Balance Sheet Strategy: Preparing for 2021

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STIFEL Fixed Income Strategy

Learning Objectives

- The session will explore balance sheet challenges as a result of excess liquidity in today's operating environment
- The session will highlight relative value opportunities across the investment portfolio landscape
- The session will illustrate optimal uses of excess liquidity across the balance sheet, setting up for full year 2021

• Excess Liquidity

- State of PPP
- Investment Universe Review
- Cash Deploy
- Deleverage Considerations
- Portfolio Restructuring
- Hedging Application
- Loan Market Update

Cash Balances Increased in 2020Q2, But May Continue to Grow



- Excess Liquidity
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State of the State: PPP Loans & Forgiveness

Many Concerns and Questions remain now that we have entered the forgiveness stage

- <u>Regulatory Changes</u>
 - Covered Period Extended: Covered period moved from 8 weeks to 24 weeks only 2 weeks left!
 - PPPLF Window Extended: Window extended from 9/30 to 12/31 impacts secondary market for PPP
 - Simplified forms: PPP Loans under \$50k now allow for simplified forgiveness form
 - FDICIA Audit Update: Asset Size hurdle temporary relief from part 363 audit and reporting requirements
- Outstanding Items
 - Automatic forgiveness: Legislation providing relief for PPP loans under \$150k?
- Focus on Forgiveness
 - **Resources required:** Concerns around personnel, expenses, legal liability related to forgiveness process
 - Solidifying new customer relationships: How can banks keep the market share gained?
 - Preparing for post-forgiveness world: What is the plan for loans that are not forgiven?
- Forecasting Challenges
 - Amount Forgiven: What is the estimated amount forgiven, and what is happening with associated DDA?
 - Timing of forgiveness: When will the bulk of the loans be forgiven?
 - Earnings volatility: Concerns around how to time earnings impact of origination fees
 - Liquidity events: For many banks, forgiveness will likely lead to an influx of liquidity
- <u>Considerations</u>
 - Applications Staggered: To handle flow of forgiveness, banks are staggering based on loan size
 - Selling PPP Loans: Opportunity to sell, but what to do with the cash and the acceleration of fees?

Polling Question #1



- Excess Liquidity
- State of PPP
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Agency Debenture Sector

Berm spreads continued to narrow despite a rise in rates. Supply was relatively solid in the structure, suggesting good reverse inquiry from investors.

MoM Change (Berm) 2YrNC1Yr: -4bps 3YrNC1Yr: -4bps 5YrNC1Yr: -7bps 10YrNC1Yr: -9bps

YTD Change (Berm) 2YrNC1Yr: -4bps 3YrNC1Yr: -10bps 5YrNC1Yr: -11bps 10YrNC1Yr: -2bps



Source: FNMA, FHLB, FHLMC, Stifel

Indications as of October 30, 2020

The Stock of Agency Debt Declined QoQ

Outstanding agency debt fell by -218B (QoQ) as of 2020:Q2. Total outstandings of \$1.83T were \$35B lower (-1.9%) on a YoY basis.

The quarterly contraction was accounted for by FHLB where outstandings dropped by \$259B QoQ.

GSE reform will be on hold until after the 2020 election. While the FHFA will issue directives, substantive reform awaits that outcome.



Source: Securities Industry and Financial Markets Association, Stifel

Short-Dated Vol Remained Low; Longer Dates Ticked Up Near Month End

Volatility moved higher later in the month, as investors moved to the sidelines in front of the presidential election process. Uncertainty over an expected stimulus plan and UST supply were contributing factors.

> MoM BPS Change 1Y Fwd1Y: -1bps 1Y Fwd2Y: Obps 1Y Fwd4Y: 3bps 1Y Fwd9Y: 1bps



Source: Bloomberg Finance L.P, Stifel

Indications as of October 30, 2020

TOAS Continued to Narrow in October.

The model generated negative TOAS on most structures by month's end.

The 5Yr NC 1Yr structure remained in positive territory, migrating from the mid-teens to the low single digits.

Longer underlyings continued to model in negative territory. 10Yr underlyings were in the high-teens (-), while 15Yrs priced in the mid-twenties (-).



Source: Bloomberg Finance L.P., Yield Book, Stifel

Indications as of October 31, 2020

At current yields, we estimated that roughly 59% of the fixed rate callable supply has 10bps or more of refi incentive. That estimate is down 12% from September's 71% projection.

If rates were to rise by 25bps, the model suggests that 20% of the universe would be exposed to a possible call. Up 50bps lowers that probability to 17%.



Source: Bloomberg Finance L.P., Stifel

Indications as of October 30, 2020

Mortgage Sector

Portfolio Strategy and Recommended Trades

Conventional 30yr TBA MBS are facing incredibly stiff headwinds in the form of 1) inflated valuations from QE4, 2) extremely fast prepayment speeds and 3) a deluge of supply as the market transitions away from non-traditional products toward 30yr fixed rate loans. Given near-record low benchmark rates and overwhelming support from the Fed, 30yr TBAs are likely near the peak of price appreciation & payups for specified pools just hit an all-time high. **For TRR investors**, a meaningful slowdown in speeds will likely be the result of deflating MBS prices when the Fed eventually tapers purchases, so improvement in carry will be offset by mark-to-market losses; **we recommend an underweight to the MBS basis**. **For buy & hold, book yield investors**, we **recommend moderate premium MBS & CMOs** backed by the "peasant forms of prepay protection."

Portfolio Strategy Recommendation: *Exercise your Put Option, Courtesy of the Fed*. QE4 has inflated MBS valuations far beyond intrinsic value based on current speeds. The Fed is apparently willing to earn a negative yield in fast prepaying TBA pools. <u>Sell to the Fed</u>. Reinvest proceeds and/or paydowns in products that mitigate prepayment risk and limit spread widening when the Fed tapers. Where possible, *Buy What the Feds's Not Buying*.

Example Trades:

- 1) Buy lower-payup spec. pools such as FNCL 3 175k, FNCL 3 100%NY, FNCL 2.5 NoTPO/LowPIW, FNCL 2.5 100%NY, FNMDI4 3.5 Modif, FNJMCK 2 LowWAC, FNCI 3 200k, FNCI 3 100%NY, FNCI 2.5 200k, FNCI 2.5 Investor Prop, FNCI 2.5 100%NY,
- 2) Buy New Issue 2% CMOs off UMBS 2s or Jumbo 2s w/ sub-3% WAC vs. Dwarf 2s
- 3) Buy 20yr 2s vs. Dwarf 2s
- 4) Buy 10x1 hybrids vs. Dwarf 2s
- 5) Buy \$110+ DUS (no forbearance, high DSCR, mild COVID location) over \$≤103 Ks & DUS
- 6) Buy M-TEMS & TEL PCs vs. 12-15yr DUS/Ks or AAA/AA 20nc10 Munis
- 7) Buy SBA Floaters vs. CMO/ ACMBS floaters
- 8) Buy new Low WAC SSNR RMBS 2.0 30yr Passthrus vs. UMBS 30yr
- 9) Buy AAA-rated CLO Floaters
- 10) Create Synthetic Floaters with interest rate swaps

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Refi Index Remains Elevated Amid Record Low Mortgage Rates

Primary Mortgage Rates and Refi Applications Activity



As of 9/10/2020 Source: Mortgage Bankers Association, Bloomberg & Stifel

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How Low Can Mortgage Rates Go? Models Project a Mean-Reversion Tightening in the P/S Spread

- The Primary/Secondary Spread tends to widen sharply amid a sharp rally in benchmark interest rates and increase in MBS prices
- The P/S Spread is extremely wide at 134bps
- The P/S Spread tends to gradually revert to the longterm historical average after the initial onslaught of refi applications, as origination pipelines begin to clear and lenders become more competitive pricing their loans by reducing their mortgage rates
- Yield Book, Bloomberg and other sophisticated prepayment models simulate this phenomenon to drive their speed projections



STIFEL (1) Source: Yield Book (Version 97 of the YB Prepayment Model, which is adjusted for the unique circumstances related to COVID-19)

How Low Can Mortgage Rates Go? Models Can be Adjusted to Hold the P/S Spread Unchanged

- The Primary/Secondary Spread tends to widen sharply amid a sharp rally in benchmark interest rates and increase in MBS prices
- The P/S Spread is extremely wide at 134bps
- Although prepayment models project the P/S Spread to tighten, this feature of the model can be turned off to allow the P/S Spread to remain constant at its historically wide level, which also keeps the Primary Model Rate (PMR) constant (i.e., higher than the default PMR projection)



- Loan size is arguably the largest driver of prepayment behavior
- The lower the loan size, the slower the prepays
- W2D (Worst to Deliver) or TBA collateral
- Jumbo collateral contain loans above the "conforming loan limit" (\$510.4k for most states)
- Loan limit for high-cost areas is \$765.6k



Speeds by State: Conventional 30yr by Geographics

State vs. National Average - Percent Difference in CPR

Conventional 30yr MBS with +25 to +75bps of Refi Incentive | 6-30 WALA | AOLS 151k-800k | OLTV <85



Cash Flows Accelerate Historical and Projected Speeds: Fannie 30yr

Historical 1mo. CPR vs. Projected 1mo. CPR



For Selected 30yr FNMA Cohorts

As of 11/9/2020 (Nov. Factors) Source: Yield Book

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Calculations use Version 97 of Yield Book's Prepayment Model, which is adjusted for the impact of COVID-19 Primary/Secondary Spread Model is turned on

Cash Flows Accelerate Historical and Projected Speeds: Fannie 15yr

Historical 1mo. CPR vs. Projected 1mo. CPR

For Selected 15yr FNMA Cohorts



Source: Yield Book

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Calculations use Version 97 of Yield Book's Prepayment Model, which is adjusted for the impact of COVID-19

MBS Passthru – Payup Menu (Primary/Secondary Spread Model On)

	Pool	Security			Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff		Proje	cted LT	CPR			Yie	ld Tab	le	
#	Number	Description	Cpn WAC Age	wam	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx	Up50	Up25	Base	Dn25	Dn50	Up50	Up25	Base	Dn25	Dn50
	Conventiona	I 30yr MBS																								
1	FN MA4160	FNCL 3.0 Major (TBA)	3.00 3.89 3	355	+0 vs. FN 3s	92	104.188	1.13	2.43	44.6	33.2	79.0	37.0	42.0	1.30	-1.79	21.9	27.3	33.2	38.8	43.5	1.75	1.46	1.13	0.79	0.49
2	FR QB1393	FNCL 3.0 85k Max	3.00 3.86 6	347	+6 4/32 vs. FN 3s	59	110.313	1.17	6.12	10.3	12.6	39.1	22.5	16.5	4.45	-1.42	11.0	11.8	12.6	13.5	14.4	1.33	1.26	1.17	1.08	0.98
3	FR QB1383	FNCL 3.0 110k Max	3.00 3.88 6	350	+5 24/32 vs. FN 3s	56	109.922	1.07	5.52	13.7	14.4	35.8	27.9	7.9	3.56	-1.87	12.0	13.1	14.4	15.8	17.3	1.30	1.19	1.07	0.92	0.77
4	FN FM3257	FNCL 3.0 125k Max	3.00 3.71 10	347	+5 4/32 vs. FN 3s	60	109.313	1.05	5.15	17.1	15.5	38.7	31.1	7.6	2.98	-2.07	12.4	13.8	15.5	17.3	19.3	1.35	1.21	1.05	0.88	0.68
5	FN CA4931	FNCL 3.0 150k Max	3.00 3.55 12	345	+4 13/32 vs. FN 3s	59	108.594	0.99	4.59	22.2	17.6	41.8	38.3	3.4	1.89	-2.53	12.9	15.0	17.6	20.6	23.8	1.42	1.23	0.99	0.71	0.40
6	FN FM2803	FNCL 3.0 175k Max	3.00 3.87 11	346	+3 24/32 vs. FN 3s	74	107.922	1.15	4.62	21.2	17.6	52.2	33.3	18.8	2.61	-1.99	13.7	15.5	17.6	19.9	22.3	1.48	1.33	1.15	0.94	0.73
7	FR RA2457	FNCL 3.0 200k Max	3.00 3.87 9	349	+3 3/32 vs. FN 3s	63	107.266	0.95	3.79	29.4	21.7	47.0	39.8	7.2	1.35	-2.09	15.1	18.1	21.7	25.8	29.9	1.48	1.25	0.95	0.60	0.24
8	FN CA6423	FNCL 3.0 96 LTV	3.00 3.86 6	354	+ 20/32 vs. FN 3s	72	104.797	0.93	2.49	42.1	32.4	62.9	35.7	27.2	1.04	-1.56	21.5	26.8	32.4	37.7	42.0	1.61	1.29	0.93	0.58	0.27
9	FN CA6314	FNCL 3.0 100% InvProp	3.00 3.94 6	350	+2 4/32 vs. FN 3s	74	106.313	1.02	3.43	30.6	24.0	59.8	40.4	19.5	1.41	-2.35	16.1	19.9	24.0	28.1	32.1	1.60	1.33	1.02	0.70	0.39
10	FN BP5174	FNCL 3 No TPO, No PIW	3.00 3.88 8	349	+1 vs. FN 3s	71	105.188	0.94	2.70	43.6	30.2	60.6	41.2	19.5	0.76	-1.72	19.0	24.1	30.2	36.4	41.8	1.66	1.34	0.94	0.50	0.08
11	FN MA4158	FNCL 2.5 Major (TBA)	2.00 2.91 3	355	+0 vs. FN 2s	54	104.234	0.90	4.13	25.0	19.6	31.9	64.2	-32.3	2.36	-4.33	9.6	13.4	19.6	27.1	35.8	1.36	1.20	0.90	0.51	0.02
12	FN CA7028	FNCL 2.5 150k Max	2.50 3.27 4	355	+3 2/32 vs. FN 2.5s	58	107.297	1.10	5.63	12.0	13.9	38.5	39.7	-1.2	3.60	-2.75	10.6	12.1	13.9	16.1	18.6	1.35	1.24	1.10	0.93	0.74
13	FN CA6991	FNCL 2.5 175k Max	2.50 3.33 4	355	+2 12/32 vs. FN 2.5	67	106.609	1.16	5.33	13.5	14.9	46.6	42.4	4.2	3.34	-2.90	11.1	12.7	14.9	17.5	20.5	1.42	1.31	1.16	0.97	0.75
14	FR RA2652	FNCL 2.5 200k Max	2.50 3.37 7	351	+1 28/32 vs. FN 2.55	66	106.109	1.06	4.57	21.9	17.7	43.8	46.8	-3.0	2.34	-3.10	12.0	14.5	17.7	21.6	26.0	1.43	1.27	1.06	0.78	0.47
15	FR RA3440	FNCL 2.5 100% InvProp	2.50 3.52 4	356	+1 22/32 vs. FN 2.59	67	105.922	1.04	4.38	18.8	18.6	51.4	51.7	-0.2	2.77	-3.66	11.5	14.8	18.6	22.6	26.4	1.51	1.30	1.04	0.77	0.50
16	FR SD0398	FNCL 2.5 95 LTV	2.50 3.37 5	354	+ 25/32 vs. FN 2.5s	60	105.016	0.87	3.29	32.3	24.9	43.5	48.4	-4.9	1.63	-3.04	14.8	19.3	24.9	31.1	36.9	1.46	1.21	0.87	0.48	0.07
17	FN BP0951	FNCL 2.5 No TPO, Low PIW	2.50 3.52 8	351	+ 25/32 vs. FN 2.5s	76	105.016	1.08	3.81	23.2	21.5	55.6	48.4	7.1	2.41	-3.05	14.3	17.6	21.5	26.0	30.7	1.50	1.31	1.08	0.81	0.51
18	FN MA4182	FNCL 2.0 Major (TBA)	2.00 2.91 2	354	+0 vs. FN 2s	84	103.078	1.21	4.26	22.2	19.0	52.8	61.8	-9.1	3.19	-4.04	9.6	13.1	19.0	26.0	34.2	1.53	1.42	1.21	0.94	0.60
19	FN MA3971	FNJMCK 3.0 Jumbo	3.00 3.84 10	350	-1 14/32 vs. FN 3s	62	102.750	0.76	1.34	64.4	53.7	61.0	22.5	38.5	0.56	-0.64	33.5	45.2	53.7	58.8	61.9	1.71	1.20	0.76	0.47	0.28
20	FN MA4164	FNJMCK 2.5 Jumbo	2.50 3.30 3	357	-1 11/32 vs. FN 2.59	70	102.891	0.88	1.92	49.4	40.4	69.7	53.8	15.9	1.61	-3.35	18.3	28.5	40.4	49.5	54.8	1.76	1.38	0.88	0.43	0.14
21	FN MA4215	FNJMCK 2.0 Jumbo	2.00 2.82 1	359	-1 9/32 vs. FN 2s	113	101.797	1.44	3.63	26.8	22.5	72.8	68.8	3.9	3.72	-4.21	9.3	13.6	22.5	35.3	46.0	1.72	1.64	1.44	1.12	0.80
	Conventiona	20yr MBS																								
22	FN MA4017	FNCT 3 2019	3.00 3.80 8	232	+ 24/32 vs. FN 3s	63	104.938	0.84	2.43	40.0	31.6	49.3	21.8	27.6	0.85	-0.90	22.5	26.9	31.6	36.1	40.1	1.40	1.14	0.84	0.53	0.25
23	FN MA4153	FNCT 2.5 2020	2.50 3.21 4	237	+ 12/32 vs. FN 2.5s	54	104.594	0.77	2.82	33.1	27.2	41.1	32.8	8.4	1.17	-2.24	16.6	21.5	27.2	33.3	38.8	1.34	1.09	0.77	0.41	0.05
24	FN MA4176	FNCT 2 2020	2.00 2.84 2	238	+ 8/32 vs. FN 2s	59	103.313	0.84	3.03	26.0	25.1	39.4	39.3	0.0	2.31	-2.98	13.3	18.6	25.1	31.9	37.4	1.28	1.09	0.84	0.54	0.29

