The Evolution and Economic impact of African American banks The USA from 1900 to present

November 2024

Abstract

This study presents the first comprehensive analysis of the historical evolution of African American-owned banks in the U.S. and their long-term role in addressing the racial wealth gap. Utilizing a difference-in-differences approach, we investigate the effects of Black bank openings and closures on African American homeownership across U.S. counties over the long run. Our findings demonstrate that Black banks significantly fostered homeownership, a vital driver of wealth accumulation, in the regions they operated. In contrast, their closures had a disproportionate effect, causing a decline in African American homeownership. [88 words]

1 Introduction

It has been widely documented that the racial wealth gap is large and persistent in the USA (see for instance Derenoncourt et al. (2024) who document the recent gap to be as large as 6 to 1). This significant gap has spurred considerable debate regarding the efficacy of minority-focused banks in ameliorating economic disparities. However, the literature is divided as to what extent banks focused on catering specific minorities can help overcome financial frictions and reduce economic disparities. Historically, African American banks emerged as a response to this gap, having as main objective including African Americans in the financial sector, yet empirical evidence on their impact remains scarce. Past literature mainly points out that these banks had limited to no effect on the economic outcomes for African Americans, see for instance Baradaran (2017) for example stating that 'African American Banks often failed to attract deposits, deposits were largely volatile and various banks failed only a few years after establishment'. Surprisingly, the empirical evidence on the effect of African American banks on economic outcomes is scant, with a few notable recent exceptions focusing more broadly on minority banks and credit extension in specific time periods, see amongst others Clarke (2019); Hurtado and Sakong (2023) and Berger et al. (2024).

In this study we provide the first comprehensive picture of the evolution of Black banks (i.e. banks founded and owned primarily by African Americans)[1] in the US throughout history (that is starting from the inception of the first banks at the turn of the 19$^{\text{th}}$ century) and consequently study their role in mitigating the racial wealth gap through their effect on one of the main opportunities for wealth accumulation, homeownership.

We start our exhaustive effort by meticulously collecting information on all African American banks operating in the USA from the start of the 20$^{\text{th}}$ century until today as well as constructing consistent measures of county homeownership by race for the same period.[2] Exploiting their location and hence exposure to at the county level we then continue by studying whether African American Bank presence affects economic outcomes for African Americans in the form of Black homeownership rates in these counties over time. Lastly, we relate to the extant literature on lending by banks in times of crises and whether specific types of banks can absorb shocks better (see Berger et al. (2024), Bento (2024) on minority banks and Kwan (2021), Hakenes et al. (2015) and Flögel and Hejnová (2021), on community banks, small banks and regional banks respectively.

Assessing a causal relationship that links black bank's presence to homeownership in US counties can be quite challenging for several reasons. For example, black bank presence itself can be correlated with factors that at the same time influence homeownership directly and assignment to treatment, in this case whether or not a county is exposed to black bank presence, is most likely nonrandom. Our identification strategy therefore consists of 4 main ingredients to address amongst others these possible concerns that come with this possible nonrandom selection of African American banks into certain communities and geographical locations: First, we provide a long run picture of the evolution of black bank presence in the US at a granular county level starting from the inception of the first bank at the turn of the 19$^{\text{th}}$ century to today. In addition to filling a lacuna in the literature (up to

[1]The first African American banks, also known as black-owned banks, were usually set up by important members of the community with as main goal promoting economic empowerment within those communities. These banks are established with the specific aim of serving the financial needs of African American communities, including savings and checking accounts, loans, mortgages, and investment opportunities, with a focus on addressing the unique financial challenges faced by African Americans. Additionally, African American banks often play a vital role in providing financial education, supporting community development initiatives, and advocating for economic justice and equality. For a formal definition of how we identify and measure African American banks throughout the sample see Section 3.

[2]Several studies have previously made an effort to list Black banks in distinct periods, see for example Ammons (1996), Brimmer (1971) and Clarke (2019)

now, to the best of our knowledge, no such effort has been undertaken yet), this long run perspective helps in tracing out time period specific effects and at the same time allows for studying breaks in the sample. Second, we employ a difference in differences analysis (DID) to study the treatment effect of black bank exposure at the county level. Our DID analysis permits to study the effect of treatment even when there is nonrandom assignment of treatment and therefore helps in overcoming endogeneity issues. Third, we are able to take into account heterogenous treatment effects between counties and across time in an augmented DID analysis. Fourth, our DID results may be biased if Black banks locate in areas where black homeownership was already high. We obtain and incorporate pre-existing levels of black homeownership in US counties to refine our analysis and alleviate the potential concern that Black banks locations are related to initial black homeownership

In sum, our results indicate that Black Bank presence significantly spurs Black homeownership and hence provide fresh insights into the enduring economic benefits of black-owned banks and their potential to foster economic inclusion of and stability within African American communities.

This paper is related to several strands of literature, with the closest one being the impact of minority owned banks on their local communities, their financial performance as well as resilience. See for example Clarke (2019) which focuses on the first decades of the 19th century, Berger et al. (2024) on the recent global financial and COVID crises as well as Stein and Yannelis (2020) and Célérier and Tak (2022) on the local economic effects of the Freedmans Savings Bank and Bates and Bradford (1980); Kwast and Black (1983); Meinster and Elyasiani (1988) (to name a few) on their financial performance and Cole et al. (1985) for a survey on the literature on Black banks up to the 1980s. Our work also relates closely to and extends further studies touching upon the determinants and factors affecting Black homeownership such as residential and racial segregation, white flight, state level anti-discrimination laws and redlining see Collins and Margo (2001, 2011); Boustan and Margo (2013); Collins (2004) and Aaronson et al. (2021) respectively as well as the general determinants of homeownership such as demographic characteristics, downpayments and banking deregulation. Additionally, it broadly relates to the large literature on housing and wealth (see for example Mian and Sufi (2014) and Guren et al. (2021) on housing wealth elasticities, Iacoviello (2011) on housing wealth and consumption and Sodini et al. (2023) on homeownership and wealth accumulation) as well as the racial wealth gap and its determinants, see for example Boerma and Karabarbounis (2023); Derenoncourt et al. (2024), and Margo (1984).

The remainder of this paper is organized as follows. Section 2 provides a background overview of African American banks in the US. Section 3 describes the data used in our empirical analyses and presents the descriptive statistics. Section 4 presents the empirical strategy to relate Black Bank presence to black homeownership. We present the main results on the effect of black bank presence on black homeownership in Section 5. Section 6 concludes.

2 Background: The evolution of African American banks in the US

The evolution of Black banks starts more than a century ago with the first bank, The True Reformers Bank being set up in 1888. In comparison: The first Bank to be established was the Bank of North America in 1781, more than 100 years earlier. The initial effort however of familiarizing African Americans with the financial system was some decades prior, when the Freedman's Savings Bank was established in 1865. The main objective of this government created bank was to encourage Black soldiers that fought in the Civil War to save their pay and transfer funds to their families (Stein and Yannelis, 2020; Célérier and Tak, 2022). Up to then African Americans had limited to no access to

depository institutions, hence the Freedman's bank can be considered as one of the very first institutions through which this was facilitated. Workers in the banks were not always predominantly black but its existence and later on the opening of Black owned Banks did lead to African Americans developing human capital specific to the financial sector (see Harris (1936, p. 45)): 'Although few Negroes were employed in the bank when it was first established, an increasing number obtained positions after 1870. In Richmond and Norfolk, Virginia, as well as in Washington , Negro business men and property holders were members of the advisory councils and the boards of trustees. Many were also employed as clerks, tellers and bookkeepers at the central office and at the numerous branches. As a result of this training there was built up a nucleus of business talent which in less than a decade and a half after the failure of the Freedman's Bank asserted its leadership in the organization of fraternal insurance societies and banks owned and managed by Negroes.' The efforts were unfortunately left in vain when the bank failed and had to terminate its operations in 1876, primarily due to mismanagement of the Bank's president Henry Cooke, a wealthy white financier (see Todd (2019)). All depositors uneventfully lost their savings.

2.1 *Challenges*

There were several periods in which African American banks had to winter hard storms and face many challenges in the form of adverse economic conditions amplified by a volatile depositor base as well as unfavorable legislator processes. The first banks that were set up at the beginning of the 20th Century however (which can be considered to be the most progressive period when it comes to the total number of Black Bank openings) such as the St. Luke Penny Savings Bank (set up by the first female African American, Maggie Walker) started off successfully (and maintained in doing so) in facilitating financial services to black communities (see Harris (1936)). For example during the Great Depression Black banks were largely hit and many went bankrupt, partly due to the economic decline, volatile depositor bases, but also because they did not, like other banks receive federal support. Also stricter legislation was not always favorable for Black banks, the introduction of a yearly check of all state Banks set into place in Virginia led to the closure of some Black banks, including the True Reformers Bank. Southern Black Banks were also challenged during the Great Migration when many African Americans moved from the South up North. The pattern of lack of Federal support in times of need extends to more recent periods as well, such as in the case of the Freedom National Bank, which failed in 1990 and for which the FDIC only bailed out insured depositors up to 100,000 USD instead of the standard practice at the time of facilitating a takeover such that depositors would be fully covered.

But how exactly did the development of African American banks look like over time? And were they able to enhance financial service access to their communities and hence boost homeownership? Can the data support the realization of the initial main objective of many banks of promoting economic opportunities and national equality? Or is it the bleak picture that has been painted so far that can be supported by the data?[3] We turn to answering these questions next.

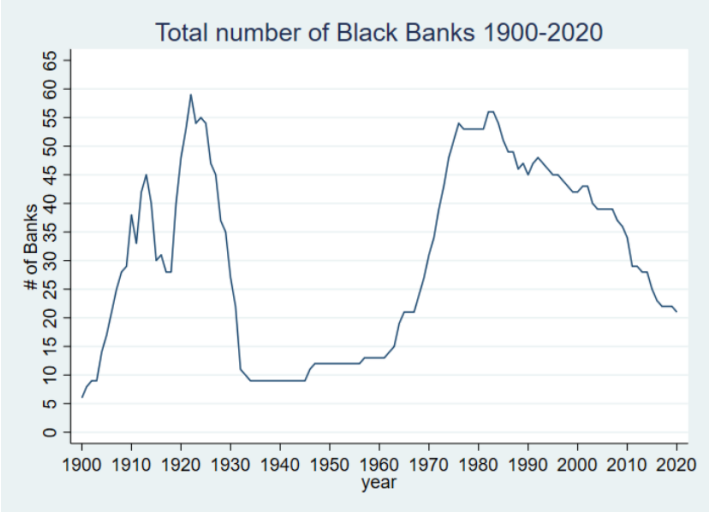
2.2 *Evolution*

As a start, we show the evolution of the number of Black banks in the US over time from 1900-2021 in Figure 1 and Figure 2. Figure 1 provides the aggregates over time for the entire US whereas the

[3]The empirical evidence on the performance of Black banks in distinct time periods is also mixed. For example Ziorklui (1994) finds no evidence of a better performance of non Black banks in the period 1985-1991 based on financial ratio's. They are even characterized by lower ROA levels than large Black banks from 1985-1987.

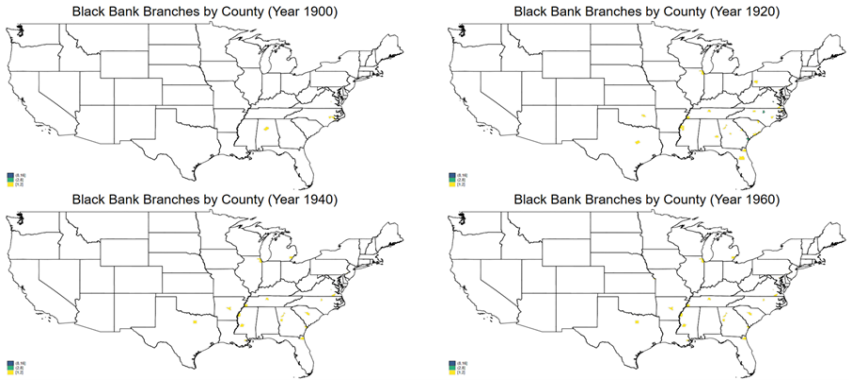
pictures in Figure 2 show the evolution of the total number of Black banks and its branches over time for the years 1900 – 2021. Black banks are defined as banks where the main shareholder/founder is of African American race and for the latter period (2000-onwards) of Non White race (See the FDIC list on MDI's for a more formal definition).

