

Breakout 4:
**Asset Liability Management
From Top to Bottom**

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Bank Director.
#BBTF24

ASSET LIABILITY MANAGEMENT

MANAGING RISK & MAXIMIZING
PERFORMANCE



ASSET LIABILITY MANAGEMENT

THE FOUNDATION OF ROBUST RISK MANAGEMENT & BALANCE SHEET PLANNING

BALANCE SHEET PLANNING



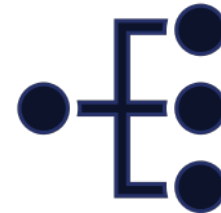
Cash flow-based balance sheet, margin and earnings planning based on instrument level data and a set of comprehensive forecast assumptions

RISK MEASUREMENT & ANALYSIS



Measure and analyze interest rate, liquidity and credit risks for base and stress scenarios, including discrete and stochastic-based simulations

STRESS & SCENARIO ANALYSIS



Easily setup, process and evaluate multiple what-if and stress scenarios by modifying individual or combinations of forecast assumptions

PERFORMANCE FOCUSED



Modern systems calculate orders of magnitude faster than old systems, allowing creation and analysis of multiple scenarios within management meetings

ALM – MYRIAD REPORTING OPTIONS

Executive Interest Rate Risk Monitor

Balance Sheet Composition - Assets



Balance Sheet December 2022

Borrowing

Risk Heat Map December 2022

Economic Value of Equity (in Thousands)

		Dn100Bps	Base	Up100Bps	Up200Bps	Up300Bps	Up400Bps	Economic Value of Equity (in Thousands)					
								Concentration Ratios		Policy	Ratio	Comments	
								Min	Max				
Residential Mortgages 24%	Efficiency Ratio	53.96%	56.42%	55.40%	56.05%	56.97%	58.04%						
	Policy	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%						
	Change in EVE	-16.78%	0.00%	0.17%	3.73%	4.09%							
	Policy	5.00%	0.00%	-5.00%	-7.50%	-9.00%							
Multi Famil	Change in NII	-2.76%	0.00%	-0.35%	-1.55%	-3.25%							
	Policy	5.00%	0.00%	-5.00%	-7.50%	-9.00%							
	Change in NI	-4.66%	0.00%	-0.75%	-2.89%	-5.93%							
	Policy	5.00%	0.00%	-5.00%	-7.50%	-9.00%							
ROA	Return on Assets	3.03%	2.87%	3.00%	2.99%	2.96%							
	Policy	2.75%	2.75%	2.75%	2.75%	2.75%							
	Return on Equity	29.22%	28.09%	32.42%	34.01%	35.83%							
	Policy	20.00%	20.00%	20.00%	20.00%	20.00%							
	Net Interest Margin	3.04%	2.85%	2.98%	2.97%	2.94%							
	Policy	2.75%	2.75%	2.75%	2.75%	2.75%							
	Tier 1 Capital	837,406,860	831,562,885	834,513,740	833,875,362	832,701,638	831,562,885						
	Policy	840,000,000	840,000,000	840,000,000	840,000,000	840,000,000	840,000,000						
	Tier 2 Capital	74,650,807	74,650,807	74,650,807	74,650,807	74,650,807	74,650,807						
	Policy	74,000,000	74,000,000	74,000,000	74,000,000	74,000,000	74,000,000						
	Tier 1 Risk-Based Capital Ratio	12.30%	12.22%	12.25%	12.24%	12.21%							
	Policy	12.00%	12.00%	12.00%	12.00%	12.00%							
	Tier 1 Common Ratio	8.86%	8.78%	8.82%	8.81%	8.78%							
	Policy	12.00%	12.00%	12.00%	12.00%	12.00%							
	GSEs to Assets							5.00%	25.00%		0.57%		
	CMOs to Assets							0.00%	15.00%		2.51%		
	MBS to Assets							5.00%	20.00%		9.61%		
	Corporates to Assets							0.00%	10.00%		0.74%		
	Municipals to Assets							5.00%	20.00%		7.29%		
	Trust Preferred to Assets							0.00%	10.00%		0.00%		
	Common & Preferred Stocks to Assets							0.00%	10.00%		2.97%		
	ABS to Assets							0.00%	15.00%		0.00%		
	Term Borrowings to Assets							0.00%	20.00%		2.66%		
	Overnight Borrowings to Assets							0.00%	10.00%		2.71%		
	Total Borrowings to Assets							3.50%	15.00%		7.67%		
	FHLB Stock to Total Borrowings							2.50%	5.00%		2.54%		
	Brokered Funds to Assets							0.00%	10.00%		7.74%		
	Wholesale Funding to Assets							0.00%	15.00%		0.00%		

LIQUIDITY STRESS TESTING

FUNDING & LIQUIDITY RISK MANAGEMENT



LIQUIDITY STRESS TESTING

A PRESCRIBED SOLUTION FOR FUNDING & LIQUIDITY RISK MANAGEMENT

ALM SCENARIOS



Select which scenarios
from your ALM system to
formulate your baseline
liquidity requirements

LIQUIDITY STRESS SCENARIOS



Stress the various
sources/uses of funds
under user-defined
adverse liquidity
environments