	Pool	Security		Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff		Proje	cted LT	CPR			Yie	ld Tab	le	
#	Number	Description	Cpn WAC Age WAM	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx	Up50	Up25	Base	Dn25	Dn50	Up50	Up25	Base	Dn25	Dn50
	Conventiona	l 15yr MBS																							
25	5 FN MA4014	FNCI 3 TBA	3.00 3.70 7 170	+0 vs. FN 3s	64	104.734	0.84	2.33	38.4	31.0	46.9	12.5	34.4	1.10	-0.71	23.8	27.3	31.0	34.4	37.7	1.26	1.06	0.84	0.62	0.41
26	5 FN CA5282	FNCI 3 85k Max	3.00 3.44 10 163	+4 8/32 vs. FN 3s	30	108.984	0.64	3.97	14.1	14.6	7.6	7.7	-0.1	2.98	-0.73	12.7	13.6	14.6	15.7	16.7	0.80	0.72	0.64	0.55	0.47
27	7 FN CA5277	FNCI 3 110k Max	3.00 3.44 10 163	+3 27/32 vs. FN 3s	23	108.563	0.53	3.61	18.0	17.3	3.7	11.7	-8.0	2.20	-1.08	14.0	15.6	17.3	19.0	20.8	0.79	0.67	0.53	0.38	0.23
28	3 FN CA5278	FNCI 3 125k Max	3.00 3.43 10 164	+3 10/32 vs. FN 3s	21	108.047	0.49	3.33	21.6	19.6	4.6	13.9	-9.3	1.67	-1.20	15.2	17.3	19.6	21.9	24.3	0.83	0.67	0.49	0.29	0.09
29	FN CA5279	FNCI 3 150k Max	3.00 3.44 10 163	+2 27/32 vs. FN 3s	20	107.563	0.45	3.09	25.2	21.7	5.3	15.3	-10.0	1.24	-1.20	16.3	18.9	21.7	24.7	27.6	0.86	0.67	0.45	0.21	-0.04
30) FN CA5280	FNCI 3 175k Max	3.00 3.42 10 167	+2 15/32 vs. FN 3s	19	107.188	0.42	2.90	28.2	23.8	7.2	17.7	-10.5	0.82	-1.27	17.2	20.3	23.8	27.5	31.1	0.92	0.70	0.42	0.12	-0.19
31	FR SB0361	FNCI 3 200k Max	3.00 3.76 9 168	+1 28/32 vs. FN 3s	27	106.609	0.50	2.76	30.7	25.6	14.2	15.5	-1.2	0.98	-0.95	18.8	22.0	25.6	29.0	32.2	0.98	0.75	0.50	0.23	-0.03
32	2 FN MA4124	FNCI 2.5 TBA	2.50 3.13 3 175	+0 vs. FN 2.5s	47	103.953	0.66	2.28	39.2	31.8	34.3	19.1	15.2	0.95	-1.31	21.1	26.3	31.8	37.2	41.9	1.18	0.94	0.66	0.37	0.09
33	5 FN BP7108	FNCI 2.5 85k Max	2.50 3.03 5 173 -	+3 2/32 vs. FN 2.5s	44	107.000	0.82	4.40	11.1	12.7	19.3	8.5	10.8	3.60	-0.79	11.1	11.8	12.7	13.7	14.7	0.93	0.88	0.82	0.76	0.70
34	FN CA4876	FNCI 2.5 110k Max	2.50 3.06 12 164 +	-2 21/32 vs. FN 2.5s	34	106.594	0.66	3.74	16.4	16.2	11.6	11.9	-0.3	2.64	-1.18	13.1	14.5	16.2	18.0	19.8	0.85	0.76	0.66	0.54	0.42
35	5 FN CA4446	FNCI 2.5 125k Max	2.50 3.06 13 159 +	-2 15/32 vs. FN 2.5s	25	106.414	0.54	3.40	19.8	18.5	5.3	14.0	-8.8	2.06	-1.37	14.2	16.2	18.5	20.9	23.4	0.80	0.68	0.54	0.37	0.20
36	5 FN CA4878	FNCI 2.5 150k Max	2.50 3.05 12 165 -	+2 9/32 vs. FN 2.5s	27	106.234	0.54	3.33	22.1	19.6	7.7	16.5	-8.9	1.79	-1.54	14.5	16.8	19.6	22.5	25.5	0.86	0.72	0.54	0.35	0.14
37	7 FN CA5269	FNCI 2.5 175k Max	2.50 3.07 10 168 +	1 27/32 vs. FN 2.5s	28	105.797	0.53	3.07	25.6	22.1	11.1	19.3	-8.2	1.35	-1.66	15.5	18.5	22.1	25.9	29.8	0.92	0.75	0.53	0.28	0.01
38	5 FN CA6504	FNCI 2.5 200k Max	2.50 2.95 4 174 +	1 18/32 vs. FN 2.5s	46	105.516	0.73	3.29	22.6	20.4	29.2	21.7	7.6	1.64	-1.96	14.0	16.9	20.4	24.4	28.4	1.09	0.94	0.73	0.49	0.23
39	FN CA6538	FNCI 2.5 95 LTV	2.50 3.00 5 173	+ 14/32 vs. FN 2.5s	46	104.375	0.67	2.53	32.9	28.3	33.1	17.2	15.9	1.28	-1.29	18.9	23.4	28.3	32.9	37.0	1.15	0.93	0.67	0.41	0.17
40	FN MA4179	FNCI 2.0 Major (TBA)	2.00 2.61 1 177	+0 vs. FN 2s	36	103.656	0.59	2.72	29.5	26.0	21.9	26.3	-4.4	1.60	-2.27	14.7	19.9	26.0	32.4	37.7	1.04	0.84	0.59	0.29	0.02
41	FN MA4154	FNCI 1.5 Major (TBA)	1.50 2.21 2 177	+0 vs. FN 1.5s	58	101.953	0.85	3.26	22.3	20.6	29.1	27.3	1.8	2.75	-2.57	10.4	14.5	20.6	27.7	34.4	1.06	0.98	0.85	0.69	0.51

Pricing as of 11/9/2020

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* Results calculated on Yield Book Prepayment Model Version 97 w/ P/S Spread Model Turned On

MBS Passthru – Payup Menu (Primary/Secondary Spread Model Off)

	Pool	Security			Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff		Proje	cted LT	CPR			Yie	ld Tab	le	
#	Number	Description	Cpn WAC Ag	e WAM	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx	Up50	Jp25	Base	Dn25	Dn50	Up50	Up25	Base	Dn25	Dn50
	Conventiona	I 30yr MBS				. ,																	·			
1	FN MA4160	FNCL 3.0 Major (TBA)	3.00 3.89 3	355	+0 vs. FN 3s	138	104.188	1.68	3.58	34.3	23.1	109.8	47.2	62.6	1.85	-3.33	14.5	18.3	23.1	29.0	35.5	2.12	1.93	1.68	1.36	0.99
2	FR QB1393	FNCL 3.0 85k Max	3.00 3.86 6	347	+6 4/32 vs. FN 3s	65	110.313	1.33	6.80	8.3	11.0	49.5	23.8	25.6	4.88	-1.72	9.6	10.2	11.0	11.8	12.8	1.46	1.41	1.33	1.25	1.16
3	FR QB1383	FNCL 3.0 110k Max	3.00 3.88 6	350	+5 24/32 vs. FN 3s	67	109.922	1.30	6.38	10.5	12.0	50.7	29.9	20.8	4.10	-2.42	10.1	10.9	12.0	13.2	14.6	1.48	1.40	1.30	1.18	1.03
4	FN FM3257	FNCL 3.0 125k Max	3.00 3.71 10	347	+5 4/32 vs. FN 3s	74	109.313	1.34	6.15	12.6	12.5	56.8	33.6	23.2	3.56	-2.93	10.0	11.1	12.5	14.1	16.0	1.56	1.46	1.34	1.18	1.01
5	FN CA4931	FNCL 3.0 150k Max	3.00 3.55 12	345	+4 13/32 vs. FN 3s	83	108.594	1.39	5.88	15.0	13.1	66.2	41.6	24.6	2.60	-4.04	9.8	11.2	13.1	15.6	18.5	1.68	1.56	1.39	1.17	0.90
6	FN FM2803	FNCL 3.0 175k Max	3.00 3.87 11	. 346	+3 24/32 vs. FN 3s	92	107.922	1.45	5.66	15.3	13.9	71.4	36.2	35.2	3.16	-3.13	11.0	12.3	13.9	15.9	18.3	1.69	1.59	1.45	1.29	1.08
7	FR RA2457	FNCL 3.0 200k Max	3.00 3.87 9	349	+3 3/32 vs. FN 3s	97	107.266	1.43	5.11	20.3	15.7	75.3	44.5	30.7	1.98	-4.00	11.4	13.2	15.7	19.1	23.2	1.77	1.63	1.43	1.16	0.82
8	FN CA6423	FNCL 3.0 96 LTV	3.00 3.86 6	354	+ 20/32 vs. FN 3s	121	104.797	1.52	3.60	32.2	22.9	97.5	46.7	50.8	1.51	-3.26	14.5	18.1	22.9	28.7	34.9	2.00	1.80	1.52	1.17	0.77
9	FN CA6314	FNCL 3.0 100% InvProp	3.00 3.94 6	350	+2 4/32 vs. FN 3s	112	106.313	1.55	4.84	19.4	16.8	96.1	53.5	42.6	2.15	-4.50	10.0	12.9	16.8	20.9	25.4	2.00	1.82	1.55	1.25	0.91
10	FN BP5174	FNCL 3 No TPO, No PIW	3.00 3.88 8	349	+1 vs. FN 3s	122	105.188	1.57	4.05	32.4	20.3	95.8	50.2	45.6	1.26	-3.75	12.8	15.9	20.3	26.3	33.2	2.01	1.84	1.57	1.19	0.72
11	FN MA4158	FNCL 2.5 Major (TBA)	2.00 2.91 3	355	+0 vs. FN 2s	62	104.234	1.36	7.41	7.2	9.5	43.0	58.7	-15.6	3.43	-5.20	6.9	7.8	9.5	14.7	21.8	1.47	1.43	1.36	1.14	0.79
12	FN CA7028	FNCL 2.5 150k Max	2.50 3.27 4	355	+3 2/32 vs. FN 2.5s	64	107.297	1.35	6.99	7.5	10.5	49.3	38.0	11.3	4.37	-3.26	8.6	9.3	10.5	12.2	14.4	1.48	1.43	1.35	1.22	1.06
13	FN CA6991	FNCL 2.5 175k Max	2.50 3.33 4	355	+2 12/32 vs. FN 2.55	74	106.609	1.42	6.77	7.9	11.0	57.4	40.4	17.0	4.14	-3.52	9.0	9.7	11.0	13.0	15.5	1.55	1.50	1.42	1.29	1.11
14	FR RA2652	FNCL 2.5 200k Max	2.50 3.37 7	351	+1 28/32 vs. FN 2.55	81	106.109	1.42	6.23	12.5	12.2	60.9	46.8	14.1	3.15	-4.56	9.0	10.1	12.2	15.2	19.0	1.61	1.55	1.42	1.22	0.97
15	FR RA3440	FNCL 2.5 100% InvProp	2.50 3.52 4	356	+1 22/32 vs. FN 2.5	84	105.922	1.50	6.55	9.0	11.6	68.9	53.5	15.4	3.70	-4.61	7.7	9.0	11.6	15.5	19.7	1.72	1.65	1.50	1.25	0.97
16	FR SD0398	FNCL 2.5 95 LTV	2.50 3.37 5	354	+ 25/32 vs. FN 2.5s	95	105.016	1.41	5.11	17.4	15.6	72.8	57.6	15.2	2.51	-5.11	9.0	11.6	15.6	20.7	27.1	1.77	1.64	1.41	1.12	0.73
17	FN BP0951	FNCL 2.5 No TPO, Low PIW	2.50 3.52 8	351	+ 25/32 vs. FN 2.5s	97	105.016	1.47	5.39	13.4	14.7	75.1	52.6	22.5	3.20	-4.41	9.7	11.6	14.7	18.4	23.0	1.73	1.64	1.47	1.26	0.99
18	FN MA4182	FNCL 2.0 Major (TBA)	2.00 2.91 2	354	+0 vs. FN 2s	79	103.078	1.53	7.46	6.4	9.4	57.3	54.4	2.9	4.11	-4.47	6.9	7.8	9.4	14.1	20.8	1.61	1.58	1.53	1.38	1.13
19	FN MA3971	FNJMCK 3.0 Jumbo	3.00 3.84 10	350	-1 14/32 vs. FN 3s	130	102.750	1.48	2.02	53.0	38.8	117.8	53.4	64.4	0.87	-2.35	16.8	26.0	38.8	49.6	55.9	2.32	2.00	1.48	0.98	0.64
20	FN MA4164	FNJMCK 2.5 Jumbo	2.50 3.30 3	357	-1 11/32 vs. FN 2.5	133	102.891	1.68	4.00	29.4	20.4	100.5	67.1	33.4	2.51	-5.29	8.4	12.6	20.4	32.3	44.8	2.08	1.95	1.68	1.22	0.67
21	FN MA4215	FNJMCK 2.0 Jumbo	2.00 2.82 1	359	-1 9/32 vs. FN 2s	96	101.797	1.73	7.76	5.7	8.9	71.7	58.2	13.5	4.58	-4.18	6.0	7.1	8.9	14.3	24.8	1.78	1.76	1.73	1.62	1.38
	Conventiona	20yr MBS																								
22	FN MA4017	FNCT 3 2019	3.00 3.80 8	232	+ 24/32 vs. FN 3s	102	104.938	1.29	3.13	32.1	24.5	81.6	29.1	52.6	1.09	-2.15	16.6	20.1	24.5	29.3	34.2	1.73	1.54	1.29	0.98	0.66
23	FN MA4153	FNCT 2.5 2020	2.50 3.21 4	237	+ 12/32 vs. FN 2.5s	90	104.594	1.25	4.00	21.4	18.3	70.1	39.5	30.6	1.81	-3.81	10.0	13.5	18.3	24.0	30.4	1.64	1.49	1.25	0.95	0.58
24	FN MA4176	FNCT 2 2020	2.00 2.84 2	238	+ 8/32 vs. FN 2s	81	103.313	1.23	4.72	12.6	14.5	54.1	40.0	14.1	2.99	-3.70	7.8	9.9	14.5	20.8	28.2	1.45	1.39	1.23	1.00	0.70
_																										
	Pool	Security			Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff		Proje	cted LT	CPR			Yie	ld Tab	le	

	Pool	Security		Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff		Proje	cted LT	CPR			Yie	ld Tab	ble	
#	Number	Description	Cpn WAC Age WAM	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx	Up50	Up25	Base	Dn25	Dn50	Up50	Up25	Base	Dn25	Dn50
_	Conventiona	l 15yr MBS																							
25	FN MA4014	FNCI 3 TBA	3.00 3.70 7 170	+0 vs. FN 3s	93	104.734	1.17	2.78	32.0	25.4	72.6	16.3	56.3	1.23	-1.48	18.9	21.9	25.4	29.2	32.9	1.52	1.36	1.17	0.95	0.72
26	FN CA5282	FNCI 3 85k Max	3.00 3.44 10 163	+4 8/32 vs. FN 3s	40	108.984	0.77	4.23	12.0	13.0	17.5	7.9	9.6	3.15	-1.02	11.4	12.1	13.0	14.0	15.1	0.90	0.84	0.77	0.69	0.60
27	FN CA5277	FNCI 3 110k Max	3.00 3.44 10 163	+3 27/32 vs. FN 3s	40	108.563	0.75	3.98	14.6	14.6	19.5	12.2	7.3	2.45	-1.61	12.0	13.2	14.6	16.3	18.1	0.94	0.86	0.75	0.61	0.46
28	FN CA5278	FNCI 3 125k Max	3.00 3.43 10 164	+3 10/32 vs. FN 3s	44	108.047	0.77	3.78	17.1	16.0	25.0	14.9	10.1	1.96	-1.97	12.7	14.1	16.0	18.3	20.8	1.02	0.91	0.77	0.59	0.39
29	FN CA5279	FNCI 3 150k Max	3.00 3.44 10 163	+2 27/32 vs. FN 3s	48	107.563	0.79	3.59	19.4	17.4	29.9	17.1	12.9	1.54	-2.19	13.2	15.0	17.4	20.2	23.3	1.08	0.96	0.79	0.57	0.33
30	FN CA5280	FNCI 3 175k Max	3.00 3.42 10 167	+2 15/32 vs. FN 3s	53	107.188	0.83	3.49	21.1	18.5	36.6	20.2	16.3	1.17	-2.58	13.6	15.6	18.5	22.0	25.8	1.17	1.03	0.83	0.57	0.26
31	FR SB0361	FNCI 3 200k Max	3.00 3.76 9 168	+1 28/32 vs. FN 3s	61	106.609	0.88	3.30	23.9	20.2	42.9	19.0	23.9	1.21	-2.01	15.0	17.2	20.2	23.7	27.4	1.23	1.09	0.88	0.63	0.35
32	FN MA4124	FNCI 2.5 TBA	2.50 3.13 3 175	+0 vs. FN 2.5s	84	103.953	1.08	3.00	29.0	23.2	63.6	24.7	38.9	1.33	-2.60	14.2	18.3	23.2	28.8	34.7	1.47	1.30	1.08	0.82	0.51
33	FN BP7108	FNCI 2.5 85k Max	2.50 3.03 5 173	+3 2/32 vs. FN 2.5s	50	107.000	0.91	4.66	9.4	11.3	25.4	8.0	17.4	3.82	-0.96	10.0	10.6	11.3	12.1	13.1	0.99	0.95	0.91	0.86	0.80
34	FN CA4876	FNCI 2.5 110k Max	2.50 3.06 12 164	+2 21/32 vs. FN 2.5s	46	106.594	0.82	4.12	13.1	13.6	22.8	11.7	11.0	2.93	-1.61	11.2	12.3	13.6	15.2	17.1	0.96	0.90	0.82	0.72	0.60
35	FN CA4446	FNCI 2.5 125k Max	2.50 3.06 13 159	+2 15/32 vs. FN 2.5s	42	106.414	0.75	3.86	15.2	14.9	20.6	14.2	6.4	2.39	-2.02	11.8	13.1	14.9	17.2	19.8	0.94	0.86	0.75	0.62	0.45
36	FN CA4878	FNCI 2.5 150k Max	2.50 3.05 12 165	+2 9/32 vs. FN 2.5s	47	106.234	0.80	3.87	16.4	15.4	25.6	16.9	8.7	2.17	-2.40	11.7	13.2	15.4	18.1	21.2	1.02	0.93	0.80	0.64	0.44
37	FN CA5269	FNCI 2.5 175k Max	2.50 3.07 10 168	+1 27/32 vs. FN 2.5s	53	105.797	0.85	3.71	18.3	16.7	32.9	20.2	12.7	1.78	-2.86	12.1	14.0	16.7	20.2	24.2	1.10	1.00	0.85	0.64	0.39
38	FN CA6504	FNCI 2.5 200k Max	2.50 2.95 4 174	+1 18/32 vs. FN 2.5s	69	105.516	1.04	4.02	15.2	15.0	48.2	21.8	26.4	2.17	-2.94	10.8	12.5	15.0	18.4	22.4	1.26	1.17	1.04	0.85	0.61
39	FN CA6538	FNCI 2.5 95 LTV	2.50 3.00 5 173	+ 14/32 vs. FN 2.5s	79	104.375	1.06	3.26	23.3	20.7	60.0	23.0	37.0	1.62	-2.55	12.9	16.4	20.7	25.6	30.7	1.41	1.26	1.06	0.82	0.54
40	FN MA4179	FNCI 2.0 Major (TBA)	2.00 2.61 1 177	+0 vs. FN 2s	65	103.656	0.98	3.83	16.6	16.3	43.2	29.0	14.2	2.24	-3.19	9.4	11.8	16.3	22.1	28.7	1.22	1.14	0.98	0.75	0.47
41	FN MA4154	FNCI 1.5 Major (TBA)	1.50 2.21 2 177	+0 vs. FN 1.5s	63	101.953	1.04	4.65	9.7	11.3	34.1	22.9	11.3	3.26	-2.96	7.7	8.7	11.3	16.6	23.8	1.11	1.09	1.04	0.94	0.78

Pricing as of 11/9/2020

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* Results calculated on Yield Book Prepayment Model Version 97 w/ P/S Spread Model Turned Off

Buy Front Sequentials off Low-WAC (sub-3%) Jumbos

2% Front SEQ off Jumbo 2s vs. New 15yr 2% Passthru

- Maintain Coupon, Drop Dollar price by \$1.45
- Duration-neutral; Extend WAL by 0.4yr
- Pick 40bps I-Spread & 44bps Yield in Base Case
- Pick Yield in All but Extreme Down-Rate Scenarios
- Pick Total Return in All but Extreme Down- and Up-Rate Scenarios

Po	ol	Security					Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff
# Nu	ımber	Description	Cpn	WAC	Age	WAM	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx
Buy FH	R 5035 KC	2x2 SEQ off Jumbo	2.00	2.92	1	357	92/i/354PSA	104	102.27	1.41	4.21	6.6	9.5	76.0	55.7	20.3	2.15	-4.57
Sell FN	MA4179	15yr 2% MBS	2.00	2.61	1	177	+ 2/32s vs. TBA	64	103.72	0.97	3.85	16.4	16.2	41.7	29.2	12.5	2.23	-3.23
differen	nce		0.00	0.32	0	180		40	-1.45	0.44	0.36	-9.8	-6.8	34.3	26.4	7.9	-0.07	<mark>-1.35</mark>



Yield Curve Twist Scenarios:

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UpStp150 - 3mo LIBOR up 50bps, 2yr Swap up 75bps, 5yr Swap up 100bps, 10yr swap up 150bps

UpStp75 - 3mo LIBOR up 25bps, 2yr Swap up 37.5bps, 5yr Swap up 50bps, 10yr swap up 75bps

UpFlt150 - 3mo LIBOR up 150bps, 2yr Swap up 100bps, 5yr Swap up 75bps, 10yr swap up 50bps

UpFlt75 - 3mo LIBOR up 75bps, 2yr Swap up 50bps, 5yr Swap up 37.5bps, 10yr swap up 25bps

* Total Return Scenarios are ramped to a 12, 24 & 36 month horizon and assume constant-OAS horizon pricing to a 12, 24 & 36 month horizon; P&I payments are reinvested at 1 month LIBOR.

