ALTERNATIVE CREDIT SCORES AND THE MORTGAGE MARKET:

OPPORTUNITIES AND LIMITATIONS

Ann B. Schnare

EXECUTIVE SUMMARY

This paper addresses the question of whether it makes sense to require Fannie Mae and Freddie Mac (otherwise known as the Government Sponsored Enterprises, or GSEs) to accept the VantageScore as a substitute or replacement for a traditional FICO® Score. Based on an analysis of the likely costs and benefits, it concludes that such a policy would have little, if any upside, and troubling potential downsides for the U.S. mortgage market.

Both scores are based on data obtained from the consumer's credit file—not on the kinds of "alternative" data sets envisioned by many consumer advocates. Since the two scores are based on the same underlying data, use of the VantageScore is unlikely to lead to a significant—or sustainable—expansion of the mortgage market. Indeed, the major difference between the two scores is that the VantageScore drops its minimum scoring requirements regarding the length and recency of the consumer's credit history, which appears to result in a significant reduction in the score's predictive power. Less reliable credit scores would undermine the ability of lenders, investors and insurers to manage and price their credit and interest rate risk, which would eventually lead to higher mortgage rates.

At the same time, allowing the FICO® Score and VantageScore to be used interchangeably would threaten the standardization that is key to the efficient operations of the secondary market, including the all-important To-Be-Announced (TBA) market. It would also introduce significant operational and systems costs for market participants, raise the risk of adverse selection, and conceivably lead to a general "race to the bottom" as loan originators gravitate towards the score that produces the highest rating. One need only look at the years immediately preceding the 2008 housing crisis to realize that this last possibility is a real one.

The ownership structure of VantageScore also presents various problems. FICO is a standalone analytics firm that generates its score independently, based on data from each of the credit bureaus. In contrast, VantageScore is owned and distributed by the three credit bureaus—Equifax, Experian and TransUnion. The credit bureaus not only control access to consumers' credit files, they also control the distribution and pricing of competing credit scores, including the FICO® Score. If the GSEs ultimately determine that the VantageScore is a valuable substitute or replacement for a FICO® Score, they should take steps to ensure that the credit bureaus do not use their control over credit reports and the pricing of competing products to consolidate their power and steer the market to any particular score, including their own.

In the end, the decision to use a particular score (or scores) should rest squarely with the GSEs and their regulator--not with originators, who hold no credit risk, or other interested parties. The industry's development and application of commonly accepted measures of risk, including but not limited to FICO® Scores, has been key to the creation of a broad and liquid secondary mortgage market. It may well be time for the GSEs to move to an updated version of the FICO® Score or to consider an alternative metric. However, any changes should be made with caution, and implemented in a way that ensures continued transparency and consistency over time. Otherwise, despite the best intentions, consumers will ultimately pay the price in terms of higher mortgage rates, inappropriate products, and reduced access to mortgage loans.

1.0 INTRODUCTION

Recent concerns over seemingly low volumes of mortgage originations[1], while multifaceted in nature, have focused renewed attention on how best to assess the creditworthiness of "non-traditional" borrowers.

Such borrowers include recent immigrants with limited access to the traditional banking system, younger households who have yet to establish sufficient credit histories, and other consumers who for a variety of reasons have no recent credit activity that can be used to construct a traditional credit score.

For more than 20 years, the mortgage industry has relied on FICO® Scores to measure a consumer's willingness and ability to handle debt, often referred to as their "creditworthiness". The score, which was created by FICO, has gone through a number of iterations to reflect changing consumer behavior, lending standards, and data reporting practices. Although there is now a special version of a FICO® Score that incorporates additional data sources[2], the versions currently used by the mortgage industry are solely based on data obtained from a borrower's credit file[3].

Credit files are assembled and maintained by three publicly-held corporations: Equifax, Experian and TransUnion. These companies, which are commonly known as the "credit bureaus" or "credit reporting agencies" (CRAs), compile information on the credit profiles of individual consumers and then sell the data to potential creditors and other qualified entities such as insurers, employers and landlords[4]. The credit files provided by the three bureaus are similar in content, but differ somewhat due to differences in their coverage and data reporting cycles. All data are supplied on a voluntary basis or collected from public records, and typically provide detailed information on an individual's various credit lines (e.g., payment history, outstanding balances, credit limits, etc.), any reported collections, tax liens, bankruptcies, or foreclosures, and a list of entities that have requested the reports (otherwise known as "credit inquiries"). In some cases, credit files also contain some information on a consumer's payment history on other recurring bills (e.g., utility, telecom, rent), but the coverage is extremely limited.

Some have recently argued that the industry's long-standing reliance on traditional FICO® Scores has stifled innovation and made it more difficult for otherwise-qualified borrowers with unscoreable or non-existent credit profiles to qualify for a mortgage. In fact, both industry and consumer groups have recently urged the Federal Housing Finance Agency (FHFA) to require Fannie Mae and Freddie Mac to take steps to ensure "needed competition to the scoring system" and to "update the outdated credit scoring system" by exploring alternatives to FICO® Scores.[5] They have also supported proposed legislation that would require the GSEs to consider the use of alternative credit scores.[6]

The most frequently mentioned alternative to a FICO® Score is the VantageScore, which is jointly owned and produced by the three credit bureaus. The VantageScore is similar to the traditional FICO® Score in that both are based on data obtained from an individual's credit report. However, unlike the FICO Score, the VantageScore drops its minimum scoring requirements regarding both the length and recency of a consumer's credit history.[7] According to the credit bureaus, dropping these requirements would lead to a 30 to 35 million increase in the number of consumers who can be scored.[8] However, as described in more detail below, the ability to be scored does not necessarily translate into increased mortgage demand or to a larger number of borrowers who ultimately meet Fannie and Freddie underwriting standards.

