

SESSION THREE

Bond Math

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Why are We Here

A bond is just a promise to pay—with enough math around it to keep things interesting.

Today, we're going to make that math a little less mysterious.



This presentation makes no recommendations and should not be construed to contain a recommendation to pursue any course of action.

What are Bonds?



- Municipal bonds are a type of security sold through the municipal capital markets to various investors (not just one financial institution i.e. commercial bank)
 - ✓ Issue is divided into different maturities and interest rates (i.e. 1-30 year maturities) to appeal to various investor types
- Municipal governments that issue bonds receive a cash payment at the time of issuance in exchange for a promise to repay investors principal plus interest over time

What is a Bond Price?

- Bond price is the price investors are willing to pay (changes based on daily market dynamics)
- Expressed as a percentage (%) of the face value of the bond



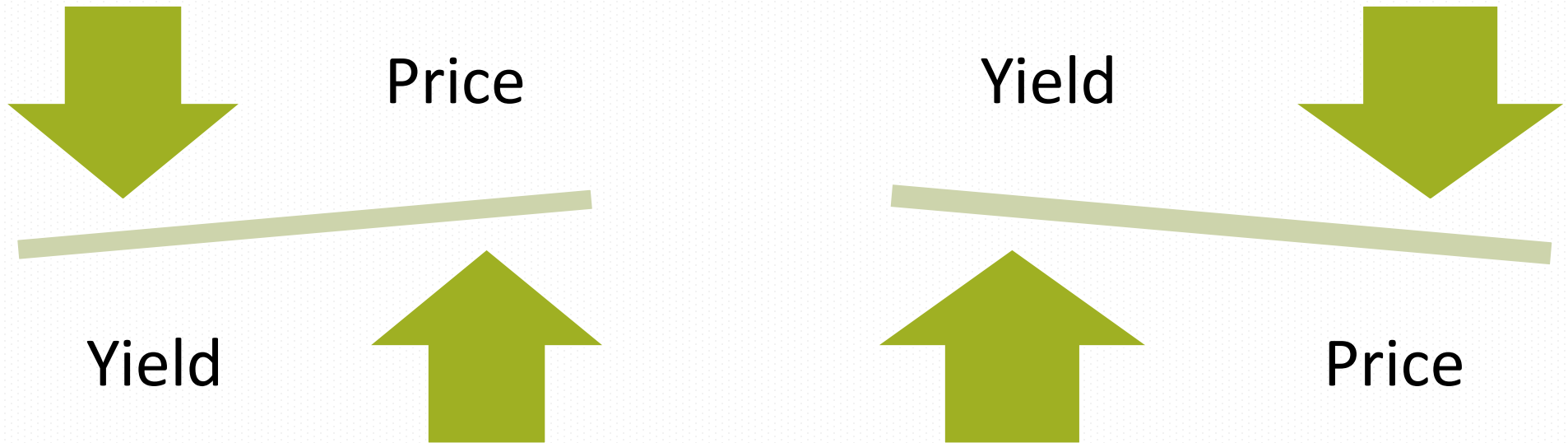
What is a Bond Yield?

- Yield corresponds to the annual return of the bond/investment, reflected as an annual percentage
- Bond yield is based on coupon payments the investor receives over time and the price paid to buy the bond
- Example: 4% yield is the bond is expected to return an average of 4% each year



Relationship Between Bond Price and Yield

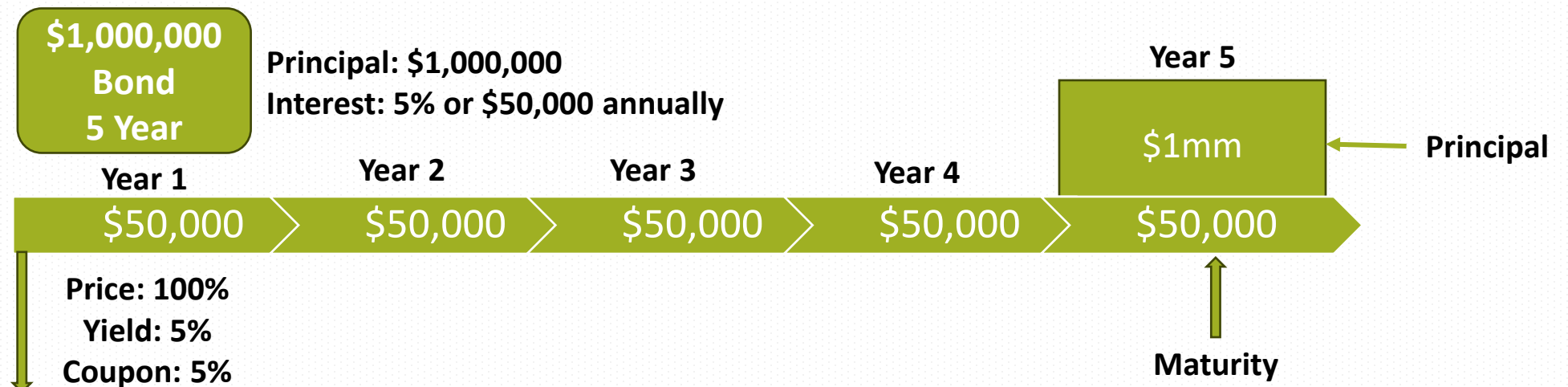
- Inverse Relationship
 - When one goes up, the other goes down



- Changes to Bond Prices and Yields can occur due to:
 - Micro and Macro economic factors
 - Current market and inflation changes
 - Credit Rating of Issuers (ability to repay the bonds)