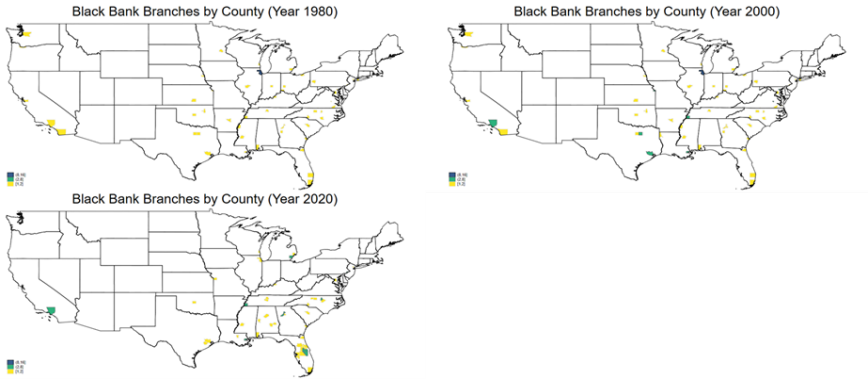
Figure 1. Black bank presence over time



Notes.The figure maps the evolution of the total number of Black banks over time for the years 1900 - 2021. Black banks are defined as banks where the main shareholder/ founder is of African American race.

Figure 2. Black bank locations over time 1900-2020





Notes. The figures map the evolution of the total number of Black banks and its branches over time by county for the years 1900-2021. Black banks are defined as banks where the main shareholder/founder is Black and for the latter period (2000-onwards) of Non White race (See the FDIC list on MDI's for a more formal definition).

From the figures an interesting pattern emerges: There was a stark increase in the number of branches and banks shortly after the establishment of the first banks, which confirms the general notion that this period was characterized by the greatest upsurge in new Black Bank openings. These newly established banks not only provided crucial financial services to their communities but also aimed to support economic independence and growth (Butler, 2012). At the end of the 1920s, on the eve of the Great Depression, a rapid decline in the total number of Black banks is set into motion continuing in the 1930s and the 1940s. The increase in Black banks from the 1950s onwards coincides with the development of the Civil Rights Movement, with an increased focus on the role of Black banks in fostering economic equality. Institutions like Citizens Trust Bank in Atlanta were crucial in funding civil rights initiatives and supporting the growth of the Black middle class. Despite facing significant hurdles such as limited capital access and discriminatory regulations, these banks remained steadfast in their commitment to serving their communities effectively (Robinson, 2020). The enormous upsurge in the number of Black banks in the 1970s and 80s coincides with the introduction of the equal Credit opportunity Act (1974) which promoted fair lending and the Community Reinvestment Act (CRA) in 1978 which mandated banks to abolish redlining practices and supported minority banks by promoting lending to low income and minority households (Barr, 2005). The fast decline of Black banks from the mid 80s onwards can be attributed to economic downturns, deregulation which led to a wave of takeovers within the sector as well as increased competition (Price, 1990).[4] From the geographical dispersion it can be observed that Black banks were predominantly located in the US South.

3 Data

We make use of several variables in our main analyses, which we in turn describe below. More specifically, in this section, we (i) describe our data sources and data construction process and (ii) report the descriptive statistics of our sample.

3.1 Sample construction

3.1.1 Data sources

Our primary analysis utilizes decennial U.S. county-level data spanning from 1900 to 2000. For this we construct a comprehensive dataset that includes information on homeownership, the locations

[4]When scaling the number of Black banks by total banks we do observe an uptake in the past years.

of (black) banks, financial statements from banks, data on religious bodies, manufacturing data, and detailed population demographics such as education, age, gender, and race at the aforementioned level. All used variables are described in Appendix Table A.1. We start by collecting data on homeownership, literacy, age, gender and total population at the decennial-year level from IPUMS. For the period 1900-1940 we use US full count data from IPUMS USA which provides harmonized US Census micro-data. For the period 1970–2000 we obtain data from the IPUMS NHGIS, which provides access to summary statistics for US Census data at the county level.[5] County level homeownership data is hand collected for the years 1950 and 1960 based on scanned PDF documents of the 1950 and 1960 decennial census provided by the US Census. All other variables are imputed between 1950 and 1960 based on the corresponding 1940-value of the variable.

We obtain county level data on religious bodies from the Association of Religion Data Archives (ARDA)[6] and we use county level manufacturing data from Haines et al. (2010).The data on the number of banks were kindly provided by Jaremski and Fishback (2018) and Jaremski and Wheelock (2020). In the end we are left with an unbalanced panel comprising of 3120 counties with decennial information from 1900 to 2000.

3.1.2 Black banks sample

To show a comprehensive long run overview of the entire universe and development of Black banks in US counties we start an exhaustive effort by combining data on Black banks. We collect bank names, establishment dates and closure date and bank locations from four different sources.[7] We start by collecting Black banks from Harris (1936) who performs a study of banking activity among African Americans in the US. The study provides a list of 132 Black banks with establishment and closure dates available for most banks between 1888-1933. Further, we collect Black banks from Clarke (2019) and Ammons (1996). Clarke (2019) provides a table with 125 Black banks between 1907-1937. Establishment and closure dates are not explicitly provided for these sources, however, we can observe in which years a bank was present within the sample.[8] Ammons (1996) provides tables with 135 Black banks between 1880-1990 with establishment dates. We use data from Harris (1936) as starting point and then supplement it with bank information from both Ammons (1996) and Clarke (2019). Finally, we verify manually all establishment and closure dates through the FDIC database[9] and remove banks for which we could not identify an establishment and closure date. In addition we also perform an online manual search for potential missing banks in the first part of the sample (pre 1940). In the end we are left with a sample of 186 Black banks between 1880-2000.

3.1.3 Descriptive statistics

Table 1 shows the summary statistics for our variables in 1900, separately for counties that were not exposed to Black banks and counties that were exposed to Black banks later. Three important patterns emerge in Table 1. First, Black homeownership share is 14 percentage points higher in counties without Black banks compared to those with Black banks. Second, counties with Black banks have a 19 percentage point greater share of Black population than counties without Black banks. Third,

[5] Total population is available between 1900 and 2000 in IPUMS NHGIS.

[6] County-level data on religious bodies can be found through the following ARDA website link: https://www.thearda.com/data-archive/

[7] The common definition of a Black Bank in all sources is that the founder/main owner was of African American race

[8] We define a Bank to be closed when either we are able to identify that it was actually closed or when it is not present in the sample from a certain year onwards. For the main analysis this implies that at the moment we do not distinguish between failures and other reasons of closings such as for example Mergers or Acquisitions.

[9] The FDIC database can be accessed through the following link: https://banks.data.fdic.gov/bankfind-suite/

along additional observable dimensions, counties that register the establishment of Black banks exhibit more favorable characteristics than counties without Black banks. These counties tend to have larger populations, a higher percentage of literate individuals, a greater initial number of banks, and a higher share of church membership.

Table I. Baseline Characteristics before the Opening of Black banks by Treatment Status

	Observations	Mean	Median	SD	1st Percentile	99th Percentile
All Counties						
Dependent Variable						
Black Homeownership Share	2,824	0.34	0.31	0.27	0.00	1.00
County Controls						
Total Population (ln)	2,824	9.58	9.72	1.13	6.13	12.20
Black Population (percentage)	2,824	0.13	0.01	0.21	0.00	0.81
Median Age (ln)	2,824	3.07	3.04	0.16	2.77	3.43
Male Population (percentage)	2,824	0.52	0.51	0.04	0.47	0.65
Literate population (ln)	2,824	9.10	9.18	1.16	5.66	11.95
Total Banks (ln)	2,824	1.07	1.10	0.83	0.00	3.04
Total Members (percentage)	2,813	0.39	0.36	0.46	0.06	1.01
Counties without Black Banks						
Dependent Variable						
Black Homeownership Share	2,741	0.34	0.32	0.27	0.00	1.00
County Controls						
Total Population (ln)	2,741	9.53	9.70	1.09	6.05	11.94
Black Population (percentage)	2,741	0.13	0.01	0.21	0.00	0.80
Median Age (ln)	2,741	3.07	3.04	0.16	2.77	3.43
Male Population (percentage)	2,741	0.52	0.52	0.04	0.48	0.66
Literate population (ln)	2,741	9.05	9.15	1.11	5.62	11.61
Total Banks (ln)	2,741	1.04	1.10	0.80	0.00	2.83
Total Members (percentage)	2,731	0.39	0.36	0.46	0.05	1.03
Counties with Black Banks						
Dependent Variable						
Black Homeownership Share	83	0.20	0.17	0.11	0.03	0.54
County Controls						
Total Population (ln)	83	11.17	10.89	1.22	8.89	14.54
Black Population (percentage)	83	0.34	0.33	0.27	0.00	0.90
Median Age (ln)	83	3.15	3.18	0.12	2.89	3.37
Male Population (percentage)	83	0.50	0.50	0.03	0.45	0.63
Literate population (ln)	83	10.66	10.34	1.37	8.57	14.21
Total Banks (ln)	83	1.85	1.95	1.19	0.00	4.71
Total Members (percentage)	82	0.49	0.49	0.11	0.24	0.88

Notes. The table provides the number of observations, mean, median, standard deviation, 1st percentile and the 99th percentile of all variables used in the empirical analysis. Panel A, Panel B, and Panel C show the summary statistics for our variables in 1900 for the full sample, for counties that were not exposed to Black banks and for counties that were exposed to Black banks later. The definition of the variables can be found in Appendix Table A.1.

Table II. Baseline Characteristics before the Closings of Black banks by Treatment Status

	Observations	Mean	Median	SD	1st Percentile	99th Percentile
Counties without Black Bank Closures						
Dependent Variable						
Black Homeownership Share	22	0.22	0.17	0.12	0.06	0.44
County Controls						
Total Population (ln)	22	11.43	11.45	1.28	9.37	14.43
Black Population (percentage)	22	0.24	0.28	0.21	0.00	0.62
Median Age (ln)	22	3.18	3.20	0.13	2.89	3.37
Male Population (percentage)	22	0.51	0.50	0.04	0.46	0.63
Literate population (ln)	22	11.01	11.11	1.41	8.57	14.13
Total Banks (ln)	22	2.01	2.30	1.19	0.00	3.87
Total Members (percentage)	21	0.53	0.52	0.10	0.32	0.74
Counties with Black Bank Closure						
Dependent Variable						
Black Homeownership Share	61	0.20	0.17	0.11	0.03	0.54
County Controls						
Total Population (ln)	61	11.07	10.81	1.20	8.89	14.54
Black Population (percentage)	61	0.38	0.37	0.28	0.01	0.90
Median Age (ln)	61	3.14	3.14	0.12	2.89	3.37
Male Population (percentage)	61	0.50	0.50	0.02	0.45	0.58
Literate population (ln)	61	10.54	10.18	1.34	8.61	14.21
Total Banks (ln)	61	1.79	1.79	1.19	0.00	4.71
Total Members (percentage)	61	0.48	0.46	0.11	0.24	0.88

Notes. The table provides the number of observations, mean, median, standard deviation, 1st percentile and the 99th percentile of all variables used in the empirical analysis. Panel A, Panel B, and Panel C show the summary statistics for our variables in 1900 for the full sample, for counties that were not exposed to Black banks and for counties that were exposed to Black banks later. The definition of the variables can be found in Appendix Table A.1.

