

# 2024 FHLBank Topeka Regional Meetings

Nebraska Meeting

.....

August 26<sup>th</sup>, 2024

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Financial Strategies Team

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# FHLBank Topeka Regional Meetings – Hilltop Securities



Subsidiaries provide banking, mortgage origination, advisory and underwriting

## Hilltop Holdings

By the Numbers

**\$16.5B**

In Assets<sup>(1)</sup>

**3,900**

Nationwide Employees<sup>(1)</sup>

**No. 33**

America's Best Banks<sup>(2)</sup>

Holding Company



Subsidiaries

## PlainsCapitalBank

- Texas-based bank
- \$11.1 billion in deposits per regulatory filings as of December 31, 2023
- Nearly 60 locations providing personal, commercial and private banking to customers in key markets across Texas

## PrimeLending

A PlainsCapital Company.

- Focuses on purchase mortgage originations
- #11 Top Retail Mortgage Lender by Scotsman Guide<sup>(3)</sup>
- 1,230 loan officers located throughout the U.S.
- Authorized to make loans in all 50 states and the District of Columbia

## HilltopSecurities

Investment Banking Solutions

- #5 national municipal investment bank ranking on a combined basis by number of negotiated, competitive and privately placed, underwriting and municipal advisory financings from 2019 through 2023<sup>(4)</sup>
- Trusted Clearing Services partner to financial professionals nationwide
- Other areas of focus include retail brokerage services, sales, underwriting and trading of taxable and tax-exempt securities, structured finance and securities lending

(1) Hilltop Holdings Earnings Release for 12/31/2023

(2) S&P Global Market Intelligence

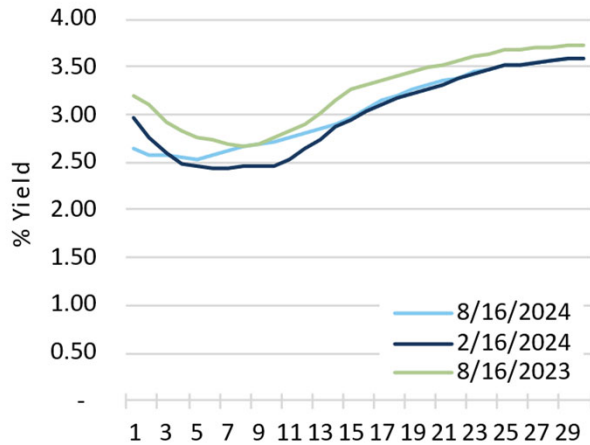
(3) Ranked by Scotsman Guide for retail volume in 2023