Source: Bloomberg, Yield Book & Stifel Analysis run as of 11/9/2020 Calculations use Version 97 of Yield Book's Prepayment Model, which is adjusted for the impact of COVID-19

Buy Low-WAC 10x1 Hybrids

Low-WAC 10x1 Hybrid ARMs vs. New 15yr 2% Passthru

- +52bps in Coupon, Increase Dollar price by \$0.81
- Give-up 0.5yr WAL & 0.9yr Eff. Dur.
- Pick 9bps I-Spread & 5bps Yield in Base Case
- Pick Yield in All but Extreme Down-Rate Scenarios
- Pick TRR in All but Extreme Down- and Up-Rate Scenarios

	Pool	Security					Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff
#	Number	Description	Cpn	WAC	Age	WAM	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx
Buy	FH 841144	10x1 Hybrid	2.52	3.14	4	356	69/z/15CPB	73	104.53	1.01	3.40	28.3	24.3	58.5	23.3	35.2	1.30	-2.07
Sell	FN MA4179	15yr 2% MBS	2.00	2.61	1	177	+ 2/32s vs. TBA	64	103.72	0.97	3.85	16.4	16.2	41.7	29.2	12.5	2.23	-3.23
diff	erence		0.52	0.53	3	179		9	0.81	0.05	-0.45	11.9	<mark>8.1</mark>	16.9	-5.9	22.8	-0.92	1.15



Yield Curve Twist Scenarios:

STIFEL

UpStp150 - 3mo LIBOR up 50bps, 2yr Swap up 75bps, 5yr Swap up 100bps, 10yr swap up 150bps

UpStp75 - 3mo LIBOR up 25bps, 2yr Swap up 37.5bps, 5yr Swap up 50bps, 10yr swap up 75bps

UpFlt150 - 3mo LIBOR up 150bps, 2yr Swap up 100bps, 5yr Swap up 75bps, 10yr swap up 50bps

UpFlt75 - 3mo LIBOR up 75bps, 2yr Swap up 50bps, 5yr Swap up 37.5bps, 10yr swap up 25bps

* Total Return Scenarios are ramped to a 12, 24 & 36 month horizon and assume constant-OAS horizon pricing to a 12, 24 & 36 month horizon; P&I payments are reinvested at 1 month LIBOR.

Source: Bloomberg, Yield Book & Stifel Analysis run as of 11/9/2020

Calculations use Version 97 of Yield Book's Prepayment Model, which is adjusted for the impact of COVID-19

Go Down-In-Coupon versus Paying Up for Loan Bal Collateral

New 30yr 2% Passthru vs. New 30yr 2.5% 150k Max Passthru

- Drop Coupon by 50bps, Drop Dollar price by \$4.16
- Give-up 0.5yr WAL & 0.9yr Eff. Dur.
- Pick 9bps I-Spread & 5bps Yield in Base Case
- Pick Yield in All but Extreme Down-Rate Scenarios
- Pick TRR in Base Case & Mild Up-Rate Scenarios

	Pool	Security					Pricing	I-Sprd	Mkt	Mkt		Proj	Proj	Zvol	Opt	Libor	Eff	Eff
#	Number	Description	Cpn	WAC	Age	WAM	Spread	(YldBk)	Price	YTM	WAL	1YCPR	LTCPR	LOAS	Cost	OAS	Dura	Cnvx
Buy	FN MA4182	30yr 2% MBS	2.00	2.91	2	354	+ 2/32s vs. TBA	78	103.14	1.52	7.46	6.4	9.4	56.7	54.7	2.0	4.08	-4.45
Sell	FN CA7028	30yr 2.5% 150k Max	2.50	3.27	4	355	+ 3 2/32s vs. TBA	64	107.30	1.35	7.00	7.5	10.5	49.4	38.1	11.3	4.37	-3.23
diff	erence		<mark>-0.50</mark>	-0.36	-2	-1		14	-4.16	0.18	0.47	-1.1	-1.1	7.3	16.6	-9.3	-0.29	-1.22



Yield Curve Twist Scenarios:

STIFEL

UpStp150 - 3mo LIBOR up 50bps, 2yr Swap up 75bps, 5yr Swap up 100bps, 10yr swap up 150bps

UpStp75 - 3mo LIBOR up 25bps, 2yr Swap up 37.5bps, 5yr Swap up 50bps, 10yr swap up 75bps

UpFlt150 - 3mo LIBOR up 150bps, 2yr Swap up 100bps, 5yr Swap up 75bps, 10yr swap up 50bps

UpFlt75 - 3mo LIBOR up 75bps, 2yr Swap up 50bps, 5yr Swap up 37.5bps, 10yr swap up 25bps

* Total Return Scenarios are ramped to a 12, 24 & 36 month horizon and assume constant-OAS horizon pricing to a 12, 24 & 36 month horizon; P&I payments are reinvested at 1 month LIBOR.

Source: Bloomberg, Yield Book & Stifel Analysis run as of 11/9/2020

Pulse of the Market – ACMBS Menu as of 11/9/2020

											0 C	РҮ					100 (СРҮ		
							Mkt	Pricing	I-Sprd	Mkt		LIBOR	Eff	Eff	I-Sprd	Mkt		LIBOR	Eff	Eff
	Pool	Description	Cpn	WAC	Age	WAM	Price	Spread	(YldBk)	YTM	WAL	OAS	Dura	Cnvx	(YldBk)	YTM	WAL	OAS	Dura	Cnvx
DUS																				
	FN AM9941	10/9.5	2.89	4.50	61	59	108.595	55/n	60	1.02	4.71	53.6	4.43	0.23	45	0.83	4.25	39.6	4.02	0.19
	FN BL0533	7/6	3.57	4.32	24	60	111.062	80/n	85	1.30	5.03	80.4	4.64	0.25	42	0.77	4.03	37.5	3.77	0.17
	FN AN3842	10/9.4	2.56	4.23	47	73	107.135	70/n	73	1.27	5.73	67.5	5.36	0.34	69	1.17	5.29	62.4	4.98	0.29
	FN BL0701	10/9.5	3.86	4.90	24	96	118.795	57/n	57	1.35	7.84	58.0	6.91	0.56	47	1.21	7.38	48.1	6.55	0.50
	FN BL2452	10/9.5	3.16	4.04	18	102	114.023	53/n	53	1.32	7.98	51.6	7.18	0.61	48	1.23	7.55	46.0	6.82	0.55
	FN BL3435	10/7	2.90	3.79	14	106	110.161	81/n	81	1.66	8.63	81.5	7.74	0.69	55	1.11	5.82	52.6	5.40	0.33
	FN BL5656	10/9.5	2.26	3.75	9	111	107.560	50/n	50	1.35	8.66	48.1	7.95	0.73	50	1.31	8.24	47.4	7.59	0.67
	FN BL5134	10/7	2.46	3.80	10	110	107.778	67/n	67	1.53	8.73	66.1	7.94	0.73	55	1.14	6.05	52.4	5.66	0.37
	FN BL8716	10/9.5	1.41	3.40	1	119	100.839	40/n	40	1.33	9.70	39.1	9.14	0.92	43	1.33	9.25	42.1	8.74	0.84
Ks & A	CEs																			
	FNA 2015-M15 A2	ACE A2	2.92	4.31	63	57	109.370	40/n	44	0.86	4.74	39.5	4.46	0.23	44	0.86	4.74	39.5	4.46	0.23
	FNA 2017-M3 A2	ACE A2	2.48	3.83	47	73	108.483	42/n	43	0.99	5.83	39.4	5.47	0.34	43	0.99	5.83	39.4	5.47	0.34
	FNA 2017-M14 A2	ACE A2	2.88	3.83	36	84	111.219	50/n	49	1.17	6.80	48.2	6.25	0.45	49	1.17	6.80	48.2	6.25	0.45
	FNA 2018-M14 A2	ACE A2	3.58	4.37	27	93	116.412	59/n	56	1.32	7.57	57.1	6.76	0.53	56	1.32	7.57	57.1	6.76	0.53
	FNA 2018-M12 A2	ACE A2	3.64	4.66	28	116	119.147	60/n	58	1.49	9.44	59.6	8.20	0.78	58	1.49	9.44	59.6	8.20	0.78
	FNA 2018-M13 A2	ACE A2	3.70	4.69	28	116	119.616	61/n	59	1.51	9.49	61.1	8.22	0.78	59	1.51	9.49	61.1	8.22	0.78
	FHMS K046 A2	K A2	3.21	3.80	69	53	110.235	31/n	36	0.74	4.31	31.2	4.04	0.19	36	0.74	4.31	31.2	4.04	0.19
	FHMS K058 A2	K A2	2.65	3.97	52	70	109.523	34/n	38	0.92	5.74	33.9	5.36	0.33	38	0.92	5.74	33.9	5.36	0.33
	FHMS K062 A2	K A2	3.41	4.00	49	74	113.963	39/n	42	1.01	6.07	39.0	5.55	0.35	42	1.01	6.07	39.0	5.55	0.35
	FHMS K070 A2	K A2	3.30	4.04	38	84	113.960	47/n	47	1.17	6.91	46.5	6.26	0.45	47	1.17	6.91	46.5	6.26	0.45
	FHMS K078 A2	K A 2	3.85	4.36	31	91	117.937	55/n	56	1.30	7.48	54.9	6.62	0.51	56	1.30	7.48	54.9	6.62	0.51
	FHMS K087 A2	K A2	3.77	4.56	25	97	118.159	55/n	56	1.35	8.02	55.3	7.07	0.58	56	1.35	8.02	55.3	7.07	0.58
	FHMS K102 A2	K A2	2.54	3.75	15	107	110.015	45/n	46	1.32	8.85	45.1	8.03	0.73	46	1.32	8.85	45.1	8.03	0.73
	FHMS K157 A2	K A2	3.99	4.54	28	135	122.093	59/n	59	1.53	9.78	58.5	8.35	0.81	59	1.53	9.78	58.5	8.35	0.81

											5 C	PR					10 0	CPR		
							Mkt	Pricing	I-Sprd	Mkt		LIBOR	Eff	Eff	I-Sprd	Mkt		LIBOR	Eff	Eff
	Pool	Description	Cpn	WAC	Age	WAM	Price	Spread	(YldBk)	YTM	WAL	OAS	Dura	Cnvx	(YldBk)	YTM	WAL	OAS	Dura	Cnvx
FRESB (Freddie Small Business)																			
	FRESB 2020-SB79 A5H	5yr Hybrid ARM	0.80	3.35	5	237	100.147	35/n	39	0.75	4.19	33.6	4.03	0.44	43	0.75	3.72	37.4	3.59	0.35
	FRESB 2020-SB79 A7H	7yr Hybrid ARM	0.99	3.25	5	236	99.754	47/n	24	0.98	7.37	23.7	5.95	3.62	24	0.98	7.37	23.7	5.95	3.62
	FRESB 2020-SB79 A10F	10yr Fx Balloon	1.03	3.90	5	117	99.299	41/n	41	1.13	7.10	40.4	6.80	0.60	61	1.15	5.72	57.0	5.48	0.44

STIFEL Source: Yield Book, Bloomberg & Stifel Priced as of 11/9/2020

Tax-Exempt Multifamily CMBS: M-TEMS and TEL PCs

				E	Balloon	10	Rem.	Pricing	Mkt	Mkt	Mkt	TEY	TEY		Eff	Eff
Pool	Description	Cpn	WAC	Age	WAM	Prd	YM	Spread	Price	YTM	YTC	tefra	no-tef	WAL	Dura	Cnvx
Tax-Exempt																
FR WE2019	TEL PC (Seas 18/15/35)	1.80	3.81	15	200	0	165	50/n/0CPY	104.969	1.38	1.33	1.62	1.75	13.38	11.72	1.61
MTEMS 17/16.5	MTEMS (New 17/16.5)	1.54	2.89	0	204	0	198	55/n/0CPY	101.563	1.44	1.42	1.68	1.82	14.23	12.57	1.75
MTEMS 19/18.5	MTEMS (New 19/18.5)	1.58	2.93	0	228	60	222	65/n/0CPY	100.563	1.56	1.55	1.84	1.97	17.26	14.91	2.11
Taxable																
FN BL6438	DUS (New 15/14.5)	2.05	2.91	3	177	93	174	55/n/0CPY	108.188	1.44	1.43	1.44	1.44	14.24	12.56	1.79
FHMS K-1513 A3	K-Fred (Seas 15yr LCF/A3)	2.80	4.16	15	162	0	158	60/n/0CPY	116.406	1.47	1.43	1.47	1.47	13.79	11.75	1.59
Katy TX Ind SD	20nc10 Aaa Gen Mkt GO Muni	4.00	2/15/4	40 M	aturity	2/15/	30 Call	71/n/Call	122.694	2.52	1.42	1.66	1.79	9.50	8.55	-0.45

a) Assumes federal corporate income tax rate of 21%

b) Assumes 100% TEFRA disallowance and 50bps cost of funds

Tax-Exempt Multifamily CMBS in a Nutshell

- M-TEMS are tax-exempt CMBS secured by and exchangeable for Fannie Mae DUS bonds
- M-TEMS' cashflows precisely mirror the underlying Fannie Mae DUS bond with a 1 day payment delay
- A typical structure has a 17yr final balloon maturity with a 15yr yield maintenance period (17/15), which is intended to coincide with the 15yr compliance period associated with low income housing tax credits
- The combination of LIHTC compliance, prepayment restrictions (YM) and strong credit quality coalesces into a very low risk of prepayment, low optionality and highly predictable cashflows
- TEL PCs are tax-exempt Freddie Mac multifamily passthru certificates (i.e., Freddie's version of DUS)
- Unlike M-TEMS, TEL PCs do not have a municipal wrapper; they are direct Freddie Mac ACMBS
- Securities that finance affordable housing will naturally be expected to satisfy CRA requirements
- The exchange feature results in a lower capital risk weight for M-TEMS than traditional revenue bonds
- M-TEMS & TEL PCs offer yield advantages compared to similar maturity, high quality MBS & Munis
- * For more details, see MBS Relative Value 6/16/20, "Tax-Exempt MF CMBS: A Mash-up of Mortgages and Munis"

Municipal Sector

Municipal Market Update: Supply Dynamics



Taxable vs. Tax-Exempt Visible Supply Since 2016

(1) Sources: Stifel; Bloomberg LP

Municipal Market Update: Treasury Ratios and Spreads

- Municipal spreads and values have widened after a significant rally in August, when ratios briefly touched pre-pandemic levels, but have not blown out despite the surge in supply.
- Spreads in late Oct approximate levels we saw throughout most of June and Sept and continue to offer meaningful value where longer duration can be tolerated.

	A	A Spread	to Treasu	ries (Bps)		
	Feb. 2, 2020	Mar. 23, 2020	Jun. 1, 2020	Jun. 30, 2020	Aug. 7, 2020	Oct. 26, 2020
2 Year AA	(0.38)	3.67	(0.01)	0.04	(0.26)	0.07
5 Year AA	(0.31)	3.45	0.24	0.24	(0.15)	0.11
10 Year AA	0.01	3.33	0.59	0.55	0.09	0.51
30 Year AA	0.55	3.68	0.99	1.16	0.54	0.74

AAA Tax-Exempt-to-Treasury Ratios



Municipal Tax Treatment: Wave of Taxable Issuance



Taxable Market: Advanced Refundings

- The Tax Cuts and Jobs Act eliminated tax-exempt to tax-exempt advanced refundings to avoid \$2 in tax-exempt debt outstanding for every \$1 in projects financed. Nothing, however, precludes issuing taxable debt to refinance tax-exempt debt.
- Given the shape and steepness of the tax-exempt curve in 2013, many longer tenured securities that have since rolled down the curve are eligible to be advanced refunded with taxable debt for net present value savings.
- \$10.9bn of taxable debt marketed September 2020 was issued solely to refund outstanding debt, more than the \$10.3 of tax-exempt debt sold for the same purpose.
- Although the outcome of the election in uncertain, any administration that attempts to tackle infrastructure might do so by revitalizing the American Recovery and Reinvestment Act (ARRA) programs, which would be very supportive of taxable supply in 2021 and beyond.



2013 Tax-Exempt vs. 2020 Taxable Curve



Municipal Market Update: Tax Rate Sensitivity Analysis

		Tax-E	Exempt to	o Taxable	e Spreads	;	
				Cost of	f Funds		
		21.0%	26.0%	31.0%	35.0%	40.0%	45.0%
1	1Y	(0.10)	(0.09)	(0.07)	(0.06)	(0.04)	(0.01)
	2Y	(0.16)	(0.14)	(0.13)	(0.11)	(0.09)	(0.06)
	3Y	(0.26)	(0.24)	(0.22)	(0.21)	(0.19)	(0.16)
	4Y	(0.33)	(0.30)	(0.28)	(0.26)	(0.22)	(0.18)
	5Y	(0.41)	(0.38)	(0.35)	(0.32)	(0.28)	(0.23)
	6Y	(0.45)	(0.41)	(0.37)	(0.33)	(0.27)	(0.20)
	7Y	(0.50)	(0.45)	(0.39)	(0.34)	(0.27)	(0.18)
	8Y	(0.45)	(0.39)	(0.32)	(0.26)	(0.16)	(0.05)
	9Y	(0.43)	(0.36)	(0.27)	(0.20)	(0.09)	0.04
	10Y	(0.46)	(0.38)	(0.29)	(0.20)	(0.08)	0.07
	11Y	(0.45)	(0.36)	(0.25)	(0.16)	(0.03)	0.13
	12Y	(0.45)	(0.35)	(0.24)	(0.14)	0.00	0.17
	13Y	(0.43)	(0.32)	(0.21)	(0.10)	0.06	0.24
	14Y	(0.43)	(0.32)	(0.19)	(0.08)	0.09	0.28
	15Y	(0.42)	(0.30)	(0.17)	(0.05)	0.12	0.33
	16Y	(0.44)	(0.32)	(0.19)	(0.06)	0.12	0.33
	17Y	(0.49)	(0.37)	(0.23)	(0.10)	0.09	0.31
	18Y	(0.53)	(0.40)	(0.26)	(0.13)	0.06	0.29
	19Y	(0.57)	(0.44)	(0.29)	(0.15)	0.04	0.27
	20Y	(0.61)	(0.47)	(0.32)	(0.19)	0.01	0.25
	21Y	(0.60)	(0.47)	(0.31)	(0.17)	0.03	0.27
	22Y	(0.60)	(0.46)	(0.30)	(0.15)	0.05	0.30
	23Y	(0.58)	(0.44)	(0.28)	(0.13)	0.09	0.34
	24Y	(0.56)	(0.42)	(0.25)	(0.10)	0.12	0.38
	25Y	(0.55)	(0.41)	(0.24)	(0.08)	0.14	0.40
	26Y	(0.55)	(0.40)	(0.22)	(0.07)	0.16	0.42
	27Y	(0.54)	(0.39)	(0.21)	(0.06)	0.17	0.44
	28Y	(0.55)	(0.40)	(0.22)	(0.06)	0.16	0.43
	29Y	(0.55)	(0.40)	(0.22)	(0.06)	0.17	0.44
	30Y	(0.56)	(0.40)	(0.23)	(0.07)	0.17	0.44

Long-end tax-exempt to taxable spreads, which are negative at a 21% federal tax rate, move significantly positive only if tax rates grow to 40% or more.

- Although the wave of taxable supply has made taxable more attractive at the current 21% federal tax rate, COVID's economic impact could compel an increase in federal or state taxes that would reduce or eliminate the spread advantage taxable securities confer.
- Implied tax rates, measured by either the SIFMA Municipal Swap-to-LIBOR ratio or tax-exempt to taxable spreads, are well in excess of 45% of the shorter part of the curve traditionally dominated by individual retail investors.
- Long-end tax-exempt yields are substantially below taxables at the current 21% federal tax rate, and taxables will remain relatively attractive so long as the tax rate remains below approximately 37%.



STIFEL Sou

Tenor
Essential Service Utility Revenues

• Usually well positioned from a logistical perspective, and the inelasticity in demand will be a key credit positive.

Higher Education

- Long term changes in demand, especially for institutions heavily reliant on foreign students, could be impactful. Short-term enrollment disruptions should be manageable through distance learning programs, but should those distance learning regimens continue for a period of time, institutions might face a push back on tuitions and fees.
- Institutions with good liquidity, strong selectivity, previously solid enrollment trends, and meaningful external support (state or donor) will be best positioned.

Healthcare, Hospital, and CCRC

- Healthcare providers across the country could be strained to provide both coronavirus care (at perhaps a subsidized rate) and other more profitable services. Disruptions in staffing and administration could compound those impacts.
- CCRCs face meaningful risks if the virus disrupts occupancy.

Transportation

- Port revenue bonds have already been impacted by declines in cargo volumes from China and will further be impacted as shifts in consumer behavior propagate through the supply chain.
- Airport revenue bonds will hinge on the health and viability of airline companies and the timing and recovery of passenger volumes.

Special Tax Revenue Bonds

• The ultimate effect of temporary disruptions in sales or income tax collections due to either a tax holiday or changing consumer demand will vary depending on underlying credit quality and coverage ratios.

Local and State General Obligations

- In general, we believe most state and local governments will successfully manage the stress from COVID-19.
- Additional federal support is likely, but internal liquidity to manage the immediate crisis will be paramount. For example, school districts whose state aid revenue is disrupted by a temporary lack of enrollment may have to manage with funds on hand.
- Disruptions in the market could limit access to external capital and put unique stresses on large VRDO issuers.

