

nuveen

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Municipal market update

May 2024

As of 30 April 2024

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2024 municipal market themes

Economic environment

Inflation

- Inflation has trended lower year over year. The Fed projects marginally lower Core PCE inflation by year end.
- Core services inflation excluding housing remains sticky but is trending down.

Policy

- We expect rate cuts in 2024, and the timing depends on data for inflation, wages and employment.
- Fed rate increases have been on hold since July 2023, after increasing 525 bps this cycle.

Economic growth

- U.S. growth has been resilient and recession risks have declined. Influential factors include employment data, consumer spending and levels of excess household savings.
- Capital markets are currently anticipating less risk of recession, but we are continuing to monitor closely.

Interest rates

- Uncertainty regarding Fed policy will continue to cause rate volatility. Rates could decline if a slowdown or recession develops.

Municipal market environment

Credit fundamentals

- Credit remains strong, with robust levels of rainy day and reserve funds.
- Governments are adjusting for normalization of revenue collections.
- We expect municipal defaults will remain low, rare and idiosyncratic.

Supply & demand

- Supply has picked up relative to 2023 levels and could be more predominant before the U.S. election.
- We continue to predict more coupons, calls and maturities than new issues.
- Inflows currently favor duration as investors don't want to miss out.
- Demand is driven by higher-for-longer yields.

Valuations

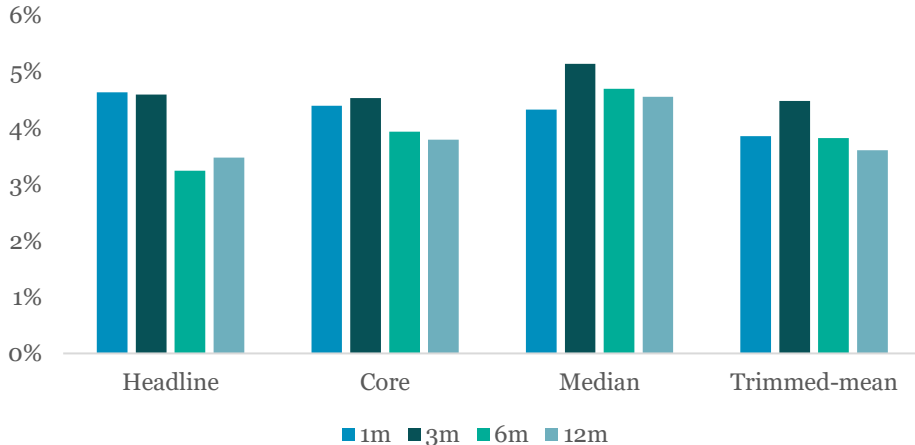
- Municipals have displayed strong relative performance this year.
- Inflows are causing high yield municipal credit spreads to tighten below historical averages.
- Absent a meaningful rate rally or spread contraction, municipals can still post attractive returns based on elevated income generation.

Source: Nuveen as of 30 Apr 2024. 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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Headline inflation will fade, but sticky inflation remains stubborn

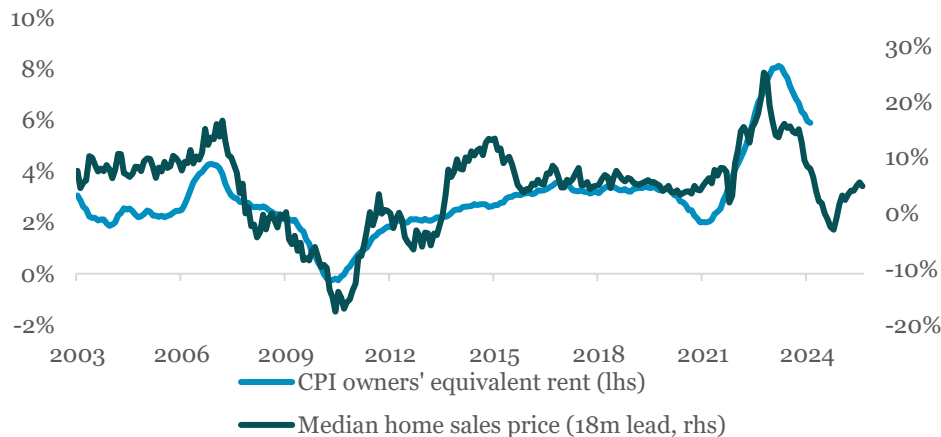
Inflation has moderated somewhat, but stickier categories have rebounded recently



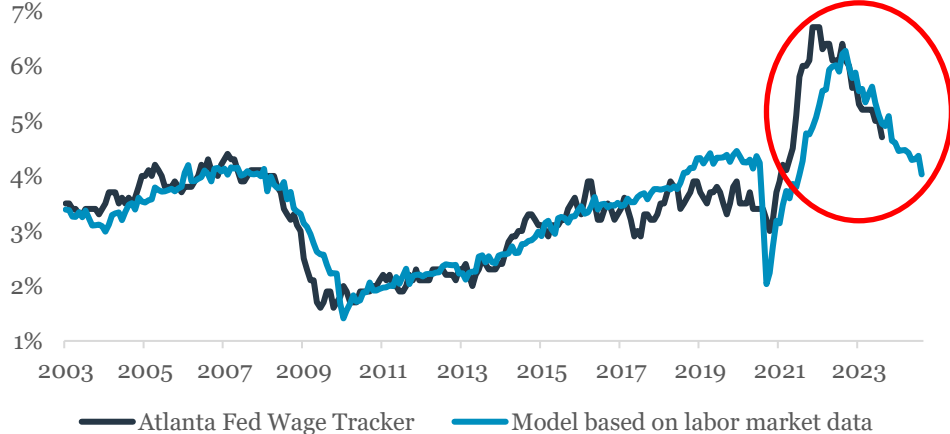
PCE housing (3m annualized) has stalled, while other core services has rebounded substantially



High-frequency indicators point to slower house price inflation ahead



Leading indicators point to moderation in wage inflation ahead



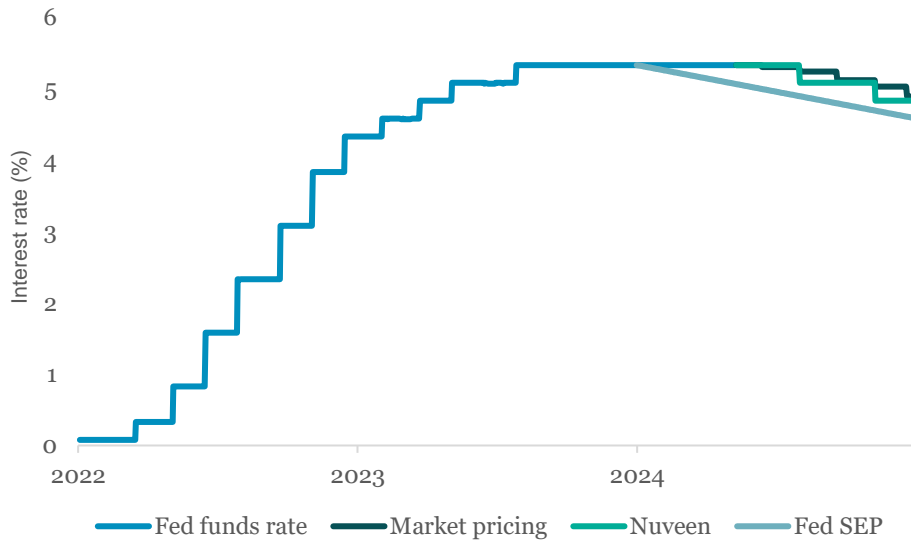
Data sources: Bloomberg, BLS, as of 31 Mar 2024.

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Fed Outlook: rate cuts to begin this year, largely driven by lower inflation

We expect rate cuts to begin by midyear.

We anticipate 50bps of rate cuts, which is close to market pricing but slightly more than Fed forecast



Inflation has already moderated substantially and is set to continue that trend in 2024



Data sources: Bloomberg, Federal Reserve, as of 31 Mar 2024.

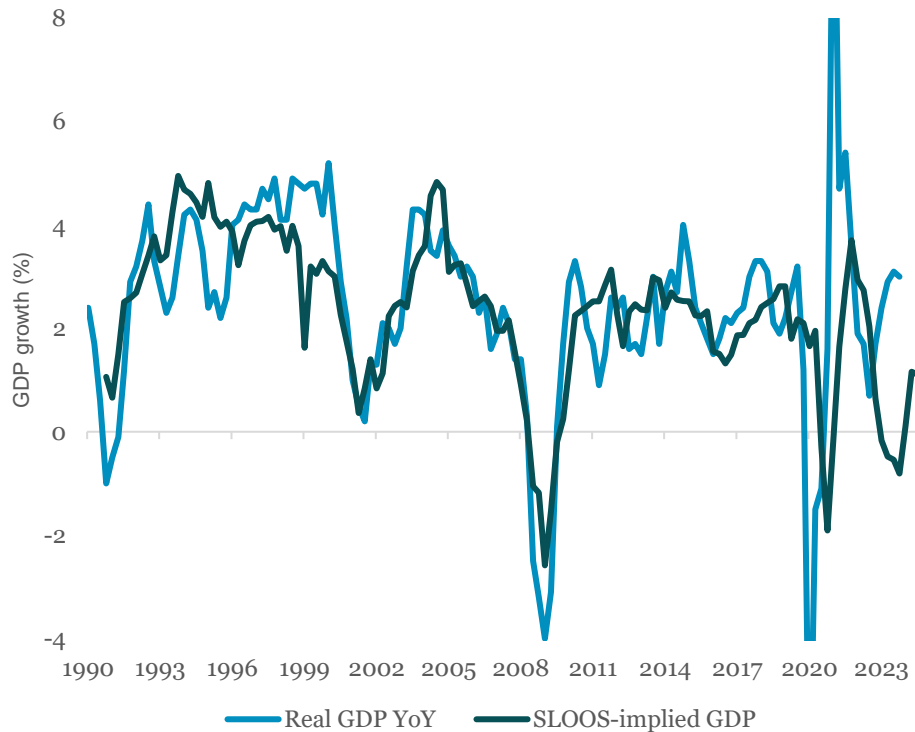
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Data sources: Bloomberg, BEA, Federal Reserve, as of 31 Mar 2024.

Surveys suggest growth is likely to decelerate in the quarters ahead

Lending conditions and purchasing managers' indexes suggest ~1% percent GDP growth.

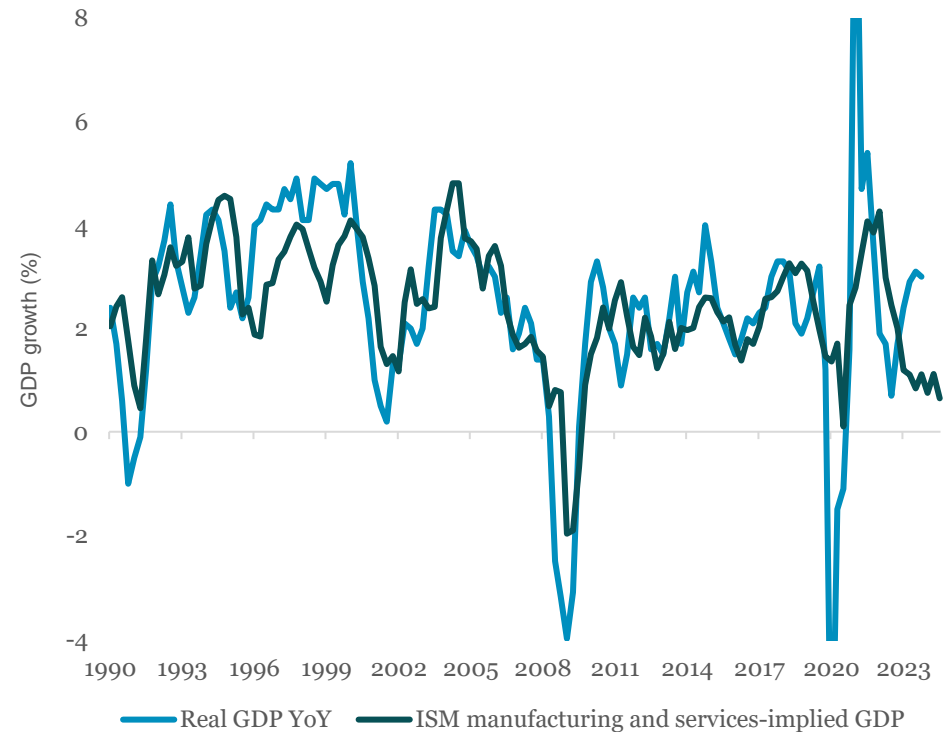
Tight lending conditions imply a slowdown in GDP growth



Data sources: Bloomberg, ISM, as of 31 Mar 2024.

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ISM surveys point to a slowdown in GDP growth

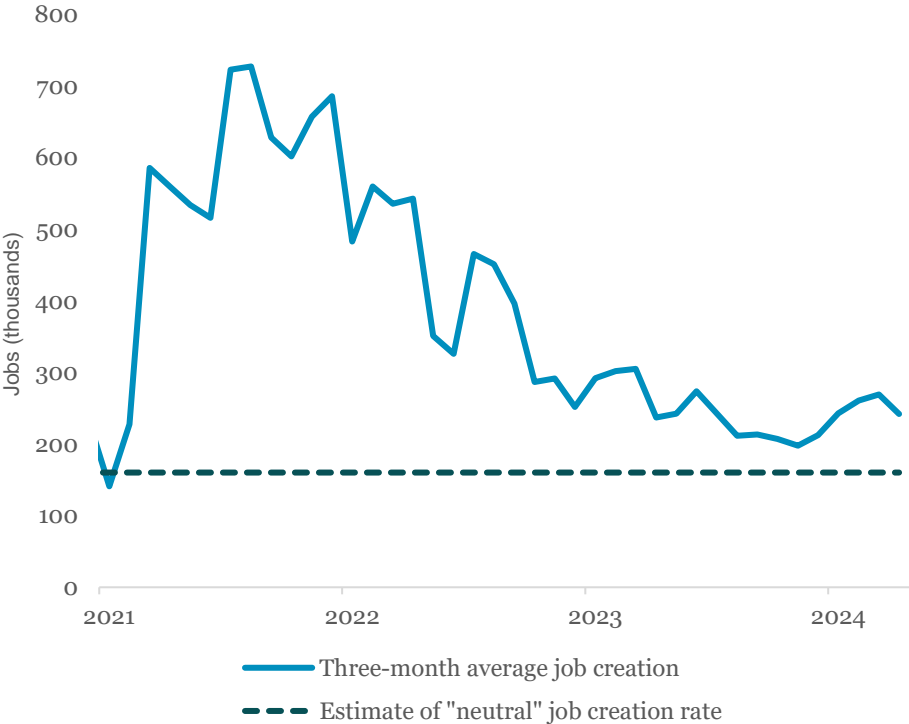


Data sources: Bloomberg, BEA, ISM, as of 31 Mar 2024.

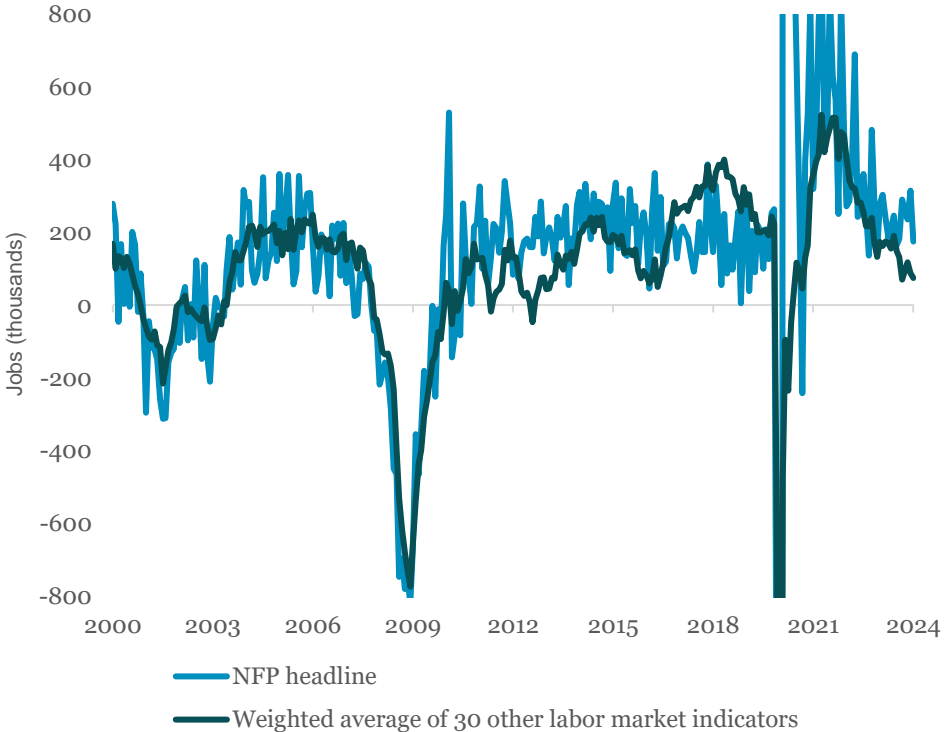
Headline job growth has moderated again after the recent rebound

The pace of job creation slowed to start the second quarter.

