

Financial
Performance

Regulatory
Compliance



◆ *Risk Management Strategy & Solutions* ◆

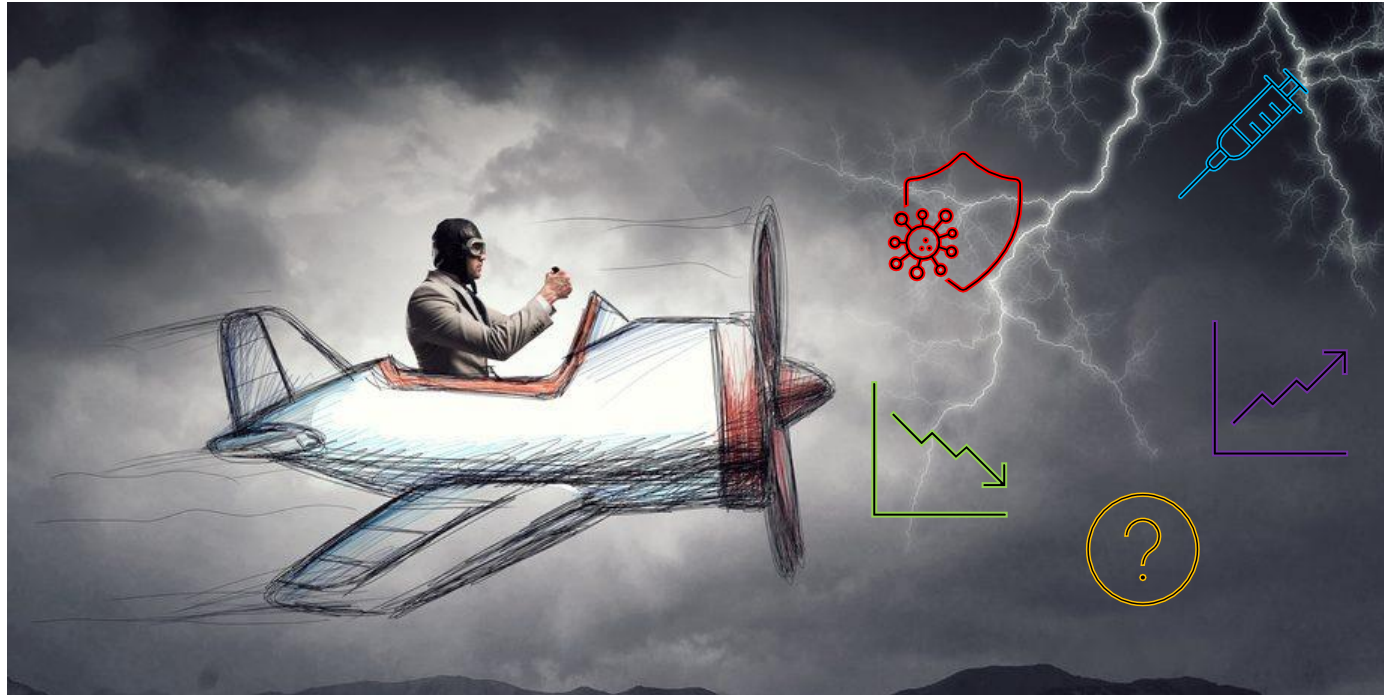
Balance Sheet Strategies with 2020 Hindsight: Margin & Earnings Pressures Intensifying Prepare Now for the Inevitable



Federal Home Loan Bank
NEW YORK

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Quality Data

Quality Modeling that Gets “Right Picture”



Reporting that Brings Clarity & Perspective

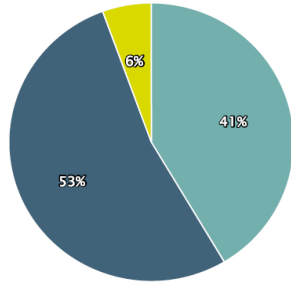
The Best-Informed People Asking Great Questions Leads to the Best Answers



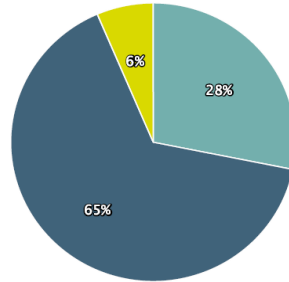
- ◆ **Margin and Earnings Pressure will continue in 2021...**
 - What's NII outlook?
 - How do we fill the "hole" in run rate of income?
 - What does the "future" balance sheet look like as rates rise? (our B/S within our B/S)
- ◆ **Deposit Pricing**
 - How low should/can we go?; Use data analytics to support decision making (*this time is different*)
 - How do we want to position deposit terms, tiers, etc.? Key drivers to consider this time? Future Betas?
- ◆ **Liquidity Management**
 - How much do we have? Need? Impact of Surge currently and prospectively?
 - Considerations for deploying "excess" cash? Concerns?
- ◆ **Investments** Are we taking advantage of recent curve Steepening? Concerns? Impediments? How decide?
- ◆ **Loan Strategies**
 - Pricing & Spreads given higher rates & steeper curve? (margins, floors, penalties, negotiation points?)
 - Capacity to HOLD Fixed Rate Loans
 - Hedging alternatives (if truly needed)

- ◆ Current and expected margin pressure *will* continue
- ◆ Cash accumulating...more to come!
- ◆ Prediction for Deposit Balances Unclear?
- ◆ Loan Growth Challenges: Pricing lagging curve
- ◆ Investment Opportunity Knocks: 10 yr. Treasury up to 1.63%
- ◆ Short Rates remaining low for extended period...
- ◆ *Balance Sheet Within the Balance Sheet*; Hidden Risks?
Opportunities?
- ◆ Credit and Capital remain a focus

Asset Mix Comparison



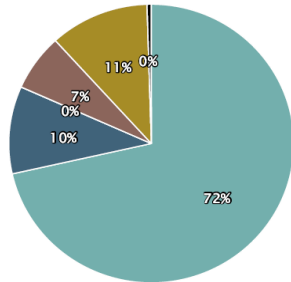
12/31/2020



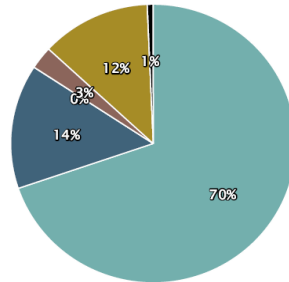
12/31/2019

	12/31/2020	12/31/2019	% CHANGE	\$ CHANGE	GROWTH RATE
INVESTMENTS	41%	28%	13%	615,915	77%
Agencies	1%	3%	-2%	(47,436)	-48%
MBS/CMO	17%	13%	4%	201,438	55%
Municipals	15%	7%	7%	286,957	136%
Other	9%	4%	4%	174,956	143%
LOANS	53%	65%	-12%	(50,301)	-3%
Commercial RE	27%	35%	-7%	(47,884)	-5%
Residential	12%	15%	-4%	(40,057)	-9%
Commercial RE - Constr	5%	6%	-1%	3,891	2%
Other	9%	9%	-1%	33,749	13%
OTHER ASSETS	6%	6%	-1%	7,168	4%
TOTAL ASSETS				572,782	20%

