

Monthly Benchmark CPR Results

30 Year Benchmark CPR

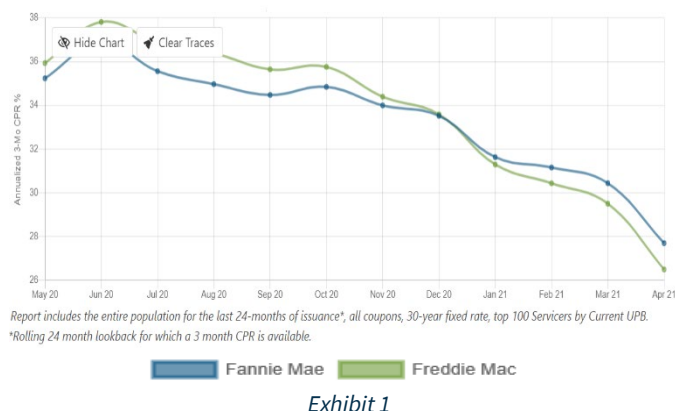


Exhibit 1

The April 30-year Benchmark CPR3 (BCPR3) for the Fannie Mae cohort decreased 8.9% to 27.7 CPR – from 30.4 CPR in March – which marks the sixth straight month the metric has declined. The April 2021 1-month component decreased 30.4% versus the March 1-month component and 27.4% versus the January 1-month component that it replaces in the BCPR3 calculation (see **Table 1a**).

Using a prevailing 30-year mortgage rate of 2.96%, which was 17bps lower MoM, we estimate that 50.6% of all mortgages – and 62.8% of conventional mortgages – remain at least 50bps in the money. This is a slight increase in the refinanceable share of the population MoM, halting the steady decline from the recent peak observed in late 2020.

Table 1a. Components of Fannie Mae's 30 Year Mar and Apr BCPR Results

Reporting Period	BCPR3	BCPR3 Components			
		Jan	Feb	Mar	Apr
Mar 2021	30.4	29.9	30.2	31.2	
Apr 2021	27.7		30.2	31.2	21.7

Table 1b. Components of Fannie Mae's 15 Year Mar and Apr BCPR Results

Reporting Period	BCPR3	BCPR3 Components			
		Jan	Feb	Mar	Apr
Mar 2021	25.8	24.2	25.6	27.5	
Apr 2021	24.0		25.6	27.5	19.2

Table 1: Components of Fannie Mae's Mar and Apr BCPR Results

15 Year Benchmark CPR

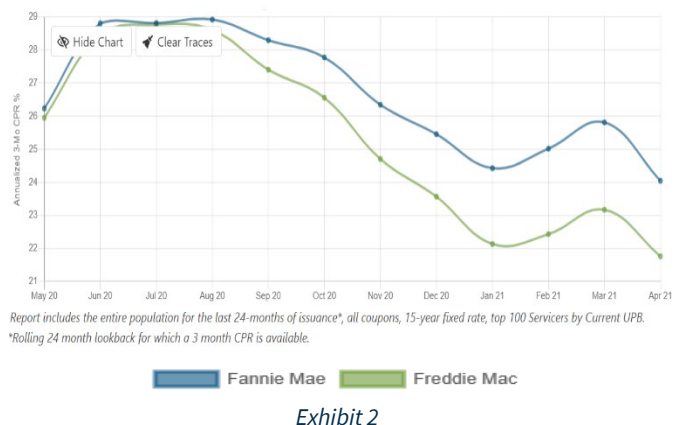


Exhibit 2

The Fannie Mae Cohort 15-year Benchmark CPR3 (BCPR3) came in at 24.0 CPR, which represents a 7.0% decrease from 25.8 CPR in March. The April 2021 1-month component decreased 30.2% versus the March 2021 1-month component and decreased 20.7% versus the January 2020 1-month component that it replaces in the calculation. See **Table 1b** for the one-month components of FNM cohort 15-year BCPR3.

