



Debt Issuance & Management in the Current Bond Market

Oregon Association of County Treasurers and Finance Officers

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Overview

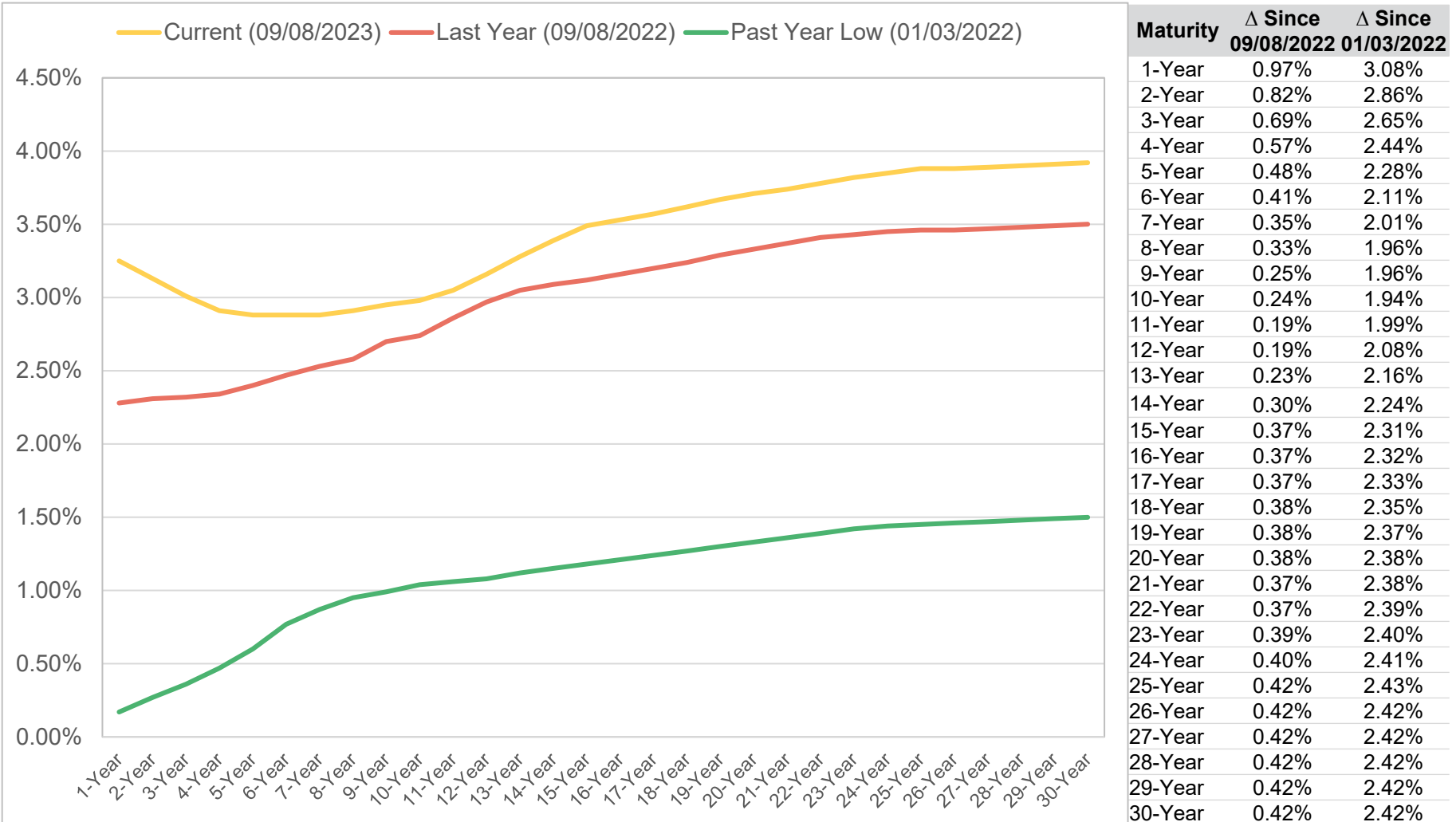
- I. Market Update
- II. New Money Debt
- III. Refunding Opportunities
- IV. Rating Agency Update



