

nuveen

A TIAA Company

Municipal market update

August 2025

As of 31 July 2025

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

Municipal market themes: what to know



Economy

WHAT WE'RE WATCHING

OUR LATEST THINKING

Inflation	<i>Not likely to reach Fed's target</i>	Core inflation is moderating but could face challenges amid policy uncertainty.
Policy	<i>Rate cuts on horizon</i>	Recent data gives the Fed support to resume cutting rates.
Economic growth	<i>OBBBA and federal policy impacts</i>	Despite tariff uncertainty, the economy has been surprisingly resilient. OBBBA provides some certainty around policy.
Interest rates	<i>Higher-for-longer yields</i>	While rates have been range-bound, longer-term rates remain higher than expected.
Credit fundamentals	<i>Credit resiliency</i>	States and cities have strong revenue collections and reserves. Municipal defaults are expected to remain low, rare and idiosyncratic.
Supply and demand	<i>Heavy supply, episodic demand</i>	We anticipate heavy supply that may exceed \$550 billion. Tax-exempt status of municipals is preserved with OBBBA.
Valuations	<i>Elevated income and attractive yields</i>	Steepest municipal yield curve in nearly a decade creates opportunity for intermediate-to-longer term strategies.



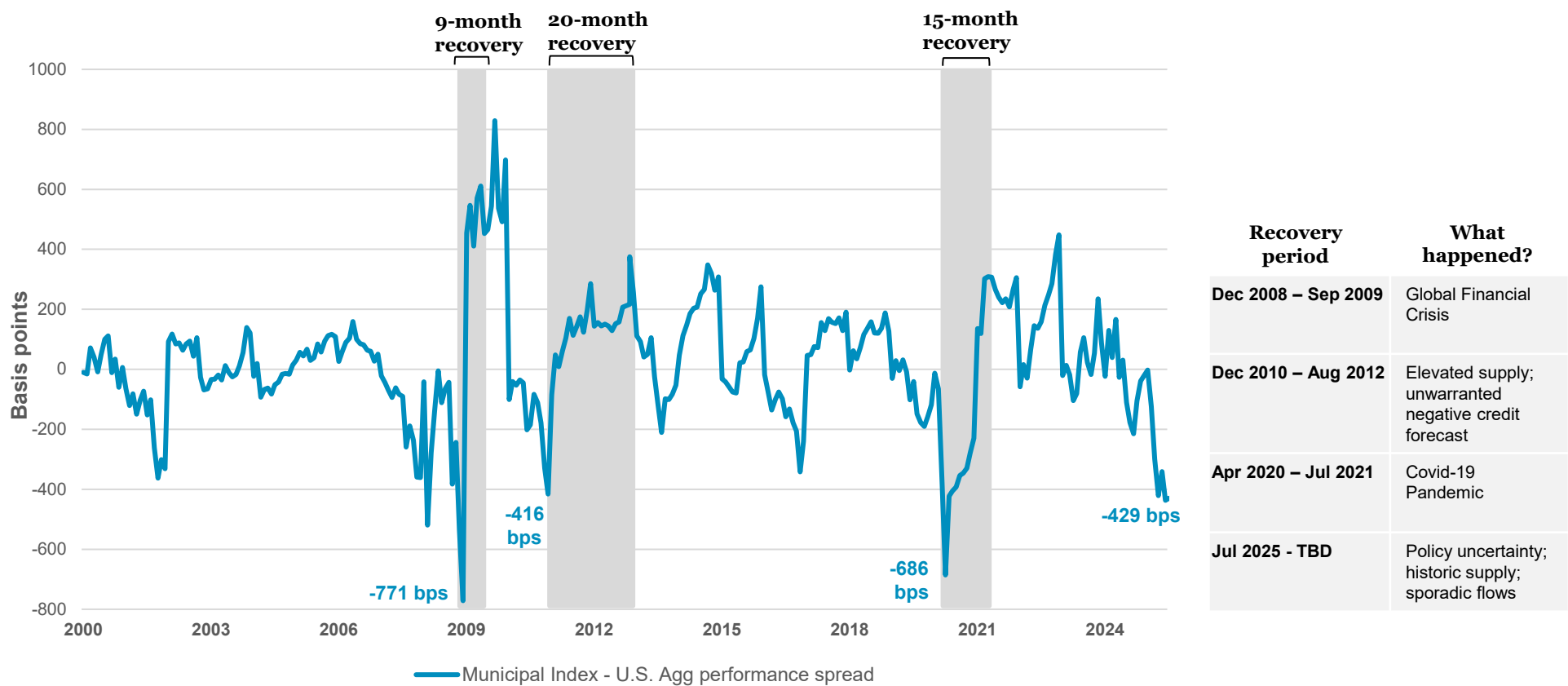
Municipals

Source: Nuveen as of 31 Jul 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.

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Municipal underperformance has been notable, but history shows there is a reversion to the mean

Performance: Bloomberg Municipal Index vs. Bloomberg U.S. Aggregate Index

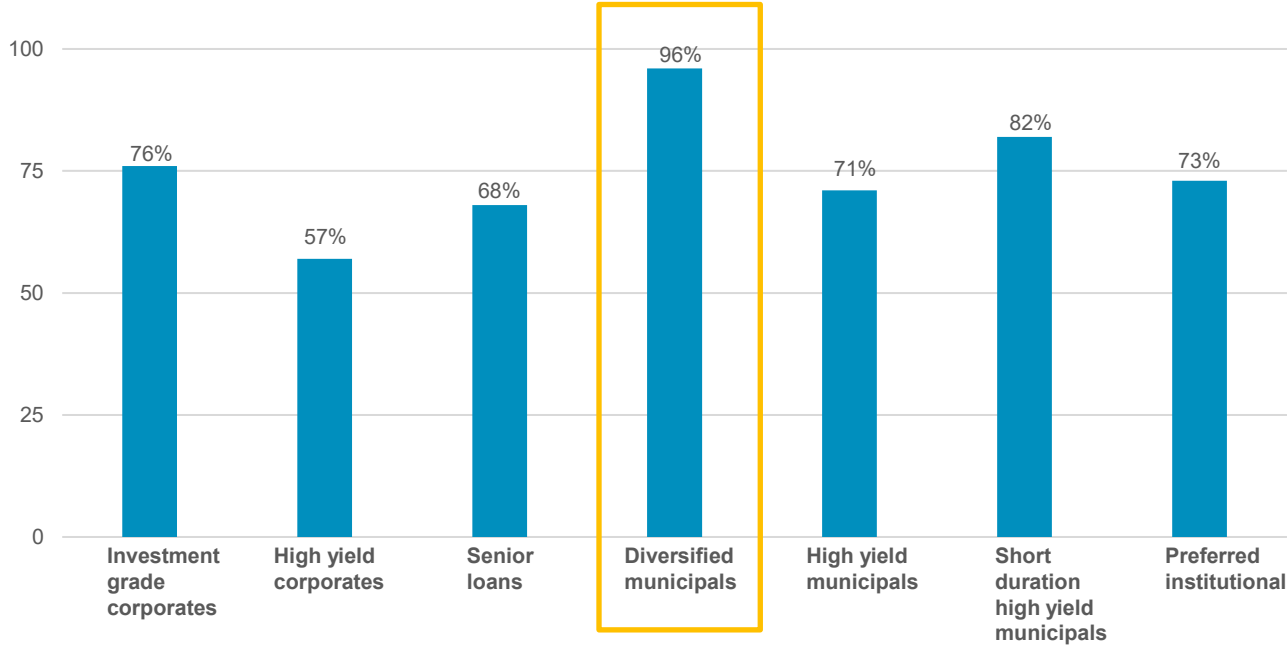


Data sources: Bloomberg, L.P., Refinitiv MMD, 31 Jan 2000 – 31 Jul 2025, shown monthly. Performance data shown represents past performance and does not predict or guarantee future results. Municipal bond performance represented by the Bloomberg Municipal Bond Index; U.S. Aggregate performance represented by Bloomberg U.S. Aggregate Index. Periods of municipal underperformance with -400 bps were identified, and the corresponding number of months to recovery were tracked, as shown by the shaded periods: 31 Dec 2008 – 30 Sep 2009, 31 Dec 2010 – 31 Aug 2012, and 30 Apr 2020 – 31 Jul 2021. Different benchmarks, economic periods, methodologies and market conditions will produce different results.

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

Current yields vs. 10-year average: Municipals in 96th percentile



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

	Current	3-yr average
10-year	76%	69%
30-year	96%	89%

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

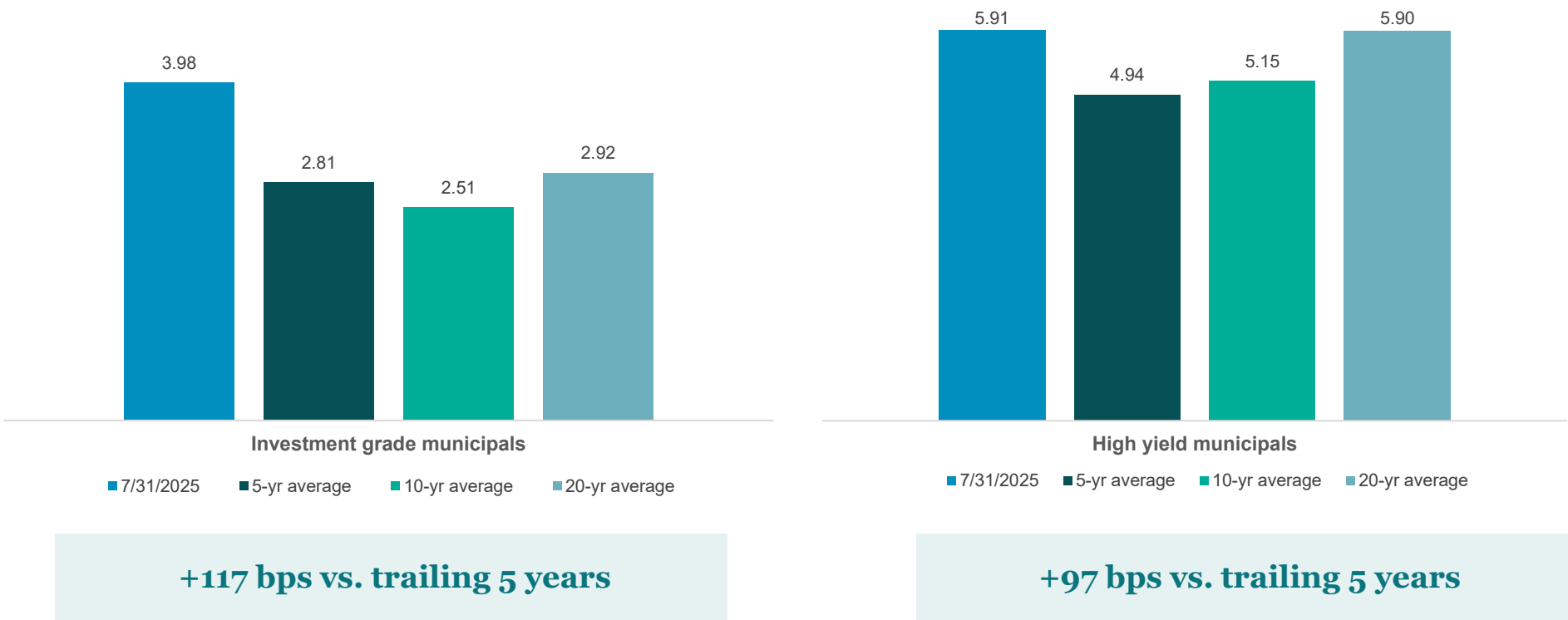
Data sources: Bloomberg, L.P., 31 July 2025. Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: investment grade corporates: Bloomberg U.S. Corporate Total Return Value Unhedged USD; high yield corporates: Bloomberg U.S. Corporate 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.

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

Current municipal yields are attractive compared to history.

Yield to worst (%)








Data source: Bloomberg, L.P., 31 Jul 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.

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Federal policy shifts impact on muni issuers

Implications of the One Big Beautiful Bill Act (OBBBA)

 Muni tax exemption <ul style="list-style-type: none">▪ Municipal tax exemption remains in place	 State and Local Tax (SALT) <ul style="list-style-type: none">▪ SALT cap increases to \$40K in 2025 before reverting to \$10K in 2030	 Energy policy <ul style="list-style-type: none">▪ Renewable energy tax credits end after 2027	 Medicaid <ul style="list-style-type: none">▪ Reimbursement reduction and fewer eligible insured people could constrain state-directed payments to hospitals and nursing facilities in future years	 Education & endowments <ul style="list-style-type: none">▪ Caps on student loans and changes to repayment plans▪ Endowment tax on wealthier universities
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Implications:



















- Provides municipalities a cost-effective way to finance infrastructure efficiently across the country
- Reduces the individual tax burden for some residents in high-tax states
- Jurisdictions with local taxes could see taxpayer out-migration to low tax states if the deduction moves lower in future
- Could impact energy production capacity and electricity rates
- Renewable power projects will likely be more expensive for electric utilities and customers
- Finances of hospitals and nursing facilities could become strained
- Potential impact to revenues and enrollment
- Endowments may seek excess investment returns to compensate for funding shortfalls and higher taxes

Source: Nuveen as of 31 Jul 2025.

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Muni sector scorecard

 Positive  Neutral  Negative

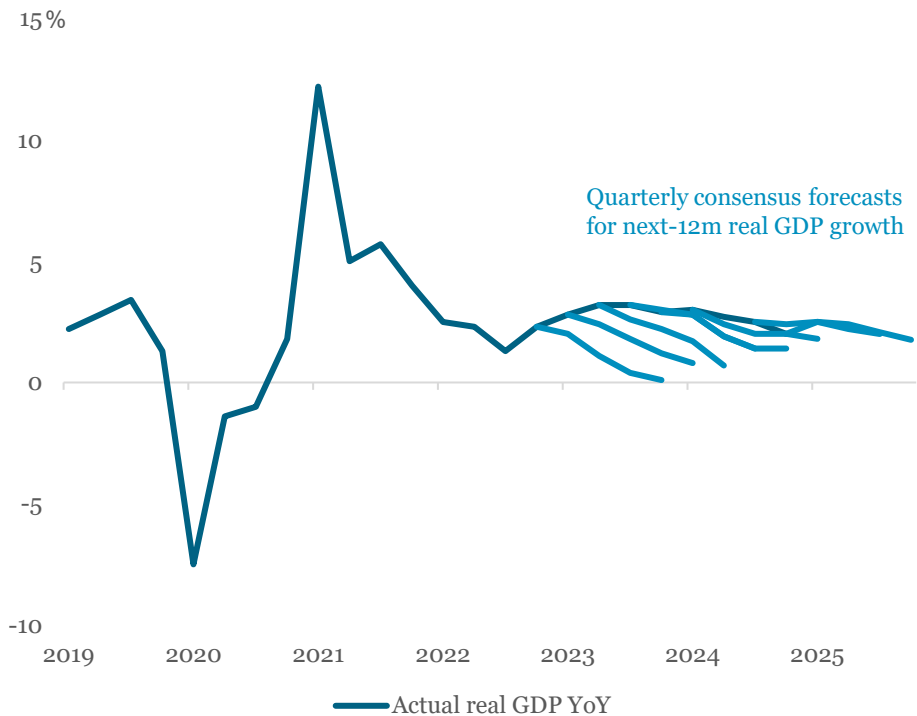
SECTOR	CREDIT FUNDAMENTALS	CREDIT MOMENTUM	VALUATIONS	KEY TAKEAWAY
State & local governments				Tax collections up and reserves at all time highs-provides cushion against economic slowdown
Education				Pressure due to increased competition for students and affordability coupled with federal policy changes. Large universities will be able to navigate, smaller colleges likely to struggle
Transportation				Large capital projects coupled with slowdown in air travel and shipping to ports, against backdrop of strong credit fundamentals
Housing				Need for affordable housing bolsters credit
Water & sewer utilities				Essential service, monopolistic providers with strong reserves and cash flow
Health care				Haves and have-nots (largely smaller rural hospitals). Stronger hospitals will likely weather Medicaid changes, while weaker providers will seek partners or struggle

Source: Nuveen as of 31 July 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.

