



SINGLE-FAMILY CREDIT RISK TRANSFER REQUEST FOR INPUT

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Division of Housing Mission and Goals

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I. Introduction

Since 2012, the Federal Housing Finance Agency (FHFA) has set as a strategic plan that Fannie Mae and Freddie Mac (the Enterprises) develop a program of credit risk transfer intended to reduce overall risk at the Enterprises.¹ The Enterprises were placed into conservatorship in 2008 and have received financial support from the U.S. Department of the Treasury under the Senior Preferred Stock Purchase Agreements. The Enterprises' credit risk transfer programs reduce the overall risk to taxpayers under these agreements. These programs have made significant progress since they were first launched in 2012, and credit risk transfer transactions are now a regular part of the Enterprises' business.

FHFA, Fannie Mae, and Freddie Mac engage in an ongoing process to assess ways to further improve the Enterprises' credit risk transfer programs. While there has been great progress in a short period of time, the Enterprises' programs are not yet fully mature. Therefore, FHFA expects that the Enterprises will continue to advance their credit risk transfer programs by developing additional transaction structures, refining the structures already offered, and seeking to expand the investor base for credit risk transfer transactions.

As part of FHFA's ongoing assessment, FHFA and the Enterprises are engaged in an analysis of possible, additional front-end credit risk transfer structures.² FHFA distinguishes between "front-end" and "back-end" credit risk transfer transactions based on when the arrangement of the credit risk transfer occurs. "Front-end" or "up-front" credit risk transfer transactions are those in which the arrangement of the risk transfer occurs prior to, or simultaneous with, the acquisition of residential mortgage loans by an Enterprise. An example of a front-end transaction would be a collateralized recourse transaction. Conversely, back-end credit risk transfer applies to transactions in which the arrangement of the risk transfer occurs after the acquisition of residential mortgage loans by the Enterprises. An example would be Freddie Mac's Structured Agency Credit Risk (STACR) or Fannie Mae's Connecticut Avenue Securities (CAS) debt transactions.

To assist FHFA and the Enterprises in conducting this ongoing assessment, this request for input (RFI) seeks feedback from stakeholders on proposals for the Enterprises to adopt additional front-end credit risk transfer structures and on other credit risk transfer policy issues. FHFA must assess all Enterprise credit risk transfer activities using the same key principles and

¹ Although the credit risk transfer effort was initiated in 2012, the first transactions were not completed until 2013.

² This assessment is included as a conservatorship priority in FHFA's *2016 Scorecard for Fannie Mae, Freddie Mac, and Common Securitization Solutions*.



considerations of how best to mitigate possible risks, regardless of whether a transaction has a front-end or back-end structure. This consistency is necessary since the Enterprises ultimately guarantee the timely payment of principal and interest to investors on all loans included in Enterprise mortgage-backed securities. The RFI provides a discussion of these principles and considerations to aid stakeholders in providing their feedback on possible front-end structures. In addition, FHFA welcomes stakeholder input on any of the issues raised in the RFI, as well as any input on the Enterprises' credit risk transfer programs in general. To aid the public in providing feedback on these issues, the Appendix provides a list of terms and definitions related to the Enterprises' credit risk transfer programs.

II. Principles of Credit Risk Transfer

In its oversight of the development and execution of the Enterprises' credit risk transfer programs, FHFA must fulfill the Agency's statutory authorities as conservator and regulator, including the responsibility to ensure the safety and soundness of the Enterprises, ensure that the Enterprises support liquidity in the housing finance market, and preserve and conserve the Enterprises' assets. Based on these authorities, FHFA works to balance a number of credit risk transfer principles, which are informed by experience gained from the market execution of these transactions. The following list provides an overview of these key principles:

Reduce taxpayer risk – Transactions should transfer a meaningful amount of credit risk to private investors. The programs should also seek to ensure that private investors successfully retain the purchased credit risk and avoid situations where the transferred risk boomerangs back to taxpayers as the result of a failed counterparty, transaction structure, or other factors.

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. This cost analysis should consider 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 during stressful macroeconomic conditions. It is possible that some transactions could still be considered economically sensible if they cost slightly more than Enterprise self-insurance. The market for credit risk transfer transactions is still developing, and pricing may fluctuate until liquidity increases over time. The Enterprises may also choose to execute credit risk transfer transactions at higher costs during periods of market turmoil to maintain program continuity.

Continuity of core business – Transactions should not interfere with the continued operation of the Enterprises' core business: the acquisition and securitization of mortgage loans and the guarantee of mortgage-backed securities (MBS). Transactions should be designed so



they do not negatively affect the efficient operation of the “To-Be-Announced” (TBA) market.³ FHFA will assess the Enterprises’ credit risk transfer transactions to ensure that transactions do not negatively impact the Enterprises’ role in ensuring liquidity in the mortgage market, and, consequently, the ability of borrowers to access credit.

Repeatable – Whenever possible, transactions should be part of a regular program of similar transactions. Specialized, one-off transactions are inefficient to manage, increase operational complexity, and discourage liquidity. New types of transactions, which are typically introduced as pilot transactions, should have the potential to be repeated.

Scalable – Transaction structures should be capable of being scaled up or down without significantly affecting the economics or management of the transaction. The vast scale of the Enterprises’ mortgage securitization business requires that credit risk transfer transactions be of substantial size. It is also advantageous for the Enterprises to be able to upsize or downsize an individual transaction before closing to respond to investor demand or market volatility.

