Political Voice and (Mortgage) Market Participation: Evidence from the Dilution of Voting Rights Act

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Abstract

Using US Supreme Court's narrow-decision on Shelby v. Holder as a shock that diluted voting rights of Black Americans in covered counties, we document the relationship between political voice and economic decision-making. We show fewer Black Americans buy homes after their de-facto disenfranchisement, reflected through lower mortgage applications. Among those who apply for mortgages, there is a flight of mortgage-application to Black lenders. Leveraging individual-level survey data, we show trust in government and financial institutions plays a significant role in driving these effects. Overall, the findings suggest that disenfranchisement can lead to exclusion from markets and exacerbate racial homeownership gaps.

Keywords: Political voice, voting rights, trust, race, mortgage markets
JEL Codes: D12, D72, G21, G51, J15, R21

1 Introduction

"So long as I do not firmly and irrevocably possess the right to vote I do not possess myself. I cannot make up my mind — it is made up for me. I cannot live as a democratic citizen, observing the laws I have helped to enact — I can only submit to the edict of others."

-Dr. Martin Luther King Jr., 1957 speech titled "Give Us The Ballot"

The power of individuals to affect election outcomes is the gateway to advancement in all aspects of life. By exercising their voting rights, the electorate can vote out of office any politicians who create barriers in essential services such as housing, safety, and employment. Voting rights grant individuals a political voice, enabling them to channel more public goods toward themselves and their communities. This relationship between public good provision and political voice has been well documented in the literature.

However, individuals may also directly adjust their own economic and financial decisions in response to diminished voting rights. For instance, some posit that the dilution of political voice may be related to institutional distrust, societal alienation, and apprehension regarding future discriminatory practices (see Levi and Stoker (2000) and Levi, Tyler and Sacks (2012) for a review). This erosion of trust or sense of social alienation can reshape the economic environment and significantly influence investment decisions, particularly those that are less easily reversible (Knack and Keefer, 1997; La Porta et al., 1997; Glaeser et al., 2000; Guiso, Sapienza and Zingales, 2004, 2008, 2013; Algan and Cahuc, 2010; Falk et al., 2018; Gennaioli et al., 2022). Specifically, individuals with diminished voting power may borrow less and invest less in assets, perceiving inadequate protection of their interests or feeling a diminished sense of belonging in the broader community.[1] While the existing research suggests the possibility of political voice affecting individual economic decision-making, direct microeconomic evidence remains limited.

This paper aims to fill this gap by examining the relationship between political voice and individual economic decision-making, as well as the underlying channels that may influence this relationship. Specifically, we focus on the impact of the dilution of the Voting Rights Act (VRA) on the homeownership of Black Americans, as reflected through their participation in the mortgage market. Home purchases and mortgage financing are natural settings for this investigation because these are among the most important economic decisions households make, with houses being the

[1] This argument parallels the hypothesized impact of civic capital, as measured by voter participation, in financial decision-making processes. See Guiso, Sapienza and Zingales (2011) for a review of the literature on civic capital.

most significant asset for typical US households (Chetty and Szeidl, 2007; Chetty, Sándor and Szeidl, 2017), and mortgage loans being their primary financial instrument (Campbell, 2006).[2] Drawing on detailed information available in the mortgage loan market—such as loan applicants' race, property location, and loan application status—we investigate how Black Americans change their home-buying and mortgage-financing decisions in response to the dilution of the VRA.

Identifying the effect of reduced political voice or de facto disenfranchisement on mortgage market outcomes requires an exogenous variation in voting costs. We utilize the 2013 US Supreme Court ruling on the VRA in *Shelby v. Holder* that led to such temporal and spatial variations in voting costs. The VRA was enacted on August 6, 1965, to eliminate discriminatory voting practices that hindered minority and Black American participation in elections. Among others, Section 5 of the VRA, the core of the VRA, attempted to achieve the goal by empowering federal authorities to oversee and require preclearance of any voting law changes in selected jurisdictions, primarily in the South. However, in its judgment on *Shelby v. Holder*, the US Supreme Court ruling rendered Section 5 inoperative.[3]

The elimination of the preclearance requirement enabled jurisdictions previously governed by Section 5 to swiftly enact controversial voting laws, some of which had previously failed the preclearance process (Ang, 2019). Thus, we begin our analysis by investigating if the dilution of the VRA constitutes a shock to the political voice of Black Americans. Our findings indicate a significant decline in voter turnout during presidential elections in counties formerly covered by Section 5, particularly those with a higher proportion of Black residents. This result aligns with the findings of Ang (2019), Billings et al. (2022), Feder and Miller (2020), and Ricca and Trebbi (2022) and indicates a diminished political voice for Black Americans following the Shelby ruling.

Based on this finding, we combine the spatial information on jurisdictions originally covered by Section 5 of the VRA with the detailed Home Mortgage Disclosure Act (HMDA) dataset to identify the relationship between changes in voting costs and mortgage market outcomes. Importantly, our empirical strategy employs a border county-pair design and compares the same racial groups in counties covered by Section 5 with those in the neighboring control counties. We choose to focus

[2] A large number of homes are purchased through mortgage borrowing. The 2021 Statistics Research Department report - *"Number of new home sales in the U.S. 2000-2020, by financing type"* states that two in three home purchases between 2000 and 2020 were financed through a conventional mortgage <LINK>. Redfin analysis of home purchases indicates an average of 25% of homes were purchased using all cash between 2001 and 2021 <LINK>. The 2014 survey of potential home-buyers by loanDepot finds that 71% of all Americans who want to buy a home will need financing <LINK>.

[3] Supreme Court judgment in *Shelby v. Holder* declared Section 4(b) of the VRA – which determines which jurisdictions are covered by Section 5 – unconstitutional making Section 5 of VRA – which required preclearance for any change in voting rules – inoperable.

on a specific group of neighboring counties—some covered by the VRA and other immediately adjacent counties not covered by the VRA in a county pair—because these counties are expected to share similar socio-economic characteristics and would likely follow similar paths in the absence of policy changes.[4] In other words, our approach assumes that, without the Shelby ruling, Black borrowers and White borrowers in the treatment and control counties would have evolved according to parallel trends in mortgage financing over time.

We find a significant and sharp decline in mortgage originations and applications among Black borrowers in treated counties following the Shelby ruling, while the rates of mortgage denials stayed constant. Employing a dynamic differences-in-differences-in-differences (DDD) specification, we verify absence of pre-trends in these key outcomes. Our specification includes fixed effects for county × year, county × race, and county-pair × race × year. Therefore, our results are unlikely to be driven by time-varying shocks within a county, the time-invariant status of a race within a county, or time-varying shocks to a race within adjacent county-pairs. To emphasize, the inclusion of county-pair × race × year fixed effects in our specification ensures the estimate of interest is identified using variation across immediately adjacent treated and control neighbors.

We supplement our baseline analysis with a geographic regression discontinuity (RD). This method estimates the effect of the Shelby ruling on mortgage market applications, originations, and denial rates measured at the census-tract level in a sample of bordering counties. The key innovation of the RD design is to include census-tract × year fixed effects along with county-pair × race × year fixed effects. This innovation allows us to address issues associated with county-pair designs discussed in Dieterle, Bartalotti and Brummet (2020) and Bartalotti, Brummet and Dieterle (2021): potential dissimilarities between large counties on each side of the border; variations in transmission of economic shocks across a county's regions; and heterogeneous policy spillovers within a county. Results from the geographic RD indicate that the mortgage origination amount (number) for Black Americans declined by 14.7% (8.3%) in treated counties after the Shelby ruling. Mortgage application amounts (number) declined by 12.5% (7.0%). However, as before, we do not observe statistically significant or economically meaningful changes in the denial rate of mortgage loans around the Shelby ruling.

[4]This approach has been previously employed in Holmes (1998), Dube, Lester and Reich (2010), Clinton and Sances (2018), Aneja and Avenancio-León (2019), and Aneja and Avenancio-León (2024) among others. Similar to these papers, the county-pair design allows us to control for smoothly changing unobservable factors that could potentially distort estimates when using coarser units of observation such as at the state level. Additionally, we show that the county pairs are similar across several observable characteristics. Moreover, we verify that Black Americans residing in these county pairs are similar across these characteristics.

The decline in mortgage applications and the resulting decrease in mortgage originations suggest that Black Americans bought fewer homes in treated counties following the Shelby ruling. To verify this observation, we analyze Zillow's Transaction and Assessment Database (ZTRAX). Employing a dynamic DDD specification, we confirm that Black Americans in the treated counties indeed decreased their home purchases after the Shelby ruling. This result thus demonstrates that a negative shock to political voice can have real effects, potentially exacerbating the existing racial homeownership gap.

We address potential concerns regarding our analyses. First, we consider the issue of selection bias, i.e., the jurisdictions subject to Section 5 oversight were selected based on specific criteria potentially correlated with racial issues. A state or a county was covered under Section 5 if it used a test or device to restrict voting, such as a literacy test, and had a voter turnout of less than 50% in the 1964 presidential elections. While the inclusion of county $\times$ race fixed effects addresses this concern, we further address this issue, by conducting a differences-in-regression-discontinuity (DRD) analysis. This analysis uses a sample of counties with voter turnout within a narrow margin of 5 percentage points above and below the 50% threshold in the 1964 presidential election. The DRD analysis indicates a decline in mortgage origination and applications for Black Americans in treated counties after the Shelby ruling, while the effect on denial rate is economically small and statistically insignificant. This analysis suggests that our findings are unlikely to be driven by selection bias.

Second, we address the concern that our results may be influenced by potentially unaccounted aggregate factors that coincide with the timing of the Shelby ruling. Such factors include macroeconomic shocks, such as changes in interest rates and the final compliance deadline of the Dodd-Frank Act in 2013, which impacted bank credit. These macroeconomic factors are important to consider because wealth inequality between Black and White households may cause them to react differently to these economic shifts. However, in order for these factors to explain our results, Black households in adjacent treated and control counties must exhibit varying sensitivity to these economic shocks. Thus, we analyze pre-Shelby data to confirm that Black households in both treated and control counties responded in similar ways to various aggregate shocks, including changes in mortgage rates, term spreads, bank credit availability, and GDP growth rates. Additionally, we include a triple-interaction term of macroeconomic shocks, borrower's race, and county's treatment status in our primary specification and find that our baseline results are stable.

In the final section of this paper, we examine a potential mechanism behind our findings. We examine the hypothesis that a diminished political voice may lead to mistrust in government and financial institutions, thereby curtailing the economic and financial activities of impacted individuals. Within this framework, individuals belonging to a group with less voting power might borrow less and buy fewer homes due to two primary reasons: (1) they perceive inadequate protection for their economic and financial interests, especially when they feel that de facto disenfranchisement undermines fairness and equality, or (2) they lack a sense of belonging within the larger community (Knack and Keefer, 1997; La Porta et al., 1997; Glaeser et al., 2000; Guiso, Sapienza and Zingales, 2004, 2008, 2013; Algan and Cahuc, 2010; Falk et al., 2018; Gennaioli et al., 2022).

We document that the Shelby ruling significantly eroded trust among affected Black Americans in various state institutions, including Congress, the President, the Supreme Court, and state legislatures. Furthermore, we find that this erosion of trust extends to financial institutions. Combining geography-marked individual-level data from the General Social Survey (GSS) and within county-pair estimation strategy, we document a 40% increase in mistrust of financial institutions among Black Americans in treated counties post Shelby-ruling. Additionally, we document a concurrent rise in hate crimes and hostility towards Black Americans in the treated counties.

We present four pieces of evidence that lends support to loss in trust being the primary driver of lower mortgage application by Black Americans. First, we show that following the Shelby ruling, Black Americans in affected areas increasingly purchased homes with cash. This trend towards cash homebuying suggests that they were seeking to avoid dealing with the financial system. This behavior supports the hypothesis that diminished trust in financial institutions may explain the decrease in mortgage applications.

Second, we exploit an insight from Howell et al. (2022) that non-banks are more likely to automate lending processes and are thus less prone to racial discrimination. We show that Black Americans in areas affected by the Shelby ruling did not reduce their mortgage applications to the non-banks. This stability in mortgage applications to non-banks contrasts with a noticeable decline in applications to banks. Therefore, this evidence suggests that mistrust toward banks, which rely on human interaction processes, plays a significant role in the decreased number of mortgage applications by Black Americans.

Third, we find a more pronounced decrease in mortgage applications and originations for Black Americans in counties already characterized by high levels of anti-Black sentiment prior to the

Shelby ruling. This result suggests that pre-existing racial tensions exacerbate the racial disparities in mortgage access, supporting the notion that the decrease in trust among Black Americans may be influenced by heightened racial animosity.

Fourth, we document a significant increase in mortgage applications by Black borrowers to Black lenders in the treated counties relative to control counties.[5] Specifically, we document a 15.0% increase in the total amount and an 11.9% increase in the number of applications. This flight towards Black-friendly lenders indicates a growing preference among Black borrowers for lenders with the same racial identity, suggesting the importance of trust. Further, this behaviour broadly aligns with the existing research that highlights the role of group affiliation in insuring against shocks that affect particular groups, emphasizing the salience of racial identity in economic decisions (Akerlof and Kranton, 2000, 2005; Shayo, 2020).

Next, we examine two other potential mechanisms. First, we consider whether Black Americans in the affected counties might relocate to areas with better political representation, which could lead to fewer mortgage applications in the affected areas, as predicted by Tiebout (1956). Using county-level IRS migration data and zip code-level Census population data, we find that Black Americans rarely moved from counties affected by the Shelby ruling. Overall, we do not find evidence supporting the migration hypothesis, indicating that migration is unlikely to explain the observed decrease in mortgage applications among Black Americans in these areas. The absence of significant movement among Black Americans from disenfranchised areas to other regions could be attributed to the high search costs and limited resources or time to undertake such relocations (Bergman et al., 2019).

Second, reduced political voice can negatively affect individuals' income through public employment thereby increasing their borrowing constraints (Aneja and Avenancio-León, 2019, 2024). We test this hypothesis by examining how the heterogeneity in the treatment effect across counties where public employment is the primary employment for Black Americans. We find that the treatment effect on mortgage applications and originations is statistically similar across counties with below and above the median share of Black Americans in the working-age labour force employed in the public sector. This result suggests that the public employment effect of the Shelby ruling may not be the primary driver of our results. In addition to this test, our results on greater usage of cash by Black Americans to purchase new homes in treated counties, no effect on

[5] Black lenders are defined as lenders with a high proportion of loans to Black borrowers before the Shelby ruling.

applications at non-banks, and an increase in mortgage applications to black-friendly banks add further credence to our observation that the income channel may not be the primary driver of our results. Overall these results suggest that the documented effect may not just be a downstream effect of reduced income.

Related Literature: The primary contribution of our work is to investigate the relationship between political voice and individual economic decision making. The existing literature has linked the expansion of voting rights to increased public goods provision and government spending.[6] Specifically, the literature has documented the effects of changes in the VRA on various socio-economic factors such as public spending (Cascio and Washington, 2014; Jones and Shi, 2022); public employment (Aneja and Avenancio-León, 2019, 2024); arrest rates (Facchini, Knight and Testa, 2020); political competition (Besley, Persson and Sturm, 2010); voter turnout (Ang, 2019; Billings et al., 2022); voter registration (Ricca and Trebbi, 2022); and political office holding of Black Americans (Bernini, Facchini and Testa, 2023). Our study, apart from extending this literature, adopts a unique angle by exploring how changes in political influence affect individuals' economic and financial decisions. Specifically, we focus on the mortgage market to demonstrate that Black Americans reduce their mortgage-market participation following de facto disenfranchisement. Our analysis highlights how disenfranchisement can undermine trust in both government and financial institutions, which in turn influences market participation. Our findings thus indicate how discriminatory voting practices can lead to broader market exclusions.

Our paper also contributes to the literature that explores racial disparities in mortgage lending. Black, Schweitzer and Mandell (1978) and Munnell et al. (1996) document the role of discrimination in explaining the racial disparity in mortgage lending. Subsequent research has continued to investigate the reasons behind racial differences in lending practices, especially in mortgage originations.[7] Our results add to this literature by showing that changes in the socio-political environment may lead to lower trust in financial institutions resulting in lower mortgage applications and consequently lower homeownership, thereby exacerbating the existing racial divide. Our result is closest in spirit to the hypothesized explanation for racial differences in mortgage origination

[6] See Husted and Kenny (1997), Lott and Kenny (1999), Miller (2008), Aidt and Jensen (2009), Moehling and Thomasson (2012), Naidu (2012), Aidt and Jensen (2013), Carruthers and Wanamaker (2015), and Fujiwara (2015) among others.

[7] See Holmes and Horvitz (1994), Tootell (1996), Ross et al. (2008), Ghent, Hernandez-Murillo and Owyang (2014), Cheng, Lin and Liu (2015), Hanson et al. (2016), Giacoletti, Heimer and Yu (2021), Ambrose, Conklin and Lopez (2021), Begley and Purnanandam (2021), Bhutta, Hizmo and Ringo (2021), Bhutta and Hizmo (2021), Howell et al. (2022), Bartlett et al. (2022), Fuster et al. (2022), Butler, Mayer and Weston (2023), among others.

presented in Charles and Hurst (2002): "We speculate that the portion of the gap that remains unexplained after controlling for income, demographics, and wealth may be the result of Blacks anticipating a greater chance of rejection when they apply for mortgages." Specifically, this paper provides empirical evidence supporting their conjecture, emphasizing the importance of trust when applying for mortgages.

Finally, our work contributes to the literature examining the determinants of homophily. Theories proposed by Akerlof and Kranton (2000), Akerlof and Kranton (2005), and Ambrus, Mobius and Szeidl (2014) posit that social networks can provide insurance against shocks. We contribute to this literature by documenting a flight of Black borrowers to Black lenders in response to the reduction of their political voice. This movement suggests that when political representation is weakened, racial identity becomes more pronounced, leading to increased homophily—the tendency of individuals to associate with similar others. Consequently, Black Americans turn to community-based institutions as a safeguard against these political and social disruptions.

This paper proceeds as follows. Section 2 discusses background information on the VRA. Section 3 describes the data. Section 4 delineates the empirical strategy. Section 5 presents the baseline effect of the Shelby ruling on mortgage market outcomes. Section 6 documents the underlying mechanisms. Section 7 concludes.

2 Institutional Details

This section examines the Voting Rights Act (VRA) of 1965 and its importance for Black American's political voice. We highlight the 2013 US Supreme Court ruling in *Shelby v. Holder*, which found Section 4(b) of the VRA unconstitutional. This section determines the jurisdictions covered by Section 5, which mandated preclearance for any voting rule changes. As a result, Section 5 became inoperable.

2.1 Historical Background of the VRA

The passage of the VRA in 1965 was one of the most significant legislative achievements of the American Civil Rights Movement. The Civil Rights movement emerged in response to growing racial inequality in the mid-1950s and was fueled by discriminatory "Jim Crow" laws and the deteriorating socioeconomic status of Black Americans. Central to this movement was the fight for voting rights, notably highlighted by events like Selma's "Bloody Sunday". The VRA was

a direct response to these injustices and served to revitalize the protections outlined in the 15th Amendment. President Lyndon B. Johnson famously characterized the VRA as "the goddamndest, toughest voting rights act [possible]."

2.1.1 What Did the VRA Do?

The VRA made it illegal to deny or limit someone's right to vote based on race or color. It banned any electoral systems that hindered racial minorities from having an "opportunity...to participate [equally] in the political process and to elect representatives of their choice." This equality in voting was ensured through two main components outlined in Sections 2 and 5 of the VRA.

Section 2 of the VRA removed any voting barriers reminiscent of Jim Crow laws that prevented individuals from voting based on race. It was considered a strengthening of the guarantees of the 14th and 15th Amendments. This section applied across the nation and empowered citizens to file lawsuits to ensure equal voting opportunities and contest practices that suppressed voting rights.

Section 5 of the VRA empowered federal authorities to oversee and protect the voting rights of minorities. While Section 2 facilitated the overturning of discriminatory voting laws, there was a historical pattern, as pointed out by Pitts (2003), where the suspension of such laws often led to the immediate introduction of new discriminatory measures, undermining the effectiveness of post-enforcement checks. To address this, Section 5 mandated a crucial pre-clearance process for any changes in voting laws, requiring approval from either the US Attorney General or the US District Court for DC. Jurisdictions proposing changes had to prove that the changes neither intended nor had the effect of discriminating against Black American voters. Thus, Section 5 shifted the burden from voters to election officials and is widely seen as the cornerstone of the VRA.