(4) Per IPREO MuniAnalytics

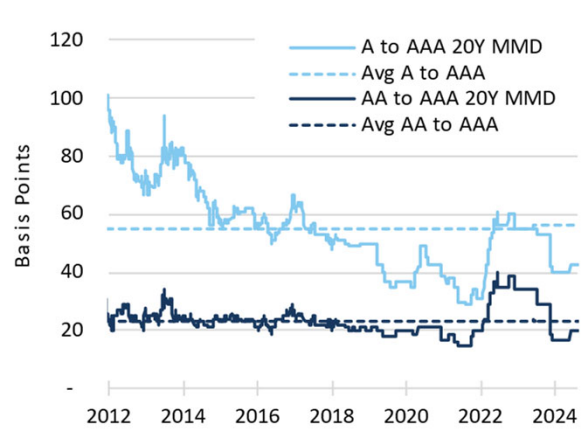
# Tax-Exempt Market Overview | MMD



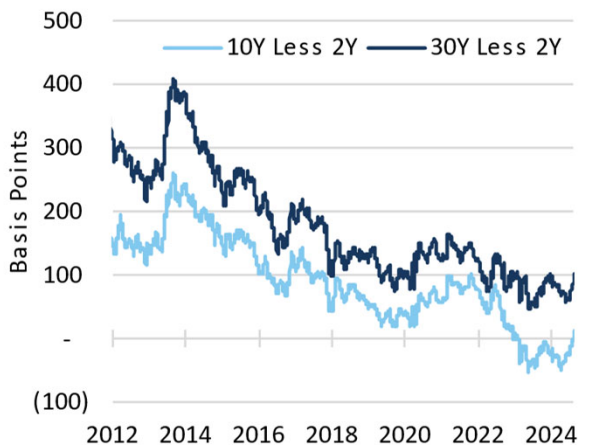
## AAA MMD Yield Curve Comparison



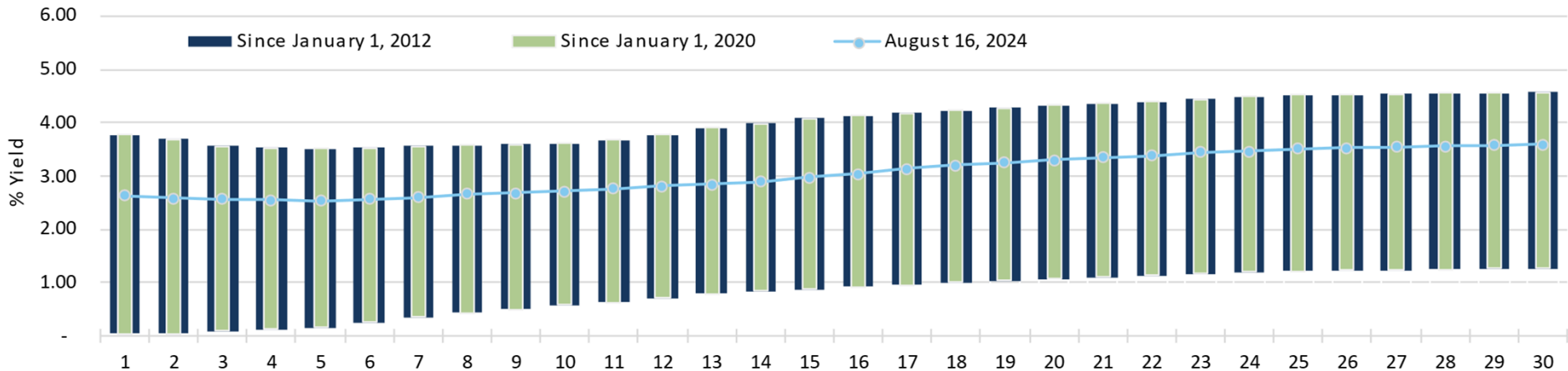
## MMD Credit Spreads to AAA



## AAA Yield Curve Steepness



## Maximum and Minimum AAA MMD Yields

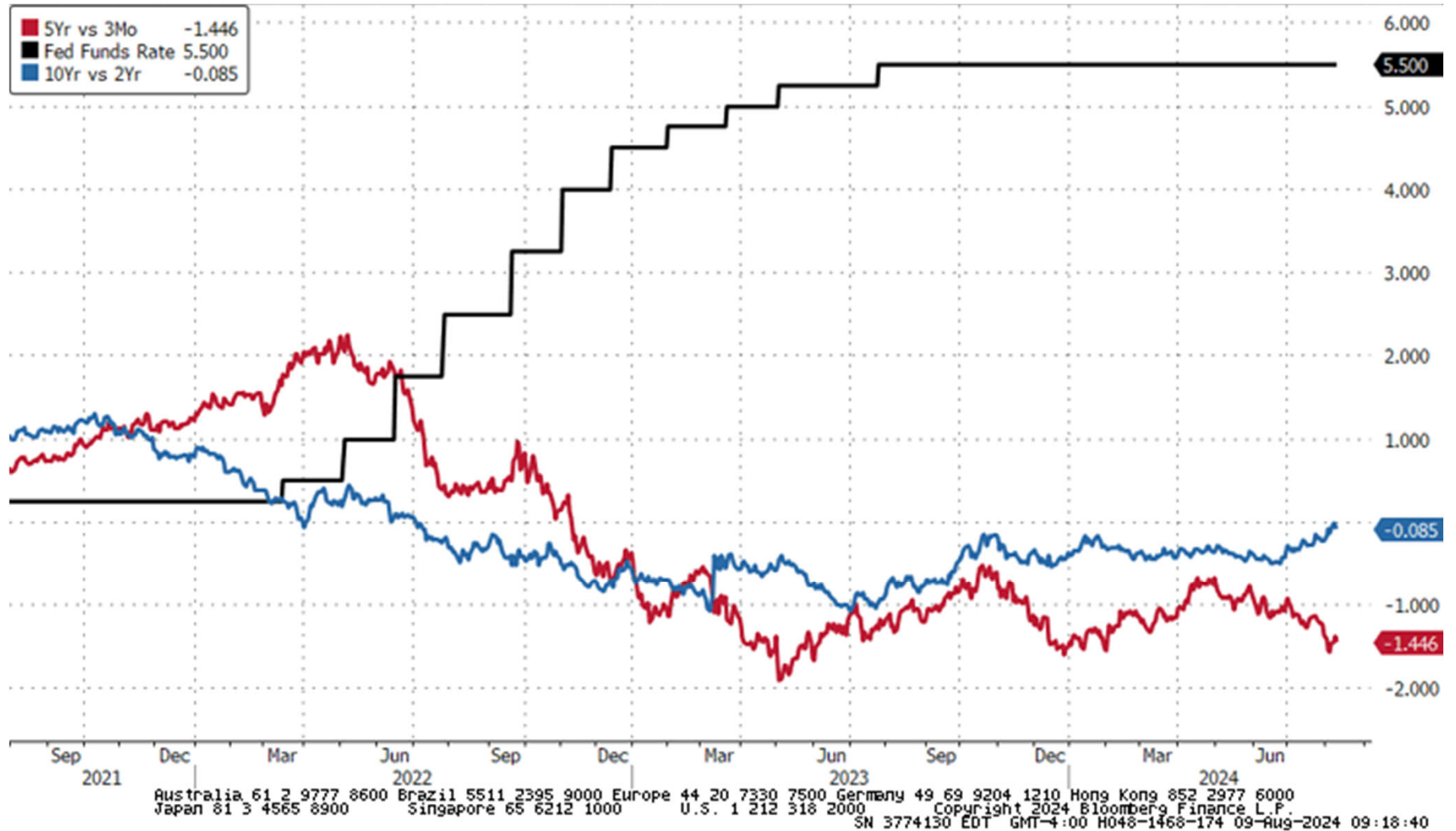


Source: Refinitiv Municipal Market Data

# FHLBank Topeka Regional Meetings



## Yield Curve Inversion



Source: Bloomberg

# FHLBank Topeka Regional Meetings



HTS Commodities - <https://www.htscommodities.com/market-overview/>



Source: Bloomberg

# FHLBank Topeka Regional Meetings



HTS Commodities - <https://www.htscommodities.com/market-overview/>

Commodity	Price	Norm Chg	%YTD	%YTDCur
<b>Grains &amp; Oilseeds</b>				
12) CBT Corn	397.25	+0.25	-19.52%	-19.52%
13) DCE Corn	2,311.00	+4.00	-3.91%	-4.80%
14) ZCE Rapeseed Meal	2,267.00	-7.00	-23.82%	-24.53%
15) ZCE Rapeseed Oil	8,199.00	+40.00	+1.89%	+0.94%
16) CBT Soybeans	1,009.25	+1.00	-20.99%	-20.99%
17) CBOT Soybean Meal	312.20	-3.90	-14.82%	-14.82%
18) CBOT Soybean Oil	41.23	+0.37	-11.45%	-11.45%
19) CBOT HRW Wheat	556.25	+4.75	-13.36%	-13.36%
20) CBT SRW Wheat	545.25	+7.75	-13.18%	-13.18%
21) ENX Milling Wheat	227.25	+0.75	-2.02%	-3.03%
<b>Softs</b>				
23) ICE Cocoa	7,302.00	+588.00	+114.30%	+114.30%
24) ICE Coffee	232.00	-7.35	+25.17%	+25.17%
25) ICE Cotton	68.24	+1.00	-17.06%	-17.06%
26) ZCE Cotton	13,585.00	+140.00	-12.18%	-13.00%
27) CME Lumber	514.50	+11.50	-5.34%	-5.34%
28) ICE FCOJ	422.55	-19.95	+31.96%	+31.96%
29) DCE Palm Oil	7,728.00	+38.00	+9.73%	+8.71%
30) MDE Palm Oil	3,747.00	+43.00	+4.86%	+8.88%
31) TCM Rubber	320.30	-1.70	+36.06%	+31.02%
32) ICE Sugar	18.43	-0.14	-10.45%	-10.45%
<b>Livestock</b>				
34) CME Feeder Cattle	240.38	+2.95	+10.43%	+10.43%
35) CME Live Cattle	180.65	+2.63	+5.77%	+5.77%
36) CME Lean Hogs	73.65	+0.03	+32.14%	+32.14%

Source: Bloomberg

HTS Commodities trades futures, options & OTC contracts across multiple sectors:



## Agriculture

Corn, soft red and hard red wheats, rough rice, feeder and live cattle, lean hogs, soybeans, soybean oil, and soybean meal



