New Credit Scoring Models:

A smooth transition to more transparent mortgage capital markets

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There is a strong possibility that the FHFA, together with Fannie Mae and Freddie Mac, will introduce one or more new credit scoring models into the mortgage process. This working paper describes the types of data that investors would require to ensure a smooth transition and outlines the types of new disclosures that could create a more transparent secondary market.

BACKGROUND

Since the early 2000s, the mortgage industry has relied upon credit scores to price loans and to communicate loan quality to investors. At the same time, the role of credit scores in making underwriting decisions has been marginalized in deference to custom models like Desktop Underwriter and Loan Prospector. Still, generic credit scores remain an important gating factor and a currency for communication.

Much as "Kleenex" has become the namesake of its product category, "FICO" has become a familiar and encompassing term in mortgage finance. There are, however, many different scoring models available[1]. Since VantageScore® entered the market in 2006, FICO® and VantageScore have launched several generations of newer models that are both more predictive and more consumer-friendly. At the same time, there have been improvements in the datasets that these models are built upon.

Although these newer models are widely used in most areas of consumer finance, the mortgage industry remains frozen in time. Fannie Mae and Freddie Mac still require the use of a credit scoring model built by FICO prior to the recession using data from the late 1990s[2]. As such, FICO enjoys a government-sanctioned, de facto monopoly on this integral piece of the mortgage supply chain.

Giving originators the choice to use newer models, with a reasonable sunset to the status quo, could lead to a market

that more fairly and fully serves all creditworthy borrowers. Done right, this transition could be completed in a way that eliminates any potential disruption in the capital markets while setting a foundation for a higher level of transparency.

PATH OF CHANGE

Following three years of analysis, and in partnership with Fannie Mae and Freddie Mac, the FHFA is approaching a decision regarding the future of credit scores in the mortgage process. Any change from the status quo will require a meaningful implementation period for originators, investors, analysts, and technology providers. Likewise, it will carry costs and risks that will need to be minimized and mitigated.

There are a range of paths that FHFA has explored in seeking to introduce new models. It is our strong opinion that the optimal policy path is to offer the option for originators to choose between the newest versions of VantageScore and FICO. Fannie Mae and Freddie Mac could define an implementation window to allow originators sufficient time to review and implement new models. Originators could continue using legacy models during this transition period, which would conclude with a hard sunset and a requirement to adopt a new model of their choosing. This approach would enable originators to "opt in" to the cost and complexity of implementing a new model on a timeline that makes sense for their businesses.

Because new models are more consumer-friendly (e.g., treatment of medical collections, widely-distributed educational content) and because VantageScore generates a score for millions more consumers than FICO[3], there is a strong likelihood of improved access for creditworthy borrowers.

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1 There are approximately 50 different models of FICO commercially available, 4 different models of VantageScore, and several other generic risk scores available from Equifax, Experian, TransUnion, and others

2 Seller guides require three legacy FICO models — one from each of Equifax, Experian, and TransUnion — each built using different sample dates. These are: Equifax Beacon® 5.0 (1998 to 2000), Experian/Fair Isaac Risk Model v2 (1995 to 1997) and FICO Classic 04 from TransUnion (1998 to 2000)

3 VantageScore 3.0 and 4.0 have a scoreable universe of approximately 215mm consumers compared with a scoreable universe of approximately 185mm for generic FICO models

Finally, this option would solidify real and lasting competition between VantageScore and FICO to the benefit of the entire industry; this can, and should, result in greater overall transparency for investors.

Change would, as it always does, create uncertainty for investors that can only be mitigated through thoughtful and thorough disclosure. As follows, we offer four recommendations for a smooth transition to a more transparent market.

Recommendation 1: Require that originators choose a model and stick with it for a period of time

Regardless of the choice or timing, originators should be prohibited from "gaming" the loan purchaser by switching frequently between models. There is only a potential for arbitrage if originators can pull two sets of credit scores for a given loan but deliver it only with the set that delivers the highest price. By requiring originators to choose a model and stick with it, this risk can be effectively eliminated.

This requirement can and should be enforced through the credit reporting agency re-sellers (e.g., CoreLogic®, Credco®, Equifax Mortgage Solutions®, Kroll Factual Data®) at the originator level, to ensure that loan aggregators are not burdened with enforcement.

