

Credit Risk Transfer – A Primer

**Published
March 2016**

Fannie Mae acts as an intermediary between lenders and investors in credit risk transfer, allowing lenders to access the private markets for credit risk, by setting standards, providing credit risk management oversight, and maintaining stability through all business cycles. By creating a suite of risk sharing vehicles in the market, Fannie Mae aims to accomplish its overall goals of protecting taxpayers, minimizing the impact on borrowers and lenders, improving market efficiency, and creating liquidity, all of which enable Fannie Mae to continue to provide reliable, large-scale access to affordable mortgage credit.

Overview

While credit risk sharing is not new at Fannie Mae, it has evolved dramatically since the financial crisis. Fannie Mae has traditionally utilized upfront forms of credit protection, such as primary mortgage insurance, as a normal course of business, and also used mortgage insurance pool policies as a supplemental means to transfer credit risk. However, beginning in 2013, Fannie Mae has transferred a significant portion of credit risk to the private markets on over half a trillion of unpaid principal balance in mortgage loans via ground-breaking credit risk transfer (CRT) vehicles, and has built a market bolstered by innovative, industry-leading credit risk management tools and processes.

Today, with Fannie Mae's wider range of tools to share credit risk with the private markets via its CRT vehicles, the company continues to be an intermediary between lenders and investors by setting standards, providing credit risk management oversight, and maintaining stability through business cycles. Sharing credit risk with the private markets through these innovative vehicles is now a normal part of Fannie Mae's business model and enables it to act as a conduit of credit risk between lenders and investors.

In this edition of the Fannie Mae MBSenger, we provide an overview of how the company shares credit risk with the private market through its CRT vehicles. We discuss Fannie Mae's two predominant risk transfer programs, Connecticut Avenue Securities™ (CAS) and Credit Insurance Risk Transfer™ (CIRT™), and other innovative ways by which the company involves private market participants in taking on mortgage credit risk, reducing credit risk exposure for Fannie Mae and the U.S. taxpayer. We describe Fannie Mae's role as a conduit for credit risk and, lastly, the MBSenger provides transparency into how Fannie Mae considers the cost of coverage of such transactions.



Goals of CRT

Fannie Mae strives to achieve multiple goals with its CRT program, including:

Protect Taxpayers:

- Transfer risk from taxpayers on the vast majority of new acquisitions where it is feasible, economical, and provides meaningful transfer of stress risk;
- Create structures that eliminate or significantly mitigate counterparty risk so that risk is truly transferred; and
- Ensure sufficient loss coverage so that if the covered loans experience a stress event comparable to the most recent housing crisis, credit risk sharing participants will bear the majority of loan losses.

Minimize Impact on Borrowers and Lenders:

- Avoid disruption of the “To Be Announced” (TBA) market;
- Minimize changes required of lenders and servicers; and
- Preserve foreclosure prevention options for families.

Improve Market Efficiency:

- Act as an intermediary between lenders and investors by setting standards, providing credit risk management oversight, and maintaining stability through business cycles.

Create Liquidity:

- Develop broad and liquid markets for credit risk;
- Develop the market for credit risk in a deliberate manner, issuing consistent structures in a transparent, thoughtful way to avoid causing unnecessary volatility; and
- Develop risk sharing structures that are repeatable and scalable to foster liquidity and further market acceptance.

The Scope of CRT

Fannie Mae is currently sharing a significant portion of the credit risk on over 95% of new loan acquisitions in targeted loan categories. CRT is designed to share credit risk on a portion of Fannie Mae’s single-family book, specifically newly-originated, mortgage loans that are underwritten to Fannie Mae approved guidelines using strong credit standards and enhanced risk controls which were implemented post-housing crisis. Loan categories the company has targeted for credit risk transfer transactions generally consist of fixed-

rate single-family conventional loans with terms greater than 20-years that meet certain credit performance characteristics, are not Refi Plus and not part of the Home Affordable Refinance Program® (HARP®)¹, and have loan-to-value (LTV) ratios between 60 percent and 97 percent (Figure 1).

Certain categories of loans have generally been excluded from credit risk transfers (Figure 2), such as:

- Refi Plus / HARP loans, which represent refinances of Fannie Mae’s existing book and are loans that are not underwritten to current guidelines for new risk;
- Original LTV ratios of less than or equal to 60% and terms less than or equal to 20 years, which have a very low risk profile given that borrowers in these products generally have significant equity;
- ARM loans, which represent a small percentage of our overall business. (Note: we recently completed a CRT deal with ARM loans; however, due to small volume, these are unlikely to be targeted for CAS execution).

CRT Vehicles

Fannie Mae executes credit risk transfers utilizing two flagship programs and also uses other supplemental ways to reach targeted markets for risk transfer. By maintaining multiple vehicles by which it shares credit risk with the market, Fannie Mae enhances its ability to meet the numerous CRT program goals in different economic and market environments.

