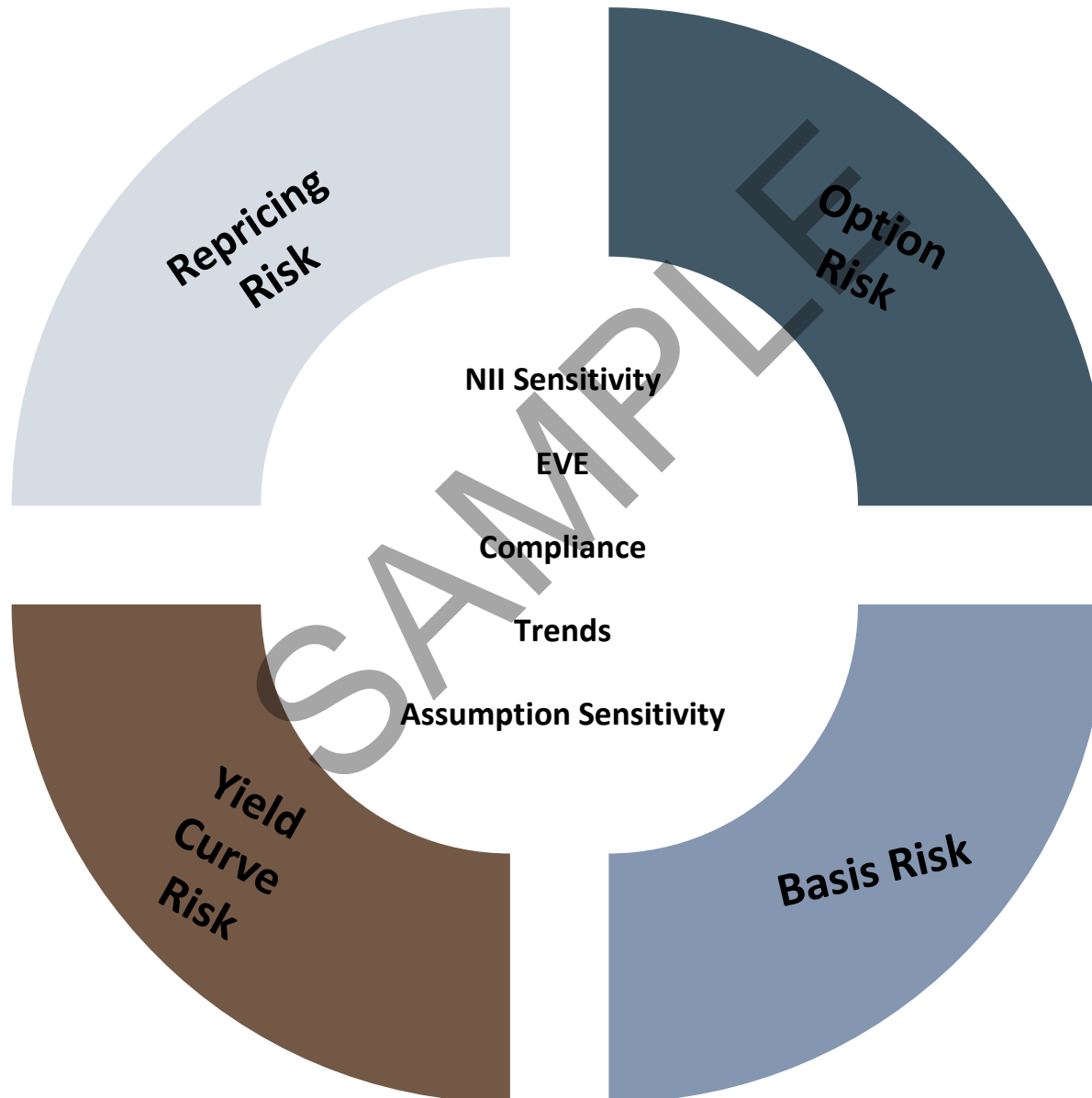


Interest Rate Risk Analysis



IRR LIMITS

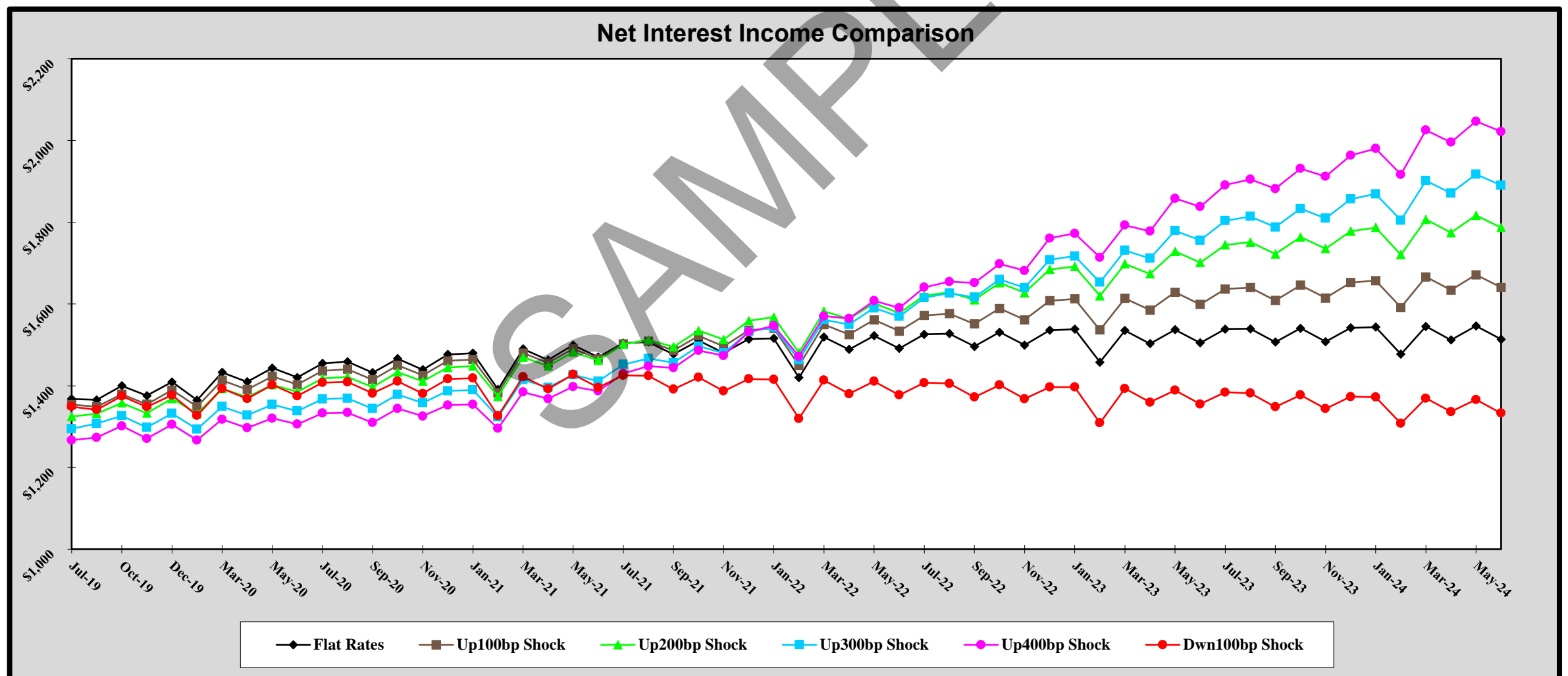
POLICY COMPLIANCE*

SCENARIO	NII Yr 1	NII Yr 2	\$ EVE	EVE %	ROA Yr1	ROA Yr2
+ 100BP						
+ 200BP						
+ 300BP						
+ 400BP						
- 100BP						

RISK LIMITS				
SHOCK SCENARIO	NII Δ	\$ EVE Δ	EVE % Δ	ROA Projected
+/- 100bp	6%	11%	10%	> 0bp
+/- 200bp	12%	22%	20%	> 0bp
+/- 300bp	20%	35%	30%	> 0bp
+/- 400bp	30%	50%	40%	> 0bp

