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CAPITAL MANAGEMENT

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Merganser Today

Merganser is an institutional asset manager with over \$10 billion in assets under management. Our team has been analyzing structured securities since the mid 1980s.

Credit Risk Transfer

The latest innovation in mortgage backed structured products, Credit Risk Transfer (CRT), is a growing asset class that warrants closer examination.

- CRT securitizations are the result of a 2012 mandate initiated by the Federal Housing Finance Agency (FHFA) to reduce the overall risk held by Fannie and Freddie.
- Despite being classified as unsecured general obligations of the government sponsored enterprises (GSEs), these securities are technically considered derivatives since the cash flows are based on a reference pool, unlike traditional MBS where investors are entitled to the contractual cash flows held in a separate legal trust.
- While CRT is a relatively new asset class, the issuance has grown exponentially with an outstanding market value of approximately \$33 billion as of Q4 2016, per SIFMA statistics.
- To date, Merganser has not participated in this asset class due to the unproven track record, thin levels of credit enhancement, low ratings and limited secondary market liquidity. However, we will continue to monitor developments as these securities increase in relevance to the capital markets.

History

At the core, Fannie and Freddie's primary business involves supporting the US housing market and creating liquidity through acquisitions of residential and multifamily loans, which are securitized and ultimately sold to investors. The three primary risks associated with any mortgage backed security (MBS) are liquidity risk, interest rate risk and credit risk. Through the pooling of mortgages and subsequent sale into the secondary market, Fannie and Freddie are transferring the first two risks; however, the guarantee associated with agency MBS means they still maintain exposure to credit losses on the underlying loans. In the past, this has been partially mitigated through the requirement of mortgage insurance known as "PMI," which is mandated for single-family loans with loan-to-value (LTV) ratios in excess of 80%. The amount of insurance required can vary depending on the product type and degree of leverage on the loan.

As our readers will recall, excessive leverage, poor underwriting and mispriced credit risk in US real estate precipitated the Great Recession and led to substantial deterioration

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The FHFA has set objectives for both agencies to expand their business models and develop risk sharing securitizations, known as "CRT," or Credit Risk Transfer securities.

CRT notes are known as:

- STACR - Freddie Mac
- CAS - Fannie Mae

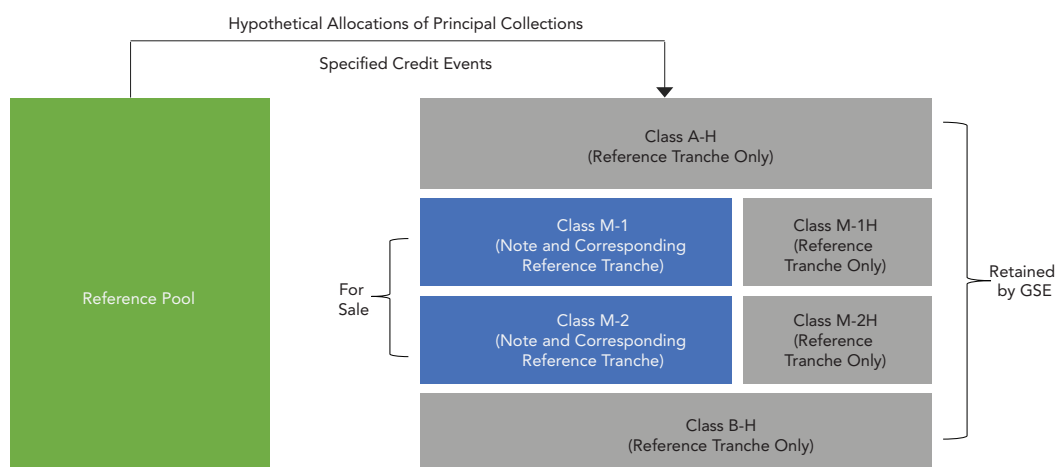
These are the primary tools being used to transfer credit risk into private hands.

in the global housing markets. The financial standing of both agencies was greatly impaired, leaving them poorly capitalized and unable to perform their basic functions. This necessitated the Federal Housing Finance Agency (FHFA), which placed both Fannie and Freddie into conservatorship. Together, Fannie and Freddie drew down more than \$180 billion in aid from the US Department of Treasury to meet their obligations. To attract private capital back to the mortgage market and reduce the government's exposure, the FHFA created a strategic plan that sets forth the need for an updated securitization infrastructure; part of this includes transferring credit risk. The FHFA has a set of objectives for both agencies to expand their business models and develop risk sharing securitizations, known as "CRT," or Credit Risk Transfer securities.

