

SOUTHEAST LEADERSHIP



Development Conference

August 31 - September 2, 2022

The Grand Hotel Golf Resort & Spa

Point Clear, AL



The Fed at a Crossroads: Investment Strategies for a Fed Tightening Cycle and a Turbulent Economy?

Presented By:
Bryan Bell and Seth Kellicut



**Credit Union Investment
Strategy Group**



Key Concepts/Questions

- What is the FED going to do?
- Loan demand is still high, but cash is getting tight.
- I have started raising COF... How is this going to impact my CU?
- Continued volatility in yields... Are yields going higher or lower?
- What investment opportunities provide enough flexibility to provide performance and peace of mind here at the crossroads?

Today's Sections

The FED Tightening Cycle began in March and has seen +225bps of HIKES so far. The impact has already been felt by Credit Unions nationwide. This will likely persist as the current interest rate cycle continues to play out...

- I. Interest rates... Where are we and where we might be headed going in 2022 and beyond?
- II. How are Rising Rates affecting my credit union?
- III. What can I do now... Practical Application of an Investment Solution...Our two best Ideas

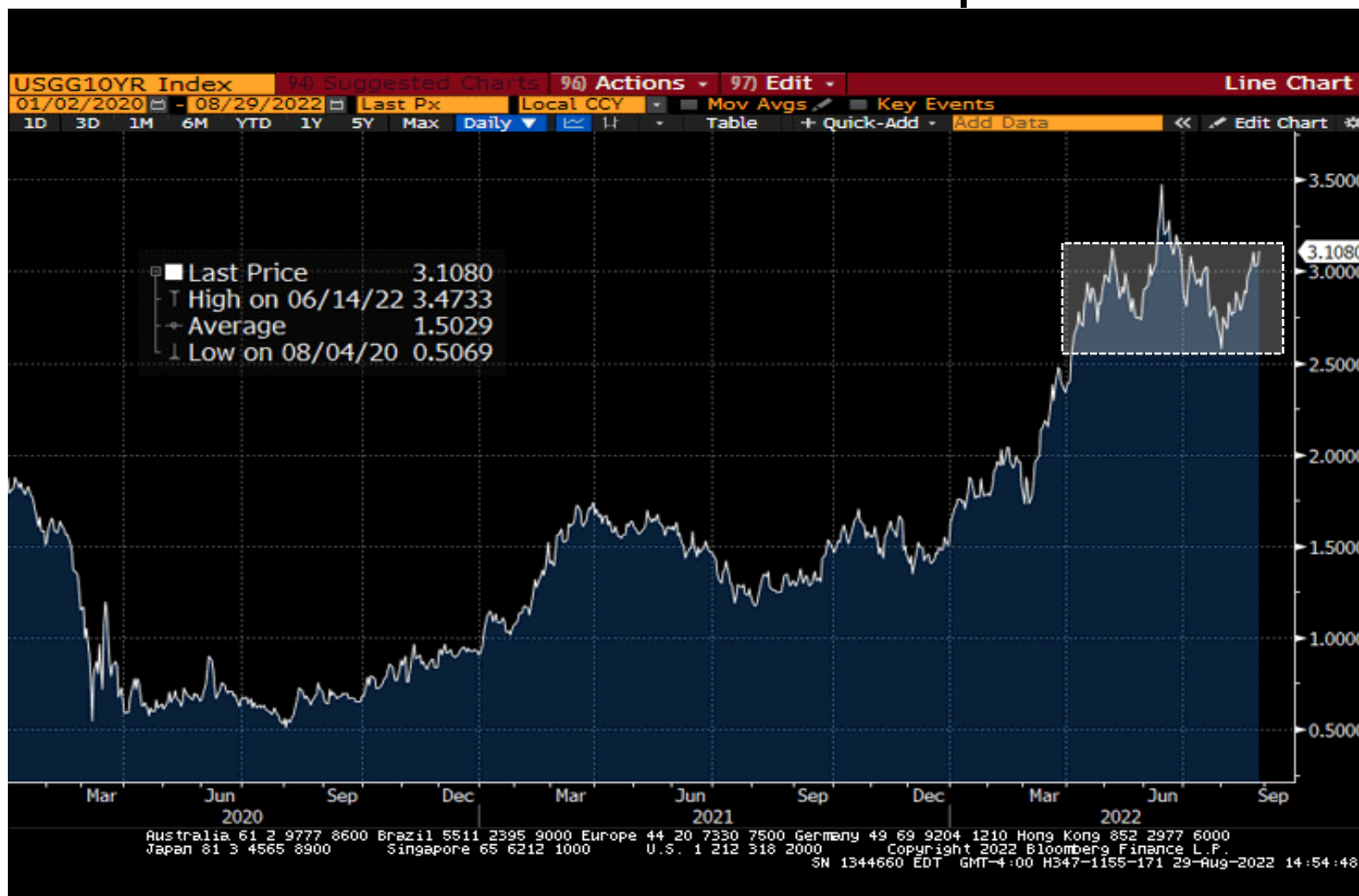
SECTION I

Where are we?

And

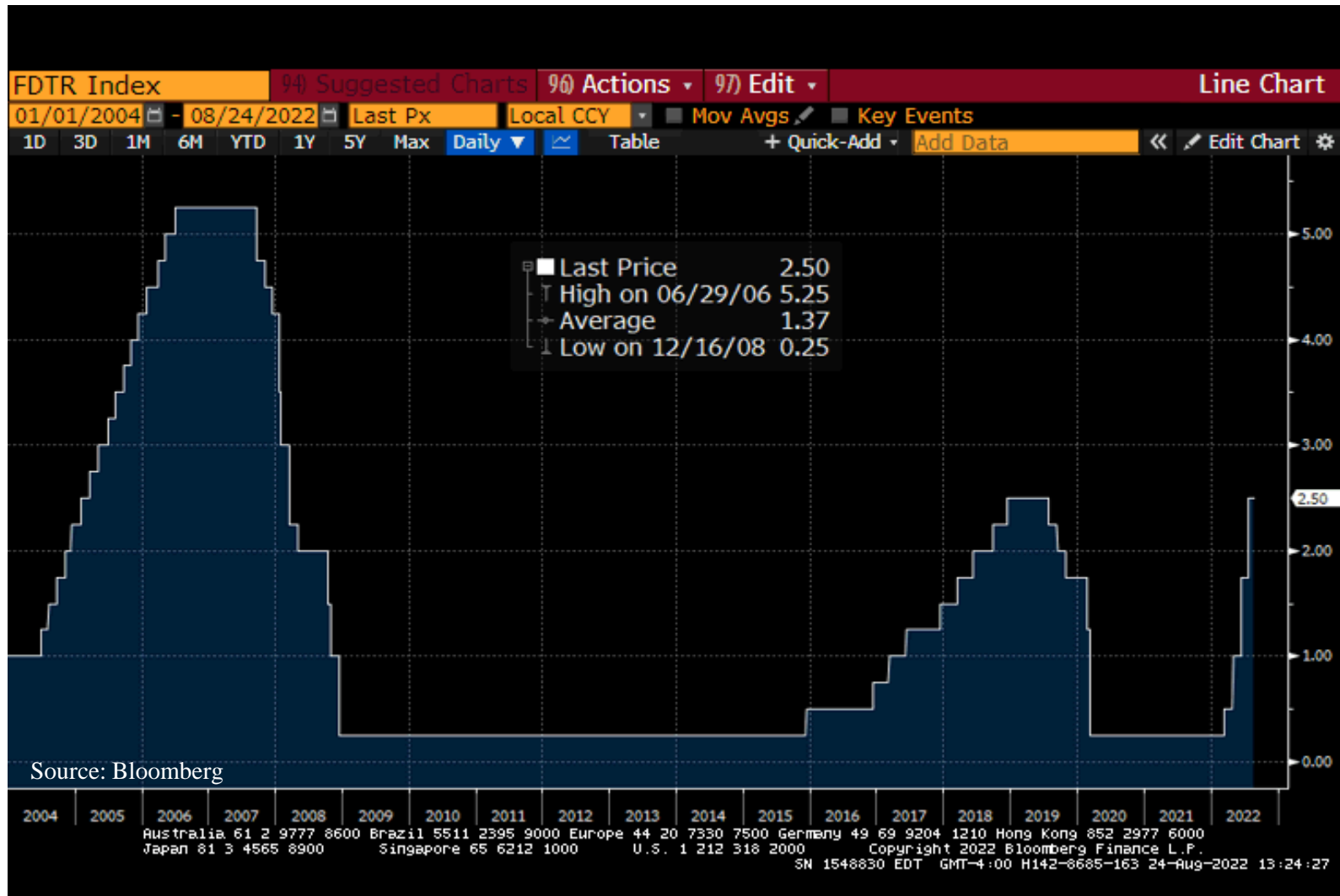
*Where are Interest Rates going in
2022 and beyond?*

10-Year UST Yields | YoY



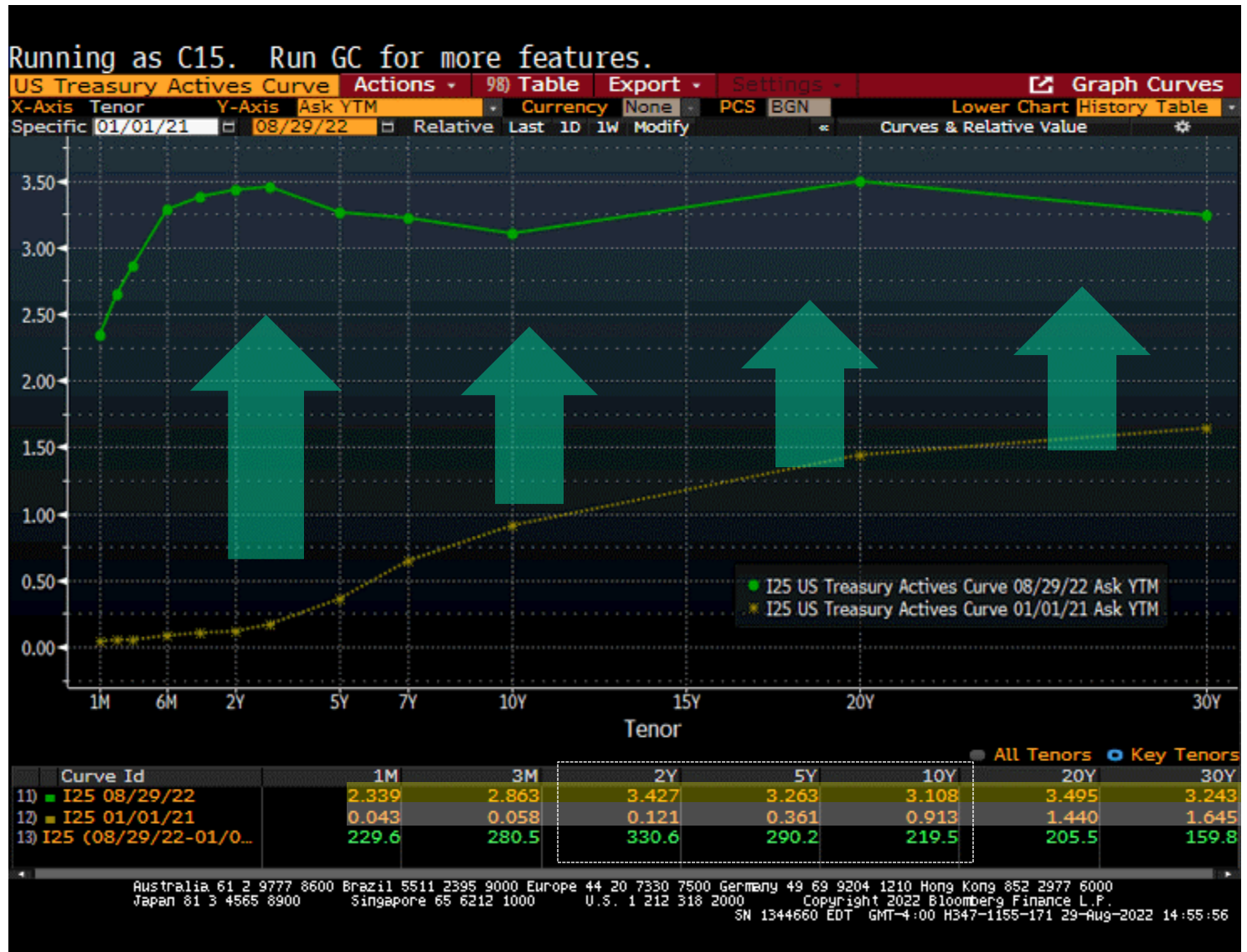
Source: Bloomberg

FED Funds (Upper-Bound)



