



PRESENTS

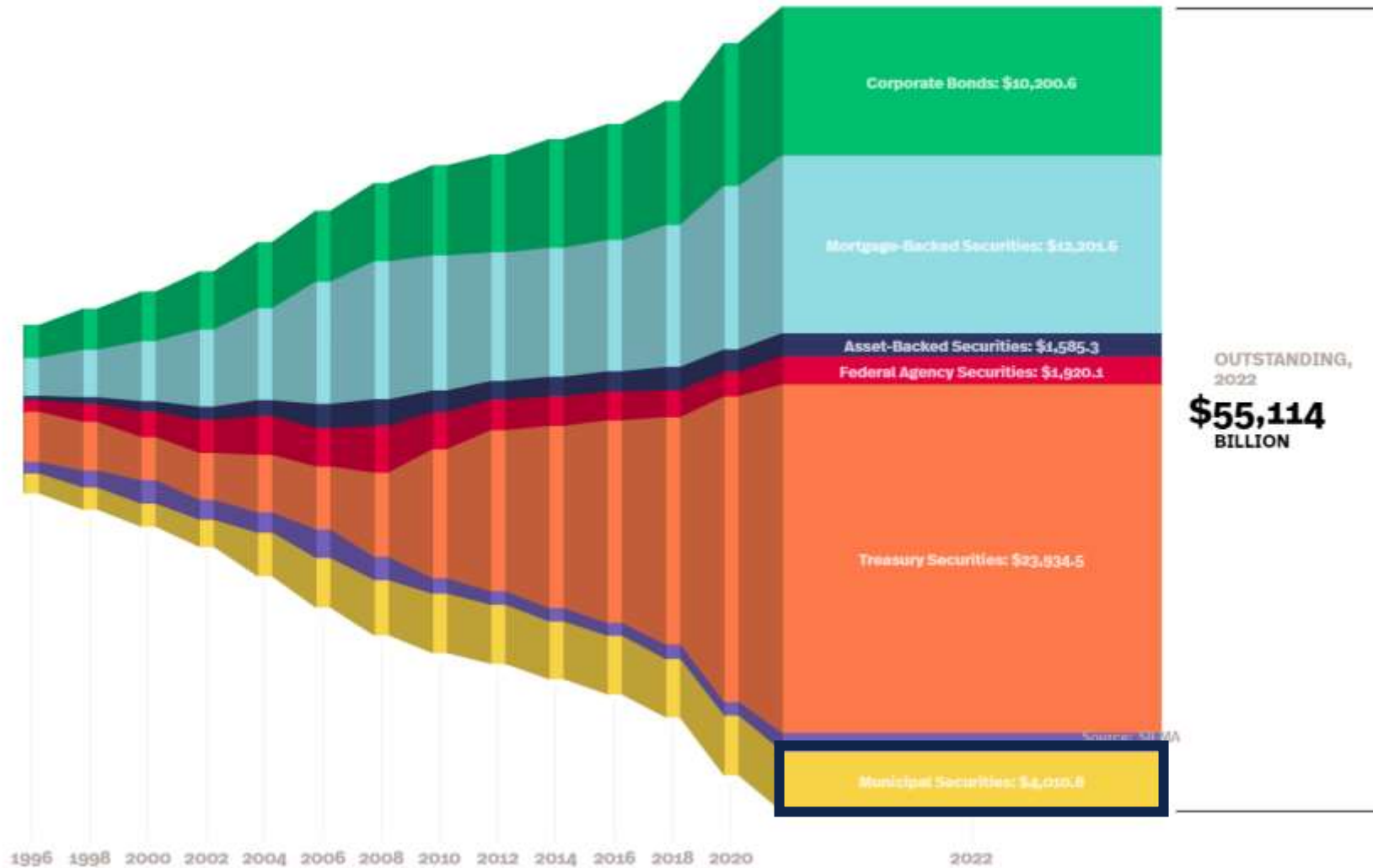
# EXECUTIVE BALANCE SHEET FORUM 2023

Part 3 - Municipal Market Overview & Strategies

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# MUNICIPAL BONDS' SHARE OF THE BOND MARKET



# CORRELATION BETWEEN INVESTMENT YIELD AND MUNICIPAL ALLOCATION

## Banks Under \$2 Billion in Total Assets

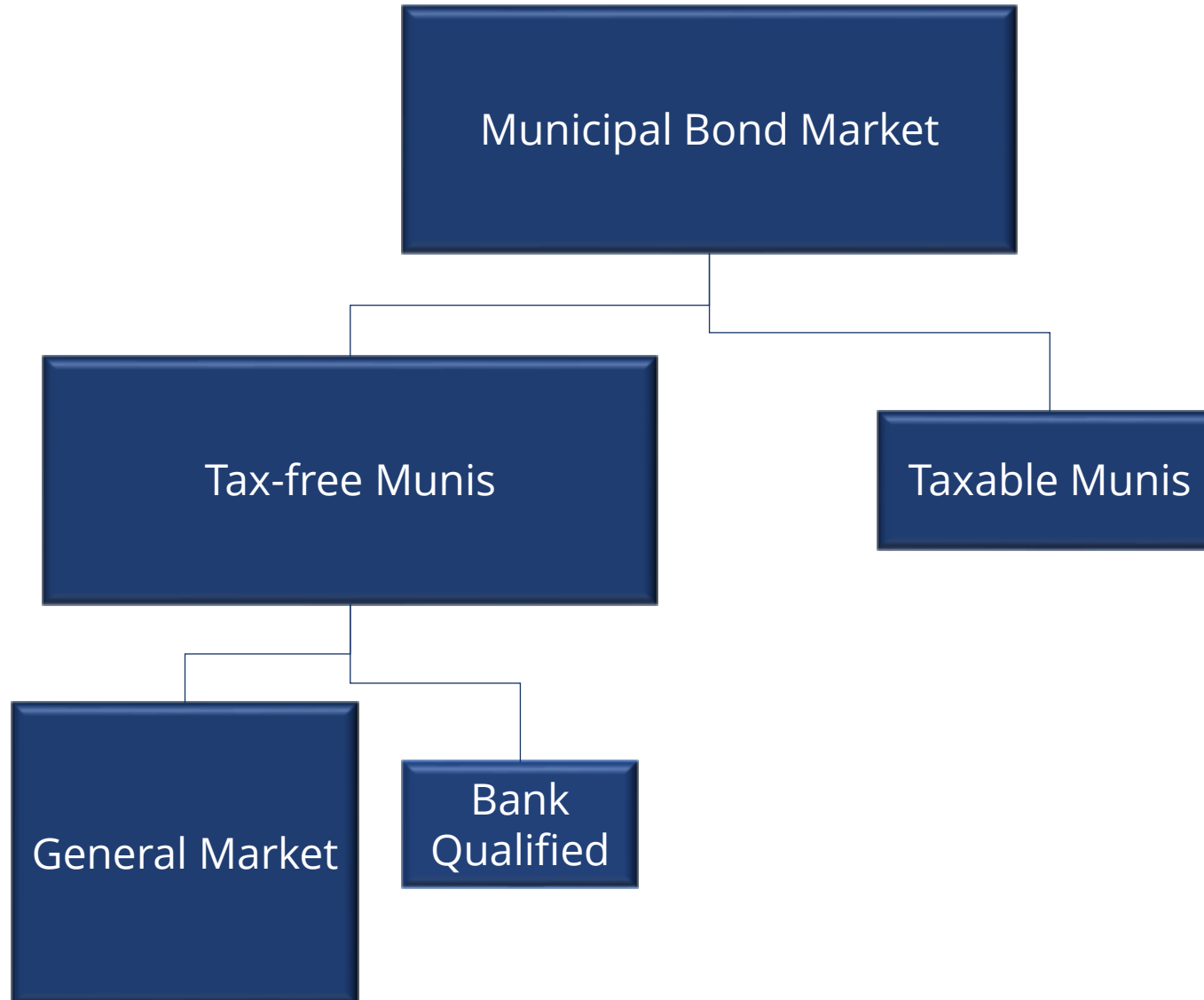
	1 <sup>st</sup> Quartile	2 <sup>nd</sup> Quartile	3 <sup>rd</sup> Quartile	4 <sup>th</sup> Quartile
Median Yield	3.53	2.44	2.03	1.42
Municipal Allocation %	34.4%	33.9%	27.5%	18.2%
# of Banks in Quartile	1,016	1,016	1,016	1,017

