

Mechanics of a School Bond Refunding and Other Bond Topics

**UPSBO Conference
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Introduction: Roles in a Bond Sale

School District

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graph TD; SD[School District] --- MA[Municipal Advisor]; SD --- BC[Bond Counsel]; SD --- U[Underwriter];
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Municipal Advisor

- ✓ Advises School on all facets of bond financings
- ✓ Serves in a fiduciary capacity to always look out for the best interest of the School
- ✓ May assist with continuing disclosure requirements

Bond Counsel

- ✓ Ensures School complies with state and federal laws
- ✓ Prepares legal documents on behalf of School
- ✓ Provides opinion that bonds are exempt from state and federal taxation, where applicable

Underwriter

- ✓ Deals directly with the investors (lenders of money)
- ✓ Underwrites/purchases the bonds
- ✓ Represents both the School and the Investors
- ✓ Provides proceeds of sale to the School



PFM: Who We Are and What We Do

Michigan's leading financial advisory firm

- Ranked #1 Financial Advisor in the Michigan¹.
- Unparalleled knowledge and experience with Michigan financing statutes and parameters.
 - 16 professionals** located in and serving Michigan
 - 10 registered Municipal Advisors** in Michigan



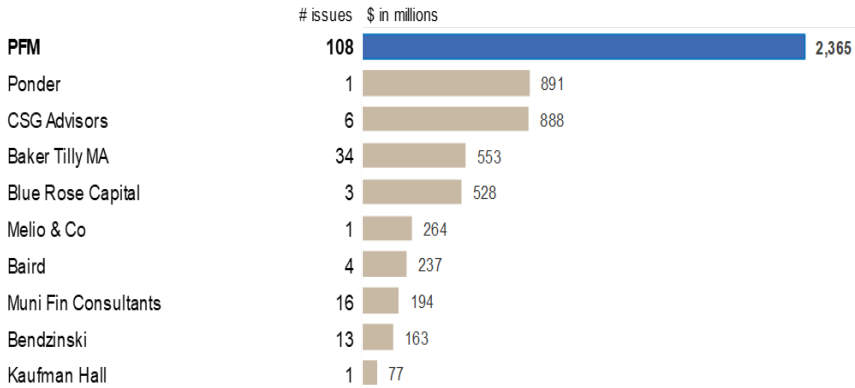
PFM Michigan K-12 Services

- Building and Site; Refunding Bonds
- Energy Conservation Financings
- State Aid Notes
- Cash Flow Analysis
- Debt Capacity Analysis
- Millage Levy Calculation and Allocation
- Sinking Fund Analysis
- Debt and Financial Policies and Procedures
- Multi-Year Financial Forecasting
- Capital Improvement Plans
- Continuing Disclosure Assistance

2022 Full Year Michigan Long Term Municipal New Issues

Municipal Financial Advisory Ranking - Full Credit to Each Financial Advisor

Source: Ipreo



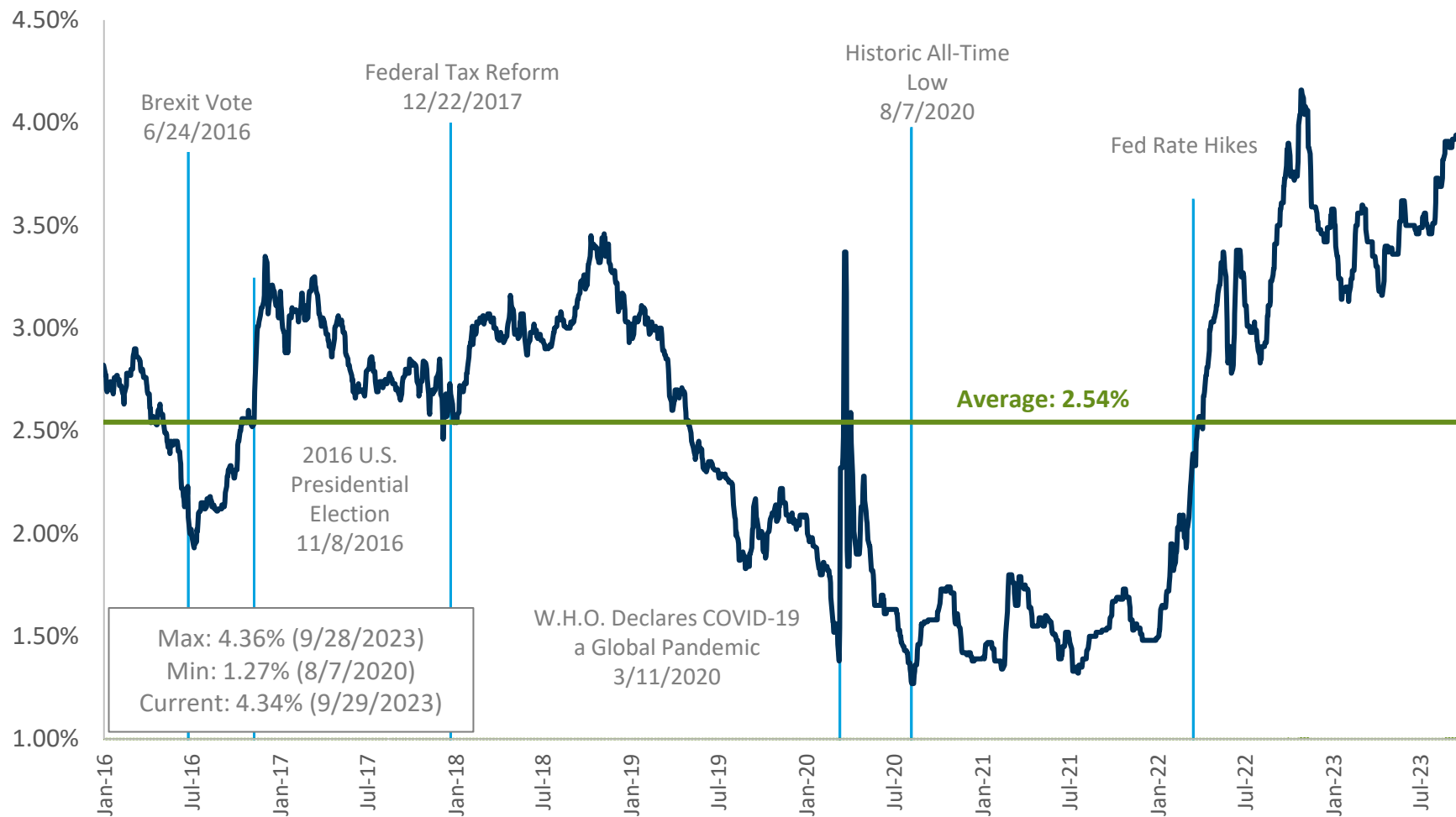
Stifel: Who We Are and What We Do

- ◆ National financial services firm with investment banking (public finance) division
- ◆ Stifel has 19 office locations in Michigan, staffed by retail brokers and public finance bankers
- ◆ 4 Michigan public finance bankers with over 75 years of combined experience
- ◆ In a bond sale (aka underwriting) Stifel purchases the bonds from the Issuer and sells them to investors in an arm's-length transaction
- ◆ Stifel is also involved in bond document preparation, due diligence, advertising and marketing the bonds to investors, conducting the order period for the bonds, and closing the bond issue

Phase of Bond Sale	Issuer	Bond Counsel	Municipal Advisor	Underwriter
Needs Assessed				
Pre-Election Planning				
Election Passes				
Bond Resolution				
Document Preparation				
Due Diligence				
Pre-Marketing to Investors				
Bond Sale				
Closing Documents				
Bonds Close				

What Drives Refundings?