There is no doubt that ongoing innovation in credit scoring is both desirable and necessary in order to meet the evolving needs of consumers and credit markets. The demographic and financial profiles of potential homeowners are very different today than they were 20 years ago, and the rise of big data has opened doors to new data sources that could potentially enhance the industry's ability to measure credit risk and score a broader segment of the population.[9] There is also no doubt that ongoing competition is a powerful way to ensure that such innovation occurs. However, when one takes a closer look at the issues that could arise if lenders were allowed to qualify applicants on the basis of either their Vantage or FICO® Score, the policy position that FHFA should take is not as obvious as it might at first appear.

The purpose of this white paper is to shed some light on whether or not it makes sense to require the GSEs to accept the VantageScore as a substitute for a FICO® Score. It begins with a brief review of the use of FICO® Scores in the mortgage market. It then examines the debate that has evolved over time regarding the need for "alternative" scores and what the term actually means with respect to the options that are available today. Finally, it looks at the potential benefits of requiring the GSEs to accept an alternative score(s), as well as the likely costs.

2.0 CREDIT SCORES IN THE MORTGAGE MARKET

FICO® Scores were introduced to the mortgage market in the early 1990s as part of Freddie Mac's automated underwriting initiative and were soon adopted by other industry participants, including Fannie Mae, FHA, and investors in non-agency loans.

Prior to that time, lenders were required to assess a borrower's creditworthiness by examining the numerous line items in the consumer's credit file. While there were some broad guidelines for this assessment—for example, no more than two 30-day or one 60-day delinquency in the past 12 months, no foreclosures within the past 7 years, etc.—given the wealth of information contained in these files, this was an inherently subjective process that was widely believed to disadvantage minorities.

The introduction of FICO® Scores to the mortgage underwriting process has led to a more efficient, consistent and objective way of evaluating the creditworthiness of individual borrowers and the credit risk of the underlying loan.[10] By relating the various line items that appear in a consumer's credit files to their subsequent performance on various forms of debt (measured by the presence of a 90 day delinquency), FICO® Scores provide a simple, statistically-based measure of one of the most important components of mortgage risk, namely, the borrower's willingness and ability to handle their financial obligations.[11] The use of FICO® Scores has been repeatedly tested over the years and found to be compliant with adverse impact rules. Indeed, several studies have found that when compared to manual underwriting, automated underwriting and the use of credit scores significantly increased the number of applicants who qualified for a mortgage, particularly minorities.[12]

While the use of FICO Scores in the mortgage evaluation process has produced considerable benefits, the score's reliance on data maintained by the three credit bureaus inevitably limits its applicability for the roughly 45 million US adults who do not have credit files or who have files that are either too sparse or too stale to produce a reliable credit score.[13] According to the Consumer Financial Protection Bureau (CFPB), 48 percent of these currently "unscoreable" consumers are either under 24 years old or over 65, making them unlikely candidates for a mortgage. However, for the remainder of this population, reliance on credit bureau data alone could limit their access to mortgage credit by failing to capture other potential indicators of creditworthiness, for example, the timely payment of rent, utility and telecom bills. Unfortunately, while some institutions (e.g., local utilities) provide such data to the credit bureaus on a voluntary basis, the coverage is relatively thin and often limited to negative events.

Numerous studies have concluded that the inclusion of such non-bureau data could increase the number of consumers who can be scored and expand their access to credit markets.[14] Both the FICO® Score and VantageScore now incorporate data on utility, telecom and rental payments when available from the credit bureaus.[15] However, the number of borrowers affected is relatively small due to the limited number of entities supplying such information in a comprehensive form. According to FICO, only about 2.5 % of credit files have meaningful utility or telecom data, while less than 1% of files have information on rental payments.[16] As a result, some have called for the adoption of an alternative score that would incorporate such "non-traditional" data on a broader basis in order to capture the creditworthiness of individuals who currently cannot be scored.

3.0 WHAT IS MEANT BY AN ALTERNATIVE CREDIT SCORE?

Any discussion of the role of alternative credit scores must begin by distinguishing between a "traditional" and a truly "alternative" credit score. While the two are very different, they are sometimes confused or used interchangeably.

A "traditional" credit score relies entirely on data that are captured by the three credit bureaus. Both the FICO® Score and the VantageScore fall into this category, along with numerous other scores that have been developed for specific uses in particular industries. While these "traditional" scores rely on the same basic set of data, the algorithms that are used to construct the indices are different, including the weights assigned to various events (e.g., past delinquencies, unpaid medical bills, etc.) as well as the minimum criteria for producing a score.

In order to be scored, FICO requires that a consumer have at least one trade line that is at least six months old, as well as one that has been reported within the last six months.[17] According to FICO, roughly 92% of applicants can be scored using these two criteria.[18] In contrast, VantageScore does not follow these minimum scoring requirements[19] but otherwise relies on the same bureau data that FICO employs. According to the credit bureaus, the use of the VantageScore would enable an additional 30 to 35 million individuals to receive a credit score.[20]

In contrast to traditional credit scores, there are also a number of truly "alternative" scores that incorporate data not typically found in a consumer's credit file as either a substitute or a supplement to bureau data.[21] Such "non-traditional" data might include rental, utility and telecom payments, as well as a broad array of other indicators thought to proxy a borrower's ability to meet their financial obligations, for example, residential stability, the regular payment of child support, performance on payday loans, the management of checking accounts, etc. While such considerations are often part of a manual underwriting process, a statistically reliable credit score that incorporates non-bureau data has yet to be used in the mainstream mortgage market.

