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Presale:

Fannie Mae Connecticut Avenue Securities Trust 2019-R03

April 5, 2019

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Preliminary Ratings

Class(i)	Preliminary ratings	Amount ($)	Credit enhancement (%)	Interest rate (%)	Class type
1A-H(ii)	NR	20,477,151,368	4.70	N/A	Senior
1M-1	BBB+ (sf)	204,126,000	3.70	One-month LIBOR + TBD	Mezzanine
1M-1H(ii)	NR	10,744,424	3.70	N/A	Mezzanine
1M-2(iii)	B+ (sf)	500,109,000	1.25	One-month LIBOR + TBD	RCR/Mezzanine
1M-2A(iii)	BBB (sf)	166,703,000	2.88	One-month LIBOR + TBD	Mezzanine
1M-AH(ii)	NR	8,774,513	2.88	N/A	Mezzanine
1M-2B(iii)	BB+ (sf)	166,703,000	2.07	One-month LIBOR + TBD	Mezzanine
1M-BH(ii)	NR	8,774,513	2.07	N/A	Mezzanine
1M-2C(iii)	B+ (sf)	166,703,000	1.25	One-month LIBOR + TBD	Mezzanine
1M-CH(ii)	NR	8,774,513	1.25	N/A	Mezzanine
1B-1	NR	153,095,000	0.50	One-month LIBOR + TBD	Subordinate
1B-1H(ii)	NR	8,057,818	0.50	N/A	Subordinate
1B-2H(ii)	NR	107,435,209	0.00	One-month LIBOR + TBD	Subordinate

Note: This presale report is based on information as of April 5, 2019. The ratings shown are preliminary. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. Accordingly, the preliminary ratings should not be construed as evidence of final ratings. This report does not constitute a recommendation to buy, hold, or sell securities. (i)See Appendix I for a full list of the RCR notes. (ii)Reference tranche only and will not have corresponding notes. Fannie Mae retains the risk of each of these tranches. (iii)Class 1M-2 is offered at closing and may be exchanged for classes 1M-2A, 1M-2B, and 1M-2C. NR--Not rated. N/A--Not applicable. TBD-–To be determined. RCR--Related combinable and recombinable notes.

Profile

Expected closing date	April 17, 2019.
Cut-off date	Jan. 31, 2019.
First payment date	April 25, 2019.
Scheduled maturity date	Sept. 25, 2031.
Offered note amount	$857.33 million.
Reference pool amount	$21.49 billion.
Reference obligation type	Fully amortizing, first-lien, fixed-rate residential mortgage loans secured by one- to four-family residences, planned-unit developments, condominiums, cooperatives, and manufactured housing to mostly prime borrowers.
Reference obligations	Residential mortgage loans, deeds of trust, or similar security instruments encumbering mortgaged properties acquired by Fannie Mae.
Credit enhancement	For each class of rated notes, subordination of the reference tranches that are lower in the payment priority.

Participants

Issuer	Connecticut Avenue Securities Trust 2019-R03.
Reference pool aggregator, master servicer, and sponsor	Fannie Mae.
Indenture trustee, exchange administrator, and custodian	Wells Fargo Bank N.A.

Top Sellers In The Reference Pool

Seller	By balance (%)
Wells Fargo Bank N.A.	23.54
Quicken Loans Inc.	10.44
JPMorgan Chase Bank N.A.	3.91
United Shore Financial Services LLC	3.66
Freedom Mortgage Corp.	2.81
Top five sellers	44.36
Remaining sellers	55.64

Top Servicers Of The Reference Pool

Servicer	By balance (%)	On S&P Global Ratings' select servicer list?
Wells Fargo Bank N.A.	23.54	Yes
Quicken Loans Inc.	10.44	No
Freedom Mortgage Corp.	4.73	No
JP Morgan Chase Bank N.A.	3.91	Yes
United Shore Financial Services LLC	3.66	No
Top five servicers	46.28	N/A

Top Servicers Of The Reference Pool (cont.)

Servicer	By balance (%)	On S&P Global Ratings' select servicer list?
Remaining servicers	53.72	N/A

N/A--Not applicable.

Key Features

- Connecticut Avenue Securities Trust 2019-R03 (CAS 2019-R03) is structured as a real estate mortgage investment conduit (REMIC), which better protects investors from potential future counterparty risk exposure to Fannie Mae. The assets of the trust are intended to fund interest and principal payments on the notes.
- The transaction has a 12.5-year final maturity in addition to an early redemption option in year 10 or a 10% pool factor.
- A pro rata share of scheduled principal payments is distributed to the most senior subordinate class irrespective of the credit enhancement and delinquency tests. A pro rata share of unscheduled principal payments is distributed to the most senior subordinate class if triggers pass.

Rationale

The preliminary ratings assigned to CAS 2019-R03's notes reflect our view of:

- The credit enhancement provided by the subordinated reference tranches and the associated structural deal mechanics;
- The credit quality of the collateral included in the reference pool (see the Collateral Summary section);
- A REMIC structure that reduces the counterparty exposure to Fannie Mae for periodic principal and interest payments but, at the same time, pledges the support of Fannie Mae (a highly rated counterparty) to cover shortfalls, if any, on interest payments and to make up for any investment losses;
- The issuer's aggregation experience and the alignment of interests between the issuer and the noteholders in the deal's performance, which, in our view, enhances the notes' strength; and
- The enhanced credit risk management and quality control (QC) processes Fannie Mae uses in conjunction with the underlying representations and warranties (R&Ws) framework.

Transaction Overview

Fannie Mae is issuing this transaction to transfer a portion of the risk in its mortgage asset portfolio to private investors. This type of risk transfer has been mandated as one of several goals by Fannie Mae's regulator, the Federal Housing Finance Agency (FHFA). While Fannie Mae has issued risk-transfer transactions for some time, CAS 2019-R03 is unique in that it is Fannie Mae's fourth transaction in the CAS shelf that uses a REMIC structure.

The notes are issued from a trust whose assets primarily consist of the note proceeds (held in the cash collateral account [CCA]), investments on those proceeds, and the designated Q-REMIC interests. Funds held in the CCA are used to pay principal on the securities and to make payments to Fannie Mae for mortgage loans in the underlying reference pool that experience certain credit and modification events. Interest on the notes is paid from earnings on eligible investments and from amounts received through the designated Q-REMIC interests on certain designated loans acquired during the eligible acquisition period. Although the note proceeds can only be invested in eligible investments that are restricted to short-term investments with high credit ratings, our analysis also relies on Fannie Mae's credit rating to make the trust whole for any investment losses and shortfalls.

Because the trust is not issuing notes that correspond to the class 1A-H, 1M-1H, 1M-AH, 1M-BH, 1M-CH, 1B-1H, and 1B-2H reference tranches, Fannie Mae effectively retains the credit risk in the reference pool associated with the retained reference tranches' position in the transaction structure. These retained reference tranches' correspond to a vertical slice of at least 5% at each tranche level. Initially, Fannie Mae retains the entire first-loss piece, the class 1B-2H reference tranche, and the entire senior class 1A-H reference tranche.

