

nuveen

A TIAA Company

Municipal market update

July 2025

As of 30 June 2025

NOT FDIC INSURED | NO BANK GUARANTEE | MAY LOSE VALUE
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

2025 municipal market themes

Economic environment	
Inflation	<ul style="list-style-type: none"> Core inflation had been moderating but could face challenges amid policy uncertainty. Inflation may not reach the Fed's target by year end 2025.
Policy	<ul style="list-style-type: none"> The Fed appears content staying on hold until hard economic data shows deterioration. Weak labor readings should result in rate cuts in the second half of the year.
Economic growth	<ul style="list-style-type: none"> Tariff uncertainty has complicated capital spending and hiring plans. Economic growth in the second half of the year will be heavily influenced by the One Big Beautiful Bill (OBBBA) and federal policy.
Interest rates	<ul style="list-style-type: none"> With the magnitude & intensity of rate cut expectations scaled back, the higher-for-longer yield environment should persist. Treasuries remain pressured, particularly on the long end of the curve, as the bond market assesses the impact of changing federal policy.

Municipal market environment	
Credit fundamentals	<ul style="list-style-type: none"> Credit remains resilient, with strong revenue collections. Governments are spending down reserve funds, but overall reserve levels remain elevated. We expect municipal defaults will remain low, rare and idiosyncratic.
Supply & demand	<ul style="list-style-type: none"> We anticipate another year of heavy supply in 2025, easily exceeding \$500 billion. Tax-exempt status of municipals is preserved in OBBBA, which could lead to increased demand for municipals. Taxable municipal supply remains muted in the elevated rate environment and is roughly 10% of the overall market.
Valuations	<ul style="list-style-type: none"> Ratios are more favorable, and municipals offer elevated income levels which can help generate attractive returns. High yield credit spreads remain below historical averages, supported by inflows. The municipal yield curve is twice as steep as the UST curve, with the intermediate portion offering heightened opportunity.

Source: Nuveen as of 30 Jun 2025. Certain statements may be deemed forward-looking statements. Please note that any such statements are not guarantees or intended to constitute a prediction of any future performance; actual results or developments may differ materially from those projected.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Volatility can create opportunity

Investment grade municipals have underperformed the US Agg by 437 bps YTD through June, creating an attractive entry point for patient investors.

Municipals have underperformed YTD

- Tax-exempt issuance is up 18.5% YoY vs. last year (record levels in 2024).¹
- Although flows are positive, they have not been able to offset the elevated YTD supply.
- Reinvested capital is forecasted to outpace new issuance in the July & August, which could be a catalyst for stronger performance.

Fundamentals remain strong

- Property tax, individual income tax and sales tax collections increased in the first quarter when compared to first quarter of 2024.
- While some reserves are being spent down, overall reserves are anticipated to account for nearly 15% of spending in FY 2025, up notably from 8% in FY 2019.
- Upgrades continue to outpace downgrades, with the first quarter seeing 124 upgrades vs 68 downgrades.
- Municipal credit remains strong, especially for essential service monopolies.

Changes in tax code can lead to opportunity

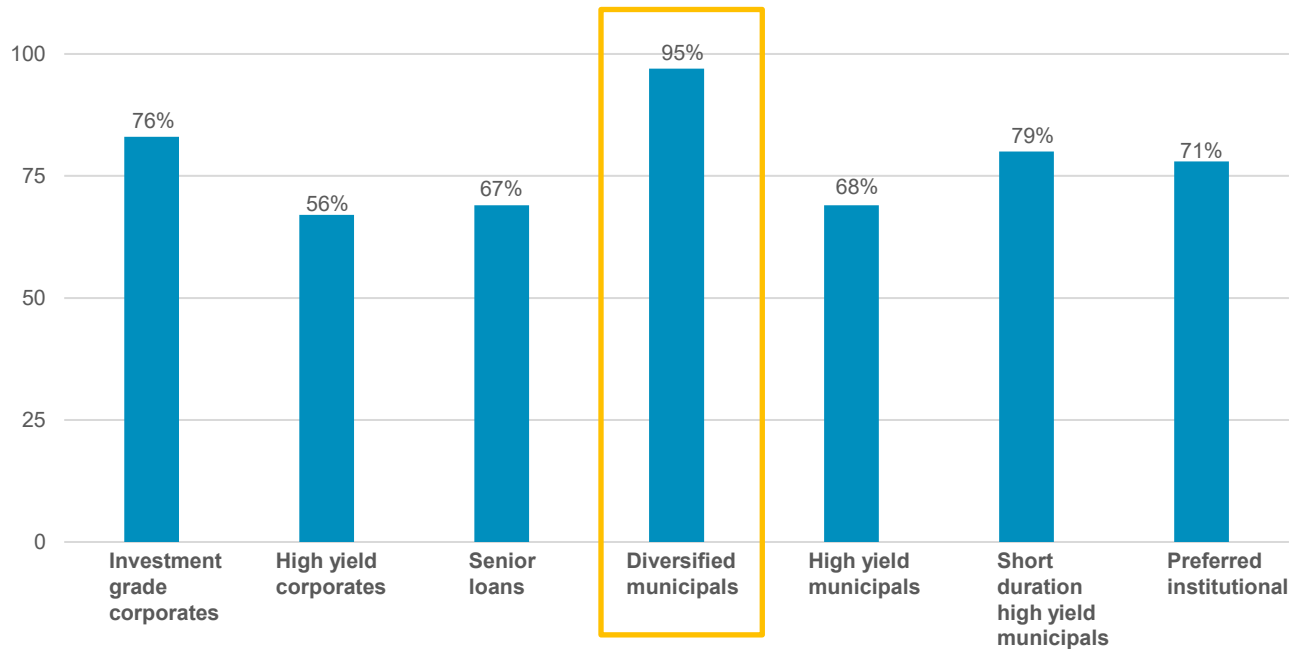
- Municipals remain exempt under the recently passed OBBBA. Certainty about the tax code could be a positive catalyst.
- Demand for municipals could increase with tariffs returning to center stage and investors seeking the relative shelter provided by essential service monopolies.

Data source: Bloomberg, L.P., 30 Jun 2025. Performance data shown represents past performance and does not predict or guarantee future results. Bloomberg Municipal Bond Index Yields are yield to worst. Yield to worst is the lowest potential yield that can be received on a bond without the issuer defaulting. Representative indexes: Investment grade municipals: Bloomberg Municipal Bond Index. 1 Data source: Bond Buyer, as of 30 Jun 2025. 2 Data source: Morningstar, as of 30 Jun 2025. 3 Data source: JPM/LSEG Lipper, as of 30 Jun 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Municipals are back in favor with attractive yields and more positive technical conditions

Current yields vs. 10-year average: Municipals in 95th percentile



Muni-to-Treasury ratios (AAA IG Muni/UST)

	Current	3-yr average
10-year	77%	69%
30-year	95%	89%

Crossover buyers have been irregular participants in the municipal market as ratios have grown more favorable. Buying opportunity exists despite recent lackluster performance.

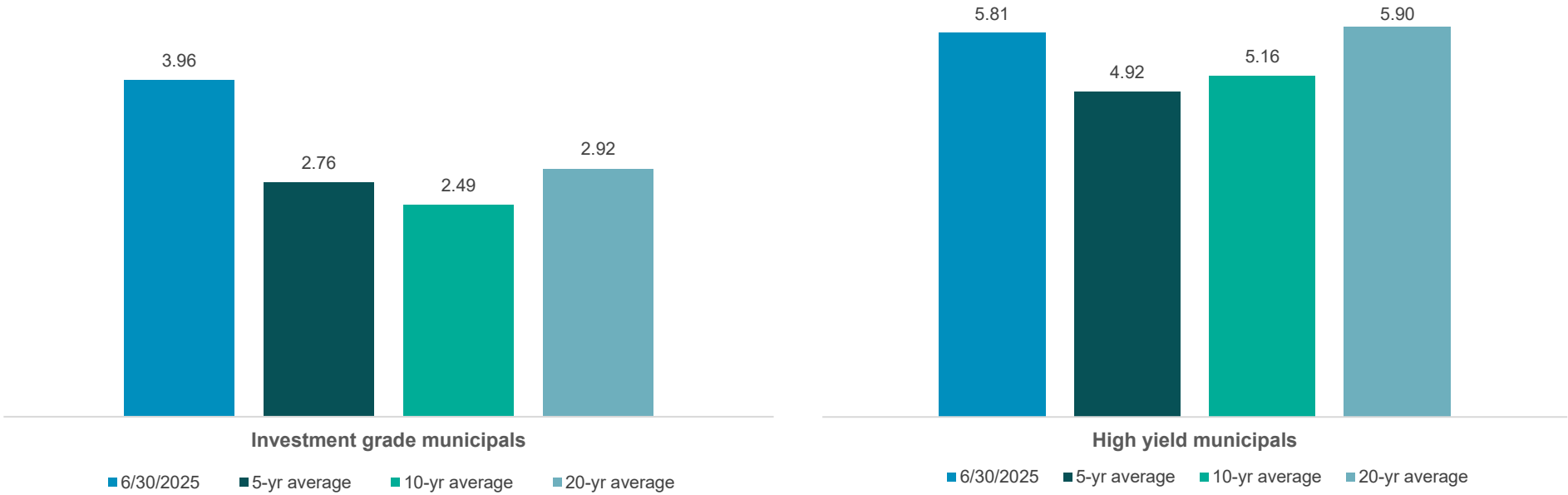
Data sources: Bloomberg, L.P., 30 June 2025. Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: investment grade corporates: Bloomberg U.S. Corporate Total Return Value Unhedged USD; high yield corporates: Bloomberg U.S. Corporate High Yield Total Return Index Value Unhedged USD; senior loans: S&P UBS Leveraged Loan Index Total Ret Index Level Unhedged USD; diversified municipals: ICE BofA U.S. Municipal Securities Index; high yield municipals: ICE BofA U.S. Municipal High Yield Securities Index; short duration high yield municipals: ICE 1-12 Year Broad High Yield Crossover Municipal Index; preferreds: institutional: ICE U.S. Institutional Capital Securities Index.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Starting yield levels are elevated across investment grade and high yield municipals

Current municipal yields are attractive compared to history.

