HMDA Data: Identifying and Analyzing Outliers

Data collected under the Home Mortgage Disclosure Act (HMDA)[1] continue to reveal that certain minorities are more likely to receive high-cost mortgages than other racial or ethnic groups. A 2006 Federal Reserve study relying on HMDA data from 2005 found that 55 percent of African-Americans and 46 percent of Hispanics, compared to only 17 percent of non-Hispanic whites, received "higher-priced" conventional home purchase loans. The study indicated that borrower-related factors, such as income, loan amount, and gender, accounted for only one-fifth of this disparity.[2] The troubling trends continue, as the Federal Reserve's analysis of 2006 HMDA data again found that African-American and Hispanic borrowers were more likely than non-Hispanic white borrowers to obtain higher-priced loans.[3]

The FDIC is strongly committed to protecting consumers and ensuring adherence to the letter and spirit of the fair lending laws, including the Equal Credit Opportunity Act (ECOA) and the Fair Housing Act (FHA),[4] by the banks we supervise. Information collected under HMDA, including pricing data,[5] serves as a useful tool to identify potential discrimination and to support implementation of the fair lending laws. As discussed in a *Supervisory Insights* article in summer 2006,[6] FDIC examiners conduct a fair lending examination in conjunction with each scheduled compliance examination—following Interagency Fair Lending Examination Procedures.[7]

While the HMDA pricing data do not include underwriting criteria (such as loan-to-value ratios, debt-to-income ratios, or credit scores) necessary to reach conclusions about discriminatory lending, the data can be used to identify situations that indicate a need for further review. To detect illegal discrimination using HMDA data, a series of careful steps are required. This article describes the process the FDIC uses for loan review and analysis at institutions that, based on an initial screening of HMDA data, have pricing practices that may be discriminatory—outlier institutions. The article offers suggestions to bankers and examiners gleaned from analyses of two years of HMDA pricing data.

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[1] Home Mortgage Disclosure Act, 12 U.S.C. § 2801, et seq.

[2] Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner, "Higher-Priced Home Lending and the 2005 HMDA Data," *Federal Reserve Bulletin*, September 2006, at A159.

[3] Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner, "The 2006 HMDA Data," *Federal Reserve Bulletin*, September 12, 2007, p. 38.

[4] Equal Credit Opportunity Act, 15 U.S.C. § 1691et seq., and Fair Housing Act, 42 U.S.C. § 3605 et seq.

[5] Beginning with the 2004 HMDA data, institutions have been required to report data on certain higher-priced loans. For the purposes of HMDA, a higher-priced first lien loan has an interest rate of 3 percentage points or more above the yield for a Treasury security of comparable term. A higher-priced junior lien has an interest rate 5 percentage points or more above the Treasury yield. Lenders are also required to report whether loans are covered by the Home Ownership and Equity Protection Act (HOEPA). Under HOEPA, special restrictions and disclosures are required for first lien refinance loans that have an interest rate of 8 percentage points or more above the yield for comparable Treasury securities, as well as junior liens that have an interest rate of 10 percentage points or more above the Treasury yield.

[6] The summer 2006 issue of *Supervisory Insights* contains a discussion of how the HMDA data are used in the fair lending examination process, as well as a description of the new reporting requirements under the HMDA, which were effective with the 2004 data. See "From the Examiner's Desk . . . Two Years After: Assessing the Impact of the New HMDA Reporting Requirements," *Supervisory Insights*, Vol. 3, Issue 1, https://www.fdic.gov/regulations/examinations/supervisory/insights/sisum06/sisummer06-article4.pdf.

[7] Incorporated in the FDIC Compliance Examination Handbook. See www.fdic.gov/regulations/compliance/handbook/html/chapt04.html.

continued from pg. 33

Using the HMDA Data to Evaluate Fair Lending Concerns

Initial Screening and Statistical Analysis

Once the Federal Reserve Board releases HMDA data for a particular year, FDIC examiners, economists, fair lending specialists, and policy analysts work together to identify institutions that exhibit a greater risk of fair lending violations.[8] As part of this work, the FDIC uses the HMDA pricing data to identify specific institutions that demonstrate any of the following characteristics:

- A disparity between the average annual percentage rate for protected classes (minorities and women) and nonprotected classes;
- A high incidence of higher-priced mortgages for protected classes; and
- A high incidence of HOEPA loans for protected classes.

FDIC staff conducts statistical analyses of the data to identify institutions that have unusually high pricing disparities between majority and minority groups. Each outlier institution is then notified that a review of HMDA data has raised questions about its pricing of home mortgage loans and is asked to provide information about its loan pricing policies and procedures, such as rate sheets and a description of any discretionary pricing policies.

The FDIC uses this additional information to help determine whether a fair lending review of any of the outlier banks will be required. For example, some banks submit documentation showing that they price loans based on nondiscretionary factors, such as rate sheets that indicate a specific rate or rate spread based on borrower credit scores or loan amount. In this case, an examiner will review a sample of loan files to determine if pricing is indeed based on the criteria provided. If the review confirms that this is the case, the matter is closed. If the file review shows that the bank does not use rate sheets, or examiners find discrepancies between rates charged to borrowers and the rate sheets, a more intensive fair lending review is generally required.