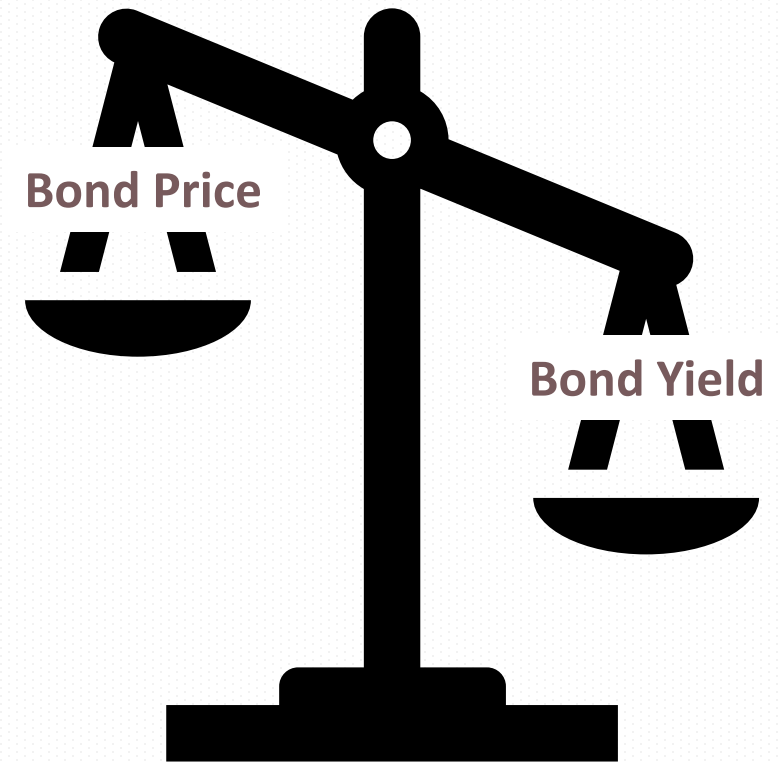
Key Terminology

- **Bond** = Security offered to the market with a promise to repay
- **Buyer** = “Investor” or “Lender” or “Purchaser”
- **Seller** = “Issuer” or “Borrower”
- **Term** = Total length of the loan (investors can buy individual maturities of the loan)
- **Maturity** = the date the Issuer pays back the full loan value (Final Maturity Date is the date the loan is fully paid off)
- **Principal** = or “Par Amount” or “Face Value” represents the value of the bond you will receive at maturity
- **Coupon** = the interest rate paid to the investor periodically
- **Price** = Amount lender is willing to lend for a return of future principal and interest payments
- **Yield** = Single rate that sets the present value of the principal and interest payments equal to the price



Coupons, Yields & Price

- **Coupon** is the interest rate assigned to the bond, typically paid semi-annually
- **Yield** is the return on the bond, if held to final maturity
- Relationship between the coupon and yield determines the price on the bond
- **Coupon > Yield** = Premium Bond (Price > 100%)
- **Coupon < Yield** = Discount Bond (Price < 100%)
- **Coupon = Yield** = Par Bond (Price = 100%)
- Prices & Yields move in opposite directions



Premium vs. Discount Bonds

- Premium Bonds (Original Issue Premium “OIP”)

\$10,000 5YR Bond

Premium	
Coupon	5%
Yield	4%
Price	108.176%

▲ \$1,689

- Price of 108.176% = \$10,811
- Receive annual interest = \$500 (\$2,500 5YR)
- Total Payment over 5YR = \$12,500

- Discount Bonds (Original Issue Discount “OID”)

\$10,000 5YR Bond

Discount	
Coupon	5.0%
Yield	5.5%
Price	96.193%

▲ \$2,881

- Price of 96.193% = \$9,619
- Receive annual interest = \$500 (\$2,500 5YR)
- Total Payment over 5YR = \$12,500



What is a Premium Bond?

① The Slido app must be installed on every computer you're presenting from

slido

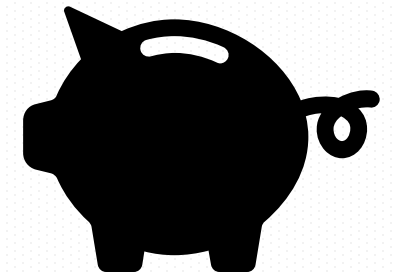
Bond Cash Flows

- Example: Purchase \$10,000 at 4% that matures in 5 years
- When the investor buys a bond, they are buying the cash flow
 - Receive interest (coupon payments) semi-annually over years 1 - 5
 - Receive the face value of the loan at maturity

Year	Face Value	Interest	Cash Flow
Year 1	\$0	\$400	\$400
Year 2	\$0	\$400	\$400
Year 3	\$0	\$400	\$400
Year 4	\$0	\$400	\$400
Year 5	\$10,000	\$400	\$10,400
Total	\$10,000	\$2,000	\$12,000

Time Value of Money

- Something received today is worth more than something received in two years
 - Spending 100 hours learning a skill today versus waiting 15 years to learn the same skill
 - Working out 5 hours a week as a young adult versus waiting 10 years to work out 5 hours a week
- Important to consider the value of time in dollars
- An Investor is buying a bond today with understanding the return will be over different times in the future
 - Price of bond purchased today takes into account this time value of money



What is Present Value (PV)?

- Measurement of the time value of money by calculating the value today of a future cash flow
- PV can compare cash flows received and/or paid over different periods
- PV is used to:
 - Estimate cost of future capital needs (how much is needed today)
 - Calculate the price of bond
 - Calculating the cost of an escrow for a refunding
 - Calculate different bond statistics (arbitrage yield, true interest cost)

Period	Value	PV at 4%
Year 1	\$2,000,000	\$1,923,077
Year 2	\$5,000,000	\$4,622,781
Year 3	\$3,000,000	\$2,666,989
TOTAL	\$10,000,000	\$9,212,847

How to Calculate Bond Price

- Bond Price represents the PV of the cash flow
- Example: Investor wants to buy a \$10,000 Bond with 4% Coupon
 - If current market yield is 4%, the value of the bond is \$10,000
 - If current market yield is 5%, the value of the bond is lower than market, and bonds would sell at a discount, less than \$10,000
 - If current market yield is 3%, the value of the bond is greater than market, and bonds would sell at a premium, greater than \$10,000

	Option 1 (OID)	Option 2 (Par)	Option 2 (OIP)
Coupon	4.0%	4.0%	4.0%
Yield	5.0%	4.0%	3.0%
Price	97.246%	100.000%	102.849%
Price (\$)	\$9,724	\$10,000	\$10,282

	Bond Cash Flow	PV of Option 1 (OID)	PV of Option 2 (Par)	PV of Option 3 (OIP)
Year 1	\$400	\$380	\$385	\$388
Year 2	\$400	\$362	\$370	\$377
Year 3	\$10,400	\$8,982	\$9,245	\$9,516
Total	\$11,200	\$9,724	\$10,000	\$10,282

Bond Yields

- Yield is the **interest rate** that reflects the present value of future debt service payments (**cash flow**) equal to **price**
- PV is used to calculate certain yields
 - Arbitrage Yield
 - True Interest Cost (TIC)
- Present Value (PV) =
$$\frac{1}{(1 + \text{rate})^{\text{number of periods}}}$$
- TIC is used to determine the winner of a competitive bond sale

		Present Value to 09/09/2026 @ 3.5916771637%
Date	Debt Service	
02/01/2027	705,168.06	695,335.66
08/01/2027	1,958,875.00	1,897,485.95
02/01/2028	867,250.00	825,251.13
08/01/2028	1,987,250.00	1,857,651.75
02/01/2029	839,250.00	770,678.28
08/01/2029	2,019,250.00	1,821,553.11
02/01/2030	809,750.00	717,583.89
08/01/2030	2,049,750.00	1,784,401.56
02/01/2031	778,750.00	665,977.77
08/01/2031	2,078,750.00	1,746,360.55
02/01/2032	746,250.00	615,865.63
08/01/2032	2,121,250.00	1,719,742.63
02/01/2033	711,875.00	566,950.73
08/01/2033	2,151,875.00	1,683,559.98
02/01/2034	675,875.00	519,454.98
08/01/2034	2,190,875.00	1,654,127.96
02/01/2035	638,000.00	473,197.19
08/01/2035	2,228,000.00	1,623,329.35
02/01/2036	598,250.00	428,197.51
08/01/2036	24,528,250.00	17,246,380.77
50,684,543.06		39,313,086.40