Source: S&P Global, 12/31/22

# GENERAL INFO



# TYPES OF MUNICIPAL BOND – TAX STATUS



# MUNICIPAL BONDS PAYMENT SECURITY

- **General Obligation (GO)** – secured by the full faith and credit of the municipality. Property Taxes are the main source of repayment.
  
- **Revenue** – An issuer pledges a specific revenue stream (tolls, concessions, patient revenues, etc.) to secure the bond payments.
  - Common sectors include Water/Sewer, Utilities, Hospitals, Higher Ed
  
- **Other** – Certificate of Participation, Tax Allocation, Special Tax, etc.

# MUNICIPAL BOND REVIEW

## ➤ Municipal Bonds do not Amortize

- Principal is returned on the maturity date, unless the bond is called or sunk
- Certain bonds have extraordinary redemption provisions, i.e., housing

## ➤ Less Call Predictability

- Municipal issuers may call bonds for various reasons other than economic incentive (i.e., low interest rates)
- Issuers may not call bonds that are “in-the-money”, i.e., smaller remaining deal size

# WHAT IS A MUNICIPAL BOND: SECURITY ANALYSIS

**Issuer Name** (Callout): 732538HJ Muni

**Coupon** (Callout): 4.000

**Maturity** (Callout): 05/01/2040

**Security Provision** (Callout): FED & ST TAX-EXEMPT

**Tax Provision** (Callout): FED & ST TAX-EXEMPT

**Credit Enhancements** (Callout): Insurance/Program - Q-SBLF

**Rating** (Callout): Moody's(Enh) Aa1

**Call Provision** (Callout): 05/01/2030@Par

**Other Fields:** Ticker PONS CD, Cpn 4.000, Maturity 05/01/2040, Dated 07/15/2020, State MI, CUSIP 732538HJ5, No Notes

**Navigation:** Report, Alert, Settings, Page 1/11

**Table of Contents:**

- 11) Bond Info
- 12) Addtl Info
- 13) Involved Parties
- 14) Adj Cpn Info
- 15) Credit Enhance
- 16) Credit Ratings
- 17) Call Sched & ERP
- 19) Sink & Est Sink
- 20) Refunding Info
- 21) DES Notes
- 25) Municipal Bond
- 26) Series
- 27) Issuer Description
- 31) TDH
- 32) CACS
- 33) CF
- 34) CN
- 35) HDS
- 66) Send Bond



# ADVANTAGES OF MUNICIPAL BONDS

## ➤ Tax-Free Income

- The higher the tax rate, the more benefit of additional tax-free income
- For S-Corps, generate additional retained capital
- Many states do not tax the interest on in-state bonds

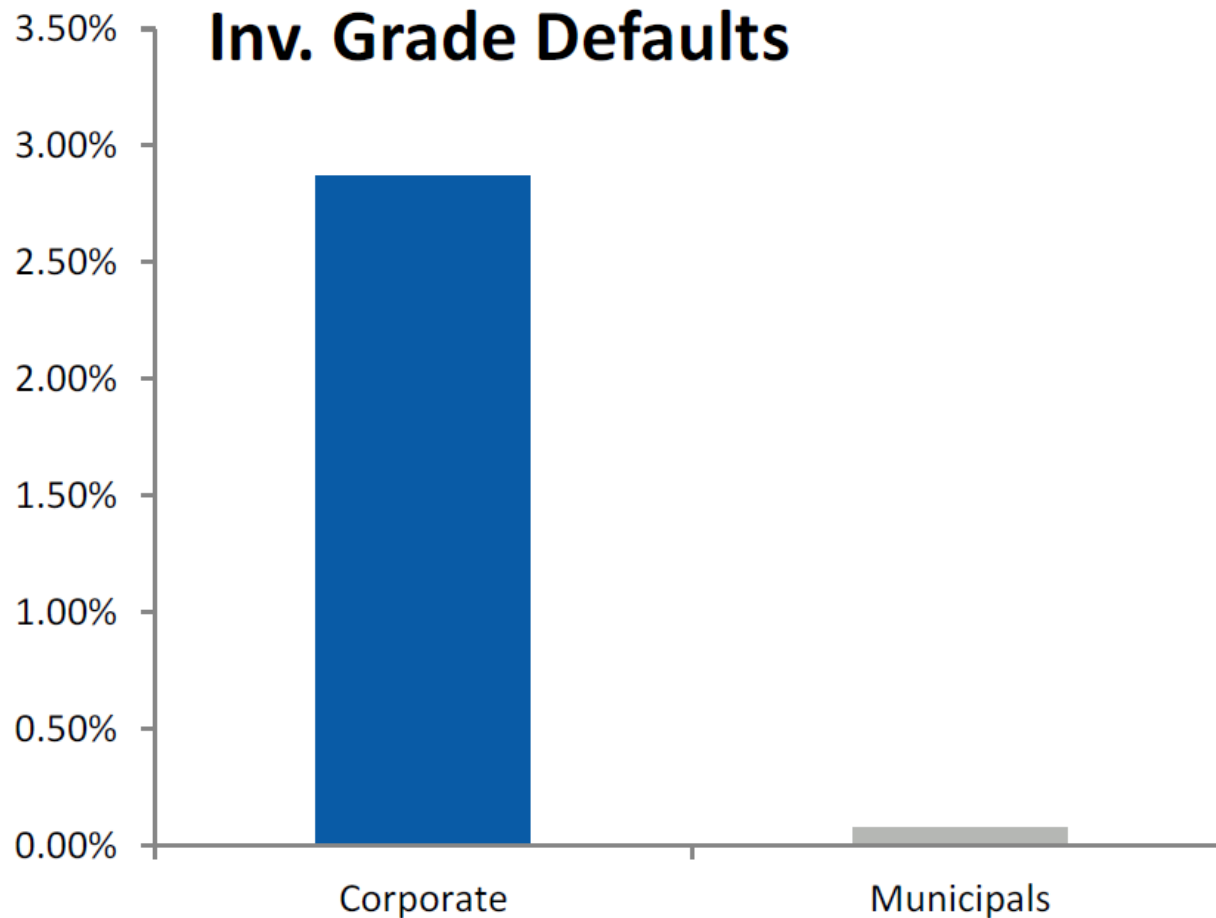
## ➤ Historically, Less Price Volatility Compared to Other Sectors

- Positively sloped yield curve
- 60-80% correlation to Treasury curve

## ➤ Low Default Risk

# MUNICIPALS HISTORICALLY EXHIBIT STRONG CREDIT QUALITY

Figure 1: Investment grade municipal defaults historically a fraction of the corporate market.