Liability Mix Comparison



12/31/2020



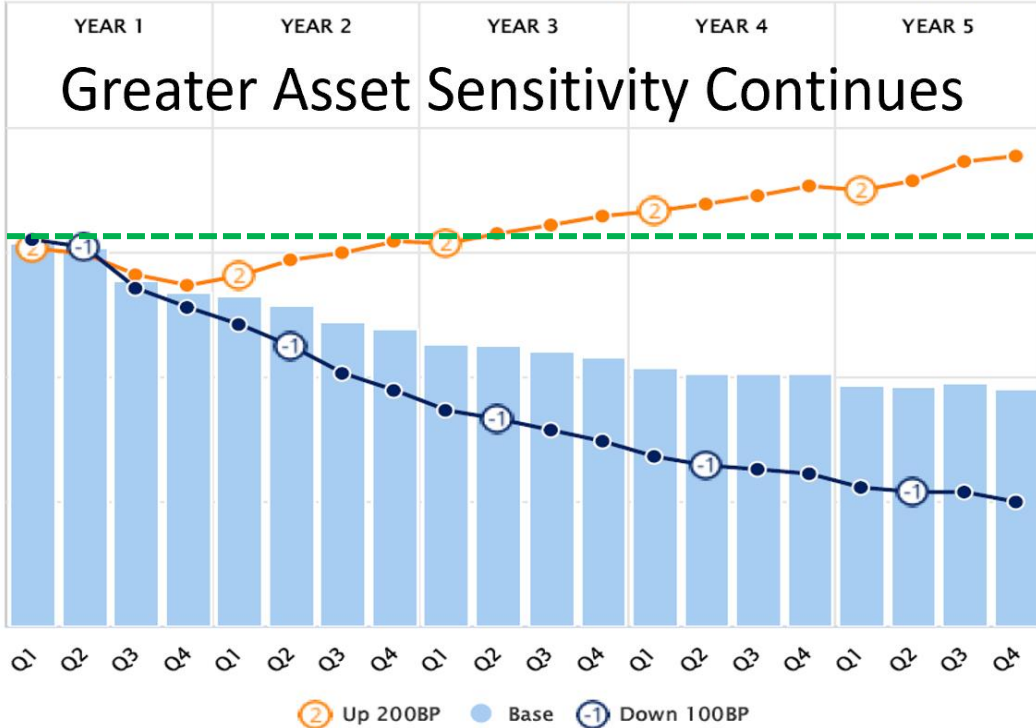
12/31/2019

	12/31/2020	12/31/2019	% CHANGE	\$ CHANGE	GROWTH RATE
NON-MATURITY	72%	70%	2%	458,376	23%
DDA	25%	22%	3%	231,132	37%
NOW	16%	14%	2%	151,673	39%
Savings	6%	6%	0%	39,660	22%
MMDA	24%	28%	-4%	35,911	5%
TIME DEPOSITS	10%	14%	-4%	(63,873)	-16%
BROKERED DEPOSITS	0%	0%	0%	0	-
BORROWINGS	7%	3%	4%	150,000	200%
FHLB	7%	3%	4%	150,000	200%
Repo-Retail	0%	0%	0%	0	-
EQUITY	11%	12%	-1%	31,349	9%
OTHER LIABILITIES	0%	1%	0%	(3,070)	-16%
TOTAL LIABILITIES & EQUITY				572,782	20%

Base Simulation as of 12/31/2020

Quarterly Net Interest Income (NII) Projections

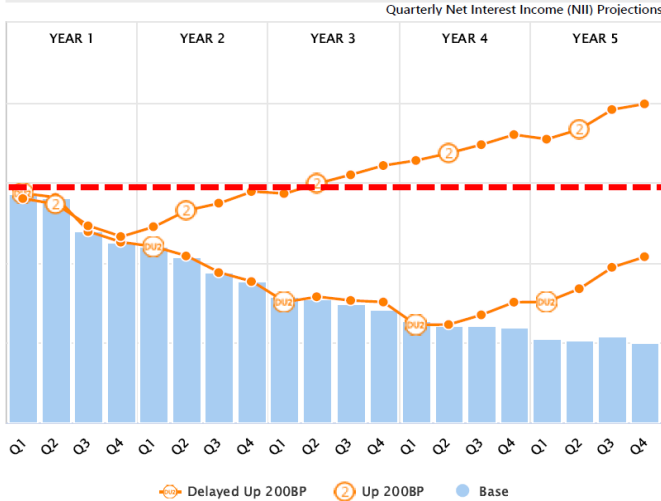
Greater Asset Sensitivity Continues



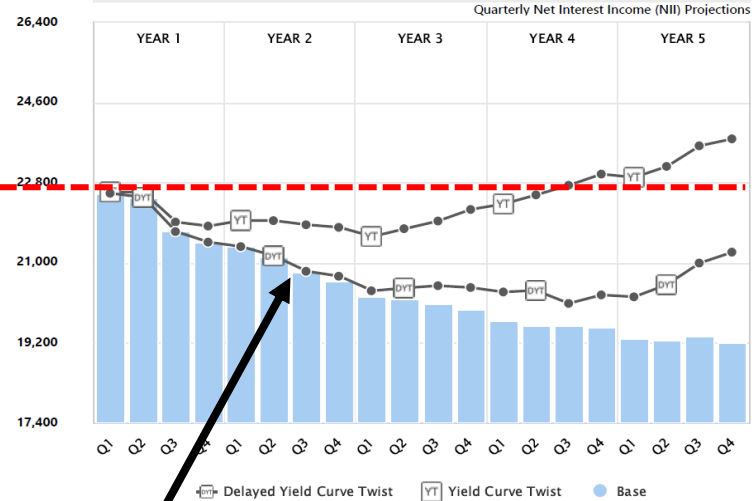
Margin Pressure Decisions:

- Room to Lower Deposit Rates?
- Should we extend “Excess” funds to loans? Investments?
- IRR implication of extending cash in this low-rate environment?
- What about rising rate impact on risk profile?

Alternative Parallel Up 200BP Scenario



Alternative Yield Curve Twist Scenario



NII RESULTS

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
DELAYED UP 200BP	88,189	83,863	80,615	79,149	82,563
UP 200BP	88,170	88,922	91,495	94,291	96,789
BASE	88,189	83,874	80,476	78,391	77,105

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
DELAYED YIELD CURVE TWIST	88,189	84,012	81,722	81,076	82,968
YIELD CURVE TWIST	88,908	87,542	87,483	90,574	93,493
BASE	88,189	83,874	80,476	78,391	77,105

1. In the Delayed Up 200BP scenario, market rate movements are delayed 24 months and ramp up 200BP in year three.

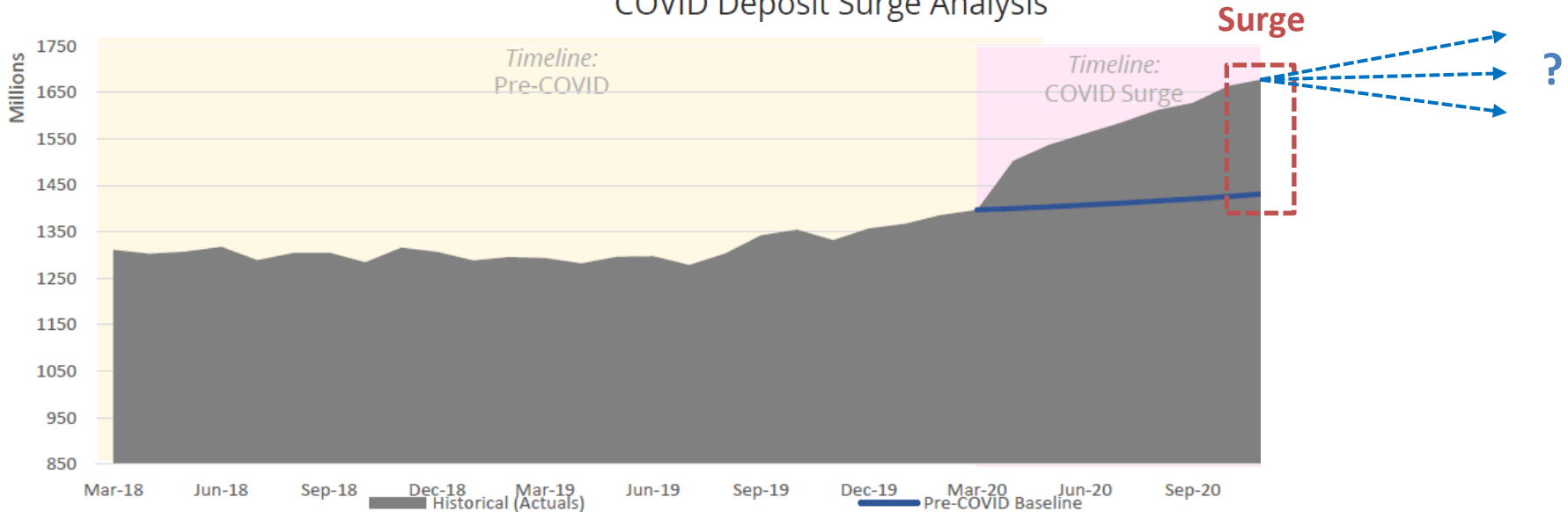
2. In the Delayed Yield Curve Twist scenario, intermediate/long term market rates are assumed to lag 18 months and short-term rates 24 months. Thereafter, they follow a similar trajectory as the Yield Curve Twist scenario.

