



Structured Agency Credit Risk Single Family Loan Level Dataset Historical Performance

March 2018

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Agenda

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Historical Loss Summary

Assumptions for Summary Severity/ Timelines /Loss Components



- To assist investors with their understanding of Freddie Mac’s historical loss experience, on the following slides we provide loss severity and liquidation timelines by origination year and judicial/non-judicial states
- Additionally, we have summarized the contributions from each of the components of net loss
 - » Net loss calculated as follows: Collateral Deficiency + Delinquent Interest + Expenses – MI Recoveries – Non MI Recoveries
- Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 81% and <= 97%.
- Assumptions/Calculations:
 - » Population includes only disposed loans with OLV between 60.01-97%
 - » Populations for this analysis = Fixed 30 loans (identified by loans with original loan term between 301 and 419 months)
 - » Loans with Repurchase flag = Y have been set to zero loss
 - » “FA” references liquidations through foreclosure alternatives
 - » “J” indicates judicial states; “NJ” indicates non-judicial states
 - » Timelines are in months weighted by default UPB
 - » If default UPB on last record is zero, the prior period default UPB was used
 - » Calculation for Collateral Deficiency: default UPB – net sales proceeds
 - » Calculation for Delinquent Interest is = default UPB * (current interest rate – 0.35%) * days delinquent / 360 /100
 - » For Net Sales proceeds = “C”; set loss = zero
 - » For Net Sales proceeds = “U”; removed from population if applicable
 - » Severity is net loss/default UPB
 - » Judicial states: CT, DE, FL, HI, IA, IL, IN, KS, KY, LA, ME, ND, NE, NJ, NM, NY, OH, OK, OR, PA, PR, SC, SD, VI, WI

Disclosed Loan-Level Fields

For more information on file layout and field definition, please refer to the *STACR Reference Pool Disclosure Guide* (http://www.freddiemac.com/creditriskofferings/docs/reference_pool_disclosure_guide.pdf).

#	Field Name	Historical	Actual Loss STACR	#	Field Name	Historical	Actual Loss STACR
1	Adjusted Remaining Months to Maturity (aka RMM)		X	15	Modification Flag	X	X
2	Channel (aka TPO Flag)	X	X	16	Mortgage Insurance Percentage (MI %)	X	X
3	Credit Score	X	X	17	Number of Borrowers	X	X
4	Current Actual UPB	X	X	18	Number of Units	X	X
5	Current Interest Rate	X	X	19	Occupancy Status	X	X
6	Current Loan Delinquency Status	X	X	20	Original Combined Loan-to-Value (CLTV)	X	X
7	First Payment Date	X	X	21	Original Debt-to-Income Ratio (DTI)	X	X
8	First Time Homebuyer	X	X	22	Original Interest Rate (aka Note Rate)	X	X
9	Current Interest Bearing UPB (for modified loans)		X	23	Original Loan-to-Value (LTV)	X	X
10	Loan Age	X	X	24	Original Loan Term	X	X
11	Loan Purpose	X	X	25	Original UPB (aka Mortgage Loan Amount)	X	X
12	Loan Identifier (aka Loan Sequence Number)	X	X	26	Payment History	D	X
13	Maturity Date	X	X	27	Postal Code (3 digit)	X	X
14	Metropolitan Statistical Area (MSA)	X	X	28	Prepayment Penalty Indicator (aka PPM Flag)	X	X

D = not disclosed, but derivable from other disclosed fields.

Disclosed Loan-Level Fields (cont.)

#	Field Name	Historical	Actual Loss STACR	#	Field Name	Historical	Actual Loss STACR
29	Product Type	X	X	45	Non MI Recoveries	X	
30	Property State	X	X	46	Expenses	X	
31	Property Type	X	X	47	Taxes and Insurance		X
32	Remaining Months to Legal Maturity	X	X	48	Legal Costs		X
33	Underwriting Defect or Major Servicing Defect Settlement Date*		X	49	Maintenance and Preservation Costs		X
34	Repurchase Flag	X		50	Bankruptcy Cramdown Costs		X
35	Seller Name	X	X	51	Miscellaneous Expenses		X
36	Servicer Name	X	X	52	Miscellaneous Credits		X
37	UPB at Issuance		X	53	Loan in Eligible Disaster Area		X
38	UPB at Time of Removal from the Reference Pool	D	X	54	Bankruptcy Flag		X
39	Zero Balance Code	X	X	55	Date Referred to Foreclosure		X
40	Zero Balance Effective Date	X	X	56	MI Credit		X
41	Current Deferred UPB	X		57	Estimated LTV (at issuance for seasoned collateral only)		X
42	Due Date of Last Paid Installment*	X	X	58	Updated Credit Score (at issuance for seasoned collateral only)		X
43	MI Recoveries	X		59	Mortgage Insurance Cancellation Indicator		X
44	Net Sales Proceeds*	X	X	60	MI: Lender Paid or Borrower Paid		X

D = not disclosed, but derivable from other disclosed fields.

Disclosed Loan-Level Fields (cont.)

#	Field Name	Historical	Actual Loss STACR	#	Field Name	Historical	Actual Loss STACR
60	Estimated LTV - Updated Quarterly		X	67	Modification Debt-to-Income Ratio		X
61	Forecast Standard Deviation (FSD) - Updated Quarterly		X	68	Total Capitalized Amount		X
62	Updated Credit Score - Updated Quarterly		X	69	Interest Rate Step Indicator		X
63	Number of Modifications		X	70	First to Fifth Step Rate Adjustment Date		X
64	Modification Program		X	71	First to Fifth Step Rate		X
65	Modification Type		X	72	Delinquent Accrued Interest		X
66	Modification First Payment Date		X	73	Modification Costs		X

Net Loss Comparison DN vs. HQ

Net Loss Analysis (All 80-97% LTV vs. 60-80% LTV)



Origination Year	80.01-97 LTV (HQ-HQA Series)*					60-80 LTV (DN-DNA Series)*					Net Loss Ratios (80-97 LTV/60-80 LTV)
	Loan Count	Default Rate	Severity Rate	Net Loss Rate	Timeline DDLPI to Disposition	Loan Count	Default Rate	Severity Rate	Net Loss Rate	Timeline DDLPI to Disposition	
1999-2004	81,965	3.3%	25.4%	0.8%	20	84,068	1.2%	39.3%	0.5%	22	1.70
2005	21,246	11.4%	35.6%	4.1%	23	59,735	6.7%	48.2%	3.2%	22	1.25
2006	20,189	14.3%	36.8%	5.3%	23	64,458	9.1%	52.6%	4.8%	22	1.10
2007	29,790	16.1%	35.1%	5.7%	23	60,202	9.2%	52.2%	4.8%	22	1.18
2008	18,580	9.6%	30.4%	2.9%	22	29,064	4.7%	48.9%	2.3%	23	1.28
2009	2,102	1.6%	18.1%	0.3%	18	8,227	0.7%	37.8%	0.3%	21	1.02
2010	603	0.6%	14.7%	0.1%	18	2,321	0.3%	34.4%	0.1%	21	0.88
2011	298	0.3%	12.1%	0.0%	17	727	0.1%	33.3%	0.0%	19	0.89
2012-2016	764	0.0%	7.8%	0.0%	15	751	0.0%	24.9%	0.0%	16	0.87
Total	175,537	3.4%	30.8%	1.1%	22	309,553	2.2%	48.1%	1.1%	22	0.99

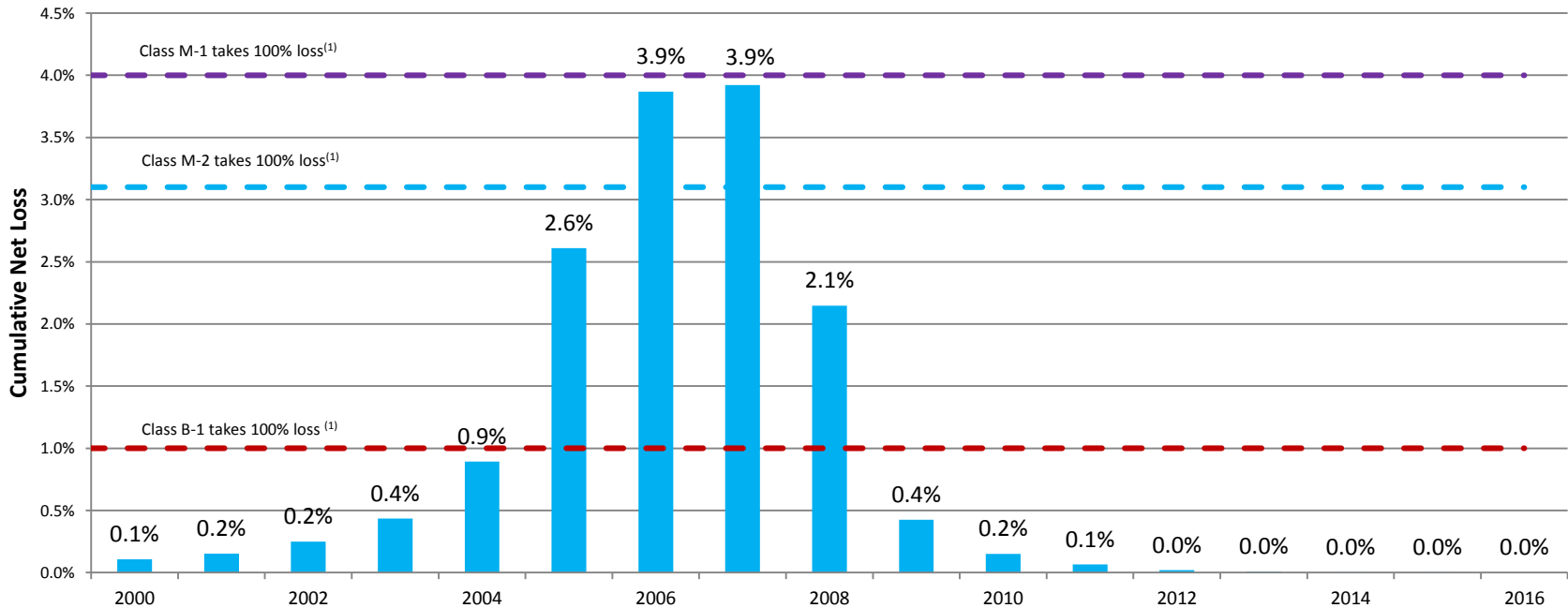
- The net loss rates for the HQ/HQA Series above are based on MI recovery, while MI Credit for STACR Investors is based on MI claim amount.

