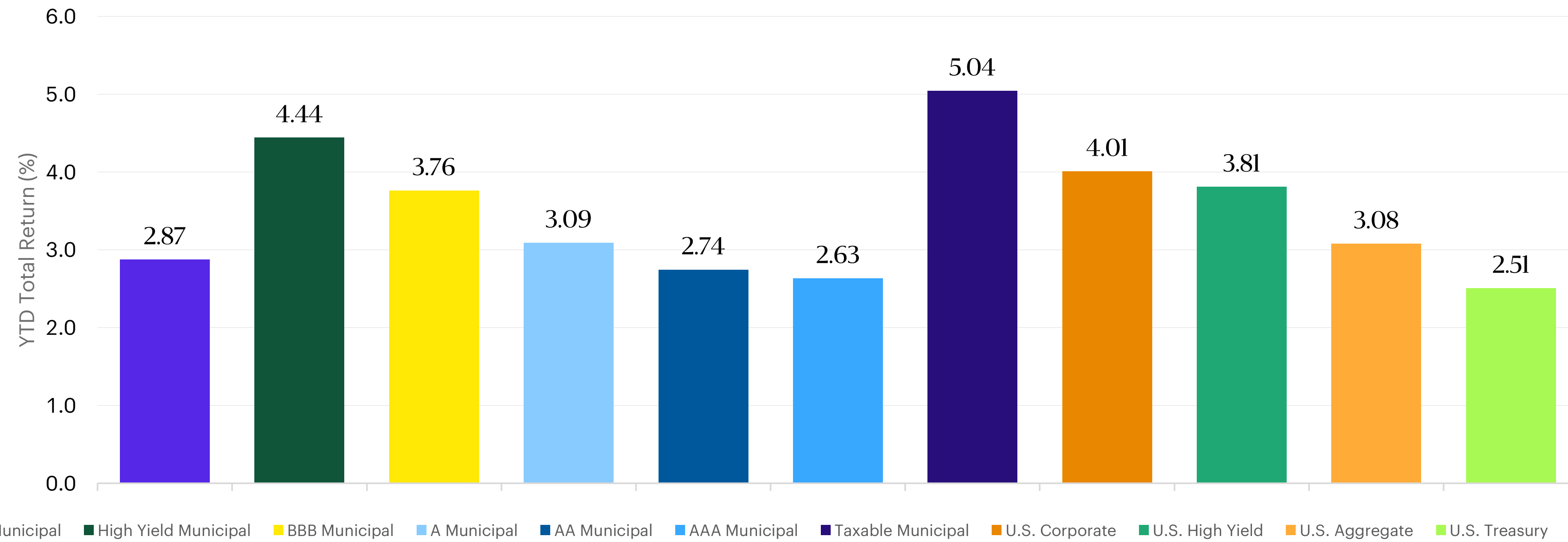
Municipal Monthly Market Update

ENDING 31 JANUARY, 2023 | MARKETING COMMUNICATION

Summary of asset class returns

As of 31 January 2023

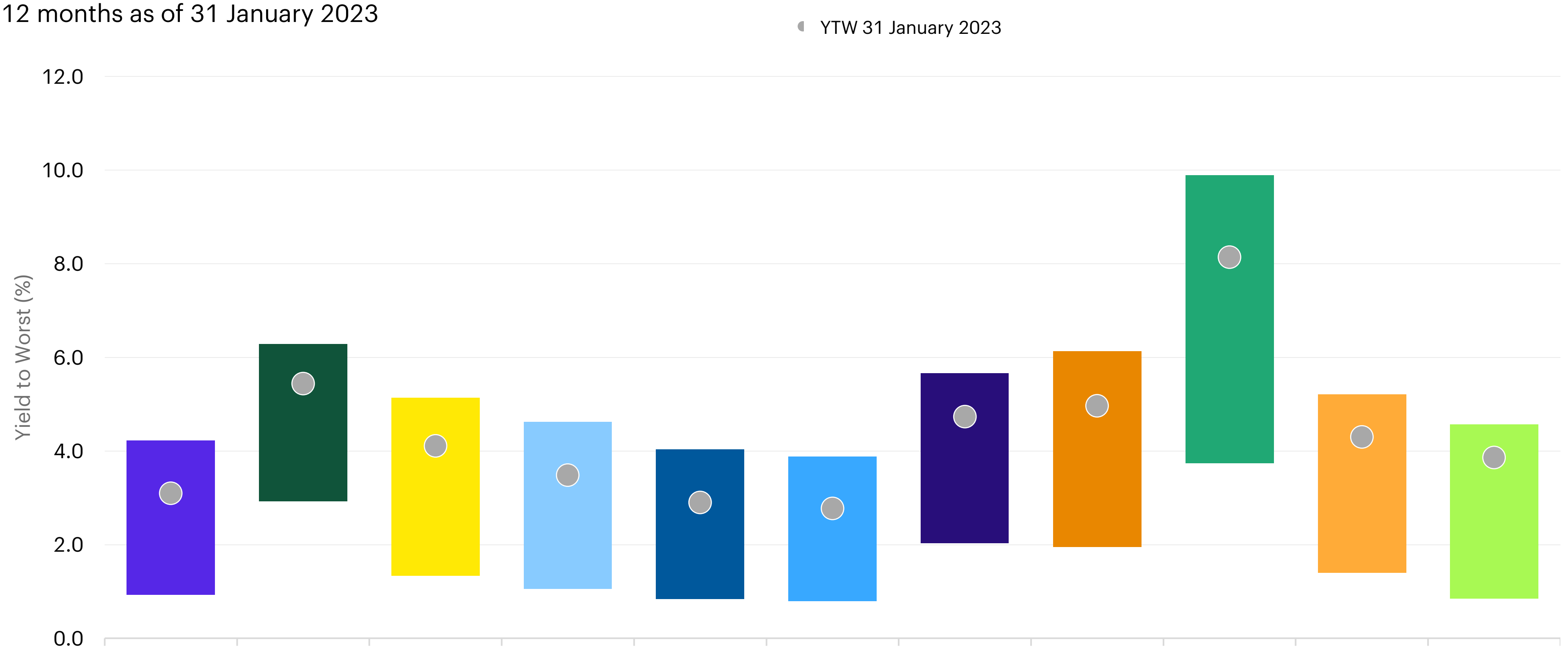


	Municipal						Taxable				
Total Return (%)	Municipal	High Yield Municipal	BBB Municipal	A Municipal	AA Municipal	AAA Municipal	Taxable Municipal	U.S. Corporate	U.S. High Yield	U.S. Aggregate	U.S. Treasury
1 Month	2.87	4.44	3.76	3.09	2.74	2.63	5.04	4.01	3.81	3.08	2.51
3 Month	7.99	10.34	9.68	8.53	7.69	7.54	9.28	8.91	5.40	6.39	4.71
YTD	**2.87**	**4.44**	**3.76**	**3.09**	**2.74**	**2.63**	**5.04**	**4.01**	**3.81**	**3.08**	**2.51**
1 Year	-3.25	-6.63	-5.49	-3.69	-2.81	-2.80	-11.75	-9.33	-5.22	-8.36	-8.54
YTW 1/31/2023	3.10%	5.44%	4.11%	3.48%	2.90%	2.77%	4.73%	4.96%	8.14%	4.30%	3.86%

Sources: Bloomberg Bond Indices.
Past performance is no guarantee of future results

Yield range by asset class

Last 12 months as of 31 January 2023



	Municipal						Taxable				
Last 12 Months	Municipal	High Yield Municipal	BBB Municipal	A Municipal	AA Municipal	AAA Municipal	Taxable Municipal	U.S. Corporate	U.S. High Yield	U.S. Aggregate	U.S. Treasury
Maximum	4.22%	6.28%	5.14%	4.61%	4.04%	3.88%	5.66%	6.13%	9.88%	5.21%	4.56%
Minimum	0.93%	2.93%	1.34%	1.05%	0.84%	0.79%	2.04%	1.96%	3.74%	1.40%	0.85%
1/31/2023	3.10%	5.44%	4.11%	3.48%	2.90%	2.77%	4.73%	4.96%	8.14%	4.30%	3.86%

Sources: Bloomberg Bond Indices.
Past performance is no guarantee of future results

Macroeconomic factors

- The Bloomberg Municipal Bond Index returned 2.87% in January, outperforming Treasuries and underperforming Corporates, and the Agg. The AAA- quality segment had the lowest returns (2.63%) while high yield credits were the top performer, returning 4.44%. The U.S. Treasury market was positive, returning 2.51%. Equity markets also rallied as investors seem certain that U.S. and global economies have moved past peak levels of inflation. Absolute U.S. inflation levels remain elevated, however, and the U.S. Federal Reserve (Fed) remains on their path of higher rates. General consensus estimates show at least two rate hikes are planned for early 2023.
- After a record setting trend of weekly outflows throughout most of 2022, municipal mutual fund flows turned positive in January. Lipper data shows January 2023 net inflows near $5 billion. As inflows and reinvestment demand outpaced new supply, muni prices advanced, and yields fell; but are still attractive when compared to record lows set in 2021.
- Typical for the month of January, municipal supply was low. Higher borrowing costs and a potential U.S. recession have made it difficult for analysts to agree on guidance for full-year 2023 new issuance. Projections so far are at a high of $500 billion and a low of $300 billion, making it difficult to estimate what technical forces will be at play throughout the year. In January, the lack of supply has forced market participants into the secondary market for bonds and contributed to recent positive performance.
- With the January rally, Municipal-to-Treasury ratios of 51-56-62-88 in the 2-5-10-30yrs segments are decidedly rich to historical comparisons. Within AA-rated credits, the 30yr spot still represents the most value versus corporates. More broadly, the less liquid, lower rated portions of the municipal market may hold value versus taxable fixed income.
- The U.S. Consumer Price Index rose 6.5% year-over-year in December, the lowest reading in over a year and well below the 9.1% peak reading in June. Record increases in food, energy, and healthcare over the past 12 months have contributed to the gain, according to the Bureau of Labor and Statistics. The U.S. unemployment rate fell to 3.5%, as employers continue to add jobs and struggle to fill openings. Consistent with moves in both November and December, the Fed delivered another 25bps rate hike on February 1st, pushing the target rate to 4.50%-4.75%. Comments from Chairman Powell indicate that while U.S. inflation may have peaked, the central bank would need to be confident in sustained improvement before easing policy with rate cuts.