4 Empirical Strategy

4.1 Main Specification

We use a difference in differences (DID) design to estimate the effects of exposure to Black banks on Black Homeownership. Our empirical strategy exploits differences in the exposure to Black banks between counties and across decades. Our regression specification takes the following form:

$$\text{Black Homeownership}_{ct} = \alpha_c + \delta_t + \beta \text{Exposure to Black banks}_{ct} + \gamma' X_{ct} + v_{ct} \quad (1)$$

Black Homeownership$_{ct}$, our outcome variable of interest is defined as the share of African-American households that are homeowners in a given County c at the end of a given decade t. We calculate this measure using homeownership estimates obtained from the U.S. Censuses of Population. We saturate all of our specifications with fixed effects at the county(α_c) and decade (δ_t) level. Additionally, our baseline specifications also control for state- specific linear time trends (i.e. *State* $\times$ *Year* fixed effects) that can account for amongst others time varying differences in African American Homeownership of counties in States with larger Black populations. Our main variable of interest, Exposure to Black banks$_{ct}$,is an indicator of having at least one Black Bank present in County c from $t-10$ to t (in a given decade). In our setting Black banks can open and close multiple times in a particular County during the period of study. We therefore consider both permanent and transitory openings of Black banks to determine whether or not a county is exposed to Black banks in a given decade or not (i.e. we include both those openings that are permanent and those that close after some time). As a robustness analysis, we also build a continuous measure of exposure to Black banks as the total number of Black banks in a county over a given decade ($t-10$ to t), which captures the

intensity of Black Bank exposure.[10] We also include county level control variables X_{ct} (lagged) and cluster standard errors at the county level.[11]

In a second analysis we then explore reversals. Specifically, we study whether Black Bank Closures have a lopsided effect (compared to openings) on African American Homeownership by estimating:

$$\text{Black Homeownership}_{ct} = \alpha_c + \delta_t + \beta\text{Exposure to Black banks}_{ct} + \beta\text{Black Bank Closure}_{ct} + \gamma' X_{ct} + v_{ct} \tag{2}$$

Last, we estimate the effect of initial Black Bank exposure, i.e. black bank's first openings. Again we exploit the county-level variation in the initial opening of Black banks. Initially, the estimations are performed in an unrestricted sample, where Black banks can open and close multiple times in a particular county. Our treatment variable changes from 0 to 1 for the earliest opening of Black banks in a county and remains 1 for the rest of the period of study irrespective of subsequent openings and/or closings. The idea of this estimation is to capture the persisting effect of the first opening of a Black Bank in a county. Additionally, we estimate the effects of the permanent opening of Black banks in a restricted sample, where we restrict the analysis to counties where Black banks remain present in a county from the first opening until the end of our period of study.

To implement the estimation we make use of an event study setting in which we take all available control counties and randomly assign them a pseudo opening decade based on the sample of actual opening dates observed within our treated units.[12] We only include counties for which we can observe an event window of 8 decades (a minimum of 6), both for our treated and control group. We then estimate the corresponding event study specification:

$$\text{Black Homeownership}_{ct} = \alpha_c + \delta_t + \sum_{j=-4}^{4} \theta_j \cdot \mathbb{I}[T_c + j] + \sum_{j=-4}^{4} \beta_j \cdot \mathbb{I}[T_c + j]\mathbb{I}[\text{Black Bank Opening}_c] + \gamma' X_{ct} + v_{ct} \tag{3}$$

Equation (3) includes county (α_c) and decade (δ_t) fixed effects as well as *State* $\times$ *Year* fixed effects. The variable T_c, corresponds to the Black Bank opening decade for treated counties and the black bank pseudo-opening decade for the control counties. We then create a series of decade event-time dummies (j) that capture the decades leading up to and following the opening event and span at least 6 decades. The set of pre-opening parameters (θ_j) inform how the treatment and control counties are trending prior to the treatment group's Black Bank opening events, and the series of post-opening (β_j) parameters capture any differential changes in our treatment group counties following the opening events. A causal interpretation of our estimates rests crucially on the parallel trend assumption that absent Black banks, more- and less-exposed counties would have experienced similar trends in African American homeownership. We check the plausibility of this identifying assumption by running a placebo test where we change the timing of treatment to the decades prior to the opening of the first Bank and study its effect on Black Homeownership. In the same spirit we plot the development of African American Homeownership prior to the introduction of the first Black Bank for both treatment and control counties and do not observe any significant differences. Standard errors are again clustered

[10] Black Homeownership is a stock variable: We relate the presence of Black banks over a given decade ($t-10$ to t) to Black Homeownership at the decade's end. For example, we relate Black Homeownership in 1970 to Black Bank presence in that County from 1960-69 etc.

[11] Depending on the specification, the controls may include total population (ln), the share of the black population, the share of the male population, median age (ln), the share of the literate population, the total number of banks (ln), share of church member population and the total manufacturing establishments (ln).

[12] Note that an event study approach has the advantage of tracing out the full dynamic trajectory of the effects.

at the county level. A rapidly growing literature has shown that two-way fixed effects regressions deliver consistent estimates only with strong assumptions about the homogeneity of treatment effects, and may be biased when treatment effects vary over time or between treated units. In our setting treatment can very well vary over time (some counties are exposed to Black banks in some decades but not in others) and the intensity of this treatment (i.e. the number of Black banks present in a County in a given decade) may also fluctuate. In additional results we show that both our main difference in differences and event study estimates are similar using a robust estimator that accounts for these issues such as the local projections difference in differences (LP-DID) strategy recently introduced by Dube et al. (2023) as well as the method introduced by De Chaisemartin and d'Haultfoeuille (2018); De Chaisemartin et al. (2019). In all of the analyses described above we only include counties with non-zero black population values as these counties have non-zero black household outcomes. Depending on the specification the number of treated counties ranges between 11 and 76 versus roughly 2600 control counties.

5 Results

5.1 Black Bank Exposure

Given that not all counties are exposed to Black banks at the same time we start by testing how Black Bank's exposure affects homeownership at the county level in a static difference in differences two way fixed effects model, i.e. Equation (1) from Section 4 and present our baseline results in Table III.[13]

[13]Note that these results can be interpreted as the average effect of Black banks' exposure, for time varying results in an event study setting please see Section 5.4.

Table III. The Effect of Black Bank Exposure on Black Homeownership

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%)				
Exposure to Black Banks	-0.014	0.028***	0.029***	0.034***	0.037***
	(0.009)	(0.010)	(0.011)	(0.011)	(0.011)
L10.Total Population (ln)		-0.000	-0.015**	-0.030***	-0.032***
		(0.005)	(0.006)	(0.005)	(0.007)
L10.Literacy (share)		0.273***	0.259***	0.142***	0.150***
		(0.030)	(0.032)	(0.047)	(0.051)
L10.Black Population (percentage)		-0.419***	-0.420***	-0.091***	-0.093***
		(0.028)	(0.028)	(0.027)	(0.028)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	28,323	27,063	26,164	27,054	26,161
Counties	3101	3031	2996	3030	2995
Mean of Dep. Variable	0.424	0.431	0.432	0.431	0.432
R-squared	0.384	0.422	0.418	0.479	0.474
Economic Relevance	-0.005	0.010**	0.010**	0.012**	0.013***

Notes. This table presents the results from Equation (1) in which we analyze the impact of a county's exposure to Black banks on the county's black homeownership rate between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variable of interest is the *Exposure to Black banks*, i.e., a dummy variable that is equal to 1 if the number of Black banks within a county is positive, and zero otherwise. A black bank is defined as a bank that is owned by an African American investor. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: ln(Total population)$_{it-1}$, Black population (share)$_{it-1}$, Male population (share)$_{it-1}$, ln(Median age)$_{it-1}$ and Literate population (share)$_{it-1}$. Additional controls include the following variables: ln(Total number of banks)$_{it-1}$, Church member population (share)$_{it-1}$ and ln(Manufacturing establishments)$_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

We relate our main measure of Black Bank Exposure, which is a dummy indicator taking on the value of 1 if a given county has at least one Black Bank present in a given decade (end of decade) and 0 otherwise, to African American homeownership, which is defined as the total number of African American households that own a house divided by all African American households within the same county one decade later. In Column (1) we begin with a univariate OLS regression relating Black Bank Exposure to Black homeownership for the entire time period in our sample 1910 – 2000. We saturate the regression with year and county fixed effects to capture all time invarying factors at the aforementioned levels. In Column (2) we redo the estimation but now including a basic set of county control variables (all lagged)[14] We expand the analysis in Column (3) including a broader set of controls to capture the effect of the size of the financial sector, industry sector and social cohesion in the form of The Total number of Banks, The share of population with Church membership and the Total number of Manufacturing Establishments (natural logarithm) (all lagged one period), our

[14]The basic set of county controls consists of Total County Population, The share of Black Population, The share of Males, Median age (natural logarithm) and The share of literate Population.

Additional Controls set. In all regressions, except for Column (1), we observe the effect of Black Bank exposure on African American homeownership to be positive. We present our baseline estimate in Column (4) where we add *State* × *Year Fixed Effects* which are essential in filtering out any time varying factors at the State level such as difference in legislation supporting Black Homeownership as well as differences in legal origins more generally. From this baseline regression we build and expand even further, for example in Column (5) where we repeat the regression but now saturating it with controls (similar to our analysis in Column (3)) capturing financial and industry sector development as well as Church membership, a proxy for social cohesion. In both regressions we again observe a positive, statistically significant effect of black bank exposure on homeownership. The economic effect is also sizeable, black bank exposure in a given decade increases African American Homeownership in the county with around 1.3% a decade later.

In Table IV we rerun our analysis from Table III but slightly changing our definition of Black Bank Exposure, now taking into account the intensity of exposure. In specific we create our exposure measure variable being equal to the total number of years within the decade with black bank presence (at least one black bank) divided by ten (the total number of years within a decade), and zero otherwise (that is counties that in a certain decade do not observe black bank presence in one of the ten years are assigned a 0 for that decade). We follow the same structure as in Table III, presenting univariate results in Column (1) followed by the inclusion of county controls (similar to the ones included in Table III) in Column (2), additional Controls in Column (3) and State x Year Fixed effects and additional Controls in Columns (4) and (5) respectively. While lagged Black Bank Exposure is negatively related to African American homeownership in Columns (1) in Columns (2) and (3) and both our baseline specification in Column (4) as well as in Column (5) higher black bank exposure is positively related to Black homeownership. This effect is both statistically and economically relevant, Black Bank exposure increases African American Homeownership by around 1.6%, an effect similar to the results presented in Table III.

Table IV. The Effect of Black Bank Exposure (percents) on Black Homeownership

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%)				
exp_blackbank_dummy	-0.020*	0.040***	0.039***	0.043***	0.049***
	(0.011)	(0.013)	(0.014)	(0.013)	(0.014)
L10.Total Population (ln)		-0.001	-0.015**	-0.030***	-0.032***
		(0.005)	(0.006)	(0.005)	(0.007)
L10.Literacy (share)		0.272***	0.258***	0.141***	0.149***
		(0.030)	(0.032)	(0.047)	(0.051)
L10.Black Population (percentage)		-0.421***	-0.422***	-0.094***	-0.096***
		(0.028)	(0.028)	(0.027)	(0.028)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	28,323	27,063	26,164	27,054	26,161
Counties	3101	3031	2996	3030	2995
Mean of Dep. Variable	0.424	0.431	0.432	0.431	0.432
R-squared	0.384	0.422	0.418	0.479	0.474
Economic Relevance	-0.006	0.013**	0.013**	0.014**	0.016***

Notes. This table presents the results from Equation (1) in which we analyze the impact of a county's exposure to Black banks on the county's black homeownership rate between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variable of interest is the *Exposure to Black banks*, i.e., a variable equal to the total number of years within the decade with black bank presence (at least one black bank) divided by ten (the total number of years within a decade), and zero otherwise. A black bank is defined as a bank that is owned by an African American investor. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: ln(Total population)$_{it-1}$, Black population (share)$_{it-1}$, Male population (share)$_{it-1}$, ln(Median age)$_{it-1}$ and Literate population (share)$_{it-1}$. Additional controls include the following variables: ln(Total number of banks)$_{it-1}$, Church member population (share)$_{it-1}$ and ln(Manufacturing establishments)$_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

We continue in Table V with another measure of Black Bank Exposure, now taking account the continuous nature of Black Bank exposure. We express exposure as being equal to the total number of Black banks present in a county in a given decade (end of decade). For comparison we repeat the findings from Table III (where we introduce our dichotomous measure of Black Bank exposure) in Panel A and present the coefficients of our continuous measure of Black Bank exposure in Panel B. The results are strikingly similar, for both our measures of Black Bank Exposure in Panel A and B the coefficient is of similar magnitude and enter, except for Column (1) with the same positive sign. When controlling for State Trends in Columns (4) and (5) as well as incorporating exhaustive sets of county Controls, also for the continuous measure as presented in Panel B of Table V Black Bank Exposure is positively related to African American Homeownership. The effect is again both statistically significant and economically sizeable: A one standard deviation increase in Black banks' exposure boosts African American Homeownership with 2.8%.