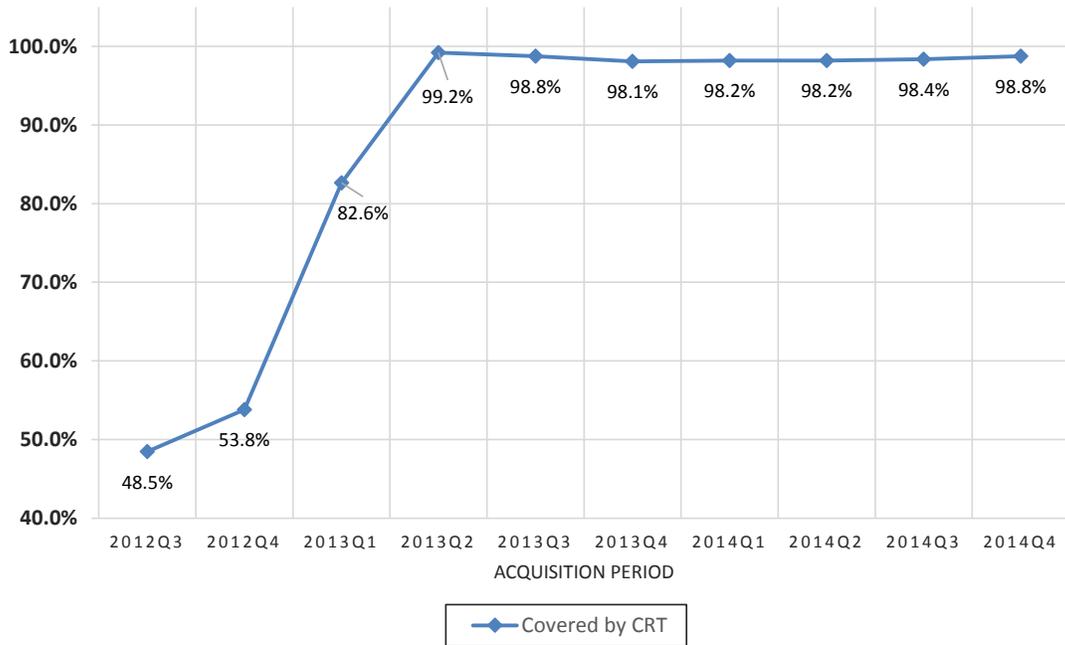
Fannie Mae’s two predominant risk transfer programs are Connecticut Avenue Securities™ (CAS) and Credit Insurance Risk Transfer™ (CIRT™).

Fannie Mae also transfers credit risk through lender risk sharing programs such as collateralized recourse arrangements like L Street Securities (LSS). These and other types of arrangements provide Fannie Mae with multiple options to meet its objectives and help bring capital from diverse sources into the private markets.

Program-to-date, 80-90% of the UPB transferred has been completed through Fannie Mae’s CAS program, while 10-20% of the unpaid principal balance (UPB) transferred has been completed through the complementary CIRT program. Other innovative arrangements, including LSS, constitute a limited percentage of the total credit risk that Fannie Mae has transferred.

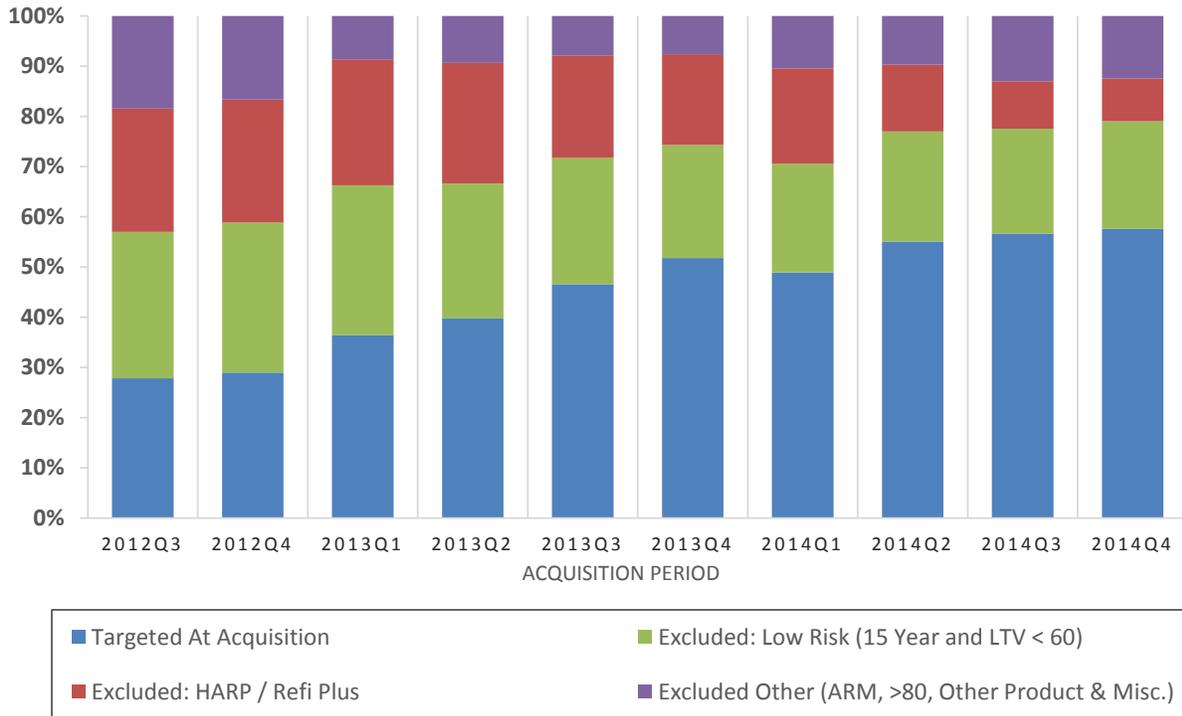
¹ Since 2009, Fannie Mae has offered the Home Affordable Refinance Program® (“HARP®”) under our Refi Plus initiative, which was designed to expand refinancing opportunities for borrowers who may otherwise be unable to refinance their mortgage loans due to a decline in home values.