Source: Allspring. Past performance is not a reliable indicator of future results.

Municipal market dashboard

Municipal credit

RATING SEGMENT RETURNS[1]	SECTOR RETURNS[1]	DEFAULTS[2]
The HY-rated segment outperformed in January • Aaa: 2.63% • Aa: 2.74% • A: 3.09% • BBB: 3.76% • High Yield: 4.44%	Strongest performing sectors: • Resource Recovery, Hospital, Housing, Leasing, Special Tax Weakest performing sectors: • Electric, Water/Sewer, IDR/PCR, Education, Tobacco • NH, SD, IA, MO, NJ outperformed in Jan • PR, WY, MS, AL, NM underperformed	Per MMA YTD first time payment defaults: 4 ($0.4B) • 1 out of 4 defaults were retirement/senior living projects.

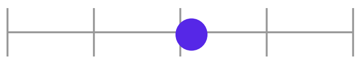
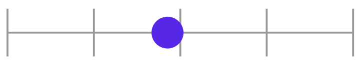
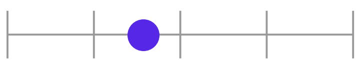
Market technicals

YIELD CURVE AND DURATION[3]	NEW ISSUE SUPPLY[1]	FUND FLOWS[4]	RELATIVE VALUE[1]	MUNI/TREASURY RATIOS[3]

Municipal yield curve remains flat in January
• AAA Curve spreads
  • 2s/10s: 2 bps
  • 2s/30s: 110 bps
  • 20s/30s: 21 bps
	2023 YTD total issuance approx. 22% lower than 2022, with taxable issuance 65% lower
	• January: $22B ($20B TE/$2B taxable)
		Flows: $5.2B (net) into long-term municipal mutual funds and ETFs YTD
		• 19 consecutive sessions of inflows
		• 2022: Largest annual outflow ever (-$124B)
		• 2021: Largest annual inflow ever (+104B)
			Municipals outperform Treasuries in January
			• Munis: 2.87%
			• Treasuries: 2.51%
			• Corporates: 4.01%
			• Agg: 3.08%
				M/T Ratios at rich levels
				• 2Y: 52% (33% on 12/31/21)
				• 5Y: 56% (47% on 12/31/21)
				• 10Y: 62% (69% on 12/31/21)
				• 30Y: 88% (78% on 12/31/21)

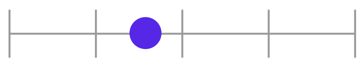
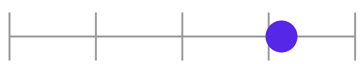
Source: Allspring. Past performance is not a reliable indicator of future results.
1 Source: Bloomberg 2 Source: MMA, through 31 Jan, 2023 3 Source: TM3

Market outlook

SECTOR	BEARISH — BULLISH	COMMENTS
Duration		The municipal market continued to move higher in January, adding to the positive gains witnessed the quarter prior. We expect market technicals to remain strong amidst diminished new issue supply and the return of fund inflows. In addition to this, as Fed intervention and rate hikes soften, Muni yields should stabilize in the coming months. In this environment, maintaining an increased level of dry powder in the form of cash and cash-equivalents will allow the team to take advantage of pockets of market weakness and dislocations while tactically extending duration between now and the end of Q1 2023.
Yield curve		The yield curve steepened slightly in January but remains flat. Longer dated maturities outperformed shorter issues for the month. In general, we believe the "flatness" of the curve, particularly in longer-maturity segments, make it relatively unattractive for investors to add extremely long-dated exposure. We believe the fractional increase in yield is not worth the unbalanced increase in risk. In our minds, that risk-reward trade off strongly indicates taking a more measured approach to curve allocations.
Credit quality		Since the beginning of 2022, credit spreads have increased materially, though municipal credit risk has remained rather stable. This divergence, we believe, has been driven by technical forces, including weakening liquidity and a general flight-to-quality. Looking forward, we believe credit fundamentals are well supported by the economy, but the possibility of recession and credit spread widening remains ever-present. In the current environment, we tend to favor higher quality credits while remaining attentive to relative value that may present itself in lower-rated issues.

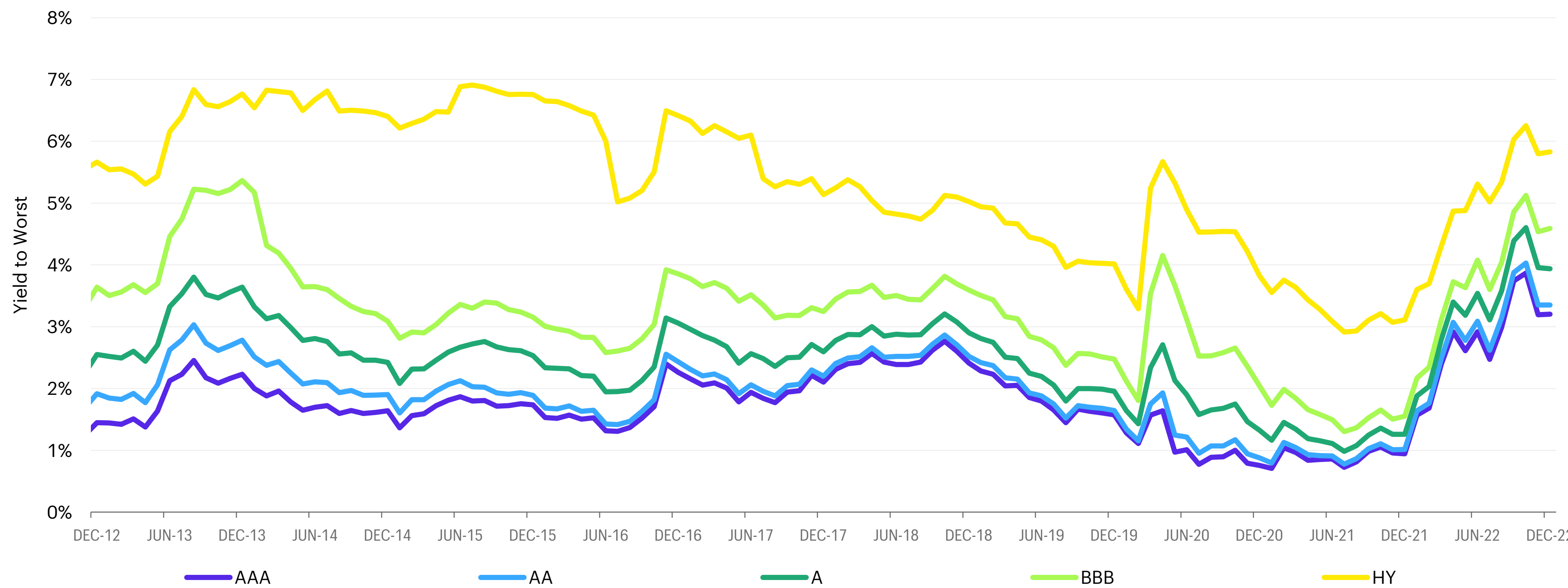
Duration bullish is the outlook that yields fall materially in the months ahead. Yield curve bullish outlook is for a notable flattening. Credit bullish outlook is for lower rated securities to perform well.
Source: Allspring. As of 31 Jan, 2023.