There are numerous alternative scores in the market today, ranging from those that focus on a consumer's payment patterns on on-going bills to those that incorporate non-financial data, for example, information gleaned from social media accounts. In considering an alternative score that might be applicable to the mortgage market, one needs to take a number of considerations into account, including the nature of the data that is being used and whether its use would be compliant with the Fair Credit Reporting Act or have a disparate impact on protected classes.

FICO has laid out six broad principles for the use of alternative data, summarized in Table 1 below. Each guideline is highly applicable to the mortgage industry. In general, the most useful alternative data would appear to be the types of financial considerations that are often part of a manual underwrite, for example, the timely payment of utility and telecom bills. While non-financial data can sometimes serve as a proxy for a consumer's creditworthiness (e.g. time at current residence), use of such data is more likely to be problematic.[22] For example, whether a consumer holds a degree from Cal Tech or a local community college—or how often they use their cell phone during business hours—could conceivably be correlated with future defaults. However, the use of such data could serve to reinforce existing stereotypes, raise regulatory and disparate impact concerns, and conceivably hurt the very borrowers that the industry is trying to serve.

Table 1: FICO's Alternative Data Collections Guidelines

Regulatory Compliance	The data source must comply with all regulations governing consumer credit evaluation
Depth of Information	Data sources that are deeper and contain greater detail are often of greater value
Scope and Consistency of Coverage	A stable data base covering a broad percentage of consumers can be favorable
Accuracy	How reliable is the data? How is it reported? Is it self-reported? Are there verification processes in place?
Predictive Value	The data should predict future consumer repayment behavior
Additive Value	Useful data sources should be supplemental or complementary to what's in the credit files of the CRAs.

Source: FICO

Based on its review of several earlier versions of alternative credit scores, the Center for Financial Services Innovation concluded that the "widespread use of alternative data could dramatically broaden the reach of mainstream financial services companies."[23] If one is primarily interested in market expansion, this suggests that the most promising alternatives would be scores that incorporate financial data not typically found in a consumer's credit file, for example, FICO® Score XD.[24] However, whether or not an increase in the number of scoreable consumers would actually lead to an increase in qualified applicants or mortgage demand would still be an open question that would need to be resolved.

4.0 THE COSTS AND BENEFITS OF ALTERNATIVE SCORES

Any consideration of the potential costs and benefits that would flow from the use of alternative credit scores should recognize how FICO® Scores are actually used in the mortgage market today.

For example:

- FICO® Scores are used by the GSEs (and others) to determine the price of a loan. In general, consumers without a FICO® Score are generally put in the highest risk bucket and are charged the highest rate.
- FICO® Scores are also used for disclosure purposes throughout the secondary mortgage market. For example, FICO® Scores (along with other risk metrics) are used in the TBA market to specify the characteristics of loans that will eventually be delivered into a given pool. The TBA market, which is key to the ongoing liquidity of the secondary market, enables borrowers to lock-in their mortgage rates in advance of the actual closing of the loan. FICO® Scores are also used to evaluate the underlying credit risk of mortgage pools by investors and insurers participating in the GSEs' back-end risk sharing transactions, as well as to estimate pre-payment rates and interest rate risk by investors in mortgage-backed securities (MBS).
- Finally, FICO® Scores are used by the GSEs to establish minimum eligibility criteria for different types of loans. While the precise cut-off varies by loan type and the presence of other risk factors, both Fannie and Freddie have adopted minimum FICO® score thresholds of 620. In practice, however, lenders often use a higher cut-off through what are known as "credit overlays".[25]

Each of these functions is important—and each affects both the costs and availability of mortgage credit.

However, it is important to recognize that neither Fannie nor Freddie currently uses the FICO® Score as the sole determinant of a borrower's "creditworthiness" in its automated underwriting models. Freddie Mac's Loan Prospector (LP) uses the FICO® Score as one of several inputs drawn from the consumer's credit file.[26] Fannie Mae's Desktop Underwriter (DU) does not use a FICO® Score at all, but instead relies on its own statistical assessment of the information contained in a borrower's credit file, in effect creating its own credit score. Since both GSEs have also developed protocols for underwriting the "unscoreable" population, any benefits derived from the use of an alternative score may be less than might first appear.

Thus, while the use of an alternative score may affect a lender's willingness to originate the loan and the mortgage rate that will be charged, the fact that a consumer can be scored and has a score that falls within a generally acceptable range does *not* imply that he or she will actually qualify for a GSE mortgage. Indeed, according to FHFA's Director Watt:

> ***"…both Fannie and Freddie are using a lot of information other than credit scores to increase access to credit anyway. They have probably as much information about people's ability to pay as the two credit scoring companies (i.e., FICO and Vantage Score)…have. We just didn't find that there was significant difference in these credit scores from an access perspective.[27]"***

4.1 POTENTIAL BENEFITS

With these caveats in mind, there are at least two types of potential benefits that could arise from the use of alternative credit scores:

- More accurate measures of credit risk
- Ability to reach a broader segment of the population

A particular score's ability to achieve these objectives will depend on how the score is constructed and the underlying data that are used. Any new score could potentially improve the allocation of mortgage credit by providing a better risk metric. However, alternatives that introduce additional data into the assessment of credit risk would be more likely to expand the universe of qualified borrowers and lead to an increase in mortgage originations.

