

GSE CRT Loss Projections

2018 First-Half Update
Special Report

Fitch plans to complete a full rating review of the CRT sector every six months (in January and July) and publish updated loss projections to provide greater insight and transparency into our ratings. Only Fitch-rated transactions are included in this report.

This report details Fitch Ratings' projections for future credit events and losses on mortgage loan pools referenced by GSE credit risk transfer (CRT) transactions. The report also summarizes Fitch's loss and stress methodology and provides guidance on the relationship of projected losses to ratings.

Lower Loss Expectations: Fitch's reference pool loss projections are lower on every transaction compared to the prior review in July 2017. At the 'BBBsf' rating stress level, projected losses were revised downward by an average of 23 basis points (bps) as a percentage of the remaining pool balance, reflecting strong collateral performance, increased home price appreciation and a shorter term to maturity.

Continued Strong Performance: Among transactions with at least 12 months' seasoning, the average 60+ day delinquency percentage for 60%–80% loan-to-value (LTV) reference pools is 20bps, with no pool higher than 43bps. For 81%–97% LTV reference pools, the average is 38bps, with no pool higher than 67bps.

Closer to Maturity: All GSE CRT transactions reviewed have a hard bullet maturity date of 10.0 or 12.5 years from issuance. As transactions season and the term to maturity narrows, Fitch applies a larger adjustment to projected losses to reflect the smaller window for future credit events.

Home Price Growth: Home prices in the respective pools have increased on average 20%. Consequently, the lower mark-to-market LTV ratios of the reference pools have driven current loss expectations lower relative to deal closing.

Mortgage Insurance: Voluntary mortgage insurance (MI) cancellations have been higher than initially expected due to strong home price appreciation. For borrowers who are eligible to cancel but have not yet done so, Fitch increased the haircut to the MI benefit to reflect the possibility that they could cancel sooner than the model currently expects.

Modest Performance Impact by Hurricanes: While the delinquency percentage for loans within counties affected by Hurricanes Harvey and Irma increased to 5.6% from 1.0% between October and December, the total mortgage pool delinquency only increased by 16 basis points on average. Fitch expects loan losses from the 2017 hurricanes to be immaterial to the credit risk of the rated classes.

Revised Surveillance Rating Criteria: In January 2018, Fitch lowered the credit migration threshold needed to revise a credit rating for outstanding GSE CRT classes to one notch; previously, it had been one full rating category. This revision resulted in 125 upgrades of ratings that would have previously been affirmed and assigned a Positive Outlook under the prior methodology. The majority of the ratings of the 125 affected classes were revised up by one rating notch (i.e., from 'BBsf' to 'BB+sf').

Related Research

[GSE CRT Loss Projections \(January 2018\)](#)

[Fitch Reviews GSE Credit Risk Transfer Transactions \(January 2018\)](#)

[U.S. RMBS GSE CRT Rating Actions for January 10, 2018 \(January 2018\)](#)

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

[Insights into Freddie Mac Loan Loss Data \(February 2015\)](#)

[GSE Mortgage Credit Risk Analysis \(July 2013\)](#)

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Summary of Fitch Loss and Stress Methodology

Fitch's loan-level default model considers over a dozen credit attributes, the most influential of which are the borrower's sustainable LTV (sLTV) and credit score. The sLTV is the borrower's estimated mark-to-market combined LTV, adjusted for any regional overvaluation identified by Fitch's home price model. The probability of a default is adjusted as transactions season to reflect the smaller window for future credit events prior to legal maturity. The regression-based default model was developed using GSE and private-label RMBS historical performance data.

Fitch's projected loss severity reflects the transaction's schedule for tiered-severity deals and the expected loss upon liquidation for actual-loss deals. For the latter, Fitch's projected loss severity estimate considers a number of variables, the most influential of which are MI, sLTV and property value.

