Floating-Rate Loan Prepayments

Data as of November 2019

Research

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- This report presents a summary of voluntary prepayment activity for Freddie Mac floating-rate K-Deal® loans for the 12-month period ending November 2019.
- The 12-month average constant prepayment rate (CPR) is 40.2% as of November 2019, with over 90% of current loans in the 1% prepayment premium phase.
- Floating-rate loans offer borrowers more prepayment flexibility, with the majority choosing a one-year lockout, followed by 1% prepayment premium.
- Prepayment speeds are computed based on loans that are able to prepay during the reporting period (12 months ending November 2019) and exclude any loans still in their lockout period. However, that population changes monthly as loans season and exit their lockout period.
- We summarize prepayment speeds in aggregate and by product type, vintage, prepayment type, prepayment phase and FRE-KF deal.
- Prepayments are generally highest when prepayment penalties are lowest and among the older vintages.

The first Freddie Mac floating-rate K-Deal, K-F01, was priced in October of 2012. The program provides borrowers with the ability to obtain financing indexed to lower, short-term rates as well as more prepayment flexibility than fixed-rate products. Through November 2019, Freddie Mac has funded and securitized over 3,700 floating-rate loans totaling over $84 billion of original unpaid principal balance (UPB).

Prepayment Options Background

We originate 5-, 7- and 10-year floating-rate loans that generally range between $5 million and $100 million in size and are priced to one-month LIBOR[1]. Borrowers obtain their own third-party cap to hedge interest rate risk. Unlike our standard, fixed-rate K-Deal, where loans have a lockout period followed by defeasance, our floating-rate program provides borrowers with more flexible prepayment options. The majority of borrowers opt for a lockout period followed by a 1% prepayment premium on the outstanding balance of the loan. Other options include step-down prepayment penalties where each year the prepayment premium decreases (typically starting at 3% for the first year, 2% the second year and 1% starting in the third year through maturity). Exhibit 1 shows the percentage of floating-rate business by term and prepay option going back to 2011.

While there are a number of loan product options, roughly 79% of our originations choose one-year lockout followed by a 1% prepayment premium, and 7% have two-year lockout periods followed by a 1% premium. The stepdown structure 3%-2%-1% is next most common, at 3% of origination business. The remaining 10% of business has varying lockout periods followed by prepayment penalties, stepdown structures, or a combination of the two. The majority of our floating-rate loans are 7-year terms at 61%, with the second most common loan being a 10-year term at 37%. Only 2% of these loans are five-year terms.

The Freddie Mac Multifamily floating-rate program offers borrowers prepay optionality

Exhibit 1: Available Prepayment Options for Floating-Rate Loans

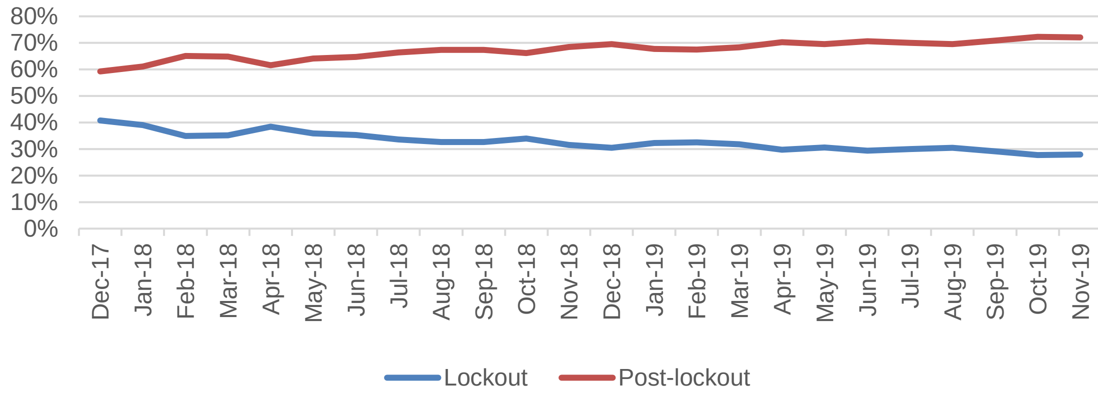
	Prepay Option % by Loan-Term			Total % Business			Total % Business
Option	**5-year**	**7-year**	**10-year**	**5-year**	**7-year**	**10-year**	
1-year lockout, then 1%	68%	78%	82%	1%	48%	30%	79%
2-year lockout, then 1%	4%	8%	5%	0%	5%	2%	7%
3% – 2% - 1%	28%	3%	2%	1%	2%	1%	3%
All others*	N/A	10%	11%	N/A	6%	4%	10%
Total % Business				2%	61%	37%	100%

Source: Freddie Mac. Note: All others include a combination of lockout and stepdown. Percentages represent original UPB balance for deals K-F01 through K-F69; may not add to 100% due to rounding.

