



CREDIT RISK TRANSFER PROGRESS REPORT

SECOND QUARTER 2017

Table of Contents

Overview of the Program.....	2
Second Quarter 2017 CRT Activity.....	3
The Role of Primary Mortgage Insurance in CRT Transactions.....	4
Fannie Mae CRT Transactions.....	5
Freddie Mac CRT Transactions.....	7
Coverage of Single-Family Loan Acquisitions.....	9
Estimating the Market-Implied Guarantee Fee.....	10
Comparison of CRT Market Pricing - Mezzanine Bonds to Corporate BBB Index.....	13
Comparison of CRT Market Pricing - Mezzanine Bonds to High Yield Credit Default Swaps	14
Appendix A: CRT Background.....	15
Appendix B: CRT Principles, Concepts and Definitions.....	19



Overview of the Program

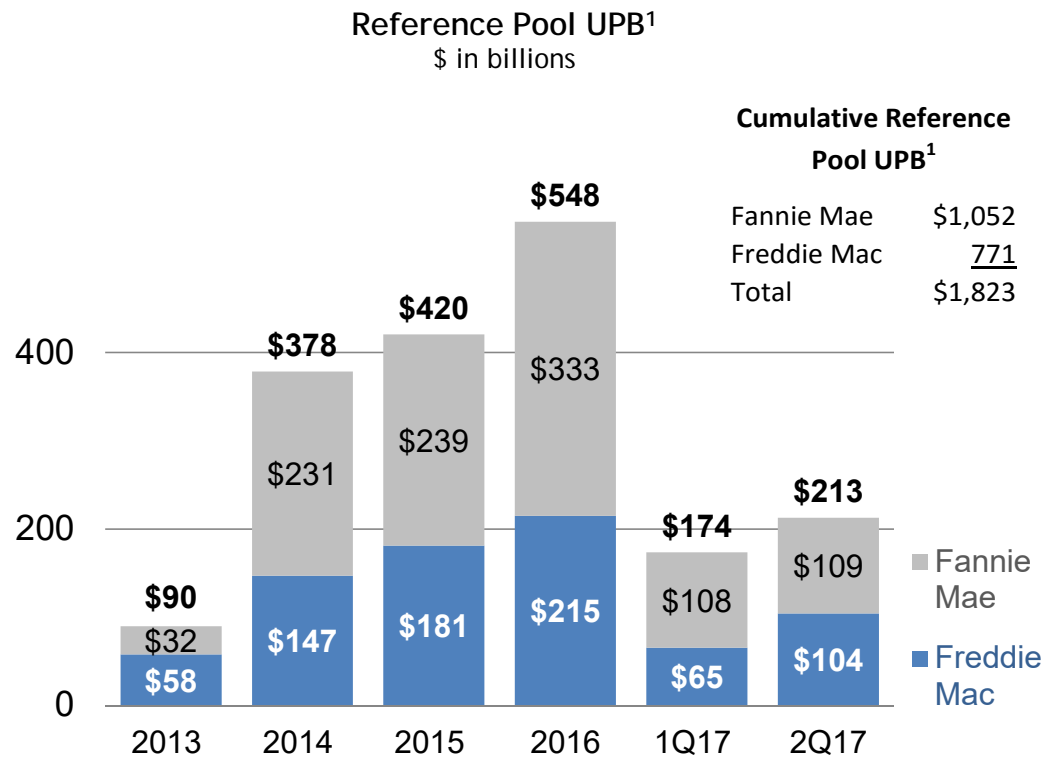
In 2012 the Federal Housing Finance Agency (FHFA) established guidelines governing single-family credit risk sharing by Fannie Mae and Freddie Mac (the Enterprises) with the intent of reducing their overall risk and, therefore, the risk they pose to taxpayers while they are in conservatorship. Fannie Mae and Freddie Mac started to implement their credit risk transfer (CRT) programs in 2013 and now transfer to private investors a substantial amount of the credit risk of new acquisitions the Enterprises assume for loans in targeted loan categories. Targeted loan categories are single-family fixed-rate mortgages with loan to values (LTVs) greater than 60 percent and original term greater than 20 years (HARP/Freddie Mac Relief Refinance/Fannie Mae Refi Plus loans are excluded and other minimal exclusions apply).

The CRT programs include credit risk transfers using debt issuances, insurance/reinsurance transactions, senior-subordinate securitizations, and a variety of lender collateralized recourse transactions. As outlined in the annual Conservatorship Scorecard, the Enterprises continue to innovate and experiment with different structures and attempt to expand the scope of their CRT programs as part of their efforts to further reduce credit risk where economically sensible.

For a description of Credit Risk Transfer Structures, see Appendix A.

From the beginning of the Enterprises’ Single-Family CRT programs in 2013 through June 2017, Fannie Mae and Freddie Mac have transferred a portion of credit risk on \$1.8 trillion of unpaid principal balance (UPB), with a combined Risk in Force (RIF) of about \$60.6 billion, or 3.3 percent of UPB. An additional \$837 billion of UPB and \$212 billion of RIF has been transferred to primary mortgage insurers from 2013 through 2Q17 as described on page 4. Through CRT and mortgage insurance, the majority of the underlying mortgage credit risk on mortgages targeted for CRT has been transferred to private investors.

Enterprise Single-Family Mortgage CRT Activity, 2013 - 2Q17



¹ The UPB shown in the table is 100 percent of each associated reference pool at issuance.



2Q17 CRT Activity

In the second quarter of 2017, the Enterprises transferred risk on \$213 billion of UPB with a total RIF of \$6.4 billion. Debt issuances accounted for 70 percent of RIF, reinsurance transactions accounted for 25 percent of RIF, and lender risk sharing accounted for 5 percent of RIF.

Credit Risk Transfer Volume, 2Q17
\$ in millions

	Fannie Mae			Freddie Mac			Total		
	Reference Pool UPB ¹	RIF ²	Percent of RIF	Reference Pool UPB ¹	RIF ²	Percent of RIF	Reference Pool UPB ¹	RIF ²	Percent of RIF
Debt Issuances	71,400	2,374	70%	92,320	2,108	70%	163,720	4,482	70%
Insurance/Reinsurance	25,387	687	20%	11,127	898	30%	36,514	1,585	25%
Lender Risk Sharing	11,834	338	10%	754	11	0%	12,588	349	5%
Senior/Subordinate	-	-		-	-		-	-	
Total	108,621	3,399		104,201	3,017		212,822	6,416	

¹ Reference pool UPB at issuance. The same reference pool backs STACR and ACIS transactions; CAS and CIRT are backed by separate reference pools.