- ◆ Quantify Surge & Forecast Potential Outcomes
- ◆ Pricing Trends & Initiatives
- ◆ Risk Management Implications
- ◆ Balance Sheet Strategies

DEPOSIT SURGE

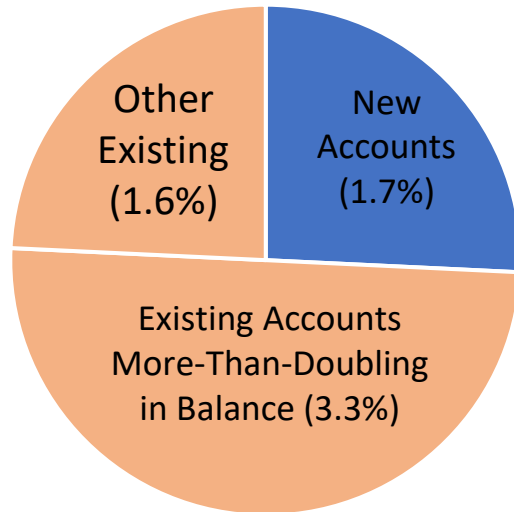
TODAY'S STORY: 1) QUANTIFY SURGE
2) FORECAST EXPECTATIONS
3) CARVE OUT INVESTIBLE PORTION

COVID Deposit Surge Analysis



* Sourced from Deposits360®

Our typical reporting institution showed an unexpected surge in non-maturity deposits of 6.6% in April-2020

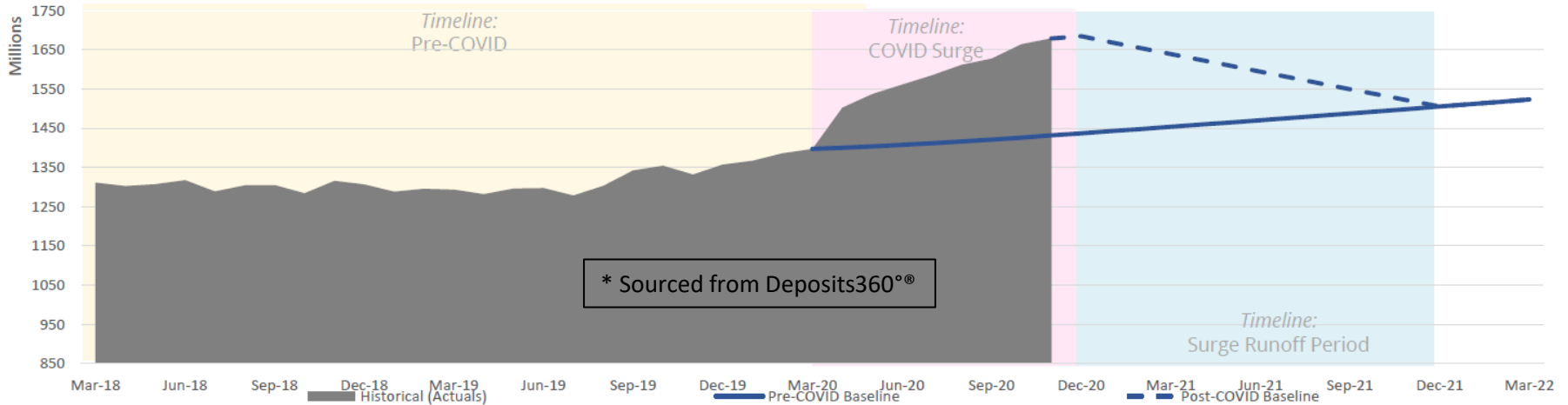


What we've learned since:

- ✓ New account openings shows that some of those balances decayed back towards normal within a few months
- ✓ Those accounts whose balance more-than-doubled saw normal levels of subsequent decay
- ✓ **To-date, the dominant share of the COVID surge appears to be permanent**

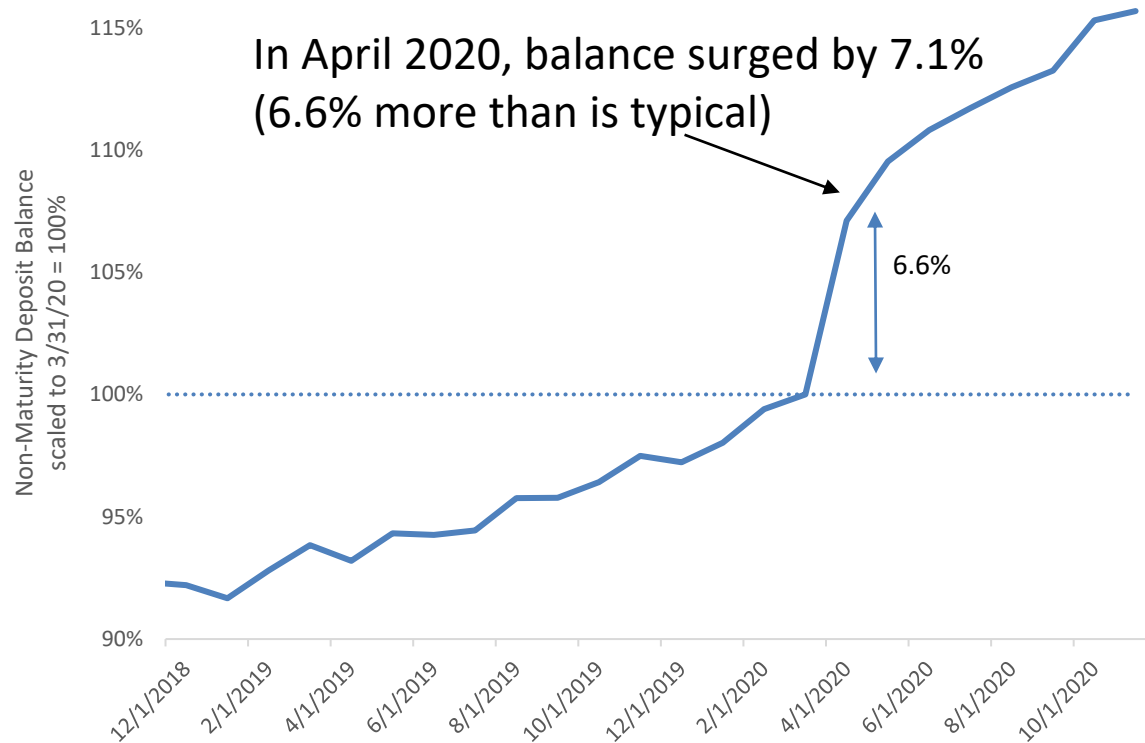
* Sourced from Deposits360®

COVID Deposit Surge Analysis



3 Steps To Tell Your Deposit Story:

1. Quantify “Surge”
 - PPP, consumer, public
 - New accounts vs. existing accounts
2. Estimate Forecast
 - Consider “balance sheet within a balance sheet”
 - Review multiple outcomes
3. Track Vintage Activity
 - Create a warning system



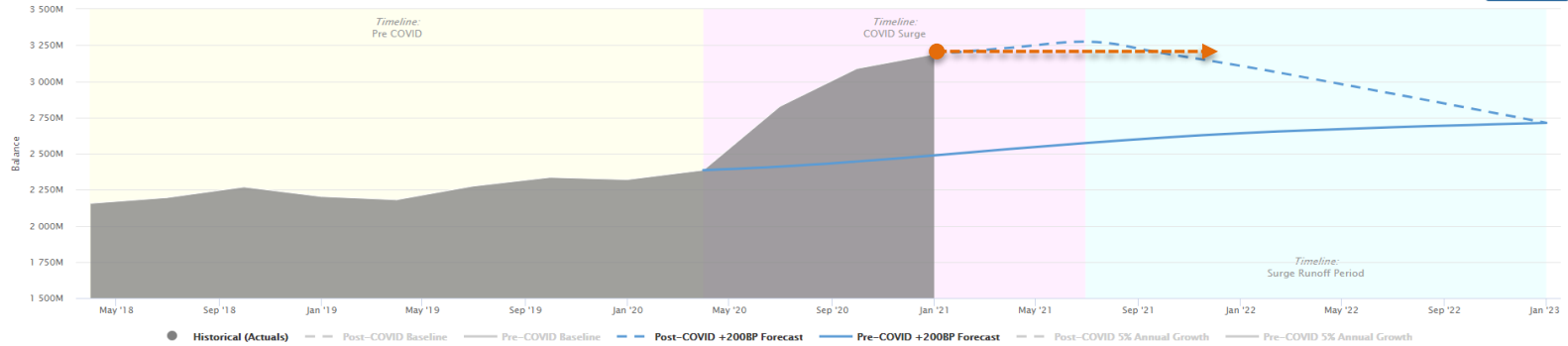
* Sourced from Deposits360®

Total NMD-

12/31/2020
COVID Deposit Surge Analysis



Quarterly ▾



Scenario Options

- D360° Baseline Forecast
- D360° +200BP Forecast
- 5 % Annual Growth Forecast

Surge Assumptions

Surge Runoff Period:

06/30/2021 to 12/31/2022

Remaining Surge Balance Runoff Amount: 75 %

75% COVID Surge Run-off (18 mos)