The monthly interest payments on the notes are not related to the underlying interest generated on the reference obligations (besides certain loan modifications described below). The amount of monthly principal payments made to the notes will be determined by actual principal payments of the mortgage loans in the reference pool. Those payments are applied to the related hypothetical structure. The class 1M-1, 1M-2A, 1M-2B, 1M-2C, and 1B-1 notes are structurally aligned with corresponding reference tranches (classes 1M-1H, 1M-AH, 1M-BH, 1M-CH, and 1B-1H, respectively). This way, the payments and loss allocation to the notes will be determined solely based on the reference obligations' credit performance and behave as if they are secured by a pool of mortgage assets, even though the transaction is synthetic in nature.

The LIBOR portion of the interest payments on the CAS 2019-R03 notes are made from the investment proceeds on funds held by the CCA. The interest margin due on the notes in excess of LIBOR will be made from amounts received through the designated Q-REMIC interests. To the extent that these sources are insufficient to pay interest on the notes, Fannie Mae will pay the difference.

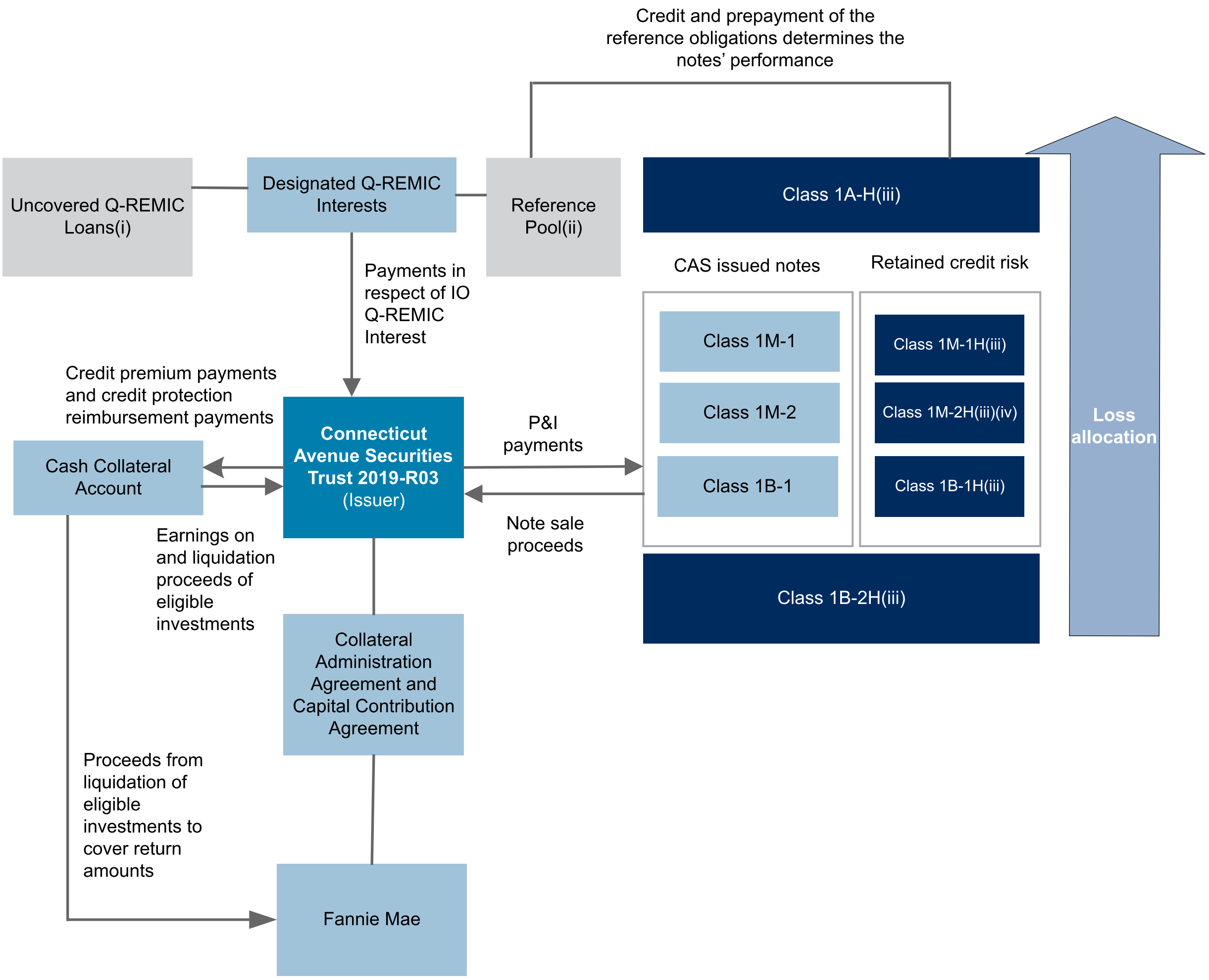
Principal payments to the noteholders are made by liquidating investments in the CCA and, when applicable, from payment by Fannie Mae via transfer amounts and capital contribution amounts. The obligations of Fannie Mae to make these payments under the Collateral Administration Agreement and the Capital Contribution Agreement are unsecured contractual obligations of Fannie Mae.

We believe the transaction's features, including the payment priority and credit support, are commensurate with the preliminary ratings assigned to the notes. The structural lockout of principal payments to all but the most-senior subordinate notes, together with the reference obligations' high-quality collateral characteristics, increases the likelihood of ultimate principal payments on the notes. Similarly, it is highly likely that timely interest will be paid because, to the extent that interest amounts from investment earnings and designated Q-REMIC interests are less than the aggregate interest payment due, Fannie Mae will backstop the shortfall.

Transaction Structure

The chart shows an overview of the transaction's structure.

Transaction Structure



(i)Subset of loans pooled between July 1, 2018, and Aug. 31, 2018, not including reference pool. (ii)Subset of the May 2018 through November 2018 acquisitions. (iii)Reference tranche. (iv)Shown for illustrative purposes only to represent the sum of the 1M-AH, 1M-BH, and 1M-CH reference tranches. P&I--Principal and interest.

Strengths And Weaknesses

Strengths

- The REMIC structure, wherein the note proceeds and the designated Q-REMIC interests are owned by the trust for the noteholders' benefit, limits the dependency on Fannie Mae to make payments on the notes.
- Fannie Mae provides a backstop in the case of any investment losses or if the proceeds on those investments are insufficient to make the interest payments due on the notes.

- Fannie Mae's senior unsecured debt is rated 'AA+', which is higher than the rated classes and reflects our assumption of an almost-certain likelihood of continued extraordinary support from the U.S. government.
- Note interest payments are not related to the underlying interest generated on the reference obligations (except for certain loan modification-related interest reductions, typically borne by the lowest-priority tranches), which eliminates the possibility of interest shortfalls on the notes absent a Fannie Mae default.
- The sequential payment priority to the subordinate tranches does not allow for depletion (via principal payments) of the respective tranches that provide credit support to each rated class.
- Because Fannie Mae is retaining risk in the transaction by retaining a portion of each subordinate tranche and the entire senior and bottom-most junior tranches, Fannie Mae's and the investors' interests are aligned with the reference pool's performance.
- Overall default and loss experiences for loans Fannie Mae has purchased, with characteristics similar to those in the reference pool, have historically been lower than comparable non-agency loans.

