

# Risk Growing in Mortgage Loan Modifications

## Historical Modification Data Review

### Special Report

#### Inside this Report

Overview of Loan Modification Programs	2
Overview of Historical Data	2
Drivers of Re-Default	4
Performance Differences by Program	5
Recent Performance Trends	6
Prepayment Trends	7
Step-Up Analysis	8

This report details Fitch Ratings' analysis of Fannie Mae's loan-level historical dataset for modified single-family residential mortgage loans and summarizes Fitch's observations of re-default behavior and drivers across the modification programs and cohorts.

Fannie Mae released the dataset in July 2016 to provide greater transparency into the performance of modified and re-performing loans (RPL). Fannie Mae has securitized over \$6 billion of RPL since announcing a securitization program in April 2016.

The behavior and trends of modified loans in the Fannie Mae historical dataset are assumed to also be present in modified loans that were not sold to Fannie Mae. Consequently, Fitch assumes the conclusions of the analysis can also be applied to loans not sold to Fannie Mae.

**Recent Modifications Re-Defaulting Faster:** Loans modified since 2014 have exhibited relatively fast re-default rates and the cumulative default rate of loans modified in 2015 has been the highest of any modification vintage since 2010. Relative to earlier modification vintages, the re-default rates reflect a higher percentage of borrowers that have had prior loan modifications, lower credit scores, higher capitalized amounts that result in increased principal balances, and lower payment reductions.

**Re-Default Risk Surfaces Quickly:** Modified loans that re-default typically do so relatively quickly. More than 75% of re-defaults occur in the first two years after modification.

**Key Re-Default Drivers:** Traditional loan attributes drive the re-default rate; loan-to-value (LTV) ratios and credit scores are key predictors of risk. However, loan modification terms play a significant role and there is direct correlation between the amount of the payment reduction and re-default rates. Borrowers who received multiple modifications have higher re-default rates.

**Modest Impact for "Step-Up" Rates:** Step-up loans on which the mortgage rate increases after the first five years exhibit a rise in re-defaults after the rate increases. However, the impact is temporary and relatively modest, and the percentage of loans that reach the step-up date is reduced by prepayments prior to the rate change. After the rate change, an increase in prepayments is observed, especially for borrowers with higher FICO scores and lower LTV ratios.

**Modification Programs Differ:** Home Affordable Modification Program (HAMP) and Standard Modification focus on the step-up mortgages, while the Streamlined Modification Program (SMP) focuses on fixed-rate modifications. Due to eligibility and availability, more loans were modified into HAMP and Standard Modification before 2011 and, subsequently, more loans went to SMP. Among the three programs, HAMP has had the lowest re-default rates and Standard Modification has had the highest re-default rates.

#### Related Research

[U.S. RMBS Re-Performing Loan Trends \(May 2016\)](#)

[Insights into Fannie Mae Loan Loss Data \(September 2015\)](#)

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## Overview of Loan Modification Programs

Most modifications in the dataset belong to one of the following three modification programs, based on the borrowers' eligibility and modification programs' availability. The components of HAMP will be leveraged and SMP and Standard Modification will be replaced by Fannie Mae Flex Modification Program in late 2017.

The servicer goes through the following steps to reach the target modifications payment:

- Capitalization
- Interest Rate Reduction
- Term Extension
- Principal Forbearance

### Home Affordable Modification Program

HAMP is a loan modification program introduced in 2009 to reduce the delinquent and at-risk borrowers' monthly mortgage payments. This program only applies to loans originated before Jan. 1, 2009. It requires documented hardship and the borrower's current monthly mortgage payment greater than 31% of the borrowers' monthly gross income. The servicers target to reduce the borrower's front-end monthly mortgage payment ratio close to 31%. To achieve this goal, the modified interest rate goes to no lower than 2% and is fixed for the next five years. After this period, the rate will rise 1% every year until it reaches its rate cap, which is the original mortgage rate at modification. This mortgage rate will be fixed for the remaining term of the loan, which is called a terminal rate.

