FHLBank CHICAGO MEMBER ALM WORKSHOP

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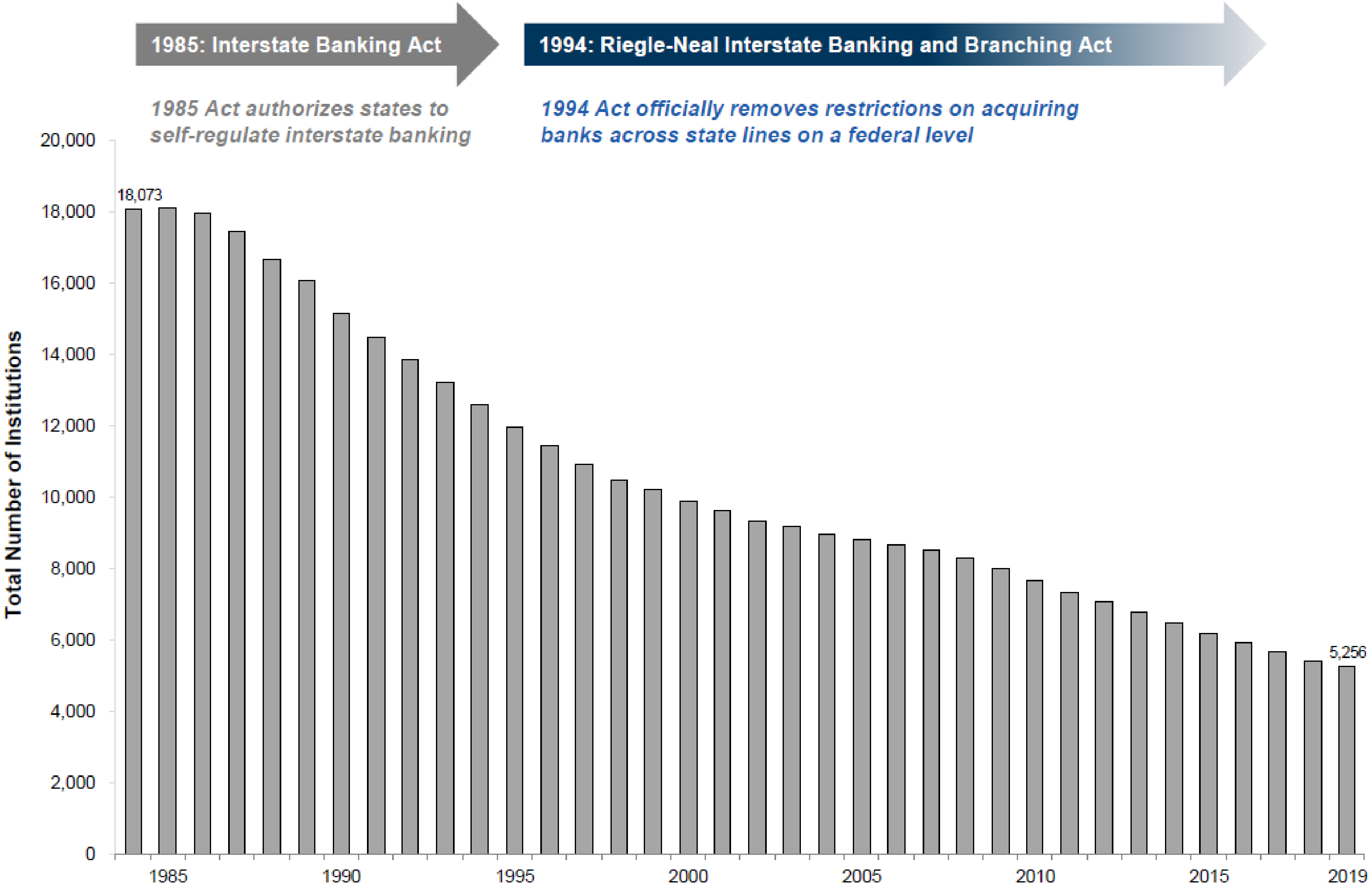
TAYLOR ADVISORS

BALANCE SHEET OPTIMIZATION: DRIVING PROFITABILITY

35 Years of Bank Consolidation



Source: FDIC; Data as of 9/30/2019

"Our latest initiative takes a three-pronged approach."

TAYLOR ADVISORS

"What if we don't change at all ...
and something magical just happens?"

BENEFITS OF A STRONG ALCO PROCESS

Improved ALCO Process (NII)

Higher Profitability (NIM)

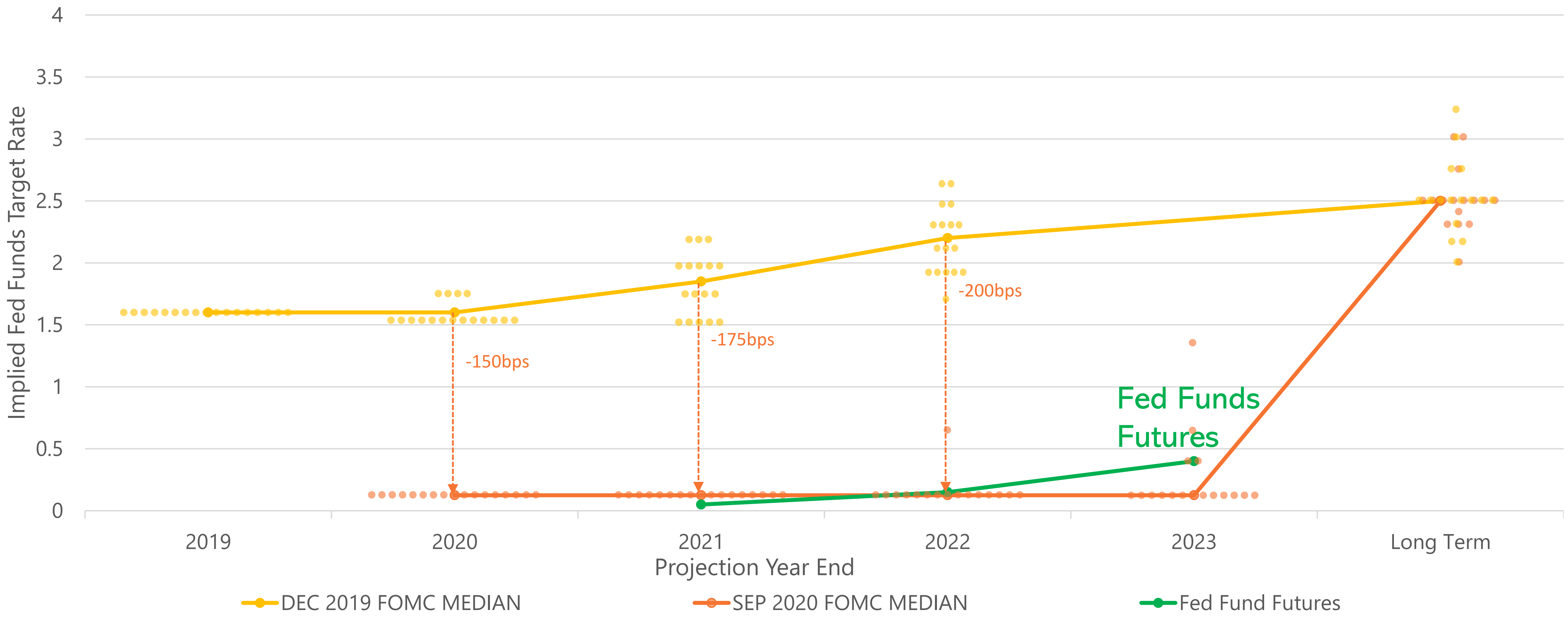
Maximizing Net Worth

KEY **HOW-TO…** TAKEAWAYS FROM TODAY'S PRESENTATION

- Have your Performance Snapshot available for the duration of the presentation
- Access to Presentation Materials and Updated Snapshots – TaylorAdvisor.com/FHLBC
- QUESTIONS: John Ruhl from Taylor Advisors is available in chat

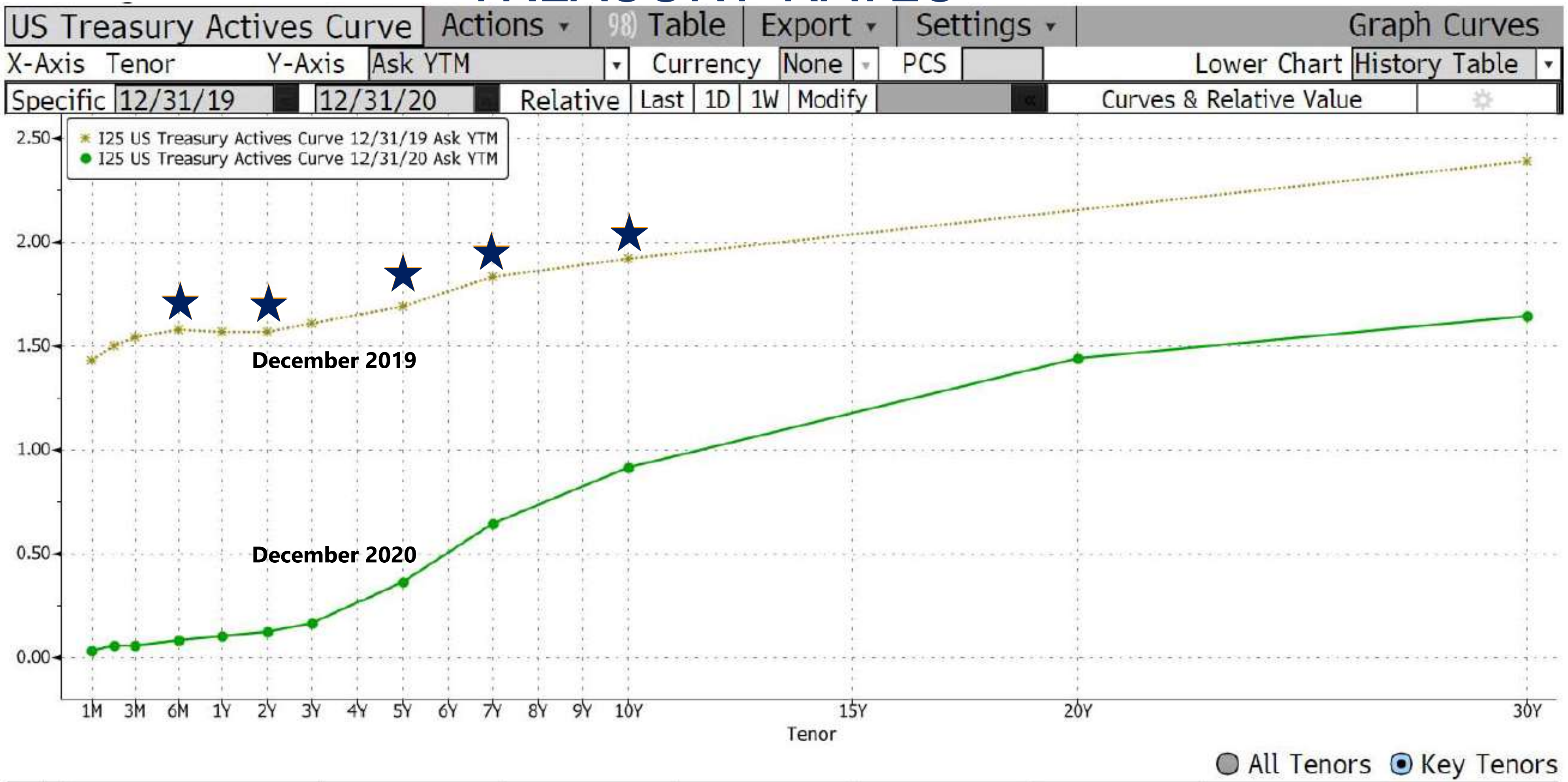
- Why ALCO/Balance Management is important to overall profitability
- Integrating knowledge of your balance sheet with custom strategies
- Proactive risk management practices AND strategy formation is not a one-size fits all approach

FED DOT PLOT & IMPLIED FED FUNDS TARGET RATE



Source: Bloomberg

TREASURY RATES



	Curve Id	1M	3M	2Y	5Y	10Y	20Y	30Y
11)	I25 12/31/20	0.030	0.058	0.121	0.361	0.913	1.440	1.645
12)	I25 12/31/19	1.430	1.544	1.569	1.691	1.917		2.390
13)	I25 (12/31/20-12/3...	-139.9	-148.5	-144.8	-133.0	-100.4		-74.5

SN 480842 EST GMT-5:00 H970-8382-3 08-Jan-2021 10:44:35

EQUITY RESEARCH HEADLINES

- M&A Strategy Is Working to Maintain ROA Despite **Rate Challenges**
  – The First Bancshares, Inc.
- A Good Quarter, but Further **NIM Pressure** Remains a Headwind
  – Capstar Financial Holdings, Inc.
- Strong Fees Offset **NIM Contraction** for a Beat as Dividend Increased: 1st Look
  – Bank of Hawaii Corp.
- **NIM Slip** Drives EPS Miss, First Look
  – Southside Bancshares, Inc.
- **NII Pressure** Outweighs New Expense Cuts; Trimming Estimates
  – Associated Banc-Corp
- **NII Pressure** Tough to Outrun; Lowering Estimates
  – PacWest Bancorp

BASIC INCOME STATEMENT

Interest Income (Earning Asset Yields)

− Interest Expense (Cost of Funds)

Net Interest Income (NII)

