Enterprise UMBS Pooling Practices

Response to FHFA's Request For Information Dated November, 2019

Monday, January 20, 2020

On Monday, November 3, 2019, FHFA issued an RFI regarding proposed changes to the parameters governing the pooling of Uniform Mortgage-Backed Securities (UMBS). The RFI underlines FHFA's concern with aligning cashflows between the two Government Sponsored Enterprises (GSEs). The RFI main proposal is to expand the GSE's major multi-lender pooling programs in order to make prepayment patterns more uniform across the GSEs and over time to improve TBA trading.

In this document, we provide loanDepot's perspective on how these changes would accomplish FHFA's goal of increasing and maintaining the UMBS value while fulfilling its mission as a reliable source of liquidity and funding for housing finance and community investment.
Our perspective focuses on four main points:

1) **Differences in the prepayment behavior across pools are not necessarily harmful**. To the extent that these differences can be explained by collateral characteristics, differentiation can reduce overall uncertainty. Blending loans into larger multi-lender pools might achieve the exact opposite and reduce the overall value of MBS.
2) **Pooling implies some form of cross-subsidization**. FHFA and the GSEs should design pooling rules that consciously mandate what types of loans should be subsidized and promoted at the expense of other types of loans.
3) **Aligning pricing and pooling policies as well as the DU vs LP credit boxes across the GSEs should be the first step in aligning prepayments**. Creating larger pools only fixes the symptom and not the cause.
4) **Seller and Servicer practices should be curbed first by controlling the collateral delivery**.

Types of Prepayment Risk

While the RFI's stated purpose is to improve fungibility by smoothing out prepayment differentials between the GSEs and by extension between most pools, it begs the question are prepayment differences and their associated risks are intrinsically detrimental to the value of the GSE MBS market.

Our view is that it depends on the type of prepayment risk we consider, namely:

1. **Unknown collateral selection:**
   This is the uncertainty that arises from the types of loans that can be delivered into TBAs under Good Delivery Guidelines. Market participants can choose which collateral to deliver into TBAs and the market responds to the resulting adverse selection by pricing to the worst ("Cheapest to Deliver").
2. **Prepayment behavior based on observable collateral characteristics and the economic environment:**
   Once the collateral is known, this is the risk that prepayment and valuation models aim

at explaining away. The uncertainty arises from different models and methodologies used by buyers and sellers to predict prepayment behavior as well as unknown economic conditions going forward.

3. **Prepayment behavior due to Seller/Servicer practices:**
   This is similar to number 2),but explained by Seller/Servicer behavior on top of what could be attributed to collateral characteristics.

4. **Single pool idiosyncratic risk:**
   This is the uncertainty that comes from the pure randomness attached to a specific pool beyond what can be attributed to the collateral and the seller/servicer.

What impact would enforcing larger pools have on each of these risks and the associated value of MBS?

First, let us quantify the potential prepayment improvement that larger blended pools can achieve. The following chart shows that the prepayment difference between multi-lender pools and the cohort (after excluding spec pools) is only a few CPRs. In other words, blending in single-issuer non-spec pools will not improve the multi-lender CPR profile much.

FIG. 1: CPR DIFFERENTIAL BETWEEN NON-SPEC MULTI-LENDER POOLS AND COHORT
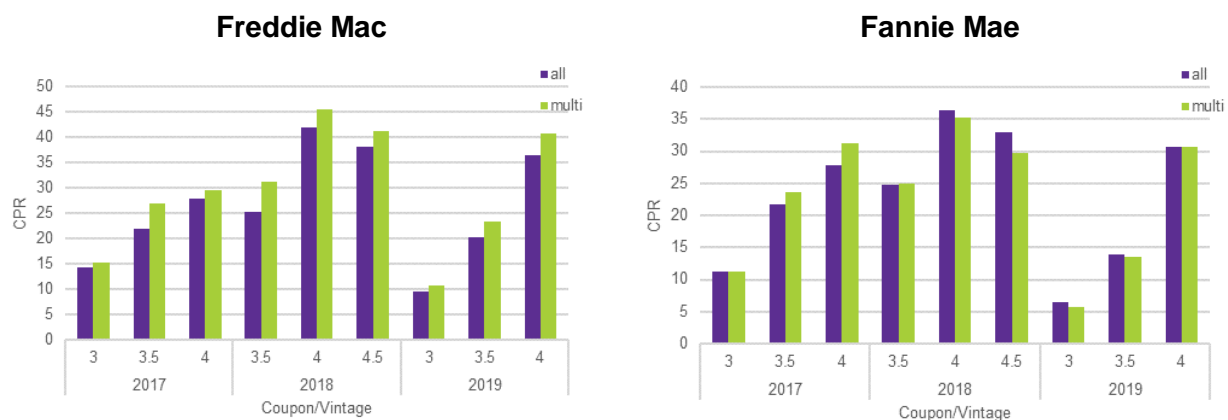
Source: eMBS.November 2019 Report Month
Cohorts excluding spec pools as defined per UMBS Final Rule