Source: Bloomberg

Yield Curve Today Vs. JAN 2021



Source: Bloomberg

Interest-Rate Expectations From the FED

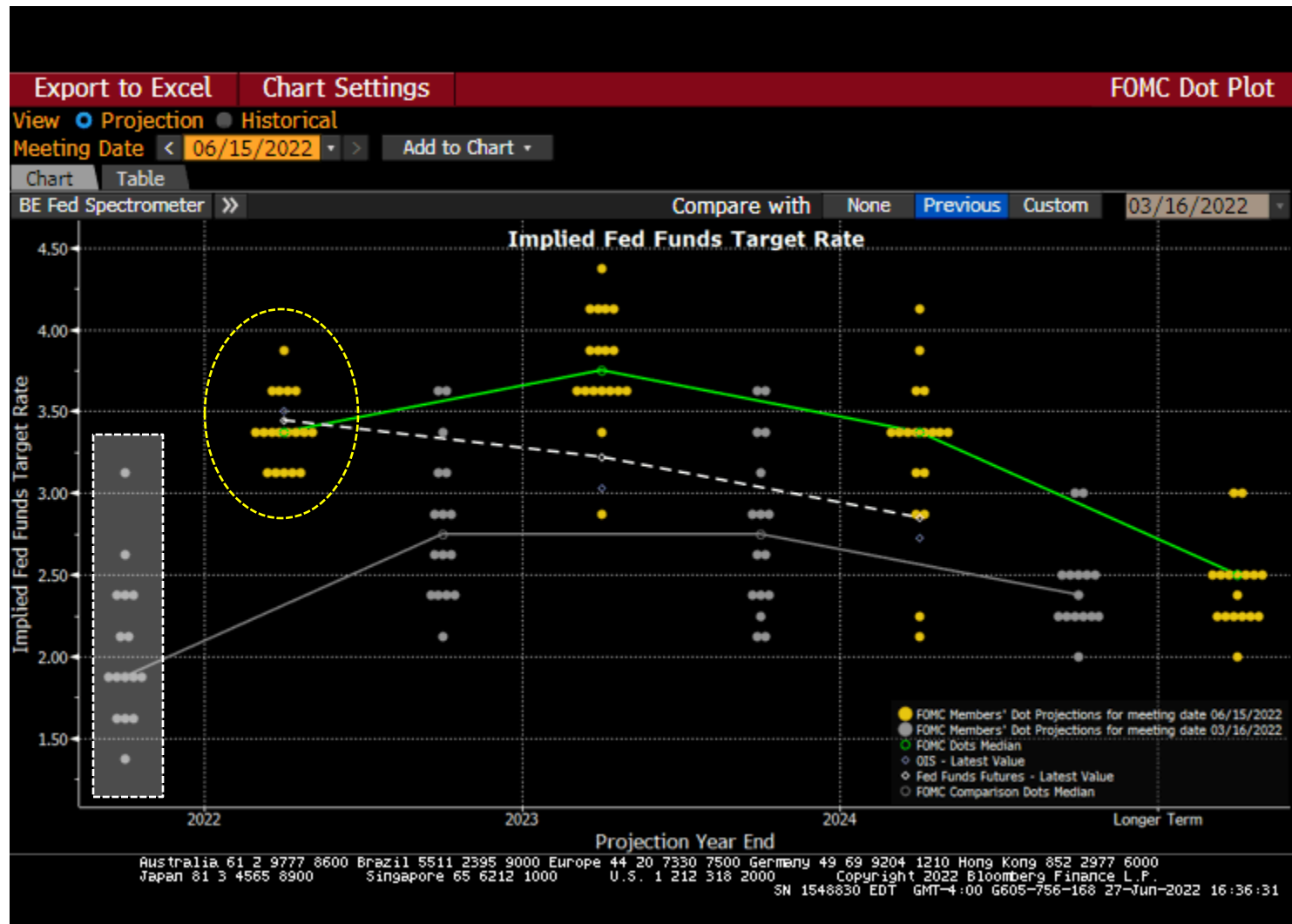
The JUNE 2022 DOT PLOT

indicates at least 100bps higher in Fed Funds from now...

FED FUNDS = 2.25%

- Y/E 2022 3.40%
- Y/E 2023 3.80%
- Y/E 2024 3.40%

The next Dot Plot will be released:
September 21st



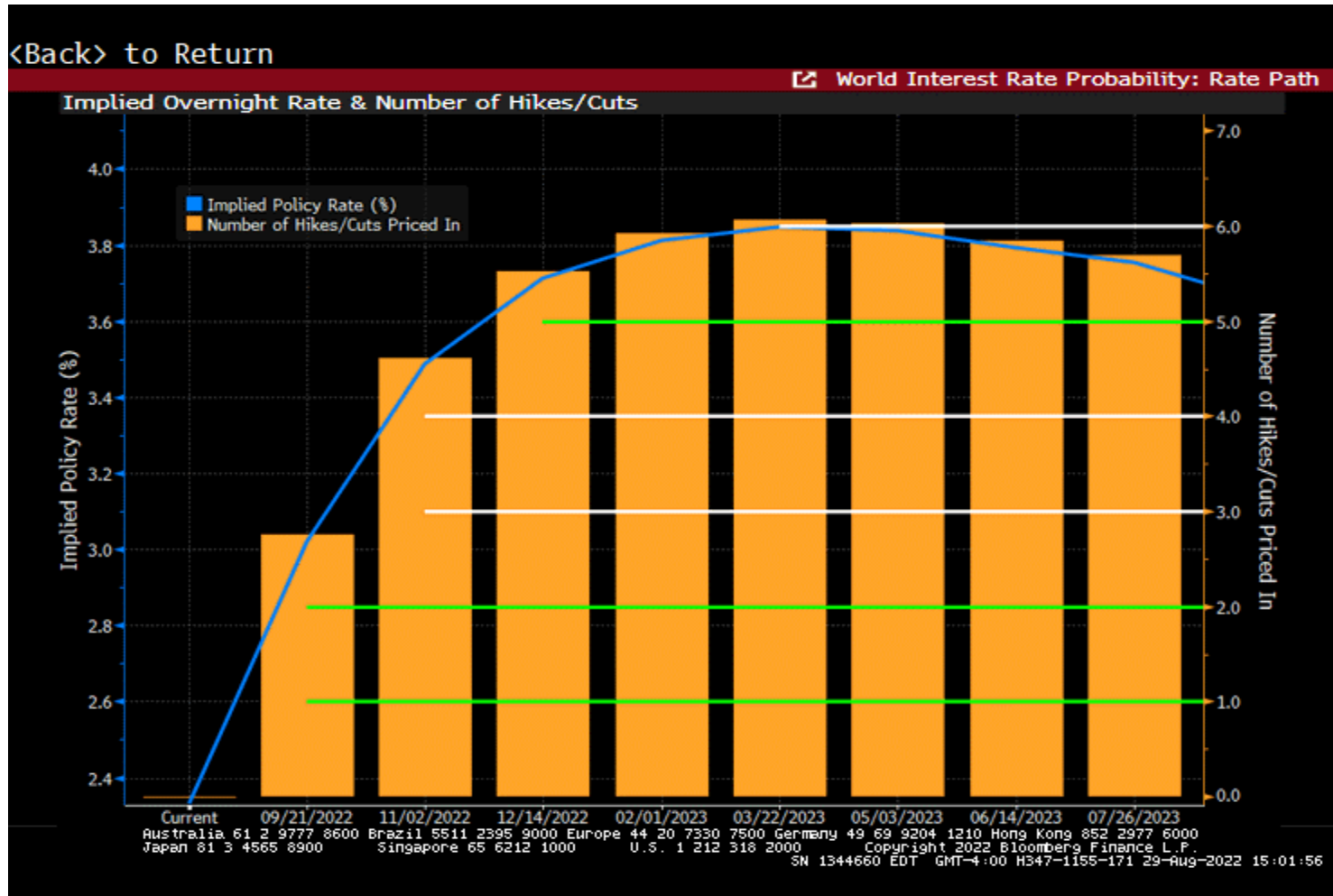
Source: Bloomberg

Bloomberg World Interest Rate Probability (WIRP)

SEP 2022 ~2.756 Rate Hike(s) priced in (Right Axis) | 3.02% Implied Rate (Left Axis)

DEC 2022 ~5.525 Rate Hike(s) priced in (Right Axis) | 3.713% Implied Rate (Left Axis)

***This graph can change daily depending on Fed Funds Futures activity*



Source: Bloomberg

The Economists are all over the place....

Current FED FUNDS Range is 2.25% - 2.50%

US Fed Higher Bound Rate at 3.25% by Nov. Meeting (Survey)

By Sarina Yoo

(Bloomberg) -- The following table shows economists' forecasts for the higher bound US overnight bank lending rate following each Federal Reserve meeting as surveyed by Bloomberg News from Aug. 5 to Aug. 10. All figures are as of the end of the quarter.

	Sep. 21	Nov. 2	Dec. 14	Feb. 1	Mar. 22	May 3	Jun. 14	Jul. 26	Sep. 20	Nov. 1
	2022	2022	2022	2023	2023	2023	2023	2023	2023	2023
# of replies	54	41	41	41	40	40	40	39	39	38
Median	3.00%	3.25%	3.50%	3.75%	3.75%	3.75%	3.75%	3.50%	3.50%	3.38%
Average	3.05%	3.36%	3.59%	3.68%	3.71%	3.70%	3.66%	3.58%	3.47%	3.33%
High Forecast	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%	5.00%	5.00%	5.00%	5.00%
Low Forecast	2.75%	2.75%	2.75%	2.75%	2.50%	2.50%	2.25%	2.25%	2.00%	2.00%
Previous median	3.00%	3.25%	3.50%	3.50%	3.75%	3.75%	3.50%	3.50%	3.50%	n/a
Change in median	0.00%	0.00%	0.00%	0.25%	0.00%	0.00%	0.25%	0.00%	0.00%	n/a

Source: Bloomberg



Source: Bloomberg

FED at a Crossroads?



Powell's Focus

The Federal Open Market Committee's (FOMC) overarching focus right now is to bring inflation back down to our 2 percent goal. Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy. Without price stability, the economy does not work for anyone. In

there will very likely be some softening of labor market conditions. While higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will also bring some pain to households and businesses. These are the unfortunate costs of reducing inflation. But a failure to restore price stability would mean far greater pain.