In this dataset, 90% of HAMP loans have this type of step-up modification. On average, they have a 60-month fixed-rate period and 2.5 steps afterward. Each step on average is around 0.94% and the terminal rate is around 4.5%. As of March 2016, HAMP still had an outstanding balance of \$25 billion, 33% of the overall balance.

### Streamlined Modification Program

SMP is another modification program, whose key feature is that the borrowers are not required to have an eligible hardship or document income. The goal is to provide borrowers who are at least 90 days delinquent with the opportunity to lower the monthly payments through a more stable mortgage product (moving from adjustable-rate mortgages to fixed-rate), reduced monthly mortgage payment, or lower interest rates. In this dataset, 94% of loans in SMP are fixed rate. Most of them have term extension to 40 years. As of March 2016, SMP still had an outstanding balance of \$35 billion, 47% of the overall balance.

### Standard Modification

Standard Modification provides borrowers an alternative option to resolve their delinquency and sustain homeownership. These borrowers may be ineligible for HAMP or have previously defaulted on HAMP or are less than 60 days delinquent and in imminent default. It requires a documented hardship and verified income; 75% of loans going through Standard Modification have a step-up rate. They have a 60-month fixed-rate period and on average 2.7 steps afterward. Each step on average is about 0.96% and the terminal rate is about 4.8%. As of March 2016, Standard Modification still had a \$15 billion outstanding balance, 20% of the overall balance.

#### Related Criteria

U.S. RMBS Seasoned, Re-Performing and Non-Performing Loan Criteria (December 2016)

### Overview of Historical Data

The data set contains around 700,000 loans with a \$135 billion balance at modification. As of March 2016, 448,000 loans were still active with an outstanding portfolio balance of \$75 billion.

## Loan Attributes Comparison between Modification and Origination

Program	At June 2016					At Modification Date					At Origination				
	Loan Count	FICO	LTV	Reduction (%)	Step-Up (%)	Balance (\$000)	Rate	Term	Multi-Mods (%)	Capitalized Amount (\$)	Balance (\$000)	FICO	LTV	Rate	Term
HAMP	215,516	651	84	32	89	215	2.77	349	5	14,436	216	683	79	6.5	356
Standard	175,874	650	88	29	79	206	3.09	361	2	15,200	202	682	80	6.4	357
Streamlined	305,063	615	75	24	8	171	4.72	461	21	14,985	177	678	78	6.1	349
<b>Total</b>	<b>697,045</b>	<b>637</b>	<b>81</b>	<b>28</b>	<b>55</b>	<b>193</b>	<b>3.61</b>	<b>396</b>	<b>10</b>	<b>14,850</b>	<b>195</b>	<b>681</b>	<b>79</b>	<b>6.3</b>	<b>354</b>

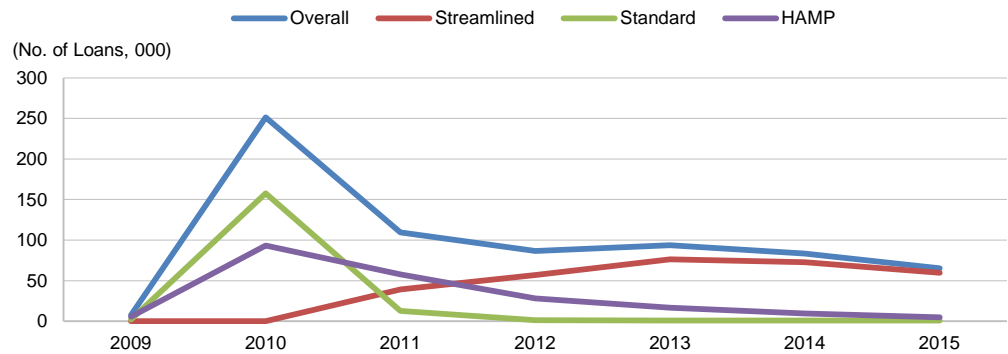
Source: Fannie Mae.

The rest of the loans have re-defaulted or prepaid. All of these loans were permanently modified between Jan. 1, 2010 and Dec. 31, 2015.