Notes: Data included in tables were derived from Freddie Mac's Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. STACR DN-DNA Series (issued beginning in 2013) and HQ-HQA Series (issued beginning in 2014) reference 60.01-80 LTV and 80.01-97 LTV 241 – 360 months fixed rate collateral. STACR pools are a subset of the population of loans in the above table.

DN/A (60-80 LTV) Series Historical Performance

STACR Series 2018-DNA1 Proxy Cohort Performance

Reference Pool Proxy



For Freddie Mac data above:

- Net Losses are calculated as noted on the “Actual Loss Calculation” slide:
Collateral Deficiency + Delinquent Interest + Expenses – MI Recoveries – Non MI Recoveries
- Freddie Mac data does not include bulk settlements
- Assumes 35bps g-fee to calculate delinquent interest
- Collateral Deficiency: Defaulted UPB – Net Sales Proceeds
- Loans with Repurchase flag = Y have been set to zero loss

Notes: Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999- June 30, 2017 losses reported for loans liquidated as of 1Q2017. Cumulative Losses do not include modification losses. Data is weighted in proportion to 2018-DNA1 FICO and LTV cohorts.

(1) Assuming no principal payments.

Loss Components by Disposition & Origination Year (All 60.01-80% LTV)



All Default Loans 60-80 LTV

Disposition Yr	Loan Count	Default UPB	Net Loss	Severity %	As Percentage of Net Loss					
					Collateral Loss	Expenses	MI Recoveries	Non-MI Recoveries	Delinquent Interest	Timeline (months)
99-2004	8,817	889,796,431	129,462,496	15%	43%	36%	-2%	-11%	35%	14
2005	4,032	397,321,897	92,069,632	23%	46%	30%	-1%	-5%	29%	15
2006	4,054	406,743,615	109,275,429	27%	53%	26%	-1%	-5%	27%	16
2007	5,001	575,712,238	151,877,471	26%	56%	25%	0%	-4%	23%	15
2008	8,824	1,345,938,566	425,833,627	32%	70%	15%	0%	-3%	17%	13
2009	20,363	3,674,290,984	1,486,396,365	40%	77%	11%	0%	-2%	14%	13
2010	39,964	7,391,530,392	3,416,022,137	46%	77%	10%	0%	-2%	15%	15
2011	49,454	9,283,212,198	4,809,556,474	52%	75%	11%	0%	-2%	16%	18
2012	52,252	9,503,158,548	4,782,637,933	50%	70%	14%	0%	-2%	18%	20
2013	36,774	6,084,451,358	3,027,450,501	50%	59%	21%	0%	-2%	22%	25
2014	31,556	4,988,881,873	2,816,105,623	56%	49%	27%	0%	-2%	27%	34
2015	23,915	3,889,338,751	2,205,171,963	57%	47%	27%	0%	-2%	28%	36
2016	18,686	3,196,116,938	1,654,563,137	52%	49%	26%	0%	-2%	28%	33
2017	5,861	941,292,742	159,844,591	17%	45%	32%	0%	-3%	26%	26
Total	309,553	52,567,786,531	25,266,267,379	48%	65%	18%	0%	-2%	20%	22

Origination Yr	Loan Count	Default UPB	Net Loss	Severity %	As Percentage of Net Loss					
					Collateral Loss	Expenses	MI Recoveries	Non-MI Recoveries	Delinquent Interest	Timeline (months)
99-2004	84,068	9,764,362,196	3,841,777,378	39%	52%	29%	0%	-4%	23%	22
2005	59,735	10,805,362,582	5,208,245,513	48%	66%	17%	0%	-2%	19%	22
2006	64,458	12,534,961,583	6,589,358,091	53%	68%	14%	0%	-2%	19%	22
2007	60,202	11,577,651,103	6,039,204,024	52%	68%	14%	0%	-2%	19%	22
2008	29,064	5,740,899,575	2,809,024,749	49%	65%	16%	0%	-2%	21%	23
2009	8,227	1,557,094,606	588,070,045	38%	60%	22%	0%	-2%	20%	21
2010	2,321	368,348,236	126,730,623	34%	55%	28%	0%	-3%	21%	21
2011	727	110,942,506	36,953,153	33%	55%	29%	0%	-3%	19%	19
2012	347	51,694,092	14,514,827	28%	59%	29%	0%	-3%	16%	18
2013	244	35,961,230	8,148,964	23%	65%	23%	0%	-4%	17%	16
2014	120	15,705,693	3,477,600	22%	67%	21%	0%	-4%	16%	14
2015	35	3,711,517	762,412	21%	81%	16%	0%	-2%	6%	10
2016	5	1,091,612	0	0%	0%	0%	0%	0%	0%	22
Total	309,553	52,567,786,531	25,266,267,379	48%	65%	18%	0%	-2%	20%	22

Notes: Performance data: 1999-2Q2017, losses reported for loans liquidated as of 1Q2017
Cumulative Losses do not include modification losses

STACR Series 2018-DNA1 Historical Cohort Performance (60% < LTV <= 80%)



- Summary collateral characteristics for the different vintages are seen below
- Analysis and stratifications only include loans with LTVs between 60% and 80%

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	13- DN1	13- DN2	14- DN1	14- DN2	14- DN3	14- DN4	15- DN1	15- DNA1	15- DNA2	15- DNA3	16- DNA1	16- DNA2	16- DNA3	16- DNA4	17- DNA1	17- DNA2	17- DNA3	18- DNA1
Orig UPB (\$BN)	58	163	163	197	124	162	139	127	124	213	120	86	120	23	36	33	28	20	16	28	32	32	35	36	30	26	25	34	61	56	35
WA FICO	718	717	720	725	720	723	725	726	741	762	762	763	766	766	764	761	760	755	753	753	766	752	754	754	752	748	748	751	751	749	747
WA DTI (%)	35	33	34	33	35	37	38	38	38	33	34	34	32	32	32	33	33	35	35	35	32	35	35	35	35	35	35	35	35	35	36
WA OCLTV (%)	77	77	77	76	78	78	79	80	77	76	76	76	76	76	75	76	76	77	77	77	76	77	76	76	77	76	76	76	76	76	77
WA OLTV (%)	76	76	75	75	76	76	76	76	75	74	75	75	75	75	74	75	75	76	76	76	74	76	75	75	76	75	75	75	75	75	76
% Owner Occ.	91	93	93	94	92	93	91	89	87	92	89	88	89	89	89	86	88	86	85	86	89	86	87	87	86	85	85	87	88	87	83
FICO Score Range																															
0-679	23%	23%	22%	19%	23%	22%	22%	22%	12%	3%	3%	3%	2%	2%	2%	3%	3%	5%	6%	6%	2%	6%	5%	5%	6%	8%	8%	7%	6%	7%	9%
680-719	22%	23%	22%	22%	23%	22%	22%	22%	19%	11%	12%	11%	10%	10%	11%	13%	14%	16%	17%	17%	11%	18%	17%	17%	18%	19%	19%	18%	18%	19%	19%
720-759	29%	28%	28%	29%	27%	25%	24%	23%	26%	26%	24%	23%	23%	22%	24%	24%	25%	26%	26%	25%	23%	25%	26%	26%	26%	26%	26%	26%	26%	27%	26%
760-779	15%	15%	15%	17%	15%	14%	14%	14%	17%	22%	20%	21%	21%	20%	21%	20%	20%	19%	18%	18%	21%	17%	18%	18%	17%	16%	17%	17%	17%	17%	16%
> 780	10%	11%	12%	13%	12%	17%	18%	20%	26%	39%	40%	42%	44%	45%	42%	40%	38%	34%	33%	35%	44%	34%	34%	34%	33%	31%	30%	32%	32%	30%	30%

Severity Rates and Disposition Timelines

(All 60.01-80% LTV)



All Defaulted 60-80 LTV Loans
Severity Rates by Disposition & Origination Year

Disposition Yr	Origination Year																																																Total
	99-04			2005			2006			2007			2008			2009			2010			2011			2012			2013			2014			2015			2016												
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ										
99-04	15	19	12																																												15		
2005	23	30	19	2	-	3																																										23	
2006	28	35	22	10	16	8																																											27
2007	30	37	25	18	22	16	14	16	14	9	-	11																																				26	
2008	36	40	34	32	32	32	29	30	28	23	25	22	31	30	32																																	32	
2009	39	44	37	43	44	43	42	42	43	37	37	38	30	26	31	21	40	14																														40	
2010	42	46	40	48	49	47	50	51	49	46	48	46	40	42	40	30	29	30	2	3	-																											46	
2011	46	51	44	52	54	52	56	58	55	54	58	53	48	55	46	34	39	32	28	37	25	26	64	2																							52		
2012	45	51	42	50	55	48	55	61	51	54	61	50	48	56	44	36	42	33	27	28	26	21	13	23																							50		
2013	43	51	37	48	57	41	55	63	47	54	64	46	51	61	43	36	42	33	32	37	29	32	25	35	13	29	9																				50		
2014	49	55	42	55	64	43	62	71	50	62	71	51	58	68	48	41	48	35	38	44	33	32	36	27	28	32	26	28	47	22															57				
2015	49	56	39	55	63	44	63	70	50	63	71	51	61	68	49	44	50	36	40	46	33	38	45	33	38	39	35	27	32	24	33	37	31													57			
2016	50	58	37	48	59	34	53	65	37	58	67	43	57	65	43	46	52	36	41	45	35	40	44	34	30	33	26	31	35	27	26	34	23	22	41	19	31	19	31					52					
2017	23	28	16	16	20	11	16	20	11	17	23	11	15	18	10	17	20	14	18	18	16	18	22	13	16	19	12	10	13	7	11	10	12	15	20	12	-	12	-					17					
Total	39	46	35	48	54	45	53	59	48	52	60	47	49	58	43	38	45	33	35	40	30	34	38	30	29	33	26	24	28	21	22	24	21	19	25	16	4	16	31					48					

