A Glimpse at the Future of Risk Sharing

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The Federal Housing Finance Agency's annual scorecard lays out the responsibilities of Fannie Mae and Freddie Mac in implementing the FHFA's strategic plan. Perhaps because compliance with these responsibilities determines a significant amount of their executives' pay, Fannie and Freddie rarely if ever fail to meet them. So the scorecard offers a rare glimpse into where they are likely headed in the next year.

In this brief we look at the responsibilities outlined in the 2016 scorecard for credit risk transfer. We conclude that the housing market is likely to see a leveling off of Fannie Mae's Connecticut Avenue Securities (CAS) and Freddie Mac's Structured Agency Credit Risk (STACR) programs, the introduction of risk sharing on collateral with terms of 20 years, and an increase in first-loss and front-end risk sharing. We also discuss the importance of expanding the investor base for these transactions and why it will be challenging to do so.

Leveling Off of CAS and STACR

The 2016 scorecard requires that the government-sponsored enterprises (GSEs) transfer credit risk on at least 90 percent of the unpaid principal balance of newly acquired single-family, non-HARP, fixed-rate loans with terms longer than 20 years and loan-to-value ratios over 60 percent.

In prior years, the goals were based entirely on the amount of reference collateral covered in these deals. The GSEs were each required to do risk sharing on $30 billion in collateral in 2013, with that number increasing to $90 billion in 2014. In 2015, Fannie Mae was required to do $150 billion in credit risk transfer and Freddie Mac $120 billion, reflecting a divergence in the institutions' capacities. Both

GSEs have exceeded these requirements each year. In 2015, for instance, Fannie Mae transferred the risk on $187 billion of collateral and Freddie Mac on $210 billion.

The FHFA's shift from setting goals by volume of loans makes economic sense, as the strategy's success should not hinge so significantly on the total volume of loans being done in a given year. If the goal continued to be expressed in numbers of loans, the GSEs would be compelled to be overly aggressive in low-volume years and allowed to be overly passive in high-volume years. Nonetheless, the shift in measurement is unlikely to significantly expand risk sharing.

Box 1 shows our calculations, which we explain here.

- Total GSE issuance in 2015 was $846 billion. We assume that production for 2016 falls 12 percent, to $744 billion, because of the rising interest-rate environment. This assumption is in line with market forecasts provided by the Mortgage Bankers Association, Fannie Mae, and Freddie Mac.
- We estimate that 65 percent of this production, or $484 billion, will fall into one of the loan categories targeted in the scorecard. This estimate is up from 60 percent in 2015. With interest rates expected to be flat or rising and refinancing falling off in 2016, the two main categories of production that fall outside the targeted categories—HARP production and 15-year loans—will be down. Hence slightly more of the production will fall into targeted categories.
- If we assume the GSEs again exceed their scorecard goals, transferring 95 percent of the unpaid principal balance on newly acquired single-family mortgages in the targeted category, they will cover $460 billion in collateral. This total is 16 percent higher than the $397 billion in transfers the previous year.
- CAS and STACR issuance totaled $12.5 billion in 2015: $5.9 billion through CAS and $6.6 billion through STACR. A 16 percent increase in issuance, holding constant the mix between CAS, STACR, and other credit risk-transfer structures, would suggest $14.5 billion in new credit risk-transfer deals.
- The mix of deal structures will likely change, however, as spreads in the CAS and STACR deals have widened meaningfully over the past few months.[1] If the spreads on back-end credit risk transfers to reinsurers or front-end transfers to lenders widen less, these channels may represent considerably better execution for the deals, leading to a drop in the portion of total risk sharing done through CAS and STACR.

BOX 1

Anticipated Risk-Sharing Supply

Comparing the 2016 goal of 90 percent of targeted newly acquired loans with 2015's goal of a dollar reference collateral target:

Total GSE issuance 2015:	$846 billion
2016 issuance expected ($846 billion x 0.88):	$744 billion
2016 issuance in the targeted category ($744 billion x 0.65):	$484 billion
2016 GSE transfers, exceeding goals ($484 billion x 0.95):	$460 billion
Increase in GSE transfers from 2015 to 2016	$67 billion (16%)

Total CAS and STACR issuance:

Fannie Mae:	$5.9 billion
Freddie Mac:	$6.6 billion
Total:	$12.5 billion

If we assume a 16 percent increase in back-end risk-sharing deals, it would suggest $14.5 billion in new CRT deals overall. And this may be high because if CAS/STACR spreads widen, reinsurance execution may be more favorable. In addition, we would expect more front-end transactions in 2016.

