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Federal Housing Finance Agency
Office of General Counsel
400 7th Street, S.W.
Washington, D.C., 20219

Re: Comments/RIN 2590-AB27: Arch MI's Response to the Notice of Proposed Rulemaking to Amend the Enterprise Regulatory Capital Framework ("ERCF")

Mr. Jones:

Arch Capital Group Ltd., on behalf of itself and its subsidiaries ("Arch"), submits this letter in response to the Federal Housing Finance Agency's ("FHFA") notice of proposed rulemaking ("NPR") to amend the ERCF, which includes a modified procedure for determining a representative credit score on single family exposures (the "2023 Amendments"). Arch, through its insurance subsidiaries, provides commercial, institutional, and individual customers with mortgage, property-casualty, and reinsurance offerings on a worldwide basis.

Arch's subsidiaries, Arch Mortgage Insurance Company and United Guaranty Residential Insurance Company, (together "Arch MI") is a leading mortgage insurance provider in the United States, having $294.2 billion of insurance in force as of March 31, 2023. Arch's reinsurance subsidiaries are also leading investors in Fannie Mae and Freddie Mac's (together, the "GSEs" or "Enterprises") CRT programs. Arch has made a long-term strategic commitment to the U.S. mortgage market, investing in, managing, and distributing credit risk in a variety of single family and multifamily executions. Arch has developed its own internal credit risk and econometric models and invests heavily in the intellectual capital required to support underwriting decisions and risk management. Thus, Arch is well-positioned to provide input on the 2023 Amendments.

Arch's comments on the 2023 Amendments are limited to FHFA's proposed modified procedure for determining a representative credit score for single-family mortgage exposures, including within the context of FHFA's broader initiative to implement new credit scores in the GSEs underwriting criteria.[1] In March 2023, FHFA and the Enterprises provided an update on the credit score transition plan, and invited comment on all aspects of its plan by May 31, 2023; noting, however that comments related to the modified procedure for determining a representative credit

[1] On October 24, 2022, the FHFA announced 1) the validation and approval of both FICO 10T and Vantage Score 4.0, 2) that lenders will be required to deliver loans with both scores after a multiyear implementation period, and 3) the Enterprises will require two, rather than three, credit reports from the national consumer reporting agencies.

score should be submitted in response to the 2023 Amendments rulemaking.[2] Arch's comments herein will focus on the modified procedures that support the transition from requiring two, rather than three, credit reports from the national consumer reporting agencies, and the proposal to average the credit scores to determine the representative score, rather than choosing the median score. For clarity, Arch intends to submit additional comments related to other aspects of FHFA's broader credit score initiative, which will supplement the comments provided herein.

Executive Summary:

Based on the analysis detailed herein, Arch recommends FHFA consider taking the following actions prior to implementing the bi-merge credit report requirement:

1. Conduct further analysis into the potential impact of the bi-merge process on race, gender, and geographic location for the approximately 23% of high-LTV loans with bi-merge representative scores ≥ 10 points higher or lower than the score derived under the tri-merge process.
2. Require lenders to deliver and average a third credit score on loans where there is a difference of 30 or more points between the bi-merge scores in order to minimize the impact of outliers.
3. Enhance the Enterprises quality control programs to monitor for potential credit score manipulation.

Arch is also requesting that FHFA provide the industry the opportunity to provide additional feedback on the bi-merge approach after the Enterprises release historical data that includes FICO 10T and VantageScore 4.0. The industry will require significantly more time to fully analyze the re-scored historical data set once released, including whether averaging two bureau scores is an appropriate methodology with respect to FICO 10T and VantageScore 4.0.

