

# THE HFA INSTITUTE 2024

## MRBs 201



National Council of  
State Housing Agencies



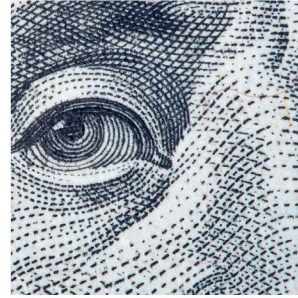
**MRBs and  
Other Federal  
Homeownership  
Programs**  
JANUARY 10 – 12



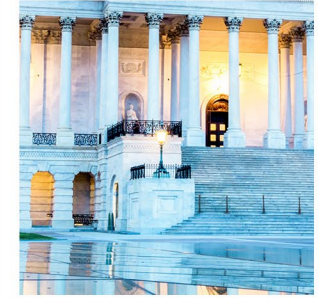
**Housing Credit**  
JANUARY 9 – 11



**Section 8 and  
Other Federal  
Multifamily  
Programs**  
JANUARY 10 – 12



**HOME and  
Housing Trust  
Fund**  
JANUARY 7 – 9



## DISCUSSION LEADER

### **Thomas Haffey**

Secondary Marketing Manager | Colorado Housing Finance Authority

## SPEAKERS

### **Gregory Borys**

Executive Director | Morgan Stanley

### **Robert Foggio**

Senior Vice President, Single Family Programs | Jefferies LLC

### **Patricia Ho**

Vice President | Caine Mitter

### **Bill Veronda**

Director | BofA Securities



## **NCSHA Institute: MRBs 201**

January 11, 2024

Gregory Borys, Executive Director

Morgan Stanley

[Gregory.Borys@morganstanley.com](mailto:Gregory.Borys@morganstanley.com)

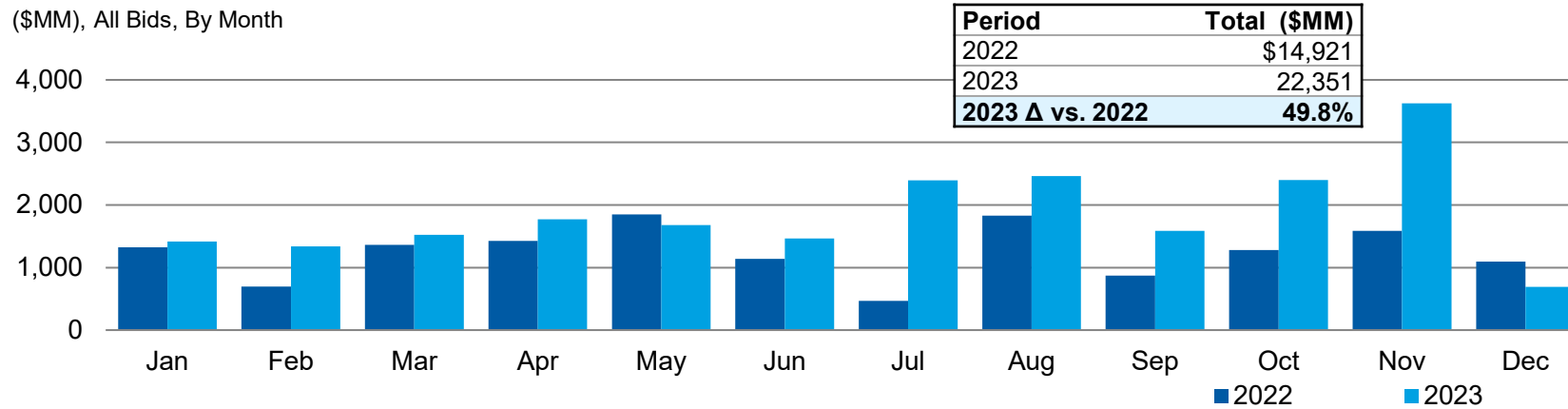
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# Housing Issuance: 2023 vs 2022

Issuance Volume is Up 22%, Driven by 50% Increase in Single Family Issuance

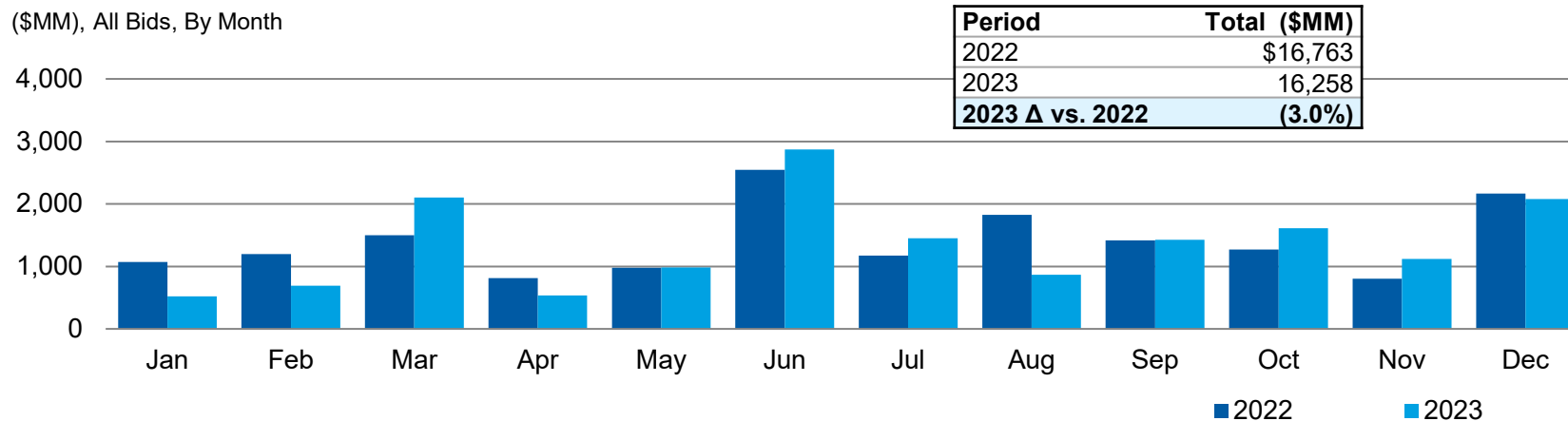
## Single Family Housing Issuance (+49.8% YoY)

(\$MM), All Bids, By Month



## Multifamily Housing Issuance (-3.0% YoY)

(\$MM), All Bids, By Month



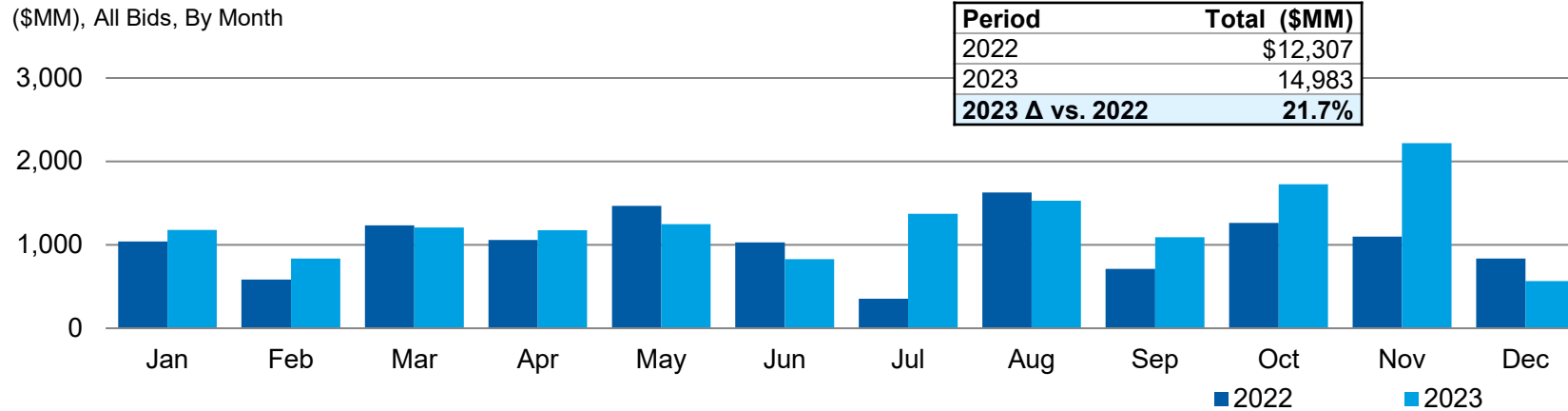
Note: Data as of January 4, 2023 Source: Refinitiv

# Single Family Housing Issuance: 2023 vs 2022

Tax Exempt Single Family Issuance is up 22%, Taxable Single Family Issuance is up 182% YOY

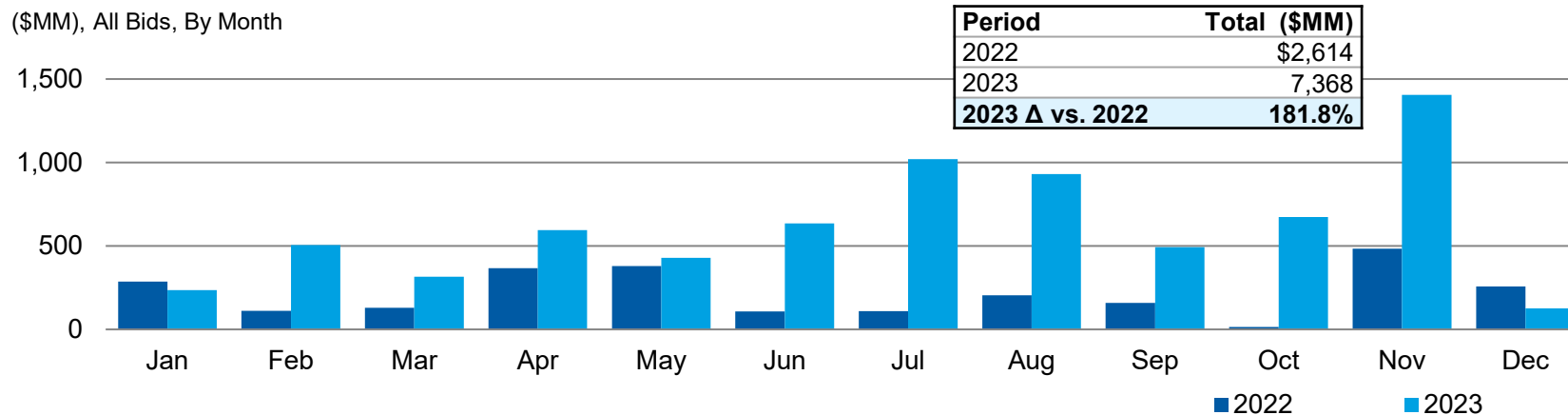
## Single Family Tax-Exempt Housing Issuance (+21.7% YoY)