Market outlook

SECTOR	BEARISH — BULLISH	COMMENTS
Sector		The flight-to-quality trade witnessed in the credit market is impacting sector performance as well. In an environment of slowing economic growth and potential recession, GOs historically outperform revenue bonds. Inflation-driven higher income tax receipts; higher sales tax revenues; and demand for essential services provided by municipalities are generally more defensive than discretionary sectors. In this environment, we are focused on defensive sectors such as state and local GOs and essential service revenue bonds, which we expect would outperform as the Fed continues to tighten policy. We do note that higher rates impact certain credits more than others – for instance, higher mortgage rates could deter home purchases and delay absorption of new developments upon which certain tax-backed bonds rely. These factors highlight the need of an experienced team and institutional bandwidth to navigate an ever-changing market.
Security selection		The volatility we have witnessed year-to-date is a reminder to bond investors that municipals are credit products and not just a rates asset class. The instability of the municipal space makes security selection more important as certain credits have diverged from the general market due to forced selling, lack of liquidity, and structure factors. This inefficiency leads to atypical execution and could generate strong risk-adjusted returns for liquidity providers. Prudent liquidity management has been a hallmark of our investment process and allows us to be buyers in markets flooded with sellers. Our deep credit bench enables the team to swiftly filter through various offerings in a volatile environment to identify positive relative value.

Sector bullish outlook expects more yield oriented states/sectors perform well. Selection bullish outlook is where bond selection will be increasingly important.
Source: Allspring. As of 31 Jan, 2023.

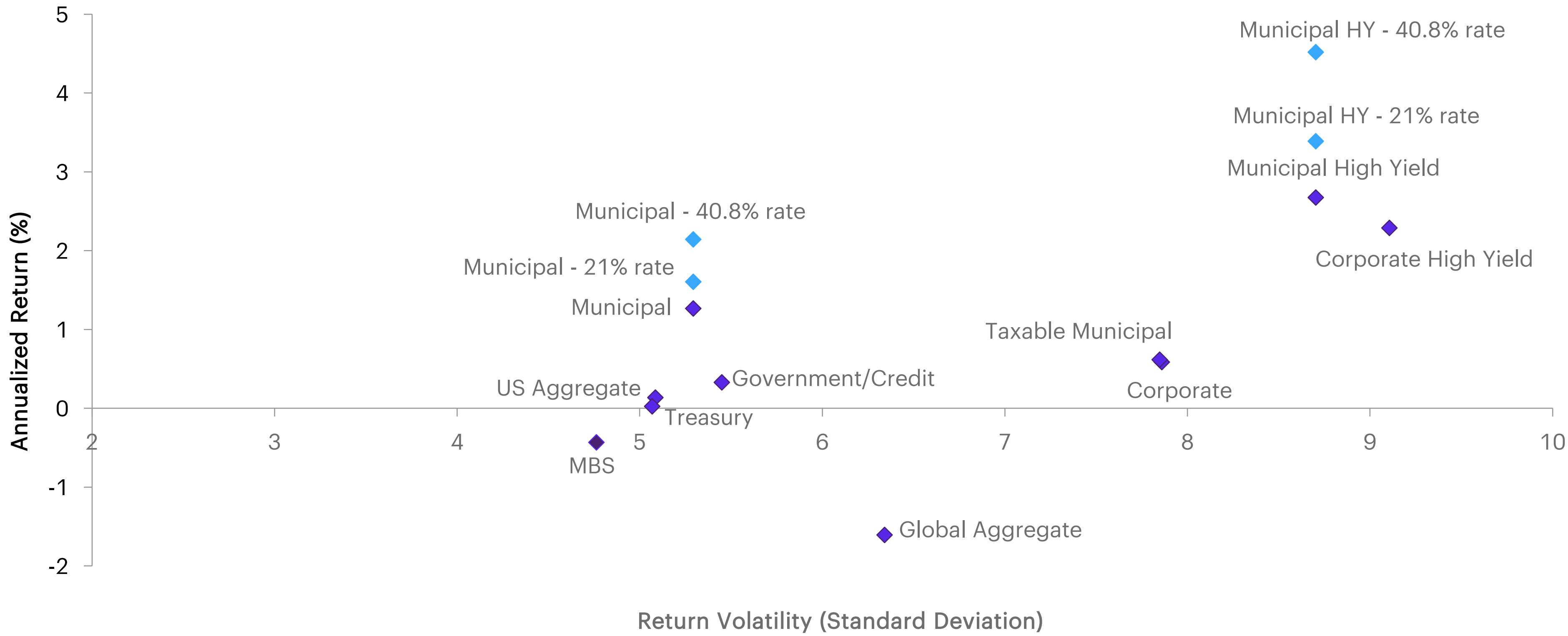
Municipal yields by rating – last ten years



	AAA	AA	A	BBB	High Yield
YTW as of 31 Jan, 2023	3.20%	3.35%	3.94%	4.59%	5.83%
YTW 5-Yr Average	1.81%	1.92%	2.31%	2.92%	4.45%
YTW 10-Yr Average	1.80%	1.99%	2.49%	3.24%	5.34%

Source: Allspring. Bloomberg. As of 31 Jan, 2023.

Risk-return by asset class



- Based on a 5 year period.
- Tax rates changed during the period. A simple adjustment of total returns from period end at current top tax brackets for individuals and corporations is shown.
- Tax and risk adjusted returns have been attractive for payers above a 20% federal rate.

Source: Allspring, Bloomberg, Tax adjustments for an individual at 40.8% (includes 37% plus the 3.8% ACA surtax). Tax adjustment for a corporate taxpayer is shown at 21%. As of 31 Jan, 2023. All indices shown are Bloomberg.
Past performance is not a reliable indicator of future results.

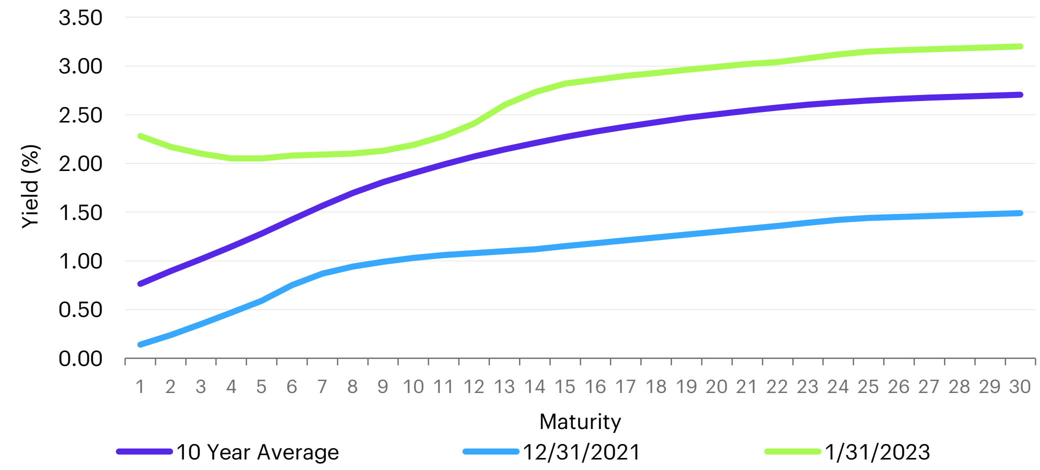
Yield curve and duration

Municipal yield curve and yields curve returns

Municipal yields significantly higher since 2021.

- The belly of the yield curve continued to steepen. Muni/Treasury ratios have moved richer.
- Higher yields provide more attractive entry point for retail and institutional investors.

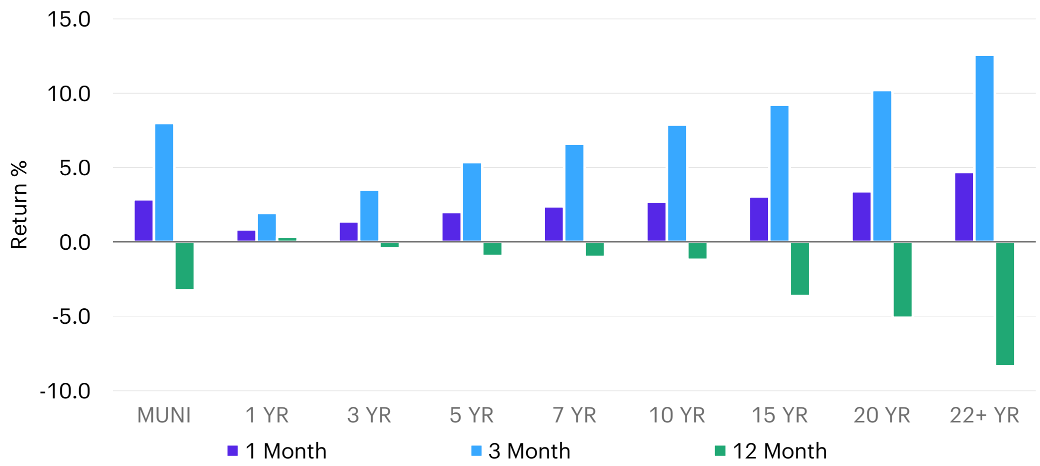
AAA MMD yield curve as of 1/31/2023



Muni total returns positive in January

- Lower supply has helped strengthen the overall technical environment.
- Retail investors have started to add to Muni mutual funds in January 2023

