgan Stanley Investment Management Company and may not be circulated or distributed, whether directly or indirectly, to persons in Singapore other than to (i) an accredited investor (ii) an expert investor or (iii) an institutional investor as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"); or (iv) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. This publication has not been reviewed by the Monetary Authority of Singapore. **Australia:** This material is provided by Morgan Stanley Investment Management (Australia) Pty Ltd ABN 22122040037, AFSL No. 314182 and its affiliates and does not constitute an offer of interests. Morgan Stanley Investment Management (Australia) Pty Limited arranges for MSIM affiliates to provide financial services to Australian wholesale clients. Interests will only be offered in circumstances under which no disclosure is required under the Corporations Act 2001 (Cth) (the "Corporations Act"). Any offer of interests will not purport to be an offer of interests in circumstances under which disclosure is required under the Corporations Act and will only be made to persons who qualify as a "wholesale client" (as defined in the Corporations Act). This material will not be lodged with the Australian Securities and Investments Commission.

15337 | 1/4/2023

ADDITIONAL INFORMATION

Japan

For professional investors, this material is circulated or distributed for informational purposes only. For those who are not professional investors, this material is provided in relation to Morgan Stanley Investment Management (Japan) Co., Ltd. ("MSIMJ")'s business with respect to discretionary investment management agreements ("IMA") and investment advisory agreements ("IAA"). This is not for the purpose of a recommendation or solicitation of transactions or offers any particular financial instruments. Under an IMA, with respect to management of assets of a client, the client prescribes basic management policies in advance and commissions MSIMJ to make all investment decisions based on an analysis of the value, etc. of the securities, and MSIMJ accepts such commission. The client shall delegate to MSIMJ the authorities necessary for making investment. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall not make individual instructions. All investment profits and losses belong to the clients; principal is not guaranteed. Please consider the investment objectives and nature of risks before investing. As an investment advisory fee for an IAA or an IMA, the amount of assets subject to the contract multiplied by a certain rate (the upper limit is 2.20% per annum (including tax)) shall be incurred in proportion to the contract period. For some strategies, a contingency fee may be incurred in addition to the fee mentioned above. Indirect charges also may be incurred, such as brokerage commissions for incorporated securities. Since these charges and expenses are different depending on a contract and other factors, MSIMJ cannot present the rates, upper limits, etc. in advance. All clients should read the Documents Provided Prior to the Conclusion of a Contract carefully before executing an agreement. This material is disseminated in Japan by MSIMJ, Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: the Japan Securities Dealers Association, The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.

RedOak ID 4137825 | SKU 42234 | Expires 1.31.26