(\$MM), All Bids, By Month



## Single Family Taxable Housing Issuance (+181.8% YoY)

(\$MM), All Bids, By Month



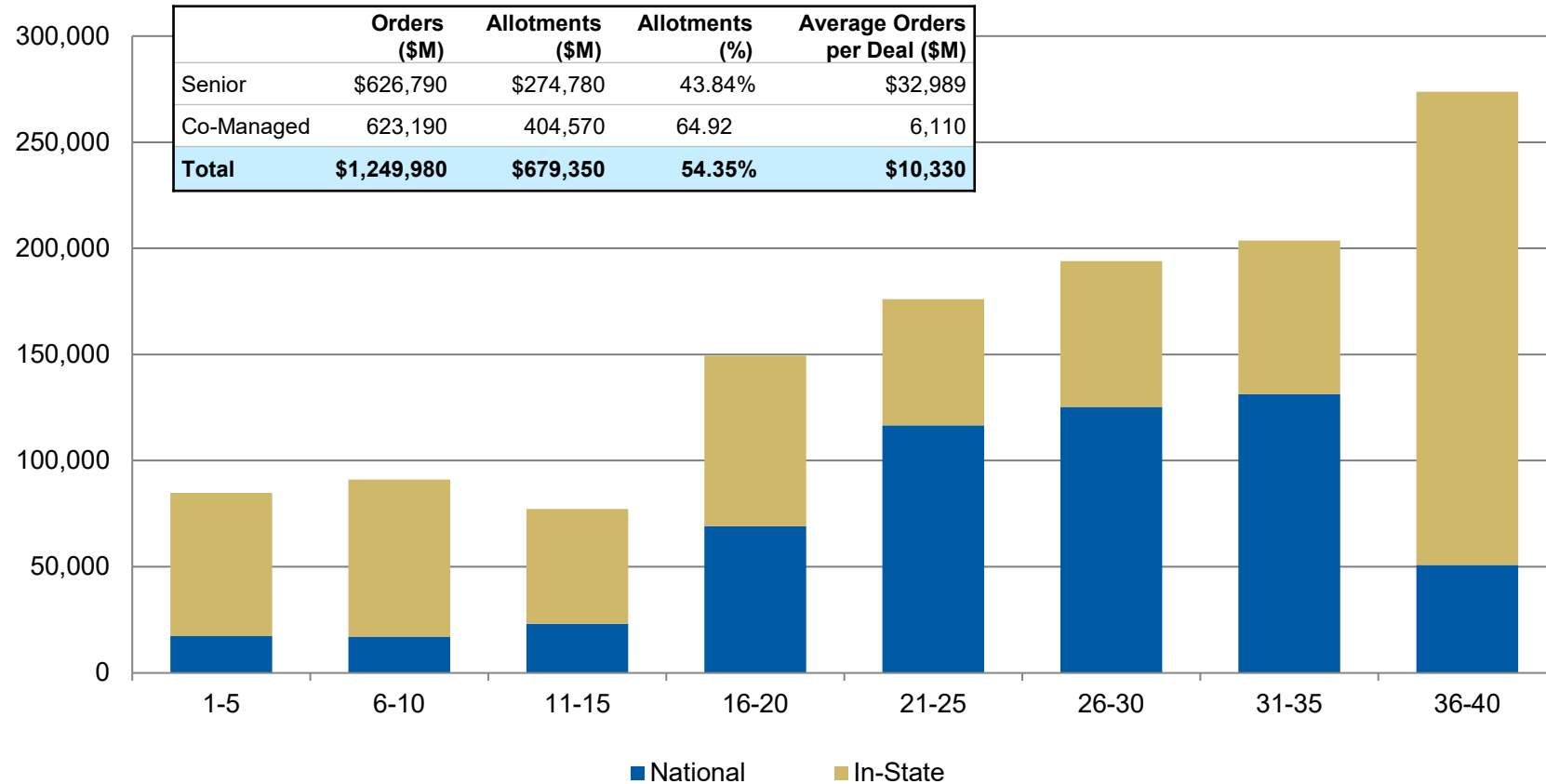
Note: Data as of January 4, 2023 Source: Refinitiv

# HFAs Received Strong Retail Demand Across the Curve in 2023

## Summary of Morgan Stanley Housing Retail Orders

### Total Retail Orders by Maturity Range: National Retail vs In-State Retail

(\$M), Years



Source: Morgan Stanley Ipreo Data

# Marketing to Retail Investors: Consider “Term Sheet” Style OS Cover

## Example: Florida Housing Finance Corporation

### Traditional Official Statement Cover

**NEW ISSUE: BOOK-ENTRY ONLY** **RATING:** See “RATING” herein

*In the opinion of Kutak Rock LLP, Bond Counsel, under existing statutes and court decisions and assuming continuing compliance with certain tax covenants described herein, interest on the 2020 Series 1 Bonds (as herein defined) is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”) and is not a specific preference item for purposes of the federal alternative minimum tax. In the further opinion of Bond Counsel, under existing statutes, the 2020 Series 1 Bonds and the interest thereon are not subject to taxation under the laws of the State of Florida, except for estate taxes imposed by Chapter 198, Florida Statutes, as amended, and the tax imposed by Chapter 229, Florida Statutes, as amended, on interest, income or profits on debt obligations owned by corporations, as defined in said Chapter 229. For a more complete discussion of certain tax aspects of purchasing or owning the 2020 Series 1 Bonds, see “TAX MATTERS” herein.*

**\$100,000,000**  
**FLORIDA HOUSING FINANCE CORPORATION**  
 Homeowner Mortgage Revenue Bonds  
 2020 Series 1 (Non-AMT)

**Dated:** Date of Delivery **Due:** As shown on the inside cover page

This Official Statement is furnished with respect to the offering for sale by the Florida Housing Finance Corporation of its \$100,000,000 Homeowner Mortgage Revenue Bonds, 2020 Series 1 (Non-AMT) (the “2020 Series 1 Bonds”). The 2020 Series 1 Bonds are being issued pursuant to a Trust Indenture, dated as of October 1, 1995 (the “Original Indenture”), as amended and supplemented by a Forty-Ninth Supplemental Trust Indenture, dated as of July 1, 2020 (the “Supplemental Indenture”) (as so amended and supplemented together with any prior amendments or supplements to the Original Indenture, collectively referred to as the “Indenture”), each between the Florida Housing Finance Agency (the “Agency”) or the Florida Housing Finance Corporation, as statutory successor to the Agency (collectively, “Florida Housing”), and The Bank of New York Mellon Trust Company, N.A. (formerly known as “The Bank of New York Trust Company, N.A.”), as trustee (the “Trustee”).

The 2020 Series 1 Bonds are issuable only in fully registered form, without coupons, initially in denominations of \$5,000 and integral multiples thereof. When issued, the 2020 Series 1 Bonds will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC” or the “Securities Depository”). DTC will act as securities depository for the 2020 Series 1 Bonds. Accordingly, principal of and interest on the 2020 Series 1 Bonds will be paid by Trustee, directly to DTC as the registered owner thereof. DTC will in turn remit such principal and interest to its Participants (as defined herein) for subsequent distribution to the Beneficial Owners (as defined herein) of the 2020 Series 1 Bonds. See “APPENDIX C - BOOK-ENTRY ONLY SYSTEM” attached hereto.

The 2020 Series 1 Bonds will bear interest from their date of delivery to their maturity or prior redemption at the rates set forth on the inside cover page hereof, payable on each January 1 and July 1, commencing January 1, 2021.

The 2020 Series 1 Bonds are subject to redemption, including optional redemption, mandatory sinking fund redemption and special redemption, in whole or in part, prior to their stated maturities, as more fully set forth herein. It is expected that a substantial portion of the 2020 Series 1 Bonds will be redeemed prior to their stated maturities. See “REDEMPTION PROVISIONS FOR THE 2020 SERIES 1 BONDS” herein.

The 2020 Series 1 Bonds are being issued by Florida Housing under and pursuant to the Indenture to make funds available to (i) finance, purchase or acquire, along with other funds available to Florida Housing, Mortgage-Backed Securities (as defined herein) (or participations therein) guaranteed as to timely payment of principal and interest by the Government National Mortgage Association (“GNMA”), the Federal National Mortgage Association (“Fannie Mae”), or the Federal Home Loan Mortgage Corporation (“Freddie Mac”), and backed by first-lien mortgage loans made to eligible persons or families to finance the purchase of single family, owner-occupied residences, which satisfy the Series Program Determinations set forth in the Supplemental Indenture, in order to effectuate Florida Housing’s public purpose of providing safe and sanitary affordable housing, all in accordance with the Act (as such term is defined herein) and the Indenture, and (ii) make deposits in other Funds and Accounts as described herein. See “ESTIMATED SOURCES AND USES OF 2020 SERIES 1 BONDS” herein. The 2020 Series 1 Bonds are secured on a parity with the Prior Bonds (as defined herein) and any Additional Bonds (as defined herein) that may be issued under the Indenture. See “SECURITY FOR THE BONDS” herein.

FLORIDA HOUSING HAS NO TAXING POWER. THE 2020 SERIES 1 BONDS SHALL NOT CONSTITUTE AN OBLIGATION, EITHER GENERAL OR SPECIAL, OF THE STATE OF FLORIDA (THE “STATE”) OR ANY AGENCY OR LOCAL GOVERNMENT THEREOF, AND NEITHER THE STATE NOR ANY AGENCY OR LOCAL GOVERNMENT THEREOF SHALL BE LIABLE THEREON. NEITHER THE PATH, REVENUES, CREDIT NOR TAXING POWER OF THE STATE OR ANY AGENCY OR LOCAL GOVERNMENT THEREOF SHALL BE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF, OR PREMIUM, IF ANY, OR INTEREST ON, THE 2020 SERIES 1 BONDS. THE 2020 SERIES 1 BONDS ARE LIMITED OBLIGATIONS OF FLORIDA HOUSING AND ARE PAYABLE AS TO PRINCIPAL, INTEREST AND PREMIUM, IF ANY, SOLELY FROM THE TRUST ESTATE PLEDGED THEREFOR PURSUANT TO THE INDENTURE.

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

The 2020 Series 1 Bonds are offered for delivery when, as and if issued by Florida Housing and accepted by the Underwriters, subject to prior sale, withdrawal or modification of the offer without notice and the approval of legality by Kutak Rock LLP, Atlanta, Georgia, Bond Counsel to Florida Housing. Certain legal matters will be passed upon by the Underwriters by their counsel, Hawkins Delahoid & Wood LLP, New York, New York, and for Florida Housing by its Special Counsel and Disclosure Counsel, Nabors, Gilhin & Nickerson, P.A., Tampa, Florida. Caine Mitter & Associates Incorporated, New York, New York, is serving as Financial Advisor to Florida Housing. It is expected that the 2020 Series 1 Bonds will be delivered in book-entry form through the facilities of DTC in New York, New York, on or about July 15, 2020.