## Energy

Oil and oil products, natural gas and electricity



## Softs

Sugar, coffee, sugar, orange juice, cocoa, cotton, and lumber



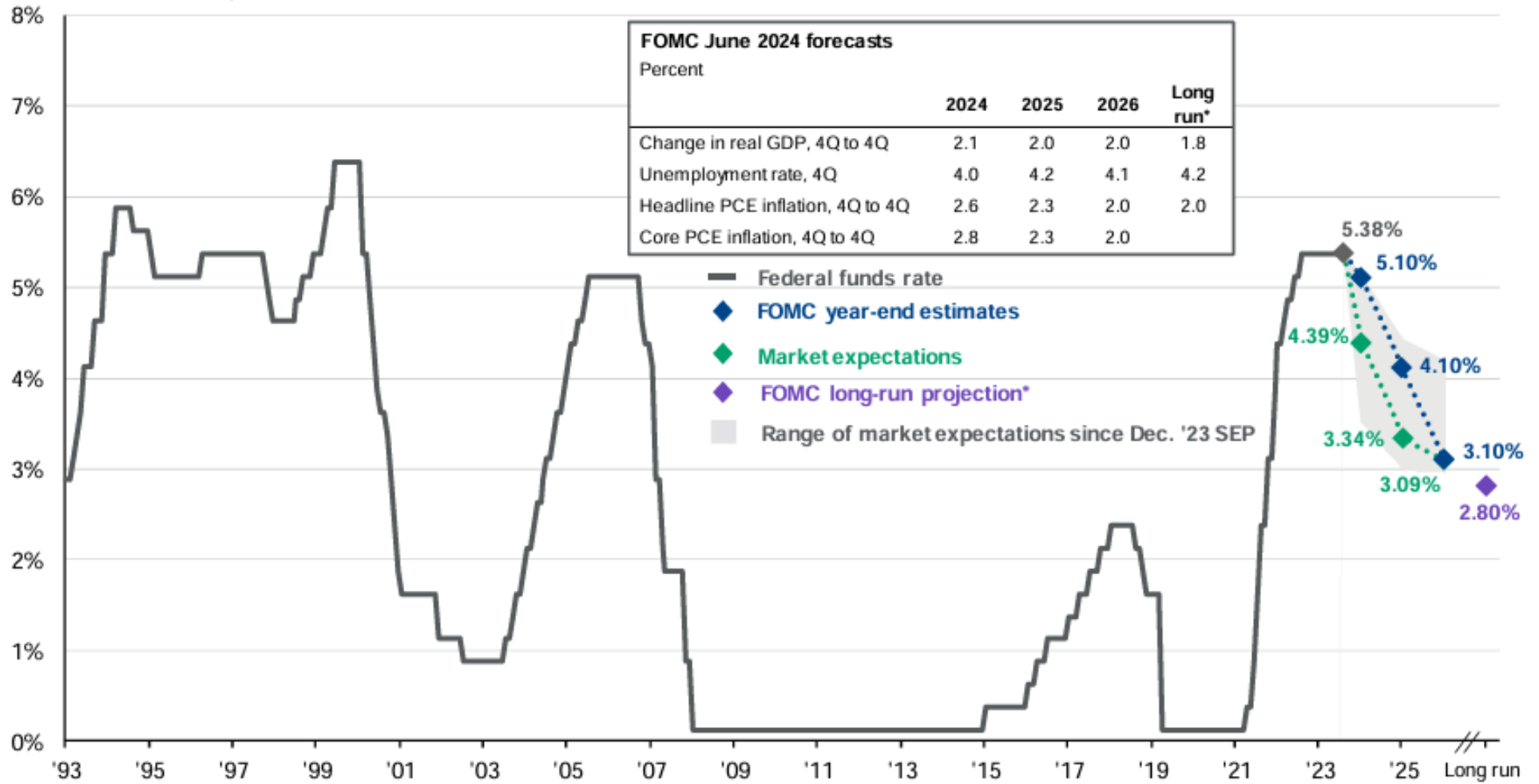
## Metals

Gold, silver, platinum, palladium, copper, and aluminum

# FHLBank Topeka Regional Meetings



## Fed Funds Rate Expectations



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

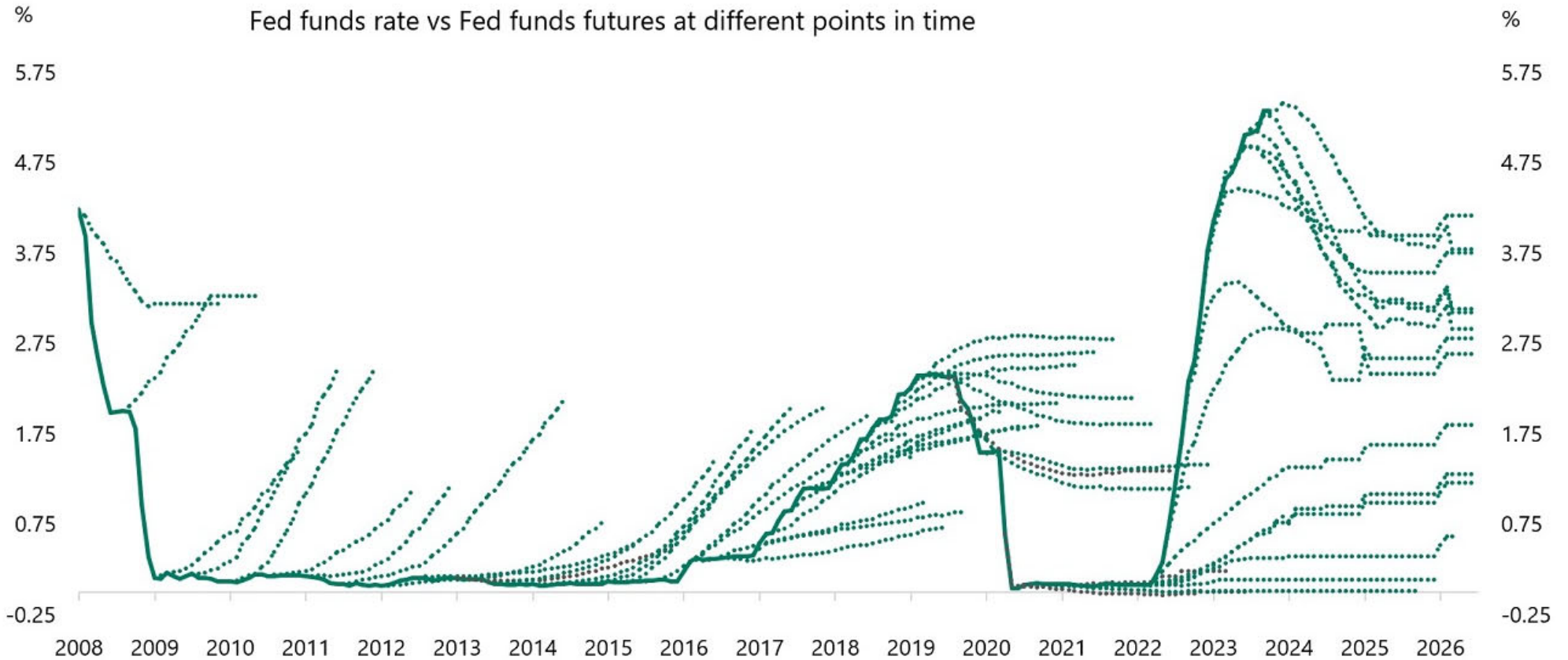
Market expectations are based off of USD Overnight Index Swaps. \*Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated. *Guide to the Markets – U.S.* Data are as of August 19, 2024.

**J.P.Morgan**  
ASSET MANAGEMENT

# FHLBank Topeka Regional Meetings



*The market is always wrong about what the Fed will do*



Source: Apollo Global Management



# FHLBank Topeka Regional Meetings



Q2 2024 Bank Data

## Balance Sheet & Securities Portfolio Information

General Data	# Institutions	Sub S #	Leverage	ROAA	NIM	ASSETS YLD	COF	L/D %	Liq Assets %	LT Assets %	Efficiency
Micro Community Bank	722	270	19.62	2.15	3.80	5.24	1.79	68%	33%	25%	77.91
Small Community Bank	1,120	482	13.00	1.51	3.57	5.30	2.00	74%	24%	29%	69.88
Medium Community Bank	1,718	612	11.35	1.08	3.42	5.41	2.18	80%	19%	32%	68.08
Large Community Banks	868	124	11.00	1.12	3.34	5.59	2.43	87%	15%	32%	65.22
Regional Banks	121	1	10.29	0.96	3.32	5.76	2.57	84%	15%	32%	55.95
Tier 1 Banks	33	0	9.31	1.21	3.32	6.29	3.13	68%	29%	27%	55.25
<b>Totals</b>	<b>4,582</b>	<b>1,489</b>	<b>12.95</b>	<b>1.36</b>	<b>3.50</b>	<b>5.41</b>	<b>2.14</b>	<b>78%</b>	<b>22%</b>	<b>30%</b>	<b>69.11</b>

Portfolio Data	SEC/TA %	SEC YLD	SEC G/(L) %	USTs	Agcy	Muni	Mortgage	Other	# Sec QoQ +	% QoQ Sec +
Micro Community Bank	25%	2.98	-6.68%	22%	23%	27%	24%	3%	171	24%
Small Community Bank	24%	2.81	-8.34%	16%	21%	30%	29%	4%	264	24%
Medium Community Bank	21%	2.86	-8.84%	12%	17%	29%	35%	7%	441	26%
Large Community Banks	18%	3.01	-9.62%	11%	12%	20%	46%	11%	284	33%
Regional Banks	20%	3.25	-9.15%	13%	6%	10%	60%	11%	48	40%
Tier 1 Banks	23%	3.22	-8.33%	25%	1%	2%	57%	14%	20	61%
<b>Totals</b>	<b>22%</b>	<b>2.91</b>	<b>-8.53%</b>	<b>15%</b>	<b>18%</b>	<b>27%</b>	<b>35%</b>	<b>6%</b>	<b>1,228</b>	<b>27%</b>

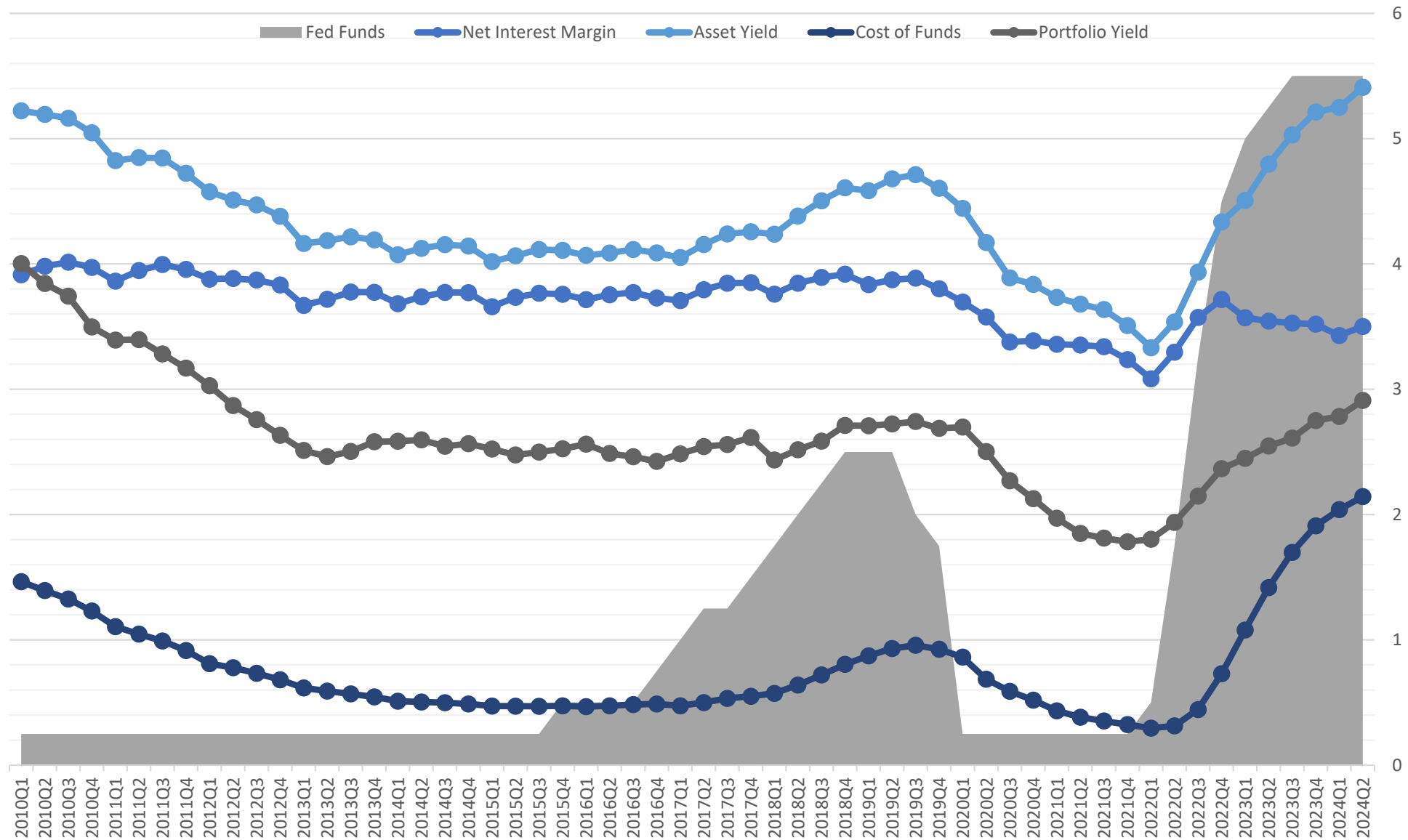
Q1 #'s: Portfolio Yield: 2.80%, NIM 3.43, Asset Yield 5.25%, COF 2.04%

Source: Call Report Data Q2 2024

# FHLBank Topeka Regional Meetings



Community Bank Trends ≈ 4,500 Banks



Source: Call Report Data



## Balance Sheet Management for Banks and Credit Unions

### Asset Sensitive

- Increase Overall Asset Duration
- Deploy Cash
- Increase Fixed Rate Loans
- Bonds: Extend Duration, Positive Convexity
- Decrease Overall Liability Duration
- Shorten Funding – FHLB Borrowings
- Receive Fix, Pay Float Swaps
- LOAN FLOORS
- Floors, Sell Caps

### Liability Sensitive

- Decrease Overall Asset Duration
- Increase Cash Holdings
- Increase Floating Rate Loans
- Bonds: Decrease Duration, Negative Convexity
- Increase Liability Overall Duration
- Term Funding – FHLB Borrowings
- Receive Float, Pay Fix Swaps
- Caps, Sell Floors



For over 35 years, HBS has provided innovative software and customized services for depository institutions to assist them in interest rate risk analysis, budgeting/forecasting, investment portfolio management, and asset/liability management

## Risk Manager

- Instrument-level Interest Rate Risk Reporting.
- +/- 500 bps rate scenarios & custom report set creation
- Customized ALCO/Board packets with policy/guideline recommendations.
- In-house or service bureau offering available.

