



# Refi Plus™/HARP® Webinar for Reinsurers

## Investor Presentation

February 2020

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# Refi Plus/HARP Overview

# Refi Plus/HARP overview

- Fannie Mae’s Refi Plus program ran from April 2009 to December 2018 and was designed to enable borrowers whose loans were already owned by Fannie Mae to efficiently refinance into improved loan terms such as a lower rate, a shorter term, or a more stable product
- Home Affordable Refinance Program (HARP) loans are the subset of Refi Plus loans that had LTVs greater than 80 percent. Borrowers that took advantage of the HARP program demonstrated continued ability and willingness to make their mortgage payments but were unable to refinance due to low or negative equity
- Relative to standard refinance products, the primary benefits of Refi Plus/HARP were:
  - lower loan delivery fees charged by the GSEs to the lenders (aka, “Loan Level Price Adjustments”, or LLPAs), that enabled participating lenders to pass-through those savings to borrowers,
  - certain underwriting flexibilities,
  - the ability to exceed standard refinance LTV limits (HARP), and
  - no requirement for new or additional mortgage insurance (MI) even if the refinanced loan amount exceeded 80% of the updated property value, which further reduced borrower costs related to the purchase of MI (HARP)

Fannie Mae’s Refi Plus program offered a simplified refinancing experience, enabling borrowers to take advantage of market conditions to refinance into improved loan terms.



# Refi Plus/HARP timeline

HARP and Refi Plus program terms were enhanced in order to better serve borrower needs. Changes made along key dimensions included LTV caps, transfer of MI coverage, program pricing, performance requirements, rep and warranty framework, and borrower solicitation guidelines.

2009

2011

2012 – 2017

2018

## Refi Plus Program and HARP introduced

- Initially, borrowers with a current LTV of up to 105 percent were eligible for HARP
- The LTV cap was lifted to 125 percent later in 2009, and borrowers were allowed to refinance with a different seller/servicer

## HARP 2.0

- HARP was enhanced to remove the LTV cap, relax performance criteria, provide refinance flexibilities for loans with existing MI, and improve pricing
- Solicitation guidelines were updated to optimize program efficacy, and rep and warranty relief granted

## HARP Extended Multiple Times

## HARP and Refi Plus retired

- Refi Plus/HARP expired in Dec-2018; deliveries permitted into 2019
- Fannie Mae introduced a new program - the high LTV refinance option - aimed at performing borrowers whose LTV ratios exceed our standard limits



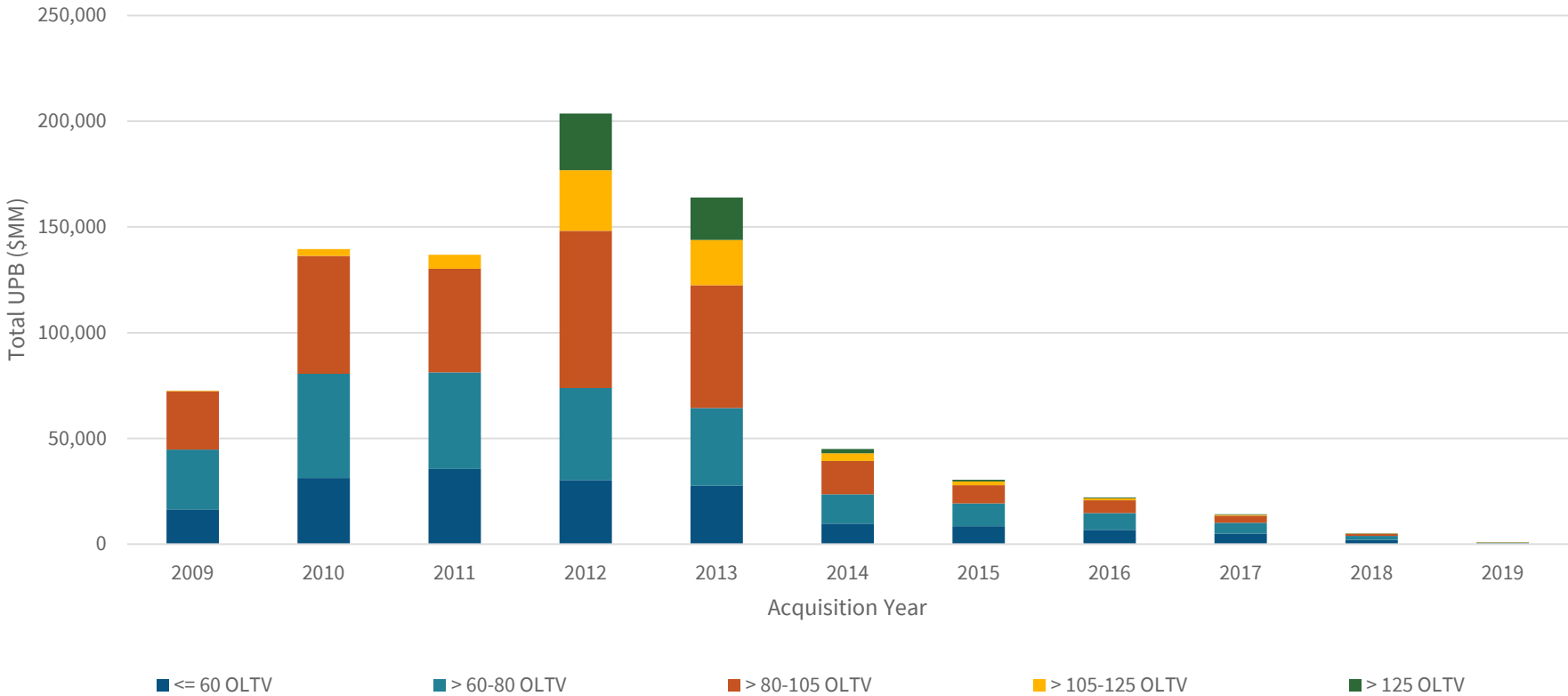
# Refi Plus/HARP eligibility requirements