The table on page 2 compares the basic attributes by program before and after the modification. All programs show a decrease in FICO score from origination, especially in the SMP. HAMP and Standard Modification have similar borrower profiles. Both have high concentration in the step-up loans and the initial fixed rate is relatively lower than the SMP. More loans in the SMP have undergone a second or third modification since 2009 compared to HAMP and the Standard Modification. The balance for Standard Modification has increased from origination to modification.

Of the sample loans, 92% were originated between 2002 and 2009, with vintage 2006 and 2007 having the largest amount of loans. These two cohorts have a mark-to-market (MTM) LTV ratio of approximately 90% and the largest capitalized amount at approximately \$16,000.

**Loan Distribution by Modification Program**



Source: Fannie Mae.

The chart above and table below show the number of loans that have been modified each year since the housing crisis. Due to availability, loans were modified into HAMP and Standard Modification in 2009 and 2010. Since 2012, more loans went into SMP and the percentage of loans with prior modifications has increased gradually. Loans with prior HAMP modifications are not eligible for HAMP, while SMP allows loans to re-modify up to 3 times. Also, due to the low mortgage rates, it may be more beneficial for borrowers to enter a relatively low fixed-rate mortgage. As of June 2016, the average FICO scores were decreasing and the number of prior modifications increased in the order of loan modification vintage.

**Loan Attributes by Modification Year**

Program	June 2016				At Modification Date						At Origination				
	Count	FICO	LTV	Reduction (%)	Step-Up (%)	Balance (\$000)	Rate	Term	Multi-Mods (%)	Capitalized Amount (\$)	Balance (\$000)	FICO	LTV	Rate	Term
2009	7,412	655	91	32	87	214	3.03	357	1	9,807	213	676	82	6.6	357
2010	251,238	653	88	30	85	212	2.99	356	1	13,074	209	682	80	6.5	357
2011	109,508	646	83	28	67	204	3.41	378	5	15,637	203	682	79	6.4	355
2012	86,497	636	77	27	37	187	3.92	412	11	16,018	190	682	77	6.3	351
2013	93,761	625	74	28	21	179	4.10	441	18	15,527	185	682	78	6.2	351
2014	83,437	610	73	24	16	168	4.64	454	25	16,558	176	679	78	6.1	350
2015	65,083	592	74	24	10	166	4.57	462	34	17,698	174	676	79	5.9	349
Total	697,045	637	81	28	55	193	3.61	396	10	14,850	195	681	79	6.3	354

Source: Fannie Mae.

**Drivers of Re-Default**

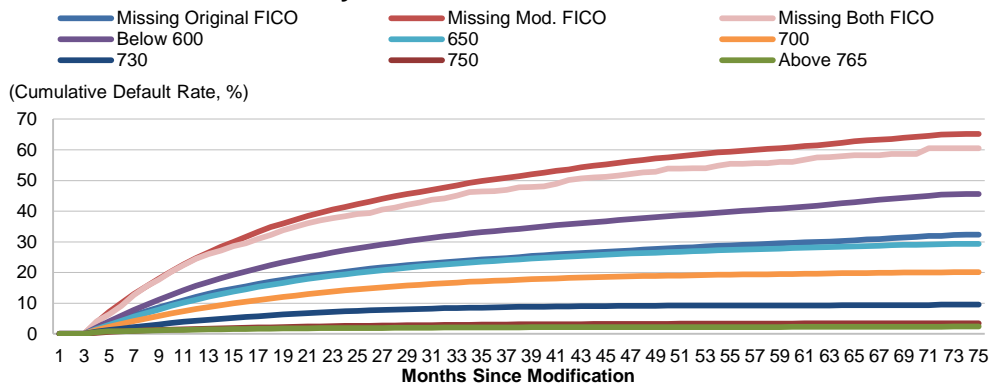
The following analysis looks into different drivers of the re-default rate. Loans are bought out of the mortgage pools when they reach 120+ days delinquent, which is considered re-default in Fitch's analysis.

