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CHART TALK | 2Q 2023 outlook

Opportunities in municipal bonds and global fixed income

The what, why and how of the municipal and global fixed income markets

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

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Municipal bond market
Key 2023 themes

Economic environment	
Inflation	Inflation has come down sharply in recent months, and the trajectory is favorable.
	Energy prices, housing costs and rents continue to trend lower, which should exert downward pressure on inflation going forward.
Policy	The fed funds rate has risen by 500 bps during this cycle.
	Federal Reserve policy remains dependent on employment and inflation data.
Economic growth	U.S. growth should trend lower as the impact of Fed policy is absorbed. Key factors include interest rate hikes, headwinds in the banking sector and declining money supply.
	Recession continues to be a concern.
Interest rates	Concerns around banking and political gridlock are causing rate volatility. Anticipate a return to range bound trading once stable conditions return.

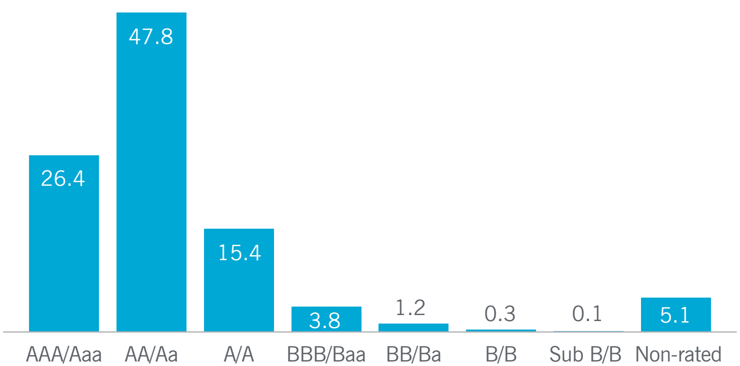
Municipal market environment	
Valuations	Long-term tax-exempt and taxable municipal valuations are attractive on a spread basis, compared to similar maturity U.S. Treasuries and corporate bonds.
	Municipal performance should improve when interest rates are more stable and fund flows return.
Supply & demand	Supply remains meaningfully low due to higher interest rates. Net negative tax-exempt supply will likely persist, providing technical support.
	Municipal supply will be driven by new issuance for new projects, rather than refunding.
	Demand is returning, attracted by higher yields and potential tax increases.
Credit fundamentals	Credit remains strong, with historic levels of revenue collections and rainy day funds.
	Attractive spreads plus sound credit conditions offer an appealing entry point.
	We expect municipal defaults to remain low, rare and idiosyncratic.

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.

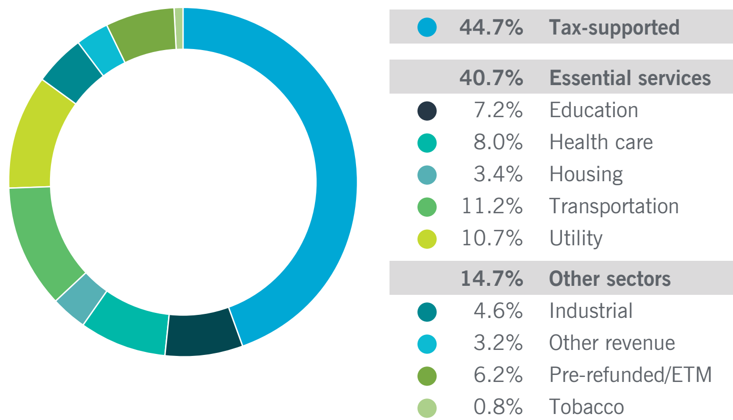
The market is dominated by high quality and essential service sectors

Municipal market overview

Municipal market credit quality breakdown (%)



Municipal market sector breakdown (%)



Data source: Standard & Poor's for the S&P Municipal Bond Index, 31 Mar 2023. 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.

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

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Fed is hoping for a longer pause

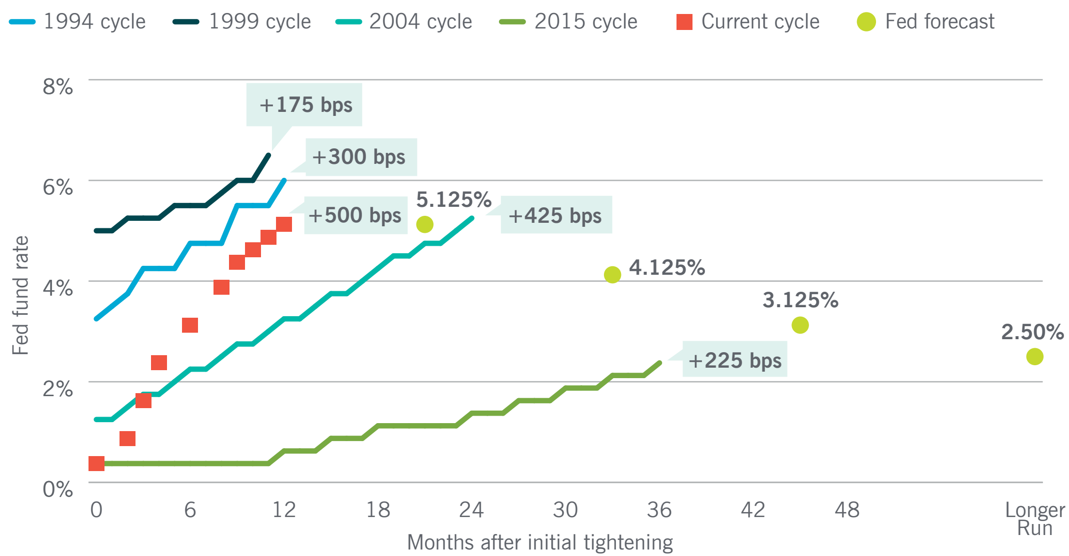
Path of fed funds target rate compared to past cycles

Rate hikes:

- Fed raised rates by +25 bps at the May meeting
- Fed fight against inflation complicated by banking stress
- Tightening lending conditions expected to be equivalent to one or two hikes

Balance sheet reduction:

- Reached maximum monthly rate in September 2022, with caps of $60 billion in Treasuries and $35 billion in MBS



Data sources: Bloomberg; Federal Reserve Projection Materials. Fed funds rate and Fed forecasts as of 03 May 2023. Fed forecast represents the median forecast of each Federal Open Market Committee participant for the midpoint of the fed funds rate at year ends 2022, 2023, 2024 and longer run. Month 0 shows first rate increase. A basis point is a common unit of measure for interest rates and other percentages in finance. One basis point is equal to 1/100th of 1%, or 0.01% (0.0001).

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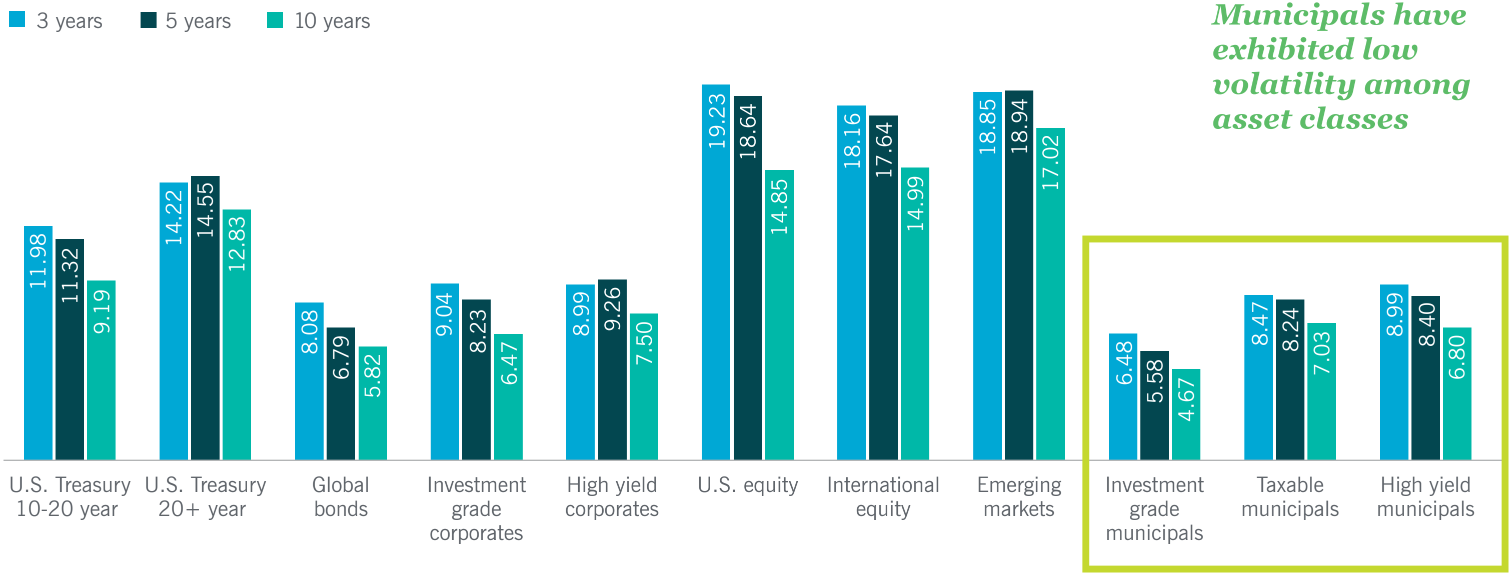
Municipals have exhibited lower volatility …

Asset class volatility (standard deviation)



Municipals have exhibited low volatility among asset classes

Data source: Morningstar, period ending 31 Mar 2023. **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; **international equity:** MSCI EAFE Index; **emerging markets:** MSCI Emerging Markets Index; **U.S. equity:** S&P 500 Index; **high yield municipals:** S&P Municipal High Yield Index; **investment grade municipals:** Bloomberg Municipal Bond Index; **taxable municipals:** Bloomberg Taxable Municipal Bond Index.

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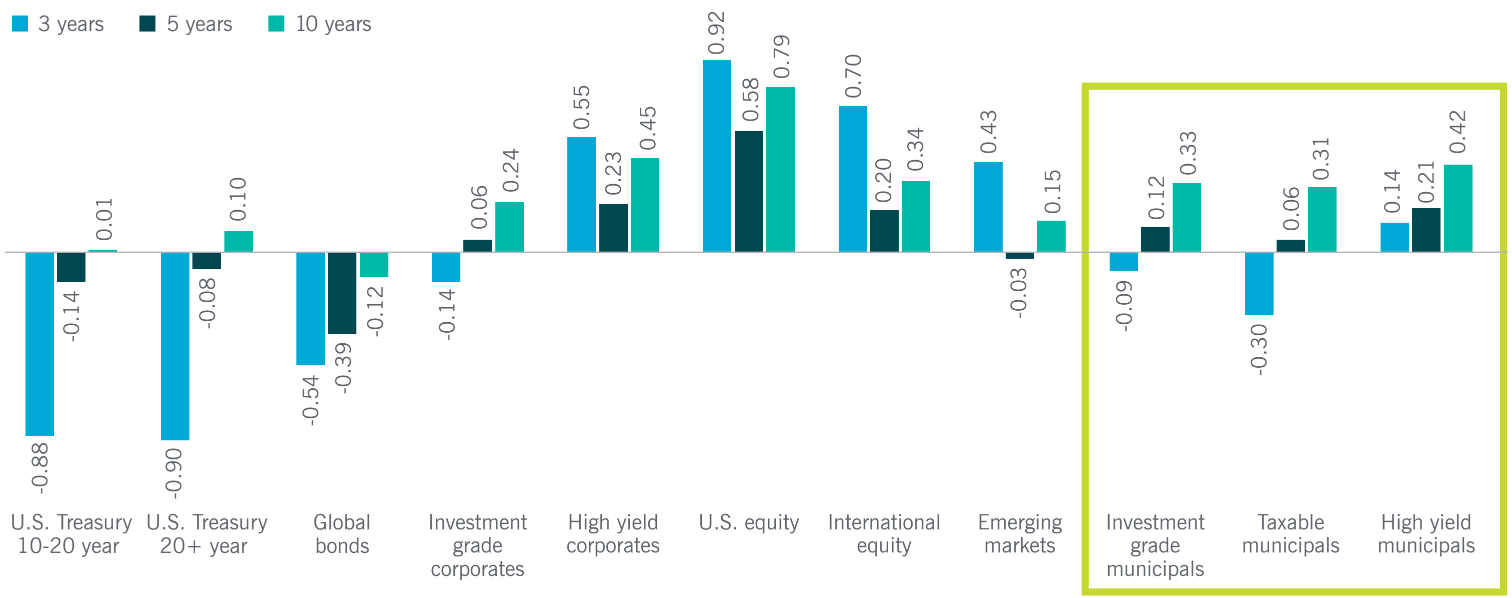
… while producing strong risk-adjusted returns

Risk-adjusted returns (Sharpe ratio)

Municipals have been relatively attractive on a risk-adjusted basis



Data source: Morningstar, period ending 31 Mar 2023. **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; **international equity:** MSCI EAFE Index; **emerging markets:** MSCI Emerging Markets Index; **U.S. equity:** S&P 500 Index; **high yield municipals:** S&P Municipal High Yield Index; **investment grade municipals:** Bloomberg Municipal Bond Index; **taxable municipals:** Bloomberg Taxable Municipal Bond Index.

