Friday, March 30, 2018

Federal Housing Finance Agency
Office of Housing and Regulatory Policy
400 7th Street Southwest, 9th Floor
Washington, DC 20219

Re: Credit Score Request for Input

Thank you for the opportunity to provide feedback on the important issues that have been raised in the Agency's *Credit Score Request for Input* ("RFI"). We have valued the dialog with the Agency's staff over the previous years and look forward to jointly working towards a mortgage market that fosters competition to fairly serve all creditworthy borrowers.

As you know, VantageScore Solutions, LLC, develops generic credit scoring models that deploy a consistent algorithm across each of the three national credit reporting companies: Equifax, Experian, and TransUnion (the "CRCs"). In choosing to work exclusively with credit file data, we benefit from the stringent regulations (i.e., ECOA and FCRA) and data standards (e.g., quality, accuracy, standardization, and universality) that such data are subject to. Each of our models is strenuously audited and tested prior to implementation, according to industry best practices, and validated thereafter on an annual basis. We have, for the past 9 years, shared the results of these annual validations publicly. Peak performance is the "table stakes" in our business: before implementing a new model, a lender will conduct its own series of tests and predictiveness evaluations. According to a recent study by Oliver Wyman, more than 2,200 lenders used more than 6 billion VantageScore credit scores during a 12-month period between 2016 and 2017.[1]

The strongest market is one in which credit score model developers compete to develop the most predictive models for the largest number of consumers. This can only be achieved when each mortgage lender has the freedom to choose which model is best for its business, as described in Option 3 on page 15 of the RFI. With respect to the Enterprises, the models chosen should meet industry-leading performance benchmarks; protections must be applied to prevent "score shopping"; and sufficient data must be supplied to investors. We elaborate on each of these themes throughout the response below.

[1] This does not include the more than 2 billion scores used by consumer-facing programs and other non-lenders. "2017 VantageScore Market Study." Authored by Oliver Wyman. https://bit.ly/2qW1KRz

Competition can and, outside of the mortgage industry, has led to more predictive, more consumer-friendly, and more inclusive credit scoring models. An examination of the actual impact in other industries demonstrates that credit scoring competition has not led to a "race to the bottom," but rather a race to innovate and build better-performing models. Extending this competition to the mortgage industry will benefit the entire market by ensuring better access and fairer pricing for consumers; better risk evaluation for lenders, insurers, and investors; more transparency for all participants; and continued pressure on model developers to innovate and improve their products.

Below please find our responses to a number of the specific questions that were posed in the Request for Input. As an introduction to those answers, we've also provided general commentary below in response to the *Background* and *Introduction* sections of the RFI.

On the second page of the RFI, under the section Empirical Evaluation, you note that *"the Enterprise empirical findings are only applicable to the Enterprises' testing of mortgage applications and loans and should not be extrapolated beyond this scope."* The very next paragraph in the RFI, however, makes a statement about "marginal benefits" that has been interpreted by some to suggest a broad conclusion which far exceeds the scope of the tests actually performed.

Today, prospective borrowers with limited or imperfect credit histories are often discouraged from applying for loans.[2] When they do apply, they face limited lender options; limited product options; and significantly higher prices. The evaluations performed by the Enterprises only considered those applications submitted to the Enterprises, and thus substantially ignored the population that today is unserved or underserved by the Enterprises.

In addition, by focusing on accuracy and coverage, the Enterprises' tests also did not consider questions of fairness and affordability. Page 6 of the RFI correctly notes that a borrower's FICO score is one of two factors that determines loan pricing. A loan application without a FICO score may be eligible through a nontraditional credit program, but these loans are subject to onerous price increases. Without changing the way in which these loans are underwritten today, the use of a model with a larger scoreable universe could potentially improve the terms offered for some nontraditional borrowers.

The market as a whole would be fairer if loans were priced using models that do not compromise on performance integrity but also incorporate more consumer-friendly approach to medical debt, paid collections, and the other "compelling reasons" outlined on page 15 of

[2] https://www.urban.org/urban-wire/borrowers-less-perfect-credit-are-giving-trying-get-mortgage

the RFI. VantageScore takes particular pride in having pioneered every single one of the new approaches that the RFI lists as "compelling reasons for the Enterprises to update their credit score requirement." Such innovations underscore the need for and value of competition.

Finally, please note that the term "Classic FICO" is not specific to the three different models currently required by the Enterprises. FICO uses the "classic" designation to describe several different generations of models which date back to the 1990s. The current set of models required by the Enterprises, which we refer to throughout this letter as "Legacy FICO," was built prior to the recession using data from July 1995-97, July 1998-2000, and October 1998-2000.