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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 30 Jun 2025.

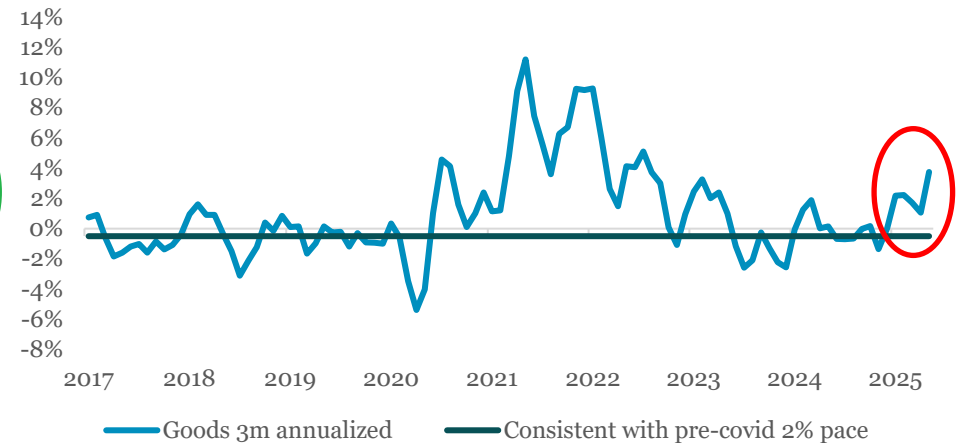
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Core inflation has steadied on a three-month annualized basis, but tariff impact is starting to bite

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



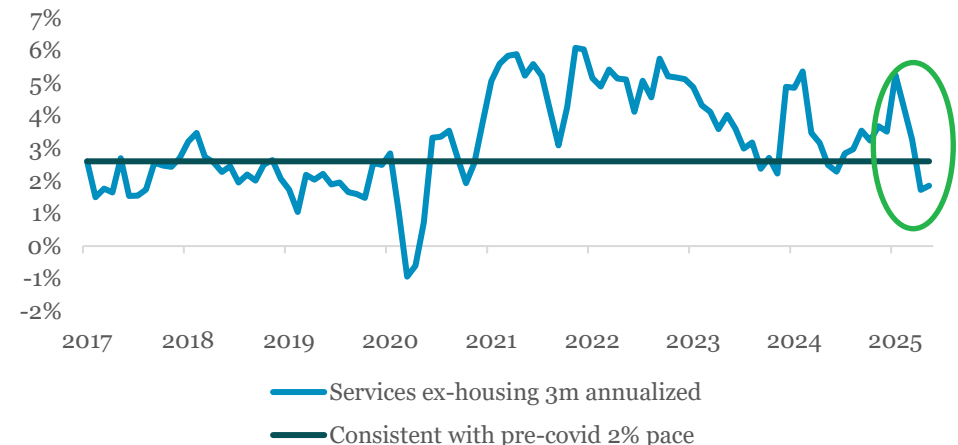
Goods inflation has **picked up** this year, increasingly reflecting the impact of tariffs



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



Other core services have **dropped sharply**



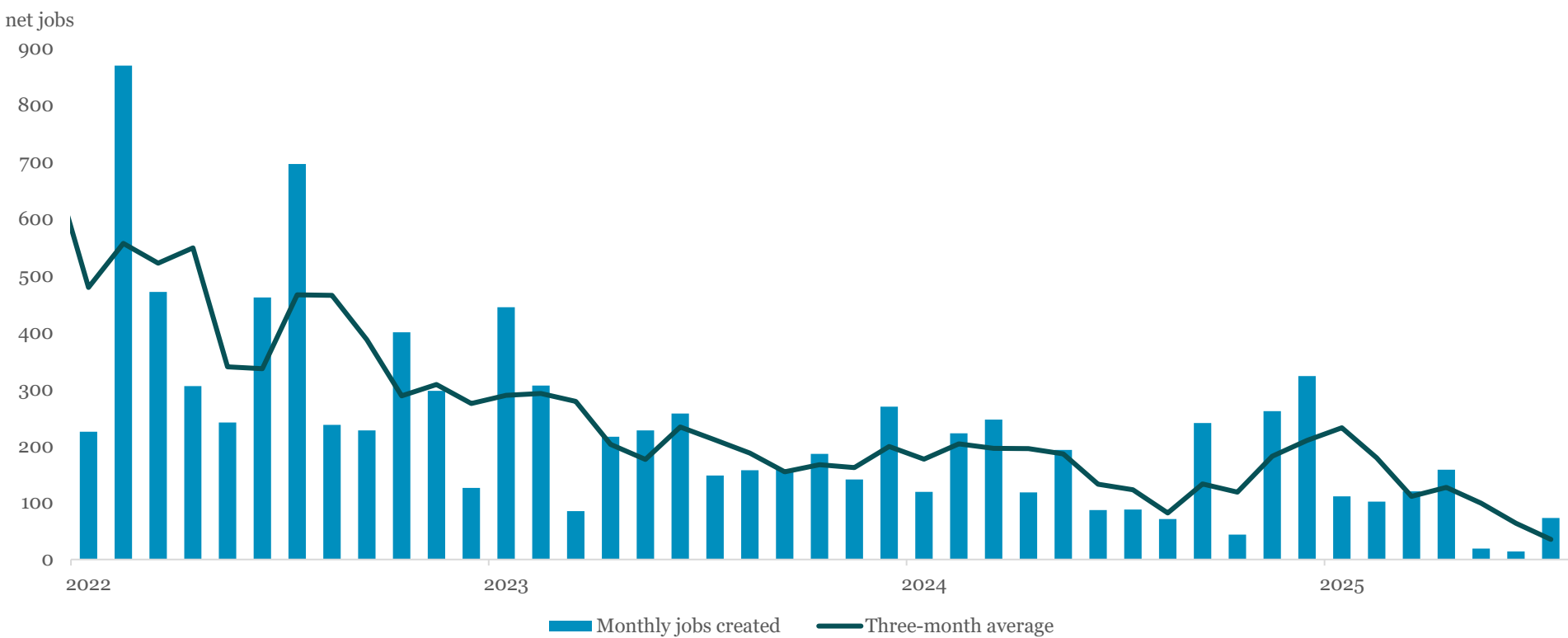
Sources: Bloomberg, BEA, as of 30 Jun 2025.

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The labor market has cooled and downside risks persist

The U.S. economy added only +35,000 jobs per month over the last three months.

Three-month average job creation has dropped sharply



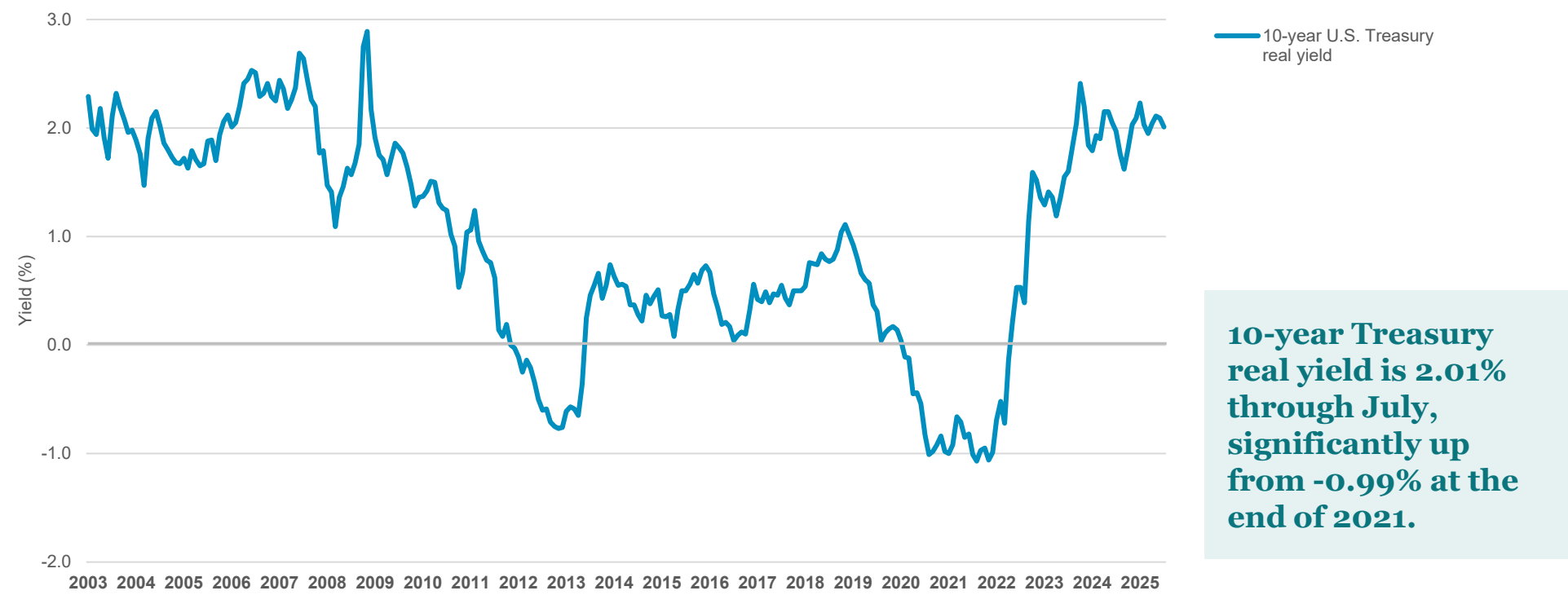
Source: Bloomberg, BLS, as of 30 Jun 2025.

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Real yield levels are outpacing inflation

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

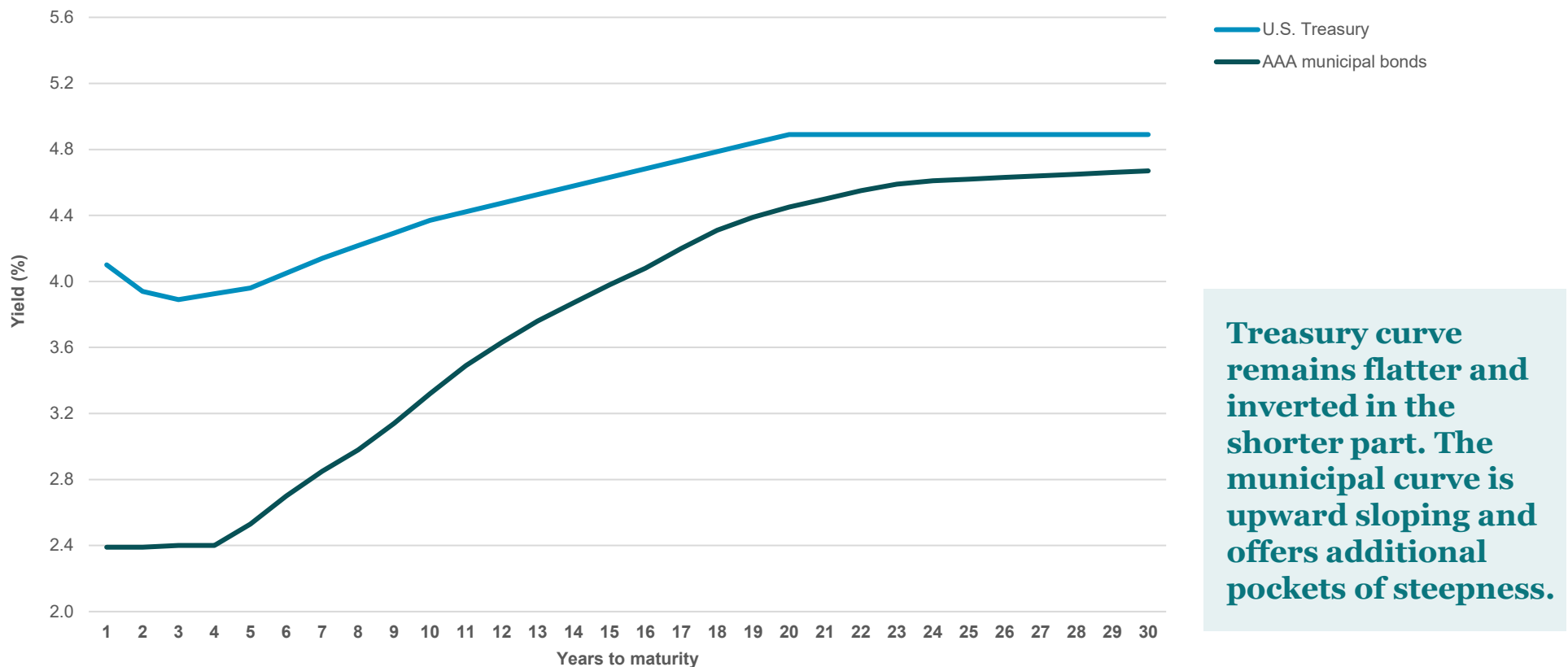
10-year U.S. Treasury real yield



Data source: FRED, 31 Jan 2003 – 31 Jul 2025, shown monthly. The real yield is a measure of the stated return on Treasury bonds, minus inflation, as of 31 Jul 2025.
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Municipal yield curve has more of a normal shape