30-Year AAA MMD Since January 1, 2016



Source: Thomson Reuters. As of 9/29/2023.



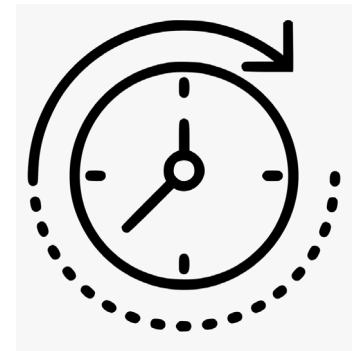
Refinancing of Bonds

◆ What is a refunding?

- Involves the issuance of new debt (refunding bonds) to replace higher interest rate debt with new debt at lower interest rates
- Usually results in interest cost savings
- May create debt service capacity for new money
- Could result in budget relief with debt restructuring of limited tax debt

◆ What factors make a refunding work?

- Lower interest rates
- Higher short term investment rates
- Passage of Time





Optional Redemption Provision of Bonds

What is an optional redemption provision?

- Allows a district the option to call-in (pay off early) principal maturities of bonds before their stated maturity date
- Also known as a “call-date”
- The call date is generally 10 years after issuance (investors generally prefer 10 years of call protection)
- Funding for optional redemption may consist of:
 - Proceeds from Refunding Bonds
 - Excess funds in Debt Service Fund/Account
 - Projected Escrow Earnings
 - Other Funds
- Optional redemption provisions can be found on the cover of the official statement

NEW ISSUE—Book-Entry-Only

RATINGS*: Moody's Investors Service: Aa2
Michigan School Bond Qualification and Loan Program

In the opinion of Thrun Law Firm, P.C., Bond Counsel, under existing law, (i) the Bonds and the interest thereon are exempt from all taxation in the State of Michigan, except inheritance and estate taxes and taxes on gains realized from the sale, payment or other disposition thereof, (ii) interest on the Bonds is excluded from gross income for federal income tax purposes to the extent and subject to the conditions described herein, and (iii) interest on the Bonds is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. See "TAX MATTERS" herein.

\$27,950,000 NORTH BRANCH AREA SCHOOLS COUNTY OF LAPEER, STATE OF MICHIGAN 2015 REFUNDING BONDS (General Obligation - Unlimited Tax)

Dated: April 23, 2015

Due: May 1 as shown below

The 2015 Refunding Bonds (General Obligation - Unlimited Tax) (the "Bonds") were authorized by the Board of Education of North Branch Area Schools, County of Lapeer, State of Michigan (the "School District") by resolutions adopted on February 9, 2015 and expected to be adopted on March 23, 2015 (together, the "Resolutions") for the purpose of currently refunding a portion of a certain prior bond issue of the School District. The Bonds will pledge the full faith and credit of the School District for payment of the principal and interest thereon and will be payable from ad valorem taxes, which may be levied on all taxable property in the School District without limitation as to rate or amount.

The Bonds are expected to be fully qualified as of the date of delivery for the Michigan School Bond Qualification and Loan Program pursuant to Act 92, Public Acts of Michigan, 2005, as amended, enacted pursuant to Article IX, Section 16 of the Michigan Constitution of 1963. Under the terms of said constitutional and statutory provisions, if for any reason the School District will be or is unable to pay the principal and interest on the Bonds when due, the School District shall borrow and the State of Michigan shall lend to it an amount sufficient to enable the School District to make the payment. See "QUALIFICATION BY THE STATE OF MICHIGAN" and APPENDIX A, "State Qualification," herein.

The Bonds are issuable only as fully registered bonds without coupons and, when issued, will be registered in the name of Cede & Co., as Bondholder and nominee for The Depository Trust Company ("DTC"), New York, New York. DTC will act as securities depository for the Bonds. Purchases of beneficial interests in the Bonds will be made in book-entry-only form in the denomination of \$5,000 or any integral multiple thereof. Purchasers of beneficial interests in the Bonds (the "Beneficial Owners") will not receive certificates representing their beneficial interest in Bonds purchased. So long as Cede & Co. is the Bondholder, as nominee of DTC, references herein to the Bondholders or registered owners shall mean Cede & Co., as aforesaid, and shall not mean the Beneficial Owners of the Bonds. See "THE BONDS—Book-Entry-Only System" herein.

Principal of and interest on the Bonds will be paid by the corporate trust office of The Huntington National Bank, Grand Rapids, Michigan (the "Paying Agent"). So long as DTC or its nominee, Cede & Co., is the Bondholder, such payments will be made directly to such Bondholder. Disbursement of such payments to DTC's Direct Participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of DTC's Direct Participants and Indirect Participants, as more fully described herein. Interest will be payable semiannually on November 1 and May 1, commencing November 1, 2015, to the Bondholders of record as of the applicable record dates herein described.

(Base CUSIP: 657740)

Maturity	Amount	Interest Rate	Price	CUSIP ¹	Maturity	Amount	Interest Rate	Price	CUSIP ¹
2016	\$1,345,000	4.00%	103.449%	ES1	2024	\$1,405,000	5.00%	117.432%	FA9
2017	1,345,000	4.00	105.783	ET9	2025	1,430,000	5.00	117.959	FB7
2018	1,340,000	5.00	110.334	EU6	2026	1,465,000	5.00	117.011**	FC5
2019	1,275,000	5.00	112.403	EV4	2027	1,470,000	5.00	115.885**	FD3
2020	1,275,000	5.00	114.317	EW2	2028	1,490,000	5.00	114.865**	FE1
2021	1,275,000	5.00	115.711	EX0	2029	1,490,000	5.00	114.222**	FF8
2022	1,365,000	5.00	116.428	EY8	2030	1,490,000	5.00	113.674**	FG6
2023	1,390,000	5.00	117.039	EZ5	2032	1,480,000	5.00	112.407**	FK7
	Amount	Interest Rate		Maturity	Price	CUSIP ¹			
	\$2,980,000	5.00%		Term Bonds Due May 1, 2032	112.7676**	FJ0			
	2,940,000	5.00		Term Bonds Due May 1, 2035	111.690**	FM3			

The Bonds maturing May 1, 2032 and May 1, 2035 (the "Term Bonds") are subject to mandatory redemption on the redemption dates and in the principal amounts set forth herein at a redemption price equal to the principal amount interest without penalty. See "THE BONDS - Mandatory Redemption—Term Bonds" herein.