	Pre-2012	Post-2012
<b>Eligibility</b>	<p><b>Original loan:</b> Originated on or before May 31, 2009 and owned or guaranteed by Fannie Mae</p> <p><b>New loan:</b> Application dates on or after Apr 1, 2009 and acquired by Fannie Mae on or after Apr 1, 2009</p>	<p><b>Original loan:</b> Originated on or before May 31, 2009 and owned or guaranteed by Fannie Mae</p> <p><b>New loan:</b> Application dates on or after Dec 1, 2011 and acquired by Fannie Mae on or after Jan 3, 2012</p>
<b>Minimum LTV ratio</b>	<p><b>HARP:</b> 80 LTV</p> <p><b>Refi Plus ex-HARP:</b> no minimum</p>	<p><b>HARP:</b> 80 LTV</p> <p><b>Refi Plus ex-HARP:</b> no minimum</p>
<b>Maximum LTV</b>	<p><b>HARP:</b> 105 LTV through June 2009, 125 LTV thereafter</p> <p><b>Refi Plus ex-HARP:</b> 80 LTV</p>	<p><b>HARP:</b> no maximum</p> <p><b>Refi Plus ex-HARP:</b> 80 LTV</p>
<b>Performance Criteria</b>	Current with no more than 1 x 30 in last 12 months, or if less than 12 months seasoned, since the note date	Current with no 30-day delinquencies in last 6 months and no more than 1 x 30 in last 12 months, or if less than 12 months seasoned, since the note date
<b>Mortgage Insurance</b>	<ul style="list-style-type: none"> <li>• If the original loan was not required to have MI, the Refi Plus/HARP loan was not required to have MI</li> <li>• If the original loan had MI that has since been cancelled, the Refi Plus/HARP loan was not required to have MI</li> <li>• If the original loan had MI, the lender must work with the MI provider to transfer coverage from the old loan to the new loan</li> </ul>	<ul style="list-style-type: none"> <li>• If the original loan was not required to have MI, the Refi Plus/HARP loan was not required to have MI</li> <li>• If the original loan had MI that has since been cancelled, the Refi Plus/HARP loan was not required to have MI</li> <li>• If the original loan had MI, the lender must work with the MI provider to transfer coverage from the old loan to the new loan</li> </ul>



# Refi Plus acquisitions by OLV band

- 4.6 million homeowners took advantage of Refi Plus
- \$834 billion of acquisition volume
- 50% of Refi Plus acquisitions came through HARP



*Note: LTV band determined by the LTV ratio of Refi Plus loan, not the original loan being refinanced. In cases where Refi Plus loans were not required to submit an updated appraisal, the LTV ratio for Refi Plus loans is derived from the property value submitted by the lender.*







# Refi Plus/HARP Collateral Profile

# Credit profile of Refi Plus acquisitions by vintage

- Strong credit scores – loans required to have good payment history
- Impact of changes to HARP can be observed over time in the credit profile

Refi Plus Vintage	Loans ('000)	UPB (\$MM)	WAvg Rate	WAvg Rate Change	% <30yr	WAvg FICO	< 620 FICO	620-680 FICO	680-740 FICO	> 740 FICO	WAvg OLV	<= 80 OLV	> 80 OLV
2009	332	72,534	4.92%	-1.14%	20%	757	1%	4%	24%	71%	74	62%	38%
2010	660	139,538	4.81%	-1.16%	29%	754	2%	6%	24%	68%	75	58%	42%
2011	733	136,794	4.58%	-1.30%	36%	753	2%	7%	25%	67%	74	59%	41%
2012	1,117	203,659	4.05%	-1.81%	33%	744	3%	10%	26%	60%	93	36%	64%
2013	1,018	163,906	3.95%	-2.07%	35%	728	6%	16%	29%	49%	90	39%	61%
2014	302	45,049	4.50%	-1.65%	43%	711	10%	22%	29%	39%	80	52%	48%
2015	198	30,383	4.14%	-1.83%	45%	716	9%	21%	28%	42%	74	63%	37%
2016	141	22,099	3.94%	-2.07%	44%	712	9%	23%	30%	38%	72	67%	33%
2017	92	14,083	4.18%	-1.93%	46%	709	10%	23%	32%	35%	69	72%	28%
2018	35	5,033	4.58%	-1.59%	45%	705	11%	24%	32%	34%	67	77%	23%
2019	4	644	4.94%	-1.19%	48%	706	11%	22%	31%	35%	62	83%	17%
<b>Grand Total</b>	<b>4,633</b>	<b>833,722</b>	<b>4.35%</b>	<b>-1.61%</b>	<b>33%</b>	<b>740</b>	<b>4%</b>	<b>11%</b>	<b>26%</b>	<b>58%</b>	<b>82</b>	<b>50%</b>	<b>50%</b>

*Note: Loan characteristics including FICO and LTV ratio are shown for Refi Plus loan at acquisition, not for the original loan. Rate change is calculated as the difference between the note rate on the Refi Plus loan and the original loan.*



# Credit profile of Refi Plus ex-HARP and HARP

- Primary differentiating factor is leverage – HARP is subset of Refi Plus with OLTV > 80
- HARP marginally weaker from FICO perspective

	Refi Plus ex-HARP	HARP Only	All
Orig UPB (\$MM)	416,492	417,230	833,722
Loan Count ('000)	2,562	2,071	4,633
WAvg Orig Loan Size	\$162,588	\$201,474	\$179,971
WAvg Note Rate	4.29%	4.41%	4.35%
WAvg OLTV	61	103	82
WAvg CLTV	67	108	87
WAvg FICO	747	734	740
WAvg DTI	36	40	38
% Cash-out	32%	30%	31%
% Investor	9%	12%	11%
% FICO < 680	13%	18%	15%
% OLTV > 80	0%	100%	50%
% OLTV > 125	0%	12%	6%
% DTI > 45	27%	33%	30%
WAvg Risk Layers	0.95	1.04	0.99

*Note: We identify four potential risk layers. Risk layers are defined as cash-out (original loan prior to Refi Plus), investor, FICO < 680, and single borrower. Debt-to-income (DTI) ratio is shown for the original loan prior to Refi Plus.*



# Credit profile of Refi Plus/HARP CRT transactions

Approximately 60% of the reference pool for CIRT HRP 2020-1 is comprised of Refi Plus loans with an OLV of less than 80%.