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



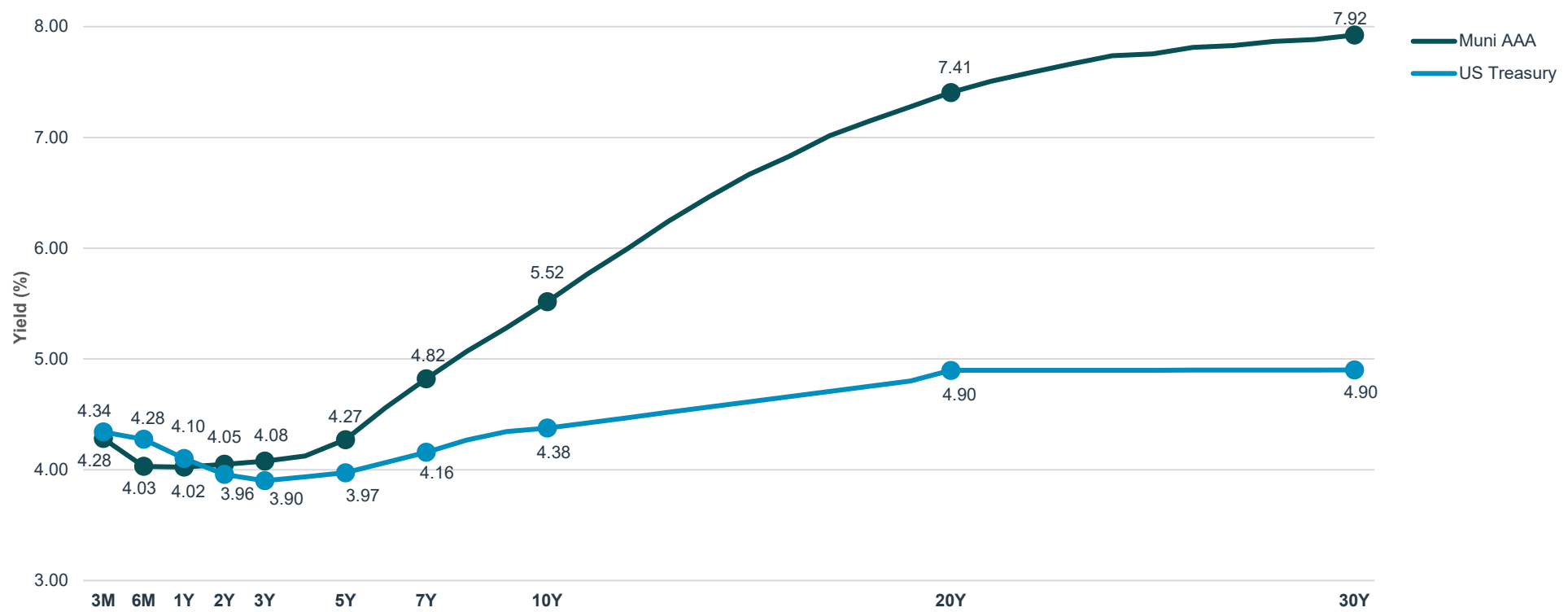
Data sources: U.S. Department of the Treasury; Refinitiv MMD, 31 Jul 2025. Performance data shown represents past performance and does not predict or guarantee future results. AAA municipals represented by Municipal Market Data (MMD) scale.

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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 31 Jul 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.

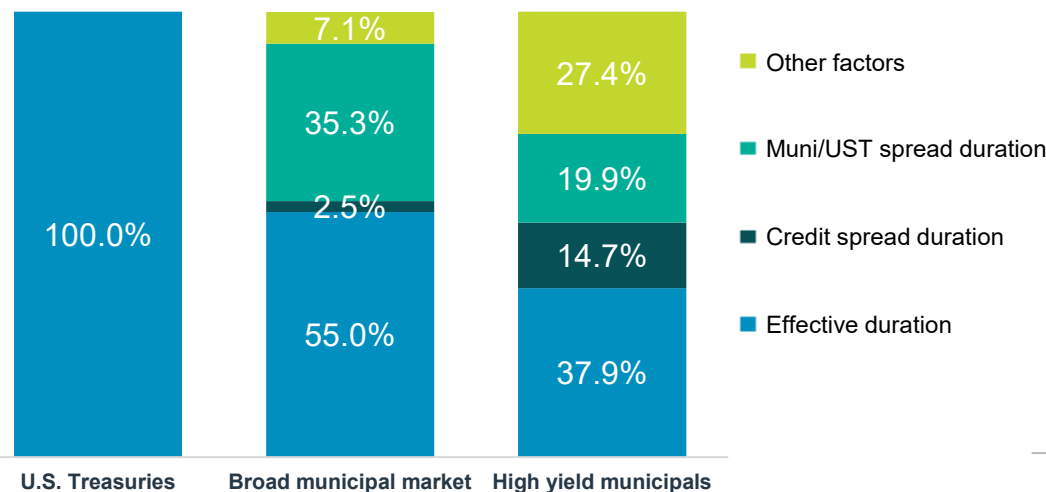
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Key factors in municipal bond returns

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

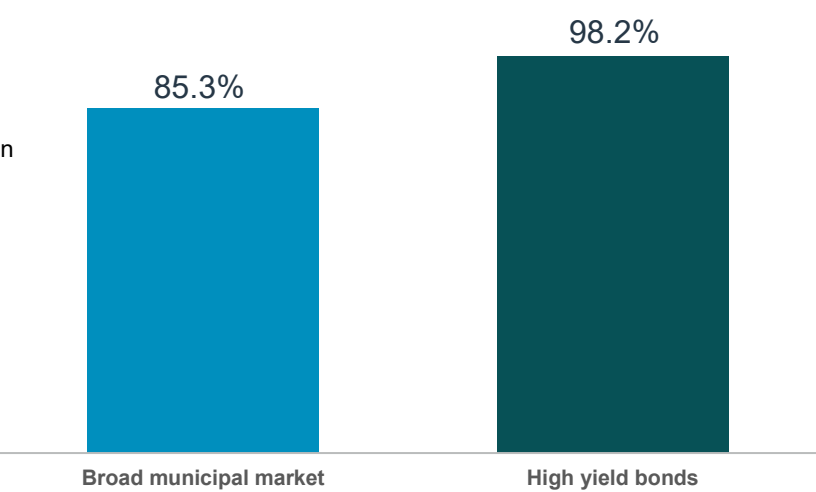
Drivers of risk¹

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 (%)

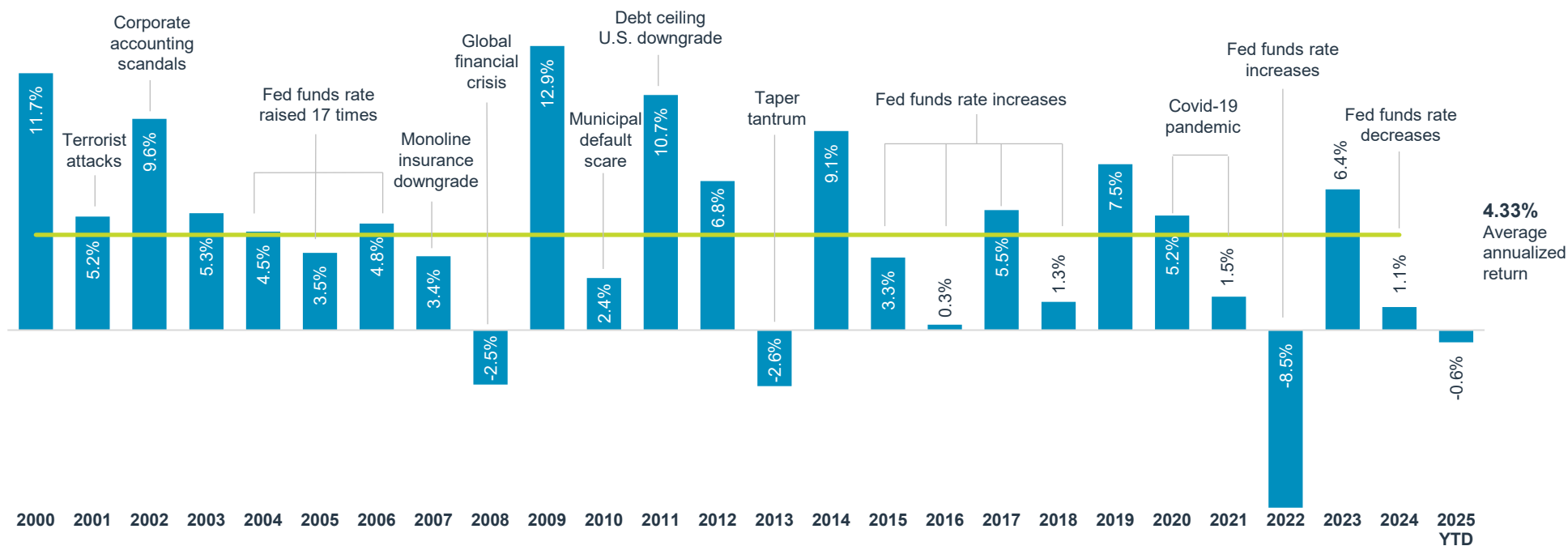
Income has dominated total return over time and can help offset any price declines due to rising rates



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.**
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Municipals have struggled so far in 2025, but historically we see resilience in the asset class

Bloomberg Municipal Bond Index Returns (%)



2025 YTD index performance has returned -0.55% through July.

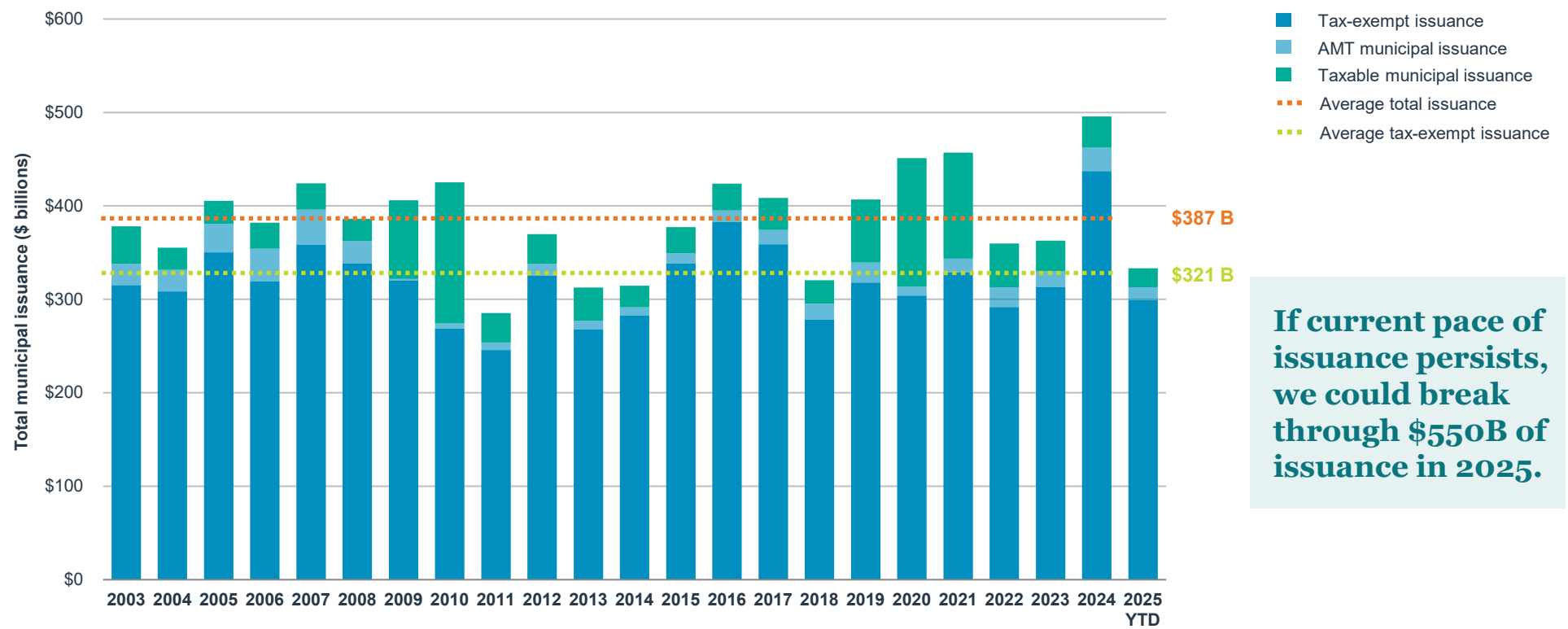
Data source: Bloomberg, L.P., 31 Jul 2025. The average annualized return shown is for the period 01 Jan 2000 – 31 Dec 2024. Performance data shown represents past performance and does not predict or guarantee future results. All investments carry a certain degree of risk, including possible loss of principal, and there is no assurance that an investment will provide positive performance over any period of time. Index returns include reinvestment of income and do not reflect investment professional and other fees that would reduce performance in an actual client account.

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Tax-exempt issuance in 2025 remains at elevated levels

Overall issuance through July was 20.2% higher than 2024 levels, placing pressure on performance.

Municipal issuance



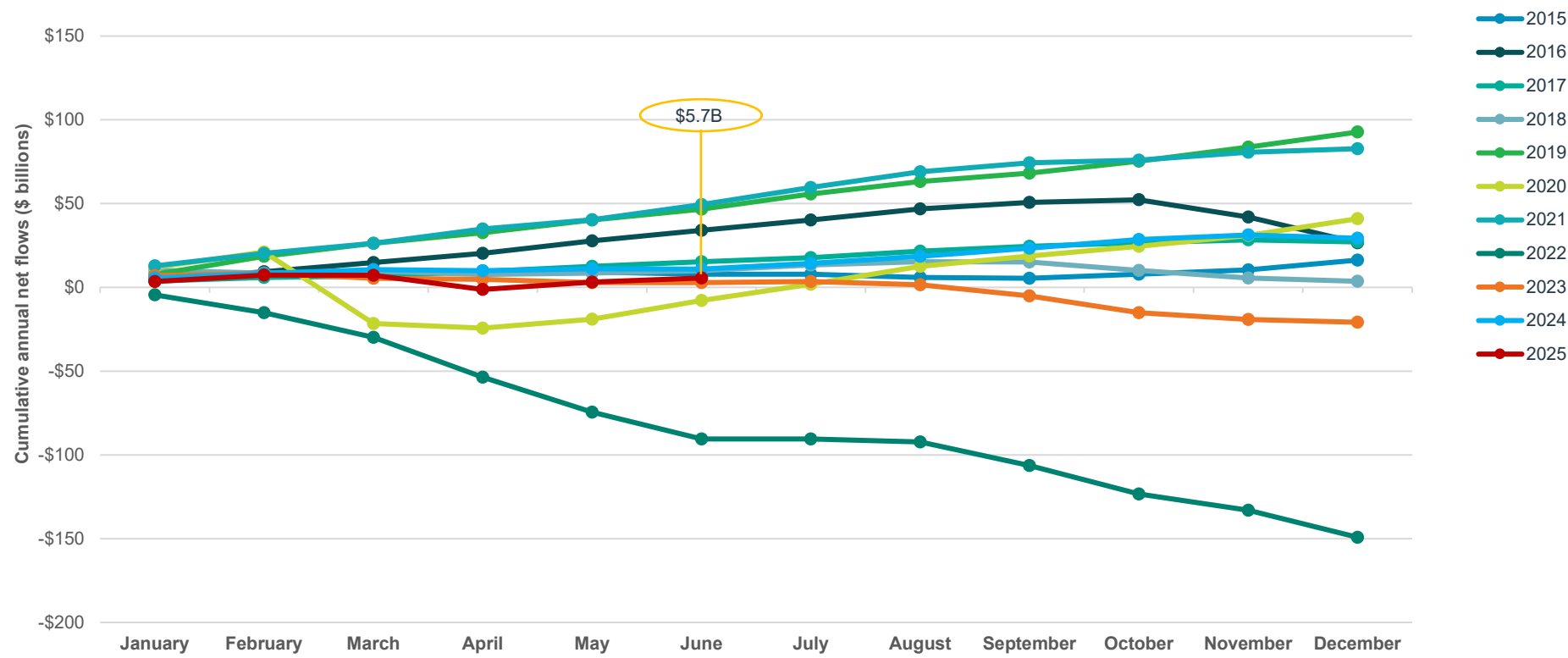
Data source: Securities Industry and Financial Markets Association (SIFMA.org), *U.S. Bond Market Issuance and Outstanding*, 04 Aug 2025 for period ending 31 Jul 2025. The average total issuance and average tax-exempt issuance shown are for the period 01 Jan 2003 – 31 Dec 2024. AMT municipal issuance is part of the tax-exempt municipal market.