Securitization Deal Structure and Overview

Structured Agency Credit Risk notes (STACR) and Connecticut Avenue Securities (CAS) are the primary tools used by the agencies to transfer credit risk into private hands and account for approximately 90% of the securitizations to date. These securities are considered derivatives and are classified as unsecured general obligations of the agencies, unlike traditional MBS where the investors are entitled to the actual cash flows from the underlying pools of single-family mortgages. Losses on these early risk-sharing structures were calculated per a predetermined fixed severity schedule—more closely resembling a derivative. From a structural standpoint, STACR & CAS securities started out pretty much identical with both issuers offering just two tranches to investors: the M1 and the M2. As seen in the table below, a waterfall was created with 6 distinct reference classes (A-H through B-H) where losses from credit events would first be allocated to class B-H and flow sequentially in reverse order through the waterfall. The M1 and M2 tranches (i.e., the mezzanine classes) started out with 1.65% and 0.30% of credit enhancement, respectively. These two classes are sequential in nature where the principal window on the M2 does not begin until the M1 has been fully retired; however, both classes receive monthly payments of interest (LIBOR + spread). In the early transactions, such as the one below, the first-loss 0.30% thick piece was retained by the GSEs and featured a fixed severity schedule based on a realized level of loss from the reference pool. In contrast, later deals evolved and began allocating losses based on actual severities, which simplified the structure and removed some of the model risk.

Figure 1: Deal Structure*



*Illustration of a deal structure based on the first risk transfer securitization (7/26/2013)

Since the early deals of 2013, both programs have undergone changes—although Freddie Mac's STACR program has gone noticeably further than CAS in terms of testing the market with new and innovative structures. As an example, STACR deals now offer

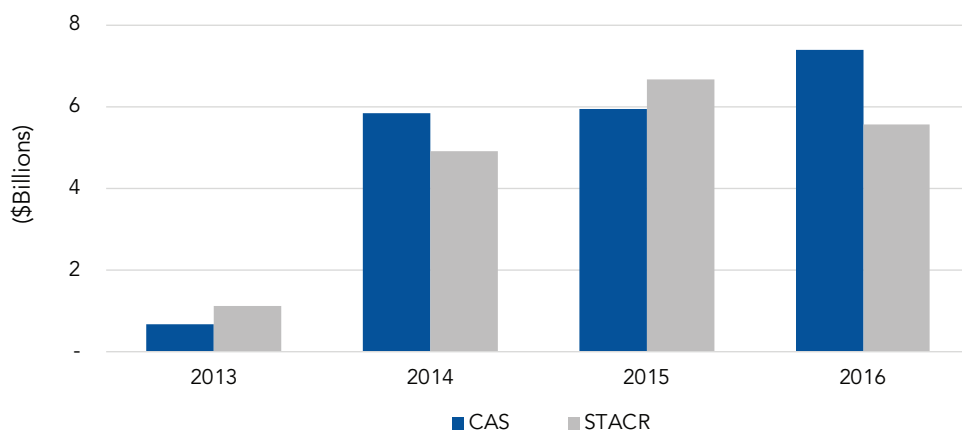
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a third M3 tranche (i.e., last cash flow); sell a portion of the first-loss B piece; feature true loss schedules based on actual credit events; and have reference pools with various amounts of loan seasoning at issuance. This comes as no surprise, given the GSEs are mandated by the FHFA to demonstrate different deal types and are held accountable to certain targets through annual scorecards.

Issuance and Risk Transfer

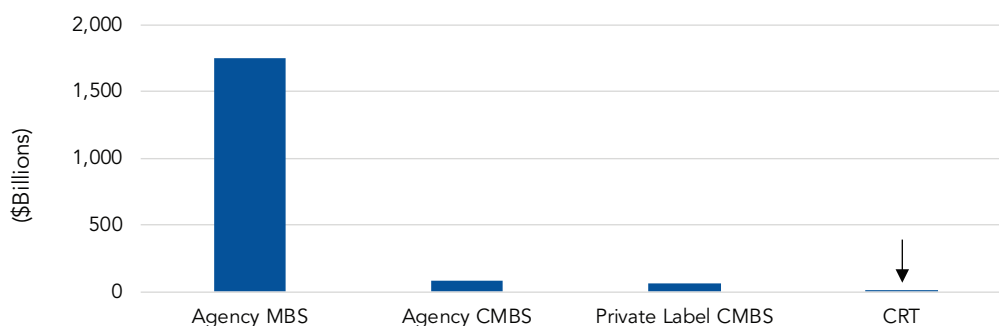
Credit Risk Transfer securitizations are not an insignificant part of the market. Through 2016, 41 separate transactions totaling \$38 billion were issued. The CRT market is growing and it is estimated that note issuance will reach \$17 billion this year (a 31% increase from 2016), according to Wells Fargo Research. Relative to other non-agency structured products, this is a meaningful amount (Figure 2). However, in the context of the broader agency mortgage market this is a rather small issuance (Figure 3).