12/31/2020	3,188	Millions
12/31/2021	3,177	
Net \$ Δ	(11)	
% Δ	0%	

* Sourced from Deposits360°®

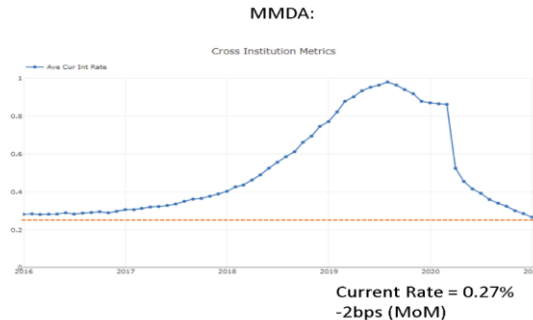
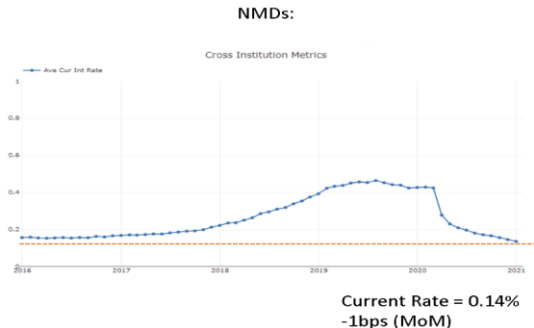
*Sample Financial Institution

PRICING

TODAY'S STORY: 1) HOW MUCH MORE CAN WE SQUEEZE?
2) PREDICTING PRICING & BETAS

Deposits360 [®] Cross-Institution Deposit Rates (2020-12-31)		Low/High Account Level Rates		Avg Rate Change	
Products	Avg Rate	20th Percentile	80th Percentile	3-mo Change	12-mo Change
Total Deposits	0.32%	0.00%	0.45%	-0.07%	-0.46%
Non-Maturity Deposits	0.14%	0.00%	0.25%	-0.03%	-0.29%
Time Deposits *			0.60%	-0.12%	-1.33%
NOW			0.25%	-0.03%	-0.25%
SAV	0.08%	0.02%	0.15%	-0.01%	-0.12%
MMDA	0.27%	0.10%	0.40%	-0.06%	-0.60%
Share Drafts	0.07%	0.00%	0.10%	0.01%	-0.04%
Regular Shares	0.12%	0.05%	0.20%	-0.02%	-0.05%

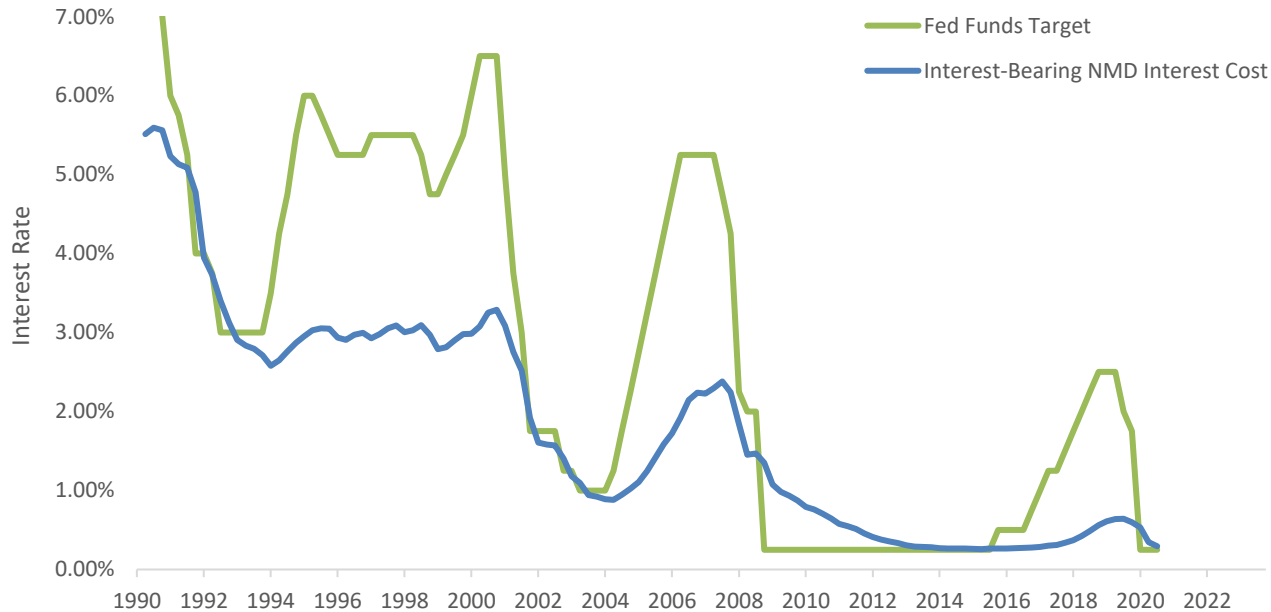
Deposits360[®] Interest Rates



*Approximately 70% of monthly data reported

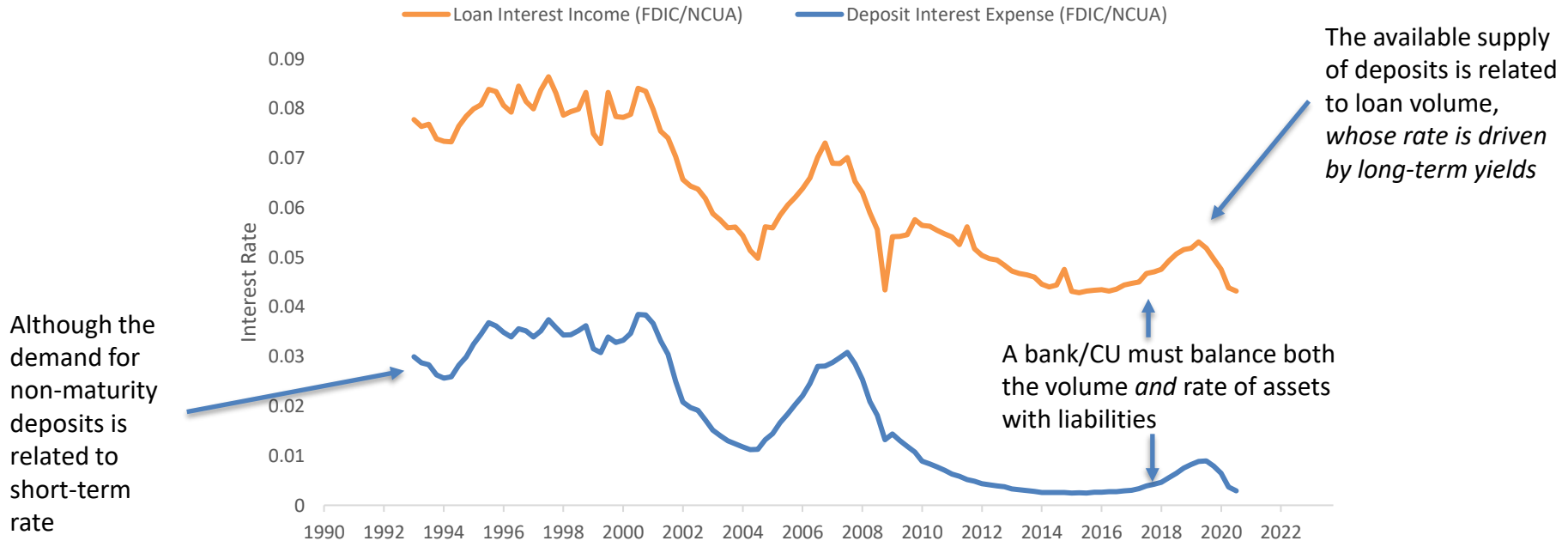
The Relationship Between Risk-Free Rates and Deposit Pricing

Deposit yields respond to movements in short-term rates. We use this historical relationship to predict future deposit rate movements