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 and stable companies that are consistently able to fulfill their financial commitments in the transaction 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. This requires carefully structuring a suite of transactions that collectively meets different investors’ risk appetites, return requirements, time horizons, and regulatory constraints.

Stability through economic and housing cycles – Transaction structures should be designed to ensure that at least some investors will remain in the market through stressful phases of the housing price cycle, including during economic downturns. For this reason, FHFA has encouraged experimentation with different types of transaction structures to appeal to a wide array of institutional investors. The investors most active in a downturn may be different from those active in a stable or growing market. In some market downturns, the Enterprises could retain credit risk for a period of time and then subsequently transfer it to private investors when more normal market conditions return.

³ The To-Be-Announced (TBA) markets allows Fannie Mae and Freddie Mac 15-year and 30-year fixed-rate mortgage-backed securities to be sold and bought in the forward market.



Transparency – Whenever practical, parties to a transaction should provide public disclosure of transaction information. Transparency protects taxpayers and investors, provides insight into market pricing of mortgage credit risk, and allows FHFA, stakeholders, and the public to better evaluate credit risk transfer programs and related public policy choices. The release of certain types of information for some credit risk transfer structures, however, may inhibit the ability of the Enterprises to attract future counterparties. In these cases, releasing aggregate data may be more appropriate than releasing individual transaction data.

Level playing field – Credit risk transfer transactions should only reflect the cost of transferring credit risk. As required by FHFA, the volume of mortgage loans sold by seller/servicers to the Enterprises will not be a consideration in determining any guarantee fee concessions offered as part of a credit risk transfer transaction. As a result, these guarantee fee concessions will not favor large mortgage originators over small ones.

III. Enterprise Risks in Credit Risk Transfer Transactions

In conducting credit risk transfer transactions, the Enterprises work to manage a number of different risks. The following section describes some of the more important components of risk to the Enterprises in credit risk transfer transactions.

A. Credit Risk

Credit risk is risk of loss to a mortgage creditor – in this case, one of the Enterprises – stemming from a borrower's failure to repay their loan. Credit risk can be segmented into expected, unexpected, and catastrophic loss:

- **Expected loss**, or “baseline loss,” is credit loss projected to occur if housing market conditions proceed according to a stable, long-term trend, particularly with respect to house price levels. Even in a healthy housing market, a pool of mortgages is likely to experience some defaults when individual borrowers face hardship events such as illness, job loss, or other unanticipated hardships.
- **Unexpected loss** is the loss to the Enterprise 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. For example, the credit losses that took place during the recent financial crisis and were in excess of the predicted expected loss amounts would be considered unexpected losses.



- **Catastrophic losses** are those beyond unexpected losses and would be deemed highly unlikely to occur. However, there is not a bright line marking the transition from unexpected to catastrophic loss.

While credit risk transfer transactions do not eliminate all of the Enterprises' credit risk, they do transfer the majority of the credit risk associated with target acquisitions under many modeled scenarios, which has several implications for the Enterprises' single-family business. Credit risk transfer transactions have an impact on the Enterprises revenue, which can be viewed as an Enterprise paying a portion of the guarantee fee as the cost of transferring some of the credit risk to private sector investors. These transactions also have an impact on the amount of modeled economic capital they hold. In assessing the amount of credit risk transferred to private investors, the Enterprises analyze the amount of economic capital required before and after a credit risk transfer transaction.⁴ This is an important metric in assessing the effectiveness of their credit risk transfer programs, and FHFA works with the Enterprises to evaluate and oversee these assessments.

To date, credit risk transfer transactions have been focused on transferring expected and/or unexpected loss. Together, these losses are estimated based on economic and housing price stress scenarios similar to that experienced in the last housing crisis. Given the risk profile of recent Enterprise loan acquisitions, expected and unexpected losses approximate three to six percent of the aggregate loan balance of loans included in credit risk transfer transactions.

B. Credit-Related Risks

In addition to the credit risks described above, there are other risks inherent in the Enterprises' credit guarantee business and credit risk transfer activities. These include model risk, basis risk, structure risk, and pipeline risk.

Model Risk is the risk that the financial model used to estimate credit losses does not accurately predict future credit losses in a specified macroeconomic scenario. For example, if a model predicts that a pool of loans will have a one percent loss over a certain time period subject to a specified set of macroeconomic conditions and the pool actually experiences a two percent loss under the same set of macroeconomic conditions, the difference between the projected and actual outcomes represents model risk.

⁴ While the Enterprises do not hold capital under the Preferred Stock Purchase Agreements, they incorporate capital requirements into their pricing models and business decisions.



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The Enterprises use proprietary credit models to generate projected loss estimates. These estimates inform Enterprise decisions on whether or not to engage in credit risk transfer transactions and how such transactions should be structured. Credit models include assumptions about macroeconomic factors, such as future interest rate and house price scenarios. Credit models also incorporate assumptions about the drivers of default and the severity of credit losses incurred in the case of a default. These model inputs will change over time. These assumptions are important because even with a perfectly-designed model, loss estimates will only be as accurate as the underlying model inputs.