Analysis:

As FHFA notes in its Fact Sheet, borrowers often have credit scores from more than one national consumer reporting agency ("repository" or "bureau") and a mortgage can have multiple borrowers, so each single-family mortgage exposure is normally associated with multiple credit scores. To account for these multiple credit scores, the Enterprises have a defined procedure to determine a single representative credit score for each single-family mortgage exposure. In pertinent part, an Enterprise selects a single score for each borrower on the loan by either selecting the median score if the borrower has scores from three repositories or selecting the lowest score if the borrower has fewer than three scores. Anticipating the transition to a bi-merge credit score requirement, FHFA is concerned that choosing the lower of two scores could result in a significant downward shift in representative credit scores for most borrowers, when compared to the median

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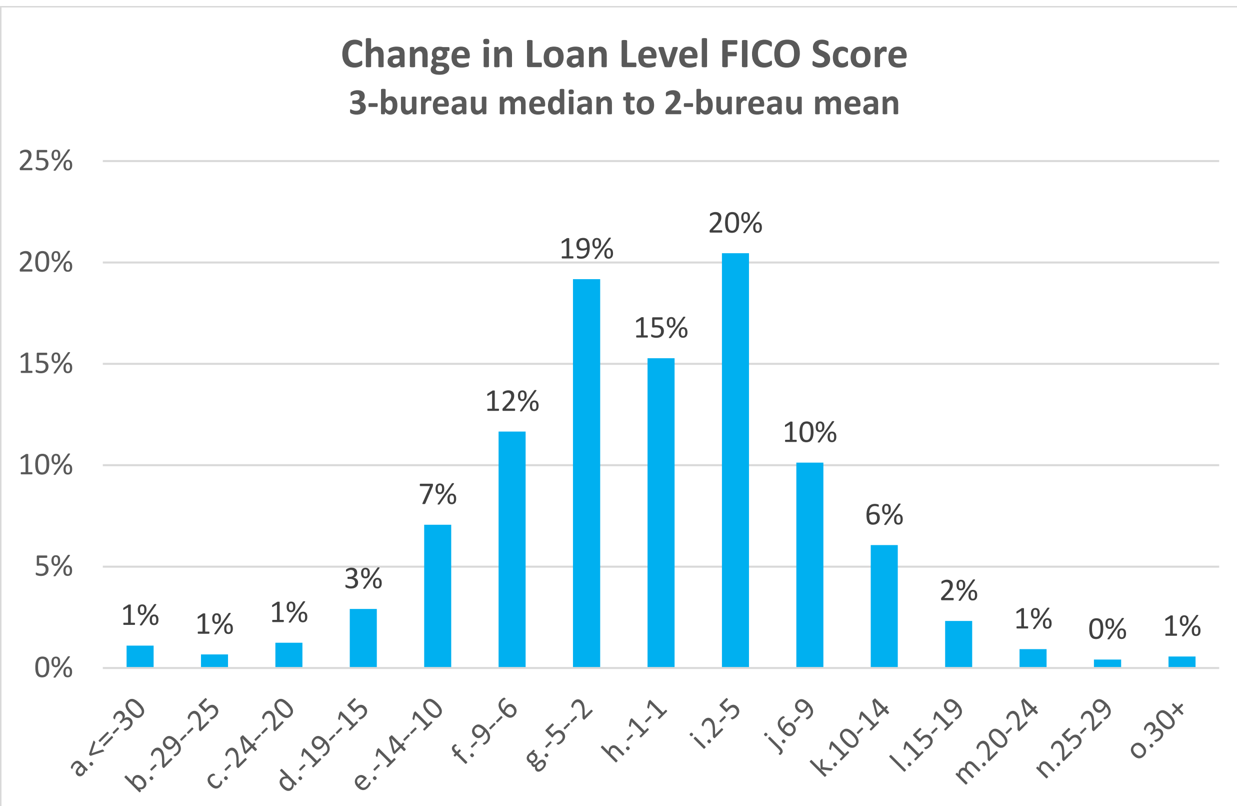
[2] See Fannie Mae's Enterprise Credit Score and Credit Reports Initiative Partner Playbook ("Playbook") FAQ4 at https://singlefamily.fanniemae.com/media/34286/display.

score of a tri-merge requirement. Thus, FHFA has proposed averaging credit scores, rather than relying on the former procedure.