CONTINGENCY PLANNING



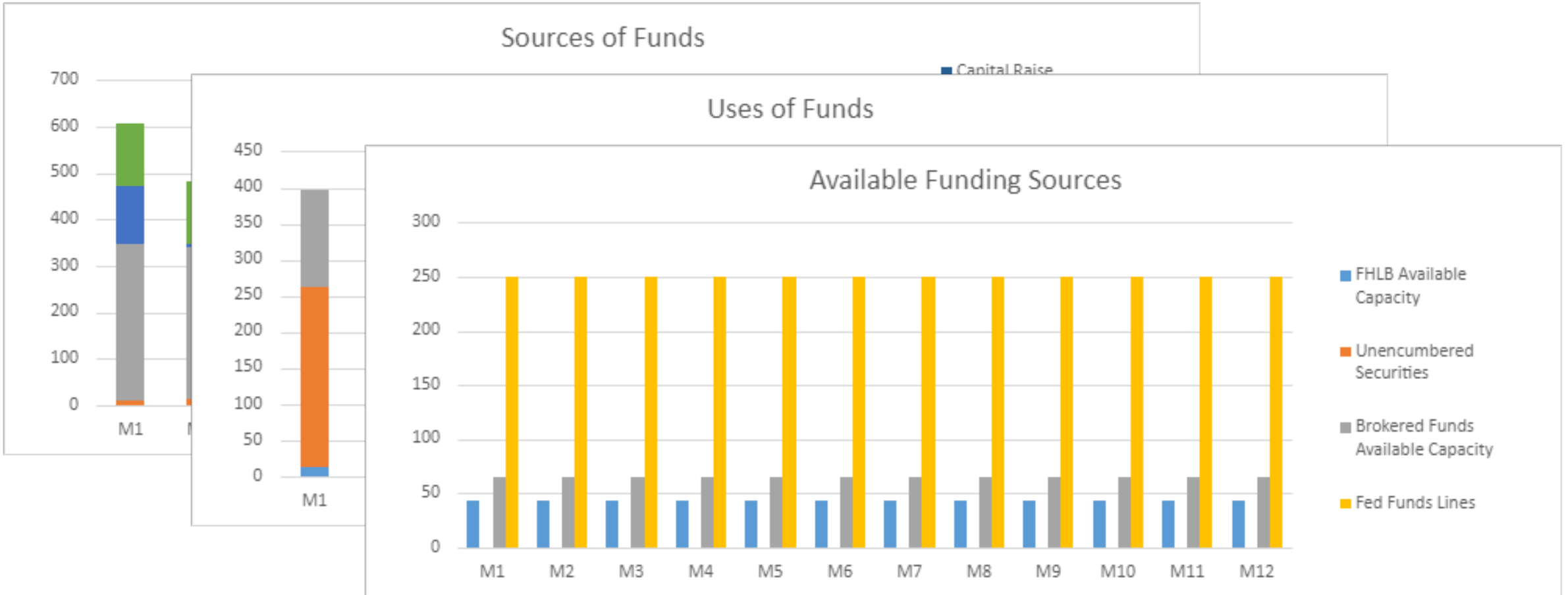
Incorporate the
institution's contingency
funding plan (CFP)

LIQUIDITY REPORTING & ANALYSIS



Calculate survival horizon
and key metrics to assess
effectiveness and viability
strategy

LIQUIDITY STRESS TESTING



LIQUIDITY SURVIVAL HORIZON

Liquidity Stress - High Level Summary

As of: December 31, 2019

Scale: Millions

Forecast

	1	2	3	4	5	6	7	8	9	10	11	12
Cumulative Sources/Uses	7	19	9	21	33	23	35	47	36	49	61	50
Available Remaining Capacity	4,270	4,274	4,279	4,282	4,287	4,290	4,294	4,298	4,301	4,305	4,310	4,314
Survival Horizon: 12	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Forecast>Loss_Retail_Deposits

