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In Need of an Update: Credit Scoring in the Mortgage Market

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We have written repeatedly that access to mortgage credit is very tight. Our Housing Credit Availability Index shows that the mortgage market is taking less than half the risk it was taking in 2001, a period of reasonable credit standards, and less than a third the risk it was taking in 2006. Credit is tightest in the credit score dimension. In another research report, we have shown that if the credit score distribution in 2015 were the same as in 2001, there would have been 1.1 million additional loans that year, cumulatively 6.3 million additional loans in 2009-2015. (We rely on HMDA data for this, so 2015 is the latest data available.)

The credit score model used by the GSEs needs to be updated

The credit score model the GSEs essentially require mortgage originators to use for mortgage lending—FICO 4—is outdated, based on models estimated in the late 1990s. Both FICO and VantageScore have much more recent models, including FICO 9 and VantageScore 3. VantageScore is also rolling out VantageScore 4.0 this fall. These models have the following advantages over FICO 4:

- **More granular data:** In the late 1990s, credit bureau data was much less granular than it is now. For example, student loan debt was included in installment debt. There was no differentiation between first and second mortgages. The use of more granular data in the newer models has allowed for improved credit modeling.

- **Better information on student loans:** There is much better information in the newer models on the performance of student loans, and how this performance impacts the performance of other types of debt. In the late 1990s, there was less than $100 billion of student loan debt outstanding. Federal Reserve Bank of New York data indicates that in Q1, 2003, there was $240 billion in student loan debt outstanding; as of Q1, 2017, that number was $1.34 trillion, a 458 percent increase. By comparison, total consumer debt has increased from $7.23 trillion to $12.75 trillion in this same period, a 76 percent increase.

- **More consumer-friendly treatment of collections data:** Paid collections were included in the FICO 4 family of models but are ignored in more recent FICO and VantageScore models in recognition of the limited probative value of paid collections. In addition, in the early FICO models there was no differentiation between unpaid medical collections and unpaid non-medical collections. In more recent models, unpaid medical collections are weighted less heavily, as they are found to be less predictive of future performance. These are features that affect many borrowers; Urban research has shown that 35 percent of those with a credit score have debt in collection. Research by the Consumer Financial Protection Bureau has shown the difficulties of relying on medical collections data as an indication of creditworthiness.

- **More consistent, robust information:** FICO 4 is actually three different models, one for each credit bureau, estimated in slightly different time periods between 1995-2000. (The three models are TransUnion FICO Classic 4, Equifax Beacon 5.0, and Experian/Fair Isaac Risk Model v2.) Lenders are instructed to obtain a credit score for each borrower from each of the three credit bureaus. The middle of the three scores is used for lending/pricing purposes. More recent FICO and VantageScore models use identical time periods for the estimation, and more closely align the models. In the case of VantageScore, the models are completely aligned.

The need for change is widely acknowledged

The GSEs use the FICO 4 family of models for both screening (determining whether the loan is eligible for purchase) and loan level pricing adjustments. Fannie Mae's Automated Underwriting System (AUS) does not rely on credit score as an input but pulls credit data directly instead. Freddie Mac's AUS does rely on credit score as an input, but then supplements it with additional credit data. In addition, FICO 4 credit scores influence lender decisions about which loans to originate for potential sale to the GSEs and there is widespread acknowledgement that this reliance on an outdated FICO models should change. FHFA's 2016 Scorecard for the GSEs stated:

> FHFA continued to work with the Enterprises to study the costs and benefits of migrating to or implementing additional or alternative credit score models within the Enterprises' businesses. FHFA and the Enterprises also sought to understand the costs, operational implications, and potential impact on access to credit from the point of view of lenders, investors, trade associations, consumer groups and other industry stakeholders. FHFA will work to conclude its assessment in 2017.
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> In addition, the Enterprises have considered other credit-score-related issues that can independently improve access to credit. As described above, this includes the Enterprises work to enhance their automated underwriting systems to process loans for borrowers who do not have a history of traditional credit and, therefore, lack credit scores.

In their 2017 Scorecard, the FHFA directed the GSEs to "Conclude assessment of updated credit score models for underwriting, pricing, and investor disclosures, and, as appropriate, plan for implementation." In addition, "The Credit Score Competition Act of 2017," HR 898 in the House and an expected companion bill in the Senate, would encourage the GSEs to consider alternative credit risk scoring models when making mortgage purchasing decisions. In particular, the GSEs would be required to establish and make public their procedures for validating and approving credit scoring models.

The Advantages of Competition

Credit scoring is an area where not only should newer models be updated, but competition is healthy. Borrowers who have a blemish on their credit record need to be know why they have a blemish; competition encourages this greater transparency. In other areas of consumer finance (auto loans, credit cards) newer versions of both FICO and VantageScore are being used, with most lenders using one or the other. While competition could potentially result in lenders reaching for market share by using whatever model provides the highest score for each customer, this practice that can be curbed by requiring each lender to choose only one provider.

Competition also encourages faster incorporation of new information, which may make it possible to accurately score more borrowers. With competition, the credit scoring entities are incented to use all available information that is predictive of credit performance to score borrowers. One of the most promising avenues to do this is alternative data sources, and both FICO and VantageScore have looked at this extensively. Currently, only a small fraction of credit records have telecom or utility payment histories, and an even smaller percent have rental payment histories. For those with no traditional credit, these are important indicators of ability to pay. Research has shown that consistent rent or utility payment is predictive of positive credit behavior. It should be noted that while only a small fraction of credit records include information on positive payment histories, the files contain negative information, as delinquent debt ends up in collection. Utilizing positive behavior creates a more complete and accurate picture of a potential borrower's behavior.

Bottom Line

The credit scoring models used by the GSEs and lenders who sell to them need to be updated. The updated models have already been developed; its time to conclude the ongoing studies and modernize the system. Incorporating newer models into the mortgage origination process would allow the market to serve a greater number of creditworthy borrowers seeking to purchase a home.