Balance Sheet Management:Primary Focus

+ Other Income

− Operating Expense

Net Income Before Taxes

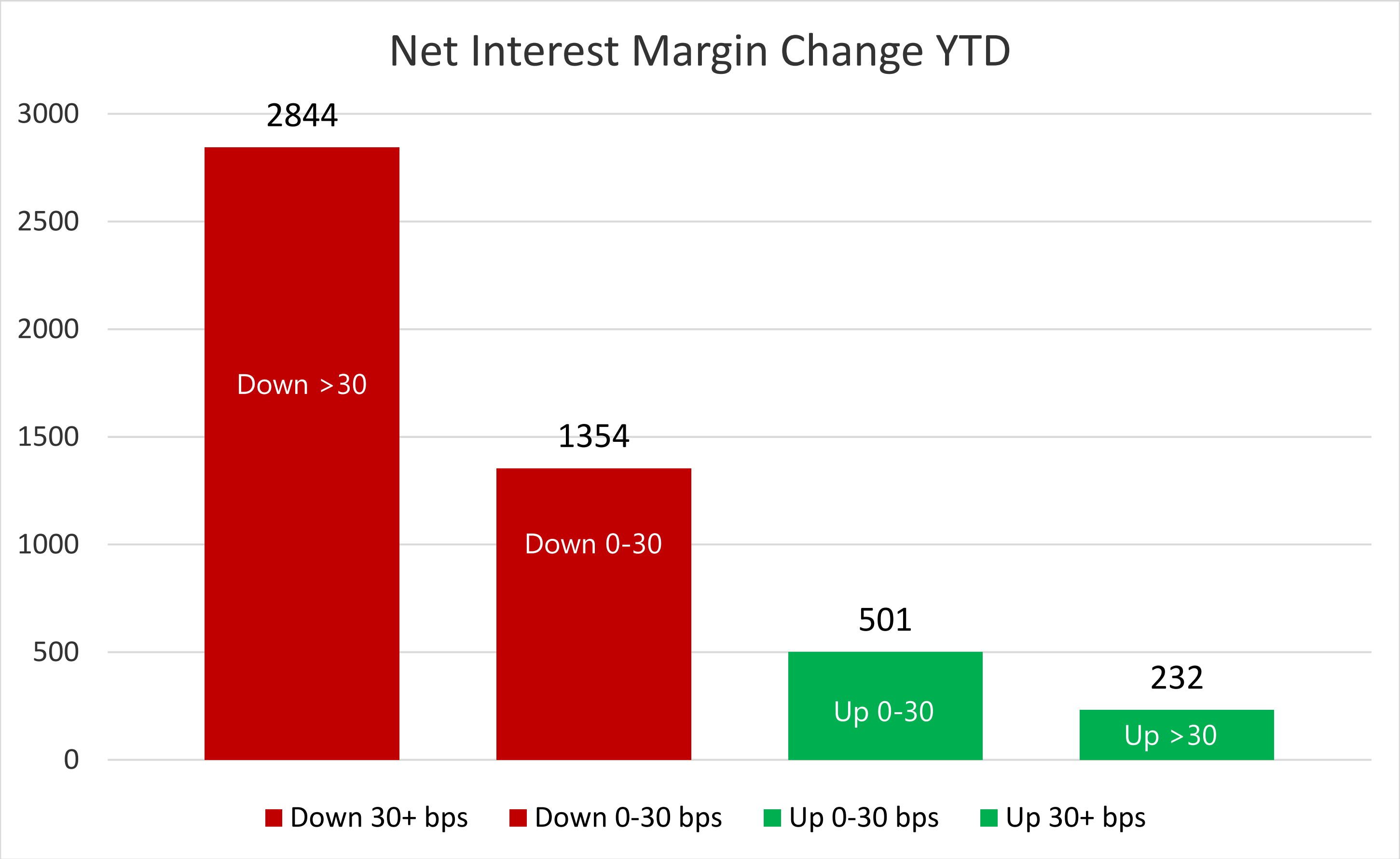
− Taxes

Net Income

ROE vs. ROA Focus

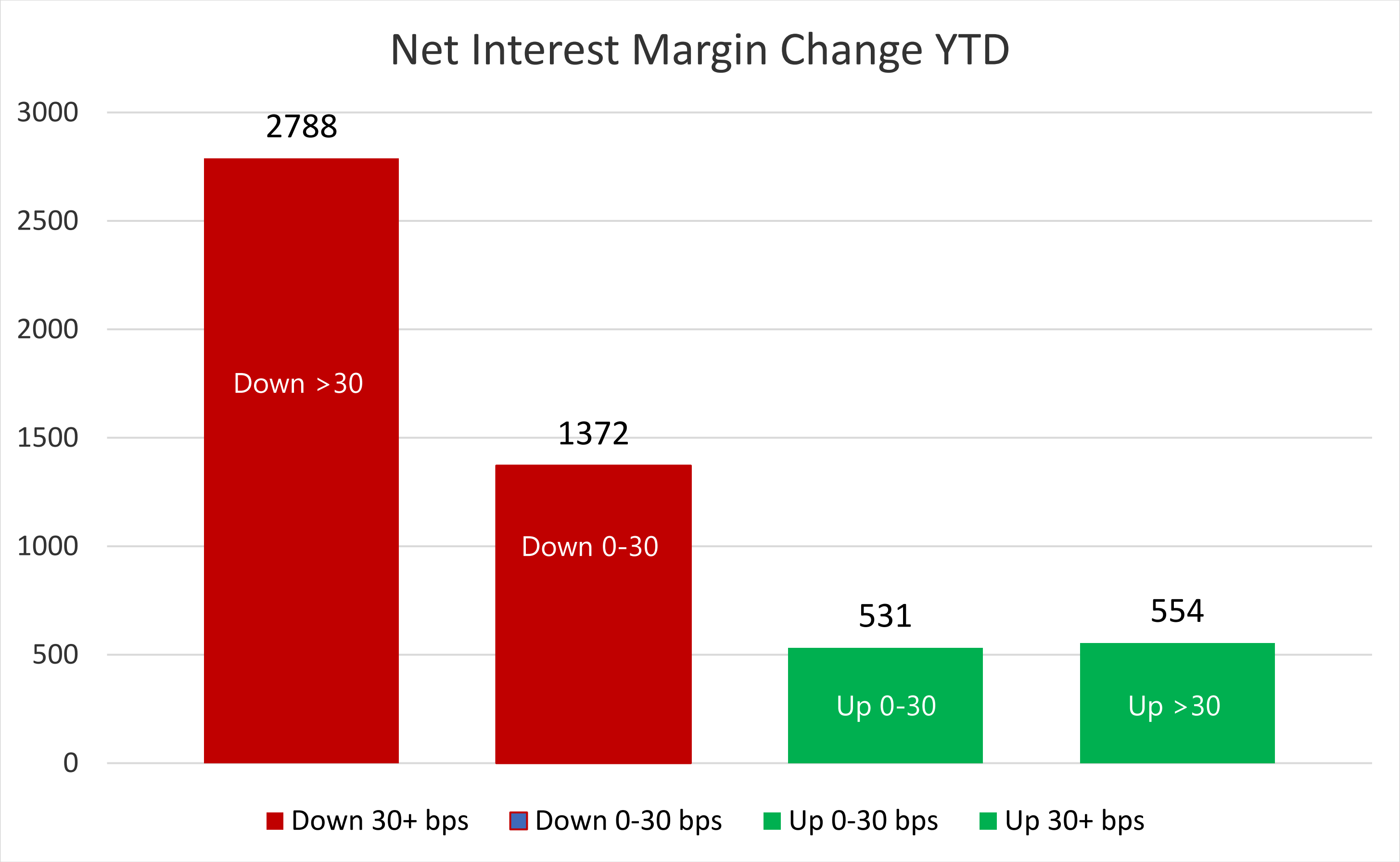
The more net interest income dependent your institution, the more NIM will drive earnings

NIM COMPRESSION AMONG ALL BANKS NATIONALLY



Source: S&P Global Market Intelligence,
Data for all banks Nationally <$15B as of 9/30/20

NIM COMPRESSION AMONG ALL CREDIT UNIONS NATIONALLY



Source: S&P Global Market Intelligence,
Data for all Credit Unions Nationally <$15B as of 9/30/20

WHAT IS YOUR INSTITUTION’S

NET INTEREST INCOME DEPENDENCY?

NET INTEREST MARGIN?

TAYLOR ADVISORS
Strategize Prosperity

Performance and Balance Sheet Snapshot - 2020Q3
Sample Savings Bank

	Metric	Sample Savings Bank	UBPR Peer Group Average	Percentile Rank
Net Interest Margin Dissection	Yield on Investments (FTE)	1.76	2.26	18%
	Yield on Total Loans	3.81	4.90	2%
	Earning Asset Yield	3.05	3.97	5%
	Interest Expense to Avg. Earning Assets	0.30	0.53	22%
	Net Interest			9%
	Net Interest			13%

What's the Range of Net Interest Margin?

High of 4.68%
Low of 1.83%

Range of 2.85%

	Metric
Net Interest Margin Dissection	Yield on Investments (FTE)
	Yield on Total Loans
	Earning Asset Yield
	Interest Expense to Avg. Earning
	Net Interest Margin (FTE)
	Net Interest Income Dependenc

Earning Asset Mix and Balance Sheet Positions

Earning Asset Mix		
Asset Size ($000)	770,287	
Net Loans ($000)	464,336	60%
Security Portfolio ($000)	115,644	15%
Cash and FFS ($000)	141,202	18%
Investment Portfolio		
Municipals (% of Portfolio)	17,729	15%
MBS (% of Portfolio)	1,117	1%
CMO (% of Portfolio)	7,760	7%
Agencies (% of Portfolio)	63,046	55%
Other Securities (% of Portfolio)	25,992	22%

Liquidity and Funding	
Pledged Securities (% of Portfolio)	67%
Liquidity Ratio	25%
FHLB Advances and Brokered CDs ($000)	54,000
Cost of Funds (% of Average Liabilities)	0.31%
Capital	
Tier 1 Capital	70,005
Tier-1 Leverage Ratio (%)	9.66
Total Risk Based Capital	75,673
Total Risk-Based Capital Ratio (%)	15.05
Municipals (% of Total RBC)	23%

Taylor Advisors

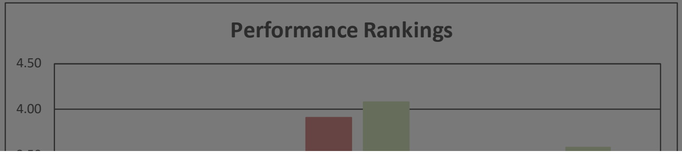
Performance and Balance Sheet Snapshot - 2020Q3
Sample Credit Union

TAYLOR ADVISORS
Strategize Prosperity
700 N. Hurstbourne Parkway
Louisville, KY 40222
www.tayloradvisor.com

Performance Rankings

Sample Credit Union versus State Credit Unions

	Metric	Sample Credit Union	State Credit Union Average	Percentile Rank
Net	Yield on Investments	0.32	1.10	11%



	Metric	Sample Credit Union	State Credit Union Average	Percentile Rank
Net Interest Margin Dissection	Yield on Inv			11%
	Yield on To			13%
	Earning Ass			50%
	Cost of Fur			95%
	Net Interes			14%

What's the Range of Net Interest Margin?

High of 4.26%

Low of 2.56%

Range of 1.70%

Earning Asset Mix

Earning Asset Mix		
Asset Size ($000)	2,247,778	
Net Loans ($000)	1,733,048	77%
Security Portfolio ($000)	37,107	2%
Cash and Equiv. ($000)	211,308	9%

Investment Portfolio		
Federal Agency/MBS	11,962	32%
CDs (% of Portfolio)	0	0%
US Gov't (% of Portfolio)	0	0%
CMBS	1,208	3%
CMO	8,780	24%
Municipals (% of Portfolio)	0	0%
Other Securities (% of Portfolio)	15,157	41%

Liquidity and Funding	
Pledged Assets/Total Assets	24%
Liquidity Ratio	11%
Total Borrowings ($000)	175,000
Cost of Interest Bearing Liabilities	1.17

Net Worth and Asset Quality	
Net Worth	220,633
Net Worth Ratio	9.81
Net Worth Growth Rate (annualized)	45.86
Classified Assets/ Net Worth	2.38

	1970's	1980's	1990's	1990's-2000	2000's	Current & Future
	1st IRR Model Created 1977	1st CMO Created 1983	S&L Banking Crisis 1986-1995	Dot-Com Bubble & Collapse 1997-2000	Subprime Mortgage Crisis 2007-2009	COVID-19 2019-Present
Interest Rate Risk	**Rate Sensitive Assets To Rate Sensitive Liabilities (GAP Analysis)**	Rate Sensitive Assets To Rate Sensitive Liabilities (GAP Analysis) **Earning At Risk**	Rate Sensitive Assets To Rate Sensitive Liabilities (GAP Analysis) Earning At Risk **Interest Income Stress Testing Economic Value Of Equity**	**Less Focus On GAP Analysis** Earning At Risk Interest Income Stress Testing Economic Value Of Equity **Industry Default Loan & Deposit Assumptions**	**Less Focus On GAP Analysis** Earning At Risk Interest Income Stress Testing Economic Value Of Equity **Bank Specific Loan & Deposit Assumptions**	**GAP Analysis Dropped** Earning At Risk Interest Income Stress Testing Economic Value Of Equity Bank Specific Loan & Deposit Assumptions **Bank Specific Loan & Deposit Assumptions** **Stressed ALM Assumptions**
Investments		**Investments**	Investments **Market Value Shocks**	Investments Market Value Shocks **Cash Flow Shocks**	Investments Market Value Shocks Cash Flow Shocks **Independent Municipal Credit Analysis**	Investments Market Value Shocks Cash Flow Shocks Independent Municipal Credit Analysis
Liquidity			**Liquidity Assessment**	Liquidity Assessment **Liquidity Stress Testing**	Liquidity Assessment Liquidity Stress Testing **Contingency Funding Plans**	Liquidity Assessment Liquidity Stress Testing Contingency Funding Plans
Capital				**Capital Adequacy Assessment**	Capital Adequacy Assessment **Asset Quality Trends** **Capital Plan**	Capital Adequacy Assessment Asset Quality Trends Capital Plan **Capital Stress Testing**

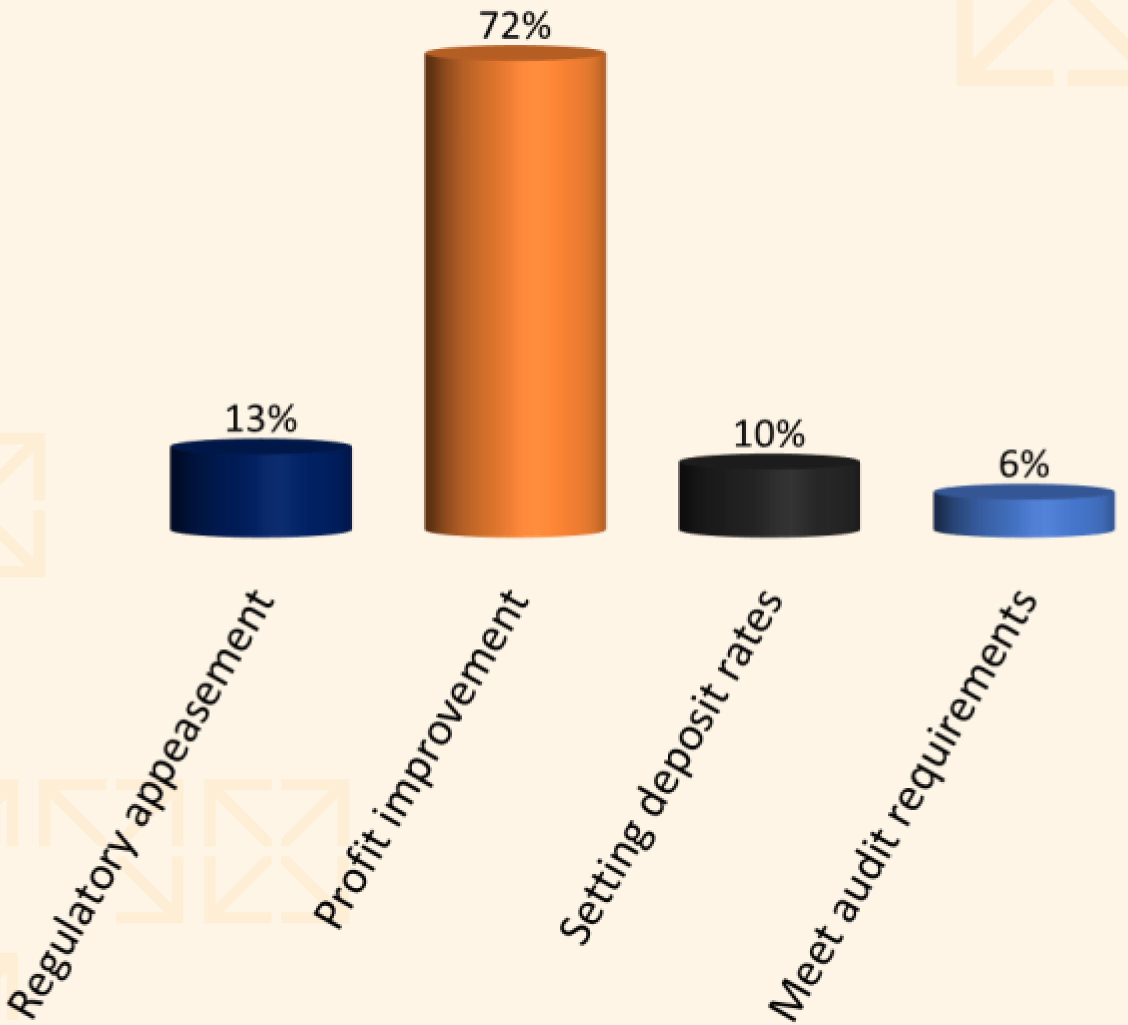
WHAT IS THE PRIMARY OBJECTIVE OF YOUR ALCO MEETING?