Historical Benchmark CPR Data

Tables 2 and 3 below provide an updated summary of key trends of the 30-year and 15-year historical BCPR data. As a reminder, historical BCPR data can be found on the [Download Data page under the MBS section of Data Dynamics](#).

March's FN 30-year BCPR3 decrease of 2.4% was concentrated in the **0-5% Increase or Decrease buckets** and represented over 60% of seller's UPB. April's FN 30-year BCPR3 print was down 8.9%, and therefore, a pronounced shift occurred, with 79% of lender UPB concentrated in the **5-10% and >10% decrease buckets**. This shift is directionally consistent with the BCPR3 move (orange highlights in **Table 2**). Lenders with a **Note Rate Adjusted BCPR >130%** dropped to 14% from 22%, primarily driven by 2 large lenders shifting down below the 130% threshold, from 132% of cohort to 126% (green highlights in **Table 2**). The FN 15-year BCPR3 April decrease of 7.0% drove similar changes as the patterns exhibited by the 30-year data. 62% of the 15y UPB is concentrated in the **0-5 & 5-10% decrease buckets**, and lenders' UPB prepaying >130% of Note Rate Adjusted cohort dropped to 16% from 35% (orange and green highlights in **Table 3**).

Summary of Fannie Mae 30 Year Historical BCPR Data - Seller view

Metric	Apr-2021	Mar-2021	Feb-2021	Apr-2020
Cohort BCPR1	18.6	27.3	26.3	33.3
Cohort BCPR3	27.7	30.4	31.2	31.1
Cohort BCPR6	37.5	40.6	41.5	30.3
WA BCPR3 of Top 25 Sellers*	30.5	33.6	34.5	32.0
WA NR-Adjusted % of Cohort for Top 25 Sellers*	111.3	111.7	112.0	104.6
BCPR3 Range (Max-Min) for Top 100 Sellers*	38.5	44.2	47.8	39.3
WA Standard Deviation BCPR3 for Top 100 Sellers*	6.6	7.0	7.2	5.0
WA Standard Deviation BCPR3 for All Sellers	8.1	8.7	9.1	6.3
Total Current UPB (\$B)	1252	1199	1138	686
% of Cohort UPB w/ NR-Adjusted BCPR3 0-90% of Cohort	33%	36%	37%	23%
% of Cohort UPB w/ NR-Adjusted BCPR3 90-110% of Cohort	31%	28%	27%	44%
% of Cohort UPB w/ NR-Adjusted BCPR3 110-130% of Cohort	22%	13%	14%	30%
% of Cohort UPB w/ NR-Adjusted BCPR3 >130% of Cohort	14%	22%	22%	3%
Share of Seller UPB with >10% MoM BCPR3 Increase	2%	6%	5%	99%
Share of Seller UPB with 5-10% MoM BCPR3 Increase	2%	7%	8%	0%
Share of Seller UPB with 0-5% MoM BCPR3 Increase	4%	28%	27%	0%
Share of Seller UPB with 0-5% MoM BCPR3 Decrease	14%	33%	49%	0%
Share of Seller UPB with 5-10% MoM BCPR3 Decrease	43%	22%	7%	0%
Share of Seller UPB with >10% MoM BCPR3 Decrease	36%	4%	5%	0%