Criteria Interviews

If a more in-depth review of an outlier bank is needed, fair lending specialists and examiners conduct "criteria interviews" with bank management. The primary purpose of the criteria interviews is to gain an understanding of the parameters loan officers use to make pricing decisions. Such criteria might include credit score, loan-to-value (LTV) ratio, debt-to-income ratio, loan amount, collateral, and market competition. The criteria interviews help examiners and fair lending specialists determine how banks put their written policies into practice.

The information gathered in the criteria interviews must be comprehensive and accurate, because it drives our statistical analysis and leads to our conclusions about whether pricing discrimination exists. Accordingly, it is critical that the interviewed bank personnel have in-depth operational knowledge of the loan products being discussed and can explain who makes pricing decisions and how they are made. The FDIC uses the information the bank provides during the criteria interviews to determine which factors and variables to use in the statistical analysis that we develop for the bank—each statistical analysis is customized

[8] Because of the time necessary to report and compile the data, it takes approximately eight months before the federal financial institution regulators have all the HMDA data for the previous calendar year. The 2004 aggregate data were made available to the regulators in September 2005. The 2005 and 2006 aggregated data were released in August 2006 and August 2007, respectively.

on the basis of pricing criteria the individual bank provides. As a result, the questions we ask in the criteria interviews are specific to each bank.

File Reviews and Follow-up Statistical Analysis

After the criteria interviews are completed—and the analysis framework is developed in consultation with Washington office specialists and economists—examiners gather data from each loan file relevant to the bank's pricing criteria. A statistical analysis is then performed that incorporates the pricing criteria the bank supplied in the interviews and data gathered through the file review. To address the pricing criteria a bank uses, each statistical analysis is developed individually for the bank in question. Our analysis may show that once we control for various nondiscretionary pricing factors that are not included in HMDA data, there is no longer evidence that discrimination in pricing exists.

Notification to Bank of "Reason to Believe"

If the analysis indicates that the difference in pricing cannot be explained by nondiscretionary pricing policies, the FDIC formally notifies the bank that we have reason to believe that discrimination in loan pricing exists.[9] The bank is advised of the type of loans for which the FDIC has identified potential pricing discrimination and the racial, ethnic, or gender group affected by the discrimination. The bank is given an opportunity to respond and submit any additional information it would like the FDIC to consider in determining whether the laws that prohibit lending discrimination have been violated. Through this process bank management sometimes realizes that not all of the pricing criteria actually used by the bank were provided to the FDIC during the criteria interview and will cite new criteria that should be included in a statistical analysis.

To decide whether to consider any additional pricing criteria, the FDIC must assess the credibility of the bank's response. Among other things, the FDIC reviews the bank's written policies and guidance to determine if they support management's assertion that additional pricing criteria should be considered in our statistical analysis.

Referral to the Department of Justice

If the FDIC finds that the information the bank submits does not convincingly refute the preliminary finding of discrimination, we finalize the examination and refer the case to the Department of Justice (DOJ). (See text box, "Department of Justice Referrals.") The DOJ may conduct its own investigation and go forward with a case, or it may defer to the FDIC's supervisory and enforcement process.[10]

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[9] The analysis identifies statistically significant disparities between prices charged to target and control group borrowers. "Statistically significant" is defined as a significance level of 5 percent or better. This significance level means that there is a 5 percent or lower probability that an observed disparity would occur if there were no underlying systematic difference in treatment (that is, differences were truly random). Economists and statisticians consider statistical significance levels of 5 percent or better to be a strong indicator that the observed disparity is not likely to be due to random chance. Many courts also accept a statistical significance level of 5 percent as sufficient to rule out chance. See *Waisome v. Port Auth.*, 948 F.2d 1370, 1376 (2d Cir. 1991).

[10] The DOJ's independent investigation may be broader in scope than that of the FDIC. The FDIC's evidentiary threshold for referral is lower than the evidentiary standard for the DOJ to proceed with an action. The "reason to believe" standard required for an FDIC referral does not require that the FDIC have sufficient evidence to prove a violation with certainty. Instead, a "regulatory agency has reason to believe that an ECOA violation has occurred when a reasonable person would conclude from an examination of all credible information available that discrimination has occurred." See *Policy Statement on Discrimination in Lending*, April 15, 1994, 59 FR 18266-01, p. 18271.

continued from pg. 33

Department of Justice Referrals

Pursuant to the ECOA statute, agencies "*shall refer* the matter to the Attorney General whenever the agency has reason to believe that one or more creditors has engaged in a pattern or practice of discouraging or denying applications for credit in violation of section 1691(a) of this title." [Emphasis added] 15 U.S.C. § 1691e(g).

Lessons Learned

The FDIC's review of the pricing data reported for 2004 and 2005 has not only enabled us to resolve discriminatory pricing practices; it has also helped us refine the process we use to obtain and analyze pricing data. We have identified several practices by banks that make the review and analysis of pricing data more efficient for both banks and the FDIC.

