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WHITE PAPER

REAL-TIME CONTROL AND DETECTION OF FAIR LENDING RISKS IN MORTGAGE ORIGINATION

Ivan H. Darius, Ph.D.

Founder & Co-CEO, Optimal Blue LLC - Plano, TX
idarius@optimalblue.com

David M. Skanderson, Ph.D.

Vice President, Charles River Associates - Washington, DC
dskanderson@crai.com

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The current regulatory climate demands that mortgage lenders place greater reliance than ever on up-front fair lending preventive controls.

SYNOPSIS

As long as mortgage lenders allow some degree of discretion or flexibility in their loan pricing, strong fair lending preventive and detective controls are required to avoid or defend against claims of discrimination, including inadvertent “disparate impact.” The automated controls afforded by modern pricing engine and loan origination system technology can make it much easier for a lender to control fair lending regulatory risk, while increasing operational efficiency. These systems can help a lender lock down pricing, enforce limits on discretionary adjustments, enforce and document approval authority for concessions or exceptions, limit the potential for errors, and provide the data and documentation needed to respond effectively to regulatory inquiries. Further, pricing engine and loan origination system technology can facilitate real-time monitoring for potential pricing disparities, and serve as the basis for an “early-warning” system that flags potential disparities as they start to develop. The current regulatory climate demands that mortgage lenders place greater reliance than ever on up-front fair lending preventive controls, rather than waiting to identify fair lending issues only after they have occurred.



INTRODUCTION

As long as mortgage lenders allow some degree of discretion, negotiation or flexibility in their loan pricing, strong fair lending preventive and detective controls are required to avoid or defend against claims of discrimination, including inadvertent “disparate impact.” Discretion may take the form of, among other things, concessions to meet a competitor’s rate offer or promote customer loyalty, waivers of points or fees, or flexibility in offering lender credits toward closing costs. In addition, inadvertent pricing errors or misquotes can create the appearance of statistical disparities on a prohibited basis. Indeed, even absent pricing discretion, the superficial appearance of statistical pricing disparities can increase the risk of regulatory scrutiny, with all the costs that may entail.

Technology can help lenders to efficiently reduce the risk of fair lending compliance issues. The automated controls afforded by modern pricing engine and loan origination system technology can make it much easier for a lender to control fair lending regulatory risk. Pricing engines and origination systems can help a lender to

- lock down pricing,
- enforce limits on discretionary adjustments,
- enforce approval authorities for granting concessions or exceptions,
- limit the potential for errors, and
- provide the data and documentation needed to both monitor fair lending risk and respond effectively to regulatory inquiries.

Further, pricing engine technology can facilitate real-time monitoring for potential pricing disparities, and serve as the basis for an “early-warning” system that flags transactions that may contribute to pricing disparities. The current regulatory climate demands that mortgage lenders place greater reliance than ever on up-front fair lending preventive controls, rather than waiting to identify fair lending issues only after they have occurred.

The government has alleged that lender policies or practices of allowing loan originators to make discretionary pricing adjustments had a discriminatory ‘disparate impact’.

SOURCES OF FAIR LENDING PRICING RISK

Fair lending continues to be a major enforcement priority of federal agencies, and numerous pricing-related fair lending enforcement actions have been taken by the U.S. Department of Justice (“DOJ”) in recent years. The Consumer Financial Protection Bureau (“CFPB”) has also made fair lending examination and enforcement a top priority. It is clear from the DOJ’s and CFPB’s public enforcement actions and pronouncements that a major focus of fair lending concern with respect to consumer loan pricing has been discretionary pricing adjustments. In most of the recent pricing-related fair lending settlements reached by the DOJ, the government has alleged that lender policies or practices of allowing loan originators to make discretionary pricing adjustments had a discriminatory “disparate impact,” which resulted in minority borrowers being charged more for a mortgage loan than similarly qualified non-Hispanic white borrowers. Under the disparate impact theory of discrimination, a lender’s facially neutral policies or practices could be found to have a “discriminatory effect” if statistical analysis shows that they have a disproportionate adverse impact on a prohibited basis, unless the policies or practices can be shown to have a legitimate business justification.

The loan originator compensation rules under Regulation Z that were implemented in April 2011 have helped to reduce fair lending risk in pricing, but they have not eliminated it. Pricing discretion can result in fair lending risk even if loan originators are not compensated based on terms and conditions of a loan, and even if there is no intent to discriminate, regardless of who in the organization has the authority to grant discretionary pricing adjustments.