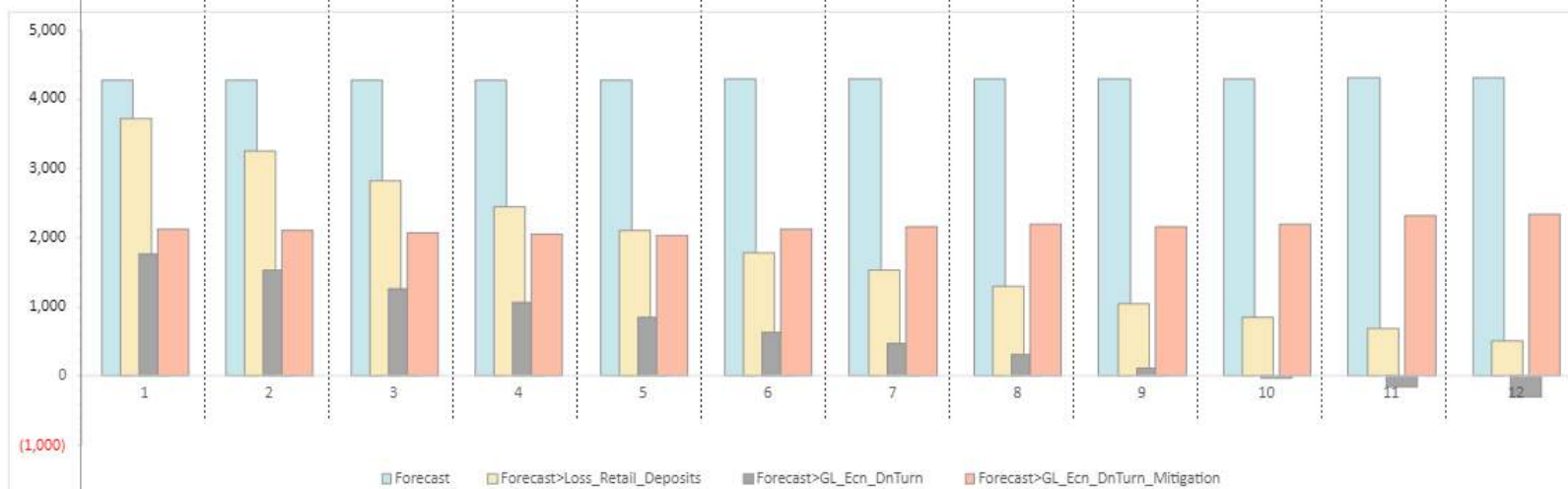
Cumulative Sources/Uses	(548)	(1,018)	(1,458)	(1,834)	(2,173)	(2,499)	(2,766)	(3,008)	(3,250)	(3,446)	(3,621)	(3,798)
Available Remaining Capacity	3,722	3,255	2,821	2,448	2,114	1,791	1,527	1,290	1,051	859	688	516
Survival Horizon: 12	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Forecast>GL_Ecn_DnTurn

Cumulative Sources/Uses	(437)	(668)	(935)	(1,187)	(1,443)	(1,778)	(2,029)	(2,247)	(2,433)	(2,659)	(2,943)	(3,131)
Available Remaining Capacity	1,770	1,536	1,269	1,062	853	635	466	304	117	(29)	(164)	(304)
Survival Horizon: 9	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL

Forecast>GL_Ecn_DnTurn_Mitigation

Cumulative Sources/Uses	324	428	480	533	572	525	557	624	706	758	730	787
Available Remaining Capacity	2,127	2,100	2,076	2,051	2,038	2,121	2,169	2,190	2,157	2,200	2,318	2,333
Survival Horizon: 12	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS



DEPOSIT ANALYTICS

NON-MATURITY DEPOSITS & BEHAVIORS



DEPOSIT ANALYTICS

SOPHISTICATED ANALYSIS OF DEPOSIT PRODUCTS COUPLED WITH DEPOSITOR BEHAVIOR ASSUMPTIONS

BEHAVIORAL MODELS



Empirical-based behavioral modeling for betas, decay and balance volatility estimates

BEHAVIOR BACKTEST



An on-going forward-looking, risk-aware approach to behavior assumption management

PORTFOLIO REPORTING



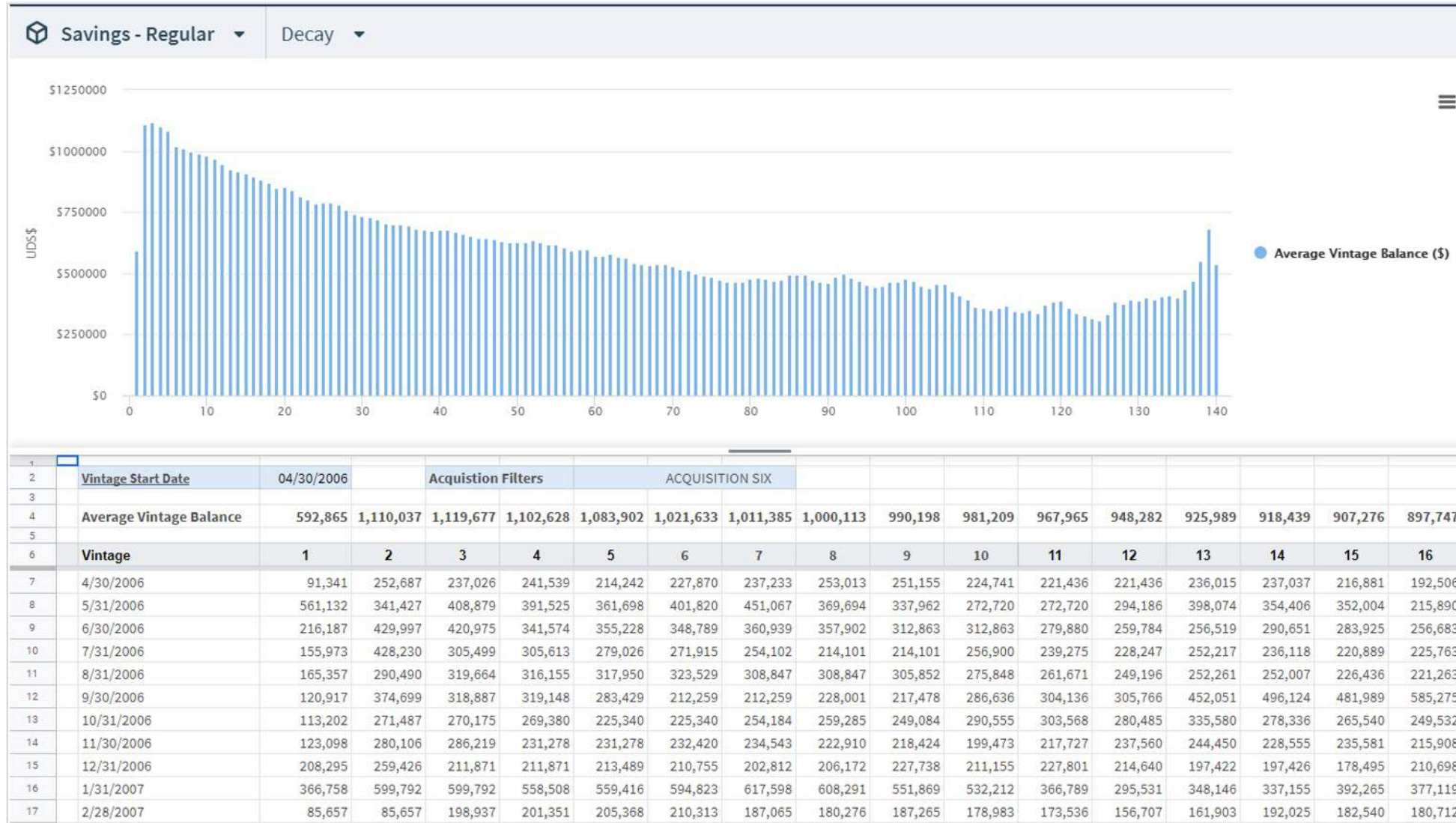
Reports and dashboards on the key elements of the portfolio and each product