Figure 1: Targeted Aquisitions Covered by CRT



*Note: % Covered by CRT does not account for performance related exclusions or prepayment prior to risk transfer.
As of December 31, 2015*

Figure 2: Fannie Mae Single-Family Acquisitions Targeted for Credit Risk Transfer



As of December 31, 2015

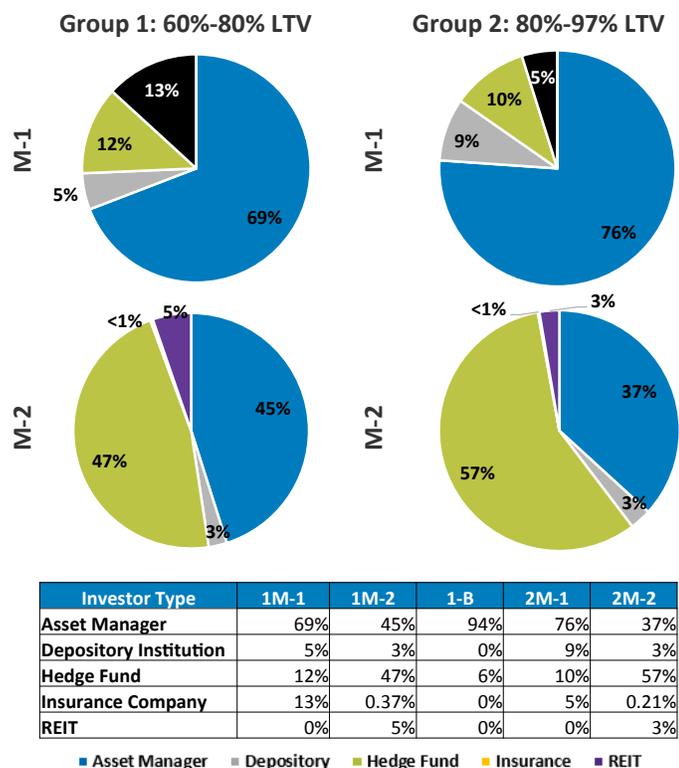
CAS Program

In Brief: CAS is one of Fannie Mae's flagship risk sharing vehicles. As of March 15, 2016, \$13.4 billion has been issued under the CAS program, transferring credit risk on approximately \$467 billion in loans across ten transactions.

Description: The CAS program provides private market investors access to large, geographically diversified loan pools and broad exposure to the United States housing market. It aims to offer ongoing investment opportunities that are scalable and flexible enough to respond to market feedback, while having minimal, if any, impact on the TBA market. Ongoing, regular issuance and consistency of structures help to promote liquidity. Fannie Mae provides access to detailed loan-level data disclosures with an extensive historical dataset to support deal analysis.

Participant Type(s): Institutional investors including asset managers, hedge funds, insurance companies, REITs, and depository institutions (Figure 3).

