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Discrimination in Mortgage Lending: What Have We Learned?

by Stanley D. Longhofer

The Federal Reserve Bank of Boston's groundbreaking study on residential mortgage lending patterns in that city, published in 1992, sparked national interest and led many researchers to look more closely at the role of race in mortgage underwriting decisions. With the Boston study's recent publication in a respected academic journal, now is a good time to look back on the debate over the presence of discrimination in mortgage lending to see what we have learned.

It has now been nearly four years since researchers at the Federal Reserve Bank of Boston released their groundbreaking study on residential mortgage lending patterns in that city.[1] Their findings showed that black and Hispanic applicants were over 50 percent more likely to be denied a mortgage loan than whites, even after taking into account many factors relevant to the credit-granting decision. In the end, they concluded that this disparity was the result of taste-based discrimination (bigotry) on the part of lenders active in the area.

In the intervening years, much effort has gone into dissecting the Boston researchers' analysis, both to replicate their results and to explain how such discrimination could persist in a market so many view as being highly competitive. With the final version of this paper recently published in one of the most respected academic journals in the economics profession, we can now look back on the debate over the presence of discrimination in mortgage lending to see what we have learned.[2]

Origin of the Debate

In 1975, the Home Mortgage Disclosure Act (HMDA) was passed with the goal of providing a better understanding of the extent of redlining—the alleged practice of denying loans solely because of the location of the property being mortgaged. At the time, the Act required covered lenders to disclose only the geographic distribution of their residential mortgage loans. Although these data did show that substantially fewer mortgage loans were originated in census tracts with a high proportion of minorities, they did not (and were not intended to) provide evidence of discrimination against *individual* applicants.

In 1989, Congress expanded HMDA to require lenders to report key information about *each* mortgage application received, including the applicant's income, race, and gender, and the disposition of the application. The initial release of these data fueled new controversy, since black and Hispanic applicants (but not Asians) were shown to have a much higher denial rate than whites. For example, in 1995 (the most recent year for which data are available), 40.5 percent of black and 29.5 percent of Hispanic mortgage applicants were denied, compared with 20.6 percent of white applicants.

Despite these provocative disparities, the HMDA data alone are inadequate to draw any meaningful conclusions about the presence of discrimination in the nation's mortgage markets. After all, key underwriting factors, including an applicant's credit history, debt burden, loan-to-value ratio, liquid assets, and employment history, are not included in the data. As it turns out, most of these factors are correlated with race, making it impossible to determine whether minorities are more likely to be turned down because they are less creditworthy on average or because lenders discriminate.[3]

The Boston Fed Study

In 1992, researchers at the Federal Reserve Bank of Boston (Munnell et al.) began an ambitious effort to augment the HMDA data by collecting additional information believed to be relevant to the credit-granting decision. Using 1990 HMDA data for lending institutions in the Boston Metropolitan Statistical Area, they worked with examiners, bankers, and other experts to develop a list of additional variables that lenders use to determine an applicant's creditworthiness, with the goal of better isolating the effect of race on an applicant's chance of being approved for a loan.

As expected, their analysis showed that much of the difference in denial rates across races is due to the fact that black and Hispanic loan applicants have, on average, less wealth, higher loan-to-value ratios (smaller down payments), and more credit blemishes than their white counterparts. Nonetheless, even after controlling for these factors, the Boston researchers concluded that minority

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applicants were over 50 percent more likely to be denied a loan than whites: "... minority applicants with the same economic and property characteristics as white applicants would experience a denial rate of 17 percent rather than the actual white denial rate of 11 percent."[4]

Munnell et al. seemed to provide hard statistical evidence that widespread, systematic discrimination against blacks and Hispanics occurs in the Boston-area home mortgage market. Yet, after four years of debate, many economists remain unconvinced. Why haven't the results been universally embraced?

The Critics Respond

One of the first problems other researchers faced when trying to verify Munnell et al.'s findings was the questionable quality of much of the data. When the study was publicly released, many researchers questioned the usefulness of the information because of what they believed to be data entry errors, missing data, and unreliable recording techniques.[5] Of course, such errors are not uncommon with economic data (particularly those derived from surveys), and even if these criticisms are correct, they do not in and of themselves invalidate Munnell et al.'s results. Nonetheless, their prevalence in the data makes many economists uncomfortable with the information's reliability and usefulness for research.