I. Market Update



Recent AAA MMD Yield Curve Movement



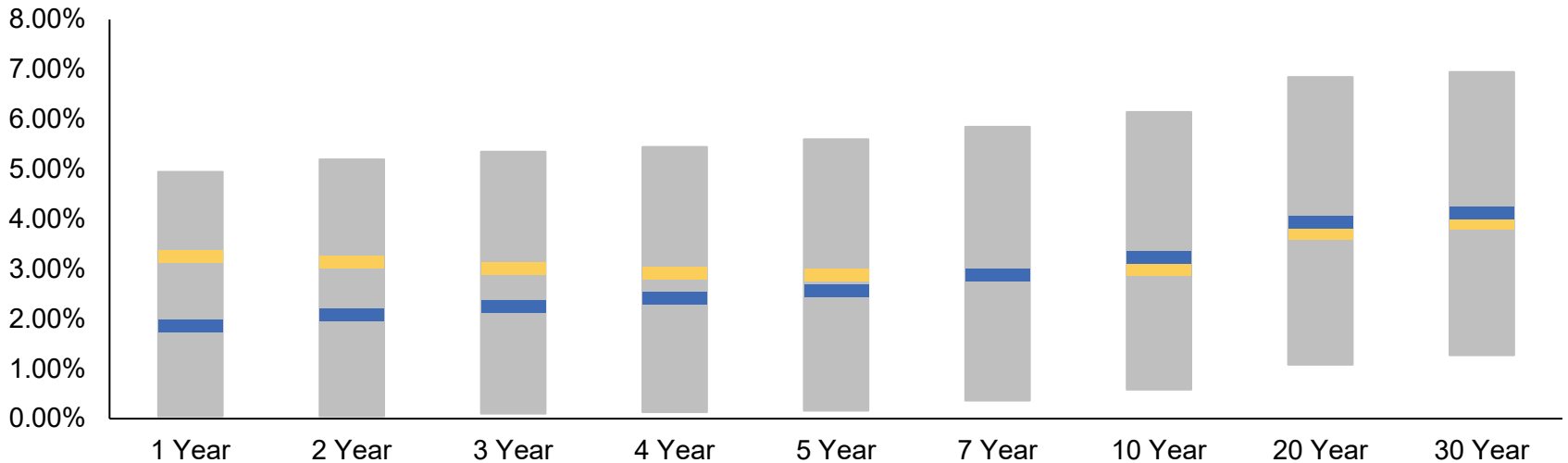
Source: Thomson Reuters



Historical AAA MMD Position

**AAA MMD Rate Position
(30-Year History)**

■ MMD Range ■ MMD Current ■ MMD Average

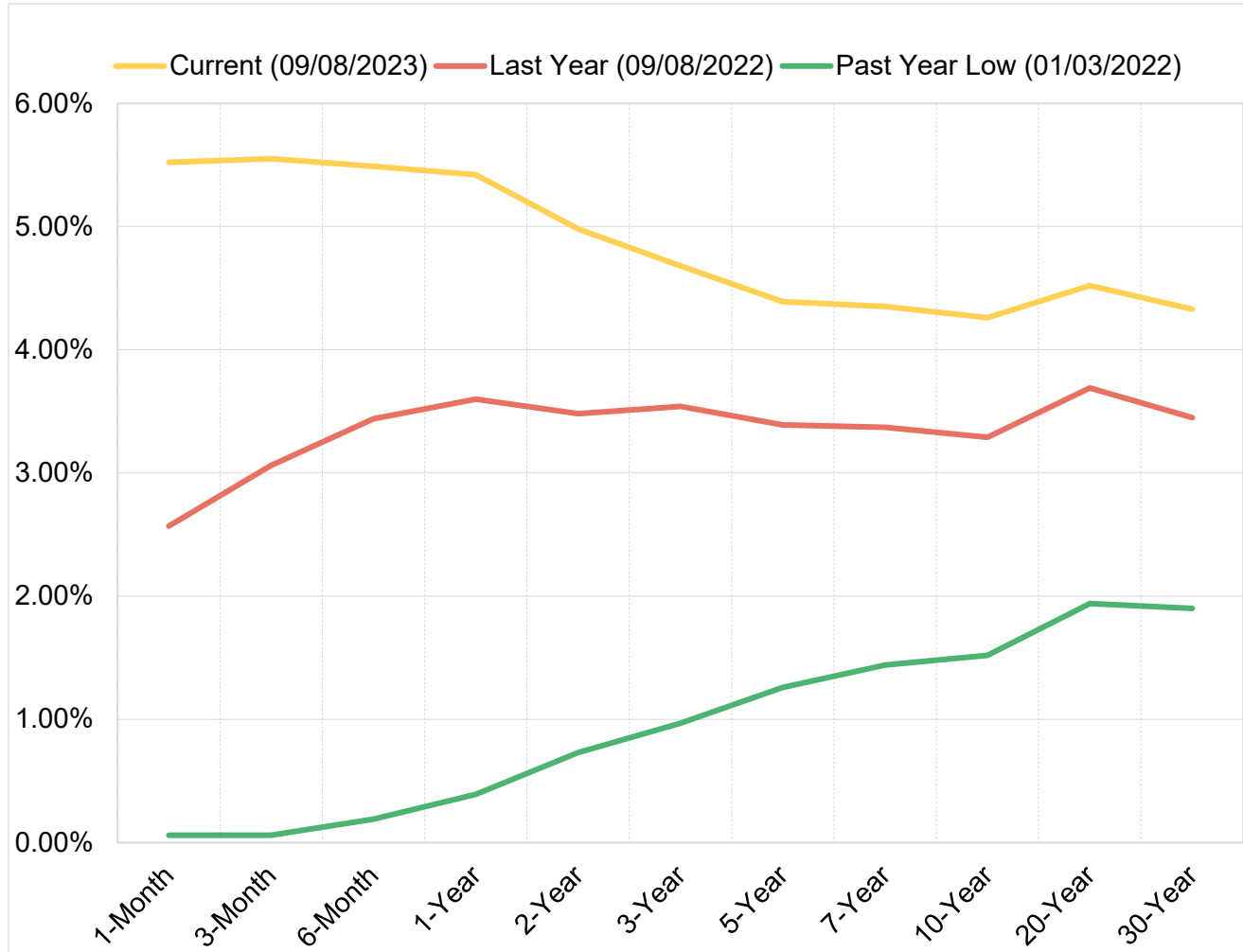


Statistic	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year	15 Year	20 Year	25 Year	30 Year
9/8/2023	3.25%	3.13%	3.01%	2.91%	2.88%	2.88%	2.98%	3.49%	3.71%	3.88%	3.92%
Average	1.85%	2.08%	2.25%	2.41%	2.57%	2.87%	3.23%	3.67%	3.93%	4.07%	4.12%
Spread to Avg.	1.40%	1.05%	0.76%	0.50%	0.31%	0.01%	(0.25%)	(0.18%)	(0.22%)	(0.19%)	(0.20%)
Minimum	0.05%	0.05%	0.10%	0.13%	0.16%	0.36%	0.58%	0.88%	1.08%	1.22%	1.27%
Spread to Min.	3.20%	3.08%	2.91%	2.78%	2.72%	2.52%	2.40%	2.61%	2.63%	2.66%	2.65%
Maximum	4.95%	5.20%	5.35%	5.45%	5.60%	5.85%	6.15%	6.65%	6.85%	6.90%	6.95%
Spread to Max.	(1.70%)	(2.07%)	(2.34%)	(2.54%)	(2.72%)	(2.97%)	(3.17%)	(3.16%)	(3.14%)	(3.02%)	(3.03%)
Percent of Market Days Lower	73.30%	67.29%	64.54%	60.23%	56.77%	49.58%	44.80%	43.97%	40.17%	39.19%	39.05%

Source: Thomson Reuters



Recent U.S. Treasury Yield Curve Movement



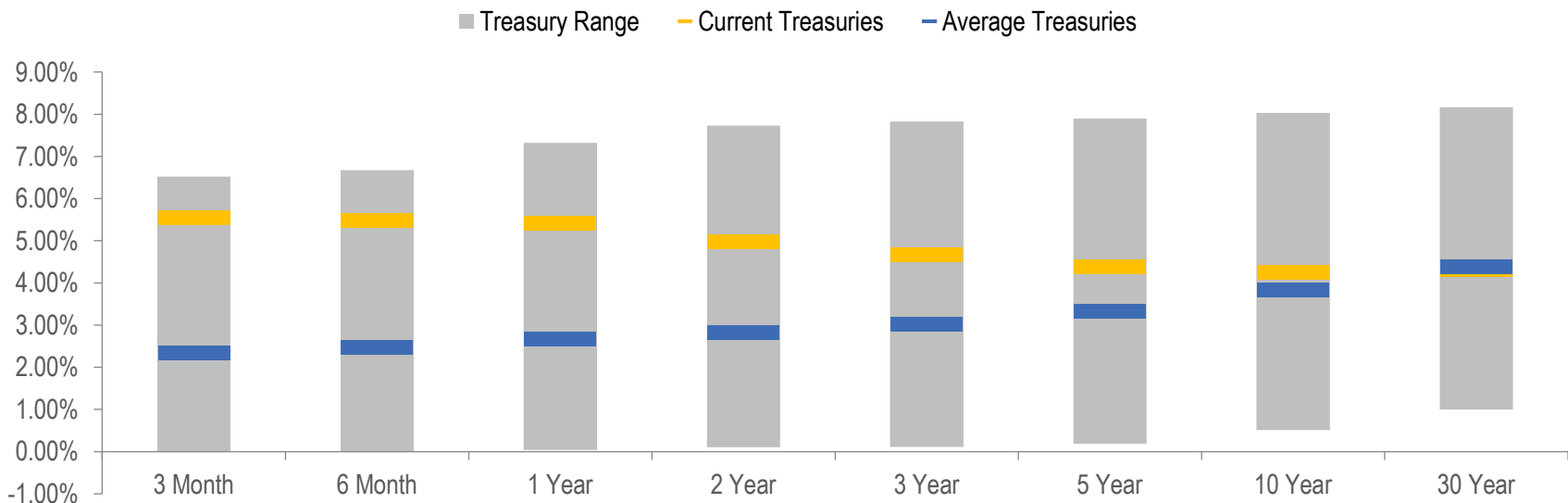
Maturity	Δ Since 09/08/2022	Δ Since 01/03/2022
1-Month	2.95%	5.46%
3-Month	2.49%	5.49%
6-Month	2.05%	5.30%
1-Year	1.82%	5.03%
2-Year	1.50%	4.25%
3-Year	1.14%	3.71%
5-Year	1.00%	3.13%
7-Year	0.98%	2.91%
10-Year	0.97%	2.74%
20-Year	0.83%	2.58%
30-Year	0.88%	2.43%