**Raymond James**  
**Morgan Stanley**  
**BofA Securities**

**Citigroup** **RBC Capital Markets**

Dated: June 24, 2020



### Term Sheet Style Official Statement Cover

**NEW ISSUE: BOOK-ENTRY ONLY** **RATING:** See “RATING” herein

*In the opinion of Kutak Rock LLP, Bond Counsel, under existing statutes and court decisions and assuming continuing compliance with certain tax covenants described herein, interest on the 2020 Series 2 Bonds (as herein defined) is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”) and is not a specific preference item for purposes of the federal alternative minimum tax. In the further opinion of Bond Counsel, under existing statutes, the 2020 Series 2 Bonds and the interest thereon are not subject to taxation under the laws of the State of Florida, except for estate taxes imposed by Chapter 198, Florida Statutes, as amended, and the tax imposed by Chapter 230, Florida Statutes, as amended, on interest, income or profits on debt obligations owned by corporations, as defined in said Chapter 229. For a more complete discussion of certain tax aspects of purchasing or owning the 2020 Series 2 Bonds, see “TAX MATTERS” herein.*

**\$125,000,000**  
**FLORIDA HOUSING FINANCE CORPORATION**  
 Homeowner Mortgage Revenue Bonds  
 2020 Series 2 (Non-AMT) (Social Bonds)

**Dated / Delivery Date:** On or about October 28, 2020.  
**Due:** As shown on the inside cover page hereof.  
**2020 Series 2 Bonds Designated as Social Bonds:** The Homeowner Mortgage Revenue Bonds, 2020 Series 2 (Non-AMT) (Social Bonds) (the “2020 Series 2 Bonds”) are designated as “Social Bonds.” See “DESIGNATION OF THE 2020 SERIES 2 BONDS AS SOCIAL BONDS” herein.  
**Issuance Authorization:** The 2020 Series 2 Bonds are being issued pursuant to a Trust Indenture, dated as of October 1, 1995 (the “Original Indenture”), as amended and supplemented by a Fifthth Supplemental Trust Indenture, dated as of October 1, 2020 (the “Supplemental Indenture”) (as so amended and supplemented together with any prior amendments or supplements to the Original Indenture, collectively referred to as the “Indenture”).  
**Denominations:** \$5,000 and integral multiples thereof.  
**Book-Entry Only System:** The Depository Trust Company, New York, New York (“DTC” or the “Securities Depository”). See “APPENDIX C - BOOK-ENTRY ONLY SYSTEM” herein.  
**Interest Rates:** As set forth on the inside cover page hereof.  
**Interest Payment Dates:** January 1 and July 1, of each year commencing January 1, 2021.  
**Redemption:** The 2020 Series 2 Bonds are subject to redemption, including optional redemption, mandatory sinking fund redemption and special redemption, in whole or in part, prior to their stated maturities, as more fully set forth herein. See “REDEMPTION PROVISIONS FOR THE 2020 SERIES 2 BONDS” herein.  
**Purpose:** The 2020 Series 2 Bonds are being issued to (i) finance, purchase or acquire, along with other funds available to Florida Housing, Mortgage-Backed Securities (as defined herein) (or participations therein) guaranteed as to timely payment of principal and interest by the Government National Mortgage Association (“GNMA”), the Federal National Mortgage Association (“Fannie Mae”), or the Federal Home Loan Mortgage Corporation (“Freddie Mac”), and backed by first-lien mortgage loans made to eligible persons or families to finance the purchase of single family, owner-occupied residences, which satisfy the Series Program Determinations set forth in the Supplemental Indenture, in order to effectuate Florida Housing’s public purpose of providing safe and sanitary affordable housing, all in accordance with the Act (as such term is defined herein) and the Indenture, (ii) finance the purchase of 2020 Series 2 IPA Loans, and (iii) make deposits in other Funds and Accounts as described herein. See “ESTIMATED SOURCES AND USES OF 2020 SERIES 2 BONDS” herein.  
**Security:** The 2020 Series 2 Bonds are secured on a parity with the Prior Bonds (as defined herein) and any Additional Bonds (as defined herein) that may be issued under the Indenture. See “SECURITY FOR THE BONDS” herein.  
**FLORIDA HOUSING HAS NO TAXING POWER. THE 2020 SERIES 2 BONDS SHALL NOT CONSTITUTE AN OBLIGATION, EITHER GENERAL OR SPECIAL, OF THE STATE OF FLORIDA (THE “STATE”) OR ANY AGENCY OR LOCAL GOVERNMENT THEREOF, AND NEITHER THE STATE NOR ANY AGENCY OR LOCAL GOVERNMENT THEREOF SHALL BE LIABLE THEREON. NEITHER THE PATH, REVENUES, CREDIT NOR TAXING POWER OF THE STATE OR ANY AGENCY OR LOCAL GOVERNMENT THEREOF SHALL BE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF, OR PREMIUM, IF ANY, OR INTEREST ON, THE 2020 SERIES 2 BONDS. THE 2020 SERIES 2 BONDS ARE LIMITED OBLIGATIONS OF FLORIDA HOUSING AND ARE PAYABLE AS TO PRINCIPAL, INTEREST AND PREMIUM, IF ANY, SOLELY FROM THE TRUST ESTATE PLEDGED THEREFOR PURSUANT TO THE INDENTURE.**  
**Trustee:** The Bank of New York Mellon Trust Company, N.A. (the “Trustee”)  
**Bond Counsel:** Kutak Rock LLP, Atlanta, Georgia  
**Underwriters’ Counsel:** Locke Lord LLP, Boston, Massachusetts  
**Special Counsel and Disclosure Counsel:** Latham, Luma, Eden & Beaudine, LLP, Orlando, Florida  
**Financial Advisor:** Caine Mitter & Associates Incorporated, New York, New York

**BofA Securities** **Morgan Stanley**  
**Citigroup** **RBC Capital Markets**

Dated: September 22, 2020

Source: Florida Housing HMRB 2020 Series 1 and HMRB 2020 Series 2 Official Statements

# Marketing to Retail Investors: Consider Indenture Summaries

## Example: Florida Housing Finance Corporation

### SELECTED FINANCIAL INFORMATION FROM THE INDENTURE AS OF JULY 31, 2023

The table below provides selected financial information from the Indenture as of July 31, 2023. Such table is not a summary or overview of the Indenture.

#### Assets (Mortgage-Backed Securities and DPA Loans)

<b>Mortgage-Backed Securities</b>	<b>\$1,275,033,804</b>
GNMA	\$1,065,449,004 (83.56%)
FNMA	\$206,655,208 (16.21%)
FHLMC	\$ 2,929,592 (0.23%)
<b>Program Funds available to purchase Mortgage-Backed Securities and DPA Loans</b>	<b>\$166,403,235</b>
<b>DPA Loans</b>	<b>\$60,030,421</b>
<b>Total Assets</b>	<b>\$1,501,467,460</b>

#### Liabilities

<b>Bonds Outstanding</b>	<b>\$1,391,719,397</b>
Fixed Rate	100%

Source: Florida Housing HMRB 2023 Series 5 and Series 6 Official Statement

# Marketing to Retail Investors: Consider Indenture Summaries

## Example: Washington State Housing Finance Commission

<b>Balance Sheet Information—Parity Assets and Liabilities (1)(2)</b> (Fiscal Years Ending June 30)					
	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
<b>MORTGAGE-BACKED SECURITIES</b>					
(FHLMC, FNMA, GNMA) Principal Balance at Par	\$606,204,444	\$528,034,464	\$511,827,567	\$572,210,092	\$519,836,416
<b>ACCRUED INTEREST RECEIVABLES</b>					
Investments	282,299	40,220	1,577	3,375	133,765
Mortgage-Backed Securities	1,765,503	1,390,362	1,472,249	1,736,467	1,628,338
<i>Total Accrued Interest Receivables</i>	<u>2,047,802</u>	<u>1,430,582</u>	<u>1,473,826</u>	<u>1,739,842</u>	<u>1,762,103</u>
<b>CASH, CASH EQUIVALENTS &amp; INVESTMENTS</b>					
Acquisition Funds	44,213,231	6,496,449	63,310,203	15,369,872	49,605,803
Revenue Funds	21,409,722	37,044,517	31,035,692	28,233,160	20,021,085
<i>Total Cash, Cash Equivalents &amp; Investments</i>	<u>65,622,953</u>	<u>43,540,966</u>	<u>94,345,895</u>	<u>43,603,032</u>	<u>69,626,888</u>
<i>Total Assets</i>	<u>\$673,875,199</u>	<u>\$573,006,012</u>	<u>\$607,647,288</u>	<u>\$620,552,966</u>	<u>\$591,225,407</u>
<b>BONDS PAYABLE (3)</b>					
Tax-Exempt Bonds (Fixed Rate)	529,085,000	449,965,000	490,420,000	512,180,000	487,940,000
Tax-Exempt Bonds (Variable Rate)	37,500,000	37,500,000	37,500,000	37,500,000	37,500,000
Taxable Bonds (Fixed Rate)	14,700,000	—	—	—	—
Taxable Bonds (Variable Rate)	—	—	—	—	—
Accrued Interest Payable	1,694,447	1,099,704	1,264,020	1,404,162	1,414,560
<i>Total Bonds Payable</i>	<u>582,979,447</u>	<u>488,564,704</u>	<u>529,184,020</u>	<u>551,084,162</u>	<u>526,854,560</u>
<i>Total Bonds Payable (Fixed Rate)</i>	94%	92%	93%	93%	93%
<i>Total Bonds Payable (Variable Rate)</i>	6%	8%	7%	7%	7%
<i>Total Liabilities</i>	<u>\$ 582,979,447</u>	<u>\$ 488,564,704</u>	<u>\$ 529,184,020</u>	<u>\$551,084,162</u>	<u>\$526,854,560</u>
NET PARITY – Principal Assets and Liabilities	<u>\$ 90,895,752</u>	<u>\$ 84,441,308</u>	<u>\$ 78,463,268</u>	<u>\$69,468,804</u>	<u>\$64,370,847</u>
PARITY AS A PERCENTAGE OF ASSETS	115.59%	117.28%	114.83%	112.61%	112.22%