Three-month average job creation is +242,000



While headline job creation has been strong, other data has deteriorated



Data sources: Bloomberg, BLS, as of 31 Mar 2024.

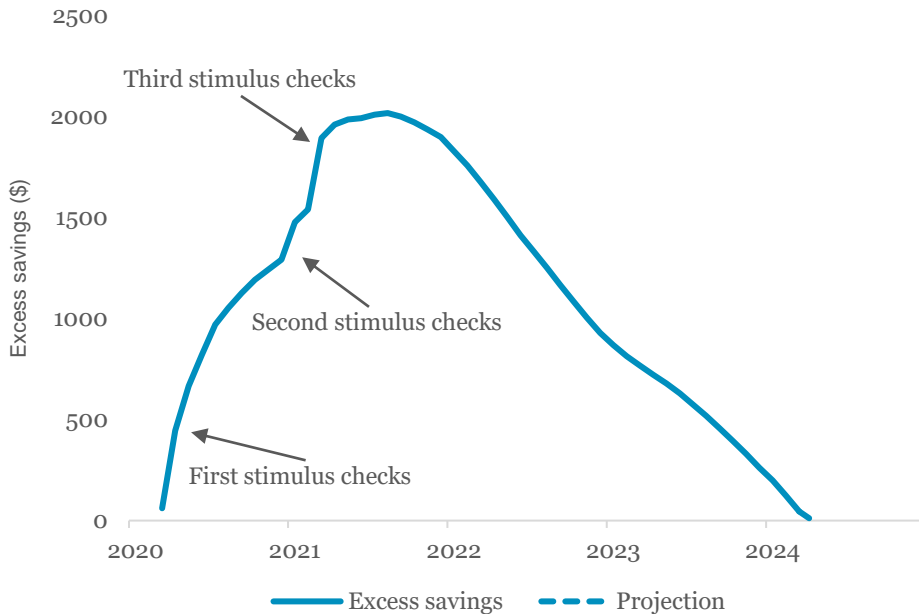
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Data sources: Bloomberg, BLS, as of 31 Mar 2024.

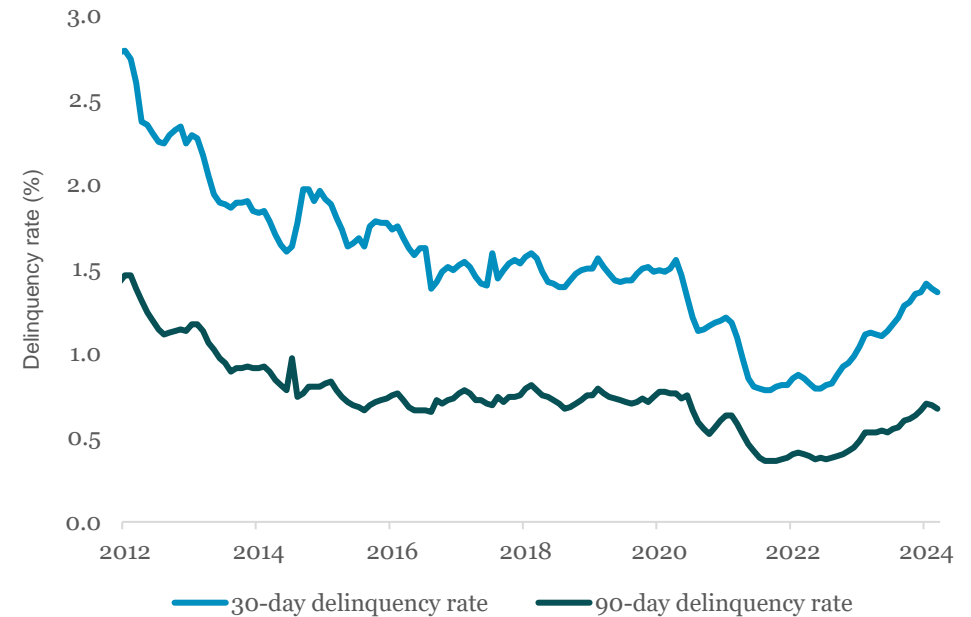
Consumer spending was stronger than expected in 2023, but headwinds are increasing

The latent impact of prior fiscal stimulus will fade.

Excess savings, which supported consumption over prior quarters, are now close to exhausted



After three strong years, credit card delinquency rates are back to pre-covid levels



Data sources: BEA, Bloomberg, as of 31 Mar 2024.

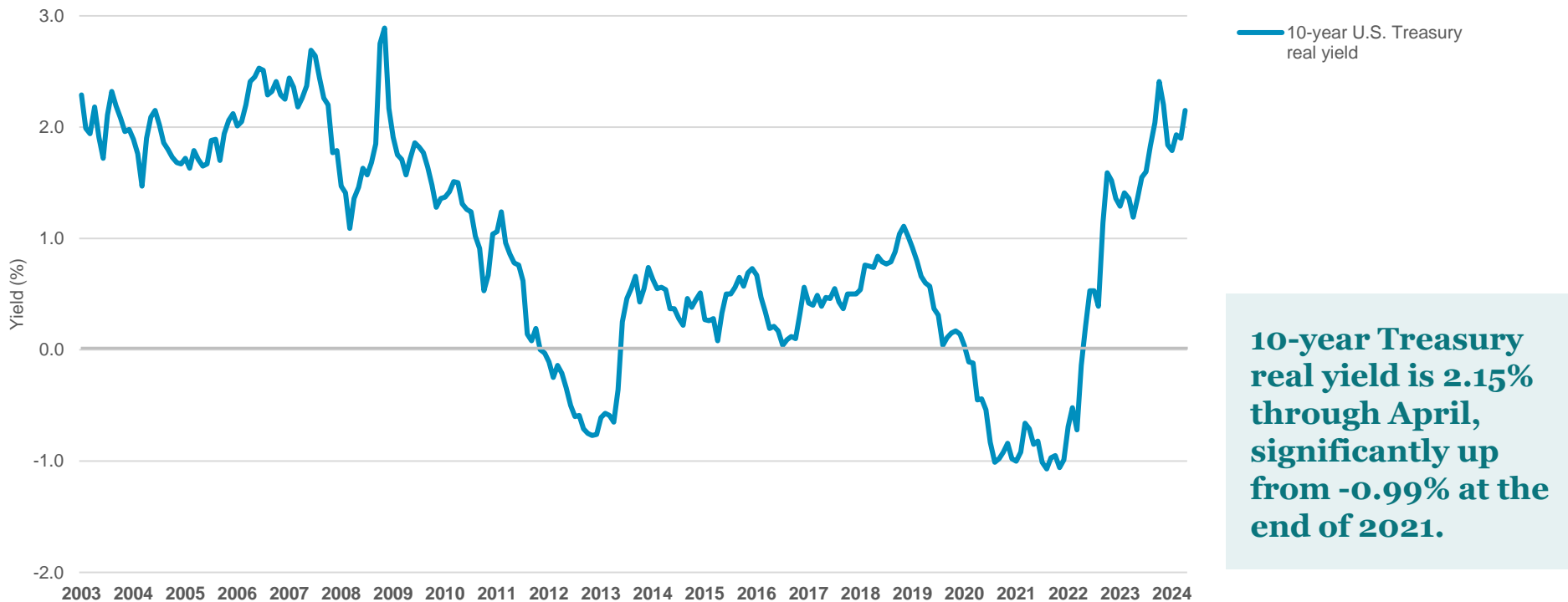
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Data sources: Bloomberg, BEA, EIA, CME, as of 31 Mar 2024.

Real yield levels are now outpacing inflation

Treasury yield minus inflation remains at levels not seen in over a decade.

10-year U.S. Treasury real yield

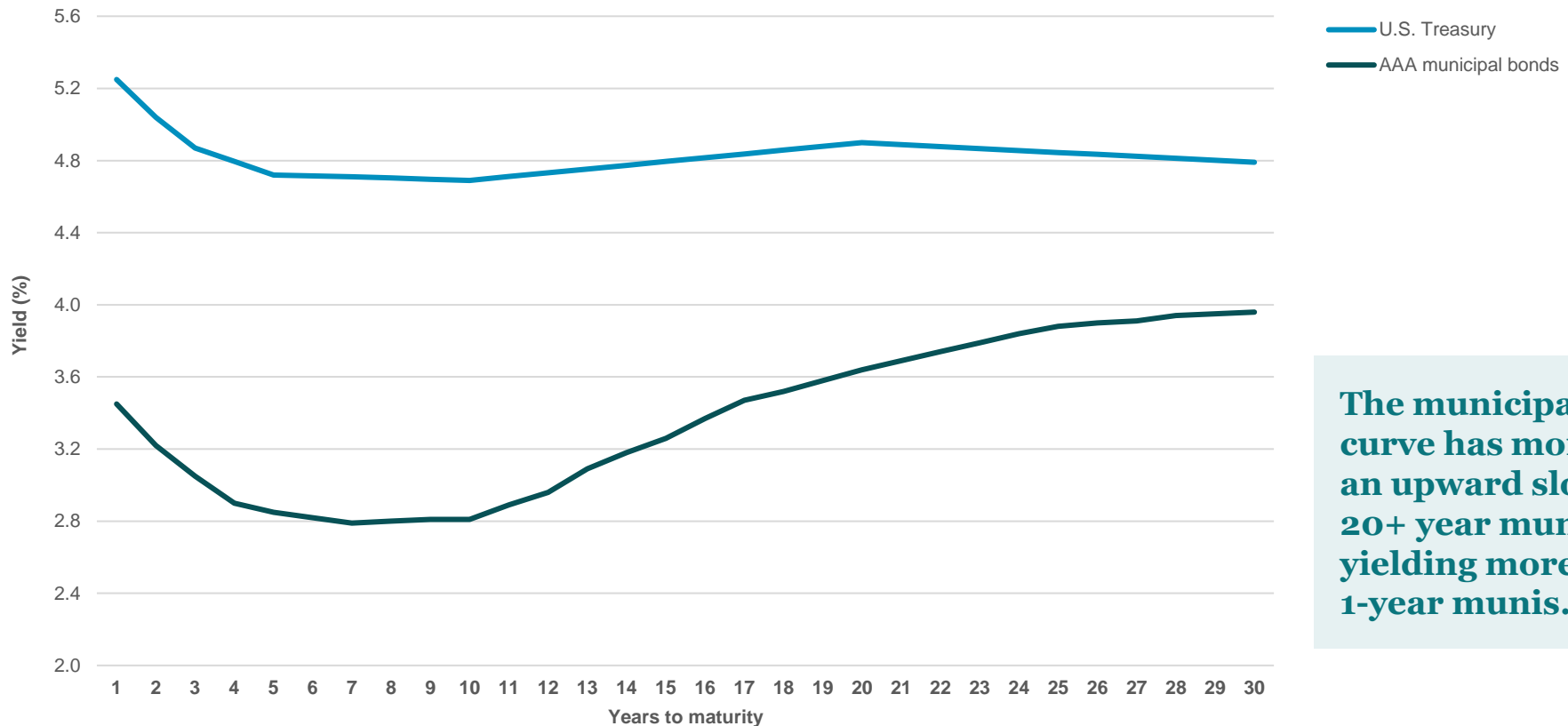


Data source: FRED, 31 Jan 2003 – 30 Apr 2024, shown monthly. The real yield is a measure of the stated return on Treasury bonds, minus inflation.

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Inverted yield curves typically forecast an economic slowdown

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



The municipal yield curve has more of an upward slope. 20+ year munis are yielding more than 1-year munis.

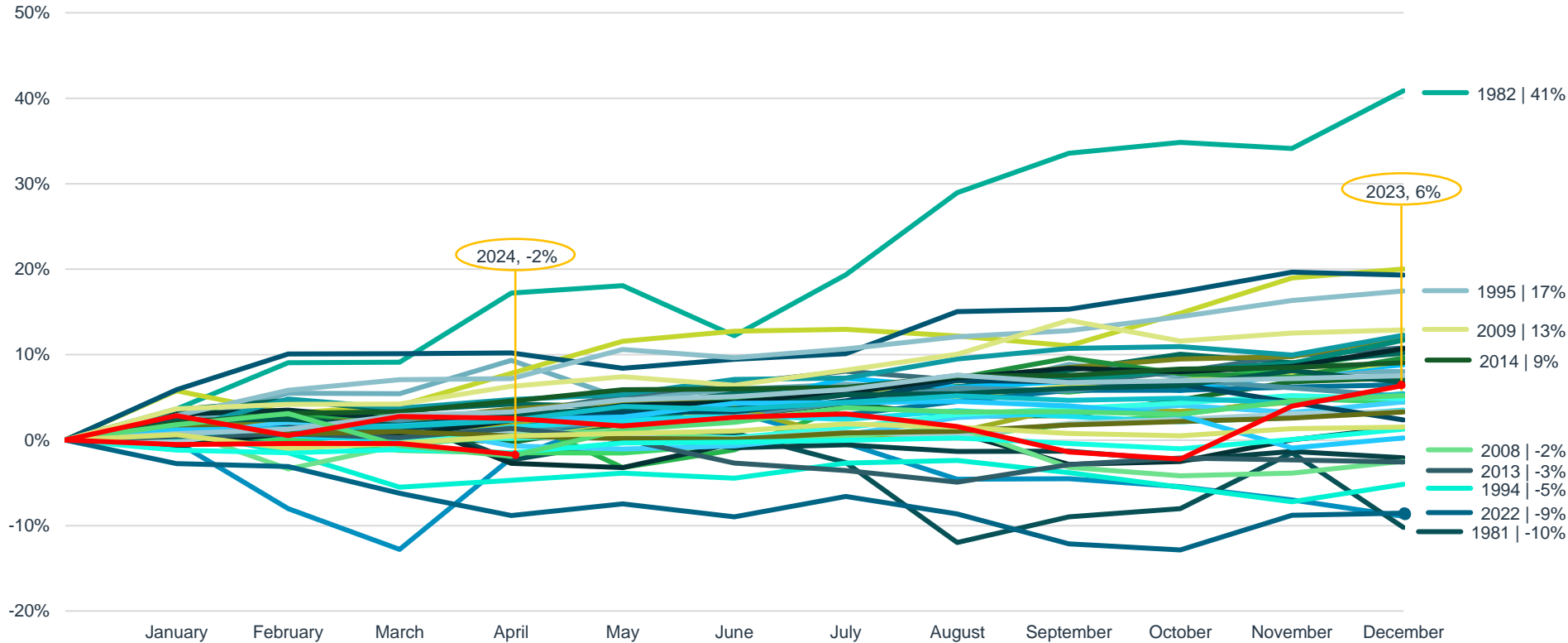
Data sources: U.S. Department of the Treasury; Refinitiv MMD, 30 Apr 2024. Performance data shown represents past performance and does not predict or guarantee future results. AAA municipals represented by Municipal Market Data (MMD) scale.

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Seasonal headwinds have impacted performance to start the year

Returns were slightly negative to start the year, returning -1.62% through April.

