

AFRICAN AMERICAN REPRESENTATION ON THE BOARDS OF BANKS AND MORTGAGE LOAN REJECTION RATES

Valentin Dimitrov^a, Jiayin Li^b and Darius Palia^a

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Abstract

With growing social activism and changing regulations, stakeholders are urging boards to better reflect their firms' diverse customers. Given the pivotal role banks play in home ownership and wealth accumulation, we study the impact of African American directors on banks' mortgage rejection rates of African American applicants. We document that banks that have at least one African American director are typically larger, have larger boards, a higher percentage of female directors, and more African American executives within the headquarter state - all compared to their counterparts without African American directors. Significantly, we find that banks with at least one African American director have *lower* rejection rates for African American mortgage applicants. We establish this relationship using three methods: 2SLS, two matching methods, and by examining the effects of appointing a new African American director to the board. We also find that a large majority of African American directors sit on key board committees which helps lower borrower rejection rates. Finally, we find no evidence that diversifying the board comes at a cost to the banks' shareholders.

^aRutgers Business School and ^bUniversity of International Business and Economics, respectively. We thank Yakov Amihud, Divya Anantharaman, Neil Bhutta, Ivan Brick, Jennifer Carpenter, N.K. Chidambaram, Morris Davis, Vadim Elenev, Suresh Govindaraj, Prem C. Jain, Kose John, David Matsa, Oded Palmon, Thomas Philippon, N. Prabhala, Rajesh Narayanan, Stijn Van Nieuwerburgh, Adi Sundaram, Lukai Yang, David Yermack, Adam Yore, and seminar participants at Florida State, John Hopkins, Rutgers, NYU Stern, NYC Real Estate Conference (Columbia), and the NYCU International Finance Conference (Taiwan) for valuable comments and suggestions. Corresponding author: Darius Palia, dpalia@business.rutgers.edu.

“While the calls for more board diversity apply to all kinds of public companies, banks are arguably under the most pressure because they can play such a crucial role in closing the racial wealth gap...”

American Banker, December 7, 2020¹

Starting July 1, 2020, Goldman Sachs will not underwrite companies to go public who do not have at least one diverse director and at least two diverse directors in 2021.

David Solomon, CEO, on Goldman Sachs’ Commitment to Board Diversity

In late 2020, NASDAQ companies must appoint at least two diverse directors.

NASDAQ Press Release, December 1, 2020

1. Introduction

As social activism intensifies and regulations change, corporate stakeholders are increasingly advocating for boards to reflect their diverse customer base and to take active steps to address racial inequities. This paper investigates whether having an African American bank director impacts the probability of obtaining a home mortgage loan for African American borrowers. Additionally, we explore factors associated with the appointment of an African American bank director, and assess the impact of having such a director on future bank performance and risk.

Significant economic inequalities continue to persist between races in the United States. The average per capita net worth for Whites is approximately \$437,000, compared to a much lower \$105,000 for African Americans and \$53,000 for Hispanics.² A large part of this difference can be attributed to considerably higher home ownership rates for Whites (73.3%), compared to African Americans (42.1%) and Hispanics (47.5%).³ Given the importance of real estate, fair and equal

¹ <https://www.americanbanker.com/news/protests-and-mandates-push-banks-to-add-more-minorities-to-boards>. See Section 2.1 of this paper for more references and details of initiatives to increase the diversity of boards.

² Federal Reserve: Distributional Financial Accounts.

³ U.S. Census Bureau 2019 Housing Vacancies and Homeownership Survey. Hubbard(1985), Campbell(2006), Cochrane(2007) propose that real estate is an illiquid/nontraded asset that has a significant effect on a household’s

access to housing has been a priority among regulators.⁴ Prior empirical studies have examined whether African Americans and Hispanics are systematically discriminated against by mortgage lenders (for example, Black et al., 1978; King, 1980; Munnell et al., 1996; Hubbard et al., 2011; Quillian et al., 2020; Giacolletti et al. 2021). In a recent paired testing study by the newspaper *Newsday*, equally matched White and minority testers posing as homebuyers approached real estate agents in the liberal bastion of Long Island, New York (Ann Choi, 2019). In 49% of cases, African American testers seemed to have received disparate treatment when compared to White testers, whereas 39% of Hispanics received disparate treatment when compared to White testers. Using a more comprehensive sample across five cities, a HUD (2012) study finds similar disparate treatments between the races. Ross et al. (2008) find that African American and Hispanic testers in Chicago received less information and assistance from their mortgage lending institutions when compared to similar White borrowers. Martinez and Glantz (2018) analyze 31 million mortgage records in the period 2015 and 2016. They find that African Americans, Hispanics, and Asians had less access to conventional mortgages than similar White applicants in 45, 25, and nine metros, respectively.

One potential way to ameliorate these stark inequalities is to have the boards of financial institutions direct their companies to increase lending to minority home borrowers. However, according to a 2018 survey of Fortune 500 companies, 80.5% of board seats are held by Whites,

portfolio choice and asset returns. Empirical evidence of such effects has been found in Flavin and Yamashita(2002), and Palia, Qi and Wu(2014).

⁴ The Fair Housing Act of 1968 prohibits discrimination based on race and is actively enforced by the Office of Fair Housing and Equal Opportunity in the U.S. Department of Housing and Urban Development (HUD). The Home Mortgage Disclosure Act (HMDA) of 1975 requires financial institutions to maintain, report, and publicly disclose loan-level information about mortgages. Public data are modified to protect applicant and borrower privacy, while providing regulators and researchers data that might shed light on discriminatory lending patterns. The Community Reinvestment Act (CRA) of 1977 encourages financial institutions to help meet the credit needs of the communities in which they do business, including low- and moderate-income neighborhoods.

11.1% are held by African Americans, and 4.4% are held by Hispanics.⁵ In light of these statistics, the NASDAQ, SEC, state legislatures of California, Hawaii, Illinois, Massachusetts, Michigan, New York and Washington, Congress, pension funds (e.g., NYC pension fund), proxy advisors (e.g., Institutional Shareholder Services and Glass Lewis), and underwriters of companies going public (e.g., Goldman Sachs) have increasingly put pressure on corporate America to diversify its boards.⁶ These institutions are encouraging, and more recently mandating, that companies appoint female directors and directors from underrepresented minority groups such as African Americans and Hispanics.

Having minorities on bank boards may increase lending to minorities for two reasons. First, a more diverse board may be more sensitive to existing inequalities in mortgage lending, and to the unique needs and circumstances of minority borrowers. Second, a more diverse board may signal the firm's commitment to diversity, inclusion, and social justice (Ferreira, 2010; Lamkin Broome & Krawiec, 2008). Alternatively, having minorities on the board may not increase lending to minorities if board diversity is used to 'whitewash' existing discrimination. For example, board diversity may be used as a false signal to divert attention from existing discriminatory lending practices (Brown et al., 2012).⁷

In this paper, we focus on African American directors, given that there are too few directors from other minority groups in our sample. For African American board directors, we examine the following five related questions:

⁵ Missing Pieces Report: The 2018 Board Diversity Census of Women and Minorities on Fortune 500 Boards, Deloitte and the Alliance for Board Diversity.

⁶ See Section 2.1 of this paper for details on these initiatives.

⁷ Consider the case of Wells Fargo, which received rewards for having a diverse board while facing lawsuits for preying on minority borrowers. See <https://www.cnbc.com/2017/05/04/wells-fargo-amid-minority-targeting-lawsuits-wins-diversity-award.html>.

(1) We are the first paper to examine the determinants of having an African American on the board of directors of a bank. Prior research has shown that the board composition is not random (see, for e.g., Boone et al., 2007; Coles et al., 2008; Linck et al., 2008). We provide ex ante testable hypotheses for bank characteristics that might correlate with whether or not a bank has an African American board member.

(2) We are the first paper to examine the impact of African American bank board representation on the rejection rates faced by African American mortgage applicants. We do so using three estimation approaches. First, we estimate a two-stage least squares (2SLS) model, using the percentage of African American executives in the bank's headquartered state as an instrument variable (IV) for African American bank board representation. Our dependent variable is the rejection rate of African American mortgage applicants *excluding* applicants from the state where the bank is headquartered. The supply of qualified African American executives has been shown to be an important determinant of board membership in the literature on non-bank firms (Giannetti & Zhao, 2019; Glass & Cook, 2017; Knyazeva et al., 2013; Rose & Bielby, 2011). Giannetti & Zhao (2019) argue that firms choose their headquarters locations early in their life cycle, while they select directors in response to specific challenges and opportunities they encounter. Second, we estimate two matching models, Kernel matching and Nearest Neighbor matching. When there are significant differences in the means and variances of the covariates in the treated and control groups, as is the case in our sample, matching models provide more efficient and unbiased inferences (Imbens, 2004; Rosenbaum, 2002; Rubin, 2006; Stuart, 2010). Third, we examine changes in rejection rates when a new African American director is appointed to the board. In doing so, we control for any time invariant mortgage risk or bank-specific variable that we have omitted to include in the first two approaches.

(3) We investigate two mechanisms by which banks with an African American board member might potentially lower the rejection rates of African American mortgage applicants. First, an African American board member might influence bank credit policy by being a key member of the board (see Chidambaran et al., 2022). Second, the presence of an African American board member might be used to obscure a bank's reduced lending to low- and moderate-income groups, like those covered by the Community Reinvestment Act. In this scenario, lower rejection rates for African American borrowers could paradoxically indicate increased discrimination.

(4) We test whether rejection rates for White and other minority borrowers⁸ are related to having an African American on the board.

(5) We examine whether having an African American on the board is costly to shareholders?

To answer these questions, we construct a sample of 99 bank holding companies⁹ where we can identify the racial identity of all directors on each board for the years 2010 to 2021. This corresponds to 680 bank-year observations, 41.79 million mortgage loan applications, and 429 bank-year observations with at least one African American director. In this sample, we find:

(1) African Americans account for 6.7% of board directors on average, and 63.1% of all bank-years have at least one African American board director. African American board representation is correlated with a number of bank characteristics. Small banks (asset size less than \$10 million) are less likely to have African American board representation than medium and large banks. Banks with larger boards and more female directors are more likely to have at least one African American director. We find that having an African American on the board is unrelated to the prior year's bank performance and risk, deposits, and real estate mortgage portfolio. We also

⁸ Others are mortgage applicants belonging to any of the following ethnic groups: Alaska Native, Asian, Hispanic, Native American, and Pacific Islander.