Restoring price stability will likely require maintaining a restrictive policy stance for some time. The historical record cautions strongly against prematurely loosening policy. Committee participants' most recent individual projections from the June SEP showed the median federal funds rate running slightly below 4 percent through the end of 2023. Participants will update their projections at the September meeting.

SECTION II

How are Rising Rates affecting my Credit Union?

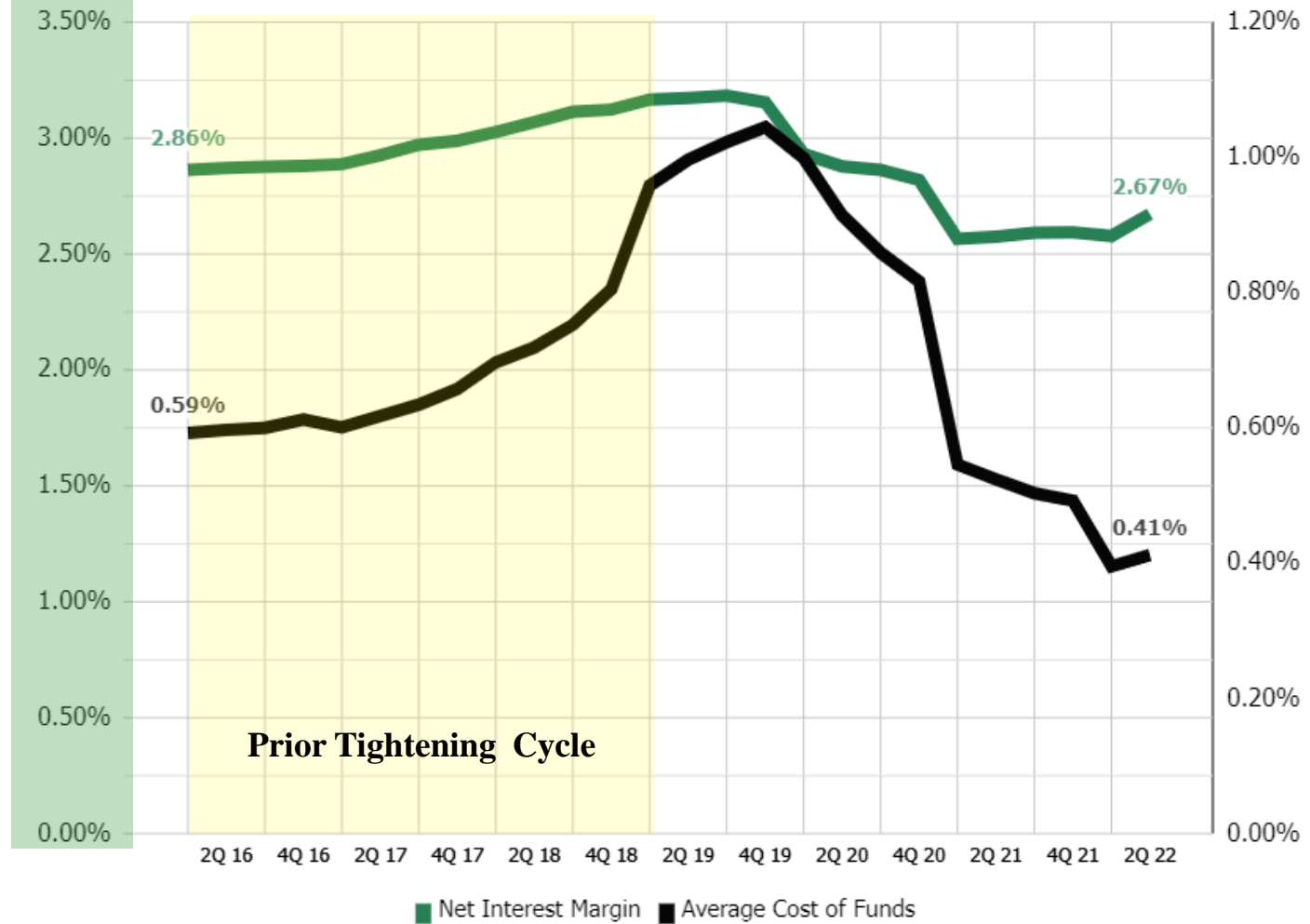
A Tightening Cycle can put pressure on Net-Interest Margin

Overview of the CU Balance Sheet

*Where is the Balance Sheet **Susceptible to Rising Rates?***

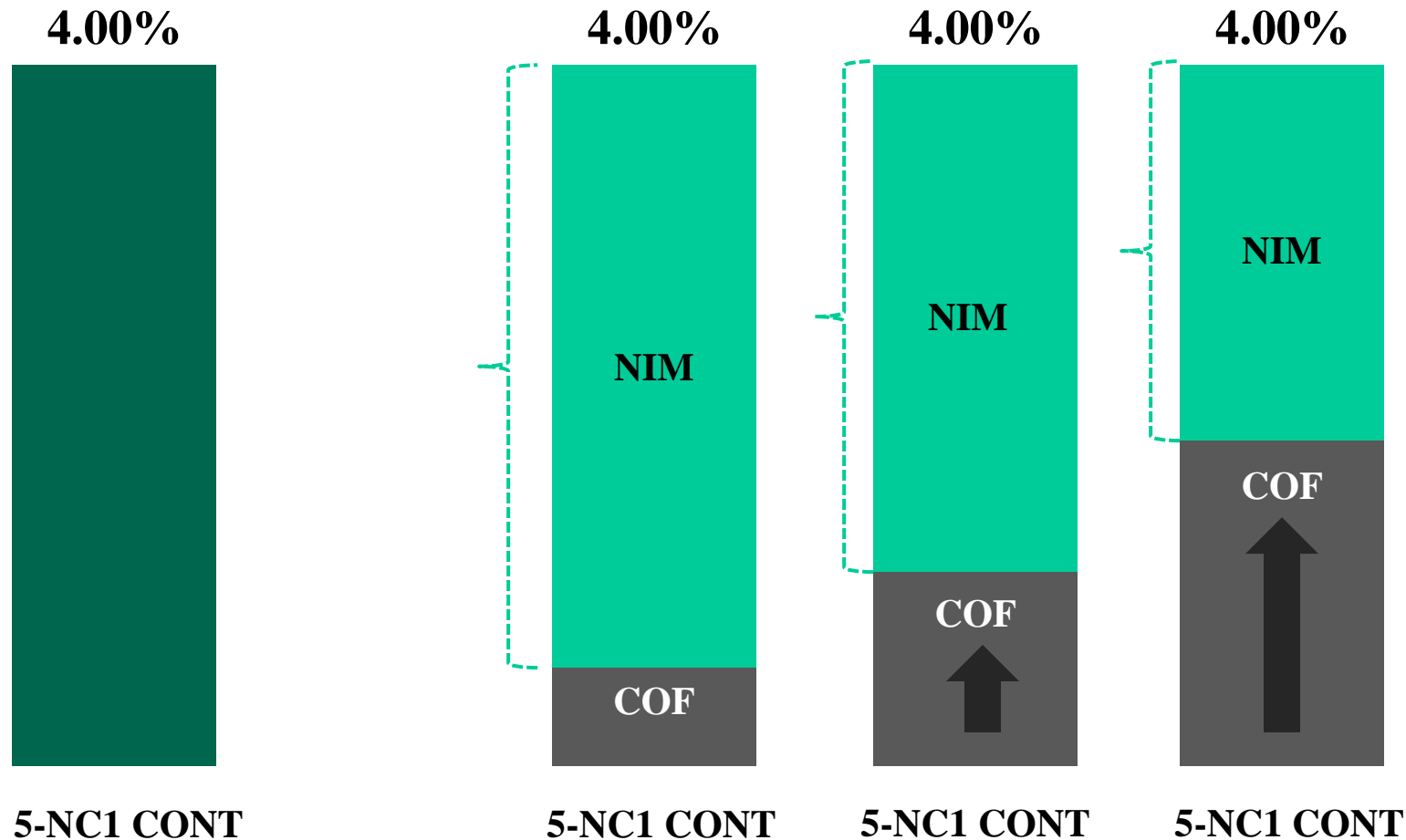
ASSETS (Interest Income)	LIABILITIES (Interest Expenses - COF)
LOANS:	
RE LOANS - FIXED-RATE (15YR-30YR) AUTO LOANS FIXED-RATE	SHARES SHARE DRAFTS SHARES MONEY MARKET
RE LOANS FLOATING RATE (HELOC's) CC LOANS Tied to PRIME	SHARES CERTIFICATES
INVESTMENTS:	
INVESTMENTS FIXED-RATE INVESTMENTS FLOATING-RATE	BORROWINGS FIXED-RATE BORROWINGS FLOATING-RATE

COF VS NiM - ALL CU \$100MM+



Source: Callahan & Associates

Example of How Margin Compression Works In A Rising Rate Environment

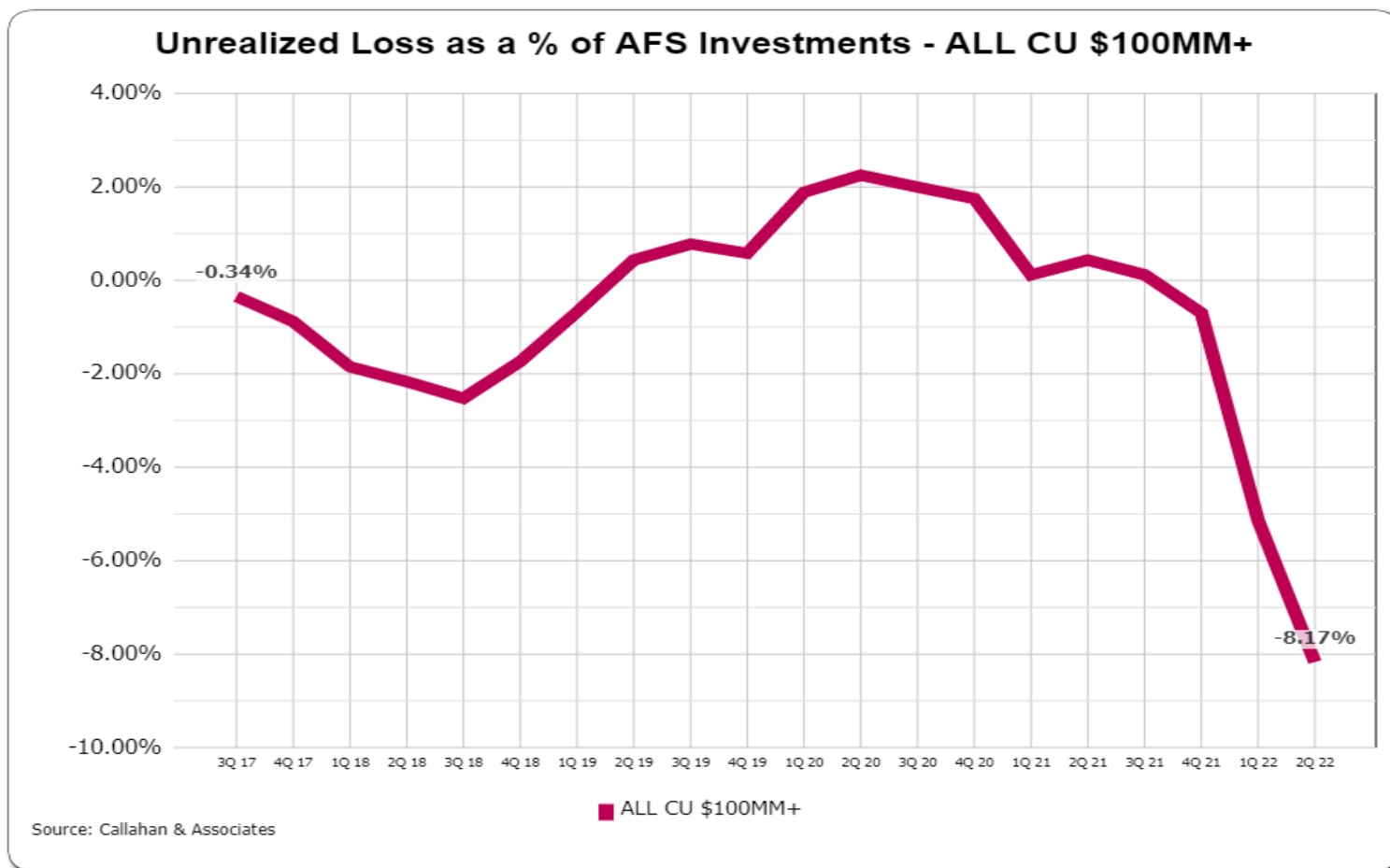


**Rising Interest Rates are causing
uncomfortable Unrealized Losses
in my AFS Investments**

=

Interest-Rate Risk

Managing Interest-Rate Risk



SECTION III

What can I do now...