A. Regulatory Appeasement

B. Profit Improvement

C. Setting Deposit Rates

D. Meet Audit Requirements



WHAT ARE COMMON APPROACHES TO THE ALCO PROCESS?

APPROACHES TO ALCO

Economist Approach

Economy and Rates

Interest Rate Risk

Liquidity

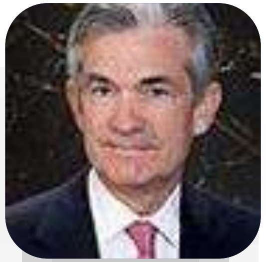
ECONOMISTS VS. FED RESERVE

Arthur Laffer

Popularized Laffer Curve

Adam Smith

Father of Economics

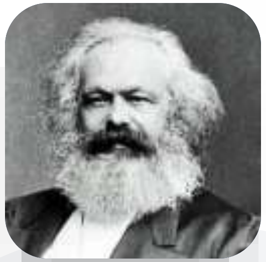


Jerome Powell

Fed Chairman 2018-Current

Janet Yellen

Fed Chairman 2014-2018



Karl Marx

Rules of Production and Exchange

Milton Friedman

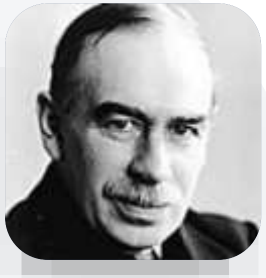
1976 Nobel Prize Lecture on Inflation and Unemployment

Ben Bernanke

Fed Chairman 2006-2014

Alan Greenspan

Fed Chairman 1987-2006



John M. Keynes

Keynesian economics

Paul Volcker

Fed Chairman 1979-1987

APPROACHES TO ALCO

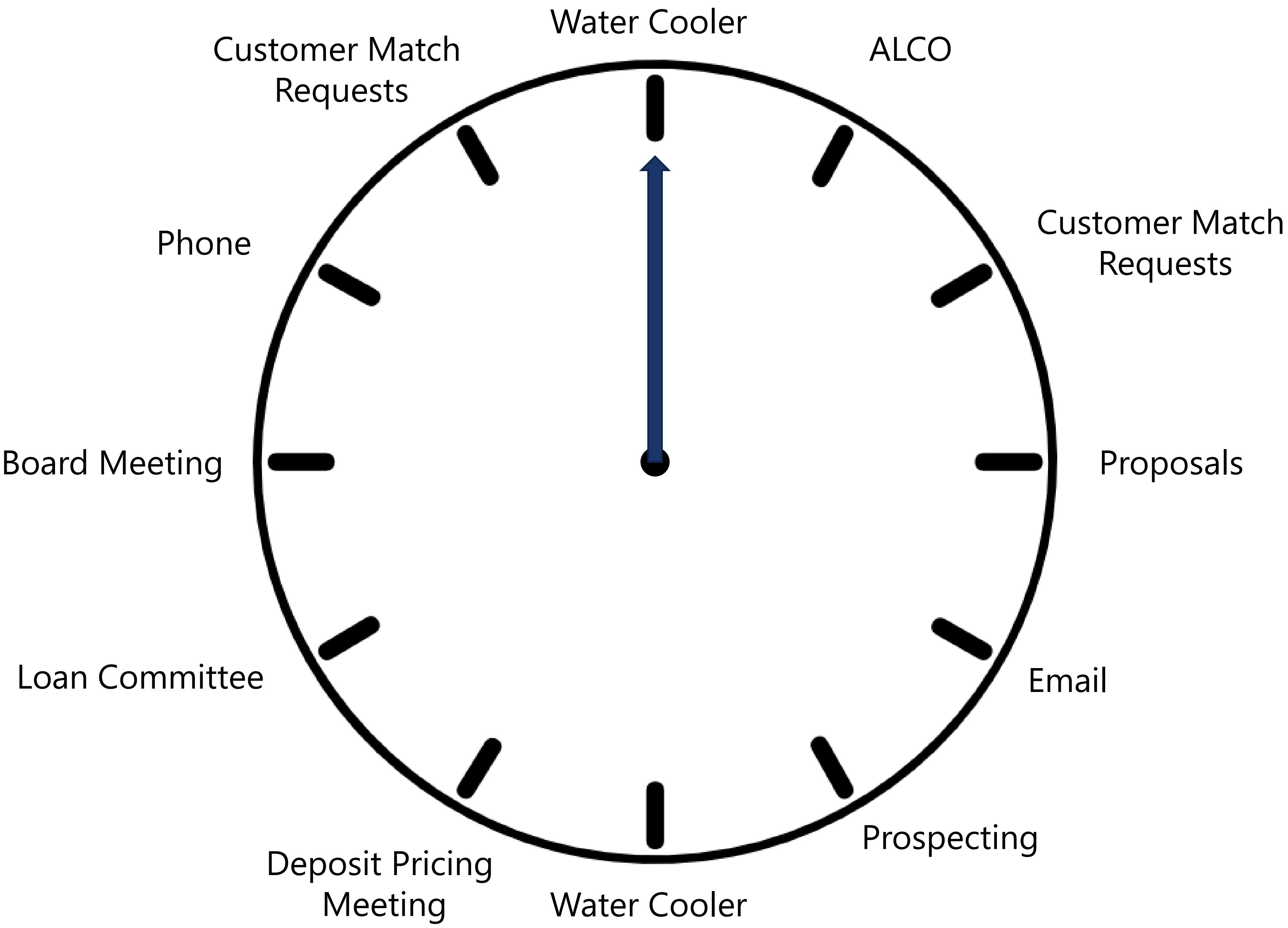
Pricing Approach

Economy and Rates

Pricing

Interest Rate Risk

Capital


Water Cooler
ALCO
Customer Match Requests
Proposals
Email
Prospecting
Water Cooler
Deposit Pricing Meeting
Loan Committee
Board Meeting
Phone
Customer Match Requests

APPROACHES TO ALCO

Interest Rate Risk Approach

- Economy and Rates
- Pricing
- **Interest Rate Risk**
- Liquidity

Table of Contents

Page 2 of 1466

Confidential Information - For Board Use Only - Do not Redistribute Page 2 of 1466

HOW MUCH PAPER IS 1466 PAGES?

1 Ream = 500 Sheets

1500 Sheets = 3 Reams

APPROACHES TO ALCO

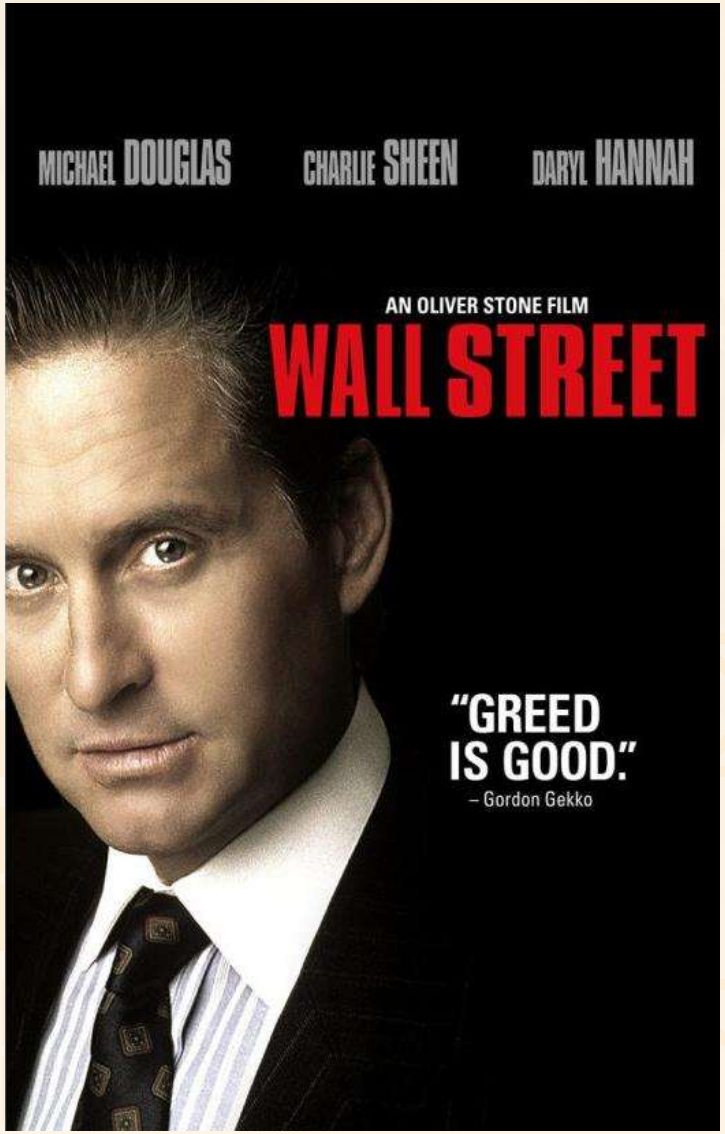
Broker Approach

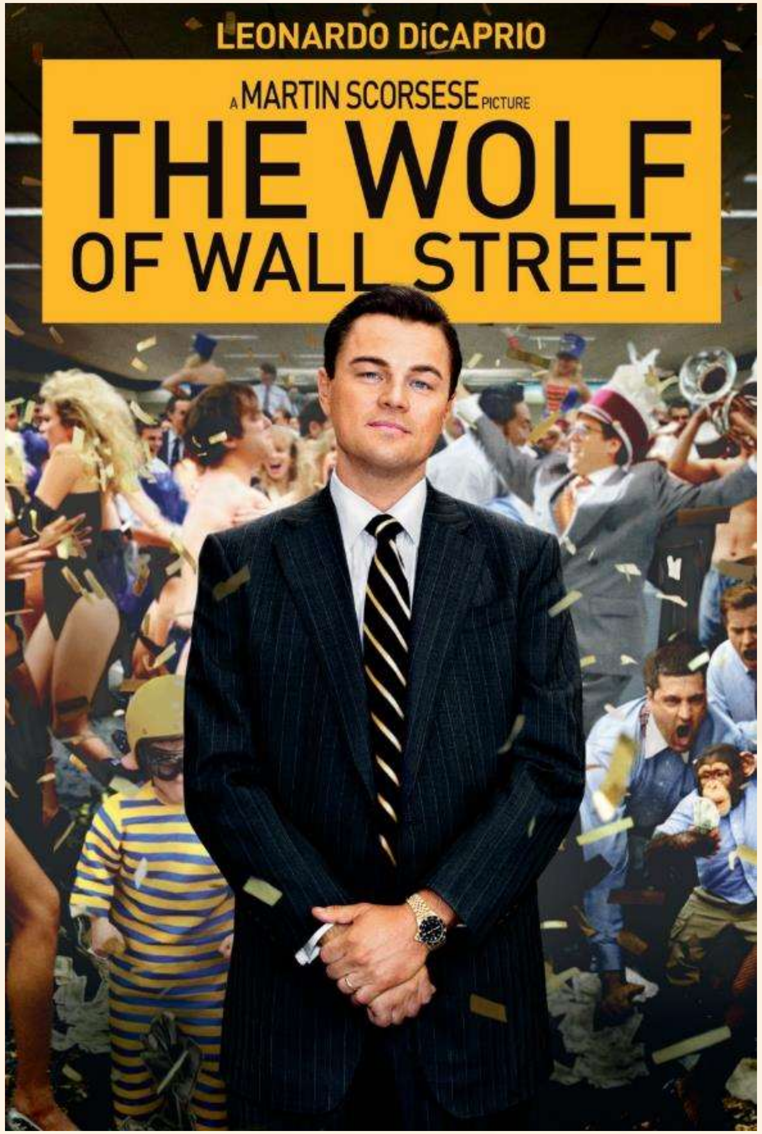
Economy and Rates

Interest Rate Risk

Liquidity

Investments


MICHAEL DOUGLAS
CHARLIE SHEEN
DARYL HANNAH
AN OLIVER STONE FILM
WALL STREET
"GREED IS GOOD."
– Gordon Gekko

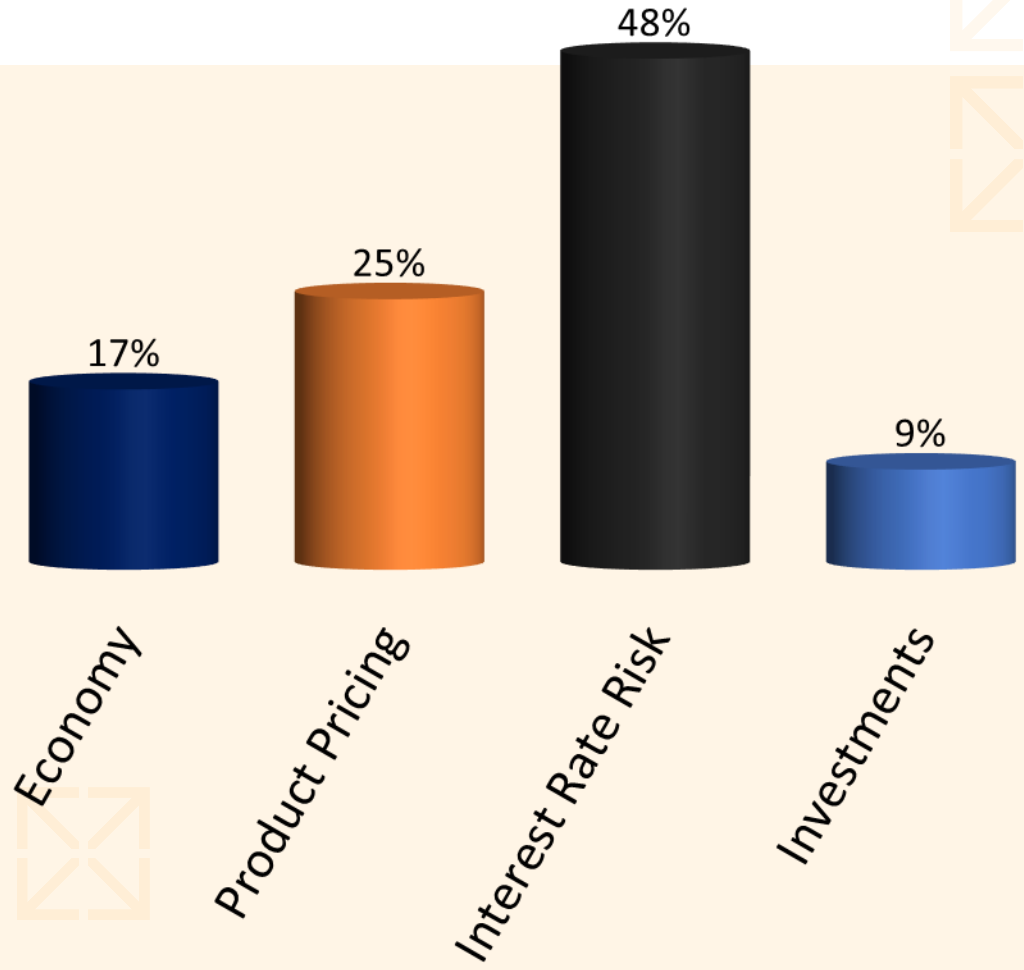

LEONARDO DiCAPRIO
A MARTIN SCORSESE PICTURE
THE WOLF OF WALL STREET

APPROACHES TO ALCO

Economist Approach	Pricing Approach	Interest Rate Risk Approach	Broker Approach
Economy and Rates	Economy and Rates	Economy and Rates	Economy and Rates
Interest Rate Risk	**Pricing**	Pricing	Interest Rate Risk
Liquidity	Interest Rate Risk	**Interest Rate Risk**	Liquidity
	Capital	Liquidity	**Investments**

WHICH AREA IN YOUR ALCO MEETINGS DO YOU TYPICALLY OVERWEIGHT?

