Fannie Mae Benchmark CPR™ Commentary

March 2021

Key Highlights

- This month, we highlight prepayment trends observed in February. The 30-Year Benchmark CPR3 for the Fannie Mae cohort decreased 1.3% to 31.2 CPR. On the other hand, the 15-Year Benchmark CPR3 for the Fannie Mae cohort increased 2.5% to 25.0 CPR.

- We also introduce the ability to filter on seller and servicer in the Cohort Analyzer tool in Data Dynamics.

- We compare trends in the 30-year and 15-year historical BCPR data, focusing on the shifting composition of seller UPB across various Note Rate Adjusted BCPR3 cohorts.

- We introduce the BCPR Component Profile table, which summarizes the collateral profile of BCPR component months, as well as sub-populations that differentiate component months from one another.

- Lastly, we utilize the Cohort Analyzer tool in Data Dynamics to feature select S-curves on various Fannie Mae 30-year cohorts.

Visit **Data Dynamics** to explore the tools used in this commentary.

Monthly Benchmark CPR Results

30 Year Benchmark CPR

Report includes the entire population for the last 24-months of issuance*, all coupons, 30-year fixed rate, top 100 Servicers by Current UPB.
*Rolling 24 month lookback for which a 3 month CPR is available.
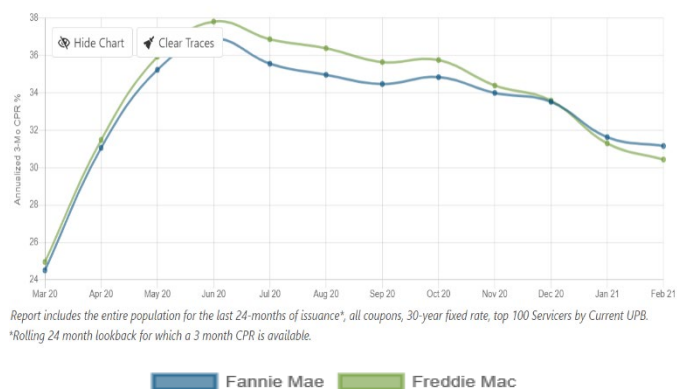
Fannie Mae   Freddie Mac

Exhibit 1

The February 30-year Benchmark CPR3 (BCPR3) for the Fannie Mae cohort decreased 1.3% to 31.2 CPR – from 31.6 CPR in January– which marks the fourth straight month the metric has declined. The February 2021 1-month component ticked 1.0% higher versus the January 1-month component but is 4.1% below the November 1-month component that it replaces in the BCPR3 calculation (see ***Table 1a***).

Using a prevailing 30-year mortgage rate of 3.02%, which was 29bps higher MoM, we estimate that 48.2% of all mortgages – and 62.4% of conventional mortgages – remain at least 50bps in the money. While substantial rate incentive still exists in the market, this is a considerable decrease from the 65.4% (all mortgages) and 77.7% (conventional mortgages) observed last month.

Table 1a. Components of Fannie Mae's 30 Year Jan and Feb BCPR Results

30 Yr FNM Cohort		BCPR3 Components			
Reporting Period	BCPR3	Nov	Dec	Jan	Feb
Jan 2020	31.6	31.5	33.5	29.9	
Feb 2021	31.2		33.5	29.9	30.2

Table 1b. Components of Fannie Mae's 15 Year Jan and Feb BCPR Results

15 Yr FNM Cohort		BCPR3 Components			
Reporting Period	BCPR3	Nov	Dec	Jan	Feb
Jan 2020	24.4	23.8	25.3	24.2	
Feb 2021	25.0		25.3	24.2	25.6