4.1.1 IMPROVED RISK METRICS

There is always room for improvement and innovation in the scoring process, even if the underlying data (i.e., a consumer's credit file) are the same. For example, the FICO® Score has gone through a number of revisions that have improved its predictive power while maintaining or increasing the number of consumers that can be scored. Despite these improvements, neither Fannie nor Freddie has adopted the latest version of the FICO® Score (FICO® Score 9), presumably due to the significant operational and systems costs that are associated with moving to a different metric (described in more detail below).

Whether or not the adoption of the VantageScore as an alternative or substitute for a traditional FICO® Score would lead to a significant improvement in the assessment of mortgage risk—and whether that improvement would be worth the costs involved—is an open question that is best determined by Fannie Mae, Freddie Mac, and other participants in the secondary mortgage market.[28] However, on the surface at least, it would appear that simply dropping FICO's minimum scoring requirements would be unlikely to lead to more accurate measures of credit risk. If anything, the opposite appears to be true.

An analysis by FICO compared the odds-to-score ratios of its traditional FICO® Score with and without its minimum scoring requirements in order to estimate the predictive power of the VantageScore.[29] It concluded that eliminating minimum scoring requirements without the addition of non-bureau data for consumers with "stale" credit files or with files that contained collections data alone would lead to a significant drop in the score's predictive power. A recent paper by Parrent and Haman comes to the same conclusion.[30] In particular, they note:

> ***"VantageScore published a Gini coefficient of 54.78% on the newly scored population that compares rather unfavorably to their overall VantageScore 3.0 Gini of 73.47-79.49%. The gap in goodness of fit is actually larger than the difference between the newly scored and total population Gini because the***

> ***total population includes the relatively poorly fit newly scored consumers. This fit degradation is not surprising given the sparse information available to fit the newly scored consumers..."***

Parrent and Haman also note that, despite their common range in values, the odds ratios that are associated with a FICO® Score[31] and VantageScore are not necessarily equivalent.

In the end, the threshold question that the GSEs must address is whether an alternative score will maintain, if not enhance, their ability to measure mortgage risk over the different stages of the credit cycle. An affirmative answer should be seen as a prerequisite to the adoption of any new score, even if that score would result in a larger number of scoreable consumers. As evidenced by the recent housing crisis, a general loosening of scoring standards would serve little, if any public purpose. Less reliable credit scores would undermine the ability of lenders, investors and insurers to manage and price their credit and interest rate risk, which would eventually lead to higher interest rates. And while some previously unscoreable consumers might experience an increase in their access to mortgage credit, they would generally face higher prices and receive loans that were either "lower than deserved or higher than safe."[32]

4.1.2 MARKET EXPANSION

The primary reason that some housing advocates support the use of alternative scores is that they believe it would lead to a significant increase in the number of qualified borrowers as well as in the overall volume of mortgage originations. Different segments of the population clearly differ with respect to their use of traditional credit, making appropriate yardsticks for measuring their likely mortgage performance undoubtedly different. For example, recent immigrants are frequently more difficult to score due to their limited use of traditional credit. While such borrowers can often qualify for a mortgage through a manual underwriting process, their inability to be scored by standard industry metrics has undoubtedly reduced their access to mortgage credit.

The challenge for the industry is to find an alternative way of scoring this and other segments of the population in a way that provides an equally accurate measure of credit risk but also results in a larger number of qualified borrowers. Documenting such an effect is not an easy task since it requires a retrospective analysis of the acceptance rates of both successful and unsuccessful mortgage applicants. However, a better understanding of the potential magnitude of these effects can be found by taking a closer look at both the numbers and characteristics of adults who cannot be scored under current FICO® Score guidelines.

A recent FICO report[33] divided the unscoreable population into three broad groups:

- Individuals without a credit file (i.e., "no file")
- Individuals with active credit lines that are less 6 months old (i.e., "sparse files");
- Individuals with a past credit history, but no currently active credit lines (i.e., "stale files").

According to FICO, the unscoreable population is about evenly divided between consumers with no credit files (25 million) and consumers with either sparse or stale credit files (28 million) that fail to meet FICO's minimum scoring criteria.[34] While the VantageScore may be able to score some of the currently "unscoreable" consumers with sparse or stale credit files, it can do nothing for the 25 million consumers without any credit record at all.

Moreover, a closer look at the characteristics of the 28 million "unscoreable" consumers with limited credit records suggests that changes to the scoring formula will be unlikely to produce a significant increase in access to mortgage credit, particularly without the addition of non-bureau data. The following table divides this unscoreable population into three mutually exclusive groups:

- Consumers with stale credit files with no derogatory data ("voluntary inactive")
- Consumers with stale credit files with derogatory data and/or sparse credit files that contain only collections/public records data ("involuntary inactive")
- Consumers with less than 6 month credit history ("new to credit")

For each of these groups, it shows their estimated size, median age, and typical application rates (i.e., the share of consumers in each category who apply for credit in a given year.) It also presents FICO's estimates of the percent of newly scoreable consumers who would receive a FICO® Score above 620 and above 680 if its minimum scoring criteria were dropped.