STATIC GROWTH NII SENSITIVITY

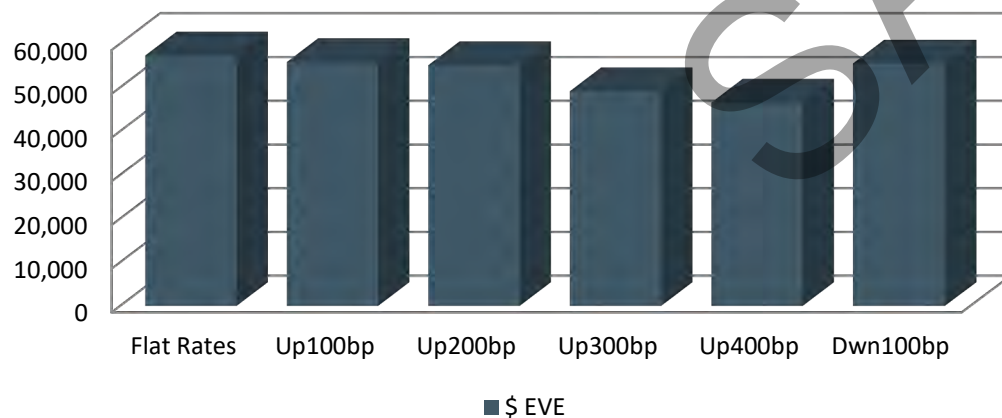
June 30, 2019	Yr 1 NII	Δ	Risk Limit	Yr 2 NII	Δ	Risk Limit	Yr 3 NII	Δ	Yr 4 NII	Δ	Yr 5 NII	Δ
Flat Rates	\$16,786			\$17,521			\$17,950		\$18,192		\$18,313	
Up 100bp Shock	\$16,569	-1.3%	6.0%	\$17,366	-0.9%	6.0%	\$18,212	1.5%	\$19,034	4.6%	\$19,660	7.4%
Up 200bp Shock	\$16,331	-2.7%	12.0%	\$17,209	-1.8%	12.0%	\$18,490	3.0%	\$19,936	9.6%	\$21,188	15.7%
Up 300bp Shock	\$15,880	-5.4%	20.0%	\$16,566	-5.5%	20.0%	\$18,160	1.2%	\$20,214	11.1%	\$22,160	21.0%
Up 400bp Shock	\$15,526	-7.5%	30.0%	\$16,185	-7.6%	30.0%	\$18,165	1.2%	\$20,841	14.6%	\$23,472	28.2%
Down 100bp Shock	\$16,394	-2.3%	6.0%	\$16,789	-4.2%	6.0%	\$16,783	-6.5%	\$16,554	-9.0%	\$16,293	-11.0%



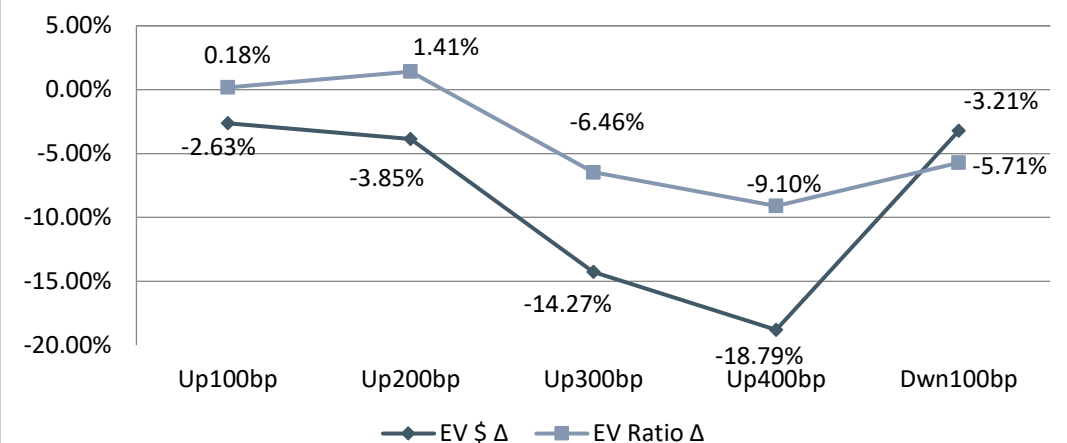
ECONOMIC VALUE EQUITY ANALYSIS

June 30, 2019	\$ EV Assets	\$ EV Liabilities	\$ EV Equity	\$ EVE Δ	% \$ EVE Δ	Risk Limit % \$ EVE	EVE Ratio	EVE Ratio % Δ	Risk Limit % Δ
Flat Rates	511,536	454,255	57,281				11.20%		
Up 100bp Shock	497,215	441,439	55,776	-1,505	-2.6%	+/- 11%	11.22%	0.2%	+/- 10%
Up 200bp Shock	484,989	429,916	55,073	-2,208	-3.9%	+/- 22%	11.36%	1.4%	+/- 20%
Up 300bp Shock	468,852	419,744	49,108	-8,173	-14.3%	+/- 35%	10.47%	-6.5%	+/- 30%
Up 400bp Shock	456,999	410,483	46,516	-10,765	-18.8%	+/- 50%	10.18%	-9.1%	+/- 40%
Down 100bp Shock	525,087	469,648	55,439	-1,841	-3.2%	+/- 11%	10.56%	-5.7%	+/- 10%

