

ECONOMIC COMMENTARY

Federal Reserve Bank of Cleveland

Making Judgments About Mortgage Lending Patterns

by Robert B. Avery

In the mid-1970s, there was considerable public debate about whether financial institutions engaged in redlining—the practice of refusing to lend to, or limiting the number of home mortgage loans made in, poor or predominantly minority neighborhoods. Congressional concerns about such practices were a major factor in the passage of the Home Mortgage Disclosure Act (HMDA) in 1975 and the Community Reinvestment Act (CRA) in 1977.

Concerns about redlining have resurfaced in the past few years as a result of increased CRA-related protests of bank applications and several investigations of alleged discrimination in mortgage lending patterns in several cities.¹ Partly as a result of these concerns, Congress recently enacted a law that substantially expands several features of the HMDA and CRA.²

The HMDA requires financial institutions to publicly disclose the number and dollar amount of their mortgage loans by geographic location. Due to recent changes in the law, institutions will be required to report the distribution of their mortgage applicants by sex, race, and income within each geographic area they serve. HMDA reporting requirements will also be extended to previously uncovered mortgage companies.

The CRA establishes regulatory processes to encourage institutions to meet

the credit needs of their entire community, including low- and moderate-income areas, in a manner consistent with safe and sound practices. Evaluation of an institution's record in meeting such needs is a routine part of the bank examination process and is used as a factor in deciding the merits of applications for bank charters, deposit insurance, mergers, branches, and for other regulatory actions. CRA compliance ratings and a summary of the compliance examination now will be made public for all covered institutions.

In addition, federal regulators issued a joint CRA statement on March 21, 1989, encouraging financial institutions to expand their management of, and attention to, CRA responsibilities, including procedures for information dissemination and recordkeeping.³

Before any further extensions to the HMDA and CRA are undertaken, it would be desirable to evaluate the existing statistical evidence on redlining and to determine whether the weight of evidence is strong enough to reach definitive conclusions. This paper evaluates the general methodology used in some of the statistical studies. These research methods, which are employed to examine overall lending patterns across neighborhoods, are then compared with compliance procedures followed by regulators concerned with the performance of individual financial institutions.

Studies examining whether mortgage lenders discriminate against borrowers in minority and lower-income areas have traditionally analyzed the relationship between aggregate annual mortgage lending within a neighborhood and the neighborhood's characteristics. Regulatory-agency compliance examiners make judgments about the mortgage lending procedures adopted by individual lenders. The differences in these two methods of evaluation are not easily reconciled.

■ A History of Redlining Concerns

The renewed interest in redlining and CRA-related issues follows a considerable lull in regulatory activity in the early 1980s. For example, only one of the 2,337 consumer complaints received by the Federal Reserve Board in 1984 was CRA-related. Similarly, only three requests for regulatory action by the Federal Reserve were protested on CRA grounds in 1984, and more than 98 percent of the institutions examined by the Federal Reserve in that year received satisfactory performance ratings for CRA compliance. The records of other CRA regulators are comparable to those of the Federal Reserve.

Several factors could explain this relatively tranquil period. Community development corporations and other similar organizations were established in the early 1980s with the intent of providing financing and banking assistance to special areas of need within low- and moderate-income neighborhoods. It is also clear that the CRA has had a significant educational effect. More banks now appear to have a greater awareness of minority and low-income business opportunities and are better equipped to seek this business through enhanced advertising and marketing programs.

Despite these apparent signs of success, it is difficult to tell if the redlining issue has been resolved. A large number of dramatic changes took place in the structure of the consumer lending market between 1975 and 1989 that make it very difficult to isolate the effects of the CRA. Many of the depository functions of banking institutions were deregulated over this period, and branching restrictions were substantially eased. Savings and loan associations (S&Ls) were given expanded lending powers, usury laws were lifted, and nonbank lenders, such as General Motors and General Electric, became major players in the consumer market.