2.1.2 Implementation and Impact of VRA

While Section 2 of the VRA was enforced nationwide, Section 5 was mainly active in the Southern states where Black Americans faced significant voting rights suppression. These states and counties where Section 5 was applied were termed "covered" jurisdictions. Specifically, Section 5 applied to areas identified by the "coverage formula" outlined in Section 4(b). Based on this formula, any jurisdiction—a city, state, or county—that employed a test or device and had a voter turnout of less than 50% in the 1964 presidential election was covered by Section 5.[8] Initially, Section 5

[8]The term "test or device" is defined based on Section 201 and Section 4(f)(3). It includes the four devices prohibited nationally by Section 201. These devices include literacy tests, educational or knowledge requirements, proof of good moral character, and requirements that a person be vouched for when voting. Another device defined in Section 4(f)(3) is also included – in

covered all counties in Alabama, Georgia, Louisiana, Mississippi, South Carolina, and Virginia, 41 counties in North Carolina, and one county in Arizona. Amendments in 1970 and 1975 then expanded coverage to include all counties in Texas and several counties in Florida, Oklahoma, Arizona, New Mexico, Michigan, California, New York, and New Hampshire. In this paper, we refer to these counties covered by Section 5 in 1975 as "covered" or "treated" counties. Figure 1 illustrates the covered or treated counties.

The VRA played a crucial role in addressing political disparities between racial groups. Further, its impact on the enfranchisement of Black Americans was immediate. Valelly (2009) documents that between the 1964 and 1968 presidential elections, Black voter registration in Southern states surged by 67%. Analyses covering the 40 years since 1975, such as Ang (2019), further demonstrate that the oversight provided by Section 5's preclearance requirement led to a lasting increase in voter turnout by four to eight percentage points, significantly enhancing minority participation in elections.

As demonstrated by Besley, Persson and Sturm (2010), the heightened political participation resulting from the VRA likely fosters greater political competition, which has tangible economic and social ramifications. Indeed, Cascio and Washington (2014) find that counties with a larger share of Black residents in states previously employing literacy tests saw more significant increases in voter turnout after the enactment of the VRA. Consequently, this surge in voter participation led to greater state transfers, indicating a tangible impact of the VRA on resource allocation. Aneja and Avenancio-León (2019) also highlight that the enactment of Section 5 contributed to reducing Black-white disparities in the labor market over the latter half of the 20th century. They argue that this convergence was primarily driven by changes in the incentives faced by politicians, rather than solely by the increased presence of Black elected officials. Additionally, Facchini, Knight and Testa (2020) observe that after the passage of the VRA, Black arrest rates decreased for less serious offenses, where law enforcement might exercise more discretion.[9]

jurisdictions, where more than 5% of the citizen voting age population are members of a single language minority group, any practice or requirement by which registration or election materials are provided only in English.

[9] Although the majority of the evidence suggests that the enactment of the VRA resulted in enhanced political representation for Black Americans and improved public goods provision, it is important to acknowledge that certain jurisdictions attempted to navigate within the boundaries of the VRA to suppress the political influence of minority groups. A notable example of this is illustrated by Trebbi, Aghion and Alesina (2008), who demonstrates how At-Large electoral systems were employed as a substitute for single-member district races, with the intention of restricting the political power of minorities subsequent to the VRA's passage.

2.2 2013 US Supreme Court Ruling in *Shelby County v. Holder*

The 2013 US Supreme Court ruling in *Shelby County v. Holder* dealt a severe blow to Section 5 of the VRA. In a 5 to 4 decision, the Court declared the coverage formula outlined in Section 4(b) unconstitutional, arguing that it was outdated and no longer reflective of current circumstances. Chief Justice John Roberts, in the majority opinion, asserted that the social landscape in the South had evolved, rendering the use of decades-old data for preclearance measures illogical. He contended that political discrimination was no longer a significant issue, suggesting the law was unnecessary. However, dissenting voices, including Justice Ruth Bader Ginsberg, expressed skepticism toward the majority opinion. Ginsberg emphasized that the increased voting equality was a direct result of the VRA and cautioned against discarding the act, likening it to “throwing away your umbrella in a rainstorm because you are not getting wet."

With Section 4(b) deemed unconstitutional, Section 5 became non-functional until Congress established a new coverage formula. Despite several attempts by Congress to devise new pre-clearance formulas post-2013, none have been successfully passed. Consequently, the 2013 ruling released all states and counties previously covered by Section 5 from federal oversight.

2.3 Ramifications of the Shelby Ruling

2.3.1 Voting Laws after the Shelby Ruling

The removal of protections provided by Section 5 had an immediate impact on the electoral process. Following the 2013 Shelby v Holder ruling, numerous jurisdictions previously covered by Section 5 implemented controversial voting changes, as noted by Ang (2019). For instance, within 24 hours of the ruling, Texas swiftly introduced and passed a strict photo identification law, which had been previously rejected by the US Attorney General under preclearance. Similarly, Mississippi and Alabama began enforcing photo identification laws that had previously been blocked due to federal preclearance requirements.

In less than two months after the Shelby ruling, North Carolina also enacted a comprehensive voting bill that imposed strict photo identification requirements, reduced early voting periods, eliminated same-day registration, restricted pre-registration, ended annual voter registration drives, and revoked the authority of county boards of elections to extend polling hours. Although this law was later invalidated by the US Court of Appeals for the Fourth Circuit in July 2016, it remained in

effect in North Carolina for three years, underscoring the challenges of post-enforcement litigation compared to the preventive mechanisms provided by Section 5.

The Brennan Center for Justice's 2018 state-of-voting study also finds that voters in 23 states faced more stringent voting restrictions compared to 2010 (Weiser and Feldman, 2018). These restrictions included stricter voter identification laws, increased burdens for voter registration, and reductions in early and absentee voting opportunities. The study highlighted a cycle where new voting regulations were introduced, challenged in courts, temporarily halted, and then reintroduced in altered forms, resulting in disruptions to voting access across multiple elections. In the same context, Squires (2021) highlights that a significant number of polling locations were closed in previously covered jurisdictions with large Black populations.

These voting restrictions had a quantifiable impact on voter turnout. Ang (2019) demonstrate that in the aftermath of the Shelby decision, voter turnout in the covered counties decreased by 1.5 percentage points, marking the largest decline since 1975. Similarly, Billings et al. (2022) and Ricca and Trebbi (2022) also observe a decrease in voter turnout and registrations following the 2013 Shelby ruling.

According to the Brennan Center report in 2018, this is partially because states previously covered by preclearance purged voters from their rolls at a notably higher rate than non-covered jurisdictions (Brater et al., 2018). For example, after the Shelby decision, Georgia purged twice as many voters as it had before the ruling. The study estimated that if jurisdictions previously subject to federal preclearance had purged voters at the same rate as those not under that provision in 2013, approximately 2 million fewer voters would have been removed from rolls over four years. Similarly, Feder and Miller (2020) document that the purge rate increased by 1.5-4.5 percentage points in formerly covered counties compared to counties not subject to preclearance after the Shelby decision.

2.3.2 Disproportionate Effect on Black Americans

The array of voting restrictions implemented after the Shelby ruling disproportionately burdened Black Americans by significantly increasing their costs of voting. An illustrative instance is North Carolina's HB 589, passed shortly after the Shelby ruling. This law notably targeted the state's growing African-American population by imposing voting restrictions, including stringent voter identification requirements and the elimination of same-day registration. As the Fourth

Circuit Court of Appeals ruled three years later, the state's voter identification law under HB 589 unconstitutionally aimed to "target African-Americans with almost surgical precision" (NAACP v McCrory).

Purging voter rolls also disproportionately impacted minorities, including Hispanics and Black Americans. The crosscheck program, utilized for voter purging, eliminated voters based on common names. According to the 2010 US Census, a significantly higher percentage of Hispanic (16.3%) and Black (13%) individuals have one of the ten most common surnames compared to White individuals (4.5%). Consequently, purging programs based on common names are more likely to affect minority voters than White voters.

National attention gained during the 2018 gubernatorial race in Georgia involving Stacey Abrams and Brian Kemp illustrates this disproportionate burden of voting restrictions on Black voters. On September 12, 2018, the US Commission on Civil Rights released a report detailing the adverse effects of voter identification laws, voter roll purges, reductions in early voting, and closures of polling places on minority voter participation (The US Commission on Civil Rights, 2018).

3 Data

This section offers an overview of the various datasets used in this paper and their sources. Table 1 presents summary statistics for the primary outcome variables examined in this paper.

Voter Turnout. We source voter turnout data from Data and Lab (2020), which provides the turnout data for every federal election aggregated at the county level. We then map these voting statistics to the sample counties and analyze the changes in turnout following the Shelby ruling, focusing particularly on counties with a significant Black American population.

Home Mortgage Disclosure Act (HMDA). Our primary analysis uses mortgage application data collected and provided under the Home Mortgage Disclosure Act (HMDA). The HMDA dataset provides application-level information on requested loan amount, final status of application (approved/denied), and census-tract-level location of property for which loan is applied, along with information on the race and ethnicity of the borrower. Our sample period spans from 2008 to 2019 to include six (five) years before (after) the repeal of the VRA. We restrict the sample to adjacent counties that straddle states covered by Section 5 in accordance with our identification strategy (see Figure 2). Using this sample, we conduct within-county-pair analysis comparing a treated

county solely with its adjacent control counties. Our final dataset includes county-race-year- or tract-race-year-level aggregated data covering 426 counties in 30 states.

Mortgage Loan Characteristics. We gather information on mortgage loan characteristics from Fannie Mae and Freddie Mac's single-family loan performance data. These Government-Sponsored Enterprises (GSEs) provide loan-level monthly performance data for the mortgages they acquire. The data includes details such as loan-to-value (LTV), combined LTV, debt-to-income (DTI), interest rates, and borrowers' credit scores at loan origination. We merge the GSE loan characteristics data with the HMDA data to determine the race of the borrower.

Zillow Transaction and Assessment Database (ZTRAX). The ZTRAX is the US's largest real estate transaction database and contains more than 400 million public deed records across more than 2,750 counties. The data include, but are not limited to, property characteristics, geographic information, types of deed records, transaction price, and the names of sellers and buyers with their addresses. We start from the universe of raw deed records and exclude non-residential property sales and partial-interest sales. We also exclude non-market transactions such as intra-family sales and the transfer of ownership caused by the affidavit of death. We then distinguish mortgage-based housing transactions from cash-based transactions, using the dollar amount of mortgages recorded in the deeds. We identify the race of home buyers based on their last name and the methodology outlined in Imai and Khanna (2016).[10]

American Community Survey (ACS). The ACS gathers housing and demographic data from over 3.5 million households annually. We utilize the 1-year ACS Summary Files (ACSSF) spanning from 2009 to 2019 to compile national and state-level homeownership rates by race. Additionally, we utilize two sets of 5-year ACSSF data—covering the periods 2008-2012 and 2013-2017—to calculate homeownership rates and the proportion of Black Americans at the ZCTA level. Furthermore, we analyze the ACS Public Use Microdata Sample (PUMS) from 2008 to 2012 to examine variations in key demographic variables between covered and uncovered counties, as depicted in Figures 1 and 2. We use the same data to calculate the percentage of Black Americans employed in the public sector among the working-age labor force (aged 15 to 64).

The Internal Revenue Service (IRS). The IRS compiles county-level migration data by tracking year-to-year address changes reported on individual income tax returns. We utilize IRS data

[10] We estimate the likelihood of belonging to each race based on the last name, and then assign each home buyer the race associated with the highest probability.

spanning from 2008 to 2018. Specifically, we use the number of exemptions in the data to estimate the number of individuals who migrated from and to each county.

General Social Survey (GSS). We combine individual-level GSS survey data with county-level geographic information about respondents to investigate the impact of the Shelby ruling on trust in the financial system among Black Americans. The survey, conducted biennially, spans from 2004 to 2018, and we utilize data from these waves in our analysis.

Cooperative Congressional Election Study (CCES). The CCES is the largest survey of Congressional elections conducted before and after the US presidential and midterm elections. It surveys over 50,000 individuals in election years, examining Americans' views on Congress and their representatives, including the president, governors, and the Supreme Court. We utilize CCES samples from election years spanning from 2008 through 2018, specifically focusing on questionnaires that inquire about Americans' approval of the legislature, president, governors, and Supreme Court.

Hate-crime data collected by the Federal Bureau of Investigation (FBI). The Hate Crime Statistics Program, part of the FBI's Uniform Crime Reporting (UCR) Program, collects data on criminal offenses motivated, wholly or partly, by the offender's bias against the victim's race, gender, sexual orientation, religion, or disability. These offenses encompass crimes against persons, property, or society. For our analysis, we specifically examine hate crimes targeting Black Americans from 2010 to 2019.

American National Election Series (ANES). The ANES conducts in-person surveys on a stratified random sample of individuals around each presidential election. These surveys provide data on the respondent's race, gender, state, and their stated political preferences. We focus on the 2008, 2012, and 2016 survey waves to examine the 'feeling thermometer' responses of White males toward Black Americans. The feeling thermometer measures the level of warmth or coldness that the respondent feels toward Black Americans on a scale ranging from 0 to 97, with higher values indicating a higher degree of warmth.

4 Empirical Strategy

To evaluate the impact of the VRA repeal on Black Americans' mortgage financial behavior, we compare individuals in counties covered by Section 5 of the VRA to those in uncovered counties. As explained in Section 2, the Shelby ruling removed voting protections for Black Americans in

covered counties that had been in place for fifty years, while leaving the status quo unchanged in uncovered counties.

However, directly comparing all covered counties with all uncovered counties entails two primary issues. First, counties covered under Section 5 were non-randomly selected because the VRA intentionally targeted areas with significant racial discrimination. Second, such a comparison essentially compares the American Deep South with the rest of the country, which systematically differs across economic, social, and cultural aspects. Consequently, a direct comparison of all covered and uncovered counties would likely introduce selection bias or unobserved confounding variables, rendering the analysis futile.

To address these issues, we leverage policy discontinuity at county or state borders and narrow down the sample to adjacent counties that span state borders, as depicted in Figure 2. Moreover, we implement a county-pair design to compare a treated county exclusively with its neighboring control counties within a county pair. We examine mortgage outcomes for White and Black households in covered counties around the 2013 Supreme Court ruling in *Shelby v Holder* and contrast them with households in adjacent, unaffected counties.

Table 2 displays summary statistics of key variables for our sample in 2010, just before the 2013 Shelby ruling, to demonstrate that households in the county pairs are likely exposed to similar local economic conditions. Panel A shows the average characteristics and the difference in these characteristics for the full sample of covered and uncovered counties in Figure 1. Panel B shows the average characteristics and the difference in these characteristics for the sample of bordering covered and uncovered counties in Figure 2. Additionally, Panel B examines the differences in average characteristics within county pairs of bordering uncovered and covered counties. The results support our empirical design as the differences between counties are attenuated when we restrict the sample to the county pairs of neighboring covered and uncovered counties.

Given this finding, we proceed to analyze mortgage market outcomes—applications, originations, and denial rates—by race in the sample of bordering counties to assess the effects of the 2013 Shelby ruling on Black Americans' mortgage financing. Specifically, we employ a dynamic difference-in-difference-in-differences (DDD) approach. Thus, we initially compute the differences in mortgage market outcomes between Black and White households in treated counties and contrast them with those in control counties. Subsequently, we examine how this difference changed over

time surrounding the 2013 ruling. Specification 1 represents our main empirical strategy:[11]

$$y_{r,c(c\in p),t} = \sum_{k=2008, k\neq 2013}^{2019} \beta_k \cdot Black_r \cdot Treat_c \cdot 1(t=k) + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t} \quad (1)$$

where, $y_{r,c,t}$ denotes the variable of interest aggregated at the county (c), race (r), and time (t) level. Each county is a part of a county-pair (p), which comprises a cluster of bordering counties. The different key dependent variables include the natural logarithm of the number and amount of mortgage originations, the natural logarithm of the number and amount of mortgage applications, and the denial rate. The coefficients of interest in equation (1) are the sequence of estimates $\{\beta_k\}$ associated with the triple-interaction term. $Black_r$ is a binary variable taking a value of 1 for Black applicants and 0 for White applicants. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA, and 0 otherwise. $1(t=k)$ is a time indicator, with 2013 being the omitted year.

The key identifying assumption underlying our empirical design is that Black and White households in both the treatment and control counties would experience similar, parallel trends in mortgage financing in the absence of the Shelby ruling. This assumption is plausible given our focus on households in adjacent counties, as these households likely share more common characteristics than households in randomly selected counties. Additionally, this approach addresses racial disparities in economic or credit market conditions by considering time-varying disparities across county pairs and race.

Furthermore, the specification incorporates county × race fixed effects (i.e., $\alpha_{r,c}$), which control for time-invariant characteristics specific to a race residing in a county. This specification thus non-parametrically addresses the 1965 county-race-specific characteristics that may explain the selection of covered counties. Additionally, county × time fixed effects (i.e., $\alpha_{c,t}$) control for time-varying characteristics within a county. Lastly, county-pair × race × year fixed effects (i.e., $\alpha_{p(c\in p),r,t}$) account for time-varying race-specific shocks in the county pairs, allowing for the assessment of the effect of the repeal of the VRA within a given county pair.

[11] We cluster standard errors at the county level and weight regressions by the 2010 county population. Our results are robust to not including weights in our regression as shown in appendix Table C.1. Additionally, appendix Table C.2 presents results with alternative clustering combinations. Note that since the number of clusters associated with race, year, and state are less than 50, the t-statistics and the p-values are estimated using the wild bootstrap methodology presented and outlined in Cameron, Gelbach and Miller (2008) and MacKinnon, Nielsen and Webb (2018). Furthermore, appendix Table C.3 presents adjusted p-values to account for potential false rejections resulting from multiple null hypotheses, following the methodology outlined in List, Shaikh and Xu (2019) and List, Shaikh and Vayalinkal (2023).

We further supplement our baseline analysis with a geographic regression discontinuity (RD) wherein we estimate the effect of the Shelby ruling on mortgage outcomes at the census-tract level in a sample of bordering counties. Specifically, we estimate the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f(location_v) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t} \tag{2}$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p), race (r), and time (t) level. As before, the key-dependent variables include natural logarithm of the number and amount of mortgage originations, the natural logarithm of the number and amount of mortgage applications, and the denial rate. The coefficient of interest in equation (2) is the interaction term of $Black_r$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA, and 0 otherwise. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling, and 0 otherwise. The specification includes race × census-tract and county-pair × race × year fixed effects (i.e., $\alpha_{r,v}$ and $\alpha_{c(p)(v\in c(p)),r,t}$). $f(location_v)$ is a two-dimensional local linear polynomial created with the latitude and longitude of each census tract.[12]

The key innovation of this RD design is the incorporation of census-tract × year fixed effects (i.e., $\alpha_{v,t}$). This enhancement addresses three concerns associated with county-pair designs as discussed by Dieterle, Bartalotti and Brummet (2020) and Bartalotti, Brummet and Dieterle (2021). Firstly, it enables us to relax the assumption that economic shocks within a county affect all areas uniformly. Secondly, the census-tract × year fixed effects non-parametrically control for within-county population distribution, addressing the concern that large counties on each side of the border may not be similar enough.[13] Thirdly, these fixed effects allow us to control for heterogeneous policy spillovers within a county. This control is essential to ensure that null results in denial rates are not driven by spillovers.

Another innovation of the geographic RD design is the inclusion of $f(location_v)$. As Dell (2010) and Michalopoulos and Papaioannou (2016) argue, adding this two-dimensional local linear polynomial helps the regression absorb spatial trends that could potentially spuriously drive the

[12] Our results are robust to omitting the two dimensional local linear polynomial ($f(location_v)$) as shown in appendix Table C.4.

[13] Dieterle, Bartalotti and Brummet (2020) suggest controlling for the moments of the within-county population distribution relative to the border can effectively approximate the RD coefficient estimated using more granular but infeasible data along the border.

results. Therefore, the RD approach, augmented with census-tract × year fixed effects, facilitates a more precise comparison of mortgage market outcomes at the border.