Arch analyzed the impact of the proposed change on the high-LTV mortgages insured by Arch in policy year 2022 and concurs with FHFA's findings that the mean score did not materially deviate from the median in the aggregate. Arch's analysis shows that the overall impact of moving from three-bureau median score to three-bureau average score is small, with the average loan representative score changing by only -0.2 FICO points and average ERCF capital changing by -0.3%. The impact of moving to a two-bureau average score also remains small at -0.5 FICO points with an associated negligible effect on ERCF capital. Arch also analyzed the change across the FICO distribution and concluded that the magnitude of the FICO score changes is small with 72% of loans changing by less than 5 points when moving from a three-bureau median score to a three-bureau average score. However, that percentage materially decreases when moving from a three-bureau median score to a two-bureau average score, with 55% of loans changing by less than 5 points and 23% changing by 10 or more points.



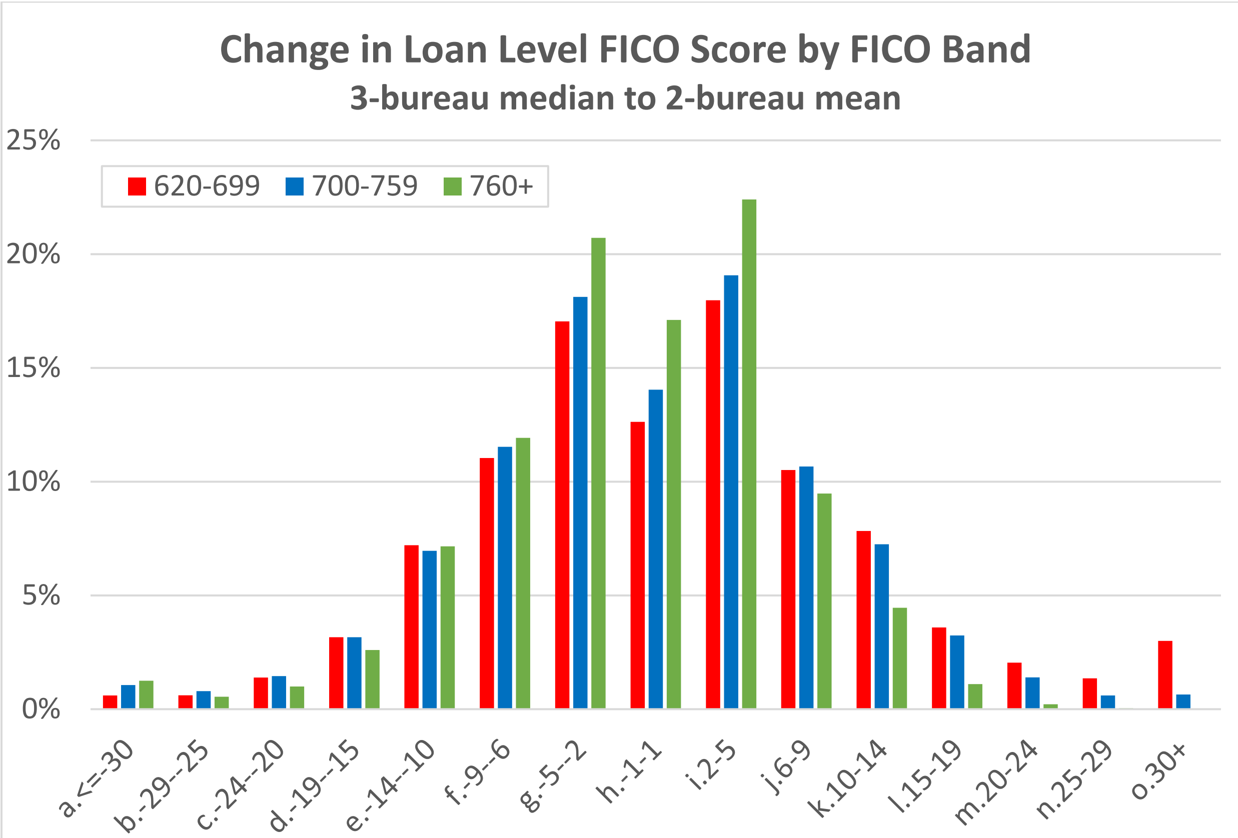
The analysis above is based on a random selection of credit scores used to calculate the two-bureau mean and demonstrates the migration of scores between the three-bureau median and the two-bureau mean. Arch conducted additional analyses on the distribution of FICO changes based on LTV, loan amount, FICO band, DTI, number of borrowers, and loan purpose, and found no material difference in the FICO score migration across these risk attributes, with the exception of FICO band (which is discussed in further detail below). With respect to the approximately 23% of loans that experienced a change in score by 10 points or more, Arch has not reached a conclusion on whether the material drifts up and down could impact borrowers along geographic lines, age groups, races, etc. and recommends FHFA and the Enterprises conduct further analysis on these attributes.