Many mortgage lenders find it necessary to permit some degree of discretionary pricing concessions for such purposes as meeting a competitor’s rate quote, rewarding customer loyalty, renegotiating a rate after rate lock, dealing with lock extensions, addressing customer service issues or operational errors, or filling mandatory loan commitments to investors. In addition, though it is increasingly uncommon for lenders to allow



“up-charging” relative to posted rates, pricing premiums (or “overages”) can occur as a result of granting the borrower the lowest available rate that does not require the borrower to pay discount points. In such situations, there may be room for discretion in using the premium revenue to grant credits to cover the borrower’s closing costs. Such discretion is not inherently bad or illegal, but it does elevate a lender’s fair lending compliance risk exposure. If the exercise of discretion has the effect favoring one protected demographic group over another, whether that result was intentional or not, enforcement agencies might view it as illegal discrimination.

Other factors consistently cited by the DOJ in recent fair lending settlements as contributing to alleged pricing discrimination have included a lack of clear policies and controls governing the exercise of discretion, documented business rationale for discretionary pricing adjustments, or effective fair lending monitoring and corrective action. These issues can be exacerbated by a lack of complete and accurate data that is required to examine and explain pricing disparities, which may appear in the incomplete set of loan data often relied upon by regulatory examiners.

Even putting aside the effects of discretion, statistical pricing disparities can arise if a lender’s branches or originators have different pricing levels or fees and sell into the same markets. Similarly, disparities can arise if branches or originators serving markets with high minority concentrations tend to have higher pricing levels or fees than branches or originators serving markets with low minority concentrations. Controlling fair lending compliance risk in the face of these complexities and market realities can be costly and cumbersome unless technology tools are exploited to automate the necessary preventive controls.

There are quite a few factors that can be reduced to rules and procedures within pricing engines or origination systems.

AUTOMATING FAIR LENDING PREVENTIVE CONTROLS

What fair lending risk drivers are amenable to automated preventive controls? There are quite a few factors that can be reduced to rules and procedures within pricing engines or origination systems. In addition, with a little innovation some of the discretionary factors can be controlled and monitored as described below.

Eliminate errors and inconsistencies: Consistency is at the core of fair lending: ensuring that each borrower receives the correct pricing, based on their qualifications, loan parameters and other relevant business considerations. Pricing disparities can arise from inadvertently undercharging some borrowers and overcharging others, if the errors happen to be correlated with a prohibited basis (such as race, ethnicity or gender). When the pricing process is not automated end to end, errors can arise both at the time rates are locked, and as loans are re-priced or re-locked due to changing circumstances prior to closing. Pricing engines eliminate the need for paper rate sheets, manual pricing calculations, and the need to manually check and re-check for adherence to pricing policies and applicable regulations each time a change occurs. Automation ensures that, for example, no loan-level pricing adjustments are missed or incorrectly applied and any available pricing premiums are handled consistently with the lender's pricing policies (e.g., either consistently retained by the lender or consistently rebated to the borrower to the extent possible). Automation of the pricing process also ensures that inadvertent errors or policy violations are flagged and addressed prior to closing.

Enforce pricing policies: Policies governing pricing discretion and other elements of pricing only work effectively if controls exist to enforce them and monitoring is performed to ensure compliance. Workflow built into a pricing engine can be used to flag lock requests that exceed an originator's or branch manager's authority, force the input of appropriate justifications for concessions or exceptions, and automatically route the request to the appropriate



manager or executive for approval. Further, the system workflow can generate a “data trail” that can be used to generate reporting to executive and compliance management regarding discretionary pricing. Such reporting can help to ensure that the cumulative frequencies and amounts of concessions or exceptions stay within established tolerances.

Comply with anti-steering regulations: Automation allows the loan originator to be presented systematically with the set of viable loan program and pricing options available for each borrower’s situation. This not only creates efficiencies for the originator, but reduces reliance on the originator’s ability to identify all possible options for each borrower, and helps to avoid situations in which latent biases may cause an originator to “steer” borrowers to particular products – either on a prohibited basis, or simply to enhance profits. Data on the options available or considered, and the rationale for the ultimate product selected, can be stored in the pricing engine or origination system and can be produced to regulatory examiners as needed to defend against potential steering concerns.