Changes were particularly apparent in home mortgage lending. The growing acceptance of mortgage-participation securities led to a substantial rise in FHA-insured and VA-guaranteed loans and to an increased role of FNMA and FHLMC as guarantors of conventional mortgage loans.⁴ The use of variable-rate mortgages and private mortgage insurance also became widespread. The net effect of these changes has been to standardize the mortgage application process and to make it much easier for firms that did not want to hold mortgages for their own portfolios to specialize in originating mortgages. Casual evidence suggests that mortgage markets have become more competitive as the number of players has increased.

■ Statistical Evidence

Most of the existing empirical research on redlining has focused on the analysis of geographic patterns of mortgage lending.⁵ The most common type of study has used HMDA data (or public deed-title-transfer data) combined with census information to examine the relationship between aggregate annual mortgage lending within a neighborhood and the neighborhood's characteristics. With few exceptions, these studies have not used information about individual mortgage applicants or lenders.

The prototypical aggregate lending study examines whether, after controlling for other relevant factors, the racial (or income) characteristics of a neighborhood are related to the amount and type of mortgage lending. Typically, only lending by banks and S&Ls required to report under the HMDA has been included, although some studies have supplemented this information with FHA and VA loans originated by mortgage bankers. In virtually all of the studies, data have been aggregated across classes of institutions. Thus, inferences can be drawn only about the behavior of institutions as a whole, not about individual lenders.

The value of these studies depends critically on the selection of control variables. If other relevant factors included in the analysis adequately control for mortgage demand and appropriate lending risk, for example, then it can be argued that the residual relationship between race and lending reflects the inappropriate actions of lenders. If other relevant factors are not adequately controlled for, then it cannot be argued that the residual relationship reflects purely supply factors. This is a potentially critical weakness of virtually all redlining research to date, since adequately capturing the demand for credit is extremely difficult.

The types of control variables used in HMDA-based studies have varied considerably. In some studies, only the number of residents or the number of owner-occupied houses in a neighborhood has been used as a control for mortgage demand. Yet, household mobility and property turnover differ considerably across neighborhoods and over time. For example, the amount of new construction, the age of the housing stock, property tax rates, condominium conversion rates, and the size and value of typical homes are all likely to vary with income and to affect mobility and mortgage demand. Attempting to account for these factors, the more thorough studies have used information on the number of housing transfers within a neighborhood.

Many HMDA-based studies have also tried to control for various lending risks that may vary geographically. These risks are extremely hard to measure, and it is by no means clear how they should be regarded. Research studies typically have used the condition of the housing stock, foreclosure rates, and vacancy rates as representative of neighborhood risk to help explain lending patterns across neighborhoods.

When studies show that lending patterns differ among neighborhoods after demand and risk factors are accounted for, inappropriate lender actions are likely to be responsible. However, some controversy exists about the interpretation of lending risk variables in these studies. It is clear that lenders have a right to be concerned about the credit quality of each loan. It is also clear that some lenders believe property values in some neighborhoods are less stable than in others, and therefore may have used this information in making lending decisions. What is not clear, however, is exactly how or whether lenders can legally incorporate such neighborhood factors into their lending decisions.

What do these studies reveal? Almost uniformly, studies with little or no control for demand factors have found that predominantly white and high-income neighborhoods receive more mortgage loans per home than minority and lower-income neighborhoods.

The uniformity of these conclusions starts to break down, however, when more complex control variables are introduced or when the activity of different types of lenders is examined. The gap between lending patterns in minority and white neighborhoods narrows considerably when controls for income and property transfers are introduced, although it does not always disappear entirely. However, even when overall differences in lending activity disappear after demand factors are controlled for, studies have generally found persistent differences in the type of lender servicing the neighborhoods.

This finding seems to be constant both over time and across cities. For example, a study of mortgage lending in Cleveland between 1977 and 1979 concluded that commercial banks and S&Ls were considerably less likely to be the source of mortgage financing in integrated and all-minority neighborhoods than in predominantly white areas with otherwise similar characteristics.⁶ However, the study also found that minority and integrated areas were considerably more likely to be served by mortgage bankers offering FHA and VA loans and by home improvement loans from all lenders. Overall, these factors offset one another, with the net flow of housing-related financing to minority and all-white neighborhoods being about the same.