Yield to worst (%)



+119 bps vs. trailing 5 years

+89 bps vs. trailing 5 years

Data source: Bloomberg, L.P., 30 Jun 2025. Performance data shown represents past performance and does not predict or guarantee future results. Yields are yield to worst. Yield to worst is the lowest potential yield that can be received on a bond without the issuer defaulting. Representative indexes: Investment grade municipals: Bloomberg Municipal Bond Index; High yield municipals: Bloomberg High Yield Municipal Bond Index.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Federal policy shifts will impact muni issuers

One Big Beautiful Bill Act

Tariffs	Immigration	Energy Policy	Muni tax exemption	State and Local Tax (SALT)
<ul style="list-style-type: none">• Higher tariff rates may range between 10% and 70% and could have an inflationary impact, softening economic growth projections for 2025• More comprehensive aluminum and steel tariffs increase capital project and borrowing costs for all issuers. Electric, water and sewer utility sectors that need capital investment may pass higher construction costs onto customers via rate increases• Port volumes may be pressured. West coast ports may be more vulnerable due to proximity to China	<ul style="list-style-type: none">• Federal funding is at risk for cities and counties identified as sanctuary jurisdictions• Potential labor shortfalls could create inflationary pressures• School districts enrolling undocumented migrant students could see enrollment declines. Large urban districts, like Chicago, may be more vulnerable to losing students and federal K-12 aid cuts	<ul style="list-style-type: none">• Rollback of renewable energy and manufacturing tax credits could impact energy production capacity and electricity rates• Tax credits for solar and wind energy projects will no longer be eligible after 2027, making renewable power projects more expensive for electric utilities and customers• Electric vehicle incentives will be phased out beginning in September 2025, and tax credits for charging stations expire in June 2026. Cities and states may slow moving to EV, and electricity demand may not increase as projected	<ul style="list-style-type: none">• The muni tax exemption remains unchanged as part of OBBBA. Entities that are currently authorized to issue tax-exempt bonds can do so. Preserving the muni bond tax exemption provides municipalities with a cost-effective way to finance infrastructure across the country• Private activity bonds will not have new restrictions despite initial indications they could be vulnerable to changes. Spaceports is being added as a new sector that can issue debt on a tax-exempt basis	<ul style="list-style-type: none">• SALT cap deduction increased to \$40K from \$30K (for joint filers earning less than \$500K) beginning in 2025. Both the deduction cap and income limit will increase by 1% through 2029. The cap reverts to \$10K in 2030• An increase in the SALT cap will reduce the individual tax burden for some residents in high-tax states. Jurisdictions with high local taxes could see taxpayer out-migration to lower tax states if the deduction moves too low in the future

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

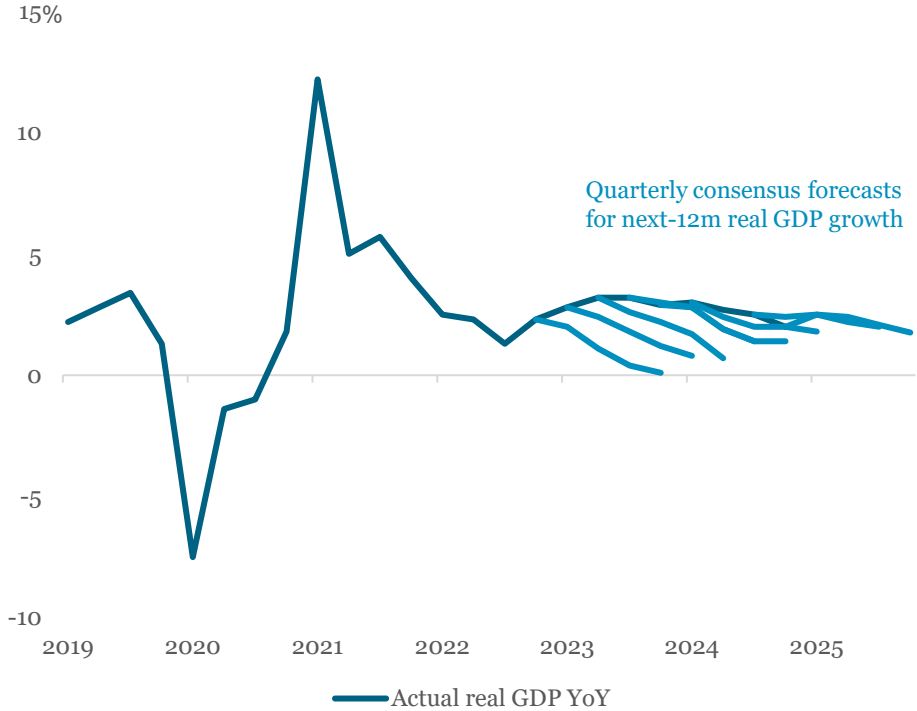
Evolving federal policy could have implications for certain sectors and credits

State & local governments	Education	Transportation	Housing	Water & sewer utilities	Health care
<ul style="list-style-type: none">• Medicaid funding changes likely to strain state budgets. New limits on provider taxes will lead to higher costs or eligibility changes.• Uninsured population project to increase following new federal work requirements• Funding freeze for federal K-12 aid of \$6.8 billion expected to pressure school finances• FEMA funding changes may impact disaster prone states which may shoulder higher percentage of recovery costs	<ul style="list-style-type: none">• School choice favors charter schools over traditional public schools and poses competition with expanded vouchers• Caps on student loans and changes to repayment plans could impact enrollment• Endowment tax may affect wealthier universities whose endowments can withstand pressure• Federal grant cuts aimed at elite universities could impact revenues• Uncertain status of international students poses enrollment headwinds, particularly for second tier schools	<ul style="list-style-type: none">• Large transportation projects that benefited from federal infrastructure aid (e.g., airports and public transit) may see less support, potentially increasing issuance or extending timelines• Ports are bracing for declines in shipping volume amid tariff uncertainty; ports experienced record cargo volume during first four months of 2025 to get ahead of tariffs• Spaceports is a new sector that can issue debt on a tax-exempt basis as part of OBBBA	<ul style="list-style-type: none">• Changes to the GSEs including Fannie Mae and Freddie Mac could result in the removal of the implicit government guarantee and affect ratings for mortgage-backed securities guaranteed by these entities• Potential downgrades could negatively impact the credit rating of some state housing finance agencies which hold mortgage-backed securities on balance sheets	<ul style="list-style-type: none">• Relaxed environmental regulations and enforcement may alleviate near-term cost pressures for utilities• Fewer mandated capital upgrades could benefit balance sheets and keep rates lower. Deferring capital may undermine longer-term credit quality	<ul style="list-style-type: none">• Medicaid reimbursement may be reduced, further limiting reimbursement for care of non-citizens and constraining state-directed payments to hospitals and nursing facilities over future years• Medicaid programs are administered by states. The impact will vary and likely won't be experienced until 2026

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Baseline expectations are for a sharper economic slowdown and higher inflation this year

U.S. GDP growth is expected to slow from around 3% to below 1% this year, though expectations for slowdown have been repeatedly defied



Core inflation is set to accelerate this year due to tariffs; we forecast 3.0% core PCE inflation



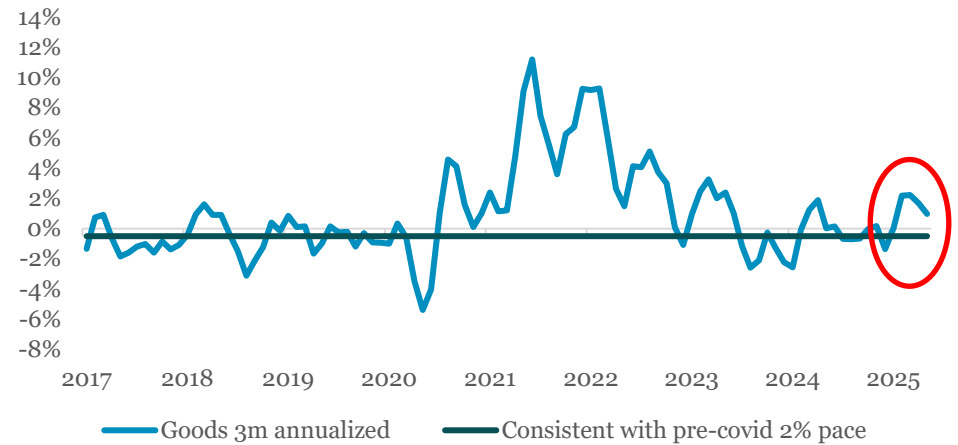
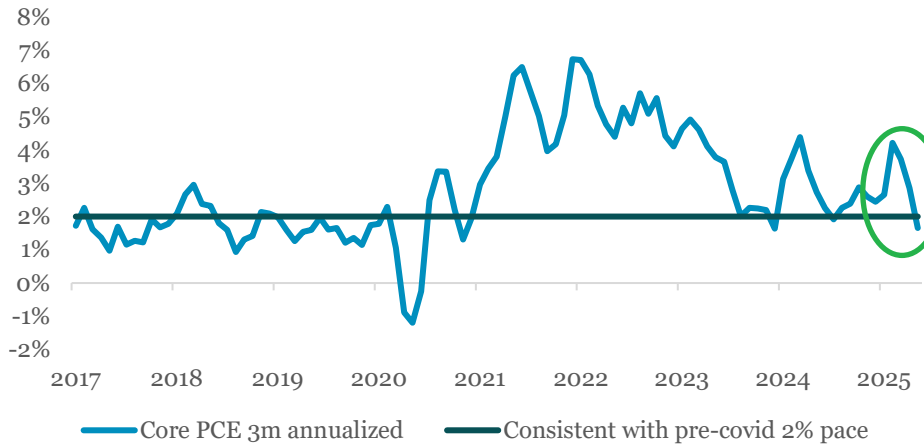
Source: Bloomberg, BEA, as of 31 May 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Core inflation has moved higher on a three-month annualized basis, but key metrics have improved