Document pricing decisions: Workflow steps can be built into an origination system or pricing engine to guide the originator through various process and compliance checklists, and to prompt the originator or other staff to input explanations for pricing decisions or changes along the way. If concerns about statistical pricing disparities should arise later, such documentation can help to justify the pricing of each loan to regulatory examiners without having to undertake extensive manual reviews, and to determine whether or not pricing differences are the result of business-justified decisions.

Retain complete and accurate data: Fair lending statistical analyses are often hampered by incomplete or inaccurate data. However, data input controls and validation checks can be automated to reduce errors in data capture, which otherwise could lead to pricing errors and an inability to explain pricing disparities on a statistical basis. Pricing engine systems also can store every data element and every pricing



adjustment that went into pricing each loan. Furthermore, as the cost of data storage has declined, it has become possible to store data on all available programs and pricing that were available at any point of time in the past, which can help in defending against claims of improper steering.

Demonstrating controls to regulatory examiners: Aside from helping to enforce and monitor compliance, an automated system of pricing controls can provide the means to easily demonstrate the lender's control environment to regulatory examiners, who are interested in understanding the workings of a lender's "Compliance Management System."

THE POTENTIAL OF REAL-TIME MONITORING

More and more, originators are starting to treat the production of a loan as a true manufacturing process, which it ultimately is. In many industries approaches such as "Total Quality Management" (TQM), have become a key to survival in a world less and less tolerant of defects. Similar approaches are increasingly being applied to the loan manufacturing process. The idea of a measurably correct process yielding a quality product is gaining a foothold, as it did in manufacturing industries several decades ago. A central idea of approaches like TQM is that if you put a quality process in place (i.e., one that meets defined specifications) and you measure the process throughout the "manufacturing" steps, the outcome should also meet the specifications. In mortgage terms, the relevant specification is, in broad terms, compliance: if you want to produce "compliant" mortgages (or produce mortgages in a "compliant" way), then you lay out a process (the manufacturing steps) that you are convinced will produce that result, and you measure whether what is actually happening matches the process you defined.

Apart from a few discretionary steps, the pricing of a loan can be a controlled and precise process. When the process is fully automated, which it rarely is, controls can be put in place to ensure and document compliance with both internal policies and regulatory requirements. It is in the discretionary steps, mostly having to do with the borrowers' choices and constraints, where lenders usually need more controls and monitoring.

In the past fair lending monitoring has been performed exclusively *ex post facto*, leaving the lender with a set of potential compliance issues in either the latter stages of the origination process or after closing the loan. For example, disparities in average pricing between minority and non-minority race/ethnicity groups typically become evident only well after loans have closed and loan data has been aggregated for analysis – which may occur several months or longer after the loans were originated. At that point correction of the disparity issues and the pricing process becomes difficult and costly, even if no legal or enforcement action has (yet) sprouted from the issues.

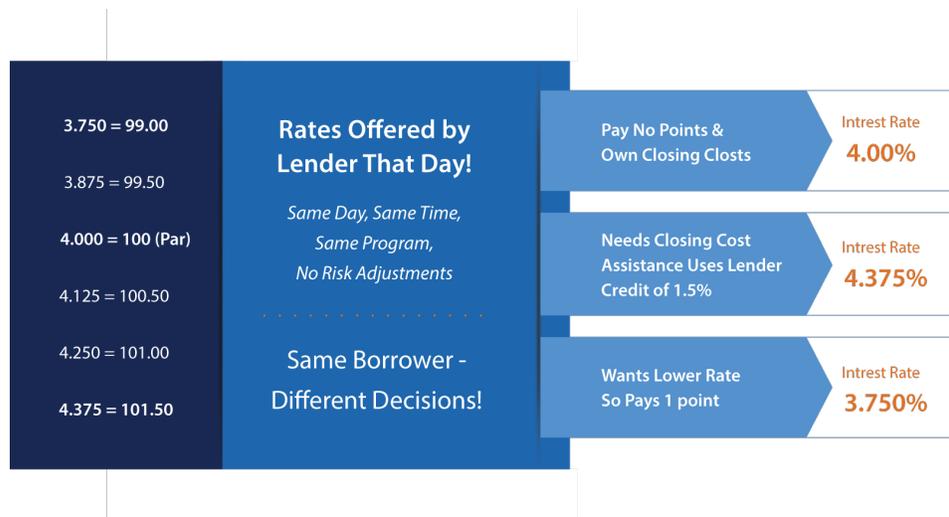
The inherent challenge in implementing real-time monitoring in the context of fair lending is that the risk of potentially discriminatory pricing disparities is typically measured based on the cumulative effects of pricing decisions on different demographic groups, and is typically measured based on an after-the-fact statistical analysis of hundreds or thousands of closed loans. Further, evaluating whether pricing disparities exist requires using complex statistical analysis to account for the many non-discriminatory credit- and product-based loan-level pricing adjustments, which may create a superficial appearance of pricing disparities. While *ex post* monitoring should not be dispensed with, real-time loan-by-loan monitoring and control process can help to anticipate and mitigate potential issues. A real-time monitoring system can be a first step in signaling a potential pricing issue, even though it may not be sufficient to determine whether issues may arise after aggregation of loans over time.