Question A1.2: Do you use the same credit score version for all of your lending business lines, whether it is mortgage lending or non-mortgage lending (e.g., credit card and/or auto loans)? If so, why? If you use multiple credit scores (e.g., FICO and VantageScore) in making credit decisions for any one line of business, please identify which credit score you use for the type of lending and why? Are you considering updating credit scores that you use in your non-mortgage lending business lines?

The ways in which lenders source, underwrite, and manage accounts are often viewed as proprietary competitive information and therefore many lenders are reluctant to publicly discuss details. We base the following responses on the combined experiences of VantageScore model developers and other VantageScore executives, both at and prior to joining the VantageScore team, and on public information gathered through presentations and securities disclosures.

There is often substantial variation in score usage across and within lines of business. According to a Supervisory Note from the FDIC:

> "Many lenders segment the applicant population by applicant characteristics, channels through which the application was received, or both. For example, a lender may have one [credit scoring] system for applicants with nothing worse than a 30-day late on their credit report and a different system for applicants with more serious derogatory information. Or, a lender may have one system for automobile loan applications received directly from the borrower and a different system for automobile loan applications received indirectly through an auto dealer."[3]

[3] FDIC Supervisory Notes: "Fair Lending Implications of Credit Scoring Systems." Published 2013. Available at https://bit.ly/2GkxOSF

The selection and use of models can vary, even within a business unit, across pre-screen (i.e., pre-approval or marketing), underwriting (i.e., new account opening), account management (e.g., line increase or decrease decisions), corporate risk management (e.g., stress testing, loss reserving, corporate reporting), consumer education, and investor reporting functions.

We consider the first three categories above to be "credit decisions." The pre-screening process begins by making soft inquiries to prospective borrowers' credit files in order to extend conditional offers or terms. Third-party credit scores typically play a central role in this process. Chase, the second largest card issuer in the United States, states the following:

> "For preapproved direct mail solicitations, Chase USA generally obtains from credit bureaus prospective cardholder names that meet its underwriting criteria... Chase USA then mails those prospective cardholders preapproved solicitation packages which require a limited amount of additional information from the prospective cardholder in order to open an account."[4]

Once a borrower submits an application for credit, the lender will make a hard inquiry to his or her credit file. This inquiry often includes a mix of pre-defined attributes, raw credit file data, and one or more third-party credit scores that are calculated using a model developed by FICO, VantageScore, or the credit bureau providing the data.

While some smaller lenders may make underwriting decisions using only a third-party credit score, most large lenders rely upon proprietary models. Continuing with the above example, "Chase USA primarily uses a proprietary credit scoring model to assess the credit risk of potential and existing cardholders."[5] The FDIC Advisory Note agrees, "It is rare for a bureau score to be the only criterion considered in making a credit decision."[6]

Third-party credit risk scores, also known as generic credit risk scores, have principally been developed by FICO, VantageScore, or one of the CRCs. The score delivers an estimate of consumer risk. It is typically used in one of three ways, as the sole risk indicator, in combination with additional consumer related information such as credit file composition, income and/or cash flow, or as a variable within a lender's proprietary risk model. Consumer risk assessment from any of these methods can be used in a variety of credit underwriting processes, for example, to determining credit eligibility, pricing and/or segmentation.

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[4] Prospectus for Chase Issuance Trust. Page 4. Filed with SEC November 13, 2017. https://bit.ly/2uvuQsZ
[5] Ibid, Page 56.
[6] FDIC Op. Cit.

Consider Toyota Financial, the largest auto lender in the United States. Toyota calculates a proprietary credit score based on each borrower's full credit file together with a FICO Score and a VantageScore credit score. For approved loans, the borrower is assigned into a pricing tier based on "customer risk as defined by credit bureau scores and other factors for a range of price and risk combinations."[7]

Account management decisions are made using a soft inquiry to each borrower's credit file or, if a borrower requests a credit increase, using a hard inquiry. As with underwriting decisions, the specific ways in which third-party credit scores are used vary. Alliance Data, one of the largest card issuers in the United States, notes that "In order to monitor and control the quality of the credit card portfolio, the bank uses behavioral scoring models and credit bureau scores to score each active account on its monthly billing date."[8]

Both proprietary and third-party models are routinely tested. It is not uncommon for some lenders to update their proprietary models as often as annually. These upgrades are occasionally disclosed through public asset-backed securities filings, which is common for newer "marketplace" lenders, who are building credibility with investors. Most other lenders more commonly treat this information as proprietary.