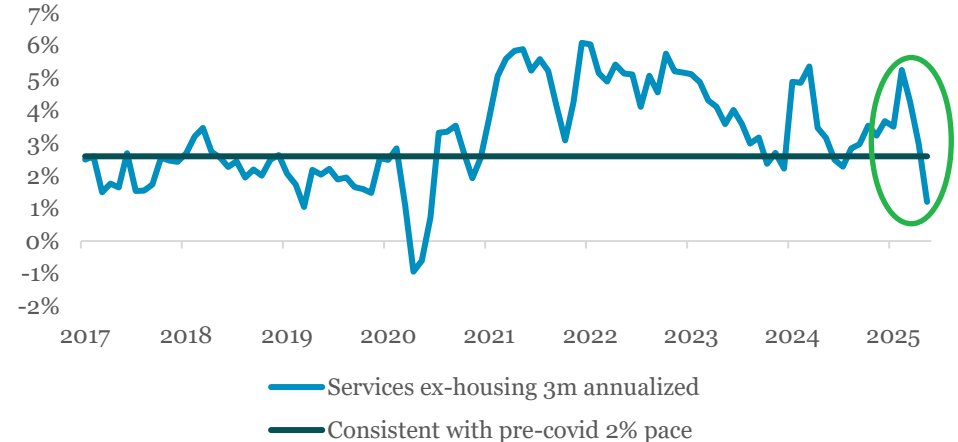
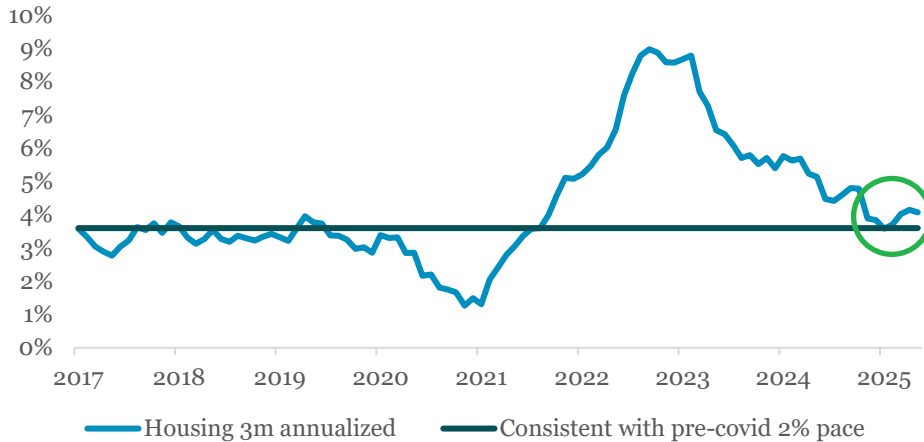
Core inflation has **dropped back** to 2% run rate after a Q1 spike

Goods inflation has **picked up** this year, possibly reflecting front-running activity ahead of tariffs



Housing inflation is **back to target** over last several months

Other core services have **dropped sharply**



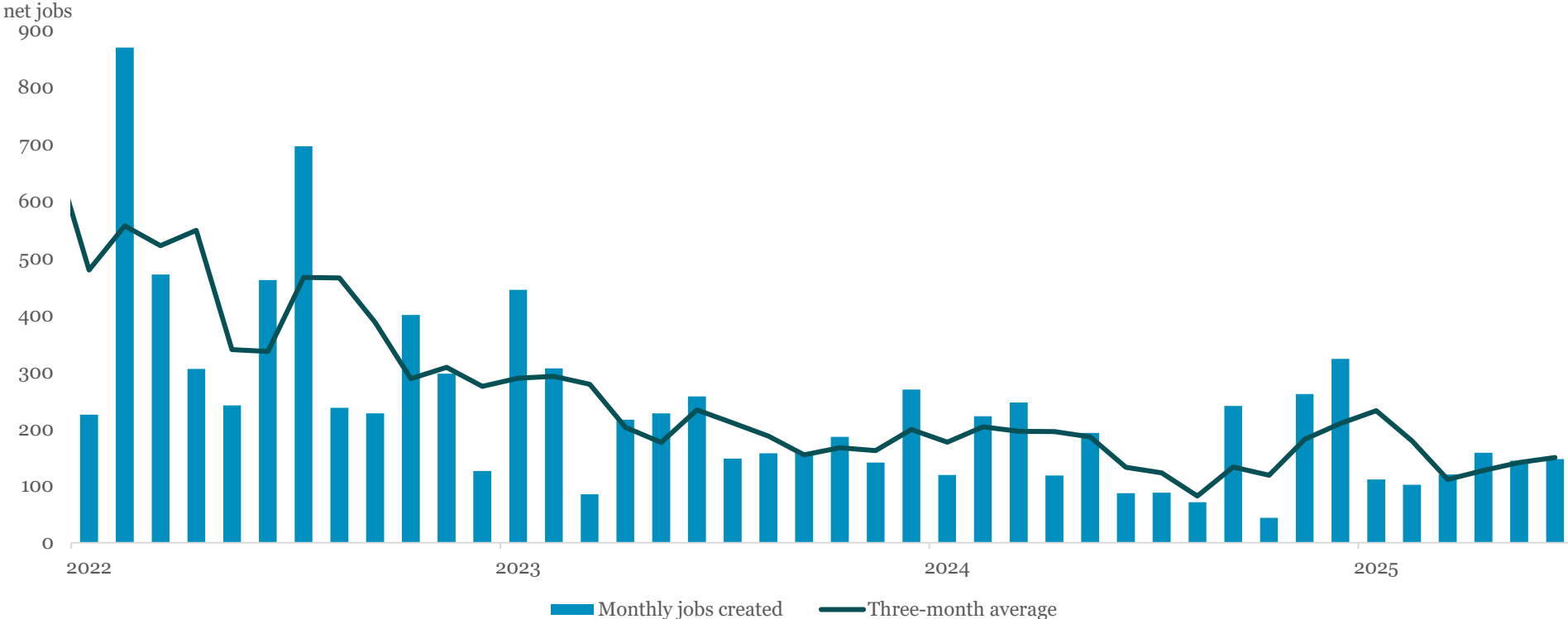
Sources: Bloomberg, BEA, as of 31 May 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

The labor market has cooled and downside risks persist

The US economy added 147,000 jobs in June, more than expected

Three-month average job creation has remained strong in 2025



Source: Bloomberg, BLS, as of 31 May 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

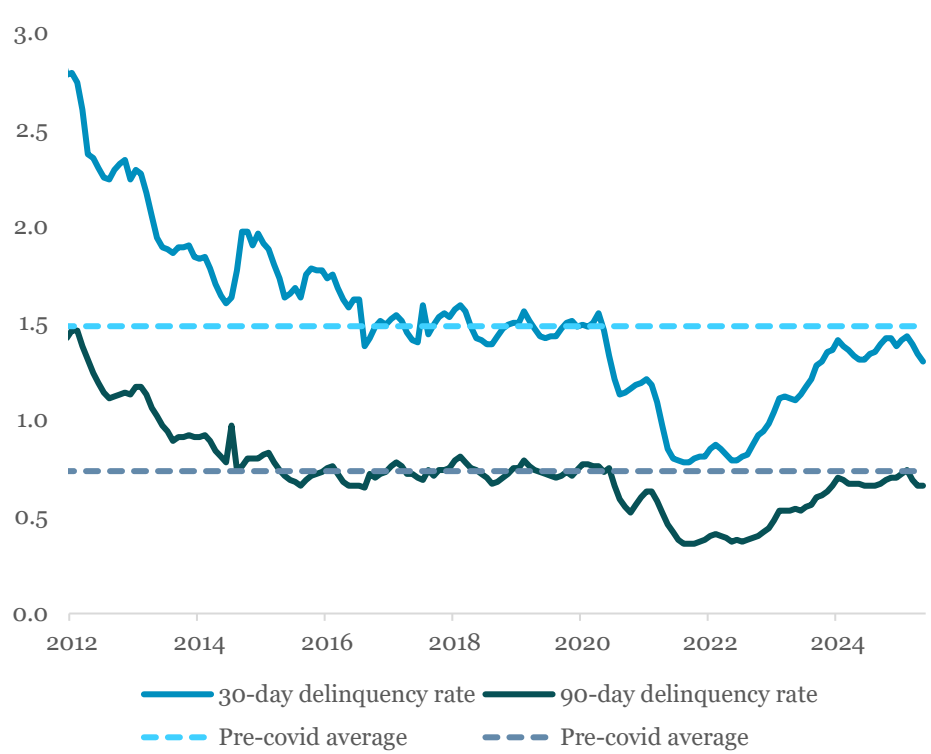
The consumer remains healthy despite elevated uncertainty

Real consumption growth has softened somewhat, to around 2.7% year-on-year

Consumption has softened somewhat over recent months



Credit card delinquency rates remain lower than pre-covid levels



Source: Bloomberg, BEA, as of 31 May 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Source: Bloomberg, NY Fed, as of 31 May 2025.

Key factors in municipal bond returns

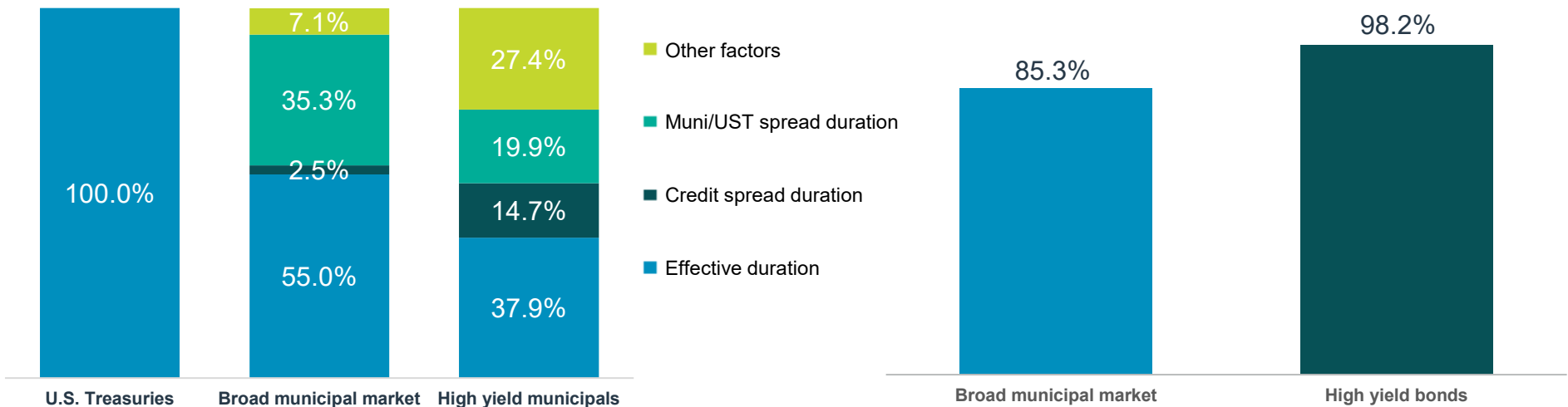
Municipal bonds react differently to market conditions when compared to U.S. Treasuries, while income drives overall returns.