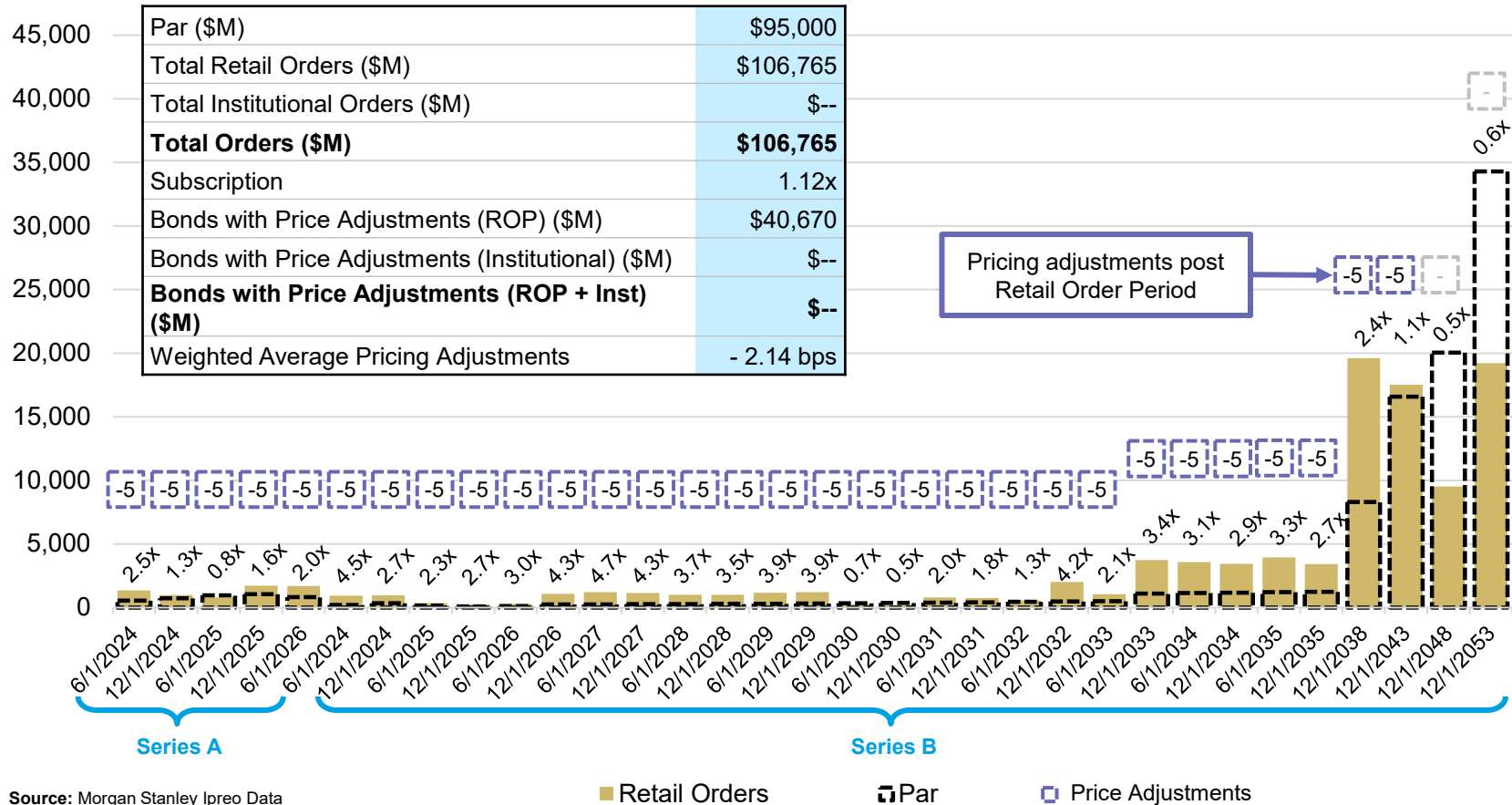
Source: Washington HFC SFPB 2023 Series 2 Official Statement

# Maximizing Retail Benefit via Syndicate Policies: Consider “50/50 Rule”

“50/50 Rule” Reserves At Least 50% of Bonds for Institutional Investors During Retail Order Period

## Total Retail Orders by Maturity For Illustrative Tax-Exempt Morgan Stanley Housing Transaction

(\$M); Price Change (bps)

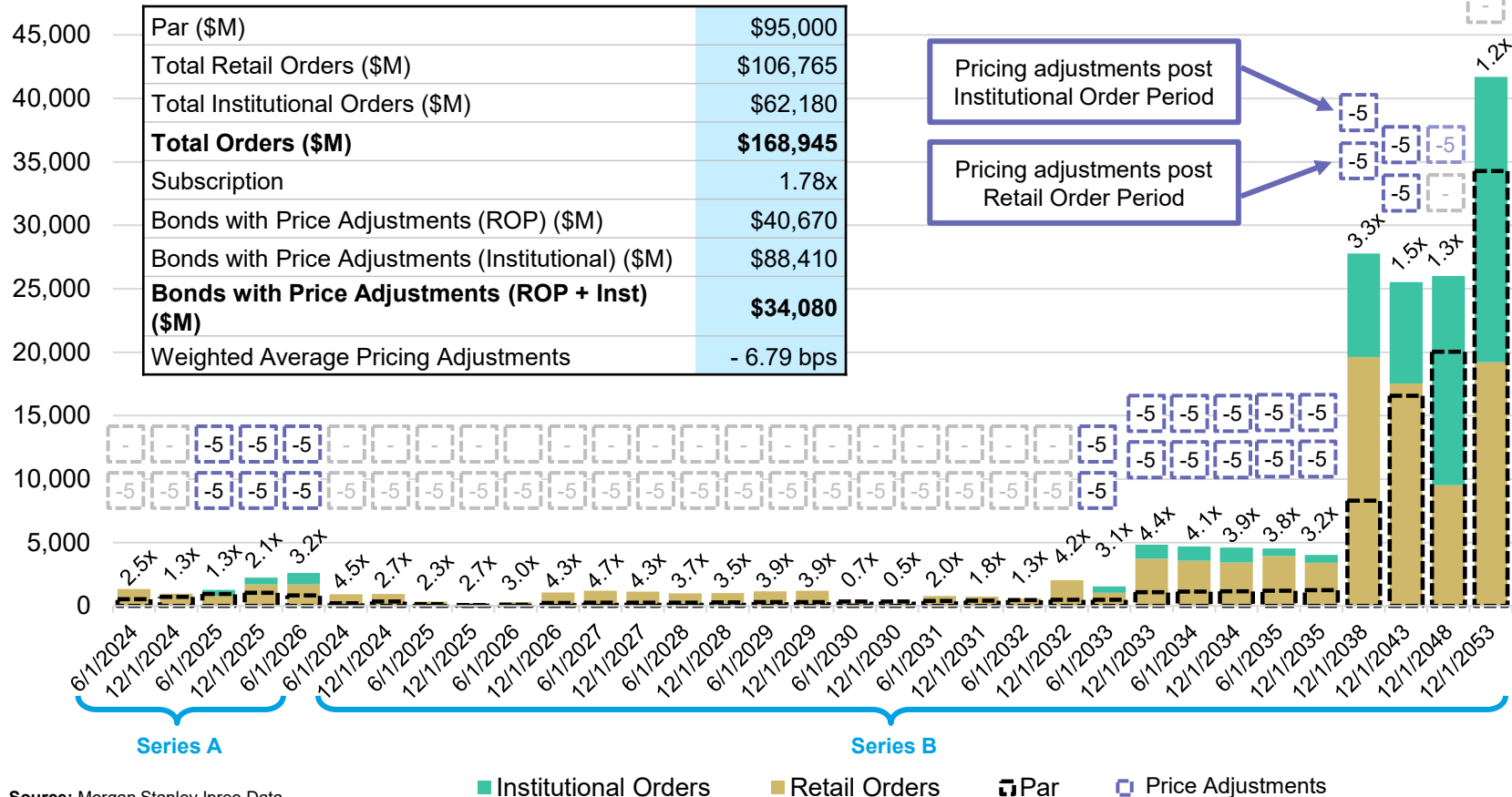


# Maximizing Retail Benefit via Syndicate Policies: Consider “50/50 Rule”

“50/50 Rule” Reserves At Least 50% of Bonds for Institutional Investors During Retail Order Period

## Total Retail Orders by Maturity For Illustrative Tax-Exempt Morgan Stanley Housing Transaction

(\$M); Price Change (bps)



Source: Morgan Stanley Ipreo Data

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# NCSHA HFA Institute- MRBs 201

Taxable Bonds

January 11, 2024

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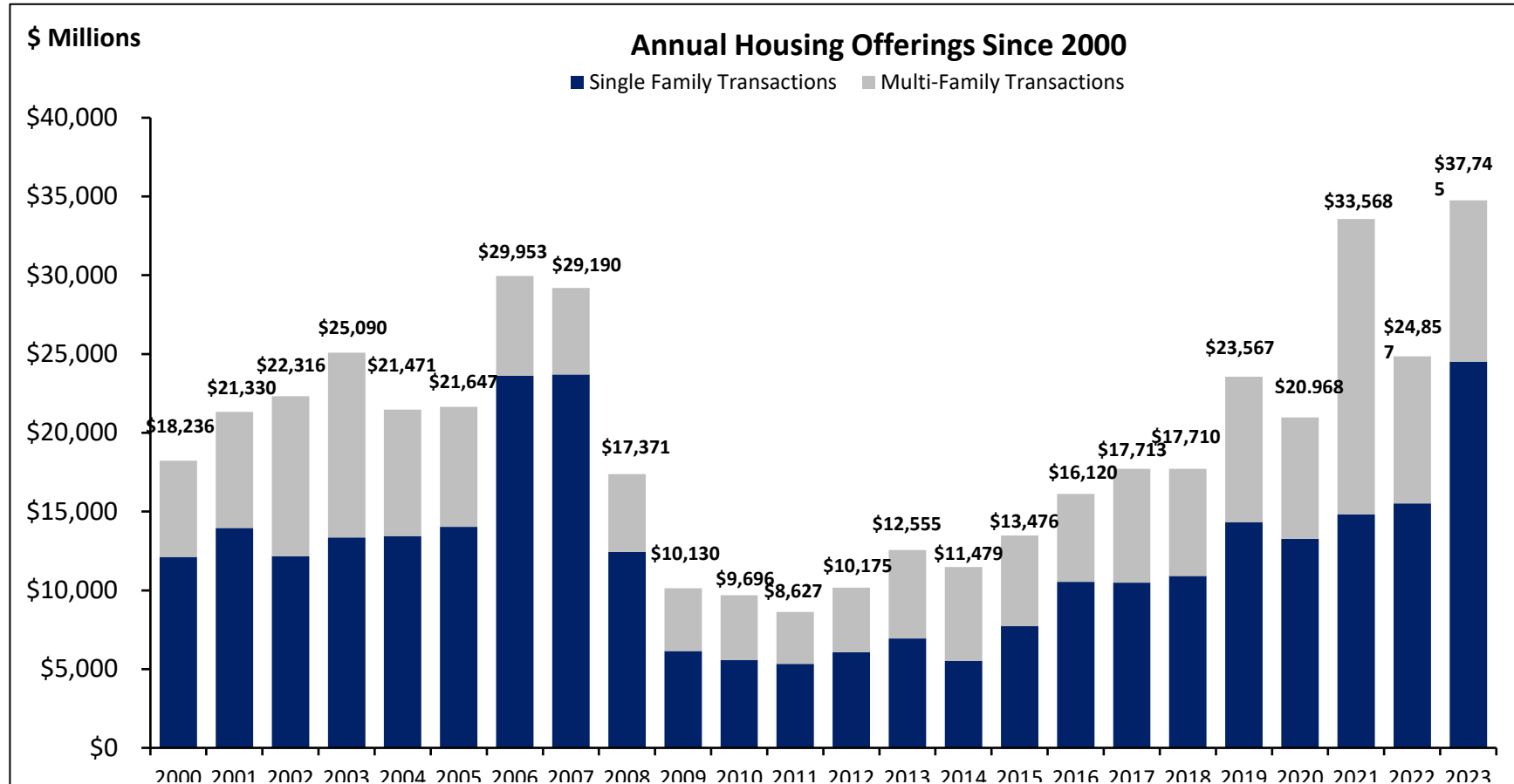
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# Municipal Market Update