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Fund flows were upset by policy uncertainty amidst the tariff and tax bill news

Municipal open-end fund net inflows were \$5.65 billion through June 2025.

Annual municipal bond fund flows by month
2015 – 2025 YTD



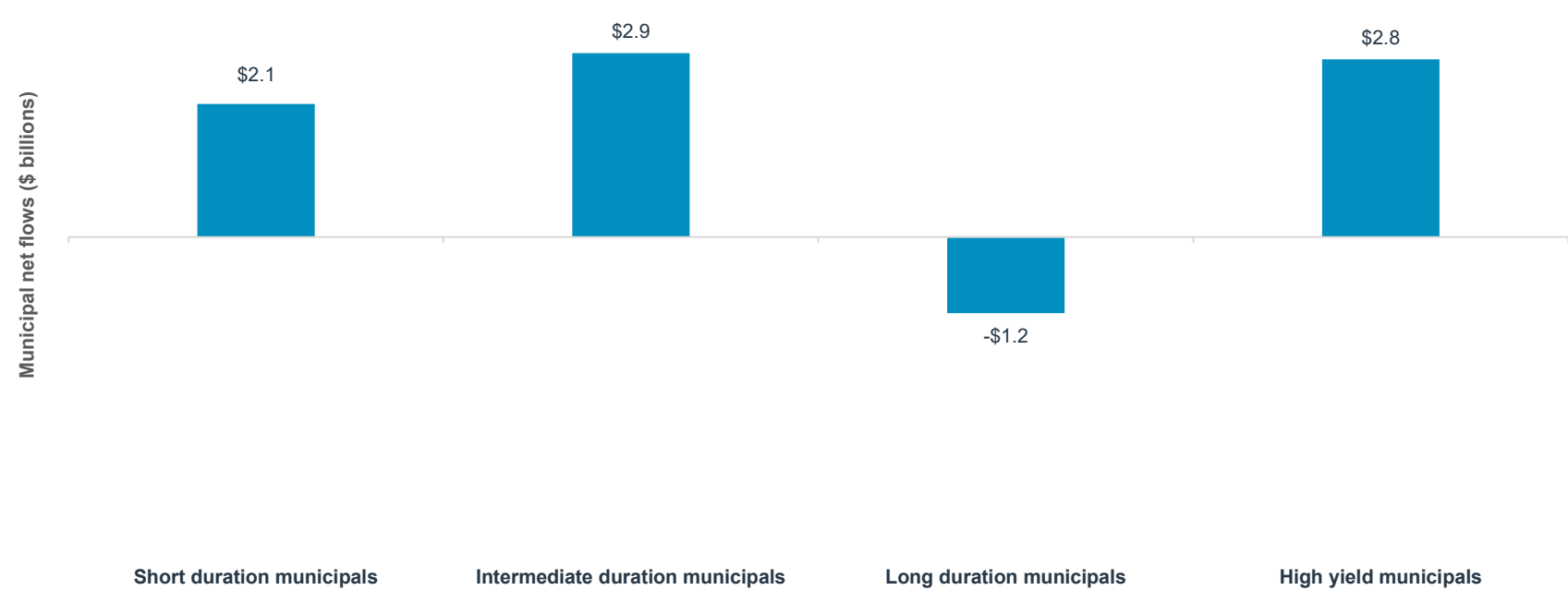
Data source: Morningstar Direct, 01 Jan 2015 – 30 Jun 2025, cumulative flows for each calendar year, shown monthly. Net flows represent the total of all municipal bond open-end funds.

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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.

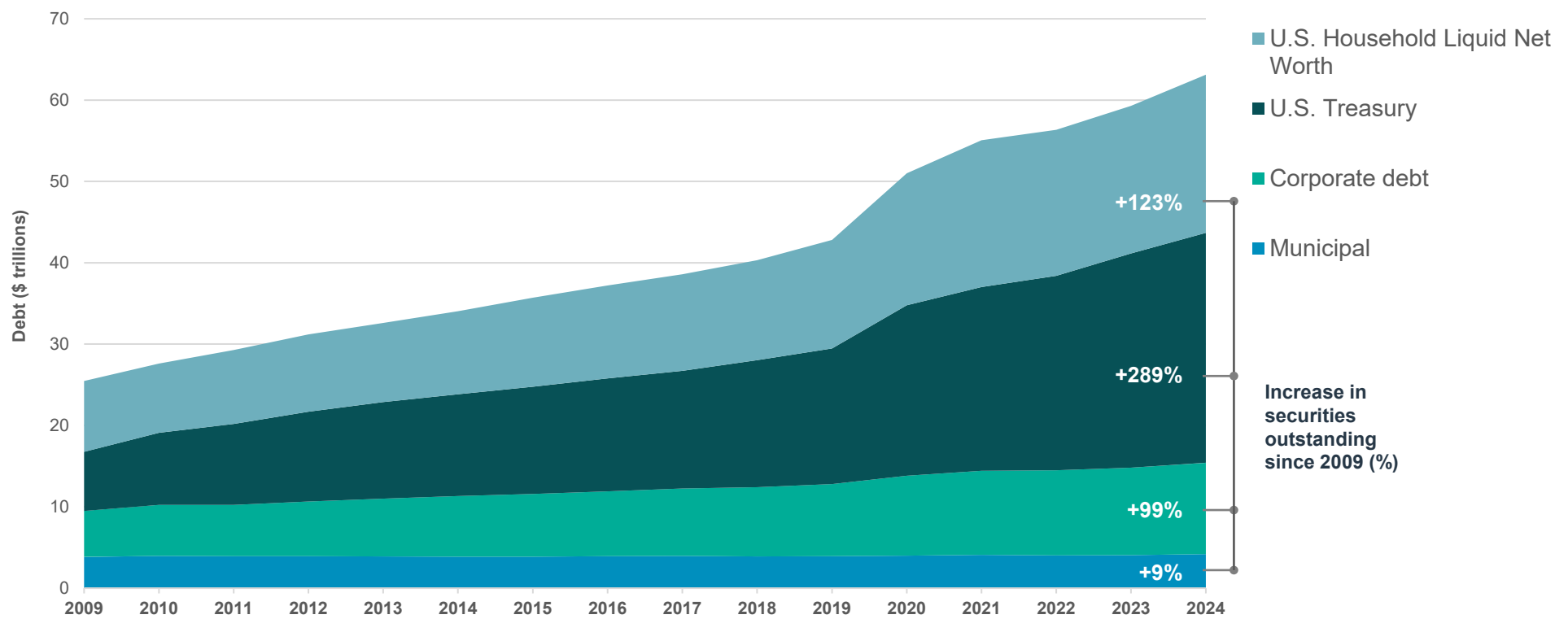
2025 YTD inflow or outflow by municipal bond category



Data source: Morningstar Direct, 01 Jan 2025 – 30 Jun 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.
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Municipal securities outstanding are not growing as quickly as other fixed income markets

The municipal market has experienced slower growth than other markets, and U.S. household wealth has grown over time, supporting demand for the asset class.

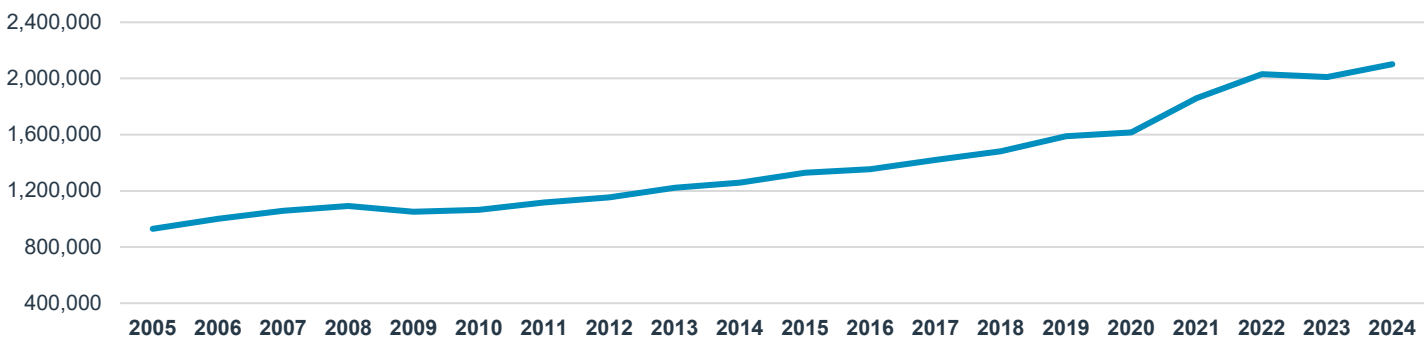


Data sources: SIFMA, Bloomberg, Federal Reserve, U.S. Treasury, 31 Mar 2025 for period ending 31 Dec 2024.
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Municipalities are in a strong financial position

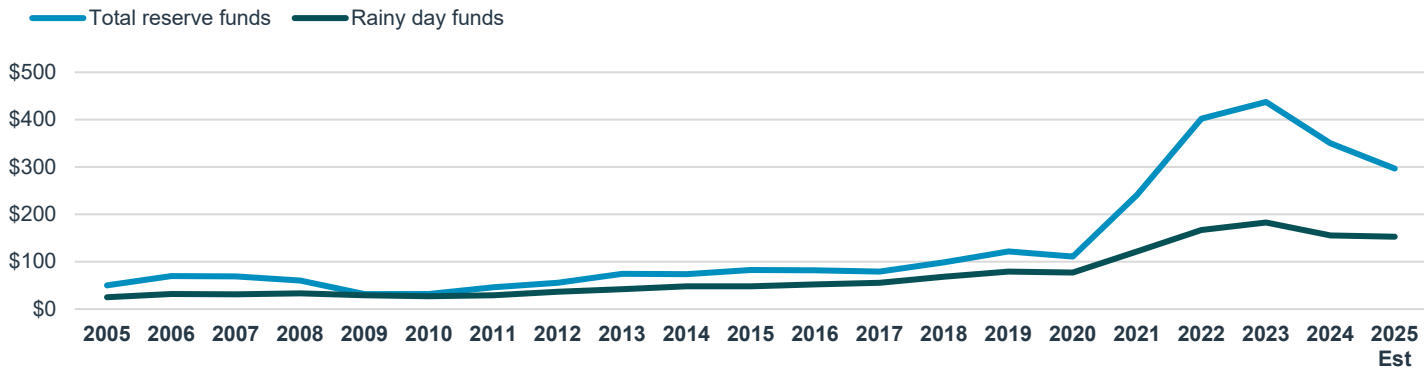
Revenue collections and reserves are near the highest levels in more than 40 years.

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.

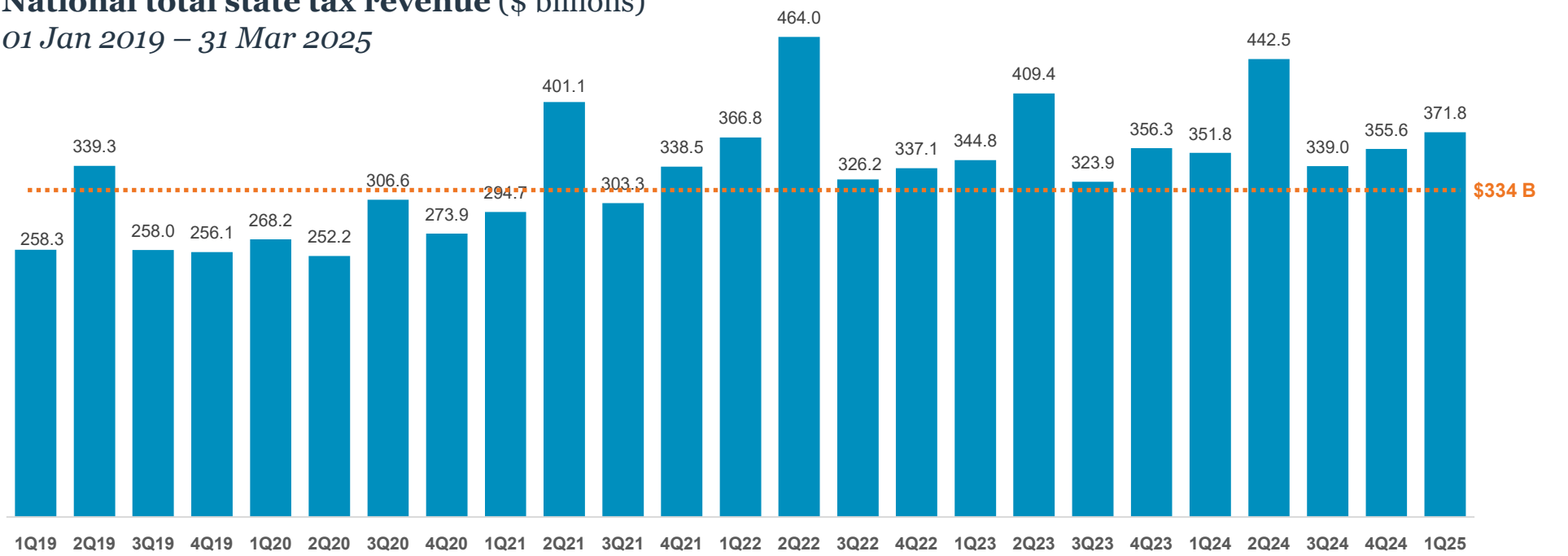
2 Data sources: National Association of State Budget Officers (NASBO), *The Fiscal Survey of States*, Spring 2022. Pew Charitable Trust, *States Build Their Reserves Amid Growing Uncertainties*, 31 Jan 2025.