Proceeds Summary

Delivery date	09/09/2026
Par Value	35,755,000.00
Premium (Discount)	3,558,086.40
Target for yield calculation	39,313,086.40

Coupon / Yield Relationship

- For a given coupon, the price an investor is willing to pay for a bond is inversely related to the yield

	Option 1 (OID) Discount	Option 2 (Par) Par	Option 2 (OIP) Premium
General Rule	Coupon < Yield	Coupon = Yield	Coupon > Yield
	Price < 100	Price = 100	Price > 100
Coupon	4.0%	4.0%	4.0%
Yield	5.0%	4.0%	3.0%
Price	97.246%	100.000%	102.849%

Types of Yield Curves

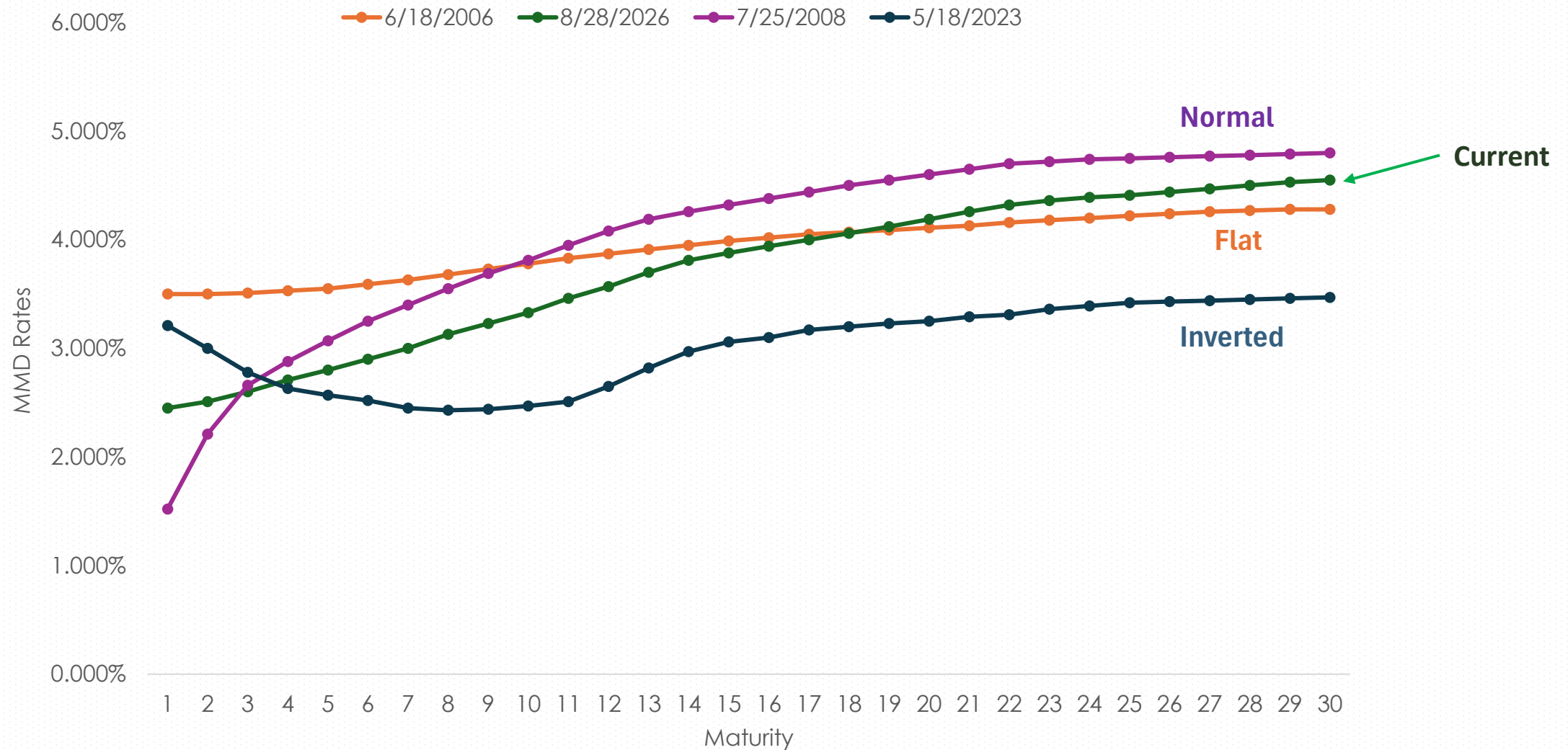


Chart is for illustrative purposes only

Issuer vs Investor Preferences

- All bonds issued require the same amount of proceeds, given the same present value of cash flow (debt service), how does an investor decide between OID, Par, or OIP Bonds
 - Is the Issuer indifferent?

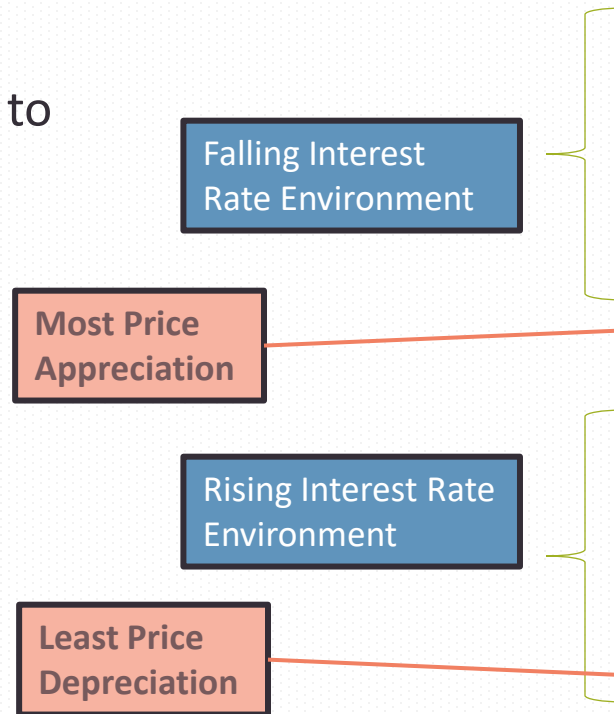
	Discount Bond	Par Bond	Premium Bond
Par Amount	\$31,025,000	\$30,345,000	\$28,840,000
Coupon	4.00%	4.25%	5.00%
Yield	4.25%	4.25%	4.25%
Issuer Borrowing Cost (%)	4.28%	4.28%	4.45%
Price	97.805%	100.000%	105.191%
Proceeds	\$30,344,010	\$30,345,000	\$30,337,123