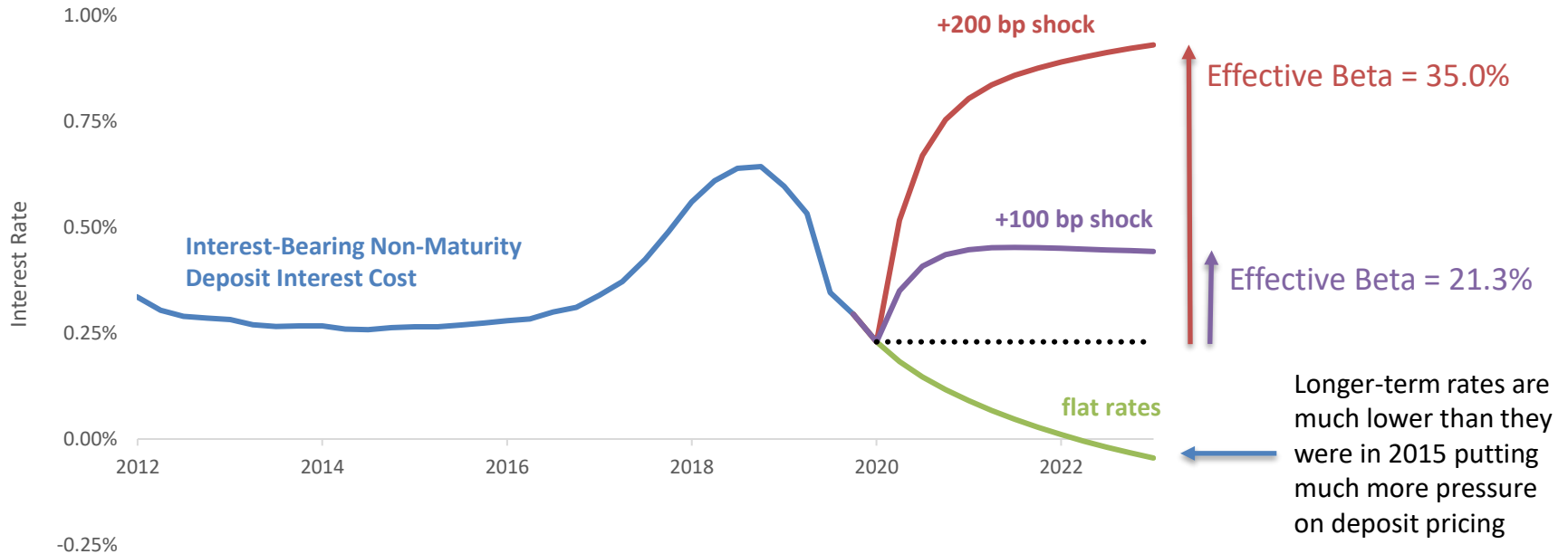


The Relationship Between Risk-Free Rates and Deposit Pricing

To better understand deposit pricing, we need to consider the relationship between loan and deposit rates as a supply-demand equilibrium



We can use our improved understanding of deposit rate dynamics to predict some of the second-order effects on pricing and extend our forecasts further.



Longer-term rates are much lower than they were in 2015 putting much more pressure on deposit pricing

Lenders

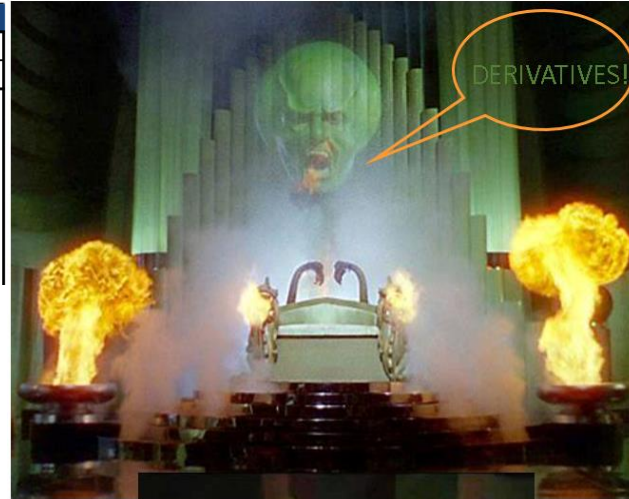
Credit/Finance



Swap Curve Steepening Since Last Year...Are New Loan Yields Reacting?

March 2021

1m LIBOR Swap Rates						
Term	Bullet	Amortization Period				
		10	15	20	25	30
1	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
2	0.18%	0.18%	0.18%	0.18%	0.18%	0.18%
3	0.36%	0.34%	0.34%	0.35%	0.35%	0.35%
4	0.57%	0.52%	0.55%	0.56%	0.56%	0.57%
5	0.78%	0.69%	0.73%	0.75%	0.76%	0.77%
7	1.14%	0.93%	1.04%	1.08%	1.10%	1.11%
10	1.46%	1.02%	1.28%	1.36%	1.40%	1.42%



August 2020

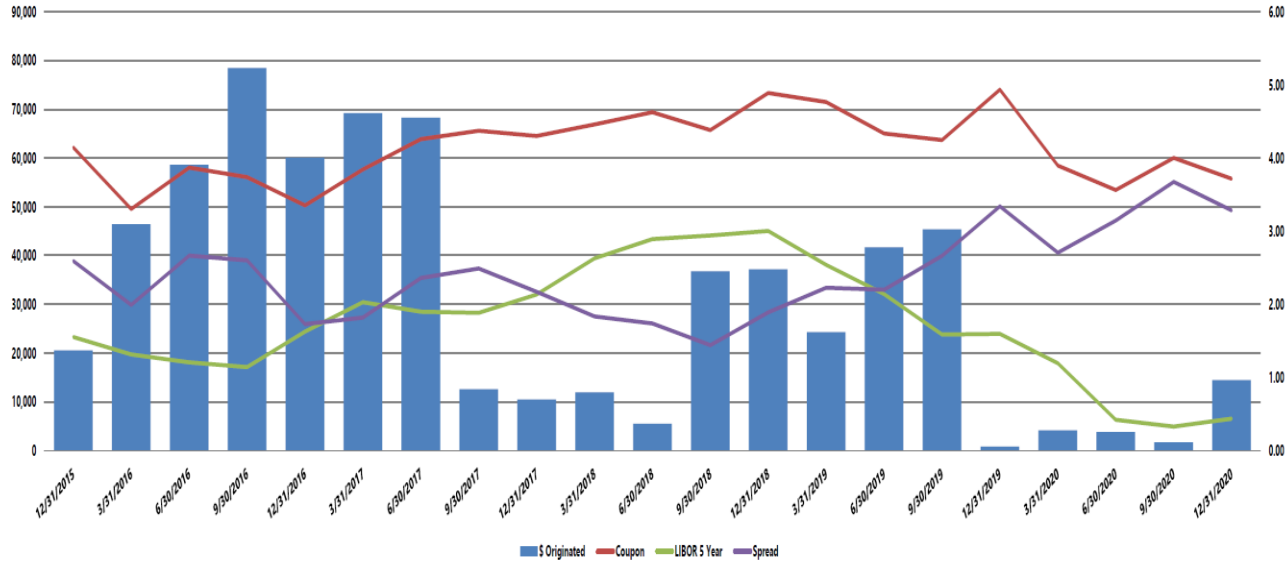
1m LIBOR Swap Rates						
Term	Bullet	Amortization Period				
		10	15	20	25	30
1	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
2	0.10%	0.11%	0.10%	0.10%	0.10%	0.10%
3	0.09%	0.10%	0.10%	0.09%	0.09%	0.09%
4	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%
5	0.16%	0.15%	0.16%	0.16%	0.16%	0.16%
7	0.27%	0.22%	0.25%	0.26%	0.27%	0.27%
10	0.42%	0.27%	0.36%	0.39%	0.40%	0.41%
11	0.46%		0.38%	0.42%	0.43%	0.44%
12	0.49%		0.39%	0.44%	0.46%	0.47%
13	0.52%		0.40%	0.46%	0.48%	0.49%
14	0.54%		0.40%	0.47%	0.50%	0.51%
15	0.56%		0.40%	0.48%	0.52%	0.53%
20	0.63%			0.49%	0.55%	0.58%
25	0.65%				0.54%	0.59%
30	0.66%					0.57%



PRIME Swap Rates						
Term	Bullet	Amortization Period				
		10	15	20	25	30
1	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
2	3.28%	3.28%	3.28%	3.28%	3.28%	3.28%
3	3.44%	3.42%	3.43%	3.44%	3.44%	3.44%
4	3.65%	3.60%	3.62%	3.63%	3.64%	3.64%
5	3.86%	3.77%	3.81%	3.83%	3.84%	3.84%
7	4.21%	4.01%	4.11%	4.15%	4.17%	4.18%
10	4.51%	4.09%	4.34%	4.41%	4.45%	4.47%