Weaknesses

- About 27.2% of the loans in the reference pool are cash-out loans, while 9.0% are on investment properties. We increased the reference pool's loss estimate to account for these loans' increased default risk.
- R&Ws are not technically pledged to the CAS 2019-R03 noteholders. The R&Ws that the sellers provide to Fannie Mae substantively address the risks outlined in our criteria. On a portion of the pool, the sponsor, and thus the trust, may not have recourse to the sellers because these loans qualified for collateral R&W relief on day one under programs instituted by the sponsor. This risk, however, is mitigated because this R&W relief applies mainly to property value on properties identified as low-risk appraisals by Fannie Mae's robust data-driven analytics. In addition, several R&Ws related to underwriting generally sunset (end) after three years. We believe this risk is mitigated by Fannie Mae's QC and credit risk management processes.
- Approximately 9.6% of the reference obligations were granted property inspection waivers at origination. We believe this risk is largely mitigated by the loans meeting Fannie Mae's eligibly requirements to qualify for such programs, including but not limited to, certain loan amounts, loan-to-value (LTV) ratios, and property types. Additionally, a prior satisfactory appraisal must be found for the subject property in Fannie Mae's collateral underwriter dataset. Overall, we feel that Fannie Mae's tools and processes in granting eligibility for this program largely mitigate the potential credit risk.
- Third-party due diligence is limited. A random post-purchase review was done on 2,664 loans (999 each from the second- and third-quarter 2018 acquisitions and 333 each from the October and November 2018 acquisitions). Of the 88,981-loan reference pool, 280 loans from the aforementioned review were assessed for credit, property valuation, and regulatory compliance issues, specifically anti-predatory lending. Based on the results of the due diligence review and Fannie Mae's historical sampling error rate and post-purchase QC, we believe this risk is sufficiently mitigated.

Collateral Summary

The CAS 2019-R03 reference pool consists of 100% conforming residential mortgage loans. Of the loans, approximately 85.5% are backed by primary homes, 9.0% by investor properties, and 5.5% by secondary homes. The pool's non-zero weighted average original FICO score is 743, and the average loan balance is roughly $241,479.

The performance of the reference pool's mortgage loans will determine the amount of principal payments that the trust will be obligated to pay to the noteholders. The reference pool is a subset of the mortgage loans that Fannie Mae acquired between May 1, 2018, and Nov. 30, 2018. All the loans in the reference pool are fully amortizing, fixed-rate, first-lien mortgages that have not been 30-plus-days delinquent since acquisition.

Compared with our archetypal prime pool, the borrowers in the reference pool have higher credit scores. However, the weighted average original LTV ratios, original combined LTV (CLTV) ratios, and debt-to-income (DTI) ratios are slightly higher. Additionally, after factoring in adjustments relating to occupancy status, loan purpose, and property type, the CAS 2019-R03 pool has a higher 'BBB' loss coverage (see table 1 below) than our archetypal pool.

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Table 1

Collateral Characteristics

	CAS 2019-R03	CAS 2019-R02	CAS 2018-R07	CAS 2018-C05	Archetypal prime
Closing pool balance (mil. $)	21,487	26,380	24,260	28,733	--
Closing loan count	88,981	107,109	98,567	116,174	--
Avg. loan balance (000s $)	241.5	246.3	246.1	247.3	--
WA orig. LTV (%)	75.8	75.8	75.7	75.3	75.0
WA orig. CLTV (%)	76.3	76.4	76.3	75.9	75.0
WA original FICO score	743	745	742	743	725
WA current FICO score (iv)	741	742	(ii)	(ii)	
WA current rate (%)	5.0	4.9	4.8	4.3	--
WA DTI (%)	37.6	37.3	37.5	36.9	36.0
Owner-occupied (%)	85.5	85.4	84.1	85.6	100.0
Single family and PUD (%)(i)	86.2	86.8	(ii)	(ii)	100.0
Purchase loan (%)	63.5	66.1	61.9	49.9	100.0
Cash-out refinance (%)	27.2	25.6	28.0	31.5	--
Investor loan (%)	9.0	9.3	10.5	9.8	--
Top three states (%)	32.0	32.4	35.0	35.5	--
Geographic concentration factor (x)	1.00	1.00	(ii)	(ii)	1.00
R&Ws factor (x)	1.00	1.00	(ii)	(ii)	1.00
Third-party due diligence factor (x)	1.00	1.00	(ii)	(ii)	1.00
Mortgage operational assessment factor (x)	0.80	0.80	(ii)	(ii)	1.00

Table 1

Collateral Characteristics (cont.)

	CAS 2019-R03	CAS 2019-R02	CAS 2018-R07	CAS 2018-C05	Archetypal prime
'BBB' loss coverage (%)	2.70	2.60	(iii)	(iii)	1.50
'BBB' foreclosure frequency (%)	7.26	7.02	(iii)	(iii)	5.00
'BBB' loss severity (%)	37.19	37.04	(iii)	(iii)	30.00

(i)Single family excludes two- to four-family properties. (ii)Not assessed. (iii)Not rated by S&P Global Ratings. (iv)Current FICO score utilizes the lower of two borrowers scores, including original FICOs in certain instances where one of two borrower scores were not updated. CAS—Connecticut Avenue Securities. LTV--Loan-to-value ratio. CLTV--Combined LTV ratio. R&W--Representations and warranties. PUD--Planned-unit developments. WA--Weighted average.

The reference pool is geographically diversified across the U.S. and is sufficiently large enough to withstand the impact of any unexpected credit events by a small number of the highest-balance loans. Therefore, no adjustments were made to the expected credit events estimate from our credit model based on geographic or loan concentration.

Analytical Overlays Applied On The Reference Pool

Loan documentation

We analyzed the loans by utilizing a neutral documentation adjustment factor (1.0x) given the fact that they met Fannie Mae's eligibility requirements.

Self-employed borrowers

Self-employed borrower data was not provided by Fannie Mae for the pool. We typically apply a loss coverage adjustment factor of 1.1x for self-employed borrowers. We estimated 20% of borrowers in similar pools to be self-employed based on analyzing data published by the Bureau of Labor Statistics in conjunction with observations from previous prime transactions. This estimate resulted in a 1.02x pool-level adjustment to account for the risk of potential self-employed borrowers.

Loans with junior liens

For calculating the current combined balance, we assumed the second-lien mortgage balance does not decline from the implied original second-lien mortgage balance since origination. We are comfortable with this approach because the overall default and loss experiences for Fannie Mae purchased loans have historically been lower than comparable non-agency loans.