Model risk can be managed by extensive testing using historical data to determine how accurately the model would have predicted actual past experience. Both Enterprises test the predictive accuracy of their models using historical data and incorporate refinements on a regular basis.

Basis risk is the risk that the Enterprise will recover a different amount from the credit risk transfer counterparty than it actually experiences in credit losses. Basis risk can occur in structures with a fixed-loss severity, where the counterparty agrees to pay a predetermined amount for each default. For example, if the counterparty has agreed at the outset to pay 15 percent of a defaulted loan's principal balance and the actual realized loss after disposition of a foreclosed property is 20 percent, the resulting 5 percent difference represents basis risk. Early STACR and CAS transactions used a fixed severity schedule that defined the level of reimbursement to the Enterprise. In 2015, both Enterprises began to transition many of their credit risk transfer structures so that they would be reimbursed for actual losses rather than fixed losses, significantly reducing basis risk.

Structure risk is the risk that some aspect of the structure of a credit risk transfer transaction makes the amount recoverable from the counterparty different from the actual loss.

There are two main sources of structure risk. First, the order, or “waterfall,” of payments to the individual bonds or tranches within a transaction may, in certain circumstances, reduce credit risk transfer coverage before that coverage is needed. For example, a high level of prepayments in the first few years of a transaction could lead to faster than expected repayment of the junior tranches (the loss absorbing tranches), reducing the actual amount of remaining credit risk transferred. To partially reduce this structure risk, STACR and CAS transactions include prepayment protection “triggers” in their structures. When certain conditions are met, these triggers redirect prepayments to the senior mezzanine tranche, ensuring that the junior tranches will still be outstanding at the time they are needed to absorb credit losses.

Second, the term of the transaction limits the amount of time when losses will be covered. For example, losses in year 15 on a credit risk transfer transaction with a 12-year term would not be covered. Since the Enterprises have been primarily engaging in credit risk transfer transactions



with 10- to 12-year terms on pools of mortgages with 30-year terms, there is always a degree of structure risk due to term length. However, the vast majority of losses are expected to occur, and have historically occurred, in the first 10 years. Most 30-year mortgages are prepaid within 10 years due to a sale of the property or refinance of the mortgage. Generally, due to principal amortization and/or house price appreciation, risk beyond 10 years diminishes considerably.

Pipeline risk is the risk that a loan will default between the time it is acquired by the Enterprise and the time it is included in a credit risk transfer transaction. During this time, the Enterprise must absorb all credit losses. For example, the Enterprises' STACR and CAS transactions have typically taken place 6 to 15 months after loan acquisition. However, loan defaults generally do not occur during the first year and, if they do, both the frequency and severity of loss should be minimal, making this risk relatively small. Nonetheless, the Enterprises are working to reduce the holding period, which would reduce this pipeline risk even further.

In front-end transactions, a portion of the credit risk is transferred prior to, or at the time of, a loan's acquisition by the Enterprise. Consequently, there is no holding period, or "pipeline," between loan acquisition and the credit risk transfer transaction execution. In some existing front-end transactions, the pipeline risk is essentially transferred to the loan seller or aggregator, who must bear the risk of holding loans until they have accumulated a large enough pool to sell.

C. Counterparty and Related Risks

The third category of risk to the Enterprises for credit risk transfer transactions is counterparty risk, which is the risk that a contractual counterparty to the credit risk transfer transaction will not perform in accordance with contract terms. Several aspects of counterparty risk are addressed below, including reimbursement risk, correlated business risk, and market risk.

Reimbursement risk is the most important component of counterparty risk, and a key objective in structuring credit risk transfer transactions is to minimize or eliminate this risk entirely. For all loans included in a credit risk transfer transaction, the Enterprise has guaranteed timely payment of principal and interest to investors in the Enterprise's MBS. Thus, when an Enterprise transfers credit risk, the Enterprise assumes reimbursement risk from its credit risk transfer counterparty. If the counterparty fails to fulfill its obligations under the credit risk transfer contract, or rescinds or curtails coverage, the Enterprise will have to assume the loss because the Enterprise's guarantee to mortgage-backed securities investors remains in effect.



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Regardless of any credit risk transfer arrangements, the Enterprise is always ultimately responsible for making timely payments to MBS investors.⁵

There are several ways of mitigating reimbursement risk, the best of which is collateral. Collateral in credit risk transfer transactions can take different forms, although cash and cash equivalents are optimal. All forms of collateral should provide the Enterprise with near-immediate access to reimbursement funds. In general, the greater the amount of collateral, the less the reimbursement risk.

If a transaction has less than full collateralization, the counterparty's financial strength and creditworthiness of the counterparty must be sufficient to adequately mitigate reimbursement risk. Insurance and reinsurance counterparties are typically rated by a rating agency based on their financial strength and degree of business diversification. The Enterprises require different amounts of collateral for insurance and reinsurance counterparties, depending on their rating and other considerations.

Different transaction structures used to date have involved the use of collateral to mitigate reimbursement risk. In back-end insurance/reinsurance transactions, the insurer/reinsurer (the credit risk-transfer counterparty) posts a percentage of the policy limit of liability (risk-in-force) into a segregated trust account, from which the Enterprise can draw if the insurer/reinsurer fails to pay a claim.