Table 2

Summary of Fannie Mae 15 Year Historical BCPR Data - Seller view

Metric	Apr-2021	Mar-2021	Feb-2021	Apr-2020
Cohort BCPR1	16.1	23.7	22.3	24.2
Cohort BCPR3	24.0	25.8	25.0	23.1
Cohort BCPR6	31.1	33.5	34.1	23.4
WA BCPR3 of Top 25 Sellers*	25.7	28.0	27.2	24.9
WA NR-Adjusted % of Cohort for Top 25 Sellers*	114.7	116.3	116.2	107.9
BCPR3 Range (Max-Min) for Top 100 Sellers*	49.1	54.5	57.4	27.2
WA Standard Deviation BCPR3 for Top 100 Sellers*	6.5	7.3	7.3	5.9
WA Standard Deviation BCPR3 for All Sellers	8.4	9.3	9.3	7.4
Total Current UPB (\$B)	217	205	194	80
% of Cohort UPB w/ NR-Adjusted BCPR3 0-90% of Cohort	46%	48%	49%	41%
% of Cohort UPB w/ NR-Adjusted BCPR3 90-110% of Cohort	9%	8%	7%	16%
% of Cohort UPB w/ NR-Adjusted BCPR3 110-130% of Cohort	29%	9%	10%	29%
% of Cohort UPB w/ NR-Adjusted BCPR3 >130% of Cohort	16%	35%	34%	13%
Share of Seller UPB with >10% MoM BCPR3 Increase	9%	19%	14%	86%
Share of Seller UPB with 5-10% MoM BCPR3 Increase	4%	22%	23%	5%
Share of Seller UPB with 0-5% MoM BCPR3 Increase	12%	36%	36%	2%
Share of Seller UPB with 0-5% MoM BCPR3 Decrease	13%	13%	12%	2%
Share of Seller UPB with 5-10% MoM BCPR3 Decrease	26%	4%	6%	2%
Share of Seller UPB with >10% MoM BCPR3 Decrease	36%	5%	8%	3%

Table 3

BCPR Component Profiles

The BCPR Component Profiles table breaks out the component populations of the BCPR3 and highlights the evolution of the underlying profile. As a reminder, the differentiating characteristic of the BCPR is its unique reference population: a 24-month rolling issuance window of loans with at least three months of seasoning (BCPR3). Gaining visibility into the collateral profile of each component of the BCPR3 can help market participants better understand trends in this metric.

As seen in **Table 4** below, the first four records (a-d) summarize the respective collateral profiles of the Jan 21 through Apr 21 BCPR components as of the start of each respective month. In other words, each rep line represents the collateral profile that drove that component month's performance. The Jan-Mar components comprise the Mar BCPR3, while the Feb-Apr components comprise the Apr BCPR3. As the refi wave matures, we observe the continued improvement in the population's credit profile month over month. There is monotonic improvement in the population's weighted average FICO, LTV, and DTI. The weighted average WAC of the population continues to decline monotonically, as well, as higher WAC loans refinance into lower rates. We also observe an increase in the weighted average loan size, consistent with rising home prices.

The bottom half of the table isolates the four sub-populations that distinguish the Mar-21 and Apr-21 component populations. Items f-g summarize the profile of loans that paid off in Apr-21 and Mar-21, respectively. Not surprisingly, loans that prepaid exhibit higher WACs than the respective component population and are more seasoned. As we observed last month, the weighted average WALA of loans that paid off in Apr was slightly higher and the weighted average loan size of loans that paid off in Apr was slightly lower than what paid off in Mar, suggesting the originators are re-focusing their efforts on more seasoned cohorts as the refi wave matures and the refinable population of more recently originated loans wanes. In addition, we see that the credit quality of loans that paid off in Apr is weaker than in Mar, an acceleration of the trend observed last month. Finally, Item h summarizes the profile of Feb-21 issuances, which replace Feb-19 issuances (summarized in Item i below), in the Apr component. The most recent month of issuance (Feb-21) to be included in the BCPR3 component exhibits a much lower WAC, higher credit quality, and lower PMM share than the most seasoned month of issuance (Feb-19) that it replaces.

Finally, we compare the most recent BCPR component profile to the overall Fannie Mae 30-year TBA-eligible universe, which is the population that many market participants focus on when analyzing monthly prepayments. Because the latter population is not limited by an issuance window, we observe that it is more seasoned than the Apr BCPR component population. The higher prepayments observed on the overall population are likely attributable to a higher weighted average WAC and weighted average original loan size.