DATA ANALYSIS

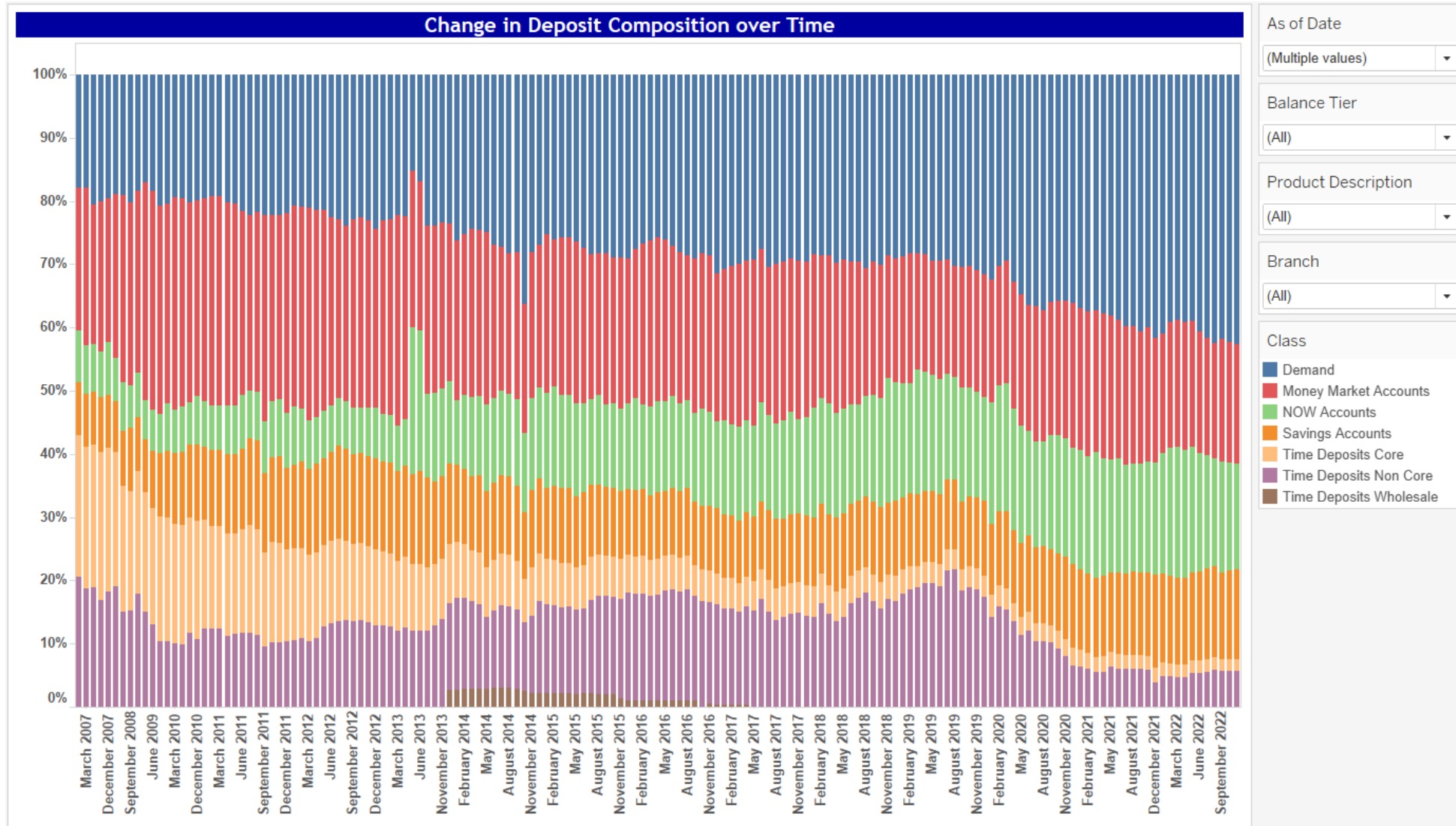


Filter, sort, and drill into the raw data to inform and understand the portfolio

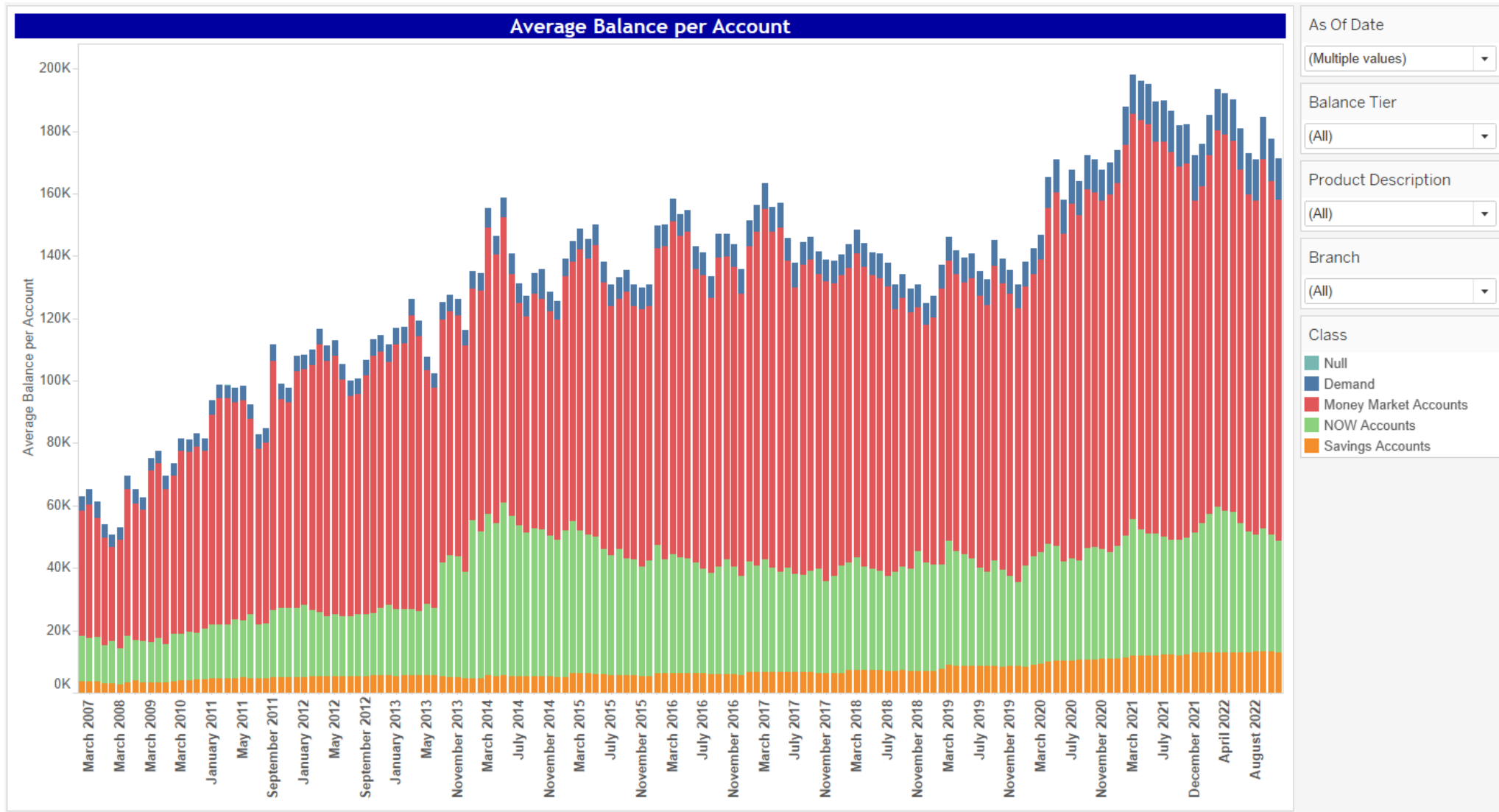
DEPOSIT ANALYTICS – DECAY RATES



DEPOSIT ANALYTICS – CHANGING COMPOSITION