Table 1: Components of Fannie Mae's Jan and Feb BCPR Results

15 Year Benchmark CPR

Report includes the entire population for the last 24-months of issuance*, all coupons, 15-year fixed rate, top 100 Servicers by Current UPB.
*Rolling 24 month lookback for which a 3 month CPR is available.
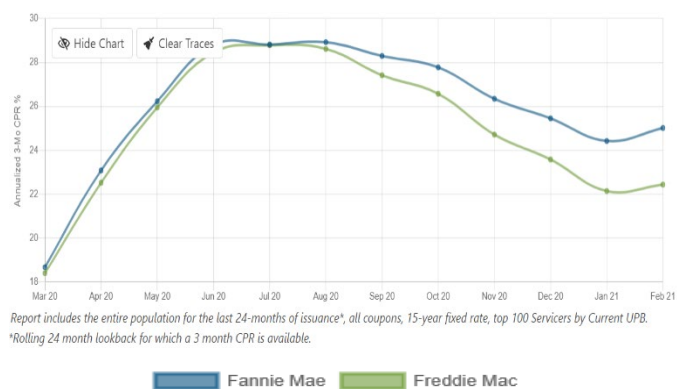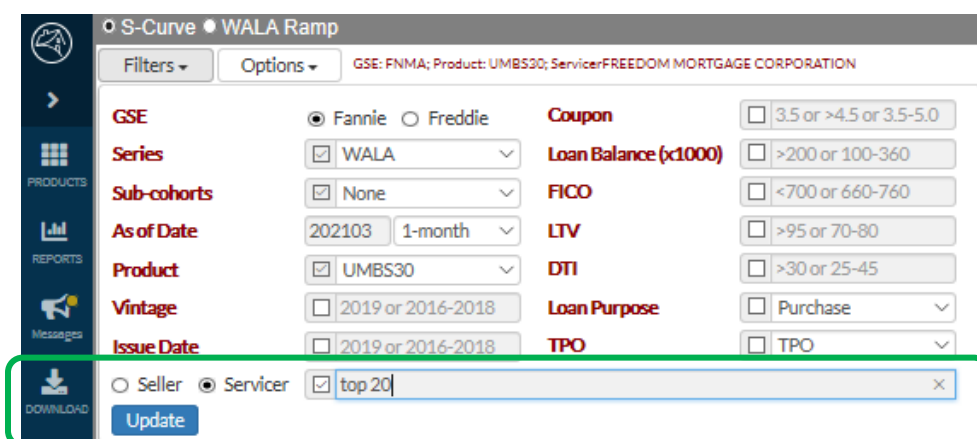
Fannie Mae   Freddie Mac

Exhibit 2

The Fannie Mae Cohort 15-year Benchmark CPR3 (BCPR3) came in at 25.0 CPR, which represents a 2.5% increase from 24.4 CPR in January. The February 2021 1-month component increased 5.8% over the January 2021 1-month component and 7.6% over the November 2020 1-month component that it replaces in the calculation. See ***Table 1b*** for the one-month components of FNM cohort 15-year BCPR3.

New Functionality on the MBS Cohort Analyzer

Our MBS Cohort Analyzer on Data Dynamics is a dynamic tool that enables users to perform customized prepayment analysis using either S-Curves or WALA-Ramps. This month, we introduce the ability to isolate individual sellers or servicers, or to a user-defined quantity of the largest sellers or servicers, on both the S-Curve and the WALA Ramp options. From the Filters dropdown (Exhibit 3), toggle between seller or servicer, click the checkbox to activate the filter and begin typing the desired entity in the freeform text field. Users also can filter for any combination of the largest seller or servicer rankings from #1 to #100. For instance, instead of filtering for a specific entity, users can isolate performance of the 20 largest entities by entering "Top 20" in the freeform text field. Hit the **Update** button to run the results.

