Floating- and Fixed-Rate Loan Prepayments

As of June 2024

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Summary

This report presents a summary of Freddie Mac Multifamily floating-rate and fixed-rate loan voluntary prepayment activity over the 12 months ending June 2024 (July 2023 through June 2024).

Floating-Rate Prepayments Key Takeaways

- The 12-month average constant prepayment rate (CPR) among the floating-rate loans is 18% as of June 2024 — a decrease of 4 percentage points from December 2023.[1] Of the current loans, 95% are in the 1% prepayment premium phase.
- The prepayment speed decreased due to increasing and elevated interest rates and declining property values from the middle of 2022 through June 2024.
- Prepayment speeds are computed based on loans that are eligible to prepay during the reporting period (July 2023 through June 2024) and exclude any loans still in their lockout period. This population changes monthly as loans season and exit their lockout period.
- We summarize prepayment speeds for floating-rate loans in the aggregate and by product type, vintage, prepayment type, prepayment phase and FRE-KF deal.
- During more normal market conditions, prepayments are generally higher among more seasoned loans, as well as when prepayment premiums are lowest, but in the current higher interest rate environment, we are seeing prepayment speeds are low among all loan segments.

Fixed-Rate Prepayments Key Takeaways

- The June 2024 12-month annual average CPR for fixed-rate loans in their open period loans was 22%, which is a continuation of the downward trend seen since mid-2022 when the CPR was 67%.
- Nearly all the loans that prepaid were in their open period, with less than 1% of prepaid loans outside of their open period.

[1] Historic numbers may be different from previously published reports due to updated data, which impact the prepayment rate and number of loans that prepaid in a prior time period.

Floating-Rate Prepayment Analysis

The first Freddie Mac floating-rate K-Deal®, K-F01, was priced in October of 2012. The K-Deal program provides borrowers with the ability to obtain financing indexed to short-term rates and provides borrowers with more prepayment flexibility than fixed-rate products. Typical loan terms are 5-, 7- and 10-years. Through June 2024, Freddie Mac has funded and securitized over 6,800 floating-rate loans totaling nearly $168 billion of original unpaid principal balance (UPB). This section of the report only pertains to floating-rate loans.

Prepayment Options Background

The floating-rate program offers borrowers prepay flexibility.

Floating-rate loan products vary across 5-, 7- and 10-year terms that generally range between $5 million and $100 million in size and are indexed to 30-day average SOFR[2]. For most floating-rate transactions, we require borrowers obtain a third-party cap to hedge interest rate risk.

Unlike our standard, fixed-rate K-Deal where the majority of the loans have a lockout period followed by defeasance, our floating-rate program provides borrowers with more flexible prepayment options. Most 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 premiums 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 2012 through June 2024.

Exhibit 1: Available Prepayment Options for Floating-Rate Loans

	Prepay Option % by Loan Term			Total % Floating-Rate Business			Total % Floating-Rate Business
Option	**5-year**	**7-year**	**10-year**	**5-year**	**7-year**	**10-year**	
1-year lockout, then 1%	70%	83%	80%	0%	24%	56%	80%
2-year lockout, then 1%	10%	8%	10%	0%	2%	7%	10%
3% - 2% - 1%	0%	2%	2%	0%	1%	2%	2%
All others*	20%	7%	8%	0%	2%	6%	8%
Total % Floating-Rate Business				0%	30%	70%	100%

Note: All others include a combination of lockout and stepdown. Percentages represent original UPB balance for deals K-F01 through K-F162 and may not total 100% due to rounding.
Source: Freddie Mac

Loans that feature a 1-year lockout period followed by a 1% prepayment premium are by far the most popular structure, representing 80% of our floating-rate originations. Approximately 10% have a 2-year lockout period followed by a 1% premium, while the 3%-2%-1% step-down prepayment premium structure makes up 2% of origination floating-rate business. The remaining 8% of floating-rate business has varying lockout periods followed by prepayment premium, step-down structures or a combination of the two.

Nearly all our floating-rate loans are either 7- or 10-year terms, with 5-year terms accounting for less than 1% of business. Borrowers continue to favor 10-year loan terms, representing 70% (by UPB) of