Sub Debt Sector

Regulatory Considerations: Investments in Financials

	Depository Institution Debt Adjustment (DIDA)	Basel III Non-Significant Investment in the Capital of Unconsolidated Financial Institution ¹
Subject instruments	Long-term unsecured debt of another unsecured depository institution (IDI)	Net long position in instrument that is recognized as capital by the primary supervisory of an unconsolidated financial institution or in an instrument that is part of GAAP equity of an unconsolidated unregulated financial institution
Maturity Threshold	Remaining maturity > 1 year	None
De Minimis Level for Deduction	3% of Tier 1 Capital	25% of adjusted Common Equity Tier 1 Capital (CET1)
Deduction	50 bp additional FDIC assessment for every dollar in excess of <i>de minimis</i> level	Corresponding deduction approach for every dollar in excess of <i>de minimis</i> level

Polling Question #2

- Excess Liquidity
- State of PPP
- Investment Universe Review
- Cash Deploy
- Deleverage Considerations
- Portfolio Restructuring
- Hedging Application
- Loan Market Update

Investment Options Grid

		Inv	/estment C	Options Gri	id								
							0	-12mo Yie	ld	Pr	rice Volatil	ity	
	Туре	SubSector	Price	Duration	Сvх	WAL	-100	Base	+100	-100	+100	+300	
	Agency Debt	2 Year Bullet Agency	100.03	1.9	0.0	1.9	0.14	0.14	0.14	1.9%	-1.9%	-5.5%	
	Agency Debt	3 Year Bullet Agency	99.86	3.0	0.1	3.0	0.27	0.27	0.27	3.0%	-2.9%	-8.5%	
	Agency Debt	5 Year Bullet Agency	109.71	4.7	0.3	5.0	0.54	0.54	0.54	4.9%	-4.6%	-13.2%	
	Agency Debt	7 Year Bullet Agency	99.33	6.8	0.5	6.9	0.85	0.85	0.85	7.0%	-6.5%	-18.2%	
	Agency Debt	10 Year Bullet Agency	97.35	9.4	1.0	9.7	1.16	1.16	1.16	9.9%	-9.0%	-24.4%	
	Agency Debt	5YNC1Y Bermudan Callable	100.00	2.8	-4.2	2.7	0.60	0.60	0.60	1.5%	-4.1%	-12.9%	
	Agency Debt	7YNC2Y Bermudan Callable	100.00	4.6	-2.4	4.4	0.84	0.84	0.84	3.4%	-5.5%	-17.1%	
	Agency Debt	10YNC2Y Bermudan Callable	100.00	5.7	-3.1	5.3	1.30	1.30	1.30	4.1%	-6.8%	-21.8%	
	Agency MBS	10 Year 1.5% MBS	102.64	2.5	-1.9	3.4	0.14	0.67	0.78	1.6%	-3.2%	-10.6%	
	Agency MBS	15 Year 1.5% MBS	102.30	3.2	-2.6	4.4	0.23	0.94	1.07	1.9%	-4.3%	-15.0%	
	Agency MBS	20 Year 1.5% MBS	101.41	4.4	-3.0	6.1	0.85	1.24	1.29	2.8%	-5.6%	-18.6%	
	Agency MBS	30 Year 1.5% MBS	100.78	5.9	-3.8	9.0	1.21	1.40	1.41	3.8%	-7.4%	-24.1%	
	Hybrid ARM	Short-Reset Hybrid ARM	105.38	0.1	-0.3	4.4	-0.27	0.74	1.66	-0.1%	-0.4%	-1.9%	
	Hybrid ARM	Hybrid ARM - 75-90MTR	105.09	-0.0	-0.8	2.6	-0.40	0.95	1.80	0.1%	-1.1%	-7.7%	
	Hybrid ARM	Hybrid ARM - >100MTR	104.06	2.5	-2.8	4.3	0.15	0.99	1.38	1.5%	-3.7%	-13.7%	
	Agency CMO	Short CMO (1.50% xPAC x 30Y 3.5s)	101.70	3.0	-2.6	2.7	0.43	0.82	1.14	2.1%	-4.3%	-18.5%	
	Agency CMO	Mid CMO (1.25% PT \$125k Max 20Y 3s)	101.38	4.3	-2.1	4.6	0.76	0.92	1.00	3.3%	-5.0%	-16.5%	
	Agency CMO	Long CMO (1.50% PAC x \$110k Max 30Y 4s)	102.69	5.1	-0.6	6.8	0.93	1.07	1.07	4.9%	-5.4%	-16.3%	
	Agency CMO	Long CMO (2.0% PAC x 30Y Jumbo 2s)	102.31	2.4	-4.3	4.4	-1.24	1.43	1.61	0.2%	-4.4%	-17.3%	
	Agency CMO	Floating CMO	100.56	0.8	2.4	4.6	0.24	0.41	1.41	1.8%	-0.3%	-0.7%	
	Agency CMBS	3 Year Agency CMBS	108.33	3.3	0.1	3.4	0.59	0.59	0.59	3.3%	-3.2%	-9.2%	
Г	Agency CMBS	5 Year Agency CMBS	108.06	5.0	0.3	5.3	0.89	0.89	0.89	5.2%	-4.9%	-13.8%	
	Agency CMBS	7 Year Agency CMBS	113.97	6.2	0.4	6.8	1.04	1.04	1.04	6.4%	-6.0%	-16.7%	
	Agency CMBS	10 Year Agency CMBS	102.20	9.2	0.9	9.8	1.25	1.25	1.25	9.5%	-8.6%	-23.5%	
	Agency CMBS	FRESB 5 Year Hybrid	100.44	3.9	0.2	4.0	0.70	0.70	0.70	4.0%	-3.8%	-10.9%	
	Agency CMBS	FRESB 7 Year Hybrid	100.63	5.0	0.3	5.2	0.98	0.98	0.98	5.2%	-4.9%	-13.7%	
	Agency CMBS	FRESB 10 Year Hybrid	99.39	6.8	0.7	7.1	1.20	1.20	1.21	7.1%	-6.4%	-17.7%	
	Agency CMBS	GNMA Project Loan	104.47	4.2	0.3	4.4	0.78	1.42	1.71	2.7%	-5.4%	-20.4%	
	SBA Floater	Floating Rate SBA	108.25	0.7	0.2	6.6	0.06	0.96	1.85	0.8%	-0.6%	-1.7%	
	Municipal	10 Year GM Muni (AA GO, 4% Cpn)	126.21	8.4	0.8	9.6	1.23	1.23	1.23	8.7%	-8.0%	-22.2%	
	Municipal	15 Year GM Muni (AA GO, 4% Cpn)	123.03	9.3	0.4	10.7	1.65	1.65	1.65	9.5%	-9.2%	-26.2%	
	Municipal	20 Year GM Muni (AA GO, 4% Cpn)	121.20	9.9	-0.0	11.9	1.87	1.87	1.87	9.9%	-9.9%	-28.2%	
	Municipal	10 Year TXBL Muni (AA GO)	97.90	9.3	1.0	10.0	1.73	1.73	1.73	9.8%	-8.9%	-24.1%	
	Municipal	15 Year TXBL Muni (AA GO)	97.60	11.9	1.1	12.9	2.22	2.14	2.14	12.3%	-11.5%	-30.9%	
	Municipal	20 Year TXBL Muni (AA GO)	101.87	12.7	0.1	14.7	2.57	2.57	2.63	12.8%	-12.3%	-33.3%	
	Corporate	5 Year Financial Corporate (A)	105.14	4.3	0.2	4.4	0.90	0.90	0.90	4.4%	-4.2%	-11.9%	
Corporate 8Y		8 Year Financial Corporate (A)	105.07	6.1	0.4	6.6	1.37	1.37	1.37	6.4%	-5.9%	-16.7%	
	Corporate	10 Year Financial Corporate (A)	106.77	8.5	0.8	9.4	1.74	1.74	1.74	8.9%	-8.1%	-22.3%	
	Corporate	Community Bank Sub Debt (BBB)	100.00	4.4	-0.0	5.0	4.00	4.00	4.00	4.3%	-4.3%	-12.2%	
	Municipal + Swap (Deferred)	11NC10yr Taxable Muni - In 3y for 7y	103.72	9.5	0.9	9.8	1.76	1.76	1.78	2.3%	-2.7%	-7.9%	
	ACMBS + Swap (Deferred)	New Issue 15yr K - In 3y for 10y	99.86	12.8	1.8	14.3	1.72	1.72	1.72	2.7%	-2.7%	-7.4%	

Cash Deploy Summary

- The following analysis for Sample Bank shows the impact of three \$100M Cash Deployment strategies with varying goals and constraints
- The strategies assume cash is earning 0.10%, and that the Sample Bank can deploy that cash into a basket of securities
- Securities options include MBS, Hybrid ARMs, CMOs, CMBS, SBAs, Municipals, Corporates and Swapped Municipals/CMBS
- The following goals and constraints were used in solving for the optimal asset mix:

Strategy 1:	"Short Allocation": \$100M Cash Deploy, Maximize Spread, Limit +300 Price Volatility to -12.0%
S	Result: Spread of 1.43% on cash vs. purchases (yielding 1.53%)

Strategy 2:	"Long Allocation": \$100M Cash Deploy, Maximize Spread, Limit +300 Price Volatility to -20.0%
5 3 ,	Result: Spread of 1.78% on cash vs. purchases (yielding 1.88%)

Strategy 3:	"More Spread, Less Volatility": \$100M Cash Deploy, Minimize +300 Price Volatility, Achieve the Same Spread on cash as the Long Allocation (1.78%), Allow for the use of swapped municipals and swapped CMBS products
	Result: Spread of 1.78% (Matches Long Alloc.), +300 Price Volatility of -12.1% (Matches Short Alloc.)

- The majority of the securities were selected to represent an array of bonds that provide a tradeoff between base case yield, diversification and price volatility
 - 1) Assumes Cash Earns 0.10%

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- (2) Securities pricing provided by Stifel Fixed Income Proprietary Pricing matrix as of 11/10/2020 and may not represent executable levels
 - 3) Analytics provided by Bloomberg, The Yield Book, and ZM Financial

Cash Deploy Allocations

• Below are the allocation percentages for the three strategies

Securities Purchases													Allocation	1
						0	-12mo Yie	ld	Pr	ice Volatil	ity	Strategy	Strategy	Strategy
Туре	SubSector	Price I	Duration	Сvх	WAL	-100	Base	+100	-100	+100	+300	1	2	3
Agency Debt	2 Year Bullet Agency	100.03	1.9	0.0	1.9	0.14	0.14	0.14	1.9%	-1.9%	-5.5%	0%	0%	0%
Agency Debt	3 Year Bullet Agency	99.86	3.0	0.1	3.0	0.27	0.27	0.27	3.0%	-2.9%	-8.5%	0%	0%	0%
Agency Debt	5 Year Bullet Agency	109.71	4.7	0.3	5.0	0.54	0.54	0.54	4.9%	-4.6%	-13.2%	0%	0%	0%
Agency Debt	7 Year Bullet Agency	99.33	6.8	0.5	6.9	0.85	0.85	0.85	7.0%	-6.5%	-18.2%	0%	0%	0%
Agency Debt	10 Year Bullet Agency	97.35	9.4	1.0	9.7	1.16	1.16	1.16	9.9%	-9.0%	-24.4%	0%	0%	0%
Agency Debt	5YNC1Y Bermudan Callable	100.00	2.8	-4.2	2.7	0.60	0.60	0.60	1.5%	-4.1%	-12.9%	0%	0%	0%
Agency Debt	7YNC2Y Bermudan Callable	100.00	4.6	-2.4	4.4	0.84	0.84	0.84	3.4%	-5.5%	-17.1%	0%	0%	0%
Agency Debt	10YNC2Y Bermudan Callable	100.00	5.7	-3.1	5.3	1.30	1.30	1.30	4.1%	-6.8%	-21.8%	0%	0%	0%
Agency MBS	10 Year 1.5% MBS	102.64	2.5	-1.9	3.4	0.14	0.67	0.78	1.6%	-3.2%	-10.6%	0%	0%	0%
Agency MBS	15 Year 1.5% MBS	102.30	3.2	-2.6	4.4	0.23	0.94	1.07	1.9%	-4.3%	-15.0%	0%	0%	0%
Agency MBS	20 Year 1.5% MBS	101.41	4.4	-3.0	6.1	0.85	1.24	1.29	2.8%	-5.6%	-18.6%	0%	0%	0%
Agency MBS	30 Year 1.5% MBS	100.78	5.9	-3.8	9.0	1.21	1.40	1.41	3.8%	-7.4%	-24.1%	0%	5%	0%
Hybrid ARM	Short-Reset Hybrid ARM	105.38	0.1	-0.3	4.4	-0.27	0.74	1.66	-0.1%	-0.4%	-1.9%	20%	0%	16%
Hybrid ARM	Hybrid ARM - 75-90MTR	105.09	-0.0	-0.8	2.6	-0.40	0.95	1.80	0.1%	-1.1%	-7.7%	10%	5%	0%
Hybrid ARM	Hybrid ARM - >100MTR	104.06	2.5	-2.8	4.3	0.15	0.99	1.38	1.5%	-3.7%	-13.7%	0%	0%	0%
Agency CMO	Short CMO (1.50% xPAC x 30Y 3.5s)	101.70	3.0	-2.6	2.7	0.43	0.82	1.14	2.1%	-4.3%	-18.5%	0%	0%	0%
Agency CMO	Mid CMO (1.25% PT \$125k Max 20Y 3s)	101.38	4.3	-2.1	4.6	0.76	0.92	1.00	3.3%	-5.0%	-16.5%	0%	0%	0%
Agency CMO	Long CMO (1.50% PAC x \$110k Max 30Y 4s)	102.69	5.1	-0.6	6.8	0.93	1.07	1.07	4.9%	-5.4%	-16.3%	0%	0%	0%
Agency CMO	Long CMO (2.0% PAC x 30Y Jumbo 2s)	102.31	2.4	-4.3	4.4	-1.24	1.43	1.61	0.2%	-4.4%	-17.3%	15%	20%	4%
Agency CMO	Floating CMO	100.56	0.8	2.4	4.6	0.24	0.41	1.41	1.8%	-0.3%	-0.7%	15%	0%	0%
Agency CMBS	3 Year Agency CMBS	108.33	3.3	0.1	3.4	0.59	0.59	0.59	3.3%	-3.2%	-9.2%	0%	0%	0%
Agency CMBS	5 Year Agency CMBS	108.06	5.0	0.3	5.3	0.89	0.89	0.89	5.2%	-4.9%	-13.8%	0%	0%	0%
Agency CMBS	7 Year Agency CMBS	113.97	6.2	0.4	6.8	1.04	1.04	1.04	6.4%	-6.0%	-16.7%	0%	0%	0%
Agency CMBS	10 Year Agency CMBS	102.20	9.2	0.9	9.8	1.25	1.25	1.25	9.5%	-8.6%	-23.5%	0%	0%	0%
Agency CMBS	FRESB 5 Year Hybrid	100.44	3.9	0.2	4.0	0.70	0.70	0.70	4.0%	-3.8%	-10.9%	0%	0%	0%
Agency CMBS	FRESB 7 Year Hybrid	100.63	5.0	0.3	5.2	0.98	0.98	0.98	5.2%	-4.9%	-13.7%	0%	0%	0%
Agency CMBS	FRESB 10 Year Hybrid	99.39	6.8	0.7	7.1	1.20	1.20	1.21	7.1%	-6.4%	-17.7%	0%	0%	0%
Agency CMBS	GNMA Project Loan	104.47	4.2	0.3	4.4	0.78	1.42	1.71	2.7%	-5.4%	-20.4%	0%	20%	0%
SBA Floater	Floating Rate SBA	108.25	0.7	0.2	6.6	0.06	0.96	1.85	0.8%	-0.6%	-1.7%	10%	10%	10%
Municipal	10 Year GM Muni (AA GO, 4% Cpn)	126.21	8.4	0.8	9.6	1.23	1.23	1.23	8.7%	-8.0%	-22.2%	0%	0%	0%
Municipal	15 Year GM Muni (AA GO, 4% Cpn)	123.03	9.3	0.4	10.7	1.65	1.65	1.65	9.5%	-9.2%	-26.2%	0%	0%	0%
Municipal	20 Year GM Muni (AA GO, 4% Cpn)	121.20	9.9	-0.0	11.9	1.87	1.87	1.87	9.9%	-9.9%	-28.2%	0%	10%	0%
Municipal	10 Year TXBL Muni (AA GO)	97.90	9.3	1.0	10.0	1.73	1.73	1.73	9.8%	-8.9%	-24.1%	0%	0%	0%
Municipal	15 Year TXBL Muni (AA GO)	97.60	11.9	1.1	12.9	2.22	2.14	2.14	12.3%	-11.5%	-30.9%	0%	0%	0%
Municipal	20 Year TXBL Muni (AA GO)	101.87	12.7	0.1	14.7	2.57	2.57	2.63	12.8%	-12.3%	-33.3%	20%	20%	20%
Corporate	5 Year Financial Corporate (A)	105.14	4.3	0.2	4.4	0.90	0.90	0.90	4.4%	-4.2%	-11.9%	0%	0%	0%
Corporate	8 Year Financial Corporate (A)	105.07	6.1	0.4	6.6	1.37	1.37	1.37	6.4%	-5.9%	-16.7%	0%	0%	0%
Corporate	10 Year Financial Corporate (A)	106.77	8.5	0.8	9.4	1.74	1.74	1.74	8.9%	-8.1%	-22.3%	0%	0%	0%
Corporate	Community Bank Sub Debt (BBB)	100.00	4.4	-0.0	5.0	4.00	4.00	4.00	4.3%	-4.3%	-12.2%	10%	10%	10%
Municipal + Swap (Deferred)	11NC10yr Taxable Muni - In 3y for 7y	103.72	9.5	0.9	9.8	1.76	1.76	1.78	2.3%	-2.7%	-7.9%	0%	0%	20%
ACMBS + Swap (Deferred)	New Issue 15yr K - In 3y for 10y	99.86	12.8	1.8	14.3	1.72	1.72	1.72	2.7%	-2.7%	-7.4%	0%	0%	20%
Strategy 1 Purch.		103.22	3.6	-0.4	6.6	0.67	1.53	2.08	3.4%	-3.9%	-12.0%			
Strategy 2 Purch.		104.97	5.7	-1.0	7.7	1.05	1.88	2.12	4.8%	-6.3%	-20.0%			
Strategy 3 Purch.		102.87	7.6	0.4	9.8	1.52	1.88	2.14	4.1%	-4.3%	-12.1%			

STIFEL (1) (2)

Securities pricing provided by Stifel Fixed Income Proprietary Pricing matrix as of 11/10/2020 and may not represent executable levels Analytics provided by Bloomberg, The Yield Book, and ZM Financial

Cash Deploy Allocations - Consolidated

• The grid below consolidates the Funding & Securities Universe to only those line items that were chosen within the model for any of the three strategies

Funding												Allocation		
	0-12mo Cost (%) Price Volatility								Strategy	Strategy	Strategy			
Туре	Maturity	Price Duration	Cvx WAL	-100	Base	+100	-100	+100	+300	1	2	3		
Cash	11/10/2020	100.00 0.0	0.0 0.0	-0.90	0.10	1.10	0.0%	0.0%	0.0%	100%	100%	100%		
Strategy 1 Funding	11/10/2020) 100.00 0.0	0.0 0.0	-0.90	0.10	1.10	0.0%	0.0%	0.0%					

Strategy 1 Funding	11/10/2020	100.00	0.0	0.0	0.0	-0.90	0.10	1.10	0.0%	0.0%	0.0%
Strategy 2 Funding	11/10/2020	100.00	0.0	0.0	0.0	-0.90	0.10	1.10	0.0%	0.0%	0.0%
Strategy 3 Funding	11/10/2020	100.00	0.0	0.0	0.0	-0.90	0.10	1.10	0.0%	0.0%	0.0%