Table V. The Effect of Black Bank Closure on Black Homeownership (Dummy and Continuous)

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%)				
Panel A. Dichotomous					
Exposure to Black Banks	-0.014	0.028***	0.029***	0.034***	0.037***
	(0.009)	(0.010)	(0.011)	(0.011)	(0.011)
Panel B. Continuous					
Exposure to Black Banks	-0.011*	0.018***	0.018***	0.026***	0.028***
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	28,323	27,063	26,164	27,054	26,161
Counties	3101	3031	2996	3030	2995
Mean of Dep. Variable	0.424	0.431	0.432	0.431	0.432
R-squared	0.384	0.422	0.418	0.479	0.474

Notes. This table presents the results from Equation (1) in which we analyze the impact of a county's exposure to Black banks on the county's black homeownership rate between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variable of interest in Panel A is the *Exposure to Black banks Indicator*, i.e., a dummy variable that is equal to 1 if the number of Black banks within a county is positive, and zero otherwise. The main independent variable of interest in Panel B is the *Exposure to Black banks (number)*, i.e., a variable that is equal to the total number of Black banks within a county. A black bank is defined as a bank that is owned by an African American investor. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: ln(Total population)$_{it-1}$, Black population (share)$_{it-1}$, Male population (share)$_{it-1}$, ln(Median age)$_{it-1}$ and Literate population (share)$_{it-1}$. Additional controls include the following variables: ln(Total number of banks)$_{it-1}$, Church member population (share)$_{it-1}$ and ln(Manufacturing establishments)$_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

5.2 Black Bank Closures

Having shed light on the effect of Black Bank Exposure in the form of bank openings on homeownership we now turn to studying the effect of Black Bank Closures on African American Homeownership in more detail in Table VI.

Table VI. The Effect of Black Bank Exposure and Persistent Closure on Black Homeownership

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%)				
Exposure to Black Banks	-0.017	0.055***	0.058***	0.057***	0.060***
	(0.015)	(0.017)	(0.018)	(0.017)	(0.017)
Already Exposed to Black Banks and Closed	-0.006	0.046***	0.051***	0.040**	0.040**
	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)
L10.Total Population (ln)		-0.001	-0.016**	-0.030***	-0.032***
		(0.005)	(0.006)	(0.005)	(0.007)
L10.Literacy (share)		0.272***	0.258***	0.143***	0.151***
		(0.030)	(0.032)	(0.047)	(0.051)
L10.Black Population (percentage)		-0.421***	-0.422***	-0.095***	-0.096***
		(0.028)	(0.028)	(0.027)	(0.028)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	28,323	27,063	26,164	27,054	26,161
Counties	3101	3031	2996	3030	2995
Mean of Dep. Variable	0.424	0.431	0.432	0.431	0.432
R-squared	0.384	0.422	0.418	0.479	0.474
Economic Relevance Openings	-0.006	0.020***	0.020***	0.020**	0.021***
Economic Relevance Closings	-0.002	0.021**	0.022**	0.018*	0.017*

Notes. This table presents the results from Equation (2) in which we analyze the impact of a county's exposure to Black banks on the county's black homeownership rate between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variable of interest is *Already Exposed to Black banks and Closed*, i.e., a dummy variable that is equal to 1 after the total number of Black banks has changed from a positive number to zero, and zero otherwise. A black bank is defined as a bank that is owned by an African American investor. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

We create a dummy variable capturing closings which is equal to 1 if the total number of Black banks in a given county in that decade has changed from a positive number in the decade prior to 0 in this decade. We label this variable '*Already Exposed to Black banks and Closed*'. we also saturate the analyses with our main Exposure to Black banks variable (i.e. a dummy variable that is equal to 1 if the total number of Black banks is larger than 0 and 0 otherwise). The results hint at a positive effect for both Black Bank Persistent Closings and Black Bank's Exposure on African American Homeownership. Apart from the results in Column (1), similar to Black Bank Exposure in the form of Openings, Persistent Closures surprisingly still seem to accelerate African American Homeownership by around 2%. This positive effect remains present in Columns (4) and (5) where we introduce State x Year Fixed Effects and our most exhaustive set of County Controls.

5.3 Differential Effects of Black Bank Exposure by period

It is known that during the Great Depression African American banks were hit more than their counterparts (Baradaran, 2017), which may have resulted in a significant negative effect on African American Homeownership in counties more exposed to these banks in this period. On the other hand, it can be argued that those African American banks that were able to stand through this period were actually the most resilient ones, being able to still serve their market, which would potentially lead to observing a more positive effect on African American Homeownership. In Table VII (no state year FEs?) we therefore explore further whether Black Bank Exposure differentially affected African American Homeownership in the Great Depression period and in the period after. We label the period between 1930 and 1940 the 'Depression' period and the period after 1940 the 'Post Depression' period and augment Equation (2) in the following way:

$$\text{Black Homeownership}_{ct} = \alpha_c + \delta_t + \beta(\text{Exposure to Black banks}_{ct} \times \text{Depression}_t) + \gamma' X_{ct} + v_{ct} \quad (4)$$

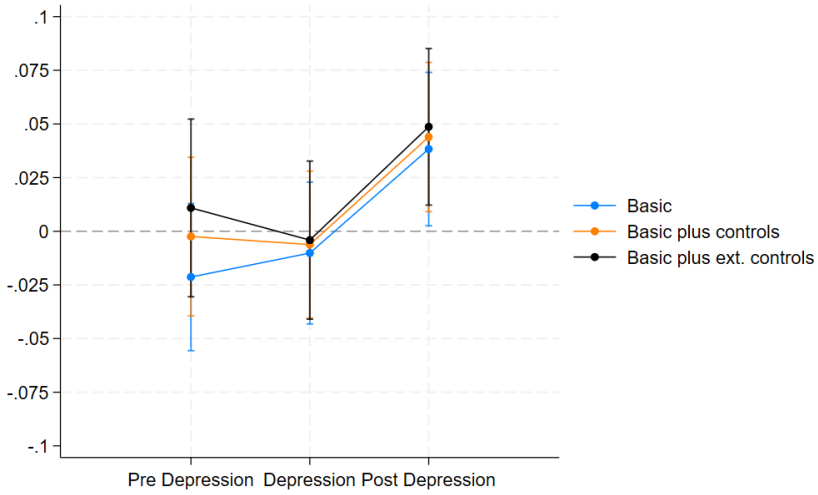
In Column (1) we start with an analysis of the differential effect of Black Bank Exposure in the Depression and Post Depression periods by relating Black Homeownership to an interaction term of our *Exposure to Black banks* variable and a *Depression* indicator (a dummy variable taking on the value of 1 for 1930 and 1940 and 0 otherwise) as well as an interaction term of the exposure variable with a *Post Depression* indicator (a dummy variable taking on the value of 1 for 1950 onwards and 0 otherwise). We control for the interactions between our persistent exposure effect variable and the Depression and Post Depression variables respectively and include County and Decade Fixed Effects. The coefficient on the interaction term Exposure to Black banks x Depression is positive and statistically significant, indicating that during the Great Depression Period Black banks exposure had a positive effect on boosting African American Homeownership in a locality compared to other periods. The effect is also economically meaningful: 0.7%. When we look at the effect of Black Bank exposure in the post Depression period the effect is also positive but a bit larger: The coefficient on the interaction term Exposure to Black banks x Post Depression is positive and statistically significant at a 1% level. Also here the effect is also economically meaningful: 1.6%. When we saturate the regression with a set of County Controls in Columns (2) and (3) (the most exhaustive set in Column (3)) the results remain similar, both in sign and magnitude. We plot the results of the analysis (that is the coefficients of the interaction term of Exposure to Black banks and the Depression, Post Depression and Pre Depression period) for the 3 specifications in Figure 3. As can be seen Black Bank Exposure seems to have boosted African American Homeownership most in the Post Depression period.

Table VII. Heterogeneous Effects by Period of Black Bank Presence

	(1)	(2)	(3)
Dependent Variable: Black Homeownership Rate (%)			
Already Exposed to Black Banks and Closed=1 × Depression	0.011	-0.004	-0.015
	(0.010)	(0.012)	(0.013)
Already Exposed to Black Banks and Closed=1 × Post Depression	0.060***	0.046***	0.038***
	(0.009)	(0.012)	(0.014)
Exposure to Black Banks	0.007	0.019	0.023
	(0.017)	(0.018)	(0.020)
Exposure to Black Banks × Depression	0.009	0.004	-0.017
	(0.012)	(0.015)	(0.017)
Exposure to Black Banks × Post Depression	0.046***	0.084***	0.082***
	(0.015)	(0.019)	(0.023)
Period FE	Yes	Yes	Yes
County FE	Yes		Yes
Controls	No	Yes	Yes
Additional Controls	No	No	Yes
Observations	28323	27063	26164
Counties	3101	3031	2996
Mean of Dep. Variable	0	0	0
R-squared	0.329	0.381	0.381

Notes. This table presents the results from Equation (4) in which we analyze the impact of a county's exposure to Black banks on the county's black homeownership rate before, during and after the Great Depression. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (3) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variables are the interaction terms between *Exposure to Black banks* and *Depression*. *Exposure to Black banks* is a dummy variable that is equal to 1 if the number of Black banks within a county is positive, and zero otherwise. A black bank is defined as a bank that is owned by an African American investor. *Depression* is a dummy variable that is equal to 1 between 1930 and 1940, and zero otherwise. *Post Depression* is a dummy variable that is equal to 1 after 1940, and zero otherwise. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure 3. Heterogeneous Effects by Period of Black Bank Presence

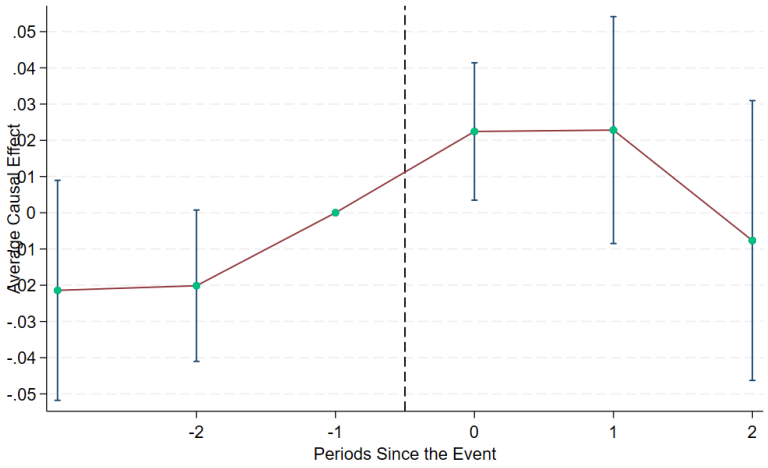


Notes. This figure shows the extent to which the effects of exposure to Black banks are heterogeneous depending on their presence before, during, or after the depression period between 1910 and 2000. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variables are the interaction terms between *Exposure to Black banks* and *Depression*. *Exposure to Black banks* is a dummy variable that is equal to 1 if the number of Black banks within a county is positive, and zero otherwise. A black bank is defined as a bank that is owned by an African American investor. *Pre Depression* is a dummy variable that is equal to 1 before 1930, and zero otherwise. *Depression* is a dummy variable that is equal to 1 between 1930 and 1940, and zero otherwise. *Post Depression* is a dummy variable that is equal to 1 after 1940, and zero otherwise. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

5.4 Local Projection Difference in Differences Analysis

So far the results presented have shown an average (static) positive effect of Black banks' Exposure on African American Homeownership. However, given that we are able to identify the exact year(s) in which a given county is (first) exposed to a Black Bank (at least one) and this exposure can fluctuate by decade a natural step would be to take into account dynamic heterogeneous treatment effects. For this we also run a Local Projection (LP) difference in differences analysis which allows for estimating the effect of Black banks' exposure by decade in an event study setting, where t is set to 0 in the decade of first exposure to Black Bank's in a county. We present the results of this time varying version of the difference in differences design in Figure 4. Note that an LP difference in differences analysis allows for the estimation of dynamic heterogenous treatment effects, which is particularly suited in this setting as counties can move in and out of treatment over time, i.e. have Black Bank presence in some decades but not in others and also can be exposed to a different intensity of treatment (some counties may have more Black banks present than others). From the results in Figure 4 a similar pattern emerges as previously presented: Black Bank presence significantly affects African Homeownership after its introduction, especially in the first two decades after the introduction of Black banks in a county after which the effect seems to level off.

