Mortgage Scoring and the Myth of Overrides

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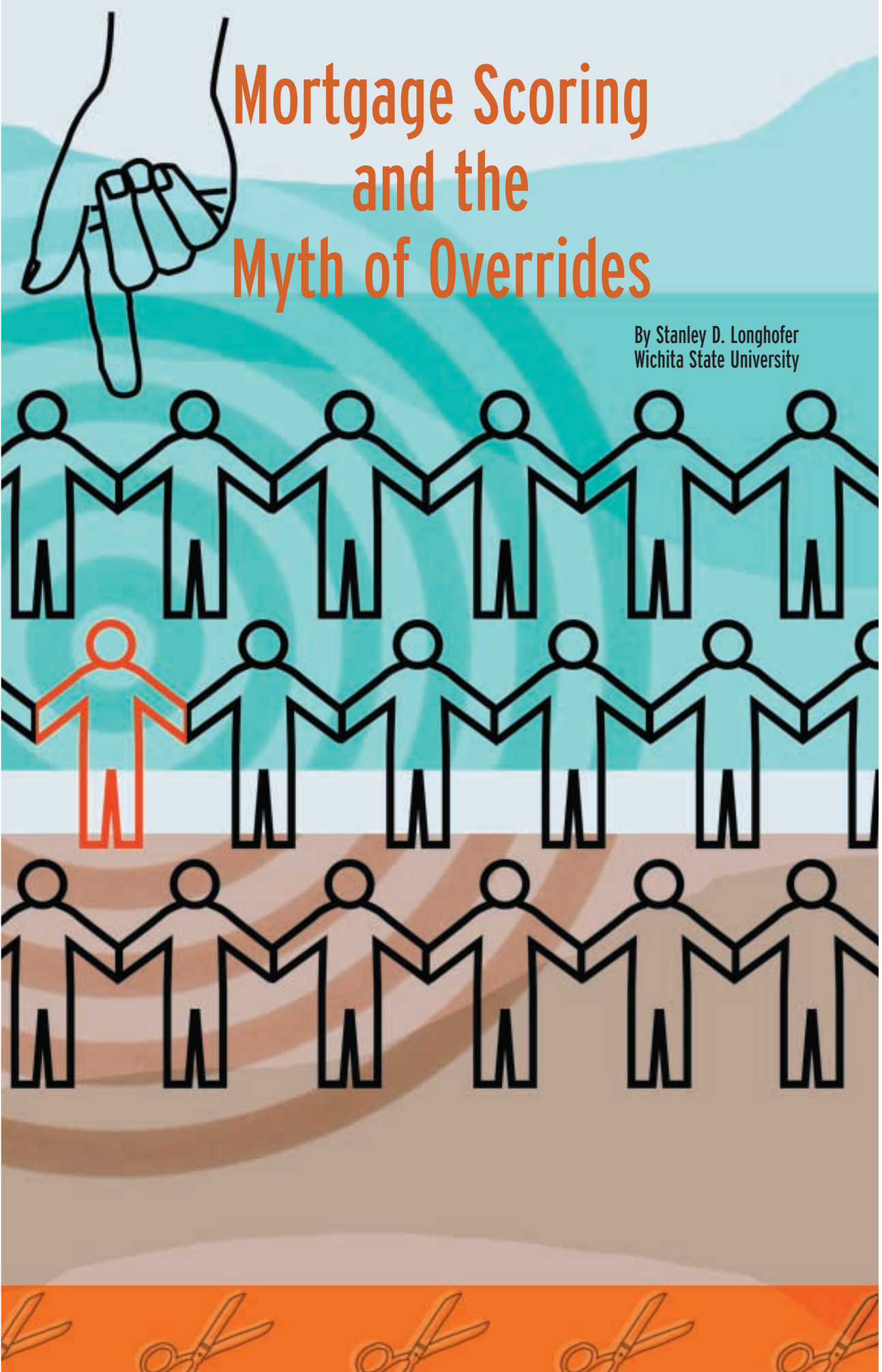

Perspectives on Credit Scoring and Fair Mortgage Lending

Concluding Article in a Five-Part Series

Editor's Note: This article is one of a group of commentaries on the impact of overrides (when the scoring system suggests one outcome and the lender chooses another) in the mortgage credit-scoring process. For further discussion on this topic, see the Communities & Banking *web site at www.bos.frb.org/commdev/html/c&b.htm.*

One of the most significant developments in the mortgage market over the past decade has been the formation and growing acceptance of computerized credit-scoring models as a supplement to or a replacement for traditional manual underwriting techniques. Programs such as Fannie Mae's *Desktop Underwriter* and Freddie Mac's *Loan Prospector* incorporate performance information from literally hundreds of thousands of mortgage loans to provide a fast, objective, and statistically reliable method for comparing the complex trade-offs inherent in mortgage underwriting.