Over time, as our floating-rate program seasons and loans leave their lockout period, a higher percentage of loans start to enter the post-lockout phase. The beginning of 2018 saw roughly 40% of UPB in the lockout period and 60% able to prepay with a premium. As of November 2019, that number shrunk to 28% of UPB that are still in their lockout period, with 72% post-lockout. As loans leave their lockout period, the majority are entering a 1% prepayment premium phase.

The percentage of loans post-lockout increased over the past two years

Exhibit 2: Percentage of Active Loans in Lockout and Post-lockout



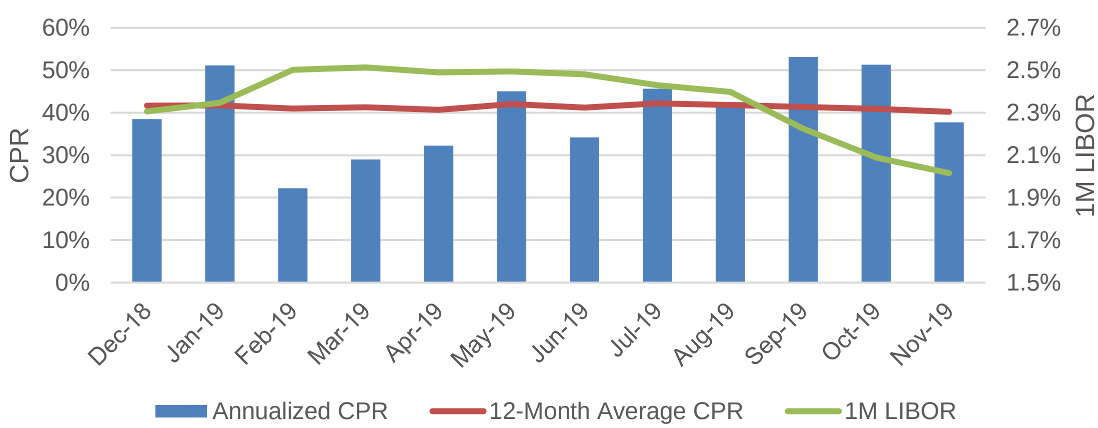
Source: Freddie Mac

Prepayment Speeds by Loan Characteristics

In this analysis, we isolate the population that is contractually allowed to prepay by removing any loans still in the lockout period from the analysis sample. However, as loans season and move out of their lockout period and into prepayment penalties, we find that our total sample population of loans changes every month. Therefore, we are calculating the prepayment rate based on a 12-month simple average, unless otherwise stated.

As of November 2019, roughly 1,600 floating-rate loans remain active, representing $38.5 billion in outstanding loan balance. The 12-month average CPR is 40.2%. Exhibit 3 shows that the 12-month rolling average has remained relatively consistent while monthly CPRs fluctuated from 22.2% to 53.1%. Over the past 12 months, there has been some correlation between higher prepayment rates and lower one-month LIBOR rates. It is worth noting that this time period is too short to be conclusive as many other influential factors may impact prepayment decisions.

Exhibit 3: Annualized and 12-Month Average CPR and One-Month LIBOR



Source: Freddie Mac

Due to the variety of prepayment premium options, we classify each loan into one of three prepayment premium phases: less than 1% (which includes the open phase), equal to 1% and greater than 1%. Exhibit 4 below uses these classifications to show the percentage of outstanding loan balance over the 12-month period used in this report (December 2018 to November 2019). Consistent with the breakout of prepayment options in Exhibit 1, over 90% of loans are in the 1% prepay premium phase, with a small share in the <1% and >1% phases.

A majority of outstanding loans post-lockout are in the 1% prepayment premium phase