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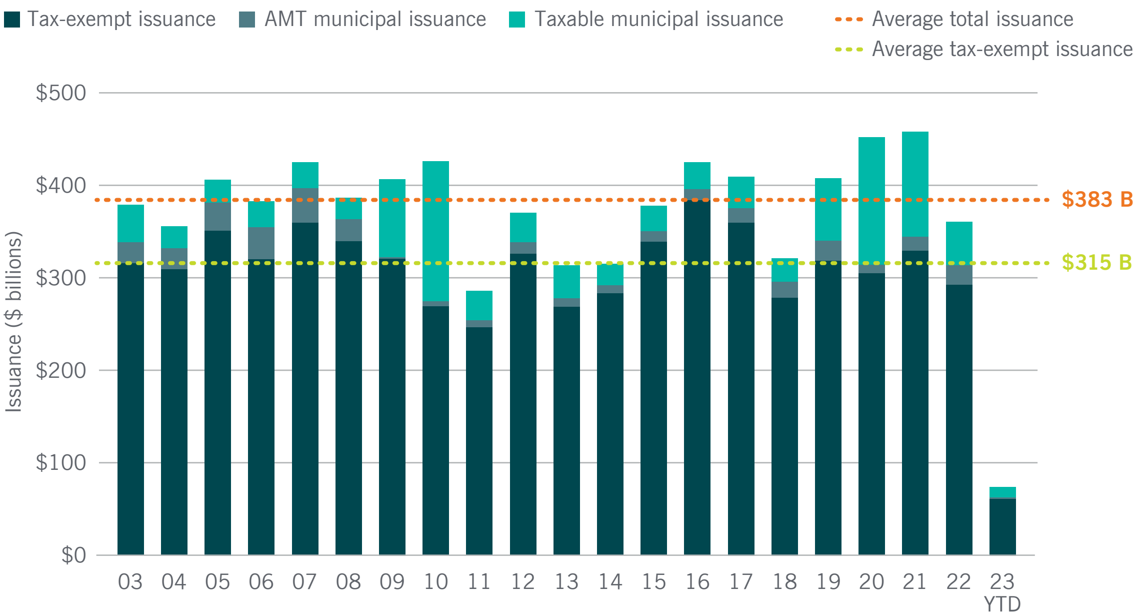
Higher interest rates and healthy financial reserves keep new issuance low

Municipal market overview

Overall municipal issuance



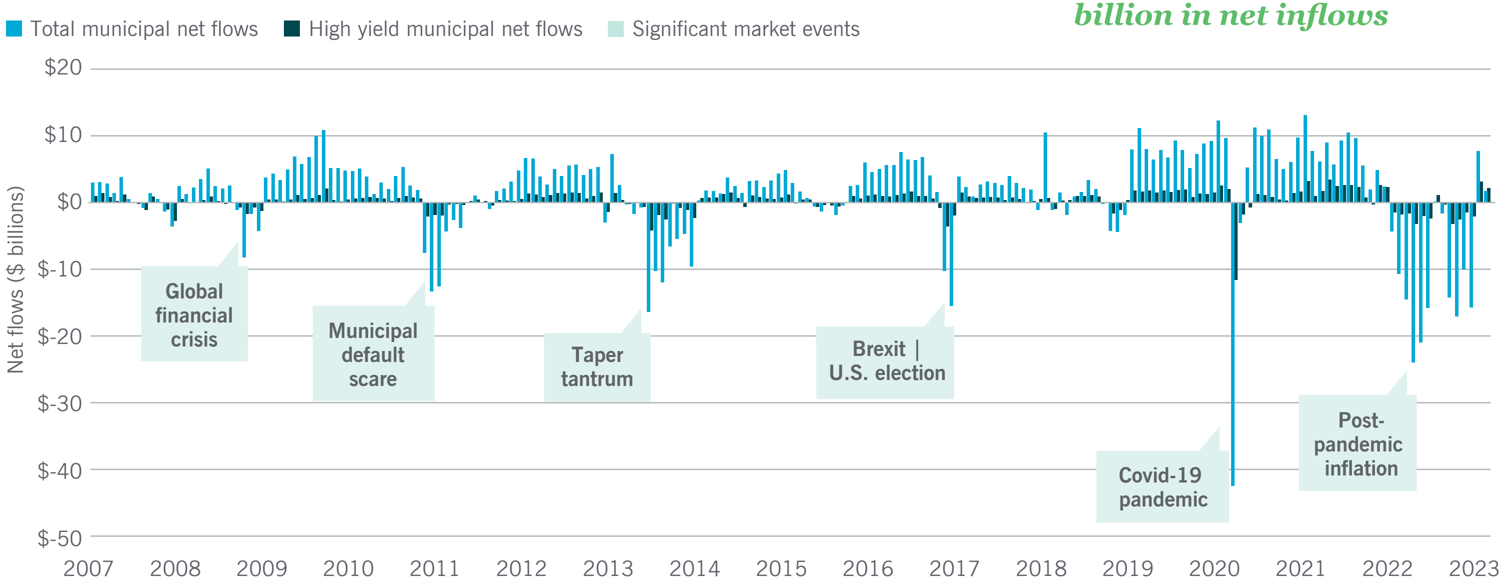
We expect net negative tax-exempt supply in the first half of 2023

Data source: Securities Industry and Financial Markets Association (SIFMA.org), *U.S. Bond Market Issuance and Outstanding,* 04 Apr 2023 for period ending 31 Mar 2023. The average total issuance and average tax-exempt issuance shown are for the period 01 Jan 2003 – 31 Dec 2022. AMT municipal issuance is part of the tax-exempt municipal market.

Municipal fund flows have historically returned after market dislocations

Total municipal and high yield mutual fund net flows

After record inflows in 2022, inflows returned in the first quarter of 2023 with $5.6 billion in net inflows



Data source: Morningstar Direct, 01 Jan 2007 – 28 Feb 2023. Industry categories: **municipals** represent the total of all municipal bond open-end funds, including high yield; **high yield municipals** represent all high yield municipal bond open-end funds. Time periods with outflows represent significant market events.

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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 present
Starting rate level	3.00%	4.75%	1.00%	0 to 25 bps	0 to 25 bps
Number of hikes	7	6	17	9	10
Duration	12 months	10 months	24 months	36 months	?
Ending rate level	6.00%	6.50%	5.25%	2.50%	?
Magnitude	300 basis points	175 basis points	425 basis points	225 basis points	500 basis points through 03 May 2023

Data sources: Bloomberg, L.P. 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 03 May 2023. 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.

The way rates rise can affect returns along the yield curve

Interest rate environment

	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 14 Dec 2022				
Bloomberg Municipal Index	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	0.19	+137 bps	?	?
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	-0.93	+91 bps	?	?
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	-1.14	+82 bps	?	?
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	-7.55	+136 bps	?	?
	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 **1 bps** Best performer: **?**				

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; **3-year bonds:** Bloomberg 3-Year Municipal Bond Index; **5-year bonds:** Bloomberg 5-Year Municipal Bond Index; **10-year bonds:** Bloomberg 10-Year Municipal Bond Index; **20-year bonds:** Bloomberg 20-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.

Staying the course has benefited investors

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

Global financial crisis
Sep 2008 – Oct 2008
Reduced market liquidity after collapse of Lehman Brothers

Municipal default scare
Oct 2010 – Jan 2011
Strong supply and prediction of uptick in defaults and bankruptcies

Taper tantrum
May 2013 – Sep 2013
Fed tapering, Detroit bankruptcy filing and Puerto Rico challenges

Brexit | U.S. election
July 2016 – Dec 2016
Near-historic low yields after Brexit vote and U.S. election

Covid-19 pandemic
Mar 2020
Dramatic selloff and decoupling of municipals and Treasuries

Post-pandemic inflation
Jan 2022 – Oct 2022
Fed interest rate hikes, inflation and geopolitical concerns

2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2020 | 2022

We are now in the sixth period of municipal market volatility, driven by Fed rate increases and inflation concerns

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

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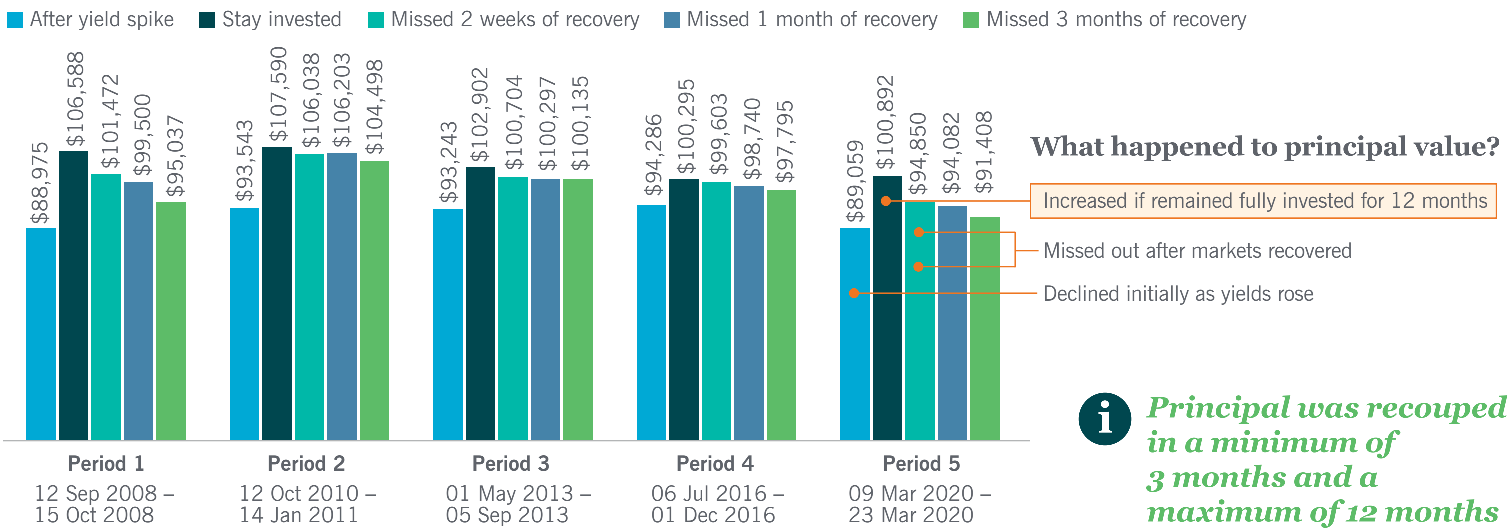
Missing even the first two weeks of a market rebound resulted in lower rates of recovery

Value of a hypothetical $100,000 portfolio

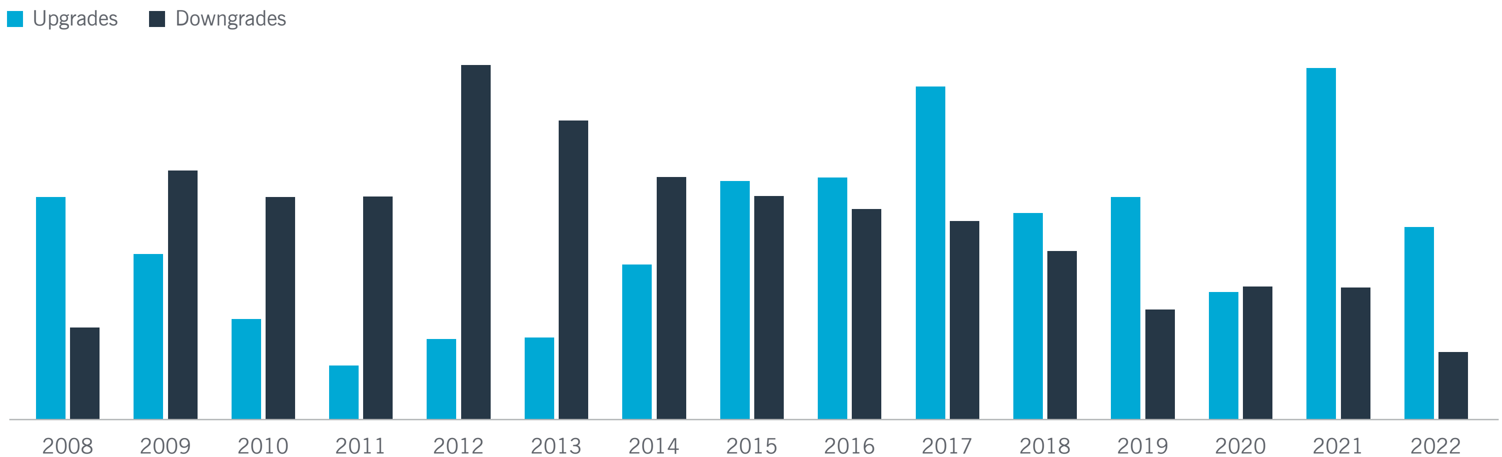


Principal was recouped in a minimum of 3 months and a maximum of 12 months

Data source: Bloomberg L.P., 31 Mar 2020. **Performance data shown represents past performance and does not predict or guarantee future results. Representative index:** Bloomberg Municipal Bond Index. Nuveen analyzed three 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 portfolios held for 3-, 6- and 12-month periods following the spike. In this chart, the portfolios 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.

Ratings upgrades have continued to exceed downgrades in recent history

Number of rating changes for public finance



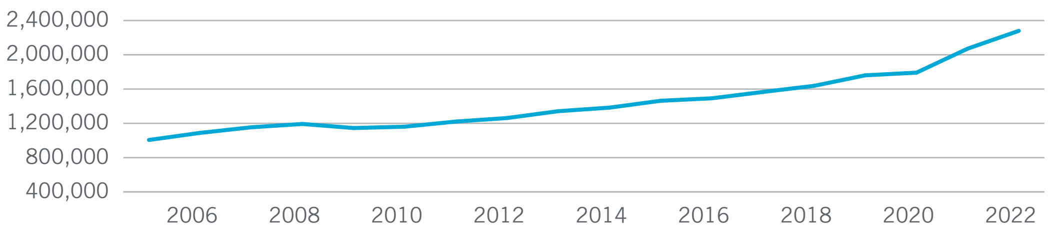
Credit rating upgrades exceeded downgrades during 2022 by nearly 3 to 1

Data sources: Moody's Investors Service, *Quarterly and Annual Municipal Rating Revisions*, 28 Feb 2023, data as of 31 Dec 2022.