⁹ In this paper we use "bank holding companies" and "banks" interchangeably.

find strong evidence that the labor supply of potential African American board members has a significant impact on African American board representation. Specifically, a higher percentage of African American executives in the state where a bank's headquarters is located significantly increases the likelihood of the bank having at least one African American director.

(2) Importantly, we find that banks with at least one African American director have significantly lower rejection rates for African American borrowers who apply for home mortgage loans. Using 2SLS, we find that having at least one African American director is associated with a 24.8% lower rejection rate for African American mortgage applicants from states where the banks is not headquartered. Using matching models, the reduction in rejection rates ranges from 3.4% to 6.2%.¹⁰ We also observe that five years following the addition of an African American director to the board (including the year of their appointment), the rejection rates for African American mortgage applicants are 8.3% to 9% lower compared to the five years prior. We also find that large banks have higher rejection rates for African American borrowers when compared to medium and small banks. Better capitalized banks have lower rejection rates for African American borrowers, as do banks with a higher fraction of real estate loans. Finally, banks with a greater fraction of female directors on the board have higher rejection rates of African American mortgage applicants.

(3) Within banks with at least one African American director, African American directors serve on key committees 90.2% of the time. Furthermore, banks where African American directors serve on key committees have lower rejection rates for African American mortgage applicants

¹⁰ 2SLS regression coefficients often significantly exceed those in OLS and matching models. In our case, 2SLS coefficients reflect the average treatment effect on banks that change board diversity in response to shifts in the instrumental variable, rather than the effect on the entire population. If these banks show a greater reaction to the treatment, 2SLS results in a larger estimated effect. Section 5.2.2 delves deeper into this issue.

compared to banks where African American directors do not serve on key committees. These results support the argument that African American directors influence bank credit policy towards greater equity. In contrast, within our sample, CRA lending is too small in magnitude to play any role in explaining our main findings. Hence, we find no evidence that banks appoint African American directors to the board to camouflage potentially poor lending records in CRA areas.

(4) We find that having an African American board member is associated with lower rejection rates for mortgage loan applications of White borrowers. The results suggest that African American directors may help adjust credit standards to benefit all disadvantaged borrowers, irrespective of their race. However, we do not find any benefit to other racial minority borrowers. This might be because of relatively few such applications (low test power), or because combining these diverse racial groups into a single category is inappropriate.

(5) We find no significant relationship between African American board representation and the average two-year *future* bank risk (excess volatility) and bank performance (Tobin's Q, ROA, and non-performing loans). We also perform an event study on the appointment of new African American directors to the board; we find no abnormal stock returns during the 10-day period around the appointment date. In other words, there is no evidence that diversifying the board comes at a cost to the bank's shareholders.

The above results consistently show that having an African American director is associated with lower rejection rates for African American mortgage applicants. The results suggest that African American directors likely play an important role in alleviating historical inequities in home mortgage lending. Even though we have used a 2SLS model with a strong IV that is conceptually similar to Giannetti and Zhao (2019), we view our results as strong correlations and not causal.

Studies of new legislation or future campaigns by large institutional shareholders for appointing African American directors to bank boards might allow for stronger causal interpretation.¹¹

This rest of the paper is structured as follows: Section 2 reviews recent legislative efforts and literature on board diversity. Section 3 outlines hypotheses concerning the factors influencing the presence of African American directors on bank boards. Section 4 details the data and sample characteristics, followed by Section 5 which presents our empirical findings. Finally, Section 6 offers our conclusions.

2. Board diversity and mortgage lending

2.1 Recent initiatives to increase board diversity

Despite years of pressure from regulators and social activists, progress on appointing more minority directors on corporate boards remains slow (Adams & Ferreira, 2009; Field et al., 2020; Kim & Starks, 2016; Lemayian et al., 2020; Peterson et al., 2007). Faced with such slow progress, regulators, Congress, stock exchanges and institutional investors are increasingly adopting a more aggressive approach wherein board diversity goals are mandated rather than encouraged. In this section, we briefly review the recent initiatives to increase board diversity.

On December 1, 2020, NASDAQ proposed rules that would require all listed companies to disclose information regarding the diversity of their board.¹² Additionally, NASDAQ companies must appoint at least two diverse directors, one a person who self-identifies as female,

¹¹ See the interesting paper by Gormley et al. (2023), who find that the three biggest index fund families, Blackrock, State Street, and Vanguard, explicitly started campaigns to increase gender diversity on the board of directors. This caused companies to significantly increase the representation of women on boards.

¹² <https://www.nasdaq.com/press-release/nasdaq-to-advance-diversity-through-new-proposed-listing-requirements-2020-1>

and the other a person who self-identifies as either an underrepresented minority¹³ or as lesbian, gay, bisexual, transgender or queer. All NASDAQ companies would have two years to appoint one diverse director. Companies on the NASDAQ Global Market and Global Select Market would need two diverse directors within four years. Companies on the NASDAQ Capital Market would need two diverse directors within five years. Failure to satisfy the requirement could result in delisting. The SEC's recently released Item 401 and Item 407 of Regulation S-K Compliance and Disclosure Interpretations¹⁴ which recommend that where director nominees have self-identified diversity characteristics and consent to their disclosure, the company's disclosures should identify those characteristics, along with other qualifications or attributes, to the extent they are considered by the board or nominating committee in evaluating board membership. The Improving Corporate Governance Through Diversity Act of 2021 (H.R. #1277), introduced in the US House of Representatives on February 24, 2021, mandates that issuers of securities disclose the racial, ethnic, and gender composition of their boards of directors and executive officers, as well as whether any members are veterans.¹⁵ It also requires the disclosure of any plan to promote racial, ethnic, and gender diversity among these groups. Additionally, the SEC must establish a Diversity Advisory Group to report on strategies to increase gender, racial, and ethnic diversity among board members.

Institutional Shareholder Services (ISS), the largest and most prominent proxy advisory firm, recently introduced rules for Russell 3000 or S&P 1500 companies that will be effective for meetings on and after February 1, 2022.¹⁶ ISS will generally recommend a vote "against" or

¹³ Members of an "underrepresented minority" are at least one of the following races or ethnicities: African American, Alaska Native, Hispanic, Native American, and Pacific Islander.

¹⁴ <https://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm#116-11>

¹⁵ <https://www.congress.gov/bill/117th-congress/house-bill/1277>

¹⁶ <https://www.mofo.com/resources/insights/210127-iss-glass-lewis-nasdaq-board-diversity.html>

"withhold" for the chair of the nominating committee (or other directors on a case-by-case basis) where the board has no apparent racially or ethnically diverse members. Mitigating factors include the presence of a racial and/or ethnic minority on the board at the preceding annual meeting and a commitment to appoint at least one racially and/or ethnically diverse board member. Similarly, starting January 1, 2021, Glass Lewis, another prominent proxy advisory firm, identified board diversity as a factor of concern. It will assess board diversity based on race and ethnicity and a company's disclosure of such data in its proxy statement. Glass Lewis' guidelines indicate that its recommendations will comply with relevant state law board composition requirements. Among investment banks, Goldman Sachs has pledged that starting July 1, 2020, they would not underwrite companies to go public who do not have at least one diverse director, and at least two diverse directors in 2021.¹⁷

States such as California, Hawaii, Illinois, Massachusetts, Michigan, New York, and Washington have proposed similar rules. For example, California passed a law in September 2020 that requires public companies headquartered in the state to have two or three directors from underrepresented groups by the end of 2022.¹⁸ However, the LA County Superior Court ruled on April 1, 2022 that the law violates the state's constitution.¹⁹

Finally, pension funds are also starting to exert their influence towards more diverse boards. The New York City Pension Fund targeted 151 companies in the S&P 500, 49 of whom have elected 60 new directors who identify as female or as a person of color; including 45 women, 16 African Americans, four Hispanic Americans, and two Asian Americans. Additionally, 24

¹⁷ <https://www.goldmansachs.com/our-commitments/diversity-and-inclusion/launch-with-gs/pages/commitment-to-diversity.html>.

¹⁸ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB979.

¹⁹ <https://www.reuters.com/world/us/la-court-rules-state-corporate-diversity-law-unconstitutional-2022-04-02/>.

companies have publicly committed to include women and people of color in the candidate pool for every board search going forward.²⁰

2.2 Literature on mortgage lending discrimination and board diversity

This paper intersects with existing research in two broad areas, mortgage lending discrimination and board diversity. In this section, we briefly discuss the relevant research in each area.

The early literature on mortgage discrimination showed that lenders reject significantly more mortgage applications from minorities than from white borrowers (Black et al., 1978; King, 1981; Schafer & Ladd, 1981). Banks and conservative commentators argued that the discrepancy in rejection rates were due to omitted variables that reflect differences in the credit histories of minority and white borrowers rather than discrimination. In response, Munnell et al. (1996) combined HMDA data on loan applications in Boston with additional borrower data collected via survey by the Federal Reserve Bank of Boston. They confirm that minority borrowers have less wealth, lower credit scores, and higher loan-to-value ratios than white applicants. After controlling for these and other factors, Munnell et al. (1996) still find that minorities are 8% more likely to be rejected than white borrowers. Hubbard et al. (2011) examine mortgage loans in New Jersey and find that minorities are more likely to be rejected than white borrowers in the prime market, but less likely to be rejected than white borrowers in the subprime market. Quillian et al. (2020) find that the higher rejection rate faced by minorities has declined only slightly from 1976 to 2016. Giacoletti et al. (2021) examine the differential effects of loan approval quotas at the end of the month compared to other times when these quotas are not binding. Their clever argument is that

²⁰ <https://www.30percentcoalition.org/news/the-coalition-in-the-news/nyc-pension-funds-push-for-board-diversity-yields-impressive-results>.

the personal judgment of loan officers about borrowers, which is not easily seen or measured, wouldn't change much in short time spans, such as within a month or at the end of the month. They find that in the first seven days of a month, loan rejections are 20% higher for African American borrowers compared to White borrowers. Even at the end of the month, when loan approval quotes are binding, African American borrowers still have a 10% higher chance of being rejected than White borrowers.

Many papers show that the rejection rates for minority borrowers are lower when the lending institution uses minority loan officers to work with minority borrowers (Fisman et al., 2017; Fisman et al., 2020.) Jiang et al., (2021) observe fewer mortgage loan approvals when a senator from the state where a bank's headquarters are located gains significant political power, specifically by serving as a committee chair in the previous two years. This decline in approval rates is more pronounced for minority applicants.