THE BONDS MATURING ON OR AFTER MAY 1, 2026 ARE SUBJECT TO OPTIONAL REDEMPTION BEGINNING MAY 1, 2025, IN THE MANNER AND AT THE TIMES DESCRIBED HEREIN. See "THE BONDS - Optional Redemption" herein.

The Bonds will be issued, when and if issued by the School District and accepted by the Underwriters subject to the approving legal opinion of Thrun Law Firm, P.C., East Lansing, Michigan. Bond Counsel's consent regarding matters will be passed upon for the Underwriters by Clark Hill PLC, Birmingham, Michigan. It is expected that the Bonds will be available for delivery through DTC on or about April 23, 2015.

This cover page contains certain information for quick reference only. It is not a summary of this issue. Investors must read the entire Official Statement to obtain information essential to the making of an informed investment decision.

STIFEL

Fifth Third Securities, Inc.

The date of this Official Statement is March 11, 2015.

¹ For an explanation of the rating, see "RATINGS" herein.

² As of date of delivery.

³ Preced to call date of May 1 2025.

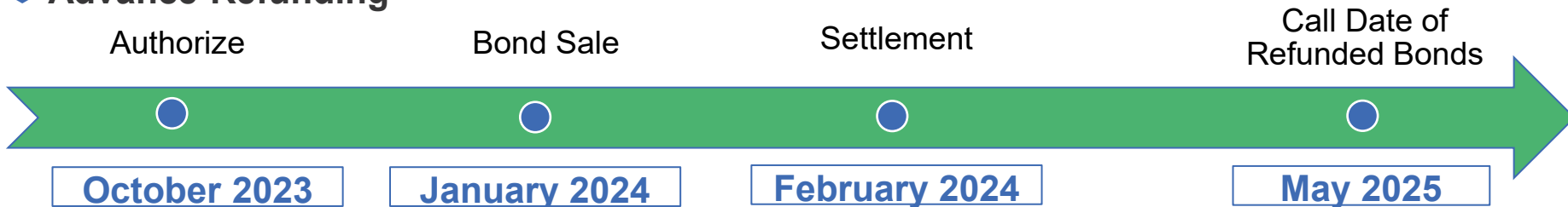
⁴ Copyright 2015, American Bankers Association. CUSIP data herein is provided by Standard & Poor's CUSIP Service Bureau, a division of The McGraw-Hill Companies, Inc. The School District shall not be responsible for the selection of CUSIP numbers, nor any representation made as to their correctness on the Bonds or as indicated above.



Types of Refunding

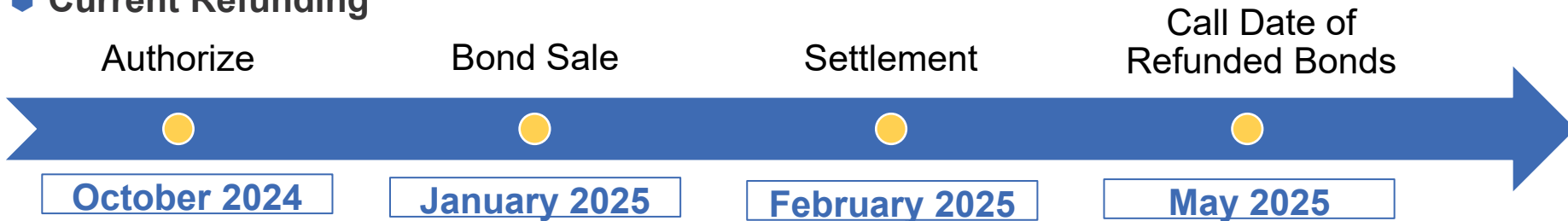
- Depending on the issuance type and optional redemption date of the targeted bonds, there may be limitations on when and how bonds can be refunded
 - Further, combining refunding bonds with new money bonds may generate additional savings from shared issuance costs

Advance Refunding



- Refunding bond issue which settles more than 90 days before the call date on the bonds being refunded
- 2017 Federal tax reform eliminated ability to advance refund (90+ days) bonds on a tax-exempt basis; must be issued as taxable bonds
- Taxable rates are historically higher than tax-exempt rates – savings may not be compelling

Current Refunding

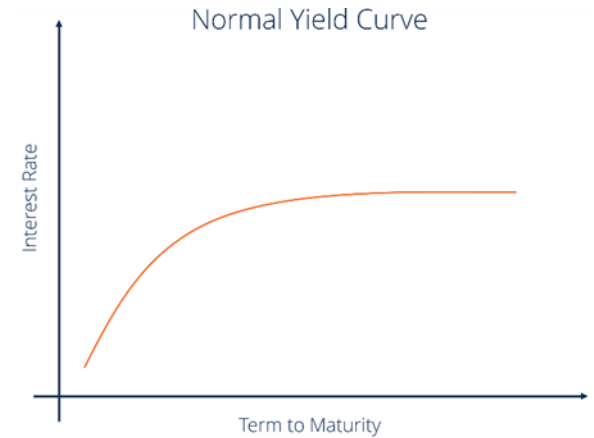


- Refunding bond issue which settles less than 90 days before the call date on the bonds being refunded
- IRS does not limit the number of current refinancings on tax-exempt basis



Passage of Time

- The passage of time will create refunding opportunities.
- In general, the interest rate on bonds increase the longer the maturity date of the bonds. Shorter term bonds generally have lower interest rates (positive sloped yield curve).
- If rates are exactly the same 10 years later, a refunding is possible, assuming a positive yield curve where short-term rates are low and long-term rates are high.



Initial Bond Issue

RATES AT TIME OF ISSUANCE in 2015 (Assuming a 20 Year Bond Issue)

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
YIELD	0.61	1.10	1.49	1.79	1.99	2.20	2.44	2.63	2.80	2.92	3.02	3.14	3.25	3.32	3.38	3.43	3.48	3.52	3.58	3.60