Recommendation 2: Provide an historical dataset for investors and model builders

Both Fannie and Freddie should provide enough historical data to enable investors and analytic vendors to recalibrate their prepayment models. This dataset should include:

- **Sample:** performance of single family loans, including some pre-recession cohorts
- **Attributes:** VantageScore 4.0, FICO Score 9[4], PMI, loan balance, owner or investor, originator, coupon, servicer

The most efficient way to deliver this dataset would be to append VantageScore 4.0 and FICO Score 9 to the existing single family loan performance datasets that Fannie and Freddie maintain in connection with their Connecticut Avenue Securities ("CAS") and Structured Agency Credit Risk ("STACR") programs, respectively. Appending scores to historical loans is a straightforward process for any of the three national credit bureaus.

These data should be provided to investors as soon as

possible to allow time to study this change and recalibrate their models. This release should be made before those loans acquired using newer scoring models represent a meaningful percentage of any pool.

Recommendation 3: Provide one or more homogeneous sets of credit scores for all loans in an issue

In ABS lending, it is common for issuers to re-score a pool of loans as of a common post-delivery or "cut-off" date. This practice creates uniformity and also provides investors with a homogeneous set of attributes. Extending this practice to MBS, either as a replacement for or supplement to "score at origination" disclosures, would provide those same benefits. In a market in which originators can choose between credit scoring models, a homogeneous "score at cutoff" field would reduce the complexity for prepayment modelers. Likewise, the ability for investors to leverage a newer and more predictive scoring model would improve their ability to forecast defaults.

Any VantageScore or FICO credit score can be derived from any consumer's credit file at any point in time, including in the past. If an originator chooses to use FICO Score 9, for example, Fannie Mae can still disclose to investors a VantageScore 3.0 for that loan (and vice versa).

Recommendation 4: Improve transparency by disclosing monthly credit score updates

As we have published in the past, the relationship between a credit score and its underlying probability of default changes over time[5]. Further, borrowers' credit scores can and do change precipitously with their behaviors. As such, the credit score attached to a loan at origination grows irrelevant over time.

Recognizing this limitation, Freddie and Fannie both publish routine loan-level credit score updates to support their CAS and STACR transactions. There is clearly another layer of value for the credit investors who care about the ultimate loan performance in those transactions, but score updates would also be valuable to "rates" investors seeking to forecast prepayment speeds.

With FICO's de facto monopoly, however, Fannie and Freddie did not extend this benefit to all investors. In a market in which FICO and VantageScore are permitted to freely compete, however, that competition could change the playing field so that such monthly credit score updates can be provided to all mortgage investors.

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4 *FICO may contractually prohibit customers from displaying FICO scores alongside scores from VantageScore or any other developer. To address this limitation, FICO scores could be provided in a separate file linked by a common loan identifier, similar to Fannie Mae's CAS disclosures*

5 *See www.defaultriskindex.com for free data, commentary, and analysis of the relationship between credit score and probability of default*

CONCLUSION

It is time for the mortgage industry to upgrade to the newest scoring models available. Likewise, it is time to extend the benefits of competition to this important part of the mortgage process. Giving originators the choice to use VantageScore 4.0 or FICO Score 9, with a reasonable sunset to the status quo, could lead to a market that more fairly and fully serves all creditworthy borrowers.

This transition need not create uncertainty or otherwise disrupt the capital markets as long as Freddie and Fannie disclose ample historical data and provide sufficient time for implementation. Furthermore, the GSEs may be able to leverage competition between model developers to enhance at-issuance data and offer monthly updates for loan-level credit scores. Rather than disruption, the net effect of this transition can be to improve the overall transparency of the market.

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The VantageScore credit score models are sold and marketed only through individual licensing arrangements with the three major credit reporting companies (CRCs): Equifax, Experian and TransUnion. Lenders and other commercial entities interested in learning more about the VantageScore credit score models, including the latest VantageScore 4.0 credit score model, may contact one of the following CRCs listed for additional assistance:

Call 1-888-202-4025

http://VantageScore.com/Equifax

Call 1-888-414-4025

http://VantageScore.com/Experian

Call 1-866-922-2100

http://VantageScore.com/TransUnion