² RIF represents the maximum loss exposure that could be absorbed by CRT investors.



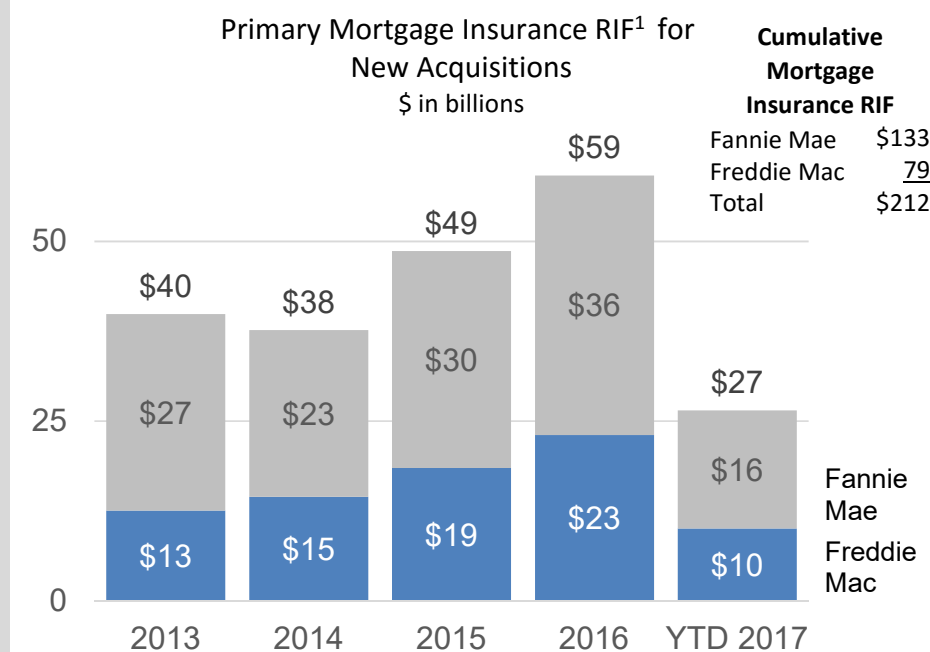
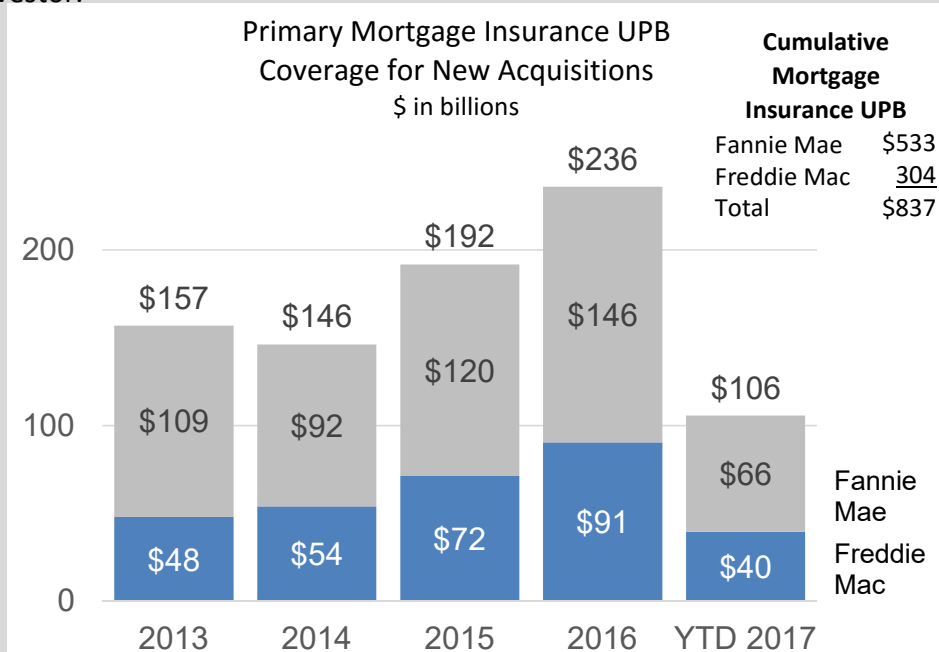
The Role of Primary Mortgage Insurance in CRT Transactions

From the beginning of Fannie Mae and Freddie Mac's CRT programs in 2013 through the second quarter of 2017, the Enterprises have transferred a portion of credit risk on about \$1.8 trillion in single-family loans through CRT. During the same period, an additional \$837 billion of credit risk has been transferred to primary mortgage insurers.

Loans with LTVs above 80 percent are required to have loan-level credit enhancement in one of the following charter-eligible forms:

- Private mortgage insurance (PMI),
- Seller agreement to repurchase or replace the mortgage, or
- Seller retained participation in the loan.

PMI is the form of credit enhancement used most often. The charts below show the total UPB and RIF (measured at the time of Enterprise acquisition for each loan) with PMI acquired by the Enterprises between 2013 and the second quarter of 2017. When losses occur on loans with LTVs above 80 percent, private mortgage insurers provide credit loss coverage before credit risk transfer investors or the Enterprises. However, it should be noted that the Enterprise, not the CRT investor, is responsible for counterparty risk when PMI coverage is provided. Therefore, if the private mortgage insurer is not able to make the payment necessary to fulfill its credit loss coverage obligations, the Enterprise must step in and cover those losses, not the CRT investor.



¹ While the total RIF associated with primary mortgage insurance is large, the actual level of credit risk sharing provided through paid insurance claims depends on the number of insured loans that default and the severity of losses on those loans. These figures assume that all PMI payments would be made by the mortgage insurer, not by Fannie Mae or Freddie Mac.

Fannie Mae CRT Transactions

In the second quarter of 2017, Fannie Mae transferred risk on \$109 billion of UPB, with a total RIF of \$3.4 billion. Debt issuances (CAS) accounted for 70 percent of total RIF of CRT issuances.

Fannie Mae CRT Transactions

Deal Type	Deal Name	Date	Reference Pool UPB ¹ (in millions of \$)	Risk transfer attach/detach points (in basis points)	Sold portion of tranches: Note size ² or RIF (in millions of \$)	Retained portion of tranches (in millions of \$)
Credit Risk Debt Issuance						
CAS	2017-C03	05/10/17	41,246	50/400	1,371	278
CAS	2017-C04	05/31/17	30,154	50/400	1,003	204
Insurance/Reinsurance						
CIRT	2017-3	05/01/17	17,680	50/325	486	88
CIRT	2017-4	05/01/17	2,185	50/325	60	11
Front-End CIRT Risk Sharing ³		Total 2Q17	5,522		141	
Lender Risk Sharing			11,834		338	
Total 2Q17			108,621		3,399	581

¹The UPB shown in the table is 100 percent of the associated reference pool at issuance.