- Retail investors are less sensitivity to coupons
 - Typically “buy and hold”
 - Less sensitive to tax implications
 - Retail-only periods allow par bonds to be pre-sold
 - Demand is strongest in years 1 – 10
- Institutional investors are NOT indifferent to coupons
 - Interest rate views (price protection, coupon reinvestment, duration, and convexity management)
 - Possible tax implications (Market discount rule)
 - Cash flow needs (replace refunded higher coupon bonds)

Chart is for illustrative purposes only

Price Volatility

- Premium bonds provide protection against rising interest rates
- Discount bonds provide opportunity for investors to enhance their return in falling rate environment



	Discount	Par	Premium
Purchase Date	10/1/2026	10/1/2026	10/1/2026
Maturity	10/1/2046	10/1/2046	10/1/2046
Coupon	4.00%	4.25%	5.00%
Yield	4.25%	4.25%	4.25%
Price	96.654%	100.00%	110.037%
Purchase Date	4/1/2027	4/1/2027	4/1/2027
Maturity	10/1/2046	10/1/2046	10/1/2046
Coupon	4.00%	4.25%	5.00%
Yield	3.25%	3.25%	3.25%
Price	112.259%	116.345%	128.604%
% Price Change	14.604%	14.360%	13.716%
Purchase Date	4/1/2027	4/1/2027	4/1/2027
Maturity	10/1/2046	10/1/2046	10/1/2046
Coupon	4.00%	4.25%	5.00%
Yield	5.25%	5.25%	5.25%
Price	83.235%	86.588%	96.647%
% Price Change	(12.205%)	(12.114%)	(11.874%)

Pricing Callable Bonds

- Depending on the type of bond an investor holds, the call option an issuer holds may affect the yield that an investor expects

	Discount Bond	Par Bond	Premium Bond
Settlement Date	10/1/2026	10/1/2026	10/1/2026
Maturity	10/1/2046	10/1/2046	10/1/2046
Call	10/1/2036	10/1/2036	10/1/2036
Price to Maturity	87.449%	100.000%	114.958%
Coupon	4.00%	4.00%	4.00%
Yield to Maturity	5.00%	4.00%	3.00%
Yield to Call (Worst)	5.29%	4.00%	2.83%

- If a callable bond is called, the investor receives a lower yield than originally represented (“yield to worst”)

Callable Bonds Mechanics

- Callable bonds are identified with an asterisk or footnote when it is priced to a date other than the maturity date

Maturity Date (August 1)	Principal Amount	Interest Rate	Yield	Price
2027	\$1,065,000	5.000%	2.310%	102.365
2028	1,120,000	5.000	2.390	104.803
2029	1,180,000	5.000	2.470	107.022
2030	1,240,000	5.000	2.560	108.986
2031	1,300,000	5.000	2.620	110.863
2032	1,375,000	5.000	2.730	112.279
2033	1,440,000	5.000	2.830	113.502
2034	1,515,000	5.000	2.980	114.113
2035	1,590,000	5.000	3.090	114.751
2036	1,675,000	5.000	3.210	115.068
2037	1,760,000	5.000	3.360	113.704 ^c
2038	1,850,000	5.000	3.480	112.628 ^c
2039	1,945,000	5.000	3.620	111.387 ^c
2040	2,040,000	5.000	3.740	110.336 ^c
2041	2,145,000	5.000	3.820	109.643 ^c
2042	2,260,000	5.000	3.890	109.040 ^c
2043	2,375,000	5.000	3.950	108.526 ^c
2044	2,495,000	5.000	4.030	107.846 ^c
2045	2,625,000	5.000	4.110	107.171 ^c
2046	2,760,000	5.000	4.210	106.334 ^c

^c Yield to optional redemption date of August 1, 2036 at par.

Pricing Callable Premium Bonds

- MSRB rules require Issuers to sell OIPs at the price and yield that reflects the worst case for the investor (i.e. lower yield, higher price, or price to call)
- A higher coupon premium bond has a better chance of being called in the future, but has a bigger “kick” to maturity if it is not called

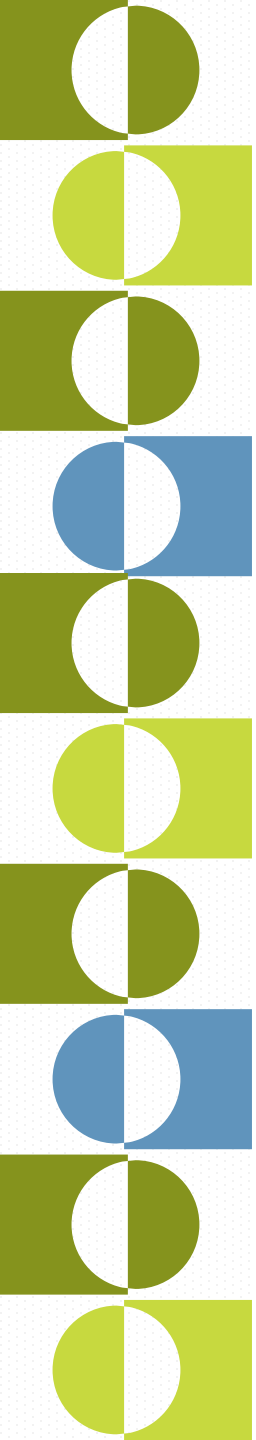
Bond Component	Maturity Date	Amount	Rate	Yield	Price	Yield to Maturity	Call Date	Call Price	Premium (-Discount)
Bond Component:									
	08/01/2027	1,065,000	5.000%	2.390%	102.293				24,420.45
	08/01/2028	1,120,000	5.000%	2.480%	104.633				51,889.60
	08/01/2029	1,180,000	5.000%	2.560%	106.762				79,791.60
	08/01/2030	1,240,000	5.000%	2.640%	108.677				107,594.80
	08/01/2031	1,300,000	5.000%	2.710%	110.428				135,564.00
	08/01/2032	1,375,000	5.000%	2.800%	111.874				163,267.50
	08/01/2033	1,440,000	5.000%	2.890%	113.101				188,654.40
	08/01/2034	1,515,000	5.000%	3.020%	113.812				209,251.80
	08/01/2035	1,590,000	5.000%	3.130%	114.417				229,230.30
	08/01/2036	1,675,000	5.000%	3.240%	114.793				247,782.75
	08/01/2037	1,755,000	5.000%	3.360%	113.704	C 3.478%	08/01/2036	100.000	240,505.20
	08/01/2038	1,850,000	5.000%	3.480%	112.628	C 3.679%	08/01/2036	100.000	233,618.00
	08/01/2039	1,945,000	5.000%	3.610%	111.475	C 3.861%	08/01/2036	100.000	223,188.75
	08/01/2040	2,040,000	5.000%	3.710%	110.598	C 3.998%	08/01/2036	100.000	216,199.20
	08/01/2041	2,145,000	5.000%	3.790%	109.902	C 4.104%	08/01/2036	100.000	212,397.90
	08/01/2042	2,260,000	5.000%	3.850%	109.384	C 4.185%	08/01/2036	100.000	212,078.40
	08/01/2043	2,375,000	5.000%	3.910%	108.868	C 4.258%	08/01/2036	100.000	210,615.00
	08/01/2044	2,495,000	5.000%	3.990%	108.186	C 4.337%	08/01/2036	100.000	204,240.70
	08/01/2045	2,620,000	5.000%	4.070%	107.508	C 4.410%	08/01/2036	100.000	196,709.60
	08/01/2046	2,760,000	5.000%	4.170%	106.668	C 4.489%	08/01/2036	100.000	164,036.80
		35,745,000							3,571,036.75