Foreign nationals

No foreign national borrowers were identified in the reference pool. Historically, there has been no indication that a reference pool's exposure to foreign national borrowers would be different than the historical dataset of loans purchased by Fannie Mae, which have performed better than comparable non-agency loans. Therefore, we believe a risk of foreign national borrowers would be sufficiently addressed by our loss coverage numbers at each rating level. As such, we did not make any adjustments to the loss coverage based on foreign national borrowers.

Credit Events And Expected Loss

Credit events

Losses to the issued notes occur when tranche write-downs exceed the available subordination. Write-downs occur whenever there are credit event losses exceeding recovery amounts. The reference tranches (and any related notes) will be written down in reverse sequential order if a credit event occurs for the reference obligations.

A credit event for a loan occurs if:

- A short sale is settled,
- A seriously delinquent mortgage note is sold prior to foreclosure,
- The mortgaged property is sold during the foreclosure sale,
- A real estate-owned (REO) disposition occurs, or
- The mortgage note is charged-off.

We believe that tranche write-downs will primarily result from credit event loss amounts, after netting against recoveries. But they could also result from court-approved principal reductions (bankruptcy cramdowns) and reduced interest on modified mortgage loans. (See the Imputed Promises Analysis section below for more detail on the allocation of modified mortgage loans' interest reductions.)

Analyzing Historical Performance

In an effort to increase transparency and help return private capital to the mortgage markets, Fannie Mae has made its loan-level, historical performance data available to the public. The data contain detailed information, including borrower characteristics, credit metrics, property attributes, unpaid principal balances, and loan status. We have analyzed this historical loan-level performance data to provide insight into the historical default frequency of agency loans. We then compared the historical default experiences of agency and non-agency pools to understand their relative performance and evaluate the extent to which certain borrower and loan characteristics would drive the credit event/foreclosure frequency of agency loans. We found that agency loans performed substantially better than non-agency loans and that, after controlling for collateral characteristics, agency and non-agency loans tend to have similar credit event sensitivity to changes in FICO score, DTI ratios, and LTV ratios. (Collateral characteristics typically associated with borrower credit risk are more fully described in "Methodology And Assumptions For Rating U.S. RMBS Issued 2009 And Later," published Feb. 22, 2018. Additionally, for more information on the historical performance study, see "Historical Data Show That Agency Mortgage Loans Are Likely To Perform Significantly Better Than Comparable Non-Agency Loans," published Oct. 20, 2015.) We expect these relationships will continue, given that the reference pool is in many ways similar to the agency loans examined in the historical performance dataset. Therefore, we use our LEVELS credit model as a base for determining credit event percentages before adjusting those expectations for the results of our qualitative reviews.

The expected loss coverage rounded to the nearest five basis points, foreclosure frequency, and loss severity from our credit analysis, at the applicable rating categories, are shown in table 2.

Table 2

Loss Coverage Comparisons

Class	Preliminary rating	Credit enhancement (%)	Loss coverage (%)	Foreclosure frequency (%)	Loss severity (%)
1M-1	BBB+ (sf)	3.70	3.15	8.37	37.63
1M-2A	BBB (sf)	2.88	2.70	7.26	37.19
1M-2B	BB+ (sf)	2.07	1.95	5.91	32.99
1M-2C	B+ (sf)	1.25	0.95	3.57	26.61

Mortgage Operational Assessment (MOA)

Fannie Mae is the mortgage loan aggregator for the transaction's reference pool. To address the operations of the transaction's aggregator, we conducted an MOA of Fannie Mae and assigned an overall ranking of ABOVE AVERAGE to the company. An MOA typically consists of two components: a qualitative review (loan acquisition and review process) and a quantitative analysis (historical loan performance).

The qualitative review is broken down into three key areas: management and organization; loan purchase and aggregation; and internal controls. For the quantitative review, we conducted a comprehensive analysis of Fannie Mae's loan-level performance data for 2000-2014 loan vintages.

Based on the results of our MOA, we applied an adjustment factor of 0.80x to the loss coverage estimate at each rating level for the reference pool.

Key assessment factors

We found the following strengths:

- Ongoing financial support from the U.S. Treasury and oversight and operational involvement from the FHFA as Fannie Mae's regulator and conservator;
- A thorough review process for new sellers and thorough monitoring of existing sellers;
- Fannie Mae's leading role in establishing market standards through transparency and the development of new analytical tools and lender training opportunities;
- Continuous system and control improvements around its QC processes that take a proactive approach to reviewing loans early in their lifecycle rather than postmortem on delinquent loans;
- A comprehensive systems training program for sellers and extensive seller guidelines;
- The strong asset quality of loans purchased post-crisis (after 2008); and
- Better-than-average mortgage loan performance versus non-agency loans.

Partly offsetting the above strengths is our view of the company's potential weaknesses:

- Uncertainties regarding the impact of future potential legislative changes.
- Reliance on sellers' R&Ws and delegated underwriting for all sellers, which is partly mitigated by Fannie Mae's rigorous risk management and oversight of its sellers.

- Reliance on sellers to perform all pre-purchase QC processes. Fannie Mae does not complete a pre-purchase QC review on any loan files itself; however, this is partly offset by initial automated, data-driven checks of all loans delivered to Fannie Mae.
- All sellers are not reviewed annually because of the logistical challenge of reviewing a large number of sellers.

Qualitative review

Our qualitative review focused on Fannie Mae's acquisition and risk management processes, with a particular focus on its operational reviews of sellers and its loan quality processes and procedures. Specifically, we considered the company's:

- Continuous effort to set market standards through promoting transparency and developing new analytical tools,
- Comprehensive seller and post-purchase QC processes,
- Long operational track record, and
- Reliance on its sellers' QC processes and pre-purchase QC results. (Fannie Mae delegates underwriting for all of its sellers and performs electronic pre-purchase QC reviews on all loan files.)

We also considered the company's ongoing financial support from the U.S. Treasury and the FHFA's oversight and operational involvement.

Focused on preventing predatory lending, Fannie Mae has implemented a number of policies, including purchase eligibility requirements and the requirement that its approved sellers/servicers develop and implement policies designed to identify and prevent predatory lending practices. Currently, its regulatory compliance review's scope is limited to anti-predatory lending that could result in assignee liability, and the company relies on its sellers to verify that the loans comply with all applicable federal, state, and local laws and regulations. This smaller scope is mitigated by an R&W framework in which the sellers attest compliance with all applicable laws and regulations. Fannie Mae also conducts a thorough review of the sellers' effectiveness of controls over mortgage operations and compliance with all of its requirements.

Quantitative review

Our detailed quantitative analysis is based on Fannie Mae's historical loan-level credit performance data, which it has made publicly available. We concluded that for all vintages in both pre-crisis and crisis-era originations (2000-2014), the default rate for non-agency loans was materially higher at all times than for Fannie Mae loans (see "Historical Data Show That Agency Mortgage Loans Are Likely To Perform Significantly Better Than Comparable Non-Agency Loans," Oct. 20, 2015). We selected loans from Fannie Mae and non-agency pools that had comparable characteristics (e.g., loan terms, documentation types, liens, seasoning, FICOs, DTI ratios, etc.) for our analysis. We concluded that Fannie Mae's better-than-average loan performance was primarily driven by its thorough risk management, operational seller reviews, and QC processes--a conclusion also reached from our qualitative analysis.