²Note size represents total maximum credit risk transfer coverage and is equivalent to RIF.

³Delivered UPB: Current deliveries during the aggregation period through 6/30/2017.



Fannie Mae Cumulative Risk In Force

From 2013 through June 2017, Fannie Mae transferred risk on \$1.1 trillion of UPB, with a total RIF of \$30.7 billion. Debt issuances (CAS) accounted for 81 percent of total RIF of CRT issuances.

Fannie Mae Cumulative Risk in Force

Deal Type	Reference Pool UPB ¹ (in millions of \$)	Sold portion of tranches:	
		Note size ² or RIF (in millions of \$)	Percent of RIF
Credit Risk Debt Issuance	832,300	24,892	81%
Insurance/Reinsurance	171,449	4,246	14%
Lender Risk Sharing	48,089	1,560	5%
Senior/Subordinate	-	-	
Total	1,051,839	30,698	100%

¹The UPB shown in the table is 100 percent of the associated reference pool at issuance.

²Note size represents total maximum credit risk transfer coverage and is equivalent to RIF.



Freddie Mac CRT Transactions

In the second quarter of 2017, Freddie Mac transferred risk on \$104 billion of UPB with a total RIF of \$2.1 billion. Debt issuances (STACR) accounted for 70 percent of total RIF of CRT issuances.

Deal Type	Deal Name	Date	Reference Pool UPB ¹ (in millions of \$)	Structured Agency Credit Risk (STACR)		Agency Credit Insurance Structure (ACIS)
				Risk transfer attach/detach points (in basis points)	Sold portion of tranches: Note size ² or RIF (in millions of \$)	Insured via ACIS (in millions of \$)
Credit Risk Debt Issuance						
STACR	2017-DNA2	04/11/17	60,716	0/350	1,320	440
STACR	2017-HQA2	06/20/17	31,604	50/400	788	263
Insurance/Reinsurance						
ACIS ³	2017-4	05/01/17	10,118	0/215		168
Front-End Reinsurance	Total 2Q17		1,009	50/350		26
Lender Risk Sharing			754	0/300	11	
Total 2Q17			104,201		2,119	898

¹ The same reference pool UPB is used for both debt issuance (STACR) and insurance/reinsurance transactions (ACIS).

² Note size represents total maximum risk transfer coverage and is equivalent to RIF.

³ ACIS 2017-4 covered \$10.1 B of 15-year and 20-year mortgages.



Freddie Mac Cumulative Risk In Force

From 2013 through June 2017, Freddie Mac transferred risk on \$771 billion of UPB, with a total RIF of \$29.9 billion. Debt issuances (STACR) accounted for 73 percent of total RIF of CRT issuances.

Freddie Mac Cumulative Risk in Force

Deal Type	Reference Pool UPB ¹ (in millions of \$)	Sold portion of tranches:	
		Note size ² or RIF (in millions of \$)	Percent of RIF
Credit Risk Debt Issuance	723,686	21,908	73%
Insurance/Reinsurance	39,289	7,677	26%
Lender Risk Sharing	5,993	124	0%
Senior/Subordinate	2,383	152	1%
Total	771,351	29,860	100%

¹The UPB shown in the table is 100 percent of the associated reference pool at issuance.

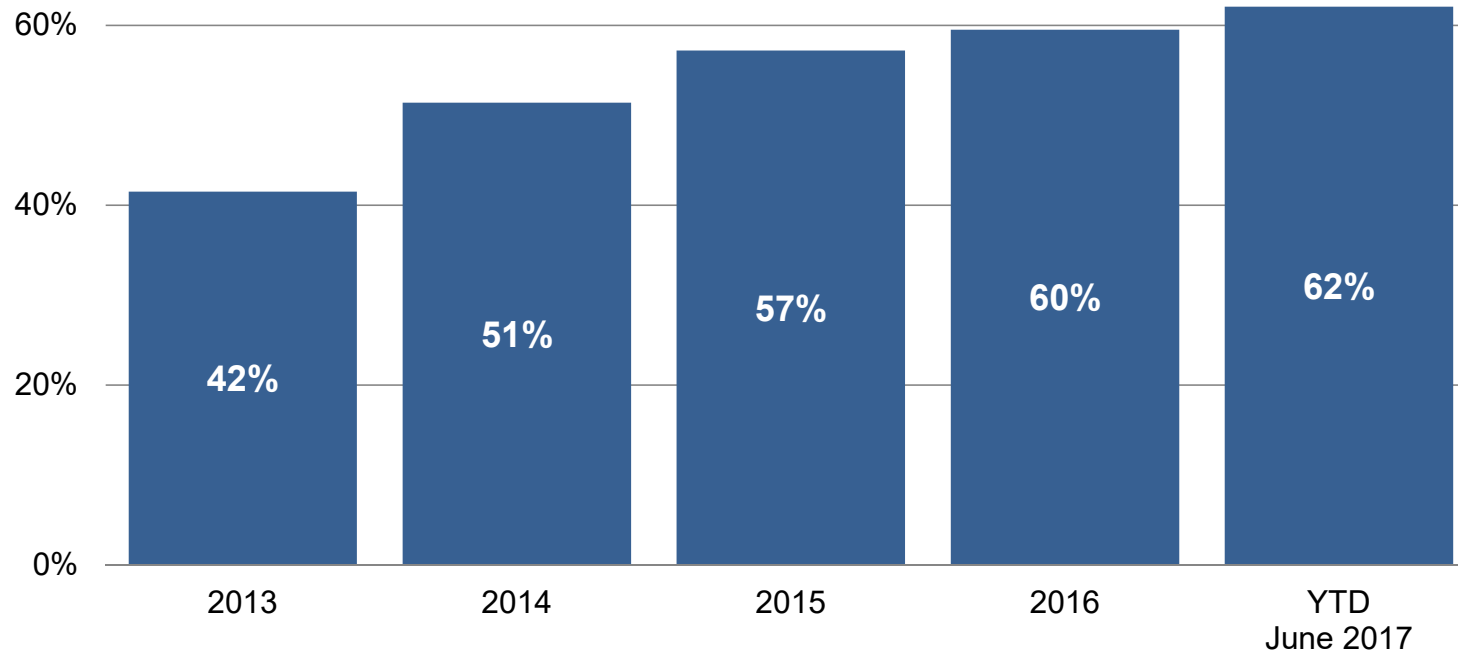
²Note size represents total maximum credit risk transfer coverage and is equivalent to RIF.