The 'CCCs' scenario reflects Fitch's most likely base case scenario. Rating scenarios above 'CCCs' are increasingly more stressful and less likely to occur. Although many variables are adjusted in the stress scenarios, the primary driver of the loss scenarios is the home price forecast assumption. In the 'Bs' scenario, Fitch assumes home prices decline 10% below their long-term sustainable level. The home price decline assumption is increased 5% at each higher rating category, up to a 35% decline in the 'AAAs' scenario.

Using Loss Projections for Rating Guidance

The published expected pool loss projections are intended to provide rating guidance through a comparison of a bond's current CE to the projected pool loss at each rating category.

To reduce the risk of an upgrade or downgrade subsequently being reversed with a rating action in the opposite direction due to periodic performance volatility or modest changes to its model, Fitch generally employs a single-notch rating tolerance when analyzing existing ratings.

Under this methodology, a rated class must have sufficient CE to cover projected losses in a rating stress more than one notch above its current rating to be considered for an upgrade. If this occurs, the upgrade is generally to a rating category one notch lower than the highest stress it covers.

For example, a class currently rated 'BBBs' must be able to withstand a rating stress higher than 'BBB+s' to be upgraded; if the highest stress it can cover is 'A-s', it will generally be upgraded to 'BBB+s'. For potential upgrades to 'AAAs', Fitch uses a hypothetical rating stress one category above 'AAAs' based on an extrapolation of the relative loss difference between the 'AAAs' and 'AAs' rating stress loss assumptions.

Classes demonstrating positive rating pressure of only a single rating notch above the current rating are generally affirmed at the current rating, with a Positive Rating Outlook.

Fitch may consider upgrades beyond the levels described above if the bond is expected to be paid in full in a relatively short time frame in its respective rating stress scenario. However, most classes not expected to be paid in full within a one-year period in the base case scenario are projected to extend significantly in Fitch's rating stressed scenarios. Consequently, classes expected to remain outstanding for more than one year in the base case scenario typically do not experience rating benefits of a shorter remaining life.

CAS Projected Credit Events and Losses by Rating Stress

(All projections are as a percentage of the remaining December 2017 unpaid balance)