Back-end debt structures such as STACR and CAS are effectively fully collateralized because the Enterprise receives the proceeds from the sale of credit risk transfer bonds at the transaction closing. In a STACR/CAS transaction, the Enterprise is obligated to repay investors for their STACR/CAS bond purchases, but the Enterprise may deduct any credit loss reimbursement from the principal amount due under the terms of the transaction. Because the Enterprise receives the funds needed to offset future credit losses at closing, a counterparty cannot fail to reimburse the Enterprise for losses.

All front-end credit risk transfers completed to date have been fully collateralized. Collateralized recourse transactions typically have a bankruptcy-remote special purpose vehicle (SPV) that holds cash or other liquid assets equal to 100 percent of the effective risk-in-force under the recourse contract.

⁵ Freddie Mac Whole Loan Securities (WLS) are single-family mortgage-backed securities where, unlike ordinary Freddie Mac MBS, the subordinate or junior tranche is not guaranteed by Freddie Mac. Investors in these non-guaranteed, junior tranches may not receive full payments of either principal or interest if there are realized losses on the mortgage loans in the WLS trust. Freddie Mac does, however, guarantee timely and complete payments of principal and interest to the senior tranches.



Correlated business risk is the risk that occurs when the core business and source of revenue of two counterparties are highly correlated with one another. Financial regulators also refer to this risk as wrong-way risk. The Enterprises are monolines and are not diversified – meaning their business risk is focused solely on one asset type, namely mortgage loans. As a result, the Enterprises are exposed to correlated business risk when they conduct business with counterparties that, similar to the Enterprises, are focused primarily on mortgage loans. If not managed properly, correlated business risk would expose the Enterprises to potential losses. If the mortgage market suffers a downturn, a counterparty with correlated business risk might need to pay an increased number of claims, including claims to the Enterprises, which could result in the counterparty becoming financially weaker.

The Enterprises manage correlated business risk in several ways. First, the Enterprises engage in some transactions with counterparties that are well diversified and not highly correlated with the housing and mortgage market. Second, for companies that are focused primarily on mortgage loans, the Enterprises expect those counterparties to offset this exposure. Enterprise counterparties can do so by posting substantial collateral, with full collateralization being the best mitigant. Alternatively, counterparties can also either demonstrate sufficient financial strength or conduct their own transactions to transfer credit risk. Reducing correlated business risk through these two approaches helps reduce broader systemic risk to the financial system.

Concentration risk is significant exposure to a single counterparty. It is a best practice to reduce concentration risk by engaging in transactions with multiple counterparties to minimize the impact of any single counterparty failing to pay.

Market risk is the risk that in a declining housing market investors would retreat from the market and, as a result, negatively impact credit risk transfer transaction prices to the point that these transactions become uneconomical. Because the credit risk transfer programs have not been through an entire housing price cycle, it is too soon to say whether the current credit risk transfer transactions will make economic sense in all stages of the cycle. Specifically, the extent to which investors will continue to participate through a housing downturn is not known. Additionally, the investor base and pricing for credit risk transfer transactions could be affected in times when other fixed-income securities become more attractive investment alternatives.

D. Other Risks

Interest rate risk is another risk inherent in current credit risk transfer transactions. Mortgage prepayments are highly dependent on interest rates. When interest rates decline, one could expect to see more borrowers refinance their mortgages and, hence, more prepayments. Prepayments can reduce the level of credit risk transfer coverage and, in particular, can shorten the average life of the higher-rated mezzanine tranches of STACR and CAS transactions.



Conversely, when rates rise, one could expect fewer refinances, but potentially more credit events as the average life of the mezzanine tranches lengthen and, as a result, provide more credit risk coverage. Interest rates therefore can have a considerable impact on the amount of credit risk transfer coverage outstanding.

Financial reporting or timing risk is the risk that there is a difference between when losses are incurred on an accounting basis and when accounting conventions allow the benefits of credit risk transfer to be recorded. Credit risk transfer transactions based on actual, rather than fixed losses, pay claims after final disposition of the property.⁶ Calculated loss structures, discussed previously under basis risk, reduce or eliminate financial reporting risk by paying claims much closer to the time the Enterprise records the loss. However, the trade-off with these structures is increased basis risk. For a number of reasons, both Enterprises, predominately, have moved to actual losses in 2015.

Operational risk is the risk that the credit risk transfer transaction becomes too costly and complex to implement, especially under stress conditions when the counterparty would be expected to pay the most number of claims. Ideally, a credit risk transfer transaction should not materially increase the operational costs of the Enterprises, reduce Enterprise flexibility for offering distressed borrowers workout solutions, or complicate efficient property disposition processes.

IV. Front-End Credit Risk Transfer Transactions

This section discusses front-end credit risk sharing on Enterprise acquisitions, both as part of the Enterprises' credit risk transfer programs and their charter requirements for credit enhancement on loans with higher loan-to-value (LTV) ratios. This section begins by providing an overview of the front-end collateralized recourse transactions that the Enterprises have completed to date and then discusses the role that primary mortgage insurance plays in sharing credit risk and meeting the Enterprises' mandatory charter requirements for loans with LTV ratios that exceed 80 percent.

⁶ In STACR and CAS actual loss structures, the credit risk benefit is not recorded until the final disposition. This can be months or years after the Enterprise recognizes the loss for accounting purposes, creating what can be a significant accounting mismatch.