Figure 3: Program to Date Investor Distribution



Through CAS 2016-C01

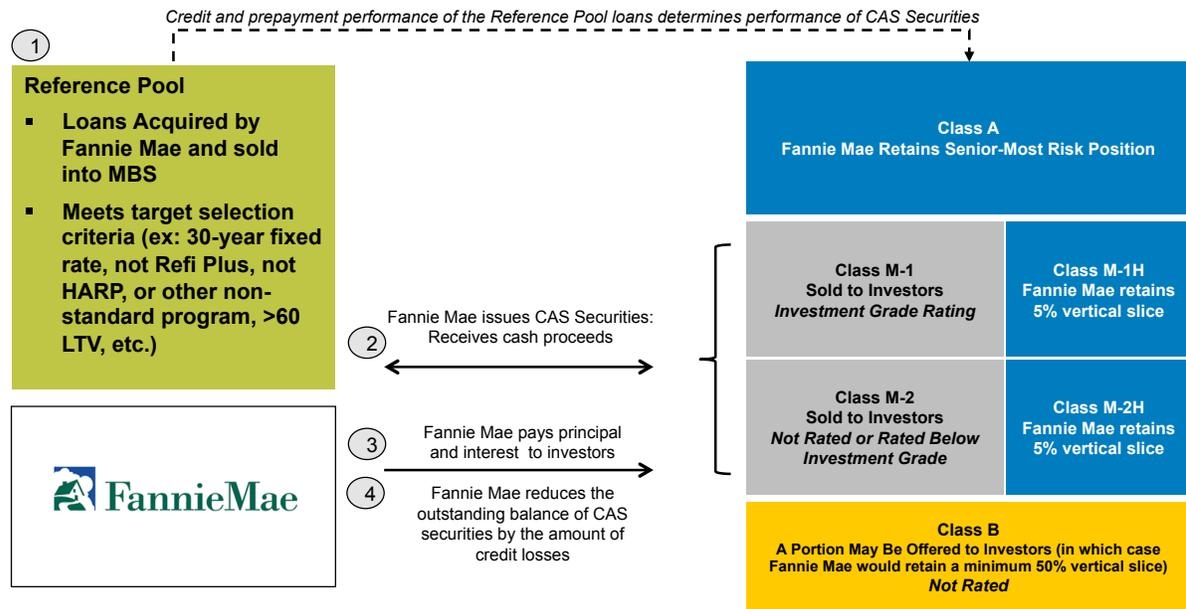
*The 1-B tranche was offered for the first time in the 2016-C01 transaction

Transactions to Date (as of 3/15/2016):

Year	Deal Name	Deal Issuance (\$ MM)	Covered Loan UPB (\$ MM)	Closing Date / Effective Date
2013	CAS 2013-C01	\$ 675	\$ 26,756	Oct-24-13
2014	CAS 2014-C01	\$ 750	\$ 29,309	Jan-01-14
	CAS 2014-C02	\$ 1,600	\$ 60,818	May-01-14
	CAS 2014-C03	\$ 2,050	\$ 78,224	Jul-01-14
	CAS 2014-C04	\$ 1,449	\$ 53,874	Nov-01-14
2015	CAS 2015-C01	\$ 1,469	\$ 50,193	Feb-22-15
	CAS 2015-C02	\$ 1,449	\$ 45,009	May-28-15
	CAS 2015-C03	\$ 1,557	\$ 48,326	Jul-22-15
	CAS 2015-C04	\$ 1,446	\$ 45,045	Oct-27-15
2016	CAS 2016-C01	\$ 945	\$ 29,287	Feb-18-15

Structural Overview: CAS deals are currently issued as unsecured debt obligations of Fannie Mae. The performance of the CAS notes are tied to an underlying pool of loans that have been sold into MBS guaranteed by Fannie Mae. Fannie Mae pays interest on the CAS notes and repays principal based on the prepayment and credit performance of the underlying loans. If the underlying loans experience credit losses, the CAS notes are written down and Fannie Mae is no longer obligated to repay that portion of principal to investors; therefore investors may bear losses. Fannie Mae reduces the amount it pays on the securities by the amount of losses on the loans, so there is no counterparty risk to Fannie Mae for the credit risk transfer, like there would be in an insurance or re-insurance transaction with a third party. Figure 4 illustrates a sample deal structure.

Figure 4: Connecticut Avenue Securities: Sample Deal Structure



CIRT Program

In Brief: The CIRT program is a key risk sharing vehicle that complements the CAS program. As of March 15, 2016, approximately \$1.7 billion in insurance contracts have been entered into under the CIRT program, transferring credit risk on approximately \$66.2 billion in loans across nine transactions.

Description: Credit insurance risk sharing deals shift credit risk on a pool of loans to an insurance provider which may then transfer that risk to one or more domestic or international reinsurers. The insurance/reinsurance market is a significant and attractive source of private capital because insurers/reinsurers generally have diversified books of business that are not heavily concentrated in, nor highly correlated to, U.S. residential mortgage risk. A portion of the insurers/reinsurers’ obligations are collateralized with highly-rated liquid assets held in a trust account. Insurance benefits paid under these transactions are based on actual losses.

Participant Type: Diversified domestic and international insurance and reinsurance firms.