	CIRT HRP 2020-1*	CAS 2019-HRP1	STACR 2017-HRP1	STACR 2018-HRP1	STACR 2018-HRP2	STACR 2019-HRP1
Reference Period - Acquisition Months	Nov 2012-Jan 2013	Apr 2009 - Oct 2012	Apr 2009 - Dec 2011	Jan 2012 - Mar 2013	Apr 2013 - Dec 2016	Jan 2009 - Dec 2018
Deal Closing Date	TBD	December 6, 2019	December 13, 2017	May 21, 2018	November 20, 2018	June 18, 2019
Number of Reference Obligations	156,963	840,988	82,552	163,624	143,393	32,465
Aggregate Original Principal Balance	\$26,247,042,000	\$149,840,802,000	\$17,321,649,000	\$32,879,111,000	\$26,223,968,000	\$6,430,937,000
Aggregate Current Principal Balance	\$19,650,838,033	\$106,754,721,932	\$15,044,263,064	\$29,083,383,409	\$23,935,162,214	\$5,781,750,060
Average Original Principal Balance	\$167,218	\$178,172	\$209,827	\$200,943	\$182,882	\$198,088
Average Current Principal Balance	\$125,194	\$126,940	\$182,240	\$177,745	\$166,920	\$178,092
Gross Mortgage Rate (Refi Plus Loan)	3.81%	4.43%	5.03%	4.25%	4.43%	4.70%
Gross Mortgage Rate (Original Loan)	5.88%	5.95%	na	na	na	na
Weighted Average Remaining Term	235.1	224.3	274.4	290.8	304.7	301.1
Weighted Average Original Term	319.2	320.9	358.5	357.2	356.9	358.4
Weighted Average Loan Age	84.1	96.6	84.0	66.3	52.2	57.2
Weighted Average OLV	93.1%	82.2%	93.8%	119.9%	106.0%	99.5%
Weighted Average OCLTV	99.2%	86.7%	98.8%	123.6%	110.7%	103.4%
Weighted Average ELTV	47.5%	45.3%	74.4%	75.2%	76.4%	77.0%
Weighted Average DTI (Original Loan)	36.7%	36.6%	na	na	na	na
Weighted Average Orig FICO	739	748	736	735	719	721
% Refinance (Original Loan)	65.6%	59.7%	na	na	na	na
% Owner Occupied	83.9%	87.4%	93.2%	84.7%	78.9%	78.8%
% HARP (OLTV > 80)	61.2%	50.6%	85.4%	97.1%	90.5%	77.6%
% SF/PUD	90.5%	92.0%	93.7%	87.3%	85.2%	80.9%
Top 5 Geographic Concentration	California - 20.77%	California - 16.90%	Illinois - 12.83%	Florida - 13.20%	California - 10.86%	Florida - 15.61%
	Florida - 9.94%	New York - 6.34%	New Jersey - 7.97%	California - 12.72%	Florida - 10.76%	California - 13.05%
	Arizona - 4.58%	Florida - 6.19%	Maryland - 7.02%	Illinois - 8.47%	Illinois - 7.78%	Illinois - 7.08%
	Illinois - 4.50%	Illinois - 5.75%	Virginia - 6.16%	Arizona - 6.31%	Maryland - 6.15%	Maryland - 5.38%
	New York - 4.19%	New Jersey - 4.95%	New York - 6.07%	Maryland - 5.17%	Virginia - 5.31%	New Jersey - 4.71%

\* CIRT HRP 2020-1 population is preliminary and subject to change.

Note: Any fields labeled as "Original Loan" are calculated from characteristics of the loan prior to the Refi Plus loan. Analytics shown for STACR HRP deals at the time of their issuance. Source: Freddie Mac loan-level issuance files and private placement memorandums.