Drivers of risk¹

Municipal bonds tend to be influenced by duration and spreads, whereas high yield municipals are more driven by credit spreads

Income as a portion of total return (%)

Income has dominated total return over time and can help offset any price declines due to rising rates



¹ Risk defined as volatility of returns. Data source: Nuveen, monthly returns 31 Dec 2009 – 31 Dec 2024. Broad municipal market defined as S&P Municipal Bond Index, and high yield market defined as S&P Municipal Yield TR Index. It is not possible to invest in an index. Other factors can be attributed to credit selection and individual security selection. **Past performance is no guarantee of future results.**

Data source: Bloomberg, L.P. As of 31 Dec 2024.

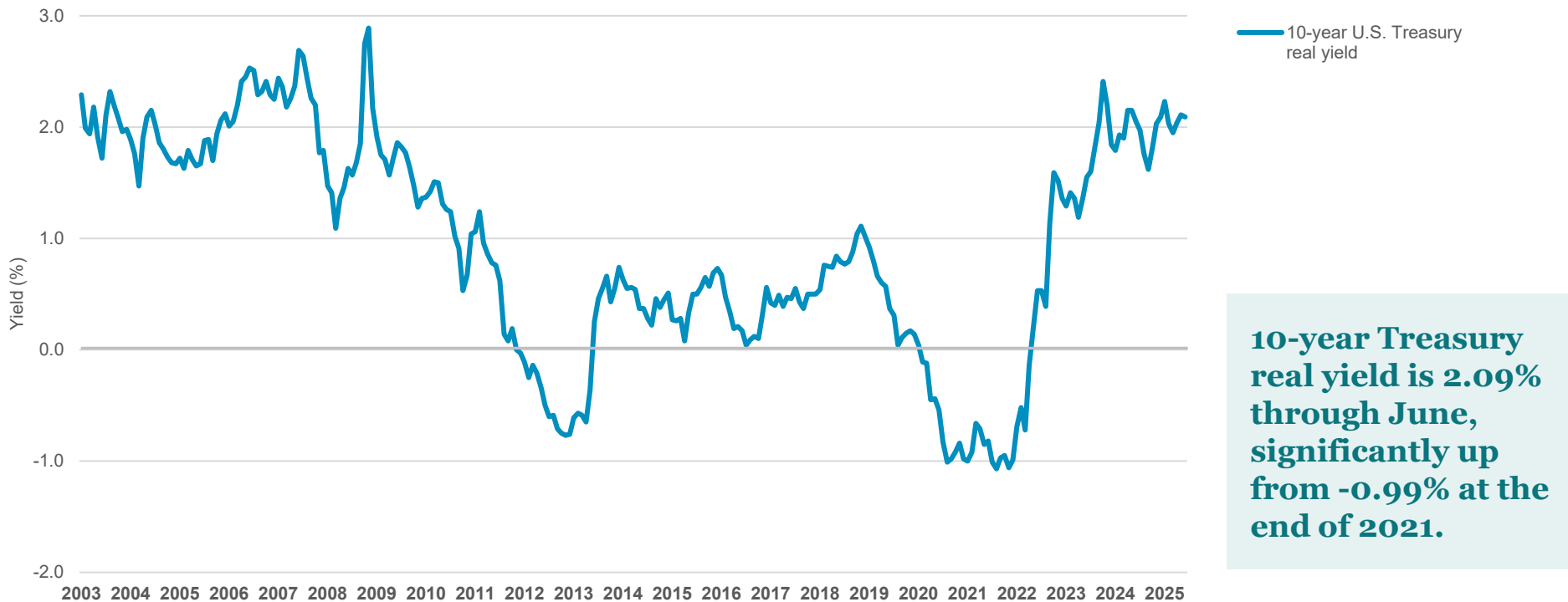
Chart shows the percent of annualized total return derived from coupon return (as opposed to price appreciation) since index inception. Investment grade bonds are represented by the S&P Municipal Bond Index, which has an inception date of 01 Jan 1976; returns from 31 Dec 2009 – 31 Dec 2024. High yield bonds are represented by the S&P Municipal Yield Index, which has an inception date of 31 Jan 1993; returns from 31 Dec 2009 – 31 Dec 2024. The index return presented is for illustration purposes only and does not represent or predict performance of any Nuveen product. It is not possible to invest directly in an index. **Performance data shown represents past performance and does not predict or guarantee future results.**

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Real yield levels are outpacing inflation

Treasury yield minus inflation remains at levels not seen in nearly two decades.

10-year U.S. Treasury real yield

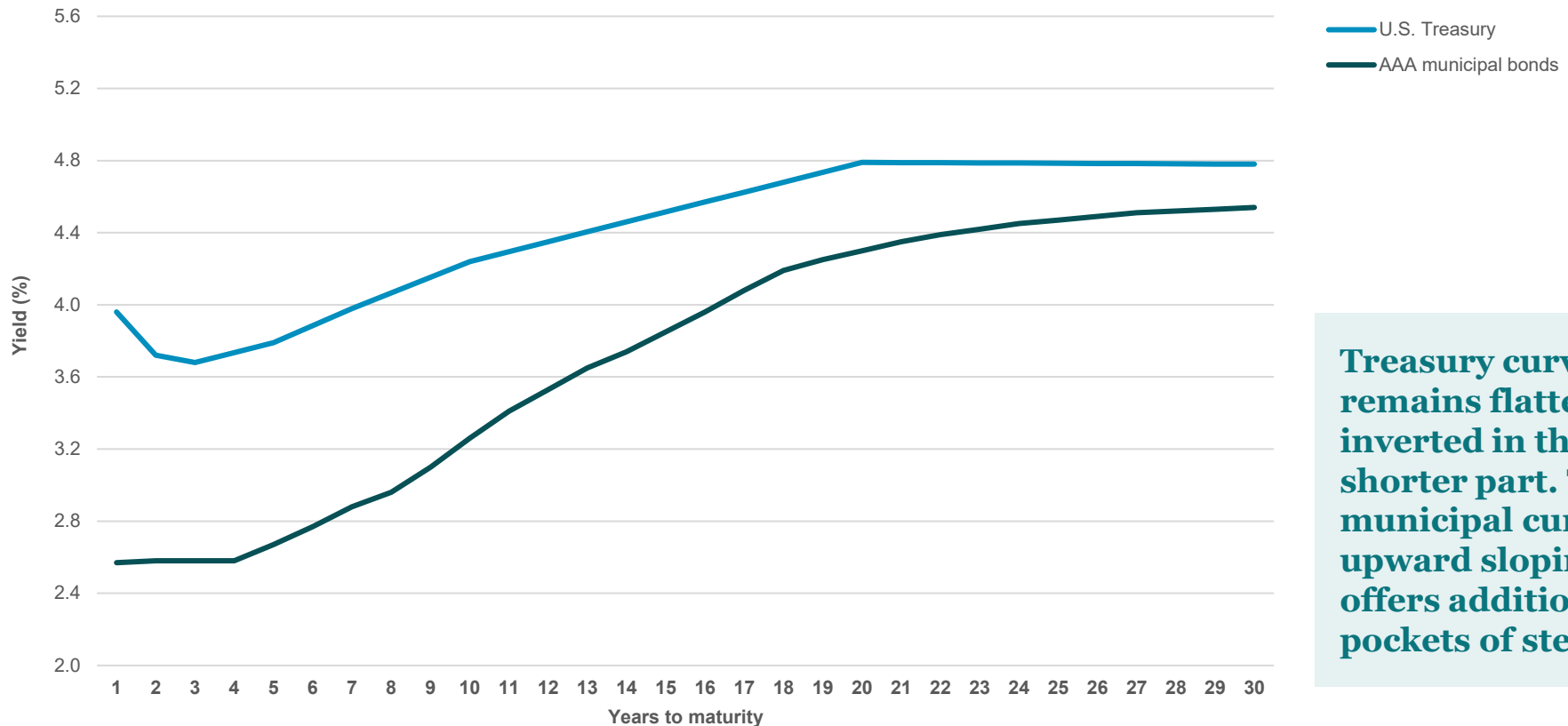


Data source: FRED, 31 Jan 2003 – 30 Jun 2025, shown monthly. The real yield is a measure of the stated return on Treasury bonds, minus inflation, as of 30 Jun 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Municipal yield curve has more of a normal shape

U.S. Treasuries vs. AAA-rated G.O. municipal yield curve



Treasury curve remains flatter and inverted in the shorter part. The municipal curve is upward sloping and offers additional pockets of steepness.

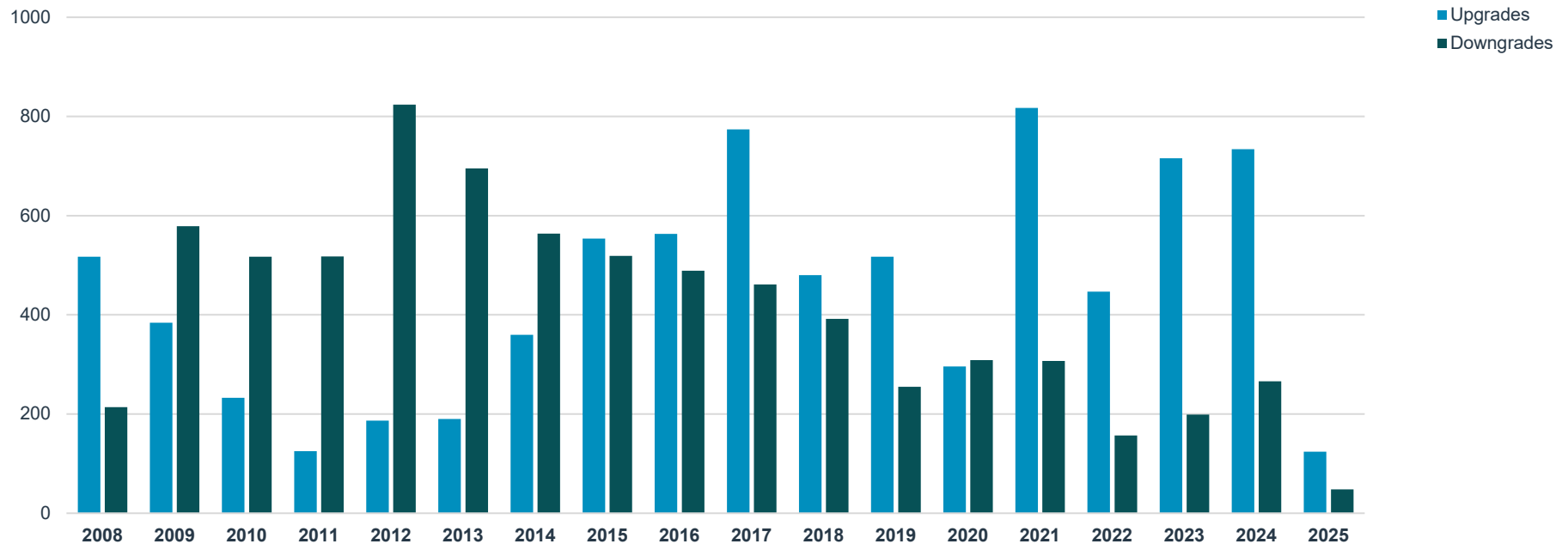
Data sources: U.S. Department of the Treasury; Refinitiv MMD, 30 Jun 2025. Performance data shown represents past performance and does not predict or guarantee future results. AAA municipals represented by Municipal Market Data (MMD) scale.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Rating upgrades have continued to exceed downgrades in recent history

Upgrades outpaced downgrades by nearly 2.75:1 in the first quarter of 2025.