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



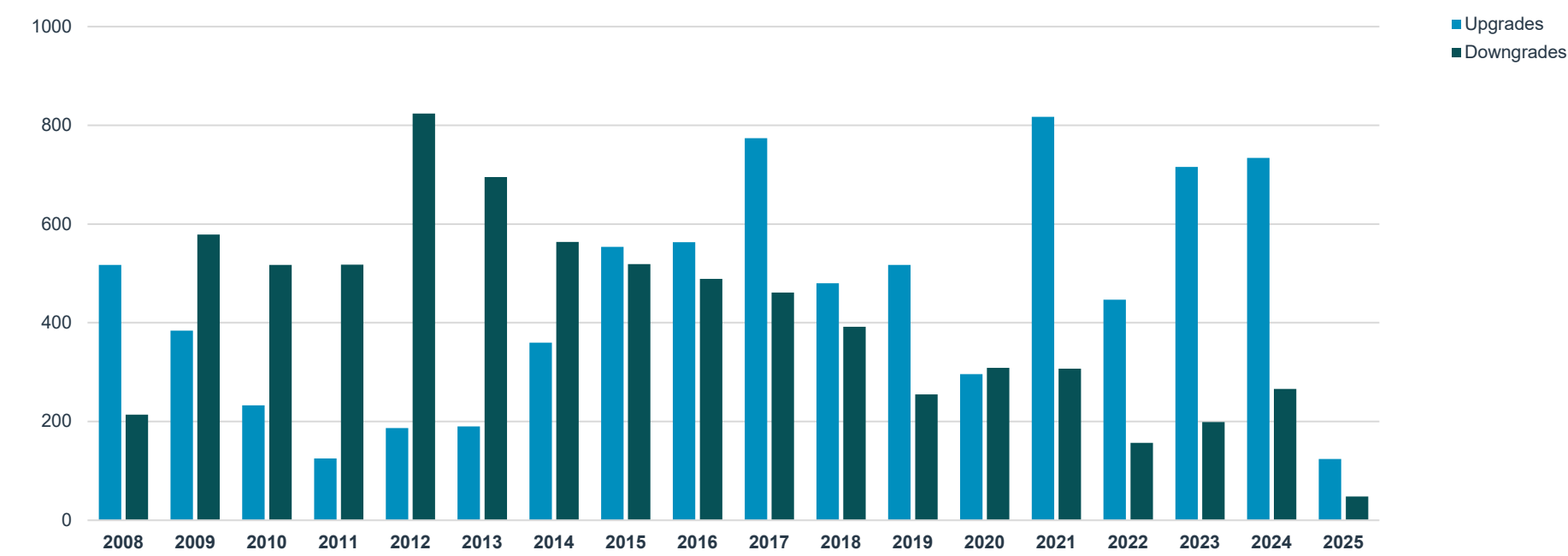
Average tax collections have remained strong, averaging \$334 billion per quarter from 1Q19 to 1Q25.

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.

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

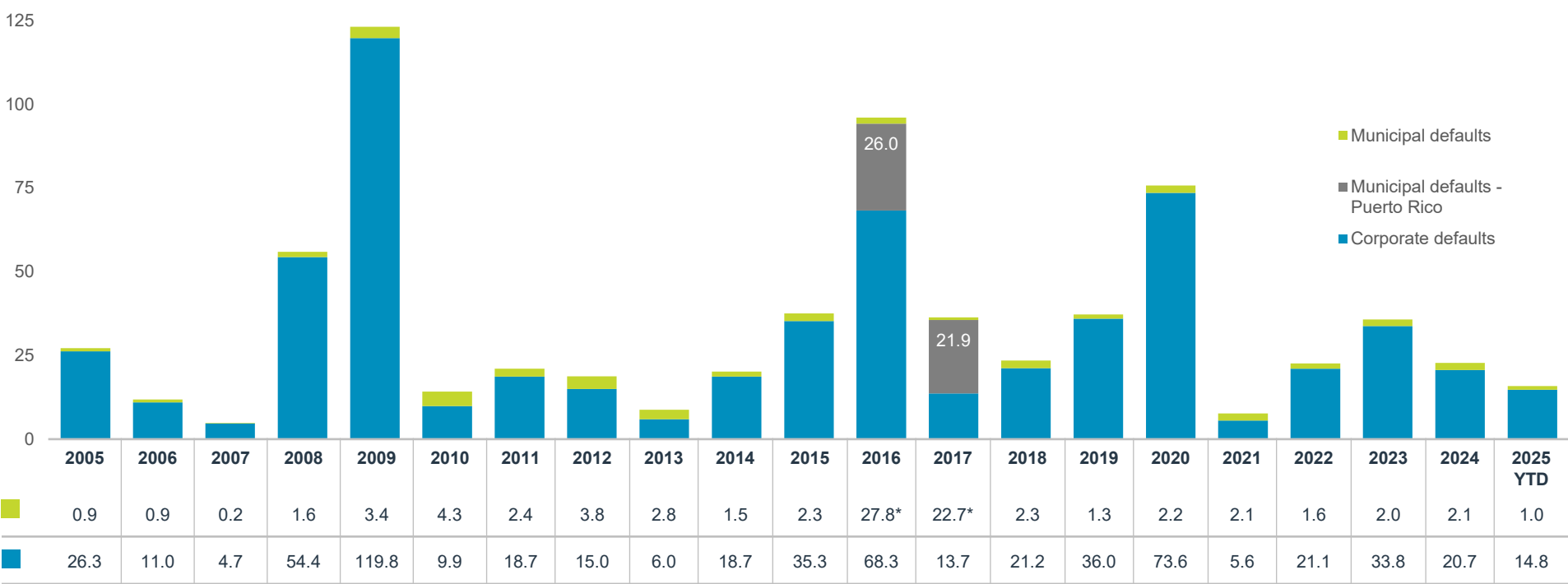


Data sources: Moody's Ratings, *Quarterly and Annual Municipal Rating Revisions*, 15 May 2025, data as of 31 Mar 2025; most recent data available.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Defaults remain in line with historical trends

Municipal and corporate payment defaults (\$ billions)



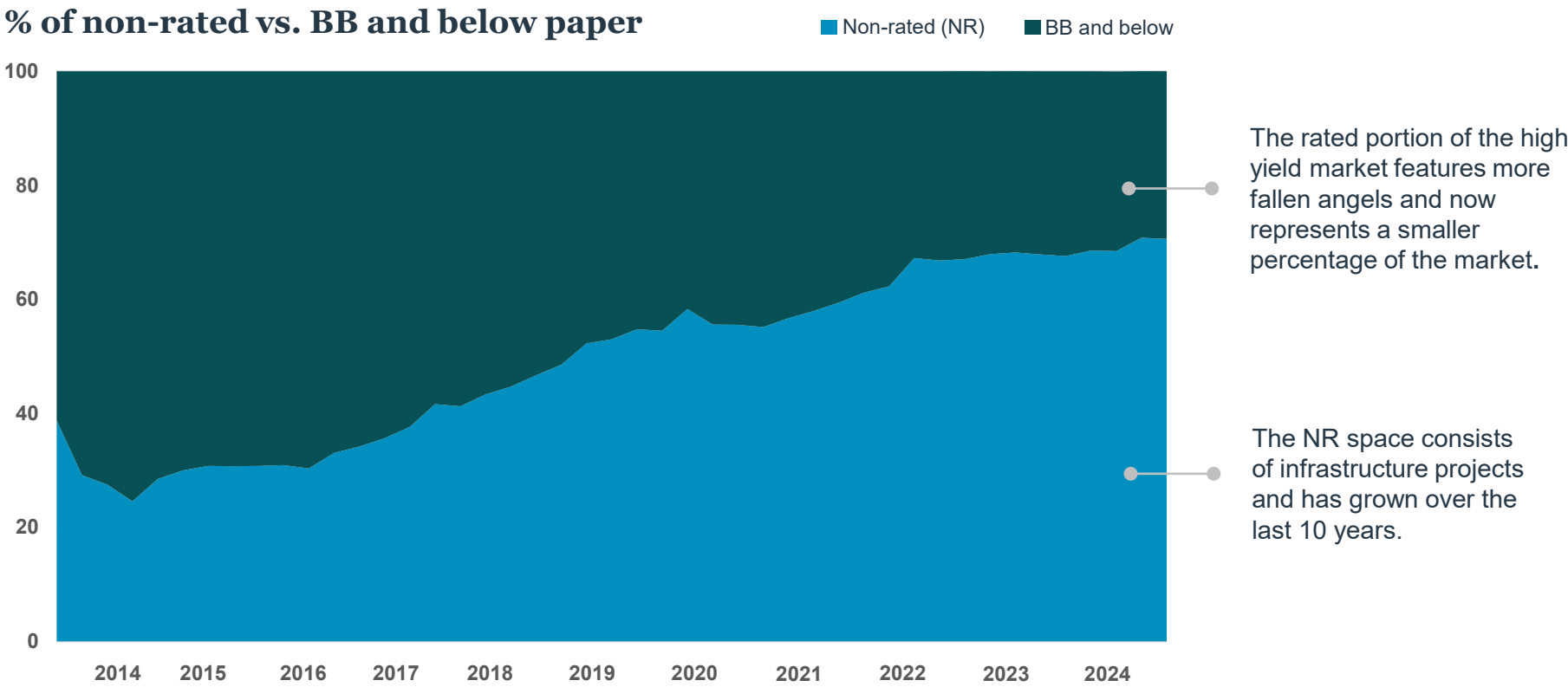
Municipal defaults remain rare, isolated and idiosyncratic through July 2025.

Data sources: Bloomberg municipal default data as of 31 Jul 2025. Bank of America/Merrill Lynch Research, 07 Jul 2025, municipal default data as of 30 Jun 2025. Bank of America/Merrill Lynch Research HY Credit Chart book, corporate default data as of 30 Jun 2025. Data represents defaults on the entire universe of bonds, both rated and unrated, and includes Puerto Rico defaults. *For 2016 and 2017, the figures shown for municipal defaults were primarily from Puerto Rico defaults; \$26.0B (2016) and \$21.9B (2017).

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

High yield market increasingly moving toward non-rated bonds

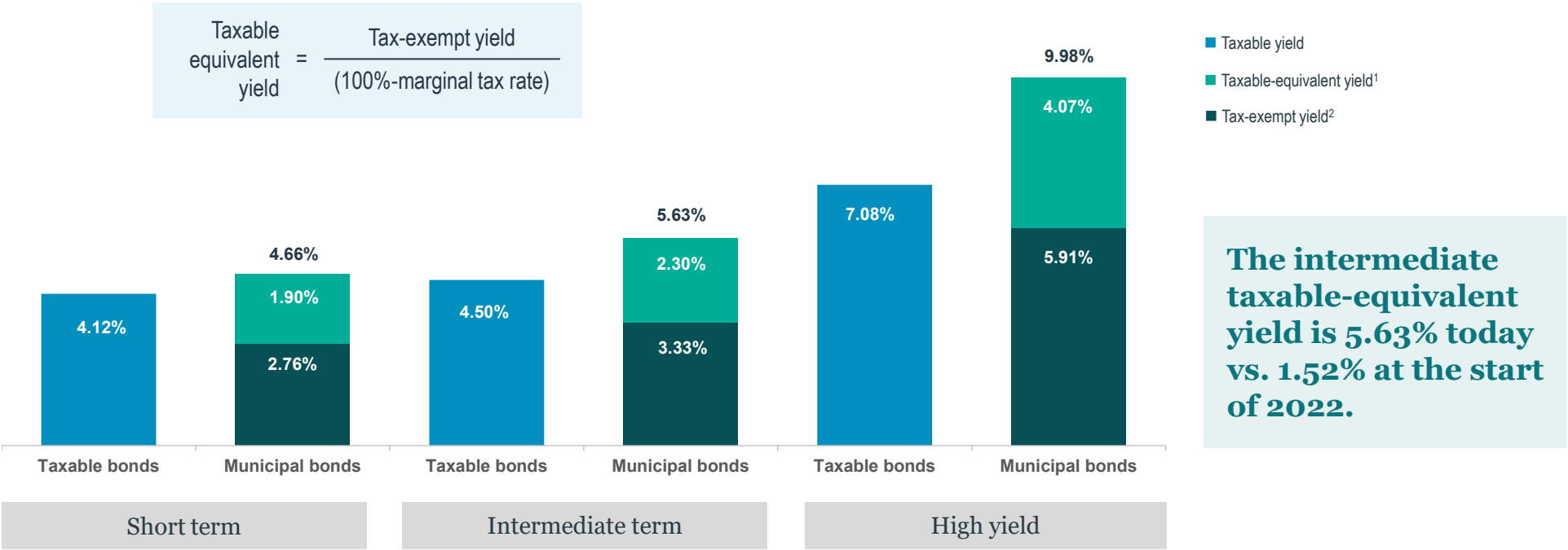
Fundamental credit research at the sector and issuer level guides our selective participation in deals that can help drive performance.



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.

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.

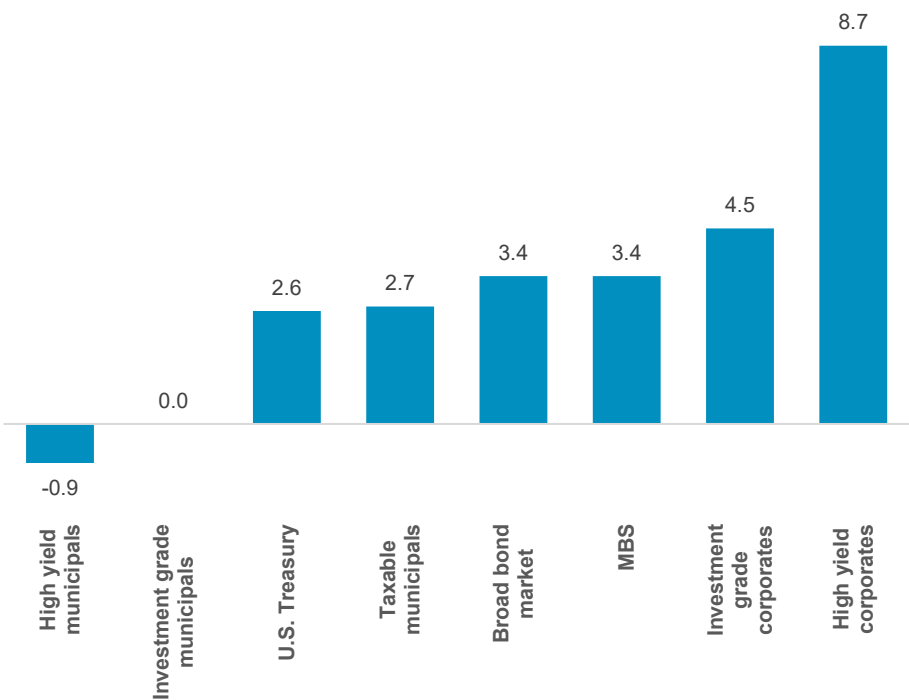
Data source: Bloomberg L.P., 31 Jul 2025. **Performance data shown represents past performance and does not predict or guarantee future results.** Yields are yield to worst. **Yield to worst** is the lowest potential yield that can be received on a bond without the issuer defaulting. **Taxable-equivalent 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.