Exhibit 3

Using a side-by-side S-Curve view (Exhibit 4), we compare the prepay sensitivities of the Top 20 Fannie Mae servicers on the left relative to the entire Fannie Mae cohort on the right. Prepayments for the Top 20 servicers are elevated compared to the overall cohort. Note that the early spike in the out-of-the-money performance for the Top 20 can be attributed to low loan count. The same can be said for the spike at the 0.0 rate incentive for the 36-47 WALA of the entire population. By clicking on the different WALA buckets at the top of the chart, users can change which volume is depicted graphically and in the data table below the chart. Different WALA buckets are selected in the left and right side of Exhibit 4 to depict how low loan count contributes to the spike in speeds.
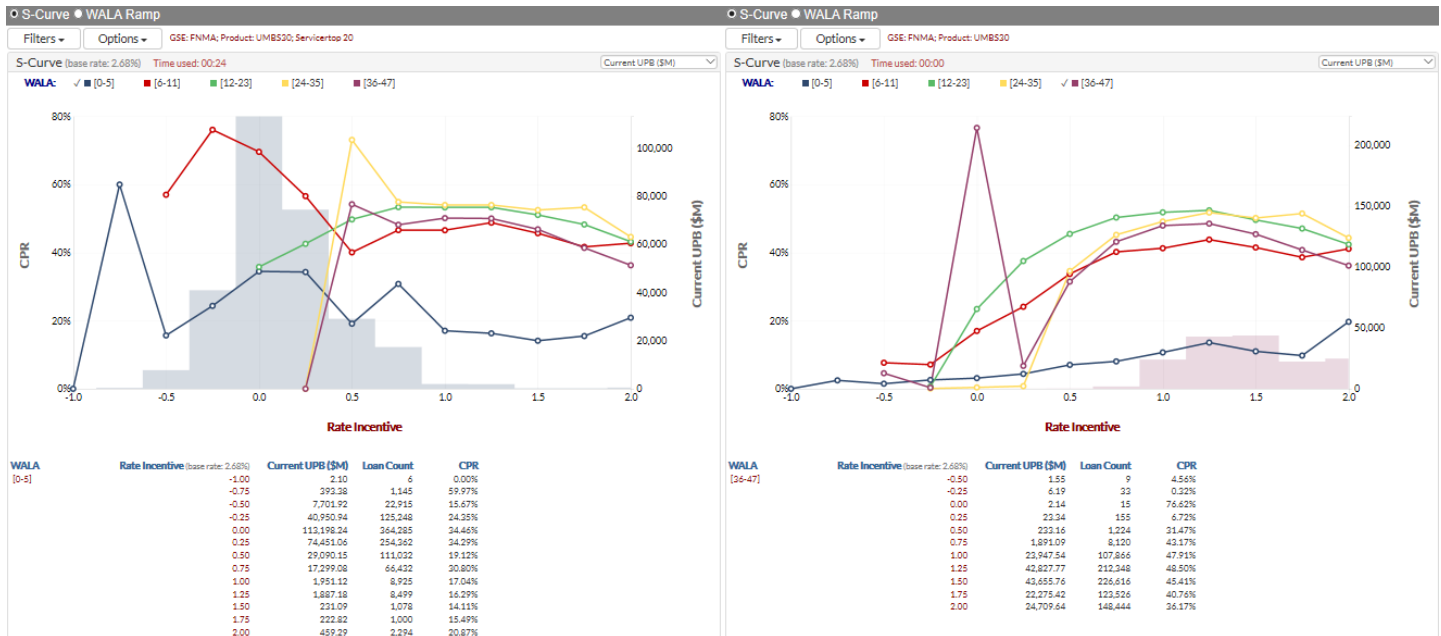
Exhibit 4

In this next view (Exhibit 5), we highlight the prepay sensitivity of the Top 20 servicers filtered for channel. Note the scale differences between the left/right charts for exhibits 5-7. Performance between channels is relatively orderly for the entire Fannie Mae cohort on the right but the broker sensitivity among the largest 20 servicers is notable in the left-hand chart. This adds some credence to the market assumption that brokers are faster to act on refi opportunities than the retail and correspondent channels until larger refi incentives kick in and appears to be magnified at the larger servicers
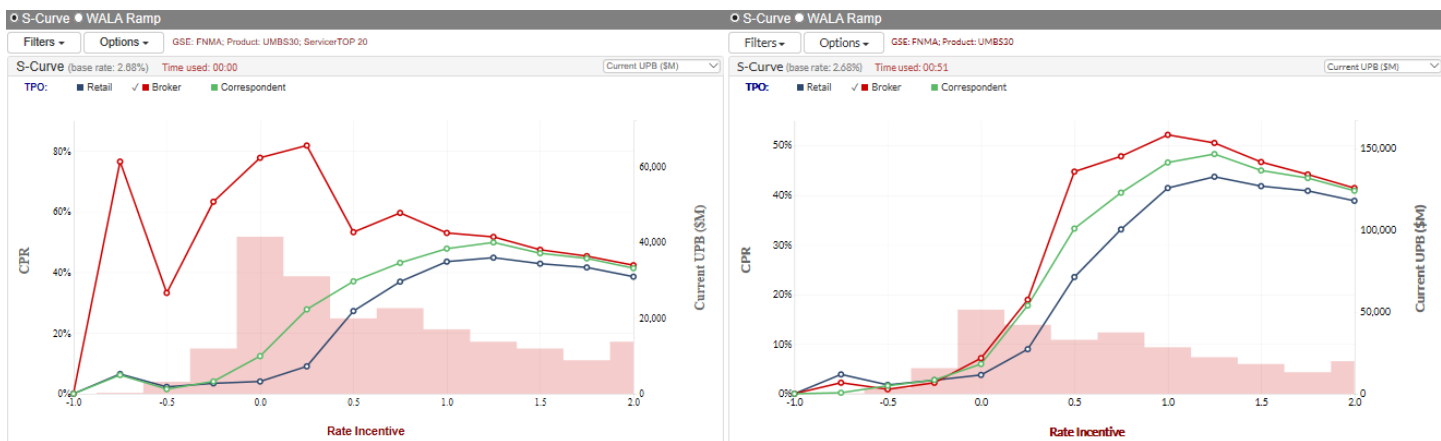