5 Results

5.1 Voter Turnout and the Repeal of VRA

This section establishes the relevance of the dilution of the VRA as a potential shock affecting the political voice of Black Americans. Building upon the narratives presented in Section 2.3.2, this section verifies the underlying assumption of our main analysis that the repeal of the VRA resulted in the de facto disenfranchisement of Black Americans by diminishing their electoral participation. In this section, we specifically use the sample of the bordering counties (Figure 2) and estimate the following specification to examine the effect of the repeal of the VRA on voter turnout in Presidential elections:

$$y_{c(c\in p),t} = \sum_{k=2000,k\neq 2012}^{2020} \beta_k \cdot \text{High Black}_c \cdot Treat_c \cdot 1(t=k) + \alpha_c + \sum_{k=2000,k\neq 2012}^{2020} \gamma_k \cdot Treat_c \cdot 1(t=k) + \alpha_{p(c\in p),t} + \varepsilon_{c,t} \quad (3)$$

where, $y_{c(c\in p),t}$ denotes the voter turnout in presidential elections in county (c) during year (t), following the approach in Ang (2019), Aneja and Avenancio-León (2024) and Aneja and Avenancio-León (2019). $Treat_c$ takes a value of 1 for the covered counties and 0 otherwise. $Post_t$ takes a value of 1 for years after 2013. $High\ Black_c$ takes a value of 1 if the 2010 Black population share in county c is greater than the median population of our sample counties in 2010. The intuition for examining the effect by the county's Black population share is that the Shelby ruling adversely hit the counties with a greater Black population. α_c, and $\alpha_{p(c\in p),t}$ denote county fixed effects, and county-pair × year fixed effects, respectively.

Figure 3 illustrates the findings, indicating a significant decrease in voter turnout among treated counties with a high Black population share following the 2013 Shelby ruling. Table 3 also shows that treated counties with a high Black population share experienced a decline of 2.7-3.4 percentage points in voter turnout compared to high Black control counties. This effect is statistically significant and reflects a 5% reduction from the sample average.

This magnitude is substantial compared to the average margin of victory in Presidential elections (2.97%).[14] Our findings align with previous studies by Ang (2019), Billings et al. (2022), and Ricca and Trebbi (2022), indicating that the Shelby ruling diminished the political representation of Black Americans.[15] Overall, these first-stage findings are consistent with the seminal work of Tingsten (1937) and indicate a rise in political inequality and consequent erosion of the political representation of Black Americans.[16]

5.2 Baseline Results

We begin our baseline analysis by investigating the differential impact of the Shelby ruling on Black and White Americans in treated counties relative to control counties. Figure 4 illustrates the weighted average of the county-level aggregate amounts of mortgage originations (Figure 4a), applications (Figure 4b), and denial rates (Figure 4c) for Black and White Americans in treated counties compared to control counties from 2008 to 2019. This figure first calculates the weighted average of the mortgage market outcomes for Black and White Americans in treated and control counties and then takes the difference between the two. Values are standardized to 0 in 2013. The solid red line represents Black borrowers, while the dashed blue line indicates White borrowers.

Figure 4 presents initial evidence indicating a decline in mortgage originations and applications for Black Americans in treated counties following the 2013 Shelby ruling. However, mortgage financing among White Americans shows minimal divergence between the treated and control counties. Additionally, prior to the Shelby ruling, both Black and White Americans exhibited similar mortgage financing patterns. This suggests that the Shelby ruling prompted a structural change in Black borrowers' financing behaviors, while White borrowers remained relatively unaffected.

[14] Furthermore, we find that the Google searches were 11 percentage point higher for the term "Voting Rights Act" in the treated counties around the Shelby ruling indicating salience of the ruling (see appendix Figure B.1).

[15] Cantoni and Pons (2021) suggests that strict ID laws have no effect on registration, turnout, voter fraud, or perception of electoral fraud. However, as Ricca and Trebbi (2022) notes that a key challenge in explaining these findings in the context of the Shelby ruling lies in the highly precise implementation of specific institutional features. These voting procedures may not have observable overall effects but can be finely tuned to target specific local sub-constituencies. This is reflected in the findings of Ricca and Trebbi (2022) that highlight lower minority representation. Further, as we note before, the Shelby ruling was followed by several other bottlenecks in voting such as voter purging.

[16] We want to emphasize that while the weakening of the VRA may not directly impact every Black American, its consequences go beyond individuals to affect the entire community. For instance, disenfranchising a significant portion of voters could skew the median voter profile away from Black Americans, impeding efforts to advance public interests aligned with their needs. Additionally, this erosion of voting rights makes it more challenging to ensure meaningful representation for the Black community in both national and local elections (Ricca and Trebbi, 2022).

5.2.1 Results from the Estimation of Border County-Pair Design

With the preliminary results at hand, we estimate our main empirical specification (1) and present the results in Figure 5. Figure 5a illustrates that following the 2013 Shelby ruling, mortgage originations sharply declined for Black Americans compared to White Americans in treated counties, relative to adjacent control counties. However, prior to the dilution of the VRA in 2013, both Black and White Americans exhibited parallel trends in mortgage originations.

Similarly, Figure 5b demonstrates a notable decrease in Black Americans' mortgage applications compared to those of White Americans following the 2013 Shelby ruling. There is still little evidence of pre-trends before the ruling. Interestingly, the results in Figure 5c indicate that mortgage denial rates remained stable even after the Shelby ruling. Thus, these findings collectively suggest that the decrease in mortgage originations for Black borrowers may be due to their reduced applications.

5.2.2 Results from the Estimation of Geographic Regression Discontinuity

To reinforce our main findings, we conduct a census-tract-level analysis by estimating the RD specification in equation (2). As discussed in Section 4, this specification addresses heterogeneity within a county by incorporating census-tract $\times$ year fixed effects, while preserving the essence of within-county-pair analysis by including county-pair $\times$ race $\times$ year fixed effects. The results are presented in Table 4.

As the dependent variables, Columns (1) and (2) use the natural logarithm of the total amount and number of mortgage originations for new home purchases, respectively. The estimates of β associated with the triple interaction term are negative and statistically significant at the 1% level. They indicate that, following the Shelby ruling, the mortgage origination amount (number) for Black Americans in treated counties declined by 14.7% (8.3%), relative to adjacent control counties.

Columns (3) and (4) use the natural logarithm of the total amount and number of mortgage applications for new home purchases as the dependent variables, respectively. Similar to the previous findings, the estimates of the triple interaction term are negative and statistically significant at the 1% level. These results indicate that the mortgage application amount (number) for Black Americans in treated counties declined by 12.5% (7.0%) following the Shelby ruling.

Lastly, Column (5) presents results using the denial rate as the dependent variable. It suggests

that the Shelby ruling has no significant effect on the mortgage denial rate. The coefficient reported in Column (5) is economically small and statistically insignificant. Therefore, when considered with the results in section 5.2.1, these findings indicate that the lower mortgage origination for Black Americans in treated counties may be attributable to a decrease in mortgage applications by Black borrowers, rather than an increase in the denial rate.

5.3 Robustness Tests

This section presents a series of robustness tests to reinforce our main findings. We demonstrate that the results are (1) unlikely to be influenced by confounding macroeconomic variables, (2) robust even when utilizing an alternative RD design based on the treatment status determined by the 1964 presidential election voter turnout threshold, (3) applicable to other minority groups such as Hispanics, and (4) robust to employing a different outcome variable: home purchases.[17]

5.3.1 Macroeconomic Confounders

In this section, we present three key findings to illustrate that our baseline effect is unlikely to be driven by contemporaneous aggregate shocks, which might have affected Black Americans differentially in treated and control counties. Firstly, we demonstrate that macroeconomic shocks do not disproportionately affect mortgage market outcomes based on race or treatment status before the Shelby ruling. Secondly, we show that the inclusion of major macroeconomic shocks, such as changes in interest rates, bank credit, and GDP growth rate, in our empirical analysis does not alter our baseline results. Lastly, we document that there are no systematic differences in observable economic, social, and loan characteristics among Black Americans across both the treatment and control groups.

We begin by addressing a concern regarding our analysis period, which includes the recovery years following the 2008 global financial crisis. This period is characterized by various regulatory changes, shifts in the interest rate regime, and alterations in the supply of bank credit. These macroeconomic shifts can act as confounding factors, potentially undermining the credibility of our analysis focusing on the impact of the repeal of the VRA.

We argue that our baseline results are unlikely to be driven by those contemporaneous aggregate shocks. Census-tract $\times$ year fixed effects in our empirical specification effectively address such local and global policy changes. Additionally, while these shocks may have asymmetric effects

[17] Additionally, we perform a placebo analysis in Appendix section C.1 to ensure that the results are unlikely to be spurious.

across Black and White households due to wealth disparities between the two groups, county-pair × race × year fixed effects in our estimation strategy are likely to mitigate such asymmetry by controlling for the differential impact of aggregate shocks on Black and White households within a given pair of counties.[18]

However, the effectiveness of county-pair × race × year fixed effects in mitigating the asymmetric effects may still rely on the assumption that individuals do not respond differentially to aggregate shocks depending on their race and treatment status. Therefore, to directly assess this assumption, we examine the relative sensitivity of Black households in treated counties compared to control counties during the pre-Shelby period from 2008 to 2012. Specifically, we estimate the following regression specification, where ΔX_t denotes aggregate shocks:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot \Delta X_t + f(location_v) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t} \tag{4}$$

Table 5 presents twenty pairs of estimates (β) and standard errors derived from the estimation of equation (4) across four dependent variables and five macroeconomic shocks. The dependent variables consist of the natural logarithm of the amount and number of mortgage applications and originations. The macroeconomic shocks (ΔX_t) include changes in the 30-year mortgage rate, 15-year mortgage rate, GDP growth rate, term spread, and bank credit.

All estimates associated with the triple-interaction term are statistically insignificant and economically small. Therefore, these results suggest that Black households in treated and control counties are likely to exhibit similar sensitivity to aggregate shocks. This implies that our structure of fixed effects may adequately control for the asymmetric effect of aggregate shocks by race.

Furthermore, we observe that our results remain robust even when we augment our empirical specification (2) to include the triple-interaction term of an indicator for Black borrowers, treatment status, and the macroeconomic shocks—30-year mortgage rate, 15-year mortgage rate, GDP growth rate, term spread, and bank credit—to account for contemporaneous aggregate shocks. Appendix Table C.6 presents the results, indicating that our estimates of interest in Columns (1) through (4)

[18] We direct readers to Kuhn, Schularick and Steins (2020) for the most recent documentation of persistent wealth and income inequality across Black and White households over the last 70 years from 1949 until 2016. Bhutta et al. (2020) extend this analysis to more recent years and document similar wealth inequality across Black and White households for 2019. Furthermore, it is ex-ante unclear how aggregate shocks will impact the two sub-groups. For instance, the financial accelerator channel of Bernanke, Gertler and Gilchrist (1999) would predict that agents facing greater constraints (Black Americans) will exhibit a more greater response, whereas the marginal benefit channel documented in Ottonello and Winberry (2020) and Vats (2020) would predict that less constrained (White Americans) agents maybe more responsive.

are negative and statistically significant. Moreover, they are economically similar to the original estimates reported in Table 4.

The fact that Black Americans in treatment and control counties respond similarly to aggregate shocks, and that our results remain robust even when considering these shocks, implies that individuals in both groups likely share similar economic and social statuses, as well as loan quality. To confirm this, we analyze variations in (1) their economic standing, measured by income and employment rate; (2) social characteristics, measured by the share of college attendance and individuals divorced or separated; and (3) loan characteristics, such as income, LTV, combined LTV, DTI, credit scores, and fixed-rate mortgage interest rates before the Shelby ruling. We present the results in Table 6 and demonstrate that there are no significant economic or statistical differences among Black Americans in the treatment and control groups.[19]

Furthermore, we examine if changes in macroeconomic conditions – especially credit tightening – around 2013 disproportionately affected the credit availability for Black Americans in treated counties. If this were the case, we would expect to observe an improvement in the credit quality of loans originated for Black Americans in treated counties compared to neighboring control counties. Appendix Table C.7 assesses this hypothesis by examining the effect of the Shelby ruling on loan characteristics such as LTV, combined LTV, DTI, credit scores, and interest rates. We do not find evidence of changes across these loan characteristics. This finding thus strengthens our confidence that Black Americans in adjacent treatment and control counties are unlikely to exhibit systematic differences.

5.3.2 Alternate Identification Strategy: Regression Discontinuity Using 1964 Voter Turnout

This section complements our primary empirical analysis with an alternative empirical strategy: a Regression Discontinuity (RD) design. To this end, we utilize the coverage rule outlined in Section 5 of the VRA. Under this section, a state or county was covered if it implemented voting restrictions like literacy tests and had a voter turnout below 50% in the 1964 presidential elections. To mitigate selection bias in estimating the local treatment effect, we focus on counties within a narrow 5%

[19] For completeness Panel B of Table 6 presents similar statistics for White Americans across the treatment and control counties. We do not find evidence of economically or statistically significant differences among Whites across the treatment and the control group, except for interest rates. However, note that while the difference in interest rates for White Americans across the treatment and control counties is statistically significant it is economically small. Furthermore, to complement our later analysis we also examine differences in other characteristics such as approval of state legislature, Congress, the President, Supreme Court, and mistrust in the financial system. We cannot reject that Black (and White) Americans in adjacent treatment and control counties were similar in these characteristics during the pre-Shelby period.

margin around the treatment threshold of 50% voter turnout for our RD estimation.[20] The key identifying assumption of this approach is thus that counties within this narrow interval around the 50% voter-turnout threshold are randomly distributed, even though some counties were subject to Section 5 coverage while others were not.

Table 7 presents results using the sample of counties depicted in Figure C.1 and employing the RD design. Specifically, Panel A conducts the simple RD analysis by controlling for the running variable (i.e., voter turnout) and its interaction with the treatment status. In terms of dependent variables, Columns (1) and (2) utilize relative county-level mortgage origination growth in amount and number for Black Americans compared to White Americans from 2013 to 2016. Columns (3) and (4) focus on mortgage application growth in amount and number, while Column (5) examines denial rates. The negative and statistically significant estimates for origination and applications corroborate the findings from our baseline analysis. The small and statistically insignificant estimate for the denial rate also aligns with the baseline results. Appendix figure C.2 further reinforces these findings by visually illustrating the results.

In Panel B of Table 7, we extend our analysis by employing a differences-in-regression discontinuity (DRD) design. We estimate a specification similar to our baseline but redefine the treatment status based on the coverage rule of Section 5 of the VRA. As in our prior analysis, the variable of interest is the interaction term of $Black$, $Treat$, and $Post$. The outcomes reveal a decline in mortgage applications and originations for Black Americans relative to White Americans following the Shelby ruling, while denial rates remain unaffected. Therefore, it confirms that our baseline results are robust to the alternative identification strategy using an RD design. Furthermore, it indicates that the results are unlikely to be an artifact of the border discontinuity design and the specific sample employed in baseline estimation, thereby mitigating concerns regarding selection bias.

5.3.3 Effect of Shelby Ruling on Other Minorities: Hispanics

In this section, we expand our baseline analysis to include other minorities, specifically non-Black and non-White Hispanics. We broaden our sample to encompass mortgage market outcomes for Hispanics alongside Black and White Americans. The results, reported in Appendix Table C.5,

[20] Our RD design includes counties treated in 1965 with the 1964 voter turnout between 45% and 50% as a sample of treated counties, and the sample of counties with 1964 voter turnout between 51% and 55%, on which Section 5 was never applied, as a sample of control counties. Data on county-level 1964 Presidential election voter turnout comes from Ang (2019). Appendix Figure C.1 shows the treated and the control counties used in the RD design.

augment the baseline specification (2) by including the triple-interaction term of Hispanic status, county treatment status, and post-Shelby ruling.

The coefficients associated with this triple-interaction term indicate a negative impact on mortgage originations and applications for Hispanics. The estimates suggest a decline in mortgage origination amount by 9.9% and in application amount by 5.3% for Hispanics. While the estimate for the mortgage origination amount is statistically significant, the one for the application amount is not. Further, although the coefficient magnitude for Hispanics is smaller than that for Black borrowers, statistical tests fail to reject the null hypothesis that these estimates for Hispanics are statistically similar to those for Black borrowers. Therefore, these results support the notion that our baseline findings are relevant to other minority groups, who may have experienced adverse effects following the repeal of the VRA.

5.3.4 Effect on Home Purchase

The decrease in mortgage applications and the consequent drop in mortgage originations imply that Black Americans purchased fewer homes after the Shelby ruling. Hence, in this section, we investigate the impact of the Shelby ruling on home purchases by Black Americans. Utilizing the method of Imai and Khanna (2016) and predicting race based on the last names of homebuyers in the ZTRAX database, we aggregate the home-purchase data at the county-race-year level and estimate our baseline specification (1).

Figure 6 presents the sequence of estimates of interest, βs—coefficients on the interaction of Black, Treat, and Post. Similar to our baseline analysis, it highlights two key observations. Firstly, there is little evidence of pre-trends in home purchases, indicating that Black and White households in treated and control counties exhibit similar homebuying patterns. Secondly, a notable decline (15%) in the number of home purchases by Black Americans in treated counties following the 2013 Shelby ruling suggests that the reduction in mortgage originations and applications translates into decreased home purchases among Black Americans.

6 Mechanism

This section examines potential mechanisms behind our findings. We examine the hypothesis that a diminished political voice may lead to mistrust in government and financial institutions, thereby curtailing the economic and financial activities of impacted individuals. Within this framework,

individuals belonging to a group with less voting power might borrow less and buy fewer homes due to two primary reasons: (1) they perceive inadequate protection for their economic and financial interests, especially when they feel that de facto disenfranchisement undermines fairness and equality, or (2) they lack a sense of belonging within the larger community (Knack and Keefer, 1997; La Porta et al., 1997; Glaeser et al., 2000; Guiso, Sapienza and Zingales, 2004, 2008, 2013; Algan and Cahuc, 2010; Falk et al., 2018; Gennaioli et al., 2022). This argument parallels the hypothesized impact of civic capital, as measured by voter participation, in financial decision-making processes (see Guiso, Sapienza and Zingales (2011) for a review). Lastly, we rule out two alternative mechanisms. First, we show that the relocation of Black Americans in the affected counties to areas with better political representation is unlikely to explain our results. Second, we provide evidence indicating that our results are not solely driven by any potential reduction in income of Black Americans in the affected counties following the Shelby ruling.

6.1 Role of Trust

This section examines the key channel through which the Shelby ruling impacts Black Americans' financial behaviors: Black Americans' trust in the state and financial institutions.

We begin investigating this hypothesis by examining the effect of the Shelby ruling on Black Americans' trust in the state's ability to provide adequate protection. By utilizing data from the Cooperative Congressional Election Study (CCES) Survey spanning from 2008 to 2018, Table 8 documents that approval ratings of state agents—State Legislatures, Congress, President—and the Supreme Court declined among Black individuals in treated counties following the Shelby ruling.[21] Thus, this finding suggests that the dilution of political voice results in a decrease in trust in state institutions.[22]

The decline in trust in state institutions among Black Americans could be attributed to weakened state protection against discrimination and various forms of violence. Historically, the state has been a provider of such protection. However, by diminishing the political voice of Black Americans, the 2013 Shelby ruling may have reduced the state's incentives to offer such protections, thereby lessening the barriers to explicit animosity and violence against Black Americans. This

[21] The approval score is obtained using responses to the question "*Do you approve of the way each (agency) is doing their job?*." We code the approval score to be one if the respondent replied with *Strongly Disapprove*, an approval score of two for respondents replying with *Somewhat Disapprove*, an approval score of three for respondents saying *Somewhat Approve*, and an approval score of four for respondents saying *Strongly Approve*. Additionally, Table 6 shows that the approval scores for these government agencies were similar for Black and White Americans across the adjacent treatment and control counties.

[22] Our results are robust to restricting the analysis until 2016, before the Trump presidency (see Appendix Table C.8).

argument stems directly from the well-documented facts that the state's incentives to provide public goods are closely tied to the group's voting power.[23]

To further support this claim, we provide empirical evidence by examining the occurrence of hate crimes against Black Americans after the Shelby ruling. We also present a decline in reported warmth towards Black Americans among White males. Specifically, Appendix Table C.9 presents the findings using the FBI's hate crime data spanning from 2010 to 2019. The estimates indicate a 16%-29% increase in the incidence of violent hate crimes against Black individuals in treated areas compared to control areas following the Shelby ruling. Furthermore, Appendix Table C.10 utilizes data from the American National Election Studies (ANES) and illustrates a decline of 4.5 percentage points in warmth towards Black Americans in treated areas relative to control areas following the Shelby ruling.

Lastly, we explore whether the lack of trust towards government institutions translates into lower trust in financial institutions, potentially affecting Black American's mortgage financing patterns. This spillover of mistrust is plausible because trust tends to be correlated across institutions (Stevenson and Wolfers, 2011). Additionally, there exists a strong nexus between politicians and financial institutions, with politicians often leveraging their influence to shape credit market outcomes. For instance, banks' credit disbursement is often influenced by political considerations.[24]

We utilize individual-level survey data from the General Social Survey (GSS), combined with confidential information containing respondents' county-level addresses. We then employ the following regression specification, where $FinDistrust_{r,c(c\in p),t}$ is a binary variable that equals 1 if an individual belonging to race r in county c within a county pair p reports mistrust in the financial system in year t:[25]

$$FinDistrust_{r,c(c\in p),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t} \tag{5}$$

We present the results in Table 9. The estimate of interest—the triple interaction term of

[23] See Husted and Kenny (1997), Lott and Kenny (1999), Miller (2008), Aidt and Jensen (2009), Moehling and Thomasson (2012), Naidu (2012), Aidt and Jensen (2013), Cascio and Washington (2014), Carruthers and Wanamaker (2015), Fujiwara (2015), Aneja and Avenancio-León (2024), and Facchini, Knight and Testa (2020) among others.