Table 2: Characteristics of Consumers with Sparse and Stale Credit Files

Segment	Size (Millions)	Median Age (Years)	Application Rates	Impact of Eliminating Minimum Scoring Requirements	
				% >620	% >680
Involuntary Inactive	18.2	43	20-30%	6%	0%
Voluntary Inactive	7	71	1-4%	94%	52%
New to Credit	2.8	24	35-40%	42%	20%

Source: FICO, Minimum Score Research and Innovation, August 2017

The "involuntary inactive" group accounts for the great majority (65%) of all "unscoreable" consumers with either sparse or inactive credit files. Consumers in this category have either experienced a bankruptcy, tax lien, or collection event that has likely made them ineligible for additional credit. While many of these consumers may well be in the process of financial recovery, the information contained in their credit bureau files does not enable one to determine whether or not this is in fact occurring—regardless of the methodology employed. As a result, one can reasonably argue that receiving a traditional score would actually hurt these consumers since, without additional data, their resulting credit scores would likely be very low—an outcome that would likely preclude a manual underwrite. Indeed, according to FICO, only about 6 percent of all consumers in this group would score above the 620 cut-off typically seen as determining eligibility for a mortgage and virtually none would have scores above 680—a threshold that is more characteristic of GSE loans in recent years.

Likewise, it seems unreasonable to expect that scoring the next largest group—the voluntarily inactive—would lead to a significant increase in mortgage demand. As shown in the chart, the median age of these consumers is 71 years and the rate at which they apply for additional credit is extremely low—typically between one and four percent per year. Presumably, many in this group may have chosen to pay off their debts in anticipation of retirement, and many may be homeowners who own their homes free and clear. As a result, although their scores would be relatively high—94 percent would score above 620 and about 52 percent above 680—it seems unlikely that producing a score for this group would have a noticeable impact on mortgage demand.

Finally, the median age of consumers in the smallest group—those who are new to credit—is only 24 years—considerably below the 32 year median age of first-time homebuyers.[35] For many of these 2.8 million currently unscoreable consumers, the ability to be scored is only a matter of time, i.e., no more than 6 months away.

Although roughly 42 percent of these consumers would have scores above 620 if minimum scoring criteria were dropped and 20 percent would score above 680, the relatively small numbers involved would be unlikely to lead to a significant increase in mortgage demand.

Table 3 presents FICO's estimates of the number of additional consumers who would be potential candidates for a conforming mortgage if its minimum scoring criteria were dropped. It begins with the 7.4 million consumers who would have scores of 620 or higher. It then eliminates consumers who are younger than 25 or older than 65, as well as homeowners and consumers with a 90 day delinquency or foreclosure. After making these adjustments, it finds that roughly 2 million consumers could conceivably be candidates for a mortgage—a conclusion that is roughly the same as VantageScore estimates.[36] However, a closer look at this population suggests that the actual number would most likely be considerably lower.

Table 3: Impact of Eliminating Minimum Scoring Criteria

Begin	7.4 million consumers with 620 or higher	Remaining Count
Exclude	Younger than 25 and Older than 65	**3.2 million**
Exclude	Any indication of current homeownership	**2.05 million**
Exclude	Any 90 day delinquency or foreclosure in prior two years	**2 million**

The remaining 2 million consumers are composed of two groups:

- 1.8 M have stale credit files; 65% of whom have not had an update within the past 48 mos.
- 200 thousand are new to credit; 59% have a revolving credit limit of less than $1000

Source: FICO, op. cit., August 2017

To begin with, 90 percent of these seemingly eligible consumers (1.8 million) have stale credit files and most of their files are very old; in fact, some 65 percent of these stale file consumers have had no reported trade line activity within the last 4 years. It seems highly unlikely that these consumers would qualify for a mortgage in the absence of additional data; in fact, one can reasonably argue that such consumers would be better off with a manual underwrite. Of the remaining 200 thousand consumers who are new to credit, almost 60 percent have a revolving trade line that is less than $1000. Again, without additional information, it seems unlikely that such consumers would be viewed by the GSEs as either ready or able to handle the responsibilities of a mortgage.

Thus, while the VantageScore could conceivably qualify some additional borrowers by dropping FICO's minimum scoring requirements, the impact would likely be relatively small—certainly well below the numbers that have been cited in the past. FHFA Director Watt has apparently come to the same conclusion, noting that:

> ***"we believe that, regardless of the decision we make on credit score models, the short term impact on access to credit will not be nearly as significant as was first imagined or as the public discourse on this issue has suggested. Credit scores are only one factor the Enterprises use to evaluate loan applications and the Enterprises currently use the same or even greater levels of credit data in their underwriting systems as the credit scoring companies use."***[37]

If meaningful progress is to be made, the most promising approach would be to move beyond the data currently available from a consumer's credit file by considering an alternative credit score that incorporates non-bureau data.

4.2 POTENTIAL COSTS

Even assuming that an alternative score expands the number of qualified borrowers, introducing a new risk metric would not be without considerable costs. As noted earlier, the ability to provide a comparable measure of credit risk should be a pre-requisite for the adoption of any new score, whether it is based on traditional or non-traditional data. Otherwise, the resulting degradation in a score's ability to distinguish between good and bad credits would undermine the industry's ability to manage and price its mortgage risk. The net result for consumers would eventually be higher mortgage rates and riskier mortgages.

However, even if predictive power of the score is maintained or even enhanced, there are a number of other factors that need to be considered before adopting an alternative score. FICO® Scores have become the industry standard for assessing and pricing credit risk in both the conforming and the non-conforming mortgage markets. Since such standardization is key to the efficient functioning of the secondary market, any changes should not be taken lightly. As noted earlier, FICO® Scores play a critical role in the TBA market, which enables borrowers to lock-in their mortgage rates before actually closing on the loan. FICO® Scores are also used by MBS investors to estimate pre-payment speeds and the resulting interest rate risk. Finally, FICO® Scores are used in the GSEs' "back-end" credit risk transfers to enable private investors and insurers to assess and price for the underlying risk on a pool of loans.