Coverage of Single-Family Loan Acquisitions

In the first half of 2017, loans targeted for credit risk transfers represented 62 percent of the Enterprises' single-family loan production. Targeted loan categories are single-family fixed-rate mortgages with LTVs greater than 60 percent and original term greater than 20 years (HARP/Freddie Mac Relief Refinance/Fannie Mae Refi Plus loans are excluded and other minimal exclusions apply).

**Loans Targeted for CRT
(as a Percent of Total Acquisitions)**



Estimated Market Implied versus Average Guarantee Fees for Fannie Mae and Freddie Mac

The implied guarantee fee from market prices in the second quarter of 2017 ranged between 43 to 54 bps for CAS and STACR transactions, compared to the Enterprises' average guarantee fee of 57 bps in 2016.

**Fannie Mae
Guarantee Fees Implied by CAS Bond Pricing
(in bps)**

	2017 C03	2017 C04
Non-credit Costs	25.0	35.0
Market implied credit cost	18.1	19.0
Market Implied Guarantee Fee	43.1	54.0

**Freddie Mac
Guarantee Fees Implied by STACR Bond Pricing
(in bps)**

	2017 DNA-2	2017 HQA-2
Non-credit Costs	25.0	35.0
Market implied credit cost	18.5	18.3
Market Implied Guarantee Fee	43.5	53.3

Average Guarantee Fee for Fannie Mae and Freddie Mac in 2016: 57 bps



Estimating the market-implied guarantee fee

The Enterprises retain a fee from the payments received on mortgages as compensation for guaranteeing timely payment of principal and interest on the mortgage pass-through securities they issue. The guarantee fee covers two cost categories:

Non-credit costs include

- 1) the general and administrative expenses,
- 2) the statutory payroll tax, and
- 3) the residual risks that cannot be transferred through CRT transactions (e.g. operational risk, term risk and counterparty risk).

Non-credit costs range from 25 basis points for low LTV pools to 35 basis points for high LTV pools.

Non-credit Cost Components of the Guarantee Fee (bps)

	Low LTV	High LTV
General and administrative expense	8	8
Treasury Allocation (TCCA)	10	10
Residual risk	7	17
Total - Non-credit costs	25	35

Credit costs include

- 1) the expected costs that result from the failure of some borrowers to make their payments and
- 2) the cost of holding the modeled capital amount necessary to protect against potentially much larger unexpected losses that result from the failure of some borrowers to make their payments in a severe stress environment.

The annual cost of holding capital to protect against unexpected losses is the amount of capital required multiplied by the target rate of return on that capital. Pricing of CRT transactions provides insight into investors’ views of credit costs. This market implied credit cost for a particular tranche can be estimated as a function of:

- Tranche size,
- Credit spread paid to investors as compensation for bearing the risk, and
- Weighted average life (WAL) of each tranche and the overall collateral pool.

The size of each tranche is publicly available, as are credit spreads associated with each tranche.

Implied guarantee fees are shown on the prior page and implied credit costs are shown on the following page, both based on second quarter 2017 transactions.



Implied Credit Costs for Fannie Mae and Freddie Mac

Market pricing in the second quarter of 2017 for CAS and STACR transactions implied credit costs of 18 to 19 bps.

Credit costs implied by Fannie Mae CAS Bond pricing

CAS Tranche	2017-C03		2017-C04	
	Credit Spread to LIBOR (bps)	Implied Credit Cost (bps)	Credit Spread to LIBOR (bp)	Implied Credit Cost (bps)
M1	95	0.4	85	0.2
M2	300	5.8	285	6.8
B1	485	4.2	505	4.3
B2	1,200 ¹	7.7	1,200 ¹	7.7
Implied Credit Costs		18.1		19.0

Credit costs implied by Freddie Mac STACR Bond pricing

STACR Tranche	2017 DNA-2		2017 HQA-2	
	Credit Spread to LIBOR (bps)	Implied Credit Cost (bps)	Credit Spread to LIBOR (bp)	Implied Credit Cost (bps)
M1	120	0.7	80	0.2
M2	345	6.1	265	6.2
B1	515	4.5	475	4.1
B2	1,125 ²	7.3	1,200 ¹	7.7
Implied Credit Costs		18.5		18.3

Methodology for calculating market-implied credit costs

A simplified scenario of 10 percent constant prepayment rate, 0.2 percent constant default rate, and 25 percent loss given default or loss severity is applied to calculate the weighted average life. The calculations assume that 100 percent of the notes are sold (no retention by the Enterprises).

¹This spread reflects the indication price reported in the prospectus, as Fannie Mae and Freddie Mac retained the entire B2 bond.

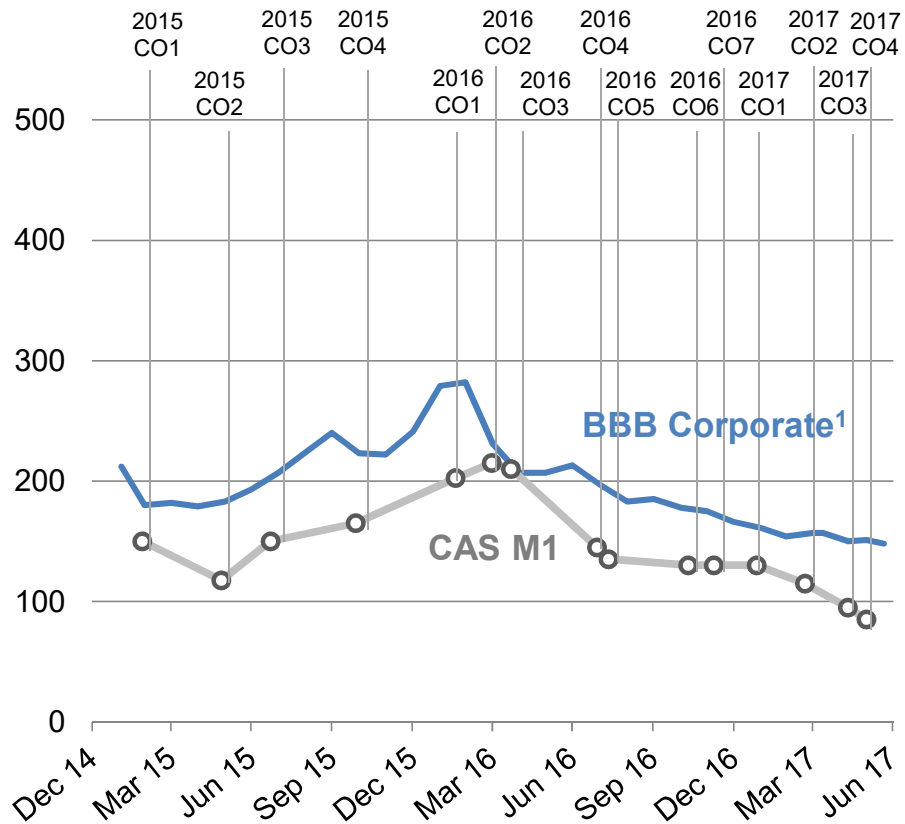
²Research analysts have estimated that credit spreads on the B2 bond would increase by 100 to 300 bps if the entire position were sold.