Bloomberg Municipal Bond Index performance, calendar year path

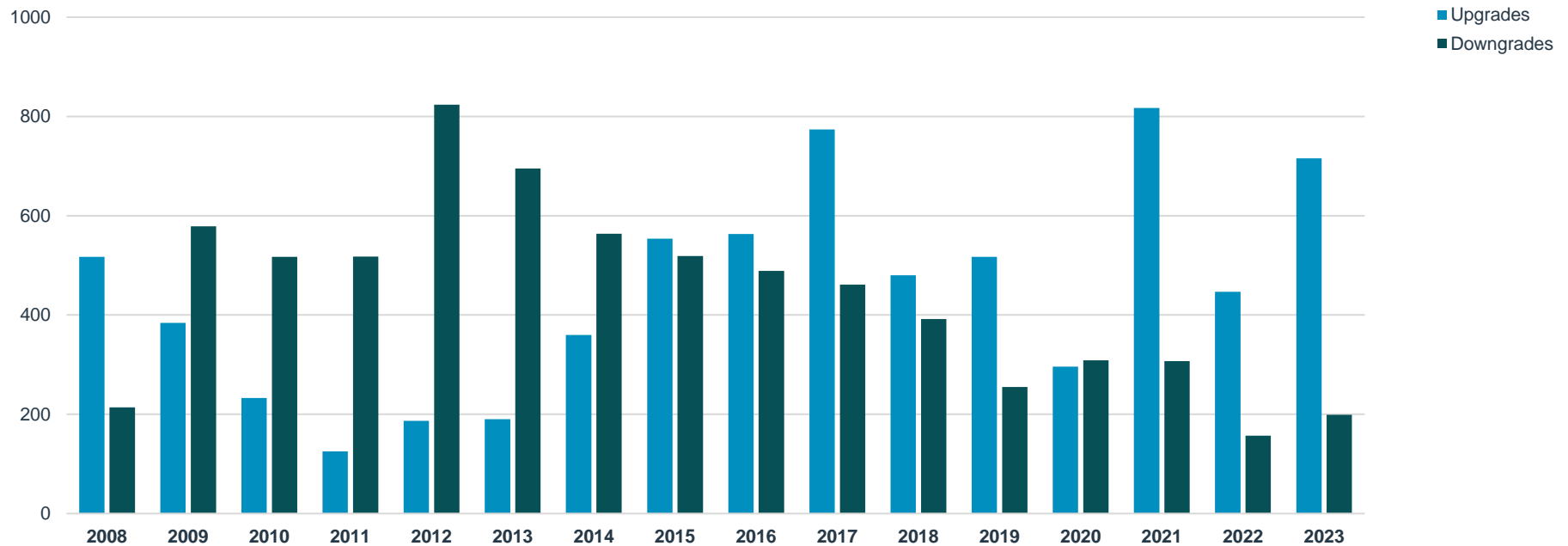


Data source: Bloomberg, L.P., 01 Jan 1980 – 30 Apr 2024; cumulative returns for each calendar year, shown monthly. Performance data shown represents past performance and does not predict or guarantee future results. OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Rating upgrades have continued to exceed downgrades in recent history

Credit rating upgrades outpaced downgrades by nearly 4 to 1 in 2023. We expect this to normalize in 2024.

Number of rating changes for public finance



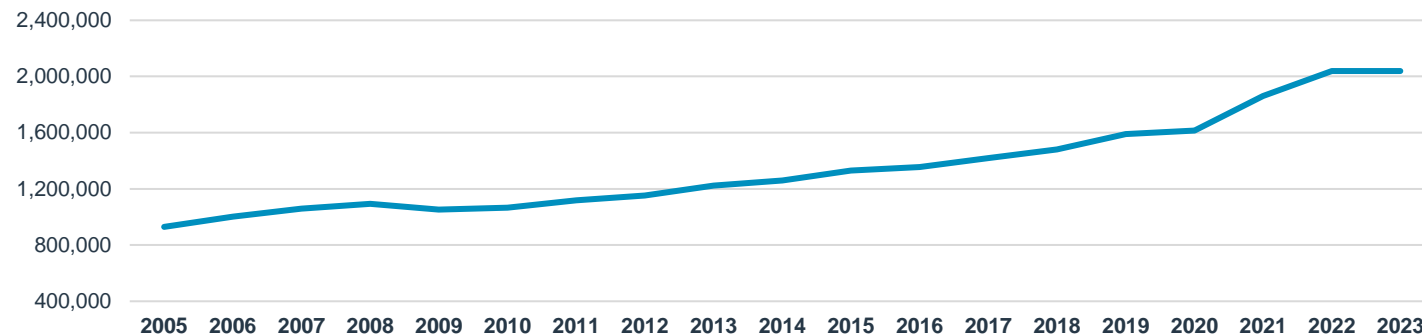
Data sources: Moody's Investors Service, *Quarterly and Annual Municipal Rating Revisions*, 29 Feb 2024, data as of 31 Dec 2023; most recent data available.

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Municipalities are in a strong financial position

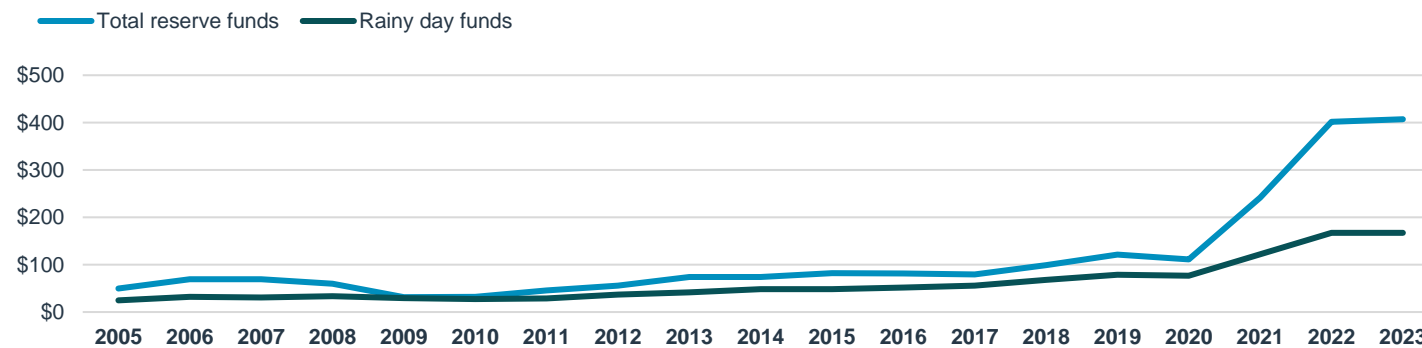
Revenue collections and reserve levels are the highest in more than 40 years.

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



2023 state revenues increased marginally compared to 2022.

State government funds (\$ billions)²



Total reserve funds for 2023 ended modestly above 2022 levels, at \$406 billion.

¹ Data source: census.gov, 31 Dec 2023; updated annually.

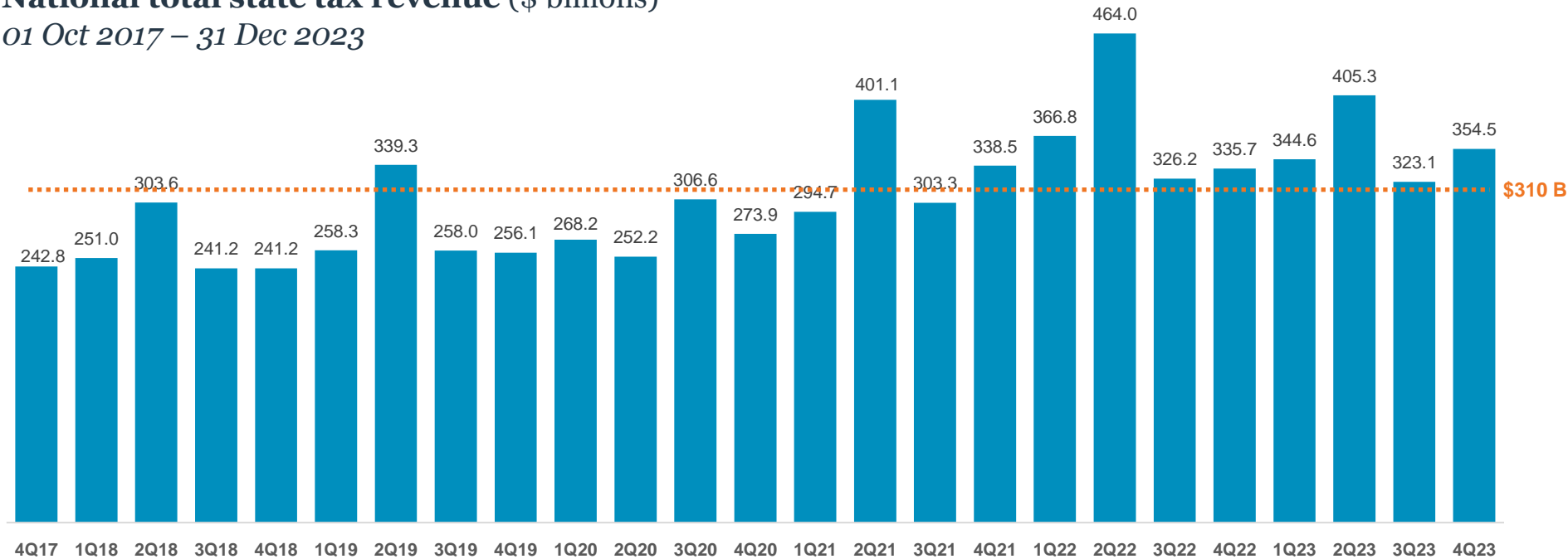
² Data sources: National Association of State Budget Officers (NASBO), *The Fiscal Survey of States*, Spring 2022. Pew Charitable Trust, *States Build Their Reserves Amid Growing Uncertainties*, 31 Dec 2023.

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We expect state tax revenue growth to normalize to pre-pandemic levels

Revenue growth is starting to slow from 2022. Credit research can be an important driver of investment success.

National total state tax revenue (\$ billions)
01 Oct 2017 – 31 Dec 2023



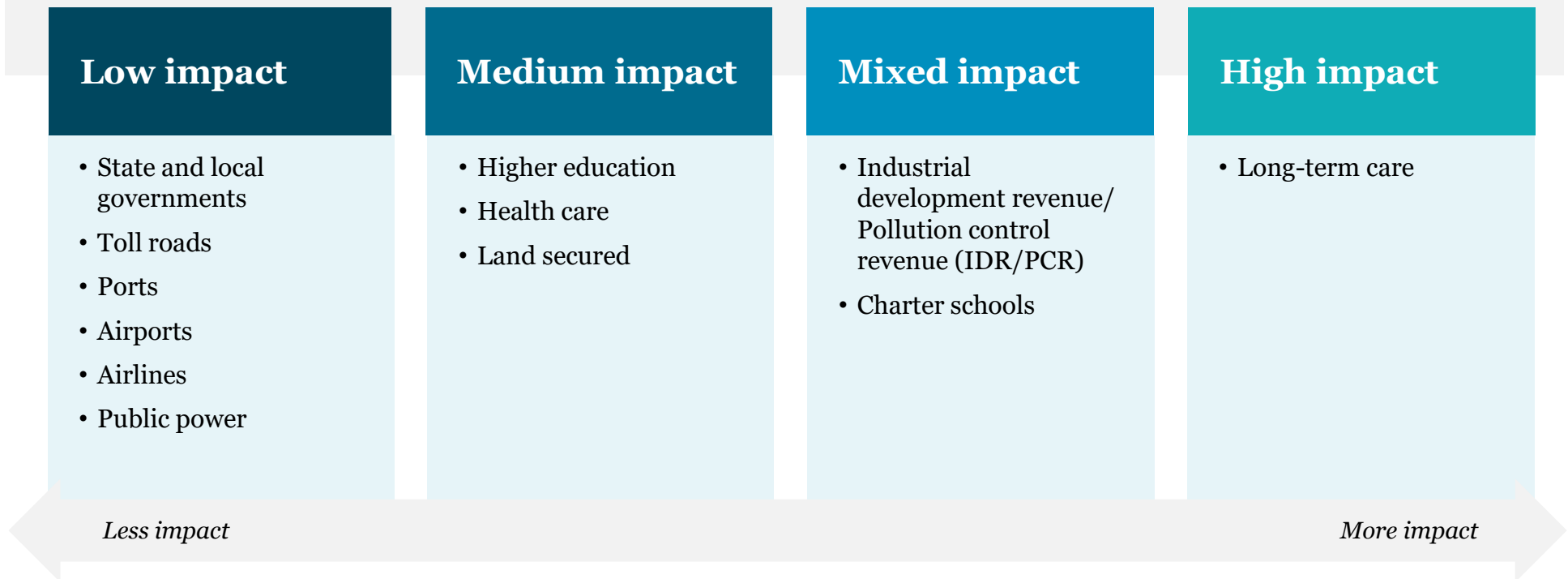
Average tax collections from 4Q17 to 4Q23 were \$310 billion per quarter.

Data source: Nuveen; census.gov, as of 31 Mar 2024, with data as of 31 Dec 2023.
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Municipal bond sectors are resilient in times of uncertainty

Municipal bonds fund essential services such as roads/highways, education, water & sewer, and electric, and many projects are backed by stable revenue sources.

How a potential economic downturn may affect municipal sectors



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Credit rating agency outlooks are beginning to consider slower economic growth

Federal stimulus funds, solid revenue collections and robust reserves continue to provide stability.

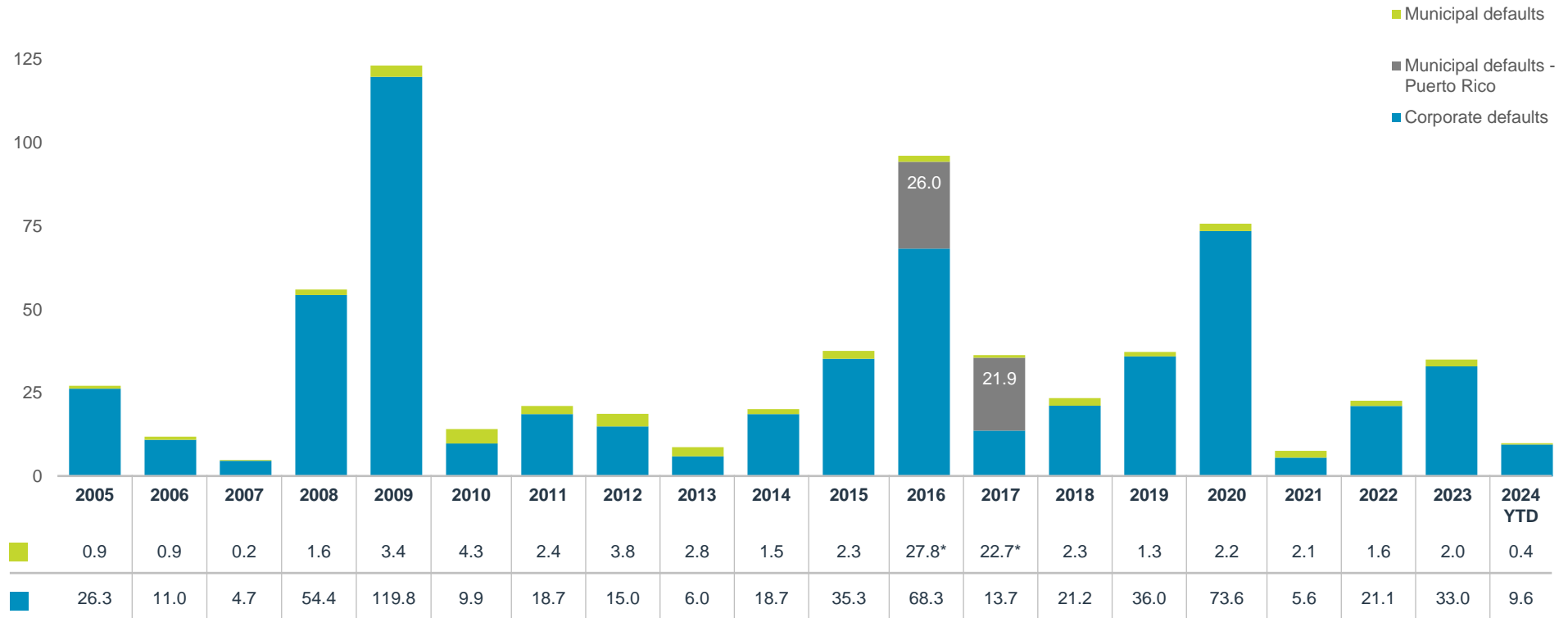
Category	Sector	Moody's outlook		
		2024	2023	2020
Transportation	Airport	Stable	Stable	Negative
	Mass transit	Negative	Negative	Negative
	Public ports	Stable	Stable	Negative
	Toll roads	Stable	Stable	Negative
Higher education	Privates	Stable	Negative	Negative
	Publics	Stable	Negative	Negative
	Charter schools	Stable	Stable	N/A*
General obligation	State governments	Stable	Stable	Negative
	Local governments	Stable	Stable	Negative
Utilities	Public power	Stable	Stable	Stable
	Water/Sewer	Stable	Stable	Stable
Health care	Not for profit hospitals/Health care	Stable	Negative	Negative
Other	Housing	Stable	Stable	Stable
	Not for profit	Stable	Stable	Negative

Data source: Moody's, 31 Dec 2023. Moody's began publishing an outlook on charter schools in 2022.