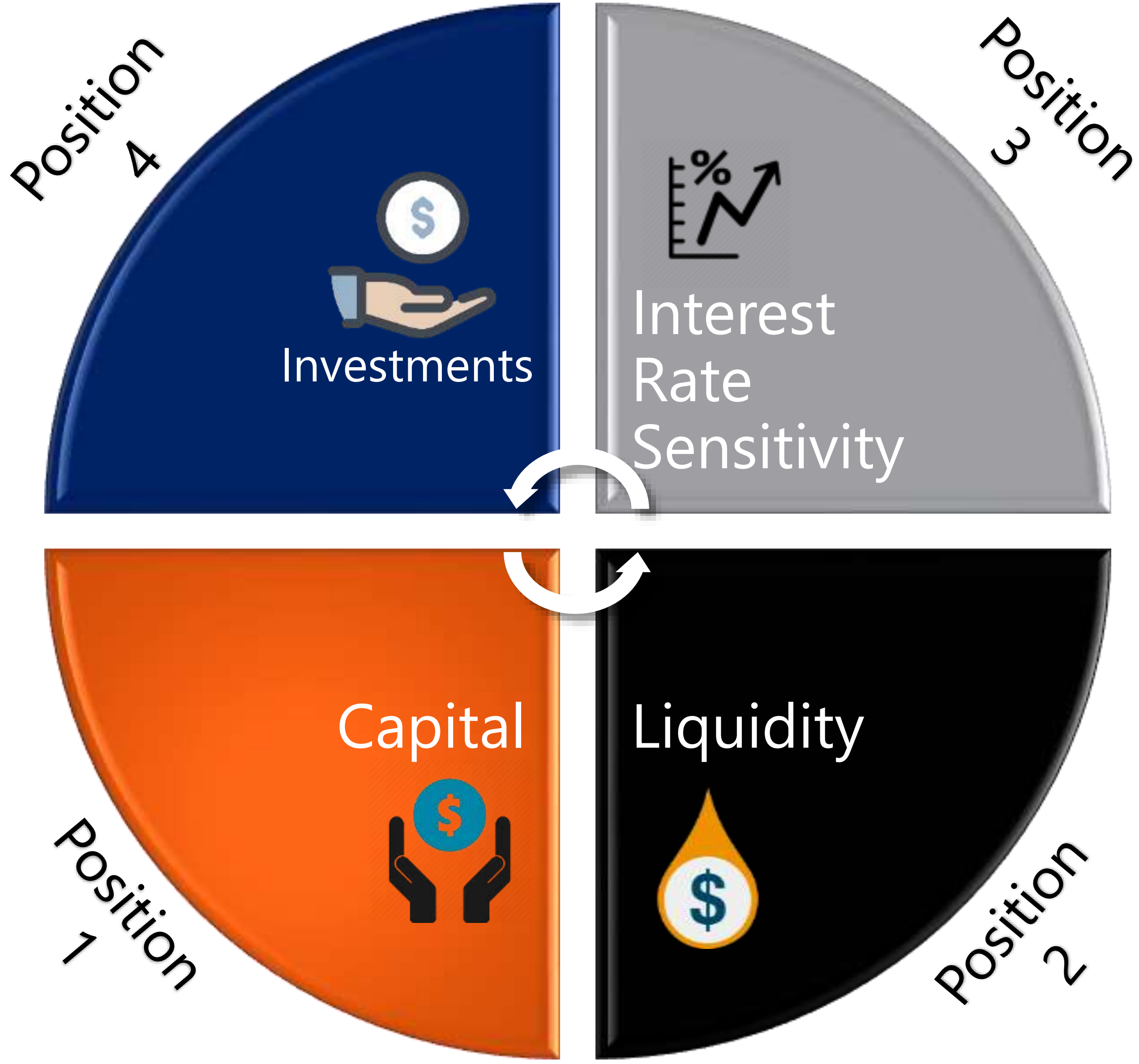
A. Economy
B. Product Pricing
C. Interest Rate Risk
D. Investments



WHAT SHOULD AN ALCO PROCESS AND PACKET LOOK LIKE?

Position Assessment

ALCO BEST PRACTICES



ALCO BEST PRACTICES

- Study the Past
- Monitor the Present
- Prepare for the Future

STUDY THE PAST

- Where *were* we?
  - Trend Analysis
  - Historical Ratios
  - Peer Comparison
  - Balance Sheet Mix
  - Rate Movements
  - Spread Changes

- Reflect
  - What did we do right?
  - What did we do wrong?
  - Were our strategies effective?
  - How did environment change?

MONITOR THE PRESENT

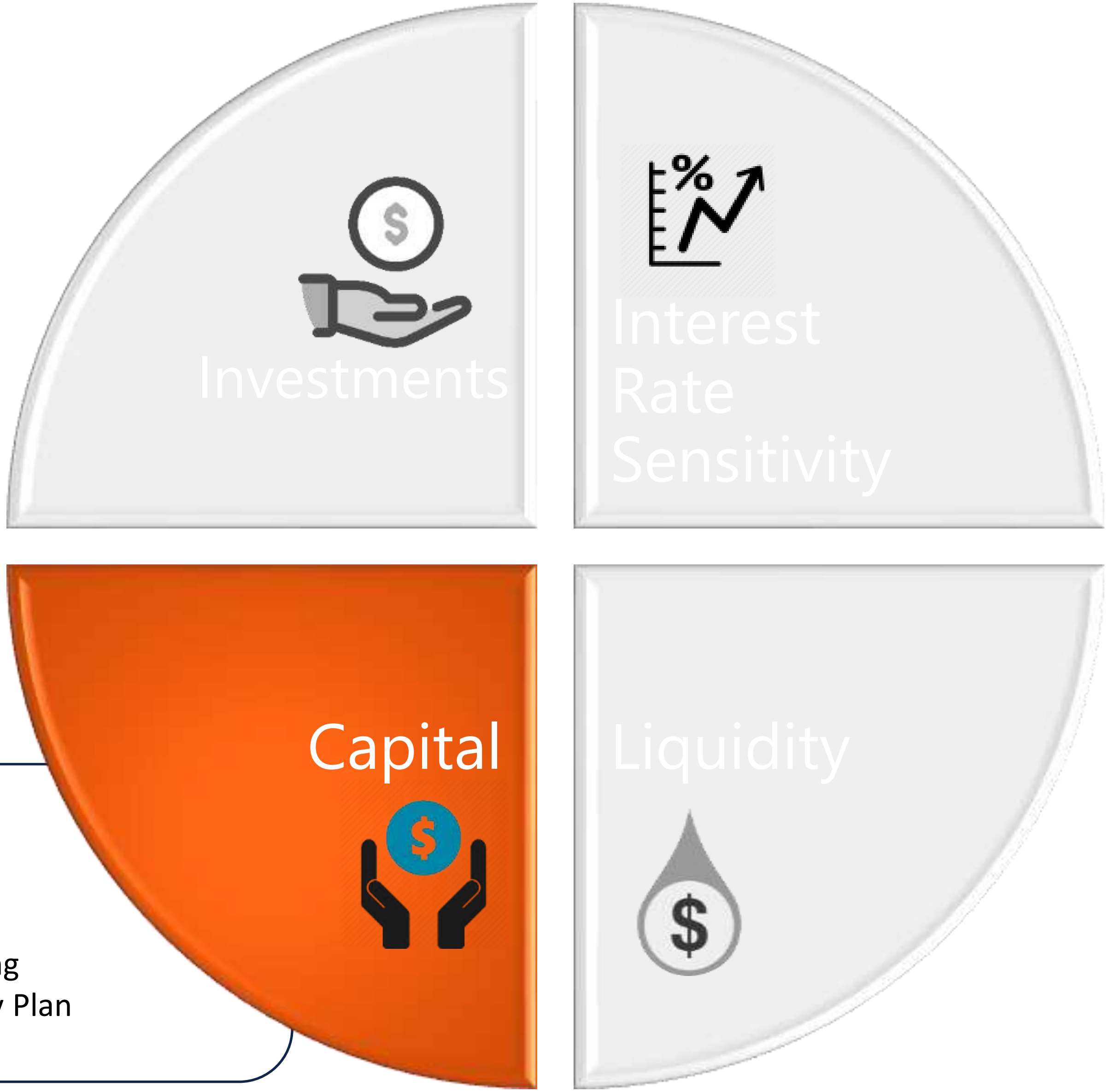
- Where *are* we?
  - Position Assessment
  - Net Interest Margin Dissection
  - Competition Analysis
  - Word-Problem Approach
  - Re-focus on Long Term Objectives

- Reflect
  - Loan Demand vs. Deposit Growth
  - Rate Climate
  - Current Profitability (or not!)
  - Resources: Loan/Deposit Officers

PREPARE FOR THE FUTURE

- Where *could we go*?
  - Accountability
    - Review Minutes: Action Items, Strategies
  - Tactical Forecasting
    - Loans vs. Deposit Projection
    - Liquidity Flows
  - Stress Testing
    - Capital: Credit Deterioration
    - Interest Rate Risk: Different Betas, Call Risk
    - Liquidity: Reduced Access to Funding
    - Securities: Cash Flow Volatility, Duration
  - Strategic Forecasting

BALANCE SHEET MANAGEMENT - CAPITAL

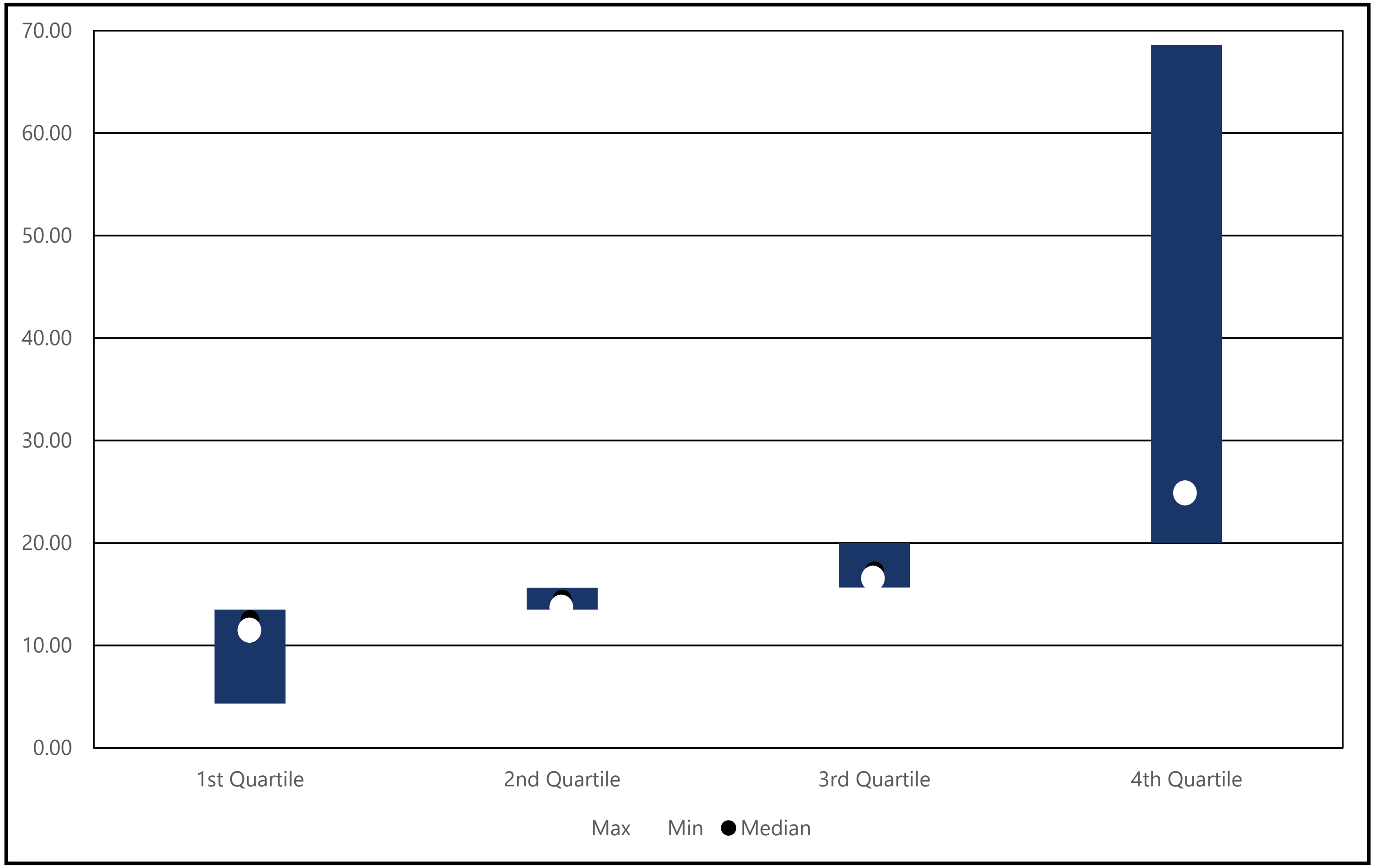


- Formation
- Adequacy
- Planning
- Stress Testing
- Contingency Plan

STUDY THE PAST

Loan Sector	Loans Concentration Expressed as a % of Total Capital												
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Construction & Land	103%	88%	62%	55%	40%	38%	42%	36%	45%	53%	51%	54%	63%
Mortgages													
1st Lien	153%	144%	140%	137%	121%	137%	129%	124%	110%	119%	124%	128%	140%
2nd Lien	9%	9%	9%	7%	7%	7%	7%	6%	5%	4%	6%	7%	8%
Home Equity	15%	14%	12%	13%	12%	12%	11%	13%	15%	23%	14%	18%	15%
Multi Family	17%	17%	19%	16%	15%	18%	19%	8%	13%	21%	18%	19%	21%
Commercial Real Estate													
Owner Occupied	99%	99%	102%	102%	94%	109%	92%	87%	83%	96%	99%	102%	107%
Non-owner Occupied	75%	78%	67%	86%	117%	117%	104%	112%	113%	144%	159%	164%	175%
Commercial & Industrial	82%	79%	42%	44%	44%	52%	52%	72%	67%	73%	69%	71%	73%
Farm Land	20%	26%	21%	21%	18%	17%	16%	15%	15%	21%	19%	18%	24%
Agriculture Production	4%	3%	2%	2%	2%	3%	2%	4%	4%	3%	2%	3%	4%
Consumer	30%	28%	26%	25%	22%	22%	21%	22%	20%	20%	21%	21%	20%
Total Loans	621%	600%	515%	523%	508%	545%	511%	521%	517%	603%	608%	618%	643%