There is also a literature on price-based discrimination that shows that minority borrowers are charged higher interest rates, points and fees on their home mortgages than White borrowers (Ambrose et al., 2021; Bartlett et al., 2022; Bayer et al., 2018; Bhutta & Hizmo, 2020; Black et al., 2003; Courchane & Nickerson, 1997; Ghent et al., 2014; Reid et al., 2017; Willen & Zhang, 2022).²¹

There are three theories offered to explain discrimination. First, the taste-based discrimination theory of Becker (1957) posits that employers discriminate because of their explicit prejudice or animus towards minority candidates. Importantly, employers are willing to pay a financial penalty to avoid interacting with minorities. Second, Bertrand et al. (2005) allow for

²¹ We do not test for price-based discrimination in this paper because we lack detailed data on loan terms and borrower characteristics.

“implicit” discriminatory attitudes, which are unconscious mental associations toward agents of a certain group. Bordalo et al. (2016) model stereotypes based on Kahneman and Tversky (1972)’s representativeness heuristic. A decision maker assesses a target group by overweighting its representative type, defined as a type that occurs more frequently in that group when compared to a baseline reference group. Stereotypes might reflect real differences accurately, or exaggerate real differences, which, the authors argue, is why they contain a “kernel of truth.” In the case when stereotype exaggerates differences and causes belief distortions, it leads to inaccurate depictions of the target group.

Third, the information-based or statistical discrimination theory of Arrow (1971) and Phelps (1972) posits that discrimination is profit-maximizing in a world with imperfect information. When information is limited and costly to gather, economic agents discriminate against minorities because of salient group characteristics. The information-based theory predicts that lenders are more likely to reject minorities because minorities have worse credit characteristics. As explained above, in the case when stereotypes accurately reflect credit differences between groups, Bordalo et al. (2016)’s model would be consistent with information-based discrimination.²²

To understand why minority directors could help improve lending outcomes for minorities, it is useful to consider the role of directors. Directors have a dual role as advisors and monitors of managers (Adams & Ferreira, 2007). Minority directors may advocate for more equitable lending practices in both roles. As advisors, minority directors can help banks tailor their lending activities to better meet the needs of minority borrowers. Robinson and Dechant (1997) and Carter et al. (2003) argue that matching the diversity of a company’s leadership to the diversity of the

²² We do not test which discrimination theory best explain our results because their ex ante predictions are the same.

company's customers helps increase market share. Consistent with this hypothesis, Carter et al. (2003) find a positive relationship between the fraction of minorities on the board and firm value.²³ Giannetti and Zhao (2019) examine board ancestry and find that firms with more ancestral diversity have greater returns, more patents, more well-cited patents, and higher stock return volatility. Cook and Glass (2015) find a positive association between race/ethnic board diversity and product development and innovation. Minority directors also bring different perspectives and priorities due to their upbringing and professional experience. They are more likely to have experienced discrimination and bias than their white colleagues (Collins, 1997; Smith & Nkomo, 2003). As a result, minority directors encourage firms to put more weight on the interests of the firm's outside stakeholders (Post et al., 2011; Wang & Coffey, 1992). In the context of mortgage lending, they may champion policies that expand access to credit to underserved communities. Minority directors might also help select and reward CEOs that share these priorities.

Appointing minority directors can also signal to outside stakeholders that the bank is committed to diversity, equity, and inclusion (Certo, 2003; Deutsch & Ross, 2003). Lamkin Broome and Krawiec (2008) conduct 38 in-depth interviews with directors about their view of board diversity. The authors report that the single most coherent narrative regarding diversity is that diverse boards send a signal to employees that the company values and promotes diversity. Further evidence consistent with a signaling effect is provided by Miller and del Carmen Triana (2009), who show that firms with greater board racial diversity have higher reputation scores in Fortune's Corporate Reputation Survey after controlling for financial performance. In the context

²³ In a subsequent study, Carter, Sinken & Simpson (2010) fail to find any significant association between the percentage of minorities on the board and financial performance after controlling for the endogeneity of board appointments.

of mortgage lending, diverse boards may signal to potential borrowers that the bank does not discriminate against minority borrowers.

Appointing a single minority director on a large board may also help banks deflect criticism from social activists without leading to any meaningful change regarding the treatment of minority borrowers. Single minority directors are often considered “tokens” in the literature (Kanter, 1977); being the only minority director can limit the director’s effectiveness because of negative perceptions and stereotypes. If this is the case, then we may find no relation or even a positive relation between board diversity and the rejection rate for minority borrowers.

Why do some banks choose to hire African American directors while others do not? Empirical research on this topic is sparse. Rose and Bielby (2011) study the boards of S&P 500 companies over the period 1980 to 2000. They find that larger and more visible companies and those with a more diverse workforce are more likely to appoint an African American director on the board. In the cross-section, firms with larger boards, more interlocking directorships, finance and utility firms, and firms with a greater percentage of African Americans in the headquarter state are more likely to have at least one African American on the board. Using the same data, Glass and Cook (2017) confirm that the representation of Black and Hispanic directors is predicted by the racial/ethnic composition of the industry’s labor force. These studies do not analyze banks separately. Knyazeva et al. (2013) find that the higher the availability of the local director pool the higher the level of board independence which results in higher firm performance. Giannetti and Zhao (2019) examine board ancestry and find that it tends to reflect the ancestral composition of the location where the firms’ headquarters are located. Chidambaran et al. (2022) examine the retention and appointment to key director positions within the board. Key director positions are defined as chairperson, lead director, or chair of the compensation/nominating/audit committees.

The study then uses a skill diversity measure based on 18 skill characteristics, summarized as the Euclidean difference between a director’s skill and the median board member’s skill. They find that the likelihood of retaining and appointing a director increases with the director’s skill diversity. However, none of these studies include banks in their analysis.

3. Testable hypotheses for having an African American on the board of directors

In this section, we develop testable hypotheses for having an African American member on a bank’s board of directors. Additionally, we describe proxy variable(s) used to capture each hypothesis, which are summarized in Table 1.

*** Table 1 ***

We estimate the following OLS regression model:

$$BoardAA_{i,t} = \alpha + \beta_1 * proxy\ variables_{i,t-1} + \beta_2 control\ variables_{i,t-1} + year_t + \varepsilon_{i,t}, \quad (1)$$

where i refers to banks and t refers to years, respectively. β_1 is a vector that consists of regression coefficients on variables that proxy for bank characteristics that may explain the choice to include an African American director to the board. β_2 is a vector that consists of regression coefficients for control variables, $year_t$ are year fixed effects to capture systematic differences in board diversity across time, and $\varepsilon_{i,t}$ is the regression error term.²⁴ All standard errors are clustered by bank to account for potential correlations between observations of the same bank. The dependent variable in the above equation is *BoardAA*, which is set to one if there is at least one African American director on the board, and set to zero otherwise. We use an indicator variable

²⁴ We are unable to use bank-level fixed effects models because we do not have a long enough panel data set.

rather than the percentage of directors who are African American because the latter variable varies significantly with board size.

The different hypotheses and their associated empirical proxies are explained below. To mitigate reverse causality concerns, all proxy and control variables in equation (1) above are measured with a one-year lag.

Bank size: There are significant direct and indirect costs of finding and appointing a qualified board member. Direct costs involve using a director search firm such as Korn Ferry International, Heidrick and Struggles, or Spencer Stuart to help identify and short-list potential director candidates. Indirect costs involve managerial time and effort to interview and get informal recommendations from social networks as to the operating and managerial skills of the board candidate. The larger the bank, the more resources it has to attract qualified African American executives to its board of directors. This is especially true given the scarcity of African American executives who are already board members or current CEOs/COOs of other firms. Additionally, larger banks face greater regulatory and political scrutiny when they do not have minorities on their board than smaller banks do. Accordingly, we would expect a large bank to have a higher likelihood of having an African American board member than a small bank. To capture the non-monotonic effect of bank size, we include two dummy variables that capture three bank size groups. *SmallSize* equals one when a bank's total assets are less than \$10 million, and equals zero otherwise. *MediumSize* equals one when a bank's total assets are between \$10 million and \$100 million, and equals zero otherwise. For large banks with total assets greater than \$100 million, both *SmallSize* and *MediumSize* are set to zero.

Board Size: The opportunity cost of appointing an African American board member is higher when the total size of the board is smaller. For example, a bank board with only six directors

incurs a higher cost of managerial effort and time when it appoints an African American director than a bank board with 12 members. To capture this effect, we include a variable *BoardSize*, defined as the natural logarithm of the number of directors on the board.

Culture of diversity: It seems reasonable to hypothesize that banks that have a culture of diversity are more likely to appoint an African American board member. Culture has been shown to matter for firm performance by Edmans (2011), Guiso et al. (2015), Graham et al. (2022); these results are summarized by Gorton et al. (2022). Fahlenbrach et al. (2012) demonstrate that culture significantly impacts bank performance in particular. They find that a bank's buy-and-hold returns during the 1998 Russian debt crisis strongly predict its performance in the 2007-08 financial crisis. In our context, we consider bank characteristics that proxy for the bank's culture with respect to diversity. The first proxy variable is the proportion of board members who are female (*BoardFemale*). We anticipate that boards with more female members are more inclined to hire an African American board member, reflecting their stronger commitment to diversity. The second proxy variable, *BoardOtherMinority*, measures the proportion of board members from racial minority groups other than African American. This includes those identifying as Alaskan Native, Asian, Hispanic, Native American, or Pacific Islander. We posit that boards with a higher proportion of other minority board members also have a stronger commitment to diversity.

Following Hurtado and Sakong (2022) and Berger et al. (2023), we consider another proxy variable, *MDI*, to indicate if a bank is a Minority Depository Institution.²⁵ Minority owners may favor more African American directors on the board due to aligned beliefs and preferences.

²⁵ According to the FDIC, an MDI is a federal insured depository institution with either 51% percent or more of the voting stock owned by minority individuals, or with minority individuals holding the majority of board seats and serving a predominantly minority community. See <https://www.fdic.gov/regulations/resources/minority/mdi.html>.

However, some might feel their existing non-discriminatory views towards minority borrowers negate the need for African American directors to influence lending policies. Unfortunately, we cannot include *MDI* in our tests because there is only a single MDI bank in our sample (International Bankshares Corporation). Our findings remain unchanged regardless of whether this bank is included in the analysis or not.