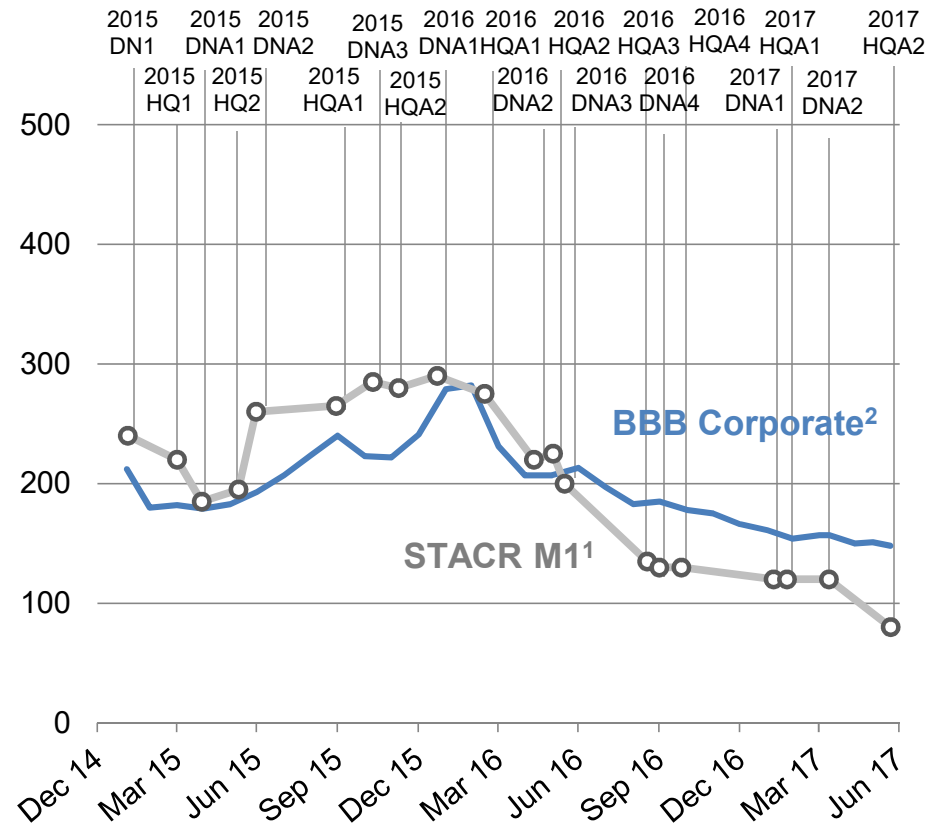
Comparison of CRT Market Pricing - Mezzanine Bonds to Corporate BBB Index

Credit spreads on the higher rated CRT mezzanine tranches performed similar to the corporate BBB index from the second quarter of 2016 to the second quarter of 2017, which tightened over that period.

Fannie Mae CAS M1
Credit Spread at Issuance vs BBB
Corporate Bond Index (bps)



Freddie Mac STACR M1¹
Credit Spread at Issuance vs BBB
Corporate Bond Index (bps)



¹Bank of America Merrill Lynch US Corporate BBB Index

¹Credit spreads at issuance prior to 2017 are for STACR M2

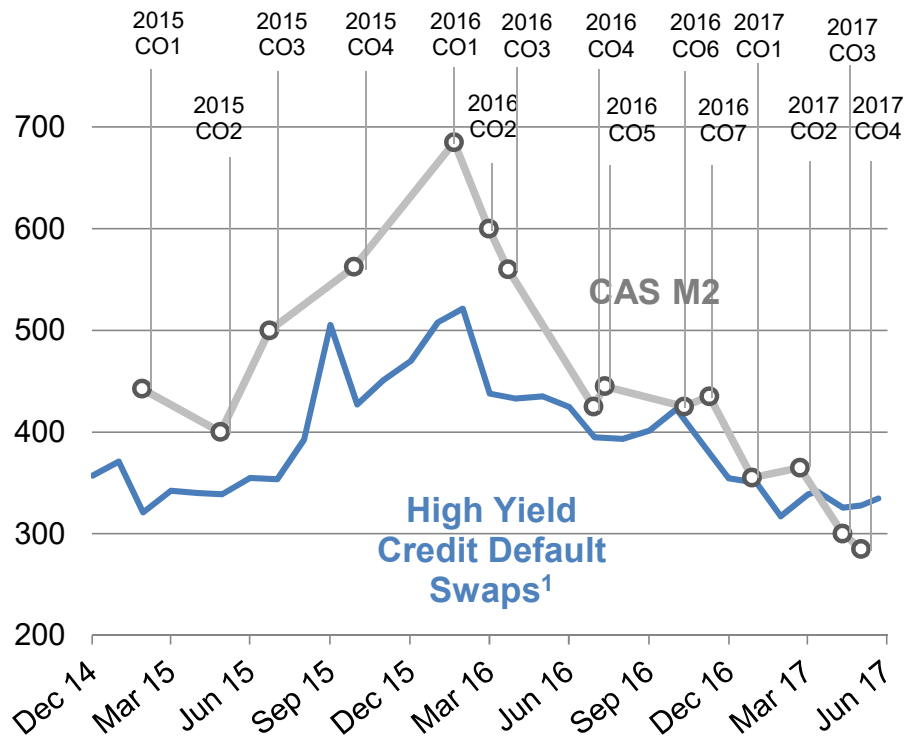
²Bank of America Merrill Lynch US Corporate BBB Index