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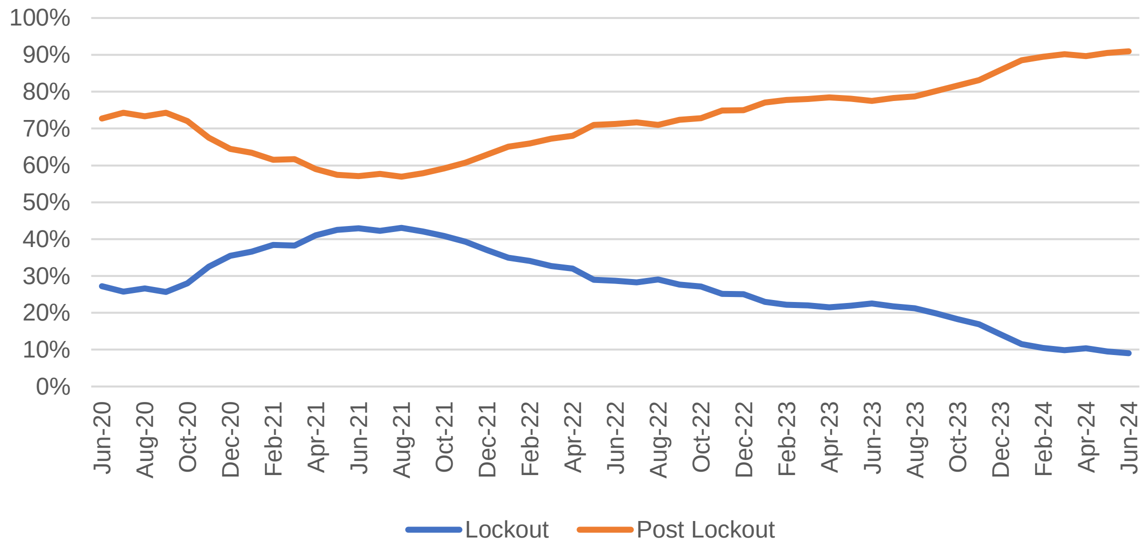
[2] We stopped accepting new loans indexed to LIBOR during the fourth quarter of 2020. Legacy floating-rate, LIBOR-indexed bonds have been transitioned to 30-day average SOFR in connection with the cessation of LIBOR at the end of June 2023.

floating-rate business, while 30% are 7-year. The breakout of 10-year versus 7-year has moved little since the last report and has held relatively steady since the end of 2021.

The rate of loans (by UPB) entering their post-lockout period (when loans can prepay with a premium) as of June 2024 is 91%, higher than any point over the prior three years (calculated monthly as a percentage of UPB). This implies more loans are entering their post-lockout period than originated with a lockout period. In late 2021, the percentage of UPB post lockout bottomed out, implying more loans were originated than seasoning into their post-lockout period.

Over the past year, the percentage of loans post lockout increased.

Exhibit 2: Percentage of Currently Active Loan UPB in Lockout and Post Lockout



Source: Freddie Mac

Prepayment Speeds by Loan Characteristics

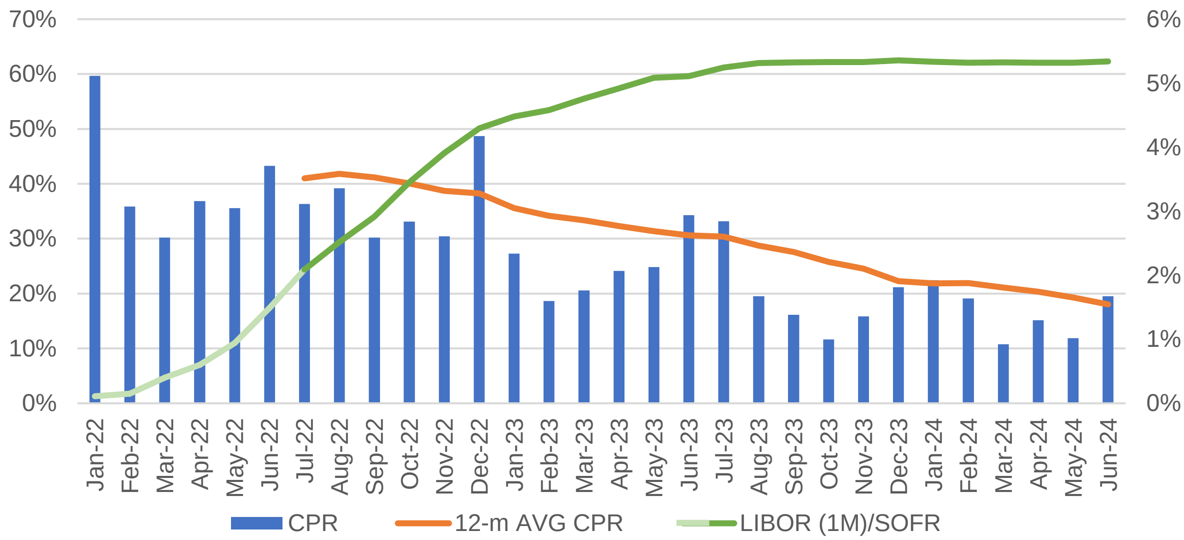
In our prepayment speed analysis, we isolate the loan population that is contractually permitted to prepay by removing any loans still in the lockout period from the analysis. Due to the seasoning of loans, the population changes monthly as loans move out of their lockout period into the ability to prepay with premiums. Therefore, we are calculating the prepayment rate based on a 12-month simple average unless otherwise stated.