Disposition Timelines (# months delinquent at disposition)

Disposition Yr	Origination Year																																																Total
	99-04			2005			2006			2007			2008			2009			2010			2011			2012			2013			2014			2015			2016												
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ										
99-04	14	16	13	-																																												14	
2005	15	18	14	4	6	4																																											15
2006	16	18	14	9	10	9	7	-	7																																								16
2007	16	18	14	12	14	11	10	11	9	6	7	6																																					15
2008	15	18	14	13	15	12	12	13	11	10	9	10	5	5	4																																		13
2009	16	19	14	14	15	13	13	14	13	12	13	12	10	10	11	4	5	4																															13
2010	17	21	15	15	18	14	15	17	14	15	17	15	14	15	13	10	10	10	7	7	7																												15
2011	19	23	18	18	21	17	18	21	17	18	20	17	17	19	16	13	14	12	9	10	9	5	4	6																								18	
2012	22	27	19	20	25	18	20	25	18	20	25	18	19	23	17	14	16	14	12	13	12	10	9	10	5	-	5																					20	
2013	26	31	22	25	31	20	25	31	20	25	30	20	25	30	21	19	21	17	16	18	15	13	11	14	10	9	10																				25		
2014	32	38	26	34	40	28	36	41	29	35	40	29	34	39	28	24	28	21	20	22	19	18	19	17	14	15	13	11	12	-																34			
2015	37	43	28	37	43	29	38	43	30	37	42	30	37	42	30	28	31	23	24	26	22	20	21	19	17	18	15	13	14	10																36			
2016	34	41	24	31	38	21	32	40	20	35	41	25	37	43	26	30	34	24	25	28	22	22	24	20	19	20	19	18	19	15	14	14	14	15	8	4	8	9	8	8					33				
2017	33	39	24	26	34	16	24	30	17	23	31	15	26	33	17	28	32	24	29	33	24	24	25	23	23	27	18	18	20	14	15	16	14	13	12	14	10	14	14					26					
Total	22	28	18	22	29	18	22	29	18	22	29	18	23	19	21	25	17	21	24	18	19	21	18	18	19	16	16	18	14	14	14	14	10	10	11	10	11	11							22				

Notes: Performance data: 1999-2Q2017, losses reported for loans liquidated as of 1Q2017
Cumulative Losses do not include modification losses

DN Proxy Cohort Historical Delinquency Roll Rates

2000 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	47%	39%	14%	0%	0%	0%	0%	0%
60	21%	19%	28%	32%	0%	0%	0%	0%
90	11%	6%	10%	18%	55%	0%	0%	0%
120	10%	2%	2%	6%	14%	67%	0%	0%
150	9%	1%	1%	1%	5%	14%	68%	0%
180	8%	1%	0%	1%	1%	5%	14%	71%
180+	3%	0%	0%	0%	0%	0%	1%	95%

2003 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	43%	42%	15%	0%	0%	0%	0%	0%
60	13%	16%	36%	34%	0%	0%	0%	0%
90	7%	4%	10%	24%	55%	0%	0%	0%
120	7%	1%	2%	5%	17%	68%	0%	0%
150	7%	1%	1%	1%	4%	16%	70%	0%
180	6%	0%	0%	0%	1%	4%	15%	74%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2001 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	47%	40%	13%	0%	0%	0%	0%	0%
60	18%	19%	31%	32%	0%	0%	0%	0%
90	10%	5%	10%	21%	54%	0%	0%	0%
120	9%	2%	2%	6%	16%	66%	0%	0%
150	8%	1%	1%	2%	5%	15%	68%	0%
180	7%	1%	0%	1%	1%	5%	15%	70%
180+	3%	0%	0%	0%	0%	0%	1%	95%

2004 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	39%	44%	17%	0%	0%	0%	0%	0%
60	12%	15%	36%	36%	0%	0%	0%	0%
90	7%	3%	9%	23%	57%	0%	0%	0%
120	7%	1%	2%	5%	17%	69%	0%	0%
150	7%	1%	1%	1%	4%	15%	72%	0%
180	6%	0%	0%	0%	1%	3%	14%	75%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2002 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	44%	41%	14%	0%	0%	0%	0%	0%
60	15%	18%	34%	32%	0%	0%	0%	0%
90	8%	5%	10%	23%	54%	0%	0%	0%
120	8%	1%	2%	6%	16%	67%	0%	0%
150	8%	1%	1%	1%	4%	15%	71%	0%
180	6%	0%	0%	0%	1%	4%	15%	72%
180+	3%	0%	0%	0%	0%	0%	1%	95%

2005 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	34%	45%	21%	0%	0%	0%	0%	0%
60	10%	13%	36%	41%	0%	0%	0%	0%
90	6%	2%	7%	22%	63%	0%	0%	0%
120	6%	1%	1%	4%	16%	72%	0%	0%
150	6%	0%	0%	1%	3%	15%	75%	0%
180	5%	0%	0%	0%	1%	3%	13%	78%
180+	3%	0%	0%	0%	0%	0%	0%	97%

Notes: Data included in tables were derived from Freddie Mac's Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 60% and <= 80%. Values represent the monthly average proportion UPB with beginning delinquency status (indicated by row heading) that transitions into the ending delinquency status (as indicated by column heading). Data is weighted in proportion to 2018-DNA1 FICO and LTV cohorts. Current loans also include voluntary prepayments and repurchases. 180+ also includes liquidations.

DN Proxy Cohort Historical Delinquency Roll Rates (contd.)



2006 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	31%	46%	23%	0%	0%	0%	0%	0%
60	9%	12%	35%	44%	0%	0%	0%	0%
90	5%	2%	6%	20%	66%	0%	0%	0%
120	5%	1%	1%	3%	15%	74%	0%	0%
150	5%	0%	0%	1%	2%	13%	77%	0%
180	5%	0%	0%	0%	0%	2%	12%	80%
180+	3%	0%	0%	0%	0%	0%	0%	97%

2009 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	42%	43%	15%	0%	0%	0%	0%	0%
60	13%	15%	34%	38%	0%	0%	0%	0%
90	7%	3%	8%	20%	61%	0%	0%	0%
120	7%	1%	1%	4%	14%	73%	0%	0%
150	8%	0%	0%	1%	3%	13%	75%	0%
180	6%	0%	0%	0%	0%	2%	11%	80%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2007 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	30%	47%	23%	0%	0%	0%	0%	0%
60	8%	12%	35%	44%	0%	0%	0%	0%
90	5%	2%	6%	20%	66%	0%	0%	0%
120	5%	1%	1%	3%	15%	74%	0%	0%
150	6%	0%	0%	1%	2%	14%	77%	0%
180	5%	0%	0%	0%	0%	2%	12%	80%
180+	3%	0%	0%	0%	0%	0%	0%	97%

2010 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	49%	37%	14%	0%	0%	0%	0%	0%
60	15%	16%	34%	35%	0%	0%	0%	0%
90	9%	4%	9%	20%	58%	0%	0%	0%
120	8%	1%	1%	4%	16%	70%	0%	0%
150	9%	0%	0%	1%	3%	17%	70%	0%
180	8%	0%	0%	0%	1%	2%	13%	76%
180+	4%	0%	0%	0%	0%	0%	0%	96%

2008 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	32%	47%	22%	0%	0%	0%	0%	0%
60	9%	12%	37%	42%	0%	0%	0%	0%
90	6%	2%	7%	21%	64%	0%	0%	0%
120	6%	1%	1%	3%	16%	73%	0%	0%
150	6%	0%	0%	1%	2%	14%	76%	0%
180	6%	0%	0%	0%	1%	2%	12%	79%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2011 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	52%	35%	13%	0%	0%	0%	0%	0%
60	17%	17%	33%	33%	0%	0%	0%	0%
90	10%	4%	11%	21%	54%	0%	0%	0%
120	9%	1%	2%	3%	17%	67%	0%	0%
150	10%	0%	1%	0%	3%	18%	68%	0%
180	9%	1%	0%	0%	1%	3%	15%	72%
180+	5%	0%	0%	0%	0%	0%	0%	94%

Notes: Data included in tables were derived from Freddie Mac's Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 60% and <= 80%. Values represent the monthly average proportion UPB with beginning delinquency status (indicated by row heading) that transitions into the ending delinquency status (as indicated by column heading). Data is weighted in proportion to 2018-DNA1 FICO and LTV cohorts. Current loans also include voluntary prepayments and repurchases. 180+ also includes liquidations.

DN Proxy Cohort Historical Delinquency Roll Rates (contd.)