\$ EV and EV/Assets

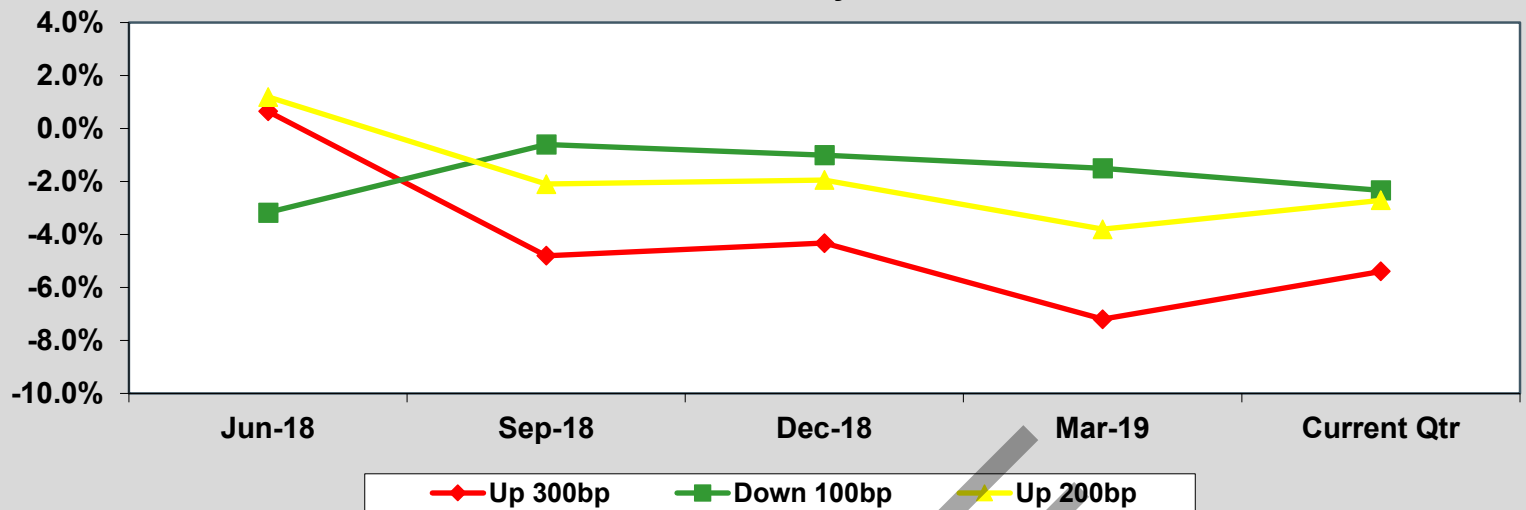


EV Sensitivity



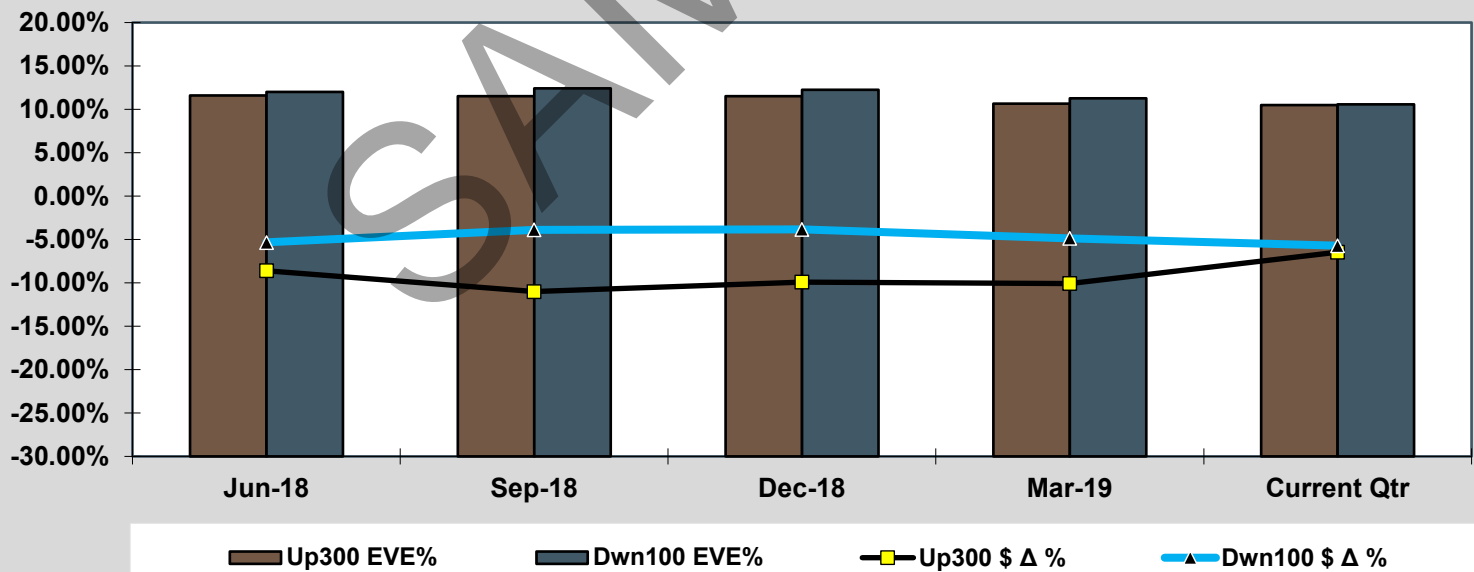
IRR TRENDS

Yr 1
NII Sensitivity

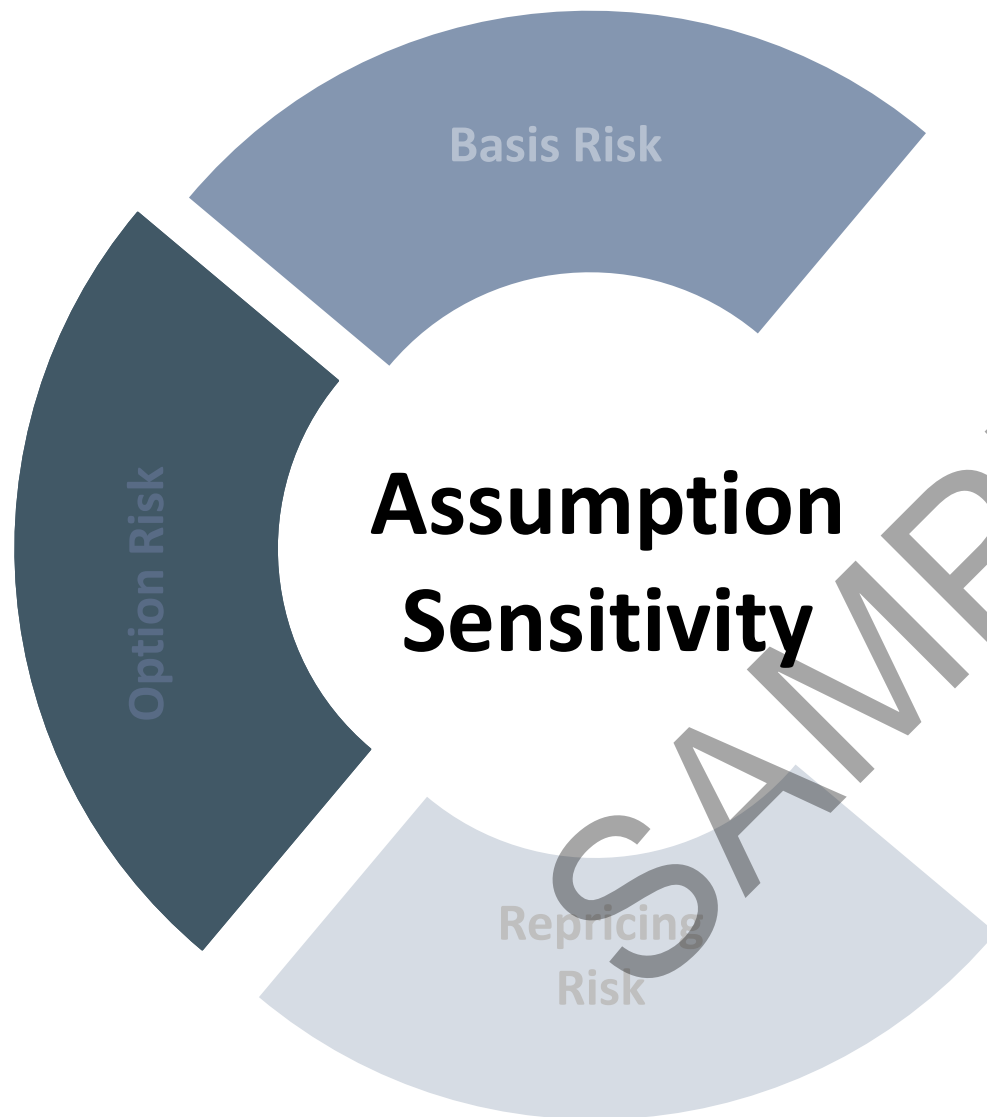


	Jun-18	Sep-18	Dec-18	Mar-19	Current Qtr	Δ Last Qtr	Δ Last Yr
Up 200bp	1.2%	-2.1%	-1.9%	-3.8%	-2.7%	1.1%	-3.9%
Up 300bp	0.6%	-4.8%	-4.3%	-7.2%	-5.4%	1.8%	-6.0%
Down 100bp	-3.2%	-0.6%	-1.0%	-1.5%	-2.3%	-0.8%	0.8%

EVE Level / Sensitivity



	Jun-18	Sep-18	Dec-18	Mar-19	Current Qtr	Δ Last Qtr	Δ Last Yr
Up300 EVE%	11.6%	11.5%	11.5%	10.6%	10.5%	-0.2%	-1.1%
Up300 \$ Δ %	-8.6%	-11.0%	-9.9%	-10.1%	-6.5%	3.6%	2.1%
Dwn100 EVE%	12.0%	12.4%	12.3%	11.3%	10.6%	-0.7%	-1.4%
Dwn100 \$ Δ %	-5.34%	-3.90%	-3.84%	-4.9%	-5.7%	-0.9%	-0.4%