Table 4. Fannie Mae 30-Year BCPR Component Collateral Profiles

	Orig amt (\$MM)	Beg bal (\$MM)	Beg loan count	WA OLS	WA WAC	WA WALA	WA FICO	WA LTV	WA DTI	% CA	% TPO	% AW	% Owner	% Investor	% Purchase	SMM	CPR
Fannie Mae BCPR																	
a. Jan component	1,139,819	1,116,575	4,197,585	271,542	3.55	9	754	75	35	20%	42%	29%	91%	5%	43%	2.9	29.9
b. Feb component	1,199,189	1,174,356	4,420,741	271,264	3.47	10	754	75	35	20%	41%	30%	91%	5%	42%	3.0	30.2
c. Mar component	1,265,488	1,238,954	4,637,283	272,894	3.40	10	755	75	35	20%	40%	31%	91%	5%	41%	3.1	31.2
d. Apr component	1,308,399	1,280,009	4,784,297	273,478	3.34	10	755	74	35	20%	40%	32%	91%	5%	40%	2.0	21.7
e. MoM profile change	42,911	41,055	147,014	584	-0.06	0	0	0	0	0%	0%	1%	0%	0%	-1%	-34.0%	-30.2%
f. Apr pay-offs	26,070	25,143	87,665	297,688	3.84	15	749	76	36	26%	48%	26%	91%	5%	42%	100.0	100.0
g. Mar pay-offs	38,388	37,168	124,658	308,269	3.82	14	753	76	35	26%	48%	28%	92%	5%	41%	100.0	100.0
h. Feb-21 issuances	89,063	88,516	310,606	286,739	2.87	2	759	71	34	25%	40%	43%	89%	7%	29%	0.3	3.8
i. Feb-19 issuances	8,319	7,905	41,268	201,578	5.08	27	729	80	39	13%	51%	5%	87%	8%	70%	6.8	56.9
Fannie Mae universe																	
j. Apr universe	9,333,496	2,474,665	11,815,313	304,181	3.70	37	751	75	N/A	N/A	40%	20%	89%	7%	43%	2.7	28.0
k. Diff vs. Apr component	8,025,097	1,194,656	7,031,016	30,703	0.36	27	-4	0	N/A	N/A	0%	-12%	-2%	2%	3%	0.7	6.3

Note: Profile calculations use public loan-level disclosures and Fannie Mae's BCPR methodology to define populations.

This Month's Trend Observations

In this section, we use a combination of BCPR Heatmaps and the MBS Cohort Analyzer to identify possible emerging prepayment trends.

Many specified pool stories did not experience the same level of slowdown in speeds this month as the non-spec pools did on the BCPR1 metric. Most spec stories slowed down by 2-4 CPR, well below the 9 CPR slowdown of the entire Fannie BCPR1 population. That said, there were a few stories that exhibited more significant slowdowns. Stories such as TX, FL, LTV95, Investor & FICO<700 all experienced slowdowns of 6-9 CPR.