As of June 2024, 2,002 floating-rate loans remain active, representing $57 billion in outstanding loan balance. The 12-month average CPR is 18% as of June 2024, compared with 22% in December 2023, and 31% in June 2023[3]. Exhibit 3 shows that in 2022, monthly CPRs averaged 38% before falling during 2023 into 2024 as interest rates increased and remained elevated.

Part of the reason for the higher CPR in 2022 is the low interest rate, especially during the first half of the year. During early 2022, 1-month LIBOR was less than 0.5% but increased rapidly and was just above 2% in July 2022, the last data point shown for LIBOR. SOFR rates then increased through the middle of 2023, and since then have generally held steady at about 5.3%.

[3] Historic numbers may be different from previously published reports due to updated data, which impact the prepayment rate and number of loans that prepaid in a prior time period.

Exhibit 3: Annualized and 12-Month Average CPR and 1-Month Libor and SOFR



Sources: Moody's Analytics, 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 (July 2023 to June 2024). Consistent with the breakout of prepayment options in Exhibit 1, an overwhelming percentage of loans are in the 1% prepayment premium phase, with small shares in the <1% and >1% phases.

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

Exhibit 4: Percentage of Outstanding Balance by Prepayment Premium Phase

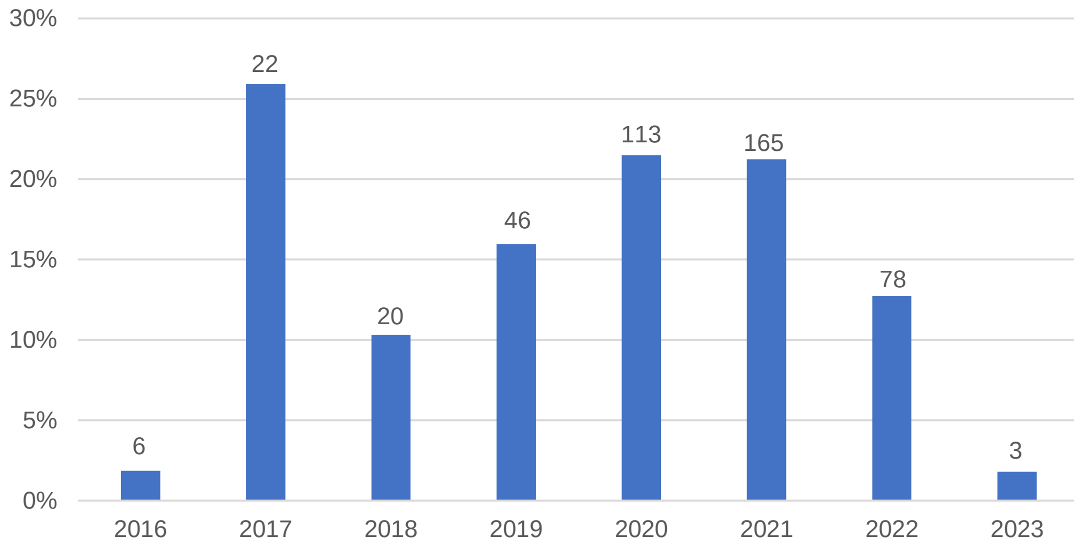
Prepayment Premium Phase	As of December 2023	As of June 2024
<1% Prepayment Premium Phase	1.55	2.01%
=1% Prepayment Premium Phase	94.7%	95.2%
>1% Prepayment Premium Phase	3.8%	2.8%

Source: Freddie Mac

The highest number of prepayments are from the 2020 and 2021 vintages, similar to past reports. However, CPR rates are now highest for the 2017 vintage, while in previous iterations of this report, 2020 and 2021 vintages had higher prepayment speeds. Overall, prepayment speeds across 2016 to 2023 vintages range from 2% to 26%.

Prepayment speeds are highest in the 2017 vintage, with a reduction in CPRs among the newer vintages.

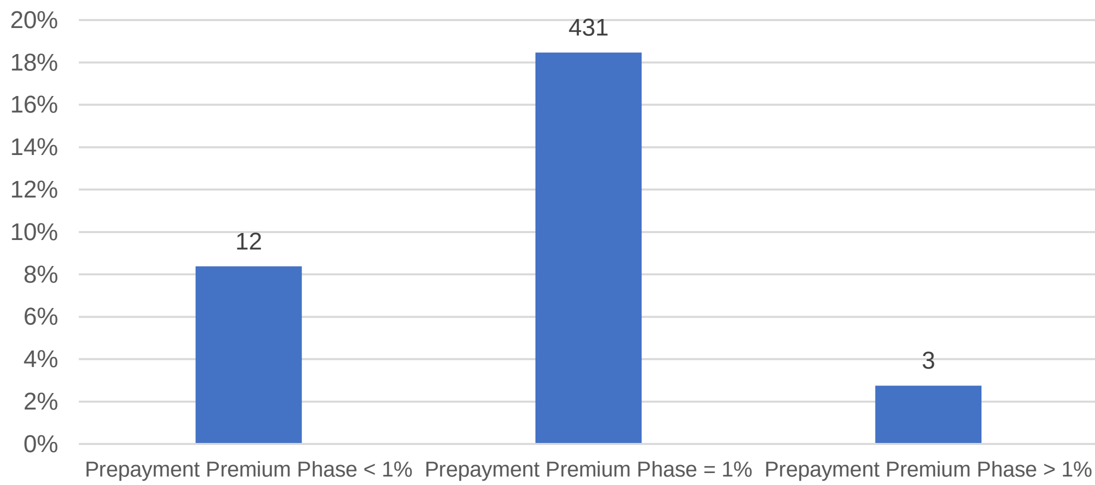
Exhibit 5: CPR and Loans Prepaid by Origination Vintage in the Past 12 Months