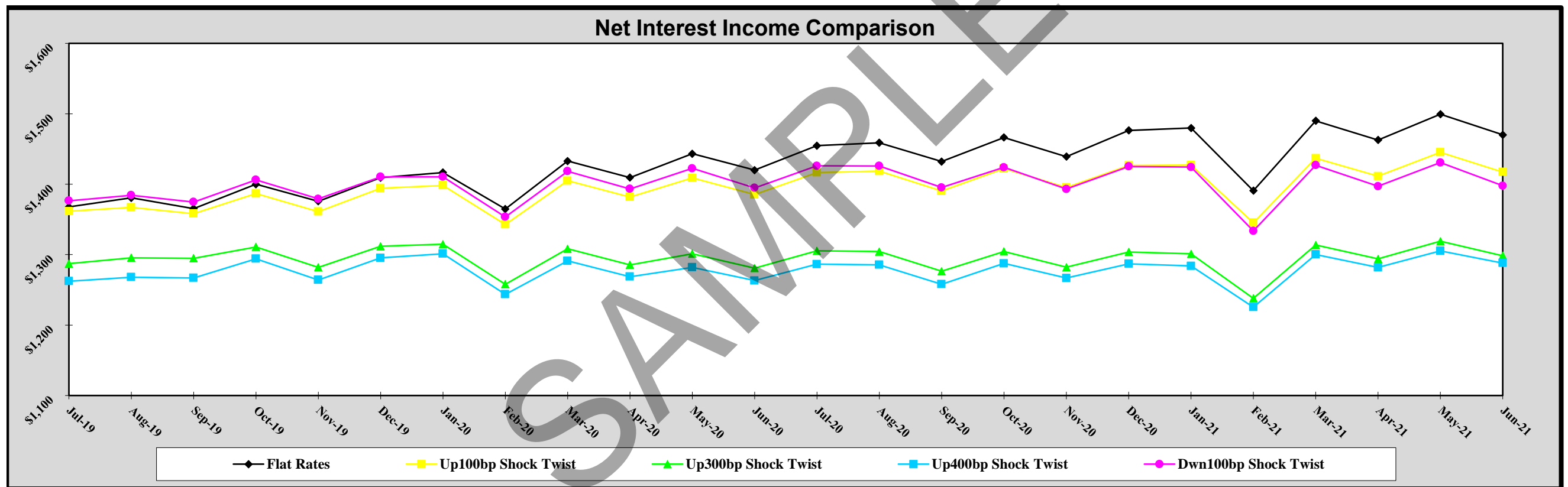


Yield Curve Risk

Risk of adverse impact from non-parallel rate changes of different terms along a yield curve. A steep yield curve implies long-term rates higher than short-term rates. Banks are typically more exposed as the curve "flattens" or narrows the spread between short and long-term interest rates.

YIELD CURVE RISK NII IMPACT

Scenario	Shock Δ			Curve Δ	Yr 1 NII Δ		Yr 2 NII Δ	
	2yr<	3-4yr	5yr>					
Flat Rates						\$16,786		\$17,521
Up 100bp Shock Twist	+100bp	+50bp	0bp	-100bp		\$16,551 -1.4%		\$16,953 -3.2%
Up 300bp Shock Twist	+300bp	+200bp	+100bp	-200bp		\$15,531 -7.5%		\$15,541 -11.3%
Up 400bp Shock Twist	+400bp	+300bp	+200bp	-200bp		\$15,301 -8.8%		\$15,356 -12.4%
Down 100bp Shock Twist	0bp	-50bp	-100bp	-100bp		\$16,724 -0.4%		\$16,900 -3.5%



YIELD CURVE IMPACT: NII COMPARISON OF STATIC GROWTH RATE SHOCK SCENARIOS

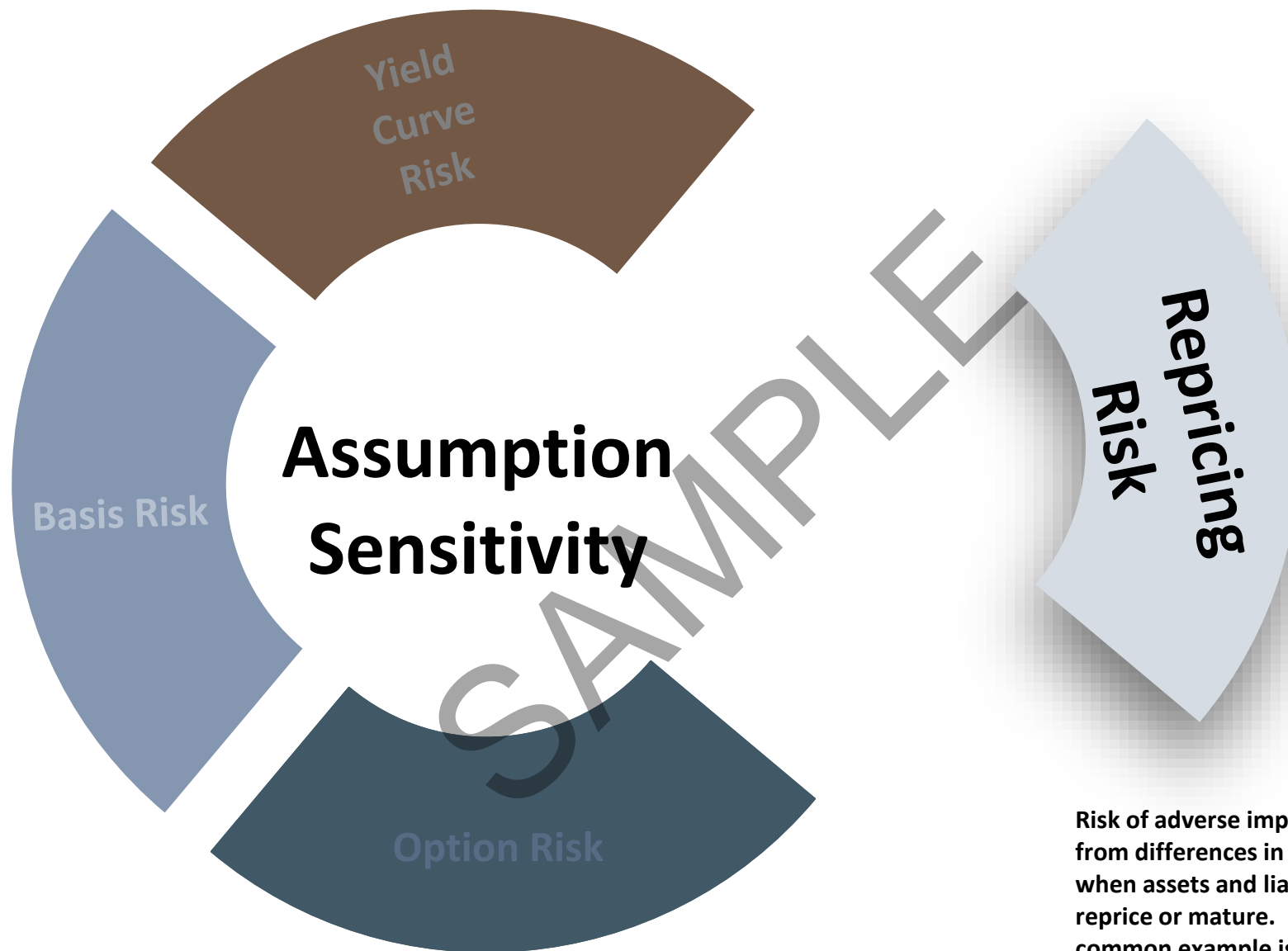
TWIST	Yr1	Yr2
Up 100bp Shock	\$16,551	\$16,953
Up 300bp Shock	\$15,531	\$15,541
Up 400bp Shock	\$15,301	\$15,356
Down 100bp Shock	\$16,724	\$16,900

vs.

PARALLEL	Yr1	Yr2
Up 100bp Shock	\$16,569	\$17,366
Up 300bp Shock	\$15,880	\$16,566
Up 400bp Shock	\$15,526	\$16,185
Down 100bp Shock	\$16,394	\$16,789

=

Yr1 Δ	Yr2 Δ
(\$18)	(\$413)
(\$349)	(\$1,025)
(\$225)	(\$830)
\$330	\$111



Risk of adverse impact from differences in timing of when assets and liabilities reprice or mature. Most common example is fixed rate residential mortgages funded with short-term deposit products.