DEPOSIT ANALYTICS – CHANGING BALANCES



SYNCHRONIZATION

SYSTEMS, MANAGEMENT & DECISIONS



SYNCHRONIZING DECISION MAKING



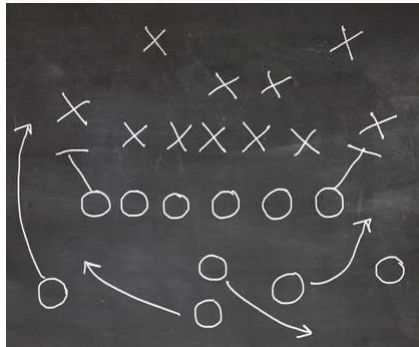
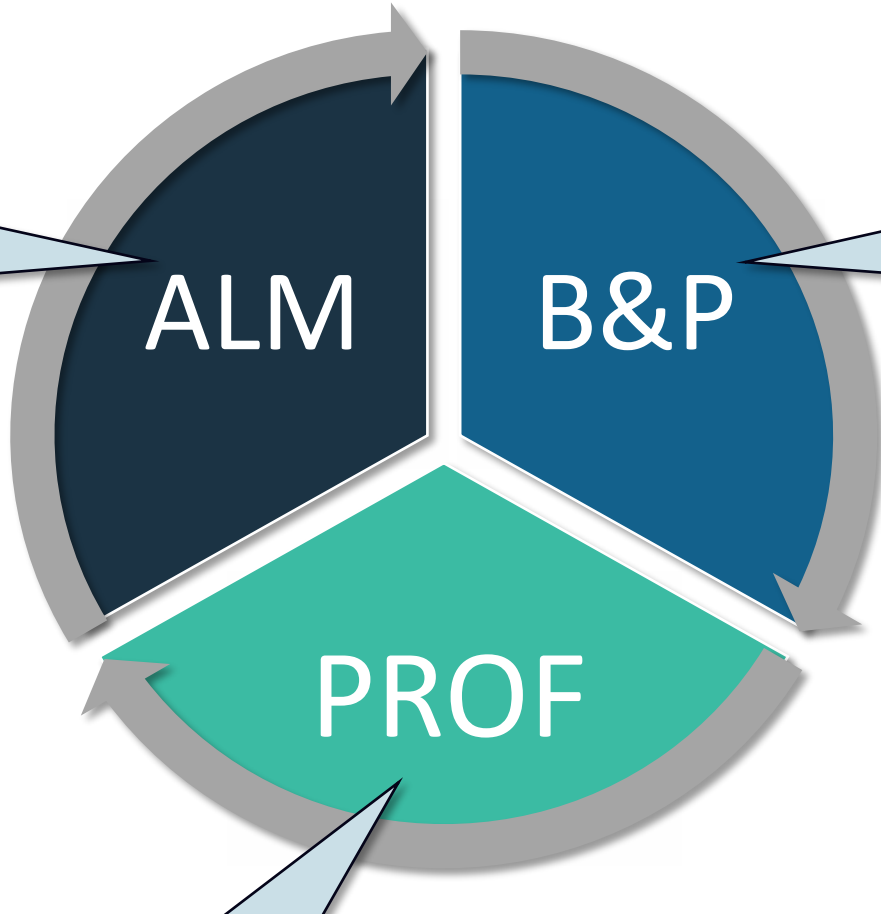
SYNCHRONIZING SYSTEMS



WHAT COULD HAPPEN:

- What happens if?
- What are our options?