A real-time monitoring system would have to measure the effect of a single loan on the statistical aggregation of the resulting population of loans. This is a difficult problem because of several aspects: first, interest rates and loan prices can be different because of borrowers' financial situations and choices; second, different markets or branch locations may have different competitive landscapes and therefore different rates. A different rate doesn't necessarily translate into a fair lending issue. So, to be efficient and useful, a real-time monitoring system has to be able to properly compare rates as they are

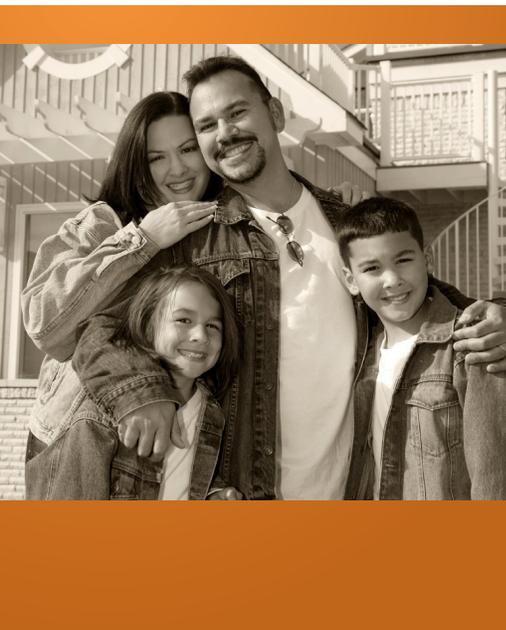
locked, and clearly flag outliers for review. For example, the flagging of outliers could use a real-time visual presentation of the lock being contemplated in the context of other locks already made over some recent period of time, accompanied by tools to highlight and halt potentially policy-violating or risk-increasing choices.

Determining what constitutes an “outlier” in this context requires some interpretation, and a fair amount of detailed computations. In order to determine what constitutes a pricing outlier, rates charged to different borrowers need to be converted to a comparable, “apples to apples,” basis. Specifically, rates need to be adjusted for the effects of borrower choices or preferences (e.g., the desire or need to receive credits towards closing costs in exchange for a higher rate, or the willingness to pay discount points to lower the rate). As illustrated in Figure 1, various interest rates are available to any

Figure 1
Various Interest Rates Are Possible for Any Given Borrower



given borrower for any given loan program, at any given point in time, depending upon his or her needs and preferences; and the fact that ostensibly identical borrowers select different rates on this basis does not mean that they were treated differently in the sense that should be relevant to fair lending compliance. Ideally, the effects of such individual-specific choices should be filtered



out of a fair lending evaluation. In addition, rates charged to different borrowers need to be properly adjusted to account for the effects of different credit profiles (e.g., taking out the effects of different credit scores, loan-to-value ratios, owner-occupancy status, and various other loan characteristics and risk attributes), because such objective differences do not reflect differential pricing that would be of concern from a fair lending perspective.