## Profit Manager

- Combines Risk Manager & Portfolio Manager with integrated budgeting, forecasting, branch, and board reporting.
- Provides management teams with monthly comparative/trend reports and analyses for all financial management and ALM needs.

## Portfolio Manager

- Monthly Investment Portfolio Accounting, Pricing, and Analytical Reporting System.
- Provides clients with the flexibility of an in-house system while maintaining a service bureau-level of support.

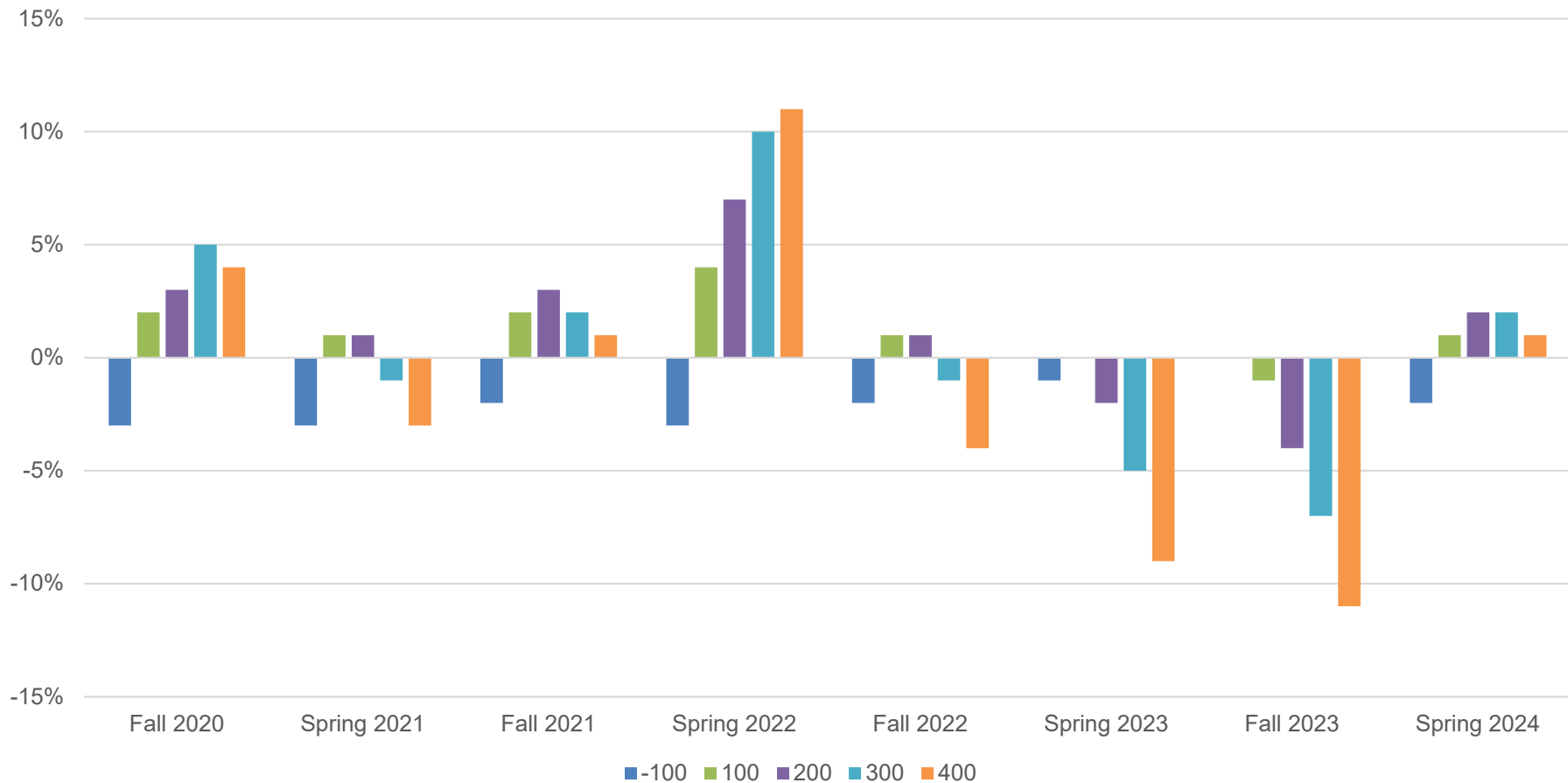
# FHLBank Topeka Regional Meetings



OCC Range of Practice Memo on Interest Rate Risk

## Statistics on Earnings at Risk and Economic Value of Equity – All Banks from Study

All Banks: Historical EAR



Source: OCC Range of Practice Memo / <https://www.occ.gov/publications-and-resources/publications/interest-rate-risk-statistics-reports/files/interest-rate-risk-statistics-report-spring-2024.html>

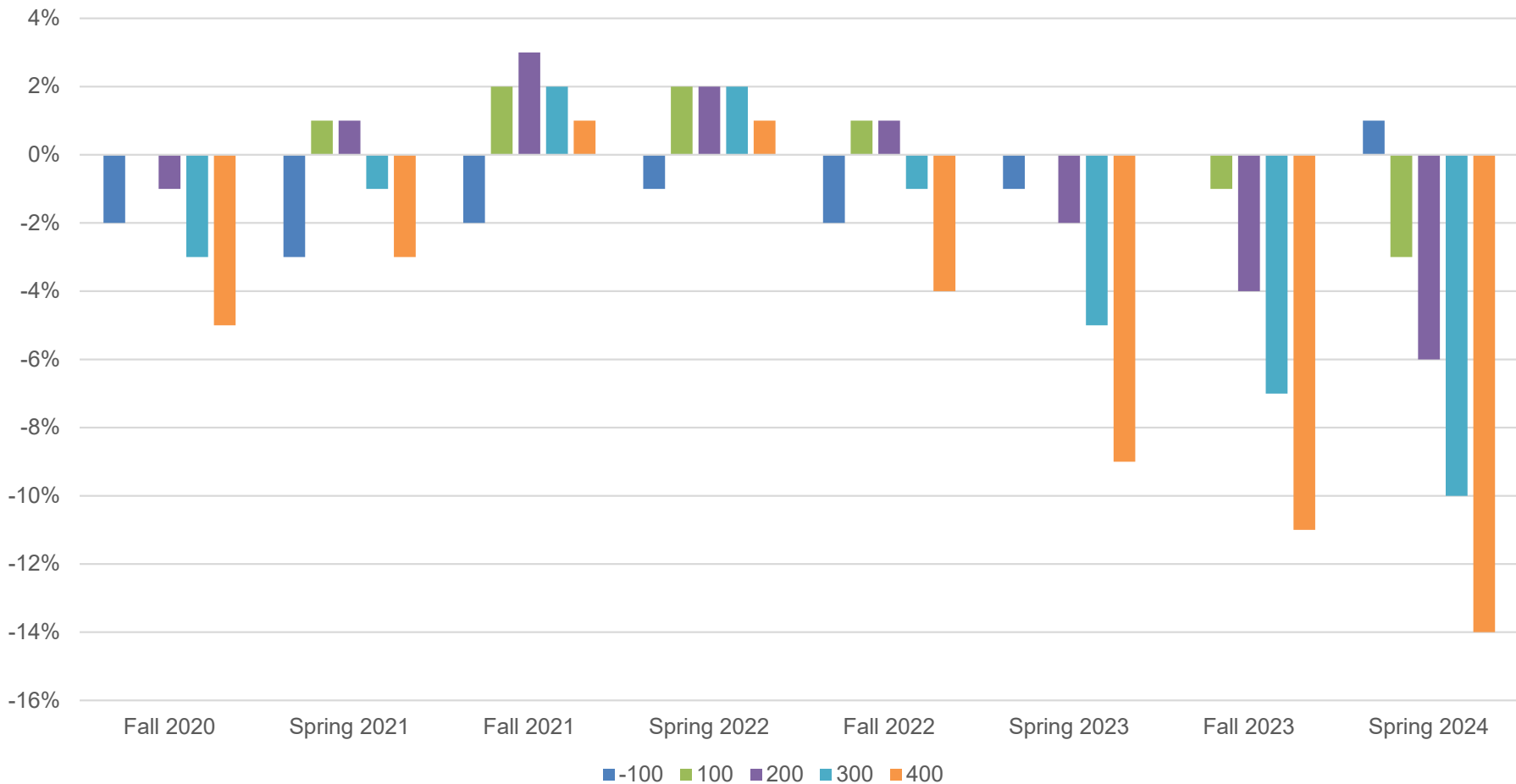
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OCC Range of Practice Memo on Interest Rate Risk