Municipalities are in a strong financial position

Credit health

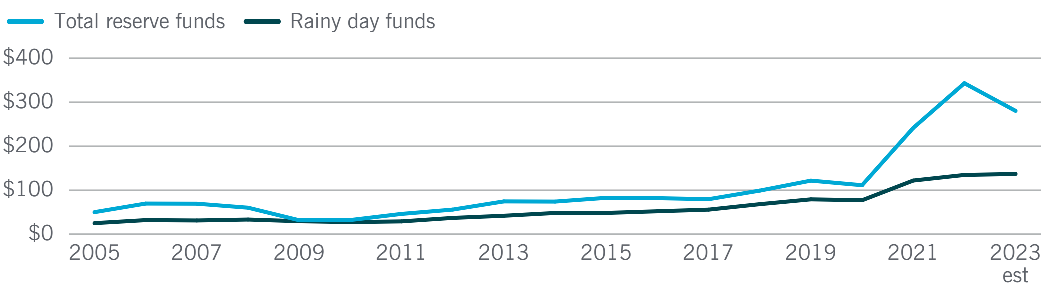
State & local government tax revenue collections ($ millions)[1]



2022 state revenues rose by 11%

2021 had the highest increase dating back to 1979[1]

State government funds ($ billions)[2]



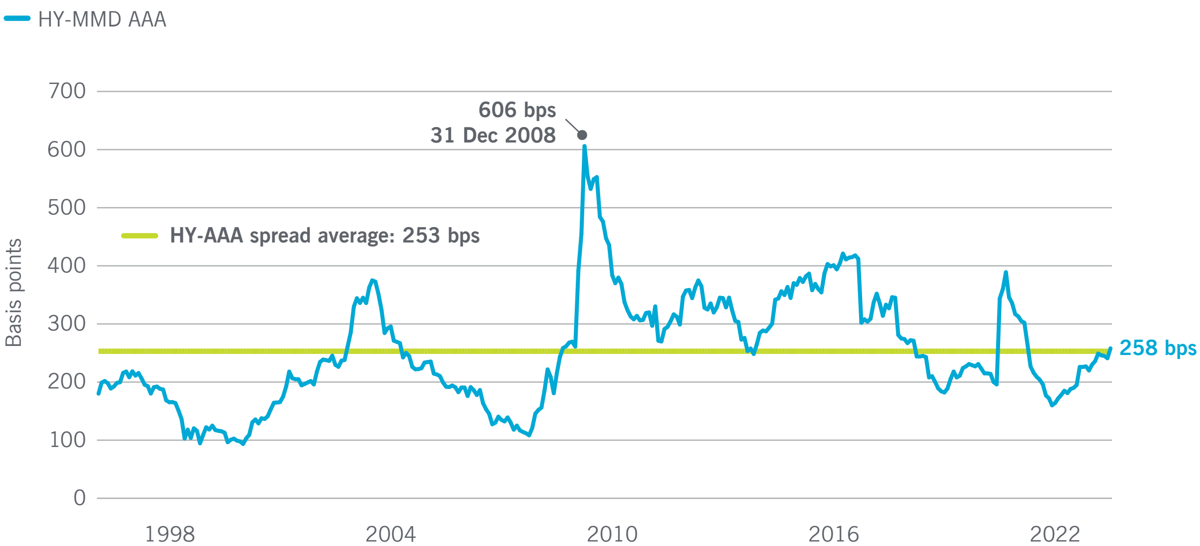
Total reserve funds are estimated to be $280 billion in 2023, based on enacted budgets

1 Data source: census.gov, 31 Dec 2022. Most recent data available.
2 Data source: National Association of State Budget Officers (NASBO), *The Fiscal Survey of States*, Spring 2022. Pew Charitable Trust, States Build Their Reserves Amid Growing Uncertainties, 28 Feb 2023.

High yield credit spreads have moved above average

Credit health

Bloomberg High Yield Municipal Index vs. AAA yields

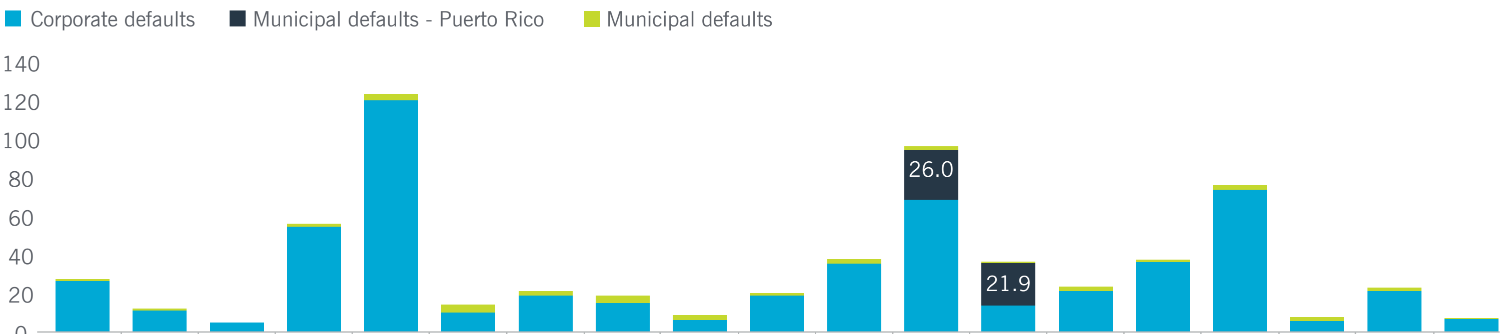


High yield credit spreads hovering near average

Data source: Bloomberg, L.P. Refinitiv MMD, 31 Oct 1995 – 31 Mar 2023, 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.

Defaults remain in line with historical trends

Municipal payment defaults ($ billions)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 YTD
Municipal defaults	0.9	0.9	0.2	1.6	3.4	4.3	2.4	3.8	2.8	1.5	2.3	27.8*	22.7*	2.3	1.3	2.2	2.1	1.6	0.7
Corporate defaults	26.3	11.0	4.7	54.4	119.8	9.9	18.7	15.0	6.0	18.7	35.3	68.3	13.7	21.2	36.0	73.6	5.6	21.0	6.5

Municipal defaults are rare and idiosyncratic. As of first quarter 2023, defaults are concentrated in nursing home (32%), hospitals (34%), and not-for-profits (34%)

Data sources: Bank of America/Merrill Lynch Research, 04 Apr 2023, municipal default data as of 31 Mar 2023. Bank of America/Merrill Lynch Research HY Credit Chart book, corporate default data as of 31 Mar 2023. 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, which were $26.0B (2016) and $21.9B (2017).

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

Moody's average cumulative default rates, 1970 – 2021
Municipals vs. corporates

	5-year history			10-year history		
Rating	**Corporate**	**Municipal**	**Difference**	**Corporate**	**Municipal**	**Difference**
Aaa	**0.08%**	0.00%	0.08%	**0.35%**	0.00%	0.35%
Aa	0.28%	0.01%	0.28%	0.76%	0.02%	0.74%
A	0.68%	**0.03%**	0.65%	1.96%	**0.10%**	1.86%
Baa	1.38%	0.46%	0.92%	3.45%	1.06%	2.38%
Ba	7.42%	1.88%	5.55%	14.78%	3.40%	11.38%
B	20.12%	11.67%	8.45%	33.42%	16.70%	16.73%
Caa-C	33.66%	19.04%	14.62%	49.04%	23.71%	25.33%

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

Data source: Moody's Investors Service, *U.S. Municipal Bond Defaults and Recoveries,* 1970 – 2021, 21 Apr 2022. **Performance data shown represents past performance and does not predict or guarantee future results.** The universe represents approximately 12,500 fundamental U.S. public finance ratings from Moody's.

Municipal bond sectors are resilient in times of uncertainty

How a potential economic downturn may affect municipal sectors

Low impact	Medium impact	Mixed impact	High impact
• State and local governments • Toll roads • Ports • Airports • Airlines • Charter schools • Public power	• Higher education • Health care • Land secured	• Industrial development revenue/Pollution control revenue (IDR/PCR)	• Long-term care`

LESS IMPACT ⟵⟶ MORE IMPACT

Municipal bonds fund essential services such as roads/highways, education, water & sewer, power, etc. Many projects are backed by stable revenue sources

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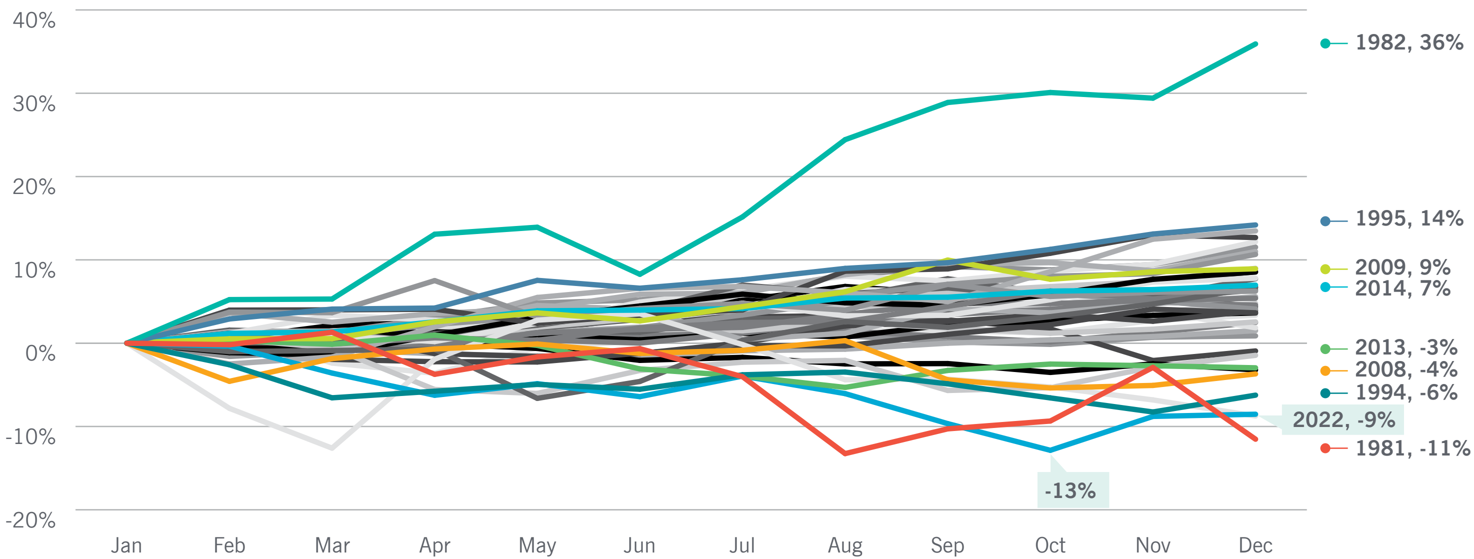
2022 was one for the history books

Bloomberg Municipal Bond Index performance, calendar year path



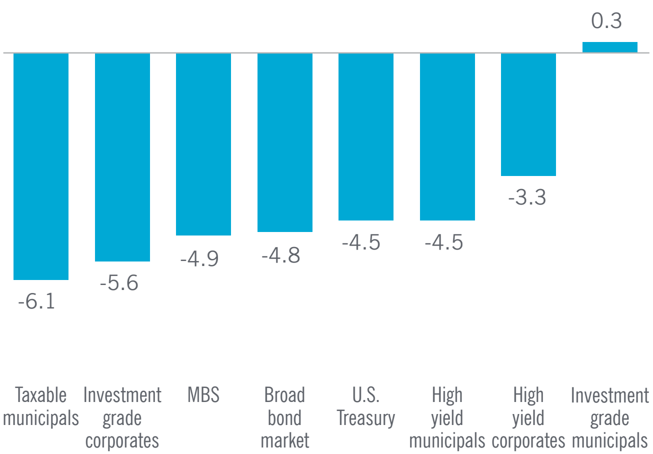
Municipal markets experienced one of the worst years since 1981

Data source: Bloomberg, L.P., 01 Jan 1980 – 31 Dec 2022; cumulative returns for each calendar year, shown monthly. **Performance data shown represents past performance and does not predict or guarantee future results.**

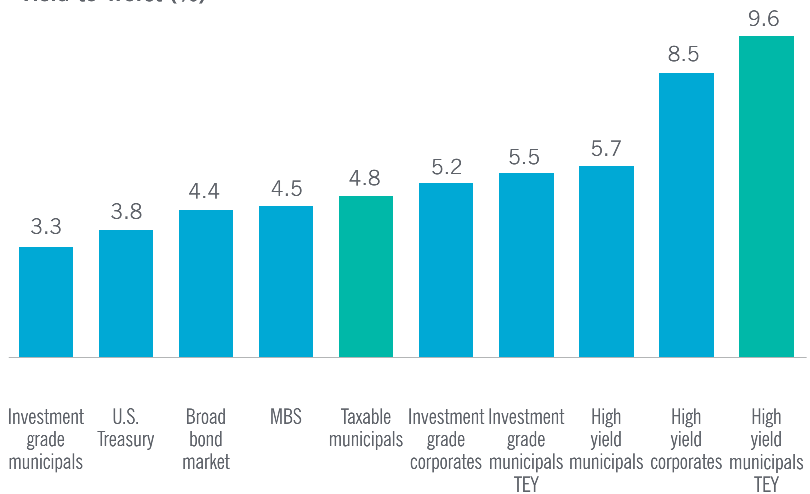
Broad fixed income sectors were not spared, but yields remain attractive

Comparing asset class returns and yields

Trailing 12 month returns (%)



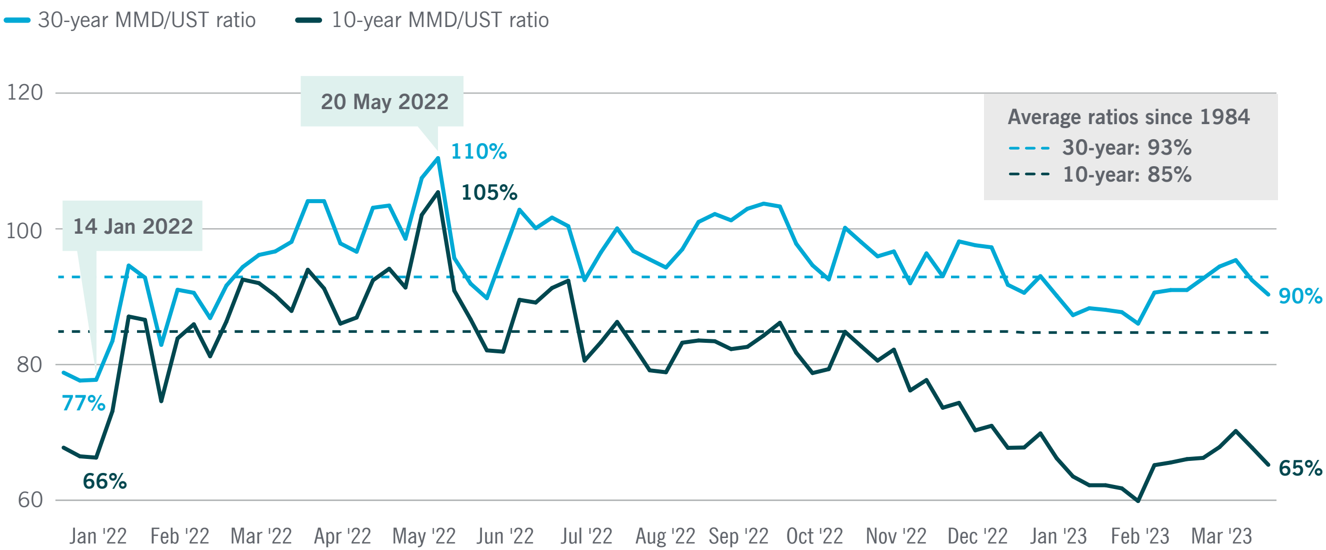
Yield-to-worst (%)



Data source: Bloomberg L.P., trailing 12 month returns from 31 Mar 2022 – 31 Mar 2023; yield to worst as of 31 Mar 2023. **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.