Number of rating changes for public finance



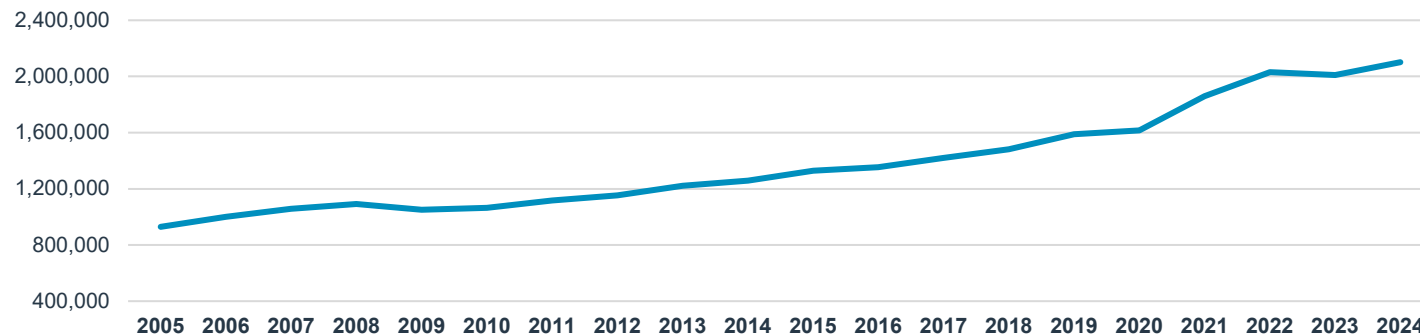
Data sources: Moody's Ratings, *Quarterly and Annual Municipal Rating Revisions*, 15 May 2025, data as of 31 Mar 2025; most recent data available.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Municipalities are in a strong financial position

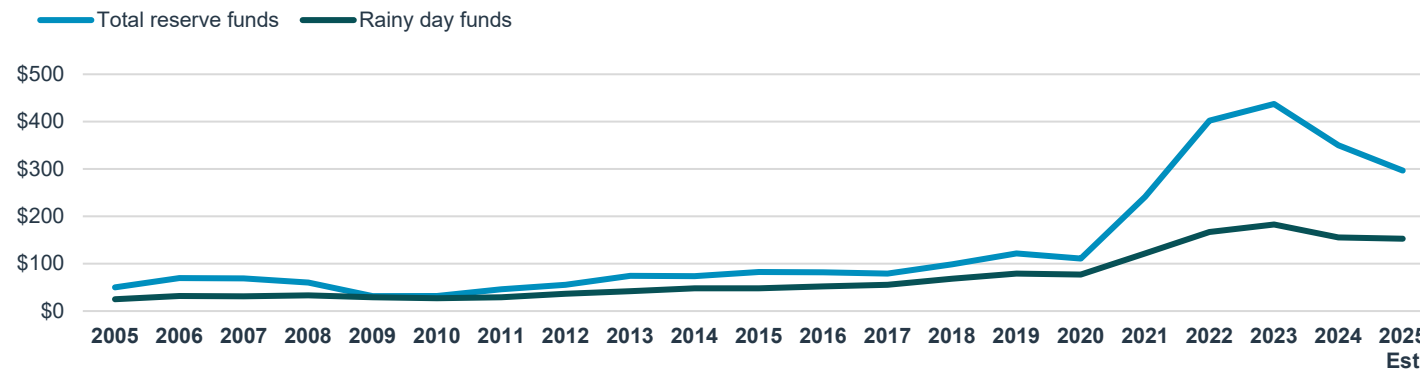
Revenue collections and reserves are near the highest levels in more than 40 years.

State & local government tax revenue collections (\$ millions)¹



Total tax collections increased in the first quarter of 2025.

State government funds (\$ billions)²



While excess reserves are being spent down, reserves remain near all-time-high levels.

¹ Data source: census.gov, 31 Dec 2024; updated annually.

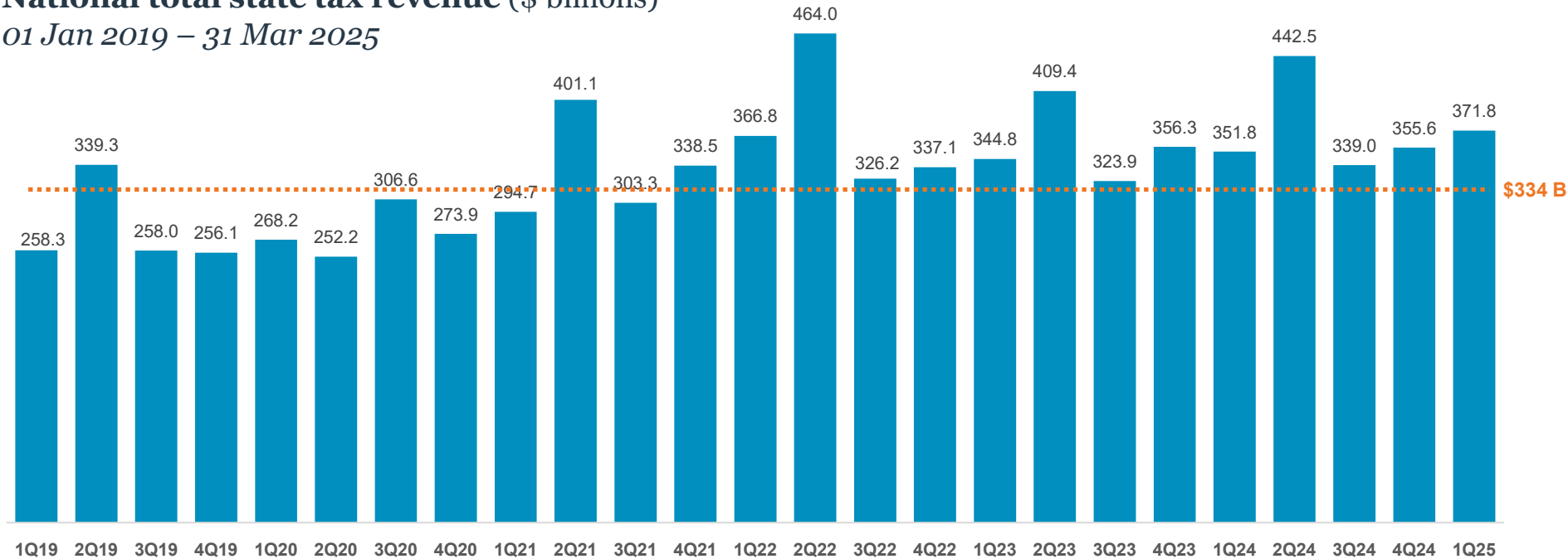
² Data sources: National Association of State Budget Officers (NASBO), *The Fiscal Survey of States*, Spring 2022. Pew Charitable Trust, *States Build Their Reserves Amid Growing Uncertainties*, 31 Jan 2025.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Post-pandemic revenue growth collection remains strong

Credit research can be an important driver of investment success, despite expectation of near-term fiscal stability.

National total state tax revenue (\$ billions)
01 Jan 2019 – 31 Mar 2025



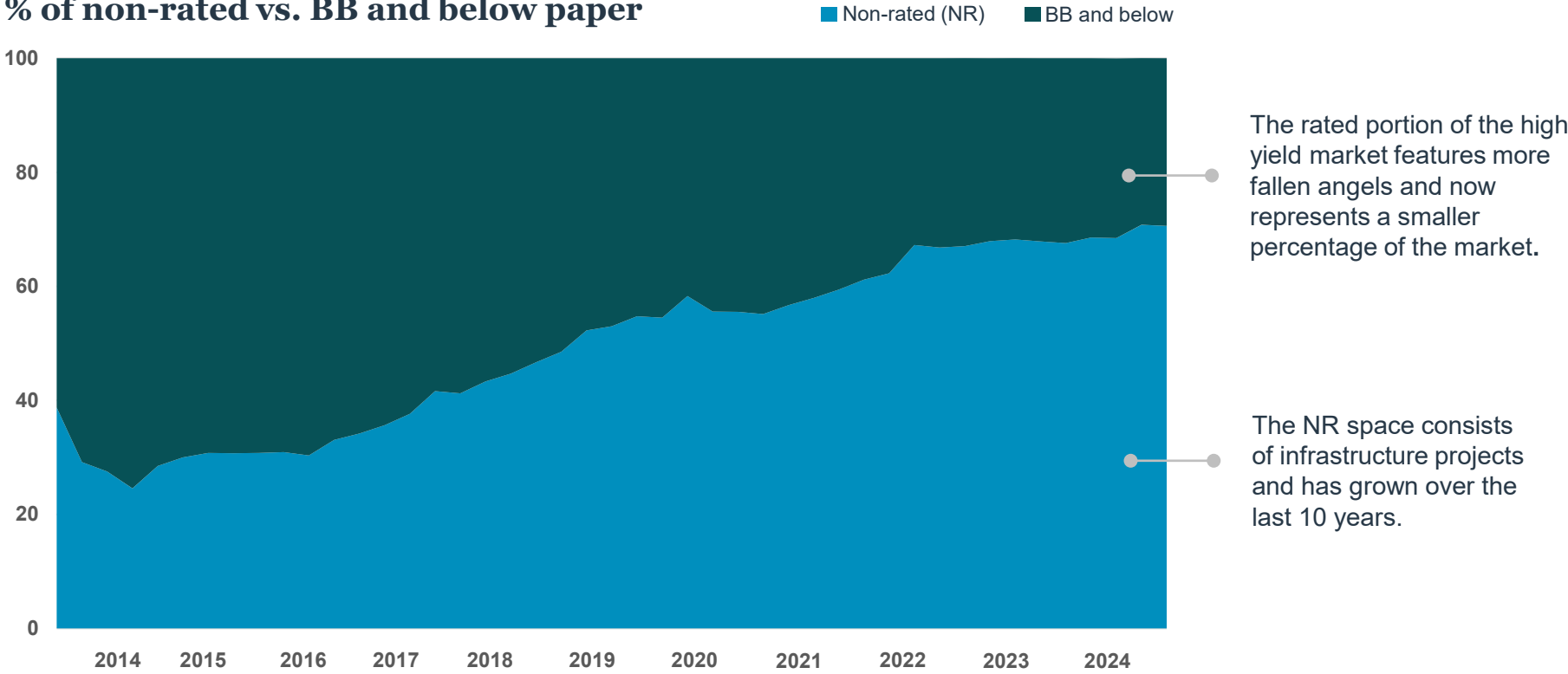
Average tax collections have remained strong, averaging \$334 billion per quarter from 1Q19 to 1Q25.