Fannie Mae's single-family conventional guarantee portfolio includes a strong asset quality, with a weighted average FICO score of approximately 746 and a weighted average original LTV of about 75%. The portfolio's serious delinquency rate on its purchased loans has been falling to 0.76% as of December 2018 from its peak of 5.38% in 2009. We expect this delinquency rate to continue to decline as Fannie Mae's new single-family portfolio increases as percentage of the total portfolio over time.

Third-Party Due Diligence Review

Third-party due diligence firms, Adfitech Inc. (Adfitech) and American Mortgage Consultants Inc. (AMC), performed independent third-party loan-level reviews on a portion of the pool's loans. Adfitech and AMC have both been deemed to have adequate processes, procedures, and systems to carry out the review. A random post-purchase review was done on 2,664 loans (999 each from the second- and third-quarter 2018 acquisitions and 333 each from the October and November 2018 acquisitions). Of the 88,981-loan reference pool, 280 loans from the aforementioned review were assessed for credit, property valuation, and regulatory compliance issues, specifically anti-predatory lending. While the sample size is smaller than expected under our due diligence criteria, we believe Fannie Mae's strong seller approval and ongoing review process, robust post-purchase QC functions, and enhanced R&W framework adequately mitigate the risk posed. Additionally, the sample size selected is adequate considering Fannie Mae's historical sampling error rate. Therefore, we made no adjustments for sample size.

Eligible loans are loans in which Fannie Mae completed a post-purchase QC review and were not removed from the reference pool because of an underwriting defect or for other reasons, such as payoffs, delinquencies, removal from the Fannie Mae participation certificate pools, borrower bankruptcy filings, or data reconciliation removals.

Our review found the following:

- Compliance review was performed on 280 mortgage loans to determine whether the loans comply with certain laws that may result in assignee liability, as well as for compliance with certain laws restricting points and fees. There were no compliance discrepancy findings.
- The 280 loans were tested for compliance with underwriting guidelines. There were two credit discrepancy findings and those loans received a final credit risk grade C. The remaining 278 loans in the sample received a credit risk grade A or B.
- The 280 loans were tested for property valuation. One loan received a final valuation risk grade C due to the original appraisal exceeding the review appraisal by at least 10%. We extrapolated this proportion on the unsampled portion of the pool.
- An insignificant percentage of the total fields reviewed in the DD sample for data integrity were found to have discrepancies.

After reviewing the third-party due diligence results, we deemed the adjustments related to the due diligence findings to be slightly higher than neutral, which resulted in an adjustment factor of 1.00x to the loss coverage for all rating categories.

R&Ws

While R&Ws are not pledged to the transaction, the CAS 2019-R03 noteholders will benefit from the R&Ws made by the mortgage loan sellers or servicers to Fannie Mae on the mortgage loans in the reference pool. The benefits accrue from the potential removal of those loans from the reference pool before a credit event has occurred or a potential reversal of a credit event after one has occurred, to the extent certain conditions are met. To be removed from the reference pool, the loan would have to be meet certain criteria detailed below (see the Repurchase and remedies section below).

R&W effective dates

The R&Ws are made by each lender as of the date the mortgage loan transfers to Fannie Mae and will survive (subject to certain sunset provisions) unless Fannie Mae expressly releases the lender from them. Fannie Mae may remove loans from the reference pool that are found to not meet certain eligibility criteria during limited post-purchase loan reviews.

Discovery

In conjunction with its 2014 Rep and Warrant Framework, Fannie Mae increased the focus on post-purchase QC reviews earlier in the loan life cycle. Fannie Mae reviews a statistical random sample of newly acquired performing mortgage loans, and it augments this random sample with targeted, discretionary sampling using a number of technology tools and internal models to more accurately identify loans with characteristics that merit further scrutiny in discretionary reviews.

In addition to conducting random and discretionary QC reviews on newly-acquired loans, Fannie Mae's current QC process includes the completion of an electronic analysis of all defaulted loans that remain subject to a repurchase obligation on the lender's part at the time of the default or, in the case of certain loans for which lender relief was granted at the time of acquisition, for a period of 36 months from acquisition.

As of Dec. 31, 2018, the eligibility defect rate for Fannie Mae's single-family non-Refi Plus loan acquisitions made during the 12 months ended May 2018 was 0.45%. Fannie Mae continues to work with lenders to reduce the number of defects.

Repurchase and remedies

Fannie Mae actively enforces the contractual rights when a loan defect is uncovered. Remedies, determined at Fannie Mae's sole discretion, are based on the defect's significance and impact on loan eligibility, including loan repurchase, indemnification, and pricing adjustments.

The sellers or servicers are the only parties making the R&Ws for each loan to Fannie Mae. A reference obligation will be removed from the reference pool upon the occurrence of any of the following:

- The related loan seller or servicer repurchases the reference obligation, enters into a full indemnification agreement with Fannie Mae with respect to the reference obligation, or pays a fee in lieu of repurchase with respect to the reference obligation.
- Fannie Mae elects to sell a delinquent reference obligation that is less than 12 months delinquent at the time it is offered for sale, or sell a reference obligation that previously had been seriously delinquent and is current at the time it is offered for sale.
- The party responsible for the representations with respect to the reference obligation was granted relief by Fannie Mae from liability for potential breaches of specified eligibility defects at the time Fannie Mae acquired the reference obligation, and an eligibility defect is identified that could otherwise have resulted in a repurchase but for the aforementioned relief, provided that the eligibility defect is identified on or before the 36th month after Fannie Mae's acquisition of the reference obligation.
- The party responsible for the R&Ws, servicing obligations, or liabilities for the loan becomes

subject to a bankruptcy, an insolvency proceeding, or a receivership.

It is possible that the seller or servicer may not come to an agreement on an alternative remedy, or may refuse or have the inability to repurchase the identified loan. This could prevent, reduce, or delay payment of any return reimbursement amounts and consequently prevent, reduce, or delay the allocation of a tranche write-up for reference obligations previously subject to a credit event write-down.

Sunsetting

For loans purchased by Fannie Mae on or after July 1, 2014, the R&W framework provides lenders with relief of their obligation to repurchase mortgage loans that breach certain underwriting and eligibility R&Ws if a loan meets any of the following conditions following the settlement date:

- The loan has no more than two 30-day delinquencies and no 60-day delinquencies for the first 36 months, and it is current at 36 months,
- The loan was previously reviewed and subjected to Fannie Mae's QC after settlement and was found satisfactory, and
- The loan became subject to an agreement wherein claims were settled between Fannie Mae and the related seller.

Effective December 2016, Fannie Mae provided loan sellers with additional relief from the enforcement of remedies for breaches of R&Ws related to property value. Relief is granted on single-family and condominium unit appraisals with collateral underwriter (CU) scores that are less than or equal to 2.5. However, loan sellers are still liable for breaches of R&Ws related to property eligibility, marketability, and accuracy of subject property data.