Securities Purchases														1
						0-	-12mo Yie	ld	Pr	ice Volatil	ity	Strategy	Strategy	Strategy
Туре	SubSector	Price	Duration	Сvх	WAL	-100	Base	+100	-100	+100	+300	1	2	3
Agency MBS	30 Year 1.5% MBS	100.78	5.9	-3.8	9.0	1.21	1.40	1.41	3.8%	-7.4%	-24.1%	0%	5%	0%
Hybrid ARM	Short-Reset Hybrid ARM	105.38	0.1	-0.3	4.4	-0.27	0.74	1.66	-0.1%	-0.4%	-1.9%	20%	0%	16%
Hybrid ARM	Hybrid ARM - 75-90MTR	105.09	-0.0	-0.8	2.6	-0.40	0.95	1.80	0.1%	-1.1%	-7.7%	10%	5%	0%
Agency CMO	Long CMO (2.0% PAC x 30Y Jumbo 2s)	102.31	2.4	-4.3	4.4	-1.24	1.43	1.61	0.2%	-4.4%	-17.3%	15%	20%	4%
Agency CMO	Floating CMO	100.56	0.8	2.4	4.6	0.24	0.41	1.41	1.8%	-0.3%	-0.7%	15%	0%	0%
Agency CMBS	GNMA Project Loan	104.47	4.2	0.3	4.4	0.78	1.42	1.71	2.7%	-5.4%	-20.4%	0%	20%	0%
SBA Floater	Floating Rate SBA	108.25	0.7	0.2	6.6	0.06	0.96	1.85	0.8%	-0.6%	-1.7%	10%	10%	10%
Municipal	20 Year GM Muni (AA GO, 4% Cpn)	121.20	9.9	-0.0	11.9	1.87	1.87	1.87	9.9%	-9.9%	-28.2%	0%	10%	0%
Municipal	20 Year TXBL Muni (AA GO)	101.87	12.7	0.1	14.7	2.57	2.57	2.63	12.8%	-12.3%	-33.3%	20%	20%	20%
Corporate	Community Bank Sub Debt (BBB)	100.00	4.4	-0.0	5.0	4.00	4.00	4.00	4.3%	-4.3%	-12.2%	10%	10%	10%
Municipal + Swap (Deferred)	11NC10yr Taxable Muni - In 3y for 7y	103.72	9.5	0.9	9.8	1.76	1.76	1.78	2.3%	-2.7%	-7.9%	0%	0%	20%
ACMBS + Swap (Deferred)	New Issue 15yr K - In 3y for 10y	99.86	12.8	1.8	14.3	1.72	1.72	1.72	2.7%	-2.7%	-7.4%	0%	0%	20%
Strategy 1 Purch.		103.22	3.6	-0.4	6.6	0.67	1.53	2.08	3.4%	-3.9%	-12.0%			
Strategy 2 Purch.		104.97	5.7	-1.0	7.7	1.05	1.88	2.12	4.8%	-6.3%	-20.0%			
Strategy 3 Purch.		102.87	7.6	0.4	9.8	1.52	1.88	2.14	4.1%	-4.3%	-12.1%			
									-	-				
Difference		3.22	3.6	-0.4	6.6	1.57	1.43	0.98	3.4%	-3.9%	-12.0%			
Difference		4.97	5.7	-1.0	7.7	1.95	1.78	1.02	4.8%	-6.3%	-20.0%			
Difference		2.87	7.6	0.4	9.8	2.42	1.78	1.04	4.1%	-4.3%	-12.1%			

Summary Comparison

The grid describes cash deploy strategies with various goals and constraints

- The "Short Allocation" achieves a spread of 1.43% with an +300 Price Volatility of -12%
- The "Long Allocation" achieves a spread of 1.78% with an +300 Price Volatility → of -20%
- The "More Spread, Less Volatility" scenario achieves the same spread of 1.78% but reduces +300 Price Volatility to -12.1% through → the use of swapped municipals and swapped CMBS

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x.	Beginning	Strate	gy 1	Strate	egy 2	Strategy 3			
	Data	Pro Forma	Change	Pro Forma	Change	Pro Forma	Change		
Descriptions									
		Short Allocation	ו	Long Allocation	1	More Spread, Less Volatility			
		\$100M Cash De	ploy	\$100M Cash De	ploy	\$100M Cash De	oloy		
		Maximize Spread	1	Maximize Spread	d	Minimize +300 P.	x Vol		
		+300 Px Vol > -12	2%	+300 Px Vol > -2	0%	Spread = 1.78%			
						Allow for Swappe	d Muni/CMBS		
Asset Purchases	ses 100,000		100,0	000	100	,000			
Securities Yield	urities Yield 1.53%		1.88	8%	1.8	8%			
WAL	WAL		6	7.3	7	9	.8		
Duration		3.6	6	5.3	7	7	.6		
+300 Price Vol.	300 Price Vol.		0%)	(20.0	0%)	(12	.1%)		
ish Balance		100,0	000	100,0	000	100,000			
Cash Yield	0.10%		%	0.10	1%	0.10%			
Net Interest Spread		1.43	3%	1.78%		1.7	18%		
0-12 Month NII		\$	Spread	\$	Spread	\$	Spread		
-100 0-12 Mo. NII		1,565	1.57%	1,953	1.95%	2,420	2.42%		
Base 0-12 Mo. NII		1,432	1.43%	1,781	1.78%	1,779	1.78%		
+100 0-12 Mo. NII		978	0.98%	1,021	1.02%	1,041	1.04%		
Impact On EVE		\$	%Δ	\$	%∆	\$	%Δ		
-100 EVE		3,369	3.4%	4,847	4.8%	4,076	4.1%		
+100 EVE		(3,888)	(3.9%)	(6,325)	(6.3%)	(4,276)	(4.3%)		
+300 EVE		(12,000)	(12.0%)	(20,000)	(20.0%)	(12,101)	(12.1%)		
Key Impacts			%∆		%∆		%∆		
Leverage	8.40%	8.40%	0.00%	8.40%	0.00%	8.40%	0.00%		
Tot RB Capital	14.51%	14.40%	(0.11%)	14.41%	(0.10%)	14.40%	(0.11%)		
TCE/TA	6.67%	6.67%	0.00%	6.67%	0.00%	6.67%	0.00%		
NIM	3.55%	3.59%	0.04%	3.60%	0.05%	3.60%	0.05%		
ROA	0.87%	0.90%	0.03%	0.91%	0.03%	0.91%	0.03%		
ROE	10.96%	11.31%	0.35%	11.40%	0.44%	11.40%	0.44%		
EDC	2.11	2 17	0.07	2.10	0.00	2.10	0.00		

Cash Deploy Sensitivity Table: Changing Notional Amount

Beginning Data

- The following sensitivity table shows the impacts to earnings and capital when increasing the size of the cash deploy.
- Every \$25M of cash deployed results in \$0.017 increase to EPS in Strategy 1, assuming a spread of 1.43% over cash and results in \$0.021 increase in EPS in Strategies 2 and 3, assuming a 1.78% spread over cash.
- While the strategies dilute Total Risk Based Capital ratio with the addition of earning assets that carry risk weight, all earnings metrics are significantly improved with the deployment of cash into a basket of securities.

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		Cap		ings weur	5							
	Leverage	TRBC	NIM	ROA	ROE	EPS						
Beginning	8.40%	14.51%	3.55%	0.87%	10.96%	2.11						
			Strate	gy 1					Strat	egy 1		
		Base C	apital & Ea	arnings Me	trics			Differe	nce from I	Beginning I	Metrics	
25,000	8.40%	14.48%	3.56%	0.88%	11.05%	2.12	-	(0.03)%	0.01%	0.01%	0.09%	0.02
50,000	8.40%	14.45%	3.57%	0.88%	11.14%	2.14	-	(0.06)%	0.02%	0.01%	0.18%	0.03
75,000	8.40%	14.42%	3.58%	0.89%	11.22%	2.16	-	(0.09)%	0.03%	0.02%	0.26%	0.05
100,000	8.40%	14.40%	3.59%	0.90%	11.31%	2.17	-	(0.11%)	0.04%	0.03%	0.35%	0.07
125,000	8.40%	14.37%	3.60%	0.91%	11.40%	2.19	-	(0.14)%	0.05%	0.03%	0.44%	0.08
150,000	8.40%	14.34%	3.61%	0.91%	11.49%	2.21	-	(0.17)%	0.06%	0.04%	0.53%	0.10
175,000	8.40%	14.31%	3.62%	0.92%	11.57%	2.22	-	(0.20)%	0.07%	0.05%	0.61%	0.12
200,000	8.40%	14.28%	3.63%	0.93%	11.66%	2.24	-	(0.23)%	0.08%	0.06%	0.70%	0.13

				Strate	gy 2			Strategy 2							
			Base C	apital & Ea	rnings Me	trics		Difference from Beginning Metrics							
		Leverage	TRBC	NIM	ROA	ROE	EPS	Leverage	TRBC	NIM	ROA	ROE	EPS		
	25,000	8.40%	14.49%	3.56%	0.88%	11.07%	2.13	-	(0.02)%	0.01%	0.01%	0.11%	0.02		
	50,000	8.40%	14.46%	3.58%	0.89%	11.18%	2.15	-	(0.05)%	0.03%	0.02%	0.22%	0.04		
	75,000	8.40%	14.44%	3.59%	0.90%	11.29%	2.17	-	(0.07)%	0.04%	0.03%	0.33%	0.06		
ľ	100,000	8.40%	14.41%	3.60%	0.91%	11.40%	2.19	-	(0.10%)	0.05%	0.03%	0.44%	0.08		
1	125,000	8.40%	14.39%	3.61%	0.91%	11.51%	2.21	-	(0.12)%	0.06%	0.04%	0.55%	0.10		
	150,000	8.40%	14.36%	3.63%	0.92%	11.61%	2.23	-	(0.15)%	0.08%	0.05%	0.65%	0.13		
	175,000	8.40%	14.34%	3.64%	0.93%	11.72%	2.25	-	(0.17)%	0.09%	0.06%	0.76%	0.15		
	200,000	8.40%	14.32%	3.65%	0.94%	11.83%	2.27	-	(0.19)%	0.10%	0.07%	0.87%	0.17		

		Strategy 3					Strategy 3						
		Base Capital & Earnings Metrics					Difference from Beginning Metrics						
	Leverage	TRBC	NIM	ROA	ROE	EPS	Leverage	TRBC	NIM	ROA	ROE	EPS	
25,000	8.40%	14.48%	3.56%	0.88%	11.07%	2.13	-	(0.03)%	0.01%	0.01%	0.11%	0.02	
50,000	8.40%	14.45%	3.58%	0.89%	11.18%	2.15	-	(0.06)%	0.03%	0.02%	0.22%	0.04	
75,000	8.40%	14.42%	3.59%	0.90%	11.29%	2.17	-	(0.09)%	0.04%	0.03%	0.33%	0.06	
100,000	8.40%	14.40%	3.60%	0.91%	11.40%	2.19	-	(0.11%)	0.05%	0.03%	0.44%	0.08	
125,000	8.40%	14.37%	3.61%	0.91%	11.51%	2.21	-	(0.14)%	0.06%	0.04%	0.54%	0.10	
150,000	8.40%	14.34%	3.63%	0.92%	11.61%	2.23	-	(0.17)%	0.08%	0.05%	0.65%	0.13	
175,000	8.40%	14.31%	3.64%	0.93%	11.72%	2.25	-	(0.20)%	0.09%	0.06%	0.76%	0.15	
200,000	8.40%	14.28%	3.65%	0.94%	11.83%	2.27	-	(0.23)%	0.10%	0.07%	0.87%	0.17	

Securities pricing provided by Stifel Fixed Income Proprietary Pricing matrix as of 11/10/2020 and may not represent executable levels
Analytics provided by Bloomberg, The Yield Book, and ZM Financial

- Excess Liquidity
- State of PPP
- Investment Universe Review
- Cash Deploy
- Deleverage Considerations
- Portfolio Restructuring
- Hedging Application
- Loan Market Update

Deleverage Scenarios

Beginning Securities Portfolio & Funding Analysis

 Sample Bank's securities portfolio pricing for this analysis was provided by Stifel's proprietary pricing matrix as of 10/15/2020 and may not represent executable levels. A sector summary of the securities portfolio is provided below as of 10/15/2020:

Asset Summary - Beginning Portfolio											
Category	Current Face	Book	Market	Book	WAI	E	ff	Gain / Loss			
cutegory	current race	Price	Price	Yield	WAL	Dur	Cvx.	Guilly 2000			
Treasury/Agency	3,000,000	100.00	98.12	2.94	0.9	0.9	0.0	(56,423)			
MBS Fixed	50,720,404	100.31	103.85	2.88	2.8	1.1	(1.1)	1,793,169			
ARM	6,827,337	101.42	102.35	1.72	3.3	0.4	(0.1)	64,032			
CMO Fixed	7,950,395	100.24	99.81	1.92	3.1	1.6	(0.0)	(34,136)			
Agency CMBS	4,544,968	99.41	103.02	3.28	3.0	2.9	0.2	164,121			
Small Business	3,056,753	100.74	105.42	2.61	5.3	4.6	1.1	143,329			
Municipal	44,470,000	100.55	108.20	3.22	5.9	5.6	0.4	3,402,728			
Corporate	68,505,000	100.14	100.12	2.75	3.3	2.0	0.5	(16,007)			
CD	250,000	100.00	97.03	3.97	9.2	6.9	1.1	(7,422)			
Total	189,324,858	100.32	103.20	2.84	3.8	2.6	0.0	5,453,390			

• Sample Bank has \$38M in pay fixed swaps outstanding. The weighted average rate of the swaps is 2.23%, as shown below, with a unrealized loss of \$1.3M. A summary of funding and estimated prepayment penalties is provided below:

Liability Summary - Beginning Portfolio										
Category	Par Amount	Rate	Unwind Price	Maturity	Flat Dur.	Gain / Loss				
0-3 Month	4,187,500	1.94	100.22	11/23/2020	0.1	(9,281)				
3-6 Month	1,000,000	2.70	101.22	3/29/2021	0.5	(12,222)				
6-9 Month	1,000,000	1.94	101.37	7/12/2021	0.7	(13,727)				
9 Mo - 1 Year	3,496,000	1.88	101.51	8/22/2021	0.8	(52,810)				
1 Year - 18 Mo	4,740,000	2.79	103.12	12/22/2021	1.2	(148,118)				
18 Mo - 2 Year	11,340,600	2.03	103.31	7/27/2022	1.8	(375,388)				
2 Year - 3 Year	10,325,250	2.49	105.31	2/17/2023	2.3	(548,548)				
3 Year - 4 Year	2,037,000	1.86	105.58	8/1/2024	3.7	(113,603)				
Total	38,126,350	2.23	103.34	6/4/2022	1.6	(1,273,697)				

(1) Book Prices and Funding Data provided by Sample Bank as of 9/30/2020, Beginning Data provided by SNL as of 6/30/2020 LTM

(2) Market Prices provided by Stifel's Fixed Income Proprietary Pricing Matrix as of 10/15/2020 and may not represent executable levels

(3) Funding analysis provided by Stifel as of 10/15/2020 and may not represent executable levels

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Summary of Strategies

			Use Cash							No Cas	h		
	Beginning	Strategy	1	Strategy 2	2	Strategy 3	;	Strategy	4	Strategy	5	Strategy	6
	Data	Pro Forma C	hange	Pro Forma Cl	nange	Pro Forma Ch	ange	Pro Forma C	hange	Pro Forma C	hange	Pro Forma C	hange
		Maximize NII		\$20M Deleverage		\$10M Deleverage		Maximize Deleve	rage	\$20M Deleverage	e	\$10M Deleverage	2
		Gain/Loss Neutra	I	Maximize NII		Maximize NII		No Cash		No Cash		No Cash	
				Gain/Loss Neutral		Gain/Loss Neutral		Income Neutral		Maximize NII		Maximize NII	
										Gain/Loss Neutra	I	Gain/Loss Neutra	1
Transaction Detail													
Cash & Equivalents	17,795	(955)	(18,750)	4,744	(13,051)	10,857	(6,938)	17,795	-	17,795	-	17,795	-
Avg Yield	0.10%	0.10%		0.10%		0.10%		0.10%		0.10%		0.10%	
Portfolio Balance	189,325	179,750	(9,575)	183,385	(5,940)	186,775	(2,550)	161,161	(28,164)	171,099	(18,226)	178,955	(10,370)
Avg Yield	2.84%	2.80%		2.82%		2.82%		2.93%		2.92%		2.89%	
Security Sales		9,575		5,940		2,550		28,183		18,253		10,399	
Avg Yield		3.57%		3.51%		3.81%		2.30%		2.04%		1.93%	
Liability Prepays		28,443		19,107		9,600		28,443		18,399		10,530	
Avg Lost		2.31%		2.48%		2.79%		2.31%		2.66%		2.87%	
Blended Asset Yield		1.27%		1.17%		1.10%		(0.03%)		(0.02%)		(0.04%)	
Asset field - Liability Cost		(1.04%)		(1.31%)		(1.09%)		(0.02%)		(0.82%)		(0.94%)	
Impact on Earnings													
Net Interest Income	37,343	37,635	292	37,591	248	37,502	159	37,350	7	37,458	115	37,442	99
Net Interest Margin	3.44%	3.6%	0.12%	3.52%	0.08%	3.48%	0.05%	3.53%	0.09%	3.51%	0.07%	3.48%	0.04%
Net Income	6,121	6,352	231	6,317	196	6,247	126	6,127	6	6,212	91	6,200	79
Annual. EPS	0.36	0.37	0.01	0.37	0.01	0.37	0.01	0.36	0.00	0.36	0.01	0.36	0.00
ROAA	0.52%	0.55%	0.03%	0.55%	0.03%	0.54%	0.02%	0.53%	0.01%	0.54%	0.02%	0.53%	0.01%
ROAE	5.69%	5.95%	0.27%	5.90%	0.21%	5.82%	0.13%	5.74%	0.06%	5.81%	0.12%	5.78%	0.09%
Pretax Gain / (Loss)		0		0		2		155		0		0	
After-tax Gain / (Loss)		0		0		2		123		0		0	
Impact on Capital													
Tier 1 Leverage	9.22%	9.45%	0.23%	9.38%	0.15%	9.30%	0.08%	9.46%	0.24%	9.37%	0.15%	9.31%	0.08%
CET1 Risk Based	10.97%	11.01%	0.04%	10.99%	0.02%	10.98%	0.01%	11.13%	0.16%	11.08%	0.11%	11.02%	0.05%
Tier 1 Risk Based	10.97%	11.01%	0.04%	10.99%	0.02%	10.98%	0.01%	11.13%	0.16%	11.08%	0.11%	11.02%	0.05%
Total Risk Based	12.01%	12.05%	0.04%	12.04%	0.03%	12.02%	0.01%	12.18%	0.17%	12.13%	0.12%	12.07%	0.06%
Tangible Equity Ratio	8.00%	8.20%	0.20%	8.13%	0.13%	8.06%	0.07%	8.19%	0.20%	8.12%	0.13%	8.07%	0.07%
TCE / TA	8.00%	8.20%	0.20%	8.13%	0.13%	8.06%	0.07%	8.19%	0.20%	8.12%	0.13%	8.07%	0.07%
Impact on -100 EVE		(91)		(86)		(41)		(410)		(336)		(174)	
Impact on +300 EVE		35		112		48		919		741		477	

(1) Book Prices and Funding Data provided by Sample Bank as of 9/30/2020, Beginning Data provided by SNL as of 6/30/2020 LTM

Market Prices provided by Stifel's Fixed Income Proprietary Pricing Matrix as of 10/15/2020 and may not represent executable levels

(2) (3) Funding analysis provided by Stifel as of 10/15/2020 and may not represent executable levels

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Strategy 2: Transaction Detail

Strategy 2 explores the impact of a \$20M deleverage using cash and securities sales, while maximizing income ٠ pickup and remaining gain/loss neutral

Portfolio Summary	Current	Book	Market	Gain /	Book	Avg.	Eff.
r oraono o annary	Face	Price	Price	Loss	Yield	Life	Dur.
Current Portfolio	189,325	100.32	103.20	5,453	2.84	3.8	2.6
Security Sales	5,940	101.94	114.65	755	3.51	6.6	6.0
Pro Forma Portfolio	183,385	100.27	102.83	4,698	2.82	3.7	2.5

Liability Summary	Par Amount	Market Price	Gain / Loss	Rate	Rem. Mat.	Eff. Dur.
Current Portfolio	38,126	103.34	(1,274)	2.23	1.6	1.6
Liabilities Paid Off	19,107	103.95	(755)	2.48	1.7	1.7
Proforma Portfolio	19,020	102.73	(519)	1.98	1.5	1.5

Net Interest Margin Impact

STIFEL

0.08%

Portfolio Summary &	Income	Impacts
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Securities Sold & Liabilities Unwound

Effect on Inco	me (Book Value	s)	
	Yield	Amount	Income Change
Interest Income Given Up	3.51	6,055	(213)
Reduction in Interest Expense	2.48	19,107	474
Reinvestment Income	1.75	0	0
Income Given Up on Cash Used	0.10	13,051	(13)
Cumulative Effect on Pretax NII			248
Provision for Taxes (Assumes 21% Tax Rate)			(52)
Cumulative Effect on Net Income			196