There are four primary drivers of re-default:

- FICO
- MTM LTV
- Amount of payment reduction
- Number of modifications

The chart below illustrates how the re-default rate varies by FICO scores. All curves with FICO scores less than 750 ramp up very quickly in the first two years and go smooth later. Loans without FICO scores at origination or after the modification are grouped separately in Fitch's analysis. Loans with missing FICO scores after the modification lead the cumulative default rate to above 60%. Loans without FICO scores at origination have a 625 weighted average FICO score after the modification, which has a very close re-default rate as loans with FICO between 600 and 650. As expected, the higher the FICO score, the lower the re-default rate.

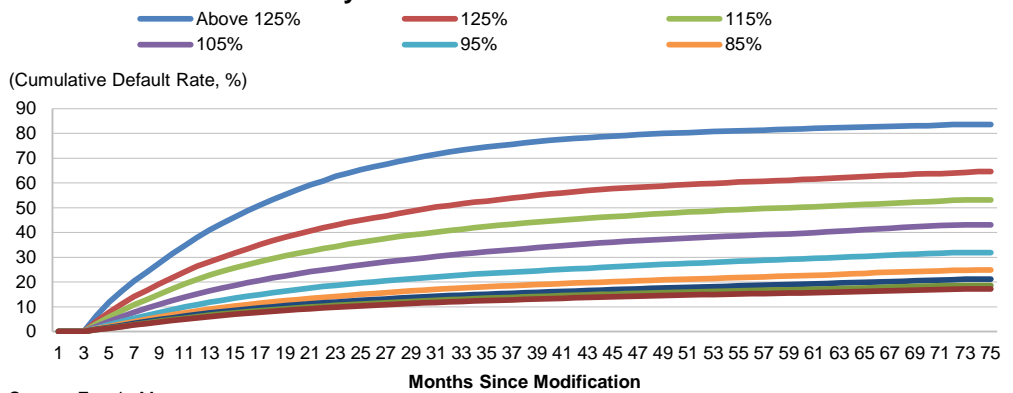
**Cumulative Default Rate by FICO**



Source: Fannie Mae.

The chart below shows the re-default rates for loans with different MTM LTV ratios as of June 2016. The higher the MTM LTV ratio, the higher the re-default rate.

**Cumulative Default Rate by MTM LTV**



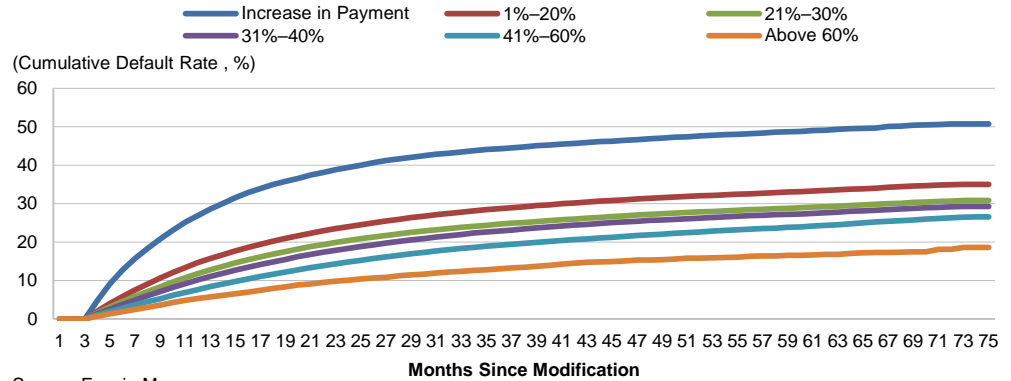
Source: Fannie Mae.

Besides traditional credit factors, Fitch examined how the modification terms impact the re-default rate; 74% of loans in the dataset received a lower interest rate at modification and 98% of these loans have benefited from a monthly payment reduction, which is defined as the percentage decrease in the borrowers' monthly mortgage payments following modification to the contractual

Traditional credit attributes, like FICO and MTM LTV ratio, are key predictors of re-default risk.

monthly payment from origination. The chart below shows how cumulative default rate varies from the changes in the monthly mortgage payment without controlling for other attributes. As shown, loans with an increase in the monthly mortgage payment have the highest cumulative default rate. The re-default rate is directly correlated with the amount of the payment reduction.