For example, Oportun—a lender that primarily makes personal loans to Hispanic borrowers with limited credit histories— reports plans to roll out its eighth-generation proprietary model since being founded in 2005. Oportun reports that it employs a "empirically derived decision tree built using the Company's credit experience" that considers free cash flow, an alternative data score, VantageScore credit score, credit file information, and, in some cases, verified references.[9]

Question A1.3: Is it necessary for any new credit score policy from the Enterprises on credit score models to be applicable in all aspects of the loan life cycle, or could there be differences, such as in servicing?

As noted above, it is very common for credit card, auto, and personal lenders to use different models or approaches in each phase of a loan's lifecycle. Servicers may wish to use different behavioral models to engage with borrowers, particularly in working through defaults. All

[7] Prospectus for Toyota Auto Receivables 2017-D Owners Trust. Page 48. Filed with the SEC on November 9, 2017. https://bit.ly/2GhXkHZ
[8] Prospectus for World Financial Network Credit Card Master Trust. Page 30. Filed with SEC on October 31, 2016. https://bit.ly/2Gfh6YF
[9] Kroll ABS New Issue Report. Oportun Funding VII, LLC, Series 2017-B. Page 18. Published October 11, 2017 at https://bit.ly/2woJq1M

models of FICO and VantageScore are designed to rank order consumers based on their likelihood of default. As such, the utility of these models is diminished when working through delinquent accounts. Some lenders use models like these in their collections and recovery operations to prioritize workflows.

Question A1.4: How would mortgage lenders and investors manage different credit score requirements from primary and secondary mortgage market participants? Is it important for your business processes that government guarantee programs in the primary mortgage market (e.g., FHA, VA, USDA-Rural Development) have the same credit score requirements as the Enterprises?

Based on extensive conversations with investors, trade groups, and sell-side researchers, we published a short whitepaper on this topic in October, 2017.[10] That paper makes four recommendations, including the following:

> "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.
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> Any VantageScore or FICO credit score can be derived from any consumer's credit file at any point in time, including in the past.[11] 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)."

Of note, the Veterans Administration does not currently require the use of any credit scores in any part of its mortgage program.

It is important to note that the updated credit score provided by Fannie Mae to investors in Connecticut Avenue Securities is calculated using a different model than the one used elsewhere in the mortgage process.

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[10] New Credit Scoring Models: A Smooth Transition to More Transparent Capital Markets. VantageScore Solutions. October, 2017, p. 2. https://bit.ly/2zMO22W

[11] There may be CRA-specific limitations in "retro-scoring" due to older versions of the underlying credit file data.

Question A1.6: Do you have a recommendation on which option FHFA should adopt?

VantageScore Solutions has always supported lender choice as long as the models under consideration are empirically derived and demonstrably and statistically sound. In a well-structured market, the benefits of competition will always accrue to consumers. We are proud of the role that we have had in driving competitive innovation and transparency since our launch in 2006. The ultimate test of a model's value is its predictive power, and we are confident that, in a competitive market, many lenders would test and elect to use VantageScore.

Of the options on the table, only Option 3 ("Lender Choice on which Score to Deliver, with Constraints") would create true and lasting competition. Choice would enable lenders to opt in to the cost of switching to a new model only when such a change would make business sense. Option 3 also eliminates the potential for "score shopping" by requiring lenders to stick with their decision for a period of time. As lenders adopt VantageScore, we believe that such adoption will improve consumers' access to credit in certain segments, including traditionally underserved segments, and enable many more borrowers to obtain fairer pricing. And while change can create uncertainty for investors, that uncertainty can be entirely mitigated by sharing ample historical data; appending one or more homogeneous (i.e., calculated using a single model) sets of credit scores to all securitizations, regardless of the model chosen by any individual lender; and allowing sufficient time to transition.

The current FICO scoring models in use were developed using data from 1995 to 2000. They have been used to determine mortgage eligibility since prior to the Great Recession and to determine pricing since the first LLPAs were published. It is time to change. Given the complexity and cost of such an industrywide initiative, not to mention the time and cost of analysis in advance of that change, it is essential that this next move accommodates competing models. Option 3 would support competition and provide a platform to make future model upgrades more efficiently so that the market need not wait another two decades to benefit from the latest and most predictive tools.

No one company should have a monopoly on the analysis of consumer credit information. Looking beyond the mortgage industry, the virtues of competition are self-evident. Option 3 will ensure that FICO, VantageScore, and others (provided their scores are empirically derived, demonstrably and statistically sound, and based on current data from a consumer reporting agency) continue to compete to develop models that are the most predictive for the largest number of consumers.