Introducing a new credit metric as either a substitute or alternative to FICO® Scores will force the GSEs and all of these other entities to re-evaluate and, if necessary adjust their risk assessment and pricing models—and it is by no means certain that investors will ultimately accept this change.[38] At a minimum, it seems likely that separate pools would have to be formed for loans underwritten with FICO® Scores and Vantage scores, and that VantageScore pools would most likely trade at unfavorable rates until their risks were better understood. In the short term, at least, this would inevitably hurt the liquidity of the secondary market and most likely lead to higher mortgage rates.

Requiring the GSEs to accept a VantageScore as an alternative to FICO® Scores will also require major systems, software and process changes for virtually every mortgage market participant, including loan originators.[39] For example, if the GSEs chose to accept multiple credit scores, they would have to recalibrate their predictive models, reprogram their loan delivery platforms, update their seller servicer guides, train originators on their new policies, and revise their compliance processes. Much the same would be true for loan originators. While these changes might well be justified, past experience suggests that the upfront costs would be significant. For example, the mortgage industry undoubtedly spent billions of dollars to prepare for Y2K. It seems reasonable to expect that the costs of adding an additional credit score would rival, if not greatly surpass, the costs of adding two additional digits to every date

In addition to these upfront costs, accepting an alternative score will require the GSEs and other mortgage investors to continually recalibrate their underwriting models to ensure that the two scores remain equivalent. As noted earlier, despite their common range, the risks associated with seemingly equal Vantage and FICO® Scores may not be the same, especially at the lower end of the credit risk spectrum. While the necessary adjustments could be made when the scores are first introduced, there is no guarantee that any equivalency will hold up over time as both market conditions and populations change.[40] And it is not at all obvious who would pay for the ongoing recalibrations that would be required to ensure that the scores continue to be interchangeable. Unless such ongoing equivalency is assured, allowing lenders to select an "appropriate" score for a particular borrower raises the risk of adverse selection and potential fair lending concerns.

Unless such ongoing equivalency is assured, allowing lenders to select an "appropriate" score for a particular borrower raises the risk of adverse selection and potential fair lending concerns. As Smith notes:

> ***"In a system where different credit scoring systems generate different results, the loan processor could control the outcome of the loan decision by determining which system to use for a particular borrower. Ironically, credit scoring systems were developed to help alleviate the problem of overt discrimination in lending. The addition of an array of credit systems would simply reintroduce the original problem in a different way."[41]***

The acceptance of multiple scores could also lead to a race to the bottom among competing scores as lenders inevitably gravitate to the score that produces the highest number. VantageScore recently suggested that one way to avoid this situation would be to require lenders to pick a score, and then stick with it for a fixed period of time.[42] While such a policy could eliminate continuous shopping for the highest score—at least during the initial adjustment period—it is hard to see how this would prevent lenders from choosing the most generous score to begin with or eliminate such behavior once the adjustment period was over. Moreover, monitoring for lender compliance would be difficult and would undoubtedly require extensive system changes to identify the particular score that was being delivered.

Finally, there are legitimate competitive concerns over the credit bureaus' current joint ownership of the VantageScore and their ability to control access to consumers' credit files. FICO has a licensing agreement with each CRA to produce and distribute FICO® scores, subject to the terms and conditions established under the Fair Credit Reporting Act. While FICO (or any other score provider) could conceivably go around the credit bureaus by attempting to replicate the credit data they provide—in effect, by creating a new CRA--this would not be an easy task. The systems of most financial institutions are now fully integrated with the credit bureaus, making monthly reporting a routine matter. Creating an additional CRA would force these providers to change their existing systems with little, if any improvement in the resulting data.

While recent concerns over the security breach at Equifax and the accuracy of bureau data could conceivably change this situation, the three national credit bureaus currently have a natural monopoly on the collection and provision credit data that would be extremely difficult to overcome. This basic fact raises serious issues regarding the organizational and ownership structure of companies in the credit scoring business and how this might ultimately impact competition.[43]

For example, under the terms of its licensing agreements with the three credit bureaus, Fair Isaac receives a royalty for each FICO® Score produced. However, as the primary distributor of FICO® Scores, the CRAs are able to set the retail price. It does not take much imagination to envision how the credit bureau could undermine FICO's ability to compete—or the ability of other potential new market entrants—by simply offering the VantageScore at a more favorable price, and then raising their price once potential competitors are eliminated. The bureaus could also attempt to stifle competition by restricting access to their credit files.

Concerns over the credit bureaus' potential anti-competitive behavior are not just theoretical. For example, the "free credit scores" that are currently offered by the credit bureaus and distributed to websites such as Credit Karma and credit.com are almost always VantageScores.[44] While this may make sense from the VantageScore's perspective, it has caused a great deal of confusion among consumers who think they are obtaining their FICO® Score. It also illustrates the bureaus' willingness and ability to favor their own scores over the scores of their competitors.

In another example, a recent article in the New York Times describes how Equifax has used its role as the primary "gatekeeper" to Freddie Mac's merged credit reports to bar an array of smaller competitors from providing data for the reports, citing "incompatible systems" as its rationale.[45] The article also documents how Equifax (unlike the other credit bureaus) charges more for "soft pull" credit reports that are used to counsel financially troubled consumers than it does for "hard pull" reports for lenders seeking to issue credit.