Exhibit 4: Percentage of Outstanding Balance by Prepayment Premium Phase

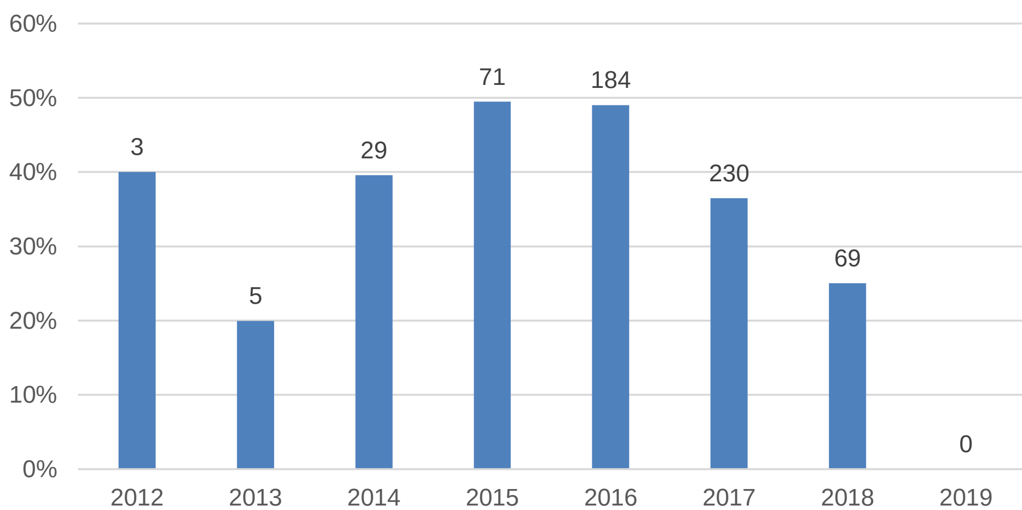
Prepayment Premium Phase	As of December 2018	As of November 2019
<1% Prepayment Premium Phase	3.9%	4.3%
=1% Prepayment Premium Phase	90.5%	92.6%
>1% Prepayment Premium Phase	5.6%	3.0%

Source: Freddie Mac

Below we analyze the prepayment rates for a variety of loan characteristics. Over the past 12 months, we see higher CPRs in the 2015-2016 vintages at 49%. While the older vintages, 2012-2013, show lower CPRs, this is due to fewer loans remaining from those vintages; the three remaining 2012 vintage loans all prepaid within the first few months of 2019, while only five loans prepaid with 2013 vintages. The lower CPRs for the most recent vintages are due partially to the lack of seasoning in those pools.

Exhibit 5: CPR and Loans Prepaid by Origination Vintage in the Past 12 Months

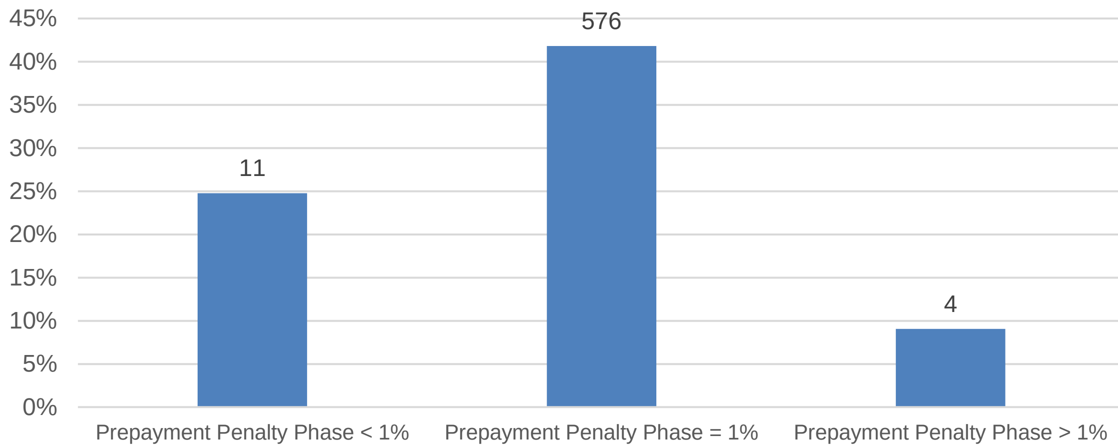
Lower CPRs on older vintages is a result of fewer loans left in those pools



Source: Freddie Mac

Prepayment rates are the highest among loans that have the 1% prepayment premium, at 41.8% CPR. This represents the largest portion of our floating-rate portfolio. Loans with less than a 1% prepayment premium saw a 24.8% CPR. By comparison, the CPR of loans with higher prepayment premiums is much less at 9.1%. Those loans that prepaid in the greater than 1% prepayment premium phase had penalties of 1.5% or 2%.