Investor's worse case (bonds called) / Issuer best case

▲ = 0.12% = “Kick to Maturity”

Investor's best case (bonds not called) / Issuer worst case

▲ = 0.32% = “Kick to Maturity”



Definitions

- **Arbitrage Yield** - The yield on an issue of bonds is used to apply investment yield restrictions. Yield is expressed as an annual percentage rate that is calculated to at least four decimal places. “Arbitrage” refers to the difference between the interest rate at which the bonds are issued, and the interest rate the bonds are invested (Investment Yield). Per IRS rules, if the Investment Yield exceeds the Arbitrage Yield, the dollar difference in earnings is “positive arbitrage” and must be rebated to the IRS. Conversely, if the Investment Yield is less than the Arbitrage Yield, the dollar difference in earnings is “negative arbitrage” and no rebate is owed.
- **True Interest Cost (TIC)** - The TIC is a method of calculating an issuer's borrowing interest cost, which considers the present value of the debt service payments. The rate necessary to discount the debt service payments, compounding semi-annually, to the purchase price received by the issuer at the time of bond closing. Similar to arbitrage yield in calculation method, except the target amount is reduced by the underwriters' discount also.
- **Net Interest Cost** - A method for computing the interest expense to the issuer of bonds for a particular issue. NIC accounts for any premium or discount and represents the dollar amount of interest payable over the life of an issue, without taking into account the time value of money (as is done in the TIC calculation method). The NIC rate is equal to:
$$(\text{Total Interest} + \text{Underwriter Fee} + \text{OID} - \text{Premium}) / \text{Total Bond Years}$$
, usually calculated from the dated date.
- **All-in True Interest Cost** - the discount rate, assuming semiannual compounding and a 30/360-day calendar, which is the net present value (NPV) of all payments of principal, interest, and future expenses equal to the par amount of bonds plus accrued interest plus premium less original issue discount less insurance premium less costs of issuance less other up front expenses, as applicable. The cash flows can be discounted to either the delivery date or the dated date.
- **Average Coupon** - The weighted average coupon of a bond issue, computed as the gross amount of bond interest divided by the number of bond years measured from the dated date (represents a 30/360-day calendar), or the average life of the bond.

Bond Statistics Calculations

- Calculates the yield that would be necessary to discount future principal and interest payments (cash flow) to equal the target value

	TIC	All-In TIC	Arbitrage Yield
Par Value	35,755,000.00	35,755,000.00	35,755,000.00
+ Accrued Interest			
+ Premium (Discount)	3,558,086.40	3,558,086.40	3,558,086.40
- Underwriter's Discount	-96,146.25	-96,146.25	
- Cost of Issuance Expense		-223,750.00	
- Other Amounts			
Target Value	39,216,940.15	38,993,190.15	39,313,086.40
Target Date	09/09/2026	09/09/2026	09/09/2026
Yield	3.938070%	4.002545%	3.591677%

Redemption Provisions

- Redemption is the ability for Issuer to refinance outstanding maturities on a certain date
- Redemption can be optional or mandatory

Optional Redemption	Mandatory Redemption
Flexibility to repay bond prior to maturity at a price (i.e. 100% - 105%)	Mandatory payment of principal on certain maturity dates
Issuer can call back stated maturities of the bond on an agreed upon date	Payment amounts are finalized the day of pricing
Issuers typically call a Bond for cash flow savings (similar to refinancing a mortgage)	

Optional Redemption

- Provides the Issuer with the option, not obligation, to call the bonds at a given price
 - Allows Issuer to have flexibility to repay bonds prior to stated maturity through a refinancing/refunding
- **Example:** Bond issued today can be sold with a call (optional redemption date) of August 1, 2036
 - Issuer can choose to call bonds any time on or after August 1, 2036

Optional Redemption. The 2026 Bonds maturing on or before August 1, 2036, are not subject to optional redemption prior to maturity. The 2026 Bonds maturing on August 1, 2037, and thereafter are subject to redemption prior to their stated maturity at the option of the Department, as a whole or in part on any date, by such maturities as are selected by the Department from any available source of funds on or after August 1, 2036, at a redemption price equal to the principal amount of the 2026 Bonds to be redeemed, together with accrued interest thereon to the date fixed for redemption.

Maturity Date (August 1)	Principal Amount	Interest Rate	Yield	Price
2027	\$1,065,000	5.000%	2.310%	102.365
2028	1,120,000	5.000	2.390	104.803
2029	1,180,000	5.000	2.470	107.022
2030	1,240,000	5.000	2.560	108.986
2031	1,300,000	5.000	2.620	110.863
2032	1,375,000	5.000	2.730	112.279
2033	1,440,000	5.000	2.830	113.502
2034	1,515,000	5.000	2.980	114.113
2035	1,590,000	5.000	3.090	114.751
2036	1,675,000	5.000	3.210	115.068
2037	1,760,000	5.000	3.360	113.704 ^c
2038	1,850,000	5.000	3.480	112.628 ^c
2039	1,945,000	5.000	3.620	111.387 ^c
2040	2,040,000	5.000	3.740	110.336 ^c
2041	2,145,000	5.000	3.820	109.643 ^c
2042	2,260,000	5.000	3.890	109.040 ^c
2043	2,375,000	5.000	3.950	108.526 ^c
2044	2,495,000	5.000	4.030	107.846 ^c
2045	2,625,000	5.000	4.110	107.171 ^c
2046	2,760,000	5.000	4.210	106.334 ^c

Chart is for illustrative purposes only

Mandatory Redemption

- Investor preferences may dictate the type of bond sold in the market
- Not all investors want a bond that matures longer than 20 years
 - Those that do may only be interested in a 25-year or 30-year bond
- Bond structure may include mandatory sinking funds between 20 – 30 year maturities (term bonds)
 - All bonds in these tranches are priced at the final maturity of the term bond