Second, Munnell et al. used a sophisticated statistical technique known as logit analysis to determine the impact of an applicant's race on his chance of being denied a mortgage. Many researchers have questioned the applicability of this technique to mortgage lending. Indeed, several studies have shown that logit analysis is unreliable in testing for discrimination, since it can provide misleading results. For example, it has been demonstrated that logit analysis can "detect" discriminatory behavior even at institutions where none exists, yet fail to uncover even egregious cases of bias.[6]

In addition, there are practical reasons to be skeptical of their conclusions. If discrimination is so rampant in the marketplace, why have regulators been so unsuccessful in detecting it? Should we believe these results when similar regressions suggest that *black-owned* banks discriminate against black applicants?[7] And why do the authors insist that they have uncovered taste-based discrimination when evidence on default rates seems to contradict this conclusion?[8]

Other Evidence

Of course, statistical analyses like that of Munnell et al. are not the only way to detect discrimination. The traditional method used by the Federal Reserve and other bank regulators is known as paired file review. Here, examiners probe an institution's loan files to see if they can find minority applicants (or members of other protected classes) who have been denied loans while essentially similar white applicants have been accepted. Although such reviews can provide valuable insight into a lender's underwriting decisions, in practice, individual applications often differ enough that an institution can provide a seemingly valid reason for minority denials. In contrast, statistical analyses look for systematic trends, which are more difficult for institutions to explain away. Not surprisingly, paired file reviews rarely uncover any but the most egregious cases of illegal discrimination.

More recently, there has been some interest in the use of paired testers. Here, regulators "create" two applicants who are virtually identical except for their race. Each requests, in person, information about a mortgage loan at a target institution. This method has two advantages. First, unlike paired file reviews, when done properly and repeated a number of times it virtually ensures that any differential treatment is due to race rather than to subtle differences in the applicants' creditworthiness. Second, it can also uncover discriminatory treatment that may occur before the application is ever filed.

Unfortunately, paired-tester analysis is expensive, making it difficult to justify for widespread fair lending enforcement. Furthermore, many have questioned the appropriateness of federal regulatory agencies "sponsoring deception."[9] More important, it is difficult to ensure the objectivity of such tests, since testers can easily (and perhaps unknowingly) elicit the very behavior they are attempting to detect. Nonetheless, the few paired-tester studies that have been done suggest that differential treatment may be a problem even before a formal application is made.[10]

The Verdict?

So, does widespread discrimination exist in the home mortgage market? Ultimately, the answer must be "we don't know." Taken together, the problems with the Boston Fed data set (including its limited geographic focus), questions about the robustness of logit analysis, and limitations of other methods for detecting discrimination all combine to lead most economists to conclude that we still don't have a definitive answer about the presence of widespread and systematic discrimination in the home mortgage market.

Of course, nearly all economists would agree that isolated incidences of discrimination occur for a variety of reasons. Clearly, such cases are important to detect and eliminate. Nevertheless, the more important policy question is whether widespread systematic discrimination persists either at individual institutions or in the mortgage market as a whole. On this issue, opinions are more divided.

There are a few researchers on both sides of the issue who are certain of the answer; perhaps they have prior convictions, and no amount of evidence either way will sway them. But many more researchers remain unconvinced. While Munnell et al.'s study poses challenging questions and raises the debate to a new level, it alone cannot definitively determine whether widespread discrimination exists. Prior intuition that such discrimination cannot persist in a competitive market, coupled with the limitations of our techniques for detecting such acts and the numerous problems with their data set, cause many economists to remain skeptical.

Nonetheless, the Boston Fed data are the best (only) we have.[11] And even with their problems, if our conjecture that discrimination should not persist in the home mortgage market is correct, it seems unlikely that the authors would have found such a strong racial effect in

their data. Furthermore, the anecdotal evidence of discriminatory acts, including the few paired-tester studies that have been done, does have strong appeal, even if it cannot prove the existence of widespread discrimination.