REPRICING RISK SENSITIVITY

NMD MIGRATION IMPACT

Scenario	\$ NMD Shift		NMD%	Yr 1 NII	Δ	Yr 2 NII	Δ
Flat Rates				\$16,786		\$17,521	
Up 300bp Shock (No Migration)	\$0		65%	\$15,880	-5.4%	\$16,566	-5.5%
Up 300bp Shock (w/Migration)	\$61,048		50%	\$15,247	-9.2%	\$15,353	-12.4%

\$61 mil or 23% runoff shifts to higher cost CD Specials during Yr1 (straight line migration over 12 months)

Resulting deposit portfolio mix shifts CD concentration higher to 50% vs. original 35%

Yr1 NMD migration impact costs -\$0.6 million. Yr2 migration impact costs -\$1.2 million

NMD PRICING SENSITIVITY IMPACT ON UP300BP NII SENSITIVITY

STATEMENT SAVINGS PRICING IMPACT

Rate Δ %	BP Δ	Yr1 NII	Δ	Yr2 NII	Δ
*10%	30	\$15,880	-5.4%	\$16,566	-5.5%
35%	105	\$15,539	-7.4%	\$16,224	-7.4%
50%	150	\$15,334	-8.6%	\$16,020	-8.6%
100%	300	\$14,652	-12.7%	\$15,337	-12.5%

\$45,512 in Statement Savings with assumed 10% sensitivity

TIER MMDA PRICING IMPACT

Rate Δ %	BP Δ	Yr1 NII	Δ	Yr2 NII	Δ
*65%	195	\$15,880	-5.4%	\$16,566	-5.5%
80%	240	\$15,753	-6.1%	\$16,439	-6.2%
90%	270	\$15,669	-6.7%	\$16,354	-6.7%
100%	300	\$15,584	-7.2%	\$16,269	-7.1%

\$28,213 in Tier MMDAs with assumed 65% sensitivity

NOW PERSONAL CHKG PRICING IMPACT

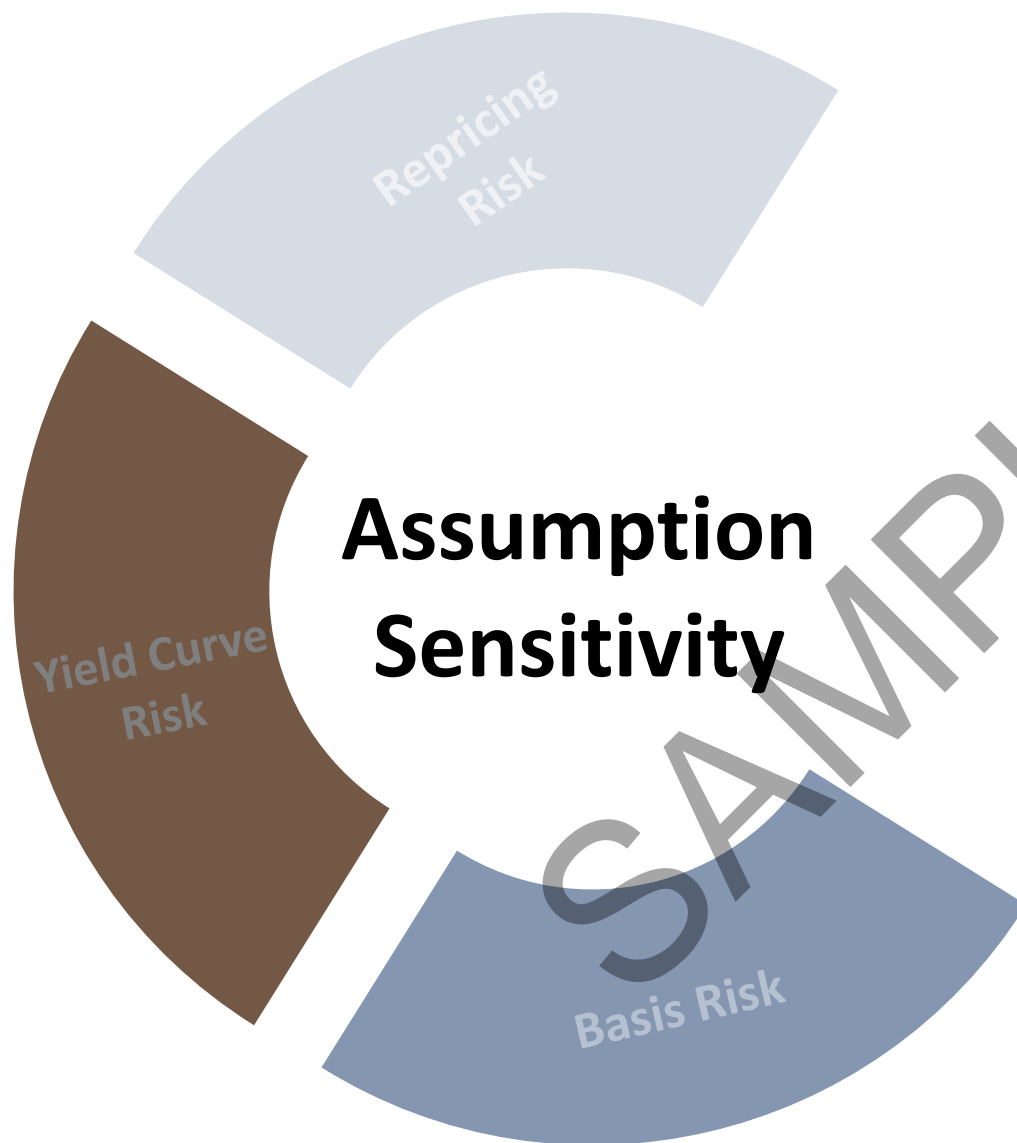
Rate Δ %	BP Δ	Yr1 NII	Δ	Yr2 NII	Δ
*5%	15	\$15,880	-5.4%	\$16,566	-5.5%
35%	105	\$15,767	-6.1%	\$16,452	-6.1%
70%	210	\$15,634	-6.9%	\$16,319	-6.9%
100%	300	\$15,520	-7.5%	\$16,205	-7.5%

\$12,647 in NOW Personal Chkg with assumed 5% sensitivity

TOTAL NMD PORTFOLIO PRICING IMPACT

Rate Δ %	BP Δ	Yr1 NII	Δ	Yr2 NII	Δ
42%	126	\$15,880	-5.4%	\$16,566	-5.5%
60%	180	\$14,931	-11.1%	\$15,616	-10.9%
80%	240	\$13,875	-17.3%	\$14,561	-16.9%
100%	300	\$12,820	-23.6%	\$13,505	-22.9%