Practical Application of an Investment Solution

Our two best Ideas...

Bond Market “Deli-Tray” (August 29th)

US TREASURY		CPN	MTY		YTM			M.DUR	+300 DVAL
2 YEAR		2.250	4/30/2024		3.395			-1.61	-4.82
5 YEAR		0.500	4/30/2027		3.310			-4.53	-13.60
10 YEAR		1.875	2/15/2032		3.121			-8.52	-25.56
30 YEAR		2.250	2/15/2052		3.294			-20.28	-60.83
AGCY BULLETS		CPN	MTY		YTM			M.DUR	+300 DVAL
2 YEAR		3.250	8/31/2024		3.421			-1.92	-5.76
3 YEAR		3.125	8/15/2025		3.444			-2.80	-8.39
5 YEAR		3.125	8/31/2027		3.260			-4.59	-13.77
10 YEAR		2.750	8/15/2032		3.108			-8.61	-25.84
INSURED BANK CD's			MTY	CALL	YTM			M.DUR	+300 DVAL
1 YEAR	KEY BANK NA	3.000	8/31/2023	Bullet	3.000			-1.00	-2.99
1.5 YEAR	MORGAN STANLEY PVT	3.100	3/1/2024	Bullet	3.100			-1.91	-5.74
3 YEAR	UBS BANK USA	3.400	9/2/2025	Bullet	3.400			-2.83	-8.50
5 YEAR	SYNCHRONY BANK	3.450	9/2/2027	Bullet	3.450			-4.57	-13.70
AGCY CALLABLES		CPN	MTY	Call Protection	YTM			M.DUR	+300 DVAL
2.1 YEAR	2-NC1 1X	3.700	9/19/2024	1.1 YRS	3.700			-1.93	-5.80
3.1 YEAR	3-NC1 BERM	4.000	9/22/2025	1.1 YRS	4.000			-2.84	-8.53
5 YEAR	5-NC3MO INC	4.400	8/25/2027	0.2 YRS	4.400			-4.44	-13.33
10 YEAR	10-NC6MO INC	5.000	9/1/2032	0.5 YRS	5.000			-7.89	-23.67
MBS		CPN	WAL WAL +300	WAC	BASE	-100	+300	M.DUR	+300 DVAL
15 YEAR	15YR MBS Pool	3.500	5.6 6.3	4.26	3.626	3.634	3.616	-4.83	-14.48
20 YEAR	20YR MBS Pool	3.500	7.7 8.4	4.34	3.872	3.899	3.846	-6.20	-18.60
20 YEAR	20YR MBS Pool	4.000	6.7 8.3	4.88	4.036	4.037	4.036	-5.46	-16.37
FIXED-RATE CMO		CPN	WAL BASE +300	WAC	BASE	40 CPR	+300	M.DUR	+300 DVAL
CMO	SEQ	2.500	3.2 4.2	4.66	3.828	8.593	3.523	-3.75	-11.25
SBA FLTR		CPN	WAL 0 7 V	WAC	OCPR	7CPR	+300	OAS DUR	+300 DVAL
25 YEAR	25-YR SBA Floater	5.075	15 8.6 6.9	5.08	3.850	3.000	6.600	-0.65	-1.95

For Illustrative Purpose Only

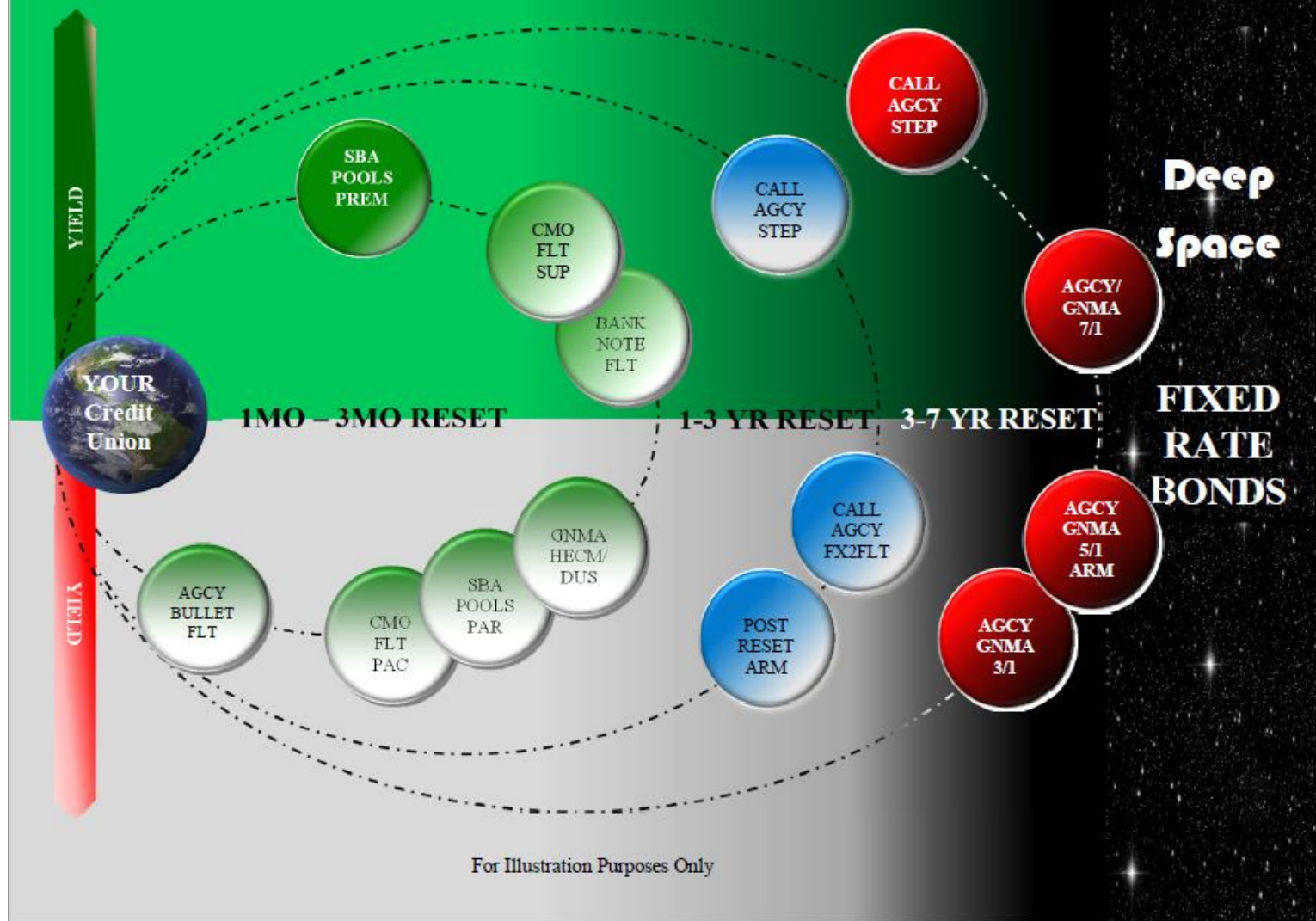
Source: Bloomberg



Practical Application of a Floating Rate Investment Strategy

Floating Rate SBA Pools

The Credit Union Universe of Floating Rate Securities



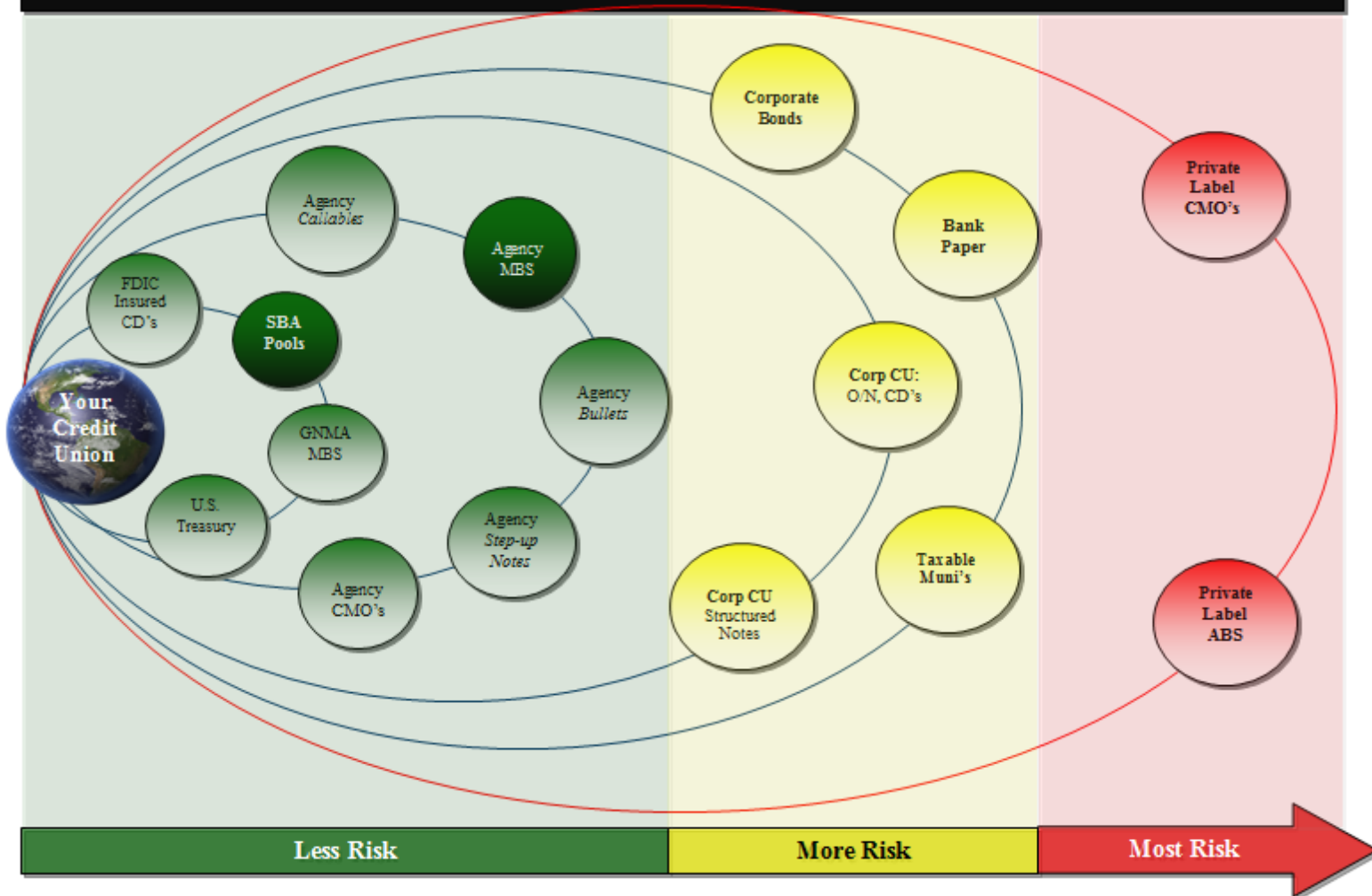
Single Best Risk/ Reward/ Quick Implementation Idea for 2022