Bond Component	Maturity Date	Amount	Rate	Yield	Price	Yield to Maturity	Call Date	Call Price
Serial Bond:								
	08/01/2032	3,040,000	5.000%	2.610%	113.210			
	08/01/2033	2,855,000	5.000%	2.680%	114.733			
	08/01/2034	6,380,000	5.000%	2.780%	115.840			
	08/01/2035	625,000	5.000%	2.860%	116.888			
	08/01/2036	685,000	5.000%	2.930%	117.843			
	08/01/2037	735,000	5.000%	3.020%	116.992	C	3.160%	08/01/2036
	08/01/2038	780,000	5.000%	3.130%	115.961	C	3.373%	08/01/2036
	08/01/2039	845,000	5.000%	3.230%	115.033	C	3.547%	08/01/2036
	08/01/2040	915,000	5.000%	3.300%	114.389	C	3.676%	08/01/2036
	08/01/2041	390,000	5.000%	3.390%	113.567	C	3.805%	08/01/2036
	08/01/2042	415,000	5.000%	3.440%	113.114	C	3.892%	08/01/2036
	08/01/2043	435,000	5.000%	3.510%	112.483	C	3.983%	08/01/2036
	08/01/2044	455,000	5.000%	3.640%	111.322	C	4.104%	08/01/2036
	08/01/2045	485,000	5.000%	3.720%	110.614	C	4.185%	08/01/2036
	08/01/2046	510,000	5.000%	3.850%	109.476	C	4.290%	08/01/2036
		19,550,000						
Term Bond 2051:								
	08/01/2051	13,265,000	4.000%	4.230%	96.471			

Mandatory Redemption. The Bonds maturing on August 1, 2051 (the “2051 Term Bonds”) shall be subject to mandatory redemption on August 1 in the following respective years and in the following respective principal amounts by the application of Mandatory Sinking Fund Installments at a Redemption Price equal to the principal amount thereof, plus accrued interest to the date fixed for redemption, without premium:

Year (August 1)	Principal Amount
2047	\$2,445,000
2048	2,545,000
2049	2,650,000
2050	2,755,000
2051*	2,870,000

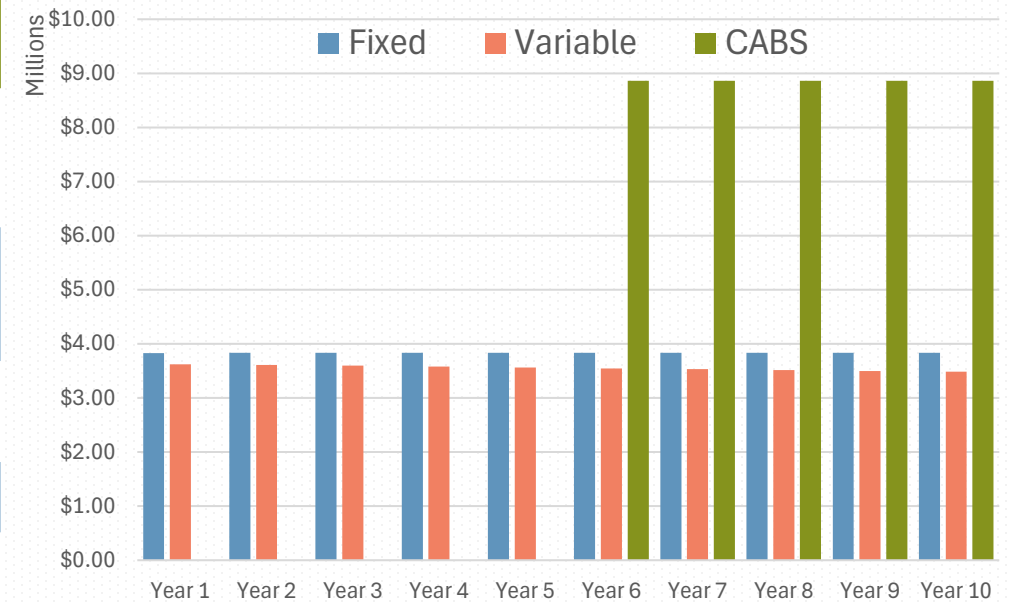
* Final Maturity

Chart is for illustrative purposes only

Fixed vs. Variable Bonds

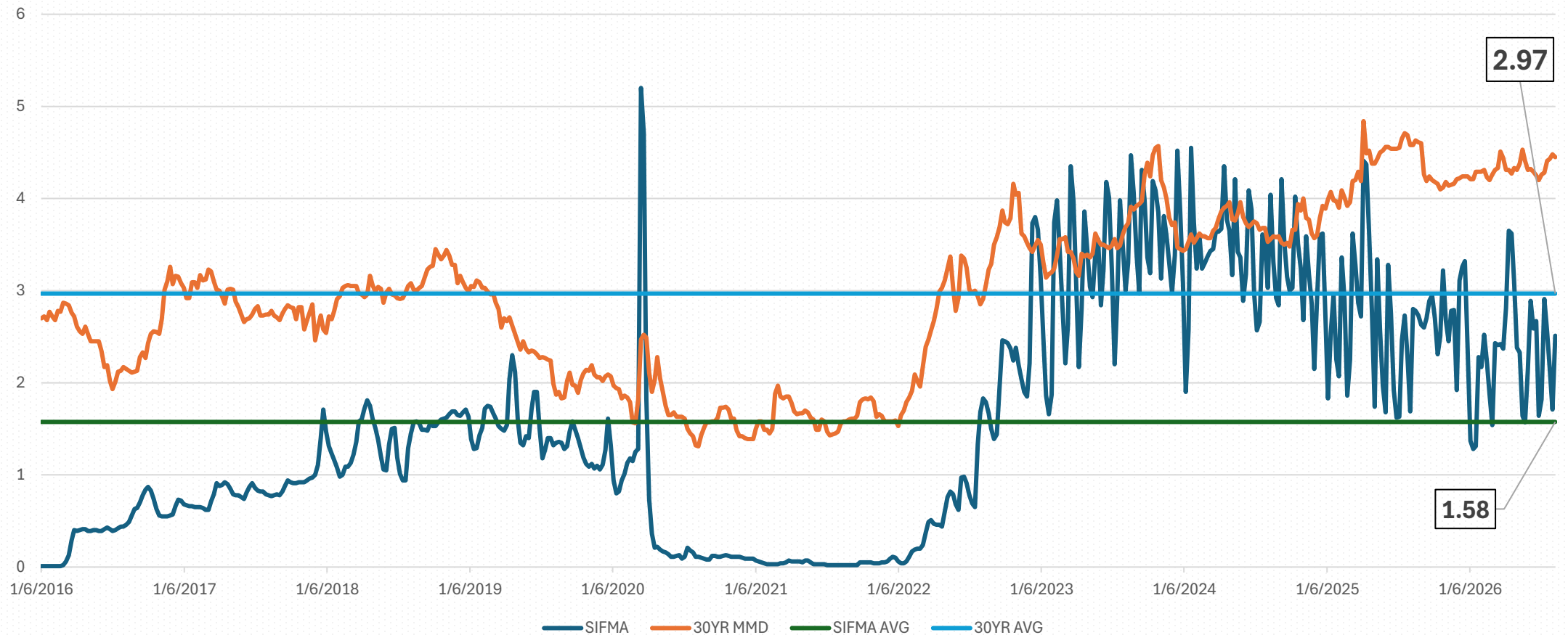
- While fixed rate bonds have set interest rates and yields known at pricing, variable bonds reset weekly (typically) and are subject to market movement
- Capital appreciate bonds (CAB) do not pay any interest until maturity dates (interest accretes)