A recent study of mortgage lending in Atlanta by the *Atlanta Constitution* reported similar findings.⁷ Using a matched sample of middle-income white and minority neighborhoods, the author concluded that banks and S&Ls extended four to five times as many new mortgage loans per single-family housing unit to the predominantly white areas than to comparable minority areas. However, this disparity is cut in half when property transfers are controlled for. Although they did not perform a systematic analysis of lending patterns by nonbank lenders, the *Constitution* reports evidence that mortgage bankers are considerably more active in minority areas than in white neighborhoods, tending to corroborate the results found for Cleveland.

■ Systematic Evidence

The above studies were virtually all ad hoc, initiated by individual researchers or community groups to investigate problems within a particular city. Although some evidence appears to have emerged about these individual cities, the studies fail to provide an evaluation

for the country as a whole. To address this concern, a study was conducted at the Federal Reserve Board using HMDA data drawn from the entire country.⁸ This study was designed as a prototype of the kind of systematic, large-scale evaluation of CRA-related mortgage lending patterns that would be feasible with the HMDA data available at that time.

Data for a representative year (1981) were gathered for the 318 standard metropolitan statistical areas (SMSAs) for which financial institutions were required to report their lending activity. This sample was reduced to 100 by removing all smaller SMSAs and those with insufficient minority population to make a redlining study feasible. HMDA data on mortgage and home improvement loans were summed over reporting institutions and arrayed by census tract within each SMSA.⁹ Data represented more than 3,000 financial institutions, approximately two-thirds of which were commercial banks, supplemented with data gathered from the 1980 census.

Separate analyses were performed for each SMSA in the study. The number and dollar volume of mortgage and home improvement loans allocated to census tracts containing less than 10 percent, 10 to 40 percent, 40 to 80 percent, and more than 80 percent minority populations were compared. These comparisons were made controlling for various neighborhood characteristics represented by the census data.

DEC 3 3 33 1982

RECEIVED FEB 13 1984

Control variables included the number of owner-occupied houses, the growth in the number of housing units since 1970, median household income, the median value of owner-occupied housing, the median age of the housing stock, and the percentage of housing stock older than 40 years. Although imperfect, these variables were included to attempt to control for differences in the demand for home loans across neighborhoods, as well as for the differing risks of lending in various neighborhoods.

On the surface, results from this study look similar to those of earlier redlining studies. Controlling only for the number of owner-occupied housing units, census tracts with under 10-percent minority population had an average of almost twice the number of new mortgage loans per housing unit as all-minority areas. However, these results changed markedly when other variables were controlled for and when examined at the larger SMSA level.

Tracts with over 80-percent minority population were projected to have fewer mortgages per unit than predominantly white tracts in 65 of the 100 SMSAs when other factors were controlled for. These differences were statistically significant in only nine cases, however, and in four SMSAs, predominantly minority areas were found to receive proportionately more mortgage credit than similar white neighborhoods. When dollars of mortgages per dollars of housing value were examined, all-minority areas were projected to have fewer dollars than all-white areas in 52 of the 100 SMSAs.

How do these findings compare with the studies for individual cities? Three major weaknesses were evident in the

data used for the national analysis: (1) there was no information on housing transfers; (2) no loan-risk or foreclosure data were used; and (3) information on most mortgage banker lending was not used.

The effect of these omissions is quite apparent when comparing the conclusions of this study with those of the Cleveland study reported earlier and with another comprehensive analysis for the Boston area.¹⁰ Compared with earlier findings that incorporated these factors, The Federal Reserve Board study would have overestimated the differential in lending by banks and S&Ls between minority and other areas. It also would have underestimated total lending in minority areas by all lenders.