Question A2.5 Could using any of the multiple credit score options affect the way investors view, and therefore price, Enterprise securities? Could any of the multiple credit score options reduce liquidity in the TBA market and/or increase the volume to the specified market? Are there any unique considerations among the multiple score options (options 2-4) in evaluating their impact on MBS liquidity and/or demand for credit risk transfer transactions?

Both DU and LP will be largely unaffected by the decision at hand. Likewise, the parameters of the "credit box" will remain in full effect. These are the foundations on which TBA liquidity is built, while Legacy FICO remains a reporting convention. Changing that convention will require recalibrating models, which will require time, data and education. But, providing these conditions are met, there is no logical reason why it should impact market liquidity in any way.

As noted in our recent whitepaper:

> "Both Fannie and Freddie should provide enough historical data to enable investors and analytic vendors to recalibrate their prepayment models. This dataset should include a representative performance sample of single family loans including the following attributes: VantageScore 4.0 [or 3.0, if applicable], FICO Score 9, PMI, loan balance, owner or investor, originator, coupon, and servicer.
>
> The most efficient way to deliver this dataset would be to append VantageScore 3.0 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."[12]

For a period of time, the Enterprises might also choose to continue to disclose Legacy FICO Scores to investors alongside newer credit scores. This would provide additional time to deliver data and educate the market on the differences between scoring models.

[12]New Credit Scoring Models: A Smooth Transition to More Transparent Capital Markets. VantageScore Solutions. October, 2017, p. 2.

Furthermore, the disclosure of VantageScore 3.0 ***and*** FICO 9 (each of which is more predictive than the Legacy FICO Scores) should have a positive impact on participants' ability to price securities. While this would have marginal benefits for rates investors, the benefits to credit investors could be more meaningful in a less benign part of the credit cycle. We strongly encourage the Enterprises to append both VantageScore 3.0 and FICO 9 to each loan in each securitization or reference pool.

Question A2.7: What impact would any of the credit score options have on a need for consumer education? What impact would the multiple credit score options (options 2-4) have on consumers? Are there steps that FHFA, the Enterprises, or stakeholders could take that would mitigate any confusion about multiple credit score options?

Outside the mortgage industry, there is no one "score that lenders use." Just as lenders use a variety of custom and third-party credit scores to make decisions, consumers have multiple credit scores available to help them manage their credit health. During the twelve months ending in July 2017, over 1.3 billion VantageScore credit scores were delivered directly to consumers by lenders like Chase and Capital One and educational websites like Credit Karma, Lending Tree, and Mint.[13] These scores are calculated using the same VantageScore model used by lenders (i.e., not an "educational" model). They are most often provided free of charge as part of educational offerings that include simulators, credit reports, educational articles, and explanations.

Almost every adult with a credit file now has the ability to freely access his or her VantageScore 3.0 and credit report. In many instances, they also have access to one or more versions of FICO Score provided by Experian or a lender. For a recurring monthly fee of $39.95, some consumers purchase access to 28 different versions of FICO Score from myFICO.com.[14]

In a 2015 survey by FTI Consulting,[15] the majority of consumers reported that they had been scored by more than one different credit scoring model during the preceding twelve months. Asked, "What impact did having multiple credit scores have on your understanding of your credit score," 95% of respondents said neutral or positive.

Credit is more complicated than any three digit number. This is as true in the mortgage industry as it is in any other. Explaining what it takes to qualify for a mortgage is an essential part of consumer education. While FHFA and the Enterprises can and should clearly state any change in

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[13] Note: The 1.4 billion VantageScore credit scores delivered to consumers represented only 16% of the total number of all VantageScore credit scores used.

[14] https://www1.myfico.com/products/fico-credit-monitoring

[15] Telephone survey of 1,000 American adults commissioned by VantageScore Solutions.

certain and accessible terms, it will be incumbent upon the industry—real estate agents, mortgage brokers and bankers, credit counselors, lenders, and servicers—to continue educating borrowers as they do today. Educational websites that help consumers build and manage their credit and finances can continue to be strong allies in that effort.

Question A2.8: Under option 3 (lender choice with constraints), how would the Enterprises protect against adverse selection and ensure that a lender is not selecting a credit score at the loan level that results in preferential pricing or eligibility? Instead of attempting to reduce adverse selection through setting certain selling requirements for lenders, should the Enterprises instead adopt underwriting and pricing policies that account for any increased risk of adverse selection between the two credit score models? Are there ways to control this risk?

