



Discrimination in mortgage lending: Evidence from a correspondence experiment[☆]



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ABSTRACT

We design and implement an experimental test for differential response by mortgage loan originators (MLOs) to requests for information about loans. Our e-mail correspondence experiment is designed to analyze differential treatment by client race and credit score. Our results show net discrimination by 1.8% of MLOs through non-response. We also find that MLOs offer more details about loans and are more likely to send follow up correspondence to whites. The effect of being African American on MLO response is equivalent to the effect of having a credit score that is 71 points lower.

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1. Introduction

There are substantial documented differences between African Americans and whites in the price paid for credit. During the 2004–2008 housing boom, Home Mortgage Disclosure Act (HMDA) data released by the Federal Financial Institutions Examination Council¹ shows a 27 basis point difference (favoring whites) in contract mortgage rates.² Conditioning on borrower characteristics,

Ghent et al. (2014) find that for 30 year adjustable rate mortgages African Americans borrowers face interest rates 12 basis points higher than non-Hispanic borrowers. Bayer, Ross, and Ferreira (2014) find that even after conditioning on previously unavailable credit characteristics, African American borrowers have a 7.7 percentage point higher likelihood of being in a high cost mortgage (relative to a market-wide incidence of 14.8%). Bayer et al. (2014) also show that lender fixed effects reduce the unexplained differences across race in being a high-cost borrower by 60–70%, suggesting that a large portion of market-wide differences in outcomes may be driven by sorting across (or differential access to) lenders, rather than differential treatment by lenders.

We examine the incidence of differential treatment by mortgage lenders by testing for racial discrimination using a matched-pair correspondence experiment on Mortgage Loan Originators (MLOs). MLOs are essentially licensed mortgage salespeople who assist customers with loan applications and have the ability to offer and negotiate the terms of a mortgage with applicants. The role of information provider and advisor in the lending process, and the discretion MLOs have in dealing with customers makes them an integral part of the borrowing process from a client's perspective. Discrimination by MLOs could result in different lending outcomes

examines interest rate differences across race groups conditional on borrower characteristics.

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¹ The FFIEC maintains summary statistics of HMDA data on its website at: <http://www.ffiec.gov/hmdaadwebreport/NatAggWelcome.aspx>.

² This difference is not conditional on borrower characteristics and is the difference in the mean interest rate reported for loans where the interest rate is known on conventional, 1–4 family home purchase loans (excluding manufactured homes) between 2004 and 2008. See Gruenstein-Bocian et al. (2008) for a study that

between minority and majority borrowers, and also influence outcomes as the home buying process proceeds. For example, a borrower who is delayed or who is pre-approved for a smaller loan amount may be treated differently by a real estate agent in terms of search effort, neighborhood choice, or expediency of service. If differences in initial treatment by an MLO are severe (offering different interest rates, fees, or suggesting credit repair services), this could conceivably affect a home buyer in all aspects of the home purchase, even if they are successful in obtaining a loan.³

Our matched-pair experiment examines the response MLOs offer to initial contact from a potential client interested in obtaining information about a mortgage loan. We design the experiment to test for differential treatment by client race (white or African American) and by credit score. We randomly assign pairs of e-mail inquiries to MLOs according to our design to test for the effects of a borrower's race, credit score, and the interaction between these two. We reveal client race to MLOs using selected client names within each e-mail inquiry. We use only names that have a high likelihood of being given to only one race in a sample of birth certificate for male babies born in New York City in 1990. We examine the propensity for MLOs to respond to our inquiries, the propensity to follow up, and the content of the response to test for differential treatment.

To our knowledge, this is the first experimental test of discrimination by MLOs that uses e-mail correspondence and a nationally representative sample.⁴ This is in contrast to an earlier study by Ross et al. (2008), which relies on in-person interaction between MLOs and actors and uses only select metropolitan area samples.⁵ Heckman (1998) and Heckman and Siegelman (1993) critique the use of actors when testing for discrimination because actors may bias results if they are not identical along all dimensions except race. While the Heckman critique is valid in theory, tester heterogeneity is something that can be examined in practice. Modern in-person tests such as HUD's 2000 Housing Discrimination Study (HDS) collect actual characteristics of testers and allow for an examination of how these characteristics may affect results (Ross, 2002). Ross et al. (2008) does a formal examination of tester heterogeneity in an in-person study and demonstrates that at conventional levels of statistical significance, tester homogeneity cannot be rejected.