Asset Summary - Strategy Sales										
Category	Current Face	Book Price	Market Price	Book Yield	WAL	E Dur	ff Cvx.	Gain / Loss		
Treasury/Agency	-	-	-	-	-	-	-	-		
MBS Fixed	-	-	-	-	-	-	-	-		
ARM	-	-	-	-	-	-	-	-		
CMO Fixed	-	-	-	-	-	-	-	-		
Agency CMBS	-	-	-	-	-	-	-	-		
Small Business	-	-	-	-	-	-	-	-		
Municipal	5,940,000	101.94	114.65	3.51	6.6	6.0	0.4	755,081		
Corporate	-	-	-	-	-	-	-	-		
CD	-	-	-	-	-	-	-	-		
Total	5,940,000	101.94	114.65	3.51	6.6	6.0	0.4	755,081		

Liability Summary - Strategy Unwinds										
Category	Par Amount	Rate	Unwind Price	Maturity	Flat Dur.	Gain / Loss				
0-3 Month	-	-	-	-	-	-				
3-6 Month	-	-	-	-	-	-				
6-9 Month	-	-	-	-	-	-				
9 Mo - 1 Year	-	-	-	-	-	-				
1 Year - 18 Mo	4,740,000	2.79	103.12	12/22/2021	1.2	(148,118)				
18 Mo - 2 Year	9,340,600	2.14	103.44	7/12/2022	1.7	(321,598)				
2 Year - 3 Year	5,026,000	2.81	105.67	12/23/2022	2.1	(285,045)				
3 Year - 4 Year	-	-	-	-	-	-				
Total	19,106,600	2.48	103.95	7/5/2022	1.7	(754,761)				

Book Prices and Funding Data provided by Sample Bank as of 9/30/2020, Beginning Data provided by SNL as of 6/30/2020 LTM (1)

(2) Market Prices provided by Stifel's Fixed Income Proprietary Pricing Matrix as of 10/15/2020 and may not represent executable levels

Funding analysis provided by Stifel as of 10/15/2020 and may not represent executable levels

Strategy 5: Transaction Detail

Strategy 5 explores the impact of a \$20M deleverage using only securities sales, while maximizing income • pickup and remaining gain/loss neutral

Portfolio Summary	Current	Book	Market	Gain /	Book	Avg.	Eff.
r ortiono ouninary	Face	Price	Price	Loss	Yield	Life	Dur.
Current Portfolio	189,325	100.32	103.20	5,453	2.84	3.8	2.6
Security Sales	18,253	100.95	105.57	844	2.04	4.0	3.0
Securities Purchased	27	100.46	100.46	-	1.75	10.0	9.3
Pro Forma Portfolio	171,099	100.25	102.95	4,609	2.92	3.8	2.6

Liability Summary	Par	Market	Gain /		Rem.	Eff.
	Amount	Price	Loss	Rate	Mat.	Dur.
Current Portfolio	38,126	103.34	(1,274)	2.23	1.6	1.6
Liabilities Paid Off	18,399	104.59	(844)	2.66	1.9	1.8
Proforma Portfolio	19,727	102.18	(429)	1.83	1.4	1.4

Portfolio Summary & Income Impacts

Effect on Income (Book Values)												
	Income Change											
Interest Income Given Up	2.04	18,426	(376)									
Reduction in Interest Expense	2.66	18,399	490									
Reinvestment Income	1.75	27	0									
Income Given Up on Cash Used	0.10	0	0									
Cumulative Effect on Pretax NII			115									
Provision for Taxes (Assumes 21% Tax Rate)			(24)									
Cumulative Effect on Net Income			91									

Net Interest Margin Impact

STIFEL

0.07%

Securities Sold & Liabilities Unwound

Asset Summary - Strategy Sales														
Category	Current Eace	Book	Market	Book	W/AI	E	ff	Gain / Loss						
category	currentrace	Price	Price	Yield	WAL	Dur	Cvx.	Gam / Loss						
Treasury/Agency	-	-	-	-	-	-	-	-						
MBS Fixed	1,329,570	102.92	102.42	0.99	1.6	0.5	(0.7)	(6,745)						
ARM	1,079,021	102.33	102.72	1.24	3.4	0.3	0.1	4,138						
CMO Fixed	539,287	101.11	100.42	0.46	0.5	(2.6)	4.4	(3,715)						
Agency CMBS	-	-	-	-	-	-	-	-						
Small Business	-	-	-	-	-	-	-	-						
Municipal	8,805,000	101.17	111.02	3.00	6.3	5.9	0.4	866,962						
Corporate	6,500,000	100.00	99.75	1.22	1.8	0.3	0.8	(16,235)						
CD	-	-	-	-	-	-	-	-						
Total	18,252,878	100.95	105.57	2.04	4.0	3.0	0.6	844,404						

	Liability Summary - Strategy Unwinds														
Category	Par Amount	Rate	Unwind Price	Maturity	Flat Dur.	Gain / Loss									
0-3 Month	-	-	-	-	-	-									
3-6 Month	-	-	-	-	-	-									
6-9 Month	-	-	-	-	-	-									
9 Mo - 1 Year	-	-	-	-	-	-									
1 Year - 18 Mo	4,740,000	2.79	103.12	12/22/2021	1.2	(148,118)									
18 Mo - 2 Year	4,915,000	2.56	103.98	6/5/2022	1.6	(195,570)									
2 Year - 3 Year	8,744,000	2.65	105.73	3/2/2023	2.3	(500,701)									
3 Year - 4 Year	-	-	-	-	-	-									
Total	18,399,000	2.66	104.59	8/30/2022	1.8	(844,389)									

(1) Book Prices and Funding Data provided by Sample Bank as of 9/30/2020, Beginning Data provided by SNL as of 6/30/2020 LTM

Market Prices provided by Stifel's Fixed Income Proprietary Pricing Matrix as of 10/15/2020 and may not represent executable levels (2)

Funding analysis provided by Stifel as of 10/15/2020 and may not represent executable levels

- Excess Liquidity
- State of PPP
- Investment Universe Review
- Cash Deploy
- Deleverage Considerations
- Portfolio Restructuring
- Hedging Application
- Loan Market Update

Faster Pre Paying 3 Month Historical Clean up

MBS Speed and Yield Report

Date: November 2020

								Historical Prepayments											
Maturity Date	Coupon	Book Price	Market Price	Current Par (000's)	\$ Gain/Loss	WAM	Num Loan	CPR- Curr Mth	CPR- 1mth Prev	CPR- 2mth Prev	CPR- 3mth Prev	CPR- 4mth Prev	1 Mth CPR Book Yield	3 Mth CPR Book Yield	6 Mth CPR Book Yield	12 Mth CPR Book Yield	Life CPR Book Yield	Mtge Type	Breakeven Yield @ H3M CPR
10/30/2043	2.99	101.72	100.79	\$45,031,885	-\$419,785	329		52.2	50.3	41.9	38.8	32.7	0.54%	0.87%	1.24%	0.89%	1.99%		1.32%
5/20/2047	3.50	101.93	101.34	\$4,148,853	-\$24,323	342		59.9	78.8	73.8	66.4	64.5	0.62%	-0.32%	-0.25%	0.05%	0.64%	G2JM 3.5	0.73%
1/20/2050	3.50	103.13	101.37	\$10,062,894	-\$177,106	350	227	81.8	66.7	35.7	11.1	11.9	-1.73%	0.02%	1.49%		2.07%	G2JM	1.85%
4/15/2043	3.50	100.89	100.59	\$1,549,561	-\$4,591	319		55.0	51.7	50.8	50.6	42.9	0.46%	0.65%	0.88%	1.60%	2.55%	FGLMC3.5	1.47%
4/15/2043	3.50	100.89	100.59	\$2,324,341	-\$6,886	319		55.0	51.7	50.8	50.6	42.9	0.46%	0.65%	0.88%	1.60%	2.55%	FGLMC3.5	1.47%
3/25/2045	3.50	100.80	100.84	\$2,422,052	\$1,060	322		60.2	59.0	66.3	66.3	54.2	1.23%	1.13%	1.15%	1.67%	2.58%	FNJMC3.5	1.03%
1/25/2050	1.50	101.59	98.61	\$10,527,351	-\$313,763	344		21.1	19.8	10.2	29.4	14.3	1.07%	1.14%	1.12%		1.16%	FNCL 4.5	1.79%
1/25/2028	3.50	101.17	102.09	\$3,128,840	\$28,903	323		53.6	61.5	62.3	66.5	54.2	1.85%	1.60%	1.55%	1.96%	2.71%	FNJMC3.5	0.36%
3/15/2029	3.50	101.55	102.16	\$5,545,658	\$33,621	317		56.9	52.2	53.6	53.1	46.5	1.47%	1.61%	1.74%	2.24%	2.82%	FGLMC3.5	0.94%
7/15/2042	3.25	100.47	100.66	\$3,883,930	\$7,234	309		44.9	46.9	45.8	43.6	39.2	1.69%	1.65%	1.77%	2.15%	2.69%	FGLMC3.5	1.15%
2/1/2035	3.00	101.76	104.20	\$1,020,890	\$24,954	164	126	36.2	48.4	53.0	21.9	52.3	1.99%	1.69%	1.84%	2.12%	2.53%	FNCT	0.12%
1/1/2044	2.38	100.00	102.66	\$417,514	\$11,112	275	17	1.9	0.6	83.0	0.3	9.8	1.82%	1.81%	1.81%	1.82%	1.82%	FNARM	0.23%
12/1/2047	2.87	100.89	102.56	\$2,102,872	\$35,118	324	210	35.7	70.1	38.1	40.4	28.2	2.23%	2.04%	2.19%	2.25%	2.27%	FNARM	0.85%
10/1/2037	3.50	102.15	105.28	\$1,397,199	\$43,767	199	329	46.3	43.7	34.0	41.3	26.8	1.98%	2.16%	2.30%	2.60%	2.93%	FGTW	0.39%
5/20/2050	2.50	102.65	102.57	\$13,682,823	-\$10,540	354	2769	3.9	8.5	1.9	1.4	0.8	2.22%	2.20%			2.24%	G2JM	2.21%
6/20/2050	2.50	102.97	102.57	\$12,835,511	-\$50,961	354	1355	4.4	1.1	0.7	0.5		2.18%	2.23%			2.24%	G2JM	2.27%
7/1/2036	3.00	101.03	104.20	\$1,189,772	\$37,768	182	3195	47.2	40.6	35.8	37.7	31.8	2.17%	2.29%	2.35%	2.53%	2.73%	FNCT	0.48%
1/1/2044	2.70	100.00	103.41	\$1,414,044	\$48,228	264	208	5.1	65.9	37.8	66.4	20.5	2.14%	2.31%	2.30%	2.26%	2.21%	FNARM	0.38%
8/1/2036	3.00	101.03	104.20	\$1,216,235	\$38,608	183	3705	34.5	42.3	35.6	31.8	28.2	2.41%	2.36%	2.43%	2.56%	2.73%	FNCT	0.72%
8/1/2033	4.00	102.44	105.61	\$1,209,021	\$38,334	147	349	36.1	35.4	53.8	41.9	34.4	2.61%	2.36%	2.39%	2.47%	2.83%	FGCI	0.44%
11/1/2036	3.00	101.93	105.59	\$1,470,204	\$53,865	184	905	19.8	20.4	17.0	14.5	6.7	2.36%	2.37%	2.47%	2.49%	2.58%	FNCT	1.31%
1/1/2048	2.66	100.03	103.59	\$1,466,910	\$52,165	326	33	73.6	49.3	44.1	56.6	33.0	2.36%	2.38%	2.37%	2.34%	2.28%	FNARM	-0.64%
11/20/2047	2.00	98.62	100.37	\$2,810,638	\$49,255	323	423	37.8	44.4	41.3	29.2	28.9	2.33%	2.40%	2.29%	2.20%	2.08%	G2AT	1.39%
7/25/2028	3.00	100.15	100.97	\$12,365,824	\$101,245	307		68.1	62.0	57.5	53.0	32.2	2.34%	2.43%	2.56%	2.72%	2.88%	FNJMCK 3	1.05%
	Maturity Date 10/30/2043 5/20/2047 1/20/2050 4/15/2043 3/25/2045 1/25/2028 3/15/2029 7/15/2042 2/1/2035 1/1/2044 12/1/2045 6/20/2050 7/1/2036 1/1/2044 8/1/2035 1/1/2044 8/1/2036 1/1/2044 8/1/2036 1/1/2048 1/1/2047	Maturity Date Coupon 10/30/2043 2.99 5/20/2047 3.50 1/20/2050 3.50 4/15/2043 3.50 4/15/2043 3.50 3/25/2045 3.50 1/25/2026 1.50 1/25/2028 3.50 1/25/2028 3.50 3/15/2029 3.50 7/15/2042 3.25 2/1/2035 3.00 1/1/2044 2.38 12/1/2047 2.87 10/1/2037 3.50 5/20/2050 2.50 6/20/2050 2.50 6/20/2050 2.50 7/1/2036 3.00 1/1/2044 2.70 8/1/2035 3.00 8/1/2036 3.00 1/1/1/2048 2.66 11/1/2048 2.66 11/20/2047 2.00	Maturity Date Book Price 10/30/2043 2.99 101.72 5/20/2047 3.50 101.93 1/20/2050 3.50 103.13 4/15/2043 3.50 100.89 4/15/2043 3.50 100.89 3/25/2045 3.50 100.89 3/25/2045 3.50 100.80 1/25/2050 1.50 101.75 7/15/2042 3.50 101.75 3/15/2029 3.50 101.76 1/1/2042 3.25 100.47 2/1/2035 3.00 101.76 1/1/2044 2.38 100.00 1/1/2047 2.87 100.89 10/1/2037 3.50 102.15 5/20/2050 2.50 102.65 6/20/2050 2.50 102.97 7/1/2036 3.00 101.03 1/1/2044 2.70 100.00 8/1/2033 4.00 102.44 11/1/2048 3.00 101.93 1/1/2048	Maturity Date Book Coupon Market Price 10/30/2043 2.99 101.72 100.79 5/20/2047 3.50 101.93 101.34 1/20/2050 3.50 103.13 101.37 4/15/2043 3.50 100.89 100.59 4/15/2043 3.50 100.89 100.59 3/25/2045 3.50 100.80 100.84 1/25/2050 1.50 101.55 98.61 1/25/2028 3.50 101.55 102.09 3/15/2029 3.50 101.55 102.16 7/15/2042 3.25 100.47 100.66 2/1/2035 3.00 101.76 104.20 1/1/2044 2.38 100.00 102.66 10/1/2037 3.50 102.15 105.28 5/20/2050 2.50 102.97 102.57 6/20/2050 2.50 102.97 102.57 7/1/2036 3.00 101.03 104.20 1/1/2044 2.70 100.00	Maturity Date Book Coupon Market Price Current Par (000's) 10/30/2043 2.99 101.72 100.79 \$45,031,885 5/20/2047 3.50 101.93 101.34 \$4,148,853 1/20/2050 3.50 103.13 101.37 \$10,062,894 4/15/2043 3.50 100.89 100.59 \$2,324,341 3/25/2045 3.50 100.89 100.59 \$2,324,341 3/25/2045 3.50 100.89 100.59 \$2,324,341 3/25/2045 3.50 101.77 102.09 \$3,128,840 3/15/2028 3.50 101.17 102.09 \$3,128,840 3/15/2029 3.50 101.17 102.09 \$3,128,840 3/15/2029 3.50 101.17 102.09 \$3,128,840 3/15/2029 3.50 101.76 104.20 \$1,020,890 1/1/2042 3.25 100.47 100.66 \$3,883,930 2/1/2035 3.00 101.76 104.20 \$1,020,890 1/1/	Maturity DateBook PriceMarket PriceCurrent Par (000's)\$ Gain/Loss10/30/20432.99101.72100.79\$45,031,885-\$419,7855/20/20473.50101.93101.34\$4,148,853-\$24,3231/20/20503.50103.13101.37\$10,062,894-\$177,1064/15/20433.50100.89100.59\$1,549,561-\$4,5914/15/20433.50100.89100.59\$2,324,341-\$6,8863/25/20453.50100.80100.84\$2,422,052\$1,0601/25/20501.50101.5998.61\$10,527,351-\$313,7631/25/20283.50101.17102.09\$3,128,840\$28,9033/15/20293.50101.55102.16\$5,545,658\$33,6217/15/20423.25100.47100.66\$3,883,930\$7,2342/1/20353.00101.76104.20\$1,020,890\$24,9541/1/20442.38100.00102.66\$417,514\$11,1121/1/20472.87100.89102.57\$13,682,823-\$10,5406/20/20502.50102.97102.57\$13,682,823-\$10,5406/20/20502.50102.97102.57\$13,682,823-\$10,5406/20/20502.50102.97\$12,835,511-\$50,9617/1/20363.00101.33104.20\$1,189,772\$33,7688/1/20363.00101.33104.20\$1,189,772\$33,6868/1/203	Maturity Date Book Coupon Market Price Current Par (000's) \$ Gain/Loss WAM 10/30/2043 2.99 101.72 100.79 \$45,031,885 -\$419,785 329 5/20/2047 3.50 101.93 101.34 \$4,148,853 -\$24,323 342 1/20/2050 3.50 103.13 101.37 \$10,062,894 -\$177,106 350 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 3/25/2045 3.50 100.80 100.84 \$2,422,052 \$1,060 322 1/25/2028 3.50 101.59 98.61 \$10,527,351 -\$313,763 344 1/25/2028 3.50 101.71 102.09 \$3,128,840 \$28,903 323 3/15/2029 3.50 101.75 102.16 \$5,545,658 \$33,621 317 7/15/2042 3.25 100.47 100.66 \$3,883,930 \$7,234 309 2/1/2035 3.00 101.75 102.66 \$417,514	Maturity Date Book Coupon Market Price Current Par (000's) \$ Gain/Loss Num Loan 10/30/2043 2.99 101.72 100.79 \$45,031,885 -\$419,785 329 5/20/2047 3.50 101.93 101.34 \$4,148,853 -\$24,323 342 1/20/2050 3.50 103.13 101.37 \$10,062,894 -\$177,106 350 227 4/15/2043 3.50 100.89 100.59 \$1,549,561 -\$4,591 319 3/25/2045 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 3/25/2045 3.50 100.80 100.84 \$2,422,052 \$1,060 322 1/25/2028 3.50 101.17 102.09 \$3,128,840 \$28,903 323 3/15/2029 3.50 101.17 102.09 \$3,128,840 \$28,903 323 2/1/2035 3.00 101.76 102.46 \$5,545,656 \$33,621 317 1/1/2044 2.325 100.47 100.66	Maturity Date Book Coupon Market Price Current Par (000's) S Gain/Loss Num VM Current Loas 10/30/2043 2.99 101.72 100.79 \$45,031,885 -\$419,785 3.29 52.2 5/20/2047 3.50 101.33 101.34 \$4,148,853 -\$24,323 342 59.9 1/20/2050 3.50 103.13 101.37 \$10,062,894 -\$177,106 350 22.7 81.8 4/15/2043 3.50 100.89 100.59 \$1,549,561 -\$4,591 319 55.0 3/25/2045 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 2.2 60.2 1/25/2050 1.50 101.59 98.61 \$10,527,351 \$313,763 344 21.1 1/25/2028 3.50 101.17 102.09 \$3,128,840 \$28,903 323 56.9 7/15/2029 3.50 101.75 102.66 \$3,183,930 \$7,234 309 44.9 2/1/2035 3.00 <t< td=""><td>Maturity Date Book Coupon Market Price Current Par (000's) \$ Gain/Loss WAM Conn CPR- ture Price 10/30/2043 2.99 101.72 100.79 \$45,031,885 -\$419,785 329 52.2 50.3 5/20/2047 3.50 101.33 101.37 \$10,062,894 -\$177,106 350 227 81.8 66.7 4/15/2043 3.50 100.89 100.59 \$1,549,561 -\$4,591 319 55.0 51.7 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 55.0 51.7 3/25/2045 3.50 101.59 98.61 \$10,527,351 -\$313,763 344 21.1 19.8 1/25/2028 3.50 101.17 102.09 \$3,128.840 \$28,903 323 53.6 61.5 3/15/2029 3.50 101.55 102.16 \$5,545,658 \$33,621 317 56.9 52.2 7/15/2042 3.25 100.420 \$1,020,890</td></t<> <td>Maturity Date Coupon Price Qurrent Par Price S (000's) S (a)/Loss WAM CPR Loan CPR Price CPR Price CPR Price CPR Price CPR Price CPR (000's) S419,765 329 52.2 50.3 41.9 5/20/2047 3.50 101.93 101.34 \$41,48,653 -\$24,323 342 59.9 78.8 73.8 1/20/2050 3.50 103.13 101.37 \$10,062,894 -\$177,106 350 227 81.8 66.7 35.7 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 55.0 51.7 50.8 3/25/2045 3.50 100.80 100.84 \$2,422,052 \$1,060 322 60.2 59.0 66.3 1/25/2028 3.50 101.17 102.09 \$3,128,840 \$28,903 323 53.6 61.5 62.3 3/15/2029 3.50 101.17 102.05 \$3,128,840 \$28,903 323 54.9 54.9</td> <td>Maturity Date Coupon Coupon Price Current Par (000's) S Gain/Loss WAM Loan CPR- Mth CPR- Prev CPR- Prev</td> <td>Maturity Date Book Coupon Market Price Current Par (000's) S Gain/Loss Wam Uan CPR Loan CPR Prev CPR- Prev CPR- Pre</td> <td>Maturity Date Book Coupon Market Price Current Par V(2000*) S Num Gain/Loss CPR- UM CPR- Curr 1mth 1mth Smth Smth 5/20/2047 3.50 101.93 101.37 \$45,031,885 -\$419,785 3.29 52.2 50.3 41.9 38.8 32.7 0.54% 5/20/2047 3.50 101.93 101.34 \$4,148,853 -\$24,323 342 59.9 78.8 73.8 66.4 64.5 0.62% 1/20/2050 3.50 103.31 101.37 \$10,062,894 -\$17,7106 350 51.7 50.8 50.6 42.9 0.46% 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 55.0 51.7 50.8 50.6 42.9 0.46% 3/25/2045 3.50 101.59 98.61 \$10,527,351 <313,763</td> 344 21.1 19.8 46.5 45.2 1.23% 1/25/2023 1.50 101.17 102.09 \$3,128,83,03	Maturity Date Book Coupon Market Price Current Par (000's) \$ Gain/Loss WAM Conn CPR- ture Price 10/30/2043 2.99 101.72 100.79 \$45,031,885 -\$419,785 329 52.2 50.3 5/20/2047 3.50 101.33 101.37 \$10,062,894 -\$177,106 350 227 81.8 66.7 4/15/2043 3.50 100.89 100.59 \$1,549,561 -\$4,591 319 55.0 51.7 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 55.0 51.7 3/25/2045 3.50 101.59 98.61 \$10,527,351 -\$313,763 344 21.1 19.8 1/25/2028 3.50 101.17 102.09 \$3,128.840 \$28,903 323 53.6 61.5 3/15/2029 3.50 101.55 102.16 \$5,545,658 \$33,621 317 56.9 52.2 7/15/2042 3.25 100.420 \$1,020,890	Maturity Date Coupon Price Qurrent Par Price S (000's) S (a)/Loss WAM CPR Loan CPR Price CPR Price CPR Price CPR Price CPR Price CPR (000's) S419,765 329 52.2 50.3 41.9 5/20/2047 3.50 101.93 101.34 \$41,48,653 -\$24,323 342 59.9 78.8 73.8 1/20/2050 3.50 103.13 101.37 \$10,062,894 -\$177,106 350 227 81.8 66.7 35.7 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 55.0 51.7 50.8 3/25/2045 3.50 100.80 100.84 \$2,422,052 \$1,060 322 60.2 59.0 66.3 1/25/2028 3.50 101.17 102.09 \$3,128,840 \$28,903 323 53.6 61.5 62.3 3/15/2029 3.50 101.17 102.05 \$3,128,840 \$28,903 323 54.9 54.9	Maturity Date Coupon Coupon Price Current Par (000's) S Gain/Loss WAM Loan CPR- Mth CPR- Prev CPR- Prev	Maturity Date Book Coupon Market Price Current Par (000's) S Gain/Loss Wam Uan CPR Loan CPR Prev CPR- Prev CPR- Pre	Maturity Date Book Coupon Market Price Current Par V(2000*) S Num Gain/Loss CPR- UM CPR- Curr 1mth 1mth Smth Smth 5/20/2047 3.50 101.93 101.37 \$45,031,885 -\$419,785 3.29 52.2 50.3 41.9 38.8 32.7 0.54% 5/20/2047 3.50 101.93 101.34 \$4,148,853 -\$24,323 342 59.9 78.8 73.8 66.4 64.5 0.62% 1/20/2050 3.50 103.31 101.37 \$10,062,894 -\$17,7106 350 51.7 50.8 50.6 42.9 0.46% 4/15/2043 3.50 100.89 100.59 \$2,324,341 -\$6,886 319 55.0 51.7 50.8 50.6 42.9 0.46% 3/25/2045 3.50 101.59 98.61 \$10,527,351 <313,763	Maturity Date Book Coupon Market Price Current Par (000's) S Gain/Loss WAM Loan CPR Mth CPR Price CPR CPR CPR Price CPR CPR CPR CPR CPR Prev CPR Prev CPR Vield CPR CPR CPR Prev CPR Prev CPR Vield CPR Vield CPR CPR CPR Prev CPR Prev CPR Vield CPR Vield <	Maturity Date Book Market Price Current Par (000's) S Gain/Loss Num Loan CPR Current Prev CPR Prev CPR Prev <	Maturity Date Book Market Price Current Par Price S (000°s) S Galn/Loss WAM Loan Km Mth CPR Prev CPR	Maturity Date Book Coupon Market Price Current Par (000°) S GainLoss Muth Sam CPR Mth CPR Zrent CPR Zrent	Maturity Date Book Market Current Par (000%) S Gain/Loss Num Vial Num Mith CPR- Prov CPR- Prov <