2012 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	61%	30%	9%	0%	0%	0%	0%	0%
60	22%	16%	30%	32%	0%	0%	0%	0%
90	12%	5%	9%	18%	56%	0%	0%	0%
120	9%	1%	2%	4%	16%	68%	0%	0%
150	10%	1%	0%	0%	2%	17%	69%	0%
180	10%	1%	0%	1%	0%	2%	14%	73%
180+	6%	0%	0%	0%	0%	0%	0%	93%

2014 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	61%	28%	10%	0%	0%	0%	0%	0%
60	24%	16%	28%	32%	0%	0%	0%	0%
90	11%	5%	8%	20%	56%	0%	0%	0%
120	8%	2%	1%	4%	21%	63%	1%	0%
150	11%	1%	0%	1%	3%	22%	62%	0%
180	9%	0%	0%	1%	1%	2%	16%	70%
180+	7%	0%	0%	0%	0%	0%	1%	92%

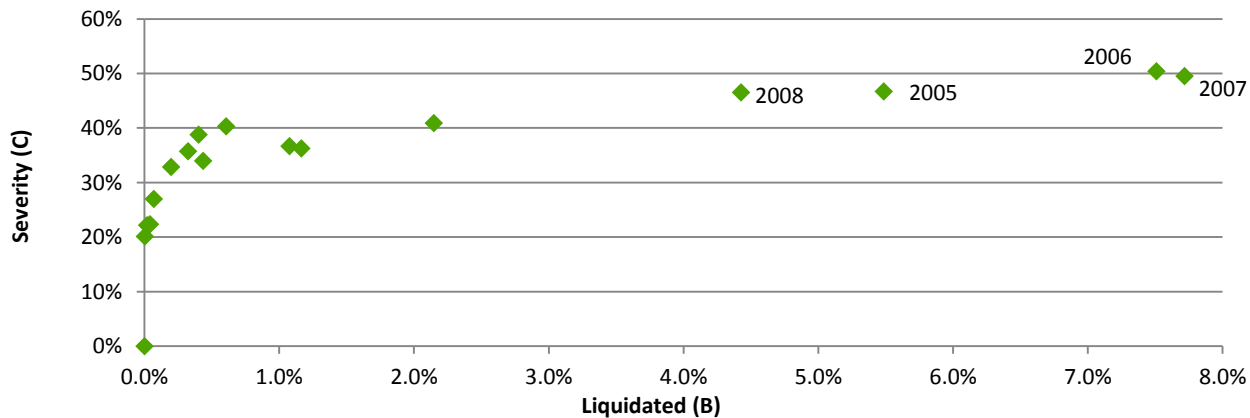
2013 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	61%	29%	9%	0%	0%	0%	0%	0%
60	22%	15%	29%	33%	0%	0%	0%	0%
90	10%	4%	8%	22%	55%	0%	0%	0%
120	9%	1%	2%	5%	22%	61%	0%	0%
150	13%	0%	1%	1%	2%	21%	62%	0%
180	11%	0%	0%	0%	1%	3%	15%	70%
180+	5%	0%	0%	0%	0%	0%	0%	94%

2015 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	69%	23%	8%	0%	0%	0%	0%	0%
60	27%	16%	22%	35%	0%	0%	0%	0%
90	15%	3%	7%	16%	59%	0%	0%	0%
120	9%	1%	1%	2%	17%	70%	0%	0%
150	8%	1%	0%	0%	2%	19%	69%	0%
180	12%	1%	0%	0%	0%	3%	20%	64%
180+	7%	0%	0%	0%	0%	0%	1%	91%

Notes: Data included in tables were derived from Freddie Mac's Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 60% and <= 80%. Values represent the monthly average proportion UPB with beginning delinquency status (indicated by row heading) that transitions into the ending delinquency status (as indicated by column heading). Data is weighted in proportion to 2018-DNA1 FICO and LTV cohorts. Current loans also include voluntary prepayments and repurchases. 180+ also includes liquidations.

DN Proxy Cohort Historical Severities

Vintage	Cum D180 (A)	Liquidated (B)	Severity (C)	Cum. Loss (D=B*C)
2000	0.7%	0.3%	35.8%	0.1%
2001	0.8%	0.4%	38.8%	0.2%
2002	1.2%	0.6%	40.3%	0.2%
2003	2.4%	1.2%	36.3%	0.4%
2004	4.1%	2.1%	40.9%	0.9%
2005	8.2%	5.5%	46.7%	2.6%
2006	10.5%	7.5%	50.4%	3.8%
2007	11.3%	7.7%	49.5%	3.8%
2008	6.7%	4.4%	46.6%	2.1%
2009	1.3%	1.1%	36.7%	0.4%
2010	0.7%	0.4%	34.0%	0.1%
2011	0.4%	0.2%	32.9%	0.1%
2012	0.2%	0.1%	27.0%	0.0%
2013	0.2%	0.0%	22.3%	0.0%
2014	0.1%	0.0%	22.2%	0.0%
2015	0.1%	0.0%	20.1%	0.0%
2016	0.0%	0.0%	0.0%	0.0%



Notes: Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 60% and <= 80%.
 Loans with Repurchase flag = Y have been set to zero loss
 Cumulative Losses do not include modification losses
 Data is weighted in proportion to 2018-DNA1 FICO and LTV cohorts

DN Proxy Cohort Historical Modifications

Proxy Cohort Stats as of March 31, 2017

Vintage	Current Pool Factor	Cumulative Principal Loss	Cumulative Modification Loss ⁽¹⁾	Modification Loss as % of Principal Loss	Ever modified %	Proxy Cohort Stats as of March 31, 2017		
						Orig WAC	Current WAC	Current Mod WAC SF
2000	0.28%	0.12%	0.01%	8%	0.15%	8.07%	7.80%	0.27%
2001	0.75%	0.16%	0.02%	11%	0.23%	6.94%	6.65%	0.29%
2002	1.70%	0.24%	0.04%	16%	0.42%	6.50%	6.16%	0.34%
2003	4.60%	0.42%	0.09%	22%	0.99%	5.72%	5.49%	0.23%
2004	5.66%	0.88%	0.20%	22%	1.78%	5.80%	5.50%	0.30%
2005	7.07%	2.56%	0.51%	20%	3.51%	5.81%	5.32%	0.49%
2006	5.96%	3.78%	0.85%	23%	4.60%	6.38%	5.41%	0.96%
2007	7.12%	3.82%	1.02%	27%	5.33%	6.30%	5.33%	0.97%
2008	6.48%	2.06%	0.64%	31%	3.55%	6.01%	5.33%	0.68%
2009	14.67%	0.39%	0.02%	6%	0.59%	5.02%	4.96%	0.06%
2010	23.80%	0.15%	0.01%	5%	0.33%	4.79%	4.68%	0.11%
2011	29.96%	0.06%	0.00%	4%	0.20%	4.58%	4.47%	0.11%
2012	60.87%	0.02%	0.00%	3%	0.08%	3.81%	3.77%	0.04%
2013	62.91%	0.01%	0.00%	5%	0.09%	4.0%	3.92%	0.08%
2014	59.93%	0.00%	0.00%	11%	0.09%	4.40%	4.37%	0.02%
2015	81.65%	0.00%	0.00%	7%	0.03%	4.08%	4.07%	0.01%
2016	84.76%	0.00%	0.00%	N/A	0.00%	3.89%	3.87%	0.02%



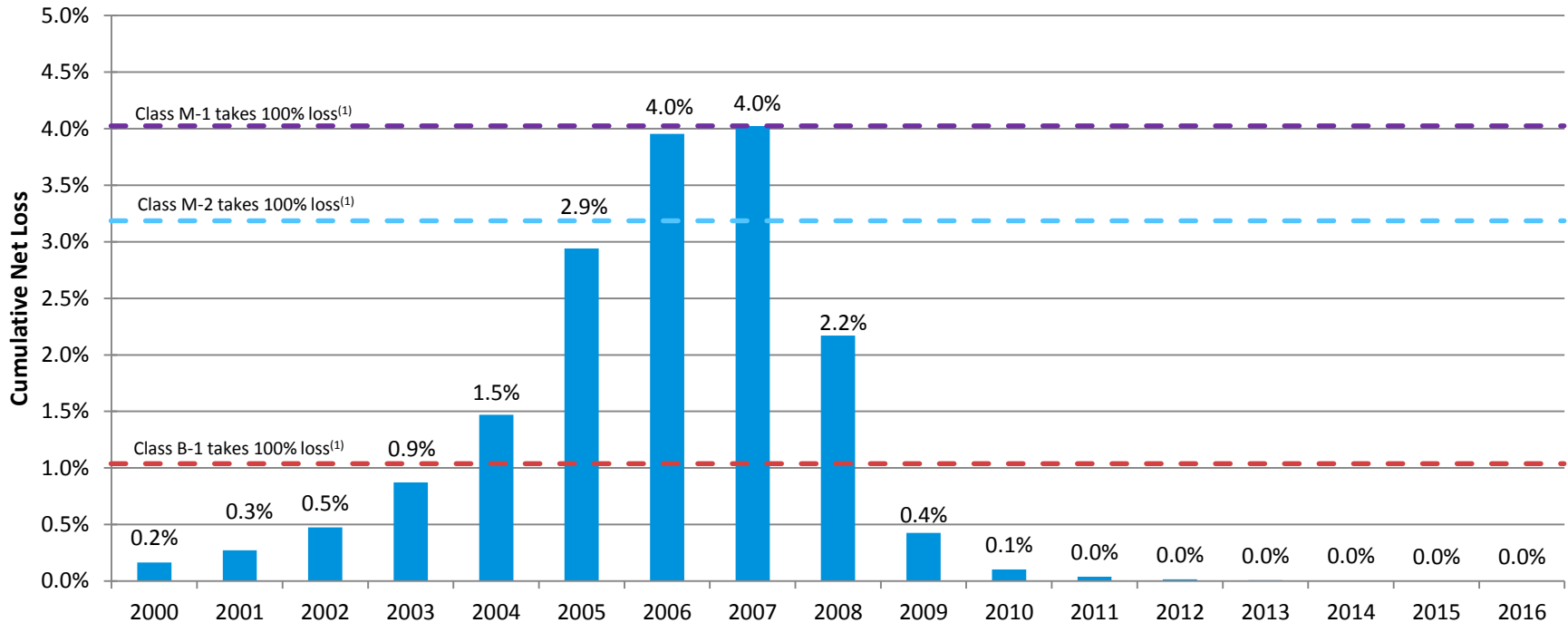
Notes: Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016 Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 60% and <= 80%. Cumulative Principal Loss do not include modification losses. Loans with Repurchase flag = Y have been set to zero loss. Data is weighted in proportion to 2018-DNA1 FICO and LTV cohorts.