A. Front-End Collateralized Recourse Transactions

FHFA has worked with the Enterprises to develop a number of credit risk transfer structures in the last several years. Some of these transactions are described as front-end, others back-end.⁷ By leveraging these different approaches, FHFA and the Enterprises work to balance the credit risk transfer principles and transaction risks described above.

As discussed earlier, FHFA and the Enterprises define front-end transactions as any credit risk transfer that is arranged before or at the same time as the loan is acquired by the Enterprise. Table 1 provides an overview of the front-end transactions that the Enterprises have completed to date, all of which have been collateralized recourse transactions.⁸

Collateralized recourse agreements with lenders are front-end credit risk transfer transactions in which a lender or special purpose vehicle (SPV) agrees to reimburse the Enterprises for a certain percentage of credit losses on loans sold to the Enterprise. The loans will have mortgage coupon rates that reflect a full guarantee fee. However, in exchange for this recourse agreement, the Enterprise either pays a fee to the lender or SPV or offers a concession on the guarantee fee it charges to the lender for taking the credit risk. In most cases, the lender counterparty or the organizer of the SPV originates the loans in the pool and also retains some of the credit risk. This arrangement enhances the alignment of interests between the Enterprise and the originating lender or SPV organizer.

In collateralized recourse transactions, the lender or SPV will reimburse the Enterprise for certain losses, typically ranging from the first loss equal to one percent of the initial balance of the covered pool up to four or more percent of the initial balance of the covered pool. The recourse coverage term of the transaction is usually ten years. Because these transactions are fully collateralized, the lender or SPV posts 100 percent of the maximum recourse amount into a collateral account by the end of the aggregation period. These funds are held in this account for the term of the transaction, and can be drawn by the Enterprise in the event of credit losses. All of these steps take place either prior to or simultaneously with the sale of loans to the Enterprise, which makes these front-end transactions.

⁷ Further background on the credit risk transfer program and an explanation of different transaction types is included in *Overview of Fannie Mae and Freddie Mac Credit Risk Transfer Transactions*, Federal Housing Finance Agency, August 21, 2015, at <http://www.fhfa.gov/AboutUs/Reports/ReportDocuments/CRT-Overview-8-21-2015.pdf>.

⁸ The collateralized recourse transactions discussed in this section and included in Table 1 are those recourse transactions that were executed specifically as part of the Enterprises' credit risk transfer programs and are different from those recourse transactions that meet the Enterprises charter requirements for credit risk sharing on loans with LTVs above 80 percent.



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**Table 1: Front-End Transactions Completed as of as of December 31, 2015
(In Millions of Dollars)**

Year	Enterprise	RIF ¹	UPB	Notional Coverage ²	Number of Transactions
2013	Fannie Mae	-	-	-	0
	Freddie Mac	-	-	-	0
	Total	-	-	-	0
2014	Fannie Mae	\$63	\$2,281	2.8%	3
	Freddie Mac	-	-	-	0
	Total	\$63	\$2,281	2.8%	3
2015	Fannie Mae	\$403	\$9,382	4.3%	7
	Freddie Mac	\$11	\$1,017	1.1%	2
	Total	\$414	\$10,399	4.0%	9
ALL	Fannie Mae	\$466	\$11,663	4.0%	10
	Freddie Mac	\$11	\$1,017	1.1%	2
	Total	\$477	\$12,680	3.8%	12

¹ In this table, RIF refers to risk-in-force, consisting of the limit of liability or note size of the risk transfer instrument in question. UPB refers to the unpaid principal balance of the pool of mortgage loans upon which the credit risk transfer was transacted.

² Notional coverage is calculated as RIF divided by UPB. For example, in 2014 Fannie Mae closed three collateralized recourse transactions with a total RIF of \$63 million on a total pool size UPB of \$2,281 million. This yielded notional coverage of 2.8 percent. These yearly totals represent an average level of coverage across multiple transactions. As such, each individual transaction may have more or less notional coverage than the yearly average.

Source: FHFA

Fannie Mae's L Street Securities transactions offer some variations on this model. L Street transactions differ from the collateralized recourse transaction described above in that the SPV creates one or more risk transfer bonds, similar to CAS and STACR, and funds the collateral account held on behalf of the Enterprises using proceeds it receives from the sale of the bonds. Lenders generally hold these bonds but may sell them to investors. If the lender holds the bonds, the alignment of interest occurs as in a traditional collateralized recourse transaction. If it decides not to hold the credit risk transfer bonds, although the recourse contract remains in place, the credit risk is transferred to the purchasers of the bonds. In this case, the lender's interests are less aligned with the Enterprise.

Collateralized recourse transactions, including L Street Securities, have the advantage of full collateralization, and therefore negligible counterparty risk to the Enterprise. While Freddie Mac has not participated in structures similar to L Street, it has conducted collateralized recourse transactions with lenders.



Overall, collateralized recourse transactions have not achieved significant volume levels to date. This is due to some of the challenges associated with bank capital requirements, costs of posting collateral, and the costs of structuring collateralized recourse transactions. While there may be a modest increase in the level of collateralized recourse transactions in the future, FHFA does not expect collateralized recourse transactions to constitute a large percentage of the Enterprises' overall credit risk transfer programs.