What Have We Learned?

Despite the controversy over the core question of discrimination, we have made progress in understanding the role of race in the mortgage market. First of all, despite their problems, denial-rate studies *can* provide valuable insights into the possibility of illegal discrimination, especially at individual institutions. But the results of such studies are at best imprecise; at worst they can be inaccurate and misleading. They must be interpreted with care in order to draw meaningful conclusions.

For example, although the Federal Reserve performs statistical analyses of the denial-rate patterns of large lenders as a regular part of its fair lending exams, a positive relationship between denial rates and race is not used as conclusive evidence of discrimination. Rather, the results of these analyses are used to target further judgmental review by examiners. Only if such follow-up is unable to adequately explain disparate denial rates is an institution referred to the Justice Department for further investigation.

Second, we have learned that *default* rates, while an important piece of the puzzle, cannot provide insight about whether discrimination exists at an individual institution or in the mortgage market as a whole. A few years ago, many questioned the validity of focusing on denial rates to detect discrimination (as Munnell et al. do), suggesting that we should instead be focusing on default rates.[12] It is now well established, however, that different causes of discrimination have different implications for the relative default rates of marginal minority and marginal white applicants. For example, bigotry would lower the default rate of marginally qualified minority borrowers, while statistical discrimination and discrimination arising from cultural affinity problems would make them default *more* often.[13] Hence, knowing how race is associated with default rates may point to the source of any discrimination that exists, but it cannot help us determine whether it occurs in the first place. Consequently, focusing on denial rates is probably still the best way to detect systematic discrimination.

Third, studies using the new HMDA data, including Munnell et al., have fairly well established that redlining per se is not as severe a problem as once thought. In other words, banks and other lending institutions do not appear to arbitrarily deny loans in neighborhoods solely because of their racial composition. Rather, differences in credit flows across neighborhoods appear to be directly related to the demand for credit and the risk of lending in those areas.[14] This is not to say, however, that other market failures might not result in suboptimal credit flows to low-income and minority neighborhoods.[15] Rather, the cause of any suboptimal credit flows is probably not discrimination.

Perhaps the most important lesson to be learned from the debate over systematic discrimination in the mortgage market is that the question itself may be largely misunderstood. That there are major disparities in the allocation of mortgage credit across races is not disputed; these disparities are an important social problem regardless of whether they result from discrimination, differences in average creditworthiness across races, or some other market failure. The true magnitude of the debate lies in how it can help us better deal with these disparities. Understanding why they exist, and in particular whether racial discrimination is at their source, is a crucial first step in developing policies that can effectively address this fundamental social problem.

Footnotes

1. Alicia H. Munnell, Lynn E. Browne, James McEneaney, and Geoffrey M.B. Tootell, "Mortgage Lending in Boston: Interpreting HMDA Data," Federal Reserve Bank of Boston, Working Paper WP-92-7, October 1992 (hereafter referred to as Munnell et al.).

2. Alicia H. Munnell, Geoffrey M.B. Tootell, Lynn E. Browne, and James McEneaney, "Mortgage Lending in Boston: Interpreting HMDA Data," *American Economic Review,* vol. 86, no. 1 (March 1996), pp. 25–53.

3. For evidence that these factors are correlated with race, see Munnell et al. (1996), footnote 2, table 1.

4. Munnell et al. (1992), p. 2. It should be noted that the authors' focus on denial rates makes this disparity look particularly egregious. They could have noted that white applicants were 7 percent *more* likely than blacks or Hispanics to be *approved* (assuming that all nondenied applications were approved).

5. See, for example, Ted Day and Stan J. Leibowitz, "Mortgages, Minorities, and Discrimination," University of Texas at Dallas, unpublished manuscript, 1993; and David K. Horne, "Evaluating the Role of Race in Mortgage Lending," *FDIC Banking Review,* vol. 7, no. 1 (Spring/Summer 1994), pp. 1–15. See also the Boston Fed researchers' response in Lynn E. Browne and Geoffrey M.B. Tootell, "Mortgage Lending in Boston—A Response to the Critics," Federal Reserve Bank of Boston, *New England Economic Review,* September/October 1995, pp. 53–78.