[24] See Mian, Sufi and Trebbi (2010), Mian, Sufi and Trebbi (2013), Agarwal et al. (2018), Chavaz and Rose (2019), Antoniades and Calomiris (2020), and Akey, Heimer and Lewellen (2021), among others.

[25] We use the variable "CONFINAN" from section 1 of the GSS Survey, which is elicited from the question: As far as the people running banks and financial institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them? We define a binary variable $Fin-Distrust$ measuring financial distrust that takes a value of one if CONFINAN variable reports *hardly any confidence* and zero otherwise.

Black, Treat, and Post— is positive and statistically significant. The magnitude of the estimate is also economically meaningful. On a conservative note, the results suggest that distrust of financial institutions increased by approximately 40% among Black Americans in treated areas relative to control areas following the Shelby ruling.

Based on these findings, the subsequent sections delve deeper into how this mistrust manifests in Black Americans' home-purchasing or mortgage-financing behaviors. Specifically, we demonstrate that (1) Black Americans increased cash homebuying; (2) Black Americans did not reduce their mortgage applications to non-bank institutions, which tend to automate the origination process and are thus less prone to racial discrimination in credit provision; (3) the decline in mortgage applications among Black Americans is more pronounced in areas already exhibiting anti-Black sentiments; and (4) Black Americans directed their mortgage applications to lenders perceived as more Black-friendly.

6.1.1 Increase in Cash-Based Home Purchases

By analyzing the ZTRAX database to distinguish between cash- and mortgage-based home purchases, this section examines whether Black Americans increasingly purchased homes with cash after the Shelby ruling. The rationale behind this analysis lies in the following: if our main findings—the decline in mortgage applications and home purchases—were primarily driven by a decrease in current or anticipated economic well-being, we would observe a decrease in home purchases regardless of the financing mode. However, if the decrease in trust in financial institutions is a significant factor influencing our main results, the decrease in home purchases would primarily occur through a reduction in mortgage-based transactions rather than cash-based ones, as the latter allows them to bypass financial institutions to a greater degree.

Figure 7 employs the methodology by Imai and Khanna (2016) to identify the race of homebuyers based on their last names and estimates our baseline specification (1) separately for cash- and mortgage-based home purchases. The figure illustrates that while mortgage-based home purchases decreased among Black Americans in treated counties compared to control counties after the Shelby ruling, cash-based home purchases increased. It does not indicate evidence of pre-trends in home purchases, whether financed through mortgages or cash. Hence, this result indicates that the decrease in trust in financial institutions likely played a key role in the decline in mortgage applications among Black borrowers following the Shelby ruling.

6.1.2 Stable Mortgage Applications with Non-Bank Lenders

Howell et al. (2022) highlight that non-bank entities, including fintech lenders, are less likely to discriminate against borrowers based on their race than traditional banks, due to their automated lending processes. This section leverages this variation in financial institution types and lending practices to investigate the role of trust in driving the low application rates among Black Americans. The underlying premise of this analysis is that if the decline in trust in financial institutions is driving the low application rate, we would expect to observe a diminished effect of the Shelby ruling for non-bank lenders.

Table 10 presents the findings from our baseline specification, separately for banks and non-banks. In Panel A and B, the results for mortgage applications and originations are reported, respectively. Columns (1)-(2) and (3)-(4) present the results for non-banks and banks, respectively. Columns (5) and (6) combine the non-bank and bank samples and augment the primary explanatory variable $Black \times Treat \times Post$ with a binary variable indicating whether the lender is a bank or a non-bank.

We do not observe a differential impact on loan applications across races for non-banks. The coefficients in columns (1) and (2) are statistically insignificant or economically small. Meanwhile, the results reported in columns (3) and (4) analyzing the sub-sample of banks align with our baseline findings. In columns (5) and (6), where we include several lender-specific fixed effects, the results indicate a relative decline in Black loan applications for banks following the Shelby ruling.

6.1.3 Pronounced Effects in Areas with Pre-existing Animosity

This section highlights the role of trust in interpreting our primary findings by documenting that Black Americans' mortgage applications declined more significantly in regions with pre-existing racial animosity. Our measure of anti-Black racial animus comes from Stephens-Davidowitz (2013). This measure is calculated at the level of the designated media market and measures the percentage of an area's Google searches that contain racially charged words. Appendix figure C.4 presents a geographical distribution of the racial animus variable for our sample. We augment our baseline specification (2) to include a quadruple-interaction term of Black, Treat, Post, and High racial animus. The intuition behind this test is that preexisting anti-Black sentiment is likely to become dominant—at least in expectations of Black Americans—in treated areas after the Shelby ruling, as the state's incentives to protect Black Americans against racial discrimination decline.

Appendix Table C.11 presents the results from this analysis. The estimate associated with the quadruple-interaction term is negative and statistically significant for originations and applications. However, there is no effect on the denial rate. This result indicates the applications, and consequently originations, decline for Black Americans in treated counties with a high preexisting level of anti-Black sentiment. Overall, the results in this section indicate that pre-existing racial cleavages widen the racial gaps in mortgage application, consistent with the reduced trust argument.

6.1.4 Flight of Black Mortgage Applications to Black Lenders

This section documents that Black Americans in treated counties directed their mortgage applications to Black lenders after the Shelby ruling. This analysis aims to leverage the perceived racial affiliation of banks to emphasize the significance of the trust channel. Specifically, we posit that group affiliation becomes prominent following a trust-related shock. This argument is grounded in the literature, which highlights the role of group affiliation as a form of insurance against group-specific shocks (Akerlof and Kranton, 2000, 2005; Fisman, Paravisini and Vig, 2017; Fisman et al., 2020; Shayo, 2020).[26]

Following Ross et al. (2008), we first construct the share of Black applicants among banks in the sample counties. We then define lenders as Black-friendly if they fall above the 90th percentile when sorted by this share. We define Black lenders using data on lenders operating within a local market because Black lenders defined at the national level may differ from lenders that Black borrowers in the sample counties feel comfortable and close to. We utilize HMDA data for the period from 2008 to 2012 (i.e., the pre-Shelby period). Using this methodology, we identify 569 Black lenders. These banks are typically small banks that primarily serve a small geographic area. Appendix Table C.12 provides a description of five representative banks that are defined as Black banks using our methodology.

We estimate the following regression specification using mortgage applications data aggre-

[26] Baradaran (2017) describes Black banks as quasi-crusaders filling the void created by Jim Crow and segregation to offer services to Black individuals amidst exclusion. Black banks are often founded by Black Americans in response to economic segregation with the aim of providing financial inclusion to Black communities. Baradaran (2017) notes some of the earliest Black banks were started by former slaves, for example the True Reformers Savings Bank founded in 1888 in Richmond Virginia, as a direct response to white-owned banks' discriminatory practices. Black banks are often headed and run by Black entrepreneurs and supported by Black community leaders. The recent founding of the Greenwood Bank, a Black bank, by rapper and activist Killer Mike is a case in point. The importance of Black community banks, and the counterfactual in their absence, is reminiscent of the community banker George Bailey, a character in "It's A Wonderful Life." The importance of community-affiliated banks in mitigating group-specific discrimination is not specific to Black Americans. The modern-day Bank of America was founded as the Bank of Italy (United States) in 1904 in retaliation to the exclusion of Italians by the banking system of that time.

gated at the census tract (v), race (r), lender type (l), and time (t) level:

$$y_{r,l,v(v\in c(p)),t} = \beta \cdot BlackBorrower_r \times BlackBank_l \times Treat_c \times Post_t + f(location_v) + \alpha_{v,r,l} + +\alpha_{v,l,t} + \alpha_{v,r,t} + \alpha_{c(p)(v\in c(p)),r,l,t} + \varepsilon_{r,l,v,t} \quad (6)$$

where, $y_{r,l,v(v\in c(p)),t}$ denotes the the natural logarithm of total amount and number of mortgage applications aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), lender type (l), and time (t) level. Bank type (l) is either a Black lender or a non-Black lender. $BlackBank_l$ is a binary variable taking a value of 1 for Black lenders defined in section 6.1.4. The coefficient of interest is β, associated with the quadruple-interaction term. This specification allows us to control for a richer set of fixed effects. Specifically, census-tract × lender-type × race allows us to control for agglomeration of lenders types in certain areas and their pre-existing importance in those areas.

Table 11 illustrates the flight of Black mortgage applicants to Black banks. Columns (1) and (2) present estimation results for non-Black banks, which closely align with the baseline findings in Table 4. In contrast, columns (3) and (4) display estimation results for Black banks. Notably, these results diverge from the baseline and non-Black lender results. Specifically, mortgage application amounts (numbers) from Black borrowers to Black lenders increased by 11.9% (15.0%). Finally, columns (5) and (6) employ the specification (6) for the entire sample with a more comprehensive set of fixed effects. The estimate associated with the quadruple interaction term is positive and statistically significant, indicating a relative rise in mortgage applications from Black borrowers to Black lenders in treated counties compared to control counties following the Shelby ruling. Overall, the results suggest a rise in racial homophily post-Shelby ruling. Moreover, the differential impact of the ruling on mortgage applications to distinct lenders indicates that our baseline results are not solely a consequence of a decrease in present or anticipated economic shocks by Black Americans in treated counties.

6.2 Alternative Channel – Migration of Black Americans

This section examines the role of an alternative channel – the migration channel – in explaining our baseline findings. Black Americans might mitigate the negative impacts of diminished political

voice by relocating to areas where their voting rights are relatively better protected.[27] As a result, the migration of disenfranchised groups could reduce their housing demand, consequently decreasing their mortgage applications.

We employ the IRS' county-level migration data to explore how the Shelby ruling influenced the migration patterns of Black individuals in treated counties. This dataset captures the collective movement of people through year-to-year address changes reported on individual income tax returns. However, since it lacks information on individuals' race, we investigate whether counties with a larger proportion of Black residents witnessed higher outflow. The underlying intuition of this analysis is that counties with a greater proportion of Black residents are likely to face more pronounced adverse effects of the Shelby ruling. To identify such counties, we classify counties as high Black counties if their Black population share in 2010 surpassed the median value of the Black population share across all sample counties in 2010.

Results in Appendix Table C.13 indicate that migration patterns did not change significantly following the Shelby ruling. Columns (1), (2), (3), and (4) respectively utilize the natural logarithm of outflows, the natural logarithm of inflows, the natural logarithm of inflow divided by 2010 population, and the natural logarithm of inflow divided by 2010 population. Across all columns, the coefficients of the triple-interaction term are both statistically and economically insignificant.

To further support this analysis, we delve into the changes in the Black population at the ZIP Code Tabulation Area (ZCTA) level. To achieve this, we compute the share of the population by race at the ZCTA level using the 2013 and 2018 ACS five-year estimates, corresponding to the pre- and post-Shelby periods in our baseline analysis. Appendix Table C.14 presents the results. The results indicate a statistically and economically insignificant change – or a minimal change – in the relative Black population share in treated counties compared to control counties following the Shelby ruling.

Overall, the findings in this section suggest that the migration of Black households is unlikely to account for our results. The absence of significant movement among Black Americans from disenfranchised areas to other regions could be attributed to the high search costs associated with such relocation. Black households may have limited time or resources to undertake such searches or relocations (Bergman et al., 2019).

[27] The movement of 6 million African Americans out of the rural Southern United States to the urban Northeast, Midwest, and West between 1916 and 1970, also known as the Great Migration, in search of better economic opportunities and freedom from oppression is a case in point.

6.3 Alternative Channel – Income Shocks to Black Americans

This section examines an alternative channel: the income channel. Aneja and Avenancio-León (2024) find that after the 1965 VRA, counties under federal election oversight saw a reduction in the Black-white earnings gap, mainly due to increased public employment. Similarly, Aneja and Avenancio-León (2019) argue that Black wages declined after the Shelby ruling, primarily due to public employment. Thus, an alternative explanation for our results is that the income of Black Americans in treated counties was negatively affected after the Shelby ruling. This income shock reduced their borrowing capacity, leading to a lower propensity to apply for mortgages.

We test this hypothesis by examining how the effect varies across counties where public employment is the primary employment for Black Americans. The logic is that if the income channel is the main driver of our results, we should see a greater impact – or more negative coefficient – on mortgage originations and applications in areas where Black Americans heavily rely on public employment. Appendix Figure C.6 presents the heterogeneity in the baseline coefficient across counties with below and above the median share of Black Americans in the working-age labour force employed in the public sector. We find that the baseline estimates for both groups are statistically similar. Economically, the effect is less negative for counties above the median, which contradicts the hypothesis under the income channel. Moreover, our results on greater usage of cash by Black Americans to purchase new homes in treated counties, no effect on applications at non-banks and an increase in mortgage applications to black-friendly banks also suggest that the income channel may not be the primary driver of our results.

7 Conclusion

In this paper, we identify the effect of diluted political voice of Black Americans on their mortgage borrowing decisions. We combine the spatial information on jurisdictions previously covered under Section 5 of the VRA with the race and location of mortgage applicants and use a triple-difference estimation strategy. We document that the amount (number) of total mortgage originations fell by 14.7% (8.3%) for Black borrowers in treated counties relative to control counties following the Shelby ruling.

We find the reduction in mortgage origination is driven by a decline in mortgage applications by Black Americans because the application denial rates remain unchanged. These results suggest

that reduction in political voice may lead Black Americans to self-select out of the mortgage market. The real impact is manifested through a reduction in home purchases among Black Americans after the Shelby ruling. Overall, the evidence indicates that a decline in trust in state and financial institutions among Black Americans plays a significant role in driving their reduced mortgage applications and, consequently, their fewer home purchases following the Shelby ruling.

Broadly, the results expand our understanding of the social and economic impact of changes in voting power. This paper documents that individuals alter their economic decision-making as a response to changes in their political voice. Hence, our paper proposes a new channel through which discrimination in the voting process can result in exclusion from markets. Our work is also relevant to policy-makers working on issues of voting rights, racial disparity, and community banks. Our results highlight that 50 years after the passage of the VRA, the ballot may still need to be protected especially for the historically marginalized.

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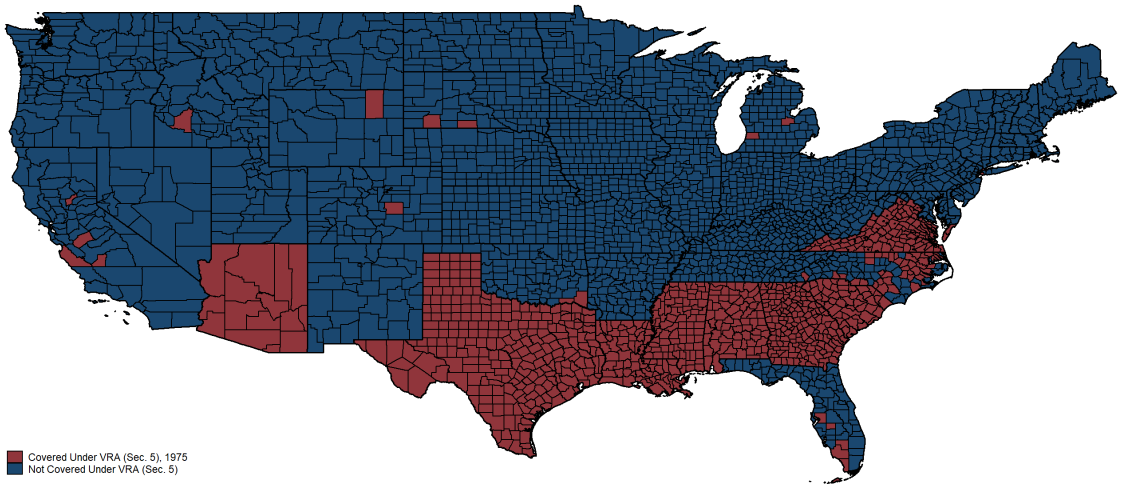
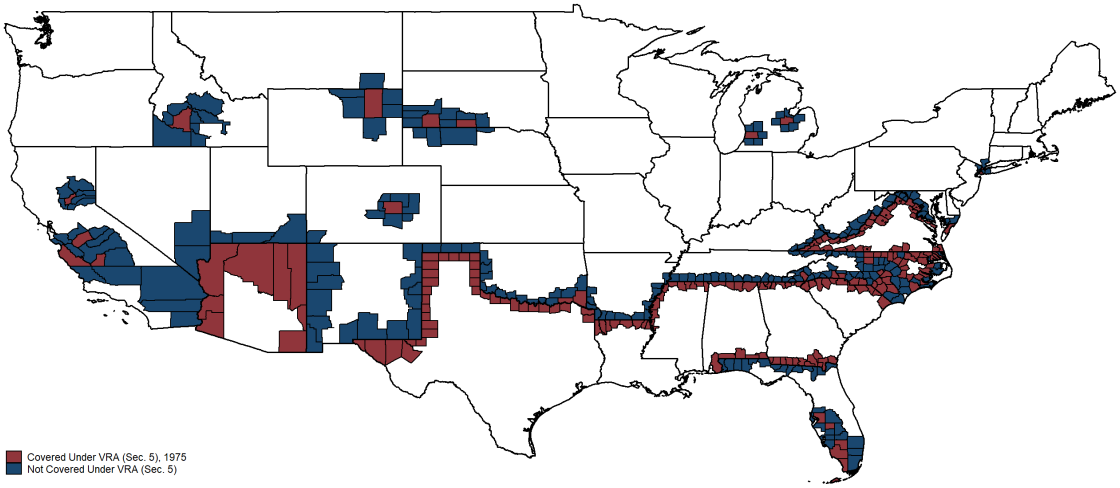
Figure 1: Jurisdictions under Preclearance Coverage



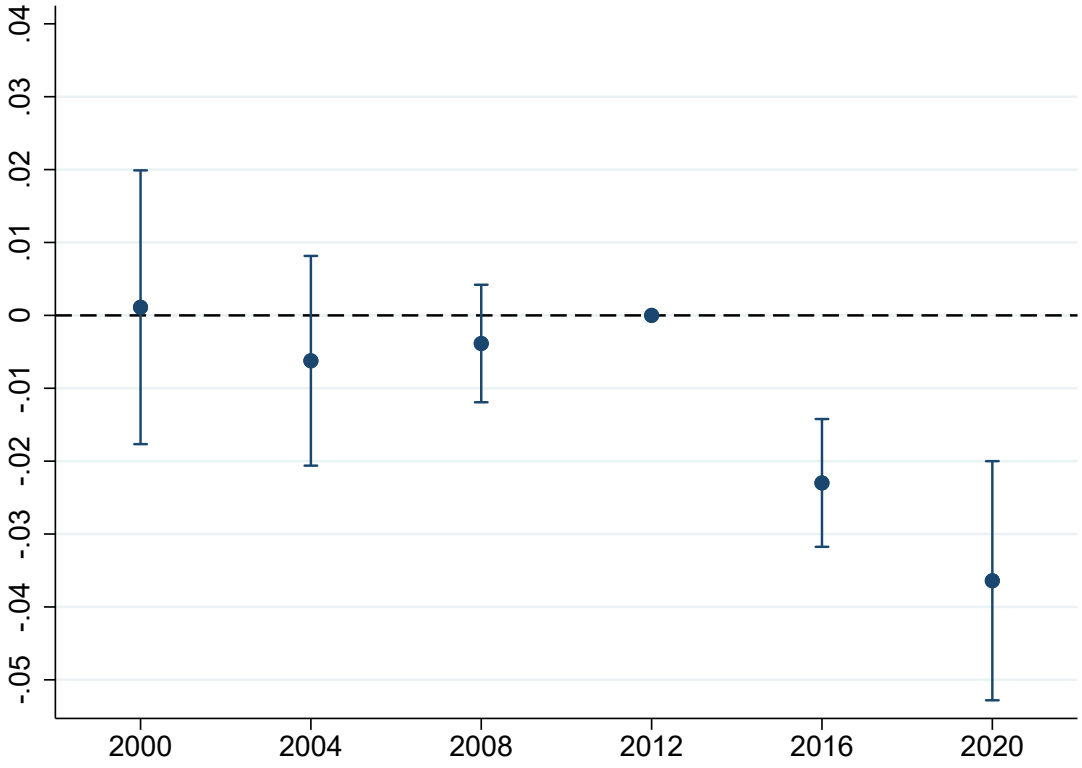
The figure shows all counties subject to preclearance under Section 5 of the Voting Rights Act by 1975. The counties covered under Section 5 require preclearance from either the US Attorney Gereral or the US District Court of DC. This list of counties covered under Section 5 is obtained from the US Department of Justice. <LINK>

Figure 2: Sample of Bordering Counties Used in the Analysis



The figure shows the sample bordering counties used in the analysis. The covered counties were subject to preclearance under Section 5 of the Voting Rights Act by 1975. The counties covered under Section 5 require preclearance of all changes in voting laws from either the US Attorney Gereral or the US District Court of DC. This list of counties covered under Section 5 is obtained from the US Department of Justice. <LINK> The uncovered counties in the immediate border of the covered counties are shown marked in navy blue.