Municipal yield curve total returns

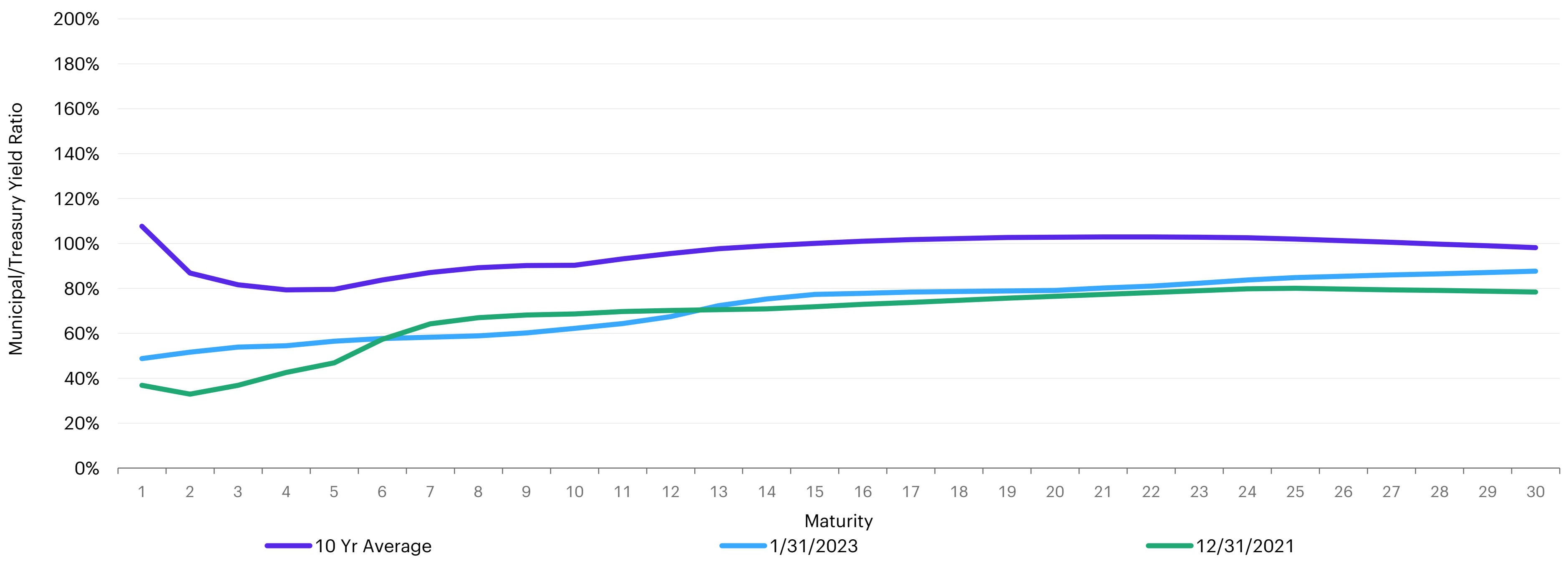


Source: Allspring, Bloomberg Barclays Bond Indices, 31 Jan, 2023.
Past performance is not a reliable indicator of future results.

AAA Municipal/Treasury yield ratios

- Ratios above the 100% threshold are indicative of value given the tax advantage of municipals.
- Historical ratios below the 90% threshold are indicative of more richly valued municipals.
- Ratios can be impacted by technical events and the absolute level of yields and are prone to rapid repricing. Ratio analysis may require adjustment at current small yield levels. Small moves in benchmark rates greatly shift ratios.
- Ratios richened in January as munis outperformed treasuries across the curve.

10-Yr Average Municipal/Treasury yield ratios

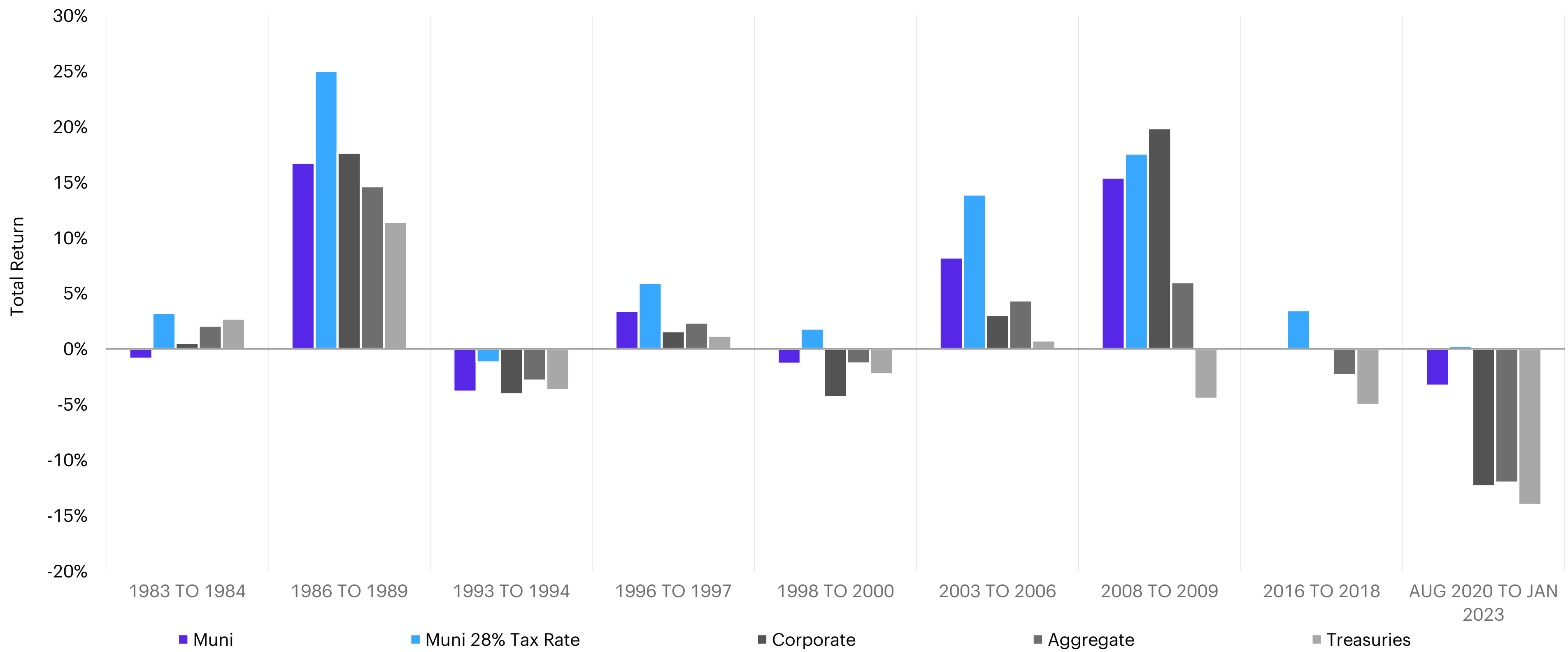


Source: Allspring, MMD, Thomson Reuters, 31 Jan, 2023.
Past performance is not a reliable indicator of future results.

Municipal bonds in rising rate environments

- Municipals have generally outperformed other fixed income asset classes (especially when adjusted for taxes) in rising rate environments.
- Tax-adjusted municipal returns have outperformed the Barclays US Aggregate Bond Index and Bloomberg US Treasury Index in each of the last 9 tightening cycles, while outperforming Corporates in all but one tightening period.

Municipal Bond Performance in Rising Rate Environments



Source: Allspring, Barclays Live, As of 31 Jan, 2023.
Past performance is not a reliable indicator of future results.

How have Munis outperformed during rising rates?

Lower Correlations

- Higher bond yields translate to lower bond prices
- Municipal bonds have lower correlations to Treasuries than other fixed income classes

	TREASURIES	CORPORATES	AGGREGATE	MUNICIPALS
Treasuries[1]	1.00			
Corporates[1]	0.59	1.00		
Aggregate[1]	0.90	0.86	1.00	
Municipals[1]	0.55	0.70	0.72	1.00

Monthly Correlations: 1/31/2003 – 1/31/2023

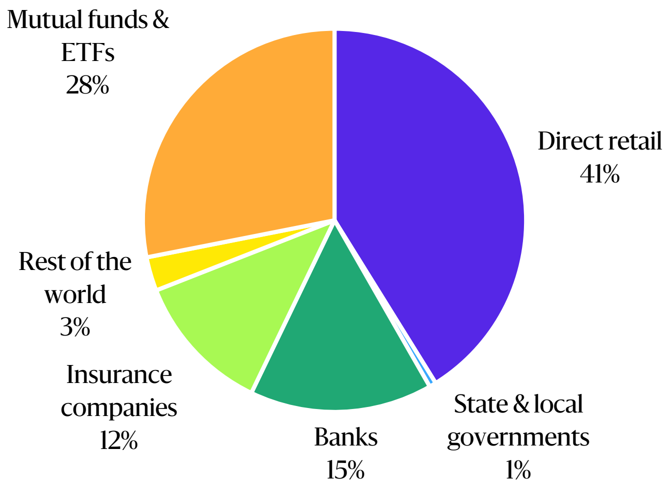
Inefficient Market

- The municipal fixed income market is less than 1/3 the size of the corporate market with 5 times as many issuers and over a million individual securities

MARKET	MARKET SIZE	# OF ISSUERS	# OF SECURITIES	RETAIL OWNERSHIP
Corporate Bonds	$14.7	10,000	30,000	32%
Municipal Bonds	$4.0T	50,000	1,000,000	41%