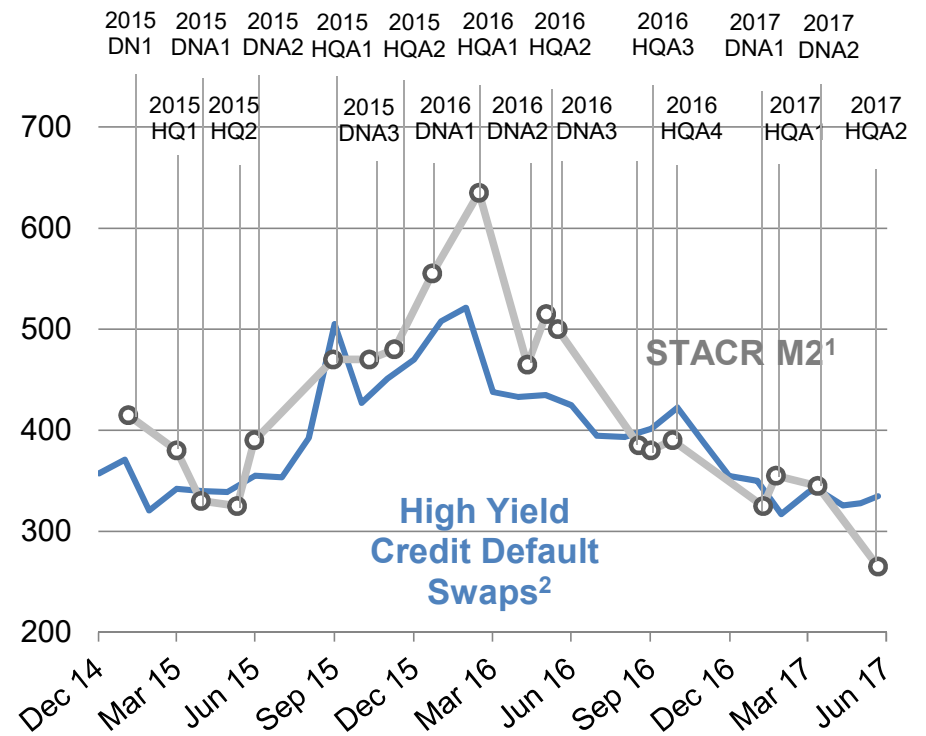
Comparison of CRT Market Pricing - Mezzanine Bonds to High Yield Credit Default Swaps

Credit spreads on the lower rated CRT mezzanine tranches performed similar to the high yield index from the second quarter of 2016 to the second quarter of 2017, which tightened over that period.

Fannie Mae CAS M2
Credit Spread at Issuance vs High Yield
Credit Default Swap Index (bps)



Freddie Mac STACR M2¹
Credit Spread at Issuance vs High Yield
Credit Default Swap Index (bps)



¹Markit CDX North American High Yield Index

¹Credit spreads at issuance prior to 2017 are for STACR M3

²Markit CDX North American High Yield Index



Appendix A: CRT Background

Enterprise Efforts to Transfer Credit Risk to the Private Sector

The Enterprises' public purposes include providing broad national secondary market liquidity for residential mortgage financing, both for single-family and multifamily mortgages. The Enterprises provide market liquidity by acquiring mortgage loans from lenders and creating securities backed by those mortgages for sale to investors. Through the securitization process, the Enterprises transfer the interest rate and liquidity risk associated with holding mortgage loans. The securitization process generally does not, however, transfer credit risk on these loans.¹

Each Enterprise manages the credit risk of its mortgage acquisitions and guarantees the timely payment of principal and interest to mortgage-backed securities investors. The Enterprises charge a guarantee fee in exchange for providing this guarantee, which covers administrative costs, projected credit losses from borrower defaults over the life of the loans, and the cost of holding capital to protect against projected credit losses that could occur during stressful macroeconomic conditions.² The following sections describe the Enterprises' activities to share credit risk through credit risk transfer programs.

The Role of Primary Mortgage Insurance in Sharing Credit Risk

Under their charters, loans acquired by Fannie Mae and Freddie Mac that have LTV ratios above 80 percent are required to have loan-level credit enhancement either in the form of mortgage insurance, a recourse agreement, or seller retained participation in the loan. This is

¹ Freddie Mac's securitization of its multifamily loans through K-deals does transfer credit risk in addition to interest rate and liquidity risk.

² Currently, the guarantee fee also includes a 10 basis point charge as required by Section 401 of the Temporary Payroll Tax Cut Continuation Act of 2011, codified at 12 USC 4547.

a long-standing statutory requirement that pre-dates the Enterprises' development of additional credit risk transfer programs. Primary mortgage insurance (PMI) is the form of charter-eligible credit enhancement used most often. Primary mortgage insurance, which can be paid by the borrower, the lender, or the Enterprise, is obtained at the front-end of the mortgage transaction prior to acquisition by the Enterprises.

The Enterprises establish PMI coverage requirements that specify the insurance coverage needed on individual loans, and these coverage requirements vary depending on the type of loan and the LTV of the loan. Currently, for 30-year loans the Enterprises require coverage that is roughly twice what is required to meet the Enterprises' minimum guidelines. The dollar amount of insurance coverage is referred to as risk-in-force (RIF). The RIF for each insured loan is calculated by multiplying the percentage of insurance coverage times the UPB of the mortgage. The total RIF for all PMIs represents the maximum level of coverage for all loans with mortgage insurance and is roughly equivalent to the Enterprises' total risk exposure to PMI counterparties.

While the total RIF associated with PMI is large, the actual level of credit risk sharing provided through insurance claims paid depends on the number of insured loans that default and the severity of losses on those loans. The loan-level coverage structure of PMI differs from the pool-level coverage that is used in other kinds of credit risk sharing transactions. The difference between the loan-level coverage of PMI and the pool-level coverage of recent credit risk transfer transactions means that the RIF figures for these two categories are not strictly comparable.

Enterprise Credit Risk Transfer Programs

The Enterprises have made significant progress over the last four years toward fully integrating a credit risk transfer program into their



business models. They have increased the amount of credit risk transferred year-over-year, and they are now transferring credit risk on most higher risk new acquisitions for which credit risk transfer is economically sensible.