B. Mortgage Insurance

For any single-family mortgage loan with a loan-to-value ratio exceeding 80 percent, the Enterprises' charter acts require an acceptable form of credit enhancement on the loan.⁹ While the credit enhancement requirement can be satisfied through any of three acceptable forms outlined in the charter acts, of loan-level, borrower-paid primary mortgage insurance is by far the most common.¹⁰ The result of using primary mortgage insurance to meet this charter requirement is that the Enterprises share credit risk with the private sector, which reduces the credit risk of the Enterprises.

Credit risk sharing provided by mortgage insurance is impacted by many factors, including the level of coverage, whether the policy is loan level or pool level (multiple loans under one policy), who pays the premium, who chooses the insurer, and when the policy terminates.

- **Coverage level:** Lenders that sell mortgages to an Enterprise follow the Enterprise's selling guide to determine the percentage of primary mortgage insurance required for the loan. Mortgage insurance companies assume the risk of loss for the percentage of primary mortgage insurance required for the loan. Some of the remaining credit risk on the loan may be transferred separately as part of an Enterprise credit risk transfer transaction.

⁹ The charter act language for the Enterprises is similar. For Freddie Mac, 12 USC 1454(a)(2) provides: "No conventional mortgage secured by a property comprising one- to four-family dwelling units shall be purchased under this section if the outstanding principal balance of the mortgage at the time of purchase exceeds 80 per centum of the value of the property securing the mortgage, unless (A) the seller retains a participation of not less than 10 per centum in the mortgage; (B) for such period and under such circumstances as the Corporation may require, the seller agrees to repurchase or replace the mortgage upon demand of the Corporation in the event that the mortgage is in default; or (C) that portion of the unpaid principal balance of the mortgage which is in excess of such 80 per centum is guaranteed or insured by a qualified insurer as determined by the Corporation." For Fannie Mae, see 12 USC 1717(b)(2).

¹⁰ Under the Homeowners Protection Act of 1998 (HPA), borrower paid private mortgage insurance generally terminates automatically when the loan-to-value (LTV) ratio amortizes to 78 percent. In addition, a borrower may request cancellation of private mortgage insurance when the loan-to-value ratio reaches 80 percent if the borrower meets specific conditions.



- **Pool insurance:** Pool insurance may be purchased prior to or simultaneous with loan acquisition by the Enterprises (front end) or after the loans have been acquired (back end). New pool insurance policies would be considered part of the Enterprises' credit risk transfer programs. Since 2012, the volume of pool insurance purchases has had significantly lower volumes than STACR/CAS debt issuances.
- **Who pays premium:** Primary mortgage insurance premiums are typically paid by the borrower; however, there are also "lender-paid" primary mortgage insurance policies under which the lender pays the premiums directly to the mortgage insurer. The lender receives the premium to make these payments from the borrower's interest rate payments on the mortgage.
- **Who chooses the insurer:** Current industry practice is for lenders to select the mortgage insurance provider. While the Enterprises established the Private Mortgage Insurer Eligibility Requirements (PMIERS) for their mortgage insurance counterparties, the Enterprises do not select their counterparties on individual loans, and do not control the overall concentration with individual mortgage insurers under this approach.¹¹
- **Duration:** The duration of the mortgage insurance policy may be impacted under the Homeowners Protection Act, whereby private mortgage insurance paid by the borrower may terminate under certain conditions (see footnote 10).

By sharing credit risk with the private mortgage insurers, the Enterprises also have exposure to counterparty risk. The business of both private mortgage insurers and the Enterprises is highly correlated with house prices. When house prices decline, defaults typically increase, which causes mortgage credit losses to increase as well. Private mortgage insurers are typically monolines and do not have income from other lines of business to offset these increased expenses. They therefore tend to be more financially stressed when economic stresses result in decreases in house prices and increasing credit losses.

Table 2 below shows Fannie Mae's and Freddie Mac's current exposure to mortgage insurance counterparties. This reflects all insurance coverage outstanding at year-end 2015 and does not include loans with mortgage insurance coverage that have either prepaid or defaulted as of that

¹¹ PMIERS consists of revised requirements, issued by the Fannie Mae and Freddie Mac, for private mortgage insurance counterparties that insure mortgage loans either owned or guaranteed by the Enterprises. The revised eligibility requirements set financial and operational standards that private mortgage insurers must meet to receive approved insurer status with Fannie Mae or Freddie Mac and are designed to reduce risk to the Enterprises. The revised requirements became effective December 31, 2015. Further information on PMIERS can be found at: <http://www.fanniemae.com/portal/about-us/media/statements/2015/statement-bonsalle-041715.html> and at: <http://freddiemac.mwnewsroom.com/press-releases/statement-on-revised-pmi-eligibility-standards-by-dave-lowman-1188580>.



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date. The Enterprises' total mortgage insurance counterparty exposure as of December 31, 2015 is \$184.5 billion, covering \$724.5 billion of loans.