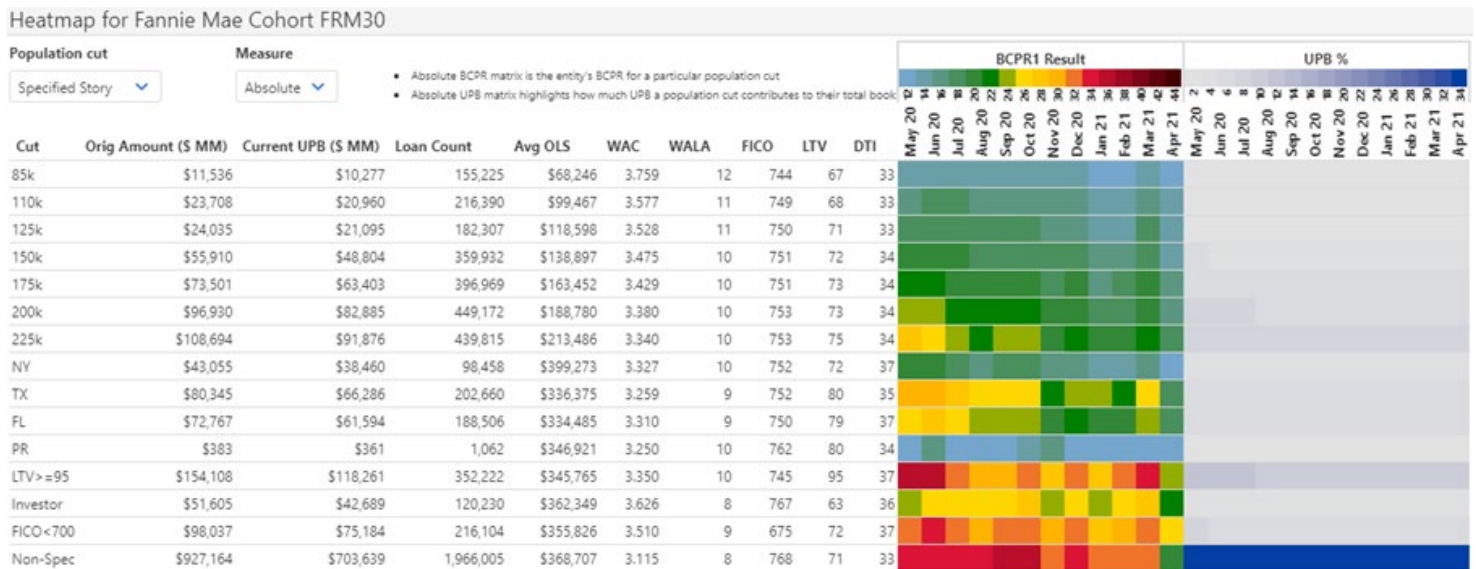


Exhibit 3

We dig deeper by including the underlying data driving the Heatmap color gradients below. The spec story slowdown observation in **Exhibit 3** above is highlighted by the column “Mo/Mo Change BCPR1” in **Exhibit 4** below. Despite the differences in absolute speeds, the effect is more muted than initially observed when comparing these changes on a relative basis with each story’s previous speed print. Note how most spec stories dropped from 21-28% in column “Mo/Mo % Change”. The outliers being 85k, 110k and PR story speed prints with their already very low absolute speeds last month. This indicates that most spec stories experienced a relatively similar magnitude of prepayment slowdown, which is considerably less than the slowdown on the non-spec volume.

Cut	Orig Amount (\$ MM)	Current UPB (\$ MM)	PERF-Period - Rate Incentive												Mo/Mo Change BCPRI	Mo/Mo % Change
			20-May	20-Jun	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr		
85k	\$11,536	\$10,277	12.69	13.41	13.87	12.18	13.28	13.38	12.3	13.06	10.62	10.75	13.21	11.71	-1.5	-11%
110k	\$23,708	\$20,960	15.94	16.37	16.09	14.91	15.8	15.41	14.22	15.86	12.21	12.81	15.15	12.48	-2.67	-18%
125k	\$24,035	\$21,095	17.42	17.55	17.2	16.16	16.04	16.23	15.51	15.75	13.62	13.73	16.88	13.23	-3.65	-22%