Source: Moody's, Piper Jaffray & Co.

# MUNICIPAL CREDIT RISK IS MUCH LOWER VS. CORPORATES

MOODY'S INVESTORS SERVICE

CREDIT POLICY

Municipal default rates lower than global corporates for all broad categories

Cumulative default rates, average over the period 1970-2019, municipal vs. global corporate issuers

Municipals											
Rating	Average cohort count	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Aaa	1,003	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Aa	6,980	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	0.02%
A	4,873	0.00%	0.01%	0.02%	0.02%	0.03%	0.04%	0.06%	0.07%	0.09%	0.10%
Baa	676	0.03%	0.11%	0.21%	0.34%	0.47%	0.61%	0.74%	0.87%	0.99%	1.10%
Ba	111	0.24%	0.67%	1.10%	1.58%	1.98%	2.28%	2.64%	2.99%	3.30%	3.57%
All rated	13,678	0.02%	0.03%	0.05%	0.07%	0.08%	0.10%	0.12%	0.13%	0.15%	0.16%

Global Corporates											
Rating	Average cohort count	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Aaa	105	0.00%	0.01%	0.01%	0.03%	0.08%	0.13%	0.18%	0.24%	0.30%	0.36%
Aa	411	0.02%	0.06%	0.11%	0.19%	0.29%	0.40%	0.52%	0.62%	0.71%	0.79%
A	879	0.05%	0.16%	0.33%	0.51%	0.73%	0.98%	1.24%	1.52%	1.81%	2.11%
Baa	847	0.16%	0.41%	0.72%	1.10%	1.47%	1.86%	2.24%	2.65%	3.09%	3.58%
Ba	461	0.88%	2.40%	4.14%	6.01%	7.77%	9.44%	10.93%	12.38%	13.86%	15.40%
All rated	3,601	1.53%	3.04%	4.43%	5.64%	6.67%	7.54%	8.29%	8.96%	9.59%	10.17%

# MUNICIPAL BOND CONSIDERATIONS FOR BANKS

## Risk Weighting

Bond Type	Risk Weighting
General Obligation	20%
Revenue	50%
Other	Up to 100%

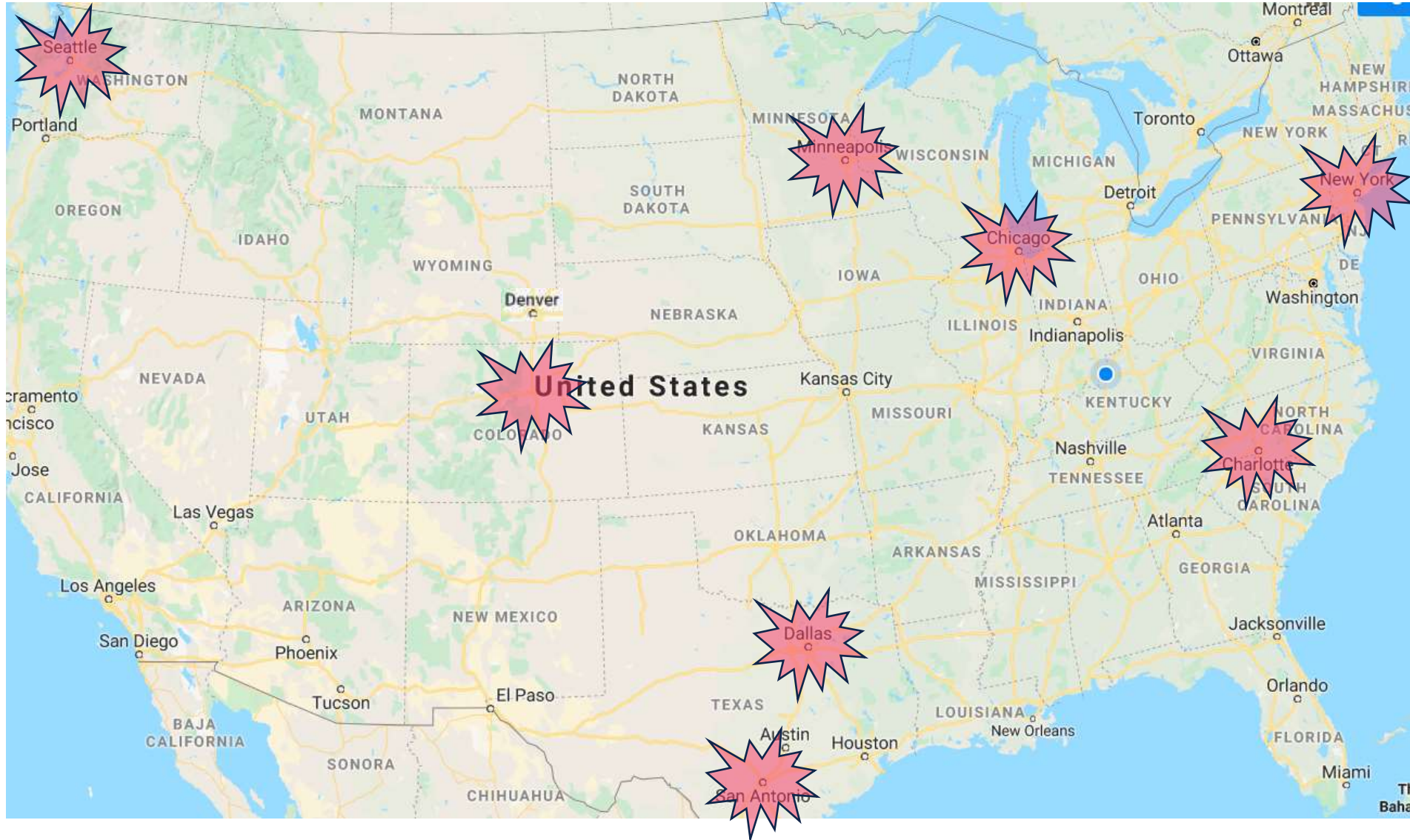
## CRA Considerations

- State Housing Authority Bonds should qualify for CRA credit, also eligible for pledging at FHLB
- Local school bond issues qualify for CRA credit/merit based on LMI indicators, such as free/reduced school lunch programs