In addition to assisting lenders in risk assessment, these objective scoring models can be a powerful tool for increasing consumers' access to mortgage credit. Not only does their increased efficiency translate into reduced closing costs for consumers – a significant barrier for many lower-income households – but if used exclusively, these models could effectively eliminate overt bigotry and disparate treatment from the underwriting process, as protected class status is explicitly excluded from these models. Thus, scoring models hold out great promise to make the mortgage market more fair and accessible.

Ultimately, however, mortgage underwriting can never be fully relegated to an automated scoring model, nor indeed should it be; subjective human evaluation will always be essential for some portion of all mortgage applications. Why? Despite the power of scoring models, there are often factors an underwriter would like to consider for which there is insufficient historical data for computers to analyze, or for which a subjective interpretation is required. For example, a lender may wish to discount a period of past delinquencies that can be traced to a documented medical problem from which the applicant has recovered. Such "idiosyncratic" factors cannot be incorporated into an objective scoring model, even though they may provide information that is vital to underwriting credit risk.

This subjective analysis may, in fact, have further benefits in improving access to mortgage credit, particularly for lower-income and minority households. Research over the past two decades – including a Boston Fed study – has provided evidence that these households are more prone to the very "application idiosyncrasies" that automated scoring models may be unable to process. Thus, subjective analysis is a crucial step in ensuring that creditworthy minority and lower-income households receive the credit for which they are qualified.

At the same time, however, many perceive a dark side to the use of

overrides in the underwriting process. In particular, a subjective analysis may allow lenders to inject intentional or inadvertent prejudicial bias in the underwriting process. Additionally, lenders may be too unwilling to reverse the conclusions of the scoring model, either because the subjective analysis itself is too much effort or because secondary-market purchasers may be unwilling to purchase loans that were originally "rejected" by the scoring model. As a result, many consumer advocates are skeptical that the benefits promised by mortgage-scoring programs will actually be realized.

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Thus, we are faced with the question of how to extract the benefits inherent in scoring models while ensuring that any follow-up subjective analysis is applied fairly and consistently. The challenge is to make sure that any overrides to the objective analysis promote rather than hinder credit-access objectives. This is fundamentally no different from what must already be done in the context of a manual mortgage underwriting process. In fact, the term "override" is a misnomer in the context of mortgage underwriting, as the scoring model is not designed to provide a definitive underwriting decision. To understand how subjectivity and "overrides" fit into the mortgage-scoring process, it is important to understand how scoring models are used and how they are not used.

The process of mortgage underwriting is essentially the same, whether it is done manually or electronically. An applicant's characteristics are compared to an explicit set of "ideal" standards (for instance, maximum expense and loan-to-value ratios, maximum number of delinquencies, and sufficient verified liquid assets). Although these standards are stated as the lender's "requirements," as a matter of practice, all applicants who exceed this ideal are approved, as are many who fall short. This implies that the lender's true minimum underwriting standard is lower than that required by the objective guidelines.

These objective standards are used to sort the applications into three groups that we characterize as Yes, No, and Maybe. Applications that possess all of the ideal characteristics (the Yes group) are almost universally approved. When they are rejected, it is usually because of a material change in the information that put them into the Yes group to begin with (for example, the applicant who was previously employed suffered a sudden layoff).

Similarly, the No group consists of applications for which no further analysis is necessary because they clearly represent too great a credit risk. Applicants in this group may have severe blemishes on their credit reports, very unstable income, or high proposed loan-to-value ratios. As a practical matter, the No group is generally quite small, as such individuals will rarely even complete the application process. Furthermore, even those few obvious No applications that do get processed will generally be treated as a part of the Maybe group and, therefore, will be reviewed again in a subjective manner.

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The remaining applications represent the vast group of Maybes, which must be reevaluated using more subjective analysis. At this stage, the underwriter attempts to ascertain whether the applicant's favorable characteristics are sufficient enough to outweigh any factors that fail to meet the ideal standard or if there are mitigating circumstances that offset the fact that the application does not meet the ideal standards.