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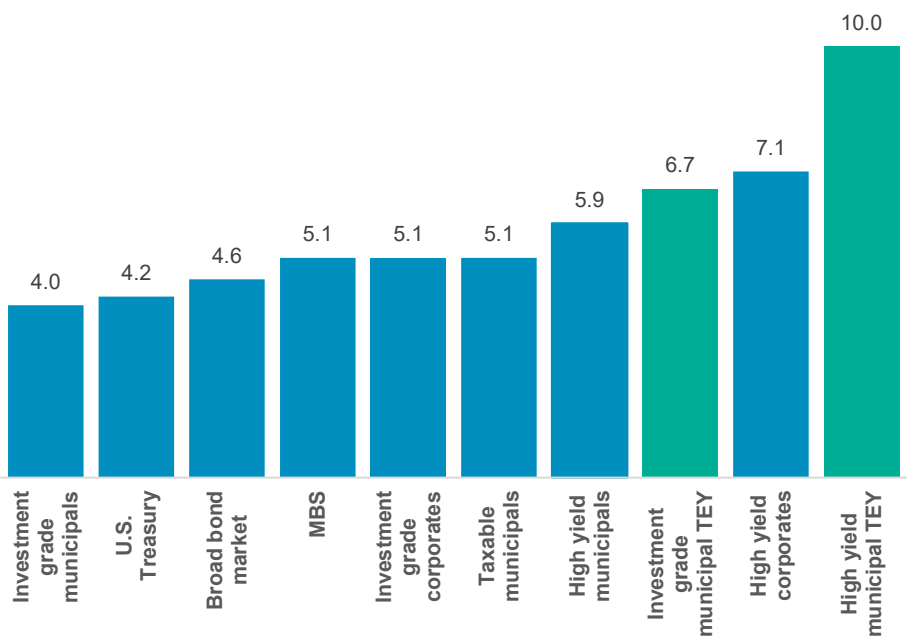
Fixed income sector performance is mixed, and investment grade municipals can show resilience

While recent municipal performance has been lagging, yield levels remain attractive.

Trailing 12 month returns (%)



Yield to worst (%)

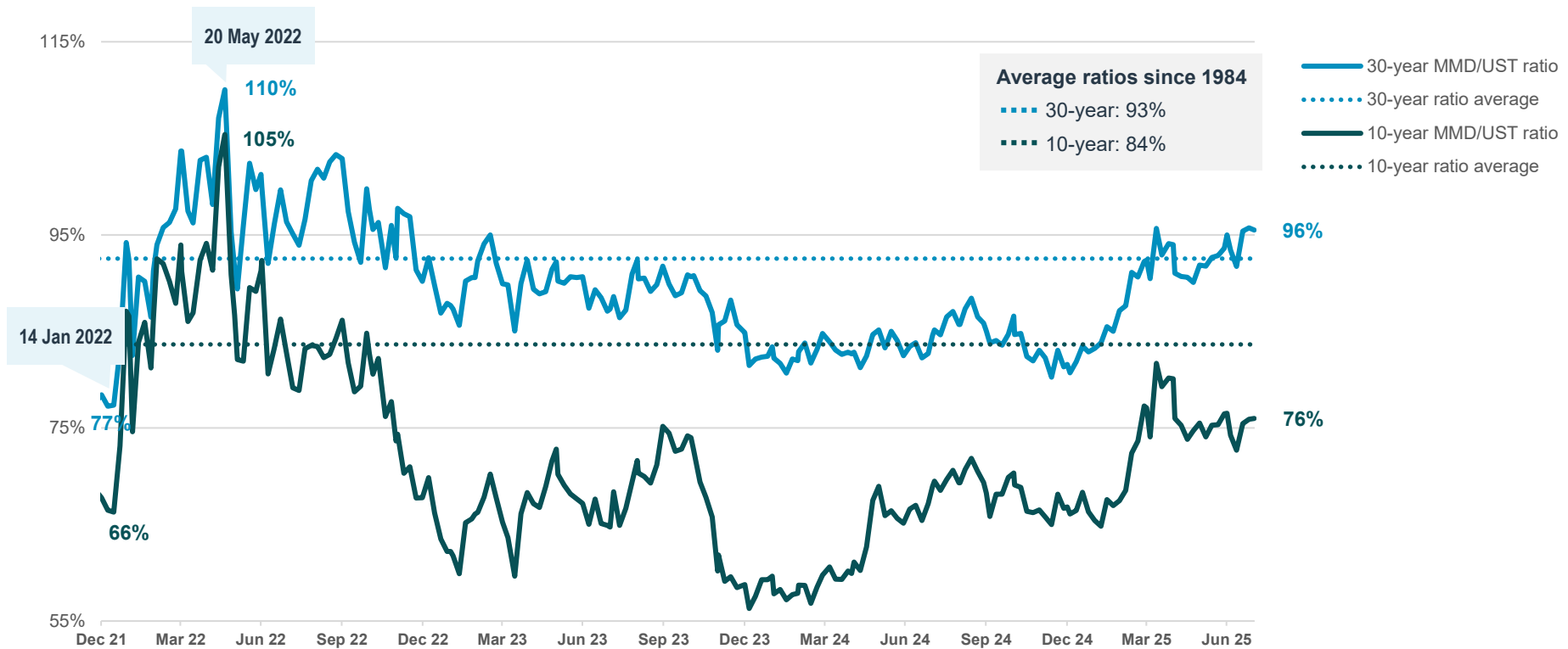


Data source: Bloomberg, L.P., trailing 12 month returns from 31 Jul 2024 – 31 Jul 2025; yield to worst as of 31 Jul 2025. Performance data shown represents past performance and does not predict or guarantee future results. Yields are yield to worst. **Yield to worst** is the lowest potential yield that can be received on a bond without the issuer defaulting. **Representative indexes:** Broad bond market: Bloomberg U.S. Aggregate Bond Index. High yield corporates: Bloomberg U.S. Corporate High Yield Index; High yield municipals: Bloomberg High Yield Municipal Bond Index; Investment grade corporates: Bloomberg U.S. Corporate Investment Grade Index; Investment grade municipals: Bloomberg Municipal Bond Index; Mortgage-backed securities (MBS): Bloomberg MBS (fixed rate) Index; Taxable municipals: Bloomberg Taxable Municipal Bond Index; U.S. Treasury: Bloomberg U.S. Treasury Index; The taxable-equivalent yield is based on the highest individual marginal federal tax rate of 37%, plus the 3.8% Medicare tax on investment income (the Net Investment Income Tax). Individual tax rates may vary.

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Absolute yield levels are attractive, and technical conditions are growing more favorable

Municipal-to-Treasury ratios: AAA municipal bonds value relative to Treasuries

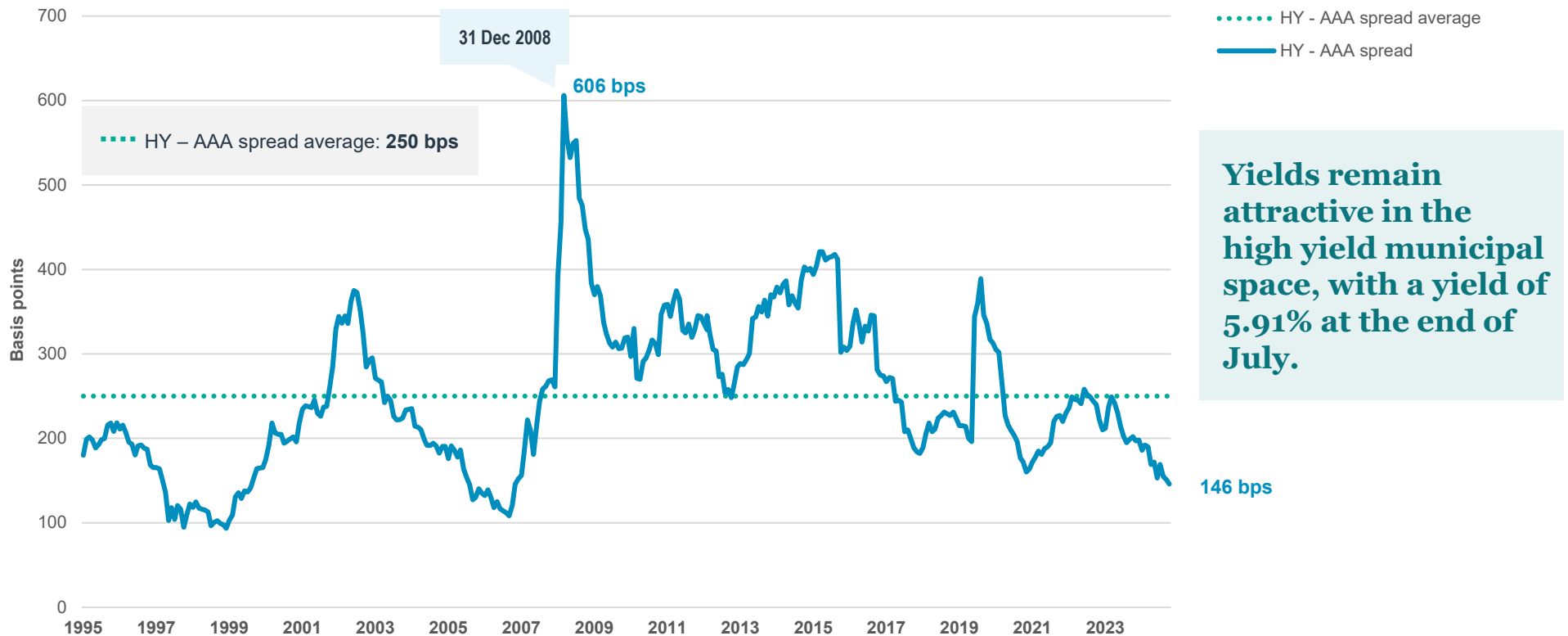


Data source: Refinitiv MMD for fair value Municipal 10- and 30-Year Index AAA General Obligation bonds; Bloomberg for 10- and 30-year U.S. Treasury yields, shown weekly, 31 Dec 2021 – 31 Jul 2025, averages shown from 01 Jan 1984 – 31 Jul 2025. Performance data shown represents past performance and does not predict or guarantee future results. Municipal-to-Treasury ratio represents the value of AAA municipal yields relative to U.S. Treasury yields.

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

Bloomberg High Yield Municipal Index versus AAA yields

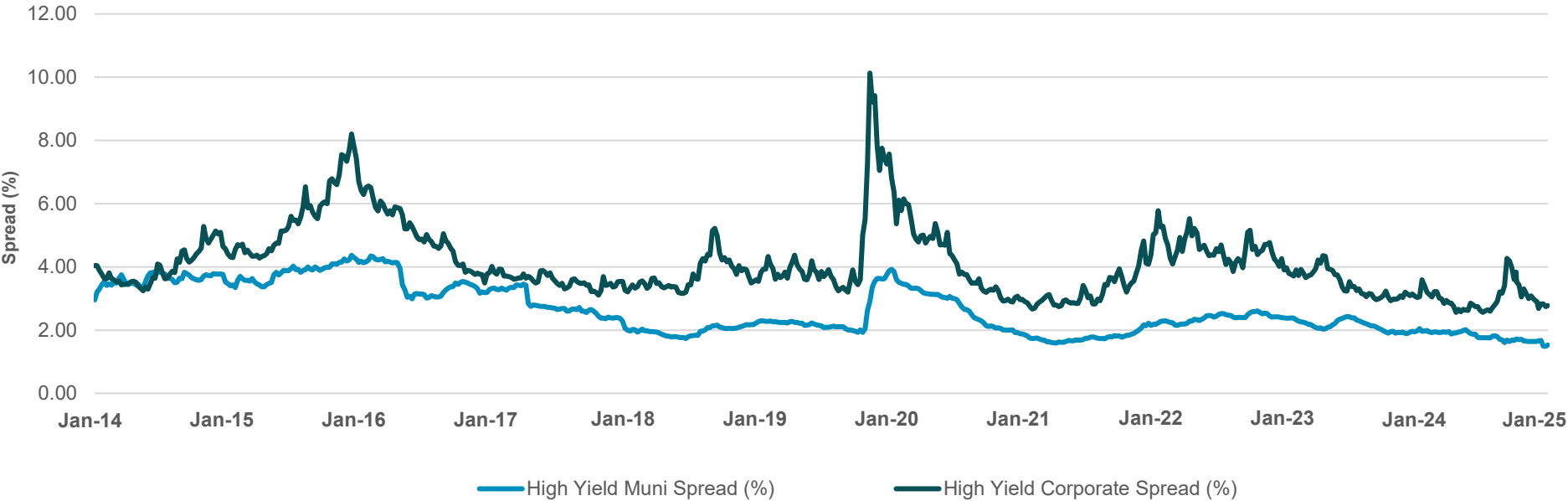


Data source: Bloomberg, Refinitiv MMD, 31 Oct 1995 – 31 Jul 2025, shown monthly. Chart shows data to the earliest period available. Performance data shown represents past performance and does not predict or guarantee future results. High yield municipal yields represented by the Bloomberg High Yield 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.

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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 – 31 Jul 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.

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Outlook



Opportunities

Attractive interest rates, favorable yield curve and strong municipal credit fundamentals present compelling opportunities for investors.

Yield & valuation advantages

Favorable market conditions are creating attractive entry points for municipal investors.

Positive structural factors

The current yield curve structure presents specific tactical advantages in intermediate maturities.

Credit fundamentals

Solid municipal financial health is evidenced by resilient revenues and reserve funds.



Challenges

Municipals face potential volatility due to high supply levels, shifting demand dynamics, and attractive short-term rates that are keeping cash on the sidelines.

Supply-demand imbalances

Market dynamics create potential volatility as supply increases while demand faces headwinds.

Lagging performance

Municipals are underperforming other asset classes amidst a historic pace of supply and sporadic flows.

Changing landscape

Greater inflows into ETFs and SMA structures leave the long end of the yield curve with limited support.

Source: Nuveen as of 31 Jul 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.