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Defaults remain in line with historical trends

Municipal payment defaults (\$ billions)



Municipal defaults YTD through 30 April 2024 were concentrated in industrial development (37%), nursing homes (30%), hospitals (27%) and higher education (6%).

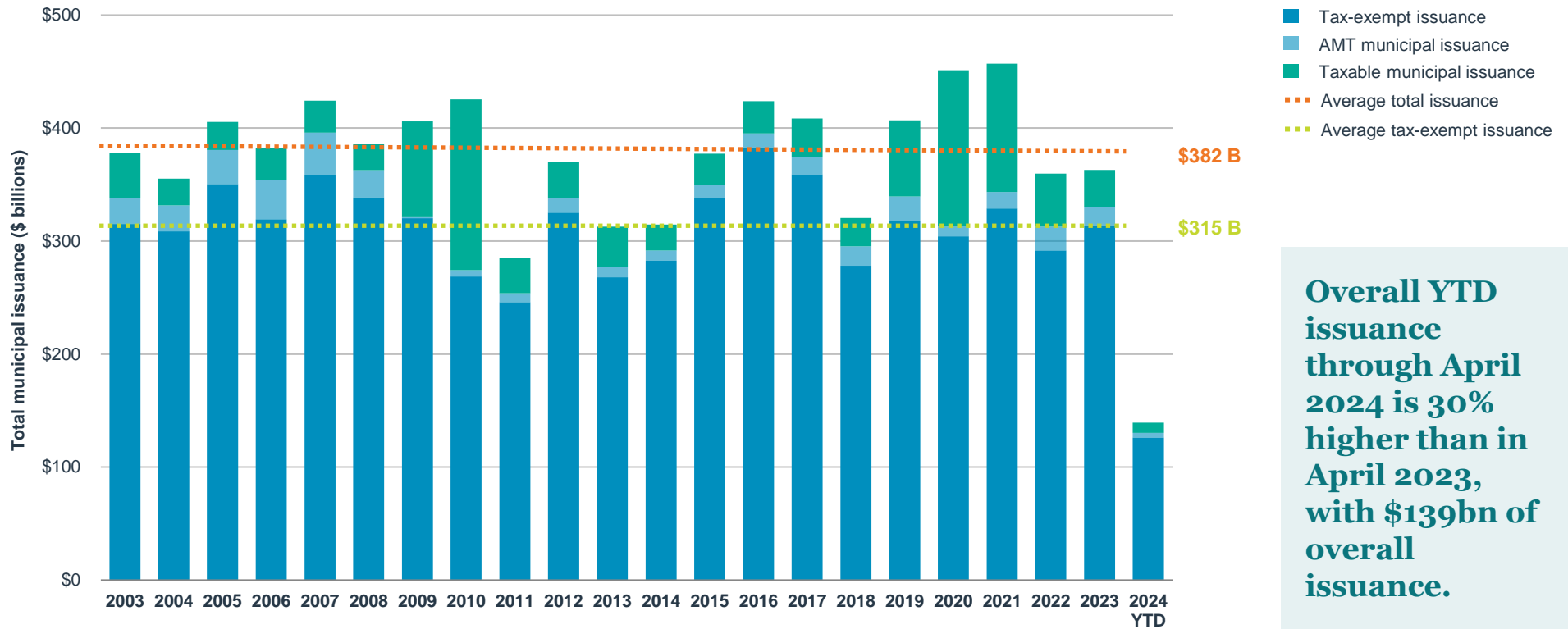
Data sources: Bank of America/Merrill Lynch Research, 03 May 2024, municipal default data as of 30 Apr 2024. Bank of America/Merrill Lynch Research HY Credit Chart book, corporate default data as of 30 Apr 2024. Data represents defaults on the entire universe of bonds, both rated and unrated, and includes 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).

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Issuance patterns could be more concentrated in the months leading up to the US election

Tax-exempt supply has started 2024 above 2023 levels.

Municipal issuance



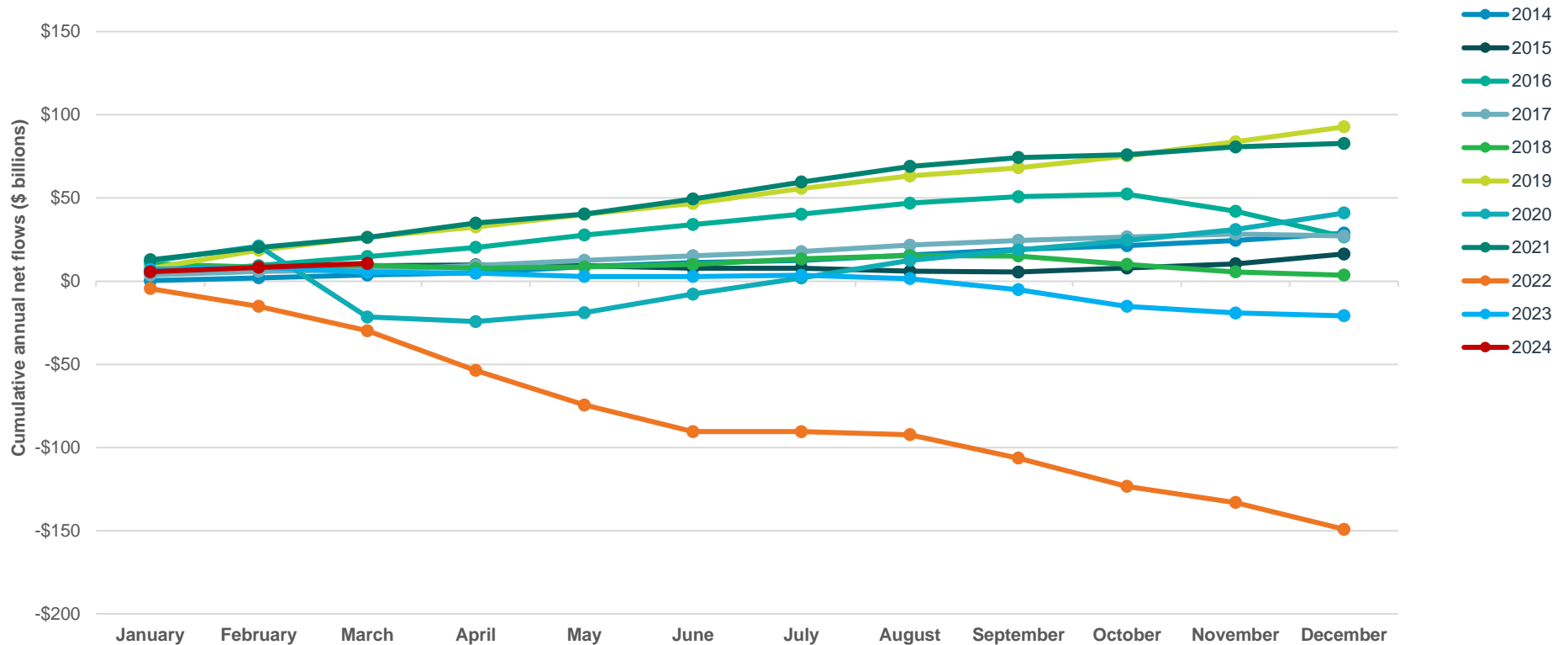
Data source: Securities Industry and Financial Markets Association (SIFMA.org), *U.S. Bond Market Issuance and Outstanding*, 03 May 2024 for period ending 30 Apr 2024. The average total issuance and average tax-exempt issuance shown are for the period 01 Jan 2003 – 31 Dec 2023. AMT municipal issuance is part of the tax-exempt municipal market.

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Fund flows are positive to start 2024

Municipal open-end fund net inflows were \$10.62 billion through March.

Annual municipal bond fund flows by month
2014 – 2024 YTD



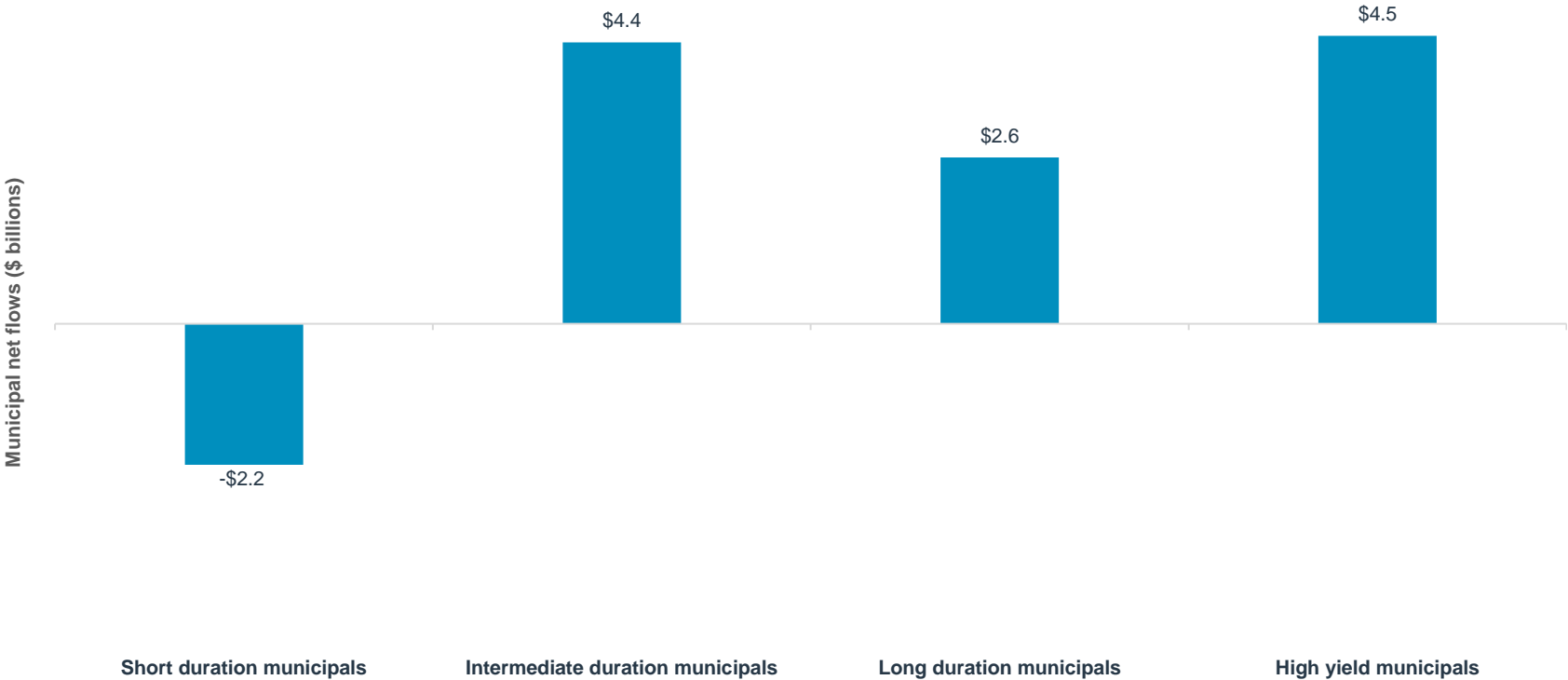
Data source: Morningstar Direct, 01 Jan 2014 – 31 Mar 2024, cumulative flows for each calendar year, shown monthly. Net flows represent the total of all municipal bond open-end funds.

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Investors have started to take on more duration risk

Fund flows favor intermediate, long duration and high yield municipals.

2024 YTD inflow or outflow by municipal bond category



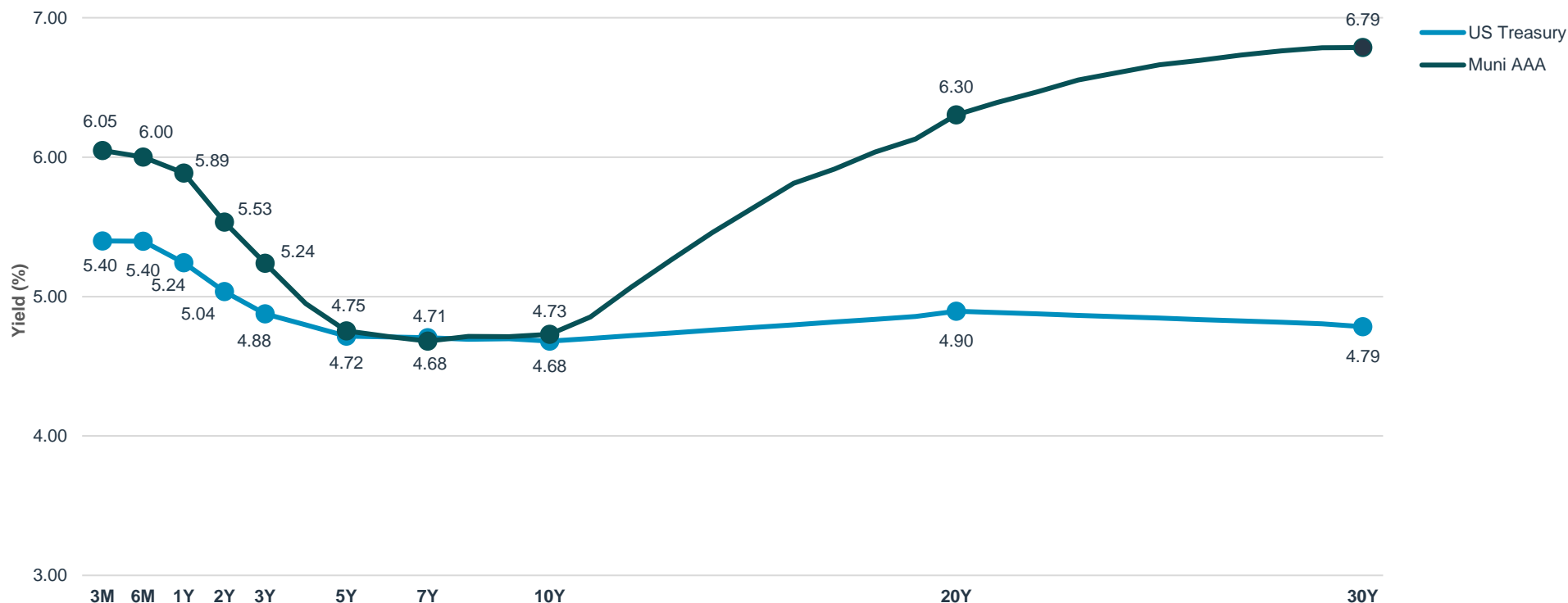
Data source: Morningstar Direct, 01 Jan 2024 – 31 Mar 2024. Net flows represent the total of all municipal bond open-end funds. Respective Morningstar categories: Short duration municipals: Muni National Short; Intermediate duration municipals: Muni National Interim; Long duration municipals: Muni National Long; High yield municipals: High Yield Muni.

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Are you considering alternatives to short-term Treasuries?

By extending duration, municipal investors can achieve higher tax-efficient yields.