These omissions are not easily remedied. Title-transfer information is not collected in a systematic way and is costly to obtain. In the Cleveland study, it was necessary to take address data from the county transfer files and use maps and "geo-coding" programs to assign transfers to census tracts. Foreclosure data had to be put together in a similar way. In some cities, these data may be extremely difficult to obtain in a usable format.

It does not appear that the recent extension of HMDA reporting requirements by Congress will fully remedy these kinds of problems faced by researchers. Congress did extend HMDA coverage to independent mortgage companies, which addresses a serious weakness in the current reporting system.¹¹ Institutions will now also be required to file information on the distribution of mortgage applicants by sex, race, and income within each census tract. In addition, lenders must report whether the application was approved. While perhaps useful in individual compliance cases, however, this additional information is unlikely to say much about neighborhood risk or demand.

■ Compliance

The CRA directs regulators to "encourage" financial institutions to meet the credit needs of their entire community. However, the act provides no guidance as to how credit needs are to be determined. Moreover, only those institutions seeking regulatory actions, such as mergers, are subject to any penalties for not meeting their community's needs.

These vague directives have led regulatory oversight to focus primarily on procedure. Institutions are required to state publicly how they themselves define their community and the services they provide. Compliance examiners then determine whether an institution's procedures appear to treat all neighborhoods falling within its self-defined community on an equitable basis. Historically, examiners have paid particular attention to marketing and loan processing procedures in determining whether neighborhoods are treated equitably.

Evidence reported by the regulatory agencies suggests that virtually all financial institutions are in compliance with current CRA procedures. On the surface, this seems inconsistent with the evidence found in the redlining studies that the racial (or income) composition of neighborhoods appears to be related to aggregate lender activity in some areas. Again, however, compliance is focused on the procedures of individual institutions, whereas the statistical studies focus on aggregate market conditions.

Some institutions could be found to have poor CRA programs even in cases where, in the aggregate, all neighborhoods were adequately served. On the other hand, the fact that an institution makes fewer loans in some areas will not necessarily imply a poor CRA record. If institutional procedures treat all applicants fairly, but it happens that some minority areas have fewer property turnovers or fewer qualified applicants, resulting in fewer acceptances, this circumstance would not contribute to a poor CRA rating.

By necessity, these judgments are made relative to an institution's own self-defined market. An institution that is not very active in the mortgage loan market, for example, might not be found in violation of the CRA even though such a practice might result in fewer mortgage loans to some neighborhoods. A lender could, for example, have a very strong home-improvement loan record. Thus, it is entirely possible that individual institutions could all be in compliance with CRA procedures, yet have some neighborhoods receiving substantially fewer mortgage loans from financial institutions than other neighborhoods.

A compliance system focused on management practices in individual firms cannot be easily modified to take into account aggregate market conditions. The information needed to assess how well an institution truly serves the credit needs of its community, or whether one institution does a better job than another, is difficult and expensive to collect. And, regardless of how much information is collected, interpretations of the data may still vary widely.

Since the CRA provides for the consideration of safety and soundness, a fair and comprehensive evaluation of neighborhood credit needs would also have to take into account the risk attached to lending. As indicated previously, lending risk can arise from a variety of sources and at times can be a legitimate factor in the mortgage lending decision, as it is in other kinds of loan transactions.

Institutions also have different market definitions. Consideration may have to be given to cost differentials and differences in market emphasis. Even if one believed that currently available HMDA and census data could be used to provide good measures of aggregate risk-adjusted demand across neighborhoods, application of these data to the evaluation of individual institutions is likely to be costly and difficult.

■ Conclusion

It is clear that research and debate on the redlining issue is important and should continue. Although the nationwide pattern of mortgage loan disparity is probably not as great as is commonly thought, when important factors such as mortgage demand and lending risk are taken into account, there is evidence that the racial composition of neighborhoods is related to aggregate lender activity in many areas. The reasons for this, however, are neither well understood nor agreed upon.