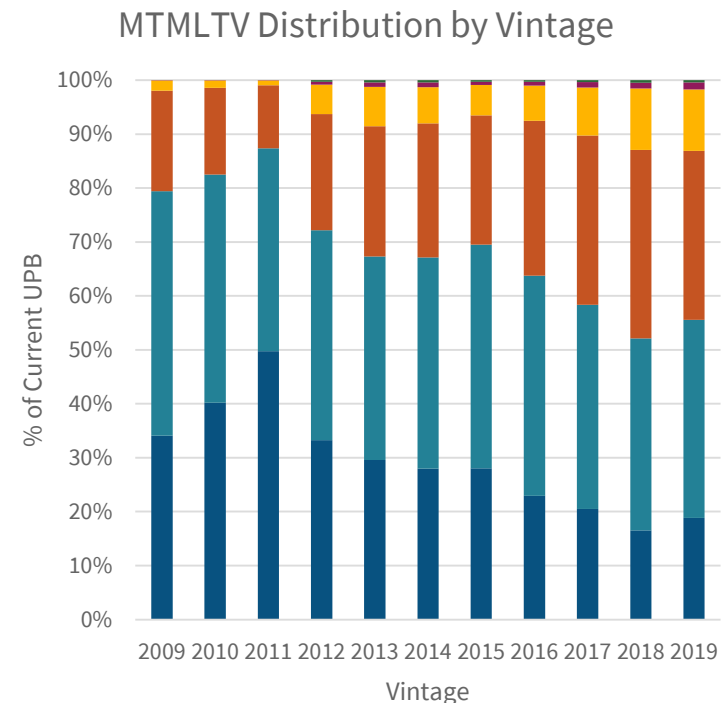


# Refi Plus/HARP Credit Performance

# HPA has reshaped collateral profile

Remaining borrowers have delevered, contributing to strong credit performance

Vintage	% Prepaid	% Curtailed	% Current	% Delinq	% Defaulted	% Repurch
2009	80.0%	4.8%	11.5%	0.4%	2.5%	0.8%
2010	74.9%	6.7%	15.0%	0.5%	2.2%	0.7%
2011	66.0%	9.9%	21.7%	0.5%	1.3%	0.4%
2012	49.2%	12.5%	35.9%	0.7%	1.4%	0.4%
2013	39.5%	13.4%	44.1%	1.2%	1.3%	0.5%
2014	39.5%	11.6%	45.2%	1.9%	1.3%	0.5%
2015	29.6%	11.5%	56.2%	1.8%	0.6%	0.3%
2016	20.8%	9.9%	66.4%	2.2%	0.4%	0.3%
2017	14.9%	7.6%	74.5%	2.6%	0.2%	0.1%
2018	9.0%	4.9%	82.7%	3.3%	0.1%	0.0%
2019	5.1%	2.7%	89.7%	2.5%	0.0%	0.0%



Fannie Mae Refi Plus/HARP population

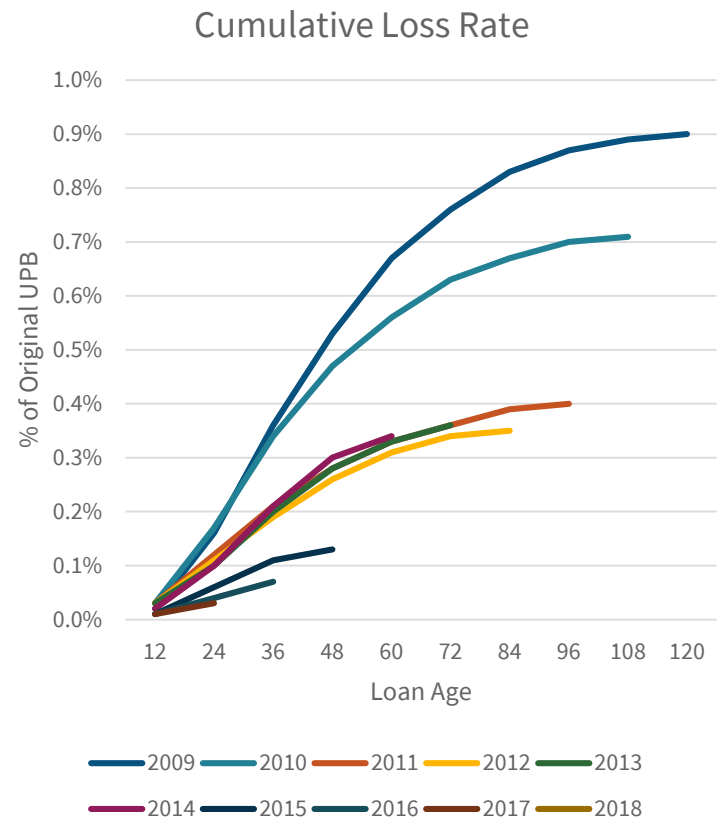
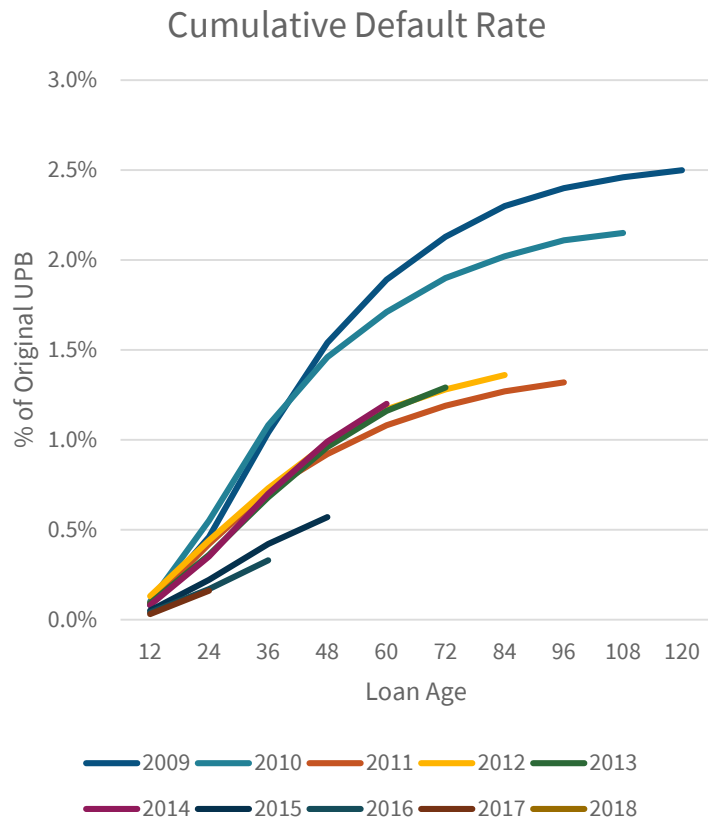
- [0-40] MTMLTV
- (40-60) MTMLTV
- (60-80) MTMLTV
- (80-105) MTMLTV
- (105-125) MTMLTV
- 125+ MTMLTV

Note: MTMLTV is calculated by marking to market the property value using Fannie Mae's zip code-level home price index.