Portfolio Summary – Sell Municipals to offset loss on faster paying **SAMPLE** 3MO Historical

Transaction Summary													
	Sell Side	Buy Side	Net Change										
# Securities	14	1	-13										
Current Par Value	\$49,151,885	\$50,086,871	\$934,986										
Market Value	\$50,212,082	\$50,212,087	\$5										
Gain/Loss \$	\$208												
Gain/Loss %	0.0%												
Book Yield (Exp)	1.66%	1.97%	0.31%										
Book YTW	1.66%	1.97%	0.31%										
Avg. Life	2.6	10.1	7.5										
Avg. Life +300	6.8	14.1	7.3										
% Price Chg +300	-13.0%	-29.9%	-16.8%										
Effective Duration	2.23	11.69	9.47										

Cumulative Income Difference													
Scenario	-100	Base	+100										
Gain/Loss	\$208	\$208	\$208										
After 1 year	\$552,174	\$295,913	-\$126,011										
After 2 years	\$1,293,926	\$793,465	-\$149,641										
After 3 years	\$2,060,068	\$1,413,450	-\$86,502										
After 4 years	\$2,842,318	\$2,059,959	\$51,456										
After 5 years	\$3,636,741	\$2,722,085	\$256,368										
Income Difference to													
Sell Side Avg Life	\$1,357,035	\$1,202,129	\$65,541										
Months to Exhaust Gain	gain+inc	gain+inc	1										

	Portfolio Impacts													
	Before	After	Net Change											
# Securities	184	171	-13											
Current Par Value	\$1,004,415,454	\$1,005,350,440	\$934,986											
Market Value	\$1,080,448,944	\$1,080,448,944	-\$1											
Gain/Loss \$	\$57,113,151	\$57,112,943	-\$208											
Gain/Loss %	5.6%	5.6%	0.0%											
Book Yield (Exp)	3.00%	3.01%	0.02%											
Book YTW	2.98%	3.00%	0.02%											
Avg. Life	5.4	5.8	0.4											
Avg. Life +300	7.8	8.2	0.4											
% Price Chg +300	-14.4%	-15.2%	-0.8%											
Effective Duration	4.41	4.85	0.44											

Resulting Portfolio Book Yield (Exp) and Price Sensitivity



MBS Under 0.50% Breakeven Yield

MBS Speed and Yield Report

Date: November 2020

| | | | | | |
 | | Historical Prepayments
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| Maturity
Date | Coupon | Book
Price | Market
Price | Current Par
(000's) | \$
Gain/Loss | WAM
 | Num
Loan | CPR-
Curr
Mth
 | CPR-
1mth
Prev
 | CPR-
2mth
Prev | CPR-
3mth
Prev | CPR-
4mth
Prev
 | 1 Mth
CPR
Book
Yield | 3 Mth
CPR
Book
Yield
 | 6 Mth
CPR
Book
Yield
 | 12 Mth
CPR
Book
Yield | Life CPR
Book
Yield | Mtge
Type | Breakeven
Yield @
H3M CPR |
| 9/30/2038 | 3.04 | 100.14 | 104.27 | \$16,559,533 | \$684,485 | 210
 | | 41.6
 | 43.9
 | 45.8 | 43.0 | 32.7
 | 2.84% | 2.85%
 | 2.85%
 | 2.85% | 2.87% | | 0.22% |
| 1/1/2048 | 2.66 | 100.03 | 103.53 | \$1,466,910 | \$51,285 | 326
 | 33 | 73.6
 | 49.3
 | 44.1 | 56.6 | 33.0
 | 2.36% | 2.38%
 | 2.37%
 | 2.34% | 2.28% | FNARM | -0.59% |
| 2/1/2035 | 3.00 | 101.76 | 104.24 | \$1,020,890 | \$25,273 | 164
 | 126 | 36.2
 | 48.4
 | 53.0 | 21.9 | 52.3
 | 1.99% | 1.69%
 | 1.84%
 | 2.12% | 2.53% | FNCT | 0.10% |
| 9/1/2037 | 3.00 | 99.20 | 104.27 | \$8,444,183 | \$427,751 | 197
 | 2035 | 43.9
 | 42.7
 | 47.0 | 42.5 | 34.3
 | 3.47% | 3.47%
 | 3.44%
 | 3.33% | 3.20% | FGTW | 0.26% |
| 1/1/2044 | 2.38 | 100.00 | 102.58 | \$417,514 | \$10,769 | 275
 | 17 | 1.9
 | 0.6
 | 83.0 | 0.3 | 9.8
 | 1.82% | 1.81%
 | 1.81%
 | 1.81% | 1.82% | FNARM | 0.28% |
| 10/1/2037 | 3.50 | 102.15 | 105.33 | \$1,397,199 | \$44,422 | 199
 | 329 | 46.3
 | 43.7
 | 34.0 | 41.3 | 26.8
 | 1.98% | 2.16%
 | 2.30%
 | 2.60% | 2.93% | FGTW | 0.36% |
| 8/1/2033 | 4.00 | 102.44 | 105.70 | \$1,209,021 | \$39,467 | 147
 | 349 | 36.1
 | 35.4
 | 53.8 | 41.9 | 34.4
 | 2.61% | 2.36%
 | 2.39%
 | 2.47% | 2.83% | FGCI | 0.38% |
| 1/1/2044 | 2.70 | 100.00 | 103.35 | \$1,414,044 | \$47,378 | 264
 | 208 | 5.1
 | 65.9
 | 37.8 | 66.4 | 20.5
 | 2.14% | 2.31%
 | 2.30%
 | 2.25% | 2.21% | FNARM | 0.41% |
| 7/1/2036 | 3.00 | 101.03 | 104.24 | \$1,189,772 | \$38,140 | 182
 | 3195 | 47.2
 | 40.6
 | 35.8 | 37.7 | 31.8
 | 2.17% | 2.29%
 | 2.35%
 | 2.53% | 2.73% | FNCT | 0.46% |
| 8/1/2031 | 2.00 | 96.33 | 103.51 | \$4,093,410 | \$293,728 | 123
 | 614 | 22.8
 | 24.2
 | 23.9 | 18.5 | 6.3
 | 3.51% | 3.55%
 | 3.32%
 | 3.17% | 2.98% | FGCI | 0.58% |
| 10/1/2031 | 2.00 | 95.82 | 103.52 | \$13,697,689 | \$1,054,123 | 124
 | 834 | 25.8
 | 23.1
 | 14.6 | 16.5 | 13.5
 | 3.83% | 3.62%
 | 3.45%
 | 3.30% | 3.09% | FNCI | 0.66% |
| 8/1/2036 | 3.00 | 101.03 | 104.24 | \$1,216,235 | \$38,988 | 183
 | 3705 | 34.5
 | 42.3
 | 35.6 | 31.8 | 28.2
 | 2.41% | 2.36%
 | 2.43%
 | 2.56% | 2.73% | FNCT | 0.71% |
| 12/1/2047 | 2.87 | 100.89 | 102.56 | \$2,102,872 | \$35,118 | 324
 | 210 | 35.7
 | 70.1
 | 38.1 | 40.4 | 28.2
 | 2.23% | 2.04%
 | 2.19%
 | 2.25% | 2.27% | FNARM | 0.85% |
| 11/1/2031 | 2.00 | 96.23 | 103.52 | \$14,632,944 | \$1,066,101 | 126
 | 1026 | 15.6
 | 15.5
 | 12.6 | 15.6 | 9.1
 | 3.22% | 3.19%
 | 3.14%
 | 3.04% | 2.93% | FNCI | 0.90% |
| 1/1/2032 | 2.50 | 97.90 | 103.85 | \$6,317,596 | \$375,863 | 129
 | 9881 | 22.6
 | 20.6
 | 21.0 | 16.1 | 10.7
 | 3.33% | 3.30%
 | 3.21%
 | 3.14% | 3.04% | FGCI | 1.05% |
| 12/1/2031 | 2.50 | 97.90 | 103.70 | \$10,911,314 | \$633,197 | 127
 | 10996 | 24.6
 | 21.0
 | 20.3 | 18.2 | 13.6
 | 3.38% | 3.32%
 | 3.25%
 | 3.15% | 3.05% | FGCI | 1.07% |
| 2/1/2032 | 2.50 | 97.90 | 103.74 | \$8,590,223 | \$501,925 | 130
 | 8867 | 23.6
 | 20.4
 | 20.2 | 14.8 | 11.6
 | 3.35% | 3.30%
 | 3.20%
 | 3.13% | 3.03% | FGCI | 1.09% |
| 2/1/2032 | 3.00 | 99.84 | 105.44 | \$2,795,877 | \$156,499 | 128
 | 297 | 17.0
 | 17.7
 | 20.2 | 5.9 | 17.1
 | 3.01% | 3.01%
 | 3.01%
 | 3.01% | 3.01% | FNCI | 1.13% |
| 2/1/2032 | 2.50 | 98.00 | 103.86 | \$8,551,788 | \$500,859 | 130
 | 3324 | 21.5
 | 20.8
 | 14.6 | 12.9 | 13.1
 | 3.22% | 3.18%
 | 3.12%
 | 3.06% | 2.99% | FNCI | 1.14% |
| | Maturity
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Portfolio Summary – Reinvest proceeds into high yielding long municipal

	Transaction Summ	ary	
	Sell Side	Buy Side	Net Change
# Securities	8	1	-7
Current Par Value	\$16,559,533	\$17,198,621	\$639,089
Market Value	\$17,266,857	\$17,241,618	-\$25,240
Gain/Loss \$	\$684,680		
Gain/Loss %	4.1%		
Book Yield (Exp)	2.86%	1.97%	-0.89%
Book YTW	2.86%	1.97%	-0.89%
Avg. Life	3.1	10.1	7.0
Avg. Life +300	5.3	14.1	8.7
% Price Chg +300	-9.2%	-29.9%	-20.7%
Effective Duration	1.15	11.71	10.56
	Cumulative Income Dif	ference	
Scenario	-100	Base	+100
Gain/Loss	\$684,680	\$684,680	\$684,680
After 1 year	\$681,287	\$633,966	\$569,315
After 2 years	\$842,972	\$698,163	\$508,518
After 3 years	\$1,069,237	\$827,149	\$478,820
After 4 years	\$1,327,685	\$995,337	\$478,107
Income Difference to			
Sell Side Avg Life	\$877,253	\$866,019	\$4 86,841
Months to Exhaust Gain	gain+inc	gain+inc	n/a

Portfolio Impacts													
	Before	After	Net Change										
# Securities	184	177	-7										
Current Par Value	\$1,004,415,454	\$1,005,054,542	\$639,089										
Market Value	\$1,080,848,926	\$1,080,823,682	-\$25,244										
Gain/Loss \$	\$57,513,133	\$56,828,453	-\$684,680										
Gain/Loss %	5.6%	5.5%	-0.1%										
Book Yield (Exp)	2.99%	2.97%	-0.02%										
Book YTW	2.97%	2.95%	-0.02%										
Avg. Life	5.4	5.5	0.1										
Avg. Life +300	7.8	8.0	0.1										
% Price Chg +300	-14.3%	-14.7%	-0.3%										
Effective Duration	4.39	4.56	0.17										

Resulting Portfolio Book Yield (Exp) and Price Sensitivity



SAMPLE

- Excess Liquidity
- State of PPP
- Investment Universe Review
- Cash Deploy
- Deleverage Considerations
- Portfolio Restructuring
- Hedging Application
- Loan Market Update

Executive Overview

Strategy Overview

Partial term fair value hedging allows a financial institution to create floating-rate or fixed-to-floating rate exposures by pairing an underlying fixed rate security with an interest rate swap. This strategy captures the spread, without the full benchmark interest rate risk, associated with longer duration securities.

Discount Margins

• Certain longer duration Agency debentures, Agency CMBS, and municipal securities can offer compelling backend discount margins, given the spreads that are offered

Examples:

- 10y Agency debenture, 1.11% fixed yield for 3 years, then floating at +16 basis points SOFR
- 10y Freddie K A2, 1.22% fixed yield for 3 years, then floating at +41 basis points over SOFR
- AA 15nc10 taxable municipal, 2.18% fixed yield for 3 years, then floating at +129 basis points over SOFR

(see footnotes on following slides)

- A range of securities for each of these three sectors are shown swapped to floating and swapped to fixed-tofloating structures on the following slides (shown versus 1 month LIBOR for comparability versus other floating rate assets, as well as SOFR).
- As of 10/30, 1 month LIBOR was 0.14%, and overnight SOFR was 0.09%

1mL Discount Margins

Agency Debentures Swapped to Floating Representative 1mL Discount Margins (DMs)

• The table below illustrates various floating and fixed-to-float options using fixed rate Agency bullets:

Bond									Hedge		Hedged P	osition				
Description	Price	Cpn	Yield	Mat	Avg Life	Px Chg -1	Px Chg +1	Px Chg +3	Structure	Cpn	Structure	Fixed Yld	1mL DM	Net Px Chg -1	Net Px Chg +1	Net Px Chg +3
7y FNMA Benchmark	99.79	0.75	0.78	6.9	6.9	7.0%	-6.5%	-18.2%	7y In 3y for 4y In 5y for 2y	0.57 0.83 1.06	Flt Fx to Flt Fx to Flt	0.78 0.78	+0.21 +-0.05 +-0.27	-0.3% 2.8% 4.9%	0.2% -2.7% -4.6%	0.7% -7.8% -13.1%
10y FNMA Benchmark	97.81	0.88	1.11	9.8	9.8	9.8%	-8.9%	-24.1%	10y In 3y for 7y In 5y for 5y	0.80 1.05 1.24	Flt Fx to Flt Fx to Flt	1.11 1.11	+0.3 +0.06 +-0.13	-0.9% 2.2% 4.3%	0.8% -2.2% -4.2%	2.0% -6.5% -12.0%
12y Bullet	105.75	1.81	1.30	12.4	12.4	11.8%	-10.4%	-27.8%	12y In 3y for 9y In 5y for 7y	0.94 1.18 1.34	Flt Fx to Flt Fx to Flt	1.30 1.30	+0.41 +0.13 +-0.04	-0.1% 2.7% 4.6%	0.1% -2.7% -4.5%	0.2% -7.7% -12.6%
15y Bullet	124.85	3.35	1.42	14.3	14.3	12.6%	-11.0%	-29.0%	14y In 3y for 11y In 5y for 9y	1.02 1.24 1.38	Flt Fx to Flt Fx to Flt	1.42 1.42	+0.58 +0.19 +0.05	0.7% 3.1% 4.7%	-0.8% -3.1% -4.6%	-2.1% -8.8% -12.9%

Agency Debentures

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(1) Indicative levels as of 10/30/20; may not represent executable levels.

(2) Interest rate swap maturities match the maturity of the security.

(3) Price shocks represent an immediate parallel curve shock.

4) Information presented above regarding interest rate derivatives is considered general and factual. Please see further disclosures on the last page of this presentation.