Shift in Collateral

The FHFA scorecard also requires the GSEs to evaluate, and implement if economically feasible, ways to transfer credit risk on other types of newly acquired single-family mortgages excluded from the targeted loan categories. Though neither GSE has indicated what alternative forms of collateral it is considering, Freddie's recent release of data on *all* fixed-rate amortizing mortgages, regardless of term, suggests that the agency is considering fixed-rate mortgages with shorter terms.

Table 1 compares how often shorter-term mortgages originated between 1999 and 2012 experienced credit events, meaning they went more than 180 days delinquent or experienced a short sale, foreclosure sale, or deed-in-lieu before six months. (Defaults since 2012 have been negligible.) We have divided all fixed-rate single-family mortgages into three buckets by their original terms: 15 or fewer years (≤180 months), 15.1–20 years (181–240 months), and 20.1–30 years (241–360 months). The shorter mortgages perform much better. Using mortgages issued in 2007 as an example, 3.03 percent of loans in the first bucket experienced a credit event. This rate is less than half the rate of loans in the second bucket and less than a quarter the rate of loans in the third bucket. Given that transferring the risk on riskier collateral tends to be more economical, we believe that the GSEs are most likely to try to transfer the risk on mortgages with 20-year terms. The number of those mortgages available for transfer is quite small.

TABLE 1

Freddie Mac Data on Fixed-Rate Mortgages by Original Term, 1999–2012

	Loan Count				FICO			
	a.<=180M	b.181-240M	c.241-360M	All	a.<=180M	b.181-240M	c.241-360M	All
1999-2004	.	.	6,080,174	6,080,174	.	.	718.9	718.9
2005	268,507	88,122	1,327,439	1,684,068	734.8	718.6	722.8	724.5
2006	125,000	50,104	1,072,969	1,248,073	734.3	717.1	722.3	723.3
2007	101,860	43,176	1,049,260	1,194,296	738.4	722.9	722.2	723.6
2008	148,953	36,961	978,162	1,164,076	746.7	740.6	739.2	740.2
2009-2010	752,452	149,957	2,335,328	3,237,737	765.7	766.6	761.9	763.0
2011-2012	1,308,742	221,855	3,010,886	4,541,483	764.5	765.5	758.9	760.8
All	2,705,514	590,175	15,854,218	19,149,907	758.5	750.0	734.8	738.7

	LTV				% experiencing a credit event			
	a.<=180M	b.181-240M	c.241-360M	All	a.<=180M	b.181-240M	c.241-360M	All
1999-2004	.	.	73.9	73.9	.	.	3.35%	3.35%
2005	58.5	66.8	72.0	69.6	2.66%	5.37%	9.21%	7.97%
2006	57.2	65.5	72.3	70.5	3.13%	6.95%	11.63%	10.59%
2007	57.5	65.5	73.4	71.8	3.03%	7.00%	12.85%	11.80%
2008	59.3	65.7	71.7	69.9	1.94%	3.33%	7.41%	6.58%
2009-2010	58.6	65.0	67.9	65.6	0.28%	0.38%	0.96%	0.78%
2011-2012	62.0	67.9	73.8	70.1	0.06%	0.08%	0.13%	0.11%
All	60.2	66.5	72.6	70.6	0.74%	2.24%	4.32%	3.75%

Source: Freddie Mac, 2015.