Exhibit 6: CPR and Loans Prepaid by Prepayment Premium Phase in the Past 12 Months

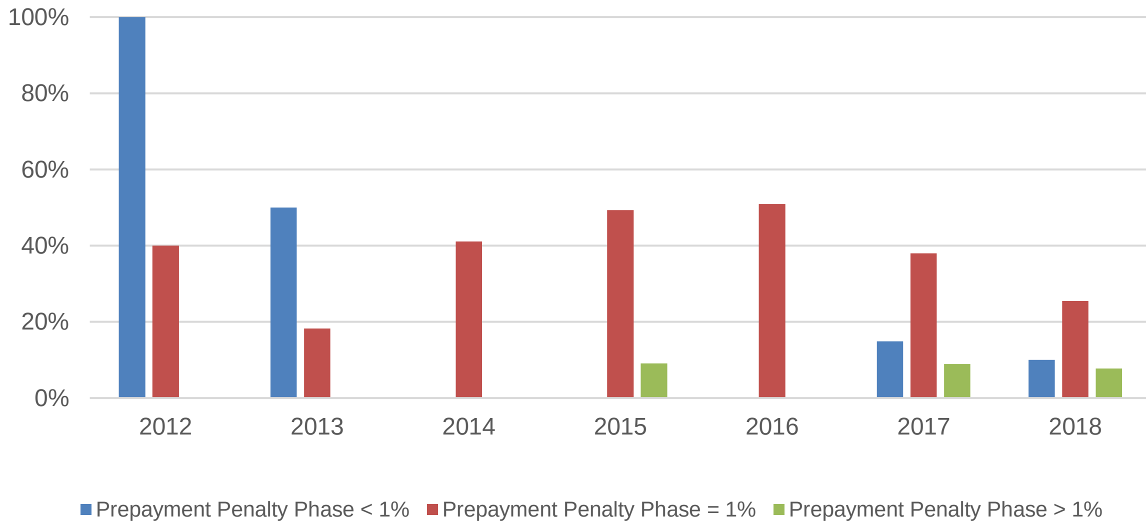


Source: Freddie Mac

There is more of a mix in prepays across vintage and prepay premium phase, as shown in Exhibit 7. Lower prepay penalties, less than 1% premium, and older vintage loans, 2012 and 2013, had the highest CPRs, at 100% and 50%, respectively. Loans that prepaid in the greater than 1% phase were mostly in the new vintages as those loans have had less time to season into lower prepay penalties.

Exhibit 7: CPR by Vintage and Prepayment Premium Phase in the Past 12 Months

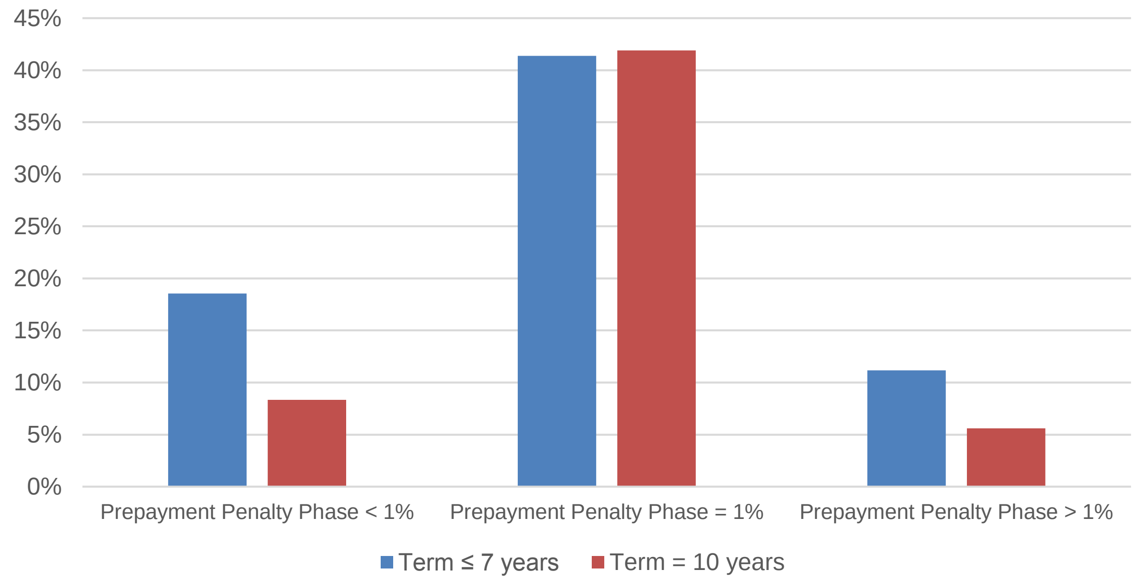
Typically, CPRs are higher in older vintages and lower prepayment premium phases



Source: Freddie Mac. Note: 2019 was not included due to 0 loans in the Prepayment Premium Phase <1%; and no prepayments in the Phase = 1% and phase > 1%.