\$175,876 interest bearing NMD w/Wtd Average sensitivity (beta) of 42%



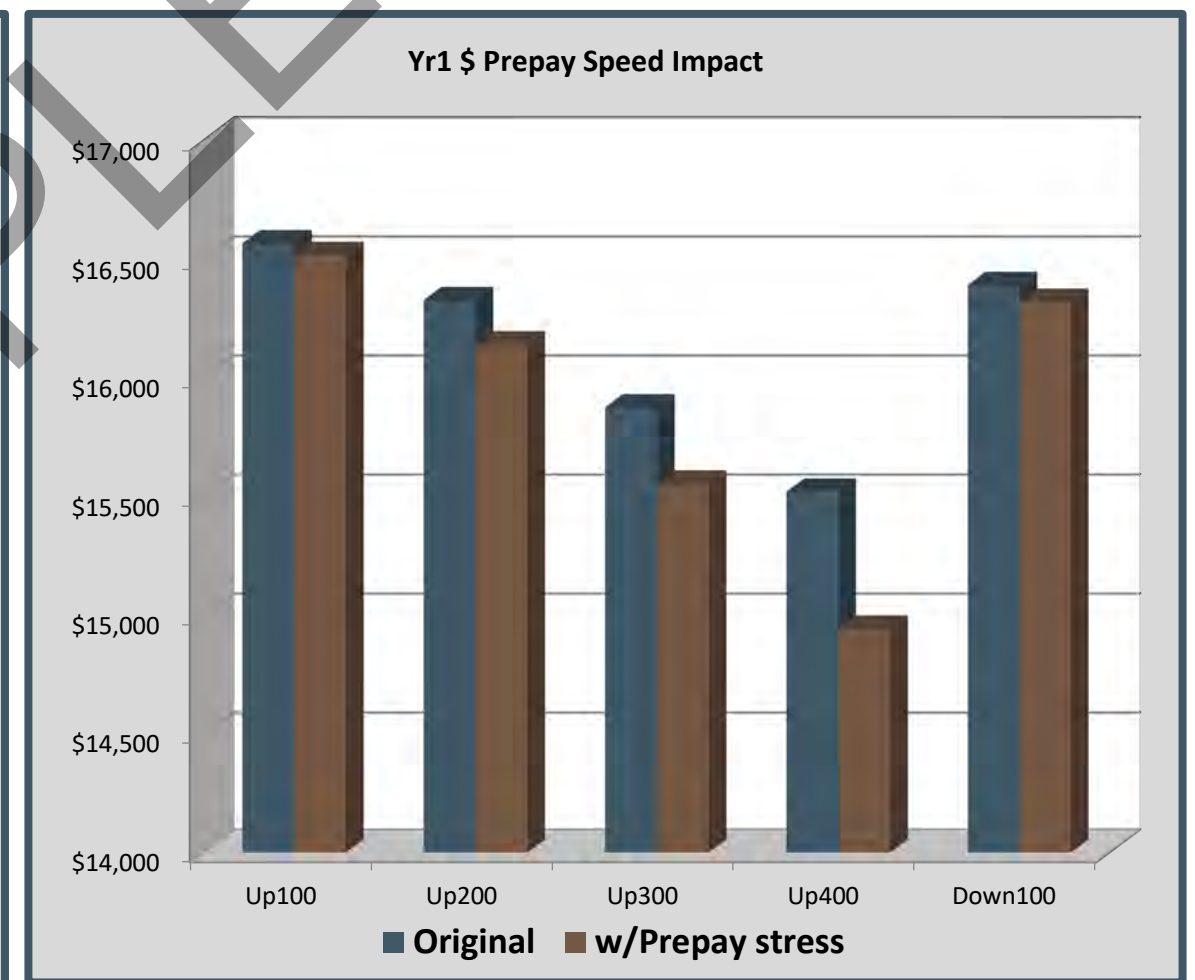
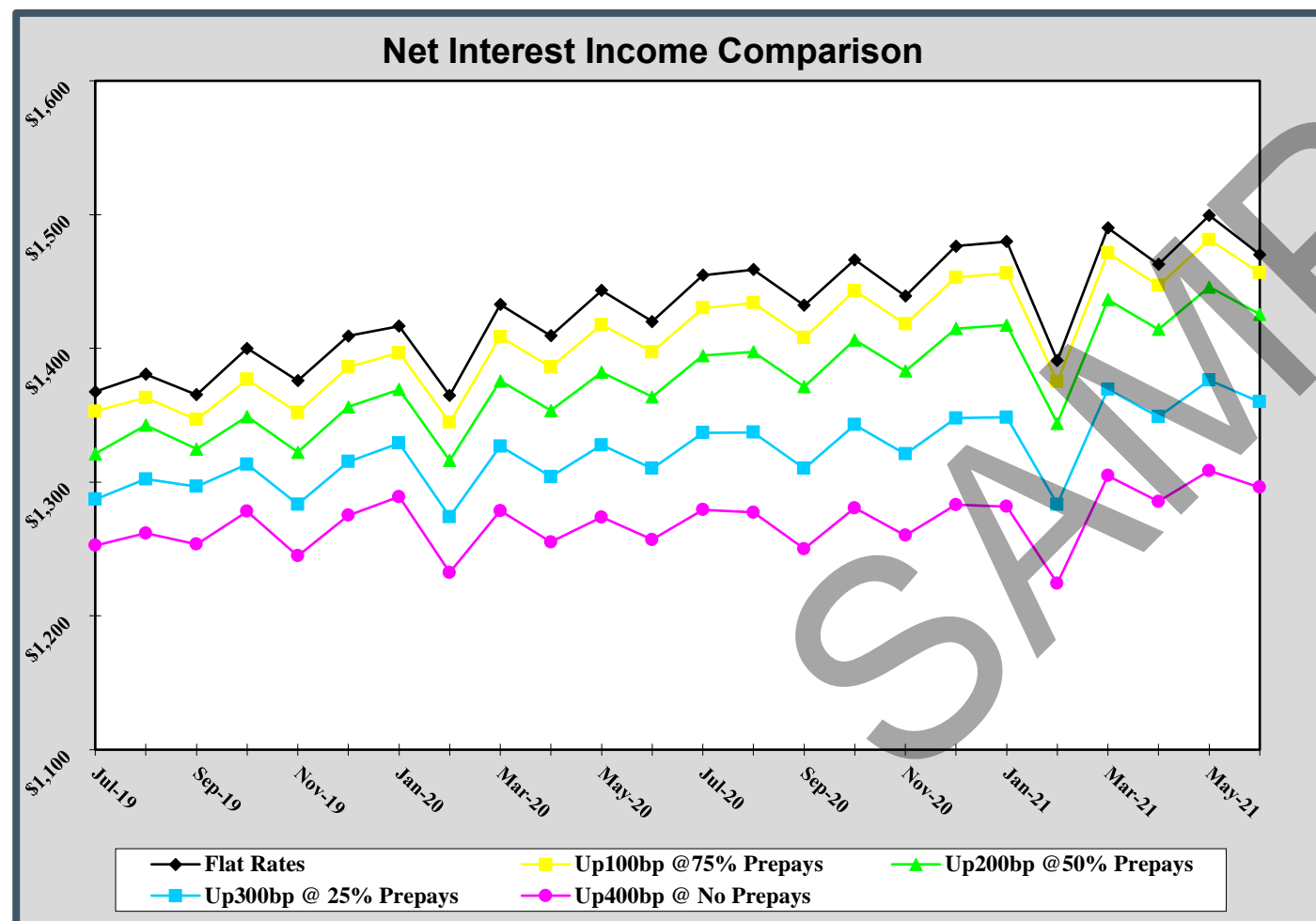
Risk of adverse impact from customer decisions to exercise options in products. Primary example would be prepayments of loans. Other examples would be customer early withdrawal of CDs or call features embedded within Bonds or Borrowings. Also, Non-maturity Deposit (NMD) runoff/outflow which shortened the expected average life .

NII SENSITIVITY w/Asset Prepay Stress

June 30, 2019	Original Base Case Loan Prepay Speeds			
	Yr 1 NII	Δ	Yr2 NII	Δ
Flat Rates	\$16,786		\$17,521	
Up 100bp Shock	\$16,569	-1.3%	\$17,366	-0.9%
Up 200bp Shock	\$16,331	-2.7%	\$17,209	-2%
Up 300bp Shock	\$15,880	-5.4%	\$16,566	-5.5%
Up 400bp Shock	\$15,526	-7.5%	\$16,185	-8%
Down 100bp Shock	\$16,394	-2.3%	\$16,789	-4.2%

Asset Prepay Speeds Δ 25% per 100bp shock			
Yr 1 NII	Δ	Yr2 NII	Δ
\$16,786		\$17,521	
\$16,520	-1.6%	\$17,265	-1.5%
\$16,145	-3.8%	\$16,816	-4%
\$15,560	-7.3%	\$15,946	-9.0%
\$14,951	-10.9%	\$15,080	-14%
\$16,323	-2.8%	\$16,643	-5.0%

Prepay Speed Impact			
Yr 1 \$ Δ	% Δ	Yr2 \$ Δ	% Δ
\$0	0.0%	\$0	0%
(\$49)	-0.3%	(\$102)	-0.6%
(\$186)	-1.1%	(\$394)	-2%
(\$321)	-1.9%	(\$620)	-3.5%
(\$575)	-3.4%	(\$1,105)	-6%
(\$71)	-0.4%	(\$146)	-0.8%



Explanation: Original Static Growth shock scenarios were re-run using lowered/stressed loan prepay speeds. Original Based Case Asset prepay speeds were adjusted 25% per every 100bp rate shock. Asset prepay speeds changed by -25% Up100, -50% Up200, -75% Up300, -100% Up400, & +25% Down100. Original Base Case NII Sensitivity is shown for comparison purposes to isolate prepay impact on risk exposure.