Exhibit 5

Next up, we compare the impact of loan purpose for the Top 20 servicers (Exhibit 6). Speeds are considerably elevated for all varieties of loans among the largest servicers (left) compared to the entire cohort (right). This dynamic is magnified even further with both forms of refinancing.
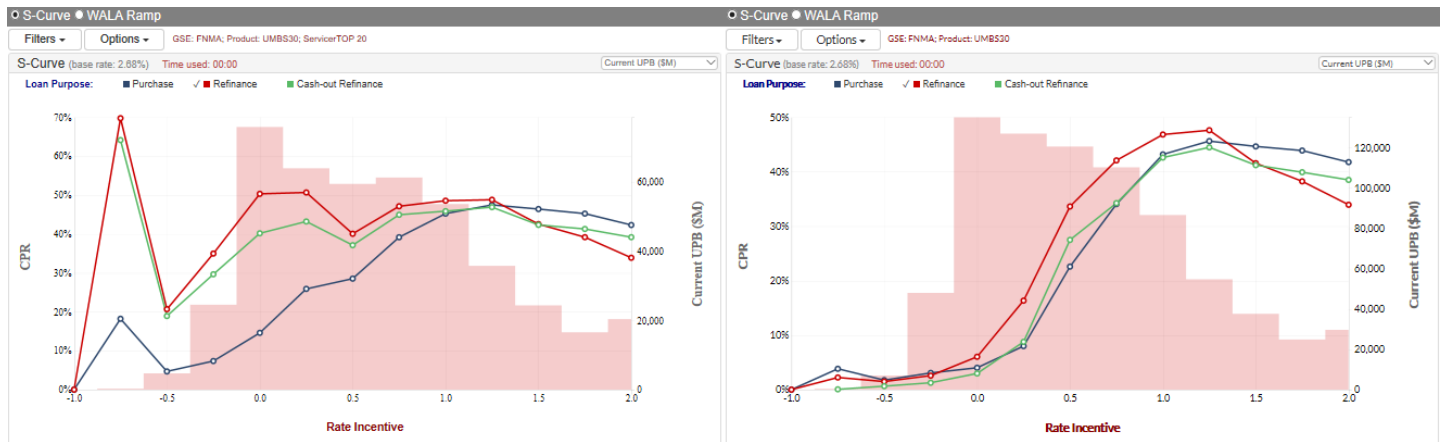