Transactions to Date:

Year	Deal Name	Deal Issuance (\$ MM)	Covered Loan UPB (\$ MM)	Closing Date / Effective Date
2014	CIRT 2014-1	\$ 193	\$ 6,419	Nov-01-14
2015	CIRT 2015-1	\$ 117	\$ 4,676	Jun-01-15
	CIRT 2015-2	203	8,101	Jul-01-15
	CIRT 2015-3	176	7,048	Aug-01-15
	CIRT 2015-4	185	7,400	Oct-01-15
	CIRT 2015-5	121	4,860	Oct-01-15
	CIRT 2015-6	206	8,229	Nov-01-15
2016	CIRT 2016-1	\$ 220	\$ 8,800	Feb-01-16
	CIRT 2016-2	267	10,673	Feb-01-16

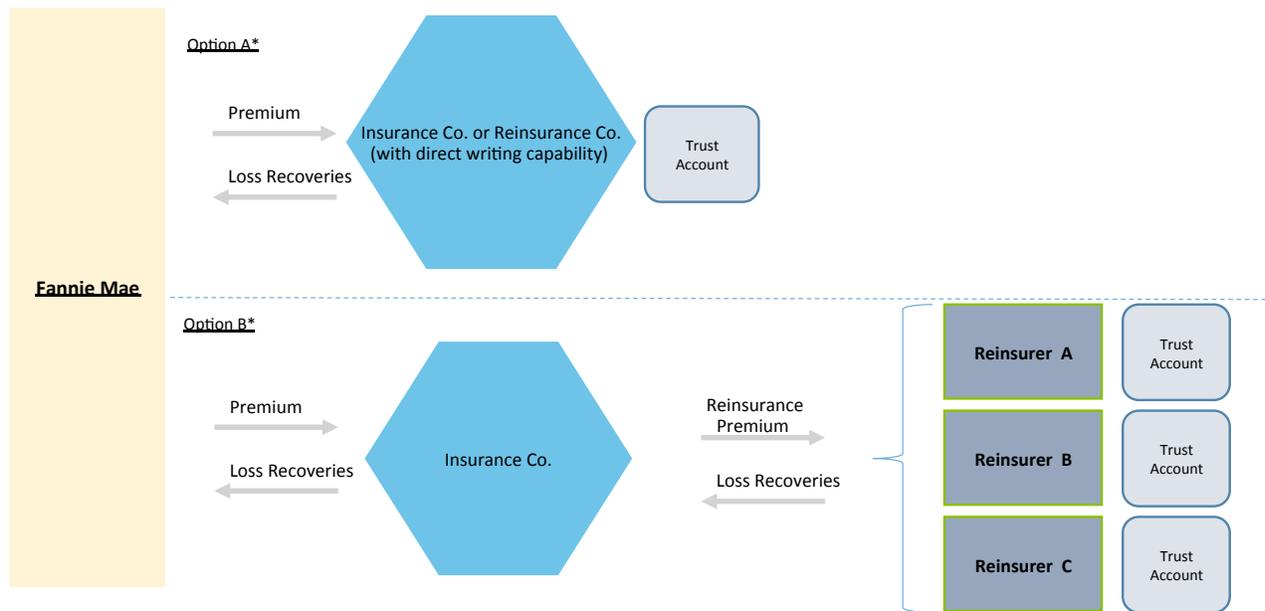
Structural Overview: These transactions entail the purchase of collateralized credit insurance on pools of mortgage loans. The collateralized nature helps to mitigate counterparty exposure for Fannie Mae, supplementing the upfront financial review and/or investment grade rating required of each insurer.

Fannie Mae may leverage an entity to facilitate the pass through of credit risk and insurance premiums to reinsurers and subsequent loss recoveries from the reinsurers back to Fannie Mae or transfer risk to an insurance company that holds the risk and provides insurance coverage directly to Fannie Mae (Figure 5).

The CIRT transactions are structured similarly to CAS transactions.

- Fannie Mae retains an initial portion of risk.
- If this retention level is exhausted, insurers and/or reinsurers will cover actual losses to a detachment point.
- Fannie Mae will then cover the catastrophic loss.
- Similar to CAS transactions, the goal is to structure these transactions so that they are repeatable and scalable to further market acceptance.

Figure 5: Reinsurance Structure



*CIRT deals can be structured using Options A or B, or both

Lender-facing Risk Transfer Transactions

In Brief: Fannie Mae’s lender-facing upfront risk transfer transactions, more recently via collateralized recourse structures (e.g. L Street Securities), are another way that Fannie Mae transfers credit risk on the loans we acquire.

Description: Primarily collateralized recourse structures used by lenders who want to invest in the credit risk on loans they originate.