MONITOR THE PRESENT RISK BASED CAPITAL RATIO

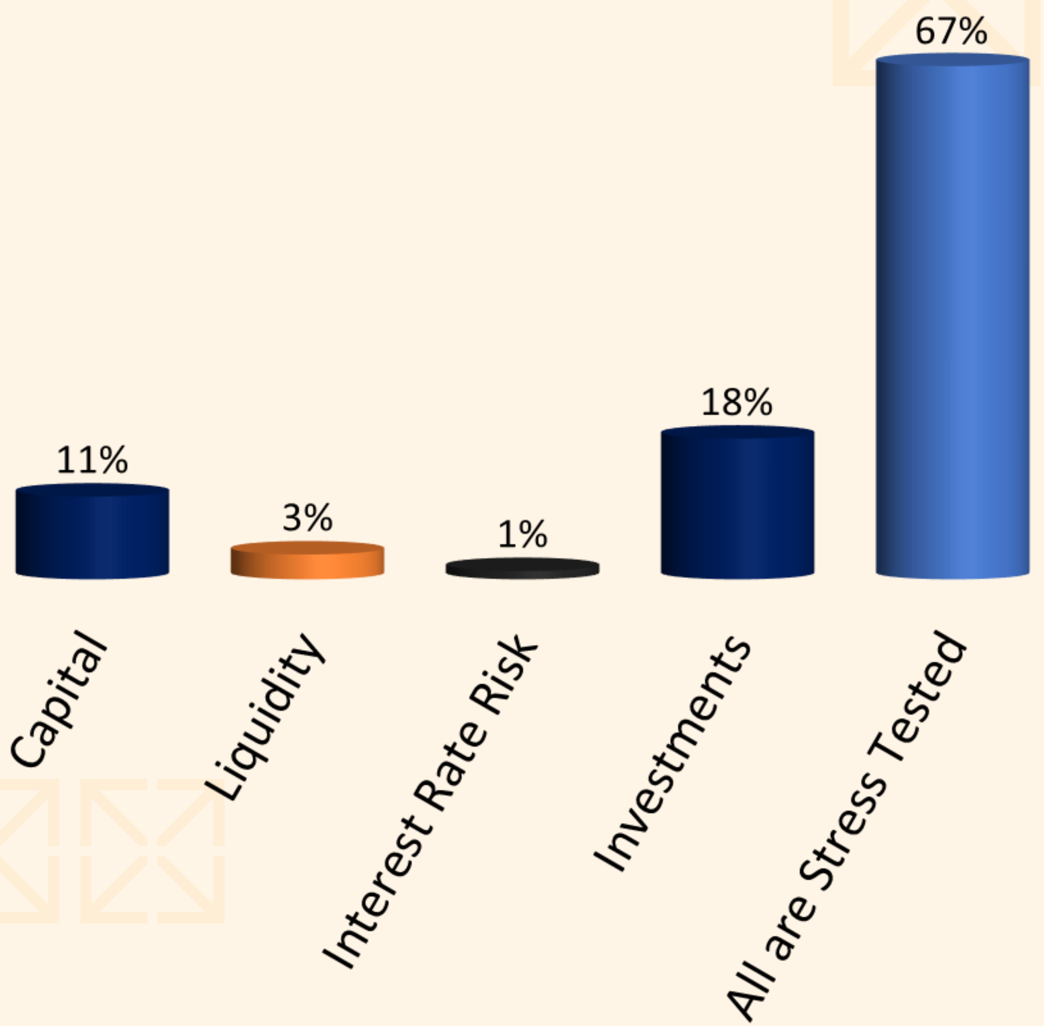


	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
High	13.50	15.64	20.00	68.59
Median	12.53	14.52	17.28	24.98
Low	4.33	13.50	15.65	20.02

Source: 6/30/20 Call Report data from all Banks Under $15 Billion in Assets.

WHICH ALCO POSITIONS ARE **NOT** BEING STRESS TESTED?

A. Capital
B. Liquidity
C. Interest Rate Risk
D. Investments
E. All Positions are Stress Tested



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PIPER SANDLER INDUSTRY NOTE

PIPER | SANDLER

INDUSTRY NOTE
August 18, 2020

CONCLUSION

As you might expect given the current economic stresses, corporate bankruptcies have been steadily rising this year. Thus far in 2020, among larger companies (those with >$50M in liabilities) there have been 173 corporate bankruptcies versus 102 for the same period in 2019, or a 70% increase. We suspect that bankruptcy filings for smaller companies would reveal a similar trend, if not a touch worse. Unfortunately this data is not readily available.

YTD Bankruptcy Filings by Industry[1]

	2020 YTD		2019 YTD	
Industry	**# of Filings**	**% of Total**	**# of Filings**	**% of Total**
Energy	35	20%	26	25%
Consumer Discretionary - Retail	32	18%	18	18%
Health Care	14	8%	18	18%
Real Estate	11	6%	1	1%
Consumer Discretionary - Restaurants	10	6%	3	3%
Industrials	9	5%	2	2%
Communications	8	5%	4	4%
Consumer Staples	8	5%	2	2%
Transportation	8	5%	3	3%
Technology	7	4%	0	0%
Non-Profit Organization	6	3%	1	1%
Materials	5	3%	4	4%
Automotive	4	2%	1	1%
Entertainment and Recreation	4	2%	1	1%
Financials	4	2%	10	10%
Utilities	4	2%	4	4%
Professional Services	3	2%	4	4%
Hotel	1	1%	0	0%
Total	**173**	**100%**	**102**	**100%**

[1] *Data as of 8/17/2020; Includes companies with over $50M in liabilities*

Source: Bloomberg and Piper Sandler

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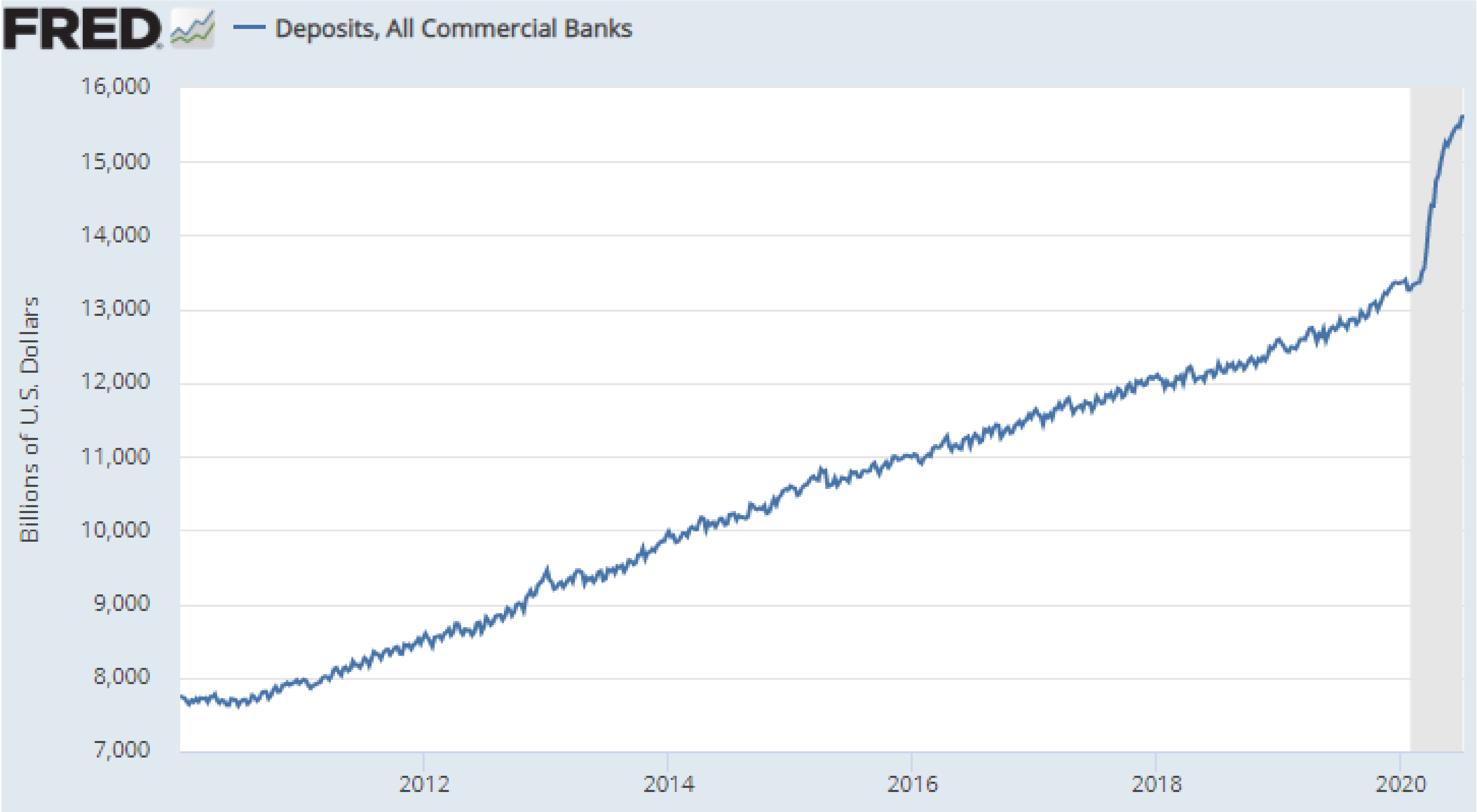
PREPARE FOR THE FUTURE CAPITAL STRESS TEST

- **How would your institution react if…**
  - Loan concentrations in high risk sectors exceed guidelines
  - Asset quality deteriorates to historically stressful levels
  - Charge-offs increase
  - Dividends become restricted
  - Retained earnings fall (or become negative!)
  - Capital levels decline, leading to regulatory criticism

- **What tools do you have at your institution?**
  - Quantify and discuss capital adequacy
  - Growth Stress Testing
  - Credit Stress Testing
    - Comparison versus a historically stressful period (and higher)
    - Measuring the impact of credit loss on capital
    - Scenario Analysis – mild and major recession

BALANCE SHEET MANAGEMENT - LIQUIDITY

- On Balance Sheet
- Off Balance Sheet
- Stressed Liquidity
- Contingency Funding
- Profit Center


FRED
Deposits, All Commercial Banks
Billions of U.S. Dollars
16,000
15,000
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
2012
2014
2016
2018
2020

CASH IS NOT ALWAYS KING EBRIEF - OCTOBER 2020

Liquidity Management - Cash is NOT Always King

10/8/2020 | 5 MIN READ

That was then…this is now.

The concluding wave of the longest business cycle in US history has brought changes for financial institutions when it comes to liquidity. Just less than 12 months ago, the economy was moving along fine with low unemployment, growing productivity, strong consumer spending and overall business growth. The community financial industry looked equally strong with attractive net interest margins and growing loan demand. Funding future growth was becoming a key focus area for management as well as regulators.

Recently, we have seen a 180-degree turn in both the economy, interest rates and health of community financial institutions' liquidity positions. The economy began showing signs of slowing in early 2020 and came to an abrupt stop following the COVID-19 outbreak. GDP dropped precipitously in the first half of the year with unemployment rate reaching a post war II high by April. The Fed urgently responded with various monetary policy measures pushing Fed Funds, Treasury and mortgage rates to record lows. At the same time, several rounds of stimulus programs flooded financial institutions with extra cash...

Read Full Article

If you are like most financial institutions, funds management is getting a bit more attention lately. There are two reasons for this increased attention:

Low rates. Zero Fed Funds rate policy has anchored the yield curve, and the Fed's messaging/Fed Dot Plot indicate low rates will remain for an extended timeframe. Consequently, institutions with excess liquidity invested overnight are experiencing cash drag and margin compression.

Liquidity Flood. Cash has been accumulating at an alarming rate. Financial institutions are getting both expected and unexpected cashflow from a variety of sources:

CASH MANGEMENT

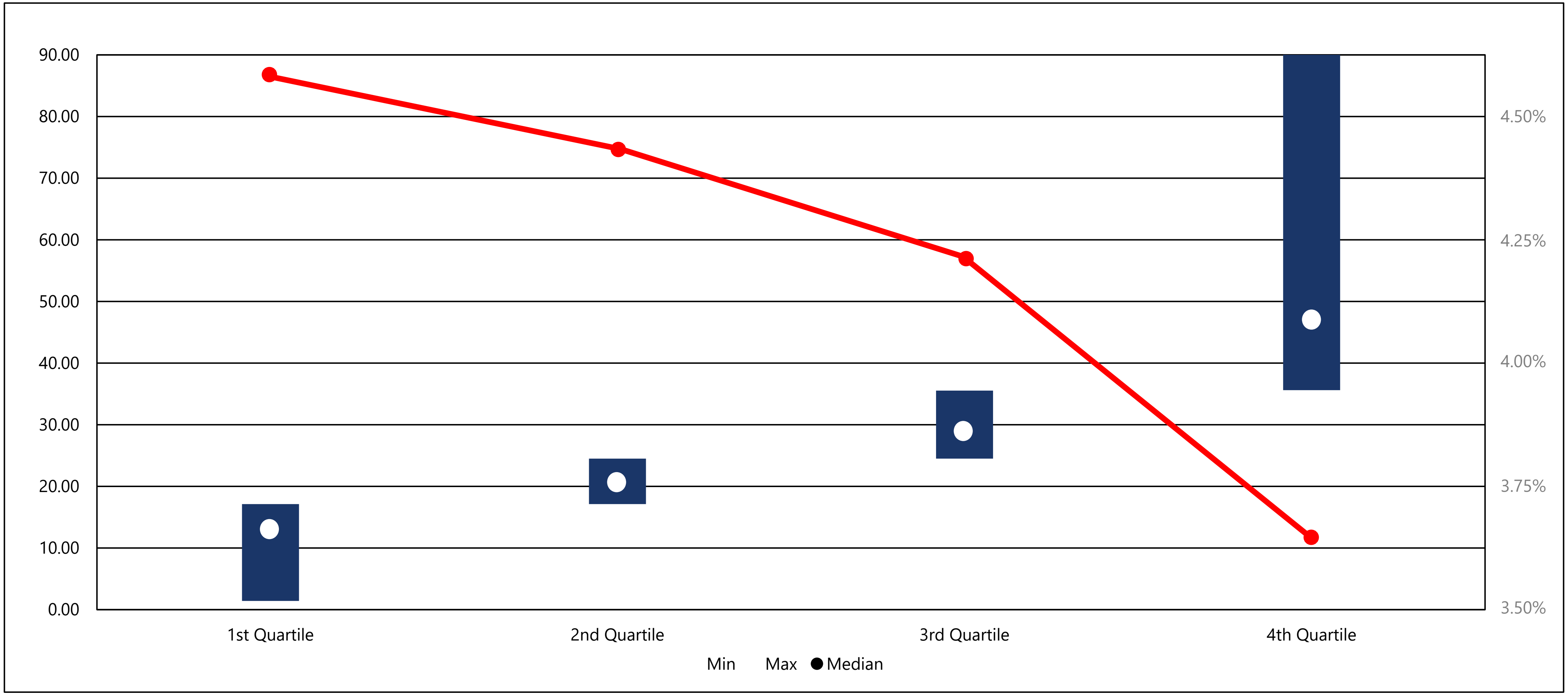
- ***Liquidity Flood***
  - Cash has been accumulating at an alarming rate
    - Virus fears slow spending
    - Stimulus funds deposited in non-maturity accounts

- ***Loan Recycling***
  - Loan operations remain busy!
    - Modifications and secondary mortgages driving the activity
  - Most of this is not leading to increased loan footings “Treading Water”

- ***PPP Loan Forgiveness***
  - Institutions that self-funded PPP loans should prepare for further increases in cash

- ***Investment Prepayment and Calls***
  - Don’t forget historically low mortgage rates & secondary mortgage activity is on fire!
    - Expect more cash flow from prepayments on legacy RMBS holdings
  - Agencies are refinancing their debt through call options exercisable over the next several months
    - Expect more cash flow from legacy callable agency holdings

MONITOR THE PRESENT LIQUIDITY RATIO DISTRIBUTION



	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
High	17.12	24.49	35.54	98.42
Median	12.81	20.67	28.97	46.80
Low	1.41	17.12	24.49	35.60
Average Earning Asset Yield	**4.59**	**4.43**	**4.20**	**3.65**

Source: 6/30/20 Call Report data from all Banks Under $15 Billion in Assets.