Exhibit 6

One of the significant advantages of the MBS Cohort Analyzer is the ability to layer different filters on a loan population for deeper analysis and greater insights. Here, we combine loan purpose with loan channel (Exhibit 7) to compare the Top 20 servicers (left) vs cohort (right). Once again, note the scale difference between the two charts. In this view, the broker population among the Top 20 servicers for both refinancing varieties really stand out. Note the magnitude of divergence in sensitivity of refinances from purchases and for the absolute speeds among the Top 20 servicers.
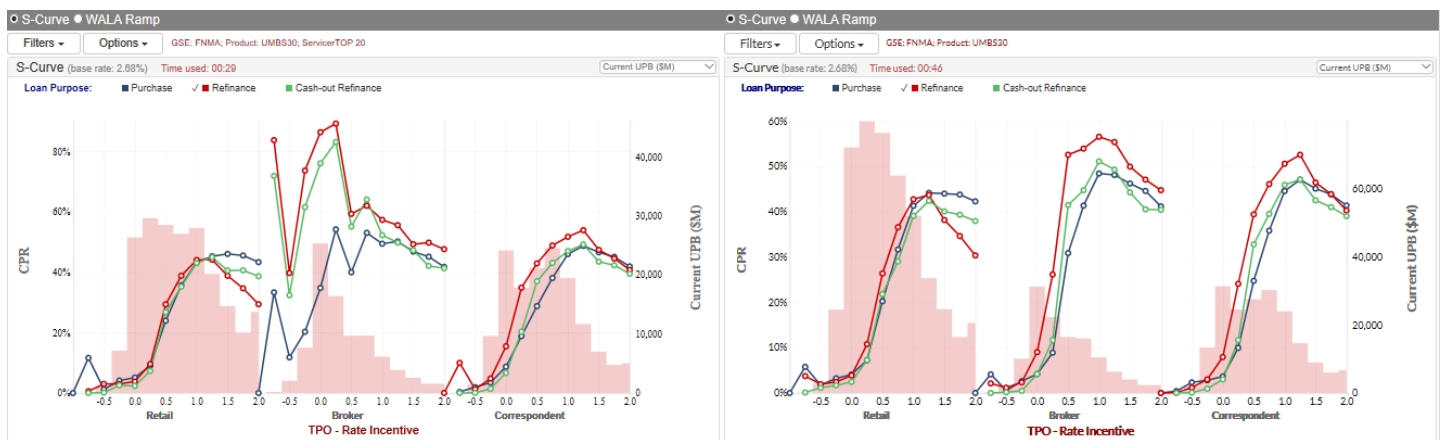

Exhibit 7

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.

The 30y February concentration of lenders in the **% of Cohort UPB w/Note Rate Adjusted BCPR3 0-90% of Cohort** and the **90-110% of Cohort**, combine to represent 64% of all lenders, down slightly from last month's 66% (Shaded in green). Interesting to note, only 56% of lenders fall into the same groupings within the 15y view. Approximately 44% of the 15y current UPB is concentrated within the Note Rate Adjusted groupings >110%, and 34% falls in the >130% grouping, as compared to 22% in the 30y. Given the nominal MoM BCPR3 change of -1.3% and +2.5% for 30y and 15y respectively, it can be seen that 76% of the 30y **Share of Seller UPB** is concentrated within the +/-5% change in BCPR3, as compared to 49% for the 15y (Shaded in orange).

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

Metric	Feb-2021	Jan-2021	Dec-2020	Mar-2020
Cohort BCPR1	26.3	25.6	28.5	28.7
Cohort BCPR3	**31.2**	**31.6**	**33.5**	**24.5**
Cohort BCPR6	41.5	42.3	43.2	28.5
WA BCPR3 of Top 25 Sellers*	34.5	35.0	36.7	25.8
WA NR-Adjusted % of Cohort for Top 25 Sellers*	112.0	111.1	109.4	107.2
BCPR3 Range (Max-Min) for Top 100 Sellers*	47.8	47.9	51.4	33.9
WA Standard Deviation BCPR3 for Top 100 Sellers*	7.2	7.3	7.3	5.0
WA Standard Deviation BCPR3 for All Sellers	9.1	9.1	9.3	6.0
Total Current UPB ($B)	**1138**	**1082**	**1015**	**695**
% of Cohort UPB w/ NR-Adjusted BCPR3 0-90% of Cohort	37%	37%	36%	26%
% of Cohort UPB w/ NR-Adjusted BCPR3 90-110% of Cohort	27%	29%	28%	45%
% of Cohort UPB w/ NR-Adjusted BCPR3 110-130% of Cohort	14%	15%	17%	13%
% of Cohort UPB w/ NR-Adjusted BCPR3 >130% of Cohort	22%	19%	19%	16%
Share of Seller UPB with >10% MoM BCPR3 Increase	5%	2%	7%	81%
Share of Seller UPB with 5-10% MoM BCPR3 Increase	8%	3%	7%	14%
Share of Seller UPB with 0-5% MoM BCPR3 Increase	27%	7%	37%	2%
Share of Seller UPB with 0-5% MoM BCPR3 Decrease	49%	47%	34%	1%
Share of Seller UPB with 5-10% MoM BCPR3 Decrease	7%	26%	9%	0%
Share of Seller UPB with >10% MoM BCPR3 Decrease	5%	15%	6%	1%