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Taxable municipal market

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Fundamentals and technical strength continue to be a tailwind

Characteristics and performance

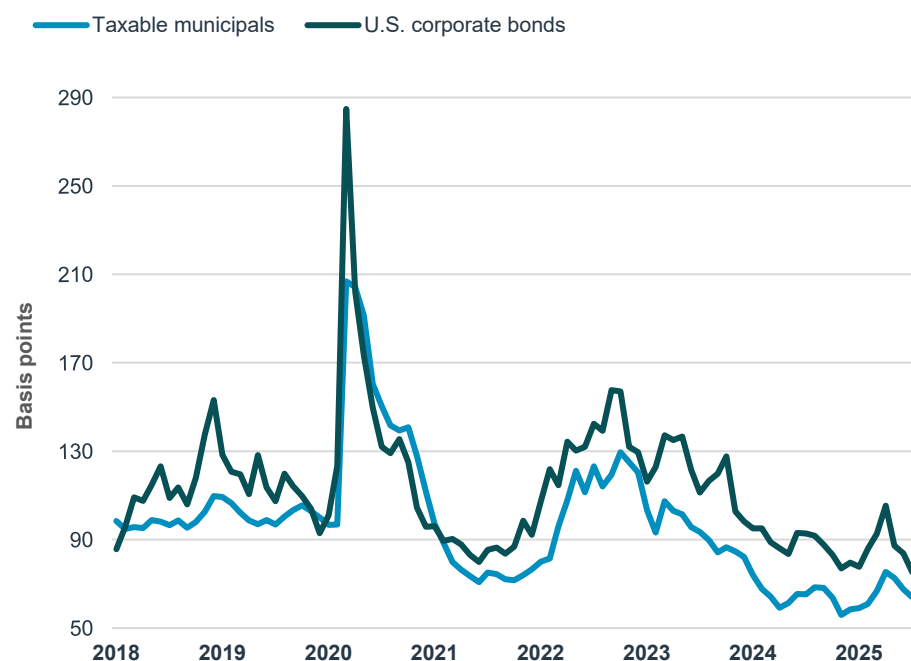
Index	Yield to worst (%)	Spread (bps)	Effective duration (years)	Returns (%)		
				July 2025	2Q 2025	2024
Taxable municipal (AA-)	5.08	64	7.50	-0.16	0.81	1.57
U.S. asset-backed securities (AA+)	4.54	50	2.57	0.13	1.38	5.02
U.S. mortgage-backed securities (AA+)	5.07	39	5.96	-0.40	1.14	1.20
U.S. corporate investment grade (BBB+)	5.06	75	6.73	0.07	1.82	2.13
U.S. aggregate bond (AA)	4.65	31	5.97	-0.26	1.21	1.25
U.S. Treasury (AAA)	4.19	-1	5.75	-0.39	0.85	0.58
Global corporate bonds (BBB+)	4.48	79	5.80	-0.63	4.44	1.10
Global aggregate (unhedged) (A+)	3.56	30	6.40	-1.49	4.52	-1.69

Data sources: Bloomberg, L.P., Bloomberg indexes, as of 31 Jul 2025. Performance data shown represents past performance and does not predict or guarantee future results. Total returns for a period of less than one year are cumulative. OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

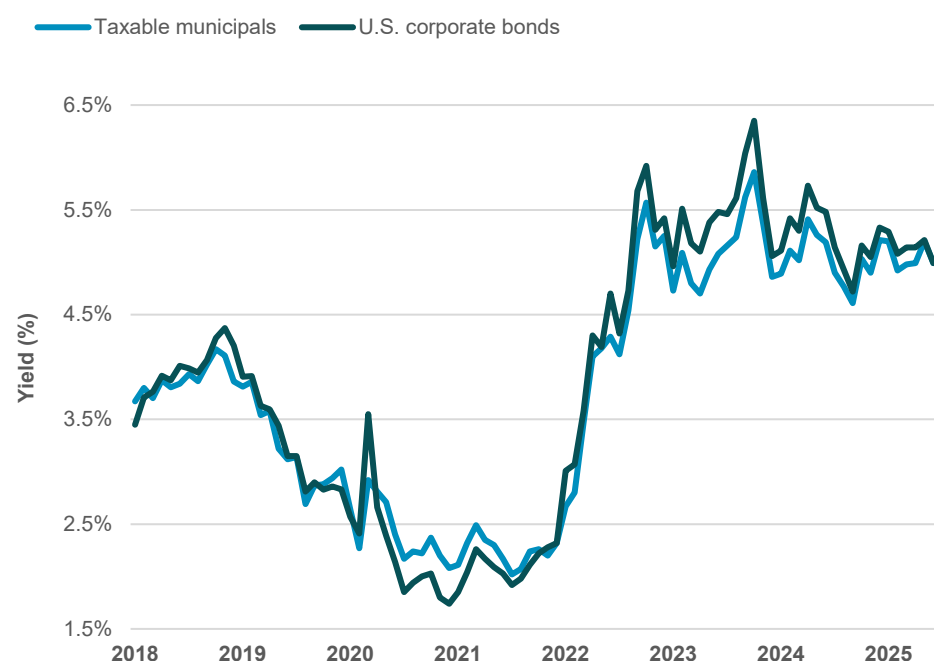
Taxable municipals can have higher credit quality than corporates but similar spreads and yields

Taxable municipals have historically been more defensive during economic downturns.

Credit spreads



Yield



Data source: Bloomberg, L.P., 31 Jan 2018 – 31 Jul 2025, shown monthly. **Spread** represents option-adjusted spread (OAS). **Performance data shown represents past performance and does not predict or guarantee future results.** Representative indexes: taxable municipals: Bloomberg U.S. Taxable Municipal Bond Index; U.S. corporate bonds: Bloomberg U.S. Corporate Bond Index.

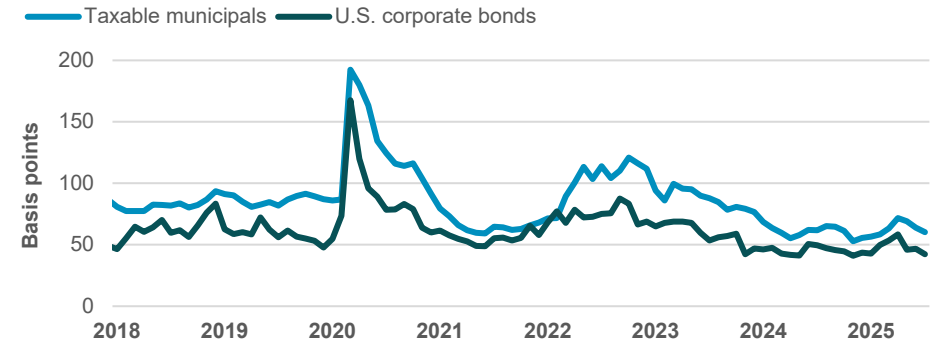
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Looking across the credit spectrum in taxable municipals can provide yield premium

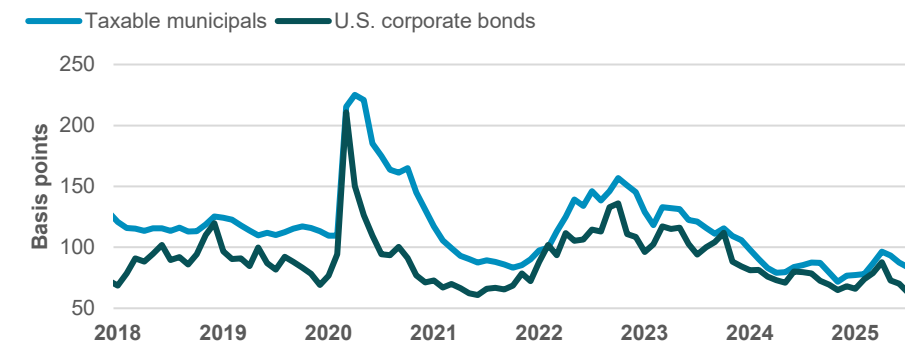
AAA-rated spread



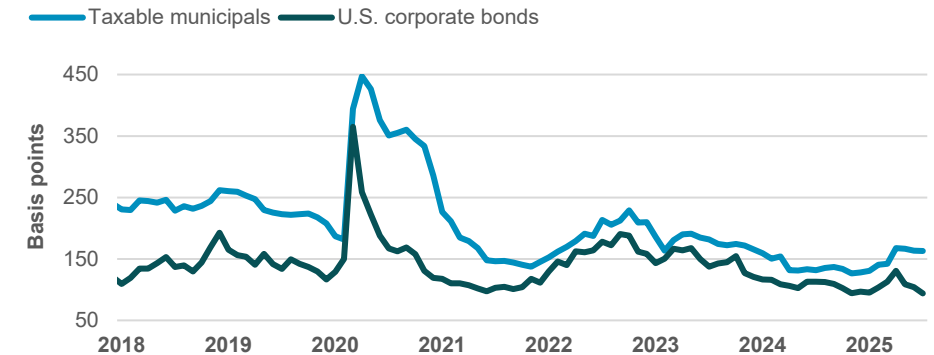
AA-rated spread



A-rated spread



BBB-rated spread



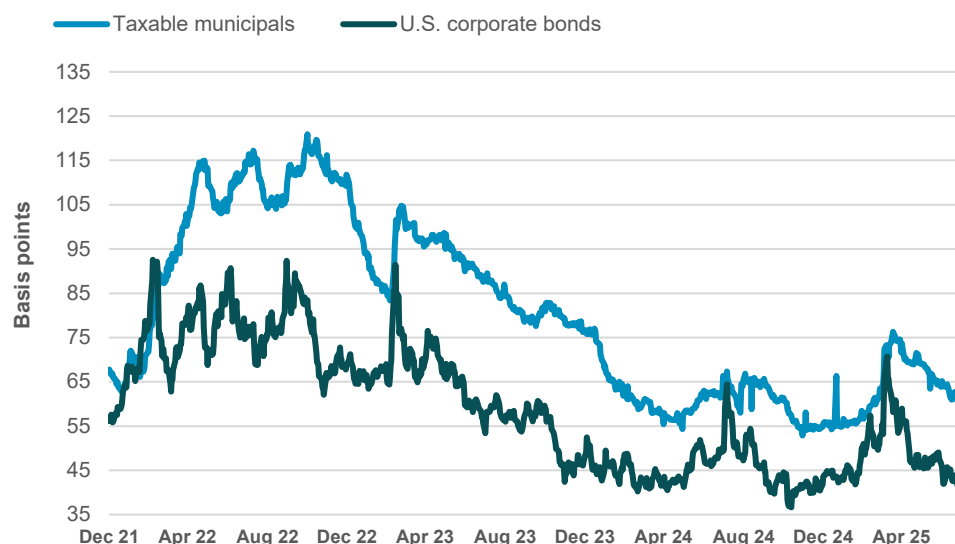
Data source: Bloomberg, L.P., 31 Jan 2018 – 31 Jul 2025, shown monthly. **Spread** represents option-adjusted spread (OAS). **Performance data shown represents past performance and does not predict or guarantee future results.** Representative indexes: taxable municipals: Bloomberg U.S. Taxable Municipal Bond Index; U.S. corporate bonds: Bloomberg U.S. Corporate Bond Index.

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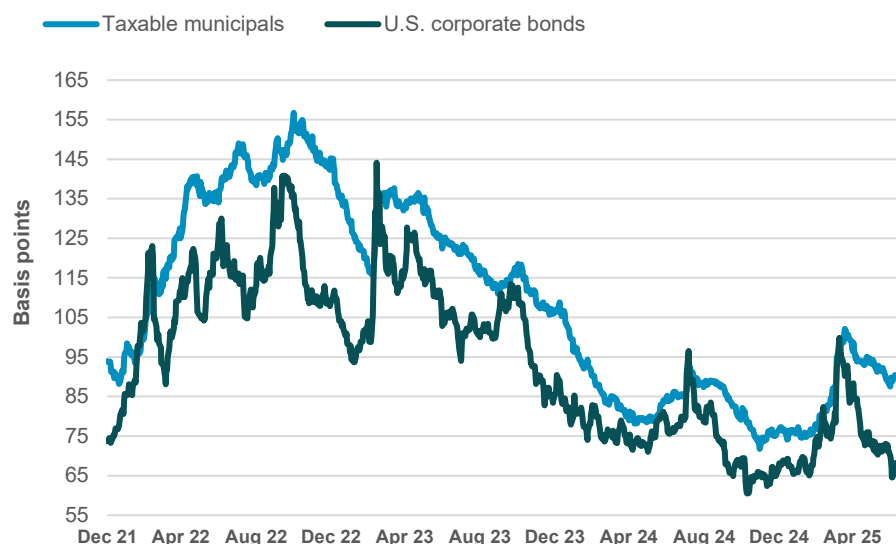
Taxable municipal credit spreads remain wider relative to corporate bonds

Municipal bonds provide financing for essential services, which can help provide insulation from economic downturns.

AA-rated spread



A-rated spread



Credit spreads have widened YTD, but taxable municipals continue to offer an advantage over similarly rated corporate bonds.

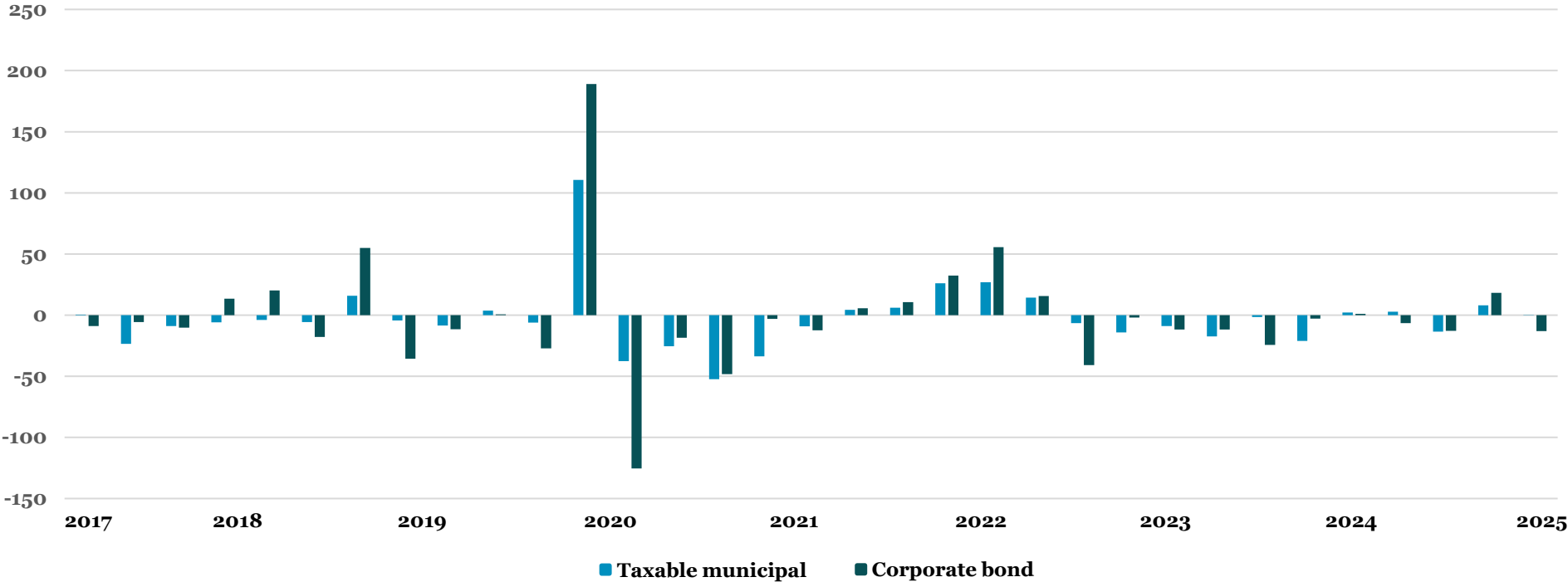
Data source: Bloomberg, L.P., 31 Dec 2021 – 31 Jul 2025, shown daily. Spread represents option-adjusted spread (OAS). Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: taxable municipals: Bloomberg U.S. Taxable Municipal Bond Index; U.S. corporate bonds: Bloomberg U.S. Corporate Bond Index.