Potential Benefits of Floating Rate SBA's in a Rising Rate Environment

Characteristics	Benefits
<ul style="list-style-type: none"> Coupon Resets Quarterly 	<ul style="list-style-type: none"> 4 Opportunities for the Floating Rate coupon to reset upward in 2022 and beyond = increased income Great ALM performer Classified in the “0-1YR” maturity bucket for 5300 purposes Typically < 3% +300 BP DVAL (0.75 -0.90 duration)
<ul style="list-style-type: none"> Tied to Prime 	<ul style="list-style-type: none"> The PRIME rate moves in a one to one correlation with Fed Funds
<ul style="list-style-type: none"> 100% Full Faith and Credit of the US Government 	<ul style="list-style-type: none"> Considered a 0% Risk-Based Asset for RBC calculation (JAN. 2022) Not subject to credit risk (losses/ ALLL) like member loans
<ul style="list-style-type: none"> Frequent Coupon Resets plus the Coupon is Uncapped 	<ul style="list-style-type: none"> Low IRR... No matter what happens with rates

The Credit Risk Spectrum

Will I Get My Money Back



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Risk-Based Capital Weightings

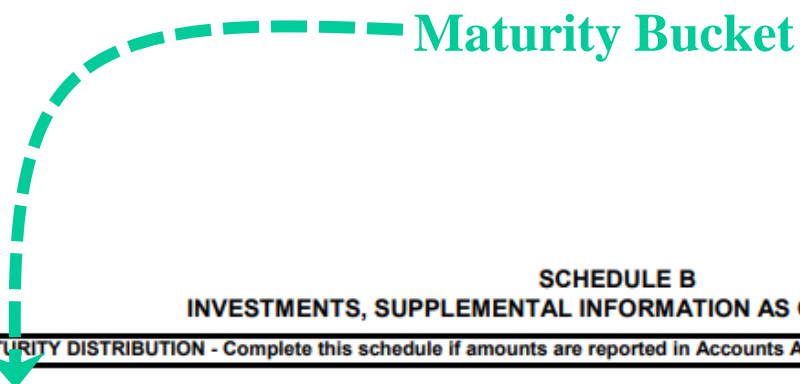


Risk-Based Capital Ratio: Risk Weights at a Glance

		Final 2015 NCUA Rule	Final FDIC	Comparable to FDIC Risk Weight?
Category	Sub-Category	Risk Weight	Risk Weight	(Yes/No)
Cash & Deposits				
	Cash, currency, coin	0%	0%	Y
	Cash on deposit on transaction account	n/a ²	n/a ²	n/a
	Cash items in process of collection	n/a ²	20%	n/a
	Balances due from Federal Reserve Banks	0%	0%	Y
	Insured deposits in U.S. federally insured depository institutions	0%	0%	Y
	Uninsured deposits in U.S. federally insured depository institutions	20%	20%	Y
² The rule accounts for deposits as insured or uninsured for risk-weight purposes.				
Investments				
	Corporate non-perpetual capital (<i>membership capital</i>)	100%	n/a	n/a
	Corporate perpetual capital (<i>paid-in capital</i>)	100% ³ or 150%	n/a	n/a
	Direct unconditional claims on U.S. government	0%	0%	Y
	Debt instruments issued by NCUA and FDIC	0%	0%	Y
	Central Liquidity Facility stock	0%	0%	Y
	Agency obligations	20%	20%	Y
	General obligation bonds issued by state or political subdivisions	20%	20%	Y
	Federal Home Loan Bank stock	20%	20%	Y
	Investment funds holding only 0% - 20% risk-weighted 703 permissible investments	20%	⁷	Y
	Agency and GSE MBS or ABS structured securities	20% ^{4,5}	20%	Y
Loans				
	Share-secured loans (deposits held in-house)	0%	0%	Y
	Share-secured loans (deposits held in another financial institution)	20%	20%	Y
	Government-guaranteed portion of loan balances	20%	20%	Y
	Current secured consumer loans	75%	100%	N

Source: "Risk-Based Capital Ratio: Risk Weights at a Glance"

SBA Floaters with monthly or quarterly resets go in the <=1 Year



SCHEDULE B INVESTMENTS, SUPPLEMENTAL INFORMATION AS OF: MARCH, 31 2022

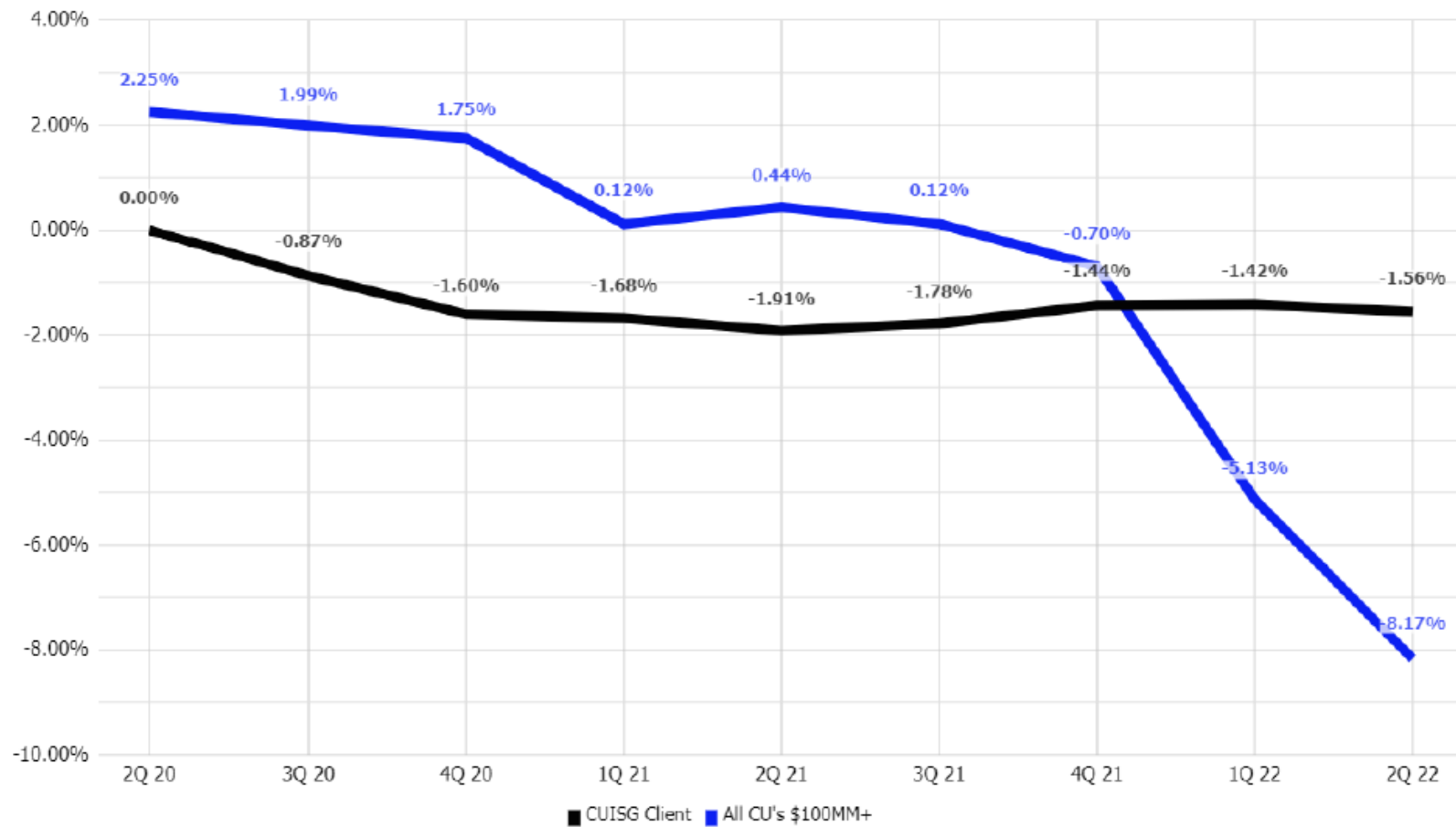
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SECTION 3 - INVESTMENT MATURITY DISTRIBUTION - Complete this schedule if amounts are reported in Accounts AS0007, AS0013 or AS0017 on page 1.

	<= 1 Year	Account	> 1-3 Years	Account	> 3-5 Years	Account	> 5-10 Years	Account	> 10 Years	Account	TOTAL AMOUNT	Account
1. Time Deposits	\$793,000	NV0111	\$1,192,000	NV0112	\$0	NV0113	\$0	NV0114	\$0	NV0115	\$1,985,000	NV0116
2. Equity Securities	\$0	AS0050	\$0	AS0051	\$0	AS0052	\$0	AS0053	\$0	AS0054	\$0	NV0122
3. Trading Debt Securities	\$0	AS0056	\$0	AS0057	\$0	AS0058	\$0	AS0059	\$0	AS0060	\$0	NV0128
4. Available-for-Sale Debt Securities	\$12,379,768	AS0062	\$19,865,042	AS0063	\$18,324,362	AS0064	\$53,166,411	AS0065	\$0	AS0066	\$103,735,583	NV0134
5. Held-to-Maturity Debt Securities	\$249,000	AS0068	\$496,000	AS0069	\$746,000	AS0070	\$2,541,745	AS0071	\$0	AS0072	\$4,032,745	NV0140
6. Other Investments	\$0	NV0141	\$808,202	NV0142	\$0	NV0143	\$0	NV0144	\$0	NV0145	\$808,202	NV0146
7. Total (Sum items 1 - 6)	\$13,421,768	NV0153	\$22,361,244	NV0154	\$19,070,362	NV0155	\$55,708,156	NV0156	\$0	NV0157	\$110,561,530	NV0158