	Fixed Rate Bonds	Variable Rate Bonds	Capital Appreciation Bonds (CAB)
Interest Rate	Fixed at Time of Pricing Medium Interest Rates	Variable (Reset Generally Weekly) Lowest Interest Rates	Fixed at Time of Pricing Higher Interest Rates
Debt Service Payments	Semi-Annual	Typically, Monthly Interest Payments	Compounds Semi-Annually; Paid at maturity Dates
Prepayment	Usually, 10 Years after Closing	Anytime	Non-callable or 10 Years after closing
Repayment	Typically, 30 Years	30 – 40 Years	Typically, 30 Years
Ongoing Fees	Low	High	Medium



Short-Term Yields Vs. Long-term Fixed Rate

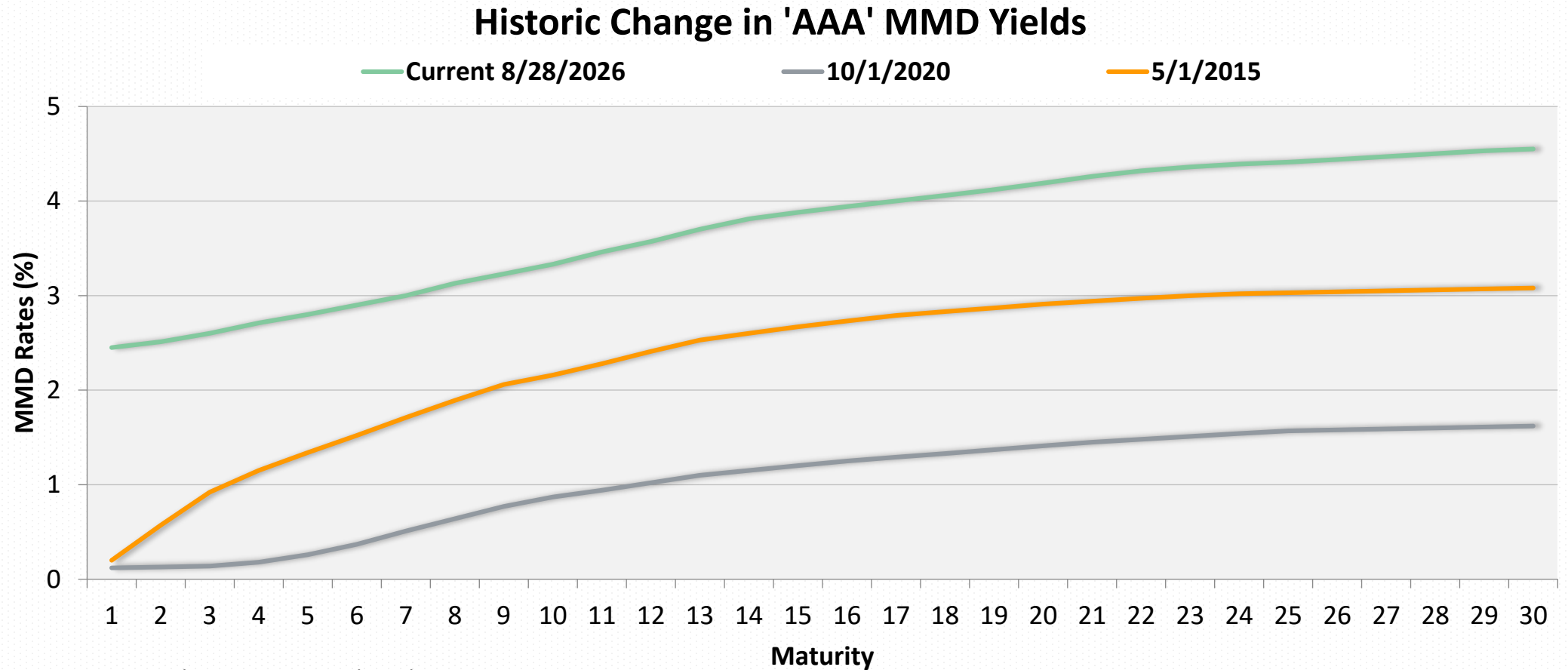
- Variable rates are based on short-term weekly indices that are typically lower than long-term yields



Source: SIFMA; Thomson Municipal Market Monitor

Tax-Exempt Market

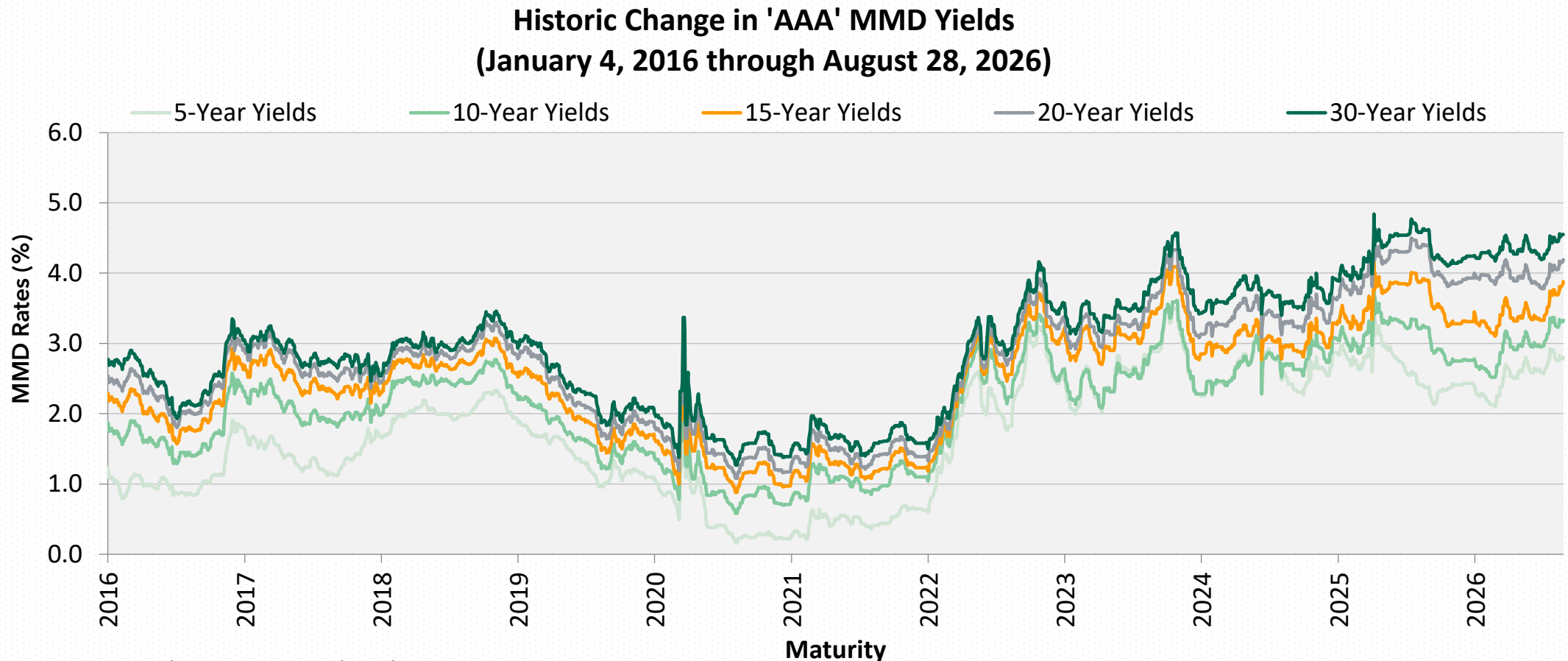
- The current yield curve has risen across all maturities since 2015