**Cumulative Default Rate by Payment Reduction**

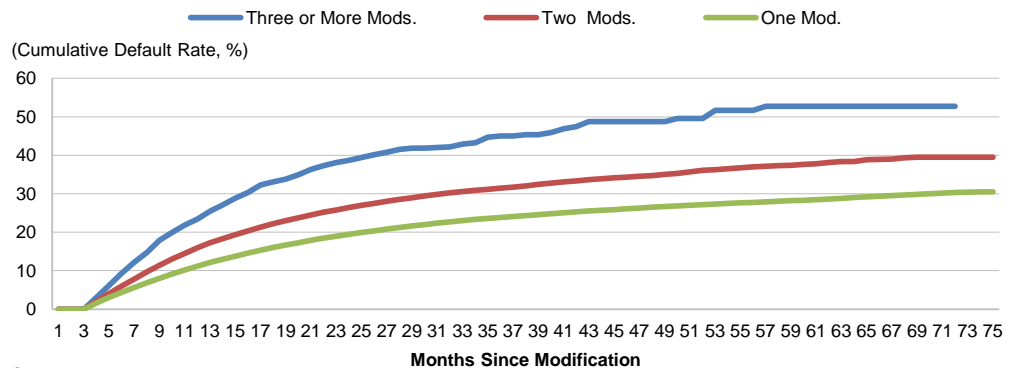


Source: Fannie Mae.

Total number of modifications is another factor that drives the re-default rate. This is defined as the number of modifications the loan has undergone since 2009, including the current history. As shown in the chart below, loans with more than two modifications have much higher re-default rates, generally reflecting lower credit scores and higher MTM LTV ratios.

Modification re-default rates are directly correlated with the amount of the payment reduction and the number of modifications a borrower has undergone.

**Cumulative Default Rate by Number of Modifications**

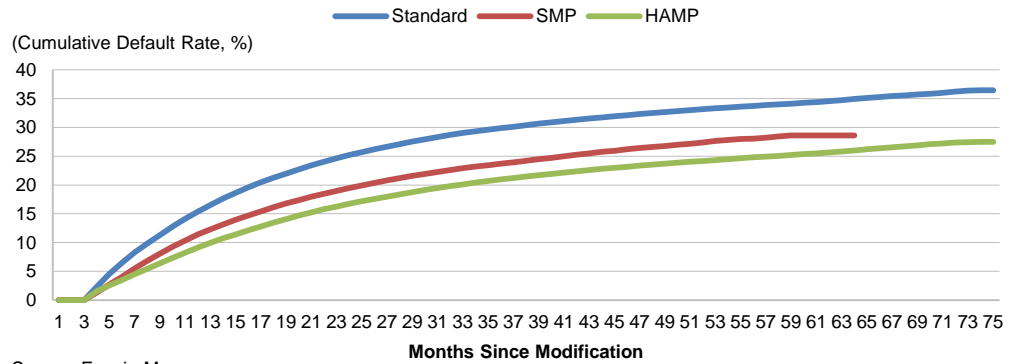


Source: Fannie Mae.

**Performance Differences by Program**

This section compares the re-defaults among these three different programs. The chart on the top of the next page shows that Standard Modification has the highest cumulative default rate, followed by the SMP, and HAMP has the lowest re-defaults. This is closely related to the servicers' workout process. To minimize credit losses, Fannie Mae designed a workout hierarchy for servicers to provide the most appropriate solution to borrowers. HAMP was placed at the top of the hierarchy.

**Cumulative Default Rate by Modification Program**



Source: Fannie Mae.