Neither of these two examples are particularly surprising given that the bureaus are for-profit companies seeking to maximize shareholder value. However, they do serve to illustrate the bureaus' control over the pricing of credit scores and their ability and apparent willingness to stifle potential competitors. This suggests that, if an alternative score is to be adopted, it should not be controlled by the three credit bureaus.

5.0 IMPLICATIONS

The industry must continue to evolve if it is to meet the needs of a rapidly changing population and exploit the advantages that will inevitably flow from the use of new technologies and data mining.

The challenge is to find a way to encourage continual innovation in the assessment of credit risk while preserving the strengths of the current system, including the standardization that has enabled the secondary market to thrive. While the issues involved are complex, a few things seem clear.

First, while it may well be time for the GSEs to update to another score, the numerous problems that would arise with the adoption of multiple scores would greatly outweigh the potential benefits—particularly if the additional score was just a reconfiguration of the same underlying data. While score providers should continue to compete to become the gold standard for measuring risk in the mortgage industry, they should not compete to become the primary vehicle that lenders use to generate larger volumes of loans.

Second, in considering the introduction of alternative scores, priority should be given to scores that incorporate non-bureau financial data. While credit bureaus provide an important window into a consumer's spending patterns and their ability to manage debt, the view is necessarily limited and will inevitably fail to capture other important factors that will ultimately influence a borrower's performance on their loan.

Third, before introducing an alternative score, it is best to experiment on a limited basis before making a wholesale change. The GSEs currently have a number of special lending programs designed to broaden access to credit. The use of alternative scoring techniques should be incorporated in such programs to test the viability of eventually incorporating these scores into their mainstream lending programs.

Fourth, in the event that the GSEs decide to "mainstream" an additional score, transparency is critical. Before implementing any change, the GSEs should release the results of their analysis to avoid market disruption. If they elect to introduce multiple scores, they should also continue to assess and compare the relative performance of alternative scores to ensure that the scores remain comparable over time. Without transparent and consistent risk metrics, critical institutions such as the To-be-Announced (TBA) market would be compromised.

Fifth, for competitive concerns, alternative score providers should not be owned or otherwise controlled by the three credit bureaus. While vertical integration makes sense in many markets, it makes far less sense when the CRAs have enormous power with respect to consumers' credit files. If the GSEs decide to accept the VantageScore, they should require the credit bureaus to spin it off as an independent entity—or take other steps to ensure equal access to credit data as well as fair and equitable pricing of alternatives scores at the retail level.

In the end, the GSEs and other mortgage investors should—and ultimately will—decide which alternative(s) best meets their needs. Congress should continue to give the GSEs and their federal regulator the authority to decide how to manage their credit risk, and not try to mandate which particular score (or scores) should be used. The same should apply to FHA and other government agencies. While expanding access to mortgage credit is an appropriate public policy goal, it should be done in a way that preserves the strength of the existing system, encourages sound lending, and minimizes taxpayers' risk.

About the Author

Ann Schnare holds a Ph. D. in economics from Harvard University and is President of AB Schnare Associates, LLC. She served as Senior Vice President for Corporate Relations and Vice President for Housing and Financial Research at Freddie Mac from 1993 to 2000 and was a member of the company's Operating Committee. The Fair Isaac Corporation (FICO) for provided funding for this paper.

ENDNOTES

1. For example, The Urban Institute found that tight credit standards following the mortgage crisis have disproportionately affected minority borrowers and suggests the use of alternative credit scores as a potential remedy. See https://www.urban.org/urban-wire/increasing-access-mortgages-minorities
2. FICO® Score XD, which was developed FICO, incorporates alternative data generally not available from a consumer's credit file at the CRAs. FICO® Score XD is used in the credit card industry, but is not currently made available for the mortgage industry. See http://www.fico.com/en/products/fico-score-xd
3. The GSEs require that lenders attempt to get FICO® Scores from each of the three credit bureau and then to submit either the middle score or, if only two scores are available, the lower score. They also require a FICO® Score based on a tri-bureau merge. While each credit bureau uses a different version of the FICO® Score, the most recent is FICO® Score 5.
4. Access to a consumer's credit report is governed by the Fair Credit Reporting Act (FCRA), which generally enables both current and potential creditors with "firm" credit offers to purchase these data without the consumer's express permission.
5. August 17, 2017 Coalition letter to FHFA Director Watt.
6. Credit Score Competition Act of 2017. See https://www.congress.gov/bill/115th-congress/house-bill/898/text
7. FICO requires at least one trade line that is at least 6 months old and at least one trade line that has been reported in the last 6 months. Note that these two conditions can be met with a single trade. VantageScore's lower standards require no minimum age of trade line and require that only one trade line that has been reported in the last 24 months.
8. VantageScore, "Exclusionary Credit Score Modeling Limits Access to Credit for Millions of Consumers…Even Perhaps Your Next Door Neighbor", November 2016.
9. For example, see "Big Data: A Tool for Inclusion or Exclusion?", Federal Trade Commission, January 2016
10. See, for example, Robert B. Avery, Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner, "Credit Risk, Credit Scoring, and the Performance of Home Mortgages", Federal Reserve Bulletin July 1996, and John W. Straka, "A Shift in the Mortgage Landscape: The 1990s Move to Automated Credit Evaluations". Journal of Housing Research, Volume 11, Issue 2, 2000.
11. Other key indicators of mortgage risk include the borrower's equity in the home (measured by the loan-to-value ratio) and their total amount of debt in relation to their income (measured by so-called debt-to-income ratio).
12. For example, see Zorn, Gates and Perry, "The Effect of Improved Mortgage Risk Assessment on Under-served Populations" at http://escholarship.org/uc/item/6dm49385
13. See the Consumer Financial Protection Bureau, "Data Point: Credit Invisibles", May 2015. CFPB identified three groups of unscoreable consumers: "credit invisibles" who did not have a credit file (26 million); consumers with "insufficient" (or "sparse") credit files that contained either too few or too new accounts to be scored (9.9 million); and consumers with "stale" credit files that had no recently reported activity (9.6 million). According to the CFPB, Blacks and Hispanics are more likely to be unscoreable compared to Asians and Whites, as were consumers residing in low income neighborhoods.