- Consolidated analytics.

WHAT I WANT TO HAPPEN:

- Disaggregated into business units.
- How can I get there?



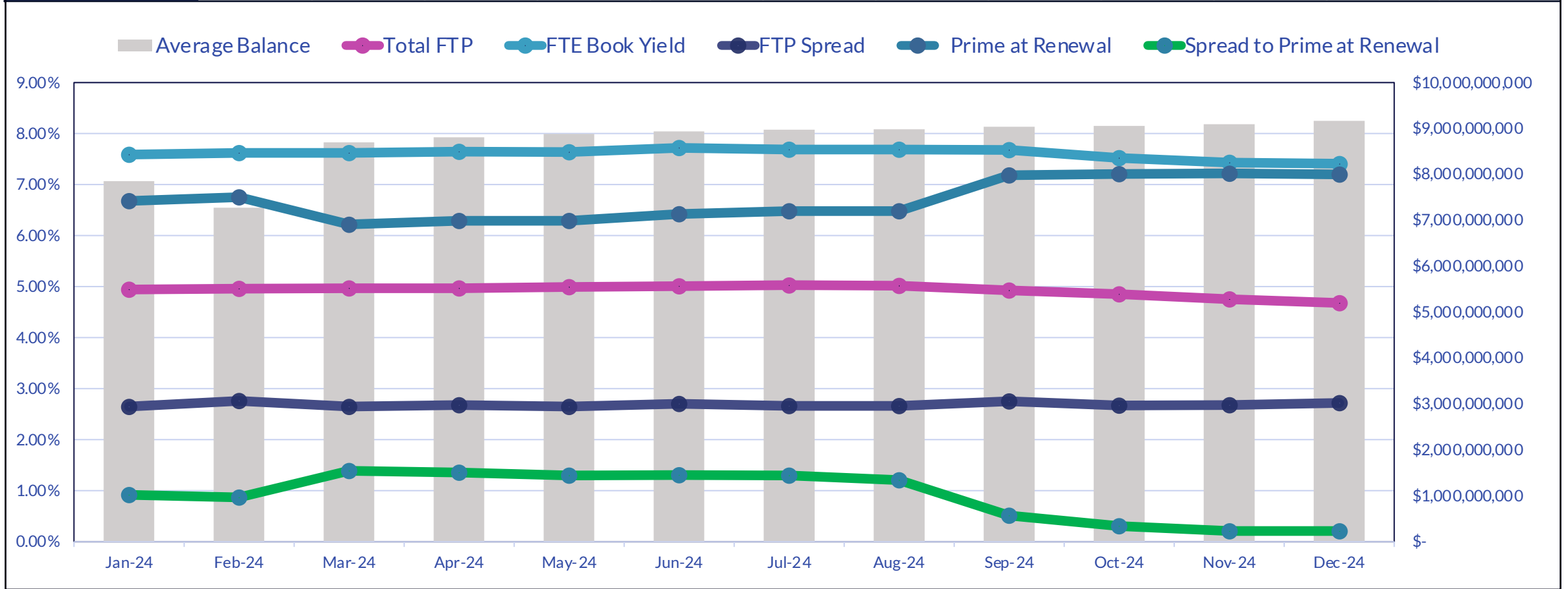
49ers 12-5		22		Final/OT								25		Chiefs 11-6
				1	2	3	4	OT	T					
			SF	0	10	0	9	3	22					
			KC	0	3	10	6	6	25					