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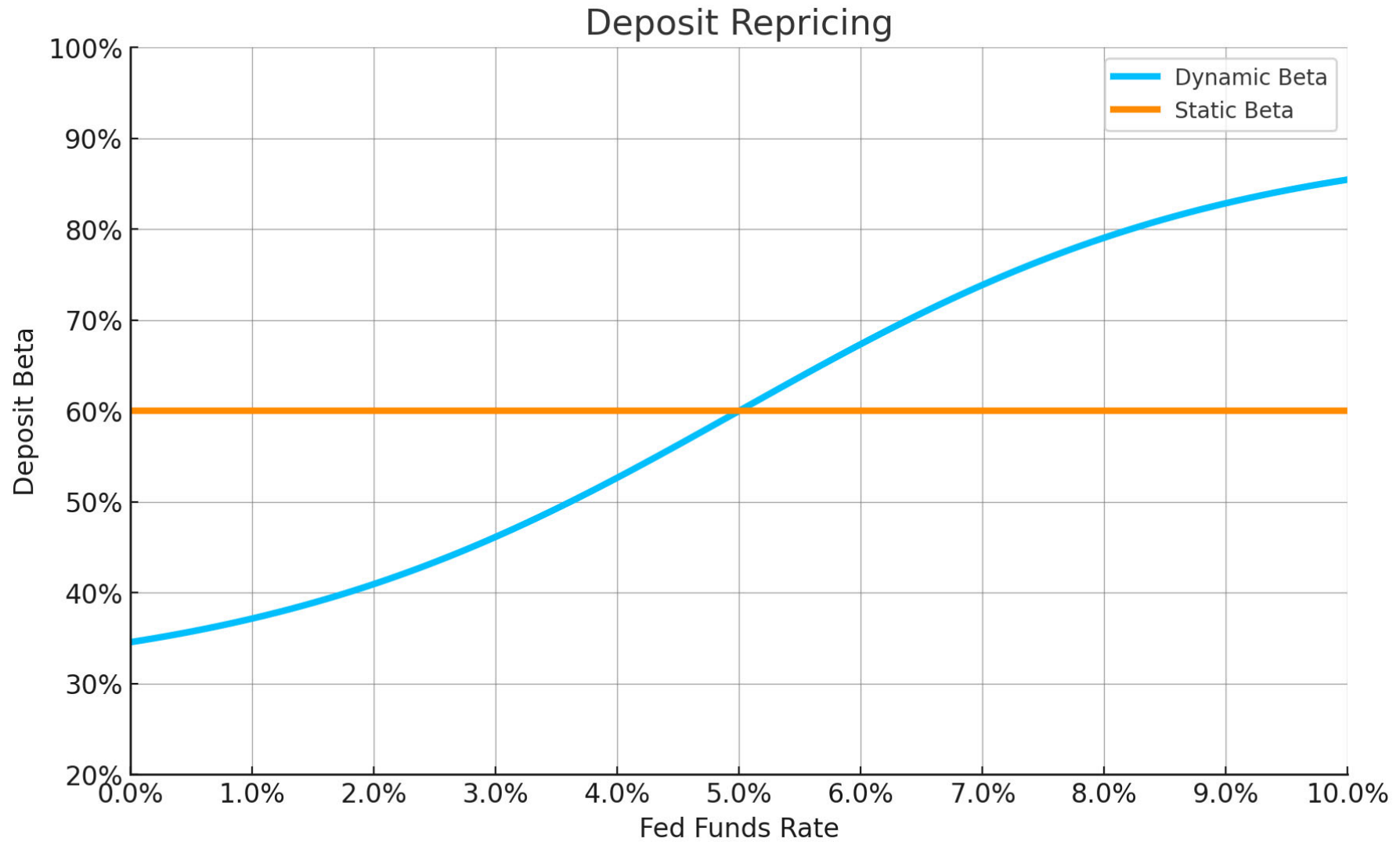
All Banks: Historical EVE



Source: OCC Range of Practice Memo / <https://www.occ.gov/publications-and-resources/publications/interest-rate-risk-statistics-reports/files/interest-rate-risk-statistics-report-spring-2024.html>



## Deposit Repricing – Dynamic vs Static





## Liquidity Risk

- **Current Issues**
  - Yield Curve, Uncertainty
  - Deposits Post SVB, Deposit Competition
  - Underwater investments, deposit challenges, increased borrowings
- **Understand Your Basic Liquidity Ratios & ALM Implications**
  - Liquid Assets
  - Primary Liquidity vs Secondary Liquidity
  - Sources & Uses of Funds
- **Liquidity: What to Monitor**
  - Deposit Concentrations, Short Term Funding
  - Brokered Deposits & Borrowings
  - Wholesale Funding / Non-Core Funding, Declines in Core Deposits
  - OCC Canary Ratios (let us know if you'd like a copy)
    - Loans Deposits  $\leq 75\%$ , Noncore Funding Dependency  $\leq 20\%$ , Short-Term Liabilities / Total Assets  $\leq 15\%$ , On Hand Liquidity / Total Liabilities  $\leq 15\%$ , Wholesale Funding / Total Funding  $> 15\%$



# FHLBank Topeka Regional Meetings



## Modeling Liquidity

Upload Files   Manage Mappings   View   **Shock Assumptions**   Reporting   Help

2024 >  
March

Hilltop Securities

Any Single Bank Demo 2024 (Any City, Any State)

Shock Scenario (Default)



+ New Scenario   Edit Scenarios   Discard Changes   Save Changes

### Shock Assumptions

Payment Rates   Decay Rates   Growth Assumptions   Other Options   Loan Servicing   **Liquidity Assumptions**   Reinvestment Mapping   Mkt Spreads - Fixed

Search:    Export To Excel

Liquidity Metric	Normal	Moderate	Severe	Extreme	
Rate Delta	No Change		+100	+200	+300
Net Loan Growth	3.000		3.000	0.000	0.000
DDA Growth	3.000		0.000	-12.500	-15.000
IB Trans Growth	3.000		-10.000	-12.500	-15.000
Time Deposits Growth	3.000		-10.000	-15.000	-25.000
Public Deposits Growth	3.000		-10.000	-15.000	-25.000
Brokered Deposits Growth	0.000		0.000	0.000	0.000
Borrowed Funds Growth	0.000		-25.000	-100.000	-100.000
Fed Funds Available Lines	5,000,000.00		5,000,000.00	5,000,000.00	5,000,000.00
Borrowing Available	25,000,000.00		25,000,000.00	12,500,000.00	1.00
Asset Sales	0.000		0.000	0.000	0.000
Discount Window	0.00		0.00	0.00	0.00
Blanket Pledged	0.00		0.00	0.00	0.00
Percent Unfunded Commitments To Be Funded	0.000		0.000	0.000	0.000
CDARS Reclamation	0.00		0.00	0.00	0.00
Other Deposit Sources	0.00		0.00	0.00	0.00



## Thoughts on Interest Rate Risk

### Don't Get Caught Offsides on your Next Safety and Soundness Exam

- **POLICY – *If it's not written down, it didn't happen***
  - IRR appetite and risk management objectives
  - Responsibility and Authority for IRR Management
  - Standards for Measuring and Monitoring IRR
    - Types of IRR Measurement (EAR, EVE), Frequency (Quarterly)
    - Risk Limits on IRR Exposure for Earnings and Capital
    - Risk Mitigation – Monitor, Escalate, and Address Risk Limits
    - Model Validation and Back Testing
- **STRESS TESTING OF KEY ASSUMPTIONS – *Garbage in, garbage out.***
  - Deposit Betas & Decay Rates
  - Modeling Disintermediation (NMDs to CDs)
  - Asset Prepayment Speeds
- **MODEL ASSUMPTIONS**
  - Deposit Betas and Decay Rates
  - Asset Prepayment Speeds
- **ADDITIONAL REVIEW ITEMS - *We can't predict but we can prepare***
  - Back Testing
  - Validation Letter
  - Independent Review of an IRR Management System
  - ALCO, Board of Director Training and Education



The Role of Bonds for Financial Institutions

## Liquidity, Interest Rate Risk and Earnings & The Bond Portfolio

- **LIQUIDITY**

- Transactable Markets (Bonds with tight bid/ask spread, structure, higher credit quality)

- **INTEREST RATE RISK**

- Great hedge of the balance sheet, not our customers!