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

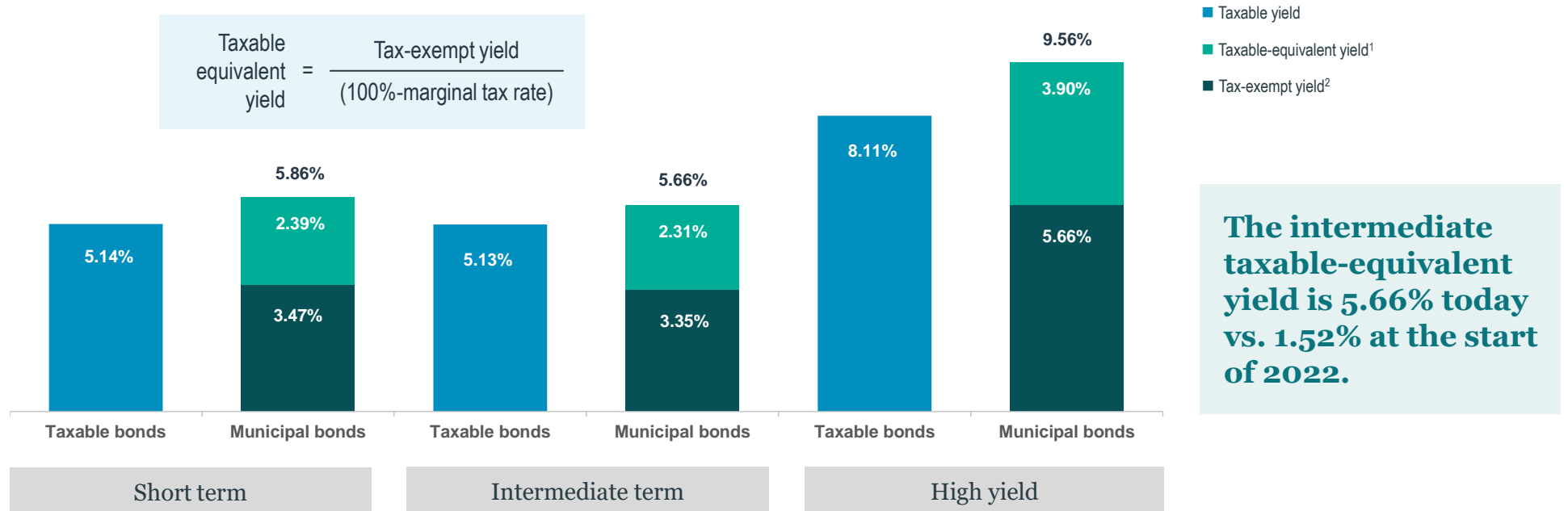


Data source: Bloomberg; Nuveen Portfolio Strategy & Solutions, as of 30 Apr 2024. Taxable-equivalent yield (TEY) is the yield a taxable investment needs to possess (before taxes) for its yield to be equal to that of a tax-free municipal investment. The yields shown are based on the highest individual 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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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%, 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.

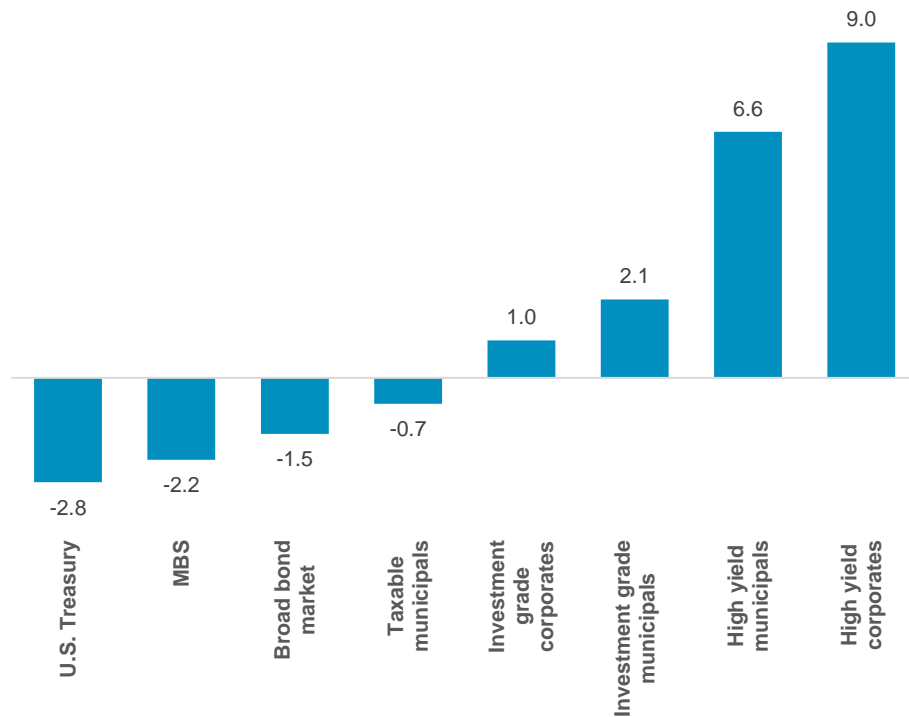
Data source: Bloomberg L.P., 30 Apr 2024. **Performance data shown represents past performance and does not predict or guarantee future results.** Yields are yield to worst. **Yield to worst** is the lowest potential yield that can be received on a bond without the issuer defaulting. **Taxable-equivalent 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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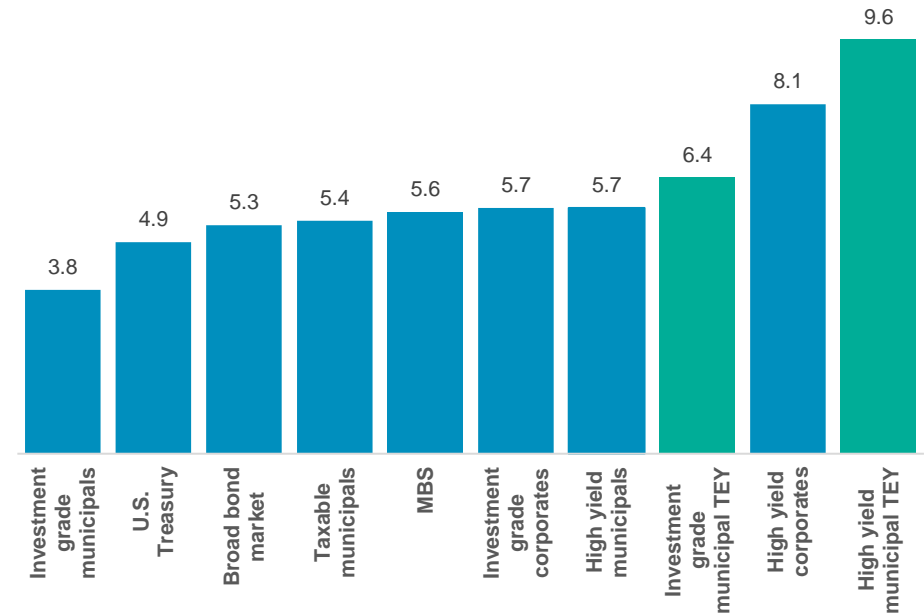
Fixed income sector performance is mixed, and investment grade municipals show resilience

Comparing asset class returns and yields

Trailing 12 month returns (%)



Yield to worst (%)

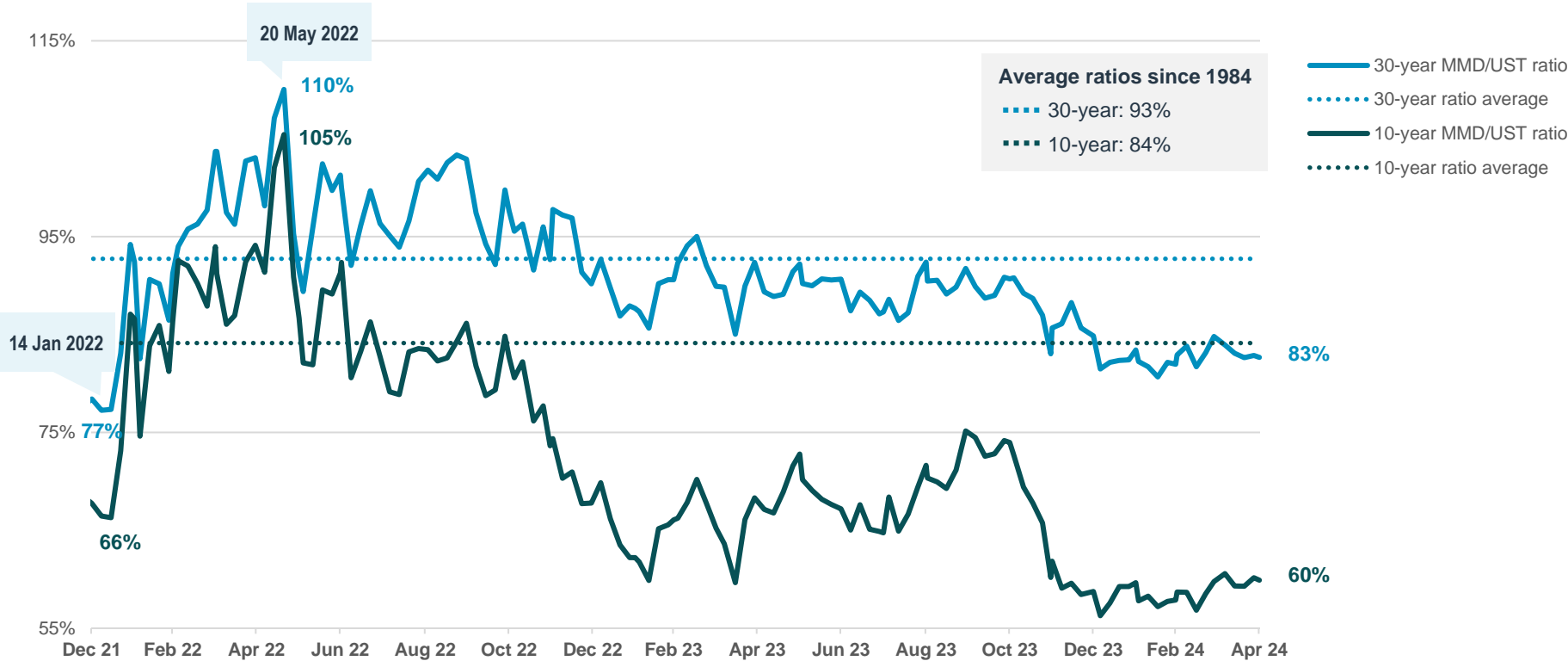


Data source: Bloomberg, L.P., trailing 12 month returns from 30 Apr 2023 – 30 Apr 2024; yield to worst as of 30 Apr 2024. Performance data shown represents past performance and does not predict or guarantee future results. Yields are yield to worst. Yield to worst is the lowest potential yield that can 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, but technical conditions have lagged

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

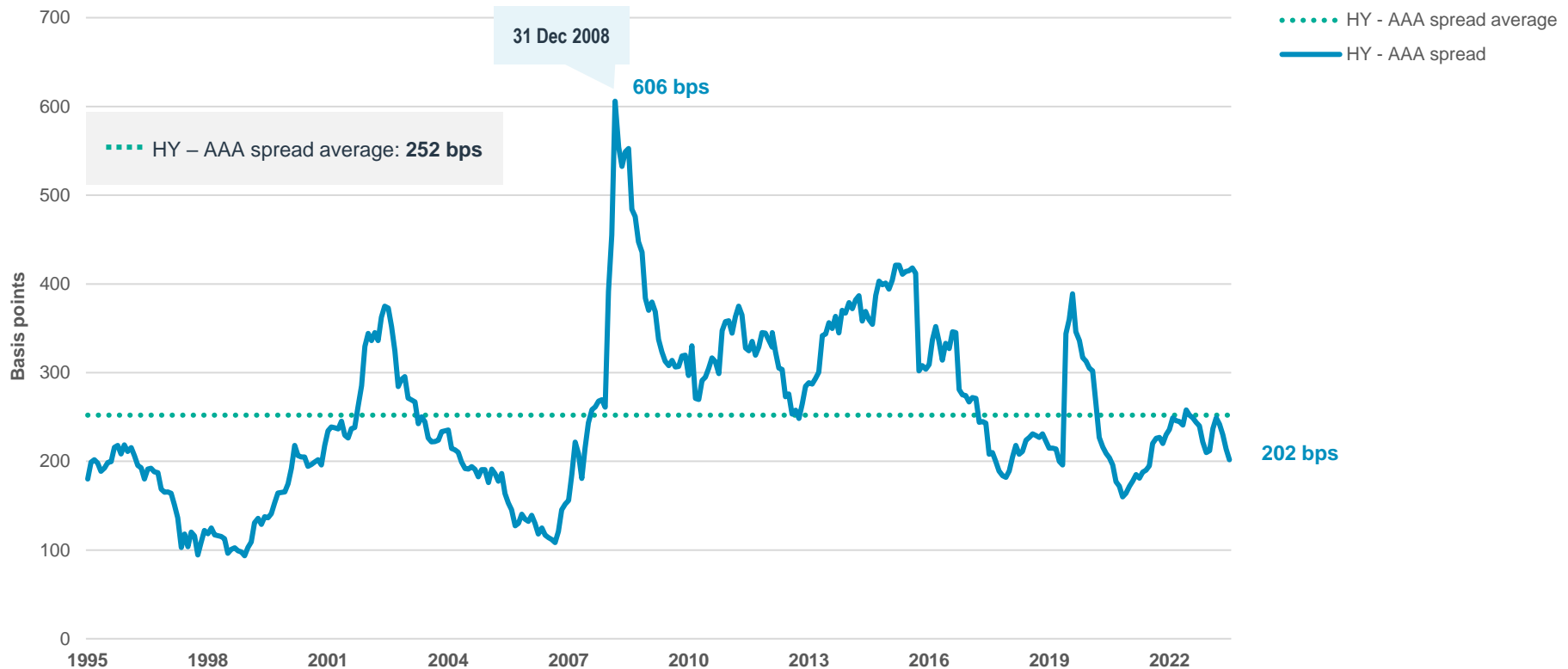


Data source: Refinitiv MMD for fair value Municipal 10- and 30-Year Index AAA General Obligation bonds; Bloomberg for 10- and 30-year U.S. Treasury yields, shown weekly, 31 Dec 2021 – 30 Apr 2024, averages shown from 01 Jan 1984 – 30 Apr 2024. Performance data shown represents past performance and does 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 return

Bloomberg High Yield Municipal Index versus AAA yields



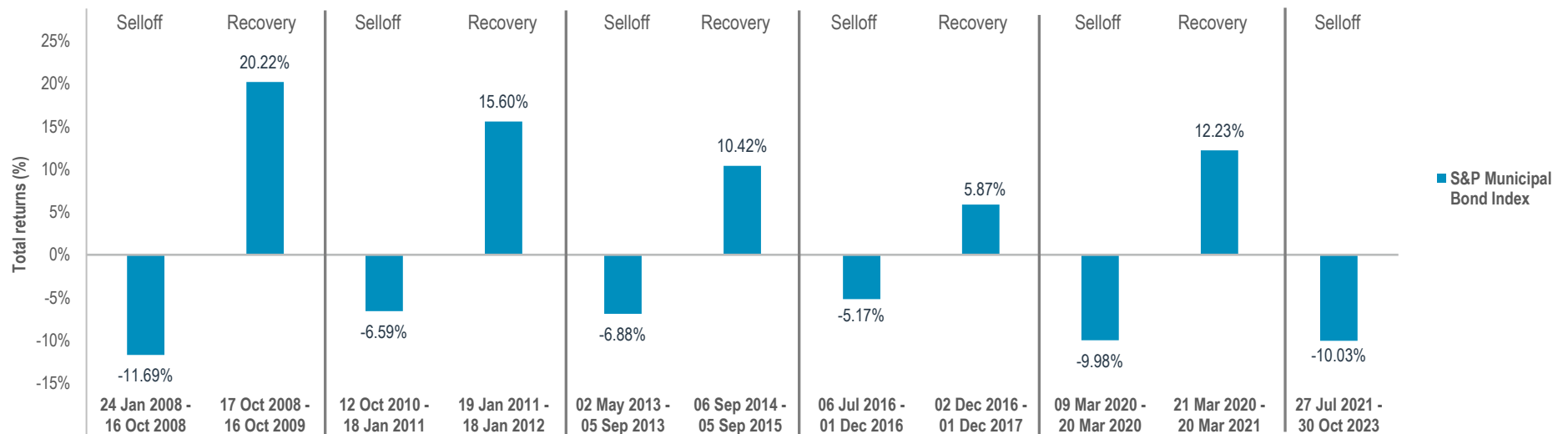
Data source: Bloomberg, Refinitiv MMD, 31 Oct 1995 – 30 Apr 2024, shown monthly. Chart shows data to the earliest period available. Performance data shown represents past performance and does not predict or guarantee future results. High yield municipal yields represented by the Bloomberg High Yield 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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Municipal market has generally bounced back within one year after major downturns

Municipal performance during selloffs and subsequent 1-year recoveries

S&P Municipal Bond Index total returns



Cumulative municipal returns were 6.86% over the past six months, from the end of the selloff period on 31 October 2023 through 30 April 2024. 2023 returns were 5.85%.