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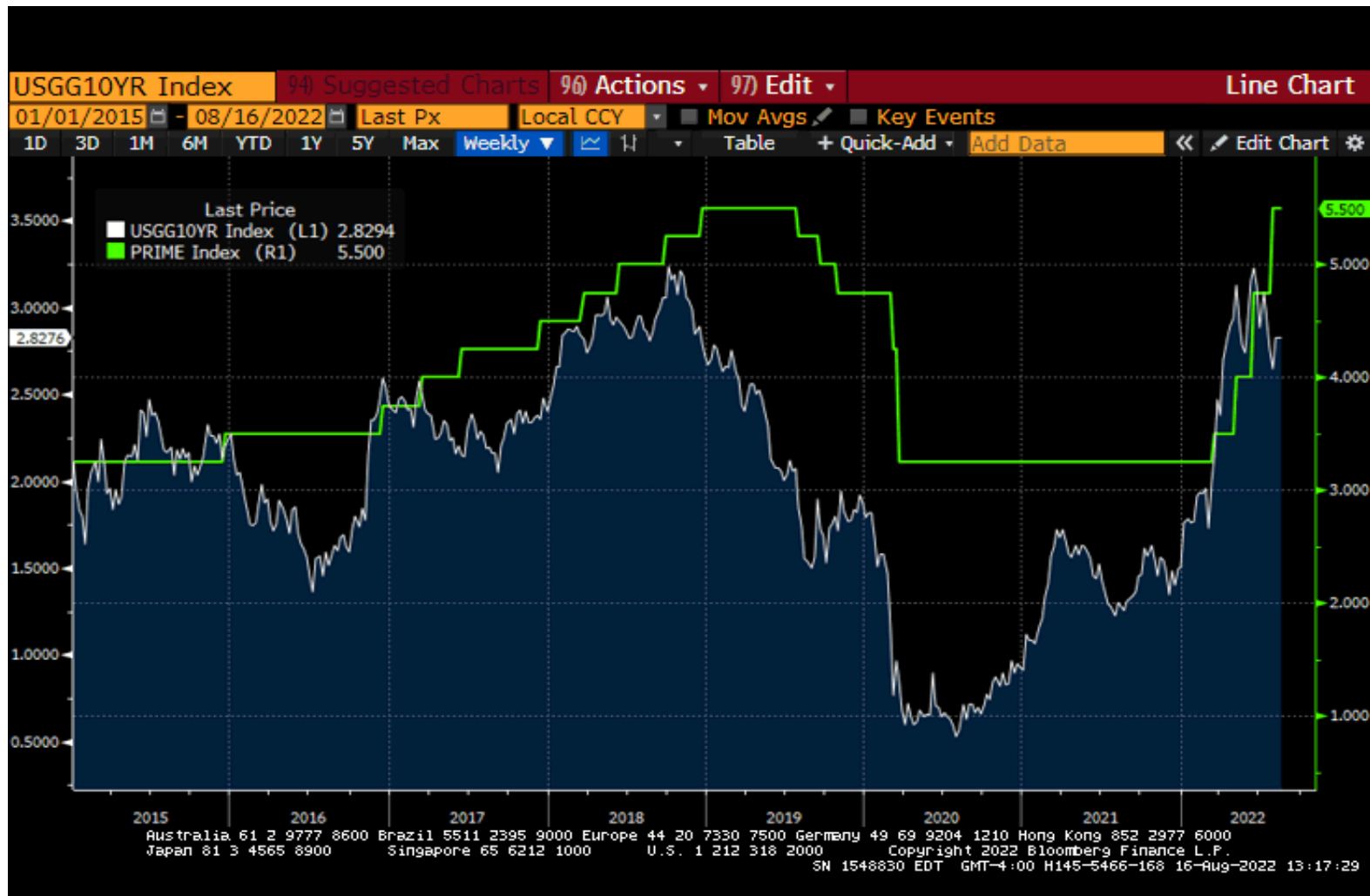
Gain or Loss on AFS/Total AFS



Source: Callahan & Associates

**CUISG Client with 37.65% of AFS in SBA FLT's

PRIME Rate Vs. 10YR UST Yield



Source: Bloomberg

Potential Benefits of Floating Rate SBA's in a Rising Rate Environment – *Sample SBA Floating Rate Pool*

Enter all values and hit <GO>

SBA 540070 Mtge		Actions	Export	Settings	Yield Table	
US POOL		5.265(302)1	CUSIP 8316A8CG6	Pool Level	As of 08/2022	
8/2022	OP	0.0C	B	Traits	WAC, Quarterly R...	Coupon
3Mo	--	--	--	07/01/2022	26,746,068	LTV/HLTV
6Mo	--	--	--	09/25/2022	26,703,671	MAXLS
12Mo	--	--	--	Factor	0.99841484	WACLS
Life	0	0.0	--	# Loans	30	PRIME
					+0.515%	Cap Flr
				Mths to Reset 2		
				PRIME-to-Yield		Current PRIME 5.5000
Settle	08/29/22	CF	CF	CF	CF	CF
Vary	50	0 CPR	5 CPR	7 CPR	10 CPR	12 CPR
C-150		3.208	2.684	2.451	2.080	1.820
C-100		3.673	3.139	2.903	2.527	2.264
C-50		4.138	3.595	3.355	2.974	2.707
PRIME	C	4.601	4.049	3.806	3.420	3.150
C+50		5.065	4.503	4.256	3.866	3.592
C+100		5.527	4.956	4.706	4.310	4.033
C+150		5.989	5.409	5.155	4.754	4.474
Avg Life		15.74	10.27	8.83	7.18	6.33
Spread Duration		10.12	7.49	6.72	5.78	5.27
Prin Win	Date	10/22-11/47	10/22-11/47	10/22-11/47	10/22-11/47	10/22-11/47
	Price	114-18	114-18	114-18	114-18	114-18
Aug22	Jul	Jun	May	Apr	Mar	Feb
OP	--	--	--	--	--	--
0.0C	--	--	--	--	--	--
				GOVT(I)	6M	1Y
				12:40	3.19	3.28
				Disc	30/360	7Y
					96-14	10Y
					96-29	

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 4565 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2022 Bloomberg Finance L.P.
SN 1548830 EDT GMT-4:00 H142-8685-171 24-Aug-2022 12:41:21

CPR VECTOR 12

0 CPR | 12MOS
7 CPR | 12MOS
18 CPR | 12MOS
30 CPR | 36MOS
18 CPR | 12MOS
15 CPR | 12MOS
8 CPR...

CPR VECTOR 13

0 CPR | 12MOS
8 CPR | 12MOS
20 CPR | 24MOS
30 CPR | 48MOS
25 CPR | 12MOS
18 CPR | 12MOS
15 CPR | 12MOS
10 CPR...

Source: Bloomberg

Example of a Floating Rate SBA Strategy Implemented in 2021

Coupon Reset: **UP** **DOWN**

Purchase Date	Pool	Current Face	Original Face	Coupon	Issue Date	Maturity Date	Current Original Loans	1M CPR	Mar-22		Apr-22		May-22		Jun-22		Jul-22		2022 Income	
									Interest Accrual	Amort. Exp	Interest Accrual	Amort. Exp	Interest Accrual	Amort. Exp	Interest Accrual	Amort. Exp	Interest Accrual	Amort. Exp	Dollars	Return
12/16/2021	SBA 540008	730,410	750,000	5.128	11/1/2021	10/25/2046	40 41	0.0	2,250	-956	2,400	-902	2,395	-892	2,390	-891	3,127	-1,862	9,788	2.263%
12/16/2021	SBA 540017	736,740	750,000	5.284	11/1/2021	12/25/2046	33 33	0.0	2,346	-927	2,496	-875	2,491	-865	2,486	-865	3,250	-814	11,696	2.700%
2/25/2022	SBA 530084	489,729	500,000	5.575	2/1/2022	2/25/2047	57 57	0.0	1,678	-1,555	1,778	-607	1,775	-601	1,771	-601	2,279	-565	5,634	2.651%
2/16/2022	SBA 540031	493,192	500,000	5.260	1/1/2022	2/25/2047	34 34	0.0	1,560	-627	1,661	-592	1,657	-585	1,654	-585	2,165	-550	6,361	2.812%
12/30/2021	SBA 540020	735,538	750,000	6.170	12/1/2021	3/25/2047	84 85	0.0	2,902	-1,023	3,053	-964	3,047	-954	3,042	-955	3,787	-1,731	14,122	3.253%
2/16/2022	SBA 540034	493,316	500,000	5.242	1/1/2022	6/25/2047	33 33	0.0	1,553	-594	1,653	-560	1,650	-554	1,647	-554	2,159	-520	6,487	2.868%
6/29/2022	SBA 530152	498,169	500,000	5.075	6/1/2022	7/25/2047	40 40	0.0	NA	NA	NA	NA	NA	NA	106	-22	2,110	-451	1,743	4.052%
4,177,094								0.00	12,290	-5,682	13,040	-4,500	13,015	-4,452	13,097	-4,473	18,877	-6,493	55,830	

Source: Bloomberg, FCU

Current Face Amount
Annualized Rate of Return
*Balance adjusted for partial month holding period of new purchases
Weighted Average 1MO CPR

3,724,046	3,716,656	3,709,502	3,722,853	4,183,944	2.793%
2.129%	2.758%	2.770%	2.780%	3.552%	
1.44	0.00	0.00	0.00	2.79	0.710

For Illustrative Purpose Only

The Potential Impact of Rising Rates on Coupon Income

25,000,000

Assumes the current SBA portfolio balance is maintained

Current PRIME rate = 5.50%

2022		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
25BP HIKE 3/16	0.25%	0	0	0	5,208	5,208	5,208	5,208	5,208	5,208	5,208	5,208	5,208
25BP HIKE 5/4	1.25%	0	0	0	0	0	0	26,042	26,042	26,042	26,042	26,042	26,042
25BP HIKE 5/4													
25BP HIKE 6/15													
25BP HIKE 6/15													
25BP HIKE 6/15	0.75%	0	0	0	0	0	0	0	0	0	15,625	15,625	15,625
25BP 7/27													
25BP 7/27													
25BP 7/27													
25BP HIKE 1	0.25%	0	0	0	0	0	0	0	0	0	5,208	5,208	5,208
25BP HIKE 2	0.25%	0	0	0	0	0	0	0	0	0	5,208	5,208	5,208
25BP HIKE 3	0.25%	0	0	0	0	0	0	0	0	0	0	0	0
25BP HIKE 4	0.25%	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	5,208	5,208	5,208	31,250	31,250	31,250	57,292	57,292	57,292

Total Potential Incremental Coupon Income for 2022 281,250

For Illustrative Purpose Only

Actual interest accrual can be impacted by changes in the PAR balance caused by transactions and/or principal paydowns. The potential timing of those hikes would result in coupon resets on the first day of JUL 22, OCT 22 & JAN 23.



Incremental Coupon Income Potential with Quarterly Reset

HIKES	1,000,000	2,500,000	5,000,000	7,500,000	10,000,000	15,000,000	20,000,000	25,000,000
0.25%	2,500	6,250	12,500	18,750	25,000	37,500	50,000	62,500
0.50%	5,000	12,500	25,000	37,500	50,000	75,000	100,000	125,000
0.75%	7,500	18,750	37,500	56,250	75,000	112,500	150,000	187,500
1.00%	10,000	25,000	50,000	75,000	100,000	150,000	200,000	250,000
1.25%	12,500	31,250	62,500	93,750	125,000	187,500	250,000	312,500
1.50%	15,000	37,500	75,000	112,500	150,000	225,000	300,000	375,000
1.75%	17,500	43,750	87,500	131,250	175,000	262,500	350,000	437,500
2.00%	20,000	50,000	100,000	150,000	200,000	300,000	400,000	500,000
2.25%	22,500	56,250	112,500	168,750	225,000	337,500	450,000	562,500
2.50%	25,000	62,500	125,000	187,500	250,000	375,000	500,000	625,000
2.75%	27,500	68,750	137,500	206,250	275,000	412,500	550,000	687,500
3.00%	30,000	75,000	150,000	225,000	300,000	450,000	600,000	750,000
3.25%	32,500	81,250	162,500	243,750	325,000	487,500	650,000	812,500
3.50%	35,000	87,500	175,000	262,500	350,000	525,000	700,000	875,000
3.75%	37,500	93,750	187,500	281,250	375,000	562,500	750,000	937,500
4.00%	40,000	100,000	200,000	300,000	400,000	600,000	800,000	1,000,000

For Illustrative Purpose Only

Actual interest accrual can be impacted by changes in the PAR balance caused by transactions and/or principal paydowns.
The potential timing of those hikes would result in coupon resets on the first day of JUL 22, OCT 22 & JAN 23

Practical Application of a Fixed Rate Investment Strategy

Discounted, Well-Structured CMO's

This strategy seeks to provide cash flow relief in the event that yields continue to rise from their current level. Some structures are designed to continue paying monthly principal as consistently as possible even if overall prepayments slow.