- **EARNINGS**

- The bond portfolio should provide earnings and cash flow in all rate scenarios while also maintain acceptable risk levels.
- Your balance sheet is full of optionality, the portfolio can help us better manage vs our customers

- **OTHER**

- CRA, Risk Based Capital, Pledging, Community Support

# FHLBank Topeka Regional Meetings



## Q2 2024 Bank Data / Portfolio Yield Breakdown

≈2,000 Banks \$100mm to \$500mm Assets

≈900 Banks \$1bb to \$10bb Assets

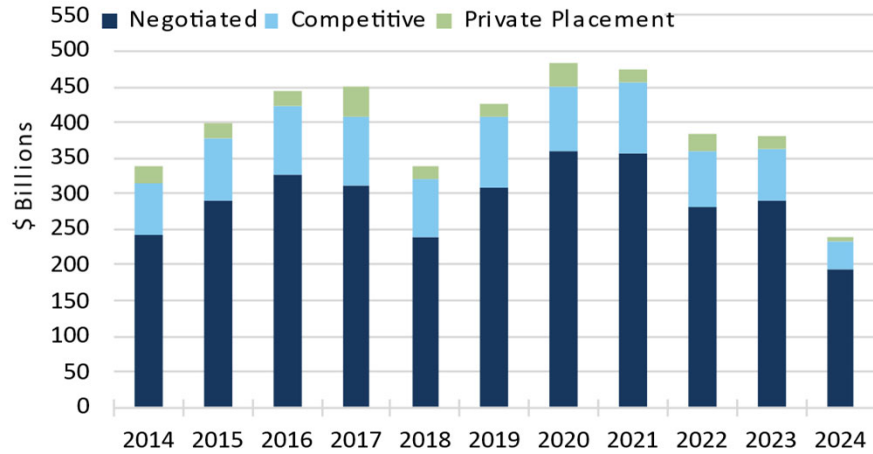
	Low	Middle	High		Low	Middle	High
<b>Median Yield (TEY)</b>	1.72	2.50	3.72	<b>Median Yield (TEY)</b>	1.91	2.70	4.00
<b>USTs</b>	17%	9%	12%	<b>USTs</b>	14%	10%	11%
<b>Agencies</b>	32%	17%	12%	<b>Agencies</b>	20%	11%	7%
<b>Munis</b>	23%	37%	34%	<b>Munis</b>	13%	22%	17%
<b>MBS</b>	19%	22%	16%	<b>MBS</b>	31%	28%	15%
<b>CMO</b>	4%	8%	11%	<b>CMO</b>	12%	14%	15%
<b>CMBS</b>	2%	3%	5%	<b>CMBS</b>	6%	7%	8%
<b>Other</b>	2%	4%	10%	<b>Other</b>	4%	8%	26%
<b>Sec / TA %</b>	23%	25%	21%	<b>Sec / TA %</b>	19%	18%	18%
<b>Liquid Assets %</b>	22.90	22.51	24.91	<b>Liquid Assets %</b>	15.73	15.18	17.35
<b>Long-Term Assets %</b>	27.53	33.96	29.13	<b>Long-Term Assets %</b>	33.37	35.05	28.17
<b>Sec FV / Sec BV</b>	90.51	90.42	94.54	<b>Sec FV / Sec BV</b>	88.59	89.32	94.23
<b>Unrlzd G/(L) %</b>	(9.49)	(9.58)	(5.46)	<b>Unrlzd G/(L) %</b>	(11.41)	(10.68)	(5.77)
<b>AFS Portfolio %</b>	88%	90%	84%	<b>AFS Portfolio %</b>	85%	83%	83%
<b>ROA</b>	0.77	0.90	1.06	<b>ROA</b>	0.78	0.87	1.07
<b>ROE</b>	8.71	10.28	10.36	<b>ROE</b>	9.24	9.37	10.34

Source: Call Report Data, 2<sup>nd</sup> Quarter 2024

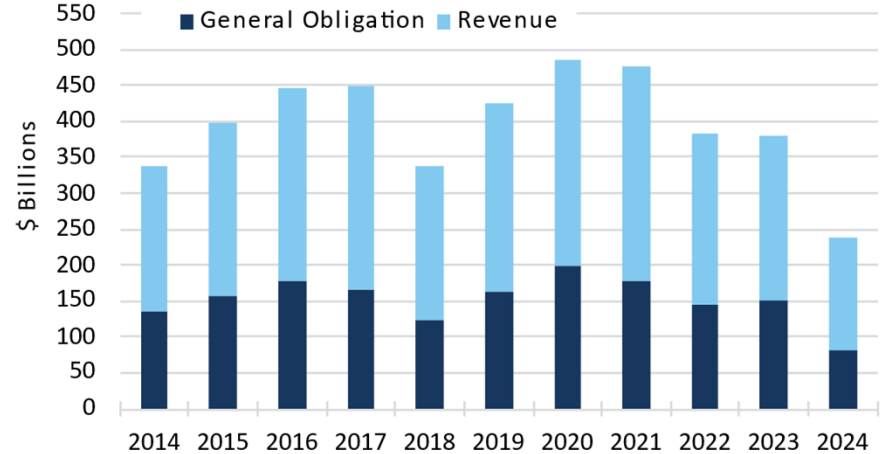
# FHLBank Topeka Regional Meetings - Munis



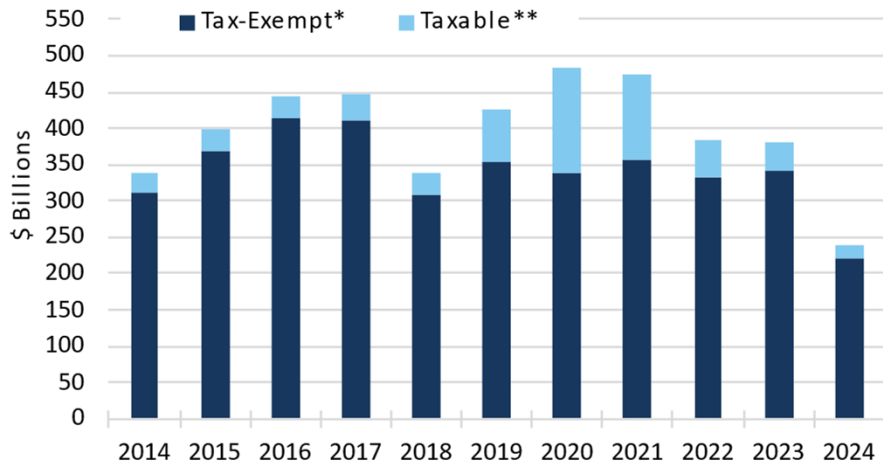
## Negotiated vs Competitive vs Private Placement



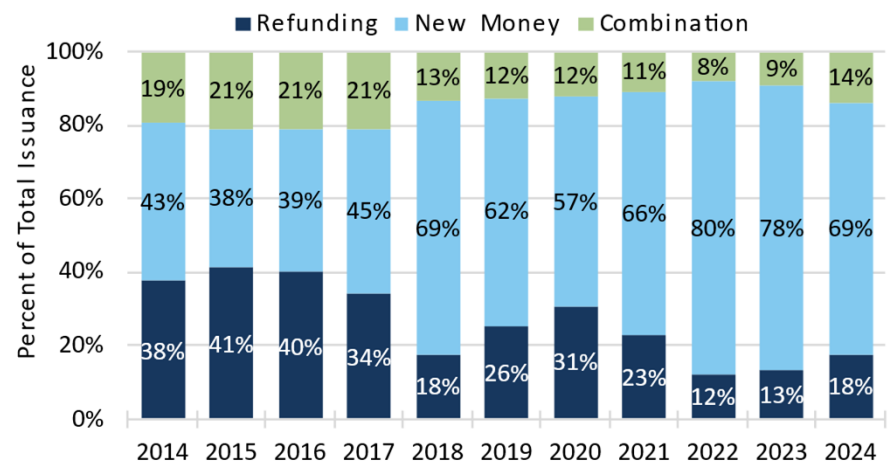
## Revenue vs General Obligation



## Taxable vs Tax-Exempt



## Refunding vs New Money



\* Tax-Exempt Includes AMT Bonds \*\*Taxable Includes Stimulus Bonds

Source: The Bond Buyer "A Decade of Bond Finance" and Thomson Reuters (based on data available through June 30, 2024) Excludes Notes

# FHLBank Topeka Regional Meetings



Municipals: Understand Your TEY's

## Cost of Funds Impacts TEY

- C- Corp Bank Qualified  $\frac{Yield - (Tax Rate * Cost\ of\ Funds * 20\%)}{(1 - Tax\ Rate)}$
- C- Corp General Market  $\frac{Yield - (Tax Rate * Cost\ of\ Funds * 100\%)}{(1 - Tax\ Rate)}$

<b>C-CORP</b>	<b>COF</b>		<b>COF</b>		<b>COF</b>		<b>COF</b>		<b>COF</b>		<b>COF</b>		<b>COF</b>
	0.50%		1.00%		2.00%		3.00%		4.00%				
<b>BQ TEY</b>	Yield	<b>4.00%</b>	Yield	<b>4.00%</b>	<b>BQ TEY</b>	Yield	<b>4.00%</b>	<b>BQ TEY</b>	Yield	<b>4.00%</b>	<b>BQ TEY</b>	Yield	<b>4.00%</b>
	20% Tax Rate	21.00%	Tax Rate	21.00%		20% Tax Rate	21.00%		20% Tax Rate	21.00%		20% Tax Rate	21.00%
	TEY	<b>5.04%</b>	TEY	<b>5.01%</b>		TEY	<b>4.96%</b>		TEY	<b>4.90%</b>		TEY	<b>4.85%</b>
<b>GM TEY</b>	Yield	<b>4.10%</b>	Yield	<b>4.10%</b>	<b>GM TEY</b>	Yield	<b>4.10%</b>	<b>GM TEY</b>	Yield	<b>4.10%</b>	<b>GM TEY</b>	Yield	<b>4.10%</b>
	100% Tax Rate	21.00%	Tax Rate	21.00%		100% Tax Rate	21.00%		100% Tax Rate	21.00%		100% Tax Rate	21.00%
	TEY	<b>5.06%</b>	TEY	<b>4.92%</b>		TEY	<b>4.66%</b>		TEY	<b>4.39%</b>		TEY	<b>4.13%</b>