Additionally, for loans constituting approximately 9.6% of the reference obligations, a property inspection waiver (PIW) was granted, based on the risk profile of the loans. A PIW is a fieldwork recommendation that results in an offer to waive the appraisal and is available for certain lower risk transactions. Fannie Mae provides loan sellers relief from repurchase obligations relating to property value, condition, and marketability on loans subject to PIW. The PIW loans in the reference pool had a weighted average original FICO score of 747 and a weighted average original LTV of 74.2%.

As a result of the above programs, the sponsor, and thus the trust, may not have recourse to the sellers related to their relief. However, this risk is mitigated to a certain extent because this R&W relief applies mainly to property value, condition, and marketability and these were properties identified as low-risk by Fannie Mae's robust data-driven analytics.

Notwithstanding the foregoing, there is no relief for breaches of certain "life-of-loan" R&Ws, including matters related to charter matters, fraud, misrepresentation, omissions, data inaccuracies, clear title/first-lien priority, legal compliance, and mortgage product eligibility.

Enforcement

Upon written notice of the discovery of a material breach, Fannie Mae will be the only party responsible for enforcing a remedy.

R&W summary

The R&Ws that the sellers provide to Fannie Mae substantively address the general risks outlined in Appendix IV of our criteria (see "Methodology And Assumptions For Rating U.S. RMBS Issued 2009 And Later," published Feb. 22, 2018). We believe that a neutral adjustment (1.00x factor) to the loss coverage estimate is commensurate with the overall risk related to the R&Ws after accounting for the mitigating factors, such as Fannie Mae's QC procedures, results of the third-party due diligence reviews, the collateral's overall credit quality and underwriting standards, and the provision that the trust allocates funds to the noteholders when underwriting defects in the reference pool are confirmed.

Payment Structure And Cash Flow Mechanics

The trust will use investment proceeds in the CCA and funds from the designated Q-REMIC interests to make monthly interest payments on the notes, while periodic principal payments will be made by liquidating investments held in the custodian account in the priority specified in tables 3 and 4 below. Principal amounts due will be based on the principal that is actually collected on the reference obligations. Interest amounts will be paid based on the stated coupon and the principal balance of the notes.

Interest

For each outstanding class of notes and any payment date, interest will accrue at the note rate minus potential adjustments for modified reference obligations due on the outstanding class' principal balance. To the extent that funds from the designated Q-REMIC interests and earnings on eligible investments are insufficient, Fannie Mae will pay the difference.

Principal

The principal payment amounts are defined and allocated in tables 3-4.

Table 3

Principal Payment Allocation

Scheduled principal	Pro rata allocation between the senior and subordinate tranches (sequential within the subordinated).
Unscheduled principal	If each trigger is satisfied, pro rata allocation between the senior and subordinate tranches (sequential within the subordinated). Otherwise, 100% allocation to the senior tranche and then to the subordinate tranches.
Recovery principal	100% allocation to the senior tranche and then to the subordinate tranches.

All funds allocated to the subordinate tranches are allocated according to table 4.

Table 4

Subordinate Payment Waterfall

1	Pro rata, to the related class 1M-1 notes and the related class 1M-1H tranche until they have been reduced to zero.

Table 4

Subordinate Payment Waterfall (cont.)

2	Pro rata, to the related class 1M-2A notes and the related class 1M-AH tranche until they have been reduced to zero.
3	Pro rata, to the related class 1M-2B notes and the related class 1M-BH tranche until they have been reduced to zero.
4	Pro rata, to the related class 1M-2C notes and the related class 1M-CH tranche until they have been reduced to zero.
5	Pro rata, to the related class 1B-1 notes and the related class 1B-1H tranche until they have been reduced to zero.
6	To the class 1B-2H tranche until reduced to zero.
7	To the class 1A-H tranche until reduced to zero.

As shown in table 3, a pro rata portion of the principal amounts, not including recovery principal, will be allocated to the subordinate tranches if the triggers are satisfied. However, if the triggers fail, the subordinate allocation of unscheduled principal amounts will be reduced to zero.

On any distribution date, the triggers are satisfied if:

- The principal balance of all mortgage loans 90-plus days delinquent, loans in foreclosure, bankruptcy, and/or in REO status, averaged over the previous six months, is less than 40% of the amount by which the principal balance of the subordinate tranches (as of the prior payment date) exceeds the principal losses for the current payment date; or
- The aggregate class balance of the subordinate tranches is not less than 5.00% of the current pool balance.

The subordinate and junior notes comprise the class 1M-1, 1M-2A, 1M-2B, 1M-2C, and 1B-1 notes. The class 1M-2A, 1M-2B, and 1M-2C notes serve as initial exchangeable notes. Holders of these classes can exchange them for several combinations of exchangeable notes, some of which are interest-only classes, and vice versa as specified in the offering documents. If an exchange is made, the exchanged notes will receive a proportionate share of the interest and principal payments otherwise allocable to the classes of initial exchangeable notes.

Traditional prime jumbo transactions, including post-2008 issuances, have shifting interest structures that experience some pro rata credit erosion. Those transactions typically require credit enhancement through subordination that are above the expected losses to compensate for the subordination erosion. They also include credit enhancement floors that lock out more subordinate classes from principal.

This structure has a sequential payment mechanism within the subordinate classes, which prevents erosion of credit enhancement. Additionally, irrespective of triggers, the most senior subordinate class will always receive a pro rata share of scheduled principal.

The structure also provides for a minimum credit enhancement equal to 5.00% of the current balance. Below this threshold all unscheduled principal is paid to the senior tranche. Because the senior tranche starts out with a credit enhancement of 4.70%, all unscheduled principal is initially paid to the senior tranche until its credit enhancement builds up to 5.00% of the current pool balance.

Once the subordinate tranches start getting paid unscheduled principal, the sequential-pay mechanism (time-tranching) of the subordinate notes, allows class 1M-1 to be repaid faster because the entirety of principal allocated to the subordinate notes is directed to class 1M-1 before any other subordinate class.

Tranche write-down amounts for the reference pool are applied in the following reverse sequential order until each class' principal balance has been reduced to zero:

- Class 1B-2H reference tranche;
- Pro rata, to the related class 1B-1 and 1B-1H reference tranches;
- Pro rata, to the related class 1M-2C and 1M-CH reference trannches;
- Pro rata, to the related class 1M-2B and 1M-BH reference tranches;
- Pro rata, to the related class 1M-2A and 1M-AH reference tranches;
- Pro rata, to the related class 1M-1 and 1M-1H reference tranches; and then
- To the related class 1A-H reference tranche.

If an exchange is made, the exchanged notes will receive a proportionate share of the write-down amounts otherwise allocable to the classes of initial exchangeable notes.

Reimbursement for prior realized losses and writedowns are allocated first to the senior tranches and then sequentially to the subordinate tranches. Writeups that occur in excess of the cumulative write-down amounts will result in overcollateralization.