Source: Freddie Mac

Prepayment rates are the highest among loans that have a 1% prepayment premium, at 18%. Loans with a prepayment premium of less than 1%, and those with a prepayment premium of greater than 1% have CPRs of 8% and 3%, respectively.

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



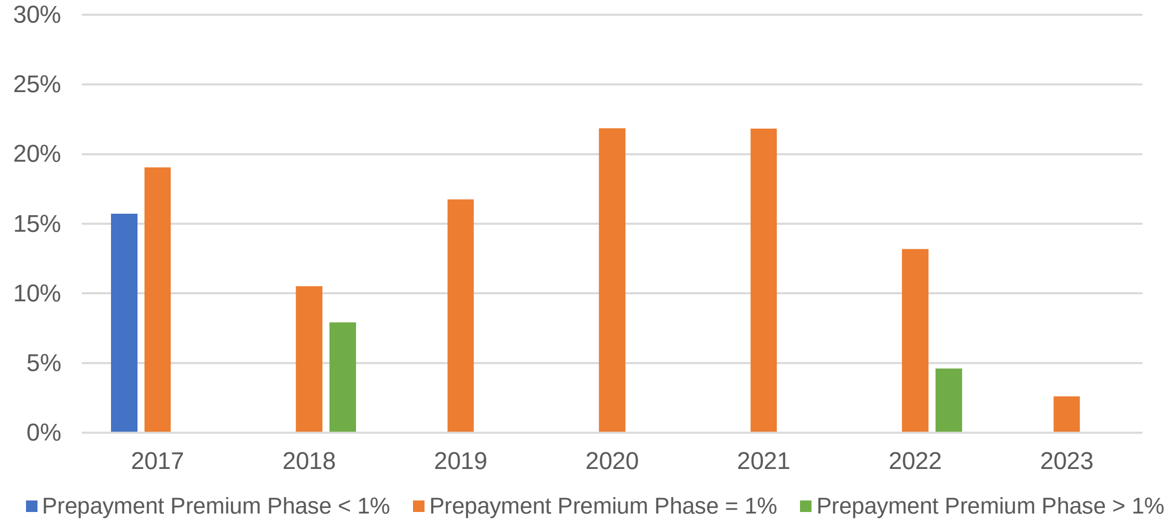
Source: Freddie Mac

Across vintage and prepayment premium phase, there is significant variation in prepayments, as shown in Exhibit 7. Loans with prepayment premiums of 1% have the highest prepayment rates.

Meanwhile, loans with prepayment premiums of more or less than 1% have comparatively little prepayment activity. Compared with our last report across all prepayment premiums and vintages, we are seeing generally lower prepayment rates.

CPRs are typically highest among loans in the 1% prepayment premium phase.

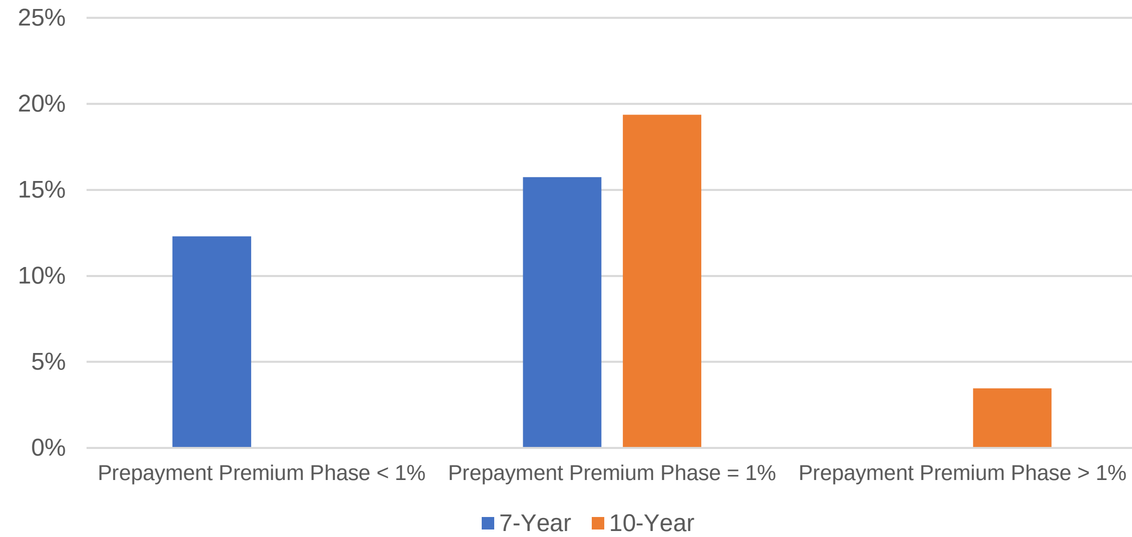
Exhibit 7: CPR by Vintage and Prepayment Premium Phase in the Past 12 Months