Despite positive technical conditions and rich valuations, the long end remains attractive

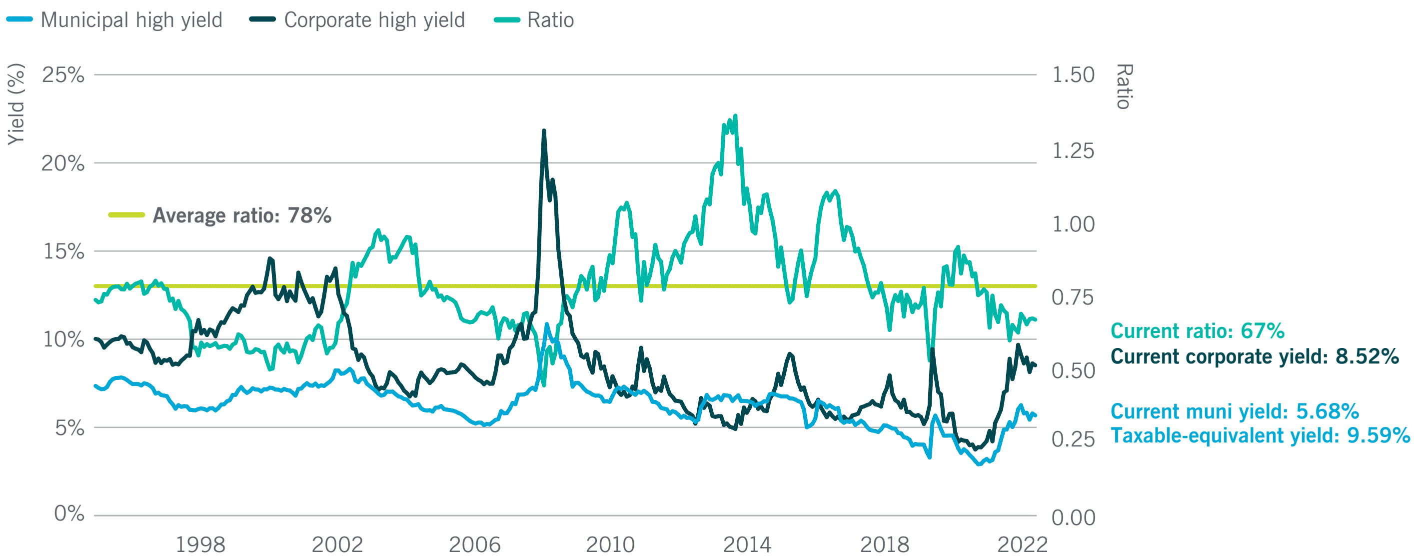
Municipal-to-Treasury ratios: AAA municipal bonds value relative to Treasuries



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 Mar 2023, averages shown from 01 Jan 1984 – 31 Mar 2023. **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.

Higher yields have created opportunities across fixed income

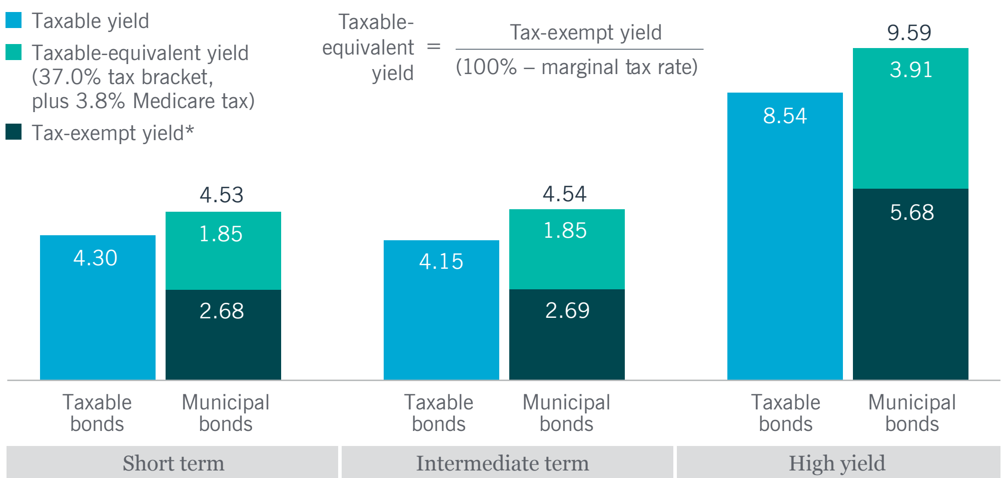
Bloomberg High Yield Municipal Index vs. Bloomberg High Yield Corporate Index



Data source: Bloomberg L.P., 31 Oct 1995 – 31 Mar 2023. **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. **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.

Municipals are attractive on an after-tax basis

Taxable and taxable-equivalent yields (%)



The intermediate taxable-equivalent yield is 4.54% today vs. 1.52% at the start of 2022

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.

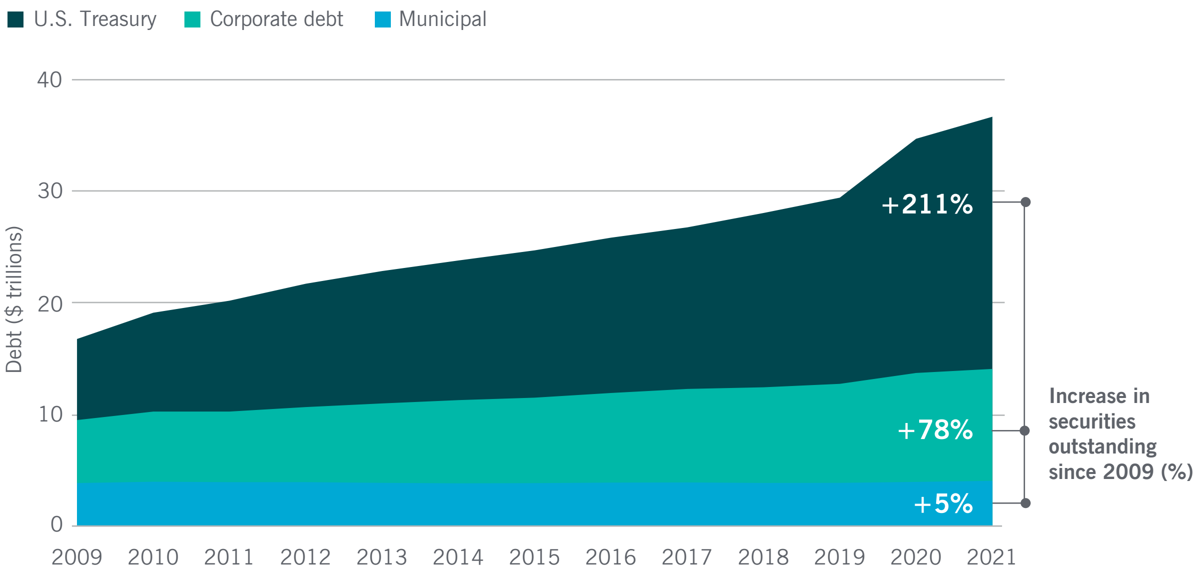
*Some income may be subject to state and local taxes and the federal alternative minimum tax.

Data source: Bloomberg L.P., 31 Mar 2023. **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.

Municipal securities outstanding are not growing as quickly as other fixed income markets

U.S. Treasury and corporate debt outstanding has increased



At the same time, the amount of outstanding municipal bonds has remained generally flat

Data sources: SIFMA, Bloomberg L.P., Federal Reserve, U.S. Treasury, 30 Sep 2022 for period ending 31 Mar 2022.

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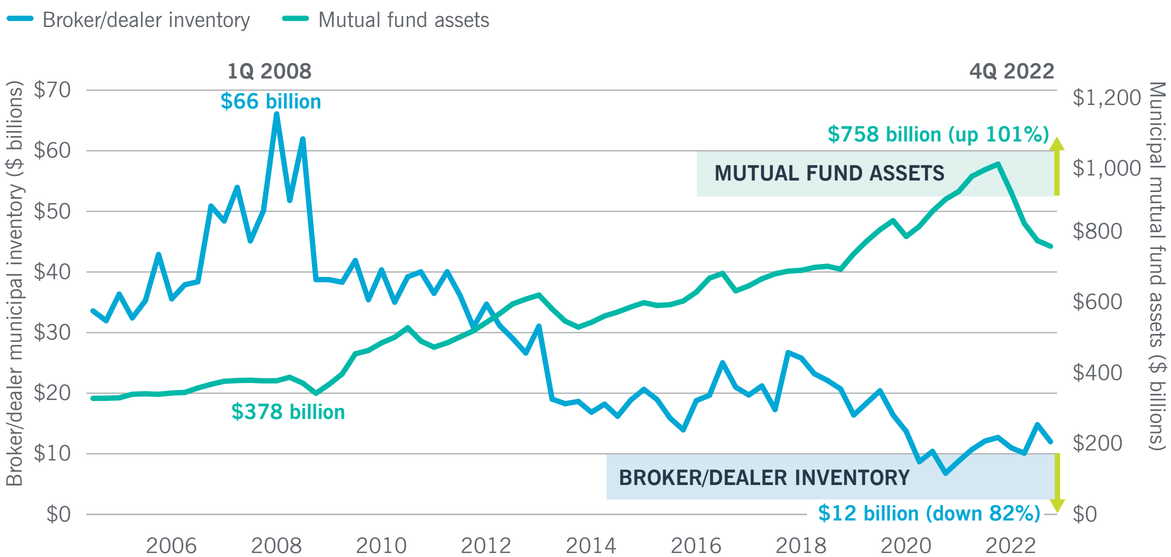
Building individual bond portfolios has become more difficult

Municipal assets vs. available inventory



Professional managers can help in an environment of lower inventory

Data source: Assets and inventory data from *Federal Reserve Flow of Funds* ending 09 Mar 2023, data as of 31 Dec 2022.

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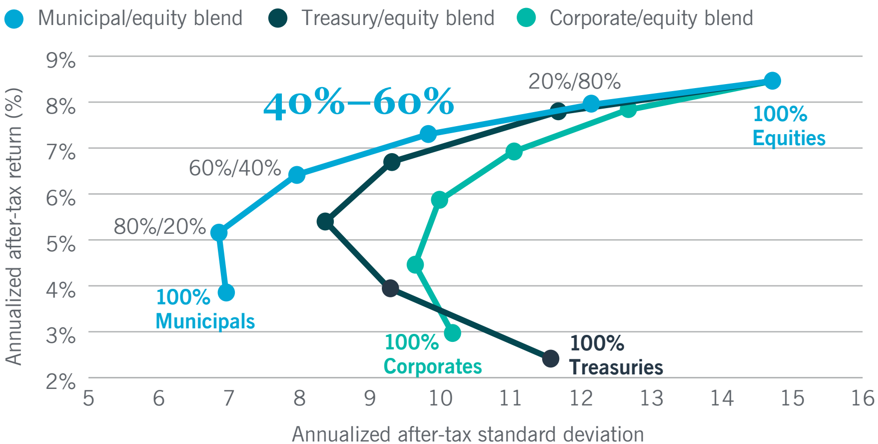
Combining asset classes can help balance risk and return

Risk/return characteristics of diversified portfolios



Annualized after-tax returns for hypothetical blended portfolios

Municipal/ equity blend	Treasury/ equity blend	Corporate/ equity blend	Equity allocation
3.92%	2.42%	2.97%	0%
5.16%	3.95%	4.46%	20%
6.42%	5.40%	5.85%	40%
7.30%	6.70%	6.91%	60%
7.94%	7.77%	7.82%	80%
8.46%	8.46%	8.46%	100%

Data source: Bloomberg L.P., and Nuveen, 01 Jan 2003 – 31 Dec 2022. **Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: municipal bonds:** Bloomberg Long Municipal Index; **Treasury bonds:** Bloomberg Long Treasury Index; **corporate bonds:** Bloomberg Long Credit Index; **equities:** S&P 500 Index.

These conclusions are derived from the following portfolio assumptions: All investment income generated by the portfolio is reinvested annually, along with the after-tax proceeds of an arbitrarily assumed 20% annualized turnover rate. The allocation between the two assets was allowed to roam within a 1% band around its target before rebalancing. No provision was made for investment fees or commissions. Investment income was taxed at the historically appropriate rate for an individual with $100,000 in taxable income in year 2022 dollars; net capital gains taxes, if any, were deducted at the rate appropriate for the period. At the end of 2022, the portfolios were fully liquidated to recognize the existing tax liability. Different economic periods and different assumptions, such as tax rate, will have different results.

This study is based on historical data gathered from sources we consider to be reliable and consistent. The methodology applied and results produced by this study indicate past investment performance of market indexes over the 01 Jan 2003 – 31 Dec 2022 time period exclusively and in no way should be considered representative of the past performance of any investment product or predictive of future investment expectations and performance for the municipal market or investment products. 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. Diversification does not insure against market loss. Investors should consult with their professional advisors before making any tax or investment decisions.

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Which environment seems most likely?

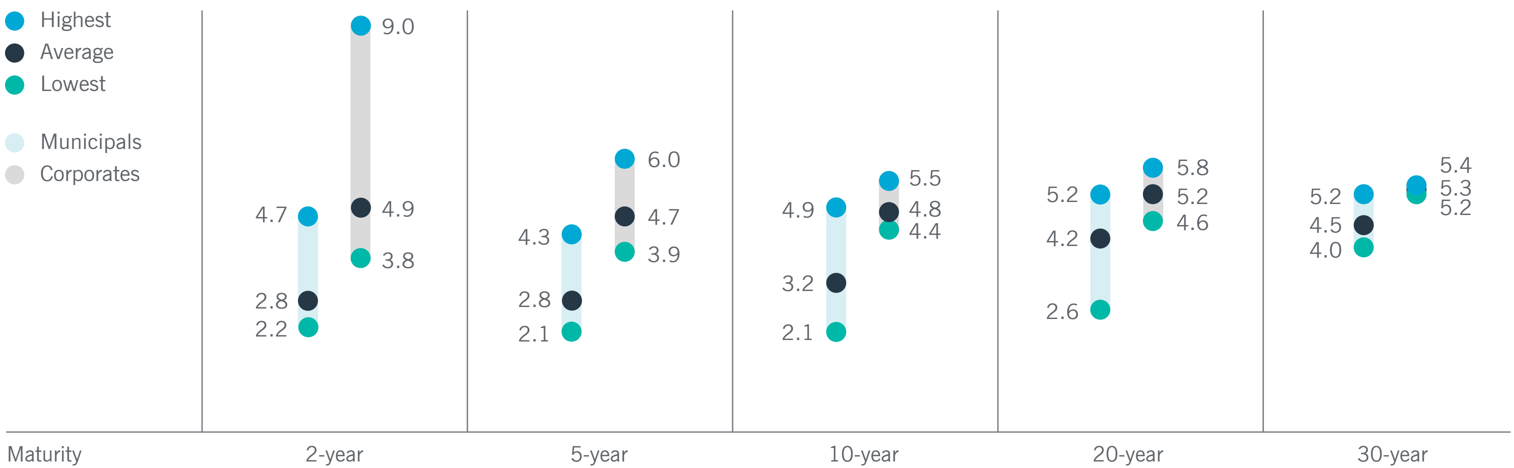
State of the market

	Moderating to falling inflation	Rising inflation	Recessionary environment
What would the Fed do?	Shallow fed funds rate increases until Fed determines inflation is under control	Steeper fed funds rate increases	Pause in fed funds rate activity and market begins to discount rate cuts
What could happen?	Rising but relatively stable rates May lead to an economic slowdown	Rising rates Could trigger a recession over a protracted period	Stable or falling interest rates May lead to rate decreases if conditions persist
What should fixed income investors consider?	Diversify with credit-based, risk-on strategies: **Tax-exempt income** • High yield municipals **Taxable income** • High yield corporates • Multisector bond • Preferred securities	Diversify with shorter duration, risk-off strategies: **Tax-exempt income** • Short/limited term municipals **Taxable income** • Short-term corporates • TIPS • Senior loans	Diversify with high-quality, risk-off and longer duration strategies: **Tax-exempt income** • Investment grade municipals **Taxable income** • Core • Core plus • Core with ESG/Impact

Source: Nuveen, 31 Mar 2023. 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.