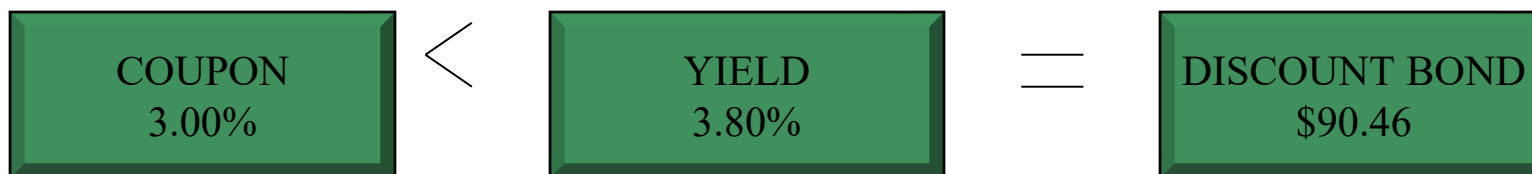
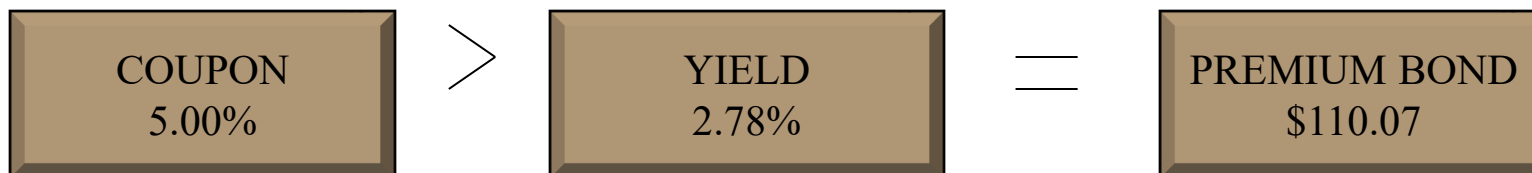
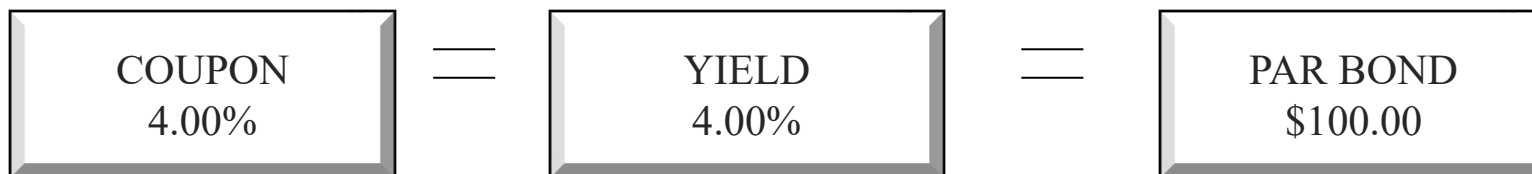
Refinancing Bond Issue

10 YEARS LATER (Interest Rates the Same)

YEAR	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
YIELD	0.61	1.10	1.49	1.79	1.99	2.20	2.44	2.63	2.80	2.92

Bond Interest Rates: Coupon vs. Yield

- Determining the viability of a bond refunding requires an understanding of how a bond's interest rate is derived



- The relationship between a bond's coupon and yield will determine the price of a bond

Bond Coupons – Refunding Impact

THE FULL PICTURE TELLS THE FULL STORY

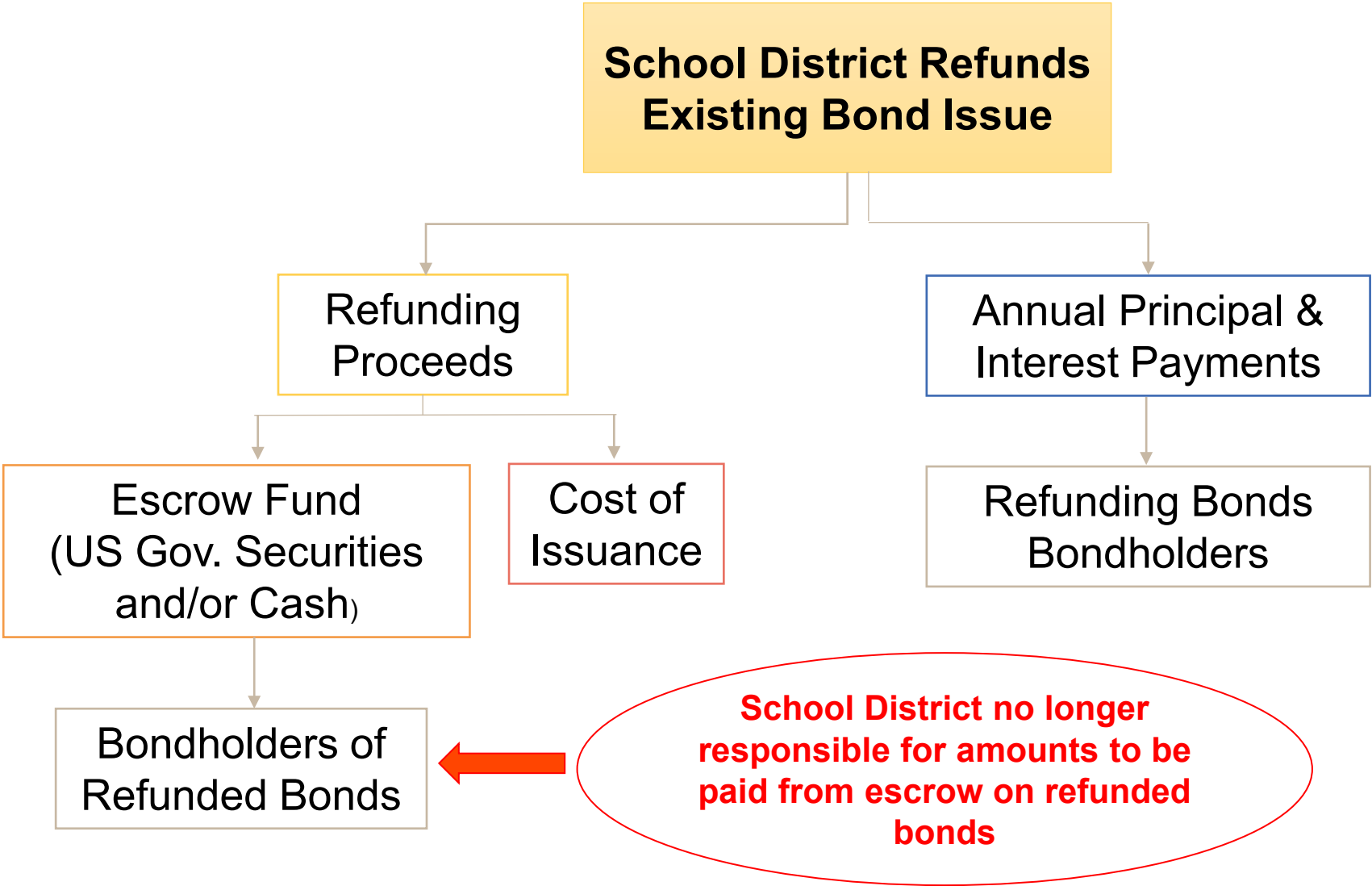
- The table below illustrates the future potential impact of a refunding on the overall cost of borrowing for a bond project
- Assuming interest rates return to the historic 10-year average rates (as of January 2023) in 2033, the tables below provide opportunity for reduced interest cost over the life of the issue
 - The True Interest Cost (TIC), on a premium coupon structure is based on the Yield to Maturity, which is not realized if the bonds are refunded

Coupon Structure	Series 2023							Est. Series 2023 Refunding Impact				
	Par Amount	Net Original Issue Premium	Project Fund Deposit	Total Debt Service Cost	Net Present Value Debt Service Cost	True Interest Cost	Arbitrage Yield	Est. Future Refunding Gross Savings	Adjusted Total Debt Service Cost	Net Present Value Savings (\$)	Adjusted Net PV Total Debt Service Cost	Adj. True Interest Cost
4%	184,585,000	5,788,190	189,998,482	298,540,510	205,937,214	3.73%	3.65%	14,965,400	283,575,110	8,305,361	197,631,853	3.36%
5%	170,465,000	19,880,547	189,999,503	312,386,988	212,358,329	3.98%	3.40%	28,954,000	283,432,988	16,151,222	196,207,107	3.29%