Source: Freddie Mac

Since more than 99% of floating-rate loans are either 7- or 10-year terms, when analyzing prepay speeds by loan term, we grouped loans that are seven years or less into one category and 10 years into another. Exhibit 8 shows the CPR by origination term and prepayment premium phase. Ten-year loans with a prepayment premium of 1% have a higher CPR than the 7-year equivalent. For loans with a prepayment premium of less than 1%, only 7-year loans had any prepayments, while for prepayment premiums of more than 1%, only 10-year loans had any prepayment activity.

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



Source: Freddie Mac

CPRs vary greatly by deal and are heavily dependent on when loans leave the lockout period and enter a prepayment premium phase (see Appendix for deal-level CPRs). In the deal-level analysis, the CPRs are calculated using a weighted average of the number of loans in a post-lockout period in each month to the sum of loans in a post-lockout period over the 12-month reporting period. For example, as of November 2019, K-F50 had 43 post-lockout loans. This represented 16% of the total post-lockout loans in the 12-month reporting period. As of November 2020, only 20 loans were in a post-lockout period, representing 6% of the loans in a post-lockout period. This provides a comparison of CPRs among K-Deals, which shows that prepayment is dependent on loans exiting their lockout period. While the results vary, we typically see higher CPRs in the middle vintage K-F deals while older and newer K-F Deals have generally below-average CPRs.

Fixed-Rate Prepayment Analysis

This section of the report summarizes the prepayment speed of fixed-rate loans based on three years of data, from July 2021 through June 2024. This analysis includes 5-, 7-, 10- and 15-year term loans as well as single-borrower deals. Typically, multifamily fixed-rate loans offer two prepayment options: lockout-defeasance-open structure and yield maintenance-open structure.[4] The vast majority of fixed-rate loans are lockout-defeasance-open, representing 95% of our business, while yield maintenance (YM) followed by a 1% prepayment premium and then an open period represents 5%. Defeasance and YM significantly reduce the prepayment risk during the prepayment premium phase of the loan. The average CPR for loans in either their defeasance or YM period over the past three years is less

[4] Yield maintenance prepayment usually consists of two portions: (1) The loan's unpaid principal balance and (2) a prepayment premium. This premium is typically determined by calculating the present value of the remaining loan payments, with a discount factor equal to the current yield on the U.S. Treasury that matures closest to the loan's maturity date.

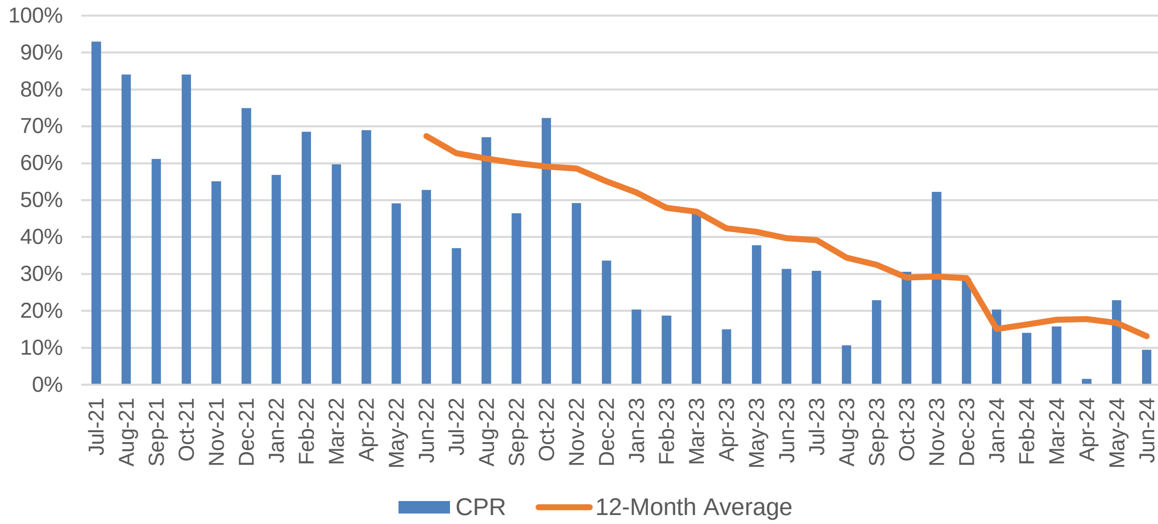
For defeasance prepayment, the borrower replaces the real estate securing its loan with a portfolio of securities that will generate the same debt service as the original collateral would over the term of the loan. Defeasance provides prepayment protection similar to yield maintenance for a multifamily portfolio.

than 1%, while the CPR for loans without a prepayment premium as well as loans not protected by defeasance or YM is 43%.