Wide municipal yield spreads underline the importance of credit research

Range of yields for A-rated municipal and corporate bonds (%)



Data source: S&P/Investortools and Bank of America, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.** Universes are the A-rated bonds in the S&P Municipal Bond Index and the ICE BofA U.S. Corporate, Government & Mortgage Index. Any reference to municipal credit ratings refers to the highest rating given by one of the following national rating agencies: S&P, Moody's or Fitch. Credit ratings 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. **Dispersion** describes the size of the range of values expected for a particular variable. **Yield** refers to the interest or dividends received from a security and is usually expressed annually as a percentage based on the investment's cost, its current market value or its face value.

Wide yield dispersions of similarly rated bonds make active and ongoing credit research critical to making risk/reward decisions

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Nuveen believes five key differentiators are important to creating portfolio growth.

Credit research

The experienced research team evaluates municipal bonds and sectors, seeking to find value in bonds that the general public may have overlooked.

Institutional access

Nuveen navigates the inefficient municipal bond market through established relationships with more than 100 national and regional dealers.

Institutional trade execution*

A large presence in the market provides greater access to inventory to find bonds in appropriate sizes and at institutional prices.

Tax-aware investing

The ability to trade at institutional prices allows the team to efficiently capture tax losses and use them to offset gains.

Active portfolio oversight

By actively trading bonds, the team seeks to sell appreciated bonds, capture gains and purchase bonds that have the potential to enhance overall portfolio returns.

*Institutional trade execution applies primarily to municipal bond trading as part of ongoing account management and generally does not include sales of legacy securities contributed to new or existing accounts or in connection with termination and liquidation instructions. Nuveen Asset Management, LLC (NAM) seeks to expeditiously and efficiently effect sales of legacy securities contributed to new or existing accounts or in connection with termination and liquidation instructions, generally by directing the execution of sale to the relevant broker-dealer/custodian designated by the client's managed account program, subject to program limitations. Primarily due to the time constraints and lot sizes applicable to these transactions, and because the full range of trading techniques is generally not available (including aggregation), the prices received in these transactions may be less favorable than the prices that could be attained for sales of securities selected by NAM as part of ongoing management. Clients always reserve the right to fund accounts with cash as opposed to legacy securities and to keep any securities in their accounts upon termination of services.

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The evolving fixed income market environment
Key 2023 themes

Economic environment

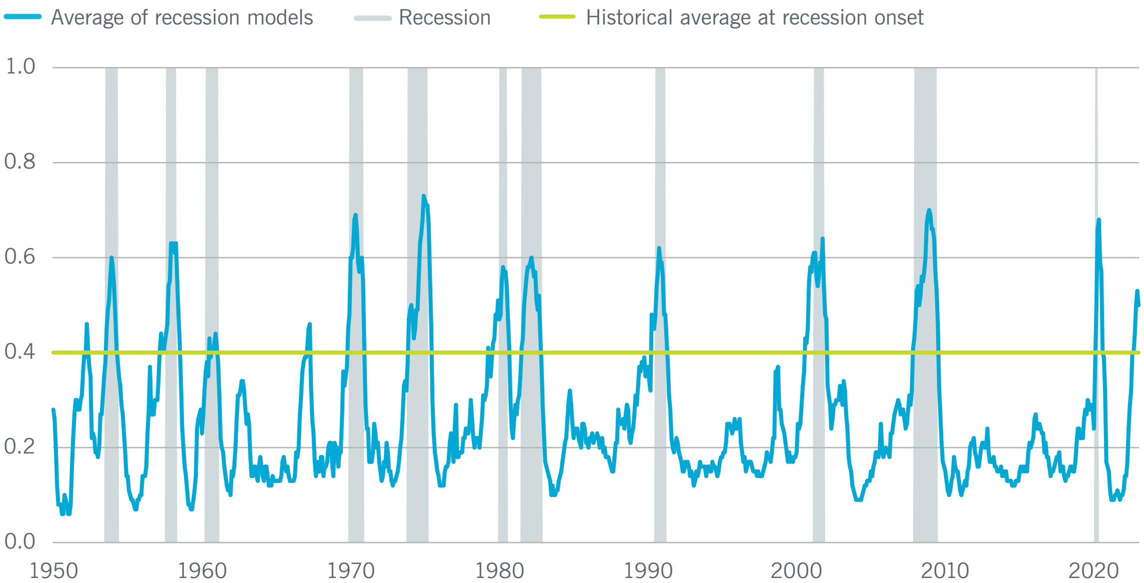
- U.S. growth to weaken
- Global slowing, but downside risks to moderate
- End to central banks' tightening nears
- Fiscal policy support diminishing

Portfolio positioning

- Much higher yields make fixed income more attractive
- Favor a moderate risk-on stance, focused on credits with durable free cash flows and solid balance sheets across a wide range of sectors
- Credit spreads likely to widen during the year, presenting opportunity to add risk given solid credit fundamentals
- Diversified overweight to spread sectors with an up-in-quality bias
- Advocate deep research, favoring idiosyncratic stories with positive long-term growth prospects

Elevated odds of a recession this year

Implied probability of U.S. recession within the next 12 months



Models point toward an economic downturn, but we believe any recession will be moderate in nature and relatively short lived

Source: Bloomberg, L.P. Conference Board, Federal Reserve, ISM, BLS, DOL.

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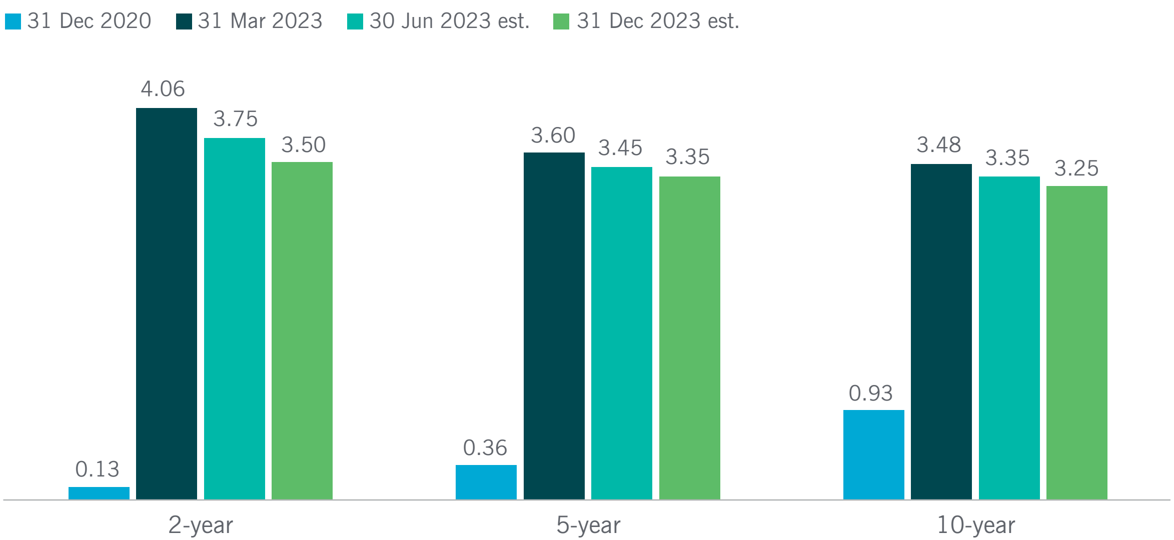
Interest rates are likely to moderate over the course of the year

Interest rate environment

Treasury yields (%)



Expect yields to decline this year and curve to steepen, but remain inverted

Data source: www.treasury.gov, Nuveen. Estimates as of 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.**

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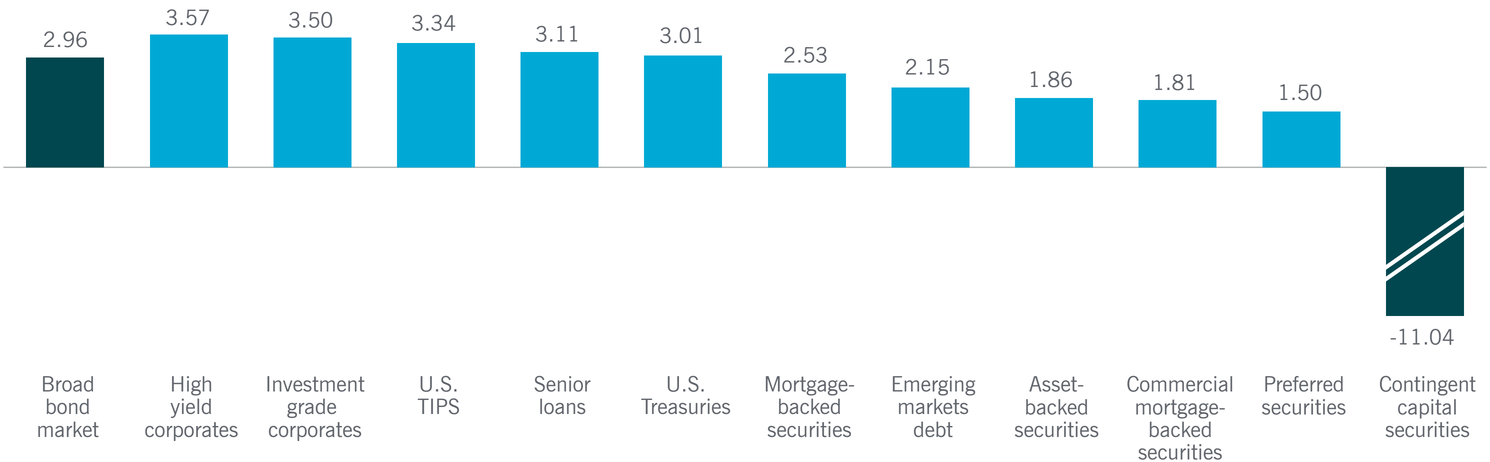
Bond returns remain positive

Year-to-date total return by fixed income sector (%)



Despite banking headlines, the first quarter remained positive across most sectors – even the U.S. bank-dominated preferred sector

Data source: Morningstar Direct, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: broad bond market:** Bloomberg Aggregate U.S. Bond Index; **high yield corporates:** Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index; **investment grade corporates:** Bloomberg U.S. Corporate Investment Grade Index; **U.S. TIPS:** Bloomberg U.S. TIPS Index; **senior loans:** Credit Suisse Leveraged Loan Index; **U.S. Treasuries:** Bloomberg U.S. Treasury Index; **MBS:** Bloomberg U.S. Mortgage-Backed Securities Index; **emerging markets debt:** Bloomberg Emerging Market USD Aggregate Index; **ABS:** Bloomberg Asset-Backed Securities Index; **CMBS:** Bloomberg Commercial Mortgage-Backed Securities Index; **preferred securities:** ICE BofA U.S. All Capital Securities Index; **contingent capital securities:** ICE USD Contingent Capital Index.

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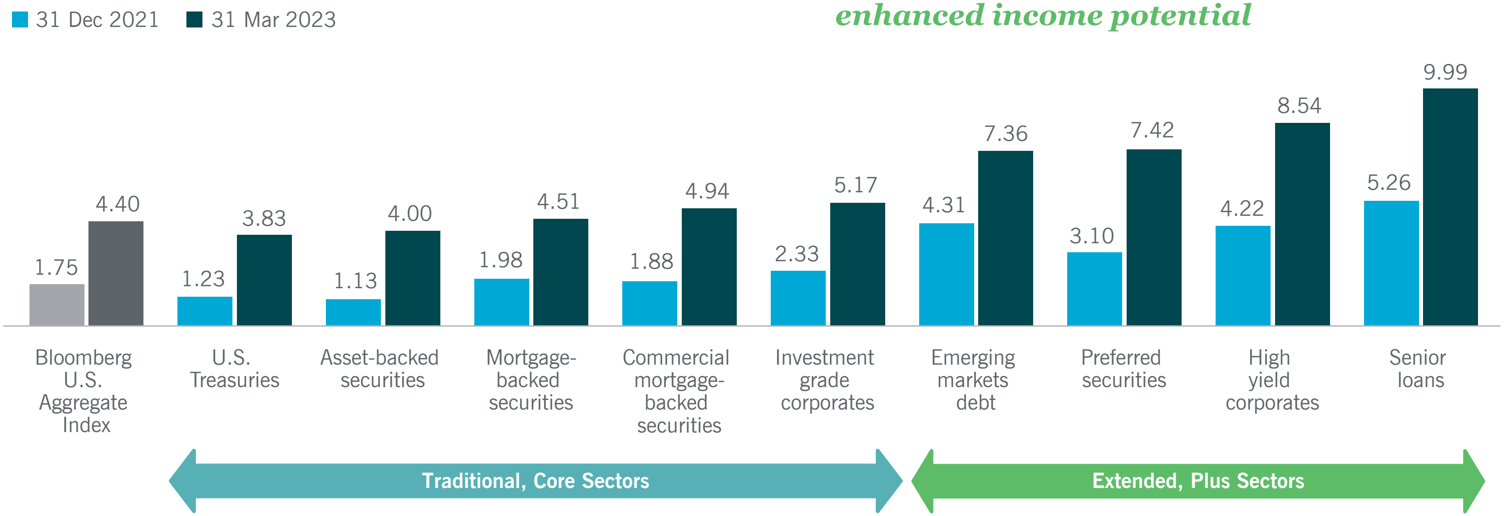
Bright spot is higher yields

Yield-to-worst by fixed income sector (%)

Rising Treasury rates and wider credit spreads have significantly enhanced income potential



Data source: Bloomberg, L.P., Credit Suisse, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: U.S. Treasuries:** Bloomberg U.S. Treasury Index; **ABS: Bloomberg Asset-Backed Securities Index; MBS: Bloomberg U.S. Mortgage-Backed Securities Index; CMBS:** Bloomberg Commercial Mortgage-Backed Securities Index; **investment grade corporates:** Bloomberg U.S. Corporate Investment Grade Index; **emerging markets debt:** Bloomberg Emerging Market USD Aggregate Index; **preferred securities:** ICE BofA U.S. All Capital Securities Index; **high yield corporates:** Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index; **senior loans:** Credit Suisse Leveraged Loan Index.