Table 2

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

Metric	Feb-2021	Jan-2021	Dec-2020	Mar-2020
Cohort BCPR1	22.3	20.9	21.3	19.4
Cohort BCPR3	**25.0**	**24.4**	**25.5**	**18.7**
Cohort BCPR6	34.1	34.9	36.1	21.6
WA BCPR3 of Top 25 Sellers*	27.2	26.4	27.2	20.8
WA NR-Adjusted % of Cohort for Top 25 Sellers*	116.2	114.6	112.4	111.2
BCPR3 Range (Max-Min) for Top 100 Sellers*	57.4	57.3	53.0	24.4
WA Standard Deviation BCPR3 for Top 100 Sellers*	7.3	7.1	7.2	5.2
WA Standard Deviation BCPR3 for All Sellers	9.3	9.0	9.1	6.3
Total Current UPB ($B)	**194**	**184**	**168**	**78**
% of Cohort UPB w/ NR-Adjusted BCPR3 0-90% of Cohort	49%	47%	49%	41%
% of Cohort UPB w/ NR-Adjusted BCPR3 90-110% of Cohort	7%	9%	8%	22%
% of Cohort UPB w/ NR-Adjusted BCPR3 110-130% of Cohort	10%	10%	11%	9%
% of Cohort UPB w/ NR-Adjusted BCPR3 >130% of Cohort	34%	33%	32%	28%
Share of Seller UPB with >10% MoM BCPR3 Increase	14%	7%	11%	36%
Share of Seller UPB with 5-10% MoM BCPR3 Increase	23%	5%	5%	24%
Share of Seller UPB with 0-5% MoM BCPR3 Increase	36%	11%	16%	26%
Share of Seller UPB with 0-5% MoM BCPR3 Decrease	12%	54%	23%	6%
Share of Seller UPB with 5-10% MoM BCPR3 Decrease	6%	8%	29%	1%
Share of Seller UPB with >10% MoM BCPR3 Decrease	8%	15%	17%	6%

Table 3

BCPR Component Profiles

This month, we introduce a new table that 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 for the BCPR3. Gaining visibility into the collateral profile of each component of the BCPR3 can help market participants better understand trends in this metric.

Turning to Table 4 below, the first four records (a-d) summarize the respective collateral profiles of the Nov 20-Feb 21 components as of the start of each respective month. In other words, each rep line represents the collateral profile that drove that month's performance. The Nov-Jan components comprise the Jan BCPR3, while the Dec-Feb components comprise the Feb BCPR3. As market participants are well-aware, a refi wave is continuing to unfold throughout the component issuance windows amidst historically low mortgage rates. A refi wave generally results in the acquisition of cleaner credit quality collateral, as lenders – particularly when capacity-constrained – concentrate their efforts on loans that require less effort. Consequently, we can observe in the component profiles that the average WAC is declining and average credit quality is improving over the observation period. Item e simply shows the change in the profile between Jan-21 and Feb-21.

The bottom half of the table isolates four sub-populations that distinguish the Jan-21 and Feb-21 component populations. Items f-g summarize the profile of loans that paid off in Feb-21 and Jan-21, respectively. Not surprisingly, loans that prepaid exhibit higher WACs than the overall component population and are more seasoned. Interestingly, they have a higher concentration in CA and a higher share of TPO. Finally, Item h summarizes the profile of Dec-20 issuances, which are newly included in the Feb component, and Item i summarizes the profile of Dec-18 issuances, which roll out of the BCPR population for the Feb component. The most recent month of issuance (Dec-20) to be included in the BCPR3 component exhibits much lower WAC, higher credit quality, and lower PMM share than the most seasoned month of issuance (Dec-18) it replaces.