Source: Thomson Reuters



Historical U.S. Treasury Position

**U.S. Treasury Rate Position
(30-Year History)**

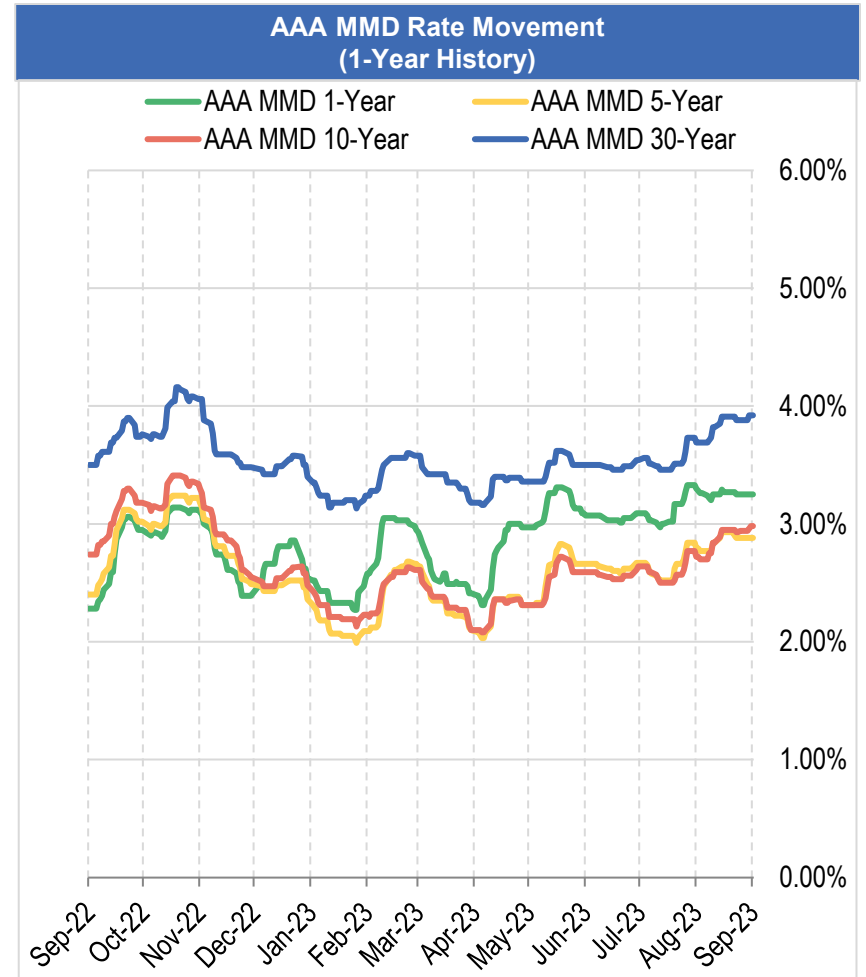
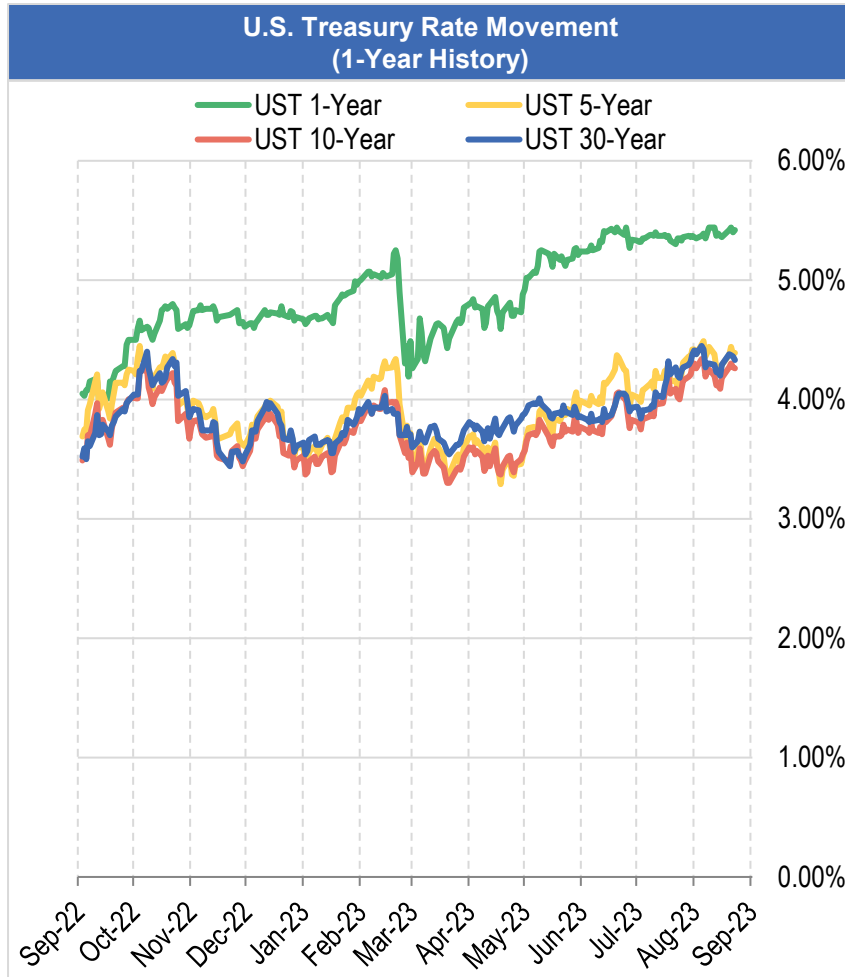


Statistic	3 Month	6 Month	1 Year	2 Year	3 Year	5 Year	10 Year	30 Year
9/8/2023	5.55%	5.49%	5.42%	4.98%	4.68%	4.39%	4.26%	4.33%
Average	2.33%	2.47%	2.67%	2.81%	3.02%	3.33%	3.84%	4.38%
Spread to Avg.	3.22%	3.02%	2.75%	2.17%	1.66%	1.06%	0.42%	-0.05%
Minimum	-0.09%	0.00%	0.04%	0.10%	0.11%	0.19%	0.51%	1.00%
Spread to Min.	5.64%	5.49%	5.38%	4.88%	4.57%	4.20%	3.75%	3.33%
Maximum	6.44%	6.68%	7.32%	7.73%	7.83%	7.90%	8.03%	8.16%
Spread to Max.	-0.88%	-1.19%	-1.90%	-2.75%	-3.15%	-3.51%	-3.77%	-3.83%
Percent of Market Days Lower	94.24%	90.94%	85.65%	78.53%	74.13%	67.13%	60.01%	46.68%

Source: Thomson Reuters



U.S. Treasury & AAA MMD Rate Movement



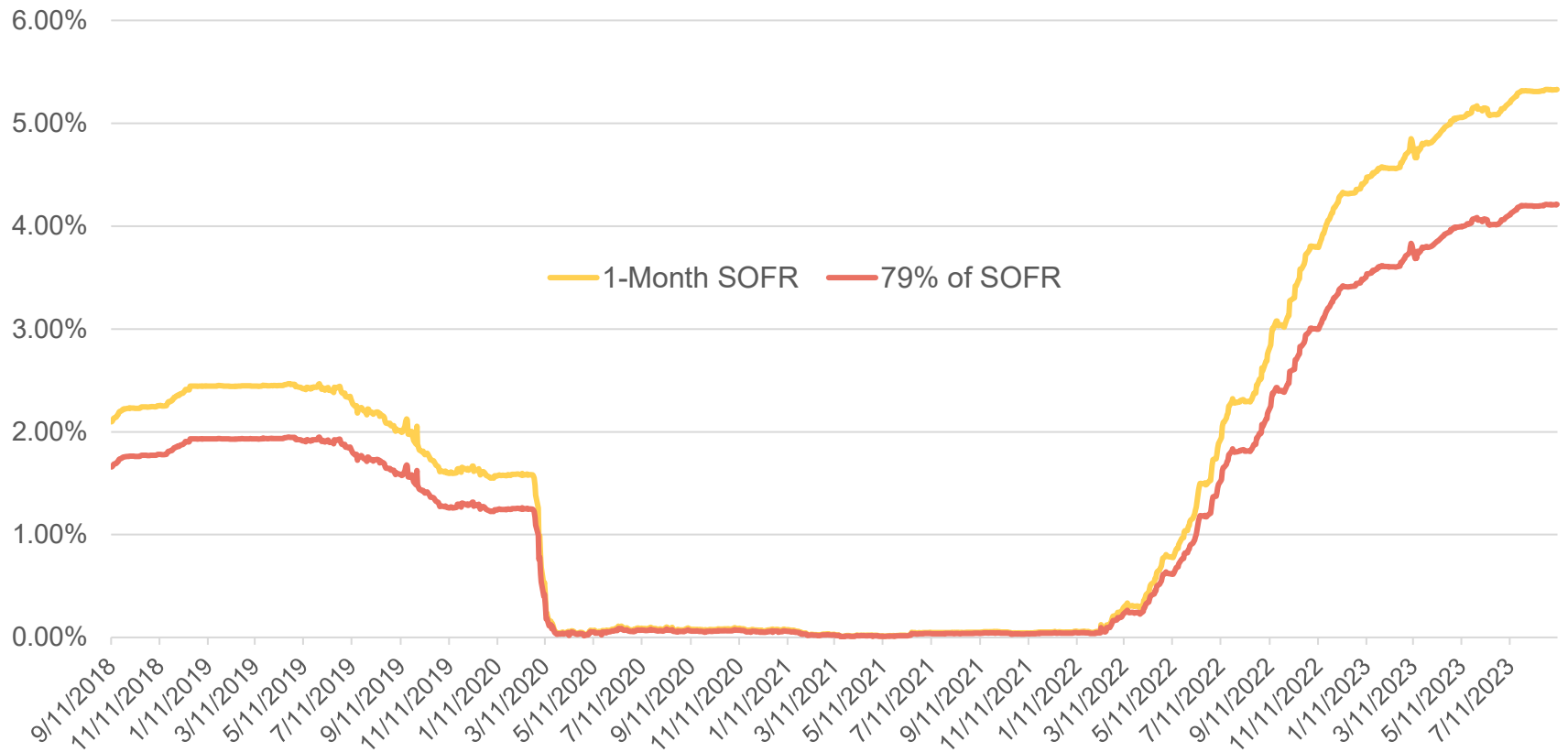
Source: Thomson Reuters



Short-Term Interest Rate Movement

- Term SOFR (Secured Overnight Financing Rate) has emerged as a popular alternative to LIBOR