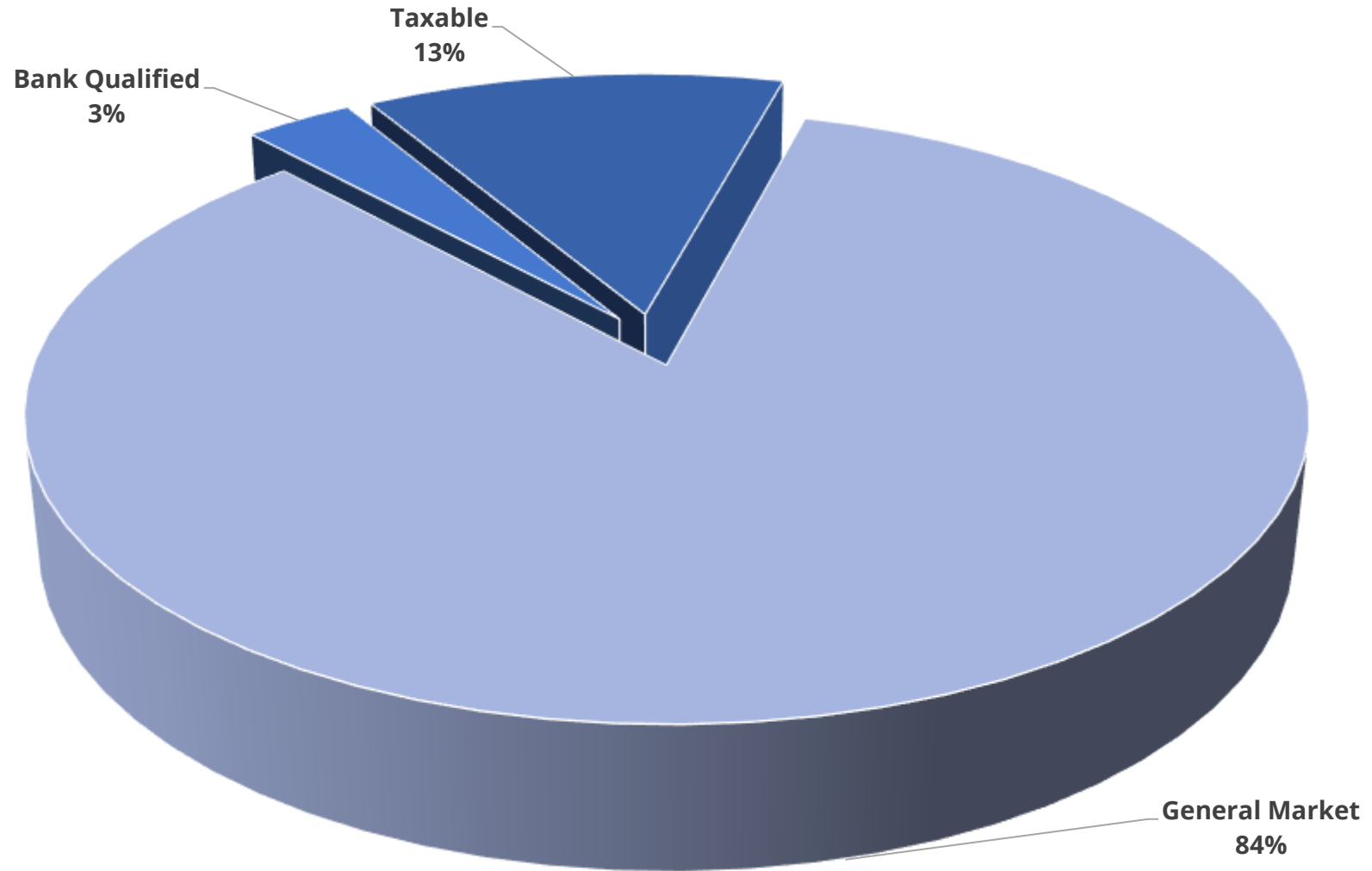
## Pledging

- Most in-state municipals are eligible for Public Fund pledging. Out of state municipals can also be eligible (State-specific).

# MAJOR MUNICIPAL UNDERWRITING HUBS



# MUNICIPAL ISSUANCE BY TYPE (2022)





# “BANK QUALIFIED” MUNICIPALS

## ➤ Introduction of TEFRA

- 1982 Tax Reform: birth of **Bank Qualified (BQ) Municipal Bond**

### Criteria for issue to be considered Bank Qualified:

- Tax-Exempt, designated BQ by the issuer
- Issuer cannot issue more than \$10mm in a given year

## ➤ Bank Qualified Munis

- BQ issuers are typically smaller municipalities, e.g., townships, counties

**Higher demand** from banks has generally resulted in **higher prices** (lower yields) for **BQ securities** vs. General Market

# GENERAL MARKET MUNICIPAL BONDS

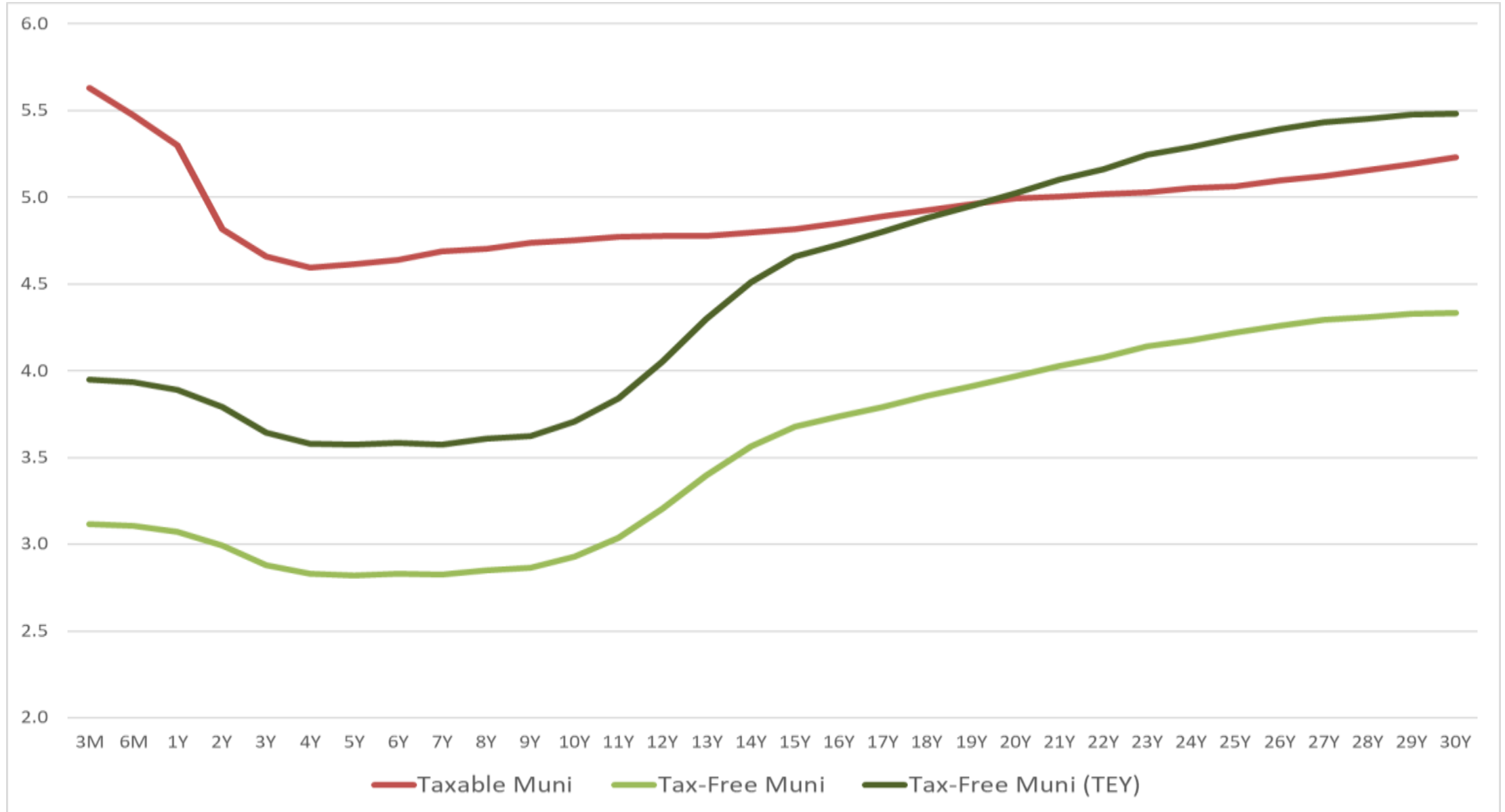
- Deal sizes range from ~\$10 million to several billion
- Make up the vast majority of the tax-free muni market (~95%)
- Individual investors and bond funds focus are largest buyers/holders
- Also known as “Non Bank-Qualified”, bank-permissible
- Interest Expense Disallowance = 100% for banks