Data source: Morningstar Direct. Data shown applies to the actual time periods noted in the table. Performance data shown represents past performance and does not predict or guarantee future results. The drawdown time periods are based on periods where the S&P Municipal Bond Index declined 5% or more. The recovery periods are the 1-year period from the trough. Data shown is based on the most recent data provided to Morningstar by asset managers, which may be modified based on Morningstar's methodology and is subject to change.

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Outlook

Opportunities

- Interest rate volatility and elevated yields are creating opportunity across various municipal strategies.
- Absolute yields are driving increased demand as yields remain higher-for-longer.
- Municipal credit remains strong, with rating upgrades outpacing downgrades and rainy day funds at historically high levels.
- Credit selection and a willingness to own duration could help support performance.
- Demand could continue to outpace supply in 2024, providing technical support.

Challenges

- Overall municipal supply could remain constrained in 2024, and concerns about the U.S. election could alter issuance patterns.
- Uncertainty regarding the timing of Fed rate cuts is creating higher interest rate volatility for municipals.
- Investors have been cautiously returning to duration, although short-term rates remain attractive.
- Inflation continues to trend lower year over year, but a resilient economy may delay the timing of expected Fed rate cuts.
- Capital markets are leaning towards a no landing recession scenario, but recession risks do remain.

Source: Nuveen as of 30 Apr 2024. 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

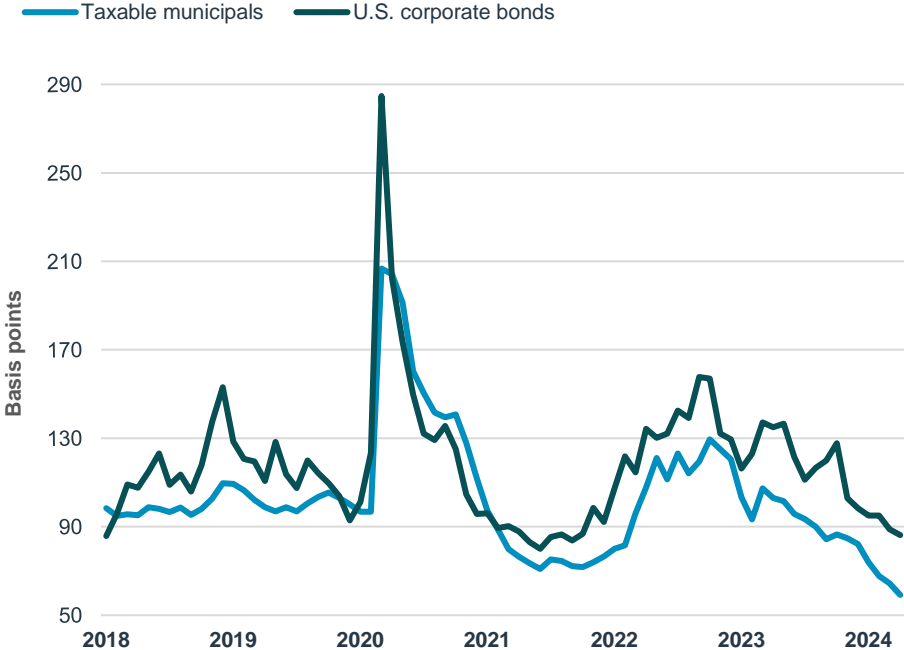
Index	Yield to worst (%)	Spread (bps)	Effective duration (years)	Returns (%)			
				April 2024	1Q 2024	2023	2022
Taxable municipal (AA-)	5.41	59	7.48	-2.91	0.10	8.82	-18.12
U.S. asset-backed securities (AA+)	5.56	50	2.48	-0.61	0.68	5.54	-4.30
U.S. mortgage-backed securities (AA+)	5.56	55	6.22	-3.03	-1.04	5.05	-11.81
U.S. corporate investment grade (BBB+)	5.73	86	6.72	-2.54	-0.40	8.52	-15.76
U.S. aggregate bond (AA)	5.31	40	6.05	-2.53	-0.78	5.53	-13.01
U.S. Treasury (AAA)	4.89	0	5.77	-2.33	-0.96	4.05	-12.46
Global corporate bonds (BBB+)	5.25	96	5.81	-2.28	-0.76	9.61	-16.72
Global aggregate (unhedged) (A+)	4.05	38	6.48	-2.52	-2.08	5.72	-16.25

Data sources: Bloomberg, L.P., Bloomberg indexes, as of 30 Apr 2024. 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 – 30 Apr 2024, 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.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

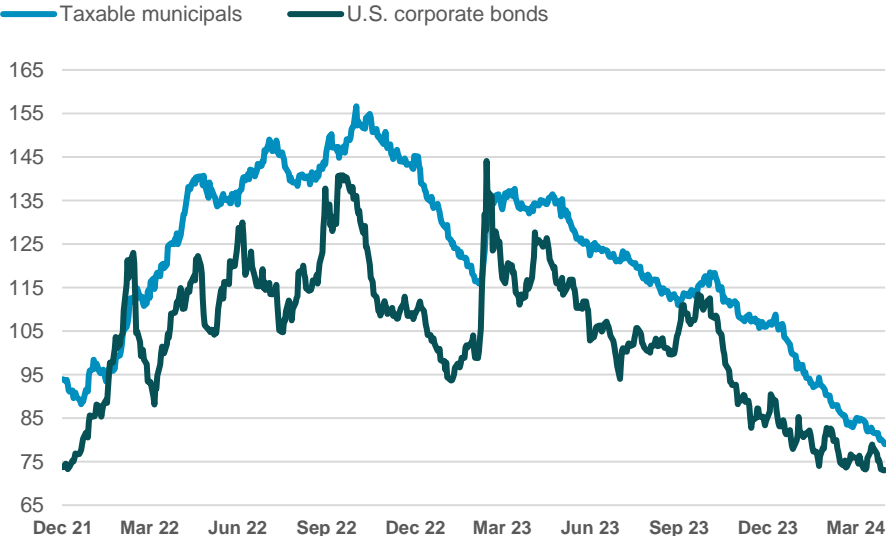
Taxable municipal credit spreads remain wider relative to corporate bonds

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

AA-rated spread



A-rated spread



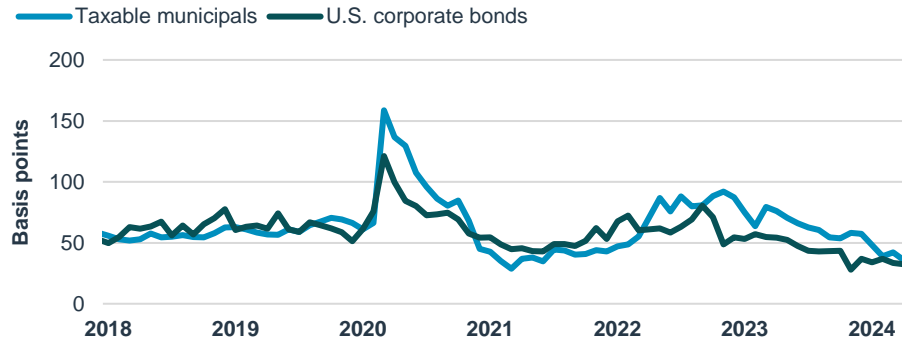
Credit spreads are narrowing but taxable municipals continue to offer an advantage over similarly rated corporate bonds.

Data source: Bloomberg, L.P., 31 Dec 2021 – 30 Apr 2024, 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.

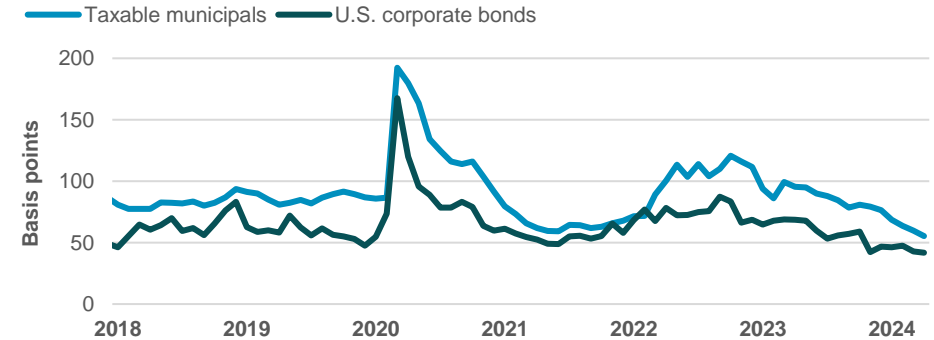
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

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

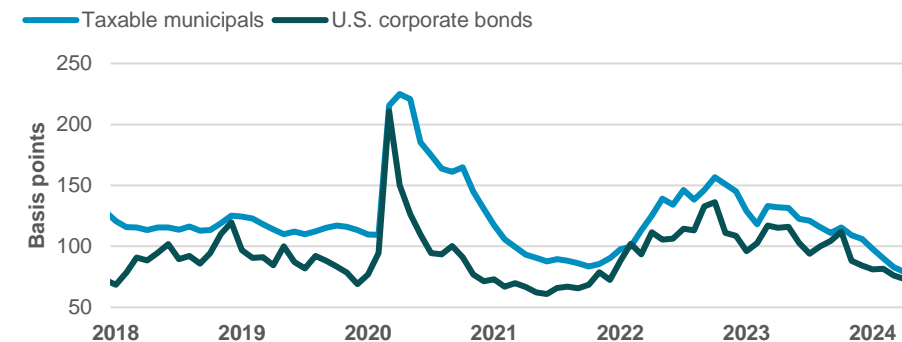
AAA-rated spread



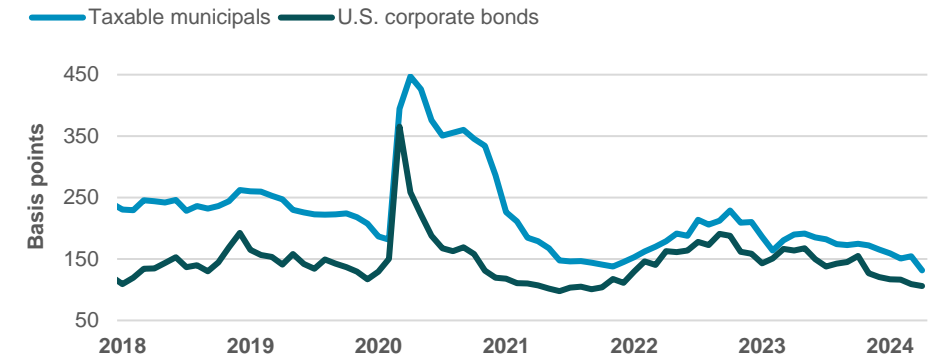
AA-rated spread



A-rated spread



BBB-rated spread



Data source: Bloomberg, L.P., 31 Jan 2018 – 30 Apr 2024, 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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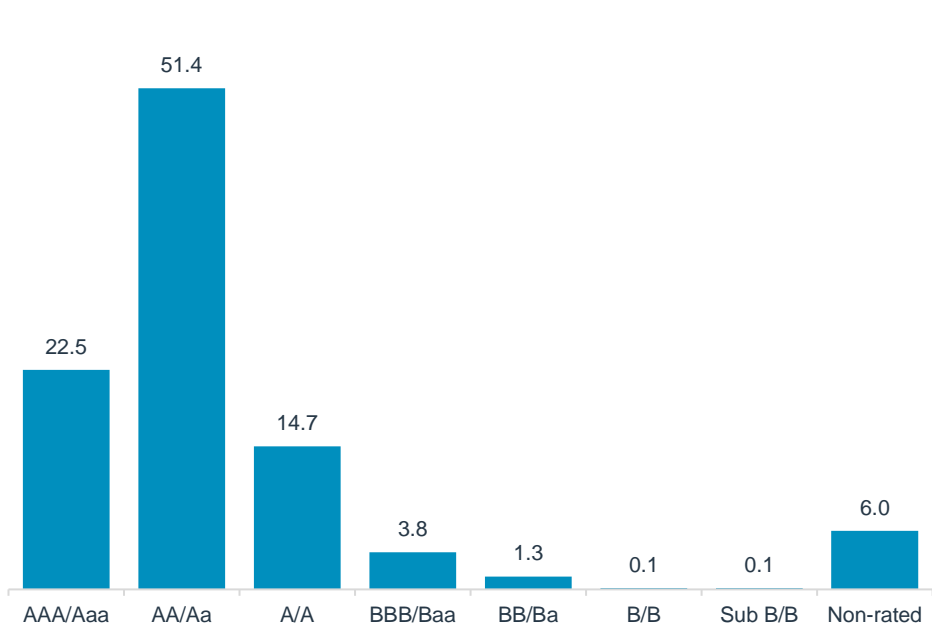
Appendix

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

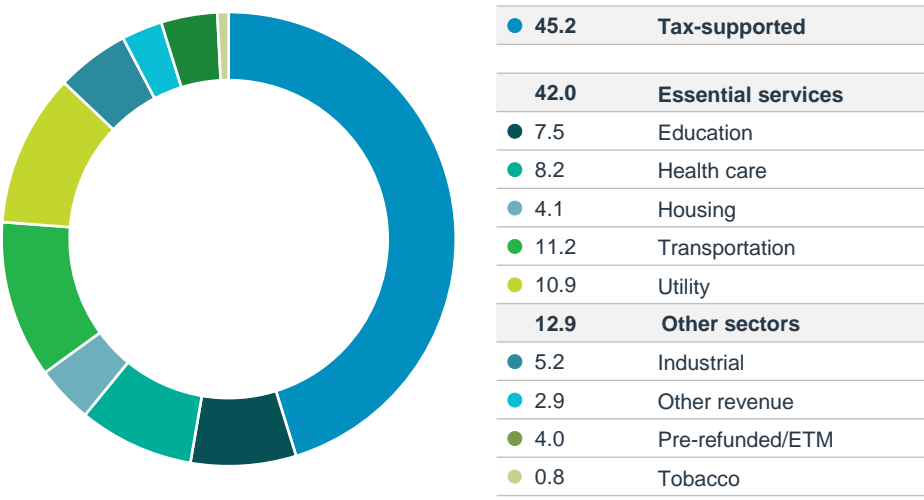
The market is dominated by high quality and essential service sectors

Municipal bonds generally feature high credit qualities and are backed by tax revenues or linked to essential services

Municipal market credit quality breakdown (%)



Municipal market sector breakdown (%)

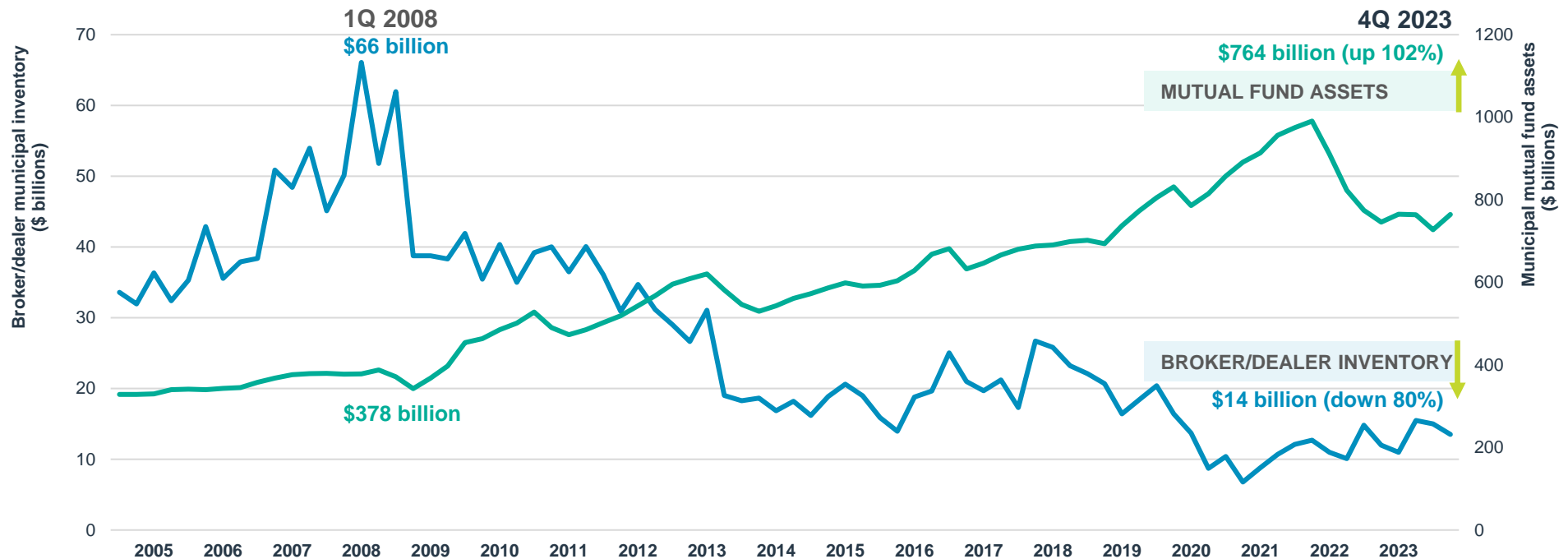


Data source: Standard & Poor's for the S&P Municipal Bond Index, 30 Apr 2024. Ratings shown are the highest rating given by one of the following national rating agencies: Standard & Poor's (S&P), Moody's Investors Service, Inc. (Moody's) or Fitch, Inc. (Fitch). Credit ratings are subject to change. Aaa, Aa, A and Baa are investment grade ratings; Ba, B and Caa/Ca/C are below investment grade ratings. Certain bonds backed by U.S. government or agency securities are regarded as having an implied rating equal to the rating of such securities. Holdings designated N/R are not rated by these national rating agencies. High yield or lower-rated bonds and municipal bonds carry greater credit risk and are subject to greater price volatility. Totals may not add up to 100% due to rounding.