On the other hand, it appears that virtually all financial institutions follow lending and marketing procedures that are in compliance with current regulatory rules. It is entirely possible that individual institutions could all follow regulatory guidelines, yet collectively be part of an environment in which some neighborhood needs appear not to be met.

The likely reason for these apparently contradictory circumstances is that compliance efforts have focused on individual institutions' procedures, whereas most statistical studies have dealt with aggregate behavior. The regulations, and the CRA legislation behind them, are designed to ensure that regulated lenders act as good citizens in their communities. Since regulated lenders comprise only a subset of the parties involved in the determination of housing patterns, even good citizenship on the part of all regulated lenders—as *necessary* as it is—may not be *sufficient* to ensure that all neighborhoods experience comparable amounts of mortgage lending.

Attempts to change this outcome through increased reliance on financial institution regulations are likely to be difficult, controversial, and expensive. The lack of a consensus view about the causes and conditions associated with redlining argues strongly that such an approach should not be undertaken without further study.

■ Footnotes

1. See, for example, Katharine L. Bradbury, Karl E. Case, and Constance R. Dunham, "Geographic Patterns of Mortgage Lending in Boston, 1982-1987," *New England Economic Review*, Federal Reserve Bank of Boston, September/October 1989, pp. 3-30; "The Color of Money," *Atlanta Constitution*, May 1-4, 1988; and "Race and Mortgage Lending in Cleveland—1987," The Cuyahoga Plan of Ohio Inc., July 1989.

2. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 was enacted on August 9, 1989.

3. These regulators are the Federal Reserve Board, the Comptroller of the Currency, the Federal Home Loan Bank Board, and the Federal Deposit Insurance Corporation. See the *Federal Reserve Bulletin*, vol. 75, May 1989, p. 351.

4. These acronyms describe, respectively, the Federal Housing Administration, the Veterans' Administration, the Federal National Mortgage Association, and the Federal Home Loan Mortgage Corporation.

5. See Glenn B. Canner, "Redlining: Research and Federal Legislative Response," Board of Governors of the Federal Reserve System, Staff Study No. 121, October 1982.

6. Robert B. Avery and Thomas M. Buynak, "Mortgage Redlining: Some New Evidence," *Economic Review*, Federal Reserve Bank of Cleveland, Summer 1981.

7. "The Color of Money," *Atlanta Constitution*, op. cit.

8. Robert B. Avery and Glenn B. Canner, "Mortgage Redlining: A Multicity Cross Section Analysis," Working Paper, Board of Governors of the Federal Reserve System, 1984.

9. The HMDA requires each institution to report its total annual mortgage and home improvement loans by census tract. Census tracts are areas designed to contain a relatively homogeneous population, typically about 4,000 people. The 100 SMSAs used in the study average more than 210 tracts apiece.

10. See Glenn B. Canner, "Redlining and Mortgage Lending Practices," in *Research in Urban Economics: A Research Annual*, J. Vernon Henderson, ed., Greenwich, Conn.: JAI Press, 1981, pp. 67-101.

11. In 1981, mortgage bankers were estimated to originate an average of 29 percent of the new mortgages in the 100 SMSAs used in the study. Their share ranged from a high of 68 percent to a low of 2 percent.

Robert B. Avery is an associate professor at Cornell University and a visiting scholar at the Federal Reserve Bank of Cleveland. The author extends special thanks to Glenn Canner and Mark Sniderman for helpful comments and suggestions.

The views stated herein are those of the author and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System.

Federal Reserve Bank of Cleveland
 Research Department
 P.O. Box 6387
 Cleveland, OH 44101

Address Correction Requested:
 Please send corrected mailing label to the above address.

Material may be reprinted provided that the source is credited. Please send copies of reprinted materials to the editor.

BULK RATE
 U.S. Postage Paid
 Cleveland, OH
 Permit No. 385

FAULH880107000 000 001 CMTY
 LEE D FAULHABER
 CLEVELAND

RESEARCH

9

FEDERAL RESERVE BANK OF CLEVELAND
 DEC 8 9 13 AM '89

RESEARCH LIBRARY