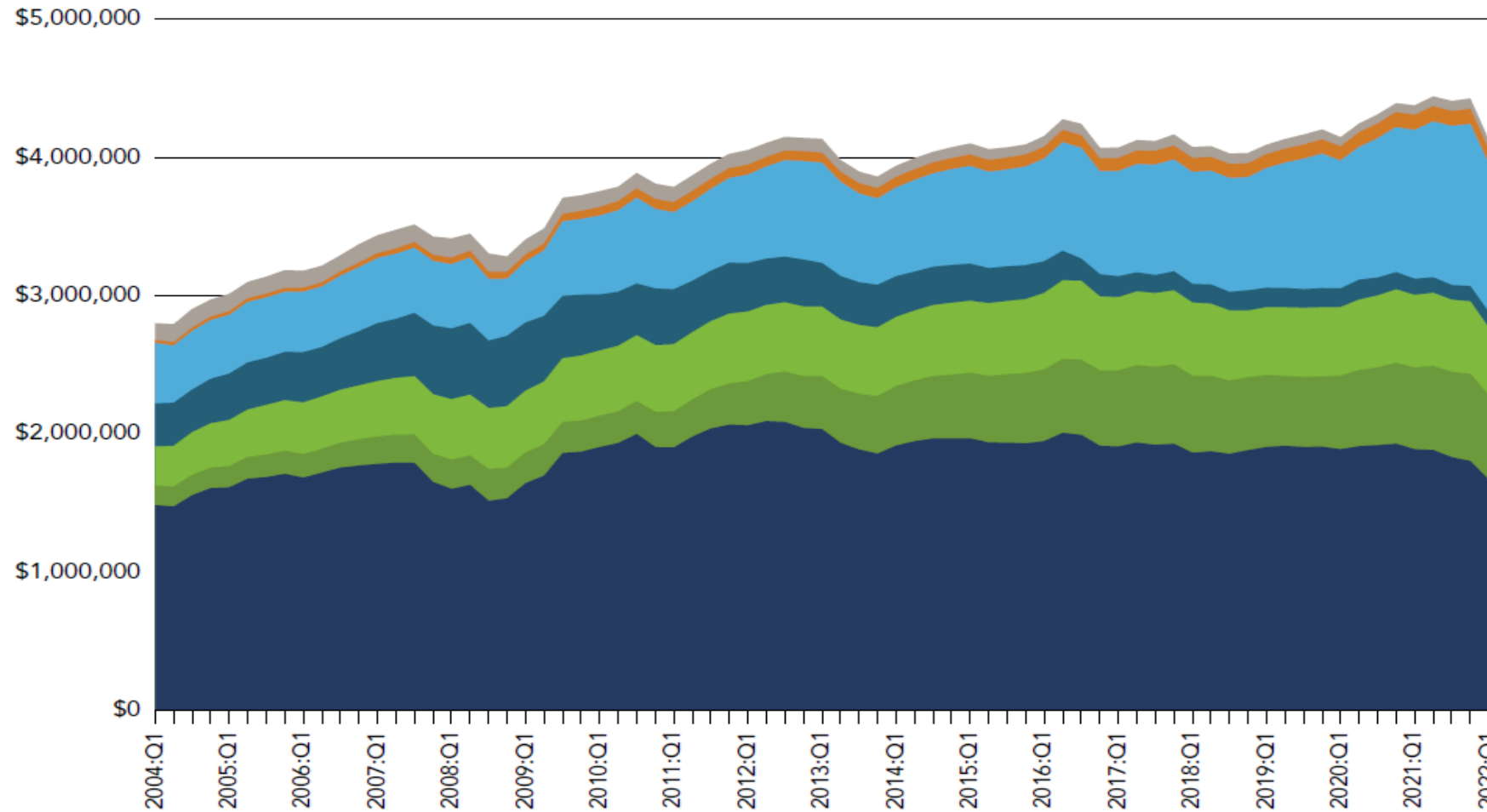
# TAXABLE MUNICIPALS

- **1982:** Eliminated ability to issue certain types of tax-exempt muni bonds
  - Bonds that do not meet public purpose requirements
  - Higher Ed, Healthcare, Airports, etc.
  