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Taxable municipal bonds have displayed less credit spread volatility

Taxable municipals’ spread movements reflect a more stable market for investors.

Quarterly option adjusted spread changes



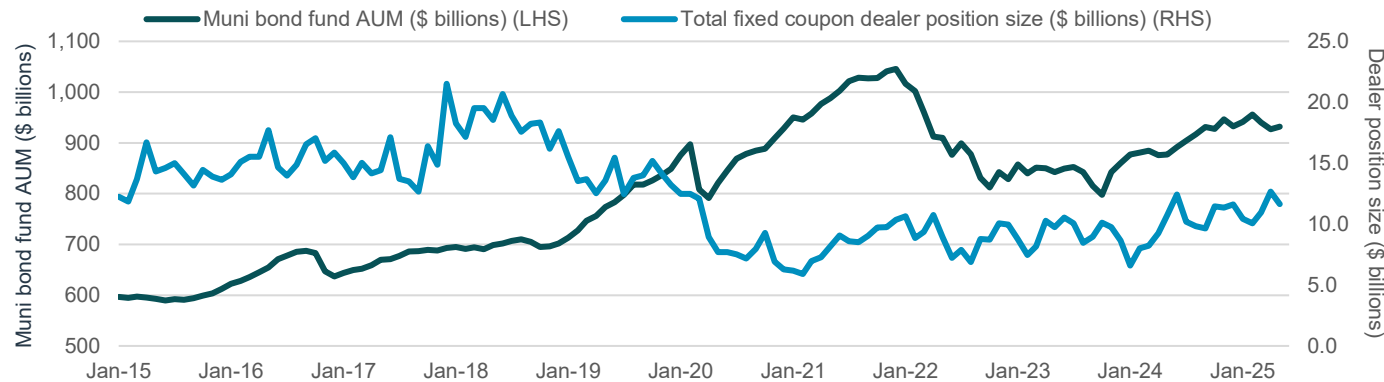
Data source: Bloomberg Taxable Municipal Bond Index and Bloomberg Corporate Bond Index. 7-10 year duration bonds only, data through 30 Jun 2025.
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Appendix

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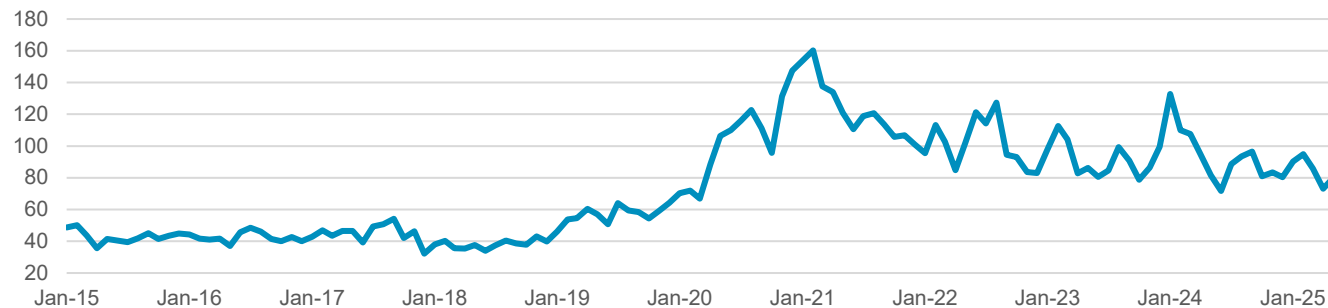
Diminished dealer participation has created elevated volatility within the municipal market

Muni fund AUM vs. average dealer position size¹



Increased cost of capital has diminished dealer inventory. An institutional manager can help capitalize on market dislocations.

Muni fund AUM over dealer inventory ratio²



Muni fund AUM is 80x the size of dealer inventory levels, contributing to more volatile markets.

¹ Data sources: Fund AUM data is sourced from Morningstar. Coupon dealer position size is sourced from Bloomberg. Both data sets span from 31 Dec 2014 to 31 May 2025.

² Data sources: Fund AUM data is sourced from Morningstar. Dealer inventory ratio data is sourced from Bloomberg. Both data sets span from 31 Dec 2014 to 31 May 2025.

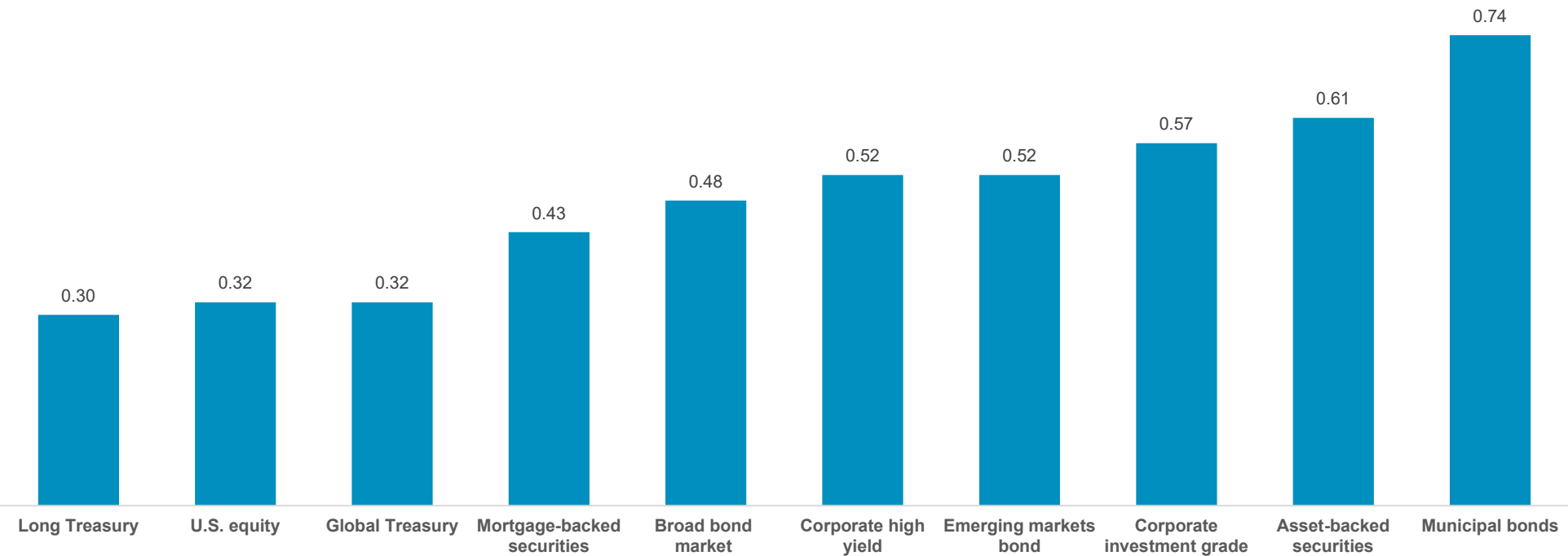
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High yield municipal bonds have a low correlation to other asset classes

High yield municipal bonds tend to be less cyclical than corporate bonds due to the essential nature of the projects being financed.

Correlation to Bloomberg High Yield Municipal Bond Index

01 Jul 1999 – 31 Jul 2025



Data source: Morningstar Direct; 01 Jul 1999 – 31 Jul 2025. Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: Asset-backed securities: Bloomberg Asset-Backed Securities Index; Broad bond market: Bloomberg U.S. Aggregate Bond Index; Corporate high yield: Bloomberg U.S. Corporate High Yield Index; Corporate investment grade: Bloomberg U.S. Corporate Investment Grade Index; Emerging markets bond: Bloomberg Emerging Markets Bond Index; Global Treasury: Bloomberg Global Ex U.S. Treasury Bond Index; Long Treasury: Bloomberg U.S. Treasury Long Index; Mortgage-backed securities: Bloomberg MBS (fixed rate) Index; Municipal bonds: Bloomberg U.S. Municipal Bond Index; U.S. equity: S&P 500 Index.

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Municipal bond default rates have fared better than for similarly rated corporate bonds

A-rated municipal default rates are lower than for Aaa corporate bonds.

Moody's average cumulative default rates of municipals vs. global corporates, 1970-2023¹

	Rating	Aaa	Aa	A	Baa	Ba	B	Caa-C	Investment Grade	Below Investment Grade
5-Year	Municipal	0.00%	0.01%	0.03%	0.46%	1.93%	11.90%	20.62%	0.04%	4.81%
	Corporate	0.08%	0.29%	0.71%	1.43%	7.63%	20.56%	35.25%	0.87%	18.98%
10-Year	Municipal	0.00%	0.02%	0.10%	1.09%	3.49%	17.07%	25.59%	0.10%	7.14%
	Corporate	0.36%	0.77%	2.03%	3.61%	15.25%	34.31%	51.44%	2.24%	29.74%

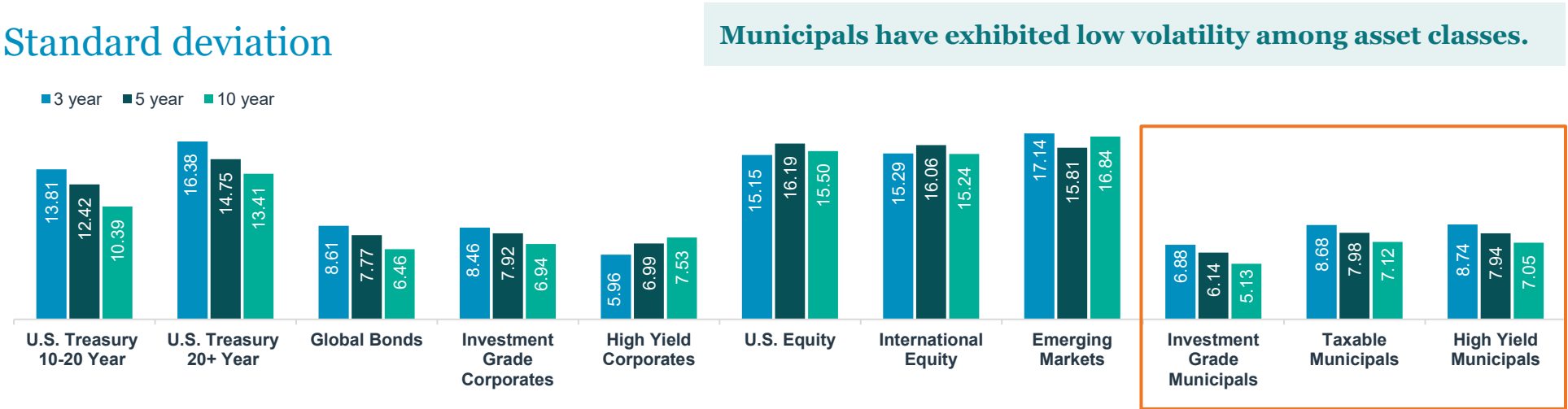
Municipal recovery rates are significantly higher than for corporates, with an average weighted recovery of 65% for municipals vs. 47% for corporates.

¹ Data source: Moody's Ratings, U.S. Municipal Bond Defaults and Recoveries, 1970 – 2023, 24 Oct 2024, with data as of 31 Dec 2023; updated annually. Performance data shown represents past performance and does not predict or guarantee future results. The universe for the study represents approximately 12,500 fundamental U.S. public finance ratings from Moody's.

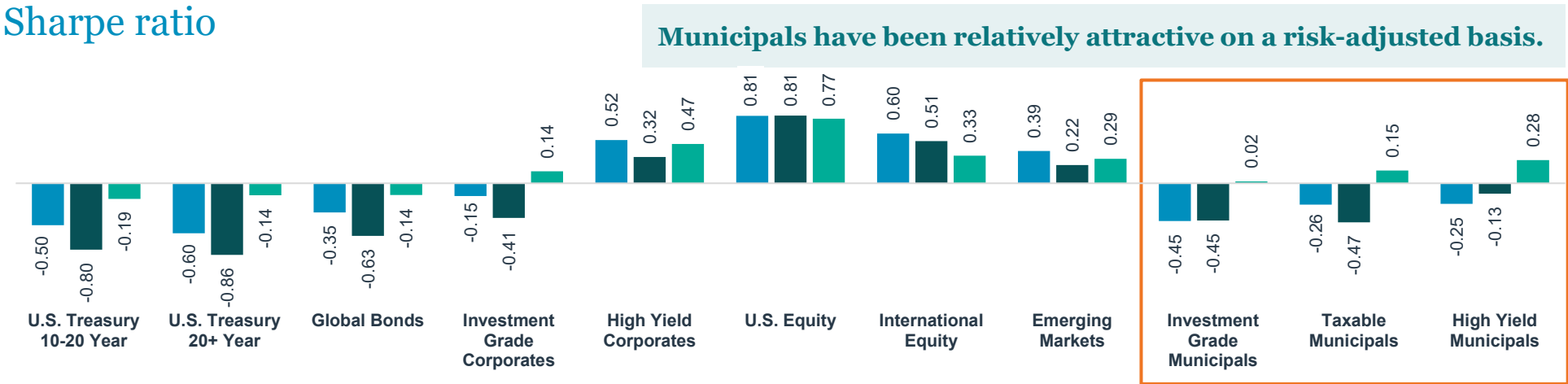
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Municipals have exhibited lower volatility with strong risk-adjusted returns

Standard deviation



Sharpe ratio



Data source: Morningstar, period ending 31 Jul 2025. Performance data shown represents past performance and does not predict or guarantee future results. Representative Indexes: Treasuries: Bloomberg U.S. 10-20 Year Treasury Index and the Bloomberg U.S. 20+ Year Treasury Index; Global bonds: Bloomberg Global Aggregate Unhedged Index; Investment grade corporates: Bloomberg US Corporate Bond Index; High yield corporates: Bloomberg High Yield Corporate Index; U.S. equity: S&P 500 Index; International equity: MSCI EAFE Index; Emerging markets: MSCI Emerging Markets Index; Investment grade municipals: Bloomberg Municipal Bond Index; Taxable municipals: Bloomberg Taxable Municipal Bond Index; High yield municipals: S&P Municipal Yield Index.

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