# Credit performance exhibits tiering

Early vintages experienced additional home price depreciation through trough



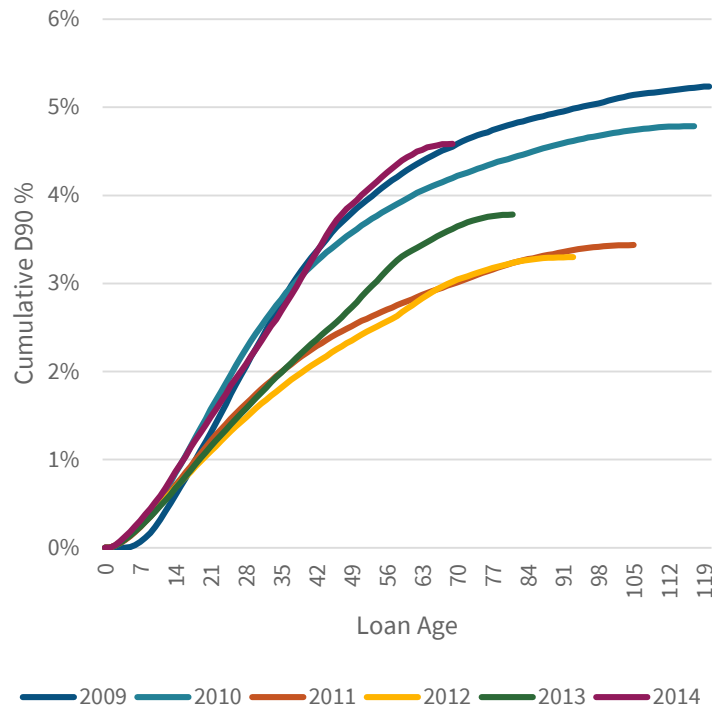
Fannie Mae Refi Plus/HARP population



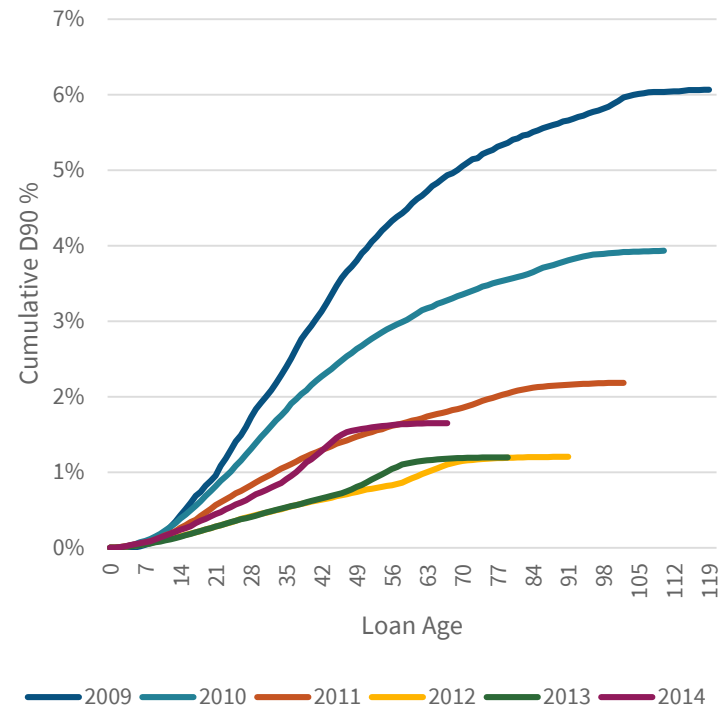
# Cumulative delinquencies low

Loans that meet deal delinquency criteria have outperformed aggregate vintage

Cumulative D90 % - All Refi Plus/HARP Loans



Cumulative D90 % - Meets Delinquency Criteria



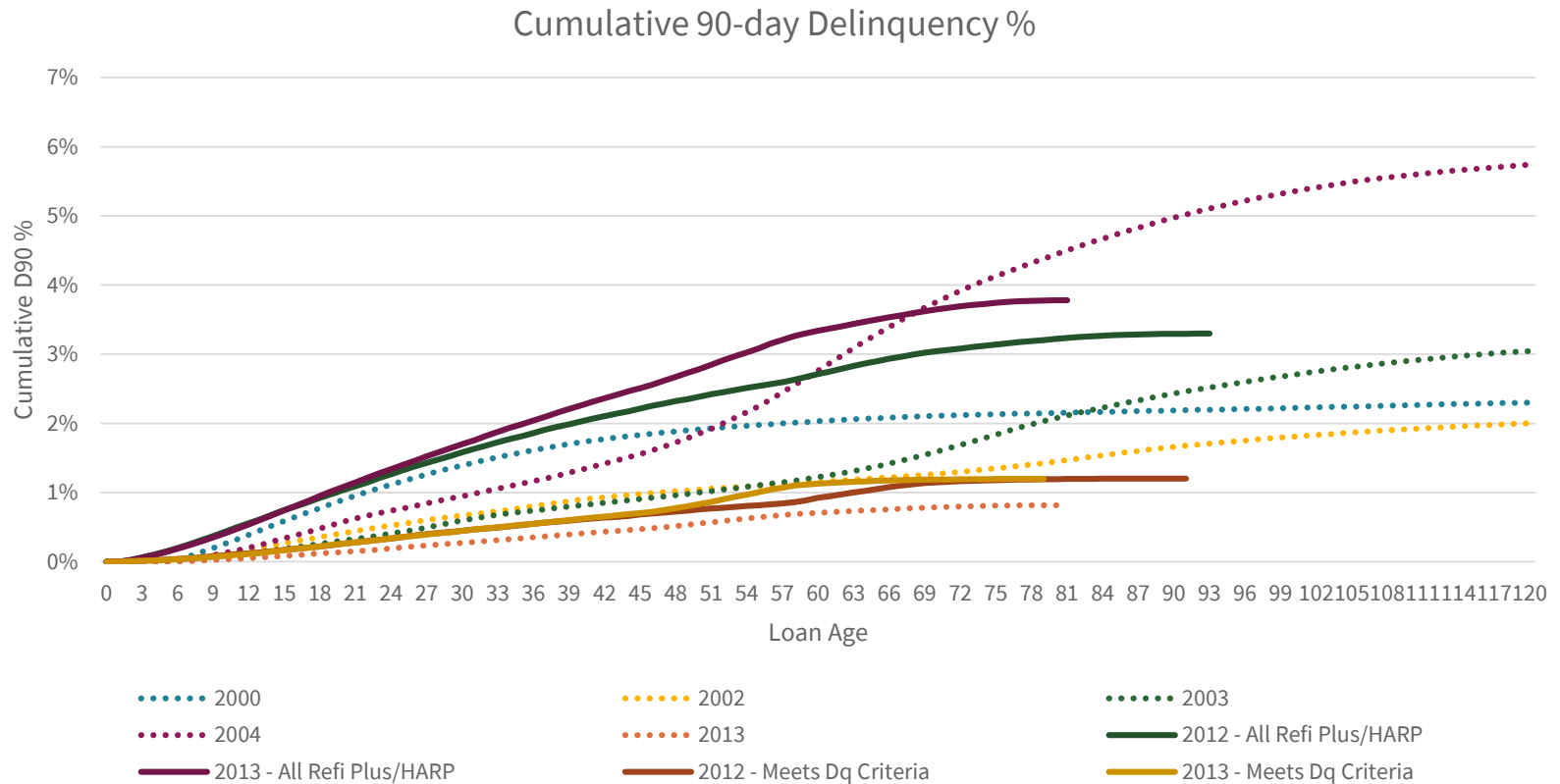
Note: Meets Delinquency Criteria includes loans that are current as of Nov-2019; loans with mark-to-market LTV greater than or equal to 40% must be 0x30 in the last 3 months and no more than 1x30 in the last 12 months. Fannie Mae Refi Plus/HARP population