Shift to More First-Loss Risk Sharing

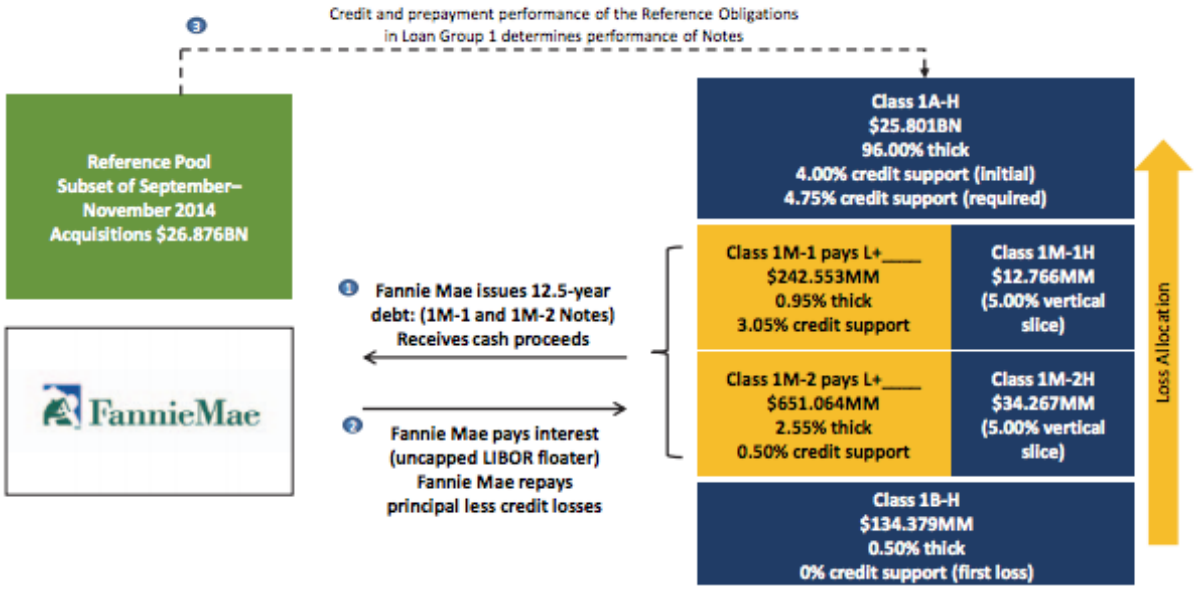
The FHFA also requires the GSEs to transfer "a substantial portion of the credit risk on the targeted loan categories covering most of the credit losses that are projected to occur during stressful economic scenarios."

This requirement represents another shift of emphasis for the FHFA, which had previously measured success by the amount of collateral covered. To understand how much credit risk the GSEs transfer in a given transaction, we need to assess it tranche by tranche. For example, in Fannie Mae's most recent transaction, the agency retained the first 50 basis points (bps), sold 95 percent of the next 350 bps in two tranches—1M-1 (2.55 percent thick) and 1M-2 (0.95 percent thick), and retained all of the risk in the bottom tranche. This structure is illustrated in figure 1.