Exhibit 9 shows the CPR for those loans in their open period. Over the past three years on a monthly basis, the annualized CPR has varied from over 90% in mid-2021 to a low of 2% in April 2024 and has been generally declining since the third quarter of 2022 as interest rates have increased. The 12-month average annual CPR as of June 2024 was 13%, down considerably from 29% in the previous report and 40% in June 2023.

CPRs for fixed-rate loans in their open period have been decreasing but are somewhat higher than floating-rate loans.

Exhibit 9: Fixed-Rate Loans Annualized CPR During Open Period



Summary

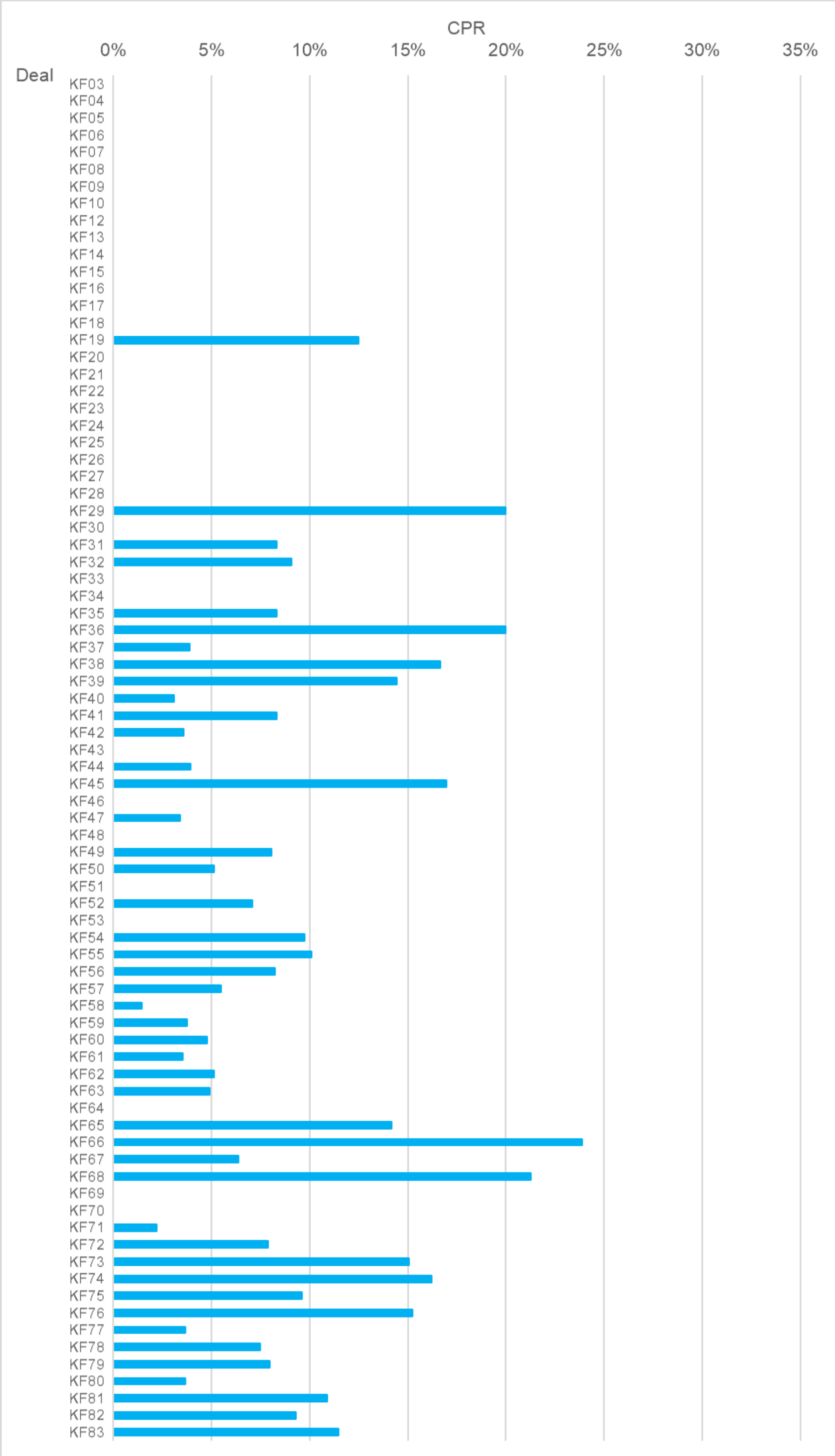
Floating-rate prepayment speeds continued to decline for the 12 months ending June 2024 as interest rates remained elevated throughout the year. As of June 2024, the overall 12-month CPR is 11 percentage points lower than the 12-month average as of June 2023 for floating-rate loans, and 3 percentage points lower than the last report with December 2023 data. As these loans season and leave their lockout periods, we would typically expect loans to prepay more quickly and the CPRs to increase. However, the declining property prices and elevated interest rates may impact CPR speeds for floating-rate loans because lower loan proceeds and higher interest rates typically slow down prepayment activity. Fixed-rate loan prepayments are minimal until the loans enter their open period, at which point prepayment speeds increase. However, the CPR of fixed-rate loans in their open period has declined recently while interest rates rose.