# Cumulative 90-day delinquencies

Performance for loans that meet deal delinquency criteria better than 2002 vintage



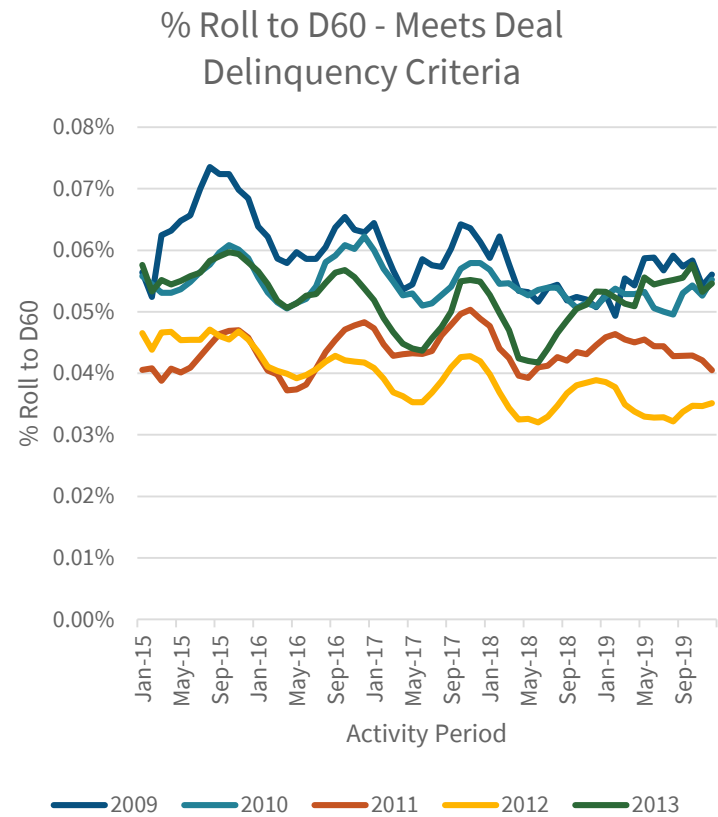
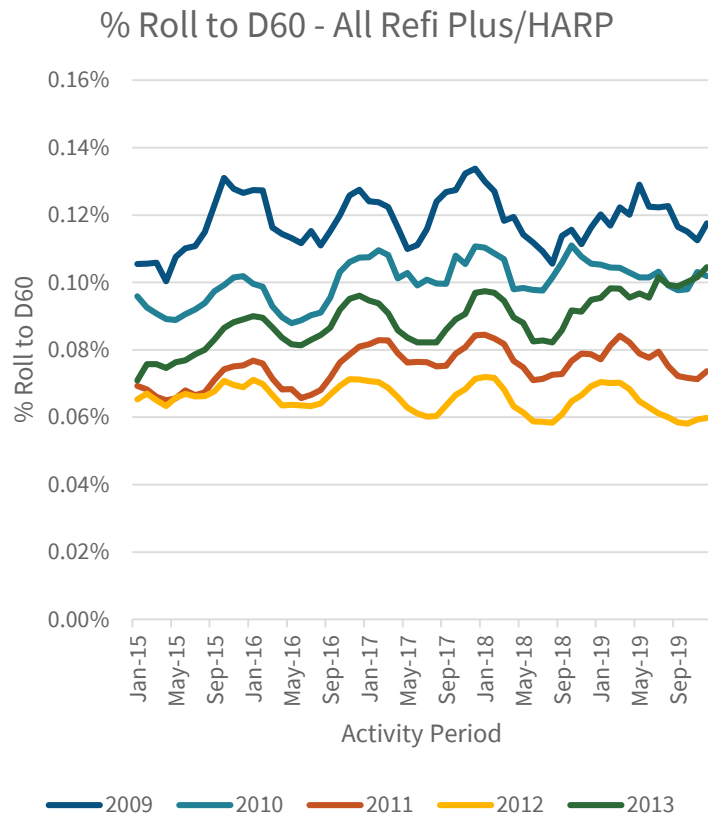
Note: Population for historical vintages includes all loan terms and all LTV ratios. Meets Dq Criteria includes loans that are current as of Nov-2019; loans with mark-to-market LTV greater than or equal to 40% must be 0x30 in the last 3 months and no more than 1x30 in the last 12 months.