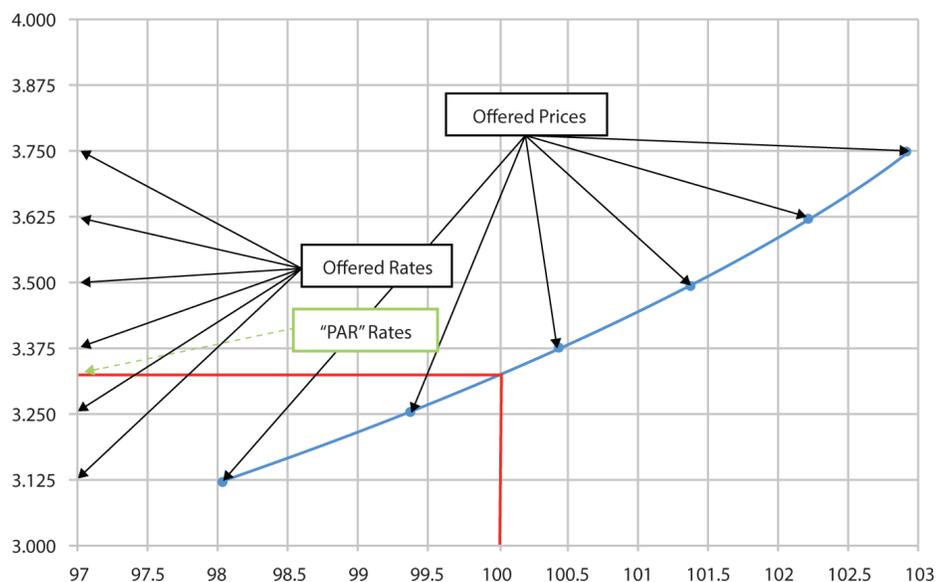
Because the relevant pricing adjustments for risk factors and loan parameters are contained within a pricing engine, those data points can be used to convert, or “normalize,” each borrower’s rate to a comparable basis – as if they had identical credit profiles and loan parameters, paid the same amount of discount points, etc. (the accompanying sidebar explains in simplified terms how this normalization can be performed). Once different borrowers’ rates are converted to an equivalent basis, any outliers would reflect only rate or points choices not dictated by “normal” rate-price dependencies as they are defined in the pricing guidelines for the loan products.

The kinds of choices that produce outliers after that normalization are the ones lenders should focus on monitoring closely for fair lending risk. When outliers are timely reviewed and corrected as appropriate, or do not occur in the first place, there is a much greater chance that any superficial statistical disparities that may appear in the aggregated loan data will be justifiable based on sound business reasons. In the terms of our TQM analogy above, the pricing resulting from the mortgage manufacturing process is more likely to meet the compliance specifications built into the automated workflow.

SIDEBAR: Calculation of Equivalent Rates

For any loan at any given point in time, the interest rate that is set corresponds to a given loan price (how much the lender is effectively paying for the loan): the higher the rate, the higher the price paid by the lender. The trade-offs between rate and price can be described graphically. Figure 2 illustrates a typical rate-price dependency, or trade-off curve, for a given loan product and lock period, at a given point in time. As can be seen in the chart, the actual “par” rate corresponding to a loan price of 100.00 is not being offered in this case, because the rate associated with a par price does not correspond to a 1/8th interest rate increment. As a result, any rate offered would either have a price less than 100.00 (borrower pays origination points) or greater than 100.00 (generating a premium so that the borrower might receive a rebate towards closing costs). Nevertheless, an interest rate corresponding to a par loan price exists in theory, and can be computed mathematically – as can the rate for any given price along the horizontal axis of the chart.

Figure 2
Price vs. Interest Rate Trade-off Curve



The rate ultimately received by the borrower in discussion with the loan originator typically will depend on whether and to what extent the borrower has funds to cover closing costs. A borrower with sufficient cash for closing could select a lower rate than a borrower who needs the lender to cover some or all of the closing costs. Among other things, the rate will also depend on whether the borrower is willing and able to pay discount points to reduce the interest rate, and may also depend on any discretionary pricing adjustments that are made. Whatever the choices of the borrower and/or loan originator regarding the interest rate on the loan and the amount of points to be paid, it is possible to calculate the effects of these choices on the rate offered. In a simple scenario, in which we ignore risk-based pricing adjustments, these adjustments can be computed by following along the blue curve in Figure 2, effectively translating a price difference into a rate difference. Doing that results in what we will call the “Equivalent Rate” for a given loan price. We refer to the Equivalent Rate as representing the effective interest rate that two borrowers would pay if their loans were normalized to the same price using the applicable rate/price trade-off curve.