FIGURE 1

Connecticut Avenue Securities Transaction 2015-CO4

Group 1

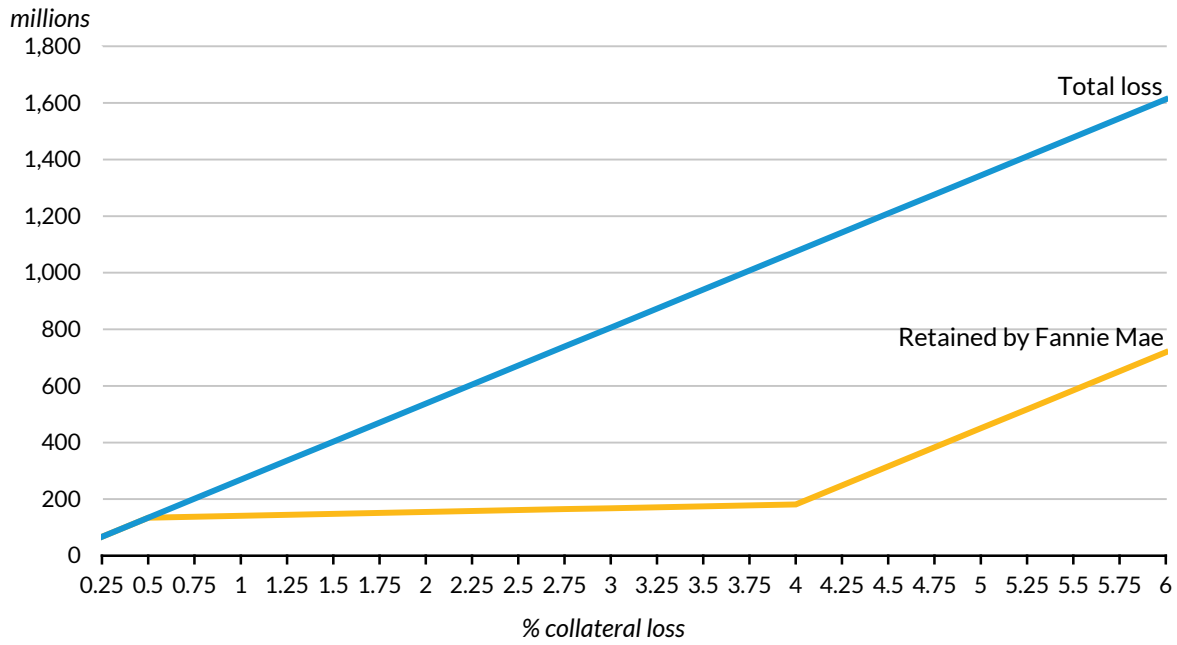


Source: Fannie Mae.
Note: Tranches with an "H" are not issued or sold; Fannie Mae retains the risk for these tranches.

Figure 2 compares the losses that Fannie could suffer on the pool of loans absent the deal to those it could suffer under the terms of the deal. Under the deal Fannie absorbs 100 percent of the first 50 bps, 5 percent of the next 350bps, and 100 percent of any losses beyond that. Expressed as the share of loss transferred, Fannie transfers 0 percent at 50 bps collateral losses, 52 percent of the risk at a 100 bps of collateral loss, 71 percent of the risk at 200 bps of collateral loss, and 83 percent of the risk at 400 bps of collateral losses. When losses exceed 400 bps, Fannie takes the remaining risk, and the value of the securities sold to investors falls to zero. Thus, the share of risk laid off declines as losses exceed 400 bps. At 500 bps of collateral losses, for instance, Fannie sells 66 percent of the risk; at 600 bps, Fannie sells 55 percent of the risk.

FIGURE 2

Credit Risk Transfer of Connecticut Avenue Securities Transaction 2015-CO4



Source: Authors' calculations based on Fannie Mae data.

Fannie has essentially sold off almost all risk in the middle of the capital structure. In order to increase the amount of risk covered going forward, the agency will have to increase either its catastrophic risk or its first-loss exposure. Increasing Fannie's catastrophic risk exposure appears infeasible. If the current mix of loans in the targeted categories were to go through the same dramatic home price depreciation that we saw in the Great Recession, losses would be less than 400 bps. The GSEs are already sharing most losses below 400 bps—except, that is, the first loss. Fannie thus appears to have little choice but to share more first-loss risk in order to meet its goals.

Constraints on the Investor Base and the Resulting Shift to More Front-End Risk Sharing

The GSEs and the FHFA both want as broad and deep a base of investors in their credit risk transfer deals as possible, as it would bring greater competition and thus a better and less volatile execution for them. Yet the investor base to date has been relatively narrow and thin, so the FHFA scorecard requires the GSEs to work on ways to expand and deepen it.

Approximately 150 investors have participated in the credit risk transfers to date, with anywhere from 50 to 75 participating in a given deal. The investor base for the first tranche in the CAS and STACR structures (the M-1) has been dominated by money managers and insurance companies. In the Fannie

Mae deal described in figure 1, 72 percent of first-tranche investors were asset managers and 28 percent were insurance companies. The next tranche, the M-2, has been dominated by hedge fund investors, which made up 59 percent of the investors in this tranche of the figure 1 deal. Twenty-eight percent of M-2 investors were asset managers, and 12 percent were real estate investment trusts (REITs). In addition to the narrow range of investors, the number of investors within each category is relatively small. If any one group retreats significantly, then spreads will likely widen considerably.

Four primary factors constrain the expansion of the investor base.

- **Constrained liquidity.** Investors are unable to sell significant positions in CAS or STACR deals without widening spreads significantly because market-makers are only willing to hold modest positions given the capital requirements. US banks that use the simplified supervisory formula approach to calculate capital must hold a dollar of capital for every dollar invested in the bonds, a prohibitively high level for most.[2]

- **Limitations on REITs.** There are two limitations on REIT investments in CAS and STACR deals. First, the Internal Revenue Service requires that at least 75 percent of a REIT's income and 75 percent of its assets come from "qualified" sources. While both CAS and STACR are considered qualified assets (because they are deemed government securities), neither is considered qualified income. Credit-linked notes, which we may see GSEs using more frequently going forward, don't qualify as either assets or income. Second, the US Securities and Exchange Commission requires that "whole pools" make up 55 percent of a REIT's assets, yet neither CAS nor STACR tranches is considered a whole pool. These two restrictions make it impossible for REITs to scale up their investment in this space.