Fannie Mae Refi Plus/HARP population



# Roll rates have stabilized

Rolls to D60 for Refi Plus/HARP loans meeting delinquency criteria show steady improvement

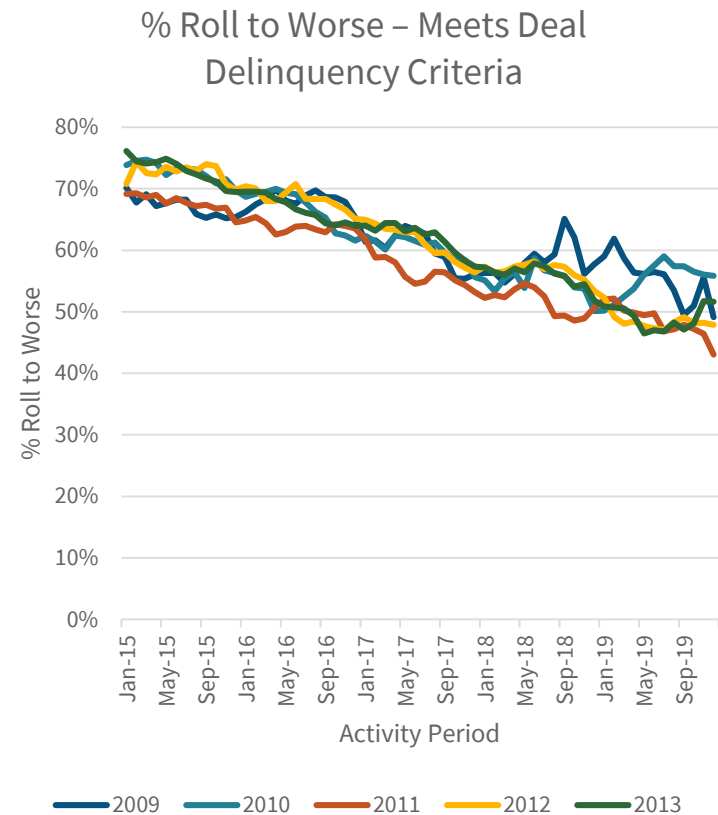
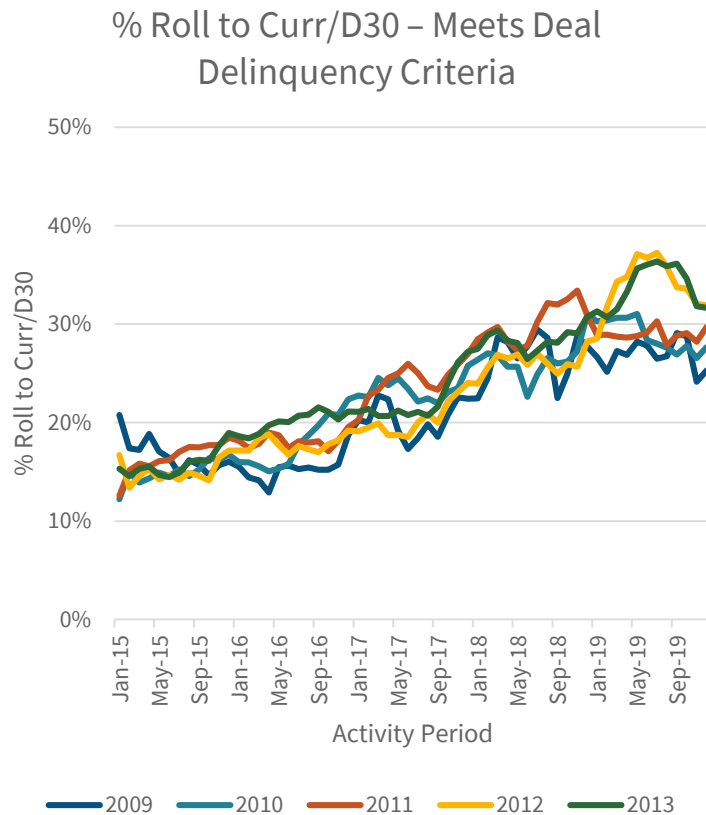


*Note: Shows 6-month moving average share of loans that were current and became 60 days delinquent two periods later. Excludes loans in hurricane-affected regions.*



# Curing has accelerated

More loans that originally met delinquency criteria are curing, fewer are rolling to worse



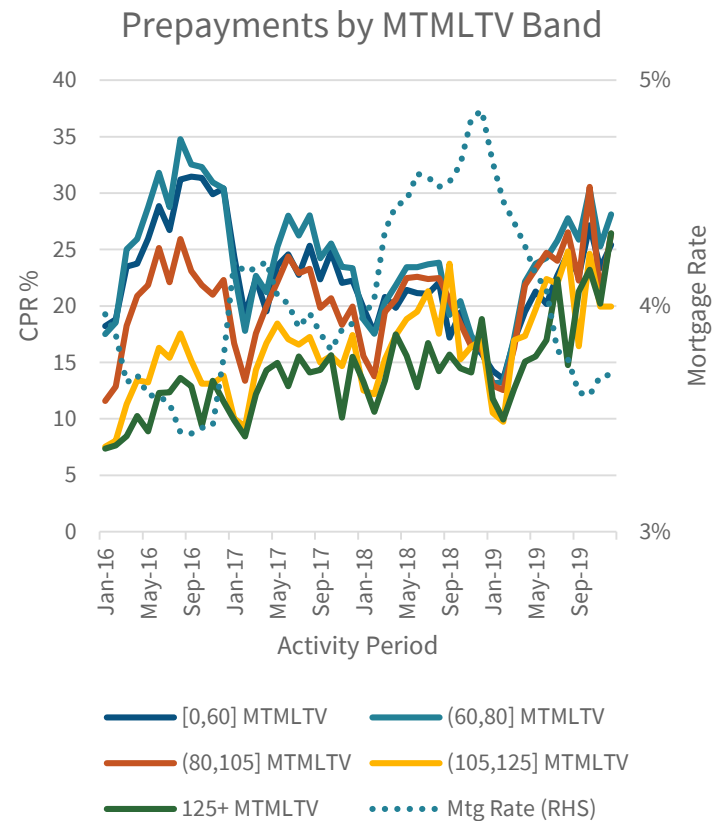
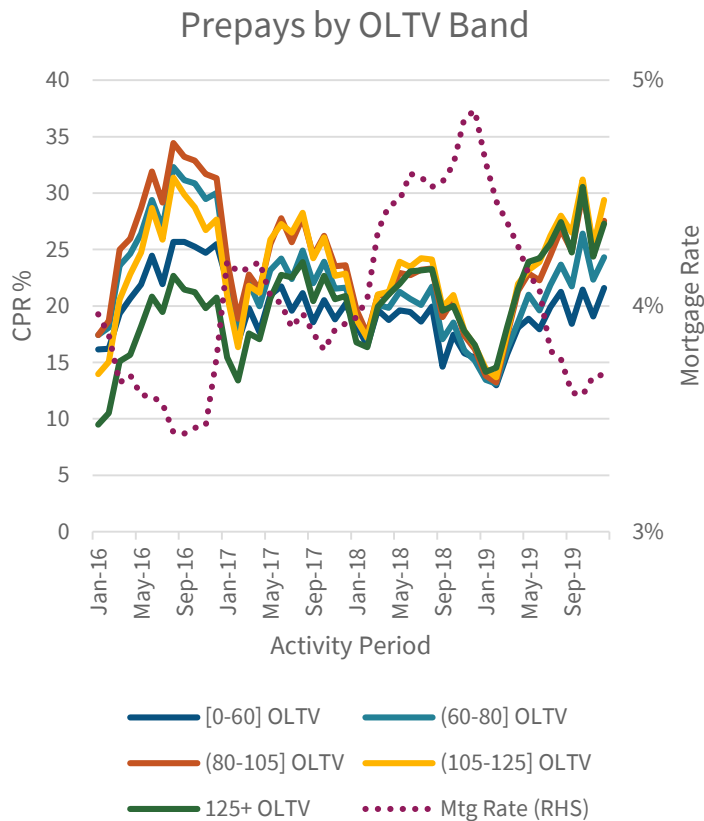
Note: Shows 6-month moving average. Excludes loans in hurricane-affected regions.