150k	\$55,910	\$48,804	18.78	19.26	18.42	16.85	17.69	17.92	16.14	16.9	14.18	14.86	17.5	13.54	-3.96	-23%
175k	\$73,501	\$63,403	20.71	21.18	19.7	19.14	19.66	19.82	17.66	18.46	15.63	16.34	18.61	14.29	-4.32	-23%
200k	\$96,930	\$82,885	23.04	23.69	21.95	20.02	21.65	21.67	18.74	19.99	17.56	17.64	19.64	14.98	-4.66	-24%
225k	\$108,694	\$91,876	26.09	25.8	23.54	21.96	22.98	22.7	19.69	20.99	18.94	19.45	21.4	16.03	-5.37	-25%
NY	\$43,055	\$38,460	18.29	19.48	17.48	15.61	16.41	17.77	15.65	15.3	12.5	12.4	14.54	10.79	-3.75	-26%
TX	\$80,345	\$66,286	28.8	29.24	27.29	25.42	25.72	25.03	21.34	22.89	22.29	20.78	24.87	17.85	-7.02	-28%
FL	\$72,767	\$61,594	25.79	26.68	24.06	22.51	23.42	23.42	19.38	21.83	18.66	19.93	22.64	16.75	-5.89	-26%
PR	\$383	\$361	6.31	15.43	8.99	11.91	7.97	12.32	14.38	4.36	11.34	5.69	6.85	7.49	0.64	9%
LTV>=95	\$154,108	\$118,261	34.83	34.55	30.48	28.51	29.68	30.93	27.89	30.79	27.91	30.28	32.44	23.29	-9.15	-28%
Investor	\$51,605	\$42,689	23.01	25.05	25.99	24.34	25.4	27.14	22.9	25.43	23.46	24.84	27.66	20.7	-6.96	-25%
FICO<700	\$98,037	\$75,184	31.57	32.11	30.61	29.56	30.12	31.8	29.39	31.93	26.9	28.24	31.76	24.97	-6.79	-21%
Non-Spec	\$927,164	\$703,639	33.08	33.97	32.99	33.38	35.01	35.9	31.13	33.8	30.73	31.26	30.89	19.57	-11.32	-37%