Cash Flow And Scenario Analysis

As outlined in "Methodology And Assumptions For Rating U.S. RMBS Issued 2009 And Later," published Feb. 22, 2018, we typically will not perform our cash flow analysis on transactions with sequential payment structures. Regardless of the split in the principal payment allocation between the senior and subordinate classes, the principal will be allocated sequentially among the subordinate classes. Therefore, since the rated notes will not be affected by the credit enhancement to the more junior tranches, we did not perform cash flow and structural scenario analyses.

Interest stresses

The trust assets are intended to fund interest payments on the notes. Because Fannie Mae provides a backstop in the event there are shortfalls, liquidity risks for this transaction (in the form of timely interest payments) may be dependent on Fannie Mae's ability to meet its payment obligations.

Additional Risk Factors

12.5-year maturity

Although there are certain provisions that allow Fannie Mae to redeem the notes early (e.g., on or after the March 2029 payment date or when the reference obligations' aggregate unpaid balance is less than or equal to 10% of the cut-off date balance), the notes are scheduled to mature on Sept. 25, 2031. We view the 12.5-year maturity as a credit positive to the transaction when compared to other credit risk transfer (CRT) issuances in the market. Notwithstanding the 12.5-year maturity and trigger mechanisms, the sequential payment priority among the subordinate notes provides sufficient, locked-out credit enhancement to the preliminary-rated notes, given our loss projections.

High LTV Refinance Program

At the direction of the FHFA and in coordination with Freddie Mac, Fannie Mae introduced the High LTV Refinance Program. The program is designed to provide refinance opportunities to borrowers with existing Fannie Mae mortgage loans who are current on their mortgage payments but whose LTV ratios exceed the maximum permitted for standard refinance products under the Fannie Mae guide. A portion of the pool's reference obligations may become eligible to participate in the High LTV Refinance Program.

We view this program as a credit positive for borrowers and their related reference obligations. Borrowers participating in the High LTV Refinance Program are given the opportunity to reduce their interest payments or amortization terms, provided they meet certain eligibility criteria, such as a mostly clean pay history. In most instances, the program will reduce payment stress on already performing borrowers in declining home price environments, potentially decreasing their likelihood of default.

Beginning with CAS 2018-C02, borrowers in the reference pool became potentially eligible for the High LTV Refinance Program. Simultaneously, Fannie Mae began allowing for the replacement of reference obligations participating in the program, meaning that a reference obligation would be replaced by that same borrower's related refinanced reference obligation.

To avoid doubt, the replacement of a reference obligation with the resulting refinanced reference obligation will not constitute a credit event or a modification event. Investors should note that the potential refinancing may add uncertainty to expected prepayment speeds and the weighted average life of the notes. However, we would expect a reduction in interest rates to result in higher prepayment speeds in stable environments.

To be eligible for refinancing under the High LTV Refinance Program, the mortgage loan being refinanced must, among other things:

- Be a first-lien, conventional mortgage loan owned or securitized by Fannie Mae;
- Have a note date on or after Oct. 1, 2017;
- Have been originated at least 15 months prior to the refinance note date; and
- Have had no 30-day delinquency in the immediately preceding six months, and no more than one 30-day delinquency in the immediately preceding 12 months.

For more detailed information, please refer to the offering documents.

HomeReady Mortgage Program

HomeReady is Fannie Mae's affordable, low down payment mortgage product designed to expand the availability of mortgage financing to creditworthy low- to moderate-income borrowers. A borrower purchasing or refinancing a single-family home may take advantage of the program, provided the borrower does not exceed any income limits that may apply in certain areas. Non-occupant borrower income, rental payments, and boarder income may be considered as allowable income sources to help a borrower qualify for mortgage financing. Borrowers may receive financing up to 97%, depending on property type and loan purpose. HomeReady also allows for mortgage insurance coverage at levels lower than would otherwise be required for loans with LTV ratios greater than 90%, which may increase the severity of losses for reference obligations that become credit event reference obligations. Although the program results in collateral that may be riskier than traditional collateral in the CRT reference pools, we believe our model sufficiently captures the risk in our loss coverage estimates. Furthermore, the exposure of the CAS 2019-R03 reference loans underwritten to the HomeReady program remains at only 2.95%.

Imputed Promises Analysis

When rating U.S. residential mortgage-backed securities transactions where credit-related events can result in reduced interest owed to the tranches across the capital structure rather than such credit-related loss allocated to the available credit support, we impute the interest owed to the security holders. (For more details, see our criteria "Methodology For Incorporating Loan Modifications And Extraordinary Expenses Into U.S. RMBS Ratings," published April 17, 2015.) Interest deterioration that occurs due to defaults, repurchases, or prepayments is not considered credit-related, and we therefore did not consider it for this analysis.

The modification interest rate reduction amounts are allocated in reverse sequential order, as outlined in the list below, and are not shared among the different classes of notes--as is the case in many non-agency transactions. Mortgage loans related to the reference obligations in the pool could be modified. As a result, the interest entitlements of the notes will be subject to reduction and the class principal balances will be subject to write-downs. To account for this potential decrease in cash flow, the transaction is structured so that modification loss amounts will, in most cases, be allocated first to reduce the current period's most subordinate class' interest payment and then to write down that class' related principal balance. This reduces available credit support for higher tranches.

The modification loss amount is calculated for each reference obligation as the difference between the interest accrued at the original interest rate and the current interest rate in addition to the interest that is no longer due, given forborne principal amounts. As laid out in the transaction documents, this amount represents reduced interest amounts caused by events such as loan rate and forbearance modifications. Modification loss amounts are applied in the following order:

- To reduce the class 1B-2H reference tranche's interest amount;
- To increase the class 1B-2H reference tranche's write-down amount;
- To reduce the related class 1B-1 notes' and class 1B-1H reference tranche's interest amounts, pro rata;
- To increase the related class 1B-1 notes' and class 1B-1H reference tranche's write-down amounts, pro rata.
- To reduce the related class 1M-2C notes' and 1M-CH reference tranche's interest amounts, pro rata;
- To reduce the related class 1M-2B notes' and 1M-BH reference tranche's interest amounts, pro rata;
- To reduce the related class 1M-2A notes' and 1M-AH reference tranche's interest amounts, pro rata;
- To increase the related class 1M-2C notes' and 1M-CH reference tranche's write-down amounts, pro rata;

- To increase the related class 1M-2B notes' and 1M-BH reference tranche's write-down amounts, pro rata;
- To increase the related class 1M-2A notes' and 1M-AH reference tranche's write-down amounts, pro rata;
- To reduce the related class 1M-1 notes' and class 1M-1H reference tranche's interest amounts, pro rata; and then
- To increase the related class 1M-1 notes' and class 1M-1H reference tranche's write-down amounts, pro rata.

In this transaction, interest and principal of the more junior tranches are available to absorb modification loss amounts first. However, for class 1M-2A, the class 1M-2B and 1M-2C principal amounts are not available to absorb modification loss amounts before the class 1M-2A's interest reduction; though the class 1M-2B's and 1M-2C's interest amounts do absorb these modification loss amounts first. We considered the degree of projected modification loss amounts under the given rating scenario associated with class 1M-2A ('BBB (sf)'), in conjunction with the expected support provided by the class 1M-2B and 1M-2C interest amounts. Although class 1M-2A may experience interest reductions due to modification loss amounts, we believe the degree of potential interest reductions is commensurate with class 1M-2A's preliminary rating.