## Housing Bond Offerings

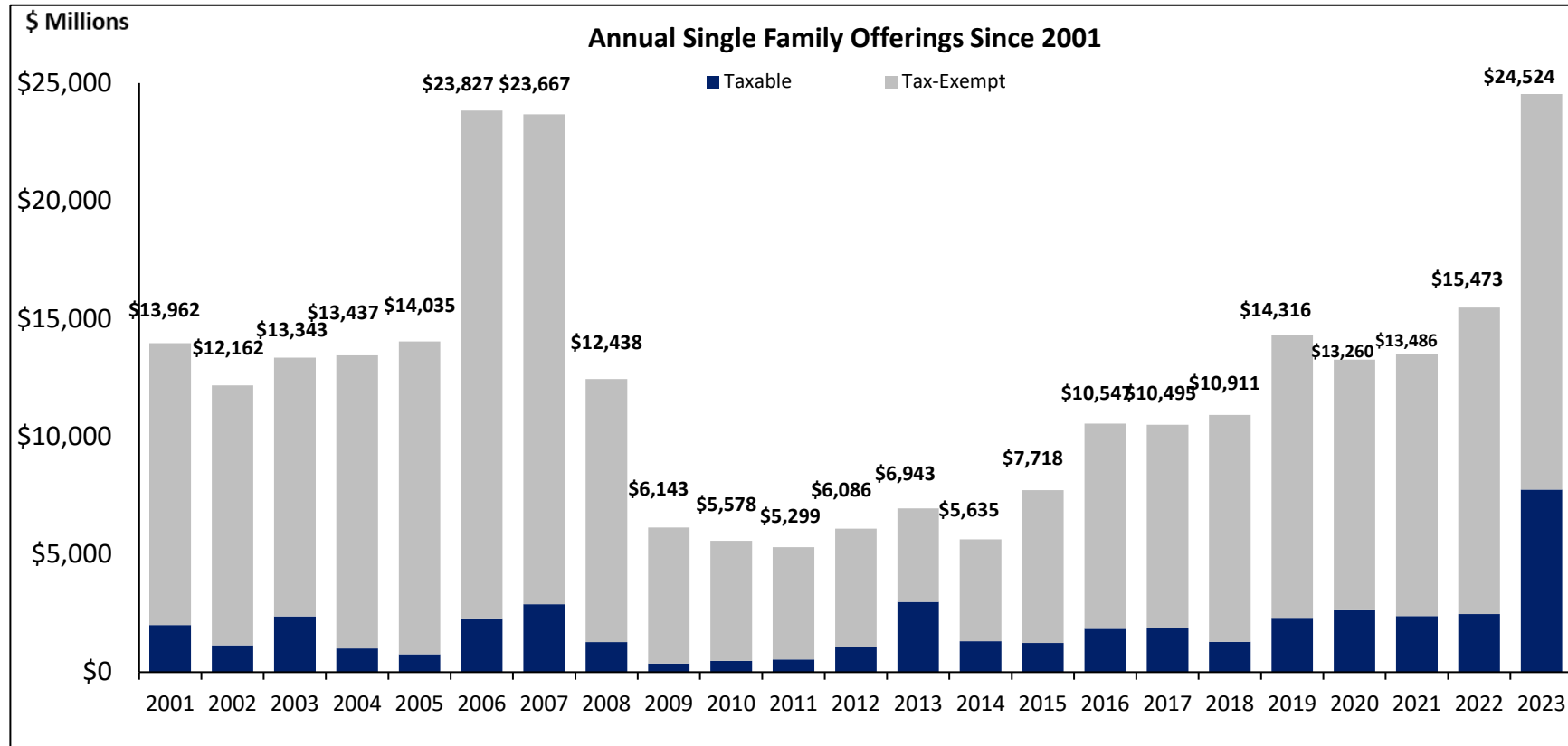


- Housing bond sales in 2023 totaled \$37.7 billion, a 52% increase from 2022
- Greater single family bond issuance was responsible for the majority of the increase
  - Single family issuance increased 58% YoY to \$24.5 billion
  - Multi-family issuance decreased 9% YoY to \$10.2 billion

<sup>1</sup> Source: SDC via Refinitiv, 1/1/2000 – 12/31/2023

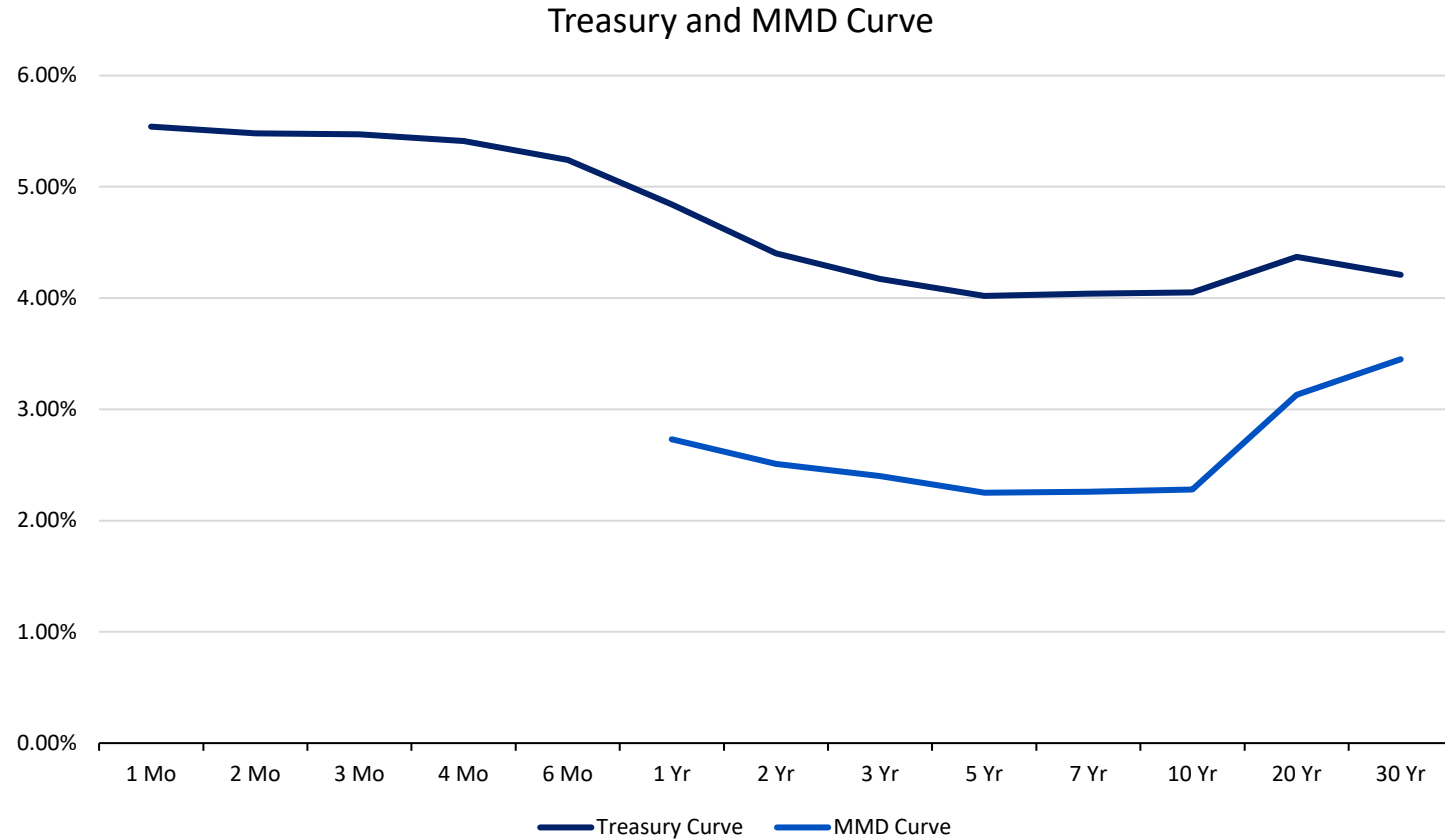
# Municipal Market Update

## Housing Bond Offerings



- Single Family issuance in 2023 was the highest annual issuance of all time
- A higher rate environment increases the value of tax-exempt bonds vs. taxable bonds
- Due to the decrease in TBA prices and scarcity of tax-exempt cap, taxable bond issuance increased 215% YoY to \$7.7 billion
- Total municipal issuance for 2023 was \$362.9 billion, 10.4% of which was housing issuance
  - Housing bond issuance is countercyclical

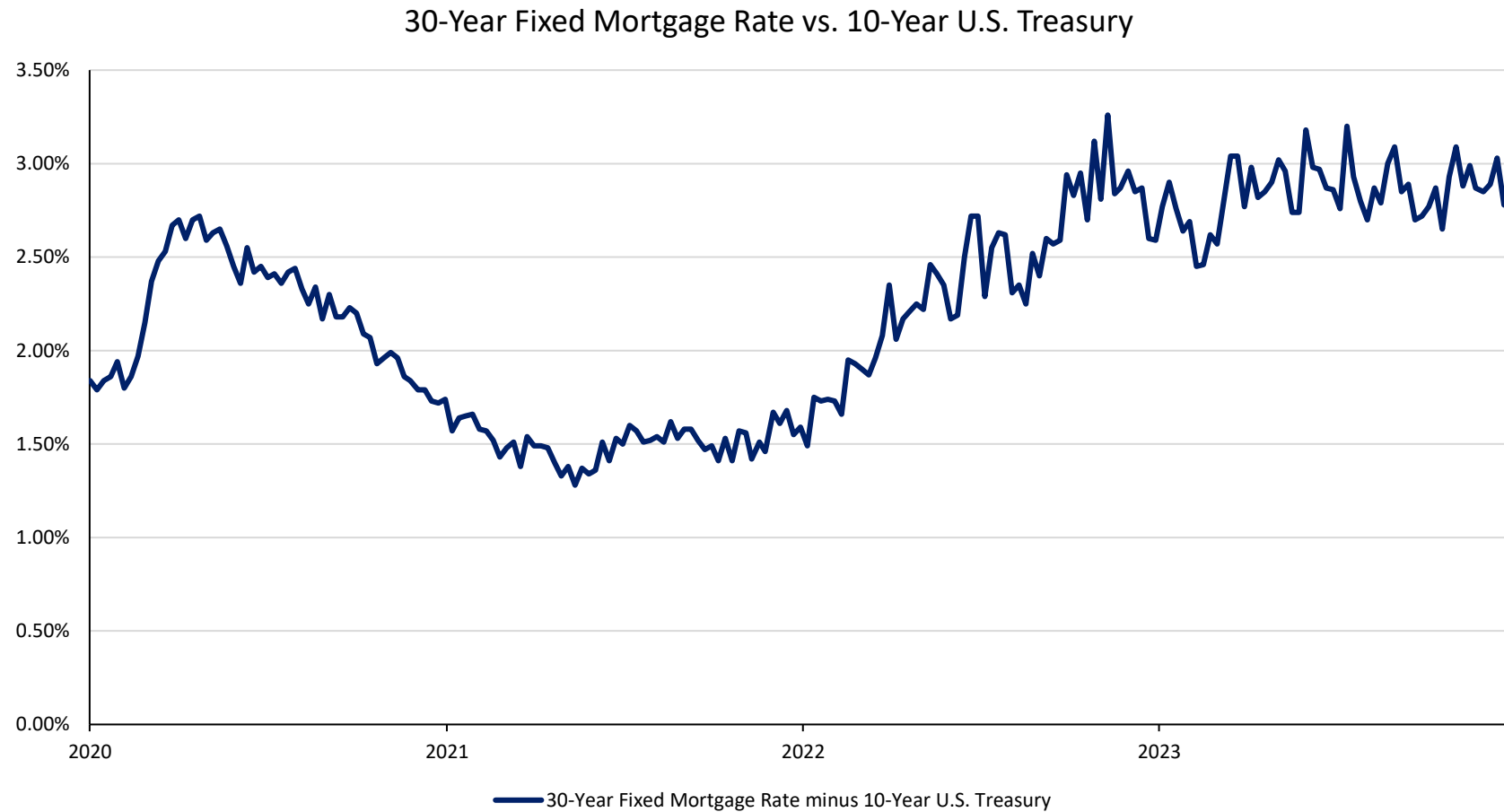
# Treasury and MMD Yield Curve



# Mortgage Rates



- During quantitative easing, the Fed compressed mortgage rates, although they are now higher, currently above 6.50% as of January 4<sup>th</sup>