Retail Ownership

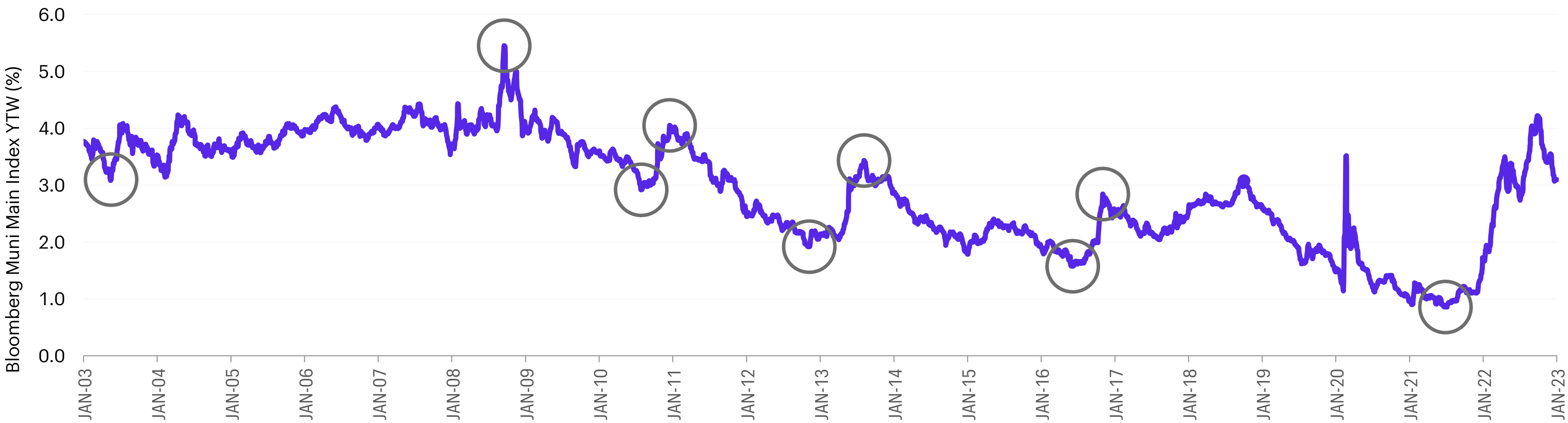
- Over 41% of the municipal bond market is held by households or in private pensions and government retirement plans
- Mutual funds and ETFs make up an additional 28% of ownership
- These tend to be buy-and-hold investors rather than speculators which has typically helped stabilize Munis when rates rise



Source: Allspring, Bloomberg, MSRB, U.S. Federal Reserve Z.1 published 9 Dec. 2022.
Past performance is not a reliable indicator of future results.

Yield and returns

Yield to Worst and future returns

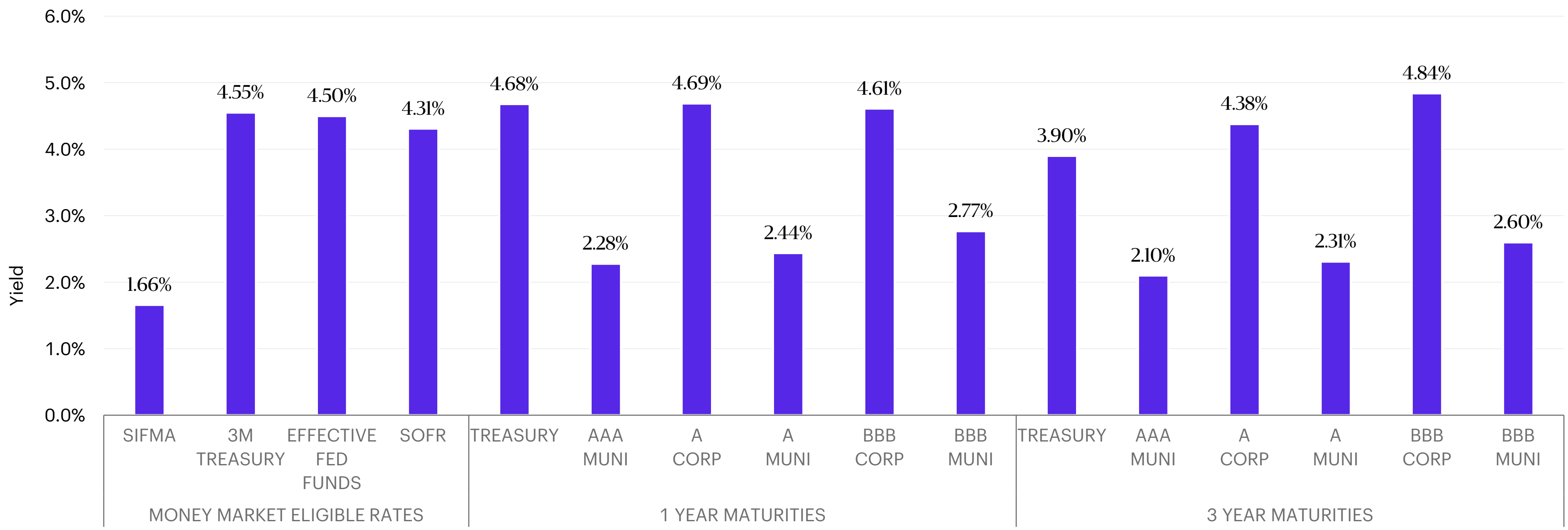


DATE	13 JUN 2003	16 SEP 2008	26 AUG 2010	14 JAN 2011	7 DEC 2012	5 SEP 2-13	5 JUL 2016	1 DEC 2016
YTW	3.08%	5.45%	2.92%	4.05%	1.91%	3.43%	1.57%	2.84%
5 Yr return	3.30%	7.17%	3.96%	5.97%	2.80%	4.18%	3.20%	4.47%

- As an income asset class, the yield of a portfolio is often a valuable frame of reference for projected future returns just as it would be when looking at a single bond.
- Above we show periods of both high and low market yields and the subsequent five-year total return for the Bloomberg Municipal Index.

Source: Allspring, Bloomberg, As of 31 Jan, 2023. Returns are annualized. Past performance is not a reliable indicator of future results.

Opportunities in the front end of the yield curve

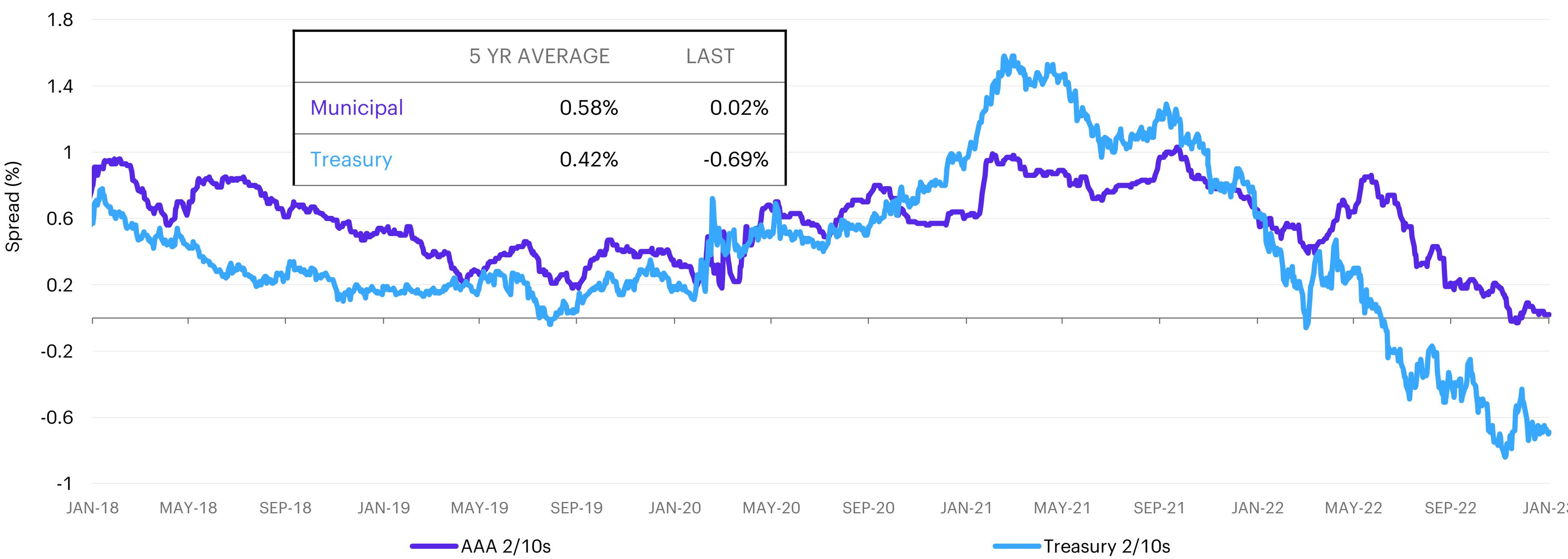


- SIFMA, the rate upon which many municipal securities' yields resets, ended January at 1.66% as the market continues to react to Fed policy.
- More favorable short-end yields reduce the opportunity cost of holding such securities versus long tenor bonds.
- Attractive municipal default characteristics offer opportunities to source higher yields in the front of the curve.