- **Uncertainty over registration requirements.** The US Commodities Futures Trading Commission requires institutions that issue or invest in derivatives to register as "commodity pool operators," which brings with it significant reporting requirements and operational costs. The commission granted the GSEs a waiver for issuing CAS and STACR deals, and investors have inferred from that decision that they are similarly exempt from registering. Uncertainty over how long the GSEs' waiver will remain in place, and whether it covers investors, has had a chilling effect on investment.

- **Prohibition of insurers' participation.** The National Association of Insurance Commissioners evaluates the risk of possible investments by insurers. State insurance regulators use these ratings to determine whether the insurance companies they regulate can make certain investments and, if so, what capital they must hold against them. To date the association has rated the CAS and STACR transactions as risky enough to require a prohibitive level of capital.

Unfortunately, all these impediments have one thing in common: they fall outside the domain of the FHFA. So while the FHFA and the GSEs may want to expand the investor base, removing the barriers to expansion will require the cooperation of other independent agencies or action by Congress.

Fortunately, the FHFA and GSEs *can* broaden the investor base somewhat by expanding their risk-sharing efforts beyond the CAS and STACR structures that face these limitations. To that end, the FHFA's strategic plan also asks the GSEs to analyze the prospects for front end risk-sharing, the results from which will be used to inform a request for input on how best to pursue this form of risk-sharing.

In a recent paper, we and Mark Zandi (2015) made the case for what objectives risk sharing should try to meet and evaluated how well positioned various structures are to meet those objectives. We found that no one structure dominates. From this we concluded that the GSEs would be wise to expand the range of structures used beyond the back-end, second-loss structures that have dominated to date, so that policymakers are in a better position to judge what structures will meet their objectives over time. The conclusion here, that such an expansion is also one of the few ways FHFA and the GSEs can expand their investor base, further bolsters that argument.

Conclusion

Policymakers agree nearly universally that the housing finance system needs to attract more private capital. Yet the private-label securities market remains moribund and the potential for additional growth of portfolio lending limited, leaving the GSEs' risk-sharing effort the most promising—perhaps the only—way to achieve the objective for the foreseeable future. Policymakers also broadly support a future housing finance system in which the taxpayer's risk is insulated behind significant private capital, yet precisely what forms that private capital should take is highly uncertain. So it is important that the FHFA not only maximize the amount of risk shared through these transactions, but that it do so in a way that increases our understanding of what kind of system we should be migrating toward. This means expanding the range of structures that appear promising and broadening and deepening the market for them so we can test their full potential. The responsibilities that the FHFA has laid out for the GSEs in the 2016 scorecard should do precisely this, pushing them to expand beyond CAS and STACR and into a broader pool of investors.

Notes

1. For example, the bottom mezzanine tranche of the January Freddie deal (STACR 2016-DNA 1) priced 85 bps wider than their November deal (STACR 2015-DNA3)—a spread of 555 bps over LIBOR versus 470 bps over LIBOR.
2. See SIFMA letter from Chris Killian and David Oxner to Congressional Members Richard Shelby, Sherrod Brown, Jeb Hensarling and Maxine Waters on CRT, December 7, 2015. http://www.sifma.org/issues/item.aspx?id=8589957919

Reference

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Laurie Goodman is the director of the Housing Finance Policy Center at the Urban Institute. The center is dedicated to providing policymakers with data-driven analyses of housing finance policy issues they can depend on for relevance, accuracy, and independence.

Before joining Urban in 2013, Goodman spent 30 years as an analyst and research department manager at a number of Wall Street firms. From 2008 to 2013, she was a senior managing director at Amherst Securities Group, LP, a boutique broker/dealer specializing in securitized products, where her strategy effort became known for its analysis of housing policy issues. From 1993 to 2008, Goodman was head of global fixed income research and manager of US securitized products research at UBS and predecessor firms, which was ranked first by *Institutional Investor* for 11 straight years. Before that, she was a senior fixed income analyst, a mortgage portfolio manager, and a senior economist at the Federal Reserve Bank of New York.

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