Figure 3: Black Voter Turnout and the Shelby Ruling

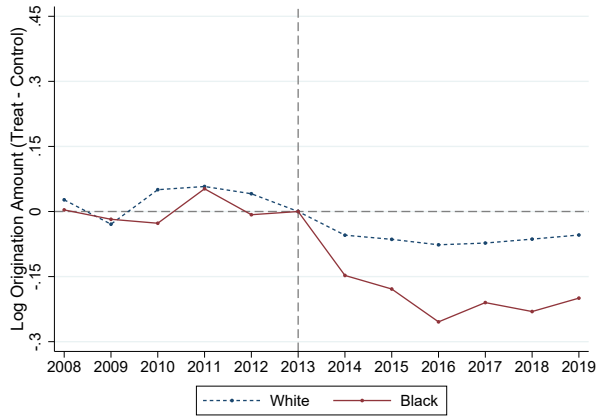


This figure uses county-level voter turnout data and plots coefficients $\{\beta_k\}$ from the specification

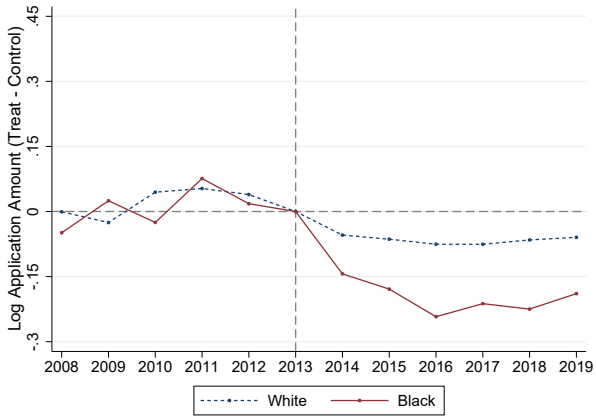
$$\text{Voter Turnout}_{c(c\in p),t} = \sum_{k=2000, k\neq 2012}^{2020} \beta_k \cdot \text{High Black}_c \cdot Treat_c \cdot 1(t=k) + \sum_{k=2000, k\neq 2012}^{2020} \gamma_k \cdot Treat_c \cdot 1(t=k) + \alpha_c + \alpha_{p(c\in p),t} + \varepsilon_{c,t},$$

where $\text{Voter Turnout}_{c(c\in p),t}$ denotes the voter turnout in presidential elections as our primary outcome variable in county (c) during year (t). $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise, for the sample of bordering counties identified in Figure 2. $1(t=k)$ denotes year dummies for 2000, 2004, 2008, 2012, 2016, and 2020 with 2012 as the omitted category. *High Black*$_c$ takes a value of 1 if the 2010 Black population share in county c is greater than the median population of our sample counties in 2010. α_c, and $\alpha_{p(c\in p),t}$ denote county fixed effects and county-pair × year fixed effects, respectively. Additionally, we control for time-varying shocks to treated counties relative to the control counties. The sample includes the 2000, 2004, 2008, 2012, 2016, and 2020 presidential elections. Capped spikes drawn with the estimated coefficients $\{\beta_k\}$ indicate 95% confidence intervals obtained from standard errors clustered at the county level.

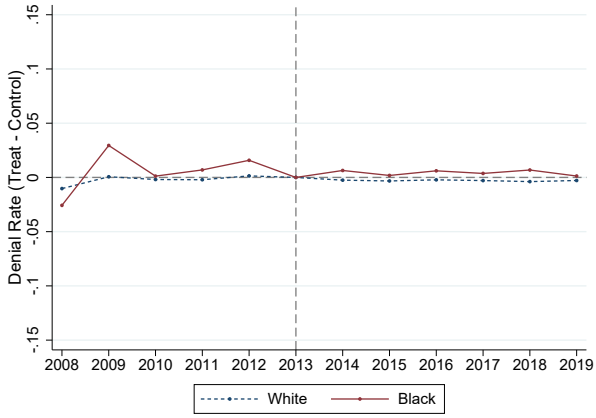
Figure 4: Mortgage Market Outcomes and the Shelby Ruling



(a) Origination



(b) Application



(c) Denial Rate

This figure uses the HMDA data aggregated at the county-race-year level for the period 2008 to 2019 and plots the mortgage origination, application and denial-rate index for Black and White Americans in treated counties relative to the control counties. Figure 4a uses the amount of mortgage origination. Figure 4b uses the number of mortgage origination. Figure 4c uses the denial rate. The mortgage-origination index (Treat−Control) is computed by estimating the weighted average of the mortgage-origination amount (Figure 4a), application-amount (Figure 4b) and denial rate (Figure 4c) for Black and White Americans in treated and control counties, and taking the difference between the two groups of counties for each race. The county population in 2010 is used as a weight. The sample of treated and control counties is shown in Figure 2. The mortgage origination, application and denial-rate index is standardized to a value of 0 in 2013. The blue dashed line reports the indices (Treat−Control) for the White borrowers, and the red solid line reports the indices (Treat−Control) for Black borrowers.

Figure 5: Racial Differences in Mortgages and the Shelby Ruling

(a) Origination

(b) Application

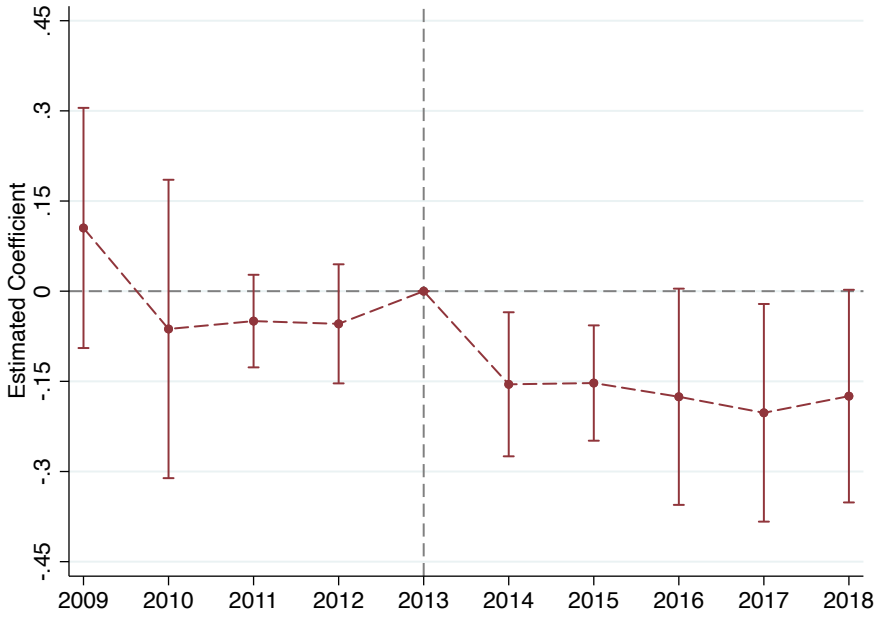
(c) Denial Rate

This figure uses the HMDA data aggregated at the county-race-year level for the period 2008 to 2019 and plots coefficients $\{\beta_k\}$ from the following specification:

$$y_{r,c(c\in p),t} = \sum_{k=2008, k\neq 2013}^{2019} \beta_k \cdot Black_r \cdot Treat_c \cdot 1(t=k) + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t},$$

where $y_{r,c,t}$ denotes the variable of interest aggregated at the county (c), race (r), and time (t) level. Each county is a part of a county-pair (p), which comprises a cluster of bordering counties. The different key dependent variables employed in this paper include the natural logarithm of number and amount of mortgage originations, the natural logarithm of the number and amount of mortgage applications, and the denial rate. The figure plots the sequence of estimates $\{\beta_k\}$ associated with the triple-interaction term. $Black_r$ is a binary variable taking a value of 1 for Black applicants and 0 for white applicants. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise, for the sample of bordering counties identified in Figure 2. $1(t=k)$ is a time indicator, with 2013 being the omitted year. $\alpha_{r,c}$, $\alpha_{c,t}$, and $\alpha_{p(c\in p),r,t}$ represent race × county, county × year, and county-pair × race × year fixed effects, respectively. As dependent variables, Figure 5a uses the natural logarithm of total mortgage-origination amount for home purchases, Figure 5b uses the natural logarithm of the total mortgage application for home purchases, and Figure **??** uses the denial rate. Regressions are weighted by the total county population in 2010. Capped spikes drawn with the estimated coefficients $\{\beta_k\}$ indicate 95% confidence intervals obtained from standard errors clustered at the county level.

Figure 6: Home Purchase and the Shelby Ruling

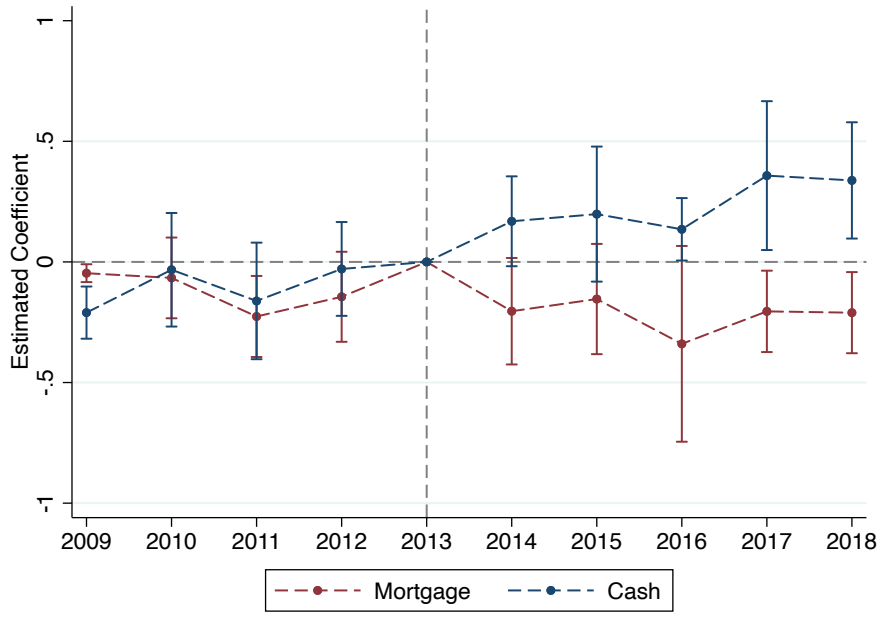


This figure uses the Zillow data aggregated at the county-race-year level for the period 2009 to 2018 and plots coefficients $\{\beta_k\}$ from the following specification:

$$y_{r,c(c\in p),t} = \sum_{k=2008, k\neq 2013}^{2018} \beta_k \cdot Black_r \cdot Treat_c \cdot 1(t=k) + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t},$$

where $y_{r,c,t}$ denotes the natural logarithm of the number of new home purchases aggregated at the county (c), race (r), and time (t) level. Each county is a part of a county-pair (p) that comprises a cluster of bordering counties. The figure plots the sequence of estimates $\{\beta_k\}$ associated with the triple-interaction term. $Black_r$ is a binary variable taking a value of 1 for Black home buyers and 0 for White home buyers. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise, for the sample of bordering counties identified in Figure 2. $1(t=k)$ is a time indicator, with 2013 being the omitted year. $\alpha_{r,c}$, $\alpha_{c,t}$, and $\alpha_{p(c\in p),r,t}$ represent race × county, county × year, and county-pair × race × year fixed effects, respectively. Regressions are weighted by the total county population in 2010. Capped spikes drawn with the estimated coefficients $\{\beta_k\}$ indicate 95% confidence intervals obtained from standard errors clustered at the county level.

Figure 7: Change in Mode of Home Purchase and the Shelby Ruling: Cash vs. Mortgage



This figure uses the home transactions data from Zillow merged with HMDA and aggregated at the county-race-year level for the period 2009 to 2018 for homes purchased through cash and mortgages and plots coefficients $\{\beta_k\}$ from the following specification:

$$y_{r,c(c\in p),t} = \sum_{k=2009, k\neq 2013}^{2018} \beta_k \cdot Black_r \cdot Treat_c \cdot 1(t=k) + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t},$$

where $y_{r,c,t}$ denotes the natural logarithm of the number of new home purchases through mortgages or cash aggregated at the county (c), race (r), and time (t) level. Each county is a part of a county-pair (p) that comprises a cluster of bordering counties. The figure plots the sequence of estimates $\{\beta_k\}$ associated with the triple interaction term. $Black_r$ is a binary variable taking a value of 1 for Black applicants and 0 for white applicants. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise, for the sample of bordering counties identified in Figure 2. $1(t=k)$ is a time indicator, with 2013 being the omitted year. $\alpha_{r,c}$, $\alpha_{c,t}$, and $\alpha_{p(c\in p),r,t}$ represent race × county, county × year, and county-pair × race × year fixed effects, respectively. Regressions are weighted by the total county population in 2010. Capped spikes drawn with the estimated coefficients $\{\beta_k\}$ indicate 95% confidence intervals obtained from standard errors clustered at the county level.

Table 1: Summary Statistics

Variables	Mean	SD	P25	P50	P75
Origination for Home Purchases					
LN(Amount)	2.056	2.409	0.798	2.468	3.949
LN(Number)	1.452	2.092	0.095	1.808	3.223
Application for Home Purchases					
LN(Amount)	2.372	2.307	1.176	2.754	4.157
LN(Number)	1.752	2.013	0.742	2.092	3.405
Denial Rate for Home Purchases	0.156	0.217	0.000	0.089	0.212
LN(Number of Housing Transactions)	4.792	2.660	3.140	4.970	6.763
Voter Turnout	0.394	0.087	0.334	0.392	0.454
Migration					
Ln(Outflow)	7.649	1.573	6.540	7.455	8.621
Ln(Inflow)	7.662	1.600	6.509	7.444	8.689
Ln(Outflow/Population in 2010)	-3.083	0.327	-3.290	-3.111	-2.883
Ln(Intflow/Population in 2010)	-3.070	0.373	-3.317	-3.079	-2.822
Share of White Population	0.610	0.262	0.429	0.663	0.829
Share of Black Population	0.157	0.196	0.021	0.074	0.214
LN(Hate Crime)	0.490	0.716	0.000	0.000	0.693
Approval of State Legislature	2.2	0.9	1	2	3
Approval of Congress	1.8	0.9	1	2	2
Approval of President	2.3	1.3	1	2	4
Approval of Supreme Court	2.3	0.9	2	2	3
Distrust in Financial Institution	0.297	0.457	0	0	1
Warmth Towards Black Americans	61.964	19.695	50	60	75

This table presents the summary statistics for the key outcome variables explored in this paper. The first two rows report summary statistics for the natural logarithm of the mortgage-origination amount and number for home purchases, followed by the summary statistics for the natural logarithm of mortgage applications amount and number. We then report the summary statistics for the denial rate, defined as the ratio of the number of denied applications to the total number of applications for home purchases. Next, we report the natural logarithm of the number of housing transactions. The mortgage market variables are constructed from the HMDA database and are at the census-tract and year level. The number of housing transactions is computed from the ZTRAX database at the county-year level. All variables are winsorized at the 1% level to minimize the influence of outliers. We also include other variables – the migration and share of the White and Black population collected from IRS and ACS, respectively. Incidents of hate crimes are constructed from the FBI database. Americans' approval of the legislature, Congress, president, and the Supreme Court is collected from CCES. One indicate strong disapproval, and four indicates strong approval.

Table 2: Balance Test: Comparing Bordering County Characteristics in 2010

Panel A: All Counties

	Uncovered Counties	Covered Counties	Mean Difference	P-Value
Income	33,159.5	29,991.9	3,167.6	0.001
Age	37.476	35.314	2.162	0.000
Share of Black Pop	0.040	0.216	-0.177	0.000
Share of Urban Pop	0.409	0.430	-0.021	0.095
Share of Homeowers	0.681	0.643	0.038	0.001
Share of Mortgage Borrowers	0.756	0.720	0.036	0.000
Share of Labor Force	0.773	0.750	0.023	0.000
Employment Rate	0.908	0.911	-0.003	0.185
Share of Manufacturing	0.096	0.078	0.018	0.000
Share of Trade	0.129	0.123	0.005	0.004
LTV	0.787	0.789	-0.002	0.292
Combined LTV	0.796	0.798	-0.002	0.226
DTI	0.331	0.338	-0.007	0.000
Credit Score	751.9	745.7	6.224	0.000
Interest Rate on FRM	0.054	0.055	-0.001	0.000
Hate Crime per Thousand	0.010	0.007	0.003	0.003
No. of Black Lenders per Black Americans	0.401	0.106	0.295	0.000
Racial Animus	60.12	64.89	-4.763	0.000

Panel B: Bordering Counties

	Uncovered Counties	Covered Counties	Simple Difference		Difference (within county-pairs)	
			Magnitude	P-Value	Magnitude	P-Value
Income	31,959.7	31,223.5	736.2	0.769	1,737.7	0.566
Age	37.146	35.827	1.319	0.039	-0.881	0.126
Share of Black Pop	0.102	0.177	-0.075	0.000	0.013	0.133
Share of Urban Pop	0.455	0.454	0.002	0.960	0.018	0.458
Share of Homeowers	0.642	0.609	0.033	0.217	-0.037	0.270
Share of Mortgage Borrowers	0.755	0.733	0.022	0.191	-0.019	0.200
Share of Labor Force	0.753	0.753	0.000	0.999	-0.003	0.778
Employment Rate	0.897	0.903	-0.006	0.291	0.004	0.572
Share of Manufacturing	0.071	0.081	-0.010	0.380	0.008	0.407
Share of Trade	0.124	0.118	0.006	0.188	-0.006	0.114
LTV	0.785	0.788	-0.003	0.342	0.002	0.535
Combined LTV	0.794	0.796	-0.002	0.491	0.000	0.894
DTI	0.339	0.338	0.001	0.599	0.002	0.534
Credit Score	750.2	748.6	1.530	0.178	0.399	0.671
Interest Rate on FRM	0.055	0.055	0.000	0.233	0.000	0.756
Hate Crime per Thousand	0.006	0.007	-0.001	0.530	0.000	0.838
No. of Black Lenders per Black Americans	0.219	0.175	0.044	0.471	0.033	0.388
Racial Animus	64.80	66.41	-1.617	0.361	-1.517	0.161

This table reports average characteristics across Section 5 (covered) and non-Section 5 (uncovered) counties. Panel A reports average characteristics across Section 5 (covered) and non-Section 5 (uncovered) counties, for the full county sample shown in Figure 1. Panel B reports average characteristics across Section 5 (covered) and non-Section 5 (uncovered) counties, for the sample of bordering counties shown in Figure 2. Simple difference reports the average difference across covered and uncovered counties. Difference (within county-pairs) reports the average value of the difference between covered and uncovered estimated within-county-pairs of bordering counties.