- Lender risk sharing arrangements allow a lender to invest directly in credit risk by retaining a portion of the credit risk on loans they originate and/or service.
- The credit risk is transferred at the time of delivery and typically covers initial/first loss through some projected loss level.
- Due to the lender’s retention of risk, it helps to align the lender’s and Fannie Mae’s interests.
- These transactions are carefully structured to avoid disruption of efforts to align pricing between large and small lenders, to mitigate counterparty risk, and to avoid exposing consumers to market volatility.

Participant Type: Fannie Mae approved seller/ servicers

Volume to Date: As of March 15, 2016, approximately \$350 million in credit risk transferred covering \$11 billion in mortgage loans

Structural Overview: Recently, lender facing structures have all been collateralized recourse structures (including L Street Securities). In general, collateralized recourse structures follow these basic mechanics:

- Eligible counterparties establish Special Purpose Entities (SPEs) to deliver a pool of mortgages to Fannie Mae for securitization into MBS or for whole loan purchase. This pool of mortgages is then used as a reference pool for the lender collateralized recourse arrangement.
- A collateral account is created and funded by the lender/issuer to mitigate counterparty exposure for Fannie Mae. The collateral account is used to reimburse Fannie Mae for any losses incurred.
- A portion of credit fee income is used to reimburse the investor for taking credit risk. The costs associated with reimbursing the investor for taking credit risk have not allowed originators to realize up-front execution improvements. Investors may realize a gain on the credit risk investment over time.

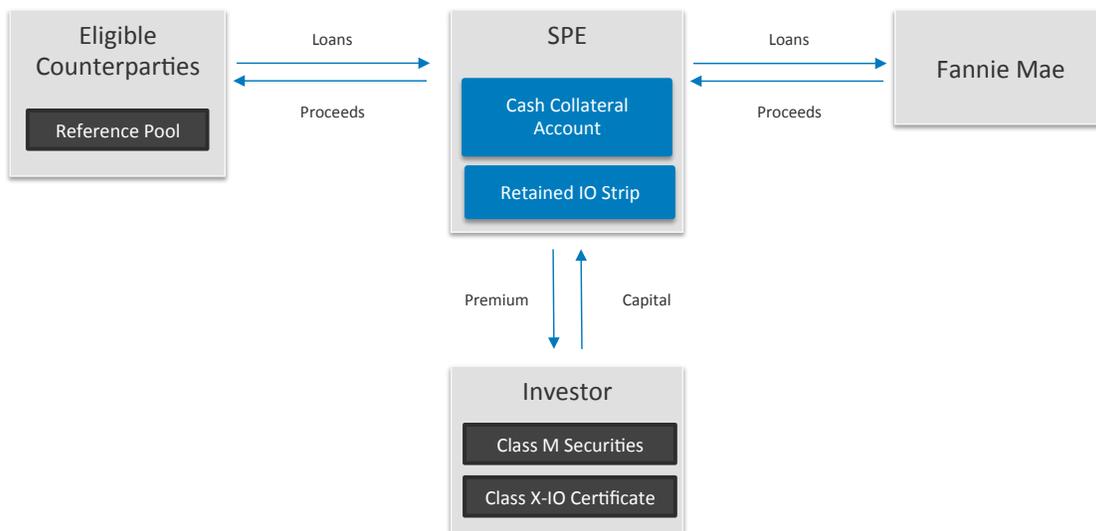
Additional L Street Securities (LSS) mechanics:

- The SPE issues securities where the performance of the securities is based on a reference pool of loans originated and/or serviced by the related lender. The proceeds from sale of the securities are used to fund a Cash Collateral Account; any excess proceeds fund a Reserve Account.
- The Cash Collateral Account serves as a protected trust, the assets of which are used, first to reimburse Fannie Mae for any losses on the loans in the reference pool and then to fund the principal and interest payments due on the securities.
- These securities are typically retained by the lender so that they can hold the credit risk on their loans in certificated form.
- Guaranty Fees on underlying loans are reduced, subsequently retained by the issuer (retained IO strip), and deposited into an established interest account to pay interest to class M securities (see Figure 6).

A Conduit for Credit Risk

Many lenders do not have the ability or desire to retain a portion of the credit risk on the mortgages they sell Fannie Mae due to capital requirements or other operational factors. As an intermediary in the credit risk transfer markets, through its CAS and CIRT programs, much like the Whole Loan Conduit, described in Fannie Mae’s Whole Loan Conduit [MBSenger](#), where Fannie Mae provides lenders liquidity through access to the MBS market, Fannie Mae addresses scalability and capacity constraints of many of its lender customers. It has done so by developing innovative credit risk management technology and expertise, an established operational infrastructure, large scale aggregation capabilities, and a robust strategy around developing a market for credit risk. These capabilities benefit lenders and enable Fannie Mae to be an efficient conduit for credit risk between lenders and investors.