6. See Paul W. Bauer and Brian A. Cromwell, "A Monte Carlo Examination of Bias Tests in Mortgage Lending," Federal Reserve Bank of Cleveland, *Economic Review,* vol. 30, no. 3 (Quarter 3 1994), pp. 27–40; and Anthony M.J. Yezer, Robert F. Phillips, and Robert P. Trost, "Bias in Estimates of Discrimination and Default in Mortgage Lending: The Effects of Simultaneity and Self-Selection," *Journal of Real Estate Finance and Economics,* vol. 9, no. 3 (November 1994), pp. 196–215.

7. See Harold A. Black, M. Cary Collins, and Ken B. Cyree, "Do Black-Owned Banks Discriminate against Black Borrowers?" *Journal of Financial Services Research* (forthcoming).

8. See James A. Berkovec, Glenn B. Canner, Stuart A. Gabriel, and Timothy H. Hannan, "Race, Redlining, and Residential Mortgage Loan Performance," *Journal of Real Estate Finance and Economics,* vol. 9, no. 3 (November 1994), pp. 263–94. The authors show that marginally qualified minority borrowers default more frequently than their white counterparts, a result that is more consistent with statistical discrimination or discrimination arising from cultural affinity than from bigotry. Nonetheless, Munnell et al. (1996) conclude that "the dearth of any evidence that minorities default more frequently, given their economic fundamentals, makes a conclusion of [statistical] discrimination problematic." (footnote 2, p. 45).

9. Board of Governors Chairman Alan Greenspan expressed this concern in 1991 when the Federal Reserve decided against using this practice as a part of its fair lending exams. See "Fed Rejects Plan to Uncover Bias by Using Phony Mortgage Seekers," *American Banker,* September 26, 1991, p. 1.

10. See Cathy Cloud and George Galster, "What Do We Know about Racial Discrimination in Mortgage Markets?" *Review of Black Political Economy,* vol. 22, no. 1 (Summer 1993), pp. 101–20.

11. The Federal Reserve currently uses statistical analysis in the course of its fair lending exams. The data collected for these exams may eventually provide a new resource for researchers focusing on mortgage lending activity.

12. See, for example, Gary S. Becker, "Nobel Lecture: The Economic Way of Looking at Behavior," *Journal of Political Economy,* vol. 101, no. 3 (June 1993), pp. 385–409.

13. Bigoted lenders would reject marginally profitable minority applicants in order to satisfy their "taste for discrimination," implying that the least qualified minority borrower will be less likely to default than the least qualified white borrower. In contrast, statistical discrimination arises from profit-maximizing behavior. For a more complete discussion of this issue, see Stanley D. Longhofer, "Rooting Out Discrimination in Home Mortgage Lending," Federal Reserve Bank of Cleveland, *Economic Commentary,* November 1995.

14. See, for example, Munnell et al. (1992); Robert B. Avery, Patricia E. Beeson, and Mark S. Sniderman, "Underserved Mortgage Markets: Evidence from HMDA Data," Federal Reserve Bank of Cleveland, Working Paper 9421, December 1994; George J. Benston, "Mortgage Redlining Research: A Review and Critical Analysis," *Journal of Bank Research,* vol. 12, no. 1 (Spring 1981), pp. 8–23; Glenn B. Canner, Stuart A. Gabriel, and J. Michael Woolley, "Race, Default Risk, and Mortgage Lending: A Study of the FHA and Conventional Loan Markets," *Southern Economic Journal,* vol. 58, no. 1 (July 1991), pp. 249–62; and Michael H. Schill and Susan M. Wachter, "Borrower and Neighborhood Racial Characteristics and Financial Institution Mortgage Application Screening," *Journal of Real Estate Finance and Economics,* vol. 9, no. 3 (November 1994), pp. 223–39.

15. See Lenoard I. Nakamura, "Information Externalities: Why Lending May Sometimes Need a Jump Start," *Business Review,* Federal Reserve Bank of Philadelphia, January/February 1993, pp. 3–14.

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