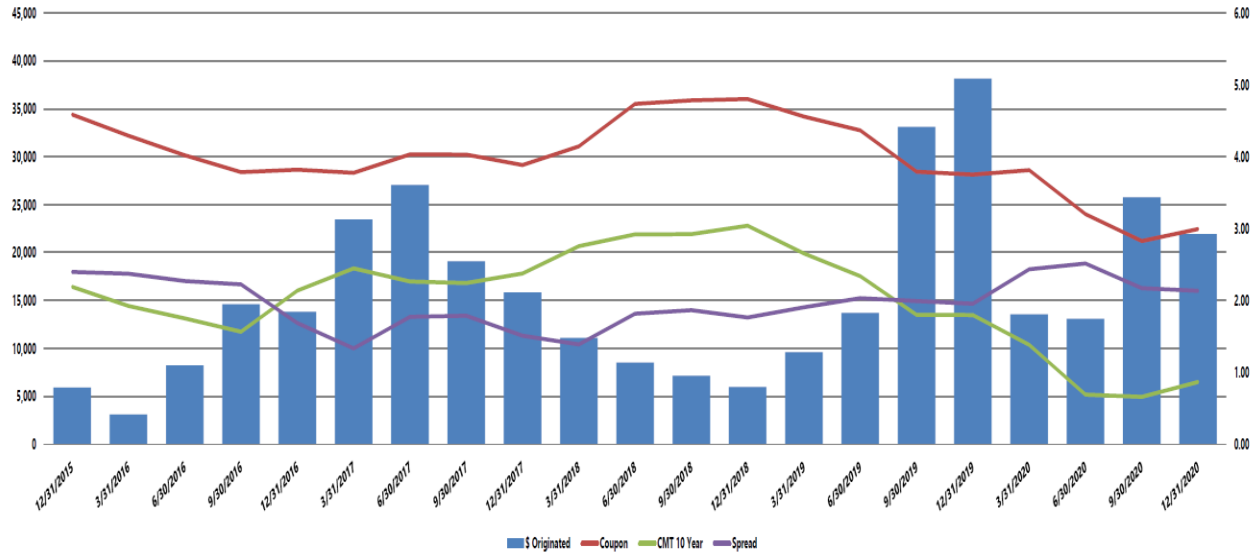
PRIME Swap Rates						
Term	Bullet	Amortization Period				
		10	15	20	25	30
1	3.23%	3.23%	3.23%	3.23%	3.23%	3.23%
2	3.17%	3.18%	3.18%	3.18%	3.18%	3.18%
3	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%
4	3.17%	3.17%	3.17%	3.17%	3.17%	3.17%
5	3.21%	3.20%	3.20%	3.20%	3.21%	3.21%
7	3.31%	3.27%	3.29%	3.30%	3.30%	3.31%
10	3.43%	3.30%	3.38%	3.40%	3.41%	3.42%
11	3.45%		3.39%	3.42%	3.43%	3.44%
12	3.47%		3.40%	3.43%	3.45%	3.46%
13	3.49%		3.41%	3.45%	3.46%	3.47%
14	3.51%		3.41%	3.46%	3.48%	3.49%
15	3.52%		3.40%	3.47%	3.49%	3.50%
20	3.57%			3.47%	3.51%	3.53%
25	3.57%				3.50%	3.53%
30	3.57%					3.52%

Quarterly Average CRE Fixed Loan Origination Rates vs LIBOR 5 Year



	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016	3/31/2017	6/30/2017	9/30/2017	12/31/2017	3/31/2018	6/30/2018	9/30/2018	12/31/2018	3/31/2019	6/30/2019	9/30/2019	12/31/2019	3/31/2020	6/30/2020	9/30/2020	12/31/2020
\$ Originated	20,526	46,412	58,597	78,431	60,064	69,210	68,263	12,548	10,469	11,921	5,462	36,739	37,208	24,299	41,637	45,355	800	4,168	3,766	1,644	14,387
Coupon	4.14	3.30	3.87	3.74	3.35	3.04	4.26	4.37	4.30	4.46	4.63	4.38	4.89	4.77	4.34	4.25	4.93	3.90	3.56	4.00	3.72
LIBOR 5 Year	1.55	1.31	1.20	1.14	1.62	2.03	1.90	1.88	2.13	2.63	2.89	2.94	3.00	2.54	2.14	1.59	1.59	1.19	0.42	0.33	0.43
Spread	2.59	1.99	2.66	2.60	1.73	1.82	2.36	2.49	2.17	1.83	1.74	1.44	1.89	2.23	2.20	2.66	3.34	2.70	3.14	3.67	3.28

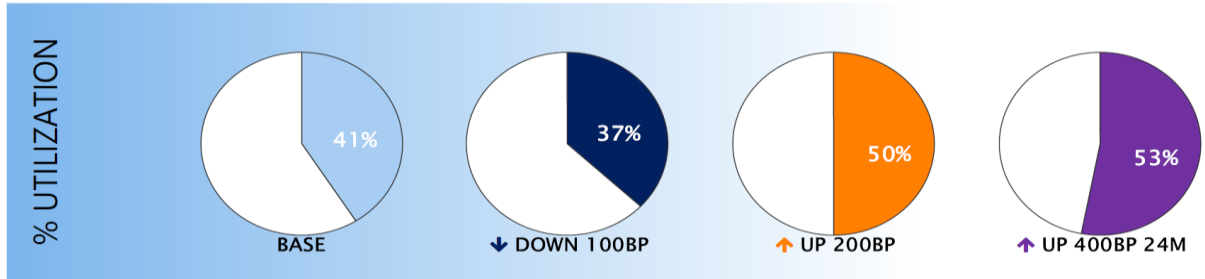
Quarterly Average Residential Fixed Loan Origination Rates vs CMT 10 Year



	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016	3/31/2017	6/30/2017	9/30/2017	12/31/2017	3/31/2018	6/30/2018	9/30/2018	12/31/2018	3/31/2019	6/30/2019	9/30/2019	12/31/2019	3/31/2020	6/30/2020	9/30/2020	12/31/2020
\$ Originated	5,905	3,067	8,191	14,597	13,794	23,432	27,032	19,089	15,830	11,079	8,511	7,133	5,940	9,596	13,682	33,084	38,162	13,547	13,064	25,773	21,902
Coupon	4.59	4.29	4.02	3.79	3.82	3.78	4.03	4.03	3.88	4.14	4.73	4.78	4.80	4.56	4.37	3.79	3.75	3.81	3.20	2.83	2.99
CMT 10 Year	2.19	1.92	1.75	1.56	2.13	2.45	2.26	2.24	2.37	2.75	2.92	2.92	3.04	2.65	2.34	1.80	1.79	1.38	0.69	0.66	0.86
Spread	2.40	2.37	2.27	2.22	1.68	1.33	1.77	1.79	1.51	1.39	1.82	1.86	1.76	1.91	2.03	1.99	1.95	2.43	2.51	2.17	2.13

Can We HOLD Longer Term Assets?

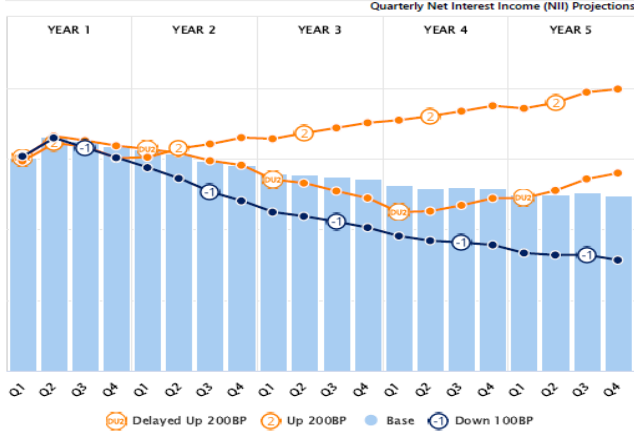
How Much Can We Support?



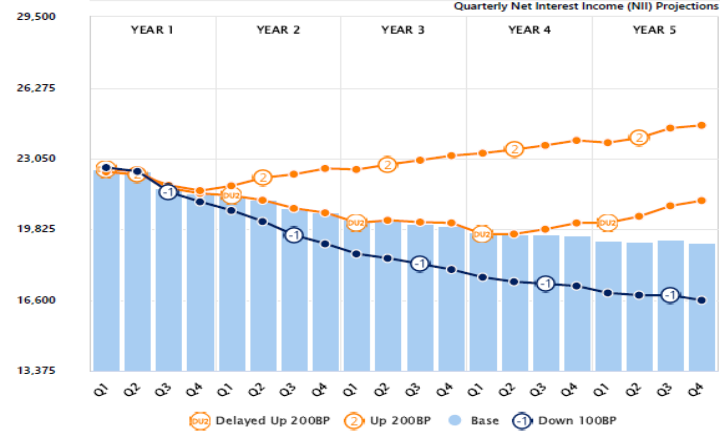
	BASE			↓ DOWN 100BP			↑ UP 200BP			↑ UP 400BP 24M		
ASSETS > 60 MONTHS	835,093			760,112			922,439			965,961		
CORE FUNDING	VOLUME	EXCESS		VOLUME	EXCESS		VOLUME	EXCESS		VOLUME	EXCESS	
EQUITY	384,877	0		384,877	0		384,877	0		384,877	0	
OTHER LIABILITIES	16,289	0		16,289	0		16,289	0		16,289	0	
DDA	792,685	358,758		792,685	433,738		792,685	271,412		792,685	227,890	
NOW	417,578	776,336		417,578	851,316		417,578	688,990		417,578	645,468	
SAVINGS	218,865	995,201		218,865	1,070,181		218,865	907,855		218,865	864,333	
OTHER DEPOSITS	-40	995,161		-40	1,070,141		-40	907,815		-40	864,293	
BORROWINGS	225,000	1,220,161		225,000	1,295,141		0	907,815		0	864,293	
TOTAL CORE FUNDING	2,055,254			2,055,254			1,830,254			1,830,254		
	ASSETS	CORE		ASSETS	CORE		ASSETS	CORE		ASSETS	CORE	
	>60M	FUNDING	% UTIL	>60M	FUNDING	% UTIL	>60M	FUNDING	% UTIL	>60M	FUNDING	% UTIL
DEC-20	835,093	2,055,254	41%	760,112	2,055,254	37%	922,439	1,830,254	50%	965,961	1,830,254	53%
SEP-20	793,988	1,942,030	41%	711,036	1,942,030	37%	887,418	1,717,030	52%	941,600	1,717,030	55%
JUN-20	745,997	1,841,027	41%	661,081	1,841,027	36%	845,037	1,616,027	52%	909,717	1,616,027	56%
MAR-20	706,773	1,779,053	40%	622,555	1,779,053	35%	829,773	1,554,053	53%	871,661	1,554,053	56%
DEC-19	651,173	1,529,210	43%	576,896	1,529,210	38%	745,951	1,504,210	50%	808,172	1,504,210	54%

1. Core funding utilization measures the long term structural position of the balance sheet (i.e. EVE simulation) and quantifies the degree to which the Bank utilizes long-term (i.e. >5-years) funding sources to support long-term assets. The cumulative excess may be used as an indicator of the Bank's capacity to add additional long-term assets.