Ownership by the three biggest index fund families: In 2017, the three biggest index fund families, Blackrock, State Street, and Vanguard, explicitly started campaigns to increase gender diversity on the board of directors of US firms. Gormley et al. (2023) find that these campaigns significantly boosted the representation of women on boards. Specifically, in 2019, American corporations had at least 2.5 times more women serving on their boards compared to the numbers in 2016. Accordingly, we create a variable, *Big3*, defined as the total ownership of these three big index fund families. We expect that banks with greater ownership by Blackrock, State Street, and Vanguard are more likely to include an African American director on the board.

Director labor supply: Research has shown that the availability of qualified African American executives greatly influences their representation on company boards (Giannetti & Zhao, 2019; Glass & Cook, 2017; Knyazeva et al., 2013; Rose & Bielby, 2011). Such supply constraints might be even more binding in the banking industry. Each subsidiary bank in the bank holding company is separately chartered with its own board (Adams & Mehran, 2012). The National Banking Act requires that the majority of bank directors reside in the state, territory or district of the bank or within 100 miles of it for at least a year prior to, and during their term.²⁶ At the same time, the Federal Reserve's Regulation L restricts directors from serving simultaneously on the

²⁶ See 12 USC 72, "Qualifications," which outlines the role of banks and banking in the US Code.

board of unaffiliated banks in the same community or metropolitan statistical area.²⁷ These two requirements significantly reduce the potential pool of qualified bank directors. To quantify this, we use a measure we call *AAExecutives*, defined as the ratio of African-American executives to total executives in the state where the bank is headquartered.

Our analysis includes control variables for bank characteristics that could affect having an African American board member. First, we account for a bank's past performance, measured by return on assets (*ROA*). Second, we incorporate two metrics to control for bank risk. One is the bank's past annual excess stock return volatility (*IVOL*). This is calculated as the square root of 12, multiplied by the standard deviation of the bank's monthly excess stock returns determined using the Fama-French three-factor model. The other risk metric is the bank's leverage, measured as a bank's equity capital to total assets ratio (*Capital*). In addition, we include the ratio of deposits to total assets (*Deposits*). This measures how reliant the bank is on deposits for funding, as opposed to other borrowing methods like repos or equity. To account for a bank's dependency on real estate loans, we also control for the ratio of real estate loans to total assets (*RealEstateLoans*).²⁸ We acknowledge the possibility that our instrument variable director labor supply may reflect not just the labor supply in the bank's headquartered state, but also the state's wealth. This could mean a higher proportion of African American executives are available due to higher wealth levels in that state. To control for this, we include two additional control variables. The first is the logarithm of per capita income (*logGDP*) for the bank's headquarter state (in 2012 US dollars), and the second measures the income disparity between African American and White households in the bank's

²⁷ See §203 of the Depository Institutions Management Interlocks Act.

²⁸ We also include a bank's CRA rating, a dummy variable for possessing a CRA rating, and the percentage of mortgage applications from CRA-targeted areas in our analysis. None of these variables are statistically significant. These results are not reported but are available upon request from the authors.

headquartered state (*IncDisparity*). It is defined as the ratio of median household income over the past 12 months between White and African American households, according to the American Community Survey (ACS) of the U.S. Census Bureau.

4. Data and sample characteristics

4.1 Sample construction

Table 2 shows how we constructed our sample. The initial sample comprises of all financial companies included in the S&P 1500 index with board composition information in the Institutional Shareholder Services (ISS) director file. Each calendar year, the ISS director file provides a list of current directors as of the proxy date. We augment this list with (1) the names of directors that are appointed during the same calendar year but after the proxy date, and (2) the names of directors that step down during the year but before the proxy date. As a result, we define a board as the group of individuals who served as directors for any part of the calendar year.

*** Table 2 ***

The ISS director file provides information on director ethnicity. ISS determines director ethnicity using several data sources. First, it seeks company feedback and explicit public disclosure of director ethnicity which is voluntarily provided by each director. In the absence of such disclosure, ISS utilizes other sources such as director biographies, company documents and websites of other companies or associations where an individual also serves as a director or as an employee. If a clear determination still cannot be made, ISS uses the director's photo in public filings (DEF 14A, 10-K) to validate his/her ethnicity.

The ethnicity of some directors in some years is missing in the dataset. In many cases, we can backfill and forward-fill the missing data based on the data for the director in other years.

Following Bernile et al. (2018), we exclude companies with fewer than four directors on the board. We also exclude companies with missing director ethnicity data. The sample period, 2010 to 2021, corresponds to the period with available loan origination data from the Home Mortgage Disclosure Act Database (HMDA).

The Federal Reserve assigns a unique identification code, RSSD, to each financial organization that it oversees. We use the PERMCO-RSSD link table provided by the Federal Reserve Bank of New York (FRBNY) to link the ISS directors file data to the HMDA loan originator data. In our data, 2,400 firm-years do not have an RSSD code assigned by the Federal Reserve; these observations are dropped from our sample. We drop another 266 firm-years because the bank has no loans application records in the HMDA dataset. The resulting sample consists of 1,173 bank-year observations and 44,600,096 mortgage loan applications. We only consider mortgage loan applications for properties with one to four family units. These properties are more likely to be for personal use rather than commercial use. The sample excludes loan purchases because our focus is on the rejection rates at the loan origination stage.

We require that data is available on CRSP, Compustat, and the Federal Reserve's form Y9C, which reports consolidated financial statements for bank holding companies. This requirement further reduces the sample by 228 bank-year observations. Next, we require that banks have at least 1,000 loan applications in any given year. This requirement eliminates 84 bank-year observations and ensures that our results are not driven by small loan originators who may have only a handful of mortgage loan applications by minority borrowers. We also restrict the sample to bank-years with at least 50 African American loan applications to ensure a meaningful representation of potential African American borrowers among the pool of applicants.

The final sample consists of 681 bank-year observations and 41.99 million mortgage loan applications from 2010 to 2021. The number of unique banks in our sample is 99.

Data on the ethnicity of executives in the headquarter state is provided by the Equal Employment Opportunity Commission (EEOC).

4.2 Sample characteristics

Table 3 reports the summary statistics for the variables in the sample. We find that the rejection rates are significantly higher for African American borrowers. For African Americans, the average rejection rate is 51.8%, relative to 34.6% for White borrowers. The average rejection rate is also higher for Other borrowers, at 44%. In terms of board diversity, we find 63.1% of all bank-years in our sample have at least one African American director. However, African American board members account for only 6.7% of all directors in the sample. Out of the 429 bank-year observations with at least one African American director, 247 have only one African American director, 159 have two, 21 have three, and 2 have four.²⁹

*** Table 3***

The data clearly demonstrate that minorities' representation on bank boards is significantly lower than their proportion in the general population. A potential explanation for this could be the scarce number of minority executives in states where these banks are headquartered. For instance, the average percentage of African American executives (*AAExecutives*) in these states is a mere 3.4%. Furthermore, minorities represent only a small fraction of all mortgage applications: African Americans account for 5%, and other minority groups make up 12.1%. Along with high rejection rates, this suggests that minorities face substantial challenges in securing mortgage financing. In

²⁹ Trust Financial Corp (as of 2021) and TCF Financial Corp (as of 2020) are the banks with the most significant African American representation on their boards. Each bank has four African American directors.

the following section, we examine the relationship between having an African American director on the board and home mortgage rejection rates.

5. Empirical Results

5.1 Determinants of having an African American on the board

We begin our empirical tests by estimating equation (1), with the results reported in Table 4. Column (1) reports estimates when we include variables that might be endogenously chosen by the bank such as board diversity and size, whereas column (2) excludes them. In column (1), we find that large- and medium-size banks have the highest likelihood of having an African American on their board, when compared to small banks. We also find that that larger boards (*BoardSize*) and boards with a greater fraction of female directors (*BoardFemale*) are more likely to include an African American director. The ownership of the Big 3 index fund families, *Big3*, is statistically insignificant. The coefficient on the labor supply variable, namely the availability of African American executives in the bank's headquarters state (*AAExecutives*), is positive and highly significant. Increasing *AAExecutives* from the 25th to the 75th percentile increases the probability of having an African American director by 7%, all else equal (0.014×5.004). This finding suggests that a lack of African American executives in a bank's home state is a major obstacle to forming more diverse boards. None of the control variables we used in our analysis show statistical significance.

*** Table 4 ***

Column (2) of Table 4 excludes the potentially endogenously chosen variables *BoardSize*, *BoardFemale*, and *BoardOtherMinority*. We now find that large banks have the highest likelihood of having an African American on their board, followed by medium-size banks, and finally small-

size banks. The results on the other determinants remain similar to the results in column (1). In summary, we find that larger banks, banks headquartered in states with more African American executives, and banks with larger boards and a greater fraction of female directors are more likely to have an African American board member. We find no evidence that stock ownership of the Big 3 index fund families or any of the control variables help explain why some banks have African American directors while others do not.

Our analysis in column (3) shows that the coefficients on these additional state characteristics are not statistically significant. Importantly, including these variables in the model does not alter the results presented in the first column.

5.2 African American directors and rejection rates of African American applicants

5.2.1 Two-Stage Least Squares (2SLS) regressions

We begin by examining the rejection rate for African American borrowers using 2SLS with *AAExecutives* used as an instrument for *BoardAA*. The rejection rates for African American borrowers, denoted as *AfricanAmericanRR*, represent the percentage of mortgage applications from African American borrowers that were rejected by bank *i* in year *t*. We use the following model:

$$AfricanAmericanRR_{i,t} = \alpha + \gamma_1 \widehat{BoardAA}_{i,t} + \gamma_2 proxy\ variables_{i,t-1} + \gamma_3 control\ variables_{i,t-1} + Year_t + u_{i,t}, \quad (2)$$

where $\widehat{BoardAA}_{i,t}$ represents the predicted value of *BoardAA* from the specification in column (1) of Table 4, and γ_1 is its corresponding coefficient. The vector of regression coefficients for the proxy variables is given by γ_2 , γ_3 is a vector of regression coefficients for control variables, and $u_{i,t}$ is the regression error term, respectively. We include year fixed effects and all standard

errors are clustered by bank to account for potential correlations between observations of the same bank.