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 best execution. By requiring that originators choose a model and stick with it, this risk can be effectively eliminated. This requirement can and should be enforced through the re-sellers at the originator level to ensure that loan aggregators are not burdened with enforcement. This solution is incorporated in Option 3, as presented in the RFI, using a 12-month limitation as an example. In order to eliminate gaming, the Enterprises need only take away lenders' ability to score shop from one loan to the next.

An alternative approach to eliminating adverse selection would be to treat score shopping as an option and price accordingly. Opportunities to score shop are inherently limited: pricing is a grid rather than a continuous function; the "lower of two, middle of three" decision score heuristic is already conservative; and score shopping carries costs for the shopper. As such, this approach would likely result in a very small increase in delivery fees. The benefit of this approach is that it eliminates information asymmetry and with it all opportunity for adverse selection. Further, it does so in a way that does not require any policy or system changes from re-sellers or lenders. The downside of this approach is that all participants would face marginally higher fees while not all participants (and therefore not all consumers) would employ a score shopping strategy or derive its benefit.

Question A3.1: Given that the CRAs own VantageScore Solutions, LLC and set the price for both FICO and VantageScore credit scores, and own the data used to generate both scores, do you have concerns about competition? If so, please explain your [sic]

The CRAs do not have an unchecked ability to set FICO's price. It is also our understanding that FICO has the contractual flexibility to sell scores directly to end users and does in some cases do

so. According to FICO's most recent SEC Form 10-K, revenues earned through agreements with Equifax, Experian, and TransUnion represented approximately $186 million of the $266 million in total revenues earned in FICO's Scores segment.[16]

In addition, even though the CRAs own consumer credit data, FICO would have a clear remedy at its disposal if the CRAs were to take some anticompetitive act: that is, to go around the CRAs and enter into sales agreements directly with the re-sellers. In this circumstance, the FICO Score would be calculated and delivered by the CRAs but the price would be set and collected by FICO. We believe there is already a market and contractual precedent for this to happen. Given the concentration in the re-seller industry, this does not appear to represent a cost prohibitive competitive response.

Moreover, any agreement between the CRAs to set prices, of either FICO or VantageScore, would run afoul of several federal antitrust statutes.   One observer has suggested that federal antitrust laws would not apply to such a situation because transactions involving either credit data or credit scores pertain only to services and are thus exempt. That is wrong. Section 1 of the Sherman Antitrust Act, several provisions of the Clayton Act, and the Federal Trade Commission Act would clearly frown upon any joint action to "price out" FICO.

As with other industries, the competition between FICO and VantageScore would instead put price pressure on the cost of credit scores to the benefit of consumers, resellers and lenders. The historical absence of competition in the mortgage industry may be the principle reason why the cost of FICO Scores in this sector has reportedly increased drastically in 2018— both in absolute terms and also in comparison with the price of FICO scores used outside of the mortgage industry— despite the fact that the models have not changed since they were first introduced in the early 2000s.

Finally, we note that similar incentives ostensibly exist in other consumer lending industries where FICO Scores are resold through the CRCs as part of bundles that include credit file data. Twelve years have passed since VantageScore's introduction in 2006, and during that time, the CRCs have not taken any action to leverage their position to displace FICO. To the contrary, both VantageScore and FICO have grown. While we do not have directly comparable data, we note that VantageScore's rise in market adoption has coincided with a compound annual growth rate of 6% in the operating income earned by FICO in its Scores business. We note further that Experian, despite its ownership interest in VantageScore, entered into a strategic partnership with FICO to compete in the direct-to-consumer market[17], Equifax has also jointly

[16] https://bit.ly/2pKaK9s

[17] That partnership, which began in 2014, was expanded in 2017. https://on.wsj.com/2E2UiWa

developed and sells with FICO a credit score launched in April 2015 despite its ownership interest in VantageScore, including yet another jointly developed model (FICO Score XD®) announced on March 29, 2018.

Question A3.2: Would allowing multiple credit scores in the mortgage underwriting process encourage new entrants into the scoring marketplace? If the requirement remains to keep a single credit score in the mortgage underwriting process what impact would this have on whether new entrants join the credit scoring marketplace?

It is our view that a decision to perpetuate a government-sanctioned monopoly will, without doubt, restrict new scoring entrants and hamper future innovation. This deadening effect will have implications both within the mortgage industry and across other areas of consumer lending.