Removing discretion in pricing decisions reduces risk of discrimination. When a bank provides clear guidance to loan officers on its pricing policies, the risk that loan officers will treat borrowers differently for inappropriate reasons is reduced. When a bank uses rate sheets and loan officers are not allowed discretion in pricing, the pricing policies of the bank are transparent and the risks of discriminatory pricing are further reduced. Allowing discretion in pricing decisions introduces more risk that illegal discrimination will occur, although it does not signify conclusively that pricing discrimination exists.

Documentation minimizes questions. Beyond providing clear pricing guidance, banks that clearly document how pricing decisions are made generally will have expedited file reviews. Examiners sometimes find that although the bank may have stated clear pricing policies in the criteria interview, the loan files lack evidence of consistent use of the policies. For example, a bank may report during criteria interviews that its loan officers rely on the borrower's credit score to make a pricing determination, but the file review finds no credit reports in many of the loan files.

Similarly, the bank may report that if a customer has frequently been more than 60 days late on any credit line with the bank, it will require a higher rate on a subsequent mortgage. This bank's loan files should contain information that documents the delinquencies, such as a copy of the customer's file printed from a loan officer's computer screen at the time the bank was underwriting the loan. If such verification does not appear in the loan file, it is extremely difficult to re-create that information during the file review. In these situations, the FDIC must assess the bank's credibility, as well as the adequacy of management controls and oversight.

Comprehensive information enables accurate analyses. Obtaining clear information about a bank's practices is key to the FDIC's ability to conduct fair lending reviews. The FDIC's goal in loan reviews is to understand how loans are priced, whether loan officers or other staff members have discretion in assigning an interest rate, and exactly where discretion lies. To understand the bank's lending process, examiners need to have access to any pricing guidance the bank provides to its loan officers and to be informed of any other factors that loan officers incorporate in making pricing decisions.

Examiners must understand the criteria that are used to make pricing decisions and how those criteria work in practice. For example, if a bank prices loans differently in different markets, examiners will need to know how the markets are delineated, why they were chosen, and how prices differ across markets. Obtaining this information is necessary because we sometimes must run a separate analysis for each market

to incorporate the different pricing criteria a bank uses in different markets.

We often have to ask bank staff for additional details in order to ensure that we have complete information. For example, a bank may state that it uses both the borrower and co-borrower credit scores in establishing a loan rate. To incorporate these criteria into a statistical analysis, the FDIC needs to know how much weight is given to the scores and how each of the scores is used (e.g., higher score only, average of the two scores). Similarly, if a bank states that it uses a credit score and LTV ratio to determine a rate, we need to know what credit score range and what LTV range lead to what rates. It is very important to obtain this type of information early in the process so that we have access to all the criteria a bank uses before performing the file review and any statistical analysis. If we must revise our approach to accommodate new information obtained later in the process, both the FDIC and the bank will have to expend additional resources.

Bank management should be very clear during criteria interviews about the factors used in pricing decisions—including a comprehensive description of all the factors used in pricing loans. Some banks have hired third parties to perform statistical analysis of their loan data after being notified of FDIC's preliminary findings of discrimination. If a bank chooses to do this, it is imperative that the bank provide consistent information to the FDIC and the third party. Problems can arise when third parties are provided different data sets than were provided to the FDIC or are told of different criteria that went into pricing decisions than were communicated to the FDIC.

Monitoring of pricing decisions is essential. Regardless of whether banks allow pricing discretion, periodic monitoring of pricing decisions is a key component of an effective compliance management program. One bank's guidelines outlined pricing policies that eliminated discretion, but when the bank analyzed its own data it found that interest rates given to similarly qualified borrowers varied tremendously. Going forward, the bank directed its compliance officer to review all loans for compliance with the applicable rate sheet before the loans would be funded. The bank coupled this monitoring with loan officer training on pricing guidelines. Another bank, which allows discretion in pricing, has its compliance officer flag all higher-priced loans and discuss the reasons for the pricing decision with the appropriate loan officer.

Conclusion

Analysis of HMDA data for fair lending purposes can be time-consuming for both an institution and the FDIC. We often find that only an in-depth analysis can determine whether pricing differentials are due to discriminatory practices or other variables. The FDIC is committed to a process that is fair and applied consistently across lenders. To work toward these goals, our review of 2006 HMDA data will direct the majority of resources to institutions that show the greatest risk of discriminatory practices while incorporating the lessons learned from previous reviews.

It is our responsibility as a financial regulator to ensure that the unfairness resulting from discriminatory pricing is addressed. When discriminatory pricing practices exist, they are usually caused by ineffective compliance management at the bank. In the absence of clear pricing criteria, pricing may be driven in part by lenders' biases, resulting in illegal discrimination. The banks where we have seen the most problems allow discretion in pricing and fail to monitor the pricing process.

The FDIC is continually assessing our supervisory practices for identifying fair

HMDA Data

continued from pg. 37

lending violations. One of our goals is to maximize the value of the HMDA data to ensure effective examinations and enforcement. We encourage the institutions we supervise to continue to provide us with feedback and ideas on how to make our fair lending reviews as efficient as possible, while ensuring that HMDA data continue to help root out any discriminatory credit practices.

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