Source: Allspring, Bloomberg, as of 31 Jan, 2023. Past performance is not a reliable indicator of future results.

Yield curve opportunities

Municipals vs. Treasury 2s/10s spread



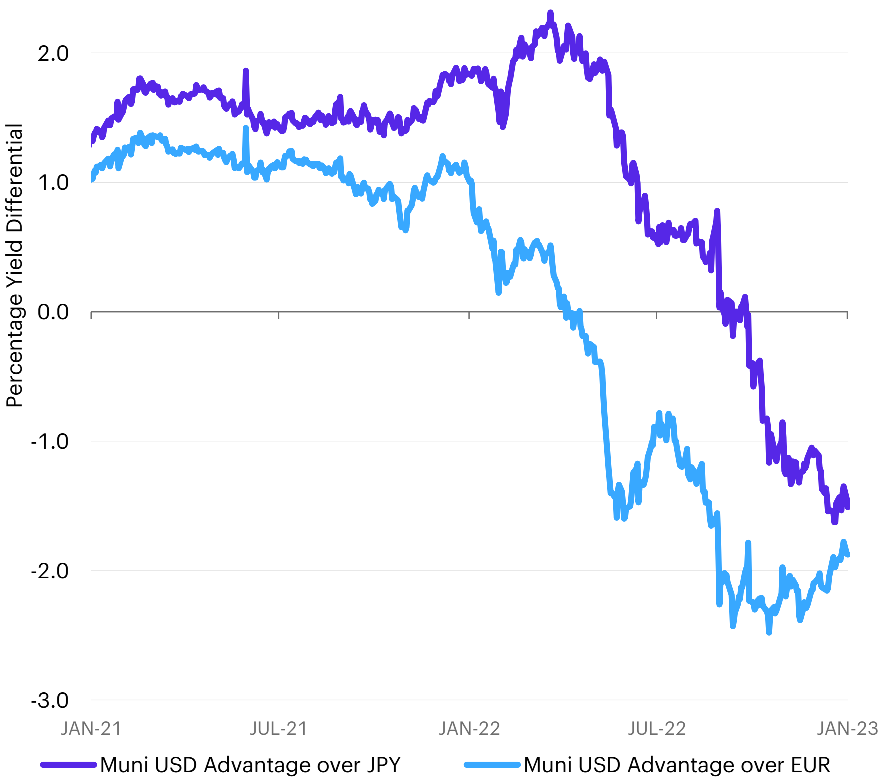
	5 YR AVERAGE	LAST
Municipal	0.58%	0.02%
Treasury	0.42%	-0.69%

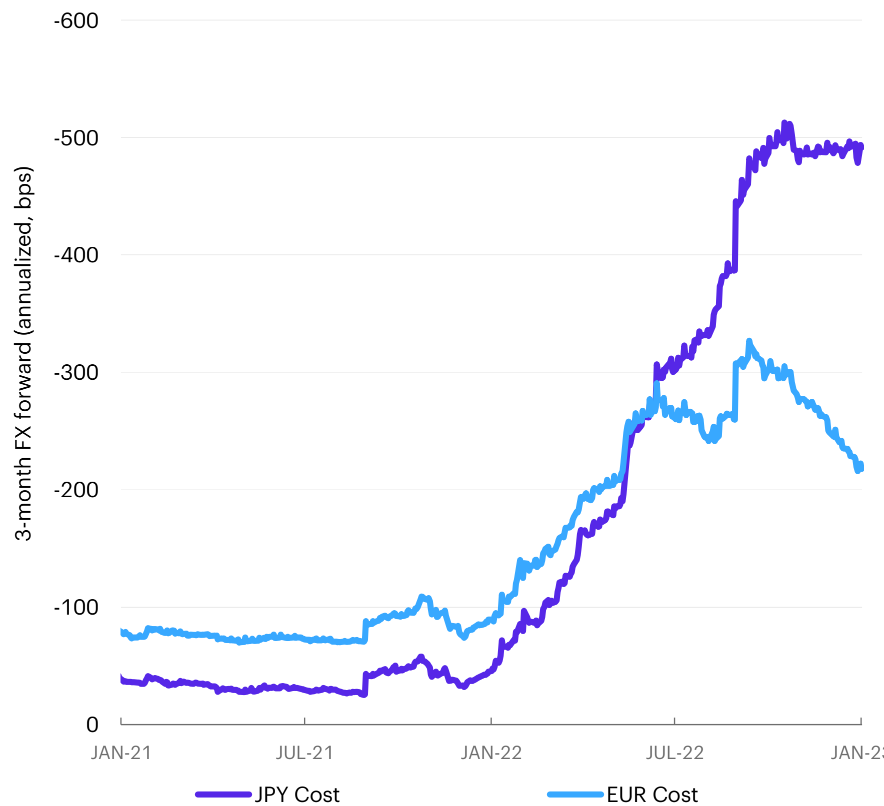
- The AAA Muni 2/10s curve remained flat in January.
- A 13-year bond yielding 2.61% would have an anticipated return of 4.0% for the next year in an unchanged curve environment. This roll-down represents an additional 139 bps of additional total return. The forecast return for the 13-year bond would be more than the nominal yield of a 30-year security (3.20%).

Source: Allspring, Municipal Market Data. As of 31 Jan, 2023. Past performance is not a reliable indicator of future results.

Hedging and municipal yields

- Nominal yields in the U.S. remain above those in many developed markets. Hedge costs and inflation projections offset much of that nominal advantage.
- In 2022, the Muni U.S. Dollar advantage over the Euro fell below zero as the dollar has strengthened substantially.





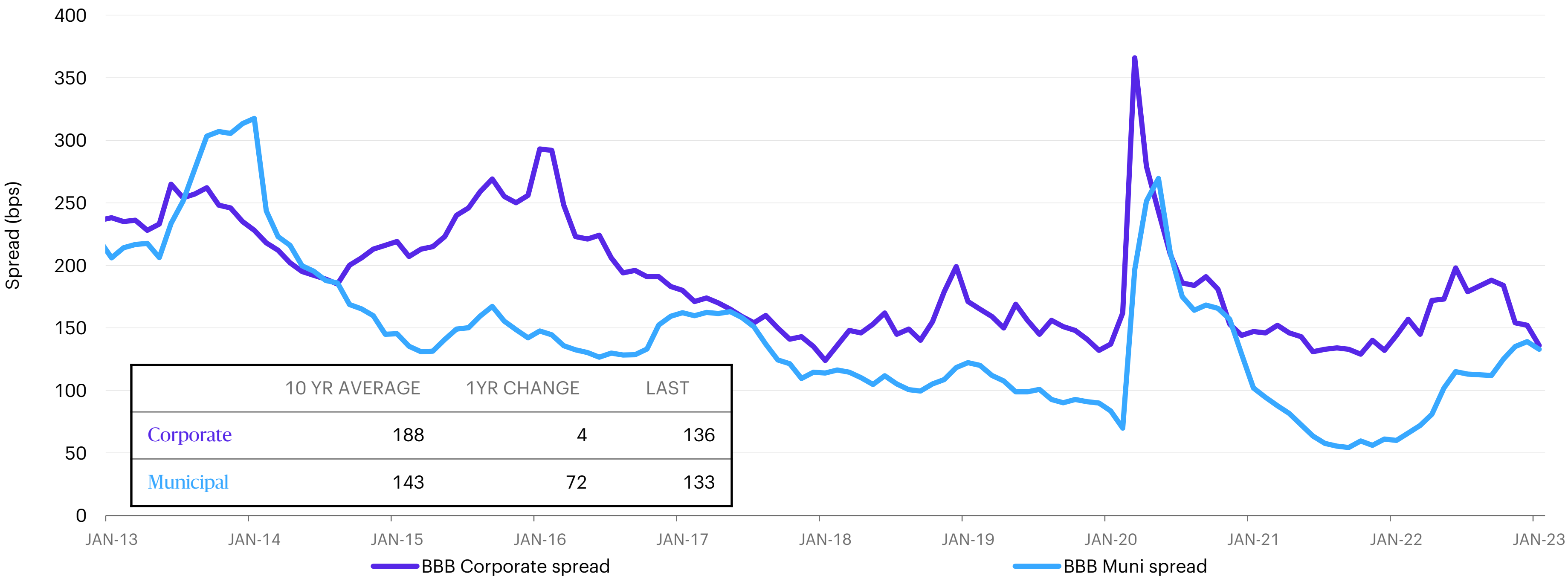
As of 31 Jan, 2023

Source: Allspring, Barclays, Bloomberg, 3 month currency hedge. U.S. taxable municipal index yield compared to European and Asian corporate debt index yields.

Municipal credit

Opportunity in credit: spread differentials

Corportate and Municipal BBB to AAA spreads - Last 10 years



	10 YR AVERAGE	1YR CHANGE	LAST
Corporate	188	4	136
Municipal	143	72	133

- Spreads for municipals and corporates narrowed in 2021.
- With the volatility and rising rate environment seen in 2022, spreads for both corporate and municipal debt widened significantly.
- With prolonged market volatility or continued outflows, credit spreads may continue to widen.
- We believe underlying municipal fundamentals remain strong in 2023.