Conversely, the strategy has the potential to provide strong out-performance in the event that rates go lower from here. Increased prepayments will result in the acceleration of accretion which could have a significant positive impact on return.

Yield Table – Bloomberg Median

FNR 22-22 HA Mtge				Actions	Export	Settings	Yield Table													
69% FNCL 3.9 N				4.657(334)23		CUSIP 3136BMK64	Pool Level	As of 08/2022												
8/2022	255P	9.9C	0.8B	Traits	EXCH,AD,SEQ	Coupon	2.5%	Maturity	3/25/43	CA	21%	2022	18%							
3Mo	394	14.8	2.9	04/29/2022	18,278,000	LTV/HLTV	84/71	Accrual	8/1-8/31	NY	19%	2021	28%							
6Mo	--	--	--	08/25/2022	17,368,865	MAXLS	1,326,000	Next Pay	9/25/22	FL	7%	2020	14%							
12Mo	--	--	--	Factor	0.9502607	WACLS	426,419	Collar	No Band	WA	6%	2019	31%							
Life	454	16.9	--	# Loans	7,181															
1) Price-to-Yield																				
Settle	08/25/22	+300 MED	+200 MED	+100 MED	0 MED	-100 MED	-200 MED	-300 MED												
Vary	0	98 PSA	103 PSA	119 PSA	155 PSA	375 PSA	790 PSA	1415 PSA												
Price	95-31	3.566	3.597	3.694	3.910	5.115	7.086	10.346												
Avg Life		4.09	3.97	3.62	3.03	1.59	0.90	0.53												
Mod Duration		3.71	3.60	3.30	2.79	1.50	0.85	0.49												
Prin Win		9/22-3/31	9/22-12/30	9/22-3/30	9/22-12/28	9/22-9/25	9/22-4/24	9/22-8/23												
I Spread		32	34	41	57	182	383	718												
Aug22	Jul	Jun	May	Apr	Mar	Feb	Jan	Dec	Nov	Oct	Sep	GOVT(I)	6M	1Y	2Y	3Y	5Y	7Y	10Y	30Y
255P	300	621	634	--	--	--	--	--	--	--	--	16:55	3.15	3.27	3.31	3.35	3.16	3.11	3.02	3.23
9.9C	11.3	22.8	22.7	--	--	--	--	--	--	--	--	Disc	30/360	3Y	99-11 ³ / ₄	5Y	98-04 ⁺			
Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000																				
Japan 81 3 4565 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2022 Bloomberg Finance L.P.																				
SN 1548830 EDT GMT-4:00 G934-7661-164 22-Aug-2022 16:56:14																				

Source: Bloomberg

Yield Table – CPR Ramp

Enter all values and hit <GO>

FNR 22-22 HA Mtge				Actions	Export	Settings	Yield Table													
69% FNCL 3.9 N				4.657(334)23		CUSIP	3136BMK64	Pool Level		As of 08/2022										
8/2022	255P	9.9C	0.8B	Traits	EXCH,AD,SEQ	Coupon	2.5%	Maturity	3/25/43	CA	21%	2022	18%							
3Mo	394	14.8	2.9	04/29/2022	18,278,000	LTV/HLTV	84/71	Accrual	8/1-8/31	NY	19%	2021	28%							
6Mo	--	--	--	08/25/2022	17,368,865	MAXLS	1,326,000	Next Pay	9/25/22	FL	7%	2020	14%							
12Mo	--	--	--	Factor	0.9502607	WACLS	426,419	Collar	No Band	WA	6%	2019	31%							
Life	454	16.9	--	# Loans	7,181															
1) Price-to-Yield																				
Settle	08/25/22			CF	CF	CF	CF	CF	CF	CF	CF	CF	CF							
Vary	0	6 CPR	9.9 CPR	15 CPR	18 CPR	20 CPR	30 CPR	40 CPR												
Price	95-31	3.671	4.183	4.891	5.326	5.623	7.209	8.990												
Avg Life		3.71	2.52	1.75	1.48	1.33	0.88	0.64												
Mod Duration		3.36	2.33	1.63	1.38	1.25	0.82	0.59												
Prin Win		9/22-10/30	9/22-3/28	9/22-7/26	9/22-11/25	9/22-8/25	9/22-7/24	9/22-1/24												
I Spread		39	85	159	204	234	396	580												
Aug22	Jul	Jun	May	Apr	Mar	Feb	Jan	Dec	Nov	Oct	Sep	GOVT(1)	6M	1Y	2Y	3Y	5Y	7Y	10Y	30Y
255P	300	621	634	--	--	--	--	--	--	--	--	16:55	3.15	3.27	3.31	3.35	3.16	3.11	3.02	3.23
9.9C	11.3	22.8	22.7	--	--	--	--	--	--	--	--	Disc 30/360	1Y	3.15	2Y	99-13+				
Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000 Japan 81 3 4565 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2022 Bloomberg Finance L.P. SN 1548830 EDT GMT-4:00 6934-7661-164 22-Aug-2022 16:56:53																				

Source: Bloomberg

Cash Flow Projection – MED PSA

Enter all values and hit <GO>

FNR 22-22 HA Mtge				Actions	Export	Settings	Yield Table													
69% FNCL 3.9 N				4.657(334)23		CUSIP 3136BMK64		Pool Level		As of 07/2022										
8/2022	255P	9.9C	0.8B	Traits	EXCH,AD,SEQ	Coupon	2.5%	Maturity	3/25/43	CA	21%	2022	18%							
3Mo	394	14.8	2.9	04/29/2022	18,278,000	LTV/HLTV	84/71	Accrual	8/1-8/31	NY	19%	2021	28%							
6Mo	--	--	--	07/25/2022	17,368,865	MAXLS	1,326,000	Next Pay	9/25/22	FL	7%	2020	14%							
12Mo	--	--	--	Factor	0.96747012	WACLS	426,419	Collar	No Band	WA	6%	2019	31%							
Life	454	16.9	--	# Loans	7,181															
1) Price-to-Yield				Cashflows		3) Table		3) Graph		3) Close Report										
1) Bond Flow				1) Collateral Flow		1) Group Flow														
Orig Bal		18,278,000 USD		Your Orig Bal		5,000,000														
Prev Bal		17,368,865		Your Prev Bal		4,751,303														
Accrued 0.1250 for 18 days, Start 08/01/22, Delay 24, WAL 2.573																				
Show precise amount				Annually																
Dates		Balance		Principal		Interest		Cashflow		Coupon										
Totals				4,751,303		303,692		5,054,995												
1.	08/25/2023	3,915,397		835,907		109,876		945,783		2.500										
2.	08/25/2024	2,832,580		1,082,816		85,751		1,168,567		2.500										
3.	08/25/2025	1,808,942		1,023,638		58,787		1,082,425		2.500										
4.	08/25/2026	920,103		888,839		34,779		923,618		2.500										
5.	08/25/2027	148,908		771,195		13,939		785,134		2.500										
6.	11/25/2027	0		148,908		561		149,469		2.500										
Aug22	Jul	Jun	May	Apr	Mar	Feb	Jan	Dec	Nov	Oct	Sep	GOVT(I)	6M	1Y	2Y	3Y	5Y	7Y	10Y	30Y
255P	300	621	634	--	--	--	--	--	--	--	--	14:24	3.09	3.24	3.25	3.20	2.96	2.91	2.83	3.11
9.9C	11.3	22.8	22.7	--	--	--	--	--	--	--	--	Disc	30/360	2Y	99-16 ³ / ₄	3Y	99-25 ⁺ / ₄			
Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000																				
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Source: Bloomberg

Cash Flow Projection – +300 PSA

Enter all values and hit <GO>

FNR 22-22 HA Mtge				Actions	Export	Settings	Yield Table													
69% FNCL 3.9 N				4.657(334)23		CUSIP 3136BMK64		Pool Level		As of 07/2022										
8/2022	255P	9.9C	0.8B	Traits	EXCH,AD,SEQ	Coupon	2.5%	Maturity	3/25/43	CA	21%	2022	18%							
3Mo	394	14.8	2.9	04/29/2022	18,278,000	LTV/HLTV	84/71	Accrual	8/1-8/31	NY	19%	2021	28%							
6Mo	--	--	--	07/25/2022	17,368,865	MAXLS	1,326,000	Next Pay	9/25/22	FL	7%	2020	14%							
12Mo	--	--	--	Factor	0.96747012	WACLS	426,419	Collar	No Band	WA	6%	2019	31%							
Life	454	16.9	--	# Loans	7,181															
1) Price-to-Yield				Cashflows		3) Table		3) Graph		3) Close Report										
11) Bond Flow				12) Collateral Flow				13) Group Flow												
Orig Bal		18,278,000 USD		Your Orig Bal		5,000,000														
Prev Bal		17,368,865		Your Prev Bal		4,751,303														
Accrued 0.1250 for 18 days, Start 08/01/22, Delay 24, WAL 4.081																				
Show precise amount				Annually																
Dates		Balance		Principal		Interest		Cashflow		Coupon										
Totals				4,751,303		482,724		5,234,027												
1.	08/25/2023	4,232,878		518,425		113,206		631,631		2.500										
2.	08/25/2024	3,569,951		662,927		98,422		761,349		2.500										
3.	08/25/2025	2,908,102		661,849		81,570		743,419		2.500										
4.	08/25/2026	2,290,773		617,329		65,540		682,868		2.500										
5.	08/25/2027	1,715,171		575,603		50,590		626,193		2.500										
6.	08/25/2028	1,178,670		536,501		36,654		573,155		2.500										
7.	08/25/2029	678,806		499,864		23,666		523,529		2.500										
8.	08/25/2030	213,290		465,516		11,567		477,084		2.500										
9.	02/25/2031	0		213,290		1,509		214,799		2.500										
Aug22	Jul	Jun	May	Apr	Mar	Feb	Jan	Dec	Nov	Oct	Sep	GOVT(I)	6M	1Y	2Y	3Y	5Y	7Y	10Y	30Y
255P	300	621	634	--	--	--	--	--	--	--	--	14:24	3.09	3.24	3.25	3.20	2.96	2.91	2.83	3.11
9.9C	11.3	22.8	22.7	--	--	--	--	--	--	--	--	Disc	30/360	2Y	99-16 ³ / ₄	3Y	99-25+			
Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000																				
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Source: Bloomberg

Common Roadblock



I like everything you presented but I have no liquidity...

Potential Solution:

Have you considered a leveraged strategy before?

Want to Learn More?