Exhibit 4

Next, we observe how prepayment sensitivity has compressed in the last 12 months when measured by occupancy type on the S-Curve feature of the MBS Cohort Analyzer (see Exhibit 5). Note the spread between the faster Principal Residence and the slowest Investor loans for each period from 12m ago, 6m ago, last month and this month. There was a 25 CPR difference between Primary Residence and Investor loans at the 100bps rate incentive 12 months ago. This month, the spread is only 13 CPR at that same 100bps incentive.

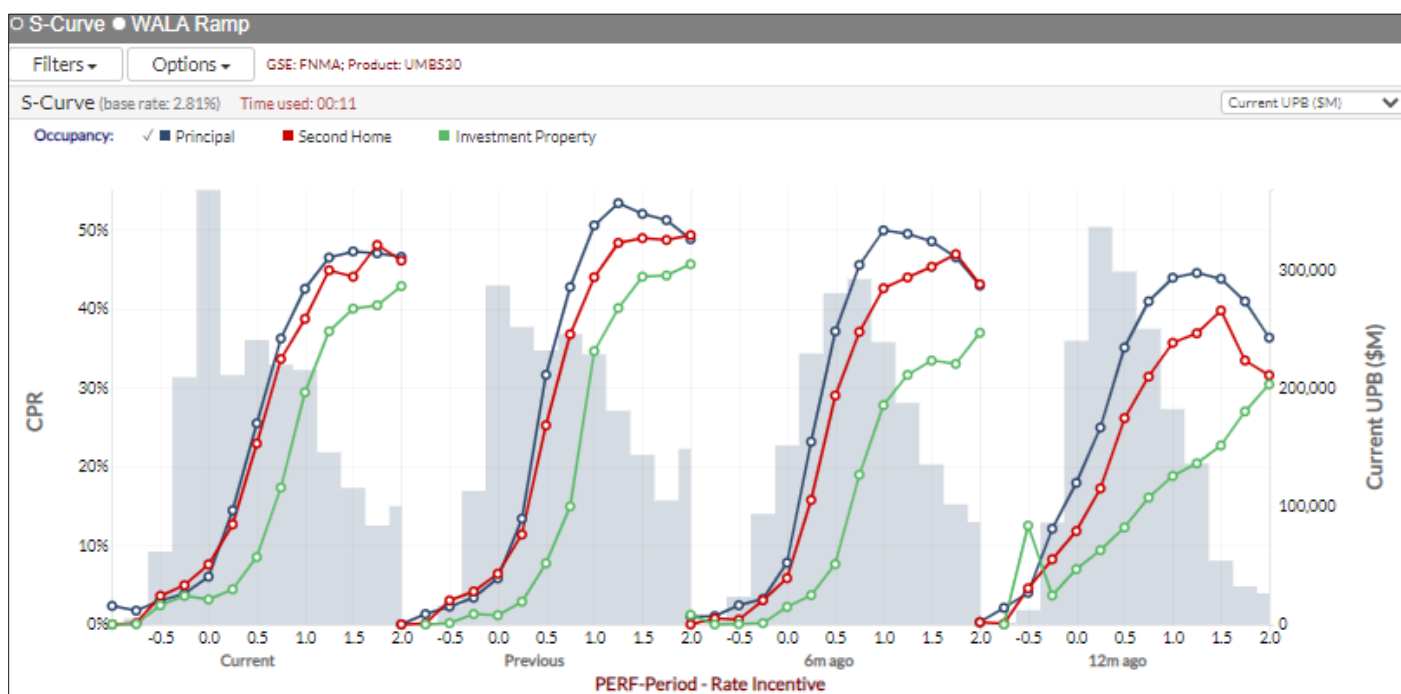


Exhibit 5

MBS Cohort Analyzer Reports

Below, we continue featuring S-curves for various Fannie Mae 30-year cohorts for different historical performance periods to see how relative prepay behavior has evolved over time. Prepay sensitivity is displayed for the April activity, the previous month, six months ago and a year ago. We highlight performance on FICO, Loan Size, LTV, Channel, Loan Purpose, Selected States, Occupancy, and Appraisal Waiver Status in the snapshots below (See **Exhibits 6-13**). We invite readers to review our [MBS Cohort Analyzer User Guide](#) to review various ways to utilize this tool.