Note: "MMD" is the Municipal Market Date benchmark curve used to price tax-exempt municipal bonds

10YR Historic Change for MMD

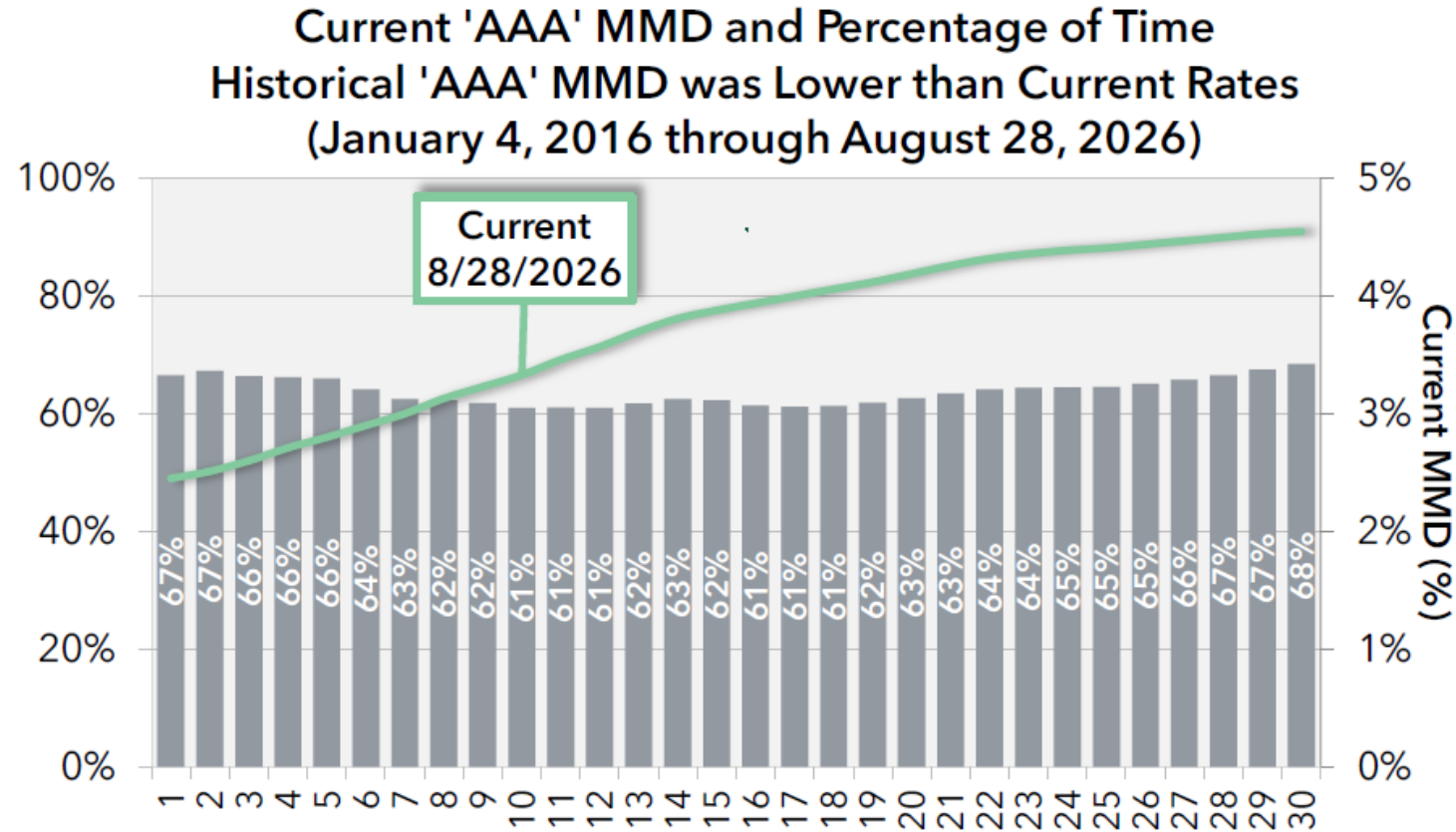
- The tax-exempt yield curve continues to show longer maturities with higher yields
- Current 2026 year has seen significant volatility



Note: "MMD" is the Municipal Market Date benchmark curve used to price tax-exempt municipal bonds

Tax-Exempt Market History

- The current tax-exempt market has been lower 60% - 70% of the time over the past ten years



Source: Thomson Municipal Market Monitor

Note: "MMD" is the Municipal Market Date benchmark curve used to price tax-exempt municipal bonds

Market Forecast

- Expectation for Fed Funds rate to hold steady through Q1 2027
- Market currently expects consistent rates through Q1 2027

Wall Street Median Forecast as of August 28, 2026

Metric	2026Q2	2026Q3	2026Q4	2027Q1
Fed Funds	3.75%	3.77%	3.78%	3.74%
3M SOFR	3.73%	3.71%	3.68%	3.64%
2Y Treas.	4.18%	4.12%	4.03%	3.94%
10Y Treas.	4.47%	4.57%	4.50%	4.45%
CPI YoY	3.90%	3.30%	3.30%	3.30%
Unemployment	4.30%	4.20%	4.30%	4.30%

Source: Bloomberg

QUESTIONS?

LORA NICHOLS

Vice President
Fieldman, Rolapp &
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