Additionally, this transaction has an identical allocation of modification loss amounts pertaining to the class 1M-2B notes due to the lack of principal support of class 1M-2C. We considered the rating scenario associated with class 1M-2B ('BB+ (sf)'), in conjunction with the interest support from the class 1M-2C notes, and we believe the degree of potential interest reductions to the class 1M-2B notes is commensurate with the assigned preliminary rating.

Related Criteria

- Criteria - Structured Finance - RMBS: Assumptions Supplement For Methodology And Assumptions For Rating U.S. RMBS Issued 2009 And Later, Feb. 22, 2018
- Criteria - Structured Finance - RMBS: Methodology And Assumptions For Rating U.S. RMBS Issued 2009 And Later, Feb. 22, 2018
- Criteria - Structured Finance - RMBS: U.S. Residential Mortgage Operational Assessment Ranking Criteria, Feb. 22, 2018
- Criteria - Structured Finance - RMBS: Methodology For Incorporating Loan Modifications And Extraordinary Expenses Into U.S. RMBS Ratings, April 17, 2015
- General Criteria: Principles For Rating Debt Issues Based On Imputed Promises, Dec. 19, 2014
- Criteria | Structured Finance | RMBS: Methodology: U.S. RMBS Synthetic Risk Transfers, Dec. 24, 2013
- General Criteria: Global Investment Criteria For Temporary Investments In Transaction Accounts, May 31, 2012
- Criteria | Structured Finance | General: Global Methodology For Rating Interest-Only Securities, April 15, 2010
- Legal Criteria: Legal Criteria For U.S. Structured Finance Transactions: Special-Purpose Entities, Oct. 1, 2006

Related Research

- Select Servicer List, Feb. 5, 2019
- Fannie Mae, May 2, 2018
- The New Year Will Likely Ring In A Record U.S. Expansion; Could It Be A Last Hurrah? Dec. 4, 2018
- U.S. Residential Mortgage Input File Format For LEVELS, March 30, 2018
- Credit Rating Model: LEVELS Model For U.S. Residential Mortgage Loans, Feb. 22, 2018
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- Historical Data Show That Agency Mortgage Loans Are Likely To Perform Significantly Better Than Comparable Non-Agency Loans, Oct. 20, 2015
- Fannie, Freddie, And The FHLB System: Plus Ca Change..., Oct. 14, 2015
- Assessing Credit Quality By The Weakest Link, Feb. 13, 2012

In addition to the criteria specific to this type of security (listed above), the following criteria articles, which are generally applicable to all ratings, may have affected this rating action: "Counterparty Risk Framework: Methodology And Assumptions," March 8, 2019; "Post-Default Ratings Methodology: When Does Standard & Poor's Raise A Rating From 'D' Or 'SD'?," March 23, 2015; "Global Framework For Assessing Operational Risk In Structured Finance Transactions," Oct. 9, 2014; "Methodology: Timeliness of Payments: Grace Periods, Guarantees, And Use of 'D' And 'SD' Ratings," Oct. 24, 2013; "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," Oct. 1, 2012; "Methodology: Credit Stability Criteria," May 3, 2010; and "Use of CreditWatch And Outlooks," Sept. 14, 2009.

Appendix I: Related Combinable And Recombinable Notes Exchangeable Classes

Appendix I

RCR Exchangeable Classes(i)

RCR note	Preliminary rating	Interest type	Amount (mil. $)
1M-2	B+ (sf)	Floating	500.109
1E-A1	BBB (sf)	Floating	166.703
1A-I1	BBB (sf)	Fixed	166.703
1E-A2	BBB (sf)	Floating	166.703
1A-I2	BBB (sf)	Fixed	166.703
1E-A3	BBB (sf)	Floating	166.703
1A-I3	BBB (sf)	Fixed	166.703
1E-A4	BBB (sf)	Floating	166.703
1A-I4	BBB (sf)	Fixed	166.703
1E-B1	BB+ (sf)	Floating	166.703

Appendix I

RCR Exchangeable Classes(i) (cont.)

RCR note	Preliminary rating	Interest type	Amount (mil. $)
1B-I1	BB+ (sf)	Fixed	166.703
1E-B2	BB+ (sf)	Floating	166.703
1B-I2	BB+ (sf)	Fixed	166.703
1E-B3	BB+ (sf)	Floating	166.703
1B-I3	BB+ (sf)	Fixed	166.703
1E-B4	BB+ (sf)	Floating	166.703
1B-I4	BB+ (sf)	Fixed	166.703
1E-C1	B+ (sf)	Floating	166.703
1C-I1	B+ (sf)	Fixed	166.703
1E-C2	B+ (sf)	Floating	166.703
1C-I2	B+ (sf)	Fixed	166.703
1E-C3	B+ (sf)	Floating	166.703
1C-I3	B+ (sf)	Fixed	166.703
1E-C4	B+ (sf)	Floating	166.703
1C-I4	B+ (sf)	Fixed	166.703
1E-D1	BB+ (sf)	Floating	333.406
1E-D2	BB+ (sf)	Floating	333.406
1E-D3	BB+ (sf)	Floating	333.406
1E-D4	BB+ (sf)	Floating	333.406
1E-D5	BB+ (sf)	Floating	333.406
1E-F1	B+ (sf)	Floating	333.406
1E-F2	B+ (sf)	Floating	333.406
1E-F3	B+ (sf)	Floating	333.406
1E-F4	B+ (sf)	Floating	333.406
1E-F5	B+ (sf)	Floating	333.406
1-X1	BB+ (sf)	Fixed	333.406
1-X2	BB+ (sf)	Fixed	333.406
1-X3	BB+ (sf)	Fixed	333.406
1-X4	BB+ (sf)	Fixed	333.406
1-Y1	B+ (sf)	Fixed	333.406
1-Y2	B+ (sf)	Fixed	333.406
1-Y3	B+ (sf)	Fixed	333.406
1-Y4	B+ (sf)	Fixed	333.406
1-J1	B+ (sf)	Floating	166.703
1-J2	B+ (sf)	Floating	166.703
1-J3	B+ (sf)	Floating	166.703

Appendix I

RCR Exchangeable Classes(i) (cont.)

RCR note	Preliminary rating	Interest type	Amount (mil. $)
1-J4	B+ (sf)	Floating	166.703
1-K1	B+ (sf)	Floating	333.406
1-K2	B+ (sf)	Floating	333.406
1-K3	B+ (sf)	Floating	333.406
1-K4	B+ (sf)	Floating	333.406
1M-2Y	B+ (sf)	Floating	500.109
1M-2X	B+ (sf)	Floating	500.109
1B-1Y	NR	Floating	153.095
1B-1X	NR	Floating	153.095

(i)Refer to the offering documents for more detail on possible combinations. RCR--Related combinable and recombinable notes. NR--Not rated.