1-Month SOFR and Tax-Exempt Equivalent (5-Year History)

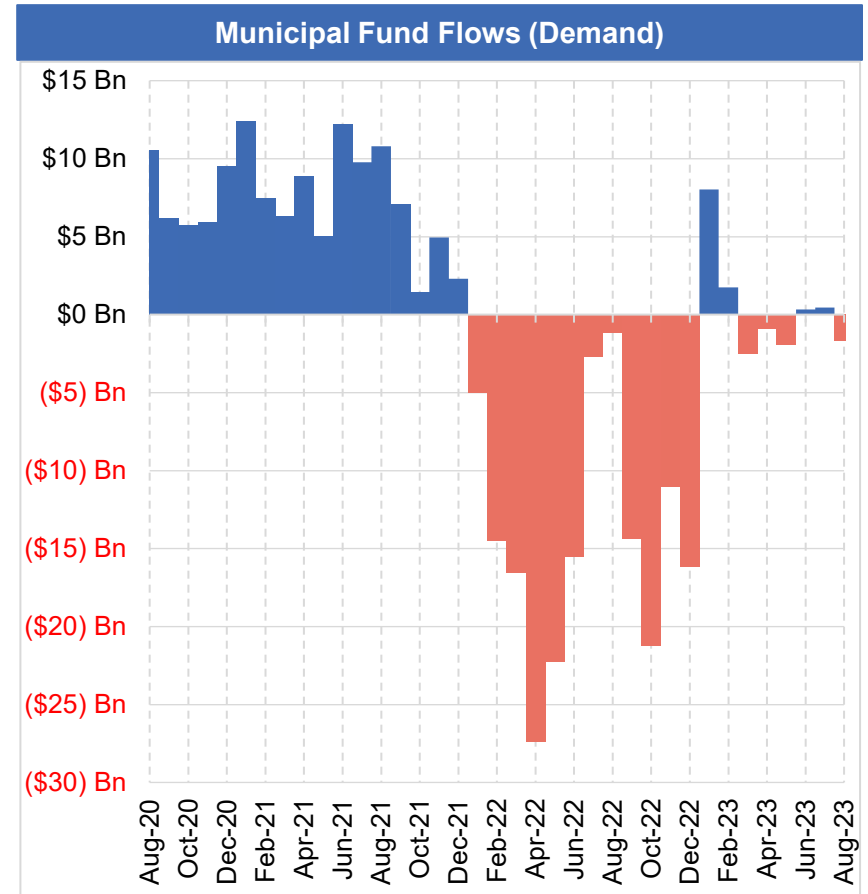
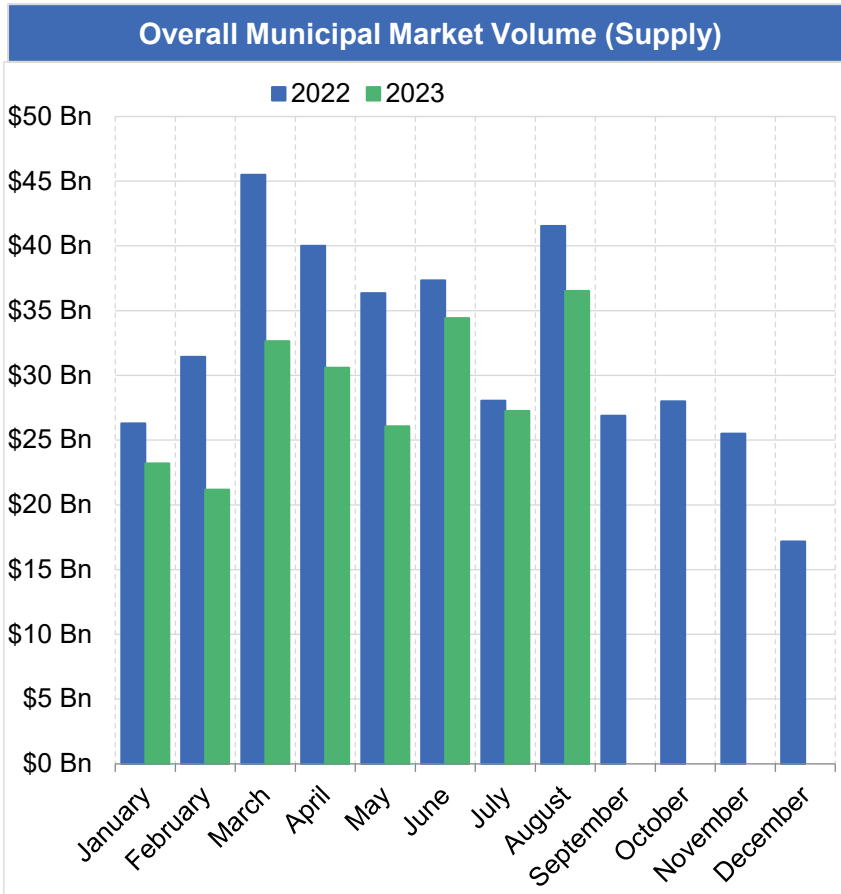


Source: Bloomberg



Municipal Market Supply & Demand

- Year-to-date new municipal bond volume was 19% lower through August vs. 2022



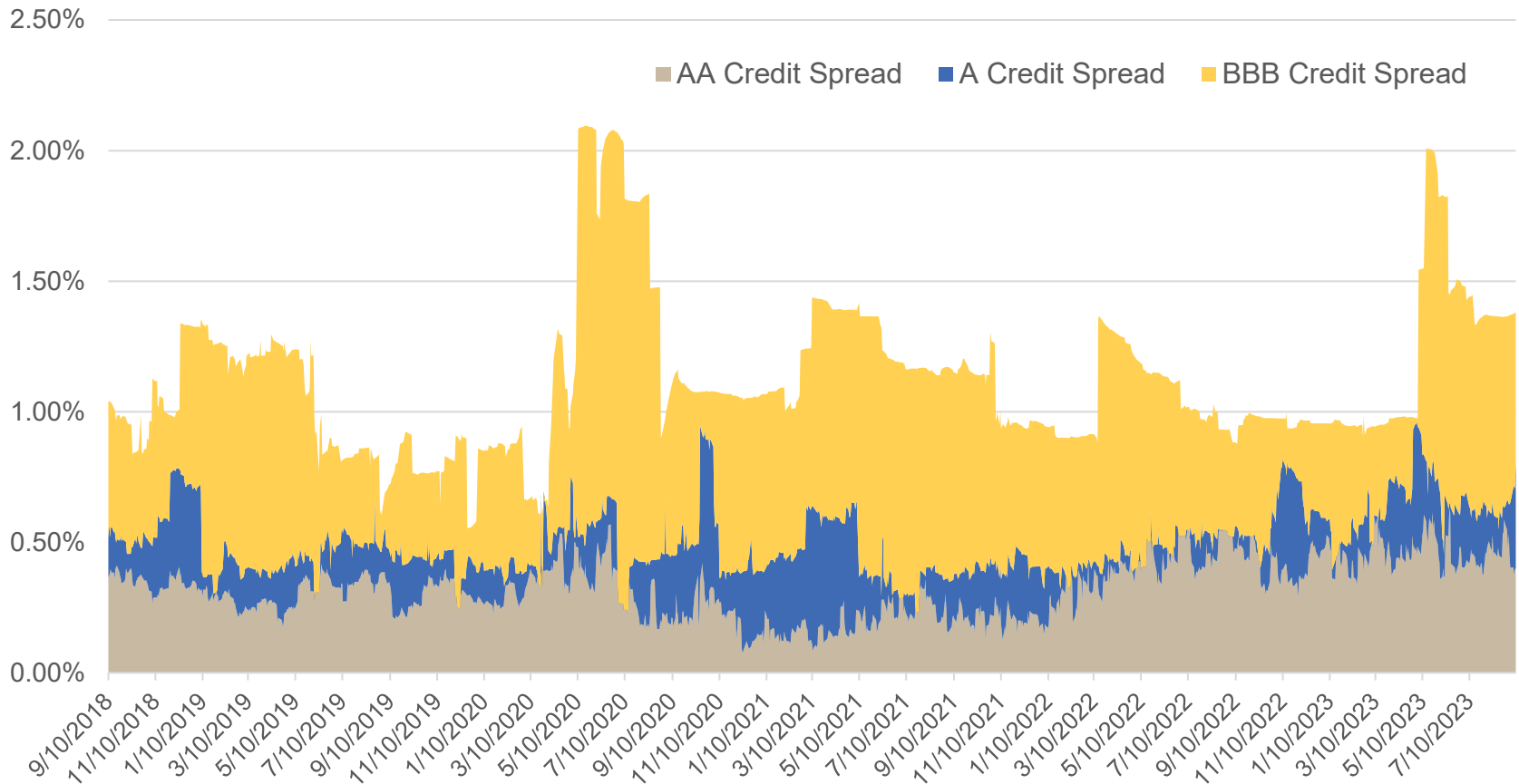
Source: Bond Buyer, Investment Company Institute