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

Deal	CPR	Active Loans as of December 2023	Original Loan Count	Deal	CPR	Active Loans as of December 2023	Original Loan Count
KF03	0%	0	1	KF84	8%	5	35
KF04	0%	0	1	KF85	16%	5	40
KF05	0%	0	3	KF86	7%	3	31
KF06	0%	0	6	KF87	29%	4	49
KF07	0%	3	6	KF88	0%	9	23
KF08	0%	0	6	KF89	8%	5	34
KF09	0%	0	2	KF90	19%	9	37
KF10	0%	0	3	KF91	26%	13	41
KF12	0%	1	3	KF92	29%	12	45
KF13	0%	1	4	KF93	12%	13	43
KF14	0%	0	9	KF94	12%	18	45
KF15	0%	0	11	KF95	8%	19	38
KF16	0%	1	4	KF96	15%	12	49
KF17	0%	0	4	KF97	24%	12	37
KF18	0%	1	2	KF98	22%	13	31
KF19	12%	0	9	KF99	21%	6	28
KF20	0%	0	4	KF100	13%	13	41
KF21	0%	37	37	KF101	12%	11	33
KF22	0%	0	5	KF102	12%	12	36
KF23	0%	0	5	KF103	12%	13	31
KF24	0%	1	12	KF104	13%	6	26
KF25	0%	6	12	KF105	24%	9	29
KF26	0%	1	7	KF106	13%	13	30
KF27	0%	1	13	KF107	10%	12	30
KF28	0%	0	4	KF108	29%	12	37
KF29	20%	0	13	KF109	22%	12	40
KF30	0%	2	8	KF110	12%	20	42
KF31	8%	1	5	KF111	13%	16	43
KF32	9%	0	11	KF112	27%	12	38
KF33	0%	5	11	KF113	22%	19	39
KF34	0%	1	15	KF114	24%	22	44
KF35	8%	1	11	KF115	30%	29	65
KF36	20%	0	21	KF116	23%	14	37
KF37	4%	5	11	KF117	21%	18	61
KF38	17%	2	19	KF118	15%	22	42
KF39	14%	3	16	KF119	21%	17	44

Deal	CPR	Active Loans as of December 2023	Original Loan Count	Deal	CPR	Active Loans as of December 2023	Original Loan Count
KF40	3%	4	11	KF120	20%	30	46
KF41	8%	1	8	KF121	17%	16	28
KF42	4%	3	14	KF122	15%	23	37
KF43	0%	6	13	KF123	1%	21	32
KF44	4%	10	27	KF124	13%	24	35
KF45	17%	10	32	KF125	12%	20	25
KF46	0%	3	24	KF126	12%	24	35
KF47	3%	4	31	KF127	14%	26	34
KF48	0%	5	21	KF128	8%	25	42
KF49	8%	8	20	KF129	0%	32	36
KF50	5%	7	23	KF130	3%	20	24
KF51	0%	4	17	KF131	14%	32	48
KF52	7%	4	18	KF132	8%	28	35
KF53	0%	10	26	KF133	2%	26	29
KF54	10%	11	30	KF134	9%	23	29
KF55	10%	12	28	KF135	7%	26	30
KF56	8%	6	18	KF136	19%	18	33
KF57	5%	9	33	KF137	9%	23	32
KF58	1%	6	25	KF138	10%	32	38
KF59	4%	7	34	KF139	10%	29	43
KF60	5%	13	36	KF140	8%	28	33
KF61	4%	12	28	KF141	25%	35	44
KF62	5%	8	30	KF142	0%	27	27
KF63	5%	17	34	KF143	0%	21	21
KF64	0%	4	16	KF144	7%	30	32
KF65	14%	6	25	KF145	8%	27	30
KF66	24%	7	29	KF146	6%	30	32
KF67	6%	9	21	KF147	0%	29	29
KF68	21%	8	24	KF148	0%	28	28
KF69	0%	6	28	KF149	6%	29	31
KF70	0%	8	25	KF150	0%	29	30
KF71	2%	22	29	KF151	12%	24	31
KF72	8%	5	21	KF152	11%	26	31
KF73	15%	20	37	KF153	6%	21	22
KF74	16%	2	14	KF154	2%	27	28
KF75	10%	6	31	KF155	0%	28	28
KF76	15%	14	38	KF156	4%	28	29