Data source: Nuveen; census.gov, as of 30 Jun 2025, with data as of 31 Mar 2025.
 OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

High yield market increasingly moving toward non-rated bonds

Fundamental credit research at the sector and issuer level guides our selective participation in deals that can help drive performance.

% of non-rated vs. BB and below paper

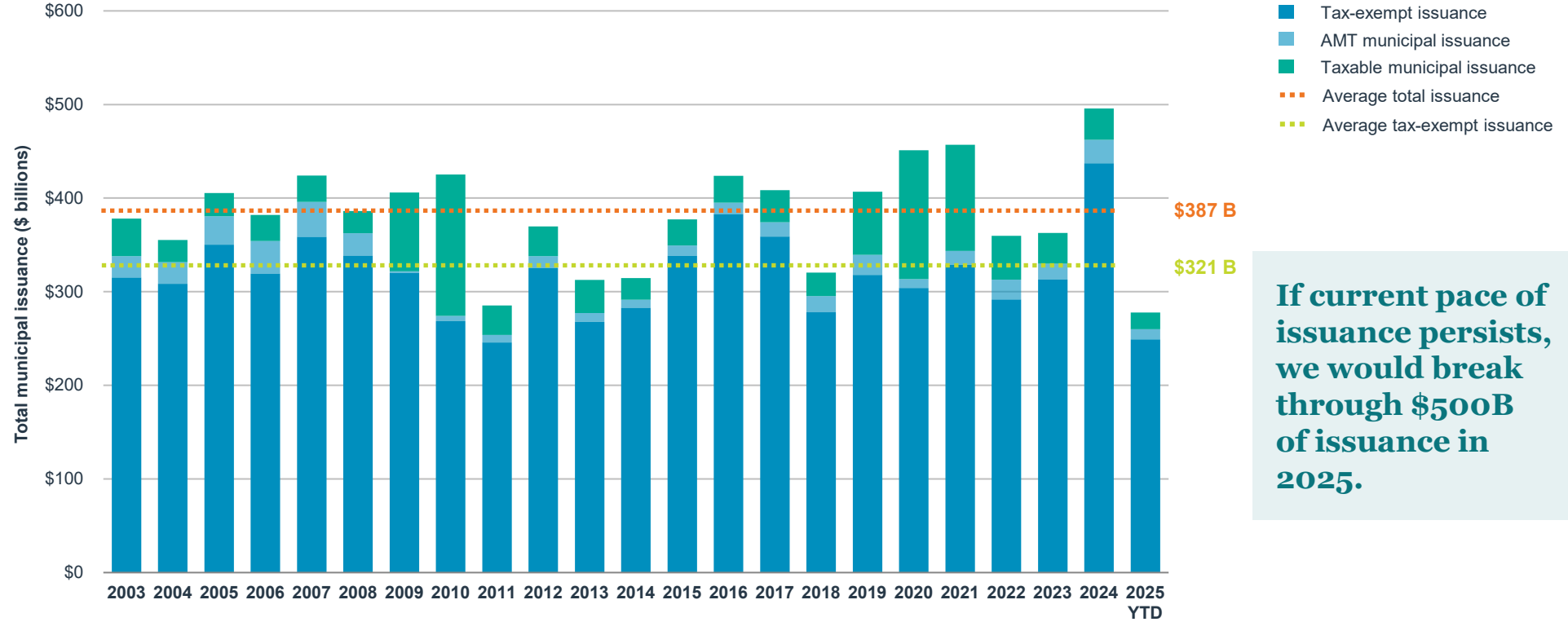


Data source: Bloomberg, 01 Jan 2014 – 31 Dec 2024. Represented by the Bloomberg Municipal Bond High Yield Index.
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Tax-exempt issuance begins 2025 at elevated levels

Overall issuance through May was 17.3% higher than 2024 levels, placing pressure on performance.

Municipal issuance



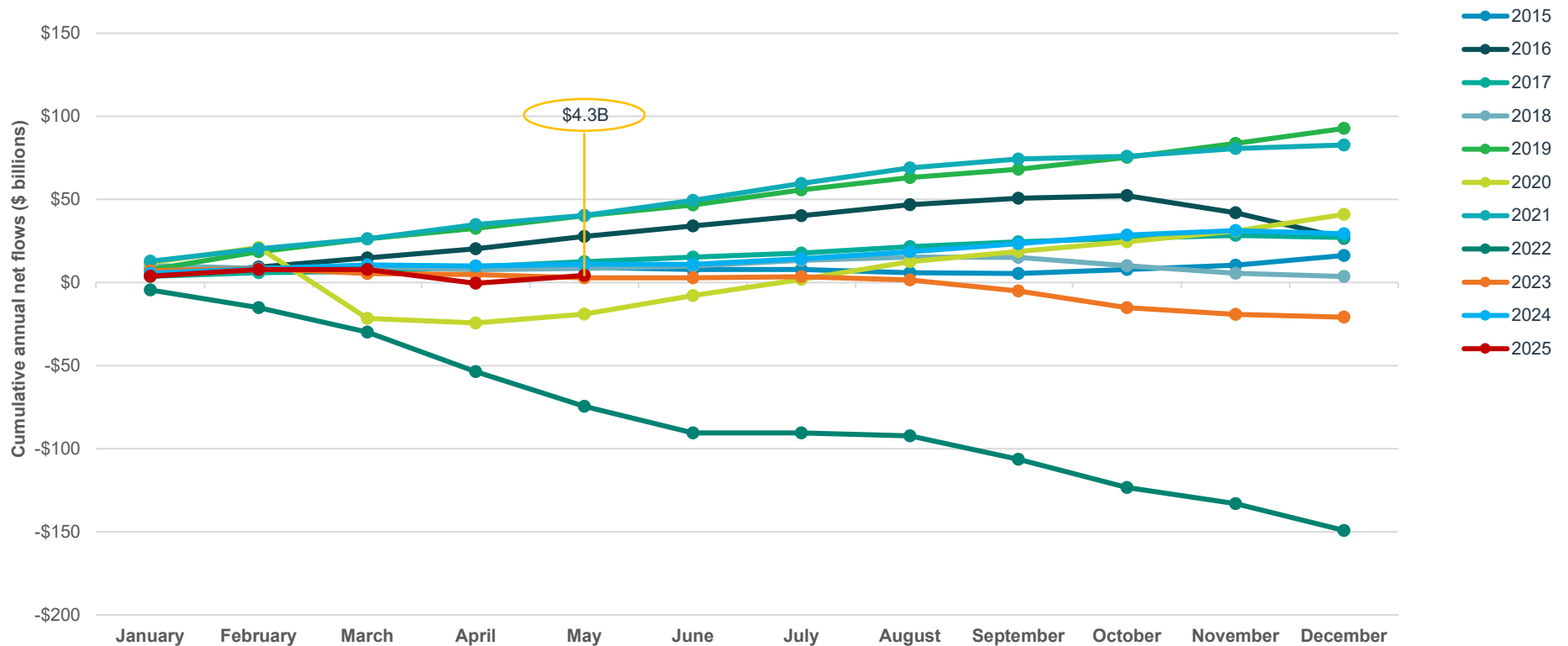
Data source: Securities Industry and Financial Markets Association (SIFMA.org), U.S. Bond Market Issuance and Outstanding, 07 Jul 2025 for period ending 30 Jun 2025. The average total issuance and average tax-exempt issuance shown are for the period 01 Jan 2003 – 31 Dec 2024. AMT municipal issuance is part of the tax-exempt municipal market.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Fund flows were upset by policy uncertainty amidst the tariff news

Municipal open-end fund net inflows were \$4.26 billion through May 2025.

Annual municipal bond fund flows by month
2015 – 2025 YTD



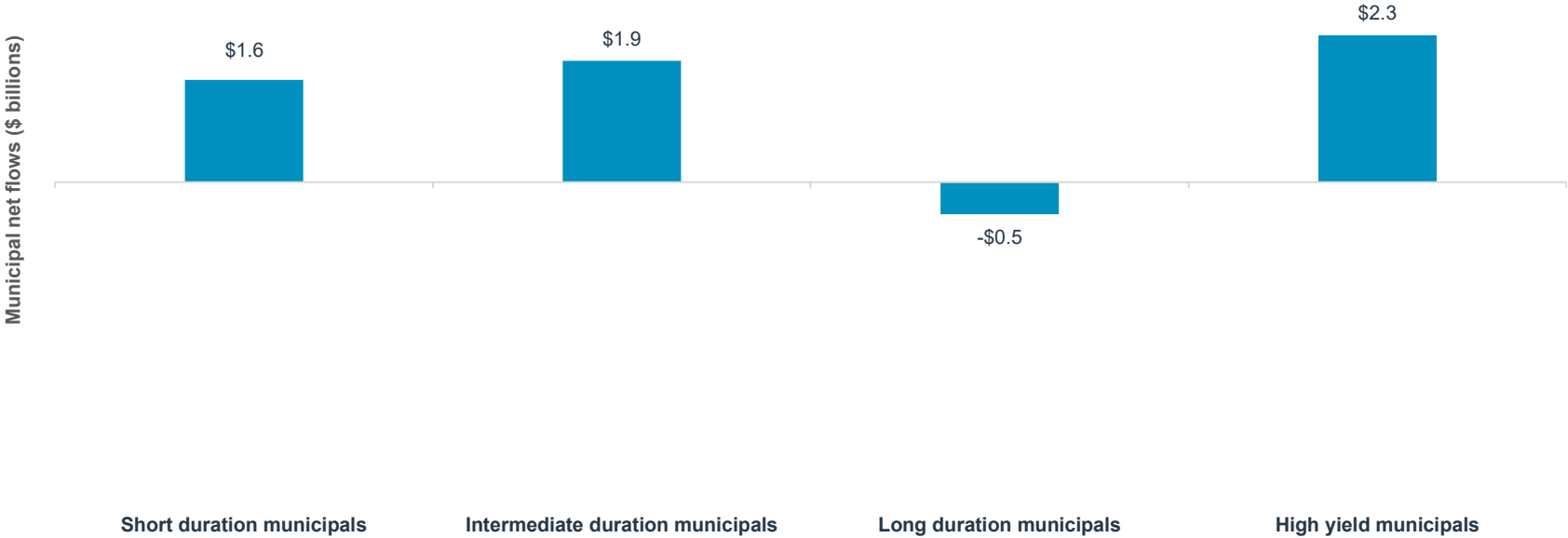
Data source: Morningstar Direct, 01 Jan 2015 – 31 May 2025, cumulative flows for each calendar year, shown monthly. Net flows represent the total of all municipal bond open-end funds.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Investor flows felt pressure amidst federal policy uncertainty, but continue to favor credit risk

Fund flows favor high yield municipals due to a strong credit fundamental backdrop.