Fair Isaac was the first company to develop a credit scoring model and, following introduction, it enjoyed nearly twenty years of uncontested market dominance. During that time, the FICO name became synonymous with credit scoring.

VantageScore Solutions launched its first competitive model in 2006 as the result of market demand. After successfully defending a lawsuit brought by FICO, we spent years working to ensure a level playing field in the ways that regulators, ratings agencies, and other participants treat credit scores. In the mortgage industry, that work is unfinished. It took several years to establish meaningful market adoption, but we are proud that more than 8.5 billion VantageScore credit scores were used last year by more than 2,700 companies. The vast majority—almost 75%-- were used by more than 2,200 lenders.[18]

Since 2006, the benefit of competition between FICO and VantageScore has accrued to both lenders and consumers. Competition has shone light into what was traditionally a black box. VantageScore has competed by increasing transparency by publishing validation results; walking end-users through attribute-level reviews for compliance and testing; and disclosing annual risk tables to ratings agencies and regulators upon request. VantageScore is the only score developer that has committed to freely publishing annual validations, a decision that has encouraged other models to "race to the top" on performance.

In addition, newer models have adopted more consumer-friendly approaches to collections and medical debt while leveraging newer analytical techniques to increase predictive lift.

[18] "2017 VantageScore Market Study Report." Authored by Oliver Wyman.

As noted above under Question A2.7, consumers now have free access to quality credit scores. This transformation began in 2008 with Credit Karma, which quickly attracted new competitors in the race to educate and serve consumers. Providing free credit scores via Credit Karma is an area of the market that VantageScore is proud to have helped pioneer.

Prior to that time, consumers had limited and mostly pay-for-play access to their own credit scores. In 2013, FICO responded with its Open Access program, followed in 2014 with a consumer-facing partnership with Experian. Today, dozens of web and mobile products compete to provide consumers with versions of FICO or VantageScore credit scores, together with credit reports, explanatory factors, educational content, and other financial information. All of these developments have accrued to the benefit of consumers and they may have never occurred without competition between the CRCs and also between credit score model developers.

In recent years, we have also seen a number of new entrants in the field of alternative data scores. We see this field as a complementary and a natural offshoot of the competition in the generic (i.e., not alternative) segment of the market in which VantageScore operates. For newer model developers, the competitive environment in card, auto, personal, and other categories of consumer lending (along with the direct-to-consumer segment) is essential to justify investments in new products. As these segments represent the vast majority of credit scores used by volume, competition has been able to take hold despite the current monopoly in the mortgage market.

That is not to say, however, that the monopoly mortgage industry does not have broader implications. The exclusive use of FICO Scores as a gateway to homeownership confers a decided competitive advantage. It ensures that FICO has an imprint in almost every depository institution and with almost every institutional investor, regulator, ratings agency, re-seller, and technology vendor. That imprint inhibits competition by raising switching costs and granting the irreplaceable brand value of utter ubiquity. It gives FICO unparalleled and highly controversial negotiating leverage with almost every participant in the industry.

The credit scoring marketplace is a difficult proposition for new entrants. Opening the walled garden that has been the mortgage industry would not wholly change that equation, but it would certainly help to level the playing field. It would signal to current and future model developers a willingness to consider and reward innovation over inertia.

Question A3.3: What would be the benefits of lender choice if the number of qualified borrowers remained unchanged or changed only modestly from the credit score you are using today to underwrite borrowers for loans sold to the Enterprises?

Our analysis demonstrates that, in aggregate, lender choice will result in more creditworthy consumers accessing the conventional mortgage market. Whatever the short term lift, the long term lift may be higher due to demographic and behavioral shifts already beginning to occur. For some lenders—in particular those who apply credit overlays to screen out borrowers with thin or near-prime credit— the volume of qualified borrowers may not change. By creating a platform for competition, however, the market as a whole will benefit and a healthier market will help all participants over the long run.

The immediate benefits would be that all consumers—from those with nontraditional credit histories to prime—would receive a price based on a newer, more consumer-friendly and accurate credit score. Many would see no change in price; others would perhaps see a smaller change associated with moving from one box on the pricing grid to the next; and a few, in particular those who qualify through nontraditional underwriting, could see enough of a difference to impact the affordability of their loans.

Over the near term, we would expect that competition would have a positive impact on the price and availability of credit scores throughout the mortgage process.[19] In the tri-merge process, the availability of a second option could put pressure on the price paid for credit scores by re-sellers, lenders, and/or end consumers.