**Table 2: Enterprise Mortgage Insurance Exposure as of December 31, 2015
(In Billions of Dollars)**

Enterprise	Loan-Level Mortgage Insurance		Pool-Level Mortgage Insurance		Total	
	RIF	UPB	RIF	UPB	RIF	UPB
Fannie Mae	\$117.2	\$457.5	\$0.7	\$7.7	\$117.9	\$465.1
Freddie Mac	\$65.8	\$257.1	\$0.8	\$2.3	\$66.6	\$259.4
Total	\$183.0	\$714.6	\$1.5	\$9.9	\$184.5	\$724.5

Source: FHFA

In addition to loan-level primary mortgage insurance, Table 2 shows the amount of outstanding pool-level insurance transactions. Fannie Mae recently entered into two pool-level mortgage insurance transactions, which are part of their credit risk transfer program and cover \$5.3 billion of loans and transfer \$0.1 billion of risk.¹² These were back-end transactions placed on pools of previously-acquired loans. In these cases, the premium is paid by the Enterprise, not the borrower. Both policies were executed with private mortgage insurer counterparties.

The aftermath of the recent housing crisis saw several mortgage insurers undergo severe financial difficulties, with several mortgage insurers being placed into run-off by state regulators and some mortgage insurers dropping to below investment grade status. Since that time, FHFA and the Enterprises have focused on mitigating the counterparty risk of mortgage insurers.

Although the Enterprises' recently revised PMIERS requires certain minimum levels of capitalization for Enterprise mortgage insurer counterparties, mortgage insurers are not required to post collateral to secure their mortgage insurance obligations. Freddie Mac's Agency Credit Insurance Structure (ACIS) and Fannie Mae's Credit Insurance Risk Transfer (CIRT) insurance/reinsurance credit risk transfer transactions, though not structured as mortgage insurance policies, have required collateral in the range of 10 to 50 percent of the policy limit of liability, which helps to reduce reimbursement risk.

¹² These transactions are distinct from the pool-level mortgage insurance transactions both Enterprises executed in the 1990s and early 2000s, and these pre-crisis transactions reflect the remainder of pool-level mortgage insurance transactions reflected in Table 2. Those earlier transactions predate the housing crisis and the Enterprises' credit risk transfer programs.



V. Policy Issues and Questions

The previous sections of this RFI have outlined FHFA's perspective on the key issues involved in the Enterprises' credit risk transfer programs, as well as a brief overview of existing front-end transaction structures. The following section presents a number of credit risk transfer policy issues and related questions that FHFA considers important to future efforts. FHFA welcomes public input on these questions, as well as any of the issues discussed in this request for information.

A. Front-End Credit Risk Transfer Proposals

FHFA is working with the Enterprises and stakeholders to evaluate proposals for front-end credit risk transfer structures that are not currently offered today. For example, FHFA and the Enterprises are engaged in assessing proposals to develop a deeper mortgage insurance structure. Obtaining additional information from stakeholders on these proposals will assist FHFA and the Enterprises in completing this ongoing analysis.

Question A1: Are there credit risk transfer principles that FHFA should consider in evaluating front-end credit risk transfer transactions that are not listed in Section II? Similarly, are there significant risks that FHFA and the Enterprises should consider in evaluating credit risk transfers structures that are not included in Section III? Please also provide any comments or views about the principles and risks described in Section II and III.

Question A2: How would proposed front-end credit risk transfer structures meet and balance the principles outlined in Section II and address the risks outlined in Section III?

Question A3: In considering proposed front-end credit risk transfer transaction structures, how should FHFA and the Enterprises manage the counterparty risk involved in these transactions?

Question A4: In developing their credit risk transfer programs, the Enterprises have used pilot transactions to evaluate new credit risk transfer transaction structures. As FHFA considers proposed front-end credit risk transfer structures, one option is for the Enterprises to engage in pilot transactions. If approved by FHFA, what issues or characteristics should be tested in pilot transactions?



B. Equal Playing Field for All Lenders

Throughout the conservatorships of Fannie Mae and Freddie Mac, FHFA has worked to ensure that the Enterprises' activities, including credit risk transfers, do not give a competitive advantage to particular lenders based on the volume of business transacted with the Enterprises. FHFA requires that the guarantee fee concession the Enterprises pay for credit risk transfer transactions correspond only to the amount of credit risk transferred and the related reimbursement risk associated with the counterparty. The Enterprises' credit risk transfer programs should not be a way to reduce the effective guarantee fee for certain lenders beyond the amount necessary to compensate the lender for assuming the transferred credit risk.

However, some types of credit risk transfer transactions require a certain transaction size to achieve the economies of scale necessary to make the transaction economically worthwhile. While FHFA is mindful of the need to ensure that lenders of all sizes are included in the Enterprises overall credit risk transfer programs, the Agency must balance this broad objective with the need to ensure that individual transactions are economically sensible. Recourse transactions such as Fannie Mae's L Street Securities, for example, are currently arranged with a single counterparty. Because there are fixed costs that do not correspond to the size of the transaction, these counterparties must be able to supply a quantity of loans sufficient to make the transaction economically viable.

It may be possible that smaller lenders could participate in collateralized recourse transactions through an aggregator that would pool the loan production of several small lenders to take advantages of efficiencies of scale, though this approach introduces several challenges. In addition, smaller lenders could engage in collateralized recourse transactions on loans they originate that do not involve the creation of securities representing the credit risk on the loans. Finally, smaller lenders could participate in recourse transactions if their deliveries are allowed to grow over time (i.e., a "fill up" period) to a sufficiently large pool size, potentially with collateralization requirements commensurate with the risk, in order to make the transaction economically sensible.