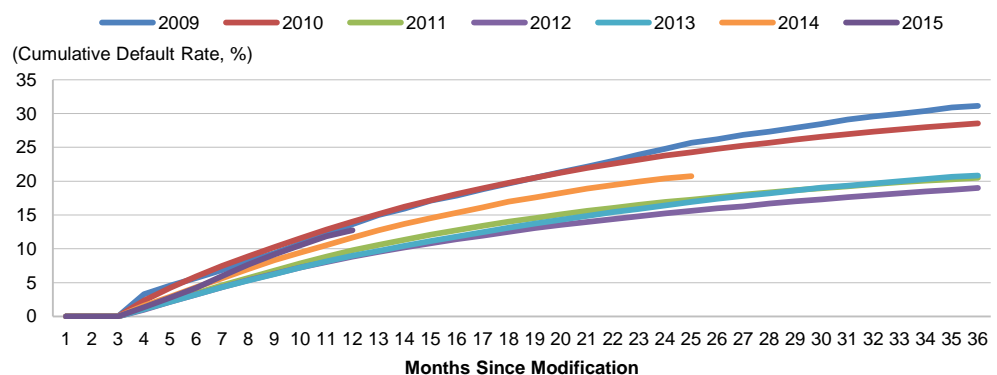
Compared to HAMP, Standard Modification has relatively higher MTM LTV ratios, lower payment reductions, higher initial fixed rate, and higher capitalized amount (see table, page 2). Although both are concentrated in step-up modifications and modified in 2009– 2011, loans in Standard Modification are likely not eligible for HAMP, which may cause the difference among re-default rates of the programs. Since the SMP did not start until 2011, borrowers have generally benefited from less home price appreciation than borrowers in the HAMP and Standard Modification. In addition, loans in HAMP and standard Modification may get modified again to enter SMP. Moreover, loans remaining in Standard Modification may not be eligible for SMP. This may explain why Standard Modification has the highest cumulative default rate. HAMP has the best performance so far but it is approaching SMP.

**Recent Performance Trends**

The chart below shows the performance for each modification year. Loans modified in 2009 and 2010 have the highest cumulative default rate, which may be due to their higher MTM LTV ratios, while loans modified in 2012 and in 2013 show lower re-defaults, which may reflect the faster home price appreciation (HPA). Loans modified in 2015 show very fast re-defaults, comparable to the re-default rates of loans modified in 2010. Of the loans modified in 2015, 30% experienced more than one modification and the average FICO score is only 592. Loans modified in 2015 are likely to have a higher cumulative default rate than those modified in prior years.

Modifications completed in 2015 have the highest re-default rates since 2009–2010 vintage modifications, primarily reflecting weaker credit attributes.

**Cumulative Default Rate by Modification Year**



Source: Fannie Mae.

### Prepayment Trends

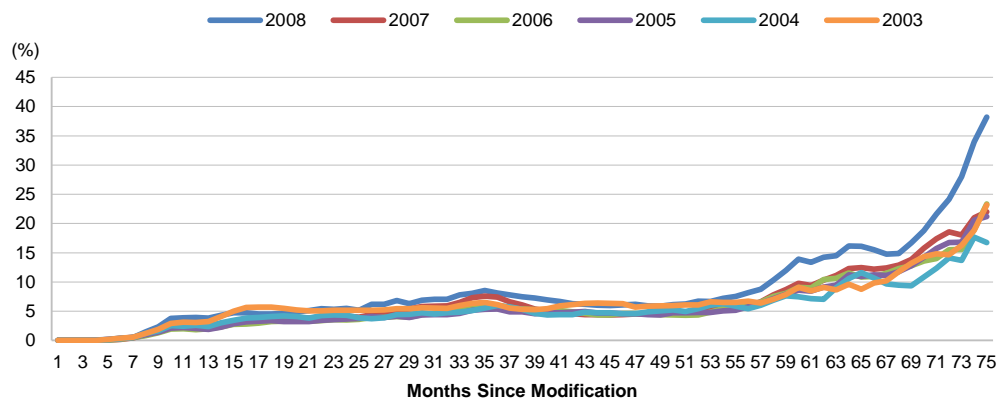
Fitch analyzed prepayment trends and considered the following factors influencing prepayments:

- Vintage
- FICO scores
- MTM LTV ratio

The chart below displays the prepayments performance by different vintages. In the first five years, the voluntary conditional prepayment rate (VCPR) mostly stays within 10% and prepayment speeds are very similar across every vintage. After 55 months, the prepayment speeds start to ramp up for all vintages reflecting borrowers responding to the increased rates in step-up modifications, especially vintage 2008.