\$250MM of 10Y Fixed Rate Loan Growth



Base Simulation as of 12/31/2020

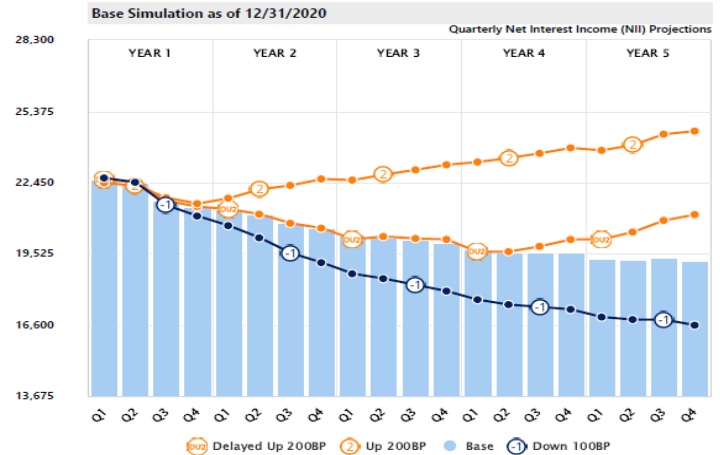
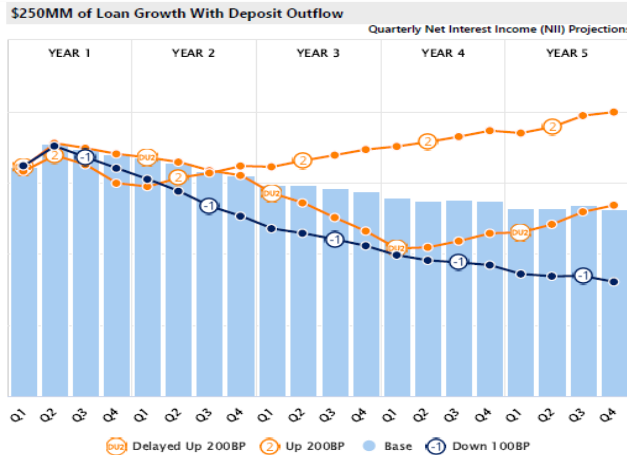


NII RESULTS															
	Y1					Y2					Y3				
DELAYED UP 200BP	94,667	92,481	86,839	83,412	87,364	6,478	8,618	6,225	4,263	4,801	88,189	83,863	80,615	79,149	82,563
UP 200BP	93,368	94,350	97,308	100,465	103,251	5,198	5,428	5,813	6,174	6,462	88,170	88,922	91,495	94,291	96,789
BASE	94,667	92,492	89,094	87,033	85,723	6,478	8,618	8,618	8,642	8,618	88,189	83,874	80,476	78,391	77,105
DOWN 100BP	93,781	87,431	81,094	77,146	74,462	6,085	7,864	7,664	7,508	7,331	87,696	79,567	73,430	69,638	67,132
	DIFFERENCE														

24M % CHANGE FROM BASE																
	POLICY				Y1				POLICY				24M CML			
DELAYED UP 200BP					0.0%				0.0%				0.0%			
UP 200BP	-10.0%	-1.4%	-15.0%	0.3%					-1.4%				-10.0%	0.0%	-15.0%	2.9%
DOWN 100BP	-10.0%	-0.9%	-15.0%	-3.2%					-0.4%				-10.0%	-0.6%	-15.0%	-2.8%
	DIFFERENCE															

1. The model assumes \$250MM of CRE Fixed (10/25) loan growth @ 3.50% is funded with cash @ 10bps (\$207MM), and 3M wholesale @ 10bps (\$43MM).
2. The growth occurs evenly over the next 6 months.

NO Need for Long Funding! We Have It!



NII RESULTS					
	Y1	Y2	Y3	Y4	Y5
DELAYED UP 200BP	94,655	92,465	85,092	79,937	83,903
UP 200BP	92,107	90,919	93,848	96,990	99,790
BASE	94,655	92,477	89,078	87,016	85,707
DOWN 100BP	93,629	87,228	80,891	76,942	74,259

	Y1	Y2	Y3	Y4	Y5
DELAYED UP 200BP	6,466	8,602	4,478	788	1,341
UP 200BP	3,937	1,997	2,353	2,699	3,001
BASE	6,466	8,602	8,602	8,625	8,602
DOWN 100BP	5,933	7,661	7,461	7,303	7,127

DIFFERENCE

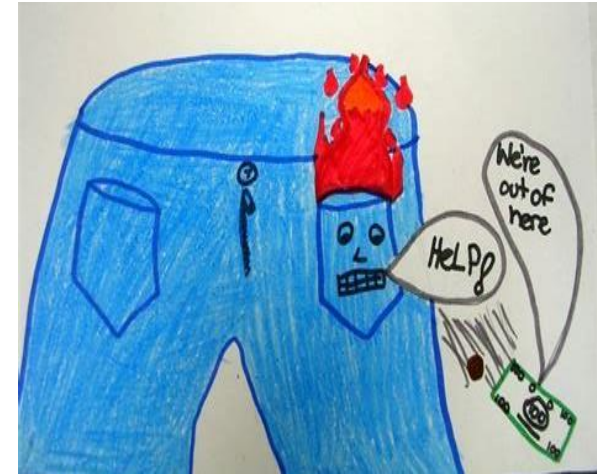
24M % CHANGE FROM BASE				
	POLICY	Y1	POLICY	24M CML
DELAYED UP 200BP		0.0%		0.0%
UP 200BP	-10.0%	-2.7%	-15.0%	-2.2%
DOWN 100BP	-10.0%	-1.1%	-15.0%	-3.4%

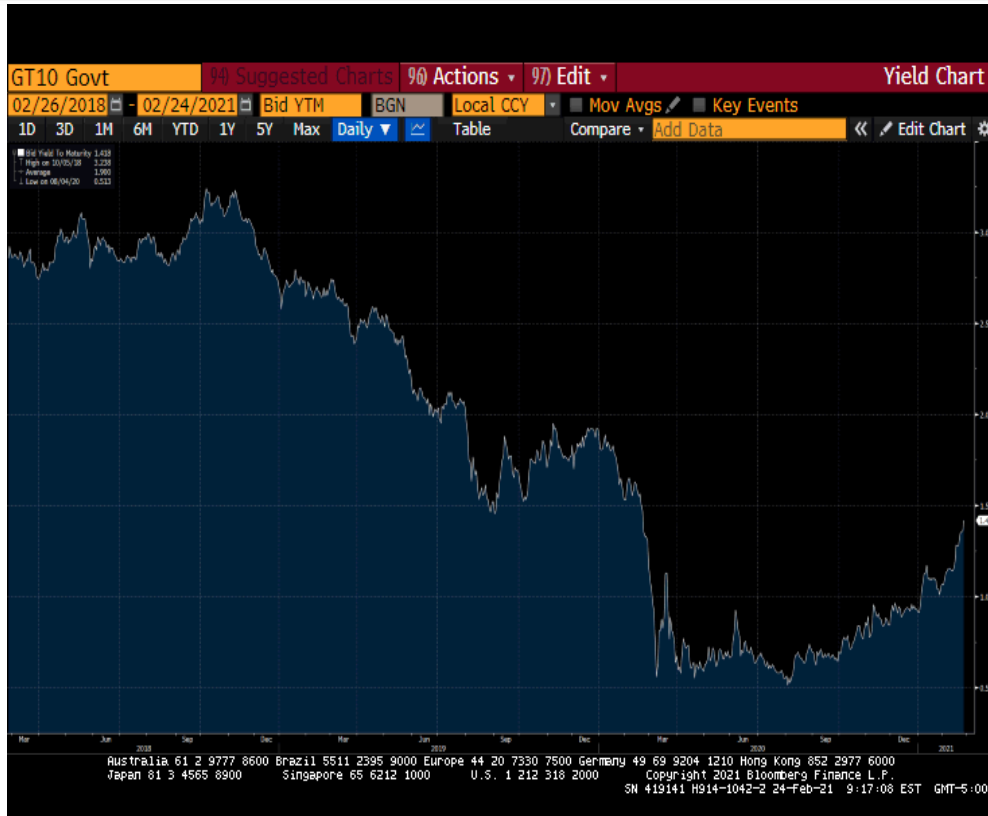
	Y1	24M CML
DELAYED UP 200BP	0.0%	0.0%
UP 200BP	-2.7%	-5.1%
DOWN 100BP	-0.5%	-0.6%