FHFA generally looks at the Enterprises' credit risk transfer programs as a whole to provide opportunities for smaller lenders, rather than focusing on a single transaction type. STACR and CAS transactions, for instance, currently serve an aggregation function for smaller lenders because these transactions are executed on pools of loans previously acquired by the Enterprises from many individual lenders.

Question B1: What credit risk transfer strategies work best for small lenders? Why?

Question B2: Do other types of front-end credit risk transfer work better for small lenders than collateralized recourse transactions? How so?



C. Guarantee Fee Impacts and Tradeoffs

Guarantee fees cover several cost components that the Enterprises expect to incur in providing their guarantee on mortgage-backed securities: 1) the expected costs that result from the failure of some borrowers to make their payments; 2) the cost of holding the modeled capital amount necessary to protect against potentially much larger unexpected and catastrophic losses that result from the failure of some borrowers to make their payments in a severe stress environment; 3) general and administrative expenses; and 4) 10 basis points allocated to the U.S. Department of the Treasury as required by the Temporary Payroll Tax Cut Continuation Act of 2011. Credit risk transfer transactions provide a guarantee fee concession for investors taking on a portion of future credit losses and the Enterprises, as a result, bearing lower future credit losses.

The price of selling credit risk transfer transactions to private investors is a function of how investors assess the following factors: 1) the credit quality of the loans in the pool; 2) loan prepayment expectations; 3) the state of the house price cycle and expectations for future house price changes; 4) general macro-economic factors; 5) the level of competition among investors to participate in credit risk transfer transactions; 6) the market for alternative investment options; 7) the regulatory environment (and related capital regimes) in which investors operate; and 8) the availability and costs of financing the credit risk instruments. Several of these factors reflect market views on the amount of credit risk in the pool and other economic factors impacting credit risk pricing. Other factors, however, may be disconnected from housing fundamentals. While it is difficult to separate the effect of one factor from another on the price of credit risk transfers, credit risk transfer prices represent investors' collective assessment of credit risk, and hence provide the Enterprises with valuable feedback to use in assessing the appropriate level for guarantee fees.

FHFA monitors pricing changes in the Enterprises' credit risk transfer transactions and considers this information in its ongoing oversight of both the Enterprises' credit risk transfer programs and the overall guarantee fees charged by the Enterprises. In conducting this assessment, FHFA considers whether pricing increases or decreases for credit risk transfer transactions are driven by either fundamental changes in the market, such as changes in macroeconomic conditions, or technical factors, such as investor demand for particular types of credit risk transfer transactions.

The Enterprises have historically changed guarantee fees based on changes to underlying fundamentals that impact inherent mortgage credit risks. These fundamental changes are more likely to take place over a period of time, whereas technical factors might only impact the price of mortgage credit risk throughout a day. The Enterprises' practice of changing guarantee fees primarily based on fundamentals has facilitated stability in the housing finance market. While changing guarantee fees based on the daily fluctuations in mortgage credit risk pricing might be possible, this would also introduce greater variability in mortgage rates.



Question C1: How should FHFA and the Enterprises incorporate information learned through the pricing of credit risk transfer transactions into the practice of setting both the level of and frequency of changes in the Enterprises' guarantee fees?

Question C2: Should FHFA and the Enterprises maintain the policy of taking a longer-term view of setting guarantee fees in an effort to provide greater liquidity and stability in the housing finance market? Would a change in this practice impact market liquidity and borrower access to credit? If so, how?

VI. Public Input Instructions

FHFA invites interested parties to provide written input on the questions listed above within 60 days of the publication of this document, no later than August 29, 2016. FHFA also invites additional input on the topics discussed in this document that are not directly responsive to these questions. Please submit all responses to the Federal Housing Finance Agency, Office of Financial Analysis and Modeling, 400 7th Street, S.W., 9th floor, Washington, D.C., 20219. Input may also be submitted electronically using a response [form](#) at FHFA.gov. All input received will be made public and posted without redaction, including any personally identifiable information, to FHFA's [web site](#). Readers may also be interested in FHFA's [credit risk transfer page](#), which contains links to other documents associated with this effort.



Appendix A: Credit Risk Transfer 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 their 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.



Appendix B: Credit Risk Transfer Transaction Types, Arrangement and Risk

Risk Transfer Type	Front-end or Back-end Arrangement ¹³	Level of Reimbursement Risk
Debt Issuance (STACR/CAS)	Back end	Low, fully collateralized
Credit linked notes	Back end	Low, fully collateralized
Pool level insurance/reinsurance (CIRT/ACIS)	Back end	Medium, partially collateralized
Additional loan level insurance (deeper MI)	Front end	Medium, under evaluation for the adequacy of PMIERS, MI ratings, and the use of collateralization
Lender risk sharing transactions (collateralized recourse)	Front end	Low, if fully collateralized, or Medium, if partially collateralized
Senior-sub	Back end	Low, fully collateralized

* Note that over time, as the market develops, some of these back-end arrangements may potentially evolve to front-end (i.e., become simultaneous with loan acquisition).

¹³ Front end lender risk sharing transactions include various methods of credit risk transfer where an originating lender or aggregator retains a portion of the credit risk associated with the loans they sell to the Enterprises. In this case, the credit risk sharing agreement is entered into prior to the lender delivering the loans to the Enterprise.