Figure 2: CRT Issuance Trend



Source: Wells Fargo

Figure 3: 2016 MBS Issuance Comparison



Source: SIFMA, JPMorgan

In terms of the actual risk being transferred to investors on a specific deal, the agencies view this in several different ways. Perhaps the easiest approach is to simply look at the credit enhancement supporting the senior A-H class, which Fannie and Freddie elect not to sell as this is deemed uneconomical. A small nuance is that the agencies typically retain a vertical slice of their deals, including a significant portion of the most junior class, which better aligns their interests with investors. Figure 4 illustrates a deal issued in 2016 where the total credit support below the A-H class is equal to 5%, however Freddie Mac

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The CRT market is growing and it's estimated that issuance will reach \$17 billion this year...

...but remains a fraction of total mortgage issuance.

Figure 4: Risk Transfer Example (STACR 2016-DNA4)

The CRT model is designed to transfer the majority of future deal losses to private investors, even under stressed (2008) scenarios.

Tranche	Thickness	Risk Sold =	
		Retained	Thickness x (1-Retained)
AH	95%	100%	0.00%
M1	1.00%	29%	0.71%
M2	1.00%	29%	0.71%
M3	2.00%	29%	1.42%
B	1.00%	88%	0.12%
Total			2.96%

Source: Wells Fargo, deal prospectus

chose to retain 29% of the M1 through M3 and 88% of the first-loss B class, so simple math shows that true risk transferred on this transaction totals 2.96%. At first glance, this may not seem like a significant amount but 3-5% is sufficient to cover what the GSEs deem expected and unexpected loss. One can think of the expected loss as the base case scenario where housing market conditions behave according to long-term trends and unexpected loss would be analogous to a severe downturn in both the economy and the housing market, similar to what we experienced in the most recent recession. To summarize, if the underlying pool balance totals \$24 billion in residential mortgage loans and the amount sold to investors is equal to 2.96%, then this transaction effectively transfers \$710.4 million in risk to private hands. Put another way, Freddie (STACR) successfully transferred all the expected and unexpected risk on \$24 billion in mortgage loans.

Figure 5: STACR/CAS Transactions

	Sum of Original Note Amount (\$)	Sum of Reference Principal (\$)	Sum of Deal Count
Fannie Mae			
2013	675,000,000.00	26,756,375,869.60	1
2014	5,849,066,000.00	171,212,479,985.70	4
2015	5,920,002,000.00	114,518,323,369.70	4
2016	7,392,110,000.00	203,381,627,220.20	7
	19,836,178,000.00	515,868,806,445.20	16
Freddie Mac			
2013	1,130,000,000.00	57,911,678,153.00	2
2014	4,916,400,000.00	147,484,314,165.72	7
2015	6,657,600,000.00	209,567,901,988.80	8
2016	5,541,000,000.00	183,100,670,956.80	8
	18,245,000,000.00	598,064,565,264.32	25
Grand Total	38,081,178,000.00	1,113,933,371,709.52	41

Source: Bloomberg

In a broader context, you can see in Figure 5 that the GSEs have issued notes relating to a reference mortgage principal amount of over \$1 trillion since 2013 (column 3). Through these transactions both Fannie and Freddie have successfully transferred what is currently the expected and unexpected credit risk associated with \$1 trillion dollars in mortgage backed securities.

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CRT deals are not homogenous and continue to evolve with unique risk profiles.

Continued Innovation

Recently, Freddie Mac priced their first multi-family Credit Risk Transfer deal, as opposed to using single-family collateral. This deal was completely different from the STACR/CAS transactions explained above. Rather than covering 12+ years of single family losses, the multi-family risk transfer deal covers loans in warehouse until the next regularly scheduled "K" multi-family securitization, which is typically only a few months. We expect continued changes in this market given that the current scorecard reads "the FHFA expects the Enterprises to continue single-family and multifamily credit risk transfers as core business practices" and that they will "continue efforts to evaluate, and implement if economically feasible, further ways to transfer additional credit risk."

Conclusion

To date, Merganser has not participated in either the STACR or CAS securitizations. Although the deals offer attractive carry with spreads ranging from LIBOR+130 for 2.55% enhanced M-1 class to LIBOR+495 for the 0.50% enhanced B-1 class, a combination of thin class sizes, limited secondary market liquidity, low ratings and unproven track record has made us cautious. While we recognize the health of the US single family housing market has come a long way since the crisis years, it would take only a modest 1% deal loss before the M3 tranche begins to erode. Further, due to the thin size of the class it becomes completely wiped out at a deal loss of just 3%. Nevertheless, we will continue to closely monitor the market for Credit Risk Transfer securitizations as these structures continue to evolve.

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