DIFFERENCE

1. The model assumes \$250MM of CRE Fixed (10/25) loan growth @ 3.50% is funded with cash @ 10bps (\$207MM), and 3M wholesale @ 10bps (\$43MM) over the next 6 months.
 2. Additionally, \$250MM of NMDs (DDA and MMDAs @19bps) are assumed to runoff over the next 6 months and be replaced with 3M wholesale funds @ 10bps.

- ◆ What's required to move the needle?
- ◆ Prioritize investment objectives & “tie-breakers”
- ◆ No free lunch...DO YOUR HOMEWORK
 - Credit risk
 - Option risk
 - Duration (price risk)
- ◆ Level set discussions re: unrealized losses
- ◆ BUY Discounts Today! Pre-Invest?

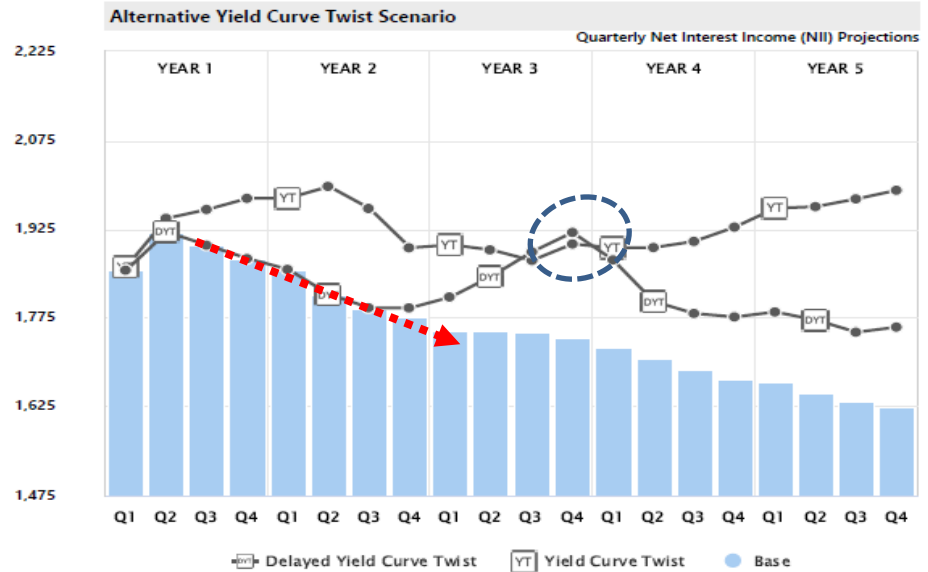




- ◆ 10-year Treasury @1.63%
- ◆ Investments now at Discounts
- ◆ Refi activity abating?
- ◆ Cash burning hole in pocket now has attractive options
- ◆ Deposit cost will lag and likely grow...**put cash to work now!**

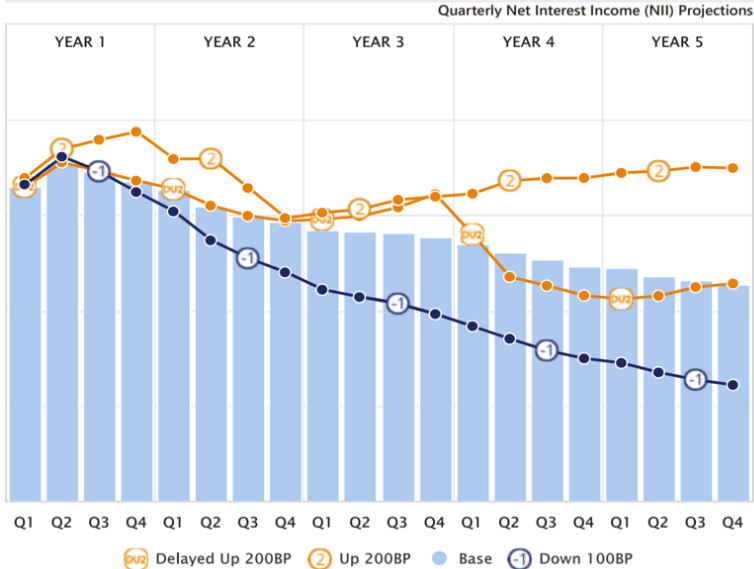
◆ **Important: Quantify Strategies Today vs. potential for future rate increases**

- Highlights protecting margin compression if rates stay low.
- Impact of fixed rate asset strategies?
- Impact of future deposit outflows/surge normalization?
- Combination of fixed assets and deposit outflows?
- Growth Necessary - will likely require more Long-Term Assets.



	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
DELAYED YIELD CURVE TWIST	7,549	7,256	7,462	7,235	7,067
YIELD CURVE TWIST	7,741	7,829	7,561	7,621	7,891
BASE	7,549	7,238	6,997	6,786	6,568

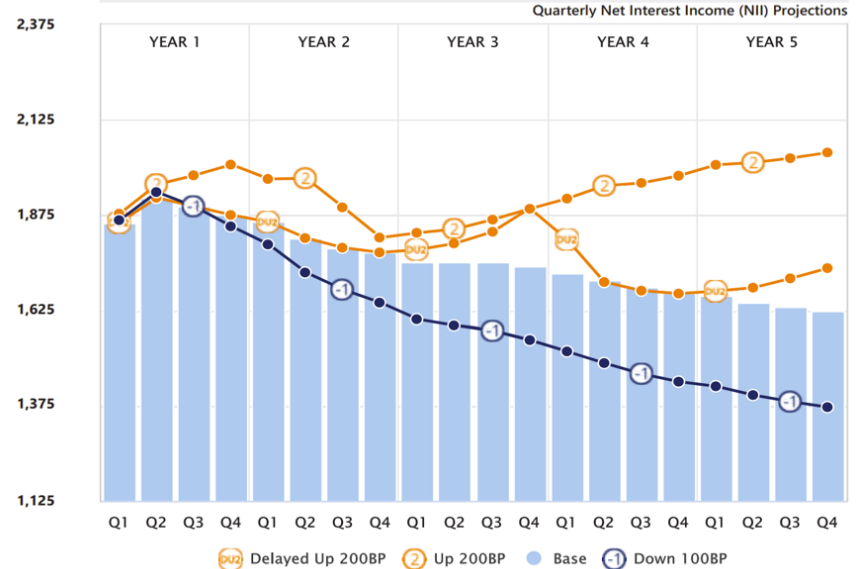
Alternative NII - \$30MM Bond Purchase



NII RESULTS

	Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5
DELAYED UP 200BP	7,919	7,575	7,562	6,891	6,699	369	338	252	35	-106
UP 200BP	8,188	7,859	7,610	7,841	7,976	366	205	189	33	-108
BASE	7,919	7,575	7,315	7,077	6,848	369	338	319	291	280
DOWN 100BP	7,909	7,179	6,597	6,152	5,821	368	332	291	252	236
						DIFFERENCE				

Base Simulation as of 12/31/2020



	Y1	Y2	Y3	Y4	Y5
DELAYED UP 200BP	7,549	7,238	7,309	6,856	6,805
UP 200BP	7,822	7,653	7,422	7,809	8,084
BASE	7,549	7,238	6,997	6,786	6,568
DOWN 100BP	7,540	6,847	6,305	5,900	5,584

Creating Clarity for Strategy Development



- ◆ Accurate Risk Assessment
- ◆ “Normalizing” PPP/COVID
- ◆ Key Assumption Sensitivity
- ◆ How Rates Rise (or don’t RISE) MATTERS
- ◆ Presentation Matters too!
- ◆ **Execute Game Plan!!!**

37th Annual
**Balance Sheet &
Model Risk Management**
VIRTUAL CONFERENCE

JUNE 8-10 • 2021

▶ **SAVE THE DATE** ◀

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