Figure 6: L Street Securities



Eligible Counterparties – Seller of record that is selling into structure.
 SPE – Also referred to as a "bankruptcy-remote entity" whose operations are limited to the acquisition and financing of specific assets.
 Cash Collateral Account (CCA) - Proceeds from the sale of class M securities will be deposited in the CCA. Principal distributions to class M securities and recourse event obligations payable to Fannie Mae will be paid from the CCA.

The Cost of Credit Risk Transfer Coverage – Estimating the Equivalent Guaranty Fee

The public nature of the CAS transactions provides a convenient source for a very rough approximation of the market's view of the cost of guaranteeing the credit risk of the loans backing the deals. The lifetime cost of the coverage provided by the deals can be estimated as the total projected coupon payments due over the life of the transaction. This lifetime cost of a CAS deal can then be converted to ongoing guaranty fee-equivalent terms using the projected weighted average life of the reference loans. This process of determining the hypothetical cost (assuming the full tranches are issued) is illustrated in the table below for a recent CAS transaction covering recently-originated 60-80 LTV loans (CAS 2016-C01 Group 1).

Example: CAS 2016-C01 Group 1 (15 CPR; 0 CDR)						
	Coupon	Size	Bond WAL	Lifetime Cost	Pool WAL	Implied Gfee
1M1	195	1.15%	2	4	5	1
1M2	675	1.85%	5	64	5	13
1B	1175	1.00%	11	129	5	27
Implied Credit Guaranty Fee:						41 bps
Administrative Expenses:						5 - 10 bps
TCCA:						10 bps
Total Expense:						56-61 bps

WAL = weighted average life (in years)

In the table above, the Implied Credit Guaranty Fee approximates the cost of transferring the first 4.00% of credit risk for the underlying loans to CAS investors. The lifetime cost for each individual bond is the product of the coupon payment, the bond size, and the bond WAL. The implied G-Fee is then the result of dividing the lifetime cost by the pool WAL. The sum of the cost of the bonds is the total implied G-Fee. (41 bps in this case.)

The table above also identifies two additional elements of Fannie Mae's guaranty expense that remain intact once the risk transfer is complete. These are Fannie Mae's own Administrative Expenses and the 10 bps Temporary Payroll Tax Cut Continuation Act of 2011 (TCCA) fee that Fannie Mae remits to Treasury as part of the Temporary Payroll Tax Cut Continuation Act of 2011.

Not shown in the table is the Residual Capital Expense that Fannie Mae incurs for credit risk that remains in excess of the risk transferred. This residual credit risk is directly a function of the riskiness of the specific pool transferred (and is inherently volatile).

Note that Fannie Mae does not sell 100% of the risk below the coverage level for any CAS transaction. The size of this retained "vertical slice" varies from deal to deal. While the retained size impacts Fannie Mae's actual incurred cost for each transaction, it does not impact the hypothetical implied G-Fee computed in the manner described above. Volatility in coupon spreads and prepayment expectations, on the other hand, do have a significant impact on the implied G-Fee. As such, values computed in the manner illustrated above should be considered simple point-in-time estimates.

Summary

This MBSenger aims to provide additional transparency into how Fannie Mae shares credit risk with the private market through CRT vehicles. We have discussed our two predominant risk transfer programs, CAS and CIRT, and other innovative ways in which we involve private market participants in taking on mortgage credit risk. We have also discussed Fannie Mae's role as a conduit for credit risk, developing sophisticated capabilities and infrastructure that allow lenders to access credit risk investors in the private market. Lastly, this MBSenger provides transparency into how Fannie Mae considers the cost of coverage of such transactions.

Credit risk sharing with the private markets via Fannie Mae's CRT vehicles is a fundamental part of the business at Fannie Mae today, and CRT is the new normal for the mortgage markets. Fannie Mae's CAS and CIRT programs enable the company to act as an intermediary of mortgage credit risk between lenders and investors through the setting of standards, providing credit risk management oversight, and maintaining stability through business cycles. Driven by industry-leading innovations in credit risk management, Fannie Mae works to continue to build a liquid market for its products.

By creating a suite of risk sharing vehicles in the market, Fannie Mae aims to accomplish its overall goals of protecting taxpayers, minimizing the impact on borrowers and lenders, improving market efficiency, and creating liquidity, all of which enable Fannie Mae to continue to provide reliable, large-scale access to affordable mortgage credit.