As a simple example, consider the case illustrated in Table 1, in which two borrowers have identical loan

Table 1

Borrower	Quoted Rate	Loan Price	Price Delta	Rate Delta	Equivalent Rate
Borrower 1	3.250	99.371	0.629	0.074	3.324
Borrower 2	3.375	100.430	-0.430	-0.050	3.324

products and risk characteristics, and in which no pricing discretion is exercised. Borrower 1 chooses a rate of 3.250% and pays 0.629 points, while Borrower 2 chooses the higher rate of 3.375% and receives 0.430 points as a credit toward closing costs. By adjusting the two rates to a common 100.00 price based on the rate-price trade-off indicated in Figure 2, we translate the two rates to a “common denominator” and find that, in effect, the two borrowers incurred the same cost for their loans, as shown in Table 1.¹

In this example, even though Borrower 2 pays a higher interest rate than Borrower 1, their identical Equivalent Rates indicate that there was no differential pricing between the two, assuming that 100% of the loan price premium generated by the 3.375% rate selected by Borrower 2 is returned to the borrower as a credit toward closing costs, and that Borrower 1 actually receives the full rate reduction permitted by the 0.629 in points paid.

As another example, we can compare the same Borrower 1 to Borrower 3, who we assume obtained the same loan product at the same time and had the same risk characteristics as Borrower 1, but received the same interest rate while paying zero points. This example is illustrated in Table 2. In this example, the fact that Borrower 3 paid zero points for a rate of 3.250% means that he or she, in effect, received a pricing concession equivalent to 0.629 points. In other words, the lender effectively paid a par price for a loan that was worth less than par, as indicated by the fact that 3.250 falls below the zero-points rate indicated by the blue line in Figure 2. As a result, when we translate the two borrowers' loans to an Equivalent Rate basis, we see that Borrower 1 effectively paid more than Borrower 3 for the same loan.

Table 2

Borrower	Quoted Rate	Loan Price	Price Delta	Rate Delta	Equivalent Rate
Borrower 1	3.250	99.371	0.629	0.074	3.324
Borrower 3	3.250	100.000	0.000	0.000	3.250

Similarly, risk-based pricing adjustments also can be taken into account in calculating Equivalent Rates. Risk-based pricing is usually expressed as an adjustment to the “base price.” In general, these adjustments are based on the risk characteristics of the borrower, collateral property and loan terms. Both the general level of pricing and the risk-based pricing adjustments tend to vary from lender to lender, and can vary across loan products. In addition, a given lender may have pricing levels that vary by branch or geographic area. Furthermore, the level of market rates and the market trade-offs between rates and prices change at least daily. Taking all of the relevant pricing adjustments into

account to put different loans in terms of a “common denominator” for comparison is, therefore, a complex process that requires complete and accurate data; but such calculations are possible based on data stored in pricing engine systems.

CONCLUDING COMMENTS

In addition to reducing the potential for unjustified pricing differences among borrowers and increasing operational efficiency, the sort of pricing control process described in this article provides the lender a way to demonstrate to regulatory examiners that an effective process is in place to both limit the potential for fair lending issues, and detect and correct any potential fair lending risk issues as early as possible. Real-time monitoring will not eliminate the need for the kinds of *ex post* compliance monitoring and reporting expected by regulators, but it will allow the lender to detect potential issues early enough that they can be dealt with before they grow into serious compliance issues.

This is not a far-out fair lending vision of the future. The technology already exists for this sort of real-time control and monitoring of fair lending pricing risk. Pricing engines have most, if not all, of the necessary data to “normalize” rates to a comparable basis and to filter out and flag potential anomalies. This can lead to a much more controlled environment and hence a more compliant outcome, as well as improved operational efficiency.

¹ The “Price Delta” is the difference between the price the lender paid for the loan and a par price of 100.00. The “Rate Delta” is the change in rate associated with the Price Delta when moving along the blue curve shown in Figure 2. In this example, for Borrower 1, the 0.629 difference between the actual loan price and 100.00 equates to a rate increase of 0.074. For Borrower 2, the -0.430 price difference relative to 100.00 equates to a rate decrease of 0.050.

ABOUT THE AUTHORS



Ivan Darius is Founder & Co-CEO of Optimal Blue LLC, a provider of managed-content, enterprise lending services that help mortgage banks, community banks and credit unions navigate the complex mortgage process from capital markets, to point-of-sale, and back. He can be reached at idarius@optimalblue.com.



David Skanderson is a Vice President at Charles River Associates, an economic consulting firm, where he assists consumer lenders by performing statistical analysis of consumer finance regulatory and litigation matters, with a particular focus on fair lending. He can be reached at dskanderson@crai.com.