While we believe there is value in using in-person studies, and they offer ways to examine discrimination by MLOs that our study cannot, our work provides some advantages over in-person studies.⁶ Most importantly, we avoid the threat of actor bias by relying solely on electronic communication with MLOs that are identical in presentation in all ways except the indication of race. This also allows us to dramatically increase the scope of the experiment and the geographic area covered relative to in-person studies. Using electronic communication provides a detailed record of correspondence that allows us to examine the timing and content of MLO responses to our inquiries. The use of the internet in general is becoming a standard part of the home search and borrowing process

which has yet to receive much attention in the academic literature. Bricker et al. (2010) report that 41.7% of borrowers use the internet for information about borrowing,⁷ and over 90% of home buyers in 2012 reported using the internet in some capacity during their home search (NAR, 2012).

Our results show that MLOs discriminate on the basis of race and treat clients differently by their reported credit score. We find that on net, 1.8% of MLOs discriminate by not responding to inquiries from African Americans while responding to inquiries from white clients.⁸ We find larger net response differences across credit score types, with 8.5% of MLOs responding to clients in our high credit score group while not responding to clients who do not report a credit score. We also find that credit score differences exacerbate differences in response between races. Overall, the effect of being African American on MLO response is roughly equivalent to the effect of having a credit score that is 71 points lower. We also find that MLOs are more likely to send follow-up correspondence to whites than African Americans.

The remainder of the paper is organized as follows: Section 2 describes an MLO's role in the lending process. Section 3 outlines the design of our experiment, while Section 4 details implementation and sample characteristics. Section 5 presents our primary results while Section 6 offers several robustness checks. The final section of the paper offers concluding comments.

2. MLOs in the lending process

MLOs are typically the initial and primary contact person for borrowers seeking a mortgage, and have discretion over how they respond to customer inquiries. MLOs may, for example suggest that a borrower attempt to improve their credit score before completing a loan application, or may encourage a borrower to act quickly to take advantage of low interest rates. They may also present different fees or interest rates to borrowers, offer encouragement or discourage the borrower from moving forward with the loan, or offer other financial advice related to obtaining a mortgage.⁹

MLOs typically have contact with the client throughout the entire lending process, from initial inquiry through loan closing, but they are particularly important in the application process. Clients who have marginal credit depend on MLOs to give advice on what products to apply for, what steps to take to improve their credit and whether their application will ultimately be successful. MLOs may communicate with an underwriter, but do not directly make decisions about accepting or denying a loan. Ross et al. (2008) point out that while minorities are less likely than whites (controlling for observable factors) to obtain a loan,¹⁰ this fact alone does not indicate that differential treatment by the same lender is occurring. Differences in lending outcomes may be explained by

³ See Ross and Yinger (2002) for a particularly lucid explanation of discrimination in the lending process, including an explanation and critique of research methodology.

⁴ There are several recent studies that use e-mail correspondence to test for discrimination in the market for rental housing. See Hanson and Hawley (2011) for a recent example and a review of this literature. Also see Ladd (1998), Yinger and Ross (2002), and Ross et al. (2008) for a review of the literature on discrimination in mortgage markets in particular.

⁵ See Smith and Delair (1999) for a summary of early evidence on discrimination by mortgage lenders from a sample of enforcement-based in-person audits which covers five US cities.

⁶ See Doleac and Stein (2013) for a novel approach to avoiding the use of actors by studying discrimination using pictures in an on-line market. This work varies the skin color of the seller to test for discrimination among buyers of iPods.

⁷ 39.5% of borrowers report using sellers of financial services as a method of obtaining information about borrowing. The most commonly used source of information about borrowing is "friends, relatives, and associates" with 43.9% of borrowers using that channel (Bricker et al., 2010).

⁸ The net level of discrimination measures the difference in the percentage of MLOs that only reply to an inquiry from a white client against the percentage of MLOs that only reply to an inquiry from an African American client. The gross level of discrimination or the percentage of MLOs that only reply to an inquiry from a white client is 17.8% of MLOs. The overall difference in response rates is 2.6 percentage points favoring whites—this difference does not match the net discrimination level because some of our experiments involved sending inquiries from same race clients to the same MLO.

⁹ The Secure and Fair Enforcement for Mortgage Licensing Act (SAFE), part of the larger Housing and Economic Recovery Act of 2008, included several provisions to tighten regulations of MLOs. These provisions included requiring licensing of MLOs, creating a Nationwide Mortgage Licensing System (NMLS), issuing uniform licensing applications and reporting requirements across states, and creating a national clearing house for collecting consumer complaints.

¹⁰ See Munnell et al. (1996) for a study that identifies denial rate differences between African American and white clients controlling for credit differences.

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