14. See, for example, Consumer Financial Protection Bureau. 2014. Report on the Use of Remittance Histories in Credit Scoring. http://files.consumerfinance.gov/f/201407_cfpb_report_remittance-history-and-creditscoring.pdf; Experian. 2014. "Let there be Light: The Impact of Positive Energy-Utility Reporting on Consumers," Experian White Paper; Experian RentBureau. 2014. "Credit for Renting: The Impact of Positive Rent Reporting on Subsidized Housing Residents," Experian RentBureau White Paper; Schneider, Rachel and Arjan Schutte. 2007. "The Predictive Value of Alternative Credit Scores," Center for Financial Services Innovation Report, November; Turner, Michael A., Alyssa Stewart Lee, Ann Schnare, Robin Varghese, and Patrick D. Walker. 2006. "Give Credit Where Credit Is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data," Political and Economic Research Council and the Brookings Institution Urban Markets Initiative Report. While timely utility and rental payments were found to have a positive impact on access to credit, remittance payments were found to have the opposite effect.
15. Utility and telecom payments are included in the FICO® Scores that are being used by the GSEs. However, the inclusion of rental payments, along with other enhancements such as the treatment of medical collections, were not introduced until FICO® Score 9.
16. FICO Decisions, "Truth Blog Series Summary; Setting the Record Straight", 2017.
17. FICO also checks that the consumer is not deceased.
18. FICO Decisions, Insights White Paper no. 90, "Can Alternative Data Expand Credit Access?" 2015.
19. Like FICO®, the VantageScore retains the requirements that the consumer is not deceased and that the file contains more than just inquiries.
20. VantageScore, op. cit.
21. For an analysis of three alternative credit scores, including an early version of FICO®XD, see Rachel Schneider and Arjan Schutte, "The Predictive Value of Alternative Credit Scores", Center for Financial Services Innovation. 2007.
22. See Joseph A. Smith, Jr., "White Paper on the Adoption of New Credit Scoring Models by FHFA."
23. Schneider and Schutte, op cit., p.17
24. See https://www.fanniemae.com/content/guide/selling/b3/5.1/01.html
25. See https://www.fanniemae.com/content/guide/selling/b3/5.1/01.html
26. Freddie Mac also requires that the consumer has at least 3 trade lines. This is an underwriting requirement that is distinct from minimum scoring requirements.
27. https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=402338
28. See, for example, Chris Whalen at www.americanbanker.com/person/chris-whalen
29. FICO Decisions, Insight paper No.90, op. cit.
30. Tom Parrent and George Haman, "Risks and Opportunities in Expanding Mortgage Credit Availability through New Credit Scores", Quantilytic, December 1 2017. P.7
31. As a result, VantageScore's estimates of potential new mortgage demand would appear to be overstated.
32. FICO Decisions, Insight paper No.90, op. cit.
33. See FICO Decisions, Insights White Paper No.90, "Can Alternative Data Expand Credit Access?"
34. Note that FICO's estimate of the "no file" population is similar to the estimate (26 million) produced by the CFPB using an

unidentified "commercially available scoring model". However, CFPB's estimates for the number of consumers with sparse or stale credit files (19.5 million) is considerably lower than FICO estimates for these two groups (28 million), which may reflect the credit bureau that was used to derive the estimates and the process for removing duplicate files. Interestingly, VantageScore's estimate of the number of no file and stale file consumers that could be scored with its methodology (30 to 40 million) exceeds both CFPB and FICO estimates for the total size of these two populations (20 to 28 million). Parrent and Haman (2017, op. cit.) suggest that this might due to the imposition of Freddie Mac's required 3 trade minimum, which is an underwriting not a scoring requirement

35. https://www.nar.realtor/real-estate-story-ideas/median-age-of-home-buyers-trending-upward
36. VantageScore estimates that 2.3 to 2.5 million consumers would be eligible for a conforming mortgage. Its estimate was derived by estimating the number of newly scoreable consumers with VantageScores above 620, and then excluding homeowners, younger (< 25 years) and older (>70 years) adults, and consumers with a previous foreclosure or a serious delinquencies in the past two years. It also factored in the consumer's ability to afford the median priced home in their geographic area.
37. Prepared remarks of Melvin L. Watt, Director of FHFA, at the National Association of Real Estate Brokers, August 1, 2017
38. See Whalen, op. cit.
39. See Smith, op. cit.
40. See FICO Decisions, Truth Squad: Is FICO Score 700 the Same as Vantage Score 700?
41. Smith, op. cit., p.8
42. VantageScore Solutions, "New Credit Scoring Models: A smooth transfer to more transparent mortgage capital markets" October 2017. See www.vantagescore.com/resource/170/new-credit
43. Watt, op. cit.
44. http://creditcardforum.com/blog/vantagescore-vs-fico-score/
45. See Gretchen Morgenson, "Equifax's Grip on Mortgage Data Squeezes Smaller Rivals", New York Times, October 12, 2017