Regarding risk #1, one could argue that the "worst-to-deliver" mechanism that separates pools priced into TBA deliveries vs other pools has a positive impact on the overall market by effectively pricing all other pools to a pay-up vs TBAs. Investors and the research teams of broker dealers routinely identify the characteristics that are cheapest-to-deliver and effectively remove some of the uncertainty at the expense of TBA-delivered collateral but to the benefit of all other collateral. Thus, forcing a broader collateral base into the 'Cheapest-To-Deliver' cohort could run the risk of lessening the overall value of the securities.

Regarding risks #2 and #3, markets participant similarly benefit from pooling practices that segregate collateral characteristics by assessing the prepayment risk. Investors attempt to profit by expressing relative value "views" and paying up above the TBA price for prepayment "stories". The collective above TBA pay-up for all specified pools issued during a select time period would exceed the price improvement realized if these some pools were to be delivered into the multi-lender pool during that same time pay. The specified pooling process is

essentially a kind of tranched securitization of the collective prepayment risk in the market where all parties (borrowers, lenders and investors) benefit. .

Finally, risk #4 is probably the least controversial whereby larger pools would undoubtedly help by averaging prepayments across loans and diversify this risk away.

Pooling Cross-Subsidizes Collateral Characteristics by Design

The RFI's main proposal is to increase participation in larger multi-lender TBA eligible pools with the main benefit being consistent prepayment behavior.
But mandating participation in larger pools implicitly enforces some form of cross-subsidization among collateral types. However, the RFI does not stipulate what kind of collateral should benefit from cross-subsidization from either a value standpoint or a public policy perspective.

For example, low FICO or low-loan balance loans have historically benefited from the market placing them in separate specified pools.
Conversely, cash-out collateral (which has an inherent prepay incentive stemming from punitive LLPAs that makes these loans immediately in-the-money for a rate-term refi) benefits from being commingled with slower types of loans.
The RFI acknowledges these facts and proposes certain types of collateral as eligible in separate pools. However, this proposal simply looks to reflect the current market preference for certain kind of collateral. Who knows if this preference will persist? And what if rates increase to the point where most collateral is out of the money?
We would advise FHFA against substituting itself for market preferences **unless** it does so as a matter of public policy whereby certain kind of borrowers are cross-subsidized on purpose to drive better access to housing.
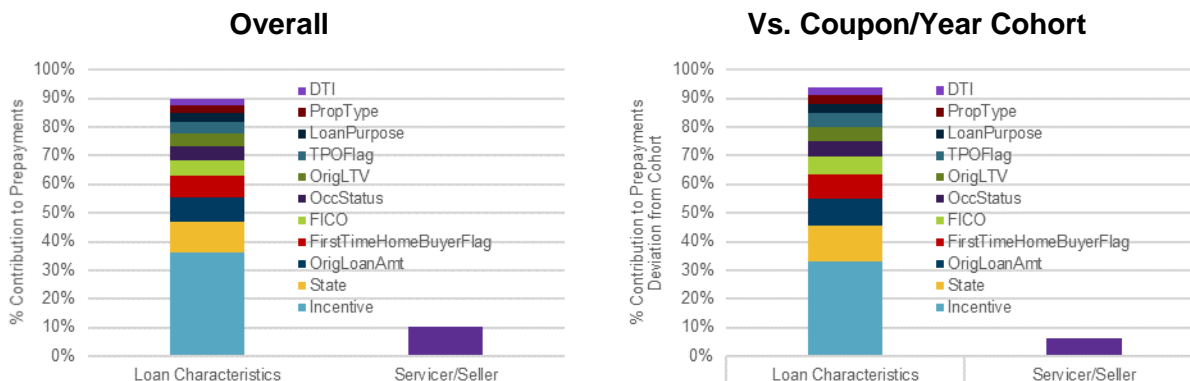
Seller/Servicer Behavior vs. Collateral Characteristics

The RFI asks for comments on whether "seller/servicers that have extraordinarily high prepayment rate" be barred from multi-lender pools. From our experience as an originator, the challenge is to determine what constitutes 'extraordinarily high' prepayment rates especially for sellers and servicers that specialize in certain type of collateral. We recommend that sellers and servicers should be evaluated relative to their respective collateral characteristics.