Performance and Balance Sheet Snapshot - 2020Q3
Sample Savings Bank

TAYLOR ADVISORS
Strategize Prosperity

700 N. Hurstbourne Parkway
Louisville, KY 40222
www.tayloradvisor.com

Performance Rankings

Liquidity and Funding

Pledged Securities (% of Portfolio)	67%
Liquidity Ratio	25%
FHLB Advances and Brokered CDs ($000)	54,000
Cost of Funds (% of Average Liabilities)	0.31%

Earning Asset Mix

Asset Size ($000)	770,287	
Net Loans ($000)	464,336	60%
Security Portfolio ($000)	115,644	15%
Cash and FFS ($000)	141,202	18%

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Cost of Funds (% of Average Liabilities)	0.31%

Investment Portfolio		
Municipals (% of Portfolio)	17,729	15%
MBS (% of Portfolio)	1,117	1%
CMO (% of Portfolio)	7,760	7%
Agencies (% of Portfolio)	63,046	55%
Other Securities (% of Portfolio)	25,992	22%

Capital	
Tier 1 Capital	70,005
Tier-1 Leverage Ratio (%)	9.66
Total Risk Based Capital	75,673
Total Risk-Based Capital Ratio (%)	15.05
Municipals (% of Total RBC)	23%

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Performance and Balance Sheet Snapshot - 2020Q3
Sample Credit Union

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Strategize Prosperity
700 N. Hurstbourne Parkway
Louisville, KY 40222
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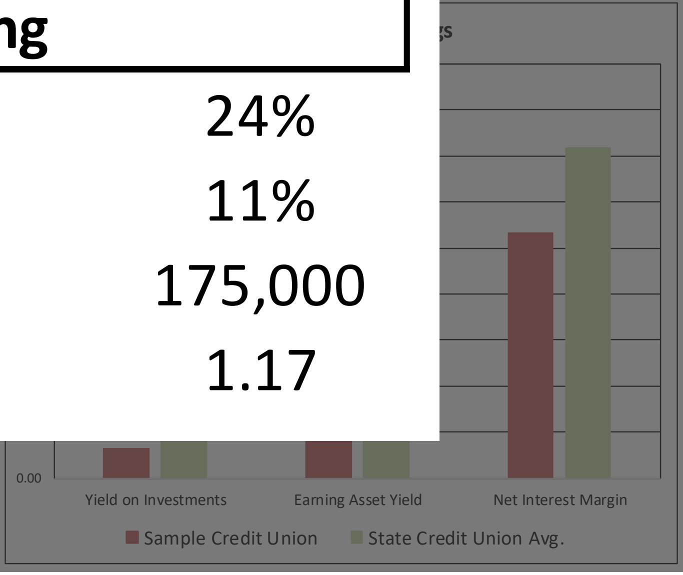
Performa

Liquidity and Funding

Pledged Assets/Total Assets	24%
Liquidity Ratio	11%
Total Borrowings ($000)	175,000
Cost of Interest Bearing Liabilities	1.17

Net Interest Margin Dissection	Yield on In			
	Yield on To			
	Earning As			
	Cost of Fu			
	Net Intere			
Profitability	Return on			
	Return on			
	Efficiency			
	Net Intere			
Non-Interest Income	Noninterest Income/Average Assets	5.45	1.09	100%
	Noninterest Expense/Average Assets	5.22	3.51	93%
	Net NonInterest Expense/Average Asset:	0.23	-2.33	100%



Earning Asset Mix

Asset Size ($000)	2,247,778	
Net Loans ($000)	1,733,048	77%
Security Portfolio ($000)	37,107	2%
Cash and Equiv. ($000)	211,308	9%

US Gov't (% of Portfolio)	0	0%
CMBS	1,208	3%
CMO	8,780	24%
Municipals (% of Portfolio)	0	0%
Other Securities (% of Portfolio)	15,157	41%

Net Worth Growth Rate (annualized)	45.86
Classified Assets/ Net Worth	2.38


STAR TRIBUNE
SACK
YOU DON'T LOOK SO HEALTHY.
WHAT KIND OF CRACK IS THAT??
STRESS TEST

BALANCE SHEET MANAGEMENT – INTEREST RATE RISK

- Static/Dynamic Modeling
- Non-Parallel Shock/Ramp
- Impact on Asset Quality
- Assumption Development
- Assumption Stress Testing
- What-If Simulations

STUDY THE PAST

	Policy Guideline	**Current Results 4Q2018**	W/in Guideline (Y/N)	**3Q2018**	**2Q2018**	**1Q2018**
Interest Rate Risk						
Net Interest Income at Risk (1 Yr):	NII Max. Change					
Shocked up 400 bpts	-25%	5.24%	Y	6.60%	3.95%	5.90%
Shocked up 300 bpts	-20%	4.72%	Y	5.60%	3.75%	5.23%
Shocked up 200 bpts	-12%	3.71%	Y	4.51%	3.04%	4.02%
Shocked up 100 bpts	-6%	2.09%	Y	2.83%	1.72%	2.16%
Shocked down 100 bpts	-6%	-2.92%	Y	-4.12%	-2.71%	-2.93%
Shocked down 200 bpts	-12%	-7.69%	Y	-10.68%	-7.87%	-8.52%
Shocked down 300 bpts	-20%	-11.10%	Y	-15.57%	-11.34%	-12.14%
Shocked down 400 bpts	-25%	-13.07%	Y	-17.69%	-13.34%	-14.07%
Net Interest Income at Risk (2 Yr):	NII Max. Change					
Shocked up 400 bpts	-30%	13.85%	Y	11.73%	13.09%	15.62%
Shocked up 300 bpts	-25%	12.19%	Y	10.23%	11.69%	13.56%
Shocked up 200 bpts	-20%	9.16%	Y	8.33%	8.95%	10.15%
Shocked up 100 bpts	-10%	4.92%	Y	5.26%	4.89%	5.41%
Shocked down 100 bpts	-10%	-6.23%	Y	-7.94%	-6.68%	-6.25%
Shocked down 200 bpts	-20%	-14.72%	Y	-19.86%	-17.38%	-17.68%
Shocked down 300 bpts	-25%	-21.15%	Y	-30.25%	-25.72%	-26.15%
Shocked down 400 bpts	-30%	-25.26%	Y	-34.14%	-29.56%	-29.94%
Economic Value of Equity:	EVE Max. Change					
Shocked up 400 bpts	-35%	3.58%	Y	0.71%	6.37%	8.95%
Shocked up 300 bpts	-30%	4.94%	Y	2.67%	7.19%	9.23%
Shocked up 200 bpts	-20%	4.36%	Y	3.52%	6.40%	7.87%
Shocked up 100 bpts	-10%	2.71%	Y	3.06%	3.99%	4.73%
Shocked down 100 bpts	-10%	-3.61%	Y	-5.29%	-5.00%	-5.91%
Shocked down 200 bpts	-20%	-9.03%	Y	-12.71%	-11.71%	-13.53%
Shocked down 300 bpts	-30%	-15.35%	Y	-20.42%	-20.32%	-22.65%
Shocked down 400 bpts	-35%	-17.25%	Y	-23.15%	-21.83%	-23.99%

MONITOR THE PRESENT

TAYLOR ADVISORS

Investments | Asset / Liability | Risk Management

Establishing Appropriate Interest Rate Risk Model Assumptions

Interest rate risk model assumptions are a very important component of an institution's risk management process. We are all too familiar with the cliché "garbage in – garbage out" referring to the importance of having valid assumptions when measuring risk. This topic has always gotten the attention of management teams, boards of directors, and regulatory bodies. Having appropriate institution-specific assumptions may be even more important today as interest rates are likely to start increasing later this year, making it more challenging to accurately measure risk. Despite the prevalence of interest rate risk models, many bankers continue to struggle with understanding key assumptions that drive interest rate risk output. Having a supportable set of assumptions for your institution is not just about making an examiner happy. It is a critical step to making your interest rate risk model an integral part of the strategic planning process at your institution. With that in mind, deposit decay terms, deposit repricing betas, and loan prepayment speeds are three key assumptions we will focus on in this eBrief.

Read Full Article

PREPARE FOR THE FUTURE INTEREST RATE RISK STRESS TEST

Stress Testing of Critical Assumptions

Net Interest Income Year 1

Scenario*	-400	-300	-200	-100	Level	+100	+200	+300	+400
Static Forecast	-4.2%	-4.2%	-4.2%	-2.8%		1.4%	4.8%	10.3%	16.6%
50% Prepay	-3.4%	-3.4%	-3.5%	-2.4%	0.0%	1.2%	4.4%	9.7%	15.8%
150% Prepay	-5.0%	-4.9%	-4.9%	-3.2%	0.0%	1.6%	5.2%	10.8%	17.3%
.8x Deposit Beta	-4.2%	-4.3%	-4.3%	-3.0%	0.0%	1.7%	5.3%	11.1%	17.6%
1.2x Deposit Beta	-4.2%	-4.2%	-4.2%	-2.7%	0.0%	1.1%	4.3%	9.6%	15.7%
ALCO Policy	***-24%***	***-18%***	***-12%***	***-6%***		***-6%***	***-12%***	***-18%***	***-24%***

Net Interest Income Year 2

Scenario	-400	-300	-200	-100	Level	+100	+200	+300	+400
Static Forecast	-8.6%	-8.6%	-8.5%	-5.7%		3.6%	9.4%	17.6%	26.7%
50% Prepay	-7.1%	-7.1%	-7.1%	-4.8%	0.0%	3.1%	8.6%	16.4%	25.1%
150% Prepay	-9.8%	-9.8%	-9.7%	-6.4%	0.0%	4.0%	10.1%	18.6%	28.0%
.8x Deposit Beta	-8.6%	-8.7%	-8.6%	-5.8%	0.0%	3.8%	9.8%	18.2%	27.5%
1.2x Deposit Beta	-8.6%	-8.6%	-8.4%	-5.5%	0.0%	3.4%	9.0%	17.0%	25.8%
ALCO Policy	***-29%***	***-23%***	***-17%***	***-11%***		***-11%***	***-17%***	***-23%***	***-29%***

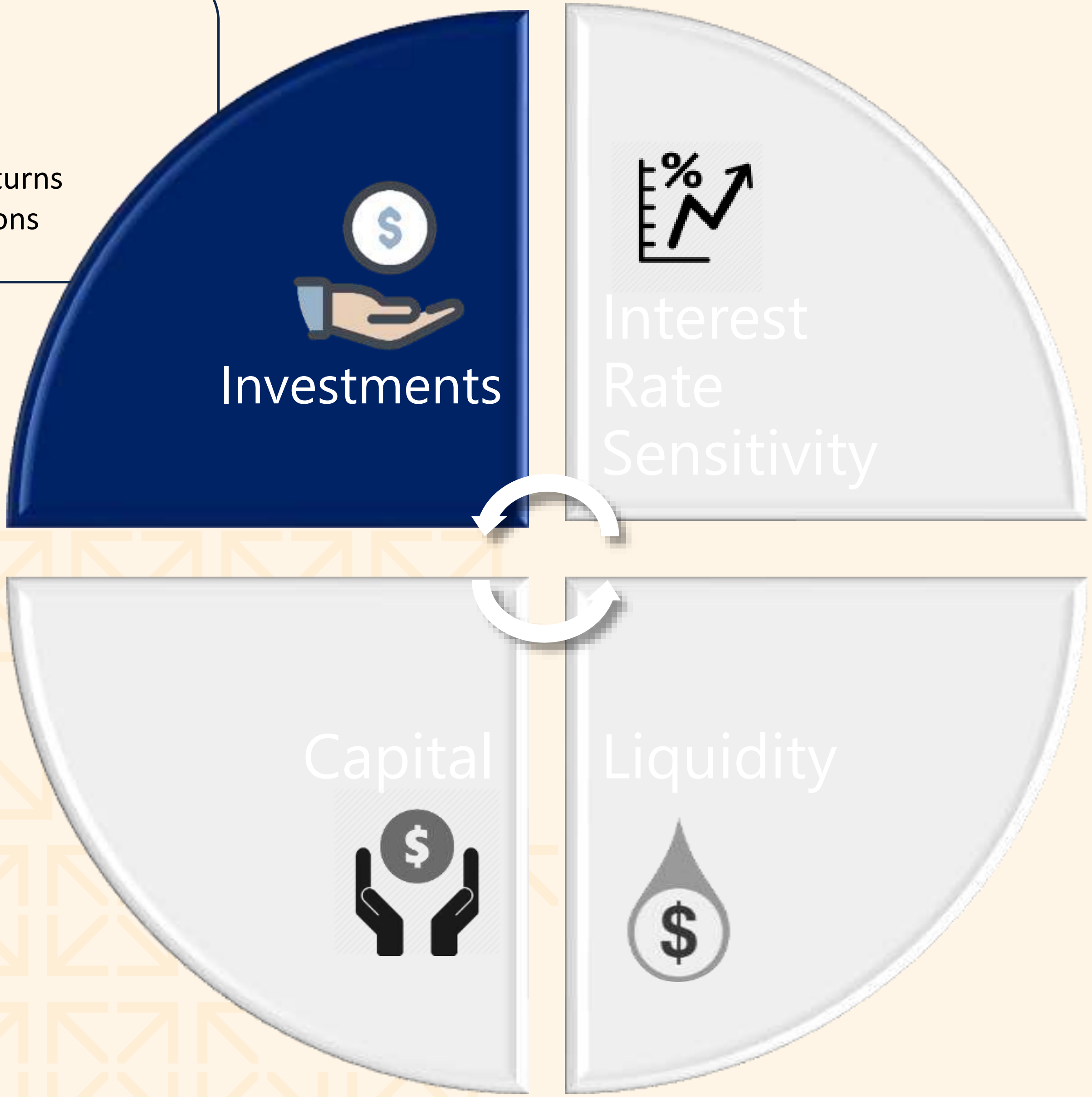
Economic Value of Equity

Scenario	-400	-300	-200	-100	Level	+100	+200	+300	+400
Static Forecast	-23.4%	-23.3%	-10.9%	-2.6%		-1.5%	-3.6%	-5.5%	-7.0%
50% Prepay	-13.5%	-13.5%	-3.2%	0.3%	0.0%	-3.1%	-5.9%	-8.3%	-10.3%
150% Prepay	-28.0%	-28.0%	-15.2%	-4.5%	0.0%	-0.4%	-1.7%	-3.1%	-4.2%
.8x Deposit Beta	-22.8%	-22.9%	-10.7%	-2.8%	0.0%	-1.3%	-3.1%	-4.7%	-6.1%
1.2x Deposit Beta	-22.8%	-22.8%	-10.6%	-2.4%	0.0%	-1.8%	-4.0%	-6.1%	-7.8%
25% Decay Term	-7.9%	-7.9%	-3.3%	0.9%	0.0%	-4.0%	-8.2%	-12.0%	-15.2%
ALCO Policy	***-35%***	***-30%***	***-25%***	***-15%***		***-15%***	***-25%***	***-30%***	***-35%***