Figure 4. LPDiD estimations



Notes. The figure shows the estimates of the exposure to Black banks on black homeownership using LP - DiD between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The main independent variable of interest is the *Exposure to Black banks*, i.e., a dummy variable that is equal to 1 if the number of Black banks within a county is positive, and zero otherwise. A black bank is defined as a bank that is owned by an African American investor. All models include county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

5.5 Black Bank Openings and Closures

We additionally study both the effect of Black Bank Openings and Closures at the same time in Table VIII. Important to note here is that we define *Closings of Black Banks* as actual Closings in a county in a given decade and *Openings of Black Banks* as the total number of actual Openings of Black Banks . The results show an interesting pattern: Black Bank Openings seem to spur Black Homeownership, the coefficient is positive in all specifications except for the univariate analysis as presented in Column (1) (although here the coefficient is not statistically significant at conventional levels). When including State trends as well as the most exhaustive set of Controls the effect is also statistocally significant and economically meaningfull, a one standard deviation increase in Black Bank Openings fosters Black Homeownership by about 0.5 %. Turning to the *Closings of Black Banks* however, this ositive effect is mitigated. Counties that experience Closings of Black Banks observe a decline in Black Homeowership rates. The effect is negative in all specifications and statistically significant at conventional levels (apart from the univariate result as presented in Column (1)), indicating a lopsided effect compared to the opening of Black Banks.

Table VIII. The Effect of Black Bank Openings and Closures on Black Homeownership

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%)				
Openings of Black Banks	-0.006	0.006	0.008	0.012**	0.014**
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)
Closures of Black Banks	-0.006	-0.028***	-0.033***	-0.026***	-0.030***
	(0.006)	(0.008)	(0.009)	(0.008)	(0.009)
L10.Exposure to Black Banks	-0.015	0.027***	0.030***	0.033***	0.041***
	(0.010)	(0.010)	(0.011)	(0.012)	(0.012)
L10.Total Population (ln)		-0.000	-0.015**	-0.030***	-0.032***
		(0.005)	(0.006)	(0.005)	(0.007)
L10.Literacy (share)		0.272***	0.258***	0.141***	0.148***
		(0.030)	(0.032)	(0.047)	(0.051)
L10.Black Population (percentage)		-0.419***	-0.419***	-0.093***	-0.094***
		(0.028)	(0.028)	(0.027)	(0.028)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	27,064	27,063	26,164	27,054	26,161
Counties	3031	3031	2996	3030	2995
Mean of Dep. Variable	0.430	0.431	0.432	0.431	0.432
R-squared	0.400	0.422	0.418	0.479	0.474
Openings of Black Banks	-0.002	0.002	0.003	0.005*	0.006*
Closings of Black Banks	-0.002	-0.010***	-0.011***	-0.009**	-0.010***

Notes. In this table we analyze the impact of a county's exposure to Black bank openings and closures on the county's black homeownership rate between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. The first independent variable of interest is *Openings of Black Banks*, i.e., the total number of black banks that opened within a county in the past decade. The second independent variable of interest is *Closures of Black Banks*, i.e., the total number of black banks that closed within a county in the past decade. A black bank is defined as a bank that is owned by an African American investor. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: Exposure to Black Banks$_{it-1}$ ln(Total population)$_{it-1}$, Black population (share)$_{it-1}$, Male population (share)$_{it-1}$, ln(Median age)$_{it-1}$ and Literate population (share)$_{it-1}$. Additional controls include the following variables: ln(Total number of banks)$_{it-1}$, Church member population (share)$_{it-1}$ and ln(Manufacturing establishments)$_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

5.6 Difference in Differences: Event Study Analysis

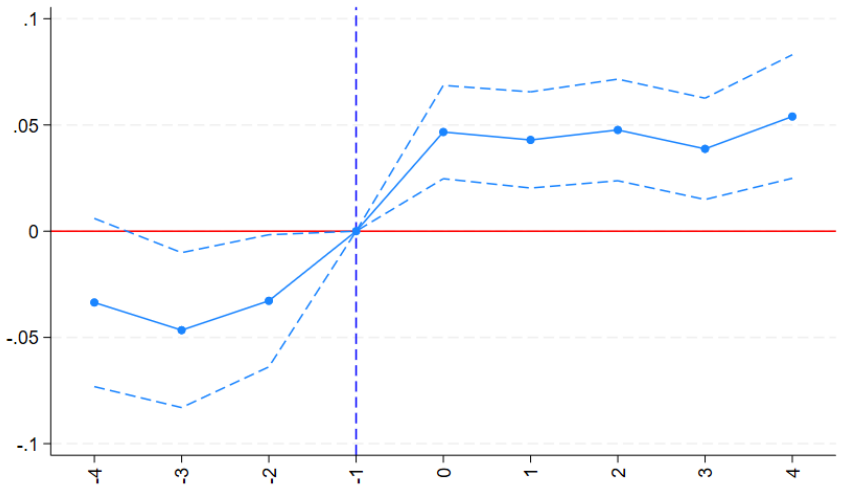
Similar to the Local Projection difference in differences design from Section 5.4 we explore the time varying effect of Black banks' Exposure further in another difference in differences event study design in which we focus on the persistent effect of Black Bank Exposure, that is our Treat variable includes all counties that have experienced at least one opening of a Black Bank in the period 1900-2000 (irrespective of their closings). The Post variable is set to 1 after the opening of the first Black Bank in a county onwards.

Table IX. DID specifications explaining black homeownership 1900 - 2000

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate				
Treat × Post	0.017	0.072***	0.072***	0.065***	0.066***
	(0.015)	(0.017)	(0.018)	(0.016)	(0.016)
Total population (ln)		-0.012*	-0.021***	-0.034***	-0.031***
		(0.007)	(0.008)	(0.008)	(0.008)
Literate population (share)		0.164***	0.147***	0.001	0.034
		(0.035)	(0.036)	(0.060)	(0.060)
Black population (share)		-0.445***	-0.428***	-0.174***	-0.144***
		(0.038)	(0.040)	(0.032)	(0.033)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	18,701	18,243	17,653	18,234	17,650
Counties	2733	2733	2726	2732	2726
Mean of Dep. Variable	0.421	0.424	0.424	0.424	0.424
Adjusted R-squared	0.418	0.455	0.467	0.520	0.526
Economic Relevance	0.040	0.170	0.170	0.153	0.156

Notes. This table presents the results from Equation (3) in which we analyze the impact of a county's exposure to a black bank opening on the county's black homeownership rate. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure 5. DID



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

We start with estimating Equation (3) from Section 4 where we include in our analysis all counties for which data is available, our full sample. We present the results of the average effect in Table IX and the corresponding time varying estimates in Figure 5.[15] For the estimates as presented in Figure 5 we randomly assign to all available control counties a pseudo opening decade based upon the actual openings in the treated counties group and only include counties (both treated and control) for which the event window is sufficiently large (a minimum event window of 6 decades and a maximum of 8 decades).

We start with a univariate analysis in Column (1) of Table IX in which we saturate the analysis with both County and Year Fixed Effects and then continue in Columns (3) – (5) by adding an exhaustive set of controls as well as State Trends. The coefficient on the Treat × Post interaction enters robustly positive in all specifications and is statistically significant in all (but the first) specifications. The effect is also economically relevant with an increase of 15.6% compared to the mean of the dependent variable in Column (5). In Figure 5 we plot the decade (or decennial year) estimates of Equation (3) in which we introduce our full set of control variables. Again, the results confirm that after the first exposure to Black Bank's in a county Black Homeownership is spurred significantly, especially in the first two following decades.

To make sure that the analysis does not capture counties that move out of treatment because of Black Bank closings we rerun Equation (3) but now only including those counties that do not move

[15] We obtain time varying estimates by multiplying the *Post x Treat* interaction with time indicators, where the decennial year in which a county is first exposed to a Black Bank is set to 0 and the 4 decennial years prior to the first exposure -4 to -1 and the 4 decennial years post initial exposure to +1 to +4 respectively.

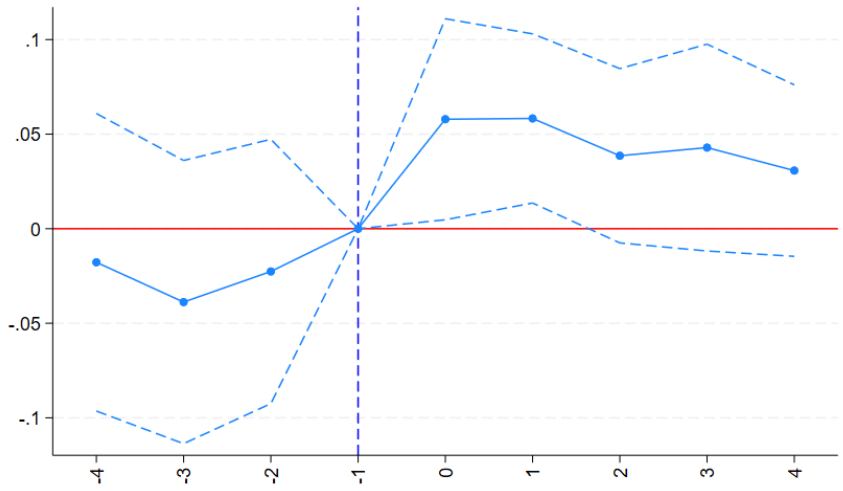
out of treatment (that is from the initial exposure to the first Black Bank(s)) and those counties that are never exposed to Black banks, the restricted sample. We present the average results in Table X and the corresponding time varying coefficients in Figure 6.

Table X. DID specifications explaining black homeownership 1900 - 2000 - Clean openings

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate				
Treat × Post	-0.017	0.053	0.052	0.066*	0.064*
	(0.034)	(0.046)	(0.046)	(0.034)	(0.034)
Total population (ln)		-0.014*	-0.023***	-0.036***	-0.033***
		(0.007)	(0.007)	(0.007)	(0.008)
Literate population (share)		0.226***	0.201***	0.048	0.051
		(0.036)	(0.037)	(0.062)	(0.062)
Black population (share)		-0.441***	-0.421***	-0.143***	-0.132***
		(0.037)	(0.040)	(0.031)	(0.033)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	18,496	18,015	17,419	18,013	17,417
Counties	2688	2688	2678	2688	2678
Mean of Dep. Variable	0.423	0.426	0.427	0.426	0.427
Adjusted R-squared	0.402	0.439	0.454	0.505	0.515
Economic Relevance	-0.040	0.124	0.122	0.155	0.150

Notes. This table presents the results from Equation (3) in which we analyze the impact of a county's exposure to a black bank opening on the county's black homeownership rate. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the restricted sample, meaning that only opening events occur within the same county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure 6. DID - Clean openings



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the restricted sample, meaning that only opening events occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Note that the results are similar: The coefficient on the Treat × Post interaction enters robustly positive in all specifications (apart from the univariate analysis in Column (1)) and is statistically significant when including State Trends in Columns (4) and (5). Figure 6 indicates again that Black banks' Exposure boosts African American Homeownership in the following decades, especially so in the first two subsequent decades. There also seems to be no significant effect on homeownership in the treated counties compared to the control counties in the decades prior to the first exposure to a Black Bank.[16]

5.6.1 Balanced sample

To obtain a more balanced event window for both the pre and post initial Black Bank Exposure decade years we once again rerun Equation (3) but now requiring at least 3 decades pre initial Black Bank Exposure to be available, maintaining an event window of 8 decades. Note that this boils down to analyzing the period between the years 1930-2000. We present the average results in Table A.2 and Table A.3 for the restricted sample respectively as well as the time-varying estimates in Figure A.1 and

[16] A potential issue with our results may be that the black bank opening may pick up the effects of a positive trend prior to the first black bank opening that impacted treatment counties' Black Homeownership more compared to control counties. We test this possibility more formally in a placebo test in which we replace the actual opening of the first Black Bank in a county with a placebo opening in the middle decade of all decades prior to the decade of the actual opening. We present the results in Table A.6 for the sample from Table IX and Table A.7 for the sample used in Table X respectively. In both analyses the coefficient on the *Treat* × *Post* interaction is not statistically significant indicating that there are no pre-trends present.