Over the medium run, competition could also change the cost and scope of disclosures for investors. As we published in a recent whitepaper:

> "…the relationship between a credit score and its underlying probability of default changes over time. 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.
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> 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

[19] Note that VantageScore Solutions is not involved in the sale or pricing of its models or that of the credit scores calculated using its models. It offers these responses based on publicly available information and purely as an industry observer. The CRCs compete with each other in setting VantageScore pricing and the selling of those scores.

> compete, however, that competition could change the playing field so that such monthly credit score updates can be provided to all mortgage investors." [20]

Over the medium- and long-run, competition will encourage model developers to continue building better models. Since 2006, competition has led to multiple new versions of VantageScore and FICO. These new versions continue to improve in terms of consistency, predictive power, and consumer-friendliness.

One example of such an improvement is the inclusion of rental payment information. VantageScore 1.0 was the first generic model to consider positive rental payment data when available in a consumer's credit file. While the availability of rental data is limited today, this move has put positive pressure on other industry participants. It has encouraged newer entrants[21] to begin collecting and furnishing rental data to the CRCs, which has also coincided with the inclusion of rental data in FICO 9. Last year, the NYC Comptroller published an exhaustive study[22] advocating the expansion in the reporting of these data. This evolution will take time, and VantageScore has been proud to advocate for this positive change.

Question A3.5: Could competing credit scores in the mortgage underwriting process lead to a race to the bottom with different vendors competing for more and more customers? What steps could FHFA take to mitigate any race to the bottom?

Any model deployed in the mortgage process should be subjected to rigorous testing and validation to show that it is empirically derived and demonstrably and statistically sound. These tests typically include historical evaluations relative to a benchmark, which are sometimes called "champion-challenger tests." Models that do not perform at the highest standards should not be considered. It is our understanding that the Enterprises have already tested VantageScore 3.0.

This is best practice whenever a scoring model is used to make credit decisions. Consumer lenders routinely conduct these tests prior to implementation and follow them up with their own regular model validations (see, for example, OCC Model Governance Guidelines).[23] Any deterioration in standards would be revealed in these tests and preclude the model from being adopted. This should continue to be the case in the mortgage market.

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[20] VantageScore Op. Cit.

[21] See, for example, Rental Kharma.

[22] https://comptroller.nyc.gov/reports/making-rent-count/rent-and-credit-report/

[23] https://www.occ.treas.gov/news-issuances/bulletins/2011/bulletin-2011-12a.pdf

The first and foremost plane on which scoring models compete is on predictive power. A new model with inferior predictive power will not find adoption even if it scores more people. VantageScore's success in scoring more people has been subject to the overarching goal of building the most predictive model. Competition has proven the exact opposite of a "race to the bottom."

Within that framework of rigorous third-party testing and analysis, competition to score more consumers is a decided benefit for the market. There are 30 to 35 million consumers who have a credit file but are nonetheless unscoreable using FICO.[24] Within this 30 -35 million consumer group that receive a VantageScore credit score, approximately 7.6 million have a score of 620 and above with approximately 2.4 million of this population being minorities. This is significant for the mortgage sector given the rapidly changing demographics driving the composition of first time homeowners in America.[25] The vast majority of these consumers do not have a FICO Score because they have not had an update to their credit file in the last 6 months.

We estimate that 2.3 to 2.5 million of these 7.6 million consumers may have the desire, credit profile, and income to support a mortgage.[26]

As suggested by FHFA, we derived this estimate in the following way:

1. Begin with FICO-unscoreable consumers with a VantageScore 3.0 credit score of 620 of higher;
2. Remove consumers younger than 25 and older than 70;
3. Remove consumers who already own a home;
4. Remove consumers who have had an account 90+ days delinquent in the prior two years;
5. Remove consumers who have had a foreclosure; and
6. Remove consumers who cannot afford the estimated mortgage payment on the median home in their zip code.

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24 Note: Any reduction in public records and collection trade lines in consumer files will cause a decline in the total number of consumers who would be newly-scoreable using the VantageScore credit scoring model. However, we do not expect that such changes would have a meaningful impact on the estimate of the addressable mortgage population discussed above.

25 As well documented by respected organizations such as the Urban Institute and the National Association of Hispanic Real Estate Professionals (NAHREP).

26 Exclusionary Credit Score Modeling Limits Access. VantageScore Solutions. 2016.

VantageScore 3.0, launched in 2013, made significant strides in using credit file information to score the millions of consumers who were without a FICO Score. VantageScore 4.0 took this effort further, using machine learning techniques to generate our most predictive model yet.