In Table 5, we present two estimates of equation (2). Column (1) of Table 5 shows the estimates for equation (2), where *AfricanAmericanRR* is calculated after excluding loan applications from the state where the bank is headquartered. This exclusion aims to address potential uncontrolled state characteristics. For instance, states with larger African American populations might exhibit both a higher supply of African American directors and increased rejection rates for African American mortgage applicants due to historical socioeconomic disparities. In such cases, *AAExecutives* might correlate with *AfricanAmericanRR* regardless of the presence of an African American director on the bank's board. This concern is minimized when analyzing rejection rates in states other than where the bank is headquartered, which is the basis for calculating *AAExecutives*. The findings in column (1) reveal that banks with at least one African American director have a 24.8% lower rejection rate for African American mortgage applicants from states other than where the bank is headquartered. This evidence supports the hypothesis that increased board diversity helps mitigate racial disparities in mortgage lending.

In column (2) of Table 5, our dependent variable *AfricanAmericanRR* is calculated for all loan applications received by the bank, including loan applications from the bank's headquarter state. The results are nearly identical to the results in column (1). Banks with at least one African American director have a 23.6% lower rejection rate for African American mortgage applicants.³⁰

*** Table 5 ***

³⁰ We repeat the 2SLS estimates in Table 5 using the predicted value of *BoardAA* from the specification in column (3) of Table 4. None of our results changed significantly. These results are not reported but are available from the authors.

Our analysis also reveals that large banks exhibit the highest rejection rates of African American borrowers, followed by medium-sized banks, while small banks have the lowest. Board size does not significantly affect these rejection rates. Interestingly, banks with a higher proportion of female board members, despite their efforts in board diversity including appointing African American directors (as shown in Table 4), tend to have higher rejection rates. This result may seem counterintuitive, but the choice to appoint female directors is likely endogenous and influenced by various factors. Further research is needed to unravel these complex dynamics. This complexity is echoed in our finding that boards with directors from other minority groups do not show a significant correlation with rejection rates, indicating that the interplay of board composition and lending practices may vary across different demographics.

In analyzing the role of the control variables, we observe no significant influence of past bank performance on African American borrowers' loan rejection rates. Banks with better capitalization show lower rejection rates for these borrowers, a pattern also seen in banks with a higher volume of real estate loans. The amount of deposits held by banks does not significantly impact African American borrowers' loan rejection rates.³¹

5.2.2 Matching models

We estimate two matching models, namely, Kernel matching and Nearest Neighbor matching. The goal is to closely match treatment and control observations on observable covariates so that the two are only different from each other with respect to having an African American director on

³¹ From 2018 onwards, HMDA data includes additional borrower characteristics including FICO scores, combined loan-to-value ratios, and debt-to-income ratios. However, the limited number of observations in this subset featuring an African American board member prevents us from testing the robustness of our results against these additional borrower variables.

the board. In doing so, we also include the director labor supply variable as one of our independent variables.

Before estimating the matching models, we first check whether the two distributions (treatment and control groups) have common support using the Min-Max condition. Common support requires that the probability of receiving treatment for each possible value is within the same interval as the probability of not receiving treatment. Using column (1) in Table 4, we find common support for 582 of the 680 bank-year observations in the sample, respectively.³² The matching results are based on this restricted sample.

The results of both matching methods are given in Table 6. Consistent with the 2SLS results in Table 5, we find that having an African American director on the board is associated with a lower rejection rate for African American mortgage applicants. The magnitude of the effect of having an African American director on the board is larger when we exclude loan applicants from the state where the bank is headquartered than when we include them.

The disparity in rejection rates for African American applicants between banks with and without an African American director is less pronounced in Table 6 compared to Table 5. Using Kernel matching, we find an average effect of 6.3% when we consider loans outside the bank's headquarter state, and 3.4% for all loans. The results are similar using Nearest Neighbor matching. Recall that for 2SLS, the effect is approximately 25%. It's not uncommon to see larger effects in 2SLS regressions compared to those estimated through matching methods. This could be attributed to the endogeneity of the explanatory variable due to factors such as omitted variables, reverse causality, or simultaneity. In such scenarios, the estimates using matching methods may be biased

³² For example, the range of probability of having an African American board member in the control group using column (1) in Table 4 is 0.0192 to 0.9715 while for the treatment group is 0.039621 to 0.9999234. Hence, using the Min-Max condition we restrict our sample to observations with probability in the range of 0.039621 to 0.9714886.

towards zero - they may underestimate the true effects. 2SLS corrects for endogeneity, leading to larger absolute estimated effects. Moreover, the treatment effect estimated in 2SLS models measures the average treatment effect for banks that alter their board diversity due to fluctuations in the instrumental variable (*AAExecutives*), as opposed to measuring the effect for the entire population. If these banks exhibit a larger response to the treatment, the estimated effects in 2SLS can be larger than those derived from matching methods.

*** Table 6 ***

5.3 Changes in rejection rates when an African American director is appointed to the board

The above results are based on panel data of loan rejection rates and board composition. It is still possible that we have not included some bank-specific and/or mortgage risk variables that might impact our results on loan rejection rates. Ideally, we would like to estimate a bank-level fixed-effects model to control for such time-invariant risk factors and for the credit risk of the pool of mortgage applicants. However, we are constrained by the paucity of director ethnicity data currently available as the disclosure of board member ethnicity is not mandated. Additionally, banks in our sample need to have ethnicity data for *all* board members to be included in the analysis.

As an alternative approach, we explore how hiring an African American director to the bank's board affects African American loan rejection rates. Within our sample, 47 banks appoint an African American director during the sample period. However, the number of banks in the analysis varies each year with the availability of data. The results of this analysis are shown in Table 7. Panel A presents the outcomes for all banks that appoint an African American director in year 0, irrespective of their board composition. In the five years before year 0, the mean loan rejection rate for African American borrowers is 57%. In the five years that follow (including year 0), the mean loan rejection rate for African American borrowers is reduced to 50%. The difference

between the pre- and post-rejection rates is statistically significant at the 1% level. Panel B focuses on banks without any African American directors that appoint an African American director to their board in year 0, but without any African American directors. Consistent with the results in Panel A, we find the mean loan rejection rate for African American borrowers is 55% in the five years before year 0, and 48% in the five years that follow. The difference between the pre- and post-rejection rates is statistically significant at the 1% level. These results show that hiring an African American director is associated with a decrease in the rejection rate for African American borrowers.

*** Table 7 ***

The above results are based on differences in mean loan rejection rates. In Table 8, we perform a similar analysis in an OLS regression framework. Specifically, we create a dummy variable, *AfterBoardAA*, that equals one for years 0 to 4, and zero for years -5 to -1. The sample in column (1) includes all banks that appoint an African American director in year 0. The sample in column (2) includes banks without any African American directors that appoint an African American director in year 0. In both columns, the coefficient on *AfterBoardAA* is significantly negatively related to loan rejection rates. The magnitude of the reduction in rejection rates is 9.7% for the larger sample and 9.9% for the restricted sample. These findings provide further support for the hypothesis that African American directors help improve mortgage access for African American borrowers.

*** Table 8 ***

5.4 Potential mechanisms for the lower rejection rate of African American applicants

The above results show that African American mortgage applicants are less likely to be rejected when an African American director is on the board. We examine two mechanisms that

might explain this result. First, an African American board member might influence bank credit policy by being a key member of the board. Such an argument has been posited by Chidambaran et al. (2022) who state: “We take the view that the presence of a diverse director, or getting a seat at the table, although visible, is only a first step toward diversity on the board. The next step is “being in the game,” or the engagement of diverse directors in the boards they serve on to influence and shape how the boards discharge their important functions” (page 194). We define key director positions as chairperson, lead director, or member of the compensation/nominating/audit committees.³³ We then investigate if banks with African American directors in key positions exhibit lower rejection rates for African American applicants compared to banks where African American directors are not in such key roles.

The results are reported in Table 9. We find that 388 out of a total of 430 (or 90.2%) of African American board members serve in key positions, and only 42 (or 9.8%) of African American board members do not. This shows that African American directors have the potential to influence key decisions on the board. Importantly, we find lower rejection rates for African American mortgage applicants when the African American director serves in a key position v. when s/he does not (51.3% vs. 55.2%, on average). The difference of 3.9% is statistically significant at the 10% value (p-value of 0.0587). This pattern largely holds for the entire distribution of rejection rates for African American mortgage applicants.

*** Table 9 ***

We next examine whether differences in CRA lending might explain the different rejection rates of banks with and without African American directors. This analysis is motivated by the

³³ Our definition of key positions is slightly broader than the definition used in Chidambaran et al. (2022), who classify directors as serving in key positions if they serve as chairperson, lead director, or *chair* of the compensation/nominating/audit committees.

intriguing findings of Basu et al. (2022), who demonstrate that banks with high ESG scores are more likely to reject mortgage loan applicants from poor census tracts compared to banks with low ESG scores. They interpret the evidence as a type of “social wash,” where some banks aim for high ESG scores without lending significantly to disadvantaged communities. Appointing an African American director might be another example of such social wash. Specifically, banks may appoint an African American director to obscure or draw attention away from a bank's reduced lending to low- and moderate-income groups, like those covered by the Community Reinvestment Act. Because African American borrowers account for a disproportionately large fraction of households in CRA areas³⁴, such a strategy may paradoxically manifest in lower rejection rates of African American borrowers.

We examine this potential mechanism in Table 10, where we report the percentage of loan applications from CRA areas, for all applicants and for African American applicants. Panel A shows the results for the full sample. Panel B shows the results for banks without an African American director, and Panel C shows the results for banks with an African American director. In the full sample, a third of mortgage loan applications come from CRA areas. Yet, only 1.4% of African American borrowers' loan applications are from these areas. The frequency is even lower for banks with an African American director in Panel C, at 1.2%. Therefore, lending to African American borrowers in CRA areas is too infrequent to explain the documented differences in rejection rates.

*** Table 10 ***

³⁴ Bostic and Robinson (2003), Dahl et al. (2010), and Agarwal et. al (2015) find that CRA ratings (assigned by federal regulators) are correlated to increases in targeted lending to borrowers such as minorities.

5.5 African American directors and rejection rates for other racial groups

The above results indicate a negative correlation between having an African American director and the rejection rates for African American borrowers. This leads to a related question: Do borrowers from other racial groups also experience improved access to mortgage financing? If African American directors are more sensitive to racial or socioeconomic disparities in the mortgage market, their appointment may also benefit other ethnic groups. Addressing inequality may even benefit White borrowers of lower socioeconomic status who traditionally have also had difficulties obtaining loans. This is because any lending policy that a bank chooses to implement must apply to all applicants regardless of race.