Assumptions:

- Series 2023 assumes interest rates are as of January 2023 based on an AA rated underlying Michigan K-12 issuer/ SBQLP qualified bonds; estimate only
- Series 2023 has a 29 year bond term, average life of approximately 16.5 years and a call date of May 1, 2033 at par
- Net present value calculations assume a discount rate of 3.00%
- Series 2023 assumes a 5% coupon structure, 10 year average MMD yields (as January 2023) with credit spreads of an AA rated underlying Michigan K-12 issuer / SBQLP qualified bonds

Refunding Cash Flow





Escrow Requirements

Example

2015 REFUNDING BONDS - UTQ

Call Date	First Called	Last Called	Principal Defeased Before Call	Principal Called	Call Price	Call Premium
5/1/2025	5/1/2026	5/1/2035	\$0	\$14,805,000	100.0	\$0

True Interest Cost: 5.00%

Tax Year	Fiscal Year End	Principal Due May 1	Interest Rate	Interest Due May 1	Interest Due Nov 1	Principal To Escrow	Call Premium	Debt Service To Escrow
2023	2024	\$0	5.000%	\$0	\$0	\$0	\$0	\$0
2024	2025	0	5.000%	370,125	370,125	14,805,000	0	15,175,125
2025	2026	1,465,000	5.000%	370,125	333,500	0	0	0
2026	2027	1,470,000	5.000%	333,500	296,750	0	0	0
2027	2028	1,490,000	5.000%	296,750	259,500	0	0	0
2028	2029	1,490,000	5.000%	259,500	222,250	0	0	0
2029	2030	1,490,000	5.000%	222,250	185,000	0	0	0
2030	2031	1,490,000	5.000%	185,000	147,750	0	0	0
2031	2032	1,490,000	5.000%	147,750	110,500	0	0	0
2032	2033	1,480,000	5.000%	110,500	73,500	0	0	0
2033	2034	1,475,000	5.000%	73,500	36,625	0	0	0
2034	2035	1,465,000	5.000%	36,625	0	0	0	0
2035	2036	0	0.000%	0	0	0	0	0
		\$14,805,000		\$2,405,625	\$2,035,500	\$14,805,000	\$0	\$15,175,125

Total Debt Service Replaced: \$19,246,125



Bond Sizing

Example

Bonds Refunded: \$14,805,000

ESTIMATED SOURCES & USES OF FUNDS

Sources of Funds	Refinancing of 2015 Refunding Bonds
Par Amount of Bonds	\$14,220,000.00
Original Issue Premium	622,395.20
Contribution from Debt Fund	318,000.00
Total Sources	\$15,160,395.20
Uses of Funds	
Deposit to Escrow Account	\$14,980,115.00
Underwriter's Discount @ 0.450%	63,990.00
Costs of Issuance	115,769.96
Miscellaneous	520.24
Total Uses	\$15,160,395.20



Production Report – Refunding Bonds

Example

Sale Date:	1/8/2025	First Coupon Date:	11/1/2025
Dated Date:	2/4/2025	First Call Date:	Non-Callable
Delivery Date:	2/4/2025	First Call Premium:	N/A

Principal Due	Principal	Bond Type	Coupon	Yield	Price	Yield to Maturity	Price to Maturity	Gross Production
5/1/2026	\$1,605,000	Serial	4.000%	3.190%	100.974	3.190%	100.974	\$1,620,632.70
5/1/2027	1,145,000	Serial	4.000%	3.130%	101.865	3.130%	101.865	1,166,354.25
5/1/2028	1,250,000	Serial	4.000%	3.040%	102.938	3.040%	102.938	1,286,725.00
5/1/2029	1,350,000	Serial	4.000%	3.040%	103.789	3.040%	103.789	1,401,151.50
5/1/2030	1,405,000	Serial	4.000%	3.070%	104.467	3.070%	104.467	1,467,761.35
5/1/2031	1,465,000	Serial	4.000%	3.030%	105.474	3.030%	105.474	1,545,194.10
5/1/2032	1,525,000	Serial	4.000%	3.060%	106.060	3.060%	106.060	1,617,415.00
5/1/2033	1,510,000	Serial	4.000%	3.050%	106.873	3.050%	106.873	1,613,782.30
5/1/2034	1,495,000	Serial	4.000%	3.300%	105.532	3.300%	105.532	1,577,703.40
5/1/2035	1,470,000	Serial	4.000%	3.400%	105.148	3.400%	105.148	1,545,675.60
	<u>\$14,220,000</u>							<u>\$14,842,395.20</u>

Par Amount:	\$14,220,000.00
Production (Discount)/Premium	<u>622,395.20</u>
Gross Production:	14,842,395.20
Bond Insurance:	0.00
Underwriter's Discount:	<u>(63,990.00)</u>
Bid:	14,778,405.20
True Interest Cost:	3.23980%



Savings and Debt Millage Impact

Comparison of Before vs. After

Example

Tax Year	Fiscal Year End	Total Debt Service Payments			Estimated Millage*		
		Before	After	Savings	Before	After	Savings
2023	2024	2,251,875	\$2,251,875	\$0	5.00	5.00	0.00
2024	2025	2,206,000	1,887,610	318,390	5.00	5.00	0.00
2025	2026	2,168,625	2,141,700	26,925	4.86	4.80	0.06
2026	2027	2,100,250	1,626,700	473,550	4.52	3.50	1.02
2027	2028	2,046,250	1,683,800	362,450	4.24	3.48	0.76
2028	2029	1,971,750	1,731,800	239,950	3.93	3.45	0.48
2029	2030	1,897,250	1,731,700	165,550	3.67	3.35	0.32
2030	2031	1,822,750	1,734,300	88,450	3.42	3.26	0.17
2031	2032	1,748,250	1,734,500	13,750	3.19	3.16	0.03
2032	2033	1,664,000	1,658,800	5,200	2.95	2.94	0.01
2033	2034	1,585,125	1,583,700	1,425	2.72	2.72	0.00
2034	2035	1,501,625	1,499,400	2,225	2.51	2.50	0.00
2035	2036	0	0	0	0.00	0.00	0.00
		\$22,963,750	\$21,265,885	\$1,697,865			2.85
		Less Contribution from DS Fund		(318,000)			
		Plus Excess Proceeds		520			
		NET SAVINGS		\$1,380,385			
		PV Savings		\$1,230,227			
		PV Savings as % of Refunded					
		Principal		8.31%			

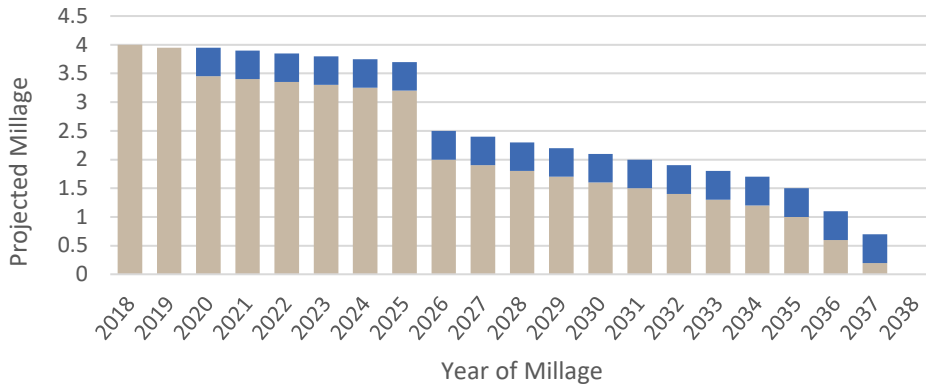
* Using statutory Taxable Value projection



Refinancing Debt

- Refinancing can be used to assist in creating or accelerating the timing of opportunities to finance new capital with little to no impact on the District's overall debt millage as compared to the previous year's debt millage.