# FHLBank Topeka Regional Meetings



## Municipals: Portfolio Manager Tools

### Muni Tax Equivalent Yield Calculator

INPUTS		
Tax Rate (%)	21.00%	<< CHANGE TAX RATE HERE
COF (Cost of Funds) (%)	2.00	<< ENTER COST OF FUNDS (COF)
BEY (Bond Equivalent Yield)	4.000	<< ENTER BOND EQUIVALENT YIELD (BEY)

Bank Qualified					
TEFRA	COF (TEFRA ALLOWANCE)	X	TAX RATE	=	TEY
200.000%	20.00%	X	21.00%	=	8.400%
BEY	TEFRA	-	(1-TAX)	=	TEY
4.000	0.08400	-	79.00%	=	4.9570

<< Tax-Equivalent Yield

Non - BQ (General Market)					
TEFRA	Cost of Funds (TEFRA ALLOWANCE)	X	TAX RATE	=	TEY
200.000%	100%	X	21.00%	=	42.000%
BondEq YLD	TEFRA	-	(1-TAX)	=	TEY
4.0000	42.00%	-	79.00%	=	4.532%

<< Tax-Equivalent Yield

### Muni Tax Equivalent Yield Table

Municipal Tax-Equivalent Yield Calculations



Bond Equivalent Yield	Bank Qualified Muni						General Market Municipals						BQ Muni No TEFRA	General Market Municipals					
	Banks' Cost of Funds (For TEFRA)						Banks' COF (For 100% TEFRA)							Banks' COF (For 100% TEFRA)					
	0.75%	1.00%	1.50%	2.00%	2.50%	3.00%	0.75%	1.00%	1.50%	2.00%	2.50%	3.00%		0.75%	1.00%	1.50%	2.00%	2.50%	3.00%
0.50%	0.59%	0.58%	0.55%	0.53%	0.50%	0.47%	0.43%	0.37%	0.23%	0.10%	-0.03%	-0.16%	0.71%	0.39%	0.29%	0.08%	-0.13%	-0.34%	-0.55%
0.75%	0.91%	0.90%	0.87%	0.84%	0.82%	0.79%	0.75%	0.68%	0.55%	0.42%	0.28%	0.15%	1.07%	0.75%	0.64%	0.43%	0.22%	0.01%	-0.20%
1.00%	1.23%	1.21%	1.19%	1.16%	1.13%	1.11%	1.07%	1.00%	0.87%	0.73%	0.60%	0.47%	1.42%	1.11%	1.00%	0.79%	0.58%	0.37%	0.16%
1.10%	1.35%	1.34%	1.31%	1.29%	1.26%	1.23%	1.19%	1.13%	0.99%	0.86%	0.73%	0.59%	1.56%	1.25%	1.14%	0.93%	0.72%	0.51%	0.30%
1.20%	1.48%	1.47%	1.44%	1.41%	1.39%	1.36%	1.32%	1.25%	1.12%	0.99%	0.85%	0.72%	1.70%	1.39%	1.28%	1.07%	0.86%	0.65%	0.44%
1.30%	1.61%	1.59%	1.57%	1.54%	1.51%	1.49%	1.45%	1.38%	1.25%	1.11%	0.98%	0.85%	1.85%	1.53%	1.43%	1.22%	1.01%	0.80%	0.59%
1.40%	1.73%	1.72%	1.69%	1.67%	1.64%	1.61%	1.57%	1.51%	1.37%	1.24%	1.11%	0.97%	1.99%	1.67%	1.57%	1.36%	1.15%	0.94%	0.73%
1.50%	1.86%	1.85%	1.82%	1.79%	1.77%	1.74%	1.70%	1.63%	1.50%	1.37%	1.23%	1.10%	2.13%	1.82%	1.71%	1.50%	1.29%	1.08%	0.87%
1.60%	1.99%	1.97%	1.95%	1.92%	1.89%	1.87%	1.83%	1.76%	1.63%	1.49%	1.36%	1.23%	2.27%	1.96%	1.85%	1.64%	1.43%	1.22%	1.01%
1.70%	2.11%	2.10%	2.07%	2.05%	2.02%	1.99%	1.95%	1.89%	1.75%	1.62%	1.49%	1.35%	2.41%	2.10%	1.99%	1.78%	1.57%	1.36%	1.15%
1.80%	2.24%	2.23%	2.20%	2.17%	2.15%	2.12%	2.08%	2.01%	1.88%	1.75%	1.61%	1.48%	2.56%	2.24%	2.14%	1.93%	1.72%	1.51%	1.30%
1.90%	2.37%	2.35%	2.33%	2.30%	2.27%	2.25%	2.21%	2.14%	2.01%	1.87%	1.74%	1.61%	2.70%	2.38%	2.28%	2.07%	1.86%	1.65%	1.44%
2.00%	2.49%	2.48%	2.45%	2.43%	2.40%	2.37%	2.33%	2.27%	2.13%	2.00%	1.87%	1.73%	2.84%	2.53%	2.42%	2.21%	2.00%	1.79%	1.58%
2.10%	2.62%	2.61%	2.58%	2.55%	2.53%	2.50%	2.46%	2.39%	2.26%	2.13%	1.99%	1.86%	2.98%	2.67%	2.56%	2.35%	2.14%	1.93%	1.72%
2.20%	2.74%	2.73%	2.71%	2.68%	2.65%	2.63%	2.59%	2.52%	2.39%	2.25%	2.12%	1.99%	3.13%	2.81%	2.70%	2.49%	2.28%	2.07%	1.86%
2.30%	2.87%	2.86%	2.83%	2.81%	2.78%	2.75%	2.71%	2.65%	2.51%	2.38%	2.25%	2.11%	3.27%	2.95%	2.85%	2.64%	2.43%	2.22%	2.01%
2.40%	3.00%	2.98%	2.96%	2.93%	2.91%	2.88%	2.84%	2.77%	2.64%	2.51%	2.37%	2.24%	3.41%	3.09%	2.99%	2.78%	2.57%	2.36%	2.15%
2.50%	3.12%	3.11%	3.08%	3.06%	3.03%	3.01%	2.97%	2.90%	2.77%	2.63%	2.50%	2.37%	3.55%	3.24%	3.13%	2.92%	2.71%	2.50%	2.29%
2.60%	3.25%	3.24%	3.21%	3.18%	3.16%	3.13%	3.09%	3.03%	2.89%	2.76%	2.63%	2.49%	3.69%	3.38%	3.27%	3.06%	2.85%	2.64%	2.43%
2.70%	3.38%	3.36%	3.34%	3.31%	3.28%	3.26%	3.22%	3.15%	3.02%	2.89%	2.75%	2.62%	3.84%	3.52%	3.41%	3.20%	2.99%	2.78%	2.57%
2.80%	3.50%	3.49%	3.46%	3.44%	3.41%	3.38%	3.34%	3.28%	3.15%	3.01%	2.88%	2.75%	3.98%	3.66%	3.55%	3.35%	3.14%	2.93%	2.72%
2.90%	3.63%	3.62%	3.59%	3.56%	3.54%	3.51%	3.47%	3.41%	3.27%	3.14%	3.01%	2.87%	4.12%	3.80%	3.70%	3.49%	3.28%	3.07%	2.86%
3.00%	3.76%	3.74%	3.72%	3.69%	3.66%	3.64%	3.60%	3.53%	3.40%	3.27%	3.13%	3.00%	4.26%	3.95%	3.84%	3.63%	3.42%	3.21%	3.00%
3.10%	3.88%	3.87%	3.84%	3.82%	3.79%	3.76%	3.72%	3.66%	3.53%	3.39%	3.26%	3.13%	4.40%	4.09%	3.98%	3.77%	3.56%	3.35%	3.14%
3.20%	4.01%	4.00%	3.97%	3.94%	3.92%	3.89%	3.85%	3.78%	3.65%	3.52%	3.39%	3.25%	4.55%	4.23%	4.13%	3.91%	3.70%	3.49%	3.28%
3.30%	4.14%	4.12%	4.10%	4.07%	4.04%	4.02%	3.98%	3.91%	3.78%	3.65%	3.51%	3.38%	4.69%	4.37%	4.27%	4.06%	3.85%	3.64%	3.43%
3.40%	4.26%	4.25%	4.22%	4.20%	4.17%	4.14%	4.10%	4.04%	3.91%	3.77%	3.64%	3.51%	4.83%	4.51%	4.41%	4.20%	3.99%	3.78%	3.57%
3.50%	4.39%	4.38%	4.35%	4.32%	4.30%	4.27%	4.23%	4.16%	4.03%	3.90%	3.77%	3.63%	4.97%	4.66%	4.55%	4.34%	4.13%	3.92%	3.71%
3.60%	4.52%	4.50%	4.48%	4.45%	4.42%	4.40%	4.36%	4.29%	4.16%	4.03%	3.89%	3.76%	5.11%	4.80%	4.69%	4.48%	4.27%	4.06%	3.85%
3.70%	4.64%	4.63%	4.60%	4.58%	4.55%	4.52%	4.48%	4.42%	4.28%	4.15%	4.02%	3.89%	5.26%	4.94%	4.84%	4.63%	4.41%	4.20%	3.99%
3.80%	4.77%	4.76%	4.73%	4.70%	4.68%	4.65%	4.61%	4.54%	4.41%	4.28%	4.15%	4.01%	5.40%	5.08%	4.98%	4.77%	4.56%	4.35%	4.14%
3.90%	4.90%	4.88%	4.86%	4.83%	4.80%	4.78%	4.74%	4.67%	4.54%	4.41%	4.27%	4.14%	5.54%	5.22%	5.12%	4.91%	4.70%	4.49%	4.28%
4.00%	5.02%	5.01%	4.98%	4.96%	4.93%	4.90%	4.86%	4.80%	4.66%	4.53%	4.40%	4.27%	5.68%	5.37%	5.26%	5.05%	4.84%	4.63%	4.42%
4.10%	5.15%	5.14%	5.11%	5.08%	5.06%	5.03%	4.99%	4.92%	4.79%	4.66%	4.53%	4.39%	5.82%	5.51%	5.40%	5.19%	4.98%	4.77%	4.56%
4.20%	5.28%	5.26%	5.24%	5.21%	5.18%	5.16%	5.12%	5.05%	4.92%	4.78%	4.65%	4.52%	5.97%	5.65%	5.55%	5.34%	5.13%	4.91%	4.70%
4.30%	5.40%	5.39%	5.36%	5.34%	5.31%	5.28%	5.24%	5.18%	5.04%	4.91%	4.78%	4.65%	6.11%	5.79%	5.69%	5.48%	5.27%	5.06%	4.85%
4.40%	5.53%	5.52%	5.49%	5.46%	5.44%	5.41%	5.37%	5.30%	5.17%	5.04%	4.91%	4.77%	6.25%	5.93%	5.83%	5.62%	5.41%	5.20%	4.99%
4.50%	5.66%	5.64%	5.62%	5.59%	5.56%	5.54%	5.50%	5.43%	5.30%	5.16%	5.03%	4.90%	6.39%	6.08%	5.97%	5.76%	5.55%	5.34%	5.13%
4.60%	5.78%	5.77%	5.74%	5.72%	5.69%	5.66%	5.62%	5.56%	5.42%	5.29%	5.16%	5.03%	6.53%	6.23%	6.11%	5.90%	5.69%	5.48%	5.27%
4.70%	5.91%	5.90%	5.87%	5.84%	5.82%	5.79%	5.75%	5.68%	5.55%	5.42%	5.28%	5.15%	6.68%	6.36%	6.26%	6.05%	5.84%	5.63%	5.41%
4.80%	6.04%	6.02%	6.00%	5.97%	5.94%	5.92%	5.88%	5.81%	5.68%	5.54%	5.41%	5.28%	6.82%	6.50%	6.40%	6.19%	5.98%	5.77%	5.56%
4.90%	6.16%	6.15%	6.12%	6.10%	6.07%	6.04%	6.00%	5.94%	5.80%	5.67%	5.54%	5.41%	6.96%	6.64%	6.54%	6.33%	6.12%	5.91%	5.70%
5.00%	6.29%	6.28%	6.25%	6.22%	6.20%	6.17%	6.13%	6.06%	5.93%	5.80%	5.66%	5.53%	7.10%	6.79%	6.68%	6.47%	6.26%	6.05%	5.84%
5.10%	6.42%	6.40%	6.38%	6.35%	6.32%	6.30%	6.26%	6.19%	6.06%	5.92%	5.79%	5.66%	7.24%	6.93%	6.82%	6.61%	6.40%	6.19%	5.98%
5.20%	6.54%	6.53%	6.50%	6.48%	6.45%	6.42%	6.38%	6.32%	6.18%	6.05%	5.92%	5.78%	7.39%	7.07%	6.97%	6.76%	6.55%	6.34%	6.13%
5.30%	6.67%	6.66%	6.63%	6.60%	6.58%	6.55%	6.51%	6.44%	6.31%	6.18%	6.04%	5.91%	7.53%	7.21%	7.11%	6.90%	6.69%	6.48%	6.27%
5.40%	6.80%	6.78%	6.76%	6.73%	6.70%	6.68%	6.64%	6.57%	6.44%	6.30%	6.17%	6.04%	7.67%	7.36%	7.25%	7.04%	6.83%	6.62%	6.41%
5.50%	6.92%	6.91%	6.88%	6.86%	6.83%	6.80%	6.76%	6.70%	6.56%	6.43%	6.30%	6.16%	7.81%	7.50%	7.39%	7.18%	6.97%	6.76%	6.55%
5.60%	7.05%	7.04%	7.01%	6.98%	6.96%	6.93%	6.89%	6.82%	6.69%	6.56%	6.42%	6.29%	7.95%	7.64%	7.53%	7.32%	7.11%	6.90%	6.69%
5.70%	7.18%	7.16%	7.14%	7.11%	7.08%	7.06%	7.02%	6.95%	6.82%	6.68%	6.55%	6.42%	8.10%	7.78%	7.68%	7.47%	7.26%	7.05%	6.84%
5.80%	7.30%	7.29%	7.26%	7.24%	7.21%	7.18%	7.14%	7.08%	6.94%	6.81%	6.68%	6.54%	8.24%	7.92%	7.82%	7.61%	7.40%	7.19%	6.98%
5.90%	7.43%	7.42%	7.39%	7.36%	7.34%	7.31%	7.27%	7.20%	7.07%	6.94%	6.80%	6.67%	8.38%	8.07%	7.96%	7.75%	7.54%	7.33%	7.12%
6.00%	7.56%	7.54%	7.52%	7.49%	7.46%	7.44%	7.40%	7.33%	7.20%	7.06%	6.93%	6.80%	8.52%	8.21%	8.10%	7.89%	7.68%	7.47%	7.26%