Source: Allspring, Barclays Capital, based on the yield to worsts of the BBB municipal index less the municipal AAA index or the OAS of the Bloomberg Index. As of 31 Jan, 2023.
Past performance is not a reliable indicator of future results.

Lower rated credit underperforms in 2022

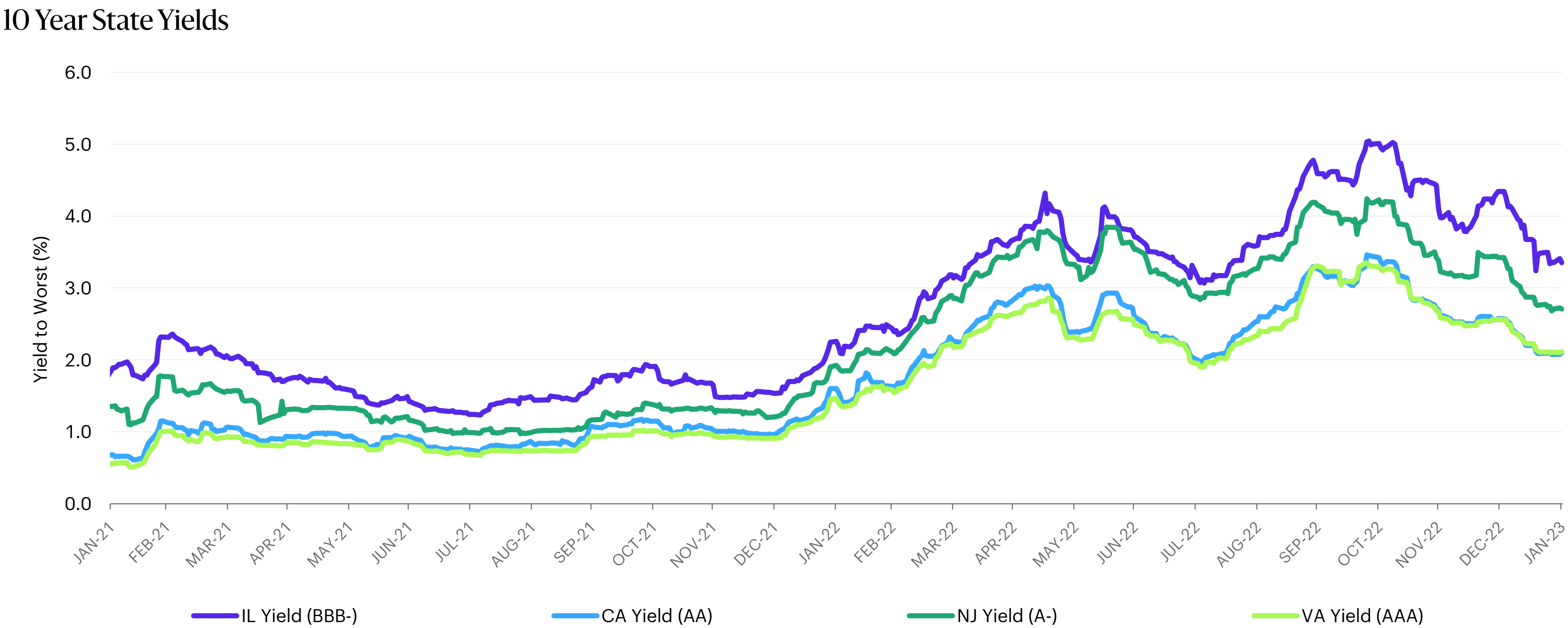
November/December rally pushes Q4 returns positive; YTD 2022 still negative

- The substantial move higher in rates has driven negative returns across all fixed income categories.
- Analyzing both relative value and fundamental trends is important to navigate spread volatility.
- Outflows persist in 2022, driving prices lower and yields higher. The High Yield space was hit especially hard during the year.

JAN 2022	FEB 2022	MARCH 2022	APRIL 2022	MAY 2022	JUNE 2022	JULY 2022	AUG 2022	SEPT 2022	OCT 2022	NOV 2022	DEC 2022	JAN 2023
A -2.66%	HY -0.23%	AA -3.17%	AAA -2.58%	AA 1.65%	AA -1.50%	HY 3.73%	A -2.04%	AA -3.65	AAA -0.47	HY 5.82	A 0.43	HY 4.44
AA -2.72%	AAA -0.26%	AAA -3.20%	AA -2.77%	AAA 1.59%	AAA -1.52%	BBB 3.36%	AAA -2.19%	AAA -3.78	AA -0.65	BBB 5.66	AA 0.28	BBB 3.76
AAA -2.79%	AA -0.30%	A -3.27%	A -2.77%	A 1.24%	A -1.77%	AA 2.59%	AA -2.22%	A -3.98	A -1.23	A 4.82	AAA 0.19	A 3.09
HY -2.80%	A -0.47%	HY -3.61%	BBB -3.12%	HY 1.10%	BBB -2.37%	A 2.58%	HY -2.22%	BBB -4.83	BBB -1.72	AAA 4.58	BBB 0.04	AA 2.74
BBB -2.98%	BBB -0.60%	BBB -3.70%	HY -3.55%	BBB 0.95%	HY -3.19%	AAA 2.54%	BBB -2.48%	HY -6.16	HY -2.05	AA 4.53	HY -0.16	AAA 2.63

Source: Allspring, Bloomberg Bond Indices, Monthly index total return by rating tier. As of 31 Jan, 2023.
Past performance is not a reliable indicator of future results.

State yields and spreads



- Credit spreads widened throughout 2022 due to rising rates and outflows.
- Lower quality state GO spreads have widened since 12/31/21. Illinois (BBB-): +61 bps; New Jersey (A-): +30 bps.
- Dispersion in spreads between credits offers increased bond selection opportunities as the trading relationships among securities move.

Source: Allspring, Bloomberg, yields as of 31 Jan, 2023.

Perspective on quality and defaults

$4 trillion municipal market remains a highly rated market with average index ratings of AA-. Still we view it as a credit market given economic cyclicality and additional risks such as pension underfunding.

Defaults have occurred, but at a very small rate relative to the overall municipal market[1]

	DEFAULTED PAR ($B)
2009	$5.1B
2010	$3.3B
2011	$6.5B
2012	$1.7B
2013	$9.8B
2014	$9.3B
2015	$1.8B
2016	$1.2B
2017	$0.8B
2018	$3.6B
2019	$3.7B
2020	$5.2B
2021	$2.9B
2022 YTD	$3.5B

Comparative default rates for municipal and corporate debt[2]

	MUNICIPAL (%)	CORPORATE (%)
AAA	0.00	1.14
AA	0.04	1.38
A	0.14	2.56
BBB	0.95	5.57
BB	4.54	17.28
B	11.41	29.35
CCC/C[3]	38.61	58.43
Investment-Grade	0.24	3.44
Speculative-Grade	8.44	26.55

- Historically, a BBB municipal bond has a cumulative default rate less than a AAA corporate bond
- Credit fundamentals in the municipal market supports attractive risk-adjusted returns
- Credit decision is a large driver of the crossover investment decision

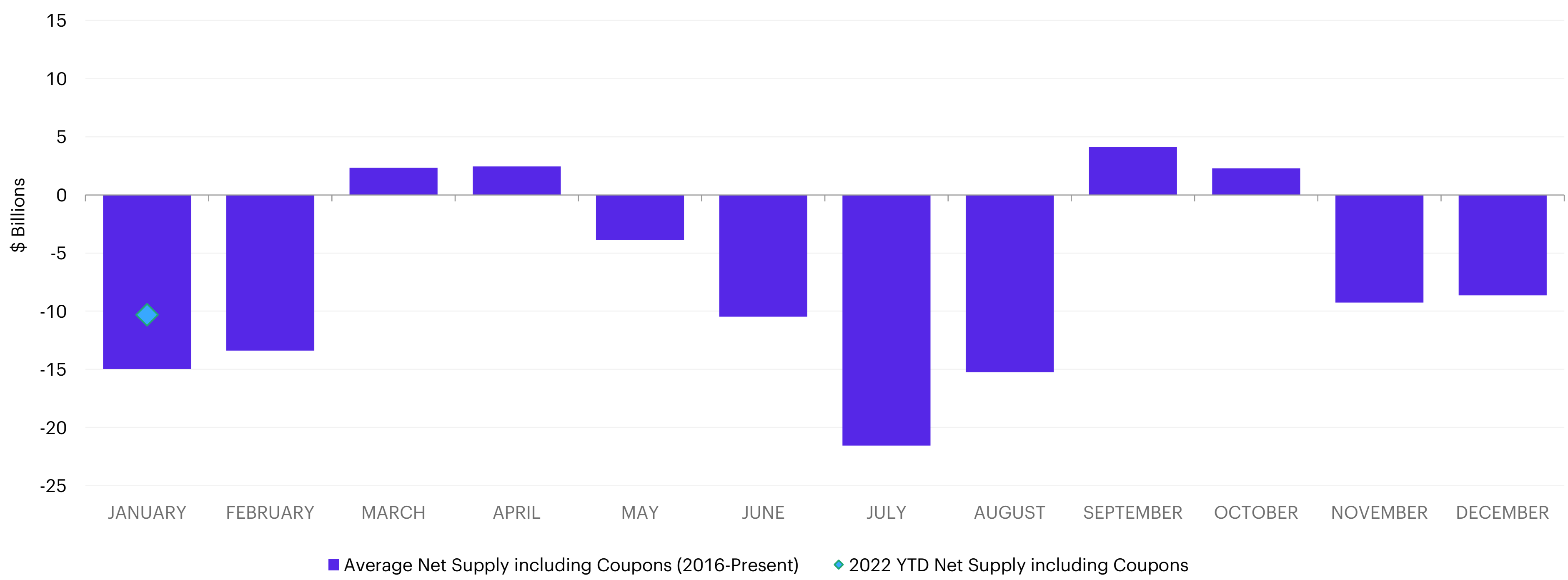
1 Source: Municipal Market Advisors as of 31 Jan, 2023. Note figures exclude Puerto Rico issuer defaults. 2 Source: Standard and Poor's. For municipal defaults, S&P's study period was 1 Jan., 1986, to 1 Jan., 2022 (dated 25/1/2022). For corporate defaults, S&P's study period was 1 Jan., 1981 to 1 Jan., 2022 (dated 05 Nov, 2022). The calculation represents a 15 year cumulative default rate. 3 S&P's study calculations include all ratings in the C category, from CCC to C.