The Enterprises have also worked to develop a portfolio of different transaction structures,³ which include:

- Credit risk debt issuances
- Insurance/reinsurance transactions
- Senior/subordinate securities
- Lender front-end risk transfer transactions

As with primary mortgage insurance, the amount of credit risk transferred is referred to as RIF for the insurance products. For the Enterprises' debt issuances, Connecticut Avenue Securities (CAS) for Fannie Mae and Structured Agency Credit Risk (STACR) for Freddie Mac, and other products where securities are created, the amount of credit risk transferred is referred to as note size. For purposes of simplifying the discussion, this CRT Progress Report refers to the amount of credit risk transferred on all credit risk transfer transactions as RIF. The following subsections provide information about different credit risk transfer structures.

Credit Risk Transfer Transaction Structures

STACR/CAS Transactions: To date, the STACR and CAS debt issuances have been the dominant transaction structure used under the Enterprises' credit risk transfer programs. STACR and CAS securities are issued as Enterprise debt and do not constitute the sale of mortgage loans. Instead, STACR and CAS are designed to track to the performance of a reference pool of mortgage loans that have been previously

securitized into MBS guaranteed by the Enterprises and for which the Enterprises have assumed the credit risk.

The STACR/CAS structure has several key benefits. The liquidity of the to-be-announced (TBA) market is not affected by this structure because the loans referenced were previously pooled into guaranteed mortgage-backed securities and sold in the TBA market. The STACR and CAS transactions are also effectively fully collateralized by cash that investors pay to purchase the debt securities. This means that the Enterprises essentially have no counterparty or reimbursement risk with this structure. Investors pay for STACR and CAS notes in full at the time of purchase and absorb applicable credit losses through a reduction in principal on the underlying notes.

Beginning in 2015, Freddie Mac started to transfer to investors a portion of the first losses on mortgage reference pools on all of its STACR transactions, and Fannie Mae did so for CAS transactions starting in 2016. Feedback received from market participants and from credit risk transfer transactions confirmed that selling the first 50 basis points of expected credit losses is expensive. Investors know there will be some degree of expected credit losses for any portfolio of mortgages regardless of economic conditions. As a result, investors charge more for providing credit risk protection for expected credit losses. Based on this information, beginning in 2017 the Enterprises moved generally to retaining the first 50 basis points of expected losses in most transactions.

Both Enterprises also changed the structure of their securities starting in 2015 to transfer credit risk based on actual credit loss amounts, rather than based on defined credit losses calculated by a formula as in prior transactions. That change was made possible by the release by both Enterprises of approximately 15 years of historical loan-level data on single-family mortgage credit actual losses.

³ Additional information about each of the various credit risk transfer products is available in FHFA's report entitled *Overview of Fannie Mae and Freddie Mac Credit Risk Transfer Transactions*, available at <http://www.fhfa.gov/AboutUs/Reports/Pages/Overview-of-Fannie-Mae-and-Freddie-Mac-Credit-Risk-Transfer-Transactions-8212015.aspx>.



Other Credit Risk Transfer Structures

The Enterprises use other credit risk transfer structures in addition to the STACR/CAS structure. In 2016, these additional transaction types started to constitute a greater percentage of overall credit risk transfers.

Pursuing a broad portfolio of credit risk transfer transaction structures furthers FHFA's objectives of having the Enterprises diversify their investor base for credit risk transfers and being able to compare execution across different structures and market environments. The Enterprises are currently pursuing the following additional transaction types:

Insurance/Reinsurance Transactions: Insurance or reinsurance transactions are considered part of the credit risk transfer program and separate from the Enterprises' charter requirements applicable to loans with LTVs greater than 80 percent. To date, the Enterprises have focused on two pool-level products — Agency Credit Insurance Structure (ACIS) for Freddie Mac and Credit Insurance Risk Transfer (CIRT) for Fannie Mae. Instead of providing coverage on individual loans as with loan-level primary mortgage insurance, these pool-level policies cover a specified percentage of aggregate credit risk for a pool that includes thousands of loans.

Through the CIRT and ACIS structures, the Enterprises are purchasing insurance primarily from diversified reinsurers. These transactions are partially collateralized and distributed among a variety of highly-rated insurers and reinsurers, which reduces counterparty, reimbursement, and correlation risk.⁴ Freddie Mac and Fannie Mae have different

approaches to the reference pools behind their respective reinsurance deals. In the ACIS structure, which generally shares the same reference pool as STACR, Freddie Mac allocates sales between capital markets and reinsurance investors. In contrast, Fannie Mae establishes separate reference pools for CAS and CIRT transactions. Fannie Mae and Freddie Mac disclose pricing for CIRT and ACIS transactions, respectively.

Senior/Subordinate Transactions: In a senior/subordinate securitization, an Enterprise sells a pool of mortgages to a trust which securitizes the cash flows into several tranches of bonds. The subordinated bonds (mezzanine and first-loss) are structured to absorb expected and unexpected credit losses, protecting the senior bond.

The collateral backing senior/subordinate transactions are typically mortgages for which a TBA market does not exist. Examples include:

- Super-conforming mortgage loans, which have balances between the national conforming loan limit and higher limits applicable in high-cost areas;
- Adjustable Rate Mortgages (ARMs); and
- Multifamily mortgages.

Freddie Mac's version of the senior/subordinate program for its single-family program, called Whole Loan Securities (WLS), is modeled after the multifamily K-deal transactions. Fannie Mae has previously done a version of the senior/subordinate program for its single-family program called Wisconsin Avenue Securities (WAS) and may do so in the future.

⁴ Reinsurers are often characterized by diversified lines of business, which helps mitigate the risk that the Enterprises' counterparties are correlated to the housing market stress and would have increased claims at the same time the Enterprise themselves are under stress.



Front-End Credit Risk Transfer Transactions: Front-end risk transfer transactions are structured so that risk is transferred prior to, or simultaneous with, Enterprise loan acquisition. To date, the Enterprises have executed front-end transactions with lenders, insurance companies and reinsurance companies. Lender front-end risk sharing has been the primary form of front-end risk transfer. Lender front-end risk sharing may be structured through the issuance of securities, which allows the originating lender to either hold the credit risk by retaining the securities or sell the credit risk by selling the securities to credit risk investors. Alternatively, lender front-end risk sharing may be executed without any securities issuance, whereby a lender retains all the credit risk transferred by the Enterprise but generally fully collateralizes its obligation. Fannie Mae's structured security version of front-end risk transfer with lenders is called L Street Securities (LSS). Both Enterprises are making progress on efforts to expand the front-end risk transfer approach to the private mortgage insurance and reinsurance industries. Each issued a front-end structure with reinsurer affiliates of the mortgage insurance industry in 2016 and 2017, and Fannie Mae issued a larger 12-month forward structure with traditional reinsurers in the first quarter of 2017.