(1) Cumulative losses attributable to interest rate and forbearance modifications using same methodology as 2018-DNA1 transaction.

HQ/A (80-97 LTV) Series Historical Performance

STACR Series 2018-HQA1 Proxy Cohort Performance

Reference Pool Proxy



For Freddie Mac data above:

- Net Losses are calculated as noted on the “Actual Loss Calculation” slide:
Collateral Deficiency + Delinquent Interest +Expenses – MI Recoveries – Non MI Recoveries
- Freddie Mac data does not include bulk settlements
- Assumes 35bps g-fee to calculate delinquent interest
- Collateral Deficiency: Defaulted UPB – Net Sales Proceeds
- Loans with Repurchase flag = Y have been set to zero loss

Notes: Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017.
Cumulative Losses do not include modification losses
Data is weighted in proportion to 2018-HQA1 FICO and LTV cohorts

(1) Assuming no principal payments

Loss Components by Disposition & Origination Year (All 80.01-97% LTV)



Disposition Year	Loan Count	Default UPB	Net Loss	Severity %	As Percentage of Net Loss					
					Collateral Loss	Expenses	MI Recoveries	Non-MI Recoveries	Delinquent Interest	Timeline (months)
99-2004	17,195	1,952,747,090	117,087,419	6%	223%	91%	-283%	-27%	92%	14
2005	7,377	786,169,757	91,560,583	12%	129%	68%	-151%	-11%	65%	16
2006	6,083	643,383,421	85,729,638	13%	132%	65%	-148%	-11%	61%	16
2007	5,542	611,701,956	92,341,156	15%	135%	54%	-130%	-8%	50%	16
2008	7,158	957,318,329	171,623,186	18%	148%	34%	-112%	-5%	34%	14
2009	12,176	1,942,348,151	465,741,920	24%	135%	21%	-76%	-4%	24%	14
2010	19,963	3,250,449,641	934,757,627	29%	126%	20%	-65%	-4%	23%	16
2011	23,010	3,798,789,348	1,308,755,399	34%	117%	21%	-58%	-4%	24%	19
2012	24,319	3,972,039,066	1,395,087,147	35%	110%	25%	-56%	-5%	26%	21
2013	18,540	2,832,729,015	1,048,893,448	37%	97%	32%	-55%	-5%	30%	25
2014	13,726	1,970,812,211	846,449,981	43%	81%	38%	-49%	-4%	34%	32
2015	9,750	1,402,501,372	638,195,112	46%	76%	38%	-44%	-4%	34%	35
2016	8,105	1,210,448,707	643,489,754	53%	65%	33%	-26%	-3%	31%	37
2017	2,593	383,904,431	69,558,383	31%	106%	30%	-62%	-5%	30%	30
Total	175,537	25,715,342,496	7,909,270,753	31%	106%	30%	-62%	-5%	30%	22

Origination Year	Loan Count	Default UPB	Net Loss	Severity %	As Percentage of Net Loss					
					Collateral Loss	Expenses	MI Recoveries	Non-MI Recoveries	Delinquent Interest	Timeline (months)
99-2004	81,965	8,985,926,282	2,282,439,012	25%	101%	43%	-73%	-7%	35%	20
2005	21,246	3,305,511,760	1,175,846,730	36%	107%	28%	-58%	-4%	27%	23
2006	20,189	3,431,548,038	1,261,976,142	37%	108%	24%	-56%	-4%	27%	23
2007	29,790	5,519,735,405	1,938,466,382	35%	107%	22%	-53%	-3%	27%	23
2008	18,580	3,758,869,856	1,142,928,955	30%	108%	24%	-58%	-4%	30%	22
2009	2,102	413,717,786	74,682,407	18%	129%	41%	-99%	-7%	35%	18
2010	603	105,169,775	15,431,018	15%	141%	59%	-132%	-9%	41%	18
2011	298	54,892,848	6,627,652	12%	154%	71%	-162%	-10%	47%	17
2012	244	42,375,171	4,433,512	10%	151%	83%	-161%	-10%	40%	17
2013	258	45,676,037	3,532,504	8%	188%	84%	-206%	-15%	50%	16
2014	191	36,725,028	2,541,159	7%	208%	82%	-227%	-14%	52%	13
2015	67	14,101,033	368,835	3%	317%	154%	-403%	-46%	78%	12
2016	4	1,093,478	-3,555	0%	-3356%	-354%	3950%	141%	-281%	6
Total	175,537	25,715,342,496	7,909,270,753	31%	106%	30%	-62%	-5%	30%	22

Notes: Performance data: 1999-2Q2017, losses reported for loans liquidated as of 1Q2017
Cumulative Losses do not include modification losses

STACR Series 2018-HQA1 Historical Cohort Performance (80% < LTV <= 97%)



- Summary collateral characteristics for the different vintages are seen below
- Analysis and stratifications only include loans with LTVs between 80% and 97%

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	STACR 15-HQ1	STACR 15-HQ2	STACR 15-HQA1	STACR 15-HQA2	STACR 16-HQA1	STACR 16-HQA2	STACR 16-HQA4	STACR 17HQA1	STACR 17HQA2	STACR 17HQA3	STACR 18HQA1	
Orig UPB (\$BN)	34	61	53	53	32	32	27	41	40	27	17	17	33	47	55	71	15	16	30	19	17	18	19	16	30	32	22	40	
WA FICO	696	696	695	703	699	703	701	705	729	756	758	758	759	755	748	749	747	748	757	747	749	750	749	748	747	747	747	747	746
WA DTI (%)	37	36	37	36	38	39	41	41	40	33	33	33	33	34	35	35	35	35	33	35	35	35	35	35	35	36	36	36	
WA OCLTV (%)	92	91	91	91	91	91	92	92	91	90	91	91	91	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
WA OLTV (%)	92	91	91	91	91	92	92	92	91	90	91	91	91	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	
Owner Occ. (%)	95	96	95	95	92	92	92	92	93	99	100	100	100	100	99	99	99	100	100	99	99	99	99	99	99	99	99	99	
FICO Score Range																													
0-679 (%)	38	38	40	34	38	35	38	36	16	1	1	2	2	3	5	5	6	5	2	6	5	4	4	5	5	5	5	6	
680-719 (%)	25	25	25	26	25	25	23	23	24	14	14	13	13	15	19	19	19	19	13	19	19	18	19	19	20	21	20	21	
720-759 (%)	23	23	22	24	22	21	20	20	27	33	31	30	31	32	31	31	31	32	31	31	32	32	31	31	31	31	32	31	
760-779 (%)	8	8	9	10	9	10	9	10	15	23	22	23	22	21	19	19	19	19	22	19	19	19	19	19	18	18	18	18	
>780 (%)	4	5	5	6	6	9	10	11	17	29	32	32	33	29	26	26	25	25	31	25	26	27	27	25	25	25	24	24	

Severity Rates and Disposition Timelines (All 80.01-97% LTV)



All Defaulted 80-97 LTV Loans
Severity Rates by Disposition & Origination Year

Disposition Yr	Origination Year																														Total										
	99-04			2005			2006			2007			2008			2009			2010			2011			2012			2013				2014			2015			2016			
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ				
99-04	6	8	5																																6						
2005	12	15	9	9	(0)	17																													12						
2006	14	17	10	4	5	3	(2)	0	(3)																										13						
2007	17	20	14	8	9	7	6	5	7	1	(0)	2																							15						
2008	23	25	21	15	14	16	13	13	13	11	10	11	4	7	2																				18						
2009	28	29	27	27	27	26	24	23	24	21	18	22	18	14	19	2	-	2																	24						
2010	33	35	32	32	33	31	32	33	31	27	28	27	21	23	21	12	10	13	5	12	-														29						
2011	38	41	37	39	41	37	38	41	36	34	37	33	28	33	26	16	15	16	6	15	2														35						
2012	38	42	36	39	42	37	40	44	37	36	39	33	29	37	26	15	16	14	10	12	9	5	2	7										35							
2013	40	45	35	39	43	34	41	46	35	38	46	31	33	42	25	17	18	16	12	13	11	7	9	6	10	7	13							37							
2014	45	50	38	45	50	37	48	54	38	46	52	37	40	48	29	20	26	15	16	21	11	13	13	9	15	7	6	2	7					43							
2015	48	54	39	50	54	39	51	56	40	50	58	38	43	53	29	24	29	18	19	22	15	13	14	12	9	9	9	9	15	6	4	11	3	46							
2016	56	63	42	57	63	43	62	69	46	58	67	42	55	66	35	33	39	21	25	32	17	24	26	22	15	18	13	11	12	10	7	11	5	7	1	1	11	(1)	-	(1)	53
2017	26	30	19	21	26	13	18	21	13	20	23	14	16	21	10	7	11	3	9	9	8	6	9	0	5	8	3	5	4	6	8	13	5	1	1	1	(0)	-	(0)	18	
Total	25	31	21	36	40	32	37	42	32	35	42	31	31	40	25	18	23	15	15	19	12	13	15	10	11	13	9	9	11	8	7	12	5	3	1	3	(0)	-	(0)	31	