Figure A.2. The results indicate again that Black Bank exposure robustly boosts African American Homeownership, especially in the first two decades after the first opening of a Black Bank in a county.

5.6.2 Neighboring Counties and Matching

Table 1 shows that although treatment and control counties are fairly similar upon key observable dimensions, there are some slight differences in for example size (as proxied by total population) and the total number of banks present. More specifically, treatment counties are on average slightly more populated, better educated and younger compared to control counties. To minimize the effect of differences between treatment and control counties we first repeat the analysis on a sample where only treatment counties and the corresponding adjacent control counties are included. We present the average results in Table A.4 and Table A.5 for the restricted sample and the corresponding time varying estimates in Figure A.3 and Figure A.4. The findings indicate that Black Bank presence robustly boosts African American Homeownership.

In a similar thought we also rerun Equation (3) on a matched sample, where we match treated and control counties on key observables, which are, including their descriptives, presented in Table A.8. The time varying estimates are presented in Figure A.5 and show again a slight indication that Black Bank exposure spurs Black Homeownership.

5.6.3 Heterogenous Treatment Effects

In addition, we study dynamic heterogenous treatment effects for the matched sample in Figure A.6 and Figure A.7. We use the approach as introduced by De Chaisemartin and d'Haultfoeuille (2018) to take into consideration and account for the possibility that counties can move in and out of the treatment group throughout time. The results again point to a positive relationship between Black banks' Exposure and African American homeownership.[17]

6 Conclusion

We provide the first comprehensive picture of the evolution of African American banks (i.e. banks owned by African Americans) in the US throughout history (starting from the inception of the first banks at the turn of the 19th century) and consequently study their role in mitigating the racial wealth gap. We employ a difference in differences strategy exploiting the dynamic introduction (and closures) of Back Banks in US counties over the long run to assess a causal effect that goes from Black Bank exposure to African American homeownership. We show that Black banks significantly and robustly spurred Black homeownership, a first order indicator of wealth accumulation, in the counties in which they were present. Closures of Back Banks on the other hand had a lopsided effect and led to a decline in African American Homeownership. Our analysis therefore sheds new light on the debate on whether financial institutions catering minorities are beneficial or not. Time varying estimates indicate that this boost in homeownership is primarily present in the first two decades after the first introduction of a Black Bank and levels off in the subsequent decades. These findings are robust to matching, controlling for heterogenous treatment effects and alleviating concerns of nonrandom assignment as well as various definitions of Black Bank exposure. A natural question to ask would be through which

[17] Lastly, we study spillover effects of Black Bank Exposure to neighboring counties in the Appendix and present the results in Section A.3.1. of the Appendix. Noteworthy is that there are some indications of spill-over effects, but these effects diminish the further away the counties are located from a county that has Black Bank presence.

channels Black Bank exposure boosts African American homeownership. We leave this question for follow up research.

References

Aaronson, Daniel, Daniel Hartley, and Bhashkar Mazumder, "The effects of the 1930s HOLC "redlining" maps," *American Economic Journal: Economic Policy*, 2021, *13* (4), 355–392.

Ammons, Lila, "The evolution of Black-owned banks in the United States between the 1880s and 1990s," *Journal of Black Studies*, 1996, *26* (4), 467–489.

Baradaran, Mehrsa, *The color of money: Black banks and the racial wealth gap*, Harvard University Press, 2017.

Barr, Michael S, "Credit where it counts: The Community Reinvestment Act and its critics," *NYUL Rev.*, 2005, *80*, 513.

Bates, Timothy and William Bradford, "An analysis of the portfolio behavior of black-owned commercial banks," *The Journal of Finance*, 1980, *35* (3), 753–768.

Bento, Asia, "Banking for the Culture: Black-owned banks as cultural assets during the subprime lending boom," *Social Science Research*, 2024, *121*, 103025.

Berger, Allen N, Maryann Feldman, W Scott Langford, and Raluca A Roman, "'Let Us Put Our Moneys Together:'Minority-Owned Banks and Resilience to Crises," *Available at SSRN 4231594*, 2024.

Boerma, Job and Loukas Karabarbounis, "Reparations and persistent racial wealth gaps," *NBER Macroeconomics Annual*, 2023, *37* (1), 171–221.

Boustan, Leah P and Robert A Margo, "A silver lining to white flight? White suburbanization and African–American homeownership, 1940–1980," *Journal of Urban Economics*, 2013, *78*, 71–80.

Brimmer, Andrew F, "The black banks: An assessment of performance and prospects," *the Journal of Finance*, 1971, *26* (2), 379–405.

Butler, John Sibley, *Entrepreneurship and self-help among black Americans: A reconsideration of race and economics*, State University of New York Press, 2012.

Célérier, Claire and Purnoor Tak, "Exploiting Minorities through Advertising: Evidence from the Freedman's Savings Bank," Technical Report, Working Paper 2022.

Chaisemartin, Clément De and Xavier d'Haultfoeuille, "Fuzzy differences-in-differences," *The Review of Economic Studies*, 2018, *85* (2), 999–1028.

_ , Xavier d'Haultfoeuille, and Yannick Guyonvarch, "DID_MULTIPLEGT: Stata module to estimate sharp Difference-in-Difference designs with multiple groups and periods," Technical Report, HAL 2019.

Clarke, Geoffrey, "Banking on African-American business," *Unpublished working paper*, 2019.

Cole, John A, Alfred L Edwards, Earl G Hamilton, and Lucy J Reuben, "Black banks: a survey and analysis of the literature," *The Review of Black Political Economy*, 1985, *14* (1), 29–50.

Collins, William J, "The housing market impact of state-level anti-discrimination laws, 1960–1970," *Journal of Urban Economics*, 2004, *55* (3), 534–564.

_ **and Robert A Margo**, "Race and home ownership: A century-long view," *Explorations in Economic history*, 2001, *38* (1), 68–92.

_ **and** _ , "Race and Home Ownership from the End of the Civil War to the Present," *American Economic Review*, 2011, *101* (3), 355–359.

Derenoncourt, Ellora, Chi Hyun Kim, Moritz Kuhn, and Moritz Schularick, "Wealth of two nations: The US racial wealth gap, 1860–2020," *The Quarterly Journal of Economics*, 2024, *139* (2), 693–750.

Dube, Arindrajit, Daniele Girardi, Oscar Jorda, and Alan M Taylor, "A Local Projections Approach to Difference-in-Differences Event Studies," *NBER Working Paper*, 2023, (w31184).

Flögel, Franz and Tereza Hejnová, "The effects of regional banks on economic resilience during the COVID-19 pandemic and the global financial crisis a cross-country comparison of the European countries," Technical Report, IAT Discussion Paper 2021.

Guren, Adam M, Alisdair McKay, Emi Nakamura, and Jón Steinsson, "Housing wealth effects: The long view," *The Review of Economic Studies*, 2021, *88* (2), 669–707.

Haines, Michael R et al., "Historical, Demographic, Economic, and Social Data: The United States, 1790–2002," *Ann Arbor: Inter-university Consortium for Political and Social Research*, 2010.

Hakenes, Hendrik, Iftekhar Hasan, Philip Molyneux, and Ru Xie, "Small banks and local economic development," *Review of Finance*, 2015, *19* (2), 653–683.

Harris, Abram Lincoln, *The Negro As Capitalist: A Study Of Banking And Business Among American Negroes*, Ardent Media, 1936.

Hurtado, Agustin and Jung Sakong, "The effect of minority bank ownership on minority credit," *George J. Stigler Center for the Study of the Economy & the State Working Paper*, 2023, (325).

Iacoviello, Matteo, "Housing wealth and consumption," *FRB International Finance Discussion Paper*, 2011, (1027).

Jaremski, Matthew and David C Wheelock, "The founding of the federal reserve, the great depression, and the evolution of the us interbank network," *The Journal of Economic History*, 2020, *80* (1), 69–99.

_ **and Price V Fishback**, "Did inequality in farm sizes lead to suppression of banking and credit in the late nineteenth century?," *The Journal of Economic History*, 2018, *78* (1), 155–195.

Kwan, Simon, "Resilience of Community Banks in the Time of COVID-19," *FRBSF Economic Letter*, 2021, *2021* (06), 01–05.

Kwast, Myron L and Harold Black, "An analysis of the behavior of mature black-owned commercial banks," *Journal of Economics and Business*, 1983, *35* (1), 41–54.

Margo, Robert A, "Accumulation of property by southern blacks before World War I: Comment and further evidence," *The American Economic Review*, 1984, *74* (4), 768–776.

Meinster, David R and Elyas Elyasiani, "The performance of foreign owned, minority owned, and holding company owned banks in the US," *Journal of Banking & Finance*, 1988, *12* (2), 293–313.

Mian, Atif and Amir Sufi, "House price gains and US household spending from 2002 to 2006," Technical Report, National Bureau of Economic Research 2014.

Price, Douglas A, "Minority-owned banks: History and trends," *Economic commentary*, 1990, (7/1/1990).

Sodini, Paolo, Stijn Van Nieuwerburgh, Roine Vestman, and Ulf von Lilienfeld-Toal, "Identifying the benefits from homeownership: A Swedish experiment," *American Economic Review*, 2023, *113* (12), 3173–3212.

Stein, Luke CD and Constantine Yannelis, "Financial inclusion, human capital, and wealth accumulation: Evidence from the Freedman's savings bank," *Review of Financial Studies*, 2020, *33* (11), 5333–5377.

Todd, Tim, *Let Us Put Our Money Together: The Founding of America's First Black Banks*, Public Affairs Department of the Federal Reserve Bank of Kansas City, 2019.

Appendix

The Evolution and Economic impact of African American banks The USA from 1900 to present

Mintra Dwarkasing
Narly Dwarkasing
Yashvir Gangaram Panday
Lucia Gomez Llactahuamani

July 2024

Structure

This appendix is structured as follows. Appendix A.1 provides the variable list. Appendix A.2 provides additional robustness tests. Appendix A.3 presents additional results.