Pool Name	LTV at Issuance (%)	Loss Type ^a	Loan Age (Mos.)	Deal Age (Mos.)	Pool Factor (%)	Credit Event by Rating Stress (%)							Loss Severity by Rating Stress (%)						Expected Loss by Rating Stress (%)							
						CCC	B	BB	BBB	A	AA	AAA	CCC	B	BB	BBB	A	AA	AAA	CCC	B	BB	BBB	A	AA	AAA
CAS 2013-C1	60-80	Tiered	61	49	60	1.1	1.3	1.8	2.6	3.7	5.0	6.4	10.0	10.0	12.7	15.0	20.4	25.4	28.7	0.1	0.1	0.2	0.4	0.8	1.3	1.8
CAS 2014-C1	60-80	Tiered	58	46	65	1.1	1.3	1.8	2.7	3.8	5.1	6.7	10.0	10.1	13.0	15.2	21.9	26.5	29.6	0.1	0.1	0.2	0.4	0.8	1.4	2.0
CAS 2014-C2 Pool 1	60-80	Tiered	55	42	68	1.2	1.4	2.0	2.9	4.2	5.6	7.3	10.0	10.8	13.5	16.7	23.6	27.8	30.6	0.1	0.2	0.3	0.5	1.0	1.6	2.2
CAS 2014-C3 Pool 1	60-80	Tiered	52	40	66	1.4	1.6	2.3	3.3	4.7	6.4	8.3	10.6	12.1	14.3	19.4	25.5	29.2	31.7	0.1	0.2	0.3	0.6	1.2	1.9	2.6
CAS 2015-C1 Pool 1	60-80	Tiered	47	33	49	2.1	2.5	3.5	5.0	7.1	9.5	12.3	12.2	13.4	15.3	22.1	27.3	30.5	32.7	0.3	0.3	0.5	1.1	1.9	2.9	4.0
CAS 2015-C2 Pool 1	60-80	Tiered	43	30	54	2.5	3.0	4.1	6.0	8.4	11.3	14.6	14.3	15.2	20.8	26.7	30.5	32.9	34.5	0.4	0.5	0.9	1.6	2.6	3.7	5.0
CAS 2015-C3 Pool 1	60-80	Tiered	38	28	58	2.6	3.1	4.3	6.2	8.8	11.8	15.3	14.6	15.5	22.3	27.8	31.3	33.5	35.0	0.4	0.5	1.0	1.7	2.7	3.9	5.3
CAS 2015-C4 Pool 1	60-80	Actual	35	25	62	1.7	2.4	3.6	5.5	8.1	11.3	15.1	15.6	23.1	27.4	32.5	38.4	44.7	51.1	0.3	0.6	1.0	1.8	3.1	5.0	7.7
CAS 2016-C3 Pool 1	60-80	Actual	27	19	78	1.6	2.3	3.5	5.6	8.3	11.7	15.7	14.9	22.2	26.5	31.5	37.4	43.6	50.0	0.2	0.5	0.9	1.8	3.1	5.1	7.9
CAS 2016-C6	60-80	Actual	21	13	84	1.9	2.7	4.3	6.8	10.2	14.2	19.1	16.5	24.2	29.1	34.5	40.6	46.8	53.2	0.3	0.7	1.2	2.4	4.1	6.7	10.1
CAS 2017-C1	60-80	Actual	16	10	91	1.8	2.7	4.3	7.0	10.5	14.8	19.9	16.2	23.9	28.9	34.4	40.5	46.7	52.9	0.3	0.6	1.2	2.4	4.3	6.9	10.5
CAS 2014-C2 Pool 2	81-97	Tiered	55	42	63	1.5	1.9	2.8	4.3	6.3	8.7	11.6	12.7	14.1	16.0	17.4	19.8	21.3	22.2	0.2	0.3	0.4	0.7	1.2	1.8	2.6
CAS 2014-C3 Pool 2	81-97	Tiered	52	40	61	1.6	2.0	3.1	4.8	7.0	9.7	13.0	13.4	14.7	16.5	18.1	20.3	21.6	22.5	0.2	0.3	0.5	0.9	1.4	2.1	2.9
CAS 2015-C1 Pool 2	81-97	Tiered	47	33	46	2.5	3.1	4.6	6.9	10.0	13.7	18.1	14.8	15.8	17.1	19.0	20.8	22.0	22.7	0.4	0.5	0.8	1.3	2.1	3.0	4.1
CAS 2015-C2 Pool 2	81-97	Tiered	43	30	51	3.0	3.7	5.4	8.1	11.6	15.8	20.7	16.1	16.9	18.1	20.4	21.8	22.7	23.2	0.5	0.6	1.0	1.7	2.5	3.6	4.8
CAS 2015-C3 Pool 2	81-97	Tiered	38	28	56	3.1	3.9	5.7	8.5	12.3	16.7	21.8	16.6	17.3	19.0	21.0	22.2	23.0	23.5	0.5	0.7	1.1	1.8	2.7	3.8	5.1
CAS 2015-C4 Pool 2	81-97	Actual	35	25	62	2.7	3.6	5.4	8.4	12.4	17.2	22.8	14.9	22.6	27.4	32.8	38.5	44.3	50.2	0.4	0.8	1.5	2.8	4.8	7.6	11.4
CAS 2016-C3 Pool 2	81-97	Actual	28	19	76	2.3	3.2	5.2	8.5	12.7	17.9	23.6	14.1	21.3	25.9	31.1	36.6	42.3	48.0	0.3	0.7	1.4	2.6	4.7	7.6	11.3
CAS 2016-C5	81-97	Actual	24	16	80	2.6	3.7	5.9	9.6	14.3	19.8	25.8	14.1	21.2	25.6	30.6	36.0	41.5	47.0	0.4	0.8	1.5	2.9	5.2	8.2	12.1
CAS 2016-C7	81-97	Actual	18	12	89	2.7	3.9	6.6	10.8	16.2	22.2	28.5	13.6	20.5	24.7	29.4	34.7	40.0	45.4	0.4	0.8	1.6	3.2	5.6	8.9	12.9
CAS 2017-C2	81-97	Actual	14	8	95	2.6	3.9	6.7	11.3	16.9	23.1	29.4	13.3	20.1	24.2	28.9	34.0	39.1	44.4	0.3	0.8	1.6	3.2	5.7	9.0	13.1
CAS 2017-C4	81-97	Actual	10	6	97	2.7	4.1	7.2	12.2	18.2	24.6	31.1	13.5	20.4	24.6	29.2	34.2	39.3	44.5	0.4	0.8	1.8	3.6	6.2	9.7	13.9