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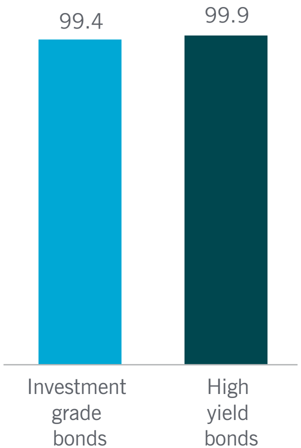
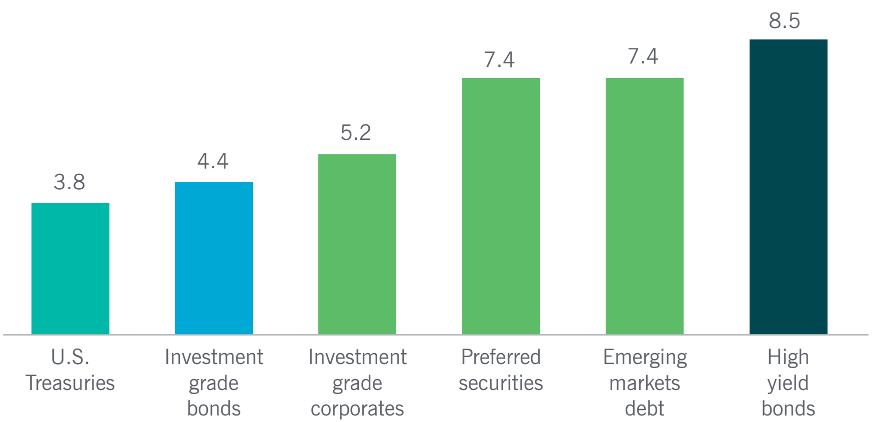
Income remains the primary contributor to total return

Income as a portion of total return (%)



Yields (%)

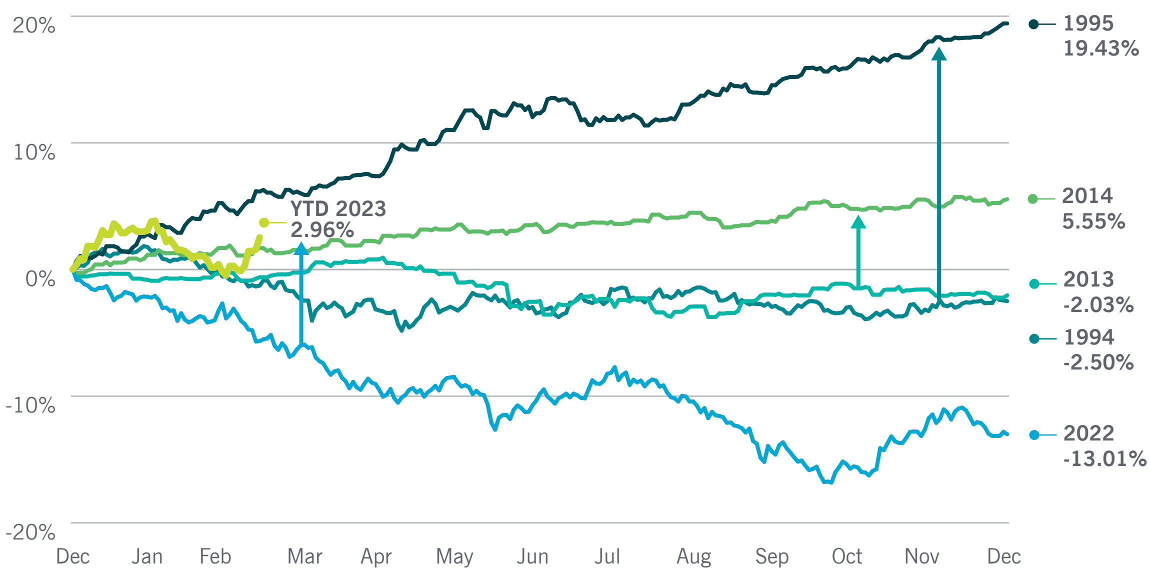


Income has dominated total return over time and can help offset any price declines due to rising rates

Data source: Bloomberg L.P., 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.** Chart shows the percent of annualized total return derived from coupon return (as opposed to price appreciation) since index inception. **Representative indexes: investment grade bonds:** Bloomberg U.S. Aggregate Bond Index, which has an inception date of 01 Jan 1976; returns from 31 Jan 1976 – 31 Mar 2023. **High yield bonds:** Bloomberg U.S. High Yield 2% Issuer Capped Index, which has an inception date of 01 Jan 1993; returns from 31 Jan 1993 – 31 Mar 2023. **U.S. Treasuries:** Bloomberg U.S. Treasury Index; **investment grade corporates:** Bloomberg U.S. Corporate Investment Grade Index; **preferred securities:** ICE BofA U.S. Preferred Stock Fixed Rate Index; **emerging markets debt:** Bloomberg Emerging Market USD Aggregate Index; **high yield bonds:** Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index. The index returns presented are for illustration purposes only and do not represent or predict performance of any Nuveen product.

Worst bond years have typically rewarded patience

Best and worst years of Bloomberg U.S. Aggregate Index



Historically, poor bond market return years have been followed by better results

Source: Bloomberg LP. Index inception through 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.**

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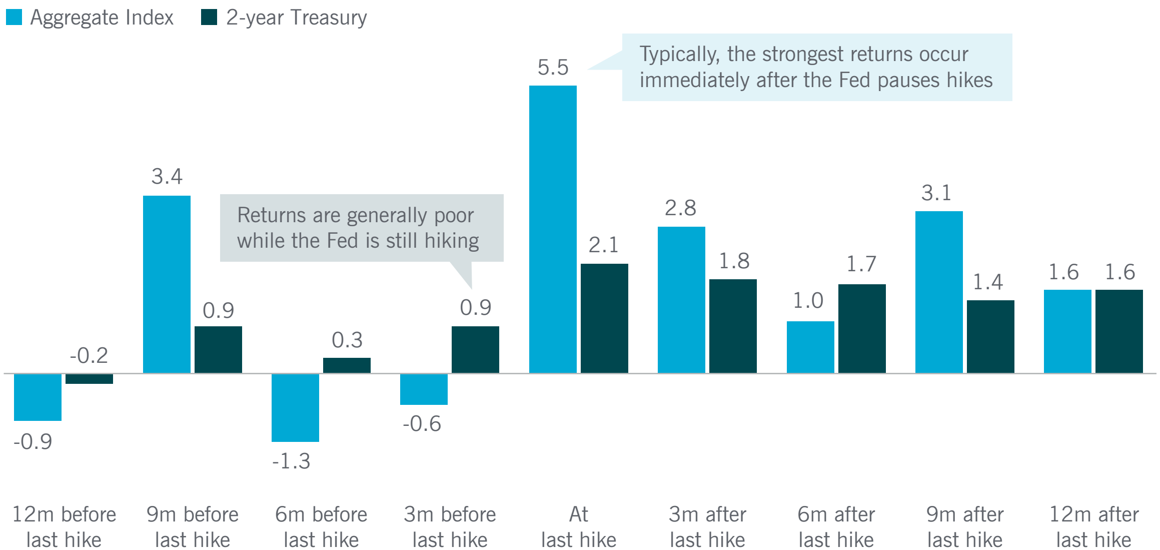
Returns have been historically strong immediately following the end of Fed hikes

Historical average three-month total returns ahead of and after the last Fed hike

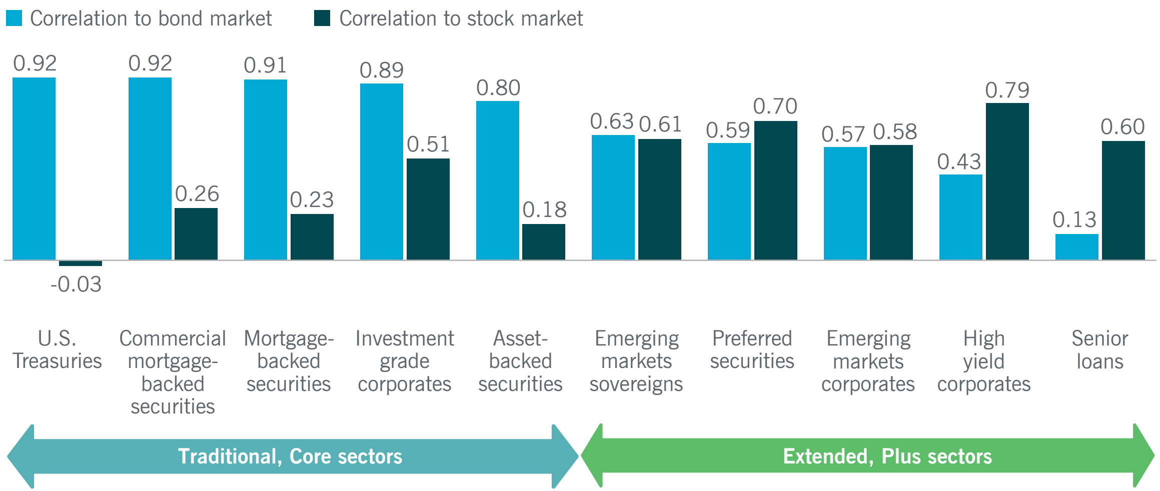


On average, returns were elevated for most of the entire year following a pause in Fed rate hikes

Source: Bloomberg L.P., Nuveen. Average of performance over the last four Fed tightening cycles. Agg Index is in the Bloomberg U.S. Aggregate Index.

Traditional core sectors behave like bonds

Correlation to bond and stock market of selected sectors



Maintaining an allocation to traditional fixed income sectors helps balance equity risk

Data source: Morningstar Direct. Correlations for 10-year period ending 31 Dec 2022. **Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: bond market:** Bloomberg U.S. Aggregate Index; **stock market:** S&P 500 Index; **U.S. Treasuries:** Bloomberg U.S. Treasury Index; **CMBS:** Bloomberg Commercial Mortgage-Backed Securities Index; **MBS:** Bloomberg U.S. Mortgage-Backed Securities Index; **investment grade corporates:** Bloomberg U.S. Corporate Investment Grade Index; **ABS:** Bloomberg Asset-Backed Securities Index; **emerging markets sovereigns:** JPMorgan EMBI Global Diversified Index; **preferred securities:** ICE BofA U.S. All Capital Securities Index; **emerging markets corporates:** JPMorgan CEMBI Diversified Index; **high yield corporates:** Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index; **senior loans:** Credit Suisse Leveraged Loan Index. Correlation is a statistical measure of how two securities move in relation to each other.

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The need for income diversifiers

No single fixed income asset class leads in all markets

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High yield corporates 7.44	Preferred securities 15.44	Preferred securities 7.58	High yield corporates 17.13	Preferred securities 10.58	High yield municipals 4.76	Preferred securities 17.71	Investment grade corporates 9.89	High yield municipal 7.77	Senior loans -1.06
Senior loans 6.15	High yield municipals 13.84	Investment grade municipals 3.30	Emerging markets debt 10.15	Emerging markets debt 10.26	Investment grade municipals 1.28	Emerging markets debt 15.04	U.S. Treasuries 8.00	Senior loans 5.40	Investment grade municipal -8.53
Investment grade corporates -1.53	Investment grade municipals 9.05	High yield municipals 1.81	Senior loans 9.88	High yield municipals 9.69	Senior loans 1.14	Investment grade corporates 14.54	Broad bond market 7.51	High yield corporates 5.26	High yield corporates -11.18
Broad bond market -2.02	Investment grade corporates 7.46	Emerging markets debt 1.18	Investment grade corporates 6.11	High yield corporates 7.50	U.S. Treasuries 0.86	High yield corporates 14.32	Preferred securities 6.95	Preferred securities 2.24	U.S. Treasuries -12.46
Investment grade municipals -2.55	Emerging markets debt 7.43	U.S. Treasuries 0.84	High yield municipals 2.99	Investment grade corporates 6.42	Broad bond market 0.01	High yield municipals 10.68	Emerging markets debt 5.26	Investment grade municipal 1.52	Broad bond market -13.01
U.S. Treasuries -2.75	Broad bond market 5.97	Broad bond market 0.55	Broad bond market 2.65	Investment grade municipals 5.45	High yield corporates -2.08	Broad bond market 8.72	Investment grade municipal 5.21	Investment grade corporates -1.04	High yield municipal -13.10
Preferred securities -3.65	U.S. Treasuries 5.05	Senior loans -0.38	Preferred securities 2.32	Senior loans 4.25	Investment grade corporates -2.51	Senior loans 8.17	High yield municipal 4.89	Broad bond market -1.54	Preferred securities -14.85
Emerging markets debt -5.25	High yield corporates 2.46	Investment grade corporates -0.68	U.S. Treasuries 1.04	Broad bond market 3.54	Emerging markets debt -4.26	Investment grade municipals 7.54	High yield corporates 4.68	Emerging markets debt -1.80	Investment grade corporates -15.76
High yield municipals -5.51	Senior loans 2.06	High yield corporates -4.43	Investment grade municipals 0.25	U.S. Treasuries 2.31	Preferred securities -4.34	U.S. Treasuries 6.86	Senior loans 2.78	U.S. Treasuries -2.32	Emerging markets debt -17.78

Chart does not represent the past performance or yields of any Nuveen fund. For fund performance visit nuveen.com. Data source: Morningstar Direct, 01 Jan 2013 – 31 Dec 2022. **Performance data shown represents past performance and does not predict or guarantee future results.** Performance of all cited indexes is calculated on a total return basis and includes income reinvestment but does not reflect taxes. Diversification does not assure a profit or protect against loss. **Representative indexes: broad bond market:** Bloomberg U.S. Aggregate Bond Index; **high yield corporates:** Bloomberg Corporate High Yield 2% Issuer Capped Index; **high yield municipals:** Bloomberg High Yield Municipal Bond Index; **investment grade corporates:** Bloomberg U.S. Corporate Index; **investment grade municipals:** Bloomberg Municipal Index; **preferred securities:** ICE BofA Preferred Stock Fixed Rate Index; **senior loans:** Credit Suisse Leveraged Loan Index; **U.S. Treasuries:** Bloomberg U.S. Treasuries Index; **emerging markets debt:** JPMorgan Emerging Markets Bond Index (EMBI) Global. Different benchmarks, economic periods, methodologies and market conditions will produce different results. See Endnotes for important disclosures regarding asset-class-related risks.