- **2009:** American Recovery and Reinvestment Act (ARRA) of 2009
  - Most common: Build America Bonds (BABs)
    - Direct Pay - Government partially subsidizes the interest payments on the bonds
    - Extraordinary Redemption Provision (ERP)
  
- **Since 2019** there has been a resurgence in taxable supply largely driven by refundings

# MUNICIPAL BOND YIELD CURVES



# HOLDERS OF MUNICIPAL SECURITIES



Households and Funds hold **66%** of municipal securities

- Households and Nonprofit Organizations
- U.S.-Chartered Depository Institutions
- Insurers
- Money Market Funds
- Funds (Mutual, Closed-End Funds, ETFs)
- Rest of World
- Other

# CREDIT ANALYSIS AND MONITORING



# OCC SUPPORTS PRUDENT INVESTMENTS IN MUNICIPAL SECURITIES



Comptroller of the Currency  
Administrator of National Banks

US Department of the Treasury

NR 2015-37

FOR IMMEDIATE RELEASE  
March 18, 2015

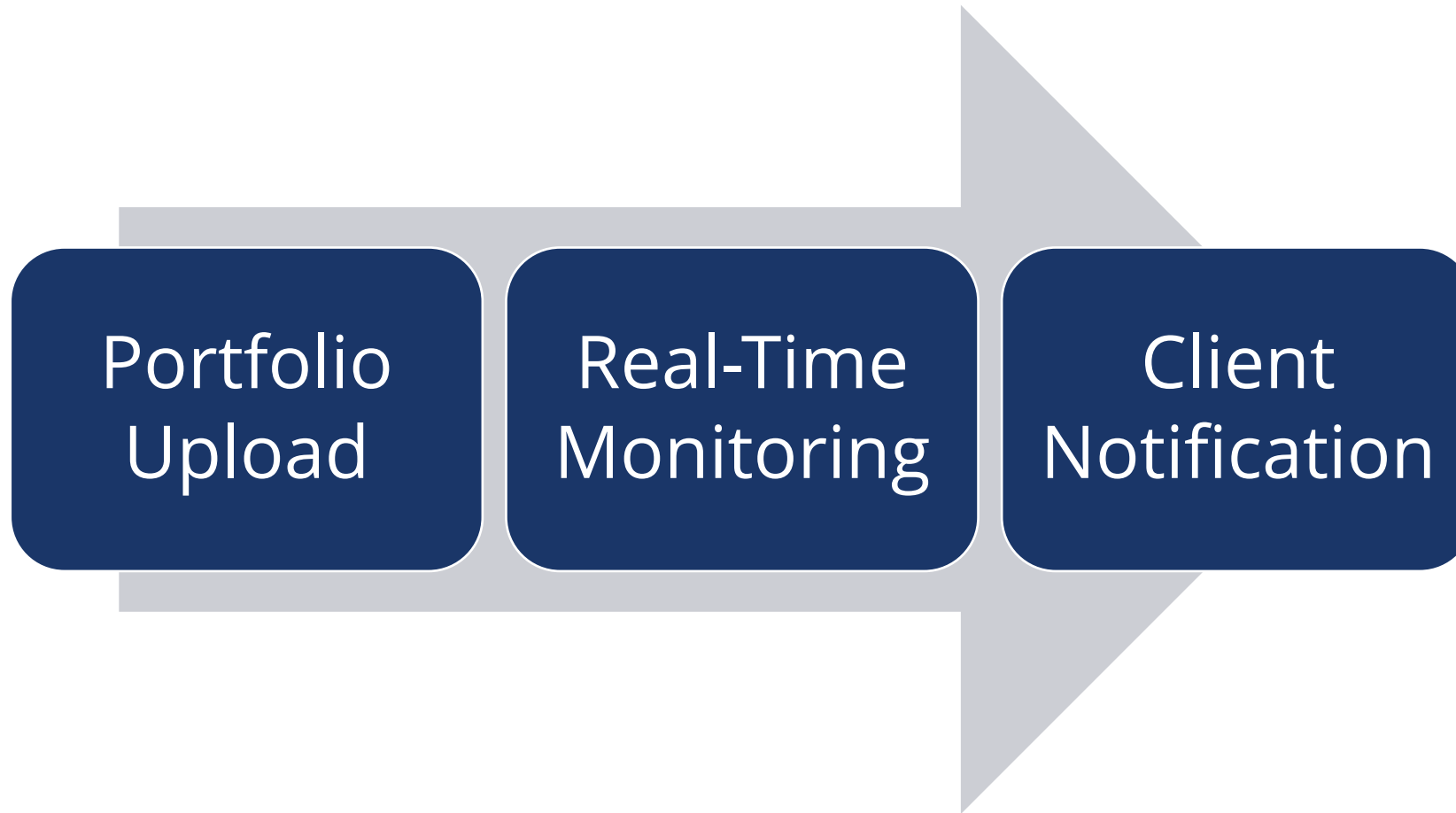
Contact: Bryan Hubbard  
(202) 649-6870

## Comptroller of the Currency Issues Statement Regarding Bank Investment in the Municipal Securities Market

WASHINGTON – Comptroller of the Currency Thomas J. Curry today issued the following statement regarding investments in municipal securities made by national banks and federal savings associations:

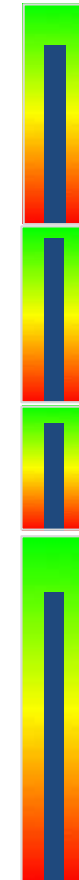
The Office of the Comptroller of the Currency recognizes the importance of the \$3.6 trillion municipal securities market as a source of infrastructure funding for states, cities, and localities in the United States. **The agency considers bank investments in municipal securities a prudent activity when part of a safe and sound investment strategy.** Banks historically have invested in municipal securities for a variety of purposes, including yield and community support. Bank ownership of municipal securities represents approximately 10 percent of all outstanding issuances as of mid-2014. Banks continue to be active participants in this market. In fact, since the interagency Liquidity Coverage Ratio Rule became final in October 2014 banks have increased their overall holdings of municipal securities, and the OCC will continue to monitor activity in the market. **The OCC supports banks' prudent investments in municipal securities.**