^aTiered – Losses are passed to bondholders based on a fixed, tiered loss severity schedule related to cumulative credit events since issuance. Actual – Losses are passed to bondholders based on actual losses incurred by liquidated loans.

Source: Fitch.

STACR Projected Credit Events and Losses by Rating Stress

(All projections are as a percentage of the remaining December 2017 unpaid balance)

Pool Name	LTV at Issuance (%)	Loss Type ^a	Loan Age (Mos.)	Deal Age (Mos.)	Pool Factor (%)	Credit Event by Rating Stress (%)							Loss Severity by Rating Stress (%)							Expected Loss by Rating Stress (%)						
						CCC	B	BB	BBB	A	AA	AAA	CCC	B	BB	BBB	A	AA	AAA	CCC	B	BB	BBB	A	AA	AAA
STACR 2013-DN2	60-80	Tiered	56	48	66	1.1	1.3	1.9	2.8	4.0	5.5	7.1	15.0	15.1	18.2	20.6	26.4	29.9	32.3	0.2	0.2	0.3	0.6	1.1	1.6	2.3
STACR 2014-DN2	60-80	Tiered	51	43	58	1.3	1.6	2.3	3.5	5.0	6.7	8.9	15.0	16.0	18.8	22.1	27.4	30.8	33.0	0.2	0.3	0.4	0.8	1.4	2.1	2.9
STACR 2014-DN3	60-80	Tiered	47	39	44	2.0	2.3	3.3	4.8	6.7	9.0	11.8	16.0	17.5	19.6	23.6	28.4	31.4	33.4	0.3	0.4	0.6	1.1	1.9	2.8	3.9
STACR 2014-DN4	60-80	Tiered	44	37	45	2.2	2.6	3.6	5.3	7.5	10.1	13.1	16.8	18.1	20.1	25.4	29.7	32.3	34.1	0.4	0.5	0.7	1.4	2.2	3.3	4.5
STACR 2015-DNA1	60-80	Actual	59	31	72	0.5	0.7	1.1	1.8	2.7	3.9	5.5	11.0	16.8	19.5	23.3	28.7	34.4	40.2	0.1	0.1	0.2	0.4	0.8	1.4	2.2
STACR 2015-DNA3	60-80	Actual	32	25	68	1.4	1.9	3.0	4.7	7.1	10.1	13.7	14.0	21.0	24.9	29.8	35.7	41.8	48.2	0.2	0.4	0.7	1.4	2.5	4.2	6.6
STACR 2016-DNA1	60-80	Actual	29	22	75	1.4	1.9	3.0	4.9	7.4	10.5	14.4	14.0	21.0	25.0	29.9	35.8	42.0	48.4	0.2	0.4	0.8	1.5	2.7	4.4	7.0
STACR 2016-DNA3	60-80	Actual	23	17	78	1.8	2.5	4.0	6.3	9.5	13.3	18.0	16.5	24.2	28.9	34.3	40.3	46.6	53.0	0.3	0.6	1.1	2.2	3.8	6.2	9.5
STACR 2016-DNA4	60-80	Actual	20	14	84	1.8	2.6	4.2	6.8	10.2	14.4	19.4	16.7	24.5	29.4	34.9	41.0	47.3	53.6	0.3	0.6	1.2	2.4	4.2	6.8	10.4