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Credit cycle entering downturn stage

Falling leverage

Lower growth

Higher growth

Repair

- Debt repaid/balance sheets strengthened
- Leverage declines
- Focus on cost cutting and cash generation

Recovery

- Restructuring boosts profit margins
- Leverage falls
- Free cash flow grows

Downturn

- High leverage
- Lower earnings
- Recession or falling asset prices
- Defaults spike

We are here!

Expansion

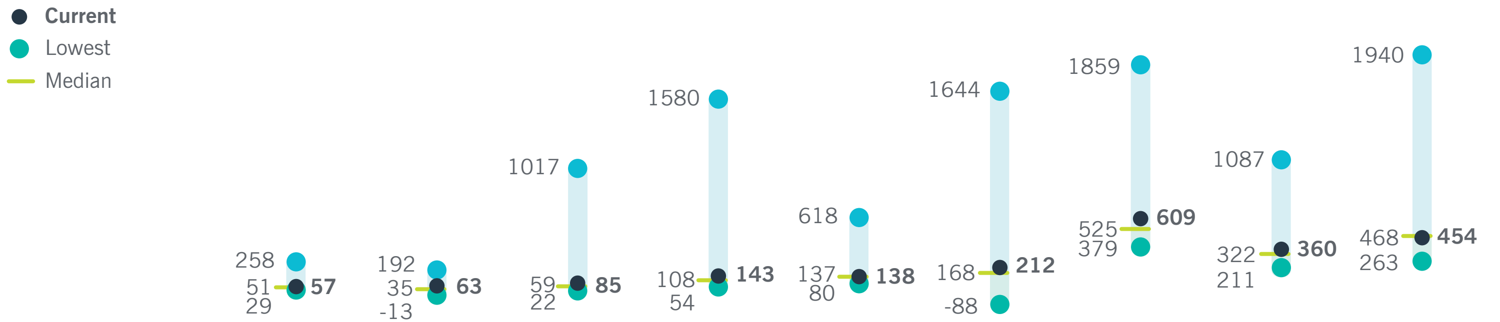
- Leverage rises
- Speculative and M&A activity increases
- Volatility increases
- ***Credit cycle peaks***

Rising leverage

Spread levels near fair value given economic conditions

Fixed income spread analysis

We believe spreads are likely to widen further in the near term, providing better entry points for risk taking in the coming months

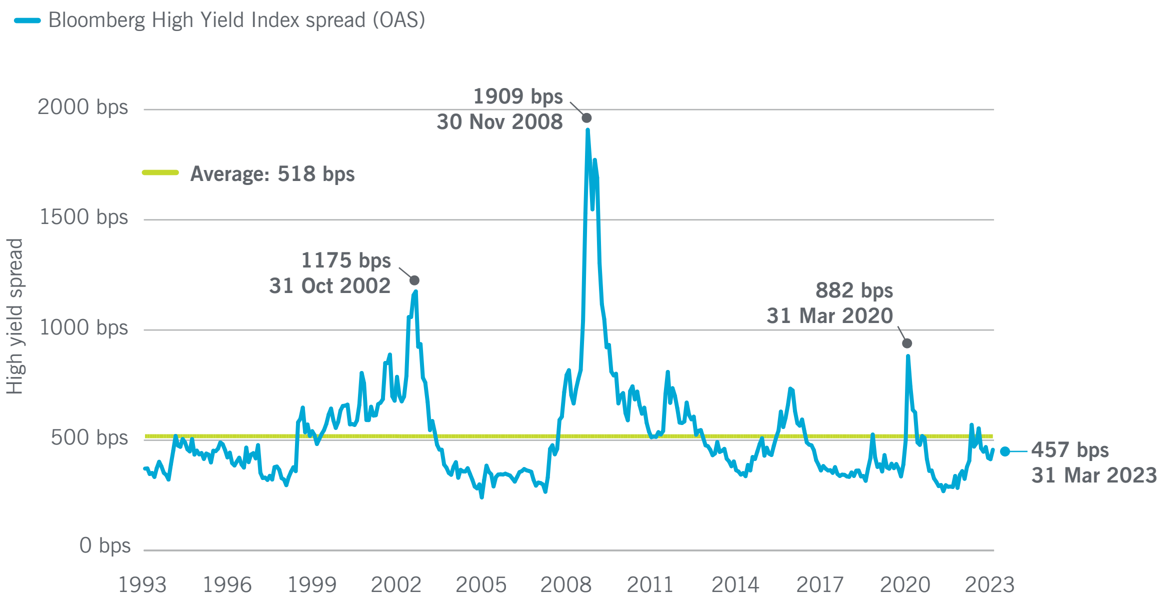


	Broad U.S. bond market	Mortgage-backed securities	Asset-backed securities	Commercial mortgage-backed securities	Investment grade corporates	Preferred securities	Senior loans	Emerging markets debt	High yield corporates
Spread on 31 Dec 22	51	51	75	119	130	227	652	445	470
Max Spread Date	3 Dec 08	3 Dec 08	6 Jan 09	21 Nov 08	3 Dec 08	9 Mar 09	16 Dec 08	27 Oct 08	16 Dec 08
Min Spread Date	14 Apr 21	27 Jul 10	21 Jun 21	21 Jun 21	30 Jun 21	6 Dec 17	18 Apr 18	31 Jan 18	06 Jul 21

Data source: Bloomberg L.P., Bank of America, Morningstar, 15 years ending 31 Mar 2023. Spreads are in basis points. **Representative indexes: broad U.S. bond market:** Bloomberg U.S. Aggregate Bond Index; **mortgage-backed securities:** Bloomberg U.S. Mortgage-backed Securities Index; **asset-backed securities:** Bloomberg Asset Backed Securities Index; **commercial mortgage-backed securities:** Bloomberg U.S. CMBS Investment Grade Index; **investment grade corporates:** Bloomberg U.S. Corporate Investment Grade Index; **preferred securities:** ICE BofA Preferred Stock Fixed Rate Index; **senior loans:** Credit Suisse Leveraged Loan Index; **emerging markets debt:** Bloomberg Emerging Market USD Aggregate Index; **high yield corporates:** Bloomberg Corporate High Yield 2% Issuer Capped Index. Different benchmarks, economic periods, methodologies and market conditions will produce different results.

High yield poised to weather slowing growth

Spreads compensate for lower expected defaults than in previous cycles



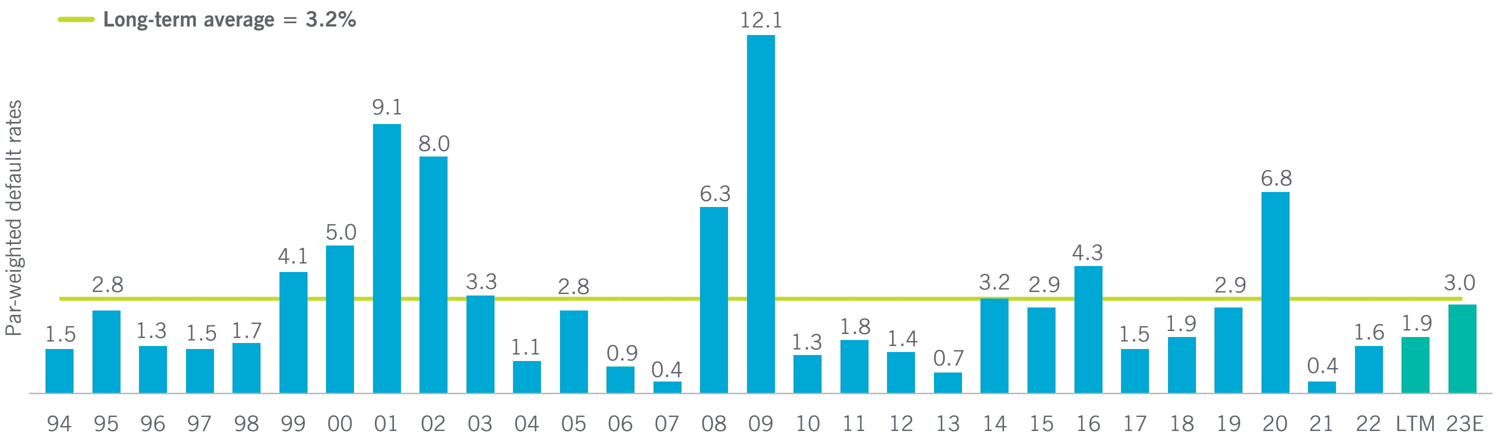
i

The market now exhibits a historically high percentage of BB rated bonds and a low percentage of CCC rated issues

Data source: Bloomberg L.P., Moody's Investors Service, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.**

Default rates expected rise, but only to near long-term average levels

High yield default rates (%)

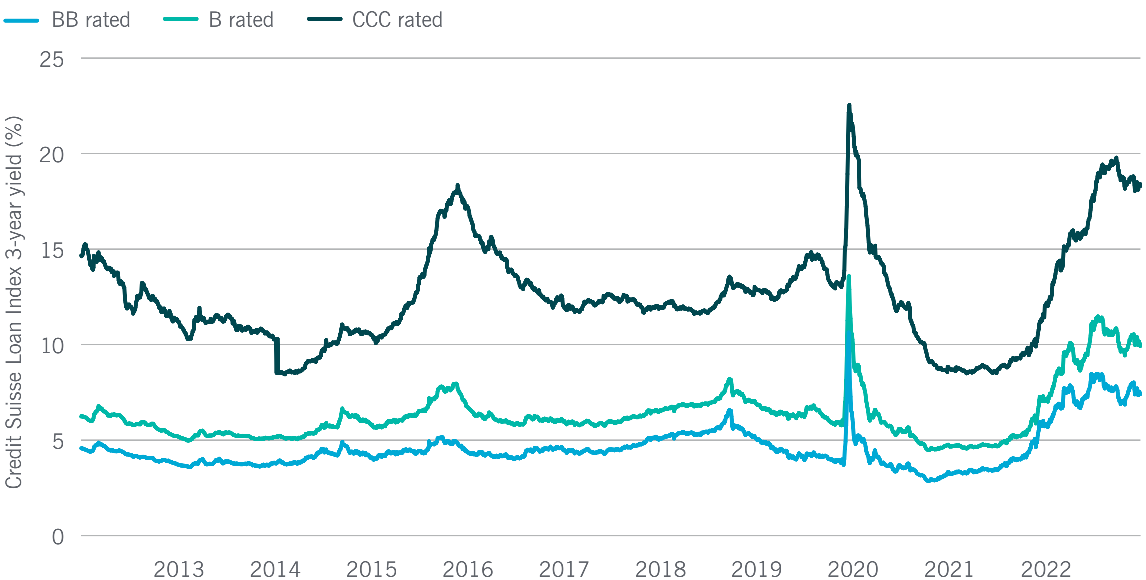


Default rates are rising from trough levels, but unlikely to retrace previous recessionary levels

Data source: JPMorgan, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.**

Senior loan yields offer compelling value

Loan yields by rating

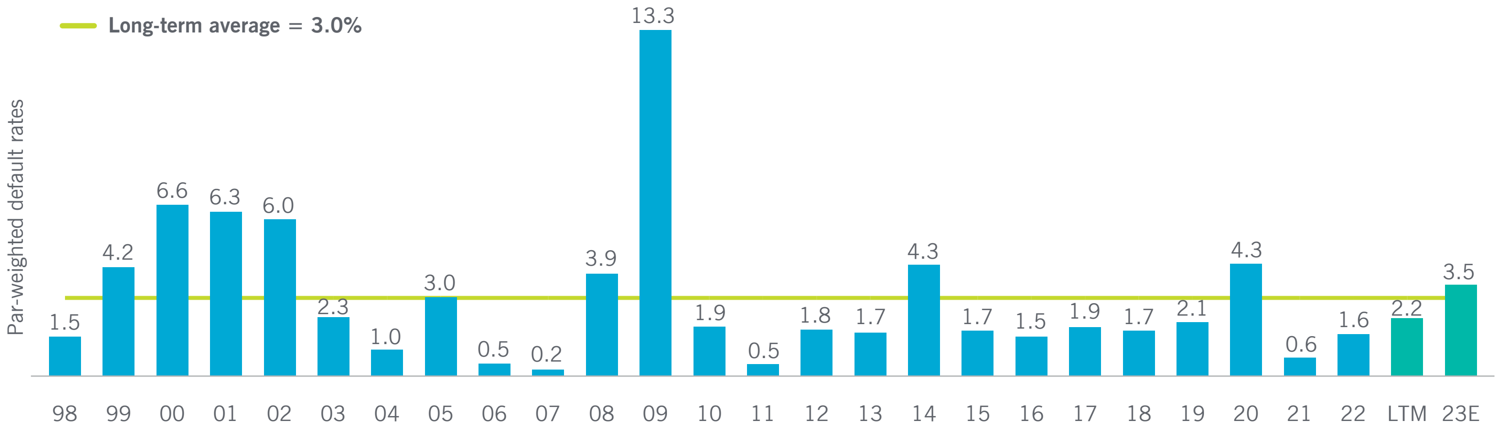


Loans benefit from attractive income and the "pull to par" from current discounted price levels

Data source: Credit Suisse, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.**

Loan defaults are expected to remain low

Loan default rates (%)

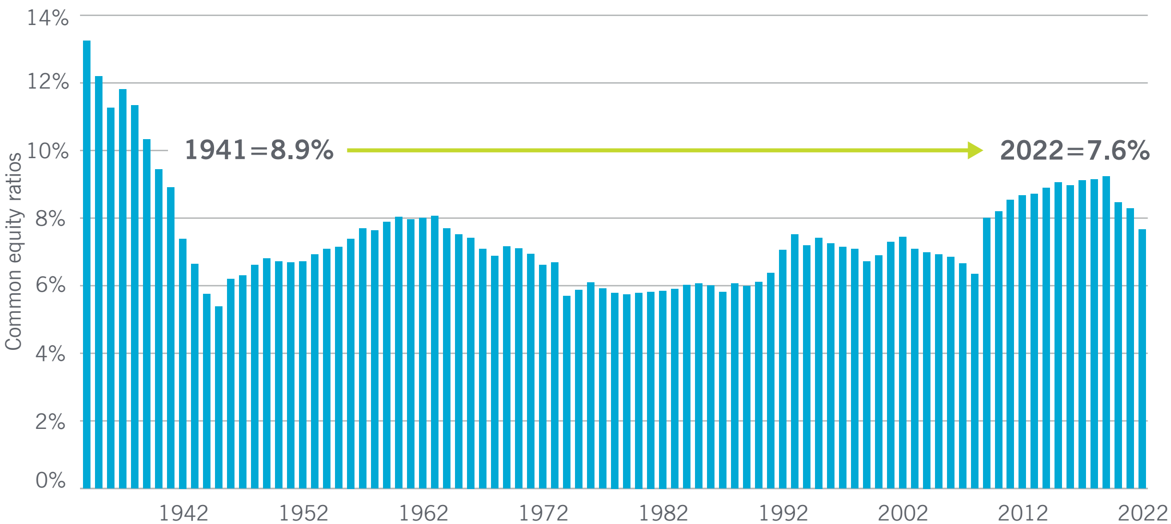


Default rates are expected to rise from historically low levels but should remain benign as many issuers have extended their maturity profiles

Data source: JPMorgan, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.**

Still solid bank fundamentals support preferred securities

U.S. bank common equity ratios remain near the highest levels since the 1940s



We have confidence that the Fed, FDIC, and U.S. Treasury will remain vigilant in supporting the U.S. bank sector

Data source: Federal Deposit Insurance Corporation, New York Federal Reserve Bank and Barclays Research from 1934 – 2022.