2025 YTD inflow or outflow by municipal bond category



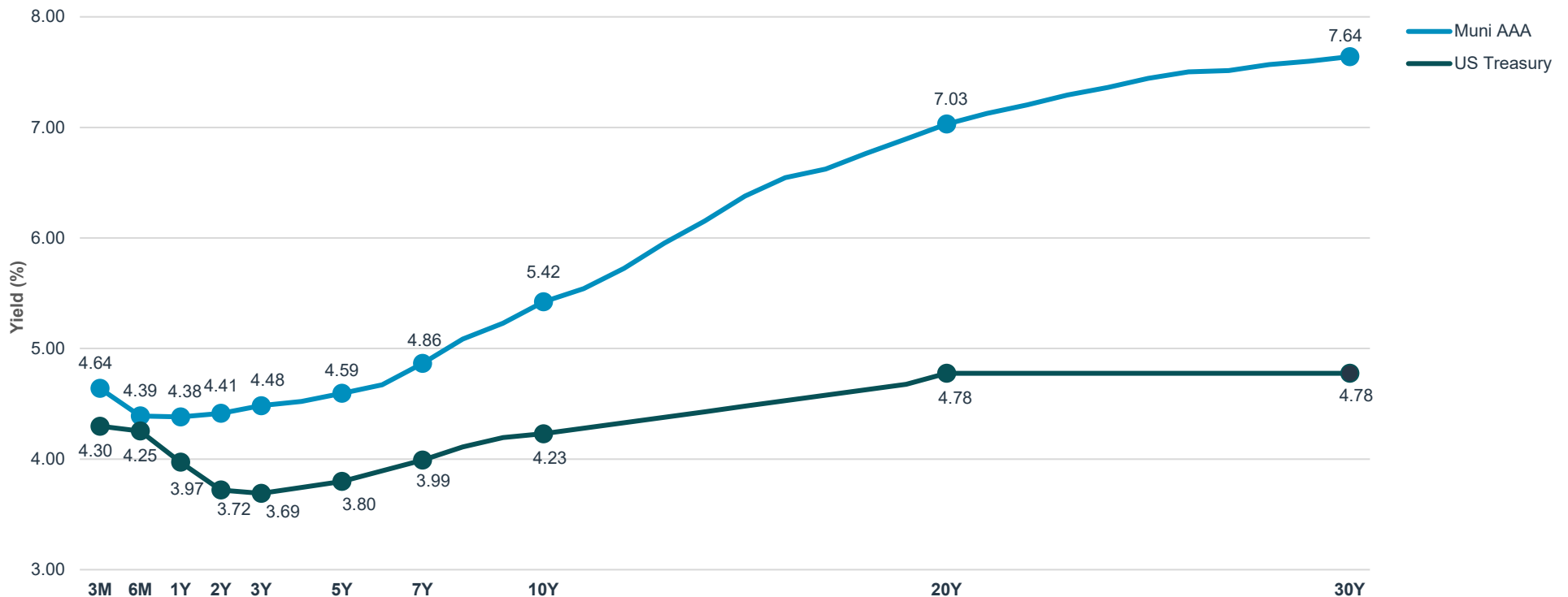
Data source: Morningstar Direct, 01 Jan 2025 – 31 May 2025. Net flows represent the total of all municipal bond open-end funds. Respective Morningstar categories: Short duration municipals: Muni National Short; Intermediate duration municipals: Muni National Interm; Long duration municipals: Muni National Long; High yield municipals: High Yield Muni.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Municipals remain attractive on an after-tax basis

The shape of the municipal curve offers meaningful opportunity to achieve higher tax-efficient yields by extending duration, as the curve has more of an upward slope.

U.S. Treasuries vs. AAA municipal yield curve (taxable equivalent yield)

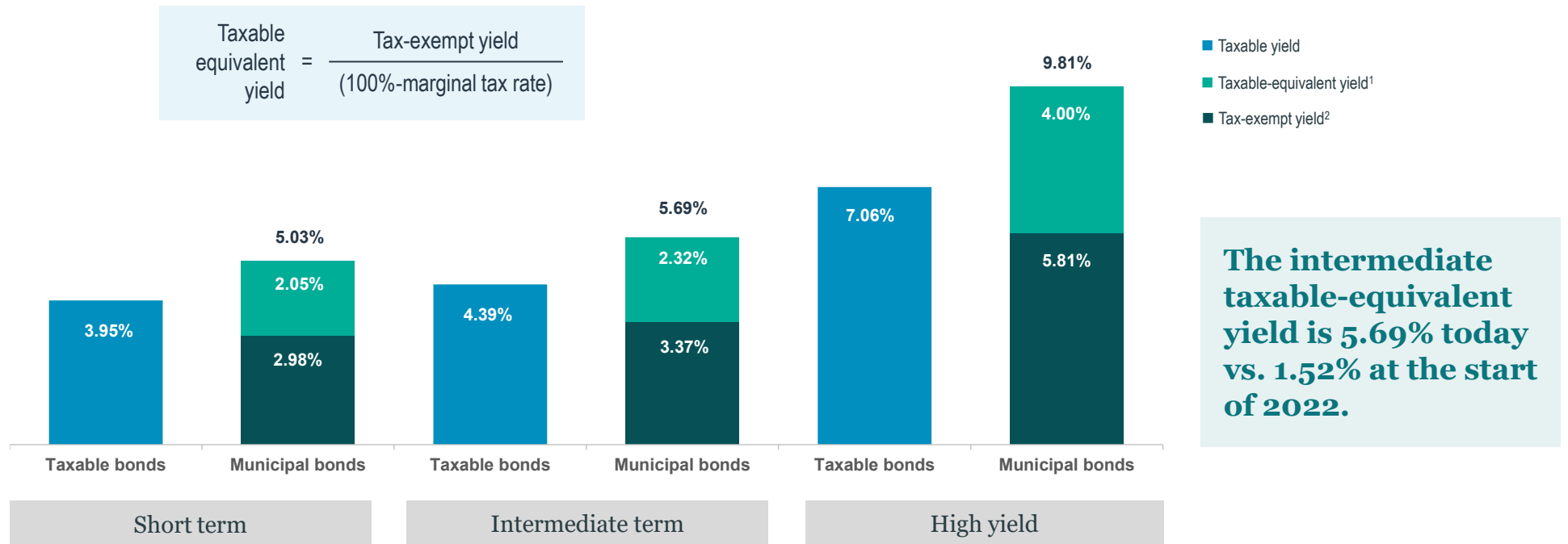


Data source: Bloomberg; Nuveen Portfolio Strategy & Solutions, as of 30 Jun 2025. Taxable-equivalent yield (TEY) is the yield a taxable investment needs to possess (before taxes) for its yield to be equal to that of a tax-free municipal investment. The yields shown are based on the highest individual marginal federal tax rate of 37%, plus the 3.8% Medicare tax on investment income. Individual tax rates may vary. They do not take into account the effects of the federal alternative minimum tax (AMT) or capital gains taxes.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Municipals are attractive on an after-tax basis

Yield comparison



1 The taxable-equivalent yield is based on the highest individual marginal federal tax rate of 37.0%, plus the 3.8% Medicare tax on investment income (the Net Investment Income Tax). Individual tax rates may vary.

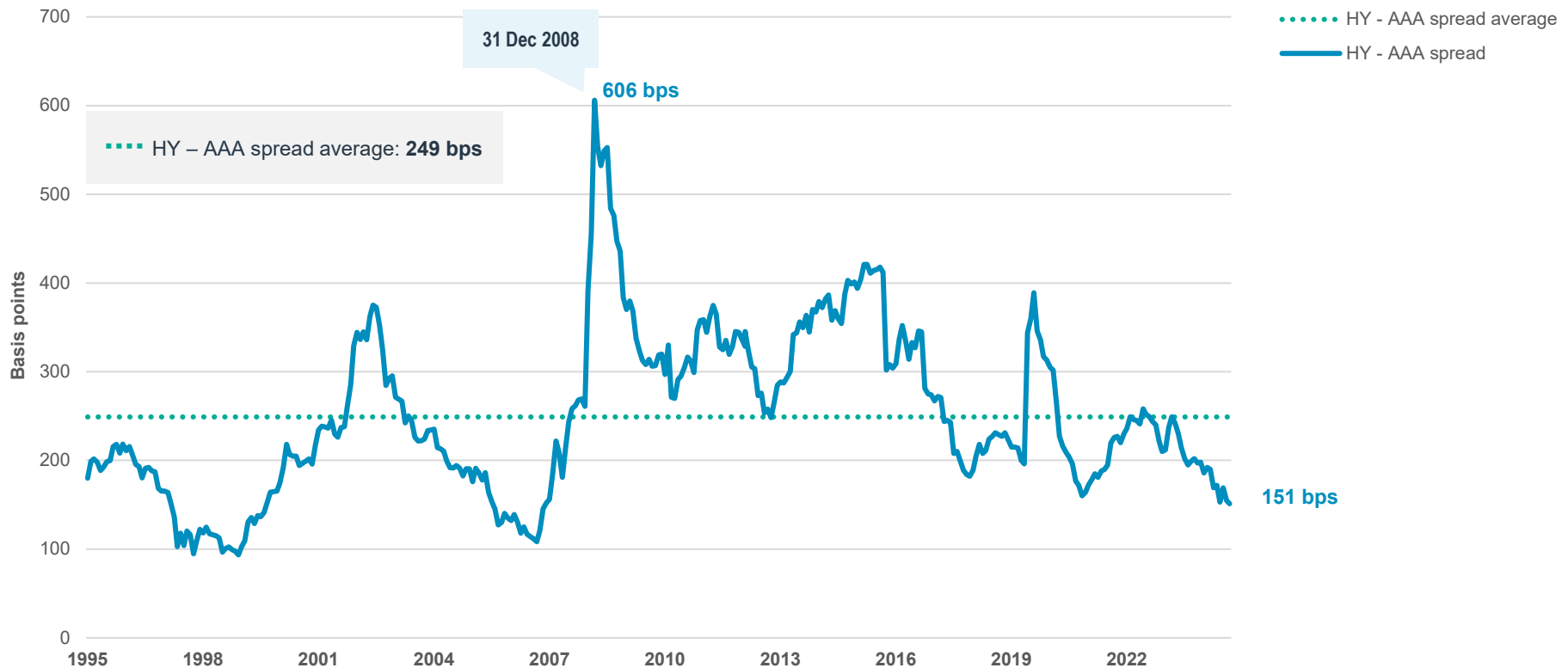
2 Some income may be subject to state and local taxes and the federal alternative minimum tax.