Spread and Production

Spreads by Time

Organization: **Best Bank, Inc.** | Ledge: **Loan Net of Unearned Income** | Frequency: **Periodic** | Time: **Current Time**

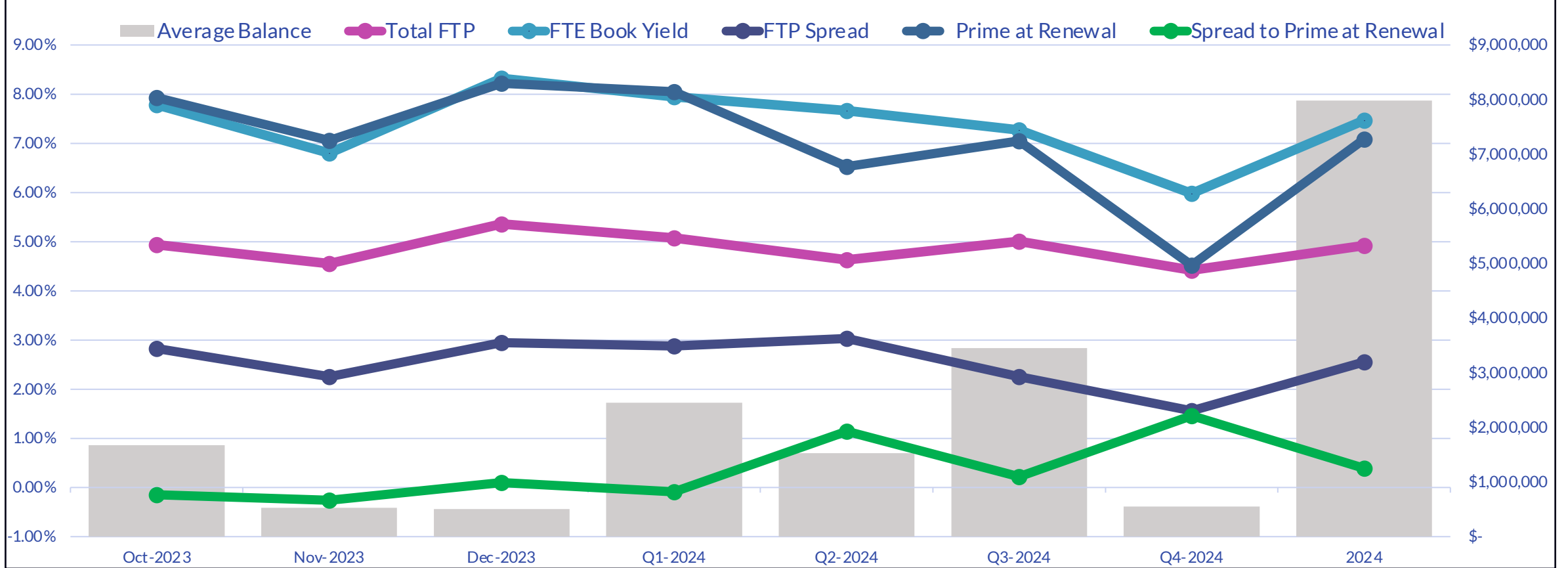
Measures	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Total FTP	4.94%	4.96%	4.97%	4.97%	4.99%	5.01%	5.03%	5.02%	4.93%	4.85%	4.75%	4.68%
FTE Book Yield	7.59%	7.62%	7.62%	7.65%	7.64%	7.72%	7.69%	7.69%	7.68%	7.52%	7.43%	7.41%
FTP Spread	2.65%	2.76%	2.65%	2.68%	2.65%	2.70%	2.66%	2.66%	2.75%	2.67%	2.68%	2.72%
Prime at Renewal	6.68%	6.75%	6.22%	6.29%	6.29%	6.42%	6.48%	6.48%	7.18%	7.21%	7.22%	7.20%
Spread to Prime at Renewal	0.92%	0.87%	1.39%	1.36%	1.30%	1.31%	1.30%	1.21%	0.51%	0.31%	0.21%	0.21%
Average Balance	\$ 7,854,380,217	\$ 7,872,599	\$ 8,696,879,946	\$ 8,808,369,288	\$ 8,881,627,447	\$ 8,936,004,607	\$ 8,972,531,748	\$ 8,980,025,460	\$ 9,038,540,585	\$ 9,059,710,114	\$ 9,093,805,230	\$ 9,162,533,872