In order to help attribute how much of the prepayment variation is driven by collateral characteristics vs. seller or servicer behavior, we calibrated a simple prepayment model that uses collateral characteristics as well as the largest seller and servicer names for the GSEs. We focus on loans originated after January 2017 and consider prepayments between 6 and 18 months of age as a dependent variable. The model drivers and their contribution to prepayments are shown below where we display the relative strength of prepayment drivers due to 1) loan characteristics and 2) due to the Seller/Servicer. The left chart shows results across all coupon/vintage cohorts, whereas the right chart shows the same information expressed as

deviation from the cohort average. In both cases, the fraction due to the seller/servicer is less than 10% of all drivers, even within coupon/vintage cohorts.

Source: eMBS. loanDepot.
Cohorts excluding spec pools as defined per UMBS Final Rule

This attribution exercise suggests that if a seller/servicer exhibits fast prepayment behavior compared the cohort, most of it is explained by skewed collateral characteristics of the borrowers they serve. The residual can be attributed to actual practices that do not stem from collateral characteristics such as excessive solicitation or margin discounts upon refinance.

As an example of collateral-driven differentiation, some sellers/servicers specialize in refinance cash-out transactions as opposed to purchases. Such loan purpose tends to prepay faster than other types of collateral especially when rates are rangebound. In other cases, some sellers/servicers offer a wider range of note rates to borrowers who utilize this feature to limit their closing costs. This creates loans with larger spreads-at-origination (SATO) that are more likely to prepay.

In any case, to the extent these collateral characteristics are considered harmful to the functioning of the market and the borrowers access to housing finance, we would recommend setting clear collateral guidelines regarding the type and quantity of loans eligible for TBAs or multi-lender pools in order to even the playing field going forward. This would also protect refinances from all market participants not just the outlier Seller/Servicer and give investor more certainty on prepayment patterns.

In our experience, limitations related the age of certain cash-out loans for redelivery into pools (similar to what VA restricts) and limitations related to (SATO) tend to be the most effective in curbing prepayments.

Moreover, we would caution about the adverse consequences measuring seller/servicer prepayments speeds as a % of cohort. Such a methodology favors very large issuers, which by definition make up most of the cohort and would consequently rarely appear as outliers.

The RFI also inquires about measuring prepayments at the seller vs servicer level. Both methodologies are imperfect since prepayments are potentially directed by a third-party

refinancing firm. Monitoring prepayment speeds based on seller could also create a moral hazard following servicing transfers whereby the servicing buyer has all the economic incentive to refinance its new book and none of the potential penalties. Since the refinancing firm is more likely to be the servicer than the seller, a servicer-based surveillance would be more effective than one based on seller. Finally, policing servicers will naturally lead to policing sellers as servicers adjust their pricing and MSR purchase box accordingly.

Consolidate Pooling/Pricing Practices and AUSs Guidelines Between the GSEs To Improve Alignment

The RFI's suggestion that larger, more fungible pools are the solution to GSEs' misaligned speeds seems to be treating the symptom and not the ailment. As a start, we would suggest that aligning pooling and pricing practices between the GSEs would be the most effective in achieving similar prepayment behavior.

For example, the average pool size has been quite different between the GSEs and has been a driver of prepayment divergence. The following charts shows the typical pool size for each agency for specific cohorts as defined under the UMBS Final as well as the standard deviation of prepayments between pools. Fannie Mae pools tend to have smaller pool sizes than Freddie Mac's and consequently a higher variability of prepayment speeds within the cohort.
A smaller size pool leads to a higher variance of pool-level collateral characteristics that drives prepayments as well as a higher idiosyncratic risk. Therefore, it is not surprising that Fannie Mae's pools are more likely to be misaligned in the fastest prepaying quartile.

FIG. 3: SMALLER POOL SIZE ADDS TO PREPAYMENT VARIABILITY
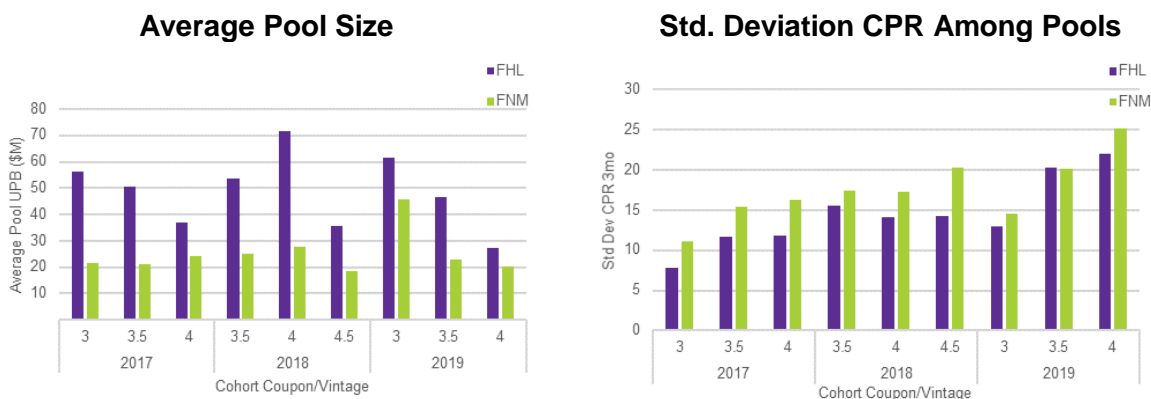
Source: eMBS.November 2019 Report Month
Cohorts excluding spec pools as defined per UMBS Final Rule