Credit Spreads

- Credit spreads have increased vs. pandemic-era lows

20 Year BVAL Credit Spreads (5-Year History)



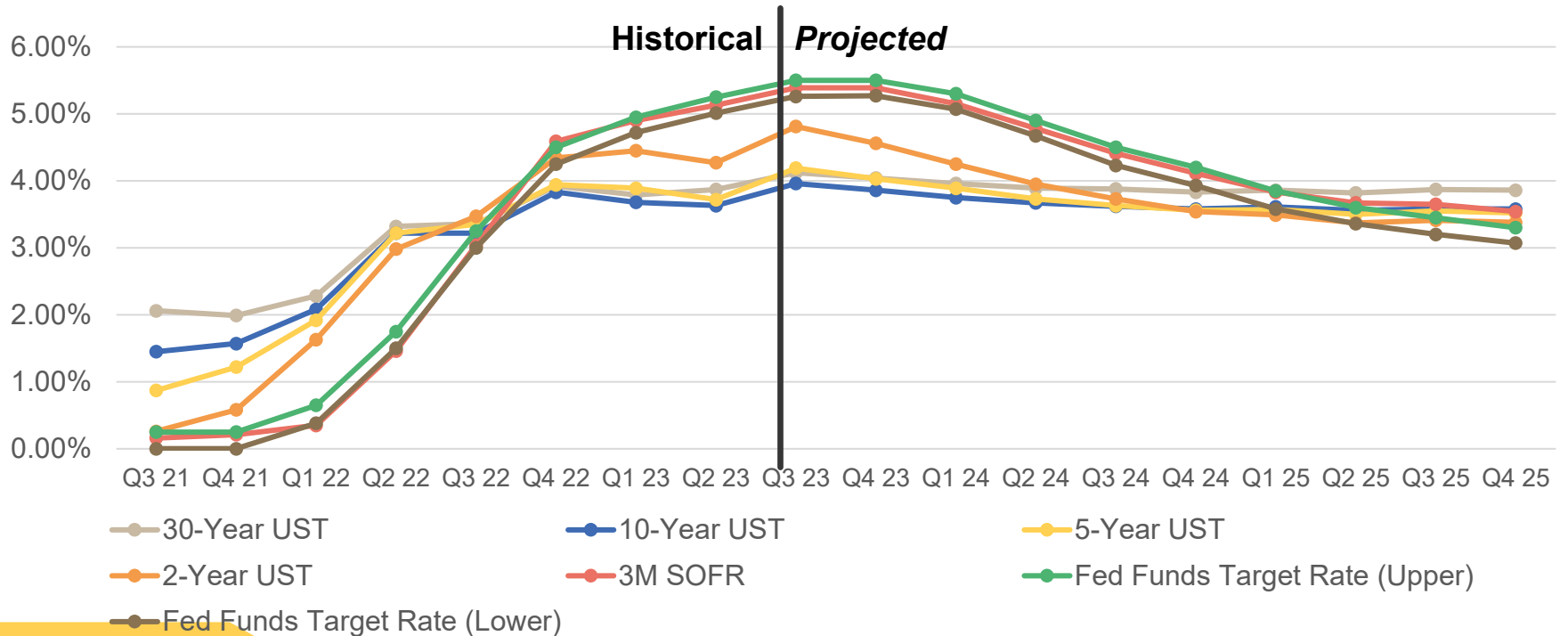
Source: Bloomberg. BVAL AA GO, A GO, and BBB GO vs. AAA BVAL Index.



Historical and Forecasted Interest Rates

The charts below show consensus forecasts from numerous financial institutions as reported by Bloomberg.

Bloomberg Bond Yield Forecast										
Average Forecasts	Current	Q3 23	Q4 23	Q1 24	Q2 24	Q3 24	Q4 24	Q1 25	Q2 25	Q3 25
30-Year UST	4.37%	4.12%	4.04%	3.96%	3.89%	3.88%	3.83%	3.86%	3.82%	3.87%
10-Year UST	4.25%	3.96%	3.86%	3.75%	3.67%	3.62%	3.58%	3.61%	3.56%	3.58%
5-Year UST	4.37%	4.19%	4.03%	3.89%	3.73%	3.63%	3.56%	3.57%	3.50%	3.55%
2-Year UST	4.93%	4.81%	4.56%	4.25%	3.95%	3.73%	3.54%	3.49%	3.37%	3.41%
3M SOFR	5.39%	5.39%	5.39%	5.15%	4.78%	4.41%	4.11%	3.83%	3.67%	3.65%
Fed Funds Target Rate (Upper)	5.50%	5.50%	5.50%	5.30%	4.90%	4.50%	4.20%	3.85%	3.60%	3.45%
Fed Funds Target Rate (Lower)	5.25%	5.26%	5.27%	5.07%	4.67%	4.23%	3.93%	3.58%	3.36%	3.20%





II. New Money Debt



Interim Financing

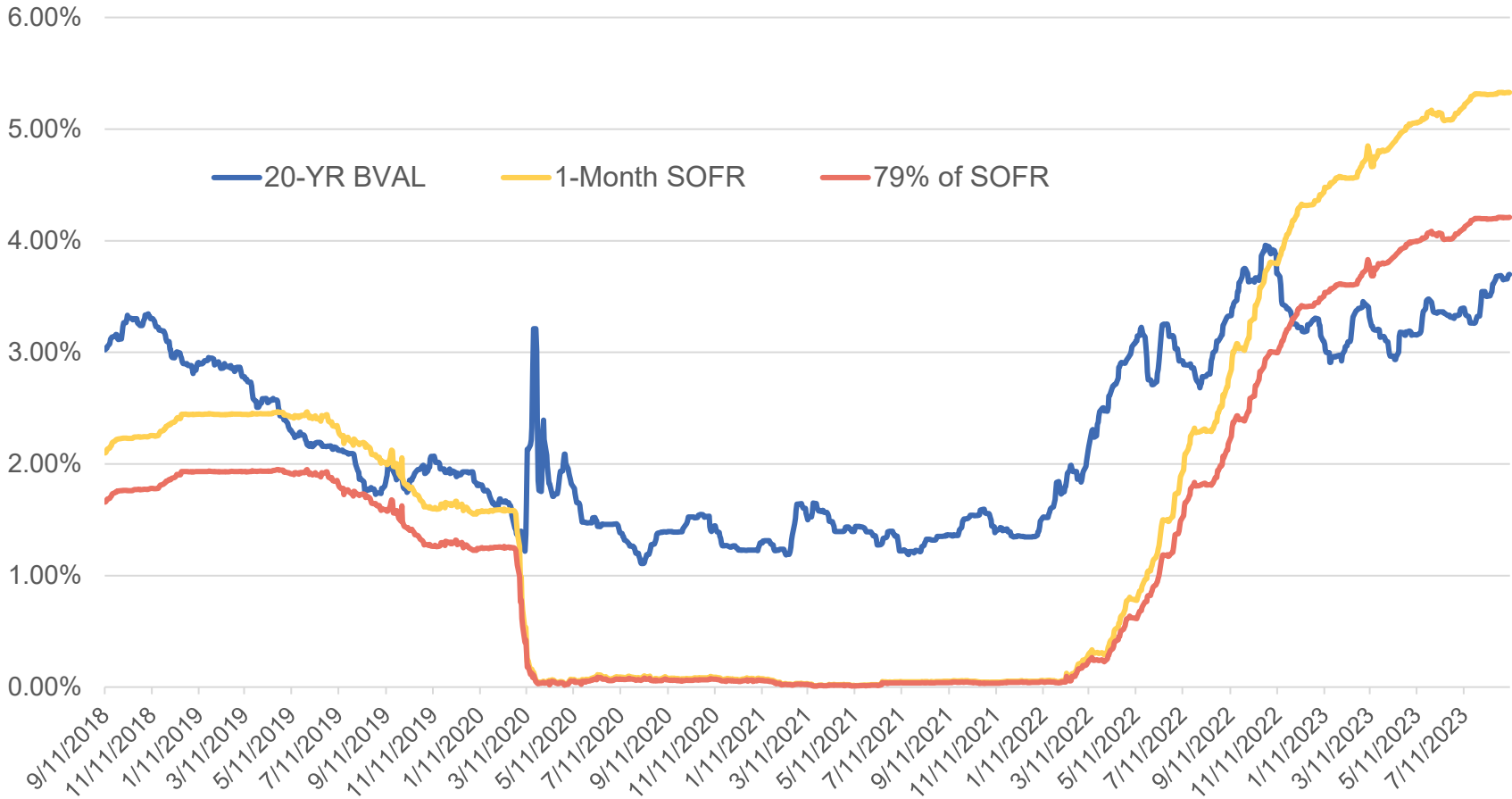
- Due to the relatively flat yield curve, short-term financing may no longer provide an interest rate benefit
- As of September 8:
 - 20-year BVAL: **3.70%**
 - 1-month term SOFR: 5.33%
 - 79% of 1-month SOFR (tax-exempt equivalent): **4.21%**
- Interim financing may still be appropriate for other reasons, such as:
 - Uncertainty regarding total project costs
 - Uncertainty regarding other funding sources (e.g. grants)
 - In situations where funding is needed very quickly
 - Traditional cash-flow borrowings (tax anticipation notes, grant anticipation notes)