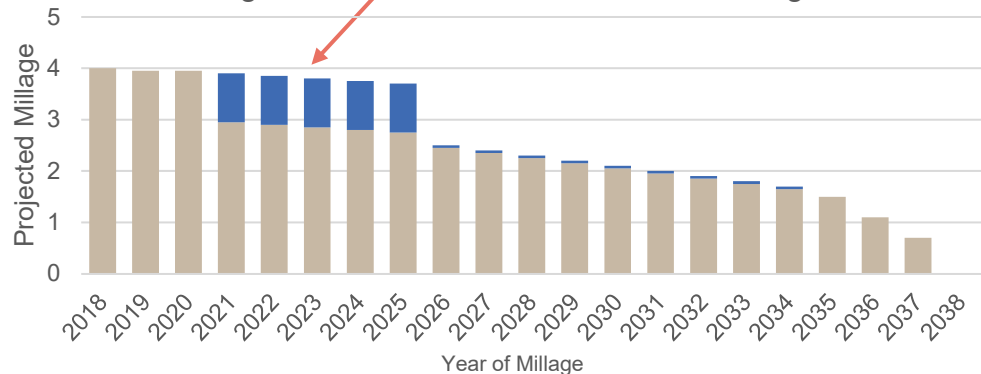
Millage for ABC Schools--Level Savings



■ Millage after Refunding ■ Refunding for Level Savings

Creation of greater ability to issue a larger amount of bonds without millage impact.

Millage for ABC Schools-Accelerated Savings



■ Millage after Refunding ■ Refunding to Create Millage Drop





Refunding Criteria and Considerations

◆ Minimum Savings Level

- Net Present Value (NPV) savings is generally at least 2-3% of the bonds to be refunded.
- Minimum dollar savings level; is net savings to the District at least as much or more than the cost of issuance?

◆ Negative arbitrage efficiency

- If advance refunding, how much is negative arbitrage (escrow earning less than the arbitrage/bond rate) as a % of the savings?

◆ Break-even / sensitivity analysis

- For advance refundings, consider how much interest rates would have to increase by the call date to result in NPV debt service savings that match the NPV savings that could be achieved with an advance refunding under current market conditions.

◆ Efficiency

- The District should understand that the call feature for most municipal bonds has economic value, and a minimum potential value of the call option could be captured with a bond refinancing.

◆ Millage Impact

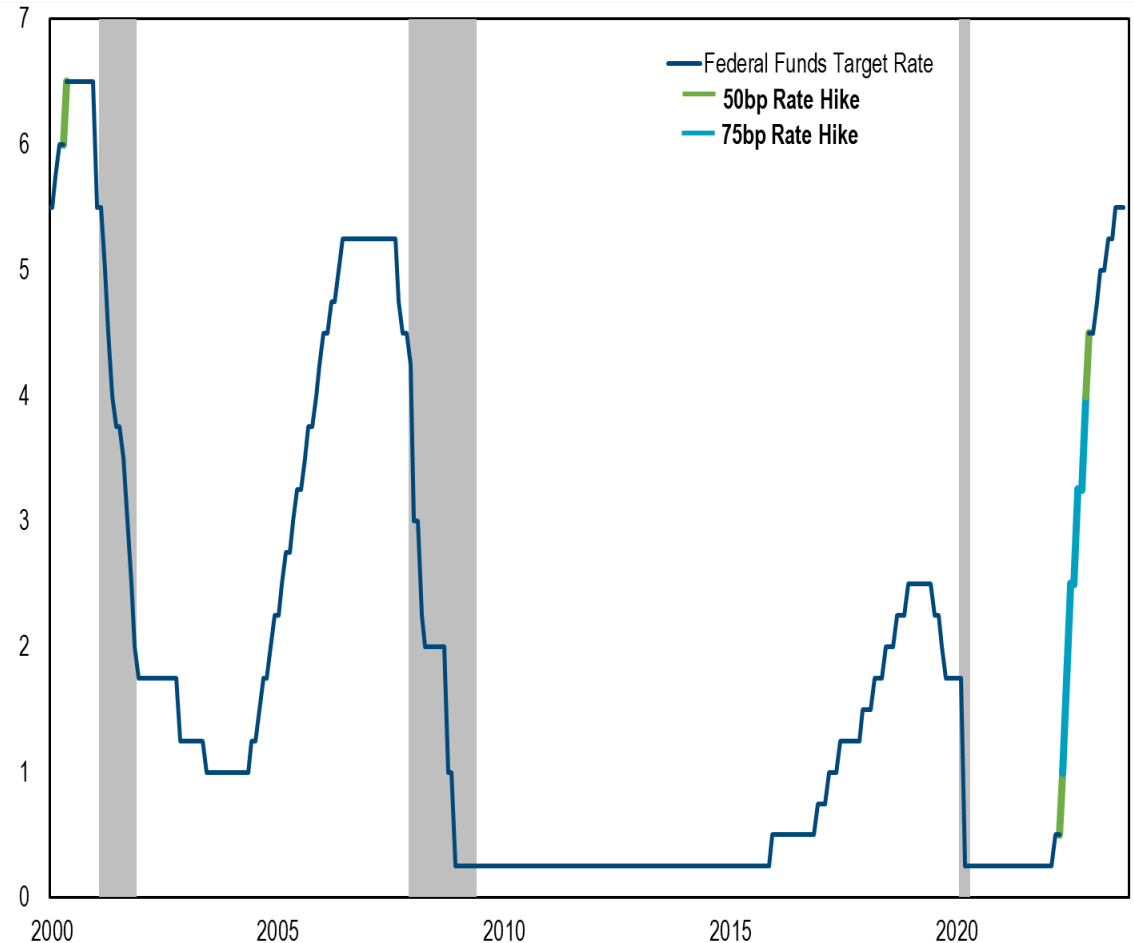
- Will the refunding better position the district for future bonds?
- How will a refunding impact the district's debt millage in the short and long term?