A.1 Variable list

Table A.1. Description of Variables used in this Study

Variable Name	Variable Definition	Source
Black Homeownership	The ratio of all African American households that own a house divided by all African American households within a county.	*US Census*
Exposure to Black Banks (number)	Exposure to Black Banks (number) is equal to the natural logarithm of the total number of black banks within a county. A black bank is defined as a bank that is owned by a African American investor.	*CL, NAC, AM*
Exposure to Black Banks (dummy)	Exposure to Black Banks (dummy) is a dummy variable that is equal to 1 if the number of black banks within a county is positive, and zero otherwise. A black bank is defined as a bank that is owned by an African American investor.	*CL, NAC, AM*
Total Population (ln)	The natural logarithm of the total population within a county.	*US Census*
Black Population (share)	The share of the total African American population within a county. The share is calculated by dividing the total African American population by the total population within a county.	*US Census*
Male Population (%)	The share of the total male population within a county. The share is calculated by dividing the total male population by the total population within a county.	*US Census*
Literate Poputation (ln)	The natural logarithm of the total population that can read and/or write in any language within a county.	*US Census*
Median Age (ln)	The natural logarithm of the median age of the total population within a county.	*US Census*
Number of banks (ln)	The natural logarithm of the total number of banks within a county.	*US Census*
Manufacturing establishments	The natural logarithm of the total number of manufacturing establishments within a county.	*US Census*
Church members (share)	The share of church members within a county. The share is calculated by dividing the number of church members by the total population within a county.	*ARDA*
Freedman dummy	A dummy variable that is equal to 1 if a Freedman bank was ever present within a county.	*SY*

Notes. The table defines the variables used in the analysis. Data sources include: US Census, ARDA = Association of Religion Data Archives, CL = Clarke (2019), HAR = Harris (1936), AM = Ammons (1996), SY= Stein and Yannelis (2020).

A.2 Robustness tests

A.2.1 1930-2000

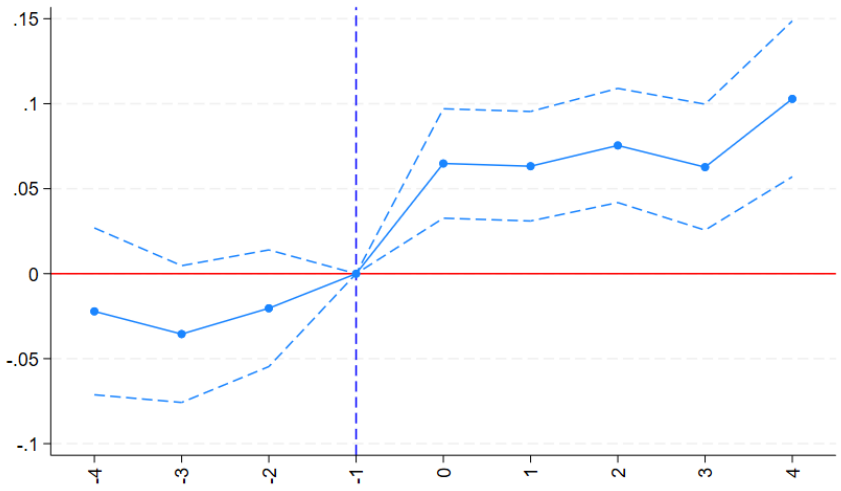
To obtain a more balanced event window for both the pre and post initial Black Bank Exposure decade years we once again rerun Equation (3) but now requiring at least 3 decades pre initial Black Bank Exposure to be available, maintaining an event window of 8 decades. Note that this boils down to analyzing the period between the years 1930-2000.

Table A.2. DID specifications explaining black homeownership 1930 - 2000

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate				
Treat × Post	0.018	0.090***	0.089***	0.081***	0.083***
	(0.017)	(0.019)	(0.020)	(0.020)	(0.021)
Total population (ln)		-0.032***	-0.043***	-0.060***	-0.058***
		(0.010)	(0.010)	(0.010)	(0.011)
Literate population (share)		0.190***	0.166***	0.097	0.113
		(0.049)	(0.050)	(0.083)	(0.084)
Black population (share)		-0.427***	-0.415***	-0.180***	-0.153***
		(0.047)	(0.048)	(0.039)	(0.041)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	10,139	9,916	9,810	9,897	9,797
Counties	1399	1399	1396	1397	1395
Mean of Dep. Variable	0.435	0.438	0.440	0.438	0.440
Adjusted R-squared	0.397	0.433	0.441	0.512	0.516
Economic Relevance	0.041	0.205	0.202	0.185	0.189

Notes. This table presents the results from Equation (3) in which we analyze the impact of a county's exposure to a black bank opening on the county's black homeownership rate. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the a sample where opening events and closing events can both occur within the same county between 1930 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.1. DID



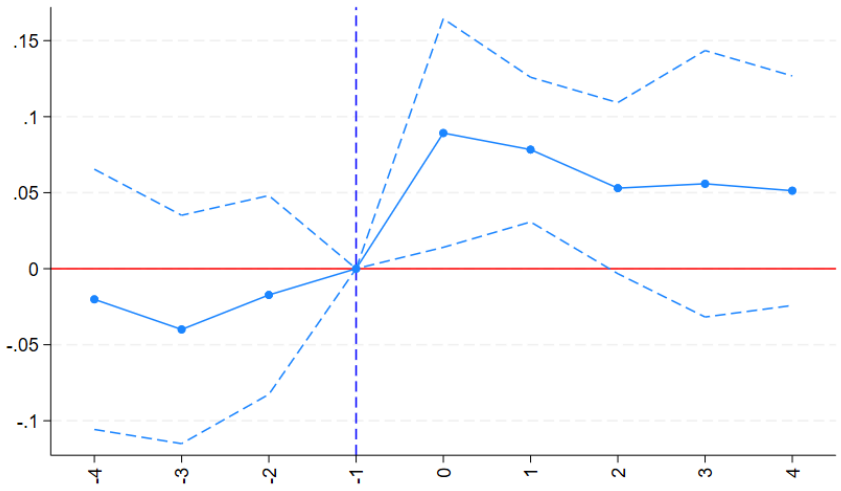
Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the a sample where opening events and closing events can both occur within the same county between 1930 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $(\text{Black population (share)})_{it-1}$, $(\text{Male population (share)})_{it-1}$, $\ln(\text{Median age})_{it-1}$, $(\text{Literate population (share)})_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $(\text{Church member population (share)})_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Table A.3. DID specifications explaining black homeownership 1930 - 2000 - Clean openings

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate				
Treat × Post	-0.027	0.071	0.069	0.087**	0.085**
	(0.040)	(0.053)	(0.054)	(0.039)	(0.040)
Total population (ln)		-0.021**	-0.032***	-0.045***	-0.045***
		(0.009)	(0.010)	(0.009)	(0.010)
Literate population (share)		0.237***	0.194***	0.106	0.082
		(0.055)	(0.056)	(0.091)	(0.090)
Black population (share)		-0.448***	-0.438***	-0.170***	-0.168***
		(0.051)	(0.053)	(0.043)	(0.044)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	9,972	9,728	9,611	9,709	9,592
Counties	1369	1369	1365	1367	1363
Mean of Dep. Variable	0.430	0.433	0.435	0.433	0.435
Adjusted R-squared	0.383	0.418	0.427	0.485	0.489
Economic Relevance	-0.063	0.164	0.159	0.201	0.195

Notes. This table presents the results from Equation (3) in which we analyze the impact of a county's exposure to a black bank opening on the county's black homeownership rate. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the a sample where only opening events occur within the same county between 1930 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.2. DID - Clean openings



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the a sample where only opening events occur within the same county between 1930 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

A.2.2 Nearby counties

The descriptive statistics in Table II show that treatment counties and control counties differ with respect to some observable dimensions. Treatment counties are on average more populated, better educated and younger compared to control counties. To minimize the effect of both observable and unobservable dimensions, we repeat the analysis on a sample where only treatment counties and the corresponding adjacent control counties are included.

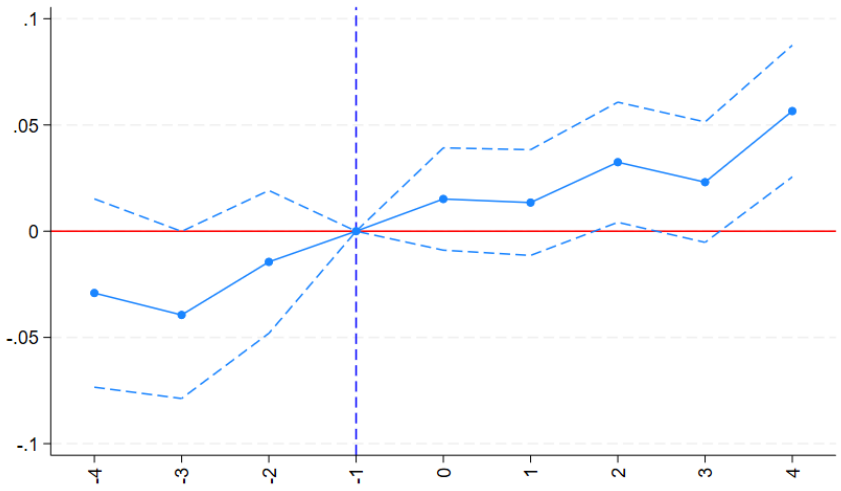
Tables A.4 and A.5 show that the results stay qualitatively similar to the results presented in Section **??**.

Table A.4. DID specifications explaining black homeownership 1910 - 2000

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate				
Treat × Post	-0.023	0.046***	0.041**	0.037**	0.036*
	(0.017)	(0.017)	(0.018)	(0.019)	(0.019)
Total population (ln)		-0.041***	-0.050***	-0.041***	-0.041***
		(0.009)	(0.010)	(0.010)	(0.010)
Literate population (share)		0.066	0.027	0.117*	0.140**
		(0.043)	(0.044)	(0.068)	(0.069)
Black population (share)		-0.345***	-0.349***	-0.136***	-0.117***
		(0.043)	(0.046)	(0.040)	(0.042)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	6,486	6,416	6,210	6,385	6,188
Counties	946	946	944	943	942
Mean of Dep. Variable	0.417	0.418	0.417	0.419	0.417
Adjusted R-squared	0.604	0.653	0.666	0.728	0.739
Economic Relevance	-0.055	0.110	0.098	0.088	0.086

Notes. This table presents the results from Equation (3) in which we analyze the impact of a county's exposure to a black bank opening to the county's black homeownership rate using a sample of treatment and neighboring counties. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.3. DID



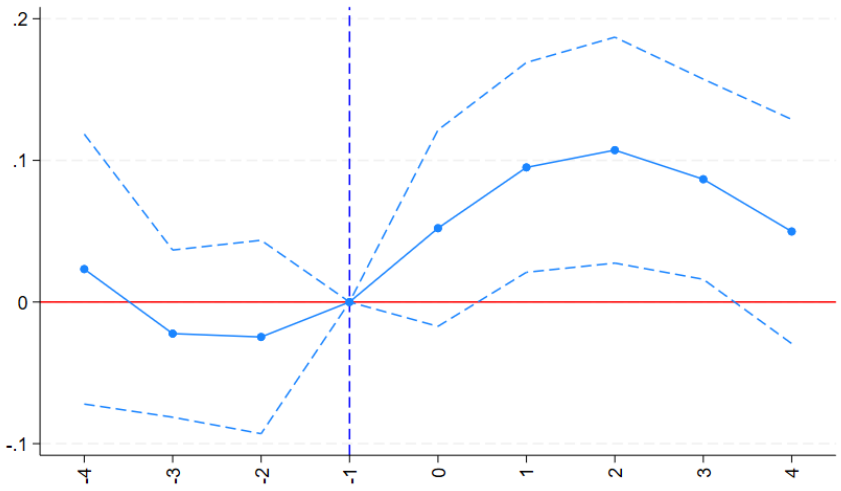
Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 using a sample of treatment and neighboring counties. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Table A.5. DID specifications explaining black homeownership 1910 - 2000 - Clean openings

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate				
Treat × Post	-0.004	0.081*	0.081*	0.079**	0.083**
	(0.039)	(0.047)	(0.047)	(0.040)	(0.040)
Total population (ln)		-0.001	-0.015	-0.019	-0.017
		(0.022)	(0.023)	(0.032)	(0.033)
Literate population (share)		0.162	0.116	0.182	0.179
		(0.114)	(0.117)	(0.199)	(0.187)
Black population (share)		-0.265**	-0.266**	-0.003	0.034
		(0.118)	(0.126)	(0.138)	(0.141)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	1,248	1,233	1,220	1,209	1,196
Counties	181	181	181	179	179
Mean of Dep. Variable	0.424	0.425	0.426	0.425	0.427
Adjusted R-squared	0.500	0.559	0.564	0.608	0.612
Economic Relevance	-0.009	0.191	0.190	0.186	0.194

Notes. This table presents the results from Equation (3) in which we analyze the impact of a county's exposure to a black bank opening to the county's black homeownership rate using a sample of treatment and neighboring counties. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) to (5) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the restricted sample, meaning that only opening events occur within the same county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.4. DID - Clean openings



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 using a sample of treatment and neighboring counties. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the restricted sample, meaning that only opening events occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

A.2.3 Placebo opening

A potential issue with our results may be that the black bank opening may have amplified the effects of another trend that was present before the black bank opening that impacted treatment counties more compared to control counties. In this placebo test, we test whether the trend documented in tables IX and X already existed

The results presented in Tables A.6 and A.7 do not indicate the existence of a pre-trend, as all coefficients are found to be insignificant at any conventional significance level.