# POST-PURCHASE MONITORING OF CHANGES IN RATINGS AND OUTLOOK



# MUNICIPAL CREDIT REVIEW – HOUSTON SCHOOLS, TX (PSF)

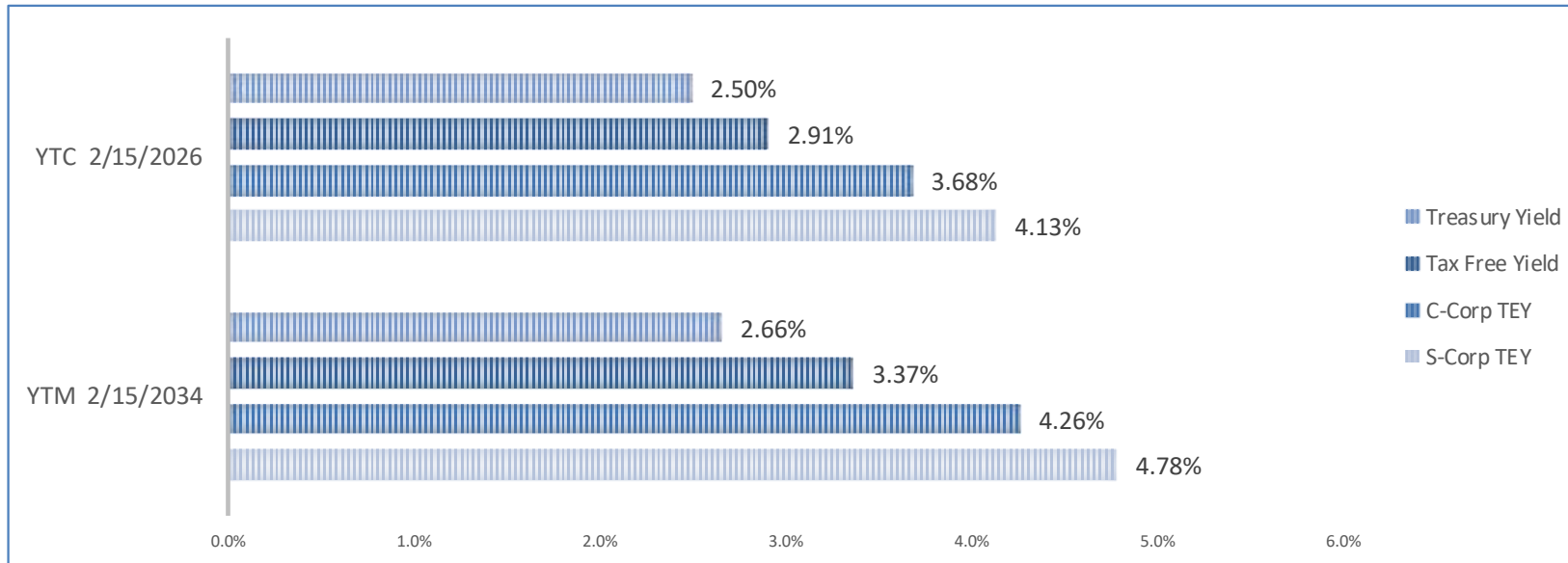
Municipal Score Card				
Municipal Factors	Moody's	S&P	Fitch	Weight
Domicile State Rating	Aaa	AAA	-	11%
Final Rating	Aaa	AAA	-	
Underlying Rating	Aaa	AA+	-	
Credit Enhancement	PSF-GTD			
Timeliness of Financial Reporting	6/30/2017			27%
State Unemployment Rate	3.80			
County Unemployment Rate	5.30			
State Population 4YR CAGR	5.2%			
County Population 4YR CAGR	12.1%			21%
Cost to insure state debt (bps)	54			
Spread to AAA muni index (bps)	69			
Percentage of Treasuries	117%			
GO Debt / Assessed Valuation	1.49%			41%
(assessed value ratio) Top 10 taxpayers/Total	4.1%			
General Fund 5YR CAGR	7.7%			
Pension Funding Ratio	78.0%			
Principal Debt Per Capita	2,328			
Fund Balance / Revenues	20.66%			
Revenues/Total Operating Expenses	1.88			
GO Debt Service / Property Tax Collections	--			
<b>M Factor</b>		<b>5.21</b>	Investment Grade -Highest	
<b>Confidence Score</b>		<b>94%</b>		



# MUNICIPAL CREDIT REVIEW – HOUSTON SCHOOLS, TX (PSF)

## Security Detail

State: TX	Maturity Size: 23,760,000
County: Harris, TX	Issue Size: 757,195,000
Issuer: HOUSTON TX INDEP SCH DIST	Coupon: 4.00%
Issue Type: GENERAL OBLIGATION LTD	Price: 107.79
Purpose: ADVANCE REFUNDING	Coupon Frequency: SEMI-ANNUAL
Source: AD VALOREM PROPERTY TAX	Issue Dt: 4/1/2016
BQ: NO	Next Sink Dt:
Tax Provision: Non-Taxable	Pre-Refunded: N
Yield To Call: 2.91%	Next Call Dt: 2/15/2026
Yield to Maturity: 3.37%	Maturity Dt: 2/15/2034





# MUNICIPAL CREDIT REVIEW – HOUSTON SCHOOLS, TX (PSF)

Key Metrics	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012
GO Debt / Assessed Valuation	1.49%	1.93%	1.88%	1.90%	2.17%	--
Property Tax Collections as a % of the Levy	98%	100%	100%	99%	101%	--
GO Debt Service / Property Tax Collections	--	--	--	--	--	--
Principal Debt Per Capita	2,328	2,184	1,983	1,757	1,942	--
Pension Funding Ratio	78%	78%	--	--	--	--
assessed value ratio) Top 10 taxpayers/Total	4%	5%	5%	5%	6%	--
Fund Balance/Revenues	21%	40%	37%	32%	36%	37%
Revenues/Total Operating Expenses	1.88	1.92	1.89	1.83	1.76	1.82
Revenues	1,792.35	1,824.55	1,756.88	1,667.15	1,446.37	1,501.74
Property Tax	1,605.55	1,529.26	1,389.91	1,242.51	1,103.46	1,044.13
Fund Balance	701.85	738.25	646.17	540.07	520.70	552.39
GO Total Debt Outstanding	3,185.65	2,954.13	2,621.02	2,371.19	2,417.00	--