In March 2022 the Fed took a decisively more hawkish position

The Fed has raised rates 525bps since March of last year: **25bps** in March, **50bps** in May, **75bps** in June, July, September & November, and **50bps** in December of last year. This year, the Fed has raised rates **25bps** in February, March, May and July reaching **5.25-5.50%**

The Fed's expected rate pathway has risen markedly above expectations with inflation still *"too-high"*

In September, the SEP showed expectations for **5.6%** in 2023 with rates slowing to **5.1%** in 2024



Source: Federal Reserve Board

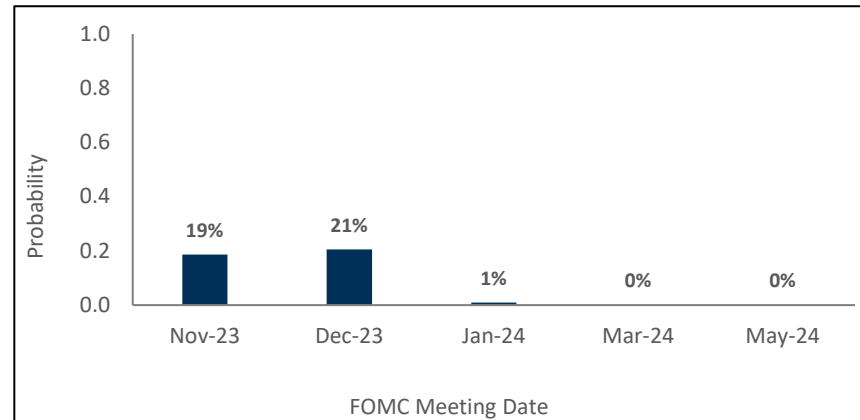
Excerpts from September 20 FOMC Statement:

“In determining the extent of additional policy firming that may be appropriate to return inflation to 2 percent over time, the Committee will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments.”

“Economic activity has been expanding at a solid pace. Job gains have slowed in recent months but remain strong, and the unemployment rate has remained low. Inflation remains elevated.”

“The U.S. banking system is sound and resilient.”

Market Consensus Probability of a Rate Hike at Upcoming Fed Meetings



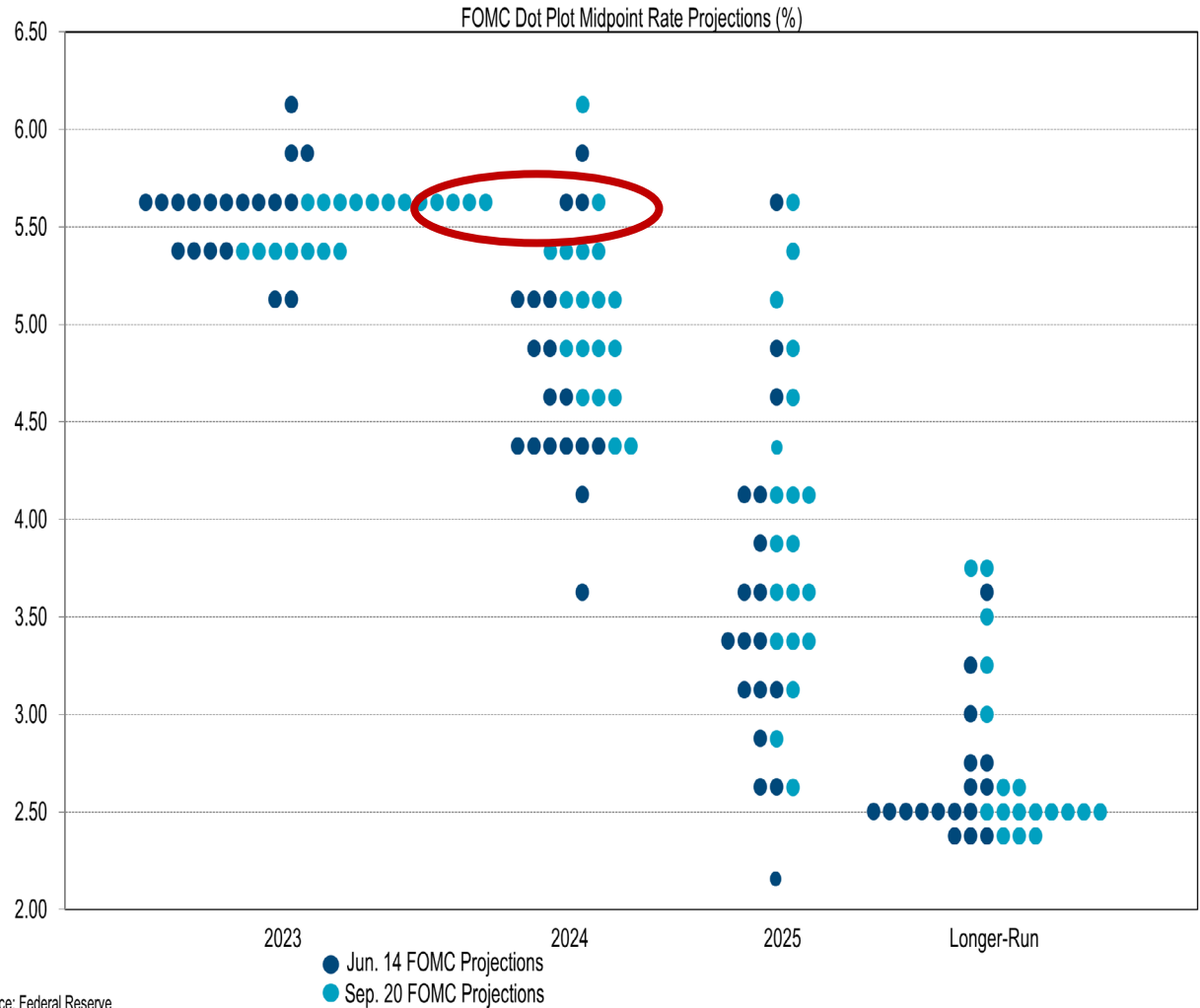
Bloomberg Consensus Yield Curve Projections (%)

Market Consensus Yield Curve Projections (%)					
	Current	Q4 2023	Q1 2024	Q2 2024	Q3 2024
Fed Funds	5.50	5.55	5.45	5.10	4.70
2-Yr UST	5.03	4.71	4.40	4.08	3.79
10-Yr UST	4.59	4.06	3.87	3.73	3.63
30-Yr UST	4.73	4.20	4.05	3.93	3.86

The majority of Fed officials anticipate a terminal rate still rising above 5.5% with **one** official forecasting a rate **between 6.00% and 6.25%** by next year

The median forecast for rates in 2024 rose 50bps from 4.6% to **5.1%**

Adjusting for inflation, the median expectation for real rates rose from 2.1% to **2.6%**