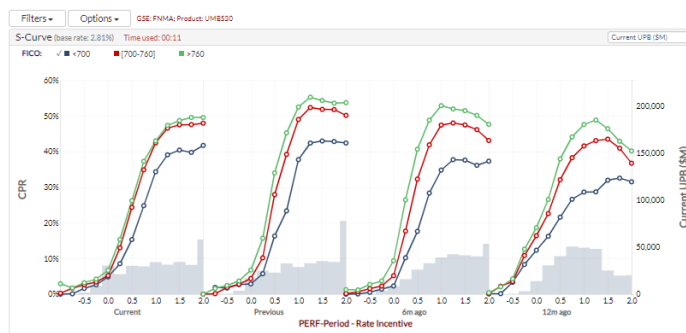


Exhibit 6: S-Curves for FICO Buckets Over Various Performance Periods

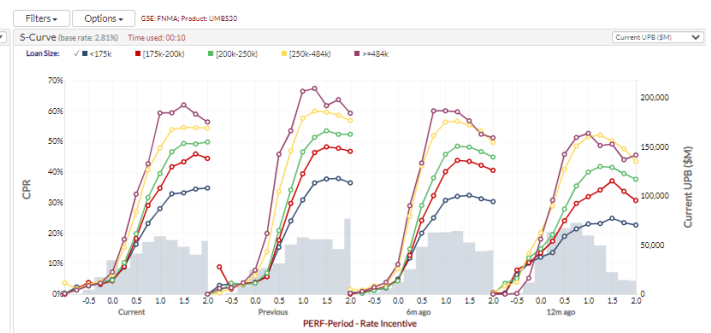


Exhibit 7: S-Curves for Loan Size Buckets Over Various Performance Periods

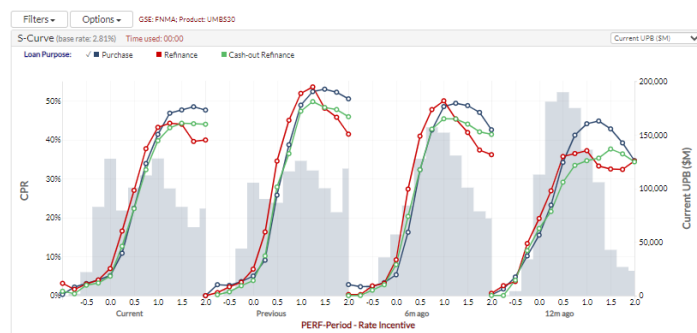


Exhibit 8: S-Curves for Loan Purpose Buckets Over Various Performance Periods

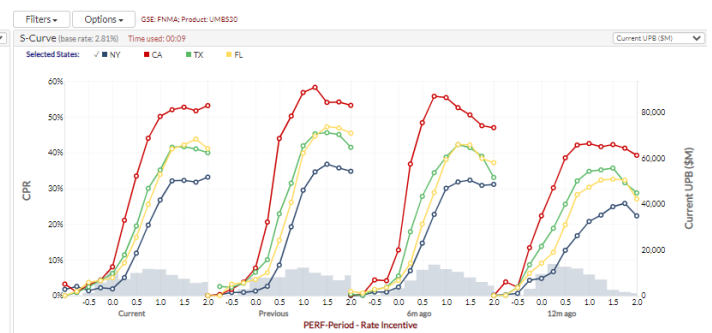


Exhibit 9: S-Curves for GEO Story Buckets Over Various Performance Periods

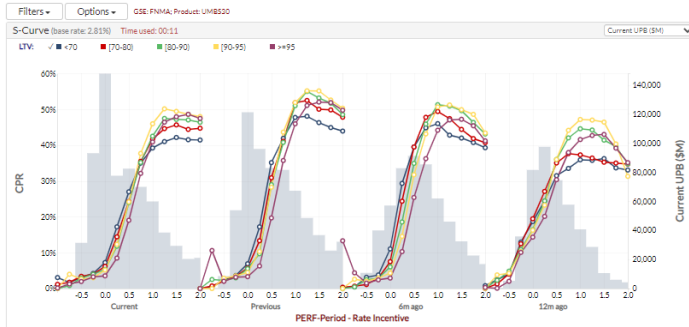


Exhibit 10: S-Curves for LTV Buckets Over Various Performance Periods



Exhibit 11: S-Curves for Channel Buckets Over Various Performance Periods

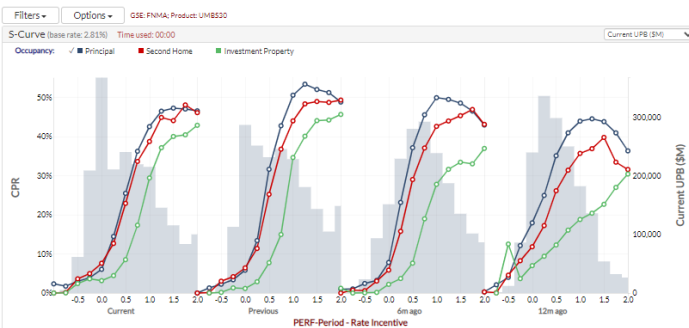


Exhibit 12: S-Curves for Occupancy Buckets Over Various Performance Periods

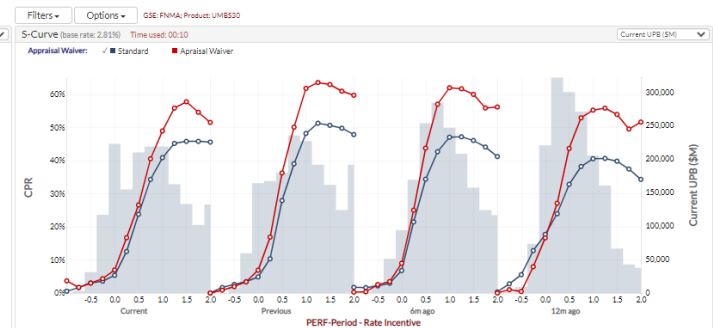


Exhibit 13: S-Curves for Appraisal Buckets Over Various Performance Periods

Additional Resources

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