Compensation paid to the lenders for the protection they provide on front-end transactions is based solely on economic considerations, not on the overall amount of loans the lenders sell to the Enterprises. For all front-end transactions, lenders are required to retain a material portion of the risk on the underlying loans and to collateralize their retained loss position. Insurers or reinsurers that write front-end coverage for the Enterprises must partially collateralize their obligations.

Multifamily Credit Risk Transfer Transactions: Risk sharing with the private sector is an integral part of the multifamily business models of both Enterprises. Freddie Mac issues senior/subordinate notes to finance most of its multifamily originations, primarily through its K-deal structure. In these transactions, virtually all credit risk is transferred to investors through subordinated bonds that are structured to absorb expected and unexpected risk.

Freddie Mac also launched a new structured product (SCR notes) to transfer credit risk on certain multifamily mortgage loans backing targeted affordable rental housing tax-exempt bonds guaranteed by Freddie Mac.

In Fannie Mae's multifamily program (known as DUS), lenders typically share in loan level credit losses in two ways: (1) lenders share up to one-third of the losses on a pro rata basis or (2) lenders bear losses up to the first 5 percent of the unpaid principal balance of the loan and share in remaining losses up to a prescribed limit. In addition to their DUS transactions, Fannie Mae also completed a multifamily CRT transaction during 2016. In this transaction, Fannie Mae transferred a portion of the risk to the reinsurance industry. This was the first non-DUS CRT transaction for Fannie Mae involving multifamily mortgage loans.



Appendix B: CRT Principles, Concepts and Definitions

CRT Principles

FHFA assesses all Enterprise credit risk transfer activities using the same key principles. These principles include:

Reduce taxpayer risk: Transactions should transfer a meaningful amount of credit risk to private investors.

Economically sensible: The program should consist of transactions in which the cost to the Enterprise for transferring the credit risk does not meaningfully exceed the cost to the Enterprise of self-insuring the credit risk being transferred.

Continuity of core business: Transactions should not interfere with the continued operation of the Enterprises' core business, including the efficient operation of the to-be-announced (TBA) market or the ability of borrowers to access credit.

Repeatable: Whenever possible, transactions should be part of a regular program of similar transactions.

Scalable: Transaction structures should be capable of being scaled without significantly affecting the economics or management of the transaction.

Counterparty strength: In transactions in which the credit risk being transferred is not fully collateralized, credit risk transfer counterparties to the Enterprises should be financially strong companies that are able to fulfill their financial commitments even in adverse markets.

Broad investor base: The program should include different transaction structures to attract a diversified and broad investor base with the objective of improving pricing, increasing secondary market liquidity, and promoting market stability.

Stability through economic and housing cycles: Transaction structures should be designed to ensure that at least some investors will remain in the market through all phases of the housing price cycle, including economic downturns.

Transparency: Parties to a transaction should provide public disclosure of transaction information, whenever practical.

Level playing field: Credit risk transfer transactions should only reflect the cost of transferring credit risk and should not favor large mortgage originators over small ones.

CRT Concepts and Definitions

First Loss Position: Credit risk for a pool of mortgages can be decomposed into expected loss (under baseline economic conditions), unexpected loss (under stressful, yet plausible, economic conditions), and catastrophic loss (beyond unexpected losses). While there is no single definition of first loss for purposes of credit risk transfers, FHFA interprets "first-loss position" as starting with the first dollar of loss through all expected losses.

Expected Credit Loss: Credit loss projected, on average, to occur if housing market conditions proceed according to a stable long-term trend, particularly with regard to house price levels. Even in a healthy housing market, a pool of mortgages is likely to experience some credit losses (i.e., defaults on the underlying mortgages) as some borrowers face trigger events such as illness, job loss, or other unanticipated events.

Unexpected Credit Loss: Credit loss over and above expected losses should there be a stressful, yet plausible, macroeconomic event, such as a severe downturn in house price levels as might accompany a recession (similar to what was experienced during the recent housing crisis), but short of catastrophic credit losses.



Catastrophic Credit Loss: Credit loss beyond unexpected loss that would be deemed highly unlikely to occur. There is no bright line between unexpected credit losses and catastrophic credit losses.

Credit Risk: In the case of residential mortgage loans, credit risk is risk of loss to a mortgage creditor stemming from a borrower's failure to repay the loan.

Credit Risk Transfer: Credit risk transfer occurs when a party exposed to credit risk transfers some or all of that risk to another party, usually accompanied by the payment of a fee for the other party's assumption of that risk. The Enterprises' credit risk transfer transactions are effective for a limited duration, typically a 10- to 12-year time period. The exact reimbursement terms and recognition of credit loss are a function of the specific credit risk transfer contract for that transaction. Risk transfer may result in the transferor's assumption of a different risk. For example, when an Enterprise transfers the credit risk on a mortgage loan for which the Enterprise has guaranteed payment of principal and interest the Enterprise may assume risks associated with the counterparty, including reimbursement risk.

Counterparty Risk: Counterparty risk is the risk that a contractual counterparty will not perform in accordance with contract terms. This would include the counterparty's capacity to pay claims timely, such as its financial and operational strength, the depth and quality of its capital and the diversification of its business. It also includes assessment of concentration exposures with that counterparty. When an Enterprise transfers the credit risk on a mortgage loan for which the Enterprise has guaranteed payment of principal and interest, the Enterprise assumes reimbursement risk from its risk transfer counterparties for losses incurred.

Reimbursement Risk: In the case of the Enterprise, the risk that the party(ies) to the credit risk transfer (front- or back-end) will not repay the Enterprise on time and in full for its portion of credit losses. When an Enterprise transfers credit risk while continuing to provide a guarantee to MBS investors for timely payments on principal and interest, the Enterprise assumes reimbursement risk from its risk transfer counterparty. This is an element of counterparty risk.

Front-End or Up-Front Credit Risk Transfer: This term applies to transactions in which the arrangement of the risk transfer occurs prior to, or simultaneous with, the acquisition of residential mortgage loans by an Enterprise. "Front-end" refers to the timing of the arrangement of the credit risk transfer and does not affect (either mitigate or exacerbate) the reimbursement risk assumed by an Enterprise.

Back-End Credit Risk Transfer: This term applies to transactions in which the arrangement of the risk transfer occurs after the acquisition of residential mortgage loans by the Enterprises. "Back-end" refers to the timing of the arrangement of the credit risk transfer, and does not affect (either mitigate or exacerbate) the reimbursement risk assumed by an Enterprise.