Source: Bloomberg



Long-Term vs. Short-Term Borrowing Rates

20-Year BVAL vs. SOFR (5-Year History)



Source: Bloomberg

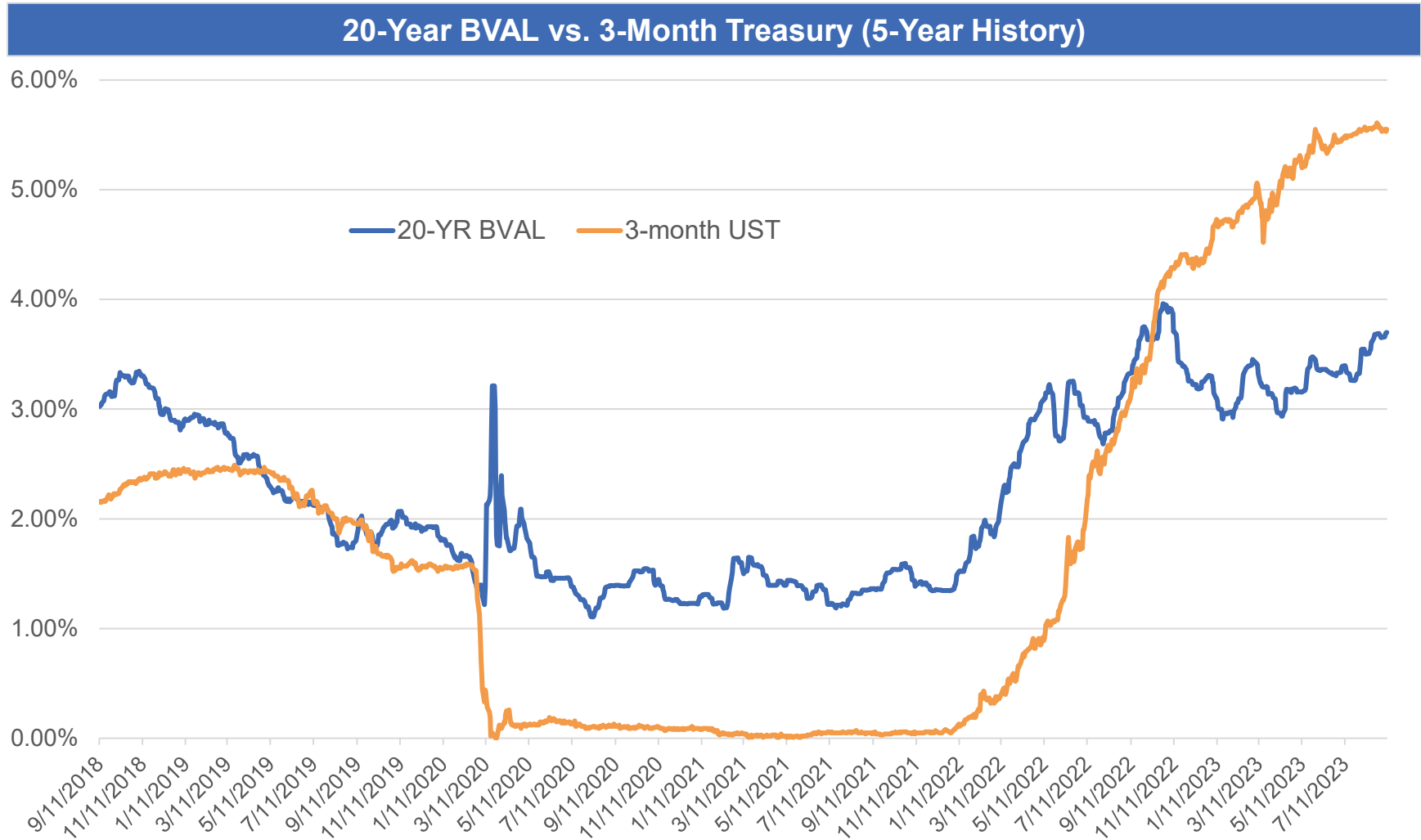


Long-Term Debt: Timing Considerations

- Short-term reinvestment (Treasury) rates may offer a compelling reason to issue long-term debt sooner
- As of September 8:
 - 20-year BVAL: **3.70%**
 - 3-month U.S. Treasury: **5.55%**
- Interest earnings in the project fund may offset (or even exceed) added interest costs associated with early borrowing
 - Issuing earlier instead of later can also reduce interest rate risk
- As always, consult with bond counsel to determine tax compliance and consider arbitrage rebate implications
- Uncertainty regarding project cost, scope, or timing may also offer a compelling reason to wait



Long-Term Borrowing Rates vs. Short-Term Reinvestment Rates



Source: Bloomberg



Arbitrage Rebate

- Arbitrage is earned when the proceeds of a tax-exempt or tax-advantaged bond issue are used to acquire investments that earn a yield in excess of the bond yield (or arbitrage yield)
 - Unless an exemption can be applied, excess earnings must be rebated to the IRS

Arbitrage Rebate	Gross Proceeds	Yield Restriction
Subject to rebate from issue date, <i>unless</i> : <ul style="list-style-type: none"> • Exempt if a spending exception is met (6-month, 18-month, or 2-year) • Exempt if the issue qualifies as “small issuer” 	Project Fund and Capitalized Interest	<ul style="list-style-type: none"> • Generally, a 3-year temporary period applies (5-years with certification for a longer period if necessary) • Temporary period can be waived • Yield restricted at the bond yield + 0.125% after temporary period expires
Subject to rebate from issue date, <i>unless</i> : <ul style="list-style-type: none"> • Exempt if the issue qualifies as “small issuer” 	Reserve Fund	<ul style="list-style-type: none"> • Exempt from yield restriction if qualified as a reasonably required reserve or replacement fund in size • If failed in size, yield restricted at the bond yield + 0.001%
Subject to rebate from issue date, <i>unless</i> : <ul style="list-style-type: none"> • Exempt if the issue qualifies as “small issuer” • Exempt if the 6-month spending exception is met (for Escrow funded with sale proceeds) 	Escrow or Defeasance Fund	<ul style="list-style-type: none"> • Yield restricted at the bond yield + 0.001% after the end of the applicable temporary period (can be waived): <ul style="list-style-type: none"> • Advance Refunding: 30 days • Current Refunding: 90 days
Subject to rebate from issue date, <i>unless</i> : <ul style="list-style-type: none"> • Exempt if the issue qualifies as “small issuer” • Exempt if a spending exception is met 	Cost of Issuance	<ul style="list-style-type: none"> • For new money issues, a 3-year temporary period applies • For refunding issues, a 13-month temporary period applies
Subject to rebate, <i>unless</i> : <ul style="list-style-type: none"> • Exempt from rebate if qualified as a bona fide debt service fund (generally depleted annually) • If not bona fide, subject to rebate 	Bond Fund/ Debt Service Fund	<ul style="list-style-type: none"> • Exempt from yield restriction if qualified as a bona fide debt service fund (generally depleted annually) • If not bona fide, yield restricted at the bond yield + 0.001%
Subject to rebate from date of deposit, <i>unless</i> : <ul style="list-style-type: none"> • Exempt if the issue qualifies as “small issuer” 	Other Pledged Fund	<ul style="list-style-type: none"> • Yield restricted at the bond yield + 0.001% • 30-day temporary period for replacement proceeds may apply; otherwise subject to yield restriction from date of deposit