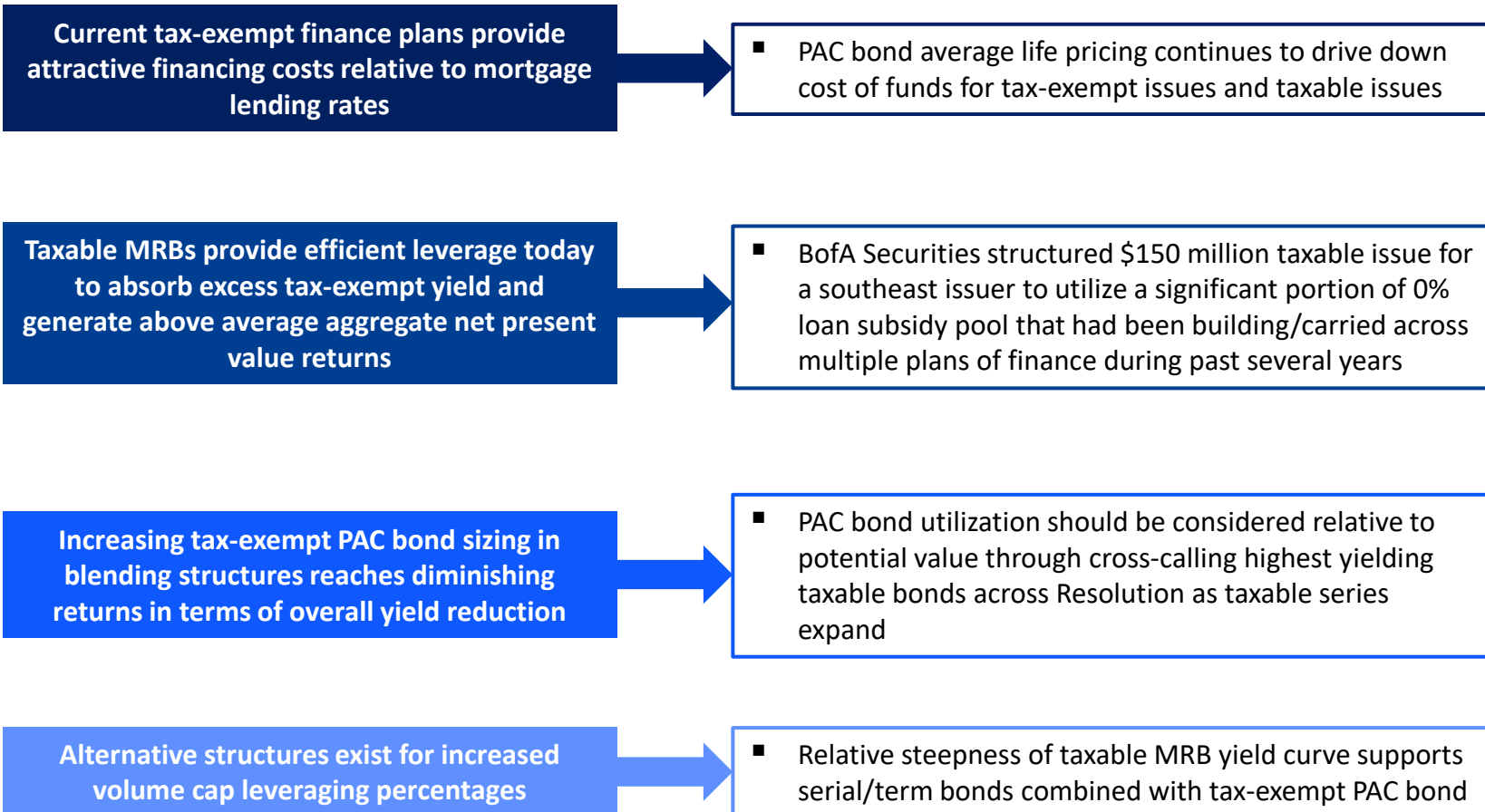
# How to Structure Blending % ?



The % mix of blending taxable is dependent on each issuer

- Pipeline projection
- Volume cap constraint
- Incremental blending at what cost
- Maximization of replacement refunding opportunity
- Zero percent subsidy program utilization
- Opportunity to create zeros for unrestricted use

# Where are the Opportunities?





# Municipal Market Update

## Recent Historical Taxable Pricing – Housing Transactions

- The savings in yield on a PAC vs. 30 year fixed-rate bond varies depending on the slope of the yield curve and spread levels
- The pickup for Rhode Island HMFC, Illinois HDA, North Carolina HFA and Ohio HFA were 16, 26, 18 and 37 basis points, respectively
- There are two taxable deals that priced this week; North Carolina HFA and Kentucky Housing Corporation

Taxable PAC Bond Pricing									
Pricing Date	Issuer	Rating	WAL	Coupon	Price	Yield	Spread to UST	PAC Par Amt	PAC Band (PSA)
9/5/2023	South Dakota HDA	Aaa/AAA	5.0	6.25%	\$102.239	5.714%	1.33%	26,445,000	100%-400%
9/12/2023	Oregon HCSD	Aa2	5.0	6.25%	\$102.047	5.765%	1.35%	41,555,000	100%-400%
10/3/2023	Colorado HFA	Aaa/AAA	5.6	6.50%	\$101.639	6.137%	1.35%	30,000,000	75%-400%
10/5/2023	Florida HFC	Aaa	5.0	6.50%	\$101.959	6.033%	1.35%	38,465,000	100%-500%
10/18/2023	Massachusetts HFA	Aa1/AA+	5.0	6.50%	\$100.736	6.320%	1.37%	18,000,000	75%-500%
10/31/2023	Rhode Island HMFC	Aa1/AA+	5.0	6.50%	\$100.736	6.324%	1.50%	16,000,000	75%-500%
11/7/2023	Illinois HDA	Aaa	5.0	6.50%	\$102.000	6.020%	1.48%	27,170,000	75%-400%
11/8/2023	North Carolina HFA	Aa1/AA+	5.0	6.50%	\$101.834	6.057%	1.54%	23,100,000	100%-400%
11/29/2023	Ohio HFA	Aaa	5.0	6.50%	\$103.298	5.717%	1.43%	32,320,000	75%-500%

Taxable Term Bond Pricing							
Pricing Date	Issuer	2038	2043	2048	2049	2052	2053
10/18/2023	Massachusetts HFA	6.478%	-	-	-	-	-
10/31/2023	Rhode Island HMFC	-	6.481%	-	-	-	-
11/7/2023	Illinois HDA	-	-	-	6.278%	-	-
11/8/2023	North Carolina HFA	-	-	-	6.238%	-	-
11/29/2023	Ohio HFA	-	-	-	-	-	6.087%



# Economic Update

## Market Expectations for Fed Rates

- BofA Global Research is forecasting quarter end 2024 10-Year treasury yields of 4.40%, 4.30%, 4.25% and 4.25%, respectively
- BofA Global Research is anticipating four-25 bp cuts by the Fed in March, June, September, and December, or 100bp of cuts for the year
  - They expect that the Fed will end balance sheet runoff in June
- Update as of January 8<sup>th</sup> from CME FedWatch Tool shown below:

Target Rate Probabilities								
	1/31/2024	3/20/2024	5/1/2024	6/12/2024	7/31/2024	9/18/2024	11/7/2024	12/18/2024
Implied Fed Funds Rate	524 bps	508 bps	487 bps	462 bps	440 bps	419 bps	404 bps	383 bps
Change from Today (525 bps)	-1 bps	-17 bps	-38 bps	-63 bps	-85 bps	-106 bps	-121 bps	-142 bps
Inter-Meeting Change	-1 bps	-16 bps	-21 bps	-25 bps	-22 bps	-22 bps	-15 bps	-20 bps
325 bps								0.9%
350 bps							1.1%	20.1%
375 bps						1.9%	24.9%	<b>38.3%</b>
400 bps					2.2%	40.4%	<b>41.0%</b>	28.4%
425 bps				2.5%	<b>46.1%</b>	<b>41.4%</b>	25.1%	10.2%
450 bps			2.5%	<b>52.8%</b>	40.7%	14.1%	6.9%	1.9%
475 bps		3.0%	<b>53.4%</b>	38.9%	10.1%	2.0%	0.9%	0.2%
500 bps	4.7%	<b>62.7%</b>	38.7%	5.8%	0.8%	0.1%		
525 bps	<b>95.3%</b>	34.3%	5.3%	0.1%				