STACR 2017-DNA1	60-80	Actual	17	10	92	1.7	2.5	4.1	6.7	10.2	14.5	19.6	16.0	23.6	28.6	34.1	40.2	46.4	52.6	0.3	0.6	1.2	2.3	4.1	6.7	10.3
STACR 2017-DNA2	60-80	Actual	14	7	94	1.7	2.6	4.2	7.1	10.8	15.3	20.6	16.0	23.7	28.9	34.5	40.5	46.6	52.8	0.3	0.6	1.2	2.4	4.4	7.1	10.9
STACR 2014-HQ1	81-95	Tiered	47	39	43	2.3	2.9	4.2	6.4	9.3	12.8	17.0	14.0	15.2	16.7	18.2	20.3	24.1	28.0	0.3	0.4	0.7	1.2	1.9	3.1	4.8
STACR 2014-HQ2	81-95	Tiered	53	38	61	1.5	1.9	2.9	4.6	6.7	9.4	12.7	12.0	13.6	15.9	17.5	19.9	24.0	28.2	0.2	0.3	0.5	0.8	1.3	2.3	3.6
STACR 2014-HQ3	81-95	Tiered	44	37	45	2.5	3.1	4.6	7.1	10.3	14.2	18.8	15.2	16.2	17.5	19.4	21.5	26.6	29.9	0.4	0.5	0.8	1.4	2.2	3.8	5.6
STACR 2015-HQ2	81-95	Actual	53	30	66	1.4	1.8	2.8	4.5	6.8	9.5	12.9	11.2	13.1	15.6	17.6	20.0	25.0	28.9	0.2	0.2	0.4	0.8	1.4	2.4	3.7
STACR 2015-HQA1	81-95	Actual	37	26	62	2.3	3.1	4.7	7.5	11.2	15.7	21.0	14.7	22.3	27.1	32.5	38.2	44.1	50.0	0.3	0.7	1.3	2.4	4.3	6.9	10.5
STACR 2015-HQA2	81-95	Actual	33	24	67	2.2	3.0	4.8	7.8	11.7	16.6	22.1	13.9	21.3	26.1	31.4	37.1	42.9	48.8	0.3	0.6	1.3	2.4	4.4	7.1	10.8
STACR 2016-HQA1	81-95	Actual	29	20	76	2.0	2.9	4.7	7.7	11.8	16.7	22.3	13.8	21.0	25.6	30.8	36.4	42.1	47.9	0.3	0.6	1.2	2.4	4.3	7.1	10.7
STACR 2016-HQA3	81-95	Actual	23	14	83	2.4	3.4	5.6	9.3	14.1	19.7	25.8	13.9	20.9	25.3	30.2	35.6	41.1	46.6	0.3	0.7	1.4	2.8	5.0	8.1	12.0
STACR 2016-HQA4	81-95	Actual	20	13	86	2.7	3.9	6.4	10.5	15.8	21.8	28.2	14.0	20.9	25.2	30.0	35.2	40.6	46.0	0.4	0.8	1.6	3.2	5.6	8.9	13.0
STACR 2017-HQA1	81-95	Actual	16	9	93	2.5	3.7	6.4	10.8	16.3	22.4	28.8	13.3	20.1	24.2	29.0	34.1	39.4	44.7	0.3	0.7	1.5	3.1	5.6	8.8	12.9
STACR 2017-HQA2	81-95	Actual	13	5	96	2.6	4.0	7.0	11.9	17.8	24.3	30.9	13.4	20.2	24.4	29.0	34.1	39.3	44.5	0.4	0.8	1.7	3.4	6.1	9.5	13.8

^aTiered – Losses are passed to bondholders based on a fixed, tiered loss severity schedule related to cumulative credit events since issuance. Actual – Losses are passed to bondholders based on actual losses incurred by liquidated loans.
Source: Fitch.