Useful Links and Resources:

Credit Risk Sharing Page:

<http://fanniemae.com/portal/funding-the-market/credit-risk/index.html>

Connecticut Avenue Securities Page:

<http://fanniemae.com/portal/funding-the-market/credit-risk/conn-ave.html>

CAS Transactions Page:

<http://fanniemae.com/portal/funding-the-market/credit-risk/transactions.html>

Credit Insurance Risk Sharing Page:

<http://fanniemae.com/portal/funding-the-market/credit-risk/credit-insurance.html>

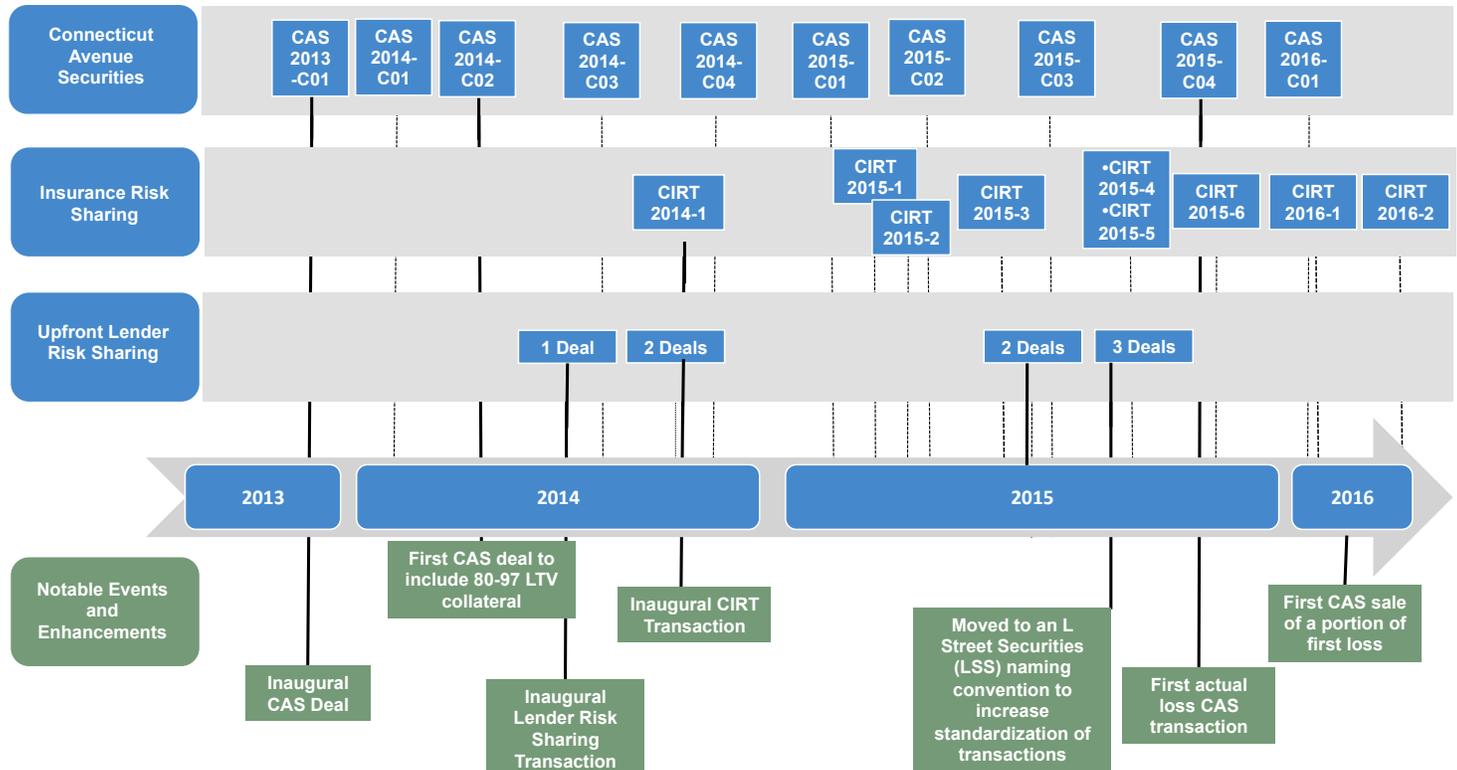
Single Family Loan Performance Data:

<http://fanniemae.com/portal/funding-the-market/data/loan-performance-data.html>

Credit Risk Management Presentation:

<http://fanniemae.com/resources/file/credit-risk/pdf/0915-credit-risk-mgt-deck.pdf>

Appendix: Credit Risk Sharing Issuance Activity



*Inaugural risk sharing deal – MIRT 01 – was conducted in 2013

Fannie Mae exists to expand affordable housing and bring global capital to local communities in order to serve the U.S. housing market. Fannie Mae has a federal charter and operates in America's secondary mortgage market to enhance the liquidity of the mortgage market by providing funds to mortgage bankers and other lenders so that they may lend to home buyers. Our job is to help those who house America.

MBSenger®

MBSenger is published by Fannie Mae's
Fixed-Income Securities Marketing Group

Fannie Mae Fixed-Income Securities Investor Helpline
800-2FANNIE, Option 2



© 2016. All rights reserved.