Table 11 shows the impact of having an African American director on the board on the rejection rate of White and Other (Alaska Native/Asian/Hispanic/Native American/Pacific Islander) borrowers. For this analysis, we group the various minority groups into a single category because together they account for only 12.1% of all mortgage loan applications. As in Table 5, we estimate the effect using 2SLS and *AAExecutives* as an instrument for *BoardAA*. The sample for this analysis consists of banks with at least 1,000 mortgage loan applications in year t and at least 50 applications from White or Other Minority borrowers, respectively. Our analysis shows that boards with at least one African American director are associated with a 15.2%-17.6% lower rejection rate for White borrowers. Borrowers from other minority groups do not show a similar benefit. This might be due to the relatively small number of such applications, resulting in a test with low power, or because combining these diverse groups into a single category is inappropriate.

*** Table 11 ***

5.6 Is appointing an African American director costly to banks' shareholders?

The above results show that having an African American board member lowers the loan rejection rates of African American and White borrowers. We next examine if appointing an African American director costly to banks' shareholders?

We first test whether banks with at least one African American director experience worse future performance and/or higher risk because of the lower rejection rates for African American borrowers. Table 12 shows the association between several bank performance and risk metrics and *BoardAA*, controlling for other bank, board, and loan pool characteristics. We examine measures of financial performance and risk for the two years $t+1$ and $t+2$. We use four proxy variables for bank performance, namely, buy and hold returns (*FutBHRet*), accounting profitability (*FutROA*), stock market value (*FutTobinQ*), and the nonperforming loans as a fraction of the bank's total assets (*FutBadLoans*). We measure risk as the excess stock return volatility from the three-factor Fama-French model (*FutIVOL*). We find no relationship between *BoardAA* and banks' future financial performance and risk. The only marginally significant result is for *IVOL*, where *BoardAA* is associated with 0.8% higher future stock return volatility.

*** Table 12 ***

As an additional test, we conduct an event study around the appointment of a new African American director to the board.³⁵ As mentioned in Section 5.3, we identify 47 such instances in our sample. We use Factiva to pinpoint the earliest mention of each appointment in press releases or news articles, successfully obtaining definitive dates for 45 out of the 47 cases. We then calculate excess stock returns for these 45 banks over a 20-day period surrounding the announcement date for the appointments. The results are summarized in Figure 1. We find no

³⁵ We thank Adi Sunderam for proposing this event study.

excess stock returns during the 20-day period around the appointment of a new African American director. Hence, shareholders do not suffer financial losses in result of these appointments. These results are consistent with the panel results reported in Table 11, showing no difference in future bank performance and risk. Overall, we find that banks do not incur material financial costs when they appoint African American directors to the board.

*** Figure 1 ***

6. Conclusions

US stock exchanges, the SEC, state legislatures, pension funds and proxy advisors have recently intensified their efforts to increase board diversity in the United States. In this paper, we examine whether banks with African American board members are less likely to reject mortgage applications of minority borrowers. Using these different methodologies, we find that banks with at least one African American director on the board have significantly lower rejection rates for African American borrowers. Approximately 90% of African American directors serve in key positions, and when they do, the rejection rates are even lower. We find no evidence that banks with African American directors reduce lending to low- and moderate-income groups covered by the Community Reinvestment Act.

We also find that large banks have higher rejection rates when compared to medium size banks, and the smallest banks have the lowest rejection rates. Loan rejection rates are lower for Whites borrowers too but not for Other Minority borrowers. In examining what determines the presence of an African American board member, we find that larger bank size, bigger board size, a higher proportion of female directors, and a greater fraction of African American executives in the bank's headquarter state are all associated with having an African American on the board.

Importantly, we find no evidence that diversifying the board comes at a cost to the bank's shareholders.

Our results inform the debate surrounding the costs and benefits of having diverse boards. Most papers in the literature focus on the link between diverse board and firm performance and firm value. We focus on the link between diverse boards and access to credit. Considering the large economic disparities between races in the United States, understanding how to improve lending outcomes for minorities is important.

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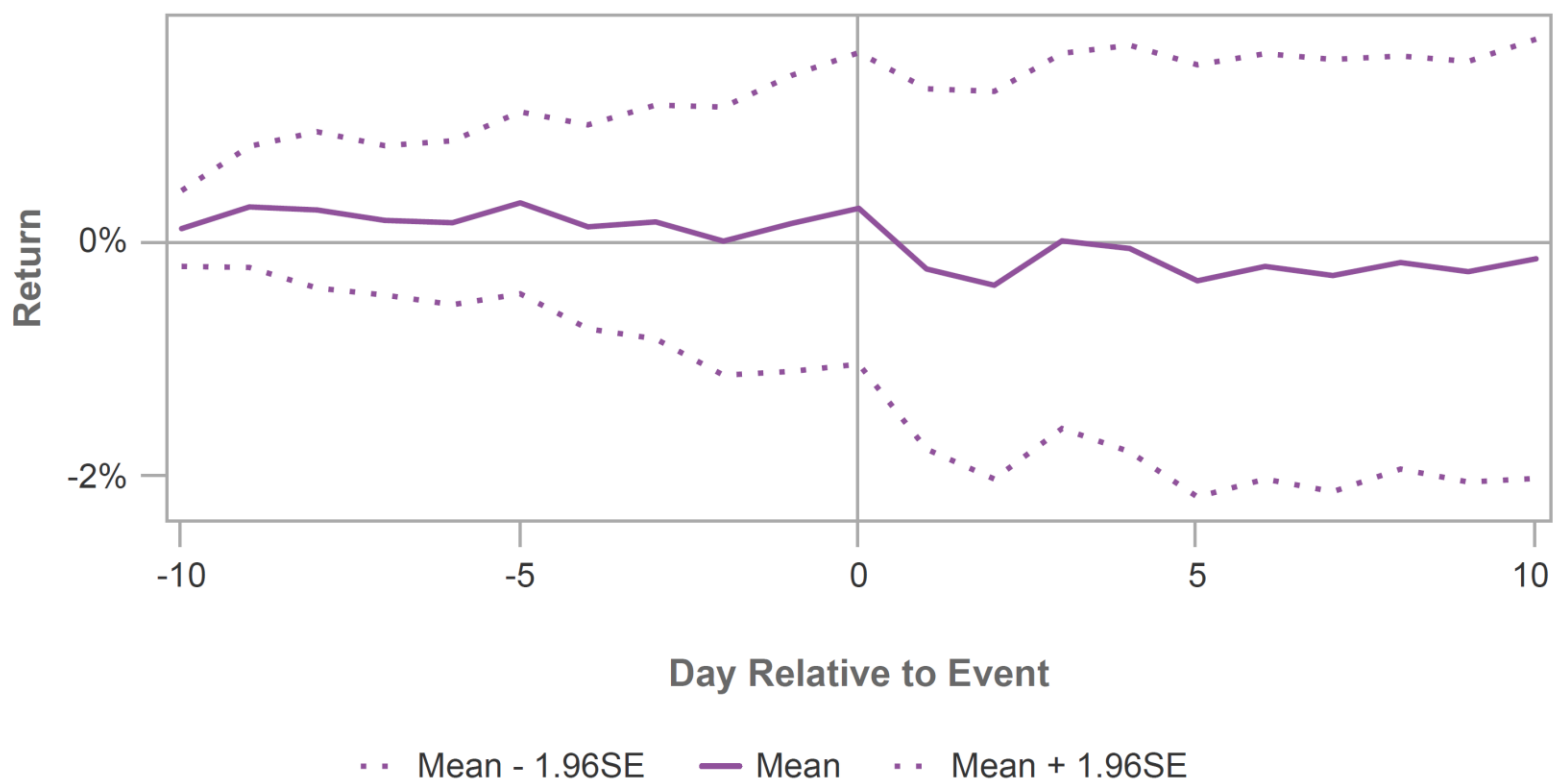
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Figure 1: Cumulative excess returns around the appointment of an African American director to the board of directors

This figure shows cumulative excess returns around the announcement of the appointment (day 0) of an African American director to a bank's board. The sample consists of 45 banks that appoint a new African American director to the board from 2010 to 2021. Excess returns are computed relative to the Fama-French three factor model, with factor loadings estimated over the 100 days ending 50 days prior to the event date. The chart is generated using the CRSP U.S. Daily Event Study tool accessed through <http://wrds-www.wharton.upenn.edu>.



Highcharts.com

Table 1: Variable definitions and data sources

Variable name	Variable definition	Source*
<i>AfricanAmericanRR</i>	Percentage of mortgage applications from African American borrowers that are rejected year t .	HMDA
<i>OtherMinorityRR</i>	Percentage of mortgage applications from other minority borrowers (Alaskan Native/Asian/Hispanic/Native American/Pacific Islander) that are rejected in year t .	HMDA
<i>WhiteRR</i>	Percentage of mortgage applications from White borrowers that are rejected in year t .	HMDA
<i>BoardAA</i>	Indicator variable that equals one when the board has at least one African American director, and zero otherwise, in year t .	ISS
<i>BoardAAP</i>	The percentage of African American directors on the board in year t .	ISS
<i>SmallSize</i>	Indicator variable that equals one when the total assets in year $t-1$ is less than \$10 million.	Compustat
<i>MediumSize</i>	Indicator variable that equals one when the total assets in year $t-1$ is between \$10 million and \$100 million.	Compustat
<i>BoardSize</i>	Natural logarithm of the number of directors on the board in year $t-1$.	ISS
<i>BoardFemale</i>	Fraction of female directors on the board in year $t-1$.	ISS
<i>BoardOtherMinority</i>	Percentage of directors from other minority groups on the board in year $t-1$.	ISS
<i>Big3</i>	Percentage share ownership of Blackrock, State Street, and Vanguard in year $t-1$.	ISS
<i>AAExecutives</i>	Ratio of African American executives to total executives in the state where bank is headquartered in year $t-1$.	EEOC
<i>ROA</i>	Ratio of net income to total assets in year $t-1$.	Compustat
<i>IVOL</i>	Sqrt(12) multiplied by the standard deviation of monthly excess stock returns. Excess stocks returns are defined using the Fama-French three-factor market model estimated over year $t-1$.	CRSP
<i>Capital</i>	Equity capital plus minority interest less portion of perpetual preferred stock and goodwill as a percent of adjusted risk-weighted assets in year $t-1$.	Compustat
<i>Deposits</i>	Ratio of deposits to total assets in year $t-1$.	Compustat
<i>RealEstateLoans</i>	Ratio of real estate loans to total assets in year $t-1$.	FR-Y9C