Our success in this arena has often been mischaracterized by FICO as one that has "lowered standards." FICO has maintained the same minimum scoring criteria, as outlined on page 14 of the RFI,[27] since its first generic model[28]. FICO often characterizes these criteria as decades of research, when we believe it is more aptly characterized as decades of inertia. Changing minimum scoring criteria would change FICO's population distributions and require the development of new reason codes— two factors that increase switching costs for some lenders looking to upgrade from one version of FICO to the next. Scoring more people may also inhibit the opportunity to sell secondary or "add-on" scores such as FICO XD.

Much has changed since the first FICO models were built. The CRAs went on to introduce more granular data which in turn enabled modelers to distinguish, for example, between first and second mortgages and between student and other installment loans. In tandem, increases in computing power have made newer analytical techniques and large-sample analysis possible. VantageScore 4.0 was built using 45 million credit files, including trended credit data, and applying analytical techniques that would have been impractical (if even possible) when the first FICO models were built. While both FICO and VantageScore are built using samples from the same credit reporting databases, we approach that task quite differently.

As part of its mischaracterization, FICO often relies upon a "research score" that it built to demonstrate the impossibility of using credit file data to score more consumers. FICO then uses this research score as a proxy for VantageScore throughout FICO's analysis and commentary. This research score, according to FICO,[29] demonstrated a Gini score of 14.7 and did not align with the rest of its population. VantageScore 3.0 and 4.0 both have Gini scores for the FICO-unscoreable population above 50 and show strong alignment between and across populations. FICO's "research score" is a straw man, while all VantageScore models are routinely tested for performance by VantageScore Solutions and, more importantly, by the more than 2,200 regulated financial institutions that use them.

[27] Note, however, that the RFI incorrectly states that VantageScore does not require any minimum aging of an account or trade line.

[28] Jim Wehman at the Barclays Emerging Payments Forum, March 13 to 14: "Bill Fair and Earl Isaac…studied whether we could reliably score these types of credit files and they determined back then that we couldn't."

[29] http://www.fico.com/independent/assets/Insights_90_Can_Alternative_Data_Expand_Credit%20Access_4151WP.pdf

As always, the results of our annual validations are publicly available on our website[30]. But neither FHFA nor the Enterprises need to take our word for it: these are exactly the tests that any lender, mortgage or otherwise, should conduct on their own portfolio before adopting a new model. We understand that these are the same (or similar) tests that FHFA and the Enterprises have already undertaken as part of this study. This is one clear and time-tested best practice that we wholly endorse.

The RFI correctly establishes that third-party credit scores are not a fundamental part of the underwriting process at either Enterprise or their respective lender-sellers. We appreciate that the FHFA's assessment is not about underwriting. Underwriting is a process that includes direct analysis of credit file, income, and employment data and is subject to all federal rules and regulations, including but not limited to the CFPB's Ability-to-Repay and Qualified Mortgage rules.

Despite this well-established fact, some commentators have incorrectly equated the FHFA's evaluation of newer and competing credit scoring models with a change in underwriting standards. Some have gone so far as to analogize the evaluation at hand to pre-crisis practices that led to the last housing bust[31]. We note here that these assertions are both incorrect and irresponsible. We also note that three commentators in particular—Joseph A Smith Jr., Ann B. Schnare, and Tom Parrent— have all fomented this misconception as part of their respective engagements with FICO.[32]

In Conclusion

For all of the reasons discussed on the preceding pages, we submit that Option 3 (lender choice with constraints) is the option that best advances the public interest. Further, we respectfully suggest that it is the option most consistent with the principal duties of the conservator: "to ensure that … the operations and activities of each regulated entity foster liquid, efficient, competitive, and resilient national housing finance markets …"[33]

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[30] https://www.vantagescore.com/resource/143/decade-validation-demonstrates-superior-performance
[31] See, for example, OpEd by Joseph A. Smith, Jr.: "FHFA should resist calls to weaken mortgage standards." American Banker. January 8th, 2018.
[32] As disclosed on their research reports published in connection with the Progressive Policy Institute.
[33] Section 1313(a)(1)(B)(ii) of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (12 U.S.C. 4501 et seq.) as amended by the Housing and Economic Recovery Act of 2008 (HERA), Public Law 110– 289, 122 Stat. 2654

We stand ready to aid in the transition and look forward to playing a part in a housing finance system that fairly and inclusively serves all creditworthy borrowers who aspire to achieve sustainable homeownership. While this is indeed a lofty goal, it is a worthy one; and we know that competition between model developers will be an important step in the right direction.

Yours sincerely,

Barrett Burns
President & CEO