Another driver of the prepay discrepancy between the GSEs is due to difference in pricing practices. While both GSEs share similar Loan-level Price Adjustments, guarantee fees and buy-up/buy down grids are bespoke even for the same issuer, which partly explains why certain sellers are overrepresented in one GSE vs the other. These costs are typically passed on to the borrower and result in differences in the spread between note rate and security coupon, driving asymmetries in prepayments.

Finally, differences in the GSEs' Automated Underwriting Systems (AUSs) also contribute to variances in collateral characteristics potentially impacting prepayment alignment. This is a common experience for sellers where one AUS would accept a loan and not the other, especially at the corners of the underwriting box along income-related metrics such as DTI.

Similar to pricing differences between the GSEs, the separate AUSs' result in differences in the credit profile of the the GSEs. In our experience as a lender, the wider credit box of Fannie Mae's Desktop Underwriter relative to Freddie Mac's Loan Prospector during the 2017 and 2018 origination vintages contributed to a skew in credit profile between the GSEs. This has played out with Freddie Mac's overall better credit profile prepaying faster than the corresponding lower credit quality profile of Fannie Mae.

These differences are harder to demonstrate from publicly available MBS data, where declined loans are evidently not present. We can see a few trends in the tail of the distribution of loan attributes. For example, the following figure shows the difference in the Fannie Mae vs Freddie Mac distribution of issuance by FICO and DTI bucket. Looking at the 45 DTI, 680 FICO bucket, one can see these loans are 60% more prevalent in Fannie Mae's profile than Freddie Mac's profile on a relative basis. These differences abate away from the corner of the box.

With the advent of digital validation tools and appraisal waivers algorithms that are proprietary to each GSE, we suspect that the collateral variance between the GSEs on the fringe of the credit box is likely to grow soon.

FIG. 4: ISSUANCE DISTRIBUTION DIFFERENCES BETWEEN THE GSES BY FICO/DTI

A = (% $ Issuance within Fannie Mae)

FICO	DTI						Grand Total
	20	25	30	35	40	45	
680	0.6%	0.6%	1.1%	1.7%	2.5%	4.7%	11.3%
700	0.4%	0.6%	0.9%	1.4%	2.0%	3.5%	8.8%
720	0.6%	0.9%	1.4%	2.0%	2.6%	4.2%	11.7%
740	0.8%	1.1%	1.7%	2.3%	2.8%	4.3%	13.1%
760	6.1%	6.5%	8.4%	9.5%	10.4%	14.2%	55.1%
Grand Total	8.6%	9.8%	13.6%	16.8%	20.4%	30.9%	100.0%

B = (% $ Issuance within Freddie Mac)

FICO	DTI						Grand Total
	20	25	30	35	40	45	
680	0.3%	0.5%	0.9%	1.4%	2.0%	2.9%	8.1%
700	0.4%	0.6%	1.0%	1.5%	2.0%	3.0%	8.5%
720	0.6%	0.9%	1.5%	2.0%	2.7%	4.0%	11.8%
740	0.9%	1.2%	1.9%	2.4%	2.9%	4.5%	13.7%
760	6.2%	6.8%	8.7%	9.7%	10.7%	15.8%	57.9%
Grand Total	8.4%	10.0%	14.0%	17.0%	20.4%	30.2%	100.0%

Relative Fannie Mae vs Freddie Mac Prevalence : (A-B) / B

FICO	DTI						Grand Total
	20	25	30	35	40	45	
680	88.7%	25.4%	17.6%	21.2%	23.4%	60.8%	38.4%
700	2.2%	-1.7%	-7.9%	-2.5%	-0.9%	17.2%	4.5%
720	1.0%	-5.8%	-5.1%	-4.2%	-2.5%	4.8%	-0.7%
740	-3.5%	-4.3%	-7.3%	-4.0%	-3.7%	-4.4%	-4.5%
760	-1.8%	-3.5%	-3.0%	-2.9%	-2.8%	-10.2%	-4.8%
Grand Total	1.7%	-2.2%	-2.8%	-1.2%	-0.1%	2.3%	0.0%

Source: eMBS.January 2018- November 2019 Issuance. 30y fixed rate. FICO and DTI not missing.
Cohorts excluding spec pools as defined per UMBS Final Rule