<i>IncDisparity</i>	Ratio of the median household income in the past 12 months of White households to that of African American households in the bank's headquartered state, measured in year $t-1$.	ACS
<i>LogStateGDP</i>	Natural logarithm of GDP per capita for the bank's headquarter state (2012 US dollars) in year $t-1$.	BEA
<i>FutIVOL</i>	Square root of 12 multiplied by the standard deviation of monthly excess stock returns. Excess return is defined using the Fama-French 3-factor market model estimated for years $t+1$ and $t+2$.	CRSP
<i>FutROA</i>	Average net income for year $t+1$ and $t+2$ divided by total assets in year t .	Compustat
<i>FutTobinQ</i>	Average market value of equity plus book value of total liabilities for years $t+1$ and $t+2$ divided by total assets in year t .	Compustat
<i>FutBadLoans</i>	Average nonperforming loans for years $t+1$ and $t+2$ divided by total assets at year t .	FR-Y9C
<i>FutBHRet</i>	Buy and holding returns for years $t+1$ and $t+2$	CRSP

* Abbreviations: Home Mortgage Disclosure Act (HMDA); Institutional Shareholder Services (ISS); U.S. Equal Employment Opportunity Commission (EEOC); Consolidated Financial Statements for Holding Companies Report filed with the U.S. Federal Reserve (FR-Y9C); American Community Survey of the U.S. Census Bureau (ACS); Bureau of Economic Analysis (BEA); Center for Research in Security Prices at the University of Chicago (CRSP).

Table 2: Sample selection

The initial sample comprises of S&P 1500 financial companies with director racial information from ISS for the years 2010 to 2021.

Sample Construction	# of bank-year observations	# of loan applications
Financial companies (SIC 6000-6900) with director racial information for the years 2010 to 2021	3,740	n/a
Dropped if no RSSD is assigned by the Federal Reserve	(2,400)	n/a
Dropped if no mortgage loan application records in HMDA	(266)	n/a
Bank-years with loan data	1,173	44,600,096
Dropped if other control variables are missing from CRSP, Compustat, Y9C	(228)	(1,940,736)
Dropped if the number of loan applications is less than 1,000	(84)	(40,712)
Resulting sample in bank-years	861	42,618,648
Bank-years with at least 50 African American loan applications	681	41,990,504
Unique bank holding companies (BHCs)	99	n/m

Table 3: Summary statistics

The sample comprises of S&P 1500 US banks with available board of directors data (from ISS) and mortgage loan application data (from HMDA). Data are for the years 2010 to 2021. All variables are defined in Table 1.

Variable	N	Mean	p25	Median	p75	min	max	Std dev
<i>AfricanAmericanRR</i>	681	.518	.417	.519	.625	.117	1	.146
<i>OtherMinorityRR</i>	681	.44	.341	.437	.531	.123	.997	.136
<i>WhiteRR</i>	681	.346	.27	.341	.408	.09	.991	.114
<i>BoardAA</i>	681	.631	0	1	1	0	1	.483
<i>BoardAAP</i>	681	.067	0	.071	.111	0	.25	.061
<i>SmallSize</i>	681	.266	0	0	1	0	1	.442
<i>MediumSize</i>	681	.512	0	1	1	0	1	.5
<i>BoardSize</i>	681	2.598	2.485	2.639	2.773	1.946	3.296	.22
<i>BoardFemale</i>	681	.174	.111	.167	.231	0	.455	.091
<i>BoardOtherMinority</i>	681	.045	0	0	.071	0	.667	.092
<i>Big3</i>	681	.193	.161	.193	.231	.003	.352	.056
<i>AAExecutives</i>	681	.034	.024	.03	.038	0	.115	.019
<i>ROA</i>	681	.009	.007	.009	.012	-.06	.037	.007
<i>IVOL</i>	681	.152	.097	.127	.172	.043	.698	.094
<i>Capital</i>	681	12.53	10.81	12	13.43	6.75	29.1	2.808
<i>Deposits</i>	681	.734	.706	.76	.804	0	.875	.118
<i>RealEstateLoans</i>	681	.401	.275	.413	.525	.001	.804	.174
<i>IncDisparity</i>	632	.617	.568	.625	.661	.394	.802	.063
<i>LogStateGDP</i>	681	-2.988	-3.125	-2.968	-2.782	-3.668	-2.545	.272
<i>FutIVOL</i>	587	.143	.113	.138	.167	.064	.574	.044
<i>FutROA</i>	529	.012	.009	.011	.014	-.022	.03	.005
<i>FutTobinQ</i>	505	1.193	1.068	1.141	1.245	.84	2.446	.209
<i>FutBadLoans</i>	515	.008	.004	.007	.01	0	.041	.006
<i>FutBHRet</i>	587	.263	.007	.212	.474	-.371	1.958	.334

Table 4: Determinants of African American board representation

Table 4 report OLS regression estimates where the dependent variable is *BoardAA*. All models include year dummies. Numbers in parentheses are *t*-statistics based on standard errors clustered at the bank level. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively. All variables are defined in Table 1.

Model	(1)	(2)	(3)
<i>SmallSize</i>	-0.333*** (-2.650)	-0.465*** (-3.771)	-0.331** (-2.604)
<i>MediumSize</i>	-0.062 (-0.731)	-0.152* (-1.801)	-0.060 (-0.703)
<i>BoardSize</i>	0.342** (2.156)		0.319* (1.947)
<i>BoardFemale</i>	1.063*** (2.733)		1.078*** (2.717)
<i>BoardOtherMinority</i>	-0.356 (-0.652)		-0.276 (-0.496)
<i>Big3</i>	-0.285 (-0.331)	-0.129 (-0.143)	-0.347 (-0.389)
<i>AAExecutives</i>	5.004** (2.286)	3.646* (1.878)	4.666** (2.108)
<i>ROA</i>	0.098 (0.035)	-3.119 (-0.966)	-0.192 (-0.065)
<i>IVOL</i>	0.196 (0.641)	0.080 (0.247)	0.199 (0.656)
<i>Capital</i>	-0.007 (-0.394)	-0.012 (-0.623)	-0.008 (-0.498)
<i>Deposits</i>	-0.158 (-0.529)	-0.210 (-0.675)	-0.240 (-0.804)
<i>RealEstateLoans</i>	-0.414 (-1.617)	-0.492* (-1.795)	-0.402 (-1.516)
<i>IncDisparity</i>			-0.177 (-0.317)
<i>LogStateGDP</i>			-0.090 (-0.544)
Constant	-0.231 (-0.421)	1.109*** (2.936)	-0.251 (-0.347)
Observations	681	681	681
Adj. R ²	0.339	0.289	0.341
Year dummies	YES	YES	YES
Clustered se by bank	YES	YES	YES
<i>t</i> -statistic for the difference between <i>SmallSize</i> & <i>MediumSize</i> coefficients	8.21***	9.30***	8.15***

Table 5: African American board representation and mortgage loan rejection rates for African American borrowers: 2SLS

This table presents 2SLS second stage estimates, where *BoardAA* is instrumented using *AAExecutives*, following Model (1) in Table 4. The dependent variable is *AfricanAmericanRR*. In column (1) *AfricanAmericanRR* is computed based on loan applications for properties outside the bank's headquarter state. In column (2), *AfricanAmericanRR* is computed based on all loan applications. All models include year dummies. Numbers in parentheses are *t*-statistics based on standard errors clustered at the bank level. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively. All variables are defined in Table 1.

Sample	<i>AfricanAmericanRR_t</i>	
	(1) Loans outside HQ state	(2) All loans
<i>IVBoardAA</i>	-0.248*** (-2.770)	-0.236*** (-2.743)
<i>SmallSize</i>	-0.150*** (-2.647)	-0.149*** (-3.059)
<i>MediumSize</i>	-0.069* (-1.888)	-0.060* (-1.674)
<i>BoardSize</i>	0.034 (0.530)	0.038 (0.662)
<i>BoardFemale</i>	0.351** (2.129)	0.402*** (2.880)
<i>BoardOtherMinority</i>	0.144 (1.354)	-0.084 (-0.560)
<i>Big3</i>	0.022 (0.096)	-0.039 (-0.175)
<i>ROA</i>	2.506 (1.521)	1.680 (1.086)
<i>IVOL</i>	0.005 (0.033)	-0.087 (-0.760)
<i>Capital</i>	-0.016*** (-3.292)	-0.015*** (-2.893)
<i>Deposits</i>	0.150 (1.499)	0.175* (1.811)
<i>RealEstateLoans</i>	-0.353*** (-2.789)	-0.368*** (-3.249)
Constant	0.838*** (3.649)	0.861*** (4.128)
Observations	645	681
Adj. R ²	0.128	0.089
Year dummies	YES	YES
Clustered se by bank	YES	YES
F-Stat of IV	5.065	5.224

Table 6: African American board representation and mortgage loan rejection rates for African Americans: Matching methods

This table reports treatment effects using two different matching methods: Kernel Matching and Nearest Neighbor Matching. The treatment group contains bank-years with at least one African American director on the board and the control group contains bank-years without any African American directors on the board. All matching is done with replacement using Model (1) in Table 4. *AfricanAmericanRR* is calculated using loan applications from either outside the bank’s headquarter state or from all states, as indicated in the respective column. Numbers in parentheses are *z*-statistics based on standard errors adjusted using 10,000 bootstrap replications. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively. All variables are defined in Table 1.

Matching method	Outcome variable	Loans outside HQ state	All loans
Kernel	Mean difference in <i>AfricanAmericanRR</i>	-0.063***	-0.034***
		(-3.583)	(-2.660)
Nearest Neighbor	Mean difference in <i>AfricanAmericanRR</i>	-0.063***	-0.044***
		(-3.085)	(-2.754)
	Number of observations	545	581

**Table 7: Increase in African American Board representation and mortgage loan rejection rates of African American borrowers:
Univariate analysis**

This table reports rejection rates for African American borrowers at banks appointing an African American director. Panel A reports rejection rates for all banks that appoint an African American director in year 0. Panel B reports rejection rates for banks without any African American directors that appoint an African American director to the board in year 0. Numbers in parentheses are *t*-statistics based on *t*-test of the mean rejection rates in pre-5 years and post-5 years. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively.