Arch observed in its analysis that the largest changes in representative score tended to emerge on loans where one of the bureaus' scores was materially different from the remaining two when determining the bi-merge average. When an outlier is present as one of the two scores, there is an upward bias in scores for loans with lower FICO scores and a downward bias on average for loans with higher FICO scores. This phenomenon is illustrated in the example below, where the representative FICO would improve significantly if Bureau 3's score is used:

- Bureau 1 = 650
- Bureau 2 = 660
- Bureau 3 = 750
- Old Representative Score = 660
- Best two-bureau average = 705
- Worst two-bureau average = 655
- Three-bureau average = 687

The table and chart below illustrate the effect further. Significant score improvements are more prevalent for lower FICO loans and vice versa for higher FICO loans. While the average FICO score in the 700-759 band is unchanged, the average ERCF capital does reduce, driven by the non-linear and non-continuous nature of the ERCF base capital grid.

FICO Band	Before	After	FICO Difference	ERCF Difference
620-699	683.2	684.9	1.7	-2.2%
700-759	735.5	735.5	0.0	-1.1%
760+	783.8	782.4	-1.4	2.7%
Total	**752.4**	**751.9**	**-0.5**	**0.0%**



Next, Arch investigated whether the pairing of credit scores reported by the main credit reporting bureaus skews higher or lower on average, with two interesting findings. First, the mean of pairing Equifax and TransUnion reported scores resulted in a lower representative score of -2.3 points when compared to the random two-bureau selection for an average increase in ERCF capital of 1.5%. Part of the negative bias of this pairing seems to be driven by the absence of the Experian score, which reports higher scores in the aggregate. Second, the magnitude of the FICO change migration is significantly greater if the highest two-bureau scores are used, with the representative score increasing by almost 7 points and a corresponding reduction in average ERCF capital of 6.4%. This outcome supposes that the lender can determine the top two scores generated from the three credit reporting agencies and can manipulate or "game" the submission. As previously noted, this effect is exacerbated when one of the top scores is an outlier relative to the other two.

Change Type	Before	After	FICO Difference	ERCF Difference
Tri-merge median - Bi-merge random 2 mean	752.4	751.9	-0.5	0.0%
Tri-merge median - Bi-merge top 2 mean	752.4	759.1	6.7	-6.4%
Tri-merge median - Bi-merge Equifax, TransUnion mean	752.4	750.1	-2.3	1.5%
Tri-merge median - Bi-merge Equifax, Experian mean	752.4	753.7	1.3	-1.4%
Tri-merge median - Bi-merge TransUnion, Experian mean	752.4	752.1	-0.3	-0.3%

These findings give rise to a couple of concerns relating to credit score manipulation that FHFA and the Enterprises should monitor through their quality control programs. First, the credit reporting bureaus may have an incentive to slowly find ways to improve borrower scores in an effort to compete for business. To monitor this risk, the Enterprises could pull credit reports from all three bureaus on a large sample of loans and evaluate a number of metrics including, but not limited to: score distribution, standard deviation of bureau scores around mean score, score trending and shift over time relative to the market, each bureau's performance relative to delinquencies and claims, and bureau market share. Much like a model risk management function, the Enterprises can serve to monitor each bureau according to metrics listed and other acceptability standards. Results should be shared with the industry.