EVE SENSITIVITY w/Asset Prepay Stress

June 30, 2019

Flat Rates
Up 100bp Shock
Up 200bp Shock
Up 300bp Shock
Up 400bp Shock
Down 100bp Shock

Original Prepay Speed Forecast				
\$ EV Equity	\$ EVE Δ	% \$ EVE Δ	EVE Ratio	EVE Ratio % Δ
\$57,281	\$0	0.0%	11.20%	0.00%
\$55,776	-\$1,505	-2.6%	11.22%	0.2%
\$55,073	-\$2,208	-3.9%	11.36%	1.4%
\$49,108	-\$8,173	-14.3%	10.47%	-6.5%
\$46,516	-\$10,765	-18.8%	10.18%	-9.1%
\$55,439	-\$1,841	-3.2%	10.56%	-5.7%

Stressed/Reduced Prepay Speed Forecast				
\$ EV Equity	\$ EVE Δ	% \$ EVE Δ	EVE Ratio	EVE Ratio % Δ
\$57,281	\$0	0.0%	11.20%	0.0%
\$53,938	-\$3,343	-5.8%	10.89%	-2.8%
\$49,048	-\$8,233	-14.4%	10.24%	-8.5%
\$38,173	-\$19,107	-33.4%	8.34%	-25.6%
\$27,497	-\$29,784	-52.0%	6.28%	-43.9%
\$53,846	-\$92	-0.2%	10.29%	-5.5%

Up 100bp Shock
Up 200bp Shock
Up 300bp Shock
Up 400bp Shock

Impact: Net Difference in EVE from Prepay Stress			
\$ EV Equity Impact	% \$ EVE Impact	EVE Ratio Impact	EVE Ratio Δ Impact
-\$1,838	-3.21%	-0.33%	-2.94%
-\$6,025	-10.52%	-1.12%	-9.96%
-\$10,934	-19.09%	-2.14%	-19.09%
-\$19,019	-33.20%	-3.90%	-34.83%

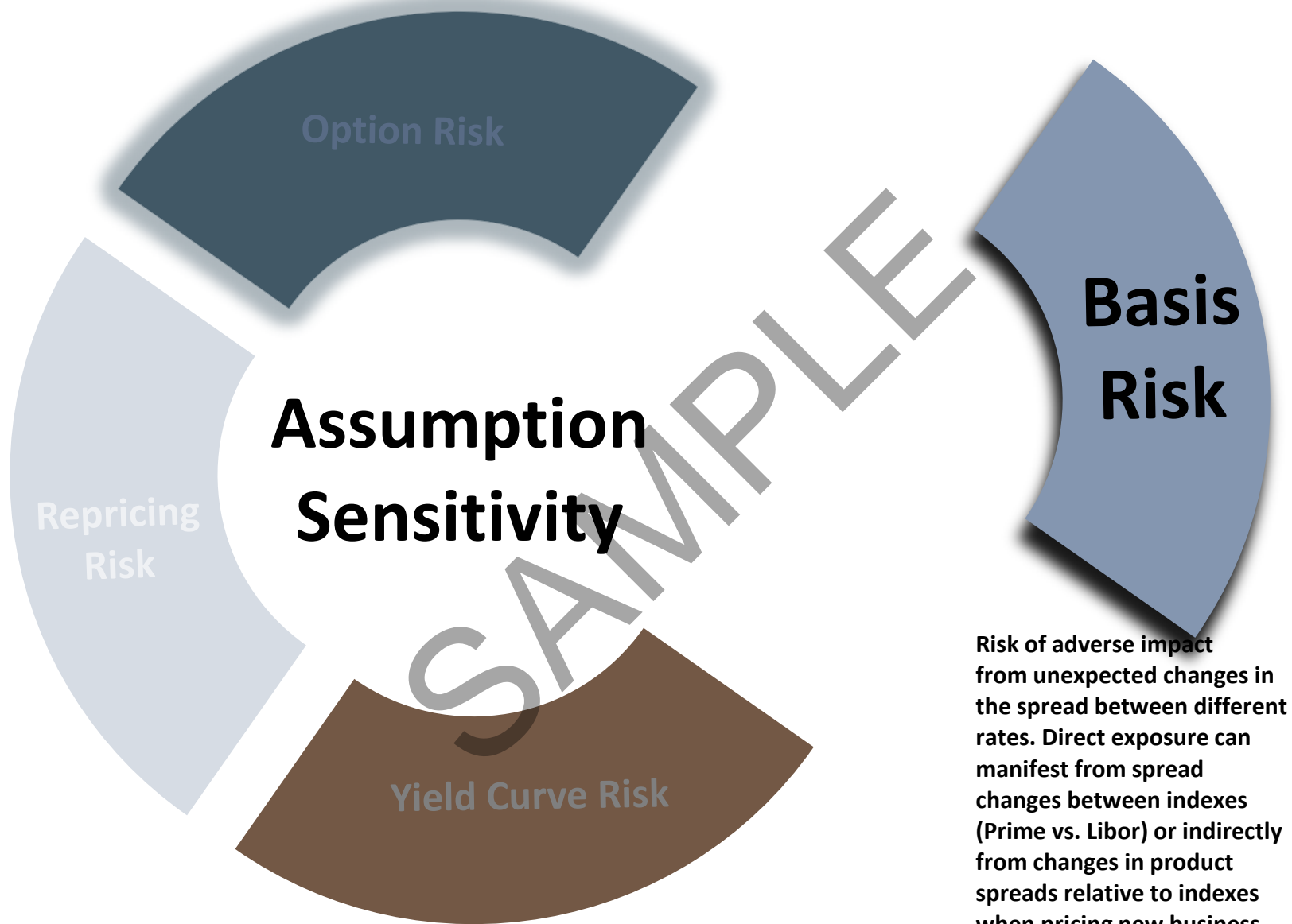
****Prepay speeds changed 25% per 100bp rate shock (e.g. No prepay in Up 400bp scenario)**

EVE SENSITIVITY w/NMD Decay Stress

June 30, 2019	Original NMD Decay Speeds					NMD Decay Speeds Stressed/Shortened 2.5yrs				
	\$ EV Equity	\$ EVE Δ	% \$ EVE Δ	EVE Ratio	EVE Ratio % Δ	\$ EV Equity	\$ EVE Δ	% \$ EVE Δ	EVE Ratio	EVE Ratio % Δ
Flat Rates	\$57,281			11.20%		\$51,371			10.04%	
Up 100bp Shock	\$55,776	-\$1,505	-2.6%	11.22%	0.2%	\$45,698	-\$5,673	-11.0%	9.19%	-8.5%
Up 200bp Shock	\$55,073	-\$2,208	-3.9%	11.36%	1.4%	\$41,526	-\$9,845	-19.2%	8.56%	-14.7%
Up 300bp Shock	\$49,108	-\$8,173	-14.3%	10.47%	-6.5%	\$32,711	-\$18,660	-36.3%	6.98%	-30.5%
Up 400bp Shock	\$46,516	-\$10,765	-18.8%	10.18%	-9.1%	\$27,837	-\$23,535	-45.8%	6.09%	-39.3%
Down 100bp Shock	\$55,439	-\$1,841	-3.2%	10.56%	-5.7%	\$54,946	\$3,574	7.8%	10.46%	13.9%

Impact: Net Difference in EVE from NMD Decay Stress				
	\$ EV Equity Impact	% \$ EVE Impact	EVE Ratio Impact	EVE Ratio Δ Impact
Up 100bp Shock	-\$10,078	-8.42%	-2.03%	-8.66%
Up 200bp Shock	-\$13,547	-15.31%	-2.79%	-16.15%
Up 300bp Shock	-\$16,397	-22.06%	-3.50%	-24.06%
Up 400bp Shock	-\$18,679	-27.02%	-4.09%	-30.24%
Down 100bp Shock	-\$494	11.04%	-0.09%	19.57%

*NMD Decay speeds 2.5yrs shorter (reduced from ~5.75yrs to ~3.25yrs)