Data source: Bloomberg L.P., 30 Jun 2025. **Performance data shown represents past performance and does not predict or guarantee future results.** Yields are yield to worst. **Yield to worst** is the lowest potential yield that can be received on a bond without the issuer defaulting. **Taxable-equivalent yield** is the yield a taxable investment needs to possess (before taxes) for its yield to be equal to that of a tax-free municipal investment. The yields shown are based on the highest individual marginal federal tax rate of 37%, plus the 3.8% Medicare tax on investment income. Individual tax rates may vary. They do not take into account the effects of the federal alternative minimum tax (AMT) or capital gains taxes. **Representative indexes:** **Short term taxable bonds:** Bloomberg U.S. Government/Credit 1-5 Year Index; **Short term municipal bonds:** Bloomberg Municipal Short Index; **Intermediate term taxable bonds:** Bloomberg U.S. Government/Credit 5-10 Year Index; **Intermediate term municipal bonds:** Bloomberg Municipal Intermediate Index; **High yield taxable bonds:** Bloomberg Corporate High Yield 2% Issuer Capped Index; **High yield municipal bonds:** Bloomberg High Yield Municipal Bond Index. Different benchmarks, economic periods, methodologies and market conditions will produce different results.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

High yield credit spreads are below historical averages as flows continue to return

Bloomberg High Yield Municipal Index versus AAA yields

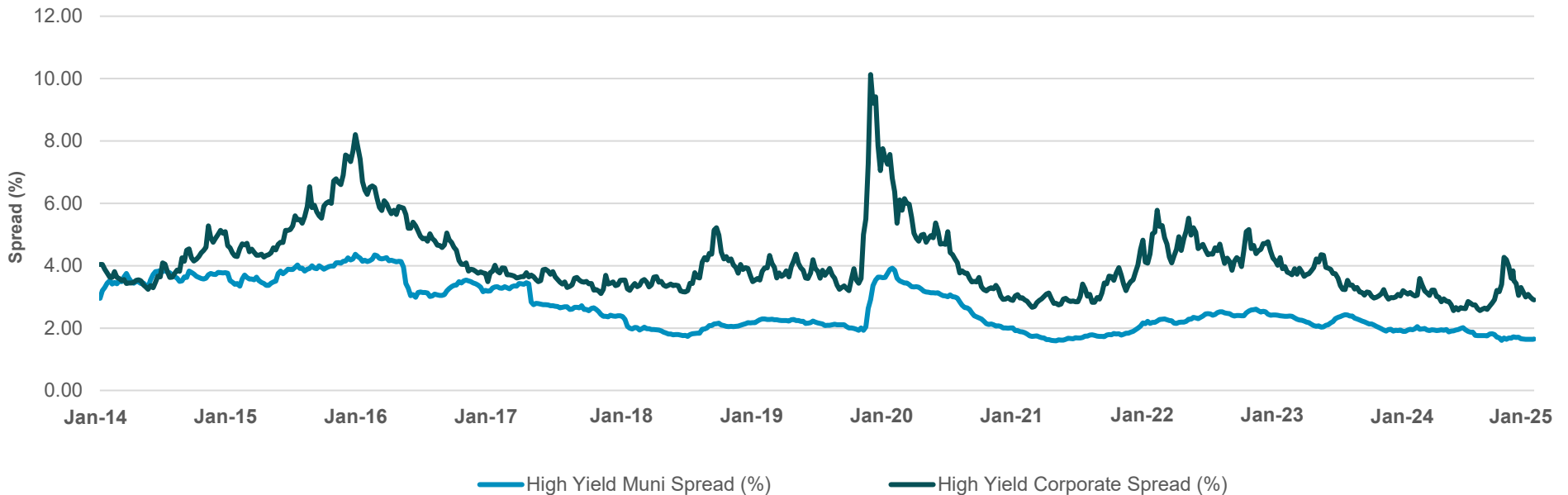


Data source: Bloomberg, Refinitiv MMD, 31 Oct 1995 – 30 Jun 2025, shown monthly. Chart shows data to the earliest period available. Performance data shown represents past performance and does not predict or guarantee future results. High yield municipal yields represented by the Bloomberg High Yield Municipal Index; AAA municipal yields represented by Municipal Market Data (MMD) yields for AAA rated 20-year bonds. High yield or lower-rated bonds and municipal bonds carry greater credit risk, and are subject to greater price volatility. Ratings shown are from S&P and are subject to change. AAA, AA, A, and BBB are investment grade ratings; BB, B, CCC/CC/C and D are below-investment grade ratings. Different benchmarks, economic periods, methodologies and market conditions will produce different results.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

High yield municipal bond spreads have remained relatively stable over time

High yield municipal spreads are stable, even during equity selloffs



We favor fixed income sectors such as high yield municipals that could withstand an equity drawdown while rewarding investors with attractive income.

Data source: Bloomberg, L.P., 01 Jan 2014 – 30 Jun 2025. Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: high yield municipal spread: Bloomberg Municipal High Yield Index yield-to-worst minus BVAL AAA Municipal 20-year tenor; high yield corporate spread: Bloomberg U.S. Corporate High Yield Option Adjusted Spread Index. Shaded areas represent S&P 500 Total Return drawdown periods of 10% or greater. Yield-to-worst is the lowest potential yield that can be received on a bond without the issuer actually defaulting.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Outlook

Opportunities

- Interest rate volatility and elevated yields offer opportunity across various municipal strategies.
- Higher-for-longer yields are providing meaningful taxable-equivalent yields.
- Increased reinvestment demand from July & August maturities and calls, combined with typical summer supply reduction, may lead to stronger performance in the second half of the year.
- Valuations have returned in favor of municipal investors, creating heightened opportunity.
- The shape of the yield curve is positively sloped, providing strong opportunity in the intermediate area.
- Municipal credit remains strong, with resilient revenue collections and ample levels of reserve funds.

Challenges

- Expected 2025 overall supply exceeding \$500B could create volatility as supply is absorbed.
- As sector-specific challenges widen the gap between stronger and weaker credits, careful security selection becomes increasingly important for portfolio performance.
- Spend down of remaining Covid aid will shrink excess municipal reserves from all-time high levels.
- Policy impacts regarding fiscal deficits, tariffs, deregulation and immigration, combined with timing and magnitude of rate cuts, could cause yield volatility.
- A slower pace of Fed rate cuts may keep cash on the sidelines as short-term rates remain attractive.
- Lower dealer inventories post-pandemic can add to volatility when liquidity is strained in the market.

Source: Nuveen as of 30 Jun 2025. Certain statements may be deemed forward-looking statements. Please note that any such statements are not guarantees or intended to constitute a prediction of any future performance; actual results or developments may differ materially from those projected. Investing involves risk, including possible loss of principal. This information should not be relied upon as investment advice or recommendations. For additional information, please refer to Risks and Important Disclosures provided at the end of this presentation.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Risks and important disclosures

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on an investor's objectives and circumstances and in consultation with his or her financial professionals.

The views and opinions expressed are for informational and educational purposes only as of the date of production/writing and may change without notice at any time based on numerous factors, such as market or other conditions, legal and regulatory developments, additional risks and uncertainties and may not come to pass. This material may contain "forward-looking" information that is not purely historical in nature. Such information may include, among other things, projections, forecasts, estimates of market returns, and proposed or expected portfolio composition. Any changes to assumptions that may have been made in preparing this material could have a material impact on the information presented herein by way of example. **Performance data shown represents past performance and does not predict or guarantee future results.** Investing involves risk; principal loss is possible.

All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such. For term definitions and index descriptions, please access the glossary on nuveen.com. **Please note, it is not possible to invest directly in an index.**

IMPORTANT INFORMATION ON RISK

Investing involves risk; principal loss is possible. All investments carry a certain degree of risk and there is no assurance that an investment will provide positive performance over any period of time. Investing in municipal bonds involves risks such as interest rate risk, credit risk and market risk. The value of the portfolio will fluctuate based on the value of the underlying securities. There are special risks associated with investments in high yield bonds, hedging activities and the potential use of leverage. Portfolios that include lower rated municipal bonds, commonly referred to as "high yield" or "junk" bonds, which are considered to be speculative, the credit and investment risk is heightened for the portfolio. Bond insurance guarantees only the payment of principal and interest on the bond when due, and not the value of the bonds themselves, which will fluctuate with the bond market and the financial success of the issuer and the insurer. No representation is made as to an insurer's ability to meet their commitments. This information

should not replace an investor's consultation with a financial professional regarding their tax situation. Nuveen is not a tax professional. Investors should contact a tax professional regarding the appropriateness of tax-exempt investments in their portfolio. If sold prior to maturity, municipal securities are subject to gain/losses based on the level of interest rates, market conditions and the credit quality of the issuer. Income may be subject to the alternative minimum tax (AMT) and/or state and local taxes, based on the state of residence. Income from municipal bonds held by a portfolio could be declared taxable because of unfavorable changes in tax laws, adverse interpretations by the Internal Revenue Service or state tax authorities, or noncompliant conduct of a bond issuer. It is important to review your investment objectives, risk tolerance and liquidity needs before choosing an investment style or manager.

Nuveen Asset Management, LLC is a registered investment adviser and an affiliate of Nuveen, LLC.

Nuveen, LLC provides investment solutions through its investment specialists.

This information does not constitute investment research as defined under MiFID.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.