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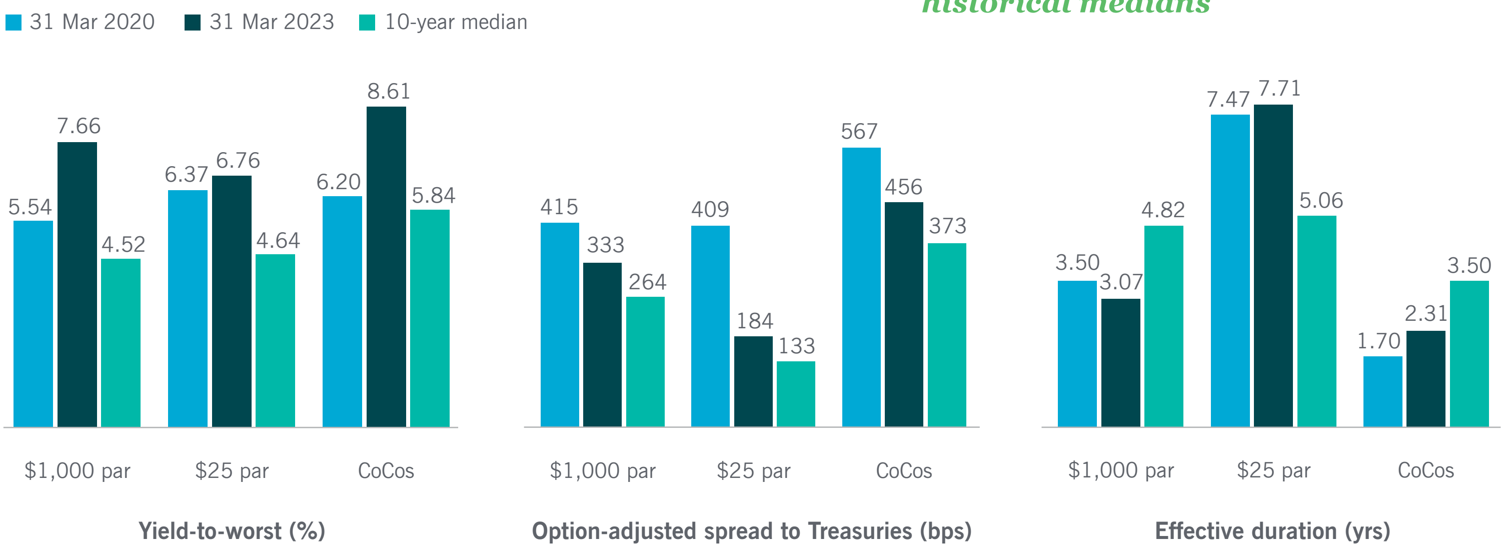
Not all preferred securities are created equal

Relative value metrics of preferred market segments

All market segments are significantly cheaper than their historical medians



Data source: Bloomberg L.P., 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: $1,000 par preferred:** ICE BofA U.S. Institutional Capital Securities Index; **$25 par preferred:** ICE BofA Core Plus Fixed Rate Preferred Index; **contingent capital (CoCo):** ICE BofA Contingent Capital Index.

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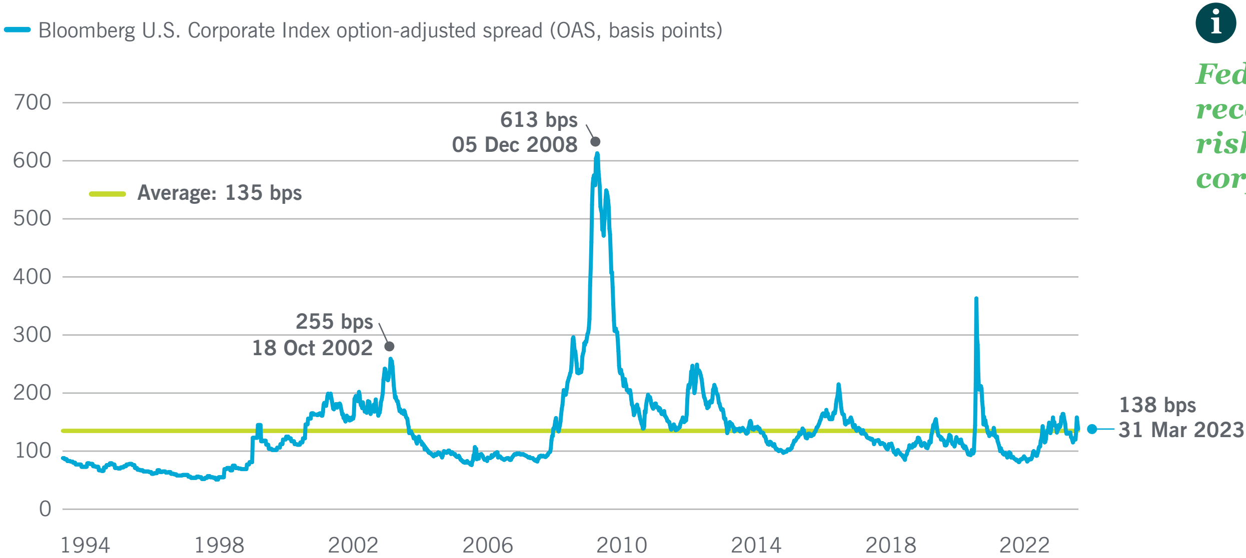
Investment grade corporates likely to drift wider

Credit spreads widened amid banking crisis



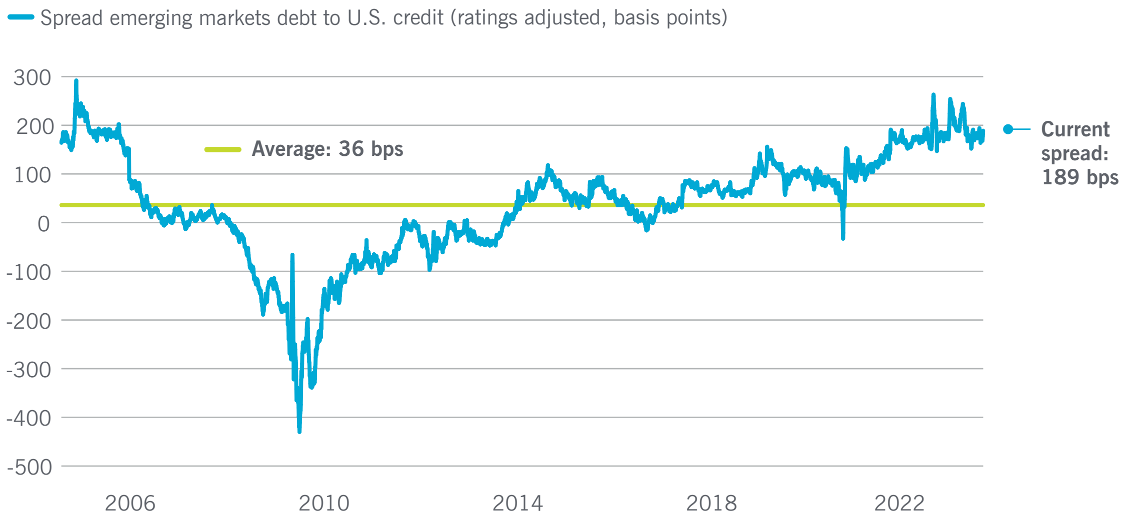
Fed hikes and recession risks pressure corporates

Data source: Bloomberg, L.P., 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.** Option-adjusted spread measures the difference between corporate yields and those of similar-duration Treasuries.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Emerging market headwinds have moderated

Emerging markets debt remains cheap relative to U.S. credit



Selection remains important and patient investors may ultimately be rewarded

Data source: Bloomberg L.P., JPMorgan, Nuveen, 31 Mar 2023. **Performance data shown represents past performance and does not predict or guarantee future results.** Spread of emerging market debt to U.S. credit (ratings adjusted) is the credit spread of the JPMorgan Emerging Markets Bond Index minus Global Diversified (EMBI-GD) less the blended credit spread of a 50-50 mix of the Bloomberg U.S. High Yield Index and the Bloomberg U.S. Investment Grade Corporate Index.

Emerging markets are not a monolithic asset class

Nuveen emerging markets country cohorts

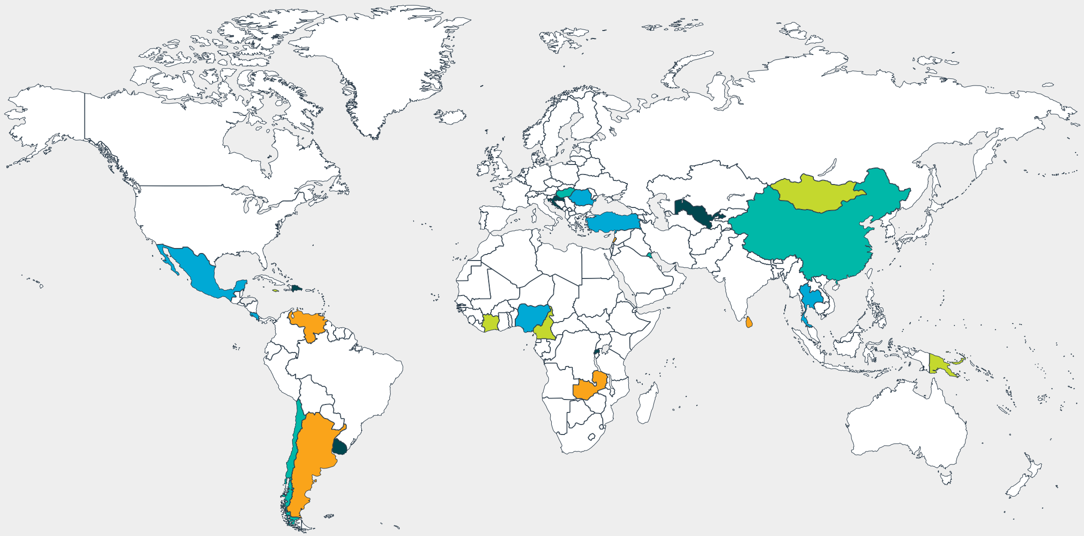
Laggards
- *Downward ratings trajectory*
- *In need of structural reform*
- *In need of better policy coherence*

Reformers
- *Improving outlook*
- *Addressing key structural reforms*
- *Potential for improved GDP and investment climate*

Steady as you go
- *Sound economics framework*
- *Strong buffers in place*
- *Relatively low financing needs*

Frontier
- *Up-and-coming markets*
- *Good growth stories*
- *Lower correlation*

Crisis-laden
- *Significant event risk*
- *Political, economic, structural instability*
- *Prognosis remains poor/ highly uncertain*



Heterogeneous risks and opportunities require rigorous analysis and active management

Data source: Nuveen, 31 Dec 2021. Map may not represent current views and only reflects samples of our cohort classifications.

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

Our investment philosophy

We believe we can achieve solid risk-adjusted returns over time by combining deep sector expertise, an active approach and risk management

Fundamental tenets of our investment philosophy

- Leverage sector specialists
- Exploit market inefficiencies through active management
- Consider risk at every decision point
- Take a long-term view

This philosophy, and the process that supports it, enables us to serve our clients and helps achieve their objectives

Delivering income for more than 120 years

We favor the ability to find yield changes as markets change. Nuveen believes by maximizing diversification, we can help our clients achieve higher yields and lower portfolio volatility.

Our clients' goals:	***Different sources of durable income***	***Yield with minimum levels of risk***	***Constructing portfolios to meet long-term needs***
How we deliver:	**Diversification** Diversifying risk and return by harnessing a full breadth of income capabilities	**Stewardship** Benefiting from our heritage of generating lifetime income and creating better outcomes	**Expertise** Persistently innovating and leveraging deep sector expertise across public and private markets

Our experience:

Top 5
manager of U.S. institutional tax-exempt assets[1]

65+ years
of navigating equity market cycles[2]

Top 5
real estate manager globally[3]

40+ years
as an active private capital investor

Nuveen traces its history back to 1898, and TIAA was founded in 1918.

1 Pensions & Investments, 6 Jun 2022. Rankings based on U.S. institutional tax-exempt assets under management as of 31 Dec 2021 reported by each responding asset manager; updated annually.

2 Nuveen has been investing in equities since 1952 with the inception of the CREF Stock Account.

3 ANREV/INREV/NCREIF Fund Manager Survey 2022. Survey illustrated rankings of 143 fund managers globally by AUM as at 31 Dec 2021; updated annually.

Endnotes

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 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. Debt or fixed income securities are subject to market risk, credit risk, interest rate risk, call risk, derivatives risk, dollar roll transaction risk and income risk. As interest rates rise, bond prices fall. Below investment grade or high yield debt securities are subject to liquidity risk and heightened credit risk. Preferred securities are subordinated to bonds and other debt instruments in a company's capital structure and therefore are subject to greater credit risk. Foreign investments involve additional risks, including currency fluctuation, political and economic instability, lack of liquidity and differing legal and accounting standards. Asset-backed and mortgage-backed securities are subject to additional risks such as prepayment risk, liquidity risk, default risk and adverse economic developments. The value of convertible securities may decline in response to such factors as rising interest rates and fluctuations in the market price of the underlying securities. Senior loans are subject to loan settlement risk due to the lack of established settlement standards or remedies for failure to settle. These investments are subject to credit risk and potentially limited liquidity, as well as interest rate risk, currency risk, prepayment and extension risk, and inflation risk.

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 provides investment advisory solutions through its investment specialists.

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

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