Table 3: Voter Turnout and the Shelby Ruling

Dep Var: Voter Turnout	(1)	(2)	(3)
High Black x Treat x Post	-0.0274***	-0.0342***	-0.0274***
	(0.0086)	(0.0093)	(0.0082)
County FE	Yes	Yes	Yes
Year FE	Yes		
Treat × Year FE		Yes	Yes
County Pair × Year FE			Yes
Adjusted R^2	0.7778	0.7782	0.9057
# Obs	3,747	3,747	3,747

This table reports the coefficient β from the following specification:

$$y_{c(c\in p),t} = \beta \cdot \text{High Black}_c \cdot Treat_c \cdot Post_t + \sum_k \gamma_k \cdot Treat_c \cdot 1(t = k) + \alpha_c + \alpha_{p(c\in p),t} + \varepsilon_{rct},$$

where $y_{c(c\in p),t}$ denotes the voter turnout in presidential elections as our primary outcome variable in county (c) during year (t). $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise, for the sample of bordering counties identified in Figure 2. $Post_t$ takes a value of 1 for years after 2013. $High\ Black_c$ takes a value of 1 if the 2010 share of Black population in county c is greater than the median population of our sample counties in 2010. α_c and $\alpha_{p(c\in p),t}$ denote county fixed effects and county-pair × year fixed effects, respectively. Additionally, we control for time-varying shocks to treated counties relative to the control counties. The sample includes 2000, 2004, 2008, 2012, 2016, and 2020 presidential elections. Standard errors clustered at the county level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 4: Geographic Regression Discontinuity: Mortgage Market Outcome and the Shelby Ruling

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	-0.1466***	-0.0828***	-0.1261***	-0.0695***	0.0004
	(0.0322)	(0.0251)	(0.0313)	(0.0246)	(0.0054)
Census Tract x Year FE	Yes	Yes	Yes	Yes	Yes
Census Tract x Race FE	Yes	Yes	Yes	Yes	Yes
County Pair x Race x Year FE	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8634	0.8868	0.8619	0.8864	0.4180
# Obs	346,825	346,825	346,825	346,825	346,825

This table reports the coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f(location_v) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r) and time (t) level. The key-dependent variables include natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). The coefficient of interest is the interaction term of $Black_r$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f(location_v)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 5: Robustness: Relative Sensitivity to Macroeconomic Shocks

Macroeconomic Shock → Dep Var: ↓	(1) 30-Year Mortgage Rates	(2) 15-Year Mortgage Rates	(3) GDP Growth Rate	(4) Term Spread	(5) Bank Credit
Mortgage Origination					
LN(Amount)	-0.0115	-0.0157	0.0015	0.0048	0.0028
	(0.0495)	(0.0575)	(0.0142)	(0.0472)	(0.0086)
LN(Number)	0.0044	0.0026	0.0030	0.0102	-0.0006
	(0.0385)	(0.0446)	(0.0110)	(0.0369)	(0.0067)
Mortgage Applications					
LN(Amount)	-0.0227	-0.0263	-0.0054	-0.0192	0.0124
	(0.0478)	(0.0553)	(0.0134)	(0.0458)	(0.0084)
LN(Number)	-0.0247	-0.0292	-0.0013	0.0001	0.0036
	(0.0376)	(0.0434)	(0.0104)	(0.0361)	(0.0065)

This table reports the coefficient β for the following regression specification for different dependent variables and macroeconomic shocks:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot \Delta X_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. The coefficient of interest is the interaction term of $Black_r$, $Treat_c$ and ΔX_t. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. ΔX_t includes macroeconomic shocks including changes in the 30-year mortgage rate, 15-year mortgage rate, term spread, bank credit, and GDP growth rate. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data spans all census tracts in bordering counties identified in Figure 2 from 2008 until 2012 with total observations of 146,011. Regressions are weighted by the total tract population in 2010. Each pair of estimate and standard error is estimated from separate regressions using a different dependent variable and macroeconomic shocks. The four different dependent variables include the natural logarithm of the amount and number of mortgage originations and the natural logarithm of the amount and number of mortgage applications. The four dependent variables and five macroeconomic shocks result in the creation of this 4X5 matrix estimated using 20 different regressions. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 6: Balance Test: White and Black Americans

Panel A: Black Americans in Bordering Counties						
	Uncovered Counties	Covered Counties	Simple Difference		Difference (within county-pairs)	
			Magnitude	P-Value	Magnitude	P-Value
Income	22,951.3	21,404.3	1,547.0	0.324	-1,113.3	0.415
Employment Rate	0.842	0.838	0.004	0.860	-0.028	0.445
Share of College Attended	0.639	0.616	0.023	0.120	-0.017	0.139
Share of Divorsed or Separated	0.519	0.512	0.007	0.841	-0.077	0.115
LTV	0.790	0.793	-0.003	0.625	-0.002	0.742
Combined LTV	0.794	0.796	-0.002	0.709	-0.003	0.683
DTI	0.353	0.348	0.005	0.286	-0.002	0.752
Credit Score	751.1	752.5	-1.435	0.436	0.795	0.675
Interest Rate on FRM	0.053	0.053	0.001	0.261	-0.001	0.330
Approval of State Legislature	2.430	2.308	0.122	0.225	-0.135	0.245
Approval of Congress	2.067	1.989	0.077	0.449	-0.163	0.162
Approval of President	3.416	3.404	0.012	0.905	-0.062	0.493
Approval of Supreme Court	2.577	2.588	-0.011	0.903	0.150	0.163
Mistrust in Financial System	0.318	0.247	0.071	0.521	0.030	0.853

Panel B: White Americans in Bordering Counties						
	Uncovered Counties	Covered Counties	Simple Difference		Difference (within county-pairs)	
			Magnitude	P-Value	Magnitude	P-Value
Income	34,712.3	34,751.5	-39.2	0.989	718.4	0.823
Employment Rate	0.909	0.918	-0.010	0.111	0.002	0.762
Share of College Attended	0.695	0.687	0.008	0.626	-0.017	0.264
Share of Divorsed or Separated	0.256	0.247	0.008	0.443	-0.003	0.865
LTV	0.776	0.777	-0.001	0.789	-0.004	0.497
Combined LTV	0.780	0.781	-0.002	0.727	-0.003	0.512
DTI	0.347	0.337	0.010	0.003	-0.002	0.373
Credit Score	759.4	758.4	1.006	0.389	-1.186	0.371
Interest Rate on FRM	0.051	0.051	0.000	0.920	0.001	0.082
Approval of State Legislature	2.356	2.374	-0.018	0.779	-0.011	0.841
Approval of Congress	1.584	1.636	-0.053	0.274	0.033	0.532
Approval of President	2.087	1.936	0.151	0.064	-0.154	0.068
Approval of Supreme Court	2.049	2.080	-0.030	0.601	0.009	0.863
Mistrust in Financial System	0.360	0.334	0.026	0.700	0.009	0.886

This table reports average characteristics across Section 5 (covered) and non-Section 5 (uncovered) counties for White and Black Americans separately. Samples are restricted to the sample of bordering counties shown in Figure 2. Panel A reports average characteristics across Section 5 (covered) and non-Section 5 (uncovered) counties for White Americans. Panel B reports average characteristics across Section 5 (covered) and non-Section 5 (uncovered) counties for Black Americans. Simple difference reports the average difference across covered and uncovered counties. Difference (within county-pairs) reports the average value of the difference between covered and uncovered estimated within-county-pairs of bordering counties.

Table 7: Regression Discontinuity around the Voter-Turnout Threshold

Panel A: Regression Discontinuity					
	(1)	(2)	(3)	(4)	(5)
	Origination		Application		$\Delta Denial\ Rate$
	$\Delta LN(Amount)$	$\Delta LN(Number)$	$\Delta LN(Amount)$	$\Delta LN(Number)$	
Treat	-0.2374**	-0.2049**	-0.2224*	-0.1992*	-0.0099
	(0.1148)	(0.0896)	(0.1209)	(0.1010)	(0.0253)
Adjusted R^2	0.0413	0.0452	0.0356	0.0312	-0.0107
# Obs	164	164	164	164	164

Panel B: Differences-in-Discontinuity Design					
	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	-0.1101***	-0.0860**	-0.1035***	-0.0838**	-0.0010
	(0.0347)	(0.0374)	(0.0346)	(0.0377)	(0.0062)
County x Year FE	Yes	Yes	Yes	Yes	Yes
County x Race FE	Yes	Yes	Yes	Yes	Yes
Race x Year FE	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.9909	0.9917	0.9916	0.9920	0.6308
# Obs	5,314	5,314	5,314	5,314	5,314

Panel A use the HMDA data aggregated at the county level and report the coefficient β from the specification:

$$\Delta y_{c,Black} - \Delta y_{c,White} = \alpha + \beta \cdot Treat_c + \gamma_1 \cdot Turnout_c + \gamma_2 \cdot Treat_c \cdot Turnout_c + \varepsilon_c.$$

Panel B use the HMDA data aggregated at the county-race-year level for the period 2008 to 2019 and report coefficients β from the following specification:

$$y_{r,c,t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \alpha_{r,c} + \alpha_{r,t} + \alpha_{c,t} + \varepsilon_{r,c,t},$$

where subscript r, c, and t indicate race, county, and year, respectively. $Treat_c$ is an indicator variable that takes 1 for counties whose voter turnout in the 1964 presidential election is greater than 45% but less than 50% and 0 for counties whose voter turnout in the 1964 presidential election is greater than 50% but less than 55%. The sample of treated and control counties is shown in Figure C.1. $Turnout_c$ is voter turnout in the 1964 Presidential election. $Black_r$ is an indicator variable that takes 1 for Black borrowers, and $Post_t$ is an indicator variable that takes 1 for years from 2014. $\alpha_{r,c}$, $\alpha_{r,t}$, and $\alpha_{c,t}$ represent race-county, race-year, and county-year fixed effects, respectively. $\Delta y_{c,Black}$ and $\Delta y_{c,White}$ denote the change in the natural logarithm of the amount and number of mortgage originations and applications and denial rates from 2013 to 2016 for Black and White Americans, respectively. Panel B uses the natural logarithm of the total amount and number of originations, applications, and denial rate as the dependent variable. Panel A reports heteroskedasticity-robust standard errors. Panel B reports standard errors clustered at the county level. All regressions are weighted by the total county population in 2010. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 8: Approval of State Agents

Dep Var: Approval of State Agents	(1)	(2)	(3)	(4)	(5)
State Legislature	-0.1857**	-0.3305***	-0.2857***	-0.2807***	-0.3261***
	(0.0943)	(0.0655)	(0.0679)	(0.0673)	(0.0851)
Congress	-0.1484*	-0.2947***	-0.2383***	-0.2186***	-0.1586**
	(0.0881)	(0.0755)	(0.0768)	(0.0766)	(0.0780)
President	-0.2930***	-0.1982***	-0.1961***	-0.2024***	-0.1859***
	(0.0893)	(0.0591)	(0.0598)	(0.0610)	(0.0593)
Supreme Court	-0.1849*	-0.2529***	-0.2355***	-0.2420***	-0.2147***
	(0.0983)	(0.0766)	(0.0747)	(0.0712)	(0.0743)
Race X Year FE	Yes				
County X Race FE	Yes				
County X Year FE	Yes				
County-pair X Race X Year FE	Yes				
Party Affiliation X Race X Year FE		Yes	Yes	Yes	Yes
Party Affiliation X County X Race FE		Yes	Yes	Yes	Yes
Party Affiliation X County X Year FE		Yes	Yes	Yes	Yes
Party Affiliation X County-pair X Race X Year FE		Yes	Yes	Yes	Yes
Individual Controls			Yes	Yes	Yes
Income Bucket FE				Yes	Yes
Zipcode FE					Yes

This table reports the coefficient β for the following regression specification for different dependent variables:

$$y_{i,z(z\in c(p)),t} = \beta \cdot Black_i \cdot Treat_c \cdot Post_t + \alpha_{a,r,c} + \alpha_{a,c,t} + \alpha_{a,r,t} + \alpha_{a,c(p)(z\in c(p)),r,t} + \alpha_z + \gamma X_{it} + \varepsilon_{i,t}$$

where, $y_{i,z(z\in c(p)),t}$ denotes the approval of the state agent reported by individual i, with political affiliation (a) residing in ZIP code z in county (c) lying within a contagious county-pair (p), with race (r) at time (t). The coefficient of interest is the interaction term of $Black_i, Treat_c$ and $Post_t$. $Black_i$ is a binary variable taking a value of 1 for Black Americans and 0 for white Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ takes a value of 1 for years after 2013 and 0 otherwise. The specification includes political affiliation × race × year, party affiliation × county × race, party affiliation × county × year, party affiliation × county-pair × race × year and zip code fixed effects. Individual level controls include gender, birth year fixed effects, marital status, union member, has children, and income-bucket fixed effects. Political affiliation is divided into seven buckets – strong Democrat, not very strong Democrat, lean Democrat, independent, lean Republican, not very Strong Republican, and strong Republican. The data comes from Cooperative Congressional Election Study (CCES) for the years 2008, 2010, 2012, 2014, 2016, and 2018. Regressions are weighted by individual survey weights. Each pair of estimate and standard error is estimated from separate regressions using a different dependent variable and a different set of fixed effects. The four different dependent variables are approval of the state legislature, Congress, president and the Supreme Court. Each respondent gives their approval rating on a four-point scale – strongly approve, somewhat approve, somewhat disapprove, and strongly disapprove. The four dependent variables and five sets of different fixed effects result in creation of this 4X5 matrix estimated using 20 different regressions. Standard errors clustered at the county level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 9: Trust in Financial System

	(1)	(2)	(3)	(4)
Black × Treat × Post	0.3854*	0.4122**	0.8017***	0.9365***
	(0.2106)	(0.1950)	(0.0883)	(0.1573)
County × Year FE	Yes	Yes		
County × Race FE	Yes	Yes		
County-Pair × Race × Year FE	Yes	Yes	Yes	Yes
Party FE		Yes		
Party × County × Year FE			Yes	Yes
Party × County × Race FE			Yes	Yes
Controls				Yes
Adjusted R^2	0.0229	0.0417	0.2361	0.2394
# Obs	2,966	2,966	2,475	2,475

This table uses data from the individual-level GSS survey to estimate the following regression specification :

$$FinDistrust_{r,c(c\in p),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t}$$

where the subscripts r, c, and t indicate race, county, and year, respectively. County (c) lies within a contagious county-pair ($c(p)$). $FinDistrust_{r,c(c\in p),t}$ is an indicator variable that takes 1 if an individual has no trust for the financial institutions. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA and 0 otherwise. All counties included in the sample are identified in figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling, and 0 otherwise. $Black_i$ is a binary variable taking a value of 1 for Black Americans and 0 for white Americans. Column (1) include $\alpha_{r,c}$, $\alpha_{c,t}$,$\alpha_{c(p)(c\in c(p)),t}$. These stands for county × race, county × year, and county-pair × race × year fixed effects, respectively. Column (2) augments the above regression specification with party affiliation fixed effects. Column 3 includes Party × county × race, Party × county × year fixed effects. Column 4 adds additional controls such as gender, age and education. Standard errors clustered at the county level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 10: Bank vs Non-Bank

	Non-Bank		Bank		All	
	(1) LN(Amount)	(2) LN(Number)	(3) LN(Amount)	(4) LN(Number)	(5) LN(Amount)	(6) LN(Number)
Panel A: Mortgage Application						
Black x Treat x Post	-0.0131	0.0409	-0.1630***	-0.1103***		
	(0.0428)	(0.0338)	(0.0375)	(0.0292)		
Black x Treat x Post x Bank					-0.1623***	-0.1614***
					(0.0552)	(0.0437)
Adjusted R^2	0.8436	0.8639	0.8412	0.8626	0.8837	0.8965
# Obs	289,723	289,723	320,202	320,202	560,014	560,014
Panel B: Mortgage Origination						
Black x Treat x Post	0.0262	0.0748**	-0.1845***	-0.1235***		
	(0.0433)	(0.0340)	(0.0387)	(0.0297)		
Black x Treat x Post x Bank					-0.2459***	-0.2238***
					(0.0587)	(0.0462)
Adjusted R^2	0.8460	0.8653	0.8440	0.8635	0.8796	0.8927
# Obs	289,723	289,723	320,202	320,202	560,014	560,014
Tract x Year FE	Yes	Yes	Yes	Yes		
Tract x Race FE	Yes	Yes	Yes	Yes		
County Pair x Race x Year FE	Yes	Yes	Yes	Yes		
2d Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes	Yes
Tract x Year x Race FE					Yes	Yes
Tract x Year x Black Lender FE					Yes	Yes
Tract x Race x Black Lender FE					Yes	Yes
County Pair x Year x Race x Black Lender FE					Yes	Yes

This table reports the coefficient β from the following regression specification:

$$y_{r,l,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Bank_l \cdot Treat_c \cdot Post_t + f\,(location_v) + \alpha_{v,r,l} + +\alpha_{v,l,t} + \alpha_{v,r,t} + \alpha_{c(p)(v\in c(p)),r,l,t} + \varepsilon_{r,l,v,t},$$

where $y_{r,l,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), lender type (l), and time (t) level. Bank type l is either bank or non-bank. A non-bank is defined as a mortgage lender regulated by the Department of Housing and Urban Development (HUD). The key-dependent variables include the natural logarithm of total amount and number of mortgage applications and originations. The coefficient of interest is the interaction term of $Black_r$, $Bank_l$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Bank_l$ is a binary variable taking a value of 1 for lenders not categorized as a non-bank. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and zero otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\,(location_v)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses.

Table 11: Flight of Mortgage Applications from Black Borrowers to Black Lenders

	Non-Black Lender		Black Lender		All	
	(1) LN(Amount)	(2) LN(Number)	(3) LN(Amount)	(4) LN(Number)	(5) LN(Amount)	(6) LN(Number)
Black x Treat x Post	-0.1524***	-0.1028***	0.1188	0.1500**		
	(0.0461)	(0.0379)	(0.0797)	(0.0652)		
Black x Treat x Post x Black Lender					0.2090**	0.2037***
					(0.0876)	(0.0714)
Tract x Year FE	Yes	Yes	Yes	Yes		
Tract x Race FE	Yes	Yes	Yes	Yes		
County Pair x Race x Year FE	Yes	Yes	Yes	Yes		
2d Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes	Yes
Tract x Year x Race FE					Yes	Yes
Tract x Year x Black Lender FE					Yes	Yes
Tract x Race x Black Lender FE					Yes	Yes
County Pair x Year x Race x Black Lender FE					Yes	Yes
Adjusted R^2	0.8765	0.8935	0.7875	0.7898	0.9262	0.9347
# Obs	204,250	204,250	145,977	145,977	350,227	350,227

This table reports the coefficient β from the following regression specification:

$$y_{r,l,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Black_l \cdot Treat_c \cdot Post_t + f(location_v) + \alpha_{v,r,l} + +\alpha_{v,l,t} + \alpha_{v,r,t} + \alpha_{c(p)(v\in c(p)),r,l,t} + \varepsilon_{r,l,v,t},$$

where $y_{r,l,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), lender type (l), and time (t) level. Bank type l is either Black lender or non-Black lender. Black lenders are defined as in section 6.1.4. The key-dependent variables include the natural logarithm of total amount and number of mortgage applications. The coefficient of interest is the interaction term of $Black_r$, $Black_l$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Black_l$ is a binary variable taking a value of 1 for Black lenders defined in section 6.1.4. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and zero otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f(location_v)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Online Appendix for:

"Political Voice and (Mortgage) Market Participation: Evidence from the Dilution of Voting Rights Act"

Appendix A Background and Enactment of the VRA

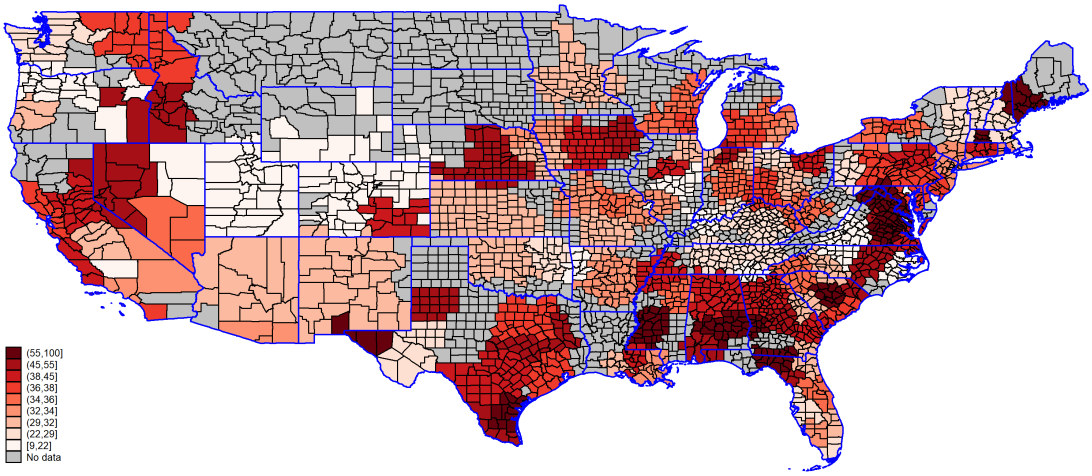
The years following the enactment of the three reconstruction amendments – the 13th, the 14th, and the 15th amendments – were marked by active involvement of the Black American population in politics, including the holding of public offices, and their economic prosperity (Logan, 2020). The increasing political and economic involvement of the Black Americans led to a widespread campaign among southern Whites to overturn the Reconstruction-era policies. This movement of re-establishing the antebellum racial hierarchy is referred to as the Southern Redemption. Several works including Ayers (2007), and Lemann (2007) among others have noted the Southern Redemption was concentrated on reducing Black political involvement both through laws and intimidation. As a result, southern state legislatures enacted several laws between the late 19th and early 20th century, referred to as the "Jim Crow" laws, to impose de facto suffrage restrictions on Black Americans.