Source: Stifel Analytics
Interest Rate Risk Model

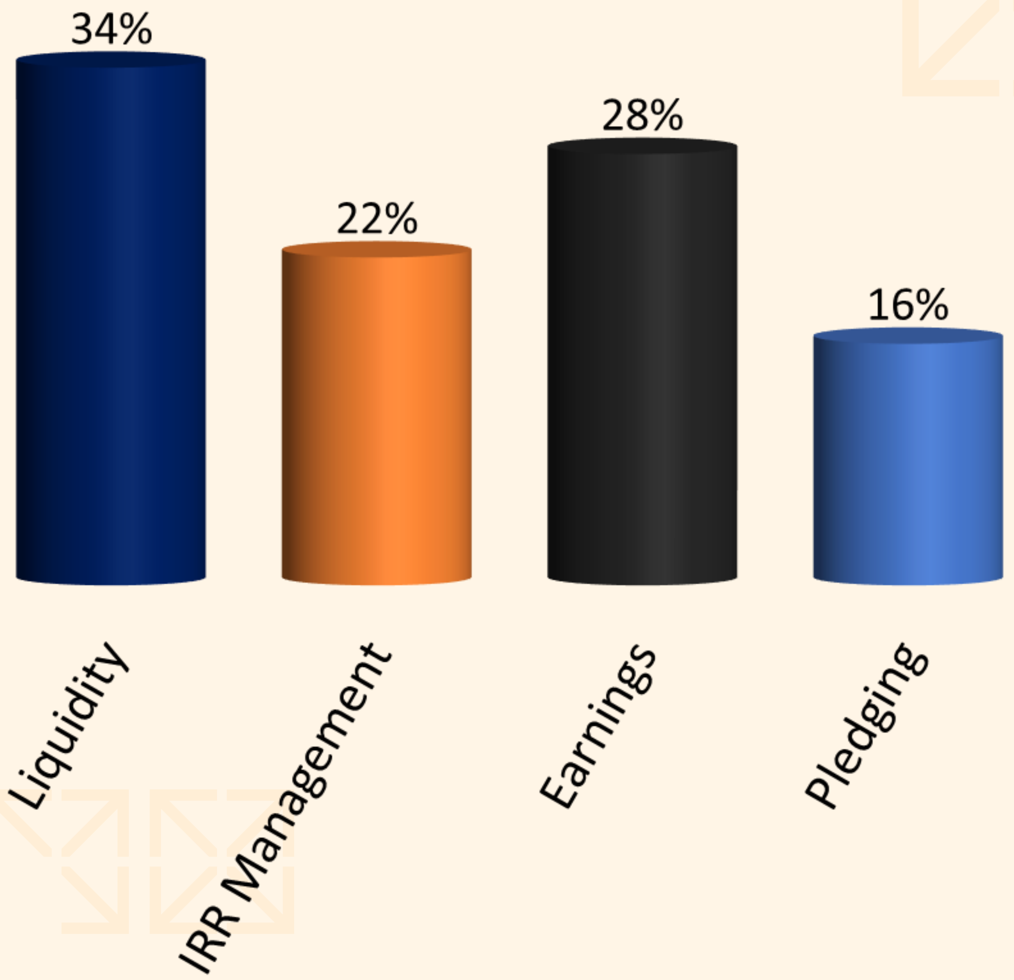
BALANCE SHEET MANAGEMENT – INVESTMENTS

- Liquidity Risk
- Price Risk
- Credit Risk
- Impairment
- Risk Adjusted Returns
- ALM Considerations

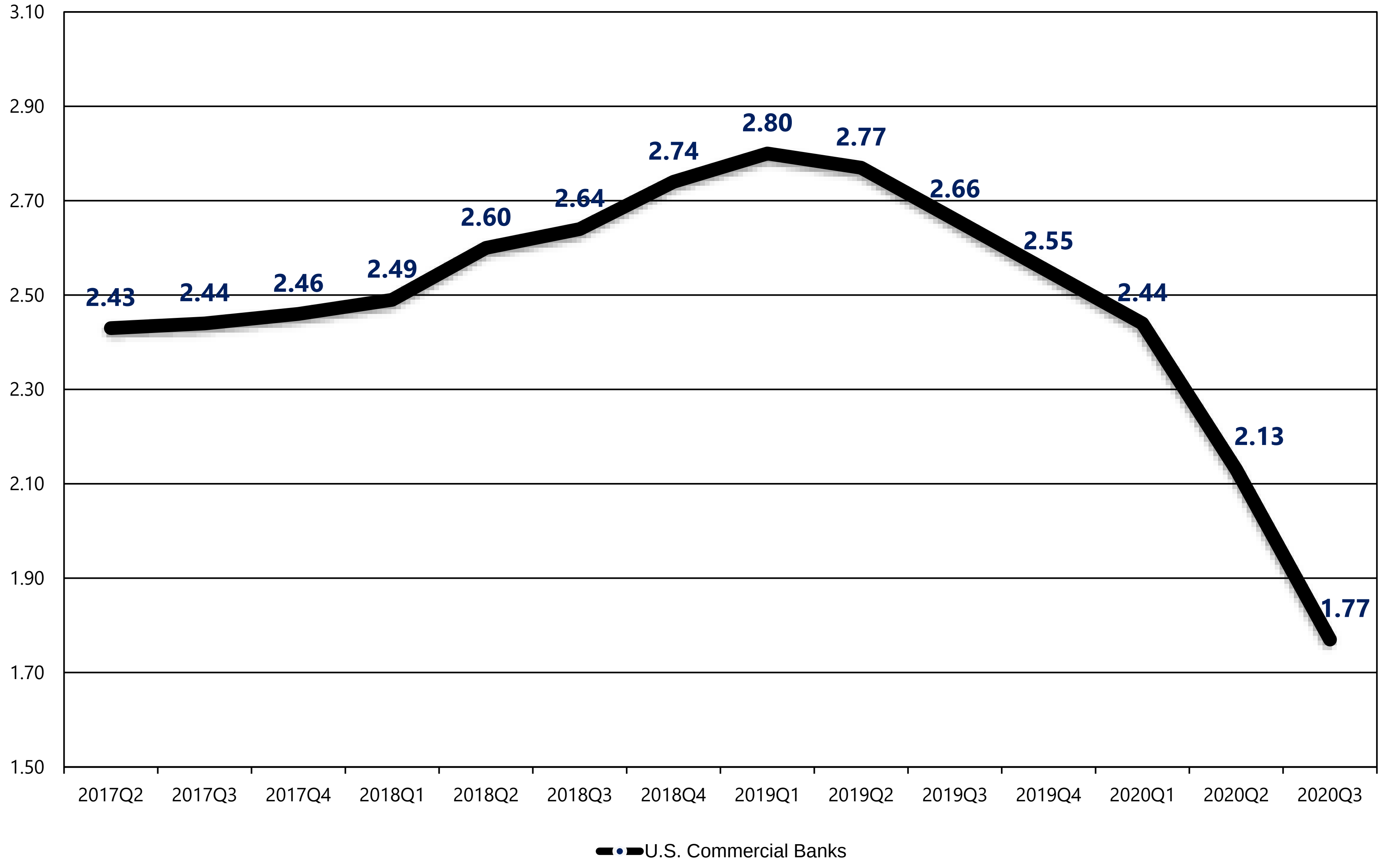


WHAT IS THE **PRIMARY** OBJECTIVE OF YOUR INVESTMENT PORTFOLIO?

A. Liquidity
B. Interest Rate Risk Management
C. Earnings
D. Pledging

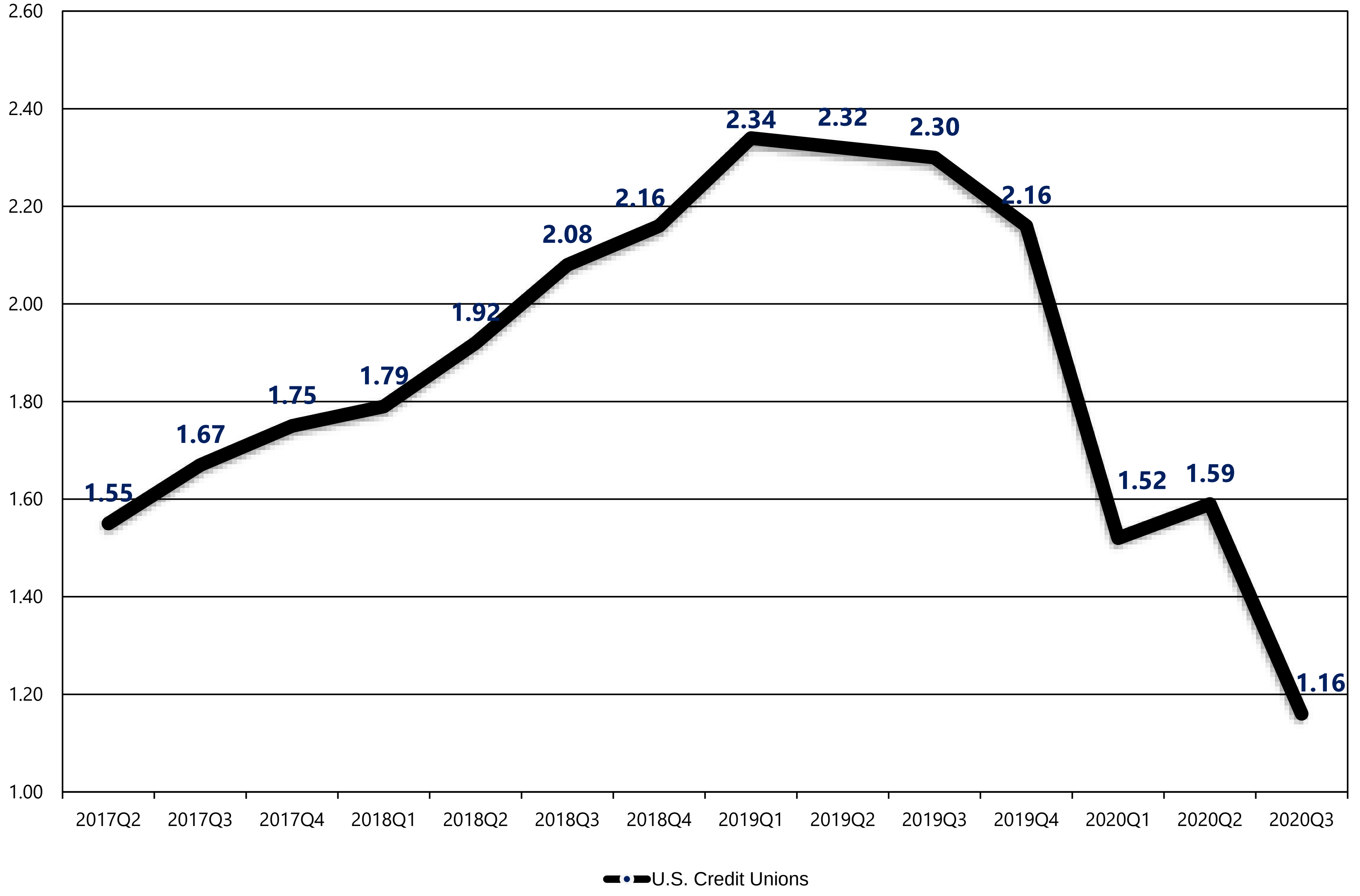


STUDY THE PAST NATIONAL MEDIAN YIELD TRENDS



Source: S&P Global Market Intelligence,
Data for all Banks Nationally as of 9/30/20

STUDY THE PAST NATIONAL MEDIAN YIELD TRENDS



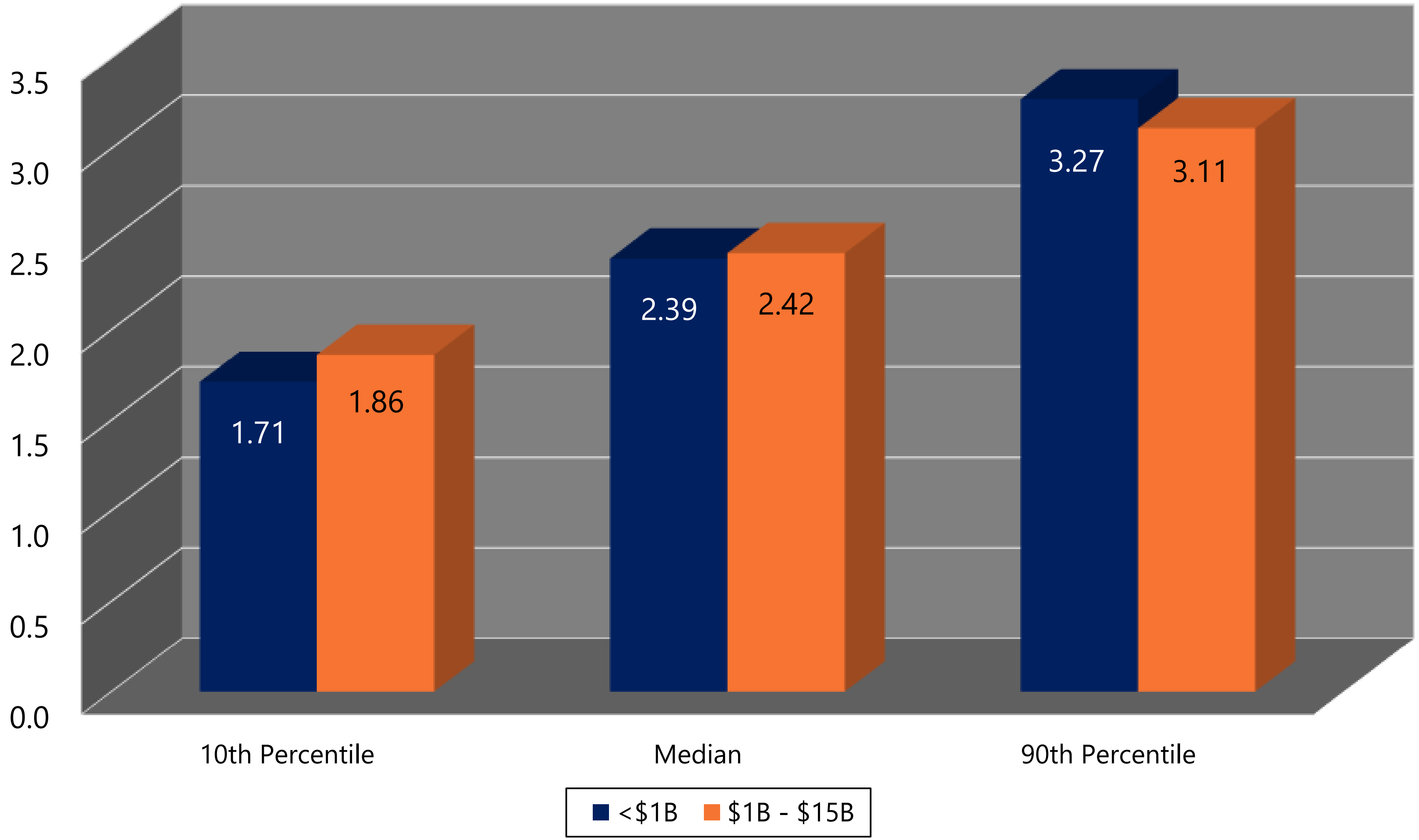
Source: S&P Global Market Intelligence,
Data for all Credit Unions Nationally as of 9/30/20

SAMPLE PORTFOLIO – DATA VS. INFORMATION

RATES ARE DOWN!