Market supply and demand technicals

Cash flow seasonality

- Cash flows (the difference between new issuance and maturing bonds/called bonds/coupons) can reflect the technical strength in the municipal market wherein periods of strong net negative cash flows support municipals valuations as asset managers must reinvest principal and interest income received back into the market.
- Historically, market technicals strengthen in December and January when net supply is negative.

Municipal Net Supply (2016 - 2023)

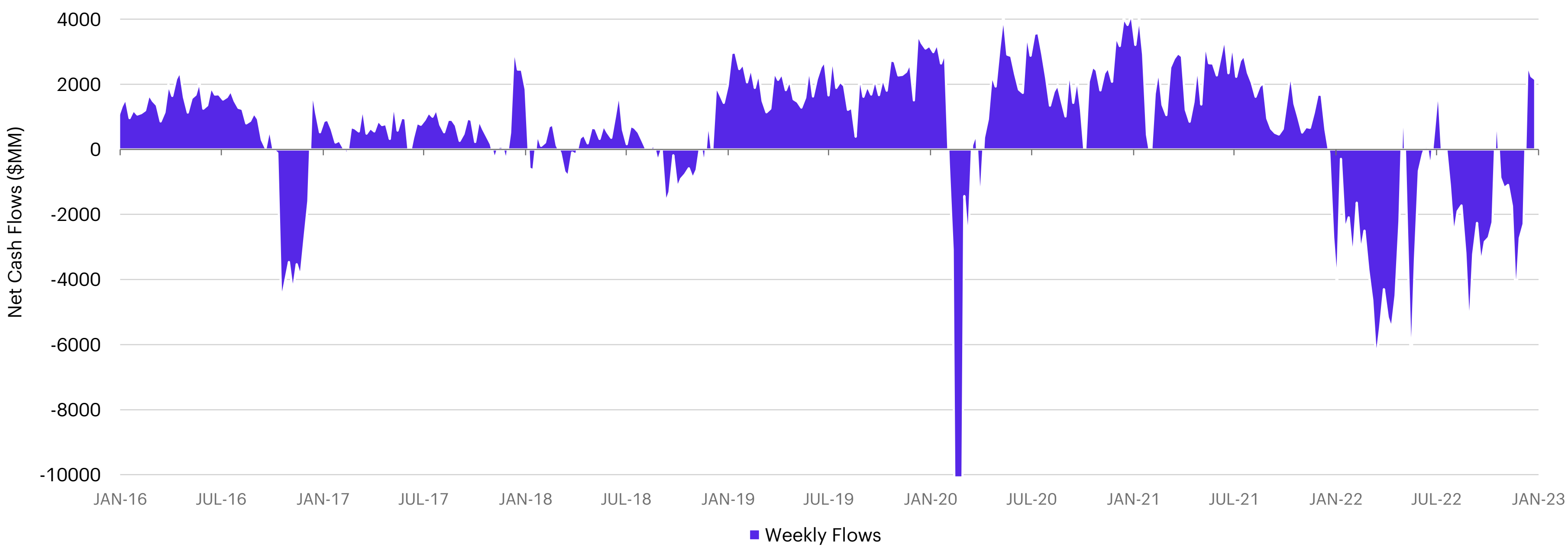


Source: Allspring, Siebert Williams Shank & Co., As of 31 Jan, 2023. Cash flows = new issues – (bond calls + maturing bonds + coupons); average cash flows 2016-2022.
Past performance is not a reliable indicator of future results.

Municipal demand characteristics

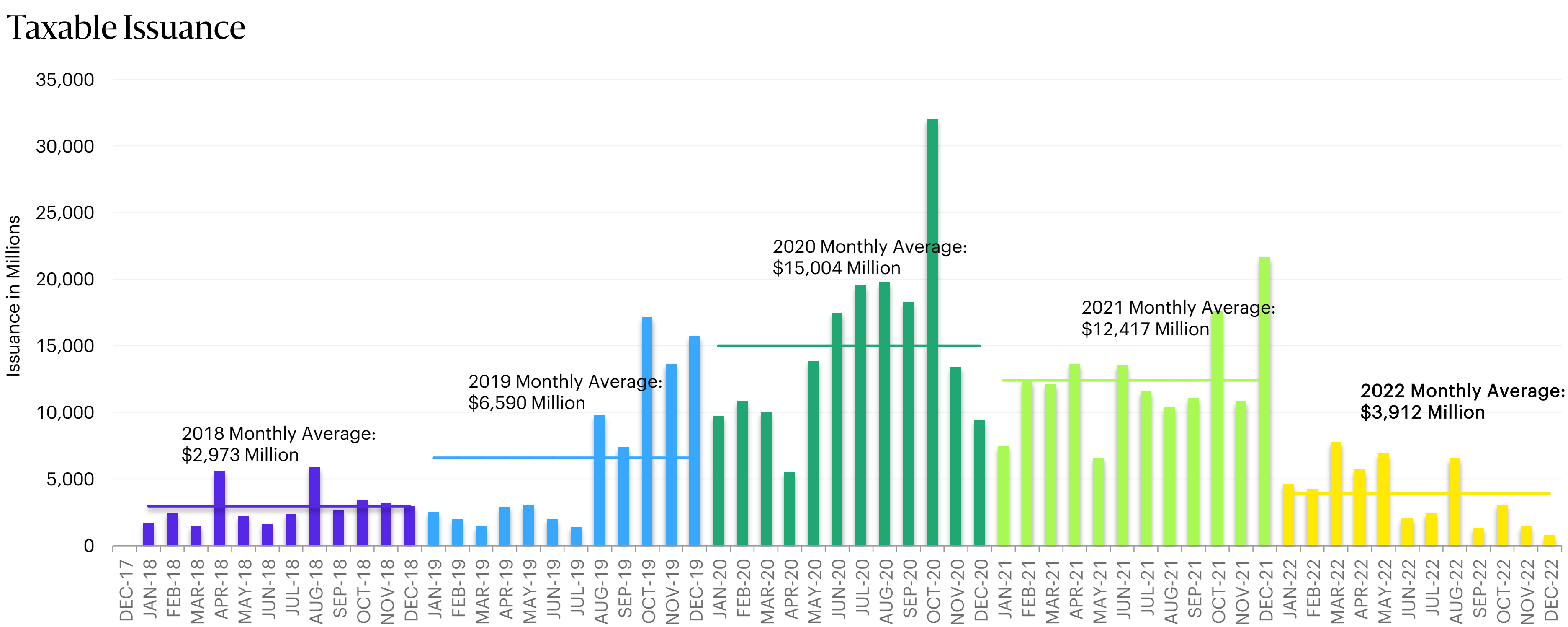
- Record levels of municipal outflows occurred in CY 2022 (-$124B) as the Fed continued to raise rates and tighten monetary supply.
- Municipal mutual fund and ETF flows have a positive relationship with bond prices. As bond prices fall, money tends to flow out of mutual funds. As prices rise, inflows reemerge to chase the returns.
- Historically, extreme outflows from municipal funds and ETFs have proven to be good entry points.

ICI Municipal Bond Long-Term Mutual Fund and ETF Flows



Source: Allspring, Bloomberg, ICI as of 31 Jan, 2023.

Taxable municipal issuance has moderated



- Taxable issuance hit a record $180B in 2020, up 112% from 2019 levels
- 2022 taxable issuance is over 50% below 2021 levels.
- Advance refunding of a tax-exempt municipal using a new tax-exempt bond was disallowed by tax reform.
- More attractive tax-exempt yields may further pressure taxable issuance and demand.

Source: Allspring, Siebert Williams Shank & Co., As of 31 Dec, 2022.

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