The goals of these laws were achieved through imposition of poll taxes, literacy tests administered in a discriminatory manner by county officials, Whites-only party primaries, and so on, which were unduly burdensome to the Black Americans.[28] Valelly (2009) notes these restrictions disenfranchised most eligible Black Americans before the civil rights era. Furthermore, these restrictions contributed to the decline in the social and economic status of Black Americans (Sundstrom, 2007; Logan, 2020).

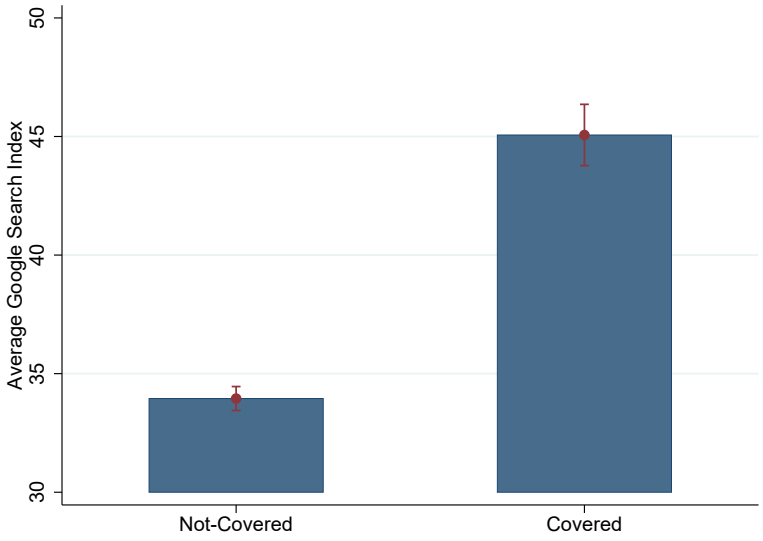
[28] We direct the readers to Perman (2003) for an extensive discussion on the disenfranchisement of Black Americans in the South during this period.

Appendix B Political Voice and Repeal of the VRA

Figure B.1: Google Search for Voting Rights Act



(a) Across Counties

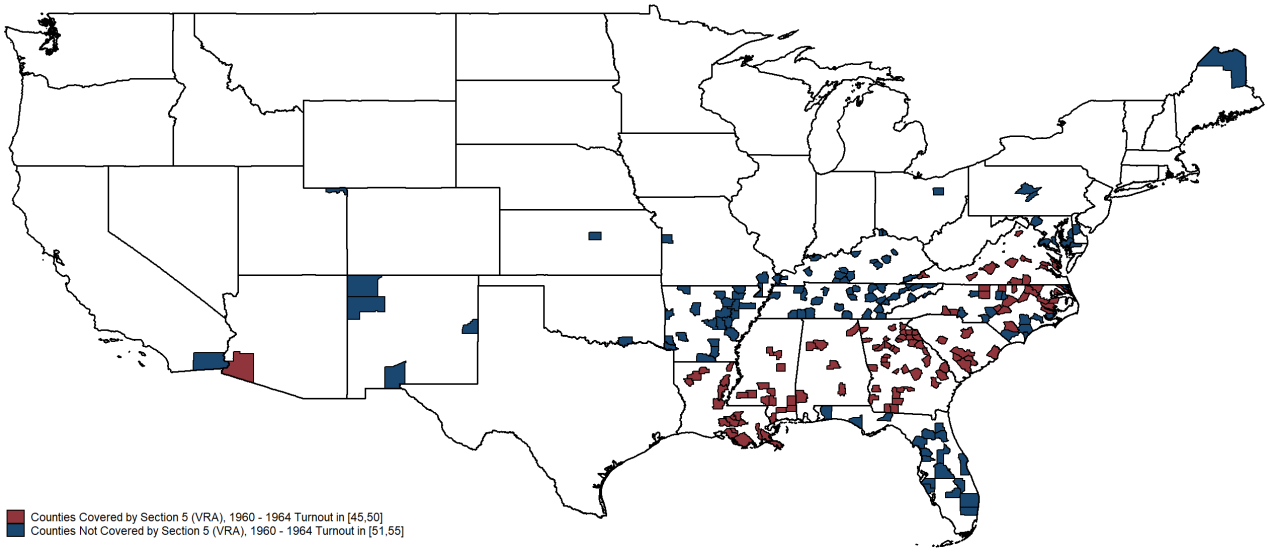


(b) Covered vs Uncovered Counties

This figure plots the geographic dispersion in the google search index for the term "Voting Rights Act" from January 1, 2012, until December 30, 2014. Figure B.1a plots the heat map for google search index across different counties. Counties with no data have very low search traffic for the term "Voting Rights Act." Figure B.1b plots the average search index for the term "Voting Rights Act" for counties covered and not-covered by Section 5 of the VRA. The t-statistic for the equality of the average search index across covered and uncovered counties is 19 and significant at the 1% level.

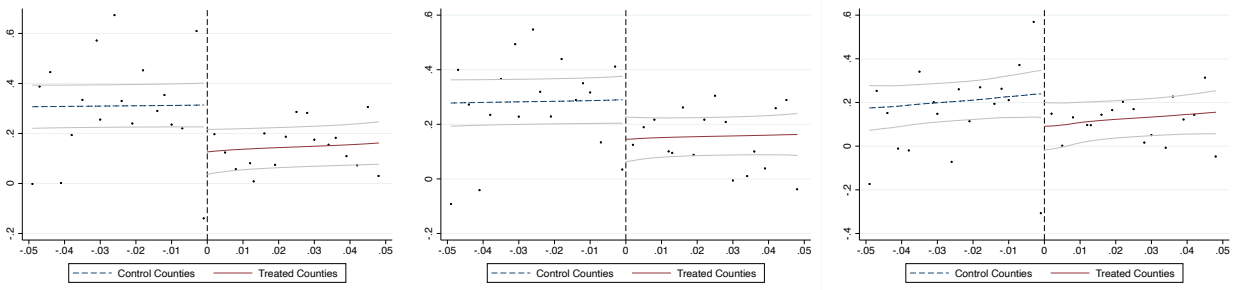
Appendix C Robustness

Figure C.1: Sample of Treated Counties and Control Counties used in Regression Discontinuity

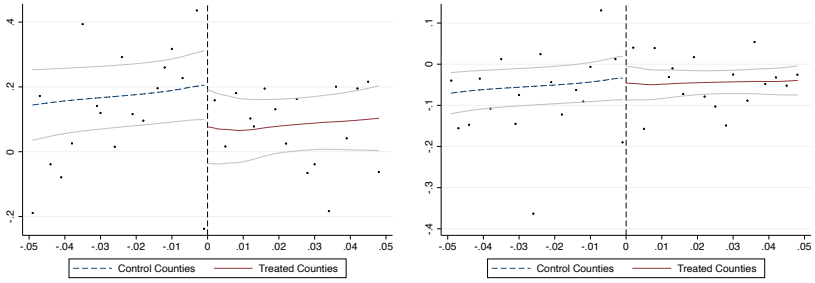


The figure shows the sample of treated and control counties used in the regression discontinuity analysis. The covered counties were subject to preclearance under Section 5 of the Voting Rights Act of 1965. The counties covered under Section 5 require preclearance from either the US Attorney Gereral or the US District Court of DC. The list of counties covered under Section 5 is obtained from the US Department of Justice. <LINK> The covered counties with the 1964 presidential voter turnout from 45% to 50% are included in the treated sample. The uncovered counties are counties that were never covered by Section 5 and have the 1964 presidential voter turnout from 51% to 55%.

Figure C.2: Regression Discontinuity around the Voter-Turnout Threshold



(a) Origination Amount (b) Origination Number (c) Application Amount



(d) Application Number (e) Denial Rate

This figure plots the scatter plot and the local best-fit linear polynomial of the county-level mortgage-origination growth for Black Americans relative to White Americans from 2013 to 2016 (Y-axis) against the running variable, that is, 0.5 minus the voter turnout in the 1964 Presidential election (X-axis). The sample of treated and control counties is shown in Figure C.1. The solid red line illustrates the local best-fit linear polynomial for the treated counties whose 1964 presidential voter turnout was between 46% and 50%. The navy dashed line shows the local best-fit linear polynomial for the control counties whose 1964 Presidential voter turnout was between 40% and 45%. The black vertical dashed line separates the treated and control groups, and the solid gray line indicates the 95% confidence interval of the local best-fit linear polynomials.

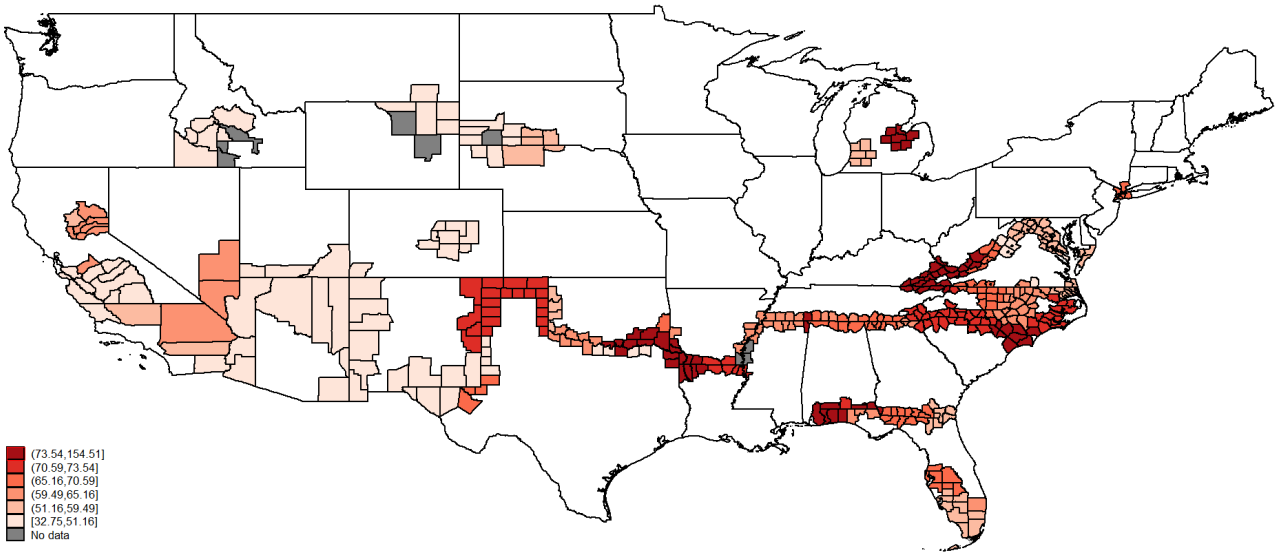
Figure C.3: Home Purchase and the Shelby Ruling (Alternative Race Prediction Methodology)

This figure uses the Zillow data aggregated at the county-race-year level for the period 2009 to 2018 and plots coefficients $\{\beta_k\}$ from the following specification:

$$y_{r,c(c\in p),t} = \sum_{k=2008, k\neq 2013}^{2018} \beta_k \cdot Black_r \cdot Treat_c \cdot 1(t=k) + \alpha_{r,c} + \alpha_{c,t} + \alpha_{p(c\in p),r,t} + \varepsilon_{r,c,t},$$

where $y_{r,c,t}$ denotes the natural logarithm of the number of new home purchases aggregated at the county (c), race (r), and time (t) level. Each county is a part of a county-pair (p) that comprises a cluster of bordering counties. The figure plots the sequence of estimates $\{\beta_k\}$ associated with the triple-interaction term. $Black_r$ is a binary variable taking a value of 1 for Black home buyers and 0 for White home buyers. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise, for the sample of bordering counties identified in Figure 2. $1(t=k)$ is a time indicator, with 2013 being the omitted year. $\alpha_{r,c}$, $\alpha_{c,t}$, and $\alpha_{p(c\in p),r,t}$ represent race × county, county × year, and county-pair × race × year fixed effects, respectively. Regressions are weighted by the total county population in 2010. Capped spikes drawn with the estimated coefficients $\{\beta_k\}$ indicate 95% confidence intervals obtained from standard errors clustered at the county level.

Figure C.4: Geographic Distribution of Racial Animus



This figure presents the geographic distribution of the racial animus variable for our sample. The measure of anti-Black racial animus comes from Stephens-Davidowitz (2013). This measure is calculated at the level of the designated media market and measures the percentage of an area's Google searches that contain racially charged words.

Table C.1: Robustness: Unweighted Results

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	-0.1179***	-0.0615**	-0.1016***	-0.0494**	0.0011
	(0.0308)	(0.0242)	(0.0302)	(0.0238)	(0.0053)
Tract x Year	Yes	Yes	Yes	Yes	Yes
Tract x Race	Yes	Yes	Yes	Yes	Yes
County Pair x Year x Race	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomials	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8589	0.8811	0.8572	0.8802	0.4205
# Obs	347,198	347,198	347,198	347,198	347,198

This table reports coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. The key-dependent variables include natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of the amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). The coefficient of interest is the interaction term of $Black_r, Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.2: T-statistic and p-values associated with Various Clustering Schemes

Clustering Scheme		(1)	(2)	(3)	(4)	(5)
		Origination		Application		Denial Rate
		LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Censustract and Year	t-statistic	-5.2566	-3.8521	-4.7439	-3.3774	0.0818
	p-value	0.0000	0.0000	0.0000	0.0006	0.9322
County and Year	t-statistic	-3.7982	-2.8551	-3.3925	-2.5128	0.0937
	p-value	0.0000	0.0042	0.0006	0.0104	0.9248
State and Year	t-statistic	-2.6993	-2.1654	-2.5356	-1.9925	0.0884
	p-value	0.0066	0.0292	0.0098	0.0438	0.9284
Race and Year	t-statistic	-4.2036	-3.6069	-3.8429	-3.1366	0.1441
	p-value	0.0000	0.0000	0.0000	0.0006	0.8856
County Pair and Year	t-statistic	-2.9475	-2.2956	-2.6248	-2.0014	0.0902
	p-value	0.0020	0.0180	0.0066	0.0464	0.9324
Censustract, Year, and Race	t-statistic	-7.6378	-5.6274	-6.7598	-4.8312	0.1156
	p-value	0.0000	0.0000	0.0000	0.0000	0.9124
County, Year, and Race	t-statistic	-5.2659	-3.9668	-4.7020	-3.4853	0.1362
	p-value	0.0000	0.0002	0.0000	0.0008	0.8874
State, Year, and Race	t-statistic	-3.7306	-2.9972	-3.5164	-2.7660	0.1245
	p-value	0.0000	0.0026	0.0000	0.0054	0.9034
County Pair, Year, and Race	t-statistic	-4.1068	-3.2055	-3.7060	-2.8278	0.1259
	p-value	0.0000	0.0018	0.0000	0.0050	0.8996

This table examines robustness to various clustering schemes to estimate standard errors and reports the t-statistics and corresponding p-values for β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r) and time (t) level. The key-dependent variables include natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). The coefficient of interest is the interaction term of $Black_r, Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. The first column of the table reports the clustering combination. Note that since the number of clusters associated with race, year, and state are less than 50, the t-statistics and the p-values of β are estimated using the wild bootstrap methodology presented and outlined in Cameron, Gelbach and Miller (2008) and MacKinnon, Nielsen and Webb (2018).

Table C.3: P-value Adjusted for Multiple Hypothesis Testing

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	LN(Number)	LN(Amount)	LN(Number)	
Adjusted (List et al)	0.000***	0.000***	0.001***	0.010**	0.728
Adjusted (Bonferroni)	0.002***	0.002***	0.003***	0.027**	1.000
Adjusted (Holm)	0.001***	0.002***	0.002***	0.011**	0.728

This table explores various adjustments due to the multiplicity of outcomes and reports the p-values for β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r) and time (t) level. The key-dependent variables include natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). The coefficient of interest is the interaction term of $Black_r$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. The first column of the table reports the various ways to adjust standard errors for the multiplicity of the null hypothesis. iN First row, we present p-values based on adjustment discussed in List, Shaikh and Xu (2019) and List, Shaikh and Vayalinkal (2023). The second row presents p-values adjusted based on Bonferroni. The third row presents p-value adjusted based on Holm. We use code from List, Shaikh and Vayalinkal (2023) to implement the adjustment. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.4: Robustness: Without 2D Local Linear Polynomial

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	-0.1146***	-0.0621***	-0.1022***	-0.0518**	0.0013
	(0.0271)	(0.0214)	(0.0265)	(0.0210)	(0.0047)
Tract x Year FE	Yes	Yes	Yes	Yes	Yes
Tract x Race FE	Yes	Yes	Yes	Yes	Yes
County Pair x Race x Year FE	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomials	No	No	No	No	No
Adj R2	0.8717	0.8931	0.8705	0.8925	0.4307
# Obs	454,310	454,310	454,310	454,310	454,310

This table reports the coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. The key-dependent variables include natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of the amount (column 3) and number (column 4) of mortgage applications, and denial rate (column 5). The coefficient of interest is the interaction term of $Black_r$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.5: Mortgage Market Outcome and the Shelby ruling: Effect on Hispanics

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	-0.1497***	-0.0852***	-0.1277***	-0.0718***	0.0001
	(0.0322)	(0.0251)	(0.0312)	(0.0246)	(0.0053)
Hispanic x Treat x Post	-0.0987**	-0.0537	-0.0530	-0.0186	-0.0002
	(0.0462)	(0.0352)	(0.0454)	(0.0352)	(0.0080)
Tract x Year FE	Yes	Yes	Yes	Yes	Yes
Tract x Race FE	Yes	Yes	Yes	Yes	Yes
County Pair x Race x Year FE	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8478	0.8731	0.8420	0.8688	0.3329
# Obs	446,031	446,031	446,031	446,031	446,031

This table reports the coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \gamma \cdot Hispanic_r \cdot Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. The key dependent variables include - natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of the amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). $Black_r$ is a binary variable taking a value of 1 for Black Americans. $Hispanic_r$ is a binary variable taking a value of 1 for non-Black and non-white Hispanics. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data spans all census tract in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.6: Robustness: Baseline Effect after Controlling for Macroeconomic Shocks

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	-0.1456***	-0.0801**	-0.1279***	-0.0704*	0.0025
	(0.0484)	(0.0380)	(0.0470)	(0.0371)	(0.0090)
Tract x Year FE	Yes	Yes	Yes	Yes	Yes
Tract x Race FE	Yes	Yes	Yes	Yes	Yes
County Pair x Race x Year FE	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes
Control for Macroeconomic Variables	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8634	0.8868	0.8620	0.8864	0.4180
# Obs	346,825	346,825	346,825	346,825	346,825

This table reports the coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \sum_k \gamma_k \cdot Black_r \cdot Treat_c \cdot \Delta X_t^k + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. The key-dependent variables include natural logarithm of the amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). The coefficient of interest is the interaction term of $Black_r$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling, and 0 otherwise. ΔX_t^k refers to the vector of macroeconomic shocks that include changes to 30-year mortgage rates, 15-year mortgage rates, bank credit, term spread, and GDP growth rate. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.7: Effect of Shelby on Mortgage Loan Characterstics

	(1) LTV	(2) CLTV	(3) DTI	(4) Credit Score	(5) Interest Rate
Black x Treat x Post	-0.0003	0.0007	0.0059	0.7984	0.0001
	(0.0087)	(0.0088)	(0.0072)	(3.0266)	(0.0003)
Census Tract x Year FE	Yes	Yes	Yes	Yes	Yes
Census Tract x Race FE	Yes	Yes	Yes	Yes	Yes
County Pair x Race x Year FE	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8524	0.8545	0.8409	0.8152	0.9781
# Obs	66,093	66,093	66,059	66,088	66,093

This table reports the coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r) and time (t) level. The key-dependent variables include Loan-to-value (LTV) ratio (Column (1)), combined LTV ratio (Column (2)), debt-to-income (DTI) ratio (Column (3)), credit score (Column (4)), and interest rate on fixed rate mortgage loans (Column (5)). The coefficient of interest is the interaction term of $Black_r$, $Treat_c$, and $Post_t$. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.8: Approval of State Agents (Pre-Trump Presidency)