Panel A: All banks that appoint an African American director to the board in year 0

Event year	-5	-4	-3	-2	-1	0	1	2	3	4
Mean <i>AfricanAmericanRR</i>	0.60	0.61	0.57	0.56	0.53	0.50	0.50	0.49	0.51	0.49
Number of observations	25	26	34	36	41	47	40	32	27	21
Mean pre & post <i>AfricanAmericanRR</i>			0.57					0.5		
Post – Pre <i>AfricanAmericanRR</i> (<i>t</i> -statistic for difference)						0.07*** (4.47)				

Panel B: Banks without any African American directors that appoint an African American director to the board in year 0

Event year	-5	-4	-3	-2	-1	0	1	2	3	4
Mean <i>AfricanAmericanRR</i> rates	0.57	0.57	0.54	0.56	0.51	0.47	0.45	0.48	0.52	0.48
Number of observations	10	11	12	13	18	23	18	14	10	8
Mean pre & post <i>AfricanAmericanRR</i>			0.55					0.48		
Post – Pre <i>AfricanAmericanRR</i> (<i>t</i> -statistic for difference)						0.07*** (3.62)				

Table 8: Increase in African American Board representation and mortgage loan rejection rates of African American borrowers: OLS

This table shows OLS estimates for models with *AfricanAmericanRR* as the dependent variable, focusing on sample banks that appoint an African American director. The sample in column (1) includes all banks that appoint an African American director in year 0. The sample in column (2) includes banks without any African American directors that appoint an African American director in year 0. For each bank, data are for the period from year -5 to year +4 relative to the year of appointment (year 0). *AfterBoardAA* is an indicator variable that equals one for bank observations for years 0 to 4. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively. All variables are defined in Table 1.

Sample	(1) All banks that appoint an African American director	(2) Banks without any African American directors that appoint an African American director
<i>AfterBoardAA</i>	-0.097*** (-4.471)	-0.099*** (-3.726)
<i>SmallSize</i>	-0.047 (-0.747)	0.146* (2.044)
<i>MediumSize</i>	0.025 (0.643)	0.147** (2.503)
<i>BoardSize</i>	-0.060 (-0.916)	-0.016 (-0.169)
<i>BoardFemale</i>	0.289* (1.836)	0.423** (2.162)
<i>BoardOtherMinority</i>	-0.103 (-0.560)	0.551 (0.756)
<i>Big3</i>	-0.111 (-0.313)	0.143 (0.252)
<i>ROA</i>	1.731 (1.045)	-2.407 (-1.094)
<i>IVOL</i>	-0.074 (-0.452)	-0.478** (-2.806)
<i>Capital</i>	-0.002 (-0.471)	0.005 (0.721)
<i>Deposits</i>	0.197* (1.993)	0.068 (0.331)
<i>RealEstateLoans</i>	-0.529*** (-6.021)	-0.484*** (-4.737)
Constant	0.806*** (3.419)	0.623* (1.937)
Observations	329	137
R-squared	0.511	0.533
YEAR FE	Yes	Yes
Cluster BANK	Yes	Yes

Table 9: African American loan rejection rates for banks with an African American director, based on the director's role on the board.

This table displays rejection rates for African American borrowers at banks with an African American director, based on the director's role on the board. Key positions include chairman, lead director, or member of the compensation, nominating, or audit committees. Variables are defined in Table 1.

Subsample	N	Mean	<i>AfricanAmericanRR</i>				
			Min	p25	p50	p75	Max
Banks with African American directors in key positions	388	.513	.117	.407	.513	.621	1
Banks with African American directors not in key position	42	.552	.216	.432	.513	.701	.898

Table 10: Mortgage loan applications from CRA areas

The table shows summary statistics for the frequency of loan applications from CRA areas. Panel A shows the results for the full sample. Panel B shows the results for banks without an African American director. Panel C shows the results for banks with an African American director.

Panel A: Full Sample							
	N	Mean	Min	p25	Median	p75	Max
Percentage of loan applications from CRA areas	681	.32	0	0	0	.845	.988
Percentage of loan applications of African American borrowers from CRA areas	681	.014	0	0	0	.019	.155
Panel B: Banks without an African American director							
	N	Mean	Min	p25	Median	p75	Max
Percentage of loan applications from CRA areas	251	.545	0	0	.801	.931	.988
Percentage of loan applications of African American borrowers from CRA areas	251	.018	0	0	.014	.027	.112
Panel C: Banks with an African American director							
	N	Mean	Min	p25	Median	p75	Max
Percentage of loan applications from CRA areas	430	.189	0	0	0	.123	.978
Percentage of loan applications of African American borrowers from CRA areas	430	.012	0	0	0	.003	.155

Table 11: African American board representation and mortgage loan rejection rates for White borrowers and other racial minority borrowers

This table presents 2SLS second stage estimates, where *BoardAA* is instrumented using *AAExecutives*, following Model (1) in Table 4. The dependent variable in columns (1) and (2) is *WhiteRR*, computed using loan applications of White borrowers from either outside the bank's headquarter state or from all states, as indicated in the respective column. The dependent variable in columns (3) and (4) is *OtherRR*, computed using loan applications of Other minority borrowers from either outside the bank's headquarter state or from all states, as indicated in the respective column. Other minority borrowers are Alaska Native, Asian, Hispanic, Native American, or Pacific Islanders. All models include year dummies. Numbers in parentheses are *t*-statistics based on standard errors clustered at the bank level. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively. All variables are defined in Table 1.

Sample	<i>WhiteRR</i>		<i>OtherMinorityRR</i>	
	(1) Loans outside HQ state	(2) All loans	(3) Loans outside HQ State	(4) All loans
<i>IVBoardAA</i>	-0.152** (-1.983)	-0.176*** (-2.590)	-0.067 (-0.685)	-0.088 (-0.964)
<i>SmallSize</i>	-0.088* (-1.831)	-0.112*** (-2.690)	-0.098* (-1.706)	-0.122** (-2.288)
<i>MediumSize</i>	-0.048 (-1.479)	-0.055* (-1.820)	-0.082*** (-2.631)	-0.074** (-2.324)
<i>BoardSize</i>	0.029 (0.567)	0.004 (0.090)	-0.106* (-1.670)	-0.070 (-1.207)
<i>BoardFemale</i>	0.319** (2.457)	0.365*** (3.021)	0.265* (1.657)	0.299* (1.955)
<i>BoardOtherMinority</i>	0.188* (1.683)	-0.008 (-0.055)	0.258 (1.417)	0.073 (0.686)
<i>Big3</i>	-0.133 (-0.780)	-0.088 (-0.548)	0.007 (0.037)	0.060 (0.360)
<i>ROA</i>	1.683 (0.884)	1.789 (1.004)	0.304 (0.158)	1.195 (0.767)
<i>IVOL</i>	0.163 (1.310)	0.085 (0.761)	0.142 (1.031)	-0.116 (-1.008)
<i>Capital</i>	-0.008* (-1.705)	-0.012*** (-2.681)	-0.012** (-2.013)	-0.010** (-1.980)
<i>Deposits</i>	0.070 (0.746)	0.018 (0.222)	0.116 (0.961)	0.167* (1.702)
<i>RealEstateLoans</i>	-0.219* (-1.865)	-0.259** (-2.492)	-0.218* (-1.805)	-0.258** (-2.255)
Constant	0.471** (2.423)	0.675*** (3.892)	0.983*** (4.301)	0.929*** (4.563)
Observations	674	681	654	681
Adj. R ²	0.047	0.070	0.188	0.249
Year dummies	YES	YES	YES	YES
Clustered se by bank	YES	YES	YES	YES

Table 12: African American board representation and future bank performance and risk

This table reports the estimates of OLS regressions where the dependent variable is the metric identified in each column. All metrics are computed over the two years following the year in which *BoardAA* is measured. Numbers in parentheses are *t*-statistics based on standard errors clustered at the bank level. ***, **, and * correspond to 1%, 5%, and 10% significance levels, respectively. All variables are defined in Table 1.

Model	(1) <i>FutBHRet</i>	(2) <i>FutROA</i>	(3) <i>FutTobinQ</i>	(4) <i>FutBadLoans</i>	(5) <i>FutIVOL</i>
<i>BoardAA</i>	0.015 (0.617)	0.000 (0.270)	0.037 (1.211)	0.001 (0.935)	0.008* (1.821)
<i>SmallSize</i>	-0.021 (-0.480)	0.001 (0.813)	0.286*** (5.212)	-0.006*** (-3.530)	0.020** (2.316)
<i>MediumSize</i>	-0.053* (-1.722)	-0.001 (-0.713)	0.112*** (3.594)	-0.005*** (-4.079)	0.010 (1.223)
<i>BoardSize</i>	-0.112** (-2.037)	-0.000 (-0.065)	0.126* (1.765)	0.002 (0.993)	0.005 (0.440)
<i>BoardFemale</i>	-0.126 (-1.030)	-0.010** (-2.316)	-0.362*** (-2.733)	-0.001 (-0.261)	-0.047** (-2.144)
<i>BoardOtherMinority</i>	-0.059 (-0.719)	0.002 (0.607)	-0.008 (-0.087)	-0.002 (-0.491)	0.023 (1.391)
<i>Big3</i>	-0.376 (-1.082)	-0.003 (-0.436)	-0.130 (-0.360)	-0.003 (-0.351)	-0.044 (-0.718)
<i>Capital</i>	0.006 (1.073)	0.000* (1.969)	0.001 (0.145)	-0.000 (-0.204)	0.001 (0.896)
<i>Deposits</i>	0.118 (0.820)	0.009** (2.383)	0.245*** (2.963)	0.009** (2.088)	-0.027 (-1.292)
<i>RealEstateLoans</i>	-0.090 (-1.214)	-0.006 (-1.473)	-0.312*** (-3.740)	0.007* (1.962)	-0.001 (-0.048)
Constant	0.277 (1.308)	0.003 (0.488)	0.601*** (2.935)	0.006 (1.000)	0.150*** (3.492)
Observations	587	529	505	515	587
R-squared	0.597	0.222	0.287	0.437	0.259
YEAR FE	YES	YES	YES	YES	YES
Cluster BANK	YES	YES	YES	YES	YES