Disposition Timelines (# months delinquent at disposition)

Disposition Yr	Origination Year																														Total										
	99-04			2005			2006			2007			2008			2009			2010			2011			2012			2013				2014			2015			2016			
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ	All	J	NJ	
99-04	14	16	13																																			14			
2005	16	18	14	2	5	-																																	16		
2006	17	18	15	10	10	10	8	3	10																														16		
2007	17	18	15	12	13	12	10	10	10	6	4	9																											16		
2008	16	18	15	14	15	13	12	13	12	10	10	10	6	6	6																								14		
2009	17	19	15	15	17	14	14	15	13	13	14	13	11	11	11	5	-	5																					14		
2010	18	21	16	17	19	15	17	18	16	16	18	15	15	17	14	10	9	11	5	-	9																		16		
2011	21	24	19	20	23	18	20	22	18	19	21	18	18	20	17	13	12	13	9	8	9																		19		
2012	23	27	20	22	26	19	22	26	19	22	25	19	19	23	18	13	15	12	11	12	10	7	5	8														21			
2013	26	30	21	27	31	21	27	31	21	26	31	20	24	29	20	17	18	16	14	15	14	13	13	12	11	11	12											25			
2014	32	37	25	34	39	26	34	39	25	34	39	27	31	37	25	21	25	17	18	21	16	17	18	16	14	18	13	9	9	-								32			
2015	34	39	26	36	41	27	36	41	28	37	43	30	35	41	27	27	28	25	21	21	21	20	22	19	16	16	15	12	13	9	9	9	12	9					35		
2016	36	42	24	39	44	29	40	45	29	40	46	29	41	47	29	29	33	23	24	25	24	22	23	20	19	20	18	17	20	12	12	14	14	12	11	13	10	4	-	4	37
2017	33	39	22	34	39	24	33	37	24	31	34	27	30	34	24	25	29	23	27	32	16	21	19	24	20	24	18	19	20	14	14	14	14	12	13	11	9	-	9	30	
Total	20	24	17	23	27	18	23	27	18	23	29	19	22	29	18	18	21	16	18	20	16	17	19	16	17	19	16	16	18	12	13	14	12	12	13	11	6	-	6	22	

Notes: Performance data: 1999-2Q2017, losses reported for loans liquidated as of 1Q2017
Cumulative Losses do not include modification losses

Severity Rates and Disposition Timelines (REO 80.01-97% LTV)



Disposition Yr	Origination Year																								Total												
	99-04			2005			2006			2007			2008			2009			2010			2011				2012			2013			2014			2015		
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ	All	J	NJ			
99-04	7	9	6																														7				
2005	13	18	10																														13				
2006	15	20	12	4	6	4	(3)	-	(3)																							15					
2007	19	23	16	10	11	9	9	7	11	2	-	2																				17					
2008	25	27	23	17	18	17	16	16	15	12	14	12	6	-	6																	21					
2009	30	32	29	29	30	29	26	27	26	23	22	24	20	18	21	2	-	2														27					
2010	34	37	32	35	37	33	35	38	32	29	31	28	24	25	23	15	13	15														31					
2011	40	44	38	41	45	38	41	45	38	38	43	35	32	41	29	20	25	19	11	33	5											38					
2012	42	47	39	43	47	40	43	48	39	40	47	36	35	46	31	19	24	18	17	18	17	7	9	9								40					
2013	46	51	41	43	48	37	46	52	39	43	51	34	39	51	30	21	24	19	16	15	18	9	17	15	16	9	11					43					
2014	48	53	42	48	53	39	51	56	41	50	56	41	44	52	33	26	33	19	16	23	11	16	15	15	11	9	16	3	4	2		47					
2015	53	59	43	52	56	44	52	58	43	54	61	43	46	55	35	26	32	19	20	23	16	15	37	23	12	17	17	14	18	11	10	7	11	50			
2016	64	71	52	58	65	44	61	67	52	61	69	47	55	63	42	31	37	23	21	29	12	31	37	23	17	17	14	14	13	9	12	8	3	13	1	56	
2017	36	41	26	29	33	21	27	31	19	28	32	21	26	35	15	8	14	4	13	14	12	5	12	(0)	6	10	2	8	6	10	8	1	4	0	26		
Total	27	32	22	38	43	33	39	45	34	39	47	33	34	45	28	22	28	18	17	21	14	16	20	13	13	13	13	12	12	11	9	12	7	2	5	0	33

Disposition Timelines (# months dplpi to REO acquisition)

Disposition Yr	Origination Year																								Total												
	99-04			2005			2006			2007			2008			2009			2010			2011				2012			2013			2014			2015		
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ	All	J	NJ			
99-04	10	12	9																															10			
2005	10	13	8																																10		
2006	11	13	9	7	9	7	7	-	7																										11		
2007	11	14	8	9	11	7	8	10	6	7	-	7																							10		
2008	10	13	8	9	11	8	9	11	8	8	10	7	6	-	6																				10		
2009	11	15	9	11	14	9	11	14	9	10	13	9	9	12	9	6	-	6																	11		
2010	13	16	11	14	17	11	14	17	11	13	16	12	12	15	11	8	12	8	6	-	6														13		
2011	14	18	12	15	19	13	15	19	13	15	18	14	14	17	13	10	12	10	8	10	7														15		
2012	17	21	14	18	23	15	19	23	15	18	23	15	16	22	14	11	14	10	9	10	8	8	-	8											17		
2013	20	25	15	23	28	16	22	27	16	22	27	16	20	25	16	14	17	12	11	12	10	10	12	9	11	13	10								21		
2014	25	31	18	28	33	19	28	33	18	28	33	21	26	31	18	16	20	12	13	17	10	12	14	10	10	16	9	8	9	8					26		
2015	28	33	19	30	35	21	30	34	22	32	37	23	29	35	21	21	23	19	15	17	12	15	16	15	11	12	9	8	7	8	7			29			
2016	29	35	20	32	37	22	33	39	23	34	40	23	33	39	23	24	28	17	17	16	19	19	22	15	14	15	14	14	15	13	9	10	9	8	4	9	31
2017	31	39	17	35	41	22	33	40	19	33	38	26	31	38	22	22	24	20	23	30	11	17	17	17	15	16	14	15	17	14	11	11	9	11	9	30	
Total	14	18	11	18	23	13	18	24	13	19	25	14	18	25	14	15	20	12	13	16	11	14	17	12	13	15	12	13	14	12	10	10	10	9	11	9	16

Disposition Timelines (# months REO acquisition to disposition)

Disposition Yr	Origination Year																								Total												
	99-04			2005			2006			2007			2008			2009			2010			2011				2012			2013			2014			2015		
	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ	All	J	NJ			
99-04	6	5	6																																6		
2005	7	7	7																																	7	
2006	7	6	7	5	4	5	3	-	3																											7	
2007	7	6	8	5	5	6	4	4	5	2	-	2																								7	
2008	7	6	8	6	5	6	5	5	5	4	4	4	2	-	2																					6	
2009	7	6	7	6	5	6	6	5	6	5	5	5	4	4	4	2	-	2																		6	
2010	7	6	7	6	5	6	6	5	6	5	5	5	6	5	5	6	4	3	5																	6	
2011	8	8	8	7	8	7	7	7	7	7	8	7	7	8	6	6	7	6	4	5	4															7	
2012	8	9	8	8	8	8	7	7	7	7	8	7	7	8	7	6	6	6	6	6	6	6	-	6											8		
2013	9	8	9	8	8	9	8	8	8	8	8	8	8	9	8	7	7	7	6	9	6	5	6	5	6	6	6	4							8		
2014	9	8	9	9	8	9	9	9	9	9	8	8	9	9	8	8	7	7	7	7	7	7	7	7	6	6	6	4	3	4					9		
2015	10	9	11	10	9	11	9	9	10	10	9	10	10	10	9	9	8	9	8	8	9	7	7	7	8	8	8	6	5	6	5	10	3			10	
2016	10	10	10	11	11	11	11	11	11	10	10	11	10	10	10	9	10	9	9	8	8	8	8	8	8	7	7	7	6	6	6			5	6	4	10
2017	11	11	11	11	11	11	10	11	9	10	10	11	11	11	10	8	8	7	9	9	8	8	8	8	8	8	8	8	8	8	8	7	7	8	8	7	10
Total	7	7	7	7	7	7	7	7	7	7	8	7	7	8	7	7	8	7	7	7	8	7	7	7	8	7	7	7	7	7	7	7	7	7	8	6	7

Severity Rates and Disposition Timelines (FA 80.01-97% LTV)