Voluntary prepayment rates have remained consistently low, although prepayment speeds increase at the time of interest step-ups at month 60, particularly for better credit borrowers.

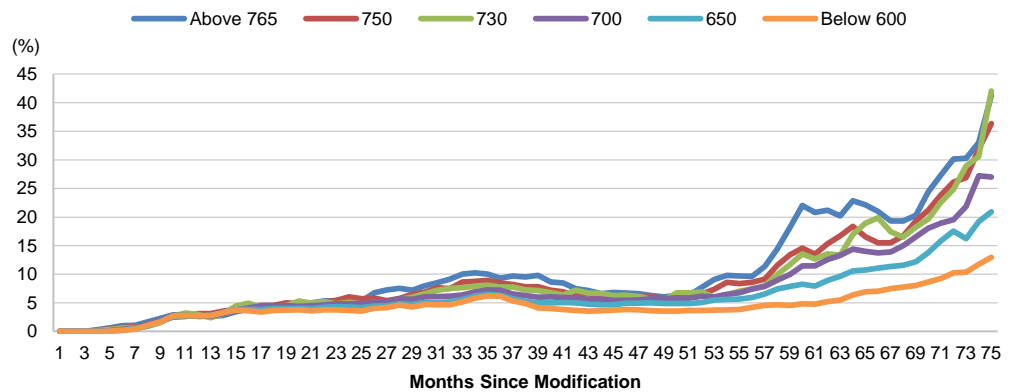
#### Three-Month VCPR by Vintage



Source: Fannie Mae.

The chart below shows how the prepayments behave modestly differently by FICO score. There is a hump around 36 months and an increase after 55 months. Higher FICO scores exhibit higher prepayment rates, likely due to greater access to mortgage credit. Another finding is that the peak at month 60 comes down and then goes up again around month 70, reflecting borrowers responding to their first step-up in mortgage rates at month 60 and subsequent mortgage rate increase at month 72.

#### Three-Month VCPR by FICO Score

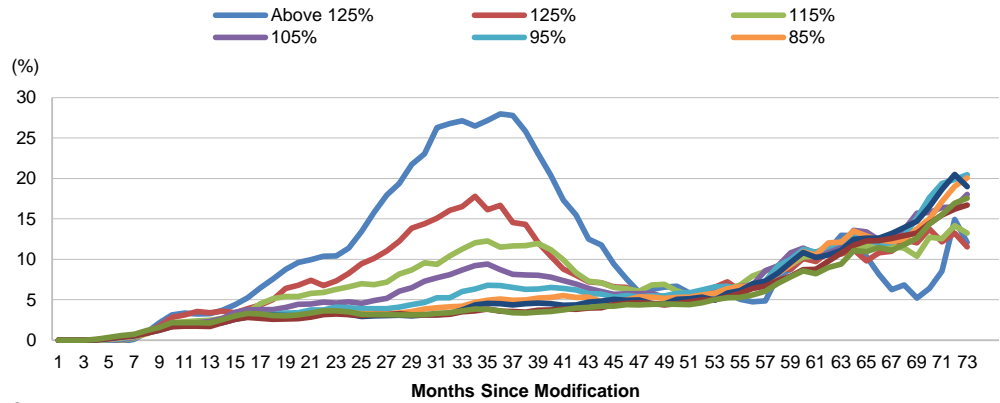


Source: Fannie Mae.

The chart below shows how the prepayment varies among different MTM LTV ratios. Due to a loan transfer from Fannie Mae to Bank of America, loans that had full prepayments in January 2013 have been excluded in the chart below. The 31-38 month spike among loans with higher MTM LTV ratios is composed mostly of loans from HAMP and Standard Modification that likely became HARP eligible and, thus, refinanced into a HARP loan. All groups of loans show the increase in the prepayment in the later months. Loans with MTM LTV ratios above 125% are more volatile due to the small remaining balance of loans.