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# Variable Rate Structures

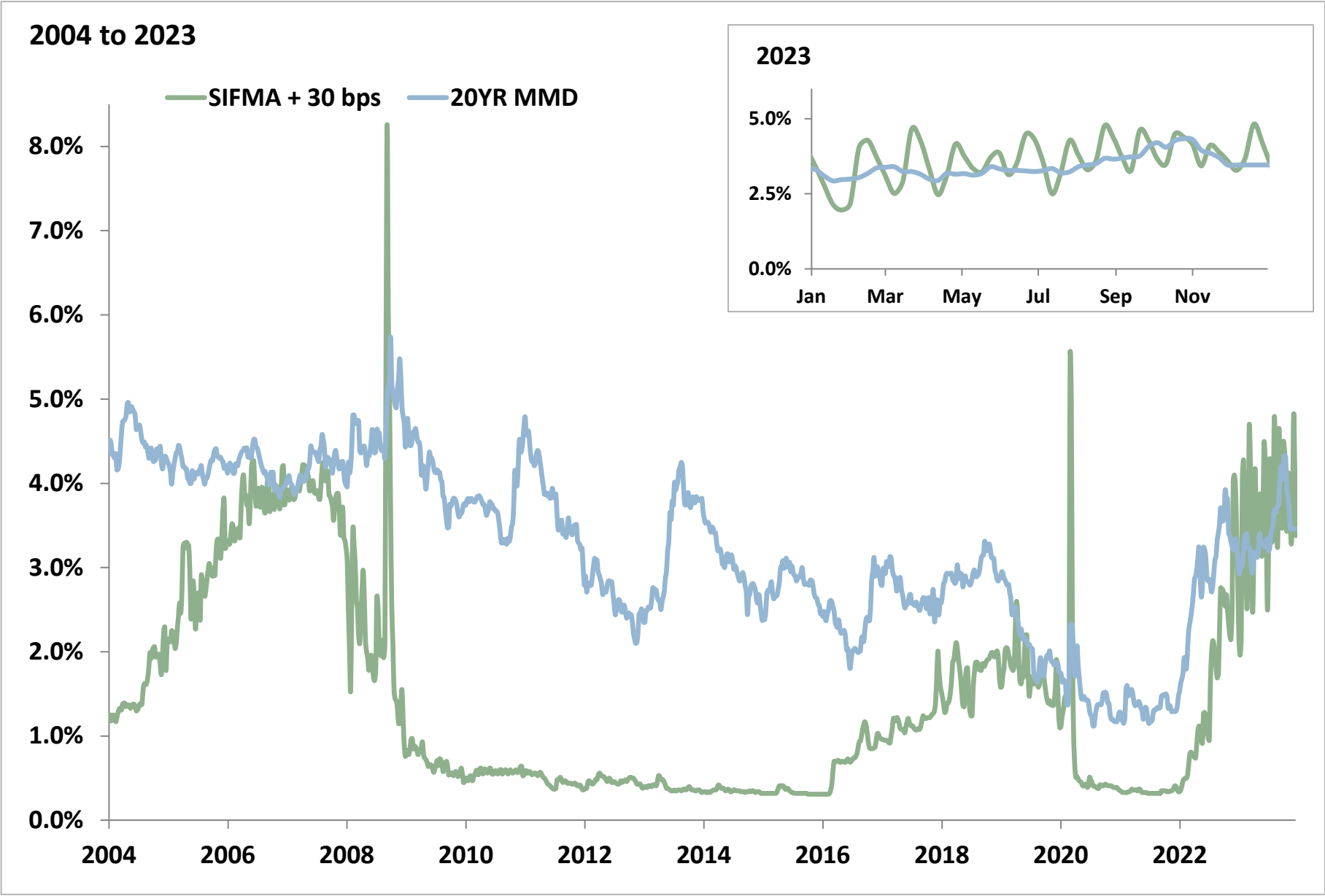


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January 2024

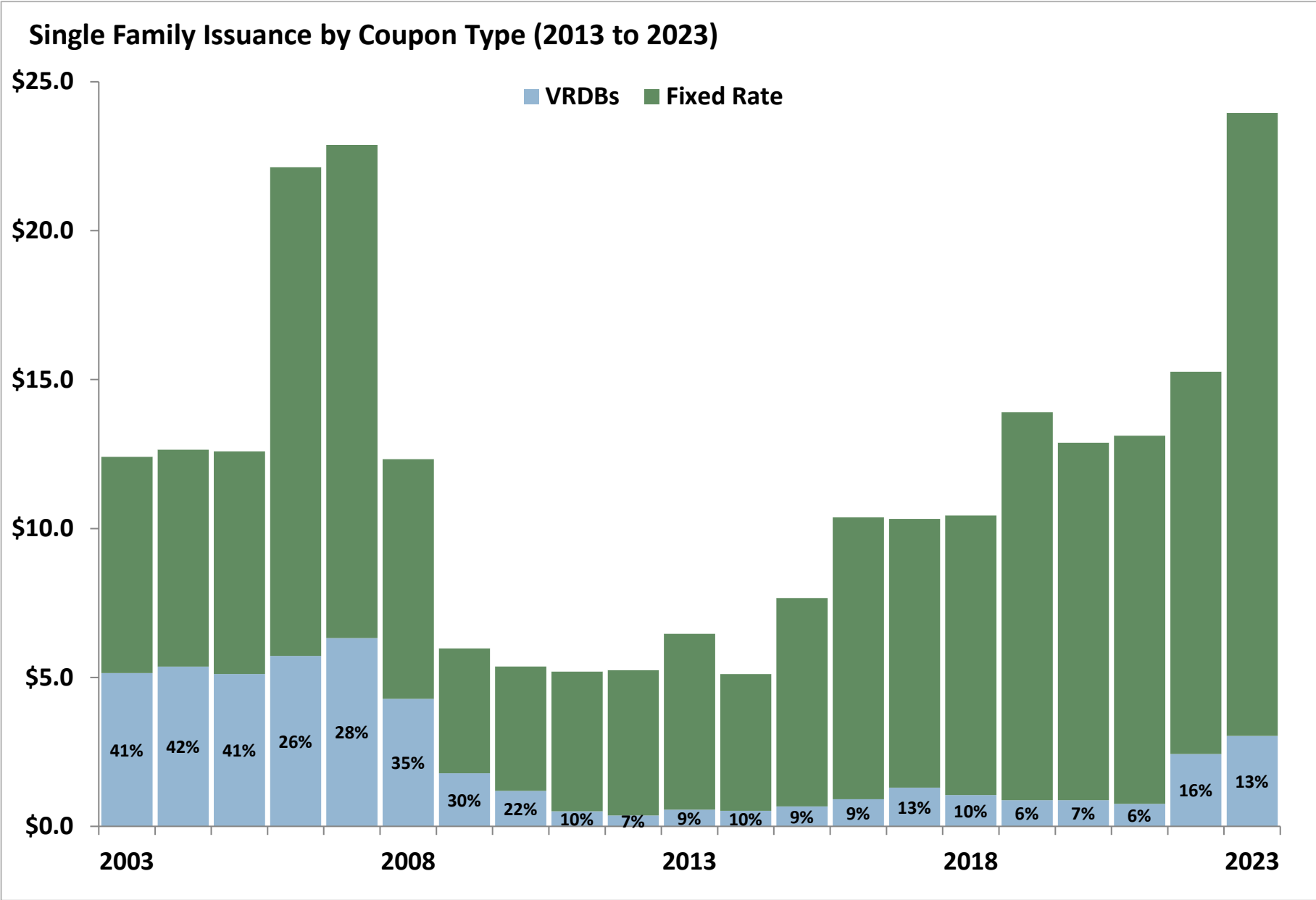
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# Historical Rate Environment



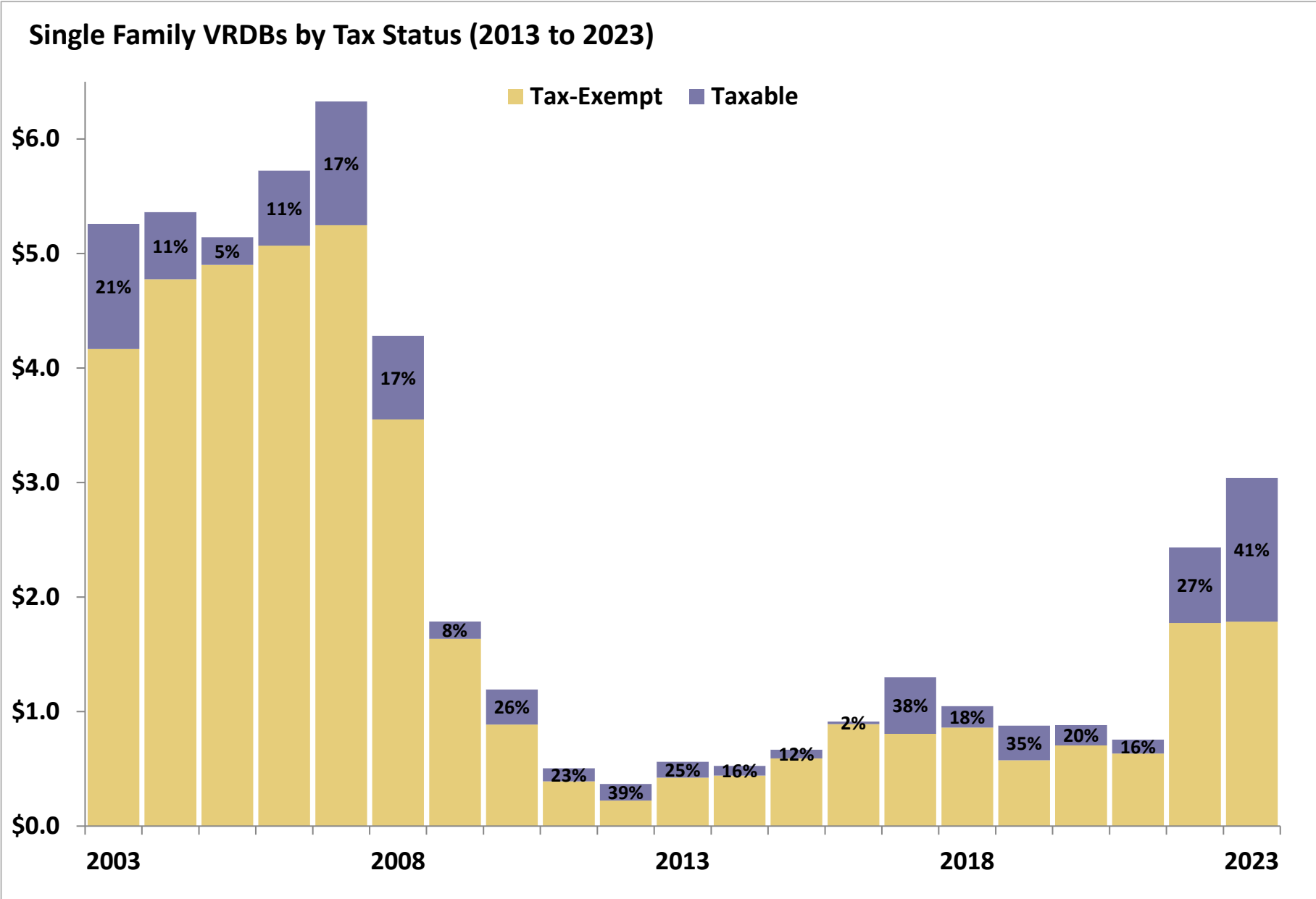
Source: Refinitiv

# Issuance of VRDBs increased in 2022 and 2023



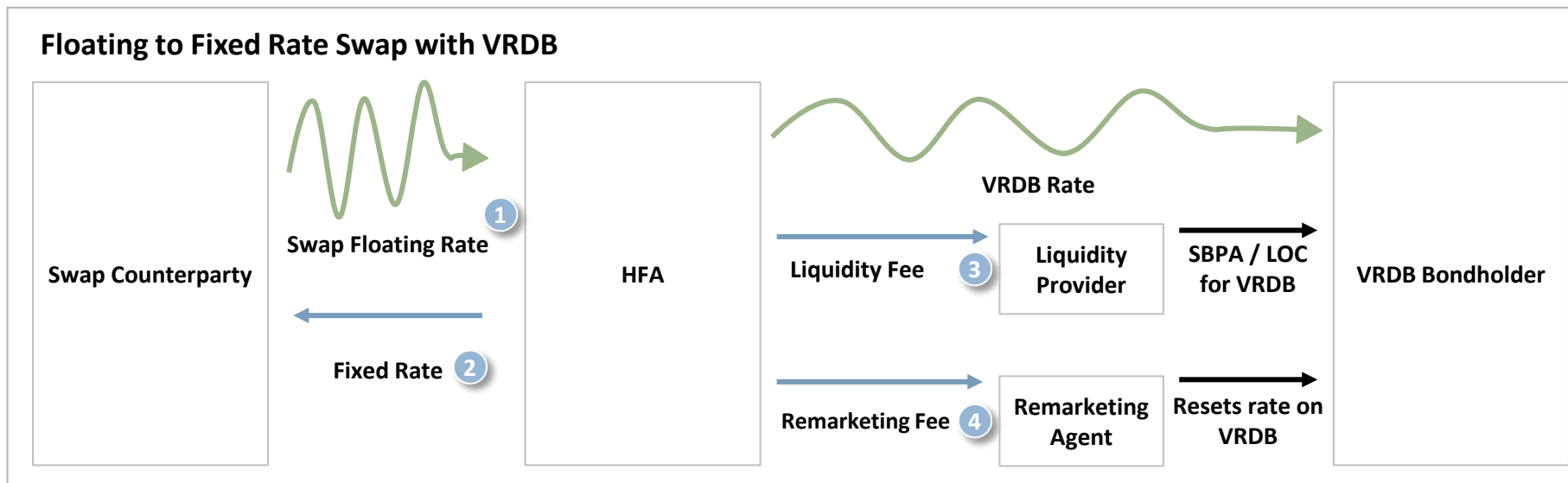
Source: Refinitiv, includes all long term negotiated issuance, all amounts in Billions

# Taxable VRDB Issuance Increased in 2023



Source: Refinitiv, includes all long term negotiated issuance, all amounts in Billions.