Table 4. BCPR Component Collateral Profiles

	Beg bal ($MM)	Loan count	WA WAC	WA WALA	WA FICO	WA LTV	WA DTI	% CA	% TPO	% AW	% Inv	% PMM	SMM	CPR
Fannie Mae BCPR														
a. Nov component (Oct 18-Sep 20 issuances)	993,424	3,796,335	3.74	9	752	76	35	19%	44%	26%	5%	45%	3.1	31.5
b. Dec component (Nov 18-Oct 20 issuances)	1,051,830	3,992,265	3.64	9	753	76	35	20%	43%	27%	5%	44%	3.3	33.5
c. Jan component (Dec 18-Nov 20 issuances)	1,116,575	4,197,585	3.55	9	754	75	35	20%	42%	29%	5%	43%	2.9	29.9
d. Feb component (Jan 19-Dec 20 issuances)	**1,174,356**	**4,420,741**	**3.47**	**9**	**754**	**75**	**35**	**20%**	**41%**	**30%**	**5%**	**42%**	**3.0**	**30.2**
e. MoM profile change (Feb-Jan components)	57,781	223,156	-0.07	0	0	0	0	0%	-1%	1%	0%	-1%	1.2%	1.0%
f. Feb pay-offs (incl in Feb component)	34,056	111,570	3.82	13	756	75	35	28%	51%	30%	4%	40%	100.0	100.0
g. Jan pay-offs (incl in Jan component)	31,946	104,860	3.86	13	756	75	35	28%	52%	31%	4%	40%	100.0	100.0
h. Dec-20 issuances (incl in Feb component)	101,577	378,059	2.97	2	758	72	34	22%	34%	37%	7%	36%	0.3	3.0
i. Dec-18 issuances (excl from Feb component)	9,839	52,235	5.13	26	731	80	39	12%	50%	4%	9%	72%	4.9	45.6

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

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. We highlight loan size, FICO, LTV, TPO, loan purpose, selected geographies, and occupancy performance in the snapshots below (See Exhibits 8-14 below).
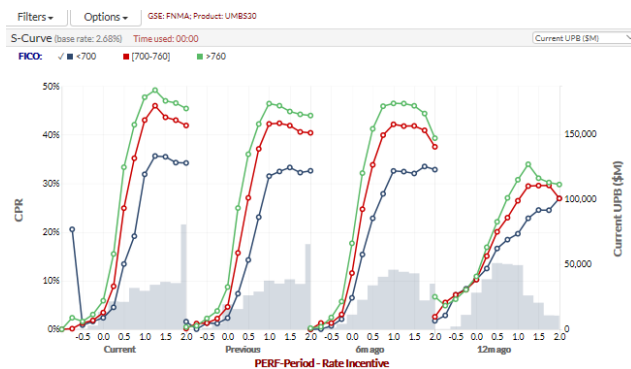

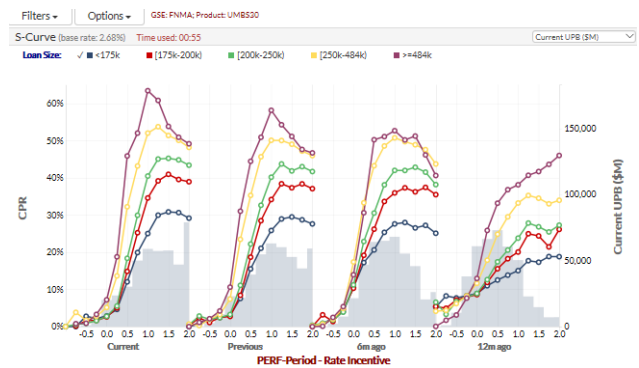**Exhibit 8:** *S-Curves for FICO Buckets Over Various Performance Periods*