Deal	CPR	Active Loans as of December 2023	Original Loan Count	Deal	CPR	Active Loans as of December 2023	Original Loan Count
KF77	4%	6	20	KF157	10%	19	20
KF78	8%	14	33	KF158	0%	20	20
KF79	8%	18	36	KF159	0%	12	12
KF80	4%	13	41	KF160	11%	25	27
KF81	11%	9	39	KF161	0%	20	20
KF82	9%	12	28	KF162	0%	30	30
KF83	11%	9	35				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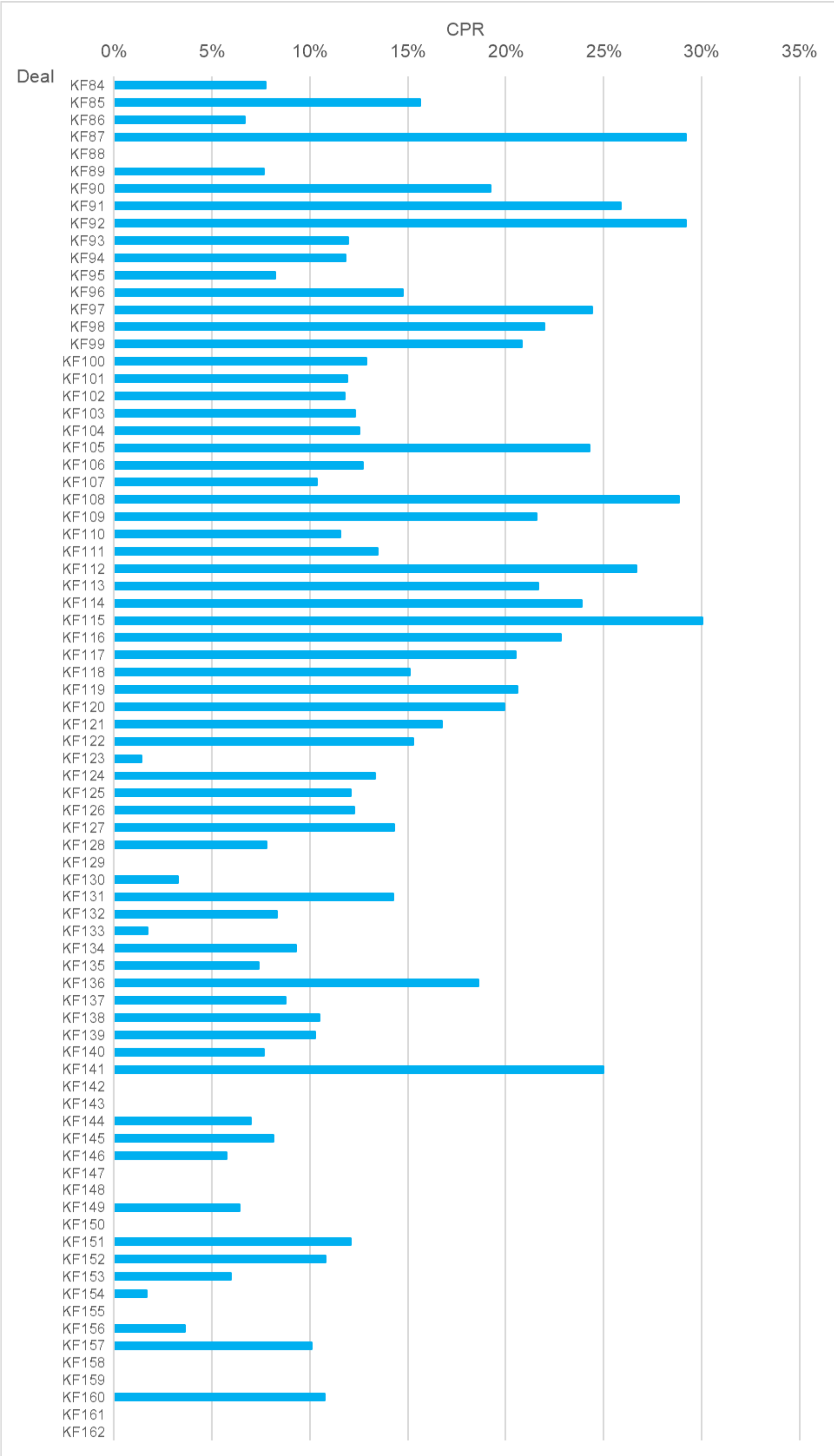
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