Agency CMBS Swapped to Floating Representative 1mL Discount Margins (DMs)

The table below illustrates various floating and fixed-to-float options using fixed rate Agency CMBS:

Bond									Hedge		Hedged P	osition				
Description	Price	Cpn	Yield	Mat	Avg Life	Px Chg -1	Px Chg +1	Px Chg +3	Structure	Cpn	Structure	Fixed Yld	1mL DM	Net Px Chg -1	Net Px Chg +1	Net Px Chg +3
									9y	0.75	Flt		+0.51	0.6%	-0.5%	-1.2%
K A2	102.16	1.49	1.25	9.9	9.8	9.8%	-8.8%	-24.1%	In 3y for 6y	1.01	Fx to Flt	1.25	+0.24	3.5%	-3.4%	-9.4%
									In 5y for 4y 8v	0.69	FX to Fit	1.25	+0.04	2.0%	-5.2%	-14.6%
Secondary 10y	112.03	2.65	1.22	9.1	9.0	9.4%	-8.6%	-23.6%	In 3y for 5y	0.96	Fx to Flt	1.22	+0.26	4.7%	-4.4%	-12.3%
K AZ									In 5y for 3y	1.16	Fx to Flt	1.22	+0.05	6.6%	-6.1%	-17.0%
New Issue 15v									13y	0.98	Flt		+0.75	-0.2%	0.2%	1.0%
K A2	99.86	1.72	1.72	14.7	14.3	13.5%	-11.7%	-30.7%	In 3y for 10y	1.21	Fx to Flt	1.72	+0.52	2.8%	-2.7%	-7.4%
									In 5y for 8y	1.36	Fx to Fit	1.72	+0.36	4.8%	-4.6%	-12.6%
Seasoned 15y	102 20	2 00	1 /2	12.6	0.0	10 70/	0.7%	26 60/	8y	0.63		1 /2	+0.89	4.0%	-3.6%	-9.4%
K A2	123.20	3.99	1.45	12.0	9.9	10.776	-9.7 %	-20.0%	In 5y for 3y	0.09	Ex to Elt	1.43	+0.54	0.4%	-5.9%	-10.3%
										1.11	1 × 10 1 1	1.40	10.02	0.170	1.070	20.070
									9y	0.72	Flt		+0.58	0.3%	-0.4%	-0.9%
10/9.5 DUS	108.45	2.26	1.25	9.3	8.7	9.0%	-8.2%	-22.5%	In 3y for 6y	0.98	Fx to Flt	1.25	+0.27	3.1%	-3.0%	-8.7%
									In 5y for 4y	1.19	Fx to Flt	1.25	+0.07	5.0%	-4.8%	-13.6%
									14y	1.01	Flt		+0.56	-1.6%	1.2%	3.0%
15/14.5 DUS	106.20	2.05	1.52	14.6	12.3	12.3%	-10.8%	-28.6%	In 3y for 11y	1.23	Fx to Flt	1.52	+0.29	1.2%	-1.6%	-4.8%
									In 5y for 9y	1.38	Fx to Flt	1.52	+0.14	3.1%	-3.3%	-9.7%

(1) Indicative levels as of 10/30/20 (new issues priced at new issue spread); may not represent executable levels.

- For Freddie K-Deal, 10y and 15y refer to the original maturity of the underlying collateral (not necessarily the remaining maturity or average life of the deal) (2)
- Interest rate swap maturities match the end of the call protection period of the security. (3)
- Price shocks represent an immediate parallel curve shock. (4)

Freddie K-Deal

Fannie DUS

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(5) For amortizing bond structures, hedged position floating DMs and net price risk represent the hedged portion of the exposure (where the hedge notional is aligned to the current face outstanding at the end of the call protection period of the security)

Information presented above regarding interest rate derivatives is considered general and factual. Please see further disclosures on the last page of this presentation. (6)

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The table below illustrates various floating and fixed-to-float options using fixed rate, AA Municipals: ٠

В	ond									Hedge		Hedged P	osition				
	Description	Price	Cpn	Yield	Mat	Avg Life	Px Chg -1	Px Chg +1	Px Chg +3	Structure	Cpn	Structure	Fixed Yld	1mL DM	Net Px Chg -1	Net Px Chg +1	Net Px Chg +3
										9y	0.72	Flt		+1.02	-0.1%	-0.4%	-2.0%
	10nc9 3.0	113.83	3.000	1.671	10.3	8.8	8.2%	-7.9%	-22.6%	In 3y for 6y	0.99	Fx to Flt	1.67	+0.69	2.5%	-3.0%	-9.4%
										In 5y for 4y	1.19	Fx to Flt	1.67	+0.48	4.4%	-4.6%	-14.0%
										10y	0.83	Flt		+1.25	0.5%	-1.8%	-5.6%
	14nc10 3.0	113.37	3.000	2.000	14.3	10.3	9.7%	-10.1%	-28.2%	In 3y for 7y	1.08	Fx to Flt	2.00	+0.92	3.2%	-4.4%	-13.0%
										In 5y for 5y	1.27	Fx to Flt	2.00	+0.73	5.0%	-6.1%	-17.7%
										9у	0.71	Flt		+1.16	0.1%	-0.6%	-6.2%
	16nc9 4.0	121.14	4.000	1.775	15.7	8.7	7.8%	-7.6%	-25.5%	In 3y for 6y	0.98	Fx to Flt	1.77	+0.8	2.5%	-3.0%	-13.1%
										In 5y for 4y	1.18	Fx to Flt	1.77	+0.59	4.3%	-4.6%	-17.5%
										8у	0.63	Flt		+1.16	0.2%	-0.3%	-3.7%
	16nc8 5.0	126.50	5.000	1.687	15.6	7.6	6.8%	-6.3%	-20.5%	In 3y for 5y	0.89	Fx to Flt	1.69	+0.8	2.6%	-2.6%	-10.4%
										In 5y for 3y	1.11	Fx to Flt	1.69	+0.58	4.2%	-4.1%	-14.6%
										10y	0.83	Flt		+1.54	1.2%	-3.8%	-10.4%
	19nc10 3.0	110.98	3.000	2.304	19.3	10.3	10.6%	-12.3%	-33.4%	In 3y for 7y	1.08	Fx to Flt	2.30	+1.22	4.0%	-6.4%	-17.9%
										In 5y for 5y	1.27	Fx to Flt	2.30	+1.03	5.8%	-8.1%	-22.7%
										9у	0.75	Flt		+1.49	0.4%	-1.6%	-9.4%
	20nc9 4.0	119.44	4.000	2.142	19.6	9.1	8.3%	-8.7%	-29.0%	In 3y for 6y	1.01	Fx to Flt	2.14	+1.13	2.9%	-4.0%	-16.5%
										In 5y for 4y	1.21	Fx to Flt	2.14	+0.93	4.7%	-5.6%	-20.9%
										10y	0.81	Flt		+1.27	0.6%	-0.7%	-5.0%
	20nc10 5.0	132.01	5.000	1.914	19.9	9.9	8.5%	-7.8%	-24.4%	In 3y for 7y	1.06	Fx to Flt	1.91	+0.85	2.9%	-2.9%	-11.4%
										In 5y for 5y	1.25	Fx to Flt	1.91	+0.66	4.4%	-4.3%	-15.4%
										10y	0.79	Flt		+0.99	-0.6%	0.1%	0.2%
	11nc10 2.1	103.72	2.177	1.760	10.8	9.8	9.5%	-9.0%	-24.5%	In 3y for 7y	1.05	Fx to Flt	1.76	+0.71	2.3%	-2.7%	-7.9%
										In 5y for 5y	1.24	Fx to Flt	1.76	+0.52	4.3%	-4.6%	-13.0%
										9у	0.73	Flt		+1.46	1.2%	-2.8%	-6.4%
	14nc9 2.2	100.55	2.250	2.180	14.3	8.8	10.6%	-11.2%	-29.7%	In 3y for 6y	0.99	Fx to Flt	2.18	+1.19	4.2%	-5.6%	-14.8%
										In 5y for 4y	1.19	Fx to Flt	2.18	+0.99	6.3%	-7.5%	-20.0%
										9у	0.76	Flt		+1.66	3.2%	-5.2%	-11.8%
	19nc9 2.4	100.49	2.479	2.420	19.3	9.3	12.6%	-13.6%	-35.0%	In 3y for 6y	1.02	Fx to Flt	2.42	+1.4	6.2%	-8.1%	-20.1%
										In 5y for 4y	1.22	Fx to Flt	2.42	+1.2	8.3%	-9.9%	-25.4%

Indicative levels as of 10/30/20; may not represent executable levels. (1)

Taxable equivalent yields represent zero cost of funds and 21% marginal federal tax rate. (2)

Interest rate swap maturities match the first call date of the security. (3)

Price shocks represent an immediate parallel curve shock. (4)

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Taxable Muni

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(5)

15yr Loan Pool Last Layer Hedge Example

815-20-25-12A For a closed portfolio of **prepayable** financial assets or one or more beneficial interests secured by a portfolio of prepayable financial instruments, an entity may designate as the hedged item a stated amount of the asset or assets that are not expected to be affected by prepayments, defaults, and other factors affecting the timing and amount of cash flows if the designation is made in conjunction with the partial-term hedging election in paragraph 815-20-25- 12(b)(2)(ii) (this designation is referred to throughout Topic 815 as the "last-of-layer method").

- a. As part of the initial hedge documentation, an analysis shall be completed and documented to support the entity's expectation that the hedged item (that is, the designated last of layer) is anticipated to be outstanding as of the hedged item's assumed maturity date in accordance with the entity's partial-term hedge election. That analysis shall incorporate the entity's current expectations of prepayments, defaults, and other events affecting the timing and amount of cash flows associated with the closed portfolio of prepayable financial assets or beneficial interest(s) secured by a portfolio of prepayable financial instruments.
- b. For purposes of its analysis, the entity may assume that as prepayments, defaults, and other events affecting the timing and amount of cash flows occur, they first will be applied to the portion of the closed portfolio of prepayable financial assets or one or more beneficial interests that is not part of the hedged item (that is, the designated last of layer).

• The new hedging standard contains a significant degree of flexibility for situations in which the forecasted balance is no longer expected to occur during the life of the hedge.

815-25-40-8

For a hedging relationship designated under the last-of-layer method in accordance with paragraph 815-20-25-12A, an entity shall discontinue (or partially discontinue) hedge accounting in either of the following circumstances:

- a. If the entity cannot support on a subsequent testing date that the hedged item (that is, the designated last of layer) is anticipated to be outstanding in accordance with paragraph 815-25-35-7A, it shall at a minimum discontinue hedge accounting for the portion of the hedged item no longer expected to be outstanding at the hedged item's assumed maturity date.
- b. If on a subsequent testing date the outstanding amount of the closed portfolio of prepayable financial assets or one or more beneficial interests is less than the hedged item, the entity shall discontinue hedge accounting.

815-25-40-9

If a last-of-layer method hedging relationship is discontinued (or partially discontinued), the outstanding basis adjustment (or portion thereof) as of the discontinuation date shall be allocated to the individual assets in the closed portfolio using a systematic and rational method. *An entity shall amortize those amounts over a period that is consistent with the amortization of other discounts or premiums associated with the respective assets in accordance with other Topics (for example, Subtopic 310-20 on receivables–nonrefundable fees and other costs).*

Last of Layer Approach: Last Dollar Outstanding Analysis

- Per the guidance, an analysis must be completed that supports the entity's expectation that the hedged item (that is, the designated last of layer) will be outstanding at the stated maturity of the hedging relationship based upon current expectations of the portfolio or collateral performance.
 - The chart below illustrates the projected remaining balances in base case of Sample Institution's provided mortgage pool.
 - In practice, this analysis would be completed quarterly to serve as the hedge effectiveness testing for the associated hedge.



Projected Remaining Balance: Sample Institution Fixed Rate Mortgage Pool

	Current	1yr	2yr	3yr	4yr	5yr
\$ Balance	88,797,732	77,142,473	64,183,909	53,153,519	43,878,964	36,062,157
% Balance	100%	87%	72%	60%	49%	41%

• As illustrated on the following slide, the hedge should be sized conservatively according to expected collateral performance to a given hedge maturity point.

Last of Layer Approach: \$89mm Residential Loan Pool

- Using prepayment model projected remaining balance (level rates) at the 5yr point, one can construct a \$36mm floating rate exposure by hedging the last layer using a 5yr pay-fixed interest rate swap within a \$89mm 15 yr 2.70% residential loan pool.
 - Pay fixed 0.12%, receive fed funds effective rate (initially 0.09%)

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• By swapping \$36mm of the \$89mm loan pool to a floating yield of Fed effective + 258bps (initially 2.67%) for 5 years, this results in a blended level yield for the 60% fixed/40% floating loan pool of 2.68% base case and 3.09% in an up 100 shock.

SAMPLE

Last of Layer Approach: Market Value Impacts

- By swapping a portion of the \$89mm loan pool with either a \$53mm 3y swap or a \$36mm 5y swap, mitigates the market value risk in rates up scenarios.
 - Both 3y and 5y swap net effects decrease the current pool's market value risk by nearly 35% in all rates up scenarios

			Mkt Px Chg (%)					Mkt Val Chg (\$)						
Scenario	Curr Face/Not (\$000s)	l Avg Life	-200	-100	+100	+200	+300	+400	-200	-100	+100	+200	+300	+400
15yr Fixed Loans	88,798	4.29	1.49	1.48	(5.00)	(9.92)	(14.43)	(18.56)	1,322	1,316	(4,439)	(8,813)	(12,813)	(16,485)
3y swap	53,000	3.00	(0.18)	(0.18)	2.79	5.64	8.38	11.04	(95)	(95)	1,479	2,989	4,441	5,851
Net									1,226	1,220	(2,960)	(5,824)	(8,372)	(10,634)
Remaing Price Risk											67%	66%	65%	65%
5y swap	36,000	5.00	(0.65)	(0.65)	4.58	9.15	13.47	17.56	(234)	(234)	1,649	3,294	4,849	6,322
Net									1,088	1,082	(2,790)	(5,519)	(7,964)	(10,163)
Remaing Price Risk											63%	63%	62%	62%

SAMPLE

Last of Layer Approach: ALM Impacts

- Below shows the ALM impacts of the hedging strategy, using 36mm 5y swap against a \$89mm Residential loan pool yielding 2.70%
 - Indicative structures: 5y pay fixed 0.12%/receive Fed Funds (currently 0.09%)
- NII sensitivity in +100 is mitigated to -4.5% from the current level of -5.0%, while NEV sensitivity in +100 is mitigated to +0.1% from the current level of -0.5%

Current Position						
Scenario	NII	NII Chg \$	NII Chg %			
+400	62,458	-12,793	-17.0%			
+300	65,392	-9,858	-13.1%			
+200	68,252	-6,998	-9.3%			
+100	71,488	-3,763	-5.0%			
Base/Level	75,250	0	0.0%			
-100	76,379	1,129	1.5%			

Hedge			
Pay Fixed	Rec Fed Funds	Net	Net \$
0.12	4.09	3.97	1,429
0.12	3.09	2.97	1,069
0.12	2.09	1.97	709
0.12	1.09	0.97	349
0.12	0.09	-0.03	-11
0.12	0	-0.12	-43

Resulting							
Scenario	NII	NII Chg %					
+400	63,887	-15.1%					
+300	66,461	-11.7%					
+200	68,961	-8.3%					
+100	71,837	-4.5%					
Base/Level	75,239	0.0%					
-100	76,336	1.5%					

Current Position					
Scenario	NEV	NEV Chg \$	NEV Chg %		
+400	212,940	-82,810	-28.0%		
+300	254,345	-41,405	-14.0%		
+200	278,892	-16,858	-5.7%		
+100	294,271	-1,479	-0.5%		
Base/Level	295,750	0	0.0%		
-100	275,048	-20,703	-7.0%		

Hedge		1
Mkt Val Chg %	Mkt Val Chg \$	
17.56	6,322	
13.47	4,849	
9.15	3,294	
4.58	1,649	
-	0	
(0.65)	-234	

Resulting		
		NEV Cha
Scenario	NEV	%
+400	219,262	-25.9%
+300	259,194	-12.4%
+200	282,186	-4.6%
+100	295,920	0.1%
Base/Level	295,750	0.0%
-100	274,814	-7.1%

Indicative level as of 10/27/2020.

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Information presented above regarding interest rate derivatives is considered general and factual. Please see further disclosures on the last page of this presentation.

Polling Question #3
- Excess Liquidity
- State of PPP
- Investment Universe Review
- Cash Deploy
- Deleverage Considerations
- Portfolio Restructuring
- Hedging Application
- Loan Market Update

Selling PPP Portfolios: Current Environment

- With the ever-changing regulations and the inconsistent loan/funding terms of the program, combined with the uncertainty of cash flows and earnings as it relates to the forgiveness timing, many depository institutions are examining different paths for PPP loan portfolios. Most fall into two categories:
- 1. Institutions open to the idea of selling their PPP loan portfolio:
 - Each loan has either a 2-year or 5-year final maturity and a 1% coupon. Loans may pay off sooner if the loan meets the SBA forgiveness criteria. Loans may be prepaid in full or in part by the SBA at any time.

Servicing Retained

- The purchaser may elect to have the originating lender subservice the loans and hold the note and loan documents on their behalf; however, the purchasing party will be responsible to the SBA with respect to all servicing actions, including requests for advance purchases and loan forgiveness, and will be the party eligible for the guarantee purchase of a PPP loan. Expand on existing and new relationships developed by the PPP
- o Generate non-interest income while still retaining DDA accounts created due to PPP
- If a buyer engages the originator to act as subservicer (effectively servicing retained), the estimated price would be in the mid 99s¹

Servicing Released

- o Avoid further investments in servicing loan payments and forgiveness internally
- o Provide their bankers with more opportunity and flexibility to develop new relationships and rebuild loan pipeline
- o When selling servicing released, the estimated price would be in the mid 98s¹

2. Institutions keeping their PPP loans:

- o Very liquid on balance sheet already; sale would create an influx of cash
- Have expanded their footprint due to PPP program and still unsure about expected future loan pipeline
- o Have enough resources to service their PPP origination and walk customers through forgiveness

Pricing only reflects 2 year maturities.
https://www.americanbanker.com/news/more-banks-opt-to-sell-ppp-loans-as-heavy-lifting-nears

Recent Market Traction- PPP Loan Sale

- OceanFirst Financial Corp (NYSE: OCFC)
 - "The Company made a strategic decision to sell \$298 million in PPP loans to improve operational efficiency and continue the Company's efforts to focus on the core business. The sale is expected to close in the fourth quarter of 2020." OCFC 3rd Quarter Financial Results
- o Sold \$298mm Notional
- Accelerated \$8.7mm in fees (roughly 3%)
- Sold loans at a \$3.4mm discount (roughly 1.1%)

"Correct. Yes. So that's the net. We actually sell them at a little discount. And then we take hold, and we accelerate the fees related to those loans. And that was -- it was only about half of the portfolio. We retained the other half. And frankly, those customers and the loans we retained were the more strategic customers for the bank. They were also the customers who were being very prompt about providing us the information we needed to file for forgiveness. So if they were helping us, it was easy to move them through. If we thought those were going to be long-term difficult loans to get through forgiveness, we decided to part ways."

"Yes, we found -- I won't give you a specific name, but we found -- there was just actually a robust market for that. So there's a little cottage industry going around of people buying PPP loans. And look, part of their calculation, <u>I</u> believe, is that they're pinning hopes that Congress will do a mass forgiveness, and that they will then not have to do any work and get the forgiveness, and that may happen. And if that happens, then we would've realized a little more had we held them. But the company that we sold to had bought from at least -- it was probably close -- between half a dozen and 10 banks prior to us. And there were few -- then there were a couple of bidders. So there are a couple of people putting together these pools of PPP loans in aggregate"

Christopher Maher – OCFC CEO

Stifel Loan Group Commentary

"Yields in the loan markets continue to trend lower with the increase in demand, but what sells is very asset specific. Consumer loans continue to meet with strong demand in prime resi, autos, home improvement and unsecured loans. In the commercial space, hospitality, major metropolitan office buildings, as well as travel and entertainment related properties are subject to significant scrutiny in due diligence or just dismissed by many. On the other hand, multi-family, warehouses and mixed use properties fare much better. Also, renewable energy related loans in residential solar and C-PACE see good demand due to strong performance and the benefits provided borrowers. COVID economic risk, and loan performance during the pandemic remains at the forefront in due diligence discussion and concern. As one might expect, we are seeing an uptick in NPLs being offered. We anticipate significant supply in the first quarter."

Prime Product	Bank Buyer Yield	CU Buyer Yield	Prior Month – Bank Buyer Yield	Prior Month – CU Buyer Yield
SFR - Fixed	2.25-2.75	2.00-3.00	3.00-3.50	2.50-3.00
SFR - Hybrid ARM	2.00-2.50	2.00-2.50	2.00-2.50	2.00-2.50
Auto	4.00-4.15	1.50-1.75	4.15-4.25	1.75-2.00
CRE/MBL*	3.00-5.50	2.75-4.25	3.00-5.75	2.75-4.25
Consumer	5.00-5.50	4.50-5.00	5.00-5.50	4.50-5.00

General Whole Loan Buyer Yield Ranges As of 11/4/2020

*Multifamily performing well will be 3.00-3.50% if dscr is 1.25x or greater

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