Arbitrage Rebate

- There are two major exceptions to arbitrage rebate, **size-based** and **time-based**:
 - **Small issuer exception**: if the issuer has governmental taxing powers and reasonably expects to issue no more than \$5,000,000 face amount of tax-exempt bonds during the calendar year that the bonds are issued
 - The calendar year “small issuer” threshold is increased to \$15,000,000 for public school construction issues
- There are the 6-month, 18-month, and 2-year **spending exceptions** to arbitrage rebate
 - 6-month spending exception is available to any bond issue including refunding issues
 - 18-month spending exception is available to all new money bond issues
 - 2-year spending exception is available only to “construction” issues (75% or more of proceeds will be spent on actual construction costs)

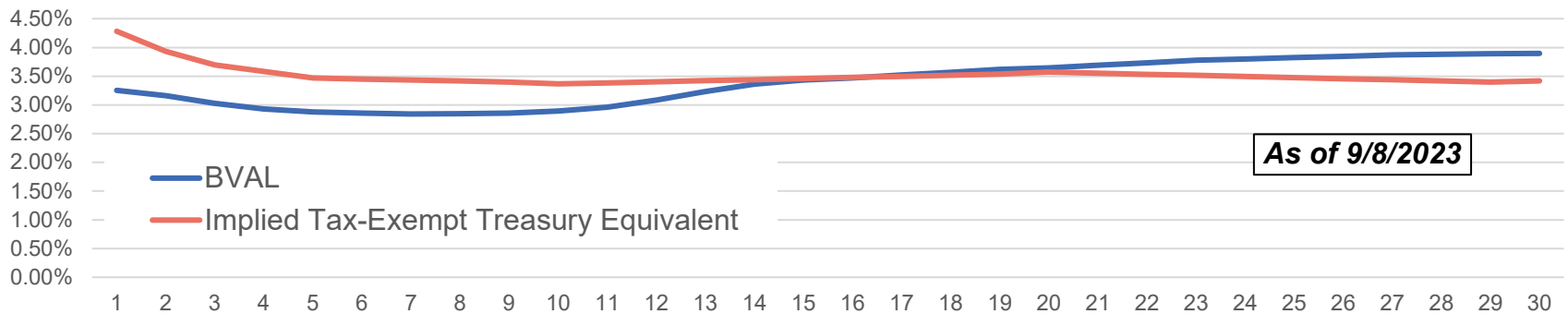
Spending Exception	6 Months	12 Months	18 Months	24 Months
6-Month All Gross Proceeds	100%			
18-Month All New Money	15%	60%	100%	
24-Month Construction Issues	10%	45%	75%	100%



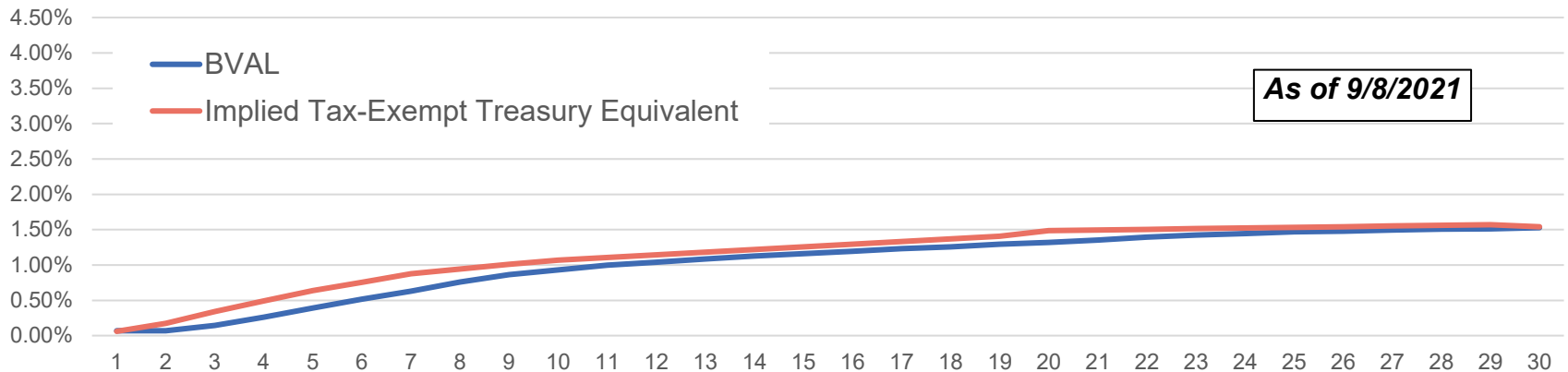
Other Considerations

- Should we pursue a bank loan or a public bond sale?

AAA BVAL vs. Treasury Yield Curve vs. 79% of Treasury Curve



As of 9/8/2023



As of 9/8/2021

Source: Bloomberg



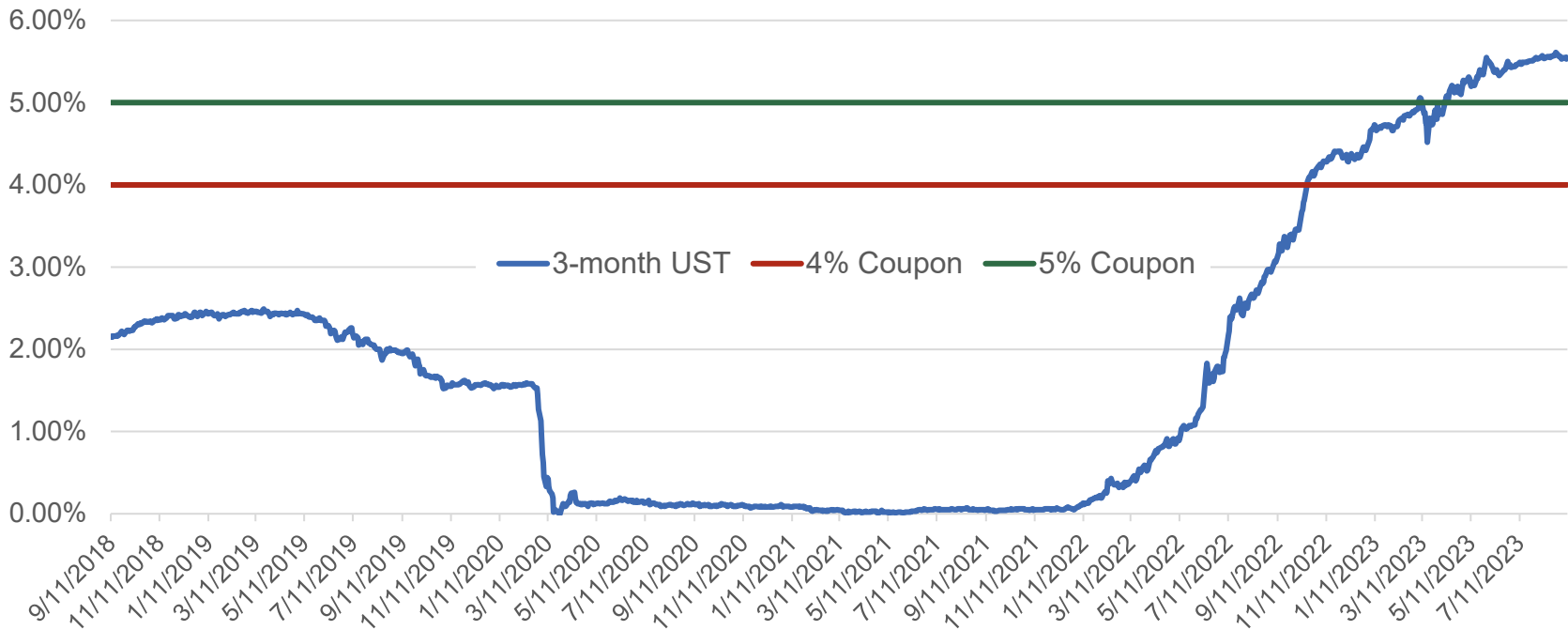
III. Refunding Opportunities



Current Tax-Exempt Refunding Benefiting from Escrow Earnings

- For currently callable bonds, an issuer can evaluate the benefit of a 90-day escrow for allowable positive arbitrage
- Short-term investment rates may be higher than the interest rate on the refunded bonds