# Synthetic Fixed Rate Debt



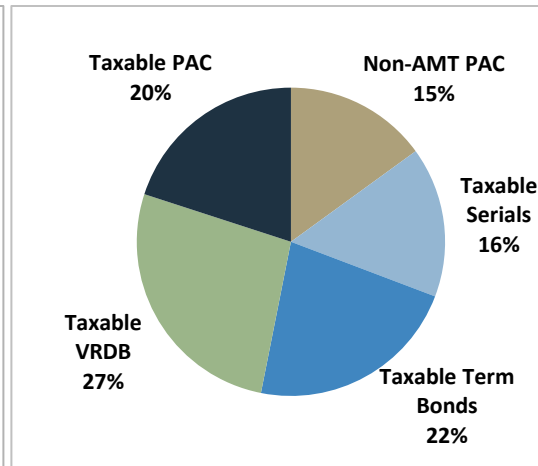
- 1 **Swap Floating Rate:** Rate received by the HFA from the counterparty; usually a tax-exempt or taxable benchmark (SIFMA or SOFR), plus a spread
- 2 **Fixed Rate:** Rate paid by the HFA to the counterparty, usually determined by the pricing of any associated fixed-rate bonds in a tax plan
- 3 **Liquidity Fee:** Rate paid by the HFA to a liquidity provider who signs a Standby Bond Purchase Agreement or Letter of Credit for the VRDB
- 4 **Remarketing Fee:** Rate paid by the HFA to the underwriter responsible for resetting the rate on a VRDB

- Some Risks Associated with Synthetic Fixed Rate Debt**
- **Counterparty / Credit Risk:** Solvency of a swap counterparty
  - **Amortization Risk:** Bond amortization may not match swap amortization due to uncertain prepayments
  - **Basis Risk:** Possibility of mismatch between the swap rate received and the variable rate on the bonds
  - **Liquidity Risk:** May be difficult to terminate a swap in certain conditions
  - **Termination Risk:** Events (credit downgrade, default, etc.) could terminate swap early
  - **Tax Risk:** A basis risk based on any mismatch between taxable index for the swap receipt and tax-exempt bond rates

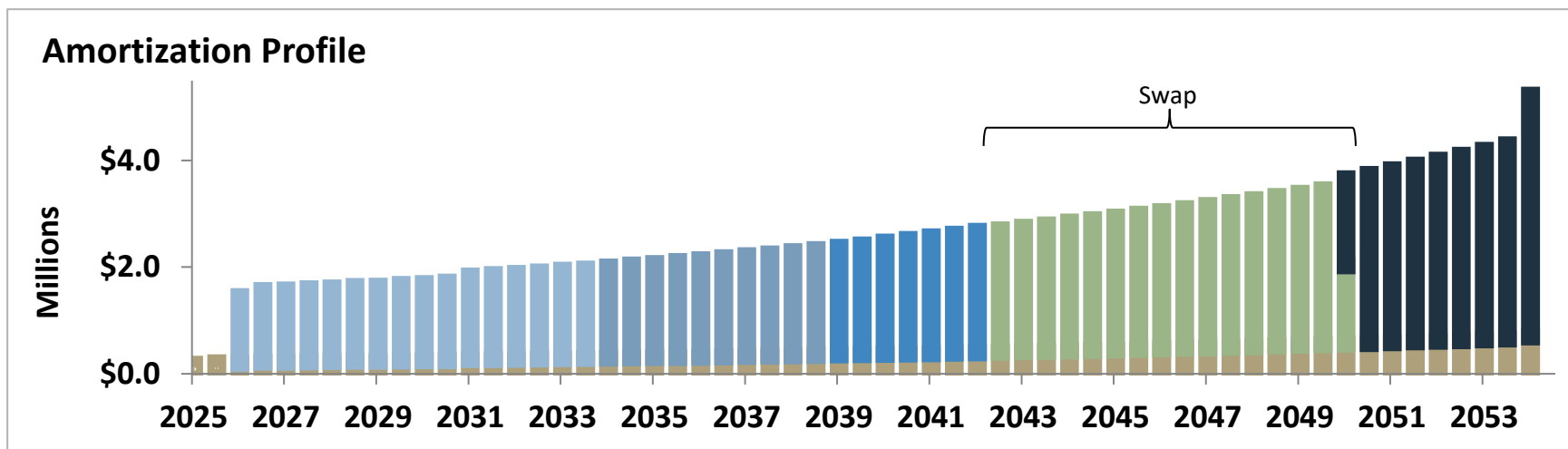
<b>Sample Cost of Funds for Synthetic Fixed Debt</b>	
Swap Fixed Rate	4.00%
Liquidity Fee	0.30%
Remarketing Fee	0.06%
<b>Total Cost of Funds</b>	<b>4.36%</b>

# Using Synthetic Fixed Debt to Reduce Borrowing Cost - Colorado HFA 2023 Series OP

- The 2023 Series OP Bonds were structured as 15% tax-exempt and 85% taxable to minimize use of volume cap, with a \$40.3 million taxable synthetic fixed rate term bond (30% of total par) at a synthetic cost of funds that included a 5.114% swap rate and an optional termination date in 11/1/2030, in addition to liquidity provided by FHLB Topeka
- With this structure CHFA achieved over full spread on the aggregate issuance, even while taxable borrowing costs spiked in the beginning of October
- Using synthetic fixed debt allowed the Authority to lower funding costs by up to **65 bps**, compared to a fixed-rate execution
- Proceeds of the bonds will be used to finance:
  - \$144.3 million of the Authority’s First Step program mortgages at 7.265%
  - \$5.8 million of non-amortizing 0% 2nd mortgages

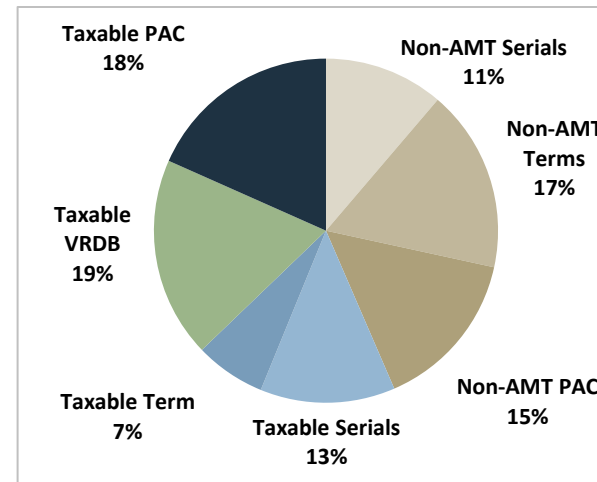


Bond Type	Serials	2038 Term	2042 Term	Swap/VRDB	PAC	PAC		
Tax Status	Taxable					Non-AMT		
Yield	5.521% - 6.271%	6.311%	6.458%	5.454%	6.137% (\$101.6)	5.110% (\$106.3)	Mortgage Yield	6.93%
Par (\$mm)	\$23,650	\$18,475	\$15,055	\$40,320	\$30,000	\$22,500	Bond Yield	5.63%
							Spread	1.30%



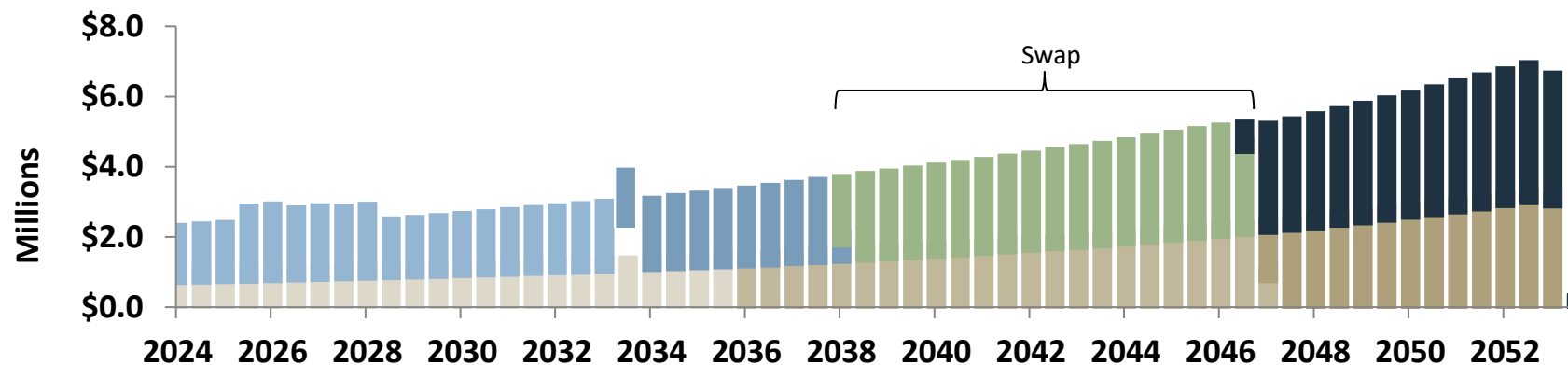
# Using Synthetic Fixed Debt to Reduce Borrowing Cost - Illinois HDA RB 2023 DEFG

- The Series 2023 BC Bonds were structured as 44% tax-exempt, 56% taxable, with an additional \$60.0 million in COBs
- The taxable VRDBs replaced 20- and 25-year term bonds, at a synthetic cost of funds that included a 4.065% swap rate and an optional termination date in 10/1/2032, in addition to liquidity provided by TD Bank
- Synthetic fixed debt allowed the Authority to lower funding costs by up to **115 bps**, compared to a fixed-rate execution
- Proceeds of the bonds will be used to finance:
  - \$100.0 million of the Authority’s FTHB program loans as MBS with an average passthrough rate of 5.35%
  - \$129.9 million of the Authority’s non-FTHB program loans as MBS with an average passthrough rate of 5.37%



Bond Type	Serials	Term Bonds	PAC	Serials	Term Bond	Swap/VRDB	PAC	Mortgage Yield
Tax Status	Non-AMT			Taxable				5.34%
Yield	3.05% - 3.85%	4.10% - 4.60%	3.73% (\$109.186)	4.528% - 5.187%	5.297%	4.355%	5.097% (\$103.139)	Bond Yield 4.32%
Par (\$mm)	\$25,850	\$39,465	\$34,685	\$29,160	\$15,245	\$43,290	\$42,175	Spread 1.02%

## Amortization Profile



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