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Building individual bond portfolios has become more difficult

Professional managers can help in an environment of lower inventory.



Other factors that support investing with a professional manager:

- Sources of liquidity have diminished for individual investors
- Municipal assets under management have increased since 2008, adding almost \$400 billion in mutual funds

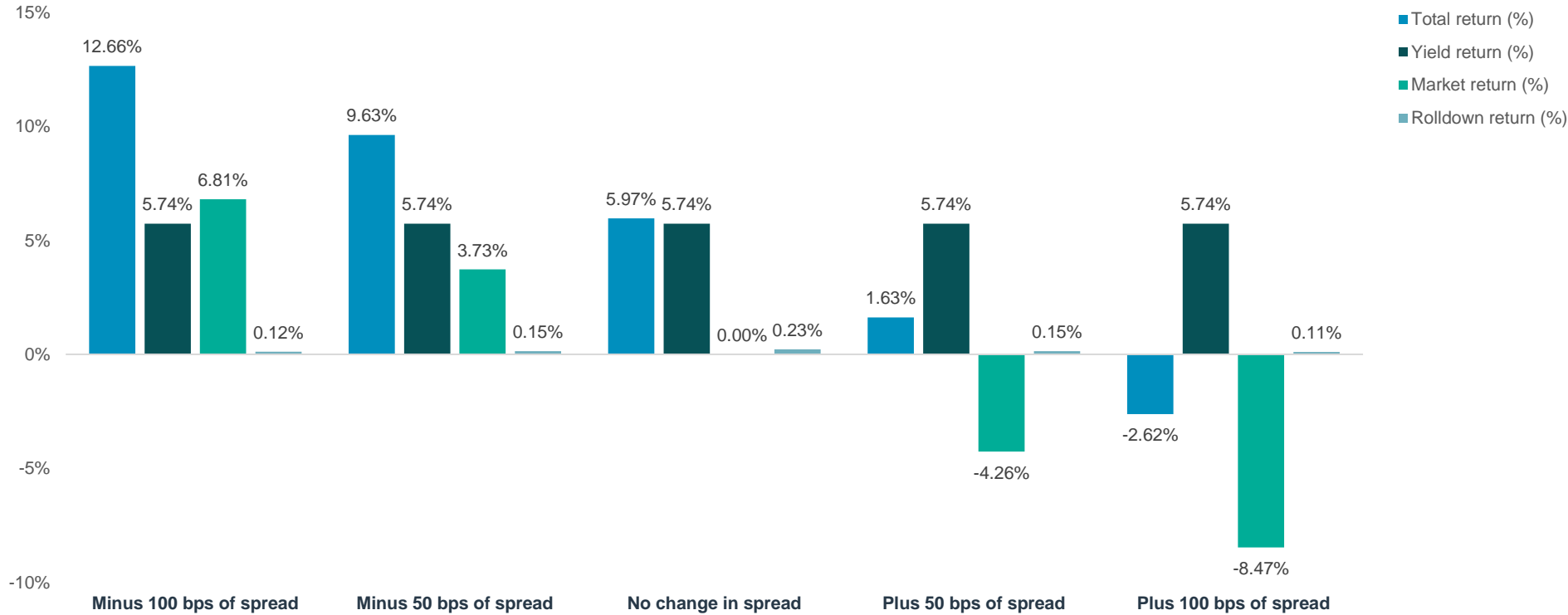
Data source: Assets and inventory data from *Federal Reserve Flow of Funds* ending 07 Mar 2024, data as of 31 Dec 2023; most recent data available.

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High yield municipal returns can be attractive in various scenarios of spread widening

50 bps of spread widening could still produce a positive return if interest rates remain stable.

High yield municipal 12-month simulated performance

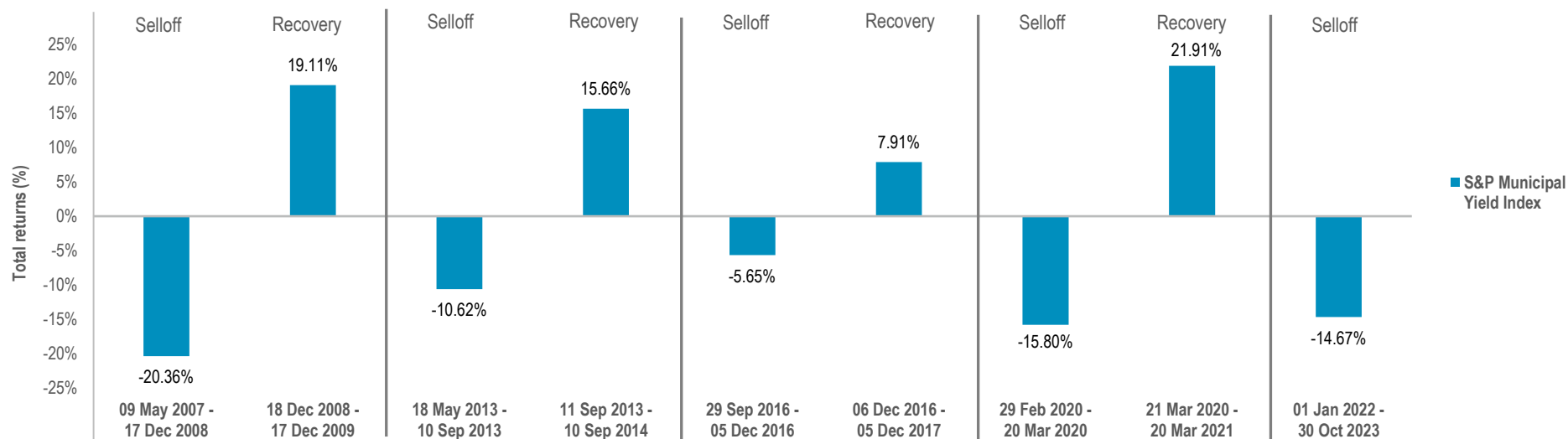


Data source: Perform; Bloomberg, as of 30 Apr 2024. Simulated performance for high yield municipal bonds represented by the Bloomberg High Yield Municipal Index. The projections or other information regarding the likelihood of various investment outcomes is hypothetical in nature and does not reflect actual investment results that any particular investor actually attained or of any specific Nuveen product. **Performance data shown does not predict or guarantee future results. OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.**

High yield municipals have performed well within one year after significant declines

High yield municipal performance during selloffs and subsequent 1-year recoveries

S&P Municipal Yield Index total returns



High yield municipal returns have been positive for the past six months, with a cumulative return of 11.70% from 31 October 2023 through 30 April 2024. 2023 returns were 8.78%.

Data source: Morningstar Direct. Data shown applies to the actual time periods noted in the table. Performance data shown represents past performance and does not predict or guarantee future results. The drawdown time periods are based on periods where the S&P Municipal Yield Index declined 5% or more. The recovery periods are the 1-year period from the trough. Data shown is based on the most recent data provided to Morningstar by asset managers, which may be modified based on Morningstar's methodology and is subject to change.

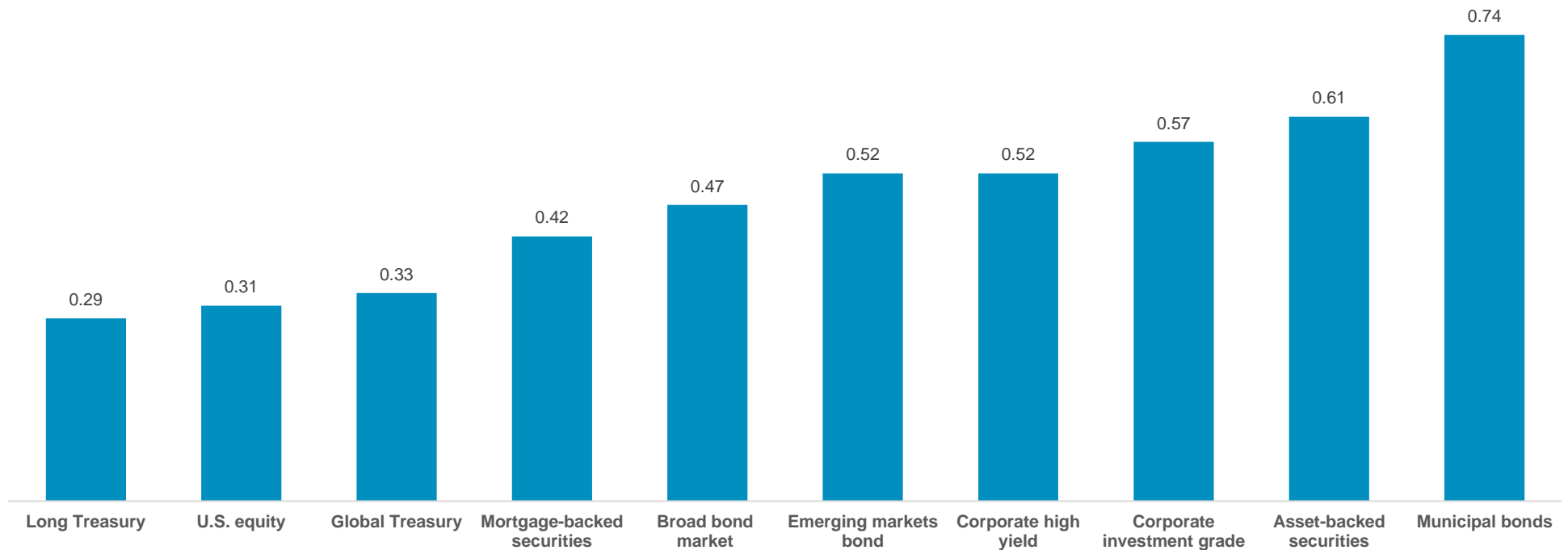
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

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 – 30 Apr 2024

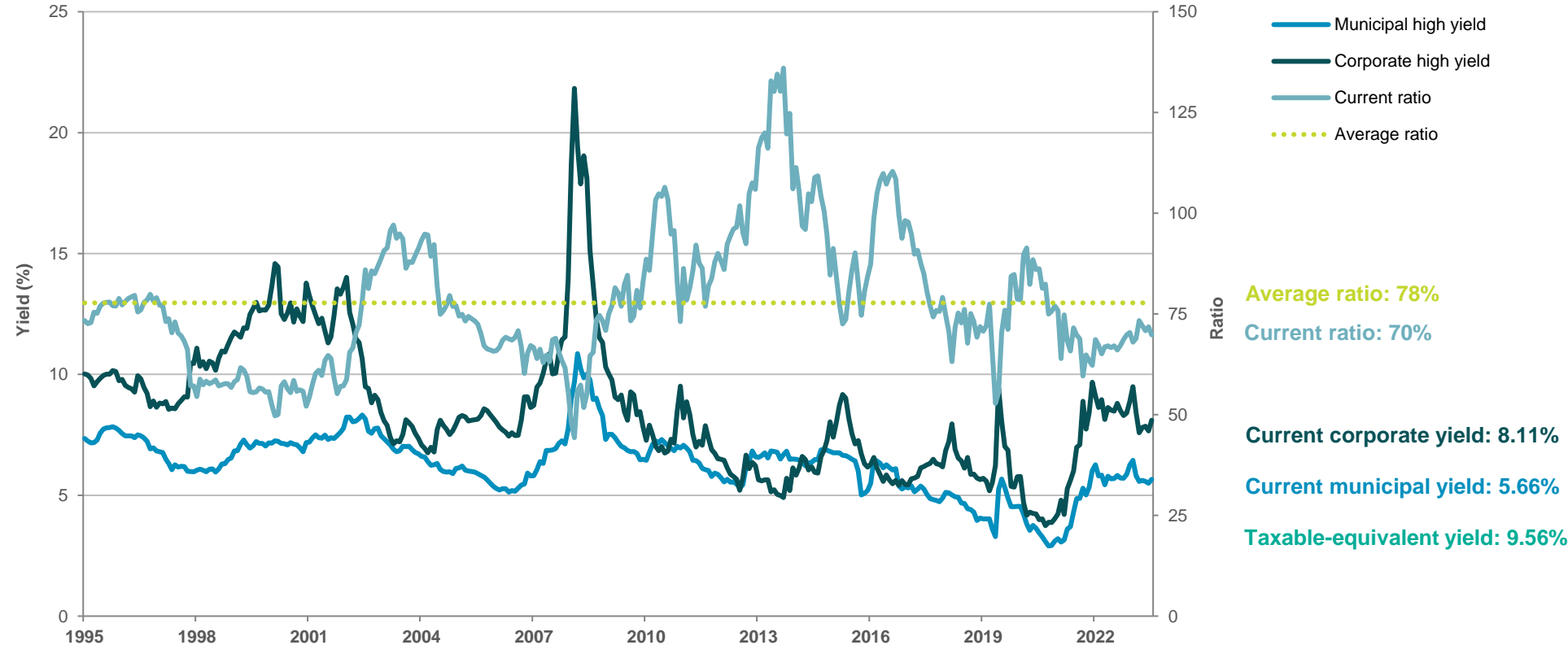


Data source: Morningstar Direct; 01 Jul 1999 – 30 Apr 2024. Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: Asset-backed securities: Bloomberg Asset-Backed Securities Index; Broad bond market: Bloomberg U.S. Aggregate Bond Index; 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 Market 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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Higher yields have created opportunities across fixed income

Bloomberg High Yield Municipal Index vs. Bloomberg High Yield Corporate Index



Data source: Bloomberg, L.P., 31 Oct 1995 – 30 Apr 2024. Performance data shown represents past performance and does not predict or guarantee future results. Representative Indexes: High Yield Municipal: Bloomberg High Yield Municipal Index; High Yield Corporate: Bloomberg U.S. High Yield Corporate Index. High yield or lower-rated bonds and municipal bonds carry greater credit risk, and are subject to greater price volatility. The taxable-equivalent yield shown is 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. It does not take into account the effects of the federal alternative minimum tax (AMT) or capital gains taxes.