Second, Arch suggests that the FHFA and the Enterprises establish procedures that require lenders to average all credit scores received. If a tri-merge report is received, all three scores must be averaged. Further, to mute the effect of score outliers, Arch suggests that the FHFA and the Enterprises require lenders to pull a third bureau score when there is a difference of 30 or more points between the bi-merge scores. Requiring a third score in these cases will increase the accuracy of the mean and reduce the prevalence of large differences between the new and old representative scores. Arch's analysis indicates that this approach reduces the percentage of loans whose FICO score changes by 20 points or more from 5% to 1% and reduces the percentage of loans whose FICO score changes by 10 points or more from 23% to 18%. We estimate that using a 30-point threshold would result in the requirement for a third score to be pulled for around 1 in 5 loans, thereby striking a good balance between increasing accuracy and the objective of reducing cost. To monitor this risk, the Enterprises could pull credit reports from all three bureaus on a large sample of purchased loans and statistically compare the percentage of time each lender is delivering the best two scores. Though even with that metric being tracked, there is the possibility that borrowers will legitimately seek out multiple lender quotes and obtain the best and winning quote from the lender that pulls the most advantageous bi-merge pairing.

Finally, Arch would be remiss not to point out that Arch is unable to opine on whether averaging two bureau scores is an appropriate methodology with respect to FICO 10T and VantageScore 4.0. Arch would like to reserve the opportunity to provide additional feedback on the bi-merge approach after the Enterprises release historical data that includes the new scores. Arch suspects that there may be potential for greater divergence in the scores reported by the credit reporting bureaus when FICO 10T and VantageScore 4.0 are implemented due to inconsistent reporting. Inconsistent reporting to only one or two bureaus does persist among some creditors, and FICO 10T and VantageScore 4.0 rely on information from much less reported payment sources, such as rental and utilities payments. Further, inconsistent reporting can lead to the existence of undisclosed debts that may have only been reported to one bureau and would have been disclosed had a tri-merge been used. However, as stated above, the risk of greater disparity between bureau scores with respect to FICO 10T and VantageScore 4.0 is theoretical at this point. Arch will provide further detail in response to the credit score implementation timeline, but notes that Arch is requesting *significantly more time* between the release of the historical data set and the implementation of the new scores[3] in order to fully analyze, model, and update our risk analyses, operational systems and procedures to incorporate the new scores.

Conclusion

Thank you for the opportunity to provide comments, and more broadly for the FHFA's commitment to considering feedback from industry stakeholders when implementing important changes. To summarize, Arch recommends FHFA and the Enterprises conduct additional analysis to determine the potential for disparate impact caused by the bi-merge process, establish quality control procedures to monitor for credit score manipulation, and require a third credit score in outlier situations. Arch has limited its comments to the proposed modified procedures for determining the representative credit score, which is a part of the much larger and very complex effort to implement FICO 10T and Vantage Score 4.0. Arch will provide further comments on the plan to implement alternative credit scores in due course and requests the opportunity to provide additional feedback on the bi-merge process after the re-scored historical data is released. Arch remains committed to working collaboratively with the FHFA and would be happy to discuss further at FHFA's convenience.

Sincerely,

Sara Millard

Sara Millard

[3] The Enterprises playbooks state that historical FICO 10T and VantageScore 4.0 data will not be released until 1Q 2025, which is only three quarters prior to the target implementation date of 4Q 2025. https://singlefamily.fanniemae.com/media/34286/display