Historical Bond Buyer Index



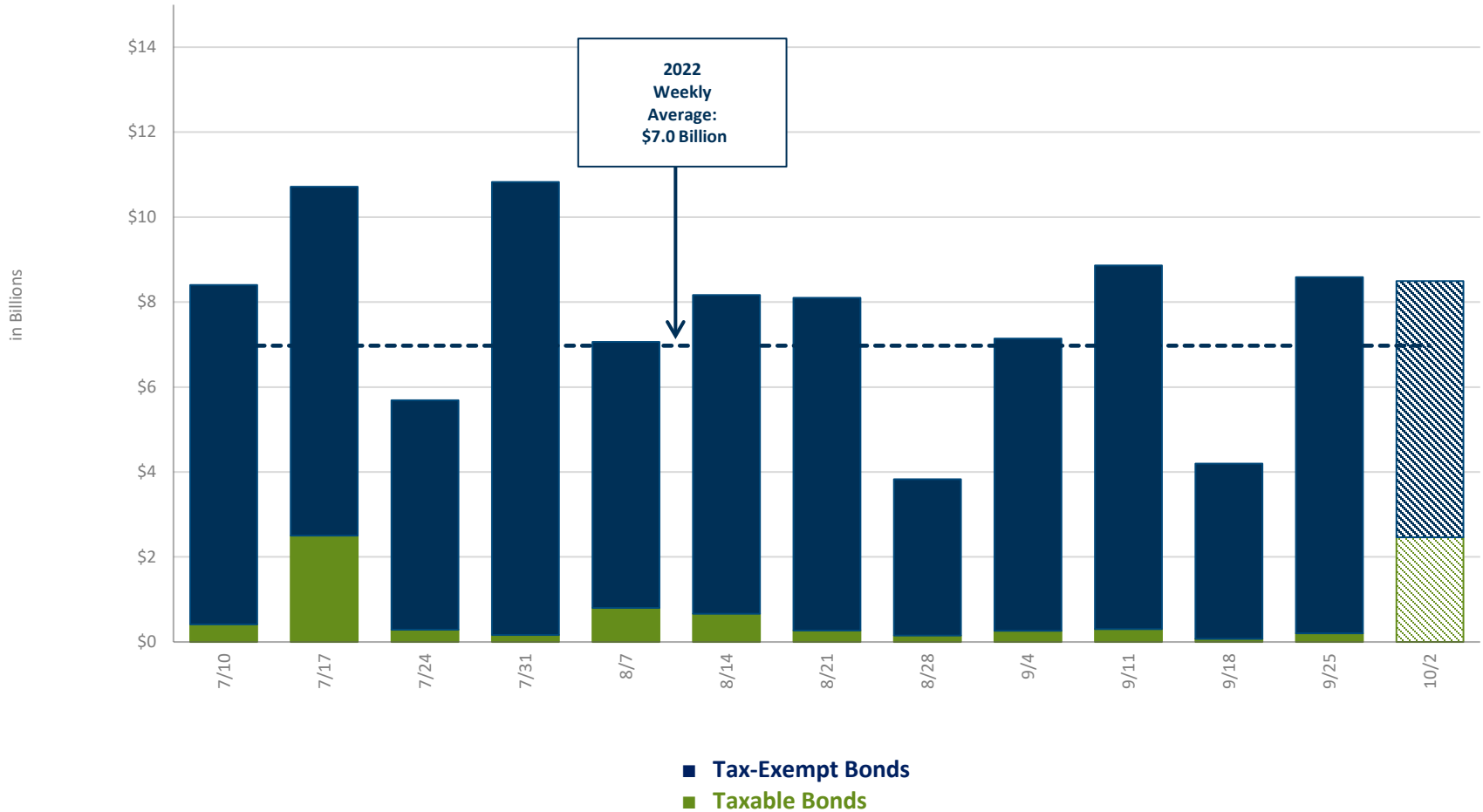
Market Update: Municipal Bond Rates

U.S. Treasuries and 'AAA' Municipal Market Data Yields



Market Update: Supply & Demand

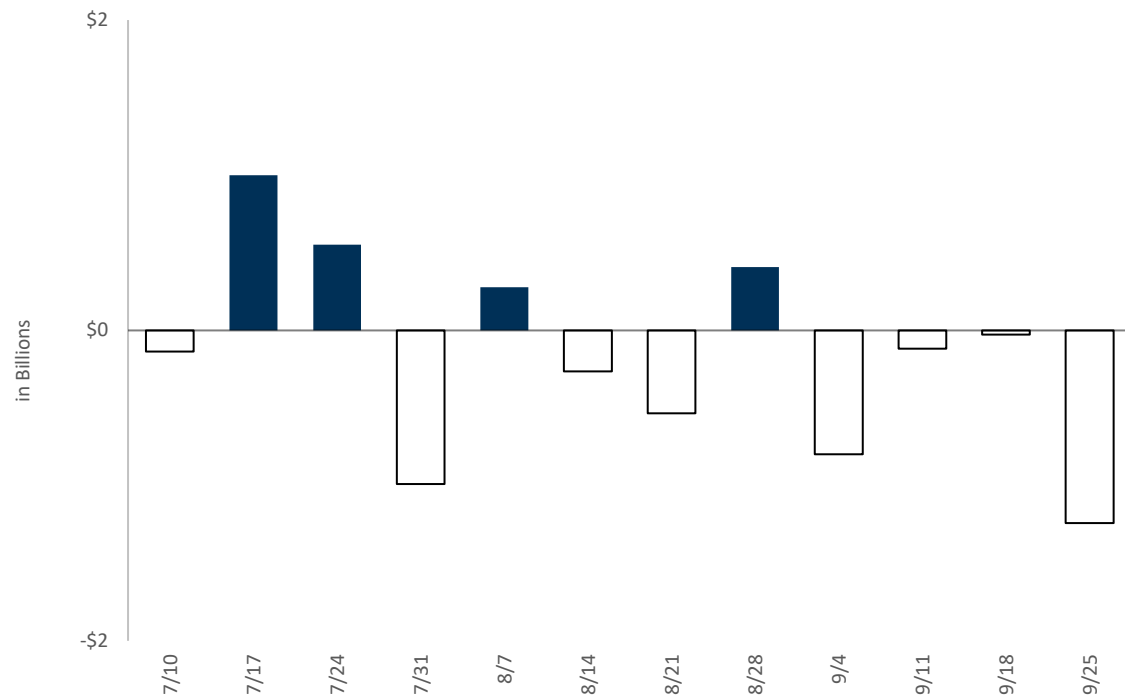
2023 YTD Average Weekly Supply Sits Below 2022 Average
 Previous 12 Weeks of New Issue Supply and Forecast of Current Week



Municipal Bond Funds Record Net Outflows

- The four-week moving average of flows recorded \$546 million of net outflows, following \$134 million of net outflows the previous week.
- Thus far in 2023, investors have withdrawn more than \$9.8 billion from municipal bond funds.
- 2023 average weekly net outflows from muni bond funds are \$252 million, compared to 2022 average weekly net outflows of \$1.6 billion.

Municipal Bond Funds Record Net Outflows
Recent Weekly Municipal Bond Fund Flows





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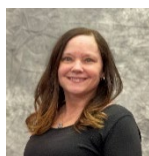
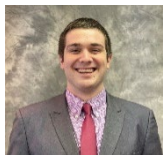


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