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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, 1970-2022¹

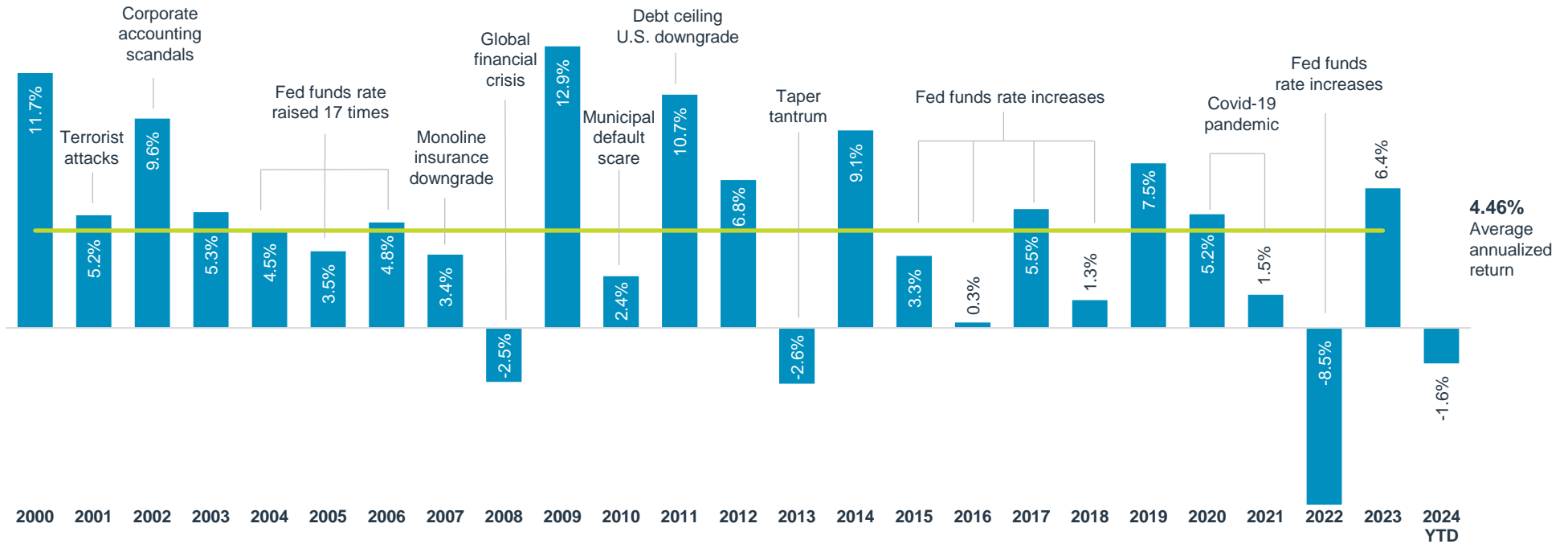
Rating	YEAR 5			YEAR 10		
	Corporate	Municipal	Difference	Corporate	Municipal	Difference
Aaa	0.08%	0.00%	0.08%	0.34%	0.00%	0.34%
Aa	0.28%	0.01%	0.27%	0.75%	0.02%	0.73%
A	0.66%	0.03%	0.63%	1.90%	0.10%	1.81%
Baa	1.47%	0.44%	1.03%	3.64%	1.05%	2.60%
Ba	7.94%	1.83%	6.10%	15.82%	3.31%	12.51%
B	20.49%	11.74%	8.75%	34.66%	16.65%	18.01%
Caa-C	32.31%	19.01%	13.30%	47.92%	23.58%	24.33%

¹ Data source: Moody's Investors Service, *U.S. Municipal Bond Defaults and Recoveries, 1970 – 2022*, 19 Jul 2023, with data as of 31 Dec 2022; 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 typically rebounded after challenging years

Bloomberg Municipal Bond Index Returns (%)



A strong rally to close 2023 created positive returns of 6.40%. YTD index performance was -1.62% through April. Performance could emerge as the year progresses.

Data source: Bloomberg, L.P., 30 Apr 2024. The average annualized return shown is for the period 01 Jan 2000 – 31 Dec 2023. 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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The way rates rise can determine how fixed income may react

Fed funds rising rate periods rates since 1994

	Period 1 04 Feb 1994 to 01 Feb 1995	Period 2 30 Jun 1999 to 16 May 2000	Period 3 30 Jun 2004 to 29 Jun 2006	Period 4 15 Dec 2015 to 19 Dec 2018	Period 5 16 Mar 2022 to 26 Jul 2023
Starting rate level	3.00%	4.75%	1.00%	0 to 25 bps	0 to 25 bps
Number of hikes	7	6	17	9	11
Duration	12 Months	10 Months	24 Months	36 months	16 months
Ending rate level	6.00%	6.50%	5.25%	2.50%	5.50%
Magnitude	300 basis points	175 basis points	425 basis points	225 basis points	525 basis points

Data sources: Bloomberg, www.federalreserve.gov, data indicates changes in fed funds rates. Data shown applies to the actual time periods noted in the table. Data for period 5 is as of 30 Apr 2024. **Performance data shown represents past performance and does not predict or guarantee future results.** One basis point equals .01%, or 100 basis points equal 1%. Different benchmarks and economic periods will produce different results. Other methods and market conditions may result in slightly different outcomes. 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. Each period has its own specific factors that may help or hurt the total returns of bonds. These may be economic in nature or technically driven.

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The way rates rise can affect returns along the yield curve

Bloomberg Municipal Bond Index	Period 1 04 Feb 1994 to 01 Feb 1995					Period 2 30 Jun 1999 to 16 May 2000					Period 3 30 Jun 2004 to 29 Jun 2006					Period 4 15 Dec 2015 to 19 Dec 2018					Period 5 16 Mar 2022 to 26 July 2023				
	6-month return before	Total return during	Change in yields during	6-month return after	Total return across three periods	6-month return before	Total return during	Change in yields during	6-month return after	Total return across three periods	6-month return before	Total return during	Change in yields during	6-month return after	Total return across three periods	6-month return before	Total return during	Change in yields during	6-month return after	Total return across three periods	6-month return before	Total return during	Change in yields during	6-month return after	Total return across three periods
1-year	2.45%	2.06%	+204 bps	3.77%	8.50%	1.35%	3.11%	+92 bps	2.99%	7.63%	0.28%	3.40%	+188 bps	2.08%	5.85%	0.39%	4.96%	+109 bps	1.54%	4.90%	-1.33%	1.52%	+172 bps	1.68%	1.86%
5-year	4.38%	-0.95%	+152 bps	6.83%	10.45%	-0.21%	1.90%	+68 bps	5.02%	6.78%	-0.90%	4.76%	+77 bps	3.22%	7.16%	2.13%	9.48%	+69 bps	3.82%	10.64%	-4.45%	0.47%	+107 bps	1.70%	-2.37%
10-year	6.13%	-3.49%	+142 bps	8.55%	11.19%	-1.73%	1.71%	+53 bps	6.92%	6.87%	-0.81%	7.81%	+30 bps	4.77%	12.05%	3.44%	14.40%	+49 bps	5.61%	17.10%	-5.31%	1.20%	+81 bps	1.75%	-2.49%
22+year	6.73%	-6.21%	+128 bps	8.29%	8.40%	-1.68%	-2.68%	+75 bps	9.69%	4.95%	-1.26%	15.93%	-47 bps	6.17%	21.53%	4.20%	18.61%	+48 bps	7.31%	22.37%	-6.67%	-3.75%	+122 bps	1.41%	-8.91%
	Yield curve flattened 76 bps Best performer: 10-year					Yield curve flattened 17 bps Best performer: 1-year					Yield curve flattened 235 bps Best performer: 22+					Yield curve flattened 61 bps Best performer: 22+					Yield curve flattened 50 bps Best performer thus far: 1-year				

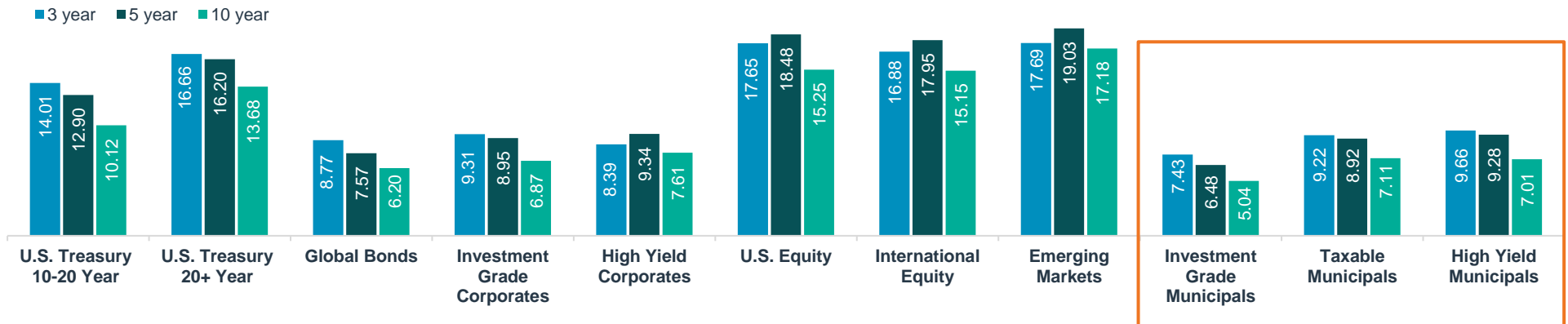
Data source: Bloomberg, L.P. Data shown applies to the actual time periods noted in the table. **Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: 1-year bonds: Bloomberg 1-Year Municipal Bond Index; 5-year bonds: Bloomberg 5-Year Municipal Bond Index; 10-year bonds: Bloomberg 10-Year Municipal Bond Index; 22+year bonds: Bloomberg Long Municipal Bond Index; Municipal bond market: Bloomberg Municipal Bond Index.** Different benchmarks and economic periods will produce different results. Other methods and market conditions may result in slightly different outcomes. Index returns include reinvestment of income and do not reflect investment professional and/or other fees that would reduce performance in an actual client account. 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. Each period has its own specific factors that may help or hurt the total returns of bonds. These may be economic in nature or technically driven.

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Municipals have exhibited lower volatility with strong risk-adjusted returns

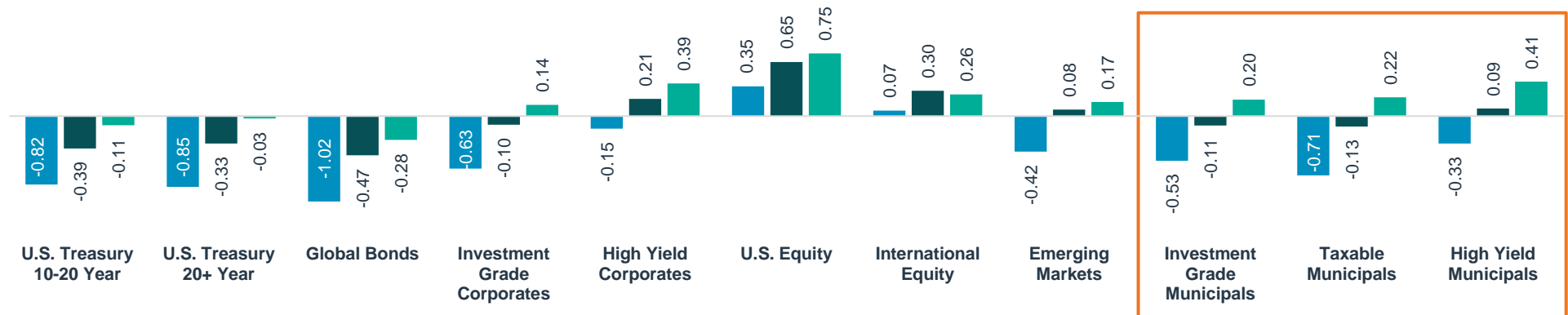
Standard deviation

Municipals have exhibited low volatility among asset classes.



Sharpe ratio

Municipals have been relatively attractive on a risk-adjusted basis.



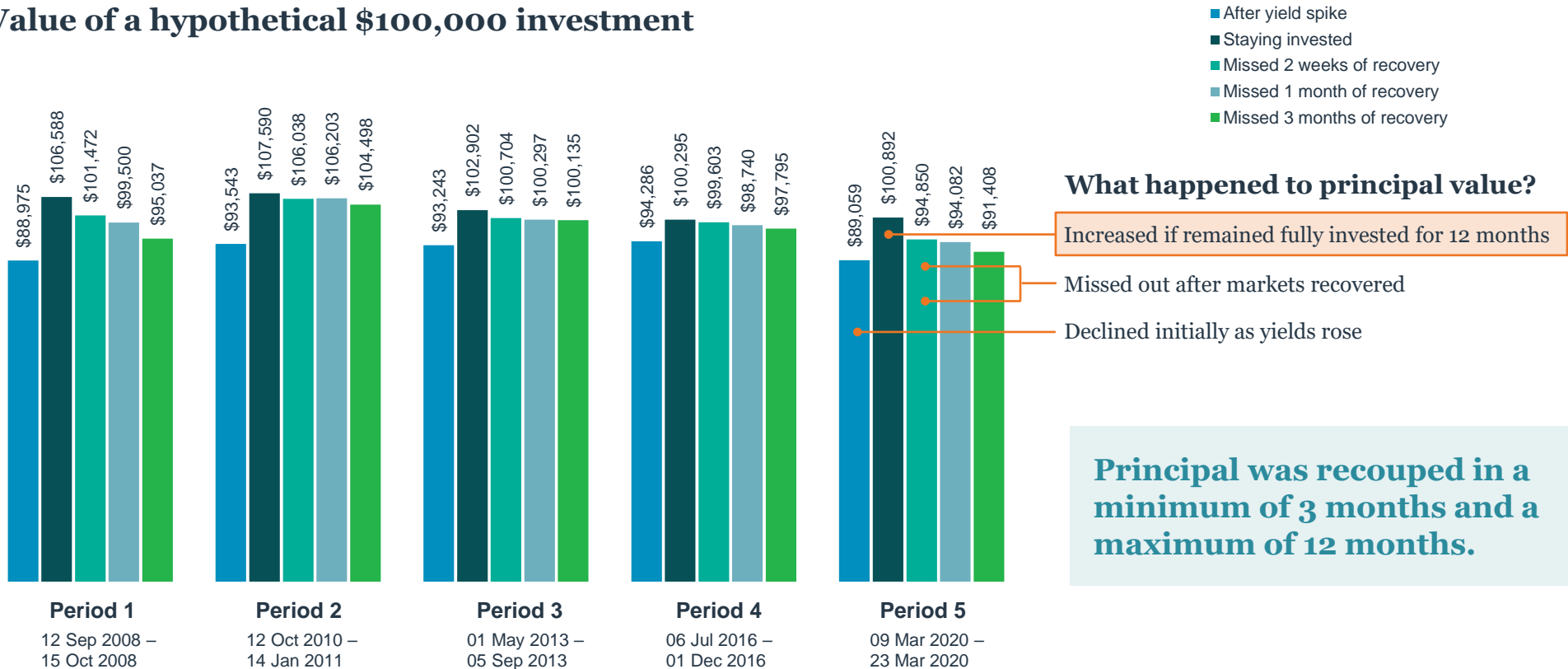
Data source: Morningstar, period ending 30 Apr 2024. Performance data shown represents past performance and does not predict or guarantee future results. Representative Indexes: Treasuries: Bloomberg U.S. 10-20 Year Treasury Index and the Bloomberg U.S. 20+ Year Treasury Index; Global bonds: Bloomberg 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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Portfolios were eventually compensated for patience

Missing even the first two weeks of a market rebound resulted in lower rates of recovery

Value of a hypothetical \$100,000 investment



Data source: Bloomberg L.P., as of 31 Mar 2020. Data shown applies to the actual time periods noted in the table. **Representative Index:** Bloomberg Municipal Bond Index. Nuveen analyzed five periods where municipal yields increased by at least 100 basis points in less than one year. Nuveen examined the total return of hypothetical \$100,000 investments held for 3-, 6-, and 12-month periods following the spike. In this chart, the investments were held for 12 months following the spikes. Hypothetical examples are shown for illustrative purposes only and do not represent the performance of an actual portfolio. Individual investor results will vary. Different benchmarks and economic periods will produce different results. Other methods and market conditions may result in slightly different outcomes. Index returns include reinvestment of income and do not reflect investment professional and/or other fees that would reduce performance in an actual client account. Hypothetical results are no guarantee of future results.

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Staying the course has benefited investors

Since 2008, significant events have caused municipal yields to increase by at least 100 bps in less than a year, followed by full recovery.



We are beginning to see signs of recovery after an extended stretch of elevated inflation and rising rates.

Municipal bond market yields as represented by Bloomberg Municipal Bond Index.

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