Matured	~~1 Yr Treasury Note~~
Called	~~2 Yr Agency NC 3 Mo~~
Fast Prepayments Yield Drops	~~3 Yr WAL Premium Agency CMO (Jumbo Collateral)~~
Coupon Resets Lower	~~4 Yr Floating Rate SBA Pool~~
Called	~~5 Yr Agency Step Up NC 6 Mo Bermuda~~

MONITOR THE PRESENT INVESTMENT YIELDS



Source: S&P Global Market Intelligence.
Data for all banks Nationally <$15B as of 9/30/20

INVESTMENT MANAGEMENT BEST PRACTICES

Strategy

- Independent expert advice on portfolio strategies with regular review
- Whole-Bank perspective approach to portfolio positioning

Investment Mix

- Diversification among investment sectors, risk/reward & relative value analysis
- Expanded range of bank-permissible investment products

Security Selection

- Market knowledge and expertise helps optimal security selection
- Monitor policy compliance with security purchases

TAYLOR ADVISORS EBRIEF – ASSESSING YOUR INVESTMENT PROCESS

Assessing Your Investment Process and Portfolio Performance: Broker vs. Advisor Approach

10/28/2020 | 8 MIN READ

Investment portfolios and overnight cash positions have grown significantly at many financial institutions due to a recent surge in deposits and slower portfolio loan demand. With record low interest rates, carrying excess cash on the balance sheet has been costly. These factors are forcing executive teams to re-focus on the investment portfolio to help relieve net interest margin pressure from declining earning asset yields.

In general, financial institutions have two options for managing the investment portfolio. We will refer to these as the Broker and the Advisor approach.

The Broker Approach

An institution's financial executive (CFO, President, Portfolio Manager, etc.) has the option of working directly with a variety of brokers/brokerage firms to make investments for the portfolio. Usually, brokers will present different products for consideration often via...

Read Full Article

If you are considering a change from a broker approach to an advisor approach or switching advisors, below we discuss seven benefits and/or best practices of working with an investment advisor to improve portfolio and balance sheet performance:

1. Investment Management from a Whole Balance Sheet Perspective
2. Accountability & Transparency
3. Strategy and Relative Value Analysis
4. **Exclusive Product Access**
5. Staying in Control
6. **Reducing Transaction Costs and Improving Execution**
7. Redirected Productivity

WHAT IS YOUR INSTITUTION'S PORTFOLIO YIELD?

INVESTMENT MIX?

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Performance and Balance Sheet Snapshot - 2020Q3

Sample Savings Bank

	Metric	Sample Savings Bank	UBPR Peer Group Average	Percentile Rank
Net Interest Margin Dissection	Yield on Investments (FTE)	1.76	2.26	18%
	Yield on Total Loans	3.81	4.90	2%
	Earning Asset Yield	3.05	3.97	5%
	Interest Expense to Avg. Earning Assets	0.30	0.53	22%
	Net Interest			9%
	Net Interest			13%

What's the Range of Portfolio Yield?

High of 3.18%

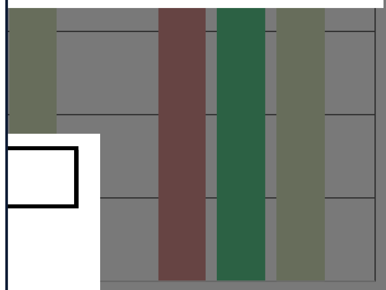
Low of 0.46%

Range of 2.72%

Munici		
MBS (%		
CMO (% of Portfolio)	7,760	7%
Agencies (% of Portfolio)	63,046	55%
Other Securities (% of Portfolio)	25,992	22%

Sam

	Metric
Net Interest Margin Dissection	Yield on Investm
	Yield on Total Lo
	Earning Asset Yi
	Interest Expense
	Net Interest Mar
	Net Interest Inco



Earning Asset

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Total Risk Based Capital	75,673
Total Risk-Based Capital Ratio (%)	15.05
Municipals (% of Total RBC)	23%

Performance and Balance Sheet Snapshot - 2020Q3
Sample Credit Union

Strategize Prosperity
700 N. Hurstbourne Parkway

	Metric	Sample Credit Union	State Credit Union Average	Percentile Rank
Net Interest Margin Dissection	Yield on Investments	0.32	1.10	11%
	Yield on Total Loans	4.09	5.17	13%
	Earning Asset Yield	3.91	4.08	50%
	Cost of Fu			95%
	Net Intere			14%

What's the Range of Portfolio Yield?

High of 1.56%
Low of 0.28%

Range of 1.28%

Profitability
Return on Average E
Efficiency Ratio
Net Interest

Non-Interest Income
Noninterest
Noninterest
Net NonInter

Earning As

Asset Size ($0
Net Loans ($
Security Port
Cash and Equiv. ($000) 211,308 9%

Fed		%
CDs		%
US		%
CM		%
CMO	8,780	24%
Municipals (% of Portfolio)	0	0%
Other Securities (% of Portfolio)	15,157	41%

Cost of Interest Bearing Liabilities 1.17

Investment Portfolio		
Federal Agency/MBS	11,962	32%
CDs (% of Portfolio)	0	0%
US Gov't (% of Portfolio)	0	0%
CMBS	1,208	3%
CMO	8,780	24%
Municipals (% of Portfolio)	0	0%
Other Securities (% of Portfolio)	15,157	41%

Net Worth and Asset Quality	
Net Worth	220,633
Net Worth Ratio	9.81
Net Worth Growth Rate (annualized)	45.86
Classified Assets/ Net Worth	2.38

OBJECTIVES AND STRATEGIES

TAYLOR ADVISORS TAKE

Staying in cash is most expensive it has been since 2009-2015

The importance of liquidity planning should be getting attention from management teams.

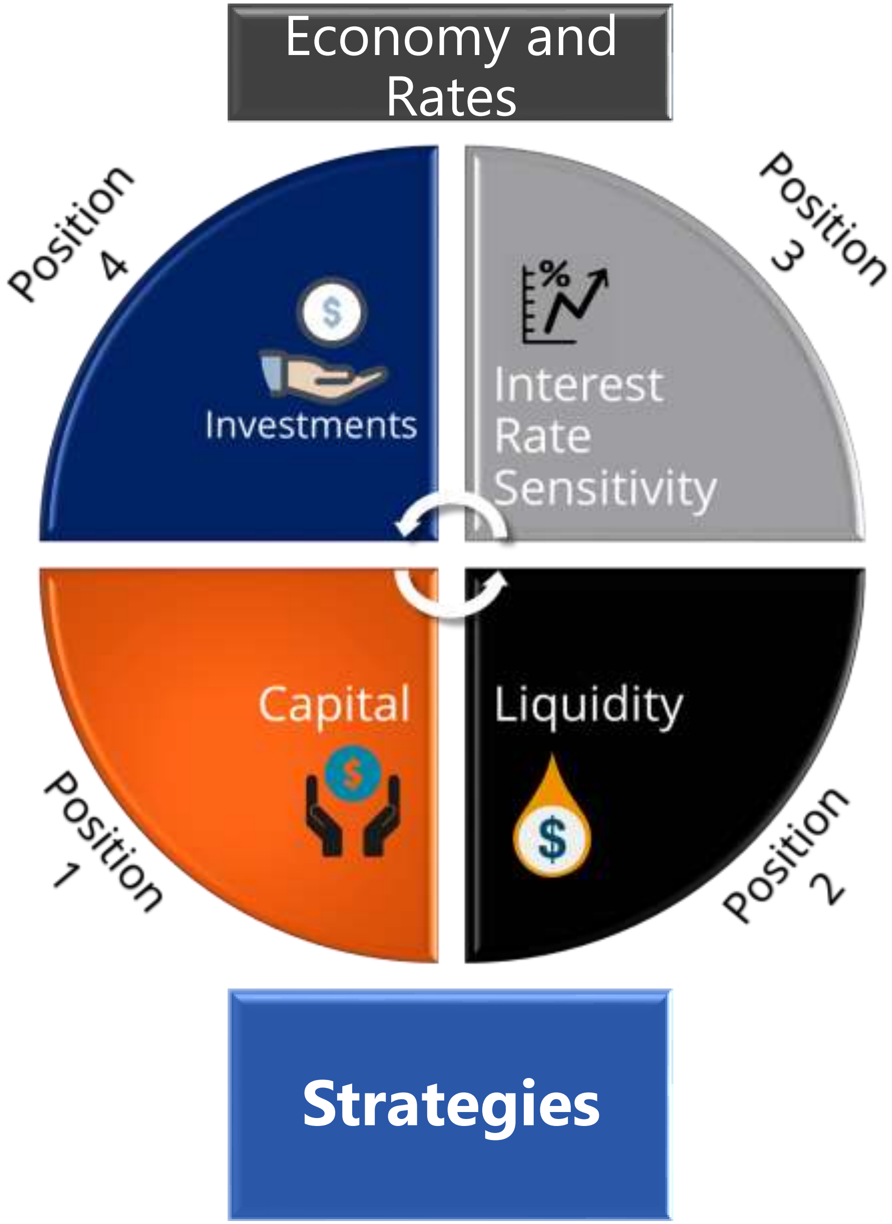
Once an appropriate level of overnight liquidity has been determined, what are some of the options a financial institution should consider to help reduce the excess cash?

TAYLOR ADVISORS TAKE

- ***Deposit pricing***
  - Aggressively price CDs downward in line with wholesale funding alternatives
  - Move rate sensitive non-core deposits off the balance sheet

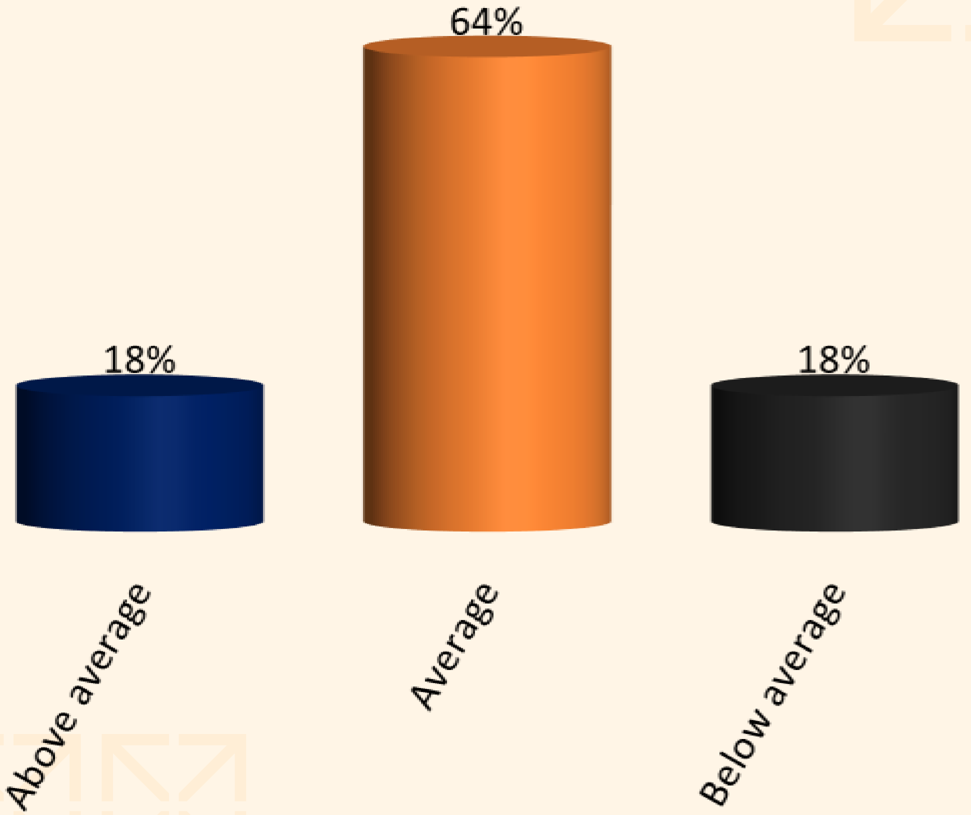
- **Invest**
  - Customize an investment strategy that fits your asset/liability profile.
  - Consider pre-investing cash flow while taking steps to reduce optionality in your balance sheet.

ALCO BEST PRACTICES



HOW WOULD YOU RATE YOUR ALCO PROCESS WHEN IT COMES TO DRIVING PROFITABILITY AND STRATEGIES?

A. Above Average
B. Average
C. Below Average



TAYLOR ADVISORS

EARNING ASSET DOLLAR IMPACT

Earning Asset Size (in $000)	Net Interest Income Change in thousands of dollars (due to portfolio yield change in basis points)					
	1	5	10	15	20	25
100,000	10	50	100	150	200	250
200,000	20	100	200	300	400	500
300,000	30	150	300	450	600	750
400,000	40	200	400	600	800	1,000
500,000	50	250	500	750	1,000	1,250
600,000	60	300	600	900	1,200	1,500

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www.tayloradvisor.com/fhlbc

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BALANCE SHEET MANAGEMENT

INVESTMENT ADVISORY/ CONSULTING

REGULATORY/CRISIS MANAGEMENT

EDUCATION & TRAINING

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