The higher interest prepayment speeds for borrowers with higher MTM LTV ratios likely reflects the influence of HARP refinances.

**Three-Months VCPR by LTV Ratio**



Source: Fannie Mae.

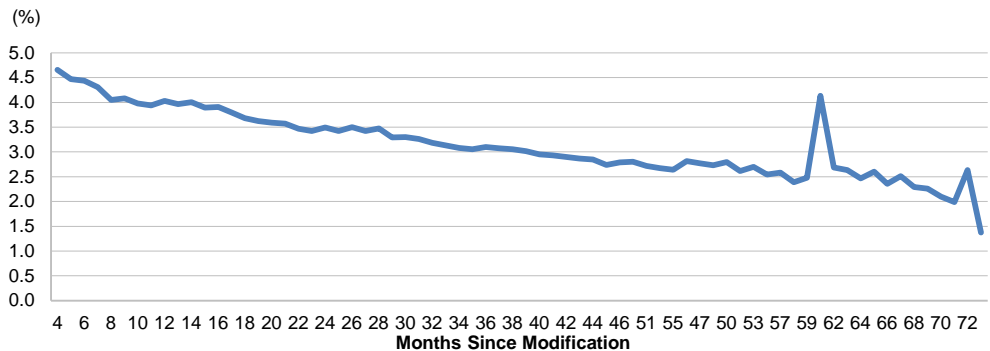
**Step-Up Analysis**

An increasing number of loan modifications will face payment step-ups in 2017. Approximately 70% of step-up modifications performed more than five years ago actually reached the step-up. Fitch reviewed the delinquency rates and prepayment performance around the time of the interest rate reset at month 60 and the subsequent rate reset at month 72.

The increase in roll rates to delinquency of performing borrowers appears to be limited and temporary at the interest rate steps at months 60 and 72.

The chart below shows the percentage of loans that go from current to 30 days delinquent. Two peaks can be found — at 60 months and at 72 months, when the two mortgage rates resets occur, but the peak is temporary and decreases in the second reset.

**Current to 30 Days Delinquent**



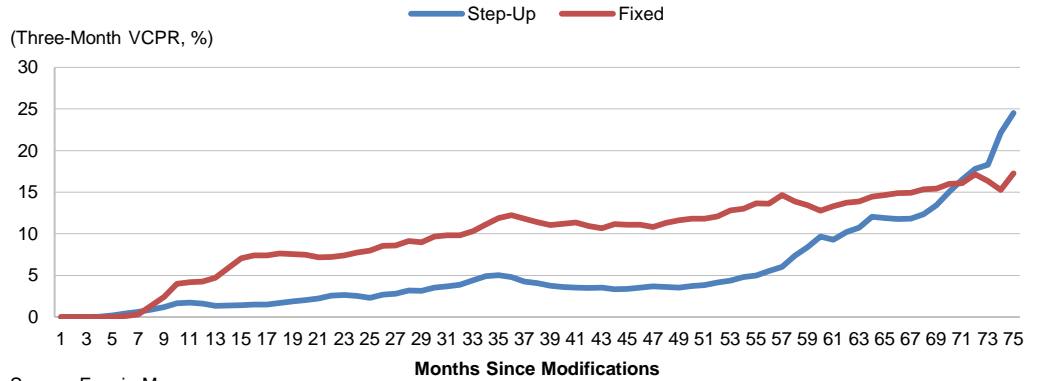
Source: Fannie Mae.



Until the interest rate adjustment at year five, borrowers with step-up coupons have generally prepaid slower than "fixed" coupon borrowers, reflecting lower initial coupons.

The chart below shows the prepayments speed for step-up loans and the fixed-rate loans. Fixed-rate loans show steady increases in the prepayment rate while step-up loans have much slower prepayment rates and increase dramatically after 60 months. The increase in the mortgage payment motivates the borrowers to pay faster to benefit from the low mortgage rate.

**Step-Up vs. Fixed Rate Prepayment**



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