Whether an automated scoring model or a manual underwriting model is employed, the purpose of the objective analysis is not to determine which applications should be approved and which should be denied, but rather to isolate those applications that require further subjective evaluation. Scoring models can improve the integrity and efficiency of the subjective process in several ways. First, automated systems can process many more applications much more quickly than manual analysis. They not only shorten the time lapse between application and loan closing, they also reduce the cost of processing relatively standard applications, freeing up an underwriter's time to focus on the Maybe group.

Second, scoring models are developed using objectively verified performance information. Therefore, they can do a more-effective job of assessing risk layering or considering the trade-offs among different factors. For example, is a 20 percent front-end ratio enough to offset a 45 percent back-end ratio? Is a spotless credit record over the past year enough to offset three 60-day mortgage delinquencies that occurred two years ago? While underwriters can make subjective assessments of such trade-offs, scoring models can do this quickly, objectively, and consistently across applications. The upshot is that scoring models effectively reduce the number of Maybes (generally moving many into the Yes group), once again allowing underwriters to focus their efforts on applications that really require human judgment.

Third, the purpose of the subjective analysis itself is different when used in conjunction with a scoring model. Subjective analysis is used only if the application contains factors that occur too infrequently in the general population for the scoring model to accurately assess, or if the application is missing some crucial information required by the scoring model. These same judgments must be made with a manual underwriting process as well. However, manual underwriting must also evaluate subjectively the impact of risk layering. In other words, manual underwriting involves the subjective consideration of both "irregular" and "marginal" applications, the latter of which can be sorted objectively by a scoring model. Thus, using a scoring model actually reduces a lender's reliance on subjectivity in making underwriting decisions.

As described above, the intent of a subjective review is to collect and weigh all of the relevant information in order to come to a Yes or No decision for each application that a scoring model identifies as a Maybe. Clearly, a subjective review does not "override" an underwriting decision made by the scoring model, as no such decision is actually made. Instead, the subjective review comes to a Yes or No underwriting decision that the scoring model explicitly recognized it could not make.

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This is in contrast to what typically occurs with the use of credit scores in making consumer credit decisions. With credit cards and other personal loans, an applicant's score, as reported by a credit bureau, is often the only factor a lender considers, and deviations from a predetermined cut-off are relatively infrequent. In the context of consumer credit, the term "override" is perfectly appropriate to describe, for example, a decision to lend to an applicant whose score does not meet the cut-off.

Mortgage lending decisions involve much more complex trade-offs than consumer credit, so lenders never rely solely on a credit bureau score. In addition, the opportunity to subjectively review the Maybe group is essential if lenders are to use scoring models to create greater access to credit. If the subjective process were eliminated or curtailed in a meaningful way, out of concerns about fairness or bias, the efficiency of a scoring model would be compromised. For example, if subjectivity were eliminated, lenders would be forced to either deny loans sorted into the Maybe group or lower the bar defining what constitutes a Yes. If the first path is taken, lower-income applicants would bear the brunt of this policy, because of their greater likelihood of falling into this group. On the other hand, if the Yes bar is lowered, then the cost of mortgage credit would have to increase to offset the poor underwriting decisions the scoring model would be forced to make. Once again, this would disproportionately affect lower-income applicants because their ability to purchase a home is affected more directly by mortgage pricing.

The real question, then, is how do we make sure that any subjective analysis is conducted both fairly and accurately. Consistency across applications is the key. Yet this is inherently difficult, given that these applications require subjective analysis precisely because they are unique and not completely comparable with others. As a result, a subjective process can mask illegal discrimination. Thus, the techniques lenders should apply to monitor subjective analysis for compliance with fair lending laws are the same with scoring models as they are with automated manual underwriting.

While there are differences in the supporting role played by subjectivity with scoring models versus manual underwriting, these differences give scoring models a unique and important role in expanding access to mortgage credit. Their superior ability to assess the layering of risks (especially in cases of marginal applications) significantly reduces the number of applications to which subjectivity is applied. Scoring models also greatly improve underwriting efficiency, in part by allowing lenders to focus their underwriting efforts on applications that are too unique for computers to analyze. Furthermore, these models provide a benchmark for lenders in conducting their subjective assessments, giving them better information with which to make their evaluations. In the end, lenders' ability to combine scoring models with subjective analysis will bring the full power of scoring models to promote fair lending and broader credit-market access.

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