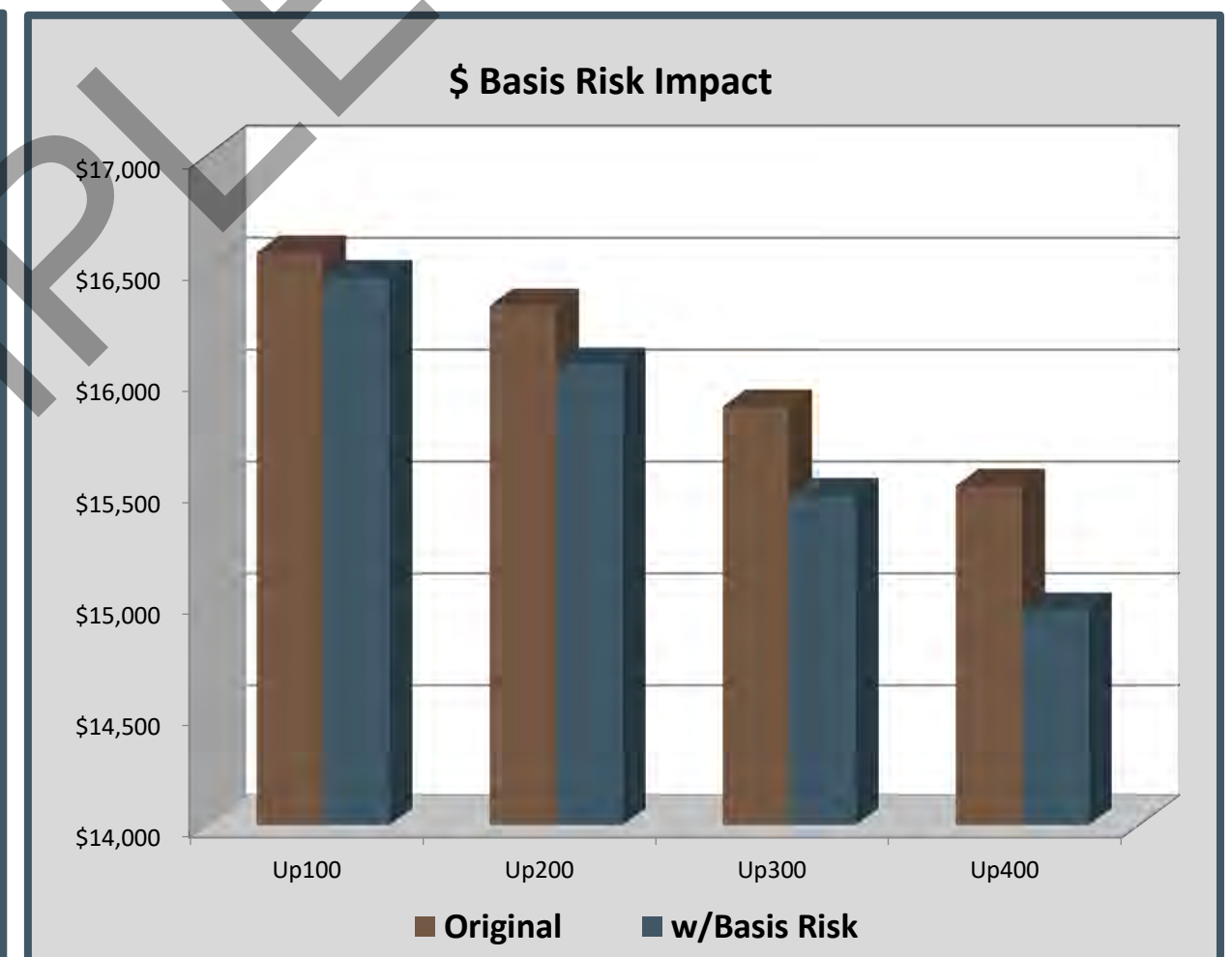
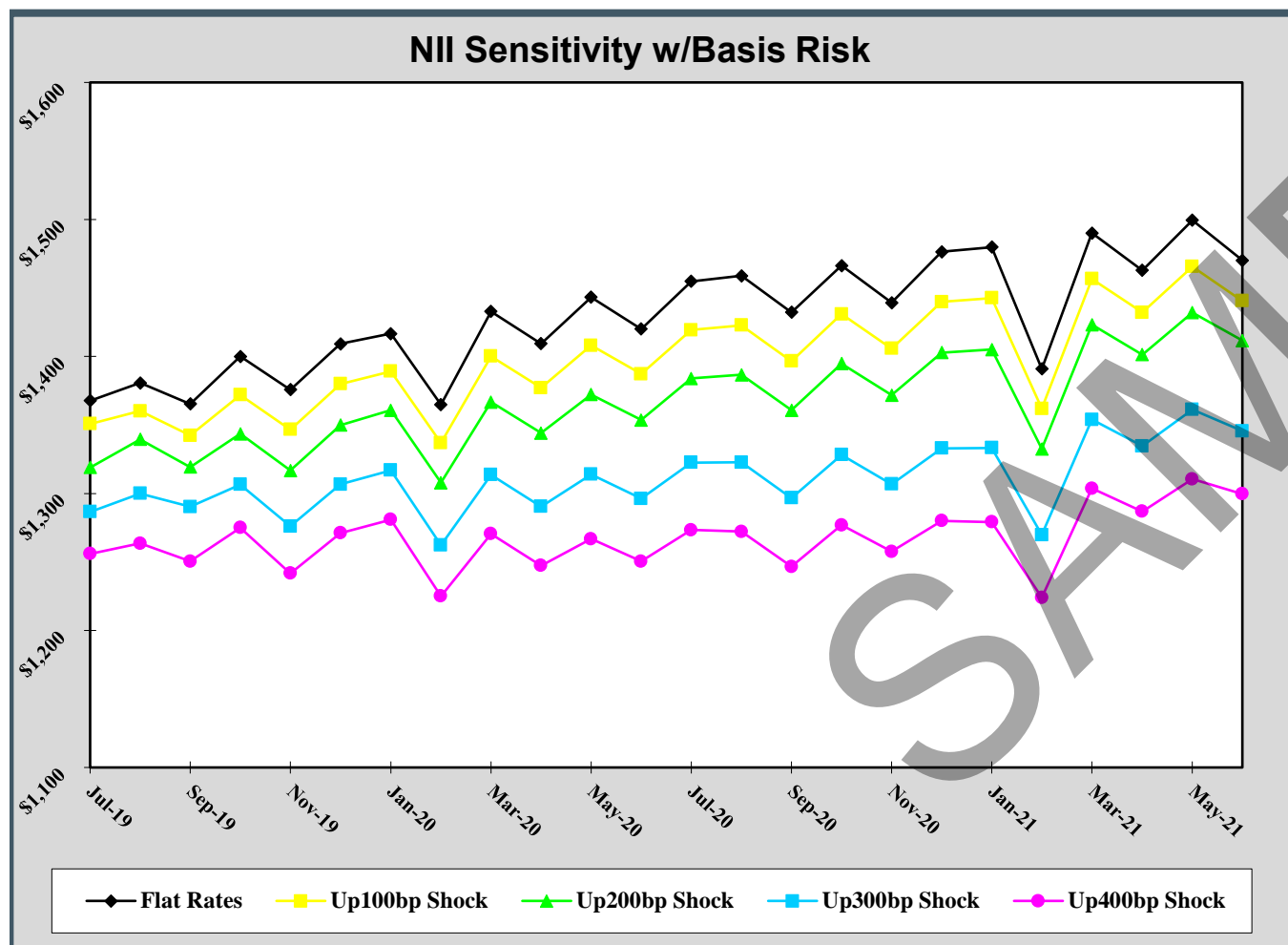


BASIS RISK STRESS NII SENSITIVITY

June 30, 2019	Original Base Case New Asset Rates			
	Yr 1 NII	Δ	Yr2 NII	Δ
Flat Rates	\$16,786		\$17,521	
Up 100bp Shock	\$16,569	-1.3%	\$17,366	-0.9%
Up 200bp Shock	\$16,331	-2.7%	\$17,209	-1.8%
Up 300bp Shock	\$15,880	-5.4%	\$16,566	-5.5%
Up 400bp Shock	\$15,526	-7.5%	\$16,185	-7.6%

New Asset Rates Cut 25bp per 100bp shock			
Yr 1 NII	Δ	Yr2 NII	Δ
\$16,786		\$17,521	
\$16,459	-1.9%	\$17,118	-2.3%
\$16,067	-4.3%	\$16,672	-4.8%
\$15,485	-7.7%	\$15,788	-9.9%
\$14,972	-10.8%	\$15,188	-13.3%

Basis Risk Impact			
Yr 1 NII Δ	% Δ	Yr2 NII Δ	% Δ
\$0	0.0%	\$0	0%
(\$110)	-0.7%	(\$248)	-1.4%
(\$264)	-1.6%	(\$538)	-3.1%
(\$396)	-2.4%	(\$777)	-4.4%
(\$554)	-3.3%	(\$997)	-5.7%



Explanation: Original Static Growth shock scenarios were re-run using lowered/stressed new business bond and loan rates. Original Based Case new bond/loan rates were reduced 25bp per 100bp shock and re-run
Implies: -25bp Up100bp shock, -50bp Up200bp shock, -75bp Up300bp shock, & -100bp Up400bp shock
 Original Base Case NII Sensitivity is shown for comparison. Isolates basis risk impact on risk exposure.