PLS CRT Projected Credit Events and Losses by Rating Stress

(All projections are as a percentage of the remaining December 2017 unpaid balance)

Pool Name	LTV at Issuance (%)	Loss Type ^a	Loan Age (Mos.)	Deal Age (Mos.)	Pool Factor (%)	Credit Event by Rating Stress (%)							Loss Severity by Rating Stress (%)							Expected Loss by Rating Stress (%)						
						CCC	B	BB	BBB	A	AA	AAA	CCC	B	BB	BBB	A	AA	AAA	CCC	B	BB	BBB	A	AA	AAA
L Street 2015-CH1 Pool 1	60-80	Tiered	30	30	77	1.9	2.5	4.1	6.9	10.5	14.7	19.6	13.7	15.8	25.1	31.0	34.1	35.8	36.9	0.3	0.4	1.0	2.1	3.6	5.3	7.2
L Street 2015-CH1 Pool 2	81-95	Tiered	30	30	77	2.4	3.0	4.4	6.7	9.8	13.3	17.5	15.1	16.0	18.0	20.4	21.8	22.7	23.2	0.4	0.5	0.8	1.4	2.1	3.0	4.1

^aTiered – Losses are passed to bondholders based on a fixed, tiered loss severity schedule related to cumulative credit events since issuance. Actual – Losses are passed to bondholders based on actual losses incurred by liquidated loans.
Source: Fitch.

Cumulative Rating Changes Since Issuance

Includes All Classes

Vintage	Total	Upgraded	Avg. Ticks of Upgrades	Downgraded	Avg. Ticks of Downgrades
2013	9	9	5.00	0	N.A.
2014	77	74	5.11	0	N.A.
2015	72	64	3.95	0	N.A.
2016	94	67	2.58	0	N.A.
2017	217	43	1.58	0	N.A.

Includes M-1, M-2A, M-2B M-3 and B-1 (No Exchangeables)

Vintage	Total	Upgraded	Avg. Ticks of Upgrades	Downgraded	Avg. Ticks of Downgrades
2013	5	5	4.60	0	N.A.
2014	35	34	4.53	0	N.A.
2015	37	31	3.58	0	N.A.
2016	40	29	2.48	0	N.A.
2017	28	3	1.00	0	N.A.

Original	Total	Upgraded	Avg. Ticks of Upgrades	Downgraded	Avg. Ticks of Downgrades
AAA	—	—	—	—	—
AA+	—	—	—	—	—
AA	—	—	—	—	—
AA-	3	3	4.00	0	N.A.
A+	—	—	—	—	—
A	7	7	6.00	0	N.A.
A-	3	3	7.00	0	N.A.
BBB+	1	1	8.00	0	N.A.
BBB	15	15	5.93	0	N.A.
BBB-	75	61	5.09	0	N.A.
BB+	55	27	1.22	0	N.A.
BB	57	26	0.95	0	N.A.
BB-	59	22	0.37	0	N.A.
B+	48	20	0.75	0	N.A.
B	111	44	0.74	0	N.A.
B-	1	1	1.00	—	—
Total	435	230	1.88	0	N.A.

N.A. – Not applicable.

Original	Total	Upgraded	Avg. Ticks of Upgrades	Downgraded	Avg. Ticks of Downgrades
AAA	—	—	—	—	—
AA+	—	—	—	—	—
AA	—	—	—	—	—
AA-	1	1	4.00	0	N.A.
A+	—	—	—	—	—
A	3	3	6.00	0	N.A.
A-	8	6	3.00	0	N.A.
BBB+	1	1	8.00	0	N.A.
BBB	9	8	5.13	0	N.A.
BBB-	41	31	5.39	0	N.A.
BB+	17	12	2.17	0	N.A.
BB	13	8	2.50	0	N.A.
BB-	6	3	1.00	0	N.A.
B+	19	12	1.83	0	N.A.
B	26	16	2.19	0	N.A.
B-	1	1	1.00	—	—
Total	118	77	2.50	0	N.A.

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