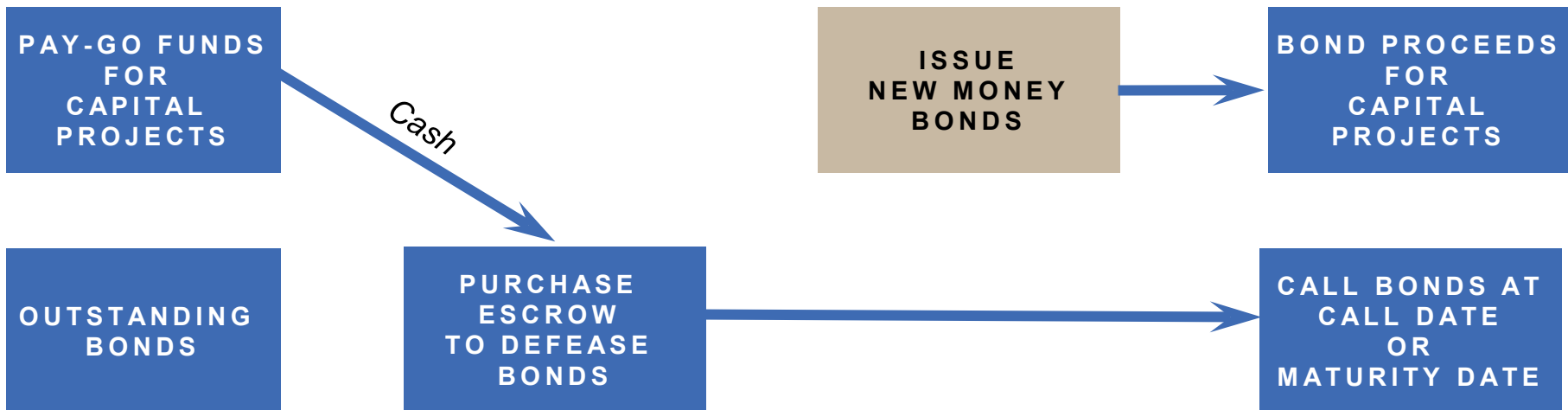
3-Month U.S. Treasury vs 4% and 5% Coupons (5-Year History)





Cash Optimization

- Cash optimization involves a re-allocation of capital to take advantage of tax-exempt municipal borrowing rates and taxable investment yields:
 - Existing pay-as-you-go capital funds are used to defease outstanding debt instead of issuing refunding bonds
 - New money capital projects are funded with tax-exempt new money bonds instead of existing cash
- *These strategies involve important tax considerations that should be reviewed with bond counsel*

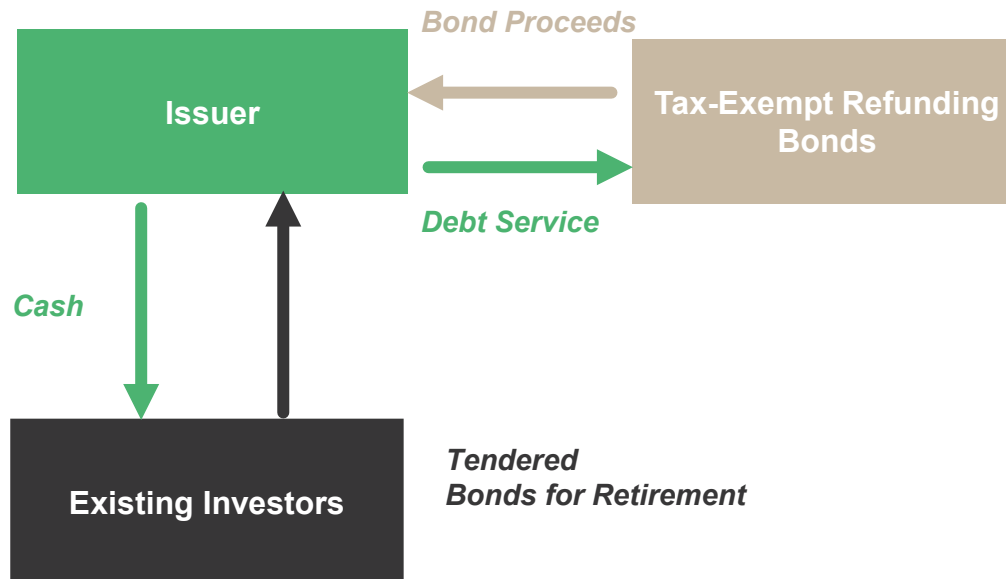




Tender or Exchange Offer

- In an open market bond tender, the issuer offers to buy back outstanding bonds from investors at market value plus a small premium
- This buyback is funded with existing cash or proceeds of new (refunding) bonds

*In a **Tender Offer**, the issuer purchases bonds from existing investors, which can be funded with bond proceeds*





IV. Rating Agency Update



Moody's Methodology Change for Cities and Counties

- In November 2022, Moody's published a new methodology for rating cities and counties
 - 345 obligors placed on review: 252 for possible upgrade and 93 for possible downgrade
 - Results: 210 upgrades, 45 downgrades, 64 confirmations, 5 mixed outcomes, 21 rating withdrawals

Key Changes

- Cities and counties are assigned an issuer rating that reflects their fundamental credit quality
- Debt instrument ratings assigned in relation to the issuer rating
- Financial performance and leverage metrics incorporate all of the issuer's governmental and business-type activities
- Revised factor weighting
- Reduced number of notching factors from 16 to 5

Previous Methodology	Previous Factor Weighting
Economy/Tax Base	30%
Finances	30%
Management	20%
Debt/Pensions	20%
New Methodology	New Factor Weighting
Economy	30%
Financial Performance	30%
Institutional Framework	10%
Leverage	30%



Public Finance Rating Trends

- All three rating agencies assigned more public finance upgrades than downgrades in 2022, and the trend has continued into 2023

Rating Changes: 2022

	Upgrades	Downgrades
S&P	737 (72%)	293 (28%)
Moody's	447 (74%)	157 (26%)
Fitch	154 (74%)	55 (26%)

Rating Changes 2023 thru Q2

	Upgrades	Downgrades
S&P*	448 (76%)	138 (24%)
Moody's**	247 (75%)	82 (25%)
Fitch*	99 (76%)	32 (24%)

* As of June 30, 2023

** As of March 31, 2023

- 54% of rating changes by Moody's (146 upgrades and 31 downgrades) in Q1 2023 were a result of a methodology change for US cities and counties
- In March of 2023, S&P placed 149 local government and public utility issuers on Credit Watch because of their failure to provide 2021 financial statements
 - In 2019, fewer than 80 actions were taken due to a lack of timely information

Sources: S&P, "Market Insights Sector Intelligence – US Public Finance", July 11, 2023; Bond Buyer, "S&P tells 149 issuers: provide timely financials or risk withdrawn ratings", March 14, 2023; Moody's Investors Service, "Rating Revisions: 2022 Upgrades Outpaced Downgrades for a Second Year in a Row", Feb 14, 2023; Fitch, "U.S. Public Finance Rating Actions Report and Sector Updates: Second-Quarter 2023", July 20, 2023



Sector Outlooks and Considerations: State and Local Governments

Areas of Focus:

- Recession expectations
- Inflation implications
- Federal stimulus
- Housing and commercial real estate markets
 - Return to office trends
- Labor market

Sector Outlooks/Views (2023)	
Moody's	Stable
S&P	Stable
Fitch	Deteriorating

Sector Trends:

- Diverse/resilient revenue streams
- Robust reserves
- Pandemic-related federal stimulus is helping to support capital needs and offset rising operating costs
- Broad embrace of cybersecurity insurance
- Moody's adjusted net pension liabilities falling for third consecutive year (driven by rising discount rates)

Sources: S&P, "US Public Finance 2023 Midyear Outlook", July 18, 2023; Moody's Investors Service, "US Public Finance Credit Outlook", June 14, 2023 and Dec 22, 2022; Fitch, "U.S. Public Finance Rating Actions Report and Sector Updates: Second-Quarter 2023", July 20, 2023



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