Fannie Mae Refi Plus/HARP population



# Rates, HPA are key drivers of prepaays

Refi Plus/HARP loans have exhibited sensitivity to rates as they have accumulated equity



Note: Shows prepayments for 2009-2013 vintage Refi Plus/HARP loans.

Fannie Mae Refi Plus/HARP population





# **Data Dynamics<sup>®</sup> for Refi Plus/HARP Analysis**

# Refi Plus/HARP resources

Additional reporting on Data Dynamics

## Reports

CAS    CIRT

### Credit Insurance Risk Transfer™ [CIRT™] Reports



#### Deal Issuance Data

Analyze the risk profile of Credit Insurance Risk Transfer™ (CIRT™) reference pools at issuance and as of the most recent remittance period.



#### Deal Performance Data

Analyze the performance of Credit Insurance Risk Transfer™ (CIRT™) reference pools from issuance through the most recent remittance period.



#### Historical Comparative Analysis

View historical performance by vintage reweighted by the FICO, CLTV, and risk layer composition of the UPB at issuance for each CIRT deal.



#### Geographic Deal Map

Interactive view into deal characteristics and performance by state or 3-digit zip code.

[CIRT Geographic Profile](#)

#### Historical Performance Data Dashboard

This tool provides a view into Fannie Mae Single-Family Loan Performance Data. It allows you to cut and filter the data across several dimensions to compare risk profiles and performance from delinquency, prepay, default, and loss perspectives.

[Refi Plus/HARP Historical Performance](#)

#### Download CIRT Data

[Create a Custom Download](#)

#### Updates to Downloaded Files

Dec 14 - Jan 20 (Program to Date)

Jan 2020 (Current Reporting Period)

#### Resources

[High LTV Refi Tutorial](#)  
[Manufactured Housing Data](#)  
[Replay of Data Dynamics Webinar for Reinsurers](#)  
[API Documentation](#)



# Cumulative credit performance

Track cumulative default and loss performance for Refi Plus/HARP cohorts

[← Report Menu](#)

## Refi Plus/HARP Historical Performance

← Undo → Redo ↶ Revert ↷ Refresh ⏸ Pause

RB Download Full Screen

Refi Plus Dashboard

### Refi Plus Cohort Analysis

Non-HARP/HARP Toggle      FICO      LTV      CLTV

All Refi Plus    (All)    (All)    (All)

% Remaining UPB by Acquisition Year and Loan Age

	12	24	36	48	60	72	84	96	108	120
2009	92.71%	81.63%	64.73%	47.27%	39.61%	30.89%	24.04%	18.68%	15.39%	12.49%
2010	92.88%	78.54%	61.03%	50.77%	40.98%	32.15%	25.17%	20.55%	16.77%	
2011	91.84%	77.15%	66.17%	55.31%	44.78%	35.73%	29.42%	24.36%		
2012	93.67%	85.41%	75.71%	65.03%	54.40%	46.24%	39.13%			
2013	94.43%	86.42%	76.94%	66.63%	57.58%	49.74%				
2014	93.05%	82.74%	70.84%	60.50%	51.61%					
2015	93.18%	82.71%	72.33%	62.82%						
2016	93.07%	83.43%	73.39%							
2017	92.76%	82.78%								
2018	91.93%									

Cumulative Default Rate by Acquisition Year and Loan Age

	12	24	36	48	60	72	84	96	108	120
2009	0.08%	0.46%	1.04%	1.54%	1.89%	2.13%	2.30%	2.40%	2.46%	2.50%
2010	0.10%	0.55%	1.08%	1.46%	1.71%	1.90%	2.02%	2.11%	2.15%	
2011	0.09%	0.42%	0.72%	0.92%	1.08%	1.19%	1.27%	1.32%		
2012	0.13%	0.44%	0.73%	0.98%	1.17%	1.28%	1.36%			
2013	0.09%	0.36%	0.68%	0.96%	1.16%	1.29%				
2014	0.08%	0.35%	0.70%	0.99%	1.20%					
2015	0.05%	0.22%	0.42%	0.57%						
2016	0.04%	0.17%	0.33%							
2017	0.03%	0.16%								





# Thank You

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