For a full description or further
details on these topics –

Please call or email...

Kevin Lynch, Managing Director

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The Credit Union Investment Strategy Group of Oppenheimer & Co. Inc.

The Credit Union Investment Strategy Group

Credit Union Team w/ over 100 years Combined Experience

- Fixed Income Professionals (9 person Team) – Offering full service regulatory reporting and 3rd party bond accounting service
- Team works with credit unions across the country - Providing on-site visits with management and the Board regarding their investment portfolio / Provides ongoing investment education to management and the Board

Investment Yield

- Focusing on Investment Yield can make a critical difference in the portfolio
- Innovative Investment Strategies – We act as a strategic partner with our clients, who commit to a once per month strategy call. No constant solicitations via email/phone.
- Addressing Investment Portfolio Yield has put some CU's in the top tier for their respective state, as captured by NCUA.gov. (public data)

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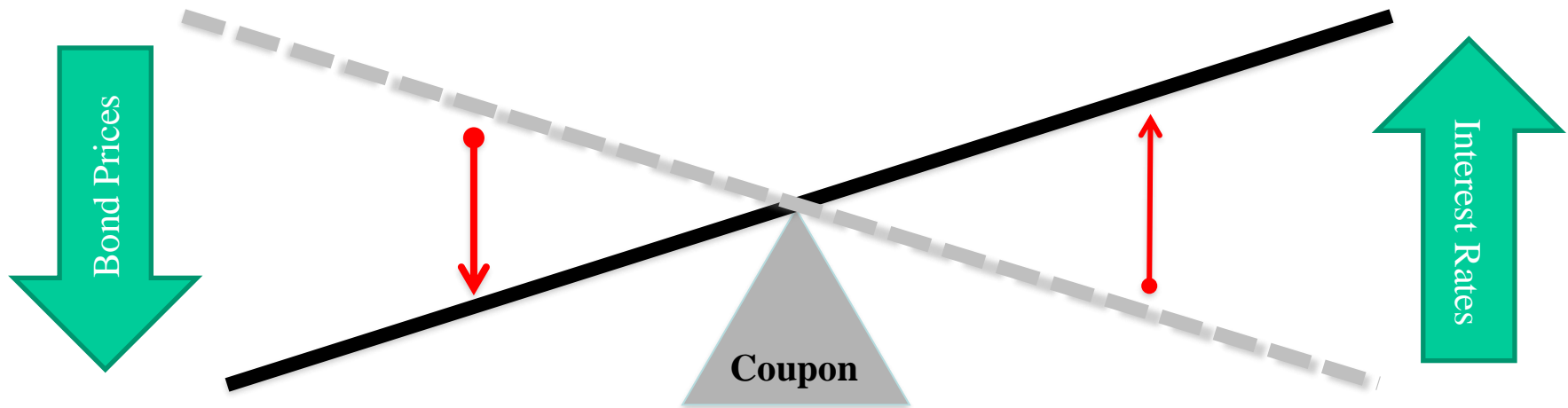
- Portfolio Management
- New Business Development
- Risk Management Strategies
- Coordinate with Directors



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- Credit Union League Outreach-Sponsorship / Speaking
- Ongoing Client & Prospect Communication

A Basic Understanding of How Devaluation (Market Value Decline) Works with **Fixed** Rate Investments



The Bond Devaluation “Teeter Totter”

Modified Duration is the approximate percent change in a bond’s price for a 100 BP change in yield assuming that the bond’s cash does not change when yields change.

(Fabozzi, F. J., & Wickard, M. B. (1997). Measuring Interest Rate Risk. In *Credit Union Investment Management* (pp. 186–186). essay, Frank J. Fabozzi Associates.)

Example of the Impact of Coupon on Price

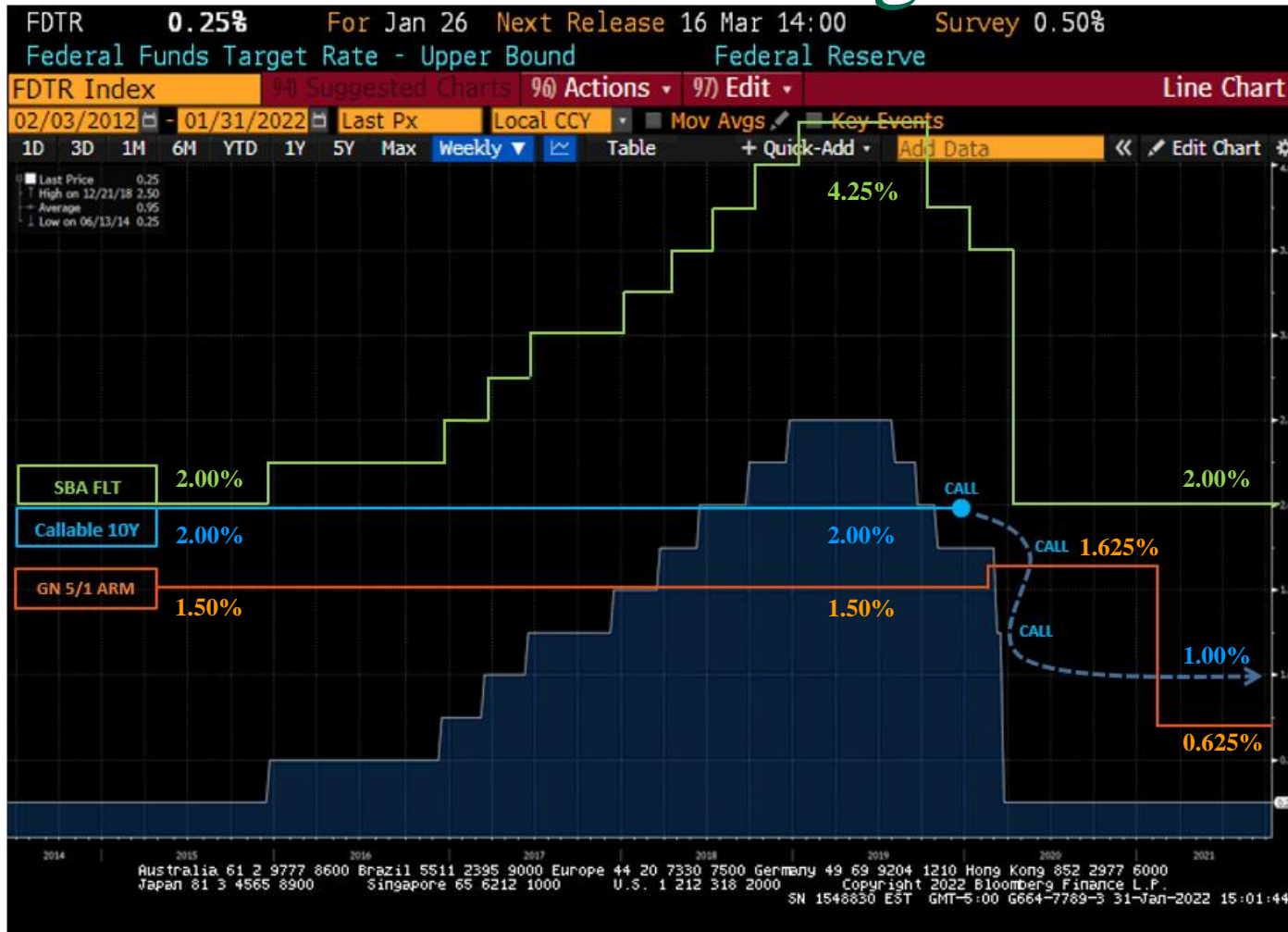
US Treasury Bonds | 15YR+

United States				1) Actions		3) Settings		Fixed Income Trading	
16:34 Outright Switch Bfly									
4) Actives 5) Bills 6) Notes 7) TIPS 8) Strips 9) Sprds 10) Curves 11) FRN 12) Bfly 13) WI									
21) T/0-1 22) T/1-2 23) T/2-4 24) T/4-7 25) T/7-10 26) T/10-30									
31) 4 1/2 236	116-12 / 116-20+	2.990	- 20+	68) 3 1/8 844	92-24 / 92-30	3.592	- 16+		
32) 4 3/4 237	119-17+ / 119-24+	3.051	- 22+	69) 3 N44	90-21+ / 90-27+	3.601	- 18		
33) 5 537	122-14+ / 122-20+	3.076	- 24	70) 2 1/2 245	82-28+ / 83-03	3.604	- 16+		
34) 4 3/8 238	115-07 / 115-16+	3.105	- 21	71) 3 545	90-20 / 90-26+	3.594	- 17		
35) 4 1/2 538	116-23 / 117-01	3.121	- 22	72) 2 7/8 845	88-22 / 88-28	3.590	- 17+		
36) 3 1/2 239	103-13+ / 103-23+	3.206	- 21	73) 3 N45	90-24 / 90-30	3.578	- 17+		
37) 4 1/4 539	113-05+ / 113-16	3.201	- 22+	74) 2 1/2 246	82-20+ / 82-26+	3.588	- 16		
38) 4 1/2 839	116-15+ / 116-27	3.206	- 22+	75) 2 1/2 546	82-19+ / 82-25+	3.582	- 16+		
39) 4 3/8 N39	114-17+ / 114-29	3.239	- 21	76) 2 1/4 846	78-15+ / 78-21+	3.583	- 16+		
40) 4 5/8 240	117-30+ / 118-09+	3.245	- 22	77) 2 7/8 N46	88-26+ / 88-31+	3.557	- 18		
41) 4 3/8 540	114-06 / 114-15+	3.290	- 22	78) 3 247	90-30+ / 91-03	3.547	- 18		
42) 1 1/8 540	68-11 / 68-15+	3.532	- 17	79) 3 547	91-02 / 91-06+	3.536	- 18+		
43) 3 7/8 840	106-20 / 106-29	3.360	- 20+	80) 2 3/4 847	87-03+ / 87-07	3.524	- 17		
44) 1 1/8 840	67-25 / 67-29+	3.555	- 14+	81) 2 3/4 N47	87-07 / 87-10	3.512	- 17+		
45) 4 1/4 N40	111-28+ / 112-05+	3.352	- 21+	82) 3 248	91-26 / 91-29+	3.481	- 17+		
46) 1 3/8 N40	70-18 / 70-22	3.578	- 15+	83) 3 1/8 548	94-11 / 94-14	3.453	- 19+		
47) 1 7/8 241	77-00 / 77-04+	3.576	- 16	84) 3 848	92-10 / 92-13+	3.444	- 19+		
48) 4 3/4 241	119-08+ / 119-18	3.324	- 22	85) 3 3/8 N48	99-09+ / 99-12+	3.410	- 21		
49) 2 1/4 541	82-00+ / 82-05	3.564	- 17+	86) 3 249	93-04+ / 93-08	3.388	- 20+		
50) 4 3/8 541	113-13+ / 113-22+	3.381	- 20+	87) 2 7/8 549	91-03 / 91-07	3.376	- 19+		
51) 1 3/4 841	74-24 / 74-27	3.589	- 16	88) 2 1/4 849	80-05+ / 80-09	3.368	- 18+		
52) 3 3/4 841	103-26 / 103-31+	3.462	- 19+	89) 2 3/8 N49	82-15+ / 82-19	3.355	- 19		
53) 3 1/8 N41	94-19+ / 94-24+	3.501	- 19	90) 2 250	75-21+ / 75-25	3.356	- 18+		

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Source: Bloomberg

Looking into the “Crystal Ball” ...10 Years Ago



Source: Bloomberg

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