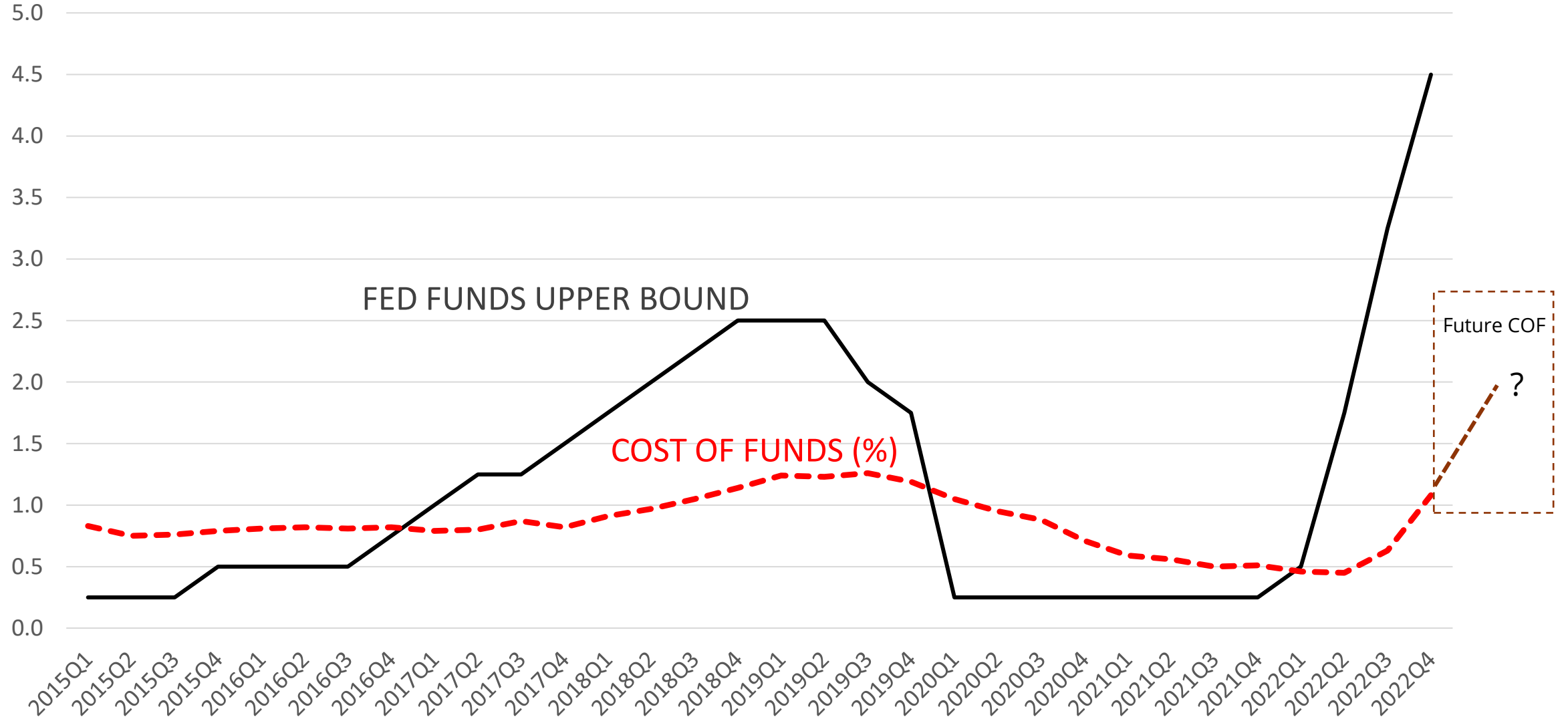
# TAX OPTIMIZATION STRATEGIES



# EXPLANATION OF TEFRA DISALLOWANCE

- Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA)
- Ability to deduct interest expense for banks with tax-exempt securities
- Banks cannot deduct interest expense on debt that is used to buy tax-free securities
- Exemption for “Bank Qualified” securities - 20% of interest expense is disallowed
- The short-cut formula for calculating the TEFRA haircut is:
  - TEFRA = (**Cost of Funds**) \* (Tax Rate) \* (20%) \* (Amount of BQ Municipals)
  - TEFRA = (**Cost of Funds**) \* (Tax Rate) \* (100%) \* (Amount of General Market Municipals)

# COST OF FUNDS ON THE RISE



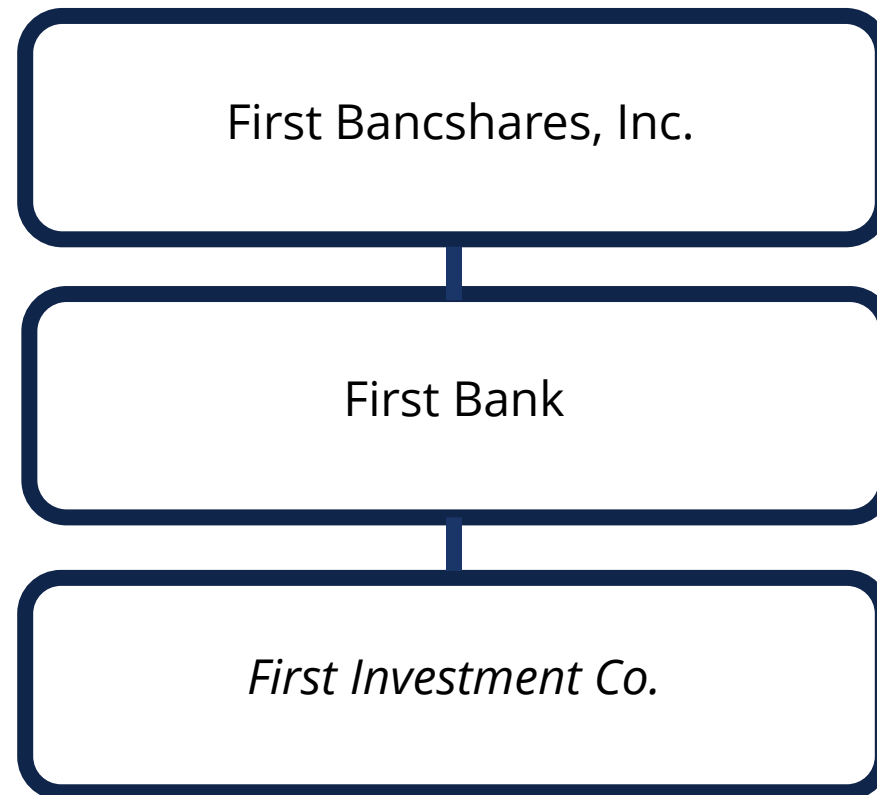
# COST OF FUNDS AND TEFRA DISALLOWNCE

$$TEFRA \text{ Adjusted TEY} = \frac{Yield - (Cost \text{ of Funds} \times TEFRA \text{ Disallowance Factor} \times Federal \text{ Tax Rate})}{(1 - Federal \text{ Tax Rate})}$$

		Current	+25bps	+50bps	+75bps	+100bps
	<b>Cost of Funds</b>	<b>1.00%</b>	<b>1.25%</b>	<b>1.50%</b>	<b>1.75%</b>	<b>2.00%</b>
<b>Bank Qualified</b>	TEFRA Disallowance Factor	20%	20%	20%	20%	20%
	Federal Tax Rate	21%	21%	21%	21%	21%
	<b>TEFRA Cost (bps)</b>	<b>4.2</b>	<b>5.3</b>	<b>6.3</b>	<b>7.4</b>	<b>8.4</b>
	<b>TEY TEFRA Cost (bps)</b>	<b>5.3</b>	<b>6.6</b>	<b>8.0</b>	<b>9.3</b>	<b>10.6</b>
<b>General Market</b>	TEFRA Disallowance Factor	100%	100%	100%	100%	100%
	Federal Tax Rate	21%	21%	21%	21%	21%
	<b>TEFRA Cost (bps)</b>	<b>21.0</b>	<b>26.3</b>	<b>31.5</b>	<b>36.8</b>	<b>42.0</b>
	<b>TEY TEFRA Cost (bps)</b>	<b>26.6</b>	<b>33.2</b>	<b>39.9</b>	<b>46.5</b>	<b>53.2</b>

# INVESTMENT SUBSIDIARY MECHANICS

- Subsidiary is created to house municipal bonds
- **Financial institutions are not required to include the investments of its non-bank subsidiaries in calculating its interest expenses disallowance**
- Benefit is two-fold: reduce tax expense, ability to purchase larger more-liquid municipals



# BUSINESS PURPOSE SUPPORT

- Third-party performing investment consulting and/or oversight of municipal portfolio
  - SEC-registered investment advisor
  - Municipal market expertise, including credit quality analysis
  - Bank management retains full control of investment decision-making
    - Specific municipal filters - size, credit quality, issue, maturity, etc.
  
- Investment Advisor substantiates and documents Business Purpose
  - Governance: Assist in the Startup, Quarterly Meeting Facilitation
  - Investment Advisory: Advise, Consult, Execute
  - Municipal Credit Quality Oversight (Independent of Broker/Dealers)
    - Proprietary “M” Factor Grading
    - Proprietary Confidence Scoring

## ➤ Tax Professionals

- Type of structure (design & start-up)
- Advice on Business Purpose & Documentation

## ➤ Legal Professionals

- Articles of Incorporation and By-Laws
- Regulatory Application/Notification

## ➤ Investment Advisor/Consultant

- Registered Investment Advisor
- Third Party Investment Management Expertise
- Credit Quality Monitoring and Oversight