Dep Var: Approval of State Agents	(1)	(2)	(3)	(4)	(5)
State Legislature	-0.2055**	-0.3446***	-0.2910***	-0.2755***	-0.3443***
	(0.0809)	(0.0650)	(0.0728)	(0.0720)	(0.0995)
Congress	-0.0731	-0.3097***	-0.2217***	-0.1954***	-0.1652**
	(0.0851)	(0.0758)	(0.0752)	(0.0750)	(0.0718)
President	-0.2315***	-0.1780**	-0.1713**	-0.1799**	-0.1954**
	(0.0872)	(0.0758)	(0.0810)	(0.0840)	(0.0883)
Supreme Court	-0.1334	-0.1955***	-0.1566**	-0.1638**	-0.1799**
	(0.0962)	(0.0717)	(0.0675)	(0.0670)	(0.0787)
Race X Year FE	Yes				
County X Race FE	Yes				
County X Year FE	Yes				
County-pair X Race X Year FE	Yes				
Party Affiliation X Race X Year FE		Yes	Yes	Yes	Yes
Party Affiliation X County X Race FE		Yes	Yes	Yes	Yes
Party Affiliation X County X Year FE		Yes	Yes	Yes	Yes
Party Affiliation X County-pair X Race X Year FE		Yes	Yes	Yes	Yes
Individual Controls			Yes	Yes	Yes
Income Bucket FE				Yes	Yes
Zipcode FE					Yes

This table reports the coefficient β for the following regression specification for different dependent variables:

$$y_{i,z(z\in c(p)),t} = \beta \cdot Black_i \cdot Treat_c \cdot Post_t + \alpha_{a,r,c} + \alpha_{a,c,t} + \alpha_{a,r,t} + \alpha_{a,c(p)(z\in c(p)),r,t} + \alpha_z + \gamma X_{it} + \varepsilon_{i,t}$$

where, $y_{i,z(z\in c(p)),t}$ denotes the approval of the state agent reported by individual i, with political affiliation (a) residing in ZIP code z in county (c) lying within a contagious county-pair (p), with race (r) at time (t). The coefficient of interest is the interaction term of $Black_i, Treat_c$ and $Post_t$. $Black_i$ is a binary variable taking a value of 1 for Black Americans and 0 for white Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ takes a value of 1 for years after 2013 and 0 otherwise. The specification includes political affiliation × race × year, party affiliation × county × race, party affiliation × county × year, party affiliation × county-pair × race × year and zip code fixed effects. Individual level controls include gender, birth year fixed effects, marital status, union member, has children, and income-bucket fixed effects. Political affiliation is divided into seven buckets – strong Democrat, not very strong Democrat, lean Democrat, independent, lean Republican, not very Strong Republican, and strong Republican. The data comes from Cooperative Congressional Election Study (CCES) for the years 2008, 2010, 2012, 2014, 2016, and 2018. Regressions are weighted by individual survey weights. Each pair of estimate and standard error is estimated from separate regressions using a different dependent variable and a different set of fixed effects. The four different dependent variables are approval of the state legislature, Congress, president and the Supreme Court. Each respondent gives their approval rating on a four-point scale – strongly approve, somewhat approve, somewhat disapprove, and strongly disapprove. The four dependent variables and five sets of different fixed effects result in creation of this 4X5 matrix estimated using 20 different regressions. Standard errors clustered at the county level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.9: Hate Crime and the Shelby Ruling

	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	Poisson	Poisson	OLS
Treat x Post	0.2244**	0.2914***	0.2173***	0.2601***	0.1611*
	(0.1002)	(0.1049)	(0.0690)	(0.0665)	(0.0966)
Sample	All States	Border States	All States	Border States	Border Counties
State/County FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.9166	0.9240	-	-	0.7307
# Obs	490	290	490	290	2,090

This table uses the FBI's hate crime statistics summarized at the state (columns (1) through (4)) and county (column (5)) level for the period 2010 to 2019 and reports coefficients β from the following specification:

$$y_{c(s)t} = \beta \cdot Treat_{c(s)} \cdot Post\text{-}Shelby_t + \alpha_{c(s)} + \alpha_t + \varepsilon_{c(s)t},$$

where subscript c, s, and t indicate county, state, and year, respectively. $Treat_{c(s)}$ is an indicator variable that takes 1 for VRA-treated counties (states). The sample of treated and control counties (states) is shown in Figure 2 (Figure 1). $Post\text{-}Shelby_t$ is an indicator variable that takes 1 for years from 2014. As dependent variables, columns (1), (2), and (5) use the natural logarithm of one plus the number of hate crime against Black Americans, and columns (3) and (4) use the raw number of hate crimes against Black Americans. Columns (1), (2), and (5) report OLS estimates, and columns (3) and (4) report Poisson estimates. Regressions in columns (1) through (4) are weighted by the total state population in 2010, and the regression in column (5) is weighted by the total county population in 2010. Standard errors clustered at the state level in columns (1)-(4) and county level in column (5) are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.10: Warmth towards Black Americans and the Shelby ruling

	(1)	(2)	(3)
Treat × Post	-5.0228***	-5.1130***	-4.3129**
	(1.6654)	(1.7080)	(1.7855)
State FE	Yes	Yes	Yes
Year FE	Yes		Yes
Age Group-Year FE		Yes	
# Obs	2091	2091	133
Adjusted R^2	0.0350	0.0386	0.3990
Sample	Respondent	Respondent	State

This table uses the American National Election Series (ANES) data and reports coefficients β from the following specification:

$$y_{i(s)t} = \beta \cdot Treat_s \cdot Post\text{-}Shelby_t + \alpha_s + \alpha_{t(age,t)} + \varepsilon_{i(s)t},$$

where subscripts i, s, age, and t indicate individual, state, individual's age, and year, respectively. $Treat_s$ is an indicator variable that takes 1 for VRA-treated states. $Post\text{-}Shelby_t$ is an indicator variable that takes 1 for 2016 (i.e., the survey year after the repeal of VRA). α_s and $\alpha_{t(age,t)}$ represent state and year (age group-year) fixed effects. The dependent variable is the feeling thermometer measuring the level of warmth toward Black Americans on a scale ranging from 0 to 97 with a higher value indicating a higher degree of warmth. The sample comprises White male American survey respondents in the ANES survey waves of 2008, 2012 and 2016. Columns (1) and (2) use respondent-level data, and column (3) uses data averaged at the state level. All observations are weighted by survey weights. Standard errors clustered at the state level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.11: Mortgage Market Outcomes and the Shelby ruling: The Effect of Racial Animus

	(1)	(2)	(3)	(4)	(5)
	Origination		Application		Denial Rate
	LN(Amount)	Ln(Number)	LN(Amount)	LN(Number)	
Black x Treat x Post	0.0869*	0.0499	0.0858*	0.0523	0.0044
	(0.0520)	(0.0408)	(0.0514)	(0.0403)	(0.0082)
Black x Treat x Post x High Racial Animus	-0.3403***	-0.1990***	-0.3119***	-0.1853***	-0.0063
	(0.0651)	(0.0509)	(0.0639)	(0.0501)	(0.0105)
Tract x Year FE	Yes	Yes	Yes	Yes	Yes
Tract x Race FE	Yes	Yes	Yes	Yes	Yes
County Pair x Race x Year FE	Yes	Yes	Yes	Yes	Yes
2D Local Linear Polynomial	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8628	0.8866	0.8614	0.8862	0.4122
# Obs	335,413	335,413	335,413	335,413	335,413

This table reports the coefficient β from the following regression specification:

$$y_{r,v(v\in c(p)),t} = \beta_1 \cdot Black_r \cdot Treat_c \cdot Post_t + \beta_2 \cdot Black_r \cdot Treat_c \cdot Post_t \cdot HighRacialAnimus + f(location_v) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. The key-dependent variables include natural logarithm of amount (column (1)) and number (column (2)) of mortgage originations, the natural logarithm of amount (column (3)) and number (column (4)) of mortgage applications, and denial rate (column (5)). The coefficient of interest is β_2, coefficient associated with the interaction term of $Black_r, Treat_c$, $Post_t$ and High Racial Animus. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for white Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA, and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. High Racial Animus takes a value of 1 if the value of racial animus is greater than the median value in the sample, and 0 otherwise. The measure of racial animus comes from Stephens-Davidowitz (2013). The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f(location_v)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data spans all census tract in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.12: Example of Black Lenders

FDIC Certificate No.	Name	City	State	Est. Date	2013 Total Assets ($ thou.)
20856	LIBERTY BANK & TRUST CO	NEW ORLEANS	LA	11/16/1972	547,984
8033	CITIZENS TRUST BANK	ATLANTA	GA	6/18/1921	387,410
33938	CAPITOL CITY BANK & TRUST CO	ATLANTA	GA	10/3/1994	286,761
35241	SOUTH CAROLINA CMTY BANK	COLUMBIA	SC	3/26/1999	67,203
22229	COMMONWEALTH NATIONAL BANK	MOBILE	AL	2/19/1976	59,613

This table presents examples of Black lenders in southern states. Lenders are defined as Black lenders if they operate in border counties and are above the 90th percentile when sorted by the share of Black borrowers in their mortgage lending portfolio in 2008 to 2012.

Table C.13: Migration and the Shelby Ruling: County-Level Analysis Using IRS Data

	(1)	(2)	(3)	(4)
	Ln(Outflow)	Ln(Inflow)	Ln($\frac{Outflow}{Population}$)	Ln($\frac{Inflow}{Population}$)
High Black × Treat × Post	0.0024	-0.0141	0.0029	-0.0150
	(0.0102)	(0.0099)	(0.0101)	(0.0105)
Treat × Post	0.0061	-0.0012	0.0065	0.0011
	(0.0125)	(0.0130)	(0.0125)	(0.0137)
County FE	Yes	Yes	Yes	Yes
County-Pair × Year FE	Yes	Yes	Yes	Yes
Share of Black × Year FE	Yes	Yes	Yes	Yes
Adjuste R^2	0.9954	0.9951	0.8891	0.9032
#Obs	6,861	6,861	6,861	6,861

This table uses IRS's county-level migration data and reports coefficients β from the following specification:

$$y_{c(c\in c(p)),t} = \beta_1 \cdot High\text{-}Black_c \cdot Treat_c \cdot Post_t + \beta_2 \cdot Treat_c \cdot Post_t + \alpha_c + \alpha_{c(p)(c\in c(p)),t} + \alpha_{hb,t} + \varepsilon_{c(c\in c(p)),t},$$

where the subscripts c, hb, and t indicate county, high Black, and year, respectively. County (c) lies within a contagious county-pair ($c(p)$). $High\text{-}Black_c$ is an indicator variable that takes 1 for counties with more than median share of Black population in 2010. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of the VRA and 0 otherwise. All counties included in the sample are identified in figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling, and 0 otherwise. α_c, $\alpha_{c(p)(c\in c(p)),t}$, and $\alpha_{hb,t}$ represent county, county-pair × year, and high Black × year fixed effects, respectively. As the dependent variables, Columns (1) and (2) use the natural logarithms of inflow and outflow, respectively. Column (3) and (4) use the natural logarithm of the share of inflow and outflow compared to the population in 2010, respectively. Inflow refers to the number of new individuals who filed the income tax returns in a particular county and year. Outflow refers to the number of individuals who had filed the income tax return in a county in the previous year, but filed in a different county in a given year. Standard errors clustered at the county level are reported in the parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table C.14: Migration and the Shelby ruling: ZCTA-Level Analysis Using ACS Data

Dep Var: Sh. Population	(1) White	(2) Black	(3) All
Treat x Post	0.0005	-0.0009	
	(0.0025)	(0.0021)	
Black x Treat x Post			-0.0014
			(0.0042)
ZCTA FE	Yes	Yes	
County Pair x Post FE	Yes	Yes	
ZCTA x Post FE			Yes
ZCTA x Black FE			Yes
County Pair x Black x Post FE			Yes
Adjusted R^2	0.9728	0.9653	0.9716
# Obs	11,085	11,085	22,170

This table reports the estimation results from the following specification:

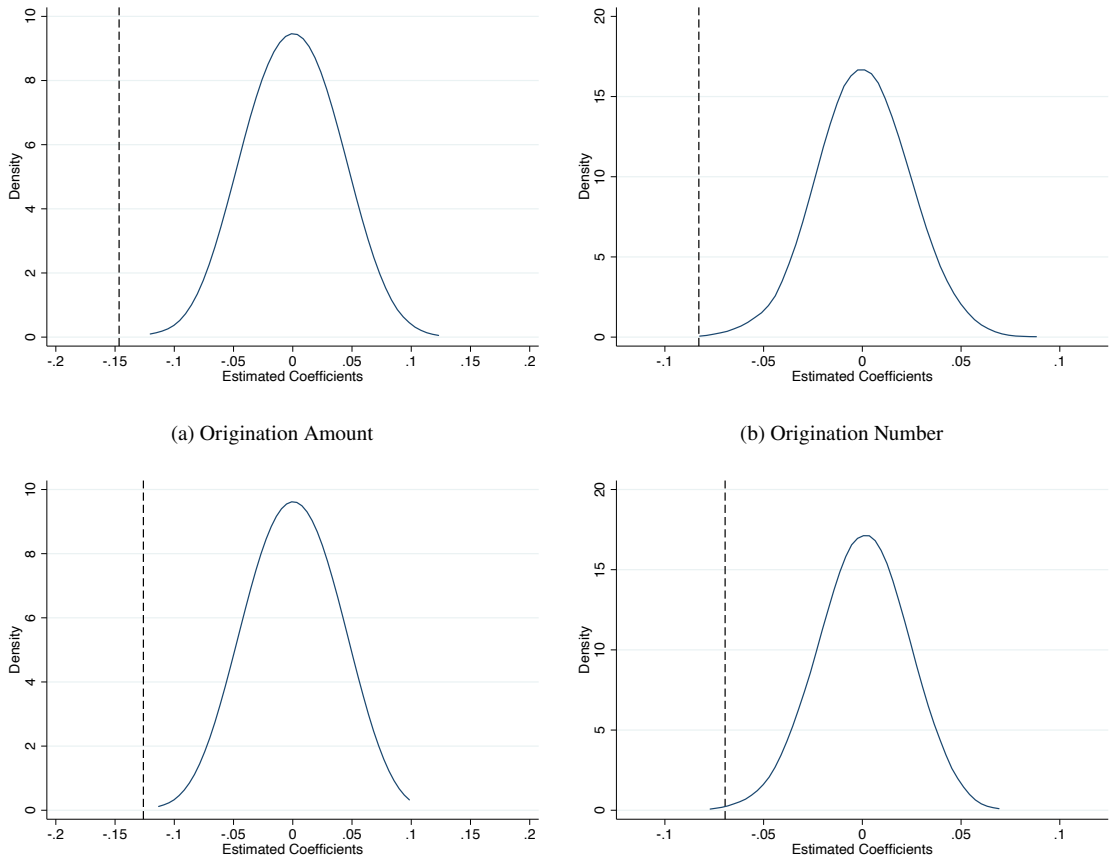
$$y_{z(z\in c(p)),r,t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + \alpha_{z,t} + \alpha_{z,r} + \alpha_{c(p)(z\in c(p)),r,t} + \varepsilon_{z(z\in c(p)),r,t}$$

where the subscripts z, r, and t indicate the ZIP Code Tabulation Area (ZCTA) located in county c within county-pair $c(p)$, race and time, respectively. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for white Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × ZCTA ($\alpha_{z,r}$) fixed effects, ZCTA × year ($\alpha_{z,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(z\in c(p)),r,t}$) fixed effects. The unit of analysis is ZCTA-race-year where the key dependent variable is the share of population. We constructing ZCTA-level population by race using the 2013 American Community Survey (ACS) 5-year estimates and the 2018 5-year estimates. We have one observation in the pre-period and another in the post-Shelby period. Columns (1) and (2) restrict the sample to Black and White population and estimate the effect associated with Treat × Post for each population group. Column (3) estimates the triple-interaction term by including both Black and White population shares. Standard errors clustered at the county level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

C.1 Placebo Analysis

We conduct a placebo test wherein we randomize the treatment variable keeping the timing of the Shelby ruling fixed. This test addresses two concerns. First, it addresses whether the treatment status is meaningful, by checking if the results disappear if the treatment is selected randomly in a non-meaningful way. Second, it validates the non-spuriousness of the results. A placebo treatment variable is generated from a binomial distribution for each census tract within a county-pair. The probability of treatment assignment is equal to the empirical probability of treatment in the sample. We estimate equation 2 using the new placebo treatment. We repeat this process of random treatment assignment 1,000 times and estimate the baseline specification for each randomly assigned treatment status. Appendix Figure C.5 plots the kernel density of the estimated coefficient on $Black_r \cdot Placebo\text{-}Treat_c \cdot Post_t$ obtained from 1,000 Monte-Carlo simulations. The distribution of the coefficient of the triple-interaction term in the placebo analysis is centered around zero, and the average effect is statistically indistinguishable from zero. Moreover, the exercise cannot generate an effect of a size equivalent to the baseline estimate. The results from the placebo analysis indicate that the treatment status is meaningful, and our results are unlikely to be spurious.

Figure C.5: Placebo Test: Randomizing the treatment status



(a) Origination Amount

(b) Origination Number

(c) Application Amount

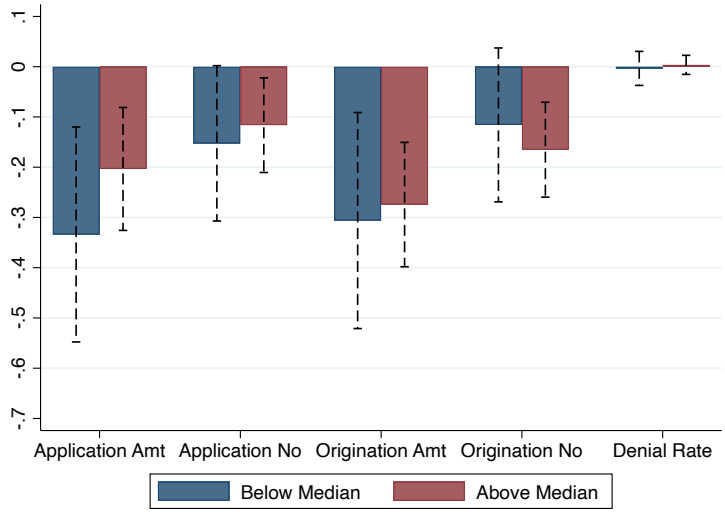
(d) Application Number

This figure plots the kernel density of the point estimates β obtained from 1,000 Monte-Carlo simulations of the treatment status $Placebo\text{-}Treat_c$ in the following specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Placebo\text{-}Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r), and time (t) level. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Placebo\text{-}Treat_c$ is generated from a binomial distribution for each census tract within a county-pair with the probability of treatment being equal to the empirical probability of treatment. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total county population in 2010. Panels A and B use the natural logarithm of the mortgage-origination amount and number, respectively. Panels C and D use the natural logarithm of mortgage application amount and number, respectively. The dashed black line denotes the magnitude of the baseline estimate corresponding to the dependent variable.

Figure C.6: Mortgage Market Outcome by the Share of Black Americans in the Public Employment



This figure categorizes the sample counties into two groups according to the median percentage of Black Americans in public employment among the working-age labour force (aged 15 to 64). It then presents the coefficient β for each group separately, using the following specification:

$$y_{r,v(v\in c(p)),t} = \beta \cdot Black_r \cdot Treat_c \cdot Post_t + f\left(location_v\right) + \alpha_{r,v} + \alpha_{v,t} + \alpha_{c(p)(v\in c(p)),r,t} + \varepsilon_{r,v,t},$$

where $y_{r,v(v\in c(p)),t}$ denotes the variable of interest aggregated at the census tract (v) in county (c) lying within a contagious county-pair (p)), race (r) and time (t) level. The percentage of Black Americans in public employment among the working-age labour force (aged 15 to 64) is calculated using data from the American Community Survey (ACS) spanning from 2008 to 2012. The key-dependent variables include the natural logarithm of the amount and number of mortgage applications, the natural logarithm of the amount and number of mortgage originations, and the denial rate. $Black_r$ is a binary variable taking a value of 1 for Black Americans and 0 for White Americans. $Treat_c$ takes a value of 1 if the county was covered by Section 5 of VRA and 0 otherwise. All counties included in the sample are identified in Figure 2. $Post_t$ is a binary variable taking a value of 1 for years after the 2013 Shelby ruling and 0 otherwise. The specification includes race × census-tract ($\alpha_{r,v}$), census-tract × year ($\alpha_{v,t}$) fixed effects, and county-pair × race × year ($\alpha_{c(p)(v\in c(p)),r,t}$) fixed effects. $f\left(location_v\right)$ or 2D local linear polynomial refers to the local linear polynomial in two dimensions, latitude and longitude, for every census tract estimated separately on each side of the border. The data span all census tracts in bordering counties identified in Figure 2 from 2008 until 2019. Regressions are weighted by the total tract population in 2010. Standard errors clustered at the tract level. The capped spikes represent a 95% confidence interval.

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