		Origination Year																											Total												
		99-04			2005			2006			2007			2008			2009			2010			2011			2012				2013			2014			2015			2016		
		All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ	All	J	NJ			
Disposition Yr.	99-04	3	3	2																																		3			
	2005	4	6	3	9	(0)	17																															4			
	2006	4	5	3	2	4	1	0	0	-																												4			
	2007	6	9	4	2	2	2	1	2	1	(0)	(0)	-																									5			
	2008	9	12	6	7	7	8	7	8	7	8	7	9	4	7	(1)																						8			
	2009	16	15	16	21	22	19	18	18	19	16	14	17	14	10	15	2	-	2																			17			
	2010	28	26	29	27	27	27	27	27	27	25	24	25	18	19	17	9	9	8																			24			
	2011	33	33	34	33	33	33	32	33	32	27	28	26	21	23	20	10	9	10	2	6	0																28			
	2012	29	30	28	34	36	32	35	38	32	30	31	29	23	28	20	10	11	10	6	8	4	5	2	7													29			
	2013	26	29	22	32	35	28	33	37	27	32	37	26	25	32	18	11	13	11	8	10	7	4	8	2	2	3	1										28			
	2014	36	41	28	36	40	29	40	45	31	35	41	25	31	40	19	13	17	9	15	16	13	8	8	8	7	20	3	8	0	-							33			
	2015	43	48	35	46	52	32	48	54	36	44	52	32	38	51	24	22	23	18	17	22	14	11	14	8	7	9	3	7	14	3	4	11	3				41			
	2016	50	57	33	55	61	41	62	71	38	56	66	36	54	68	31	34	40	20	29	34	22	17	15	20	13	20	6	9	11	5	6	10	5	8	0	15	(1)	-	(1)	51
	2017	15	17	12	12	16	6	10	11	8	13	16	8	9	10	7	3	4	3	4	4	3	6	8	3	5	4	5	1	2	3	8	14	3	1	0	2	(0)	-	(0)	10
Total	22	26	18	32	35	28	33	36	28	30	35	26	25	33	19	14	18	11	13	17	10	9	10	8	9	13	4	7	10	4	6	12	4	3	0	5	(0)	-	(0)	27	

Disposition Timelines (# months delinquent at disposition)

		Origination Year																											Total												
		99-04			2005			2006			2007			2008			2009			2010			2011			2012				2013			2014			2015			2016		
		All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ	All	J	NJ		All	J	NJ	All	J	NJ	All	J	NJ			
Disposition Yr.	99-04	9	10	8																																		9			
	2005	10	12	9	2	5	-																															10			
	2006	11	12	9	7	7	6	3	3	-																												10			
	2007	10	12	9	8	9	8	6	5	7	4	4	-																									9			
	2008	10	11	8	8	9	7	7	8	7	7	7	6	5	6	4																						8			
	2009	11	12	9	10	11	9	9	10	8	9	9	8	8	8	8	3	-	3																			9			
	2010	12	14	11	12	13	10	12	13	11	12	13	11	12	13	10	8	8	8																			12			
	2011	14	17	13	14	16	12	14	15	12	13	15	12	12	14	12	8	8	8	6	5	7																13			
	2012	16	21	13	16	20	12	17	20	13	16	19	14	14	17	13	9	10	8	9	10	8	5	5	5													15			
	2013	20	25	15	21	24	15	20	24	14	20	25	14	19	24	15	11	12	11	10	9	11	9	10	9	6	5	6										19			
	2014	26	31	17	28	32	20	26	30	20	26	31	21	25	29	19	17	20	15	14	15	12	13	13	13	12	15	11	8	5	8							25			
	2015	30	36	20	32	37	21	32	37	21	32	37	25	31	37	23	22	23	20	19	16	22	18	20	15	14	14	14	11	14	10	9	11	9				30			
	2016	33	39	19	37	41	26	37	42	24	36	42	24	39	47	26	26	28	21	22	24	20	16	15	16	14	16	10	14	17	12	11	13	10	11	13	8	4	-	4	34
	2017	22	26	16	19	21	16	23	24	20	20	23	16	21	24	18	18	20	17	20	24	14	17	17	16	15	21	10	13	15	12	12	12	11	10	10	9	9	-	9	20
Total	16	21	12	18	22	13	18	21	13	18	23	14	18	23	14	13	16	11	14	15	13	13	14	11	13	15	11	13	16	11	11	13	10	10	11	9	6	-	6	17	

Notes: Performance data: 1999-2Q2017, losses reported for loans liquidated as of 1Q2017
Cumulative Losses do not include modification losses

HQA Proxy Cohort Historical Delinquency Roll Rates

2000 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	46%	39%	15%	0%	0%	0%	0%	0%
60	21%	16%	26%	36%	0%	0%	0%	0%
90	12%	5%	9%	17%	57%	0%	0%	0%
120	9%	1%	2%	5%	12%	67%	0%	3%
150	8%	1%	1%	1%	4%	12%	69%	5%
180	6%	0%	0%	0%	1%	5%	10%	78%
180+	5%	0%	0%	0%	0%	0%	1%	93%

2001 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	44%	41%	15%	0%	0%	0%	0%	0%
60	17%	18%	29%	35%	0%	0%	0%	0%
90	10%	5%	9%	17%	58%	0%	0%	0%
120	10%	2%	1%	4%	11%	69%	0%	3%
150	9%	1%	0%	1%	3%	11%	68%	7%
180	7%	0%	0%	0%	1%	3%	10%	78%
180+	4%	0%	0%	0%	0%	0%	1%	94%

2002 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	41%	42%	16%	0%	0%	0%	0%	0%
60	16%	17%	31%	36%	0%	0%	0%	0%
90	10%	4%	9%	19%	58%	0%	0%	0%
120	7%	1%	2%	5%	14%	69%	0%	2%
150	8%	1%	1%	1%	4%	12%	68%	6%
180	7%	1%	0%	0%	1%	3%	11%	77%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2003 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	41%	42%	17%	0%	0%	0%	0%	0%
60	14%	15%	32%	38%	0%	0%	0%	0%
90	8%	4%	8%	20%	59%	0%	0%	1%
120	7%	1%	1%	4%	15%	69%	0%	2%
150	7%	1%	0%	1%	3%	12%	71%	4%
180	6%	0%	0%	0%	1%	2%	11%	79%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2004 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	37%	44%	19%	0%	0%	0%	0%	0%
60	12%	15%	33%	40%	0%	0%	0%	0%
90	7%	3%	8%	19%	62%	0%	0%	1%
120	7%	1%	1%	4%	14%	71%	0%	2%
150	6%	0%	0%	1%	3%	13%	73%	4%
180	5%	1%	0%	0%	1%	2%	10%	81%
180+	3%	0%	0%	0%	0%	0%	0%	97%

2005 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	34%	43%	23%	0%	0%	0%	0%	0%
60	10%	12%	32%	45%	0%	0%	0%	0%
90	6%	2%	6%	19%	66%	0%	0%	1%
120	5%	1%	1%	3%	12%	75%	0%	2%
150	5%	0%	0%	1%	2%	10%	77%	4%
180	4%	0%	0%	0%	0%	2%	9%	84%
180+	2%	0%	0%	0%	0%	0%	0%	98%

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HQA Proxy Cohort Historical Delinquency Roll Rates (contd.)



2006 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	31%	43%	25%	0%	0%	0%	0%	0%
60	9%	11%	31%	49%	0%	0%	0%	1%
90	5%	2%	6%	17%	69%	0%	0%	1%
120	5%	0%	1%	2%	13%	77%	0%	2%
150	5%	0%	0%	0%	2%	10%	78%	4%
180	4%	0%	0%	0%	0%	1%	8%	85%
180+	2%	0%	0%	0%	0%	0%	0%	98%

2007 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	28%	44%	27%	0%	0%	0%	0%	0%
60	8%	10%	32%	49%	0%	0%	0%	1%
90	5%	2%	5%	18%	69%	0%	0%	1%
120	5%	0%	1%	2%	13%	77%	0%	2%
150	5%	0%	0%	0%	2%	10%	78%	3%
180	4%	0%	0%	0%	0%	1%	10%	84%
180+	2%	0%	0%	0%	0%	0%	0%	97%

2008 Vintage	Current	30	60	90	120	150	180	180+
Current	99%	1%	0%	0%	0%	0%	0%	0%
30	29%	46%	24%	0%	0%	0%	0%	0%
60	8%	11%	34%	46%	0%	0%	0%	0%
90	5%	2%	6%	20%	66%	0%	0%	1%
120	5%	0%	1%	2%	14%	75%	0%	2%
150	6%	0%	0%	0%	2%	12%	76%	3%
180	5%	0%	0%	0%	0%	2%	10%	83%
180+	3%	0%	0%	0%	0%	0%	0%	96%

2009 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	41%	42%	17%	0%	0%	0%	0%	0%
60	13%	13%	29%	44%	0%	0%	0%	1%
90	9%	3%	6%	15%	67%	0%	0%	1%
120	5%	1%	1%	2%	12%	76%	0%	3%
150	7%	1%	0%	0%	2%	10%	75%	5%
180	5%	0%	0%	0%	0%	2%	8%	85%
180+	4%	0%	0%	0%	0%	0%	1%	95%

2010 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	46%	38%	15%	0%	0%	0%	0%	0%
60	15%	14%	33%	38%	0%	0%	0%	0%
90	8%	4%	7%	21%	58%	0%	0%	1%
120	10%	1%	1%	3%	13%	70%	0%	2%
150	8%	1%	0%	1%	2%	14%	71%	3%
180	7%	0%	0%	0%	1%	2%	10%	80%
180+	4%	0%	0%	0%	0%	0%	0%	96%

2011 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	49%	36%	14%	0%	0%	0%	0%	0%
60	16%	15%	30%	38%	0%	0%	0%	0%
90	10%	4%	8%	19%	58%	0%	0%	1%
120	7%	0%	1%	3%	14%	73%	0%	1%
150	12%	1%	0%	1%	2%	17%	65%	2%
180	6%	0%	0%	0%	1%	3%	13%	78%
180+	5%	0%	0%	0%	0%	0%	0%	94%

Notes: Data included in tables were derived from Freddie Mac's Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 80% and <= 97%. Values represent the monthly average proportion UPB with beginning delinquency status (indicated by row heading) that transitions into the ending delinquency status (as indicated by column heading). Data is weighted in proportion to 2018-HQA1 FICO and LTV cohorts. Current loans also include voluntary prepayments and repurchases. 180+ also includes liquidations.

HQA Proxy Cohort Historical Delinquency Roll Rates (contd.)