Calculations  
 Bank Qualified Muni: Tax Equivalent Yield = (Bond Equivalent Yield - (Cost of Funds X Tax Rate)) / (1 - Tax Rate)  
 General Market Muni: Tax Equivalent Yield = (Bond Equivalent Yield - (Cost of Funds X Tax Rate)) / (1 - Tax Rate)



## Closing Thoughts on Investment Portfolio

### The Investment Portfolio is Critical to Your Balance Sheet

- **PORTFOLIO PURPOSE & OBJECTIVES**
  - Your Bond Portfolio is a Risk Management Tool
- **UNDERSTAND YOUR INVESTMENT POLICY**
  - Know your Portfolio Allocation & Policy Limits
- **DEVELOP AN ACTIVE PORTFOLIO STRATEGY**
  - Objectives, Analysis, & Active Management
- **LEVERAGE YOUR ACCOUNTING & ANALYTICAL TOOLS**
  - HBS Portfolio Manager
    - Reports, Portal, Swap Tool
- **ADDITIONAL REVIEW ITEMS FOR INVESTMENT PORTFOLIO**
  - Regulatory Examination
  - Bond Education
  - ALCO, Board of Director Training and Education



**Questions?**

**THANK YOU!**

.....

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## Capital Markets



Extensive knowledge and experience in fixed income underwriting, trading and sales to allow institutional investors to achieve specific liquidity and capital demands

**Includes:**

- Fixed Income Underwriting
- Municipal Sales & Trading
- Taxable Sales & Trading
- Portfolio & Equity trading
- Bank Advisory Services

## Structured Finance



Provides municipal structured finance advisory solutions, represents more than a dozen State Housing Finance Agencies and pioneered the development of a pipeline management market rate TBA program that provides interest rate protection for housing authorities

**Includes:**

- Structured Products
- Housing Advisory
- Mortgage Trading/Securitization

## Debt Capital Markets



Cross-sector solutions group that connects issuers and borrowers that fall outside of the high-grade public market with institutional investors

**Includes:**

- Specialty Situation, Project Finance and High Yield Banking & Distribution
- Private Placements
- Term Sheet Deals
- Public and Private Entity Financings

## Wealth Management



Wealth management services for individual investors using a holistic approach to achieve their definitions of success

**Includes:**

- Private Client Group
- Independent Network
- Advisory Services Group
- Insurance

## Public Finance



Financial services for entities that issue debt for public purposes, as well as private and nonprofit organizations

**Includes:**

- Municipal Advisory
- Municipal Underwriting
- Continuing Disclosure
- PEBTrust
- Asset Management
- Arbitrage Rebate

## Clearing Services



Provides securities clearing, carrying, custodial and settlement services for registered broker-dealers and other market participants across the United States

**Includes:**

- Traditional Brokerage
- Research & Market Insights
- Advisory Services



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