Exhibit 9: *S-Curves for Loan Size Buckets Over Various Performance Periods*
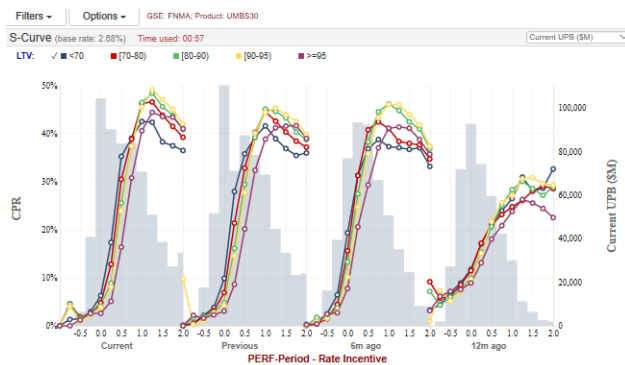
Exhibit 10: *S-Curves for LTV Buckets Over Various Performance Periods*
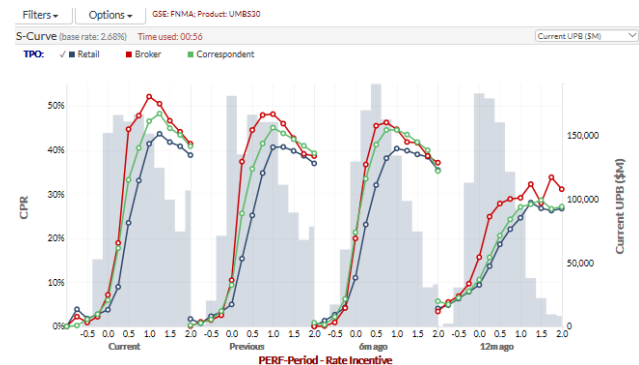
Exhibit 11: *S-Curves for Channel Buckets Over Various Performance Periods*
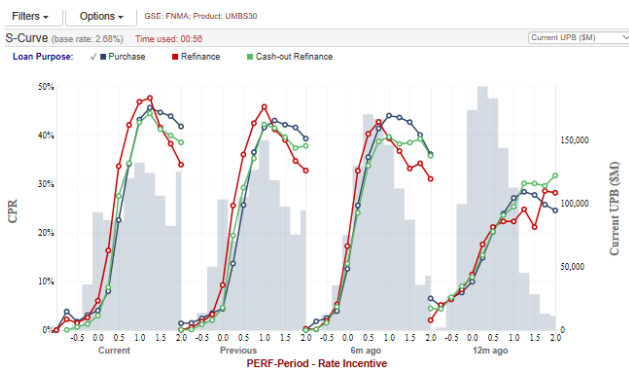
Exhibit 12: *S-Curves for Loan Purpose Buckets Over Various Performance Periods*
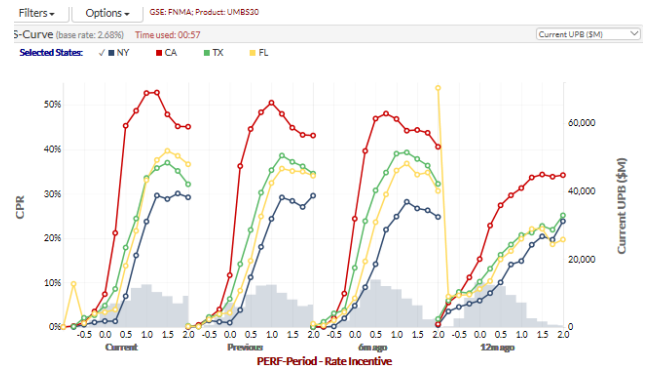
Exhibit 13: *S-Curves for GEO Story Buckets Over Various Performance Periods*
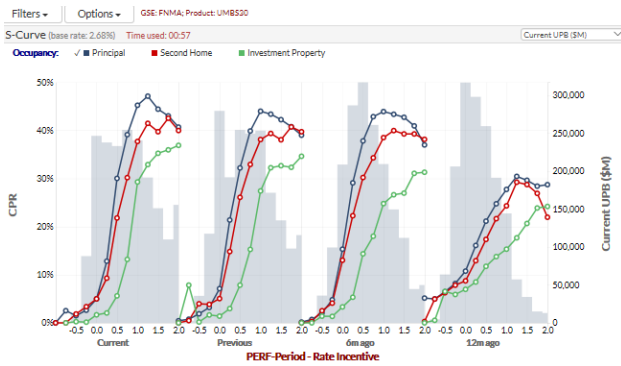
Exhibit 14: *S-Curves for Occupancy Buckets Over Various Performance Periods*

Additional Resources

For questions, contact the Fannie Mae Investor Help Line at 1-800-232-6643, Option 3 or by e-mail.

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