Maturity Schedule

Organizatio n:
 Ledge r:
 Officer:
 Time:

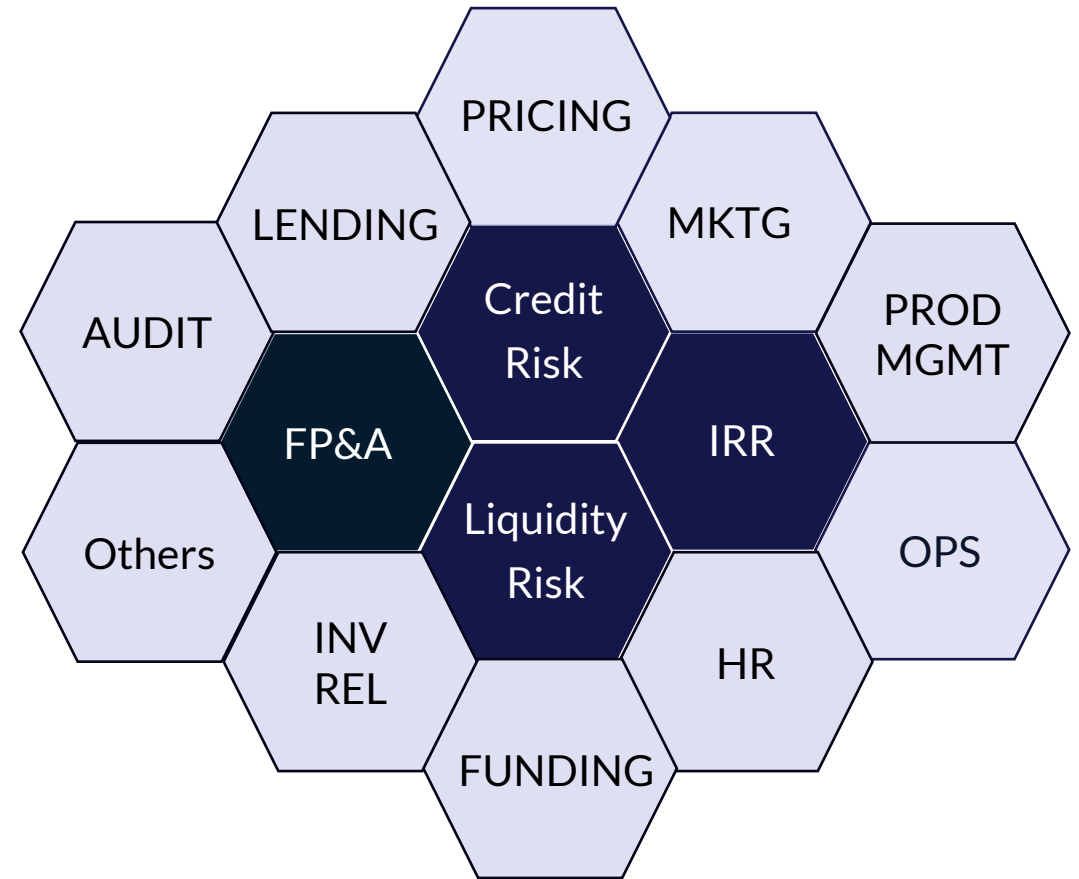
Measures	Oct-2023	Nov-2023	Dec-2023	Q1-2024	Q2-2024	Q3-2024	Q4-2024	2024
Total FTP	4.94%	4.55%	5.36%	5.07%	4.63%	5.01%	4.42%	4.92%
FTE Book Yield	7.78%	6.80%	8.32%	7.95%	7.66%	7.27%	5.98%	7.47%
FTP Spread	2.83%	2.25%	2.95%	2.88%	3.03%	2.25%	1.56%	2.55%
Prime at Renewal	7.93%	7.06%	8.22%	8.05%	6.53%	7.05%	4.52%	7.08%
Spread to Prime at Renewal	-0.15%	-0.26%	0.10%	-0.09%	1.14%	0.22%	1.46%	0.39%
Average Balance	\$ 1,677,462	\$ 529,671	\$ 501,183	\$ 2,450,045	\$ 1,525,109	\$ 3,447,747	\$ 553,436	\$ 7,979,336



Synchronizing Committee Structures



Committees Restructured



SYNCHRONIZED DECISION MAKING

MITIGATES PROBLEMS

- Poor pricing
- Expense control
- Capital concentrations
- Market and competition

EXPLOITS OPPORTUNITIES

- Best pricing
- Expense optimization
- Capital management
- Replicate best practices

Question answered: synchronized systems enable synchronized committees which create synchronized decisions

Recap & Key Takeaways

- ALM systems simulate balance sheet changes under various scenarios
- ALM systems focus on interest rate, liquidity, and credit risk management
- Deposit analytics is a critical component of liquidity risk management
- ALM and Planning systems produce aggregated models of what we want to happen
- Profitability systems tell you what actually happened on an instrument level basis
- **Final Advice: Synchronizing your ALM, Planning and Profitability systems enable synchronized committees which create synchronized decision making = WINNING!**

Thank You!

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