2012 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	56%	33%	12%	0%	0%	0%	0%	0%
60	21%	15%	26%	37%	0%	0%	0%	0%
90	11%	3%	7%	18%	61%	0%	0%	0%
120	10%	1%	2%	3%	17%	66%	0%	1%
150	13%	0%	0%	1%	3%	18%	63%	2%
180	12%	0%	0%	0%	1%	3%	15%	69%
180+	5%	0%	0%	0%	0%	0%	0%	94%

2013 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	58%	31%	11%	0%	0%	0%	0%	0%
60	20%	13%	28%	37%	0%	0%	0%	0%
90	11%	3%	8%	19%	59%	0%	0%	0%
120	9%	1%	1%	3%	18%	67%	0%	1%
150	12%	1%	1%	0%	2%	18%	64%	2%
180	10%	0%	0%	0%	0%	2%	11%	75%
180+	6%	0%	0%	0%	0%	0%	0%	93%

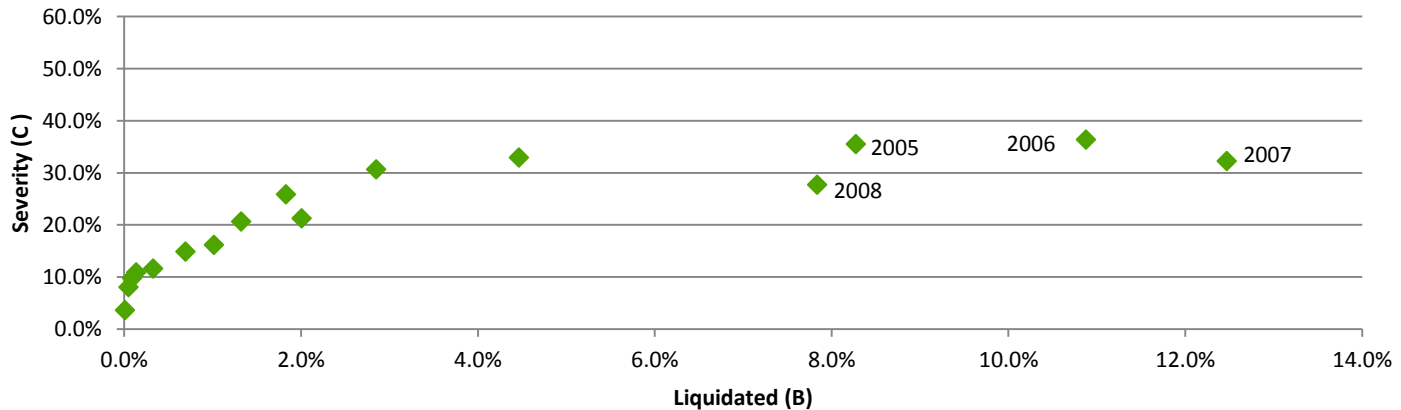
2014 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	60%	29%	11%	0%	0%	0%	0%	0%
60	21%	14%	25%	40%	0%	0%	0%	0%
90	11%	4%	5%	17%	62%	0%	0%	1%
120	9%	1%	1%	2%	16%	71%	0%	1%
150	10%	0%	0%	0%	2%	18%	68%	2%
180	9%	0%	1%	0%	0%	2%	15%	73%
180+	7%	0%	0%	0%	0%	0%	1%	92%

2015 Vintage	Current	30	60	90	120	150	180	180+
Current	100%	0%	0%	0%	0%	0%	0%	0%
30	66%	24%	10%	0%	0%	0%	0%	0%
60	26%	14%	22%	38%	0%	0%	0%	0%
90	14%	3%	6%	16%	61%	0%	0%	0%
120	9%	1%	1%	2%	14%	73%	0%	0%
150	10%	1%	0%	0%	2%	17%	66%	3%
180	8%	0%	0%	1%	0%	1%	10%	80%
180+	7%	0%	0%	0%	0%	0%	0%	92%

Notes: Data included in tables were derived from Freddie Mac's Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 80% and <= 97%. Values represent the monthly average proportion UPB with beginning delinquency status (indicated by row heading) that transitions into the ending delinquency status (as indicated by column heading). Data is weighted in proportion to 2018-HQA1 FICO and LTV cohorts. Current loans also include voluntary prepayments and repurchases. 180+ also includes liquidations.

HQ Proxy Cohort Historical Severities

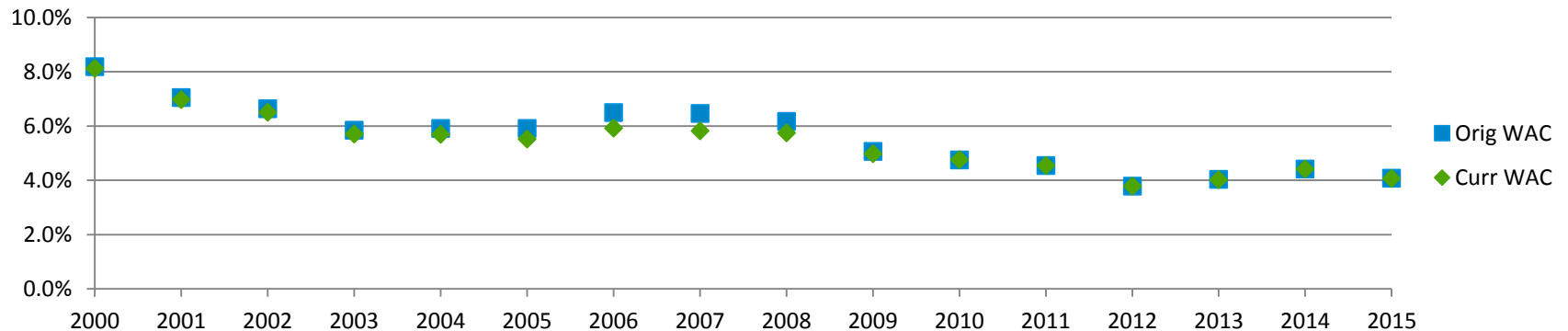
Vintage	Cum D180 (A)	Liquidated (B)	Severity (C)	Cum Loss (D=B*C)
2000	1.5%	1.0%	16.1%	0.2%
2001	1.9%	1.3%	20.7%	0.3%
2002	2.6%	1.8%	25.9%	0.5%
2003	4.1%	2.9%	30.7%	0.9%
2004	6.5%	4.5%	32.9%	1.5%
2005	11.0%	8.3%	35.5%	2.9%
2006	14.3%	10.9%	36.4%	4.0%
2007	17.6%	12.5%	32.3%	4.0%
2008	12.1%	7.8%	27.7%	2.2%
2009	3.1%	2.0%	21.2%	0.4%
2010	1.3%	0.7%	14.8%	0.1%
2011	0.9%	0.3%	11.6%	0.0%
2012	0.5%	0.1%	10.9%	0.0%
2013	0.4%	0.1%	9.8%	0.0%
2014	0.3%	0.1%	8.0%	0.0%
2015	0.1%	0.0%	3.6%	0.0%



Notes: Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 80% and <= 97%.
 Loans with Repurchase flag = Y have been set to zero loss
 Cumulative Losses do not include modification losses
 Data is weighted in proportion to 2018-HQA1 FICO and LTV cohorts

Proxy Cohort Historical Modifications

Vintage	Current Pool Factor	Cumulative Principal Loss	Cumulative Modification Loss	Modification Loss as % of Principal Loss	Ever Modified %	Proxy Cohort Stats as of March 31, 2017		
						Orig WAC	Curr WAC	Current Mod WAC SF
2000	0.40%	0.16%	0.02%	10.64%	0.32%	8.19%	8.12%	0.07%
2001	1.07%	0.27%	0.03%	9.23%	0.46%	7.05%	6.97%	0.09%
2002	2.40%	0.47%	0.05%	11.39%	0.75%	6.63%	6.51%	0.11%
2003	5.76%	0.87%	0.11%	12.18%	1.44%	5.84%	5.70%	0.15%
2004	7.60%	1.47%	0.23%	15.59%	2.47%	5.91%	5.69%	0.23%
2005	8.66%	2.94%	0.40%	13.66%	3.91%	5.91%	5.52%	0.39%
2006	7.29%	3.96%	0.68%	17.12%	5.22%	6.49%	5.92%	0.57%
2007	8.46%	4.02%	0.97%	24.03%	7.08%	6.46%	5.82%	0.64%
2008	7.76%	2.17%	0.73%	33.49%	5.85%	6.17%	5.75%	0.42%
2009	13.68%	0.43%	0.03%	7.70%	1.12%	5.06%	4.98%	0.08%
2010	24.02%	0.10%	0.01%	9.83%	0.65%	4.75%	4.76%	-0.01%
2011	29.11%	0.04%	0.01%	14.01%	0.56%	4.54%	4.54%	0.00%
2012	53.78%	0.01%	0.00%	0.00%	0.29%	3.79%	3.78%	0.01%
2013	57.92%	0.01%	0.00%	7.40%	0.27%	4.03%	4.02%	0.00%
2014	60.30%	0.00%	0.00%	22.14%	0.23%	4.41%	4.41%	0.00%
2015	77.67%	0.00%	0.00%	27.75%	0.07%	4.08%	4.07%	0.01%



Notes: Data included in tables were derived from Freddie Mac’s Single Family Loan Level Dataset (SF LLD) as of December 2017 refresh: Originations 1999-December 31, 2016. Performance data: 1999-June 30, 2017, losses reported for loans liquidated as of 1Q2017. Loans with LTV > 80% and <= 97%.
 Loans with Repurchase flag = Y have been set to zero loss
 Cumulative Losses do not include modification losses
 Data is weighted in proportion to 2018-HQA1 FICO and LTV cohorts

(1) Cumulative losses attributable to interest rate and forbearance modifications using same methodology as 2017-HQA3 transaction.

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