Seeing that roughly 98% of floating-rate loans are either 7- or 10-year terms, we grouped any loans that are seven years or less into one category when analyzing prepay speeds by loan term. Exhibit 8 shows the CPR by origination term and prepayment premium phase. The CPR for loans with a 1% prepayment premium is relatively consistent regardless of loan term, at 41-42%. By comparison, the shorter loan terms have a higher CPR in the less-than and greater-than 1% prepay premium when compared with the 10-year terms.

Exhibit 8: CPR by Prepayment Premium Phase and Original Term in the Past 12 Months



Source: Freddie Mac

As seen in Exhibit 9, CPRs vary greatly by deal and are heavily dependent on when loans leave the lockout period and enter a prepayment premium phase. In the deal-level analysis, the CPRs are calculated using a weighted average of the number of loans post-lockout in each month to the sum of loans post-lockout over the one-month reporting period. For example, K-F22 had 33 post-lockout loans as of December 2018, representing 12% of the total post-lockout loans in the 12-month reporting period. As of November 2019, only 15 loans were post-lockout, representing 5% of the post-lockout loans. The monthly CPRs are weighted by these percentages to calculate the 12-month average CPR. This provides a way to compare CPR speeds among K-Deals seeing that the prepayment is dependent on loans exiting their lockout period. While the results vary, we typically see higher CPRs in the older vintage K-F deals. Older K-F deals with no prepayments, such as K-F02 and K-F03, represent a very small number of remaining loans that have decided to not pay off despite the long seasoning.

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Exhibit 9: CPR by K-F Deal in the Past 12 Months

Typically see higher CPRs in older K-F deals but highly dependent on loans leaving the lockout period

K-Deal	12M CPR	Active Loans as of Nov. 2019	Original Loan Count	K-Deal	12M CPR	Active Loans as of Nov. 2019	Original Loan Count
K-F01	50.0%	0	80	K-F36	16.1%	33	50
K-F02	0.0%	1	87	K-F37	27.2%	24	41
K-F03	42.3%	2	85	K-F38	29.4%	27	49
K-F04	0.0%	3	79	K-F39	34.1%	23	49
K-F05	23.1%	5	88	K-F40	30.4%	27	46
K-F06	29.8%	6	66	K-F41	24.3%	12	23
K-F07	26.9%	8	40	K-F42	17.7%	41	58
K-F08	25.1%	10	73	K-F43	37.4%	24	42
K-F09	43.7%	6	80	K-F44	33.8%	52	74
K-F10	35.5%	12	76	K-F45	28.8%	46	65
K-F11	39.6%	4	78	K-F46	29.5%	39	51
K-F12	34.3%	11	79	K-F47	13.6%	48	55
K-F13	32.2%	6	48	K-F48	25.4%	34	43
K-F14	34.3%	18	83	K-F49	23.0%	42	55
K-F15	38.2%	17	67	K-F50	10.7%	46	49
K-F16	27.4%	11	69	K-F51	24.5%	36	42
K-F17	45.7%	10	56	K-F52	25.6%	33	36
K-F18	48.9%	2	41	K-F53	22.5%	42	47
K-F19	39.8%	18	66	K-F54	35.7%	39	41
K-F20	57.9%	7	48	K-F55	0.0%	40	40
K-F21	31.1%	42	83	K-F56	5.9%	20	51
K-F22	41.7%	15	58	K-F57	8.4%	41	42
K-F23	39.5%	14	49	K-F58	0.0%	41	41
K-F24	27.1%	16	50	K-F59	0.0%	40	40
K-F25	28.6%	27	70	K-F60	0.0%	45	45
K-F26	23.3%	9	21	K-F61	0.0%	33	33
K-F27	17.2%	31	55	K-F62	0.0%	37	37
K-F28	42.4%	13	61	K-F63	0.0%	36	36
K-F29	39.6%	28	54	K-F64	0.0%	26	26
K-F30	48.2%	22	56	K-F65	0.0%	26	26
K-F31	20.2%	18	45	K-F66	0.0%	30	30
K-F32	30.1%	21	58	K-F67	0.0%	21	21
K-F33	45.6%	17	58	K-F68	0.0%	29	29
K-F34	26.5%	25	48	K-F69	0.0%	33	33
K-F35	29.2%	29	54				

Source: Freddie Mac

Summary

Based on our analysis, we found that lower prepay penalties and additional seasoning increases the likelihood that borrowers prepay their loans. Many factors influence a borrower's decision to originate based on a floating-rate versus a fixed-rate loan. These decisions could impact our prepayment penalties as loans enter prepay phases at different rates based on the flow of our floating-rate business. As loans season and leave their lockout periods, we expect loans to prepay more quickly and the CPRs to increase.