Table A.6. DID specifications explaining black homeownership 1900 - 2000

	(1)	(2)
	Dependent Variable: Black Homeownership Rate	
Treat × Post	0.006	0.002
	(0.020)	(0.021)
L10.Total population (ln)	-0.053***	-0.044***
	(0.013)	(0.014)
Literate population (share)	-0.133	-0.120
	(0.091)	(0.090)
L10.Black population (share)	-0.078	0.038
	(0.059)	(0.062)
Year FE	Yes	Yes
County FE	Yes	Yes
State-year FE	Yes	Yes
Controls	Yes	Yes
Additional Controls	No	Yes
Observations	6,920	6,328
Counties	1956	1809
Mean of Dep. Variable	0.403	0.396
Adjusted R-squared	0.623	0.640

Notes. This table presents the results from Equation (3) where we perform a placebo test described in Section A.2.3. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) and (2) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Table A.7. DID specifications explaining black homeownership 1900 - 2000

	(1)	(2)
	Dependent Variable: Black Homeownership Rate	
Treat × Post	-0.024	-0.014
	(0.040)	(0.040)
L10.Total population (ln)	0.006	-0.003
	(0.014)	(0.015)
Literate population (share)	-0.031	-0.024
	(0.090)	(0.089)
L10.Black population (share)	-0.053	-0.037
	(0.054)	(0.055)
Year FE	Yes	Yes
County FE	Yes	Yes
State-year FE	Yes	Yes
Controls	Yes	Yes
Additional Controls	No	Yes
Observations	6,852	6,256
Counties	1938	1792
Mean of Dep. Variable	0.404	0.398
Adjusted R-squared	0.599	0.629

Notes. This table presents the results from Equation (3) where we perform a placebo test described in Section A.2.3. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) and (2) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the restricted sample, meaning that only opening events occur within the same county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: ln(Total population)$_{it-1}$, Black population (share)$_{it-1}$, Male population (share)$_{it-1}$, ln(Median age)$_{it-1}$ and Literate population (share)$_{it-1}$. Additional controls include the following variables: ln(Total number of banks)$_{it-1}$, Church member population (share)$_{it-1}$ and ln(Manufacturing establishments)$_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

A.2.4 Matched sample

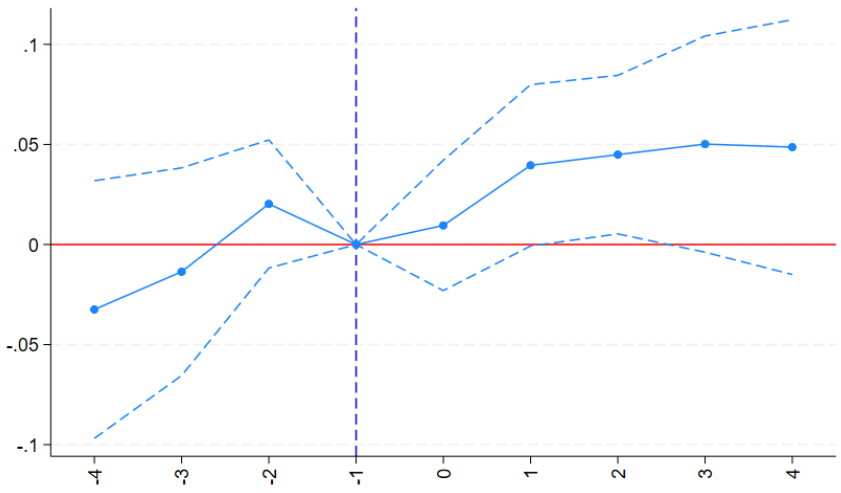
In a similar thought we also rerun Equation (3) on a matched sample, where we match treated and control counties on key observables, which are presented in Table A.8. The time varying estimates are presented in Figure A.5 and show again a slight indication that Black Bank exposure spurs Black Homeownership. In addition, we study dynamic heterogenous treatment effects for the matched sample in Figure A.6 and Figure A.7.

Table A.8. Descriptive statistics Matched sample

	Treatment counties Mean	Control counties Mean
Matched sample characteristics		
Total population (ln)	10.83	10.58
Black population (share)	0.31	0.27
Male population (share)	0.51	0.50
Median age (ln)	3.15	3.15
Literate population (share)	0.63	0.64
Church member population (share)	0.49	0.47
Total number of banks (ln)	1.74	1.59

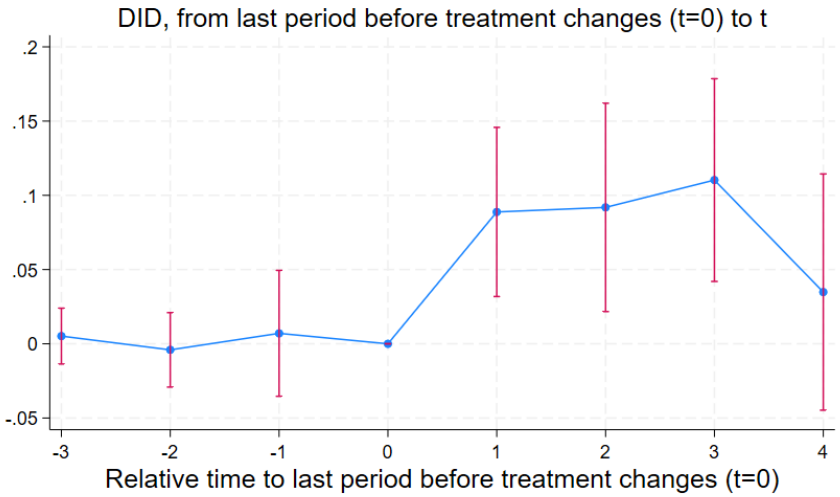
Notes. The table reports the descriptive statistics of the matched sample based on 1900 values. Treatment counties are counties that ever experience a black bank opening between 1900 and 2000. Control counties are counties that never experience a black bank opening between 1900 and 2000. All variables are described in Appendix Table A.1.

Figure A.5. Matched sample 0 - 3



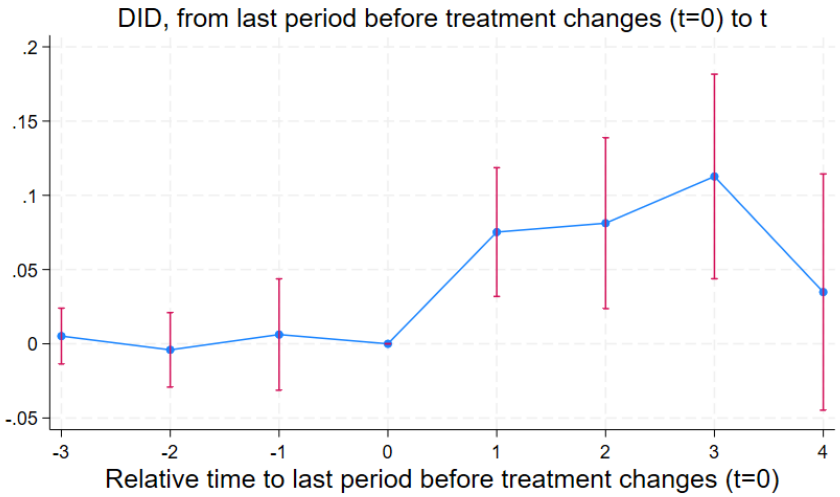
Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 using the matched sample. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Figure A.6. Multiplegt Matched Sample (Open Dummy)



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 using the matched sample. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Figure A.7. Multiplegt Matched Sample (Black Bank Dummy)



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 using the matched sample. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on the full sample, meaning that opening events and closing events can both occur within the same county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

A.3 Additional results

A.3.1 Spillover effects

In this part, we analyze whether the positive effect of the exposure to Black banks within a county on black homeownership found in Section **??**, spills over to neighboring counties. We construct three groups of treatment counties based on the location of the treatment counties, starting with the neighboring counties of the treatment counties for group 1. Treatment counties in group 2 consist of the outside neighboring counties of group 1 and treatment counties in group 3 consist of the outside neighboring counties of group 2. A county is a neighbor to another county if they share borders. Further, the treatment year of counties within groups 1, 2 and 3 is set to the treatment year of the treatment county to which they are a neighbor. We repeat the DID analysis described in Section **??** with the difference being that the treatment counties are defined in groups 1, 2 and 3, with all other counties in the control group.

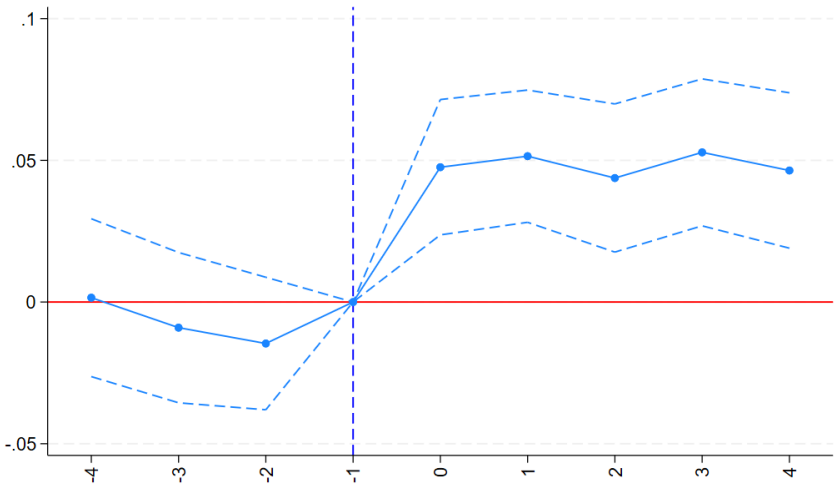
The results for the unrestricted sample are reported in tables A.9, A.10 and A.11, where we observe a decreasing spill over effect as we move further away from the original treatment county. The unreported results for the restricted sample were found to be insignificant, indicating no spill over effect. Group 1 counties experience an increase of 5.4% in black homeownership, significant at the 1% level, ceteris paribus, group 2 counties experience a smaller increase of 2.6% in black homeownership, significant at the 10% level, ceteris paribus and group 3 counties do not experience any spill over effects.

Table A.9. DID specifications explaining black homeownership 1900 - 2000

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%) - DID - Unrestricted				
Treat × Post	0.058***	0.067***	0.066***	0.055***	0.054***
	(0.015)	(0.014)	(0.014)	(0.013)	(0.013)
L10.Total population (ln)		-0.017*	-0.020**	-0.029***	-0.028***
		(0.009)	(0.010)	(0.010)	(0.010)
L10.Literate population (ln)		0.011***	0.011**	0.000	0.001
		(0.004)	(0.004)	(0.005)	(0.005)
L10.Black population (share)		-0.457***	-0.459***	-0.148***	-0.131***
		(0.049)	(0.050)	(0.042)	(0.043)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	14,236	13,374	13,311	13,369	13,306
Counties	2124	2122	2118	2122	2118
Mean of Dep. Variable	0.420	0.425	0.424	0.425	0.424
Adjusted R-squared	0.387	0.426	0.426	0.476	0.477
Economic Relevance	0.138	0.158	0.156	0.129	0.127

Notes. This table presents the results from Equation (3) where we perform the robustness test described in Section A.3.1. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) and (2) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on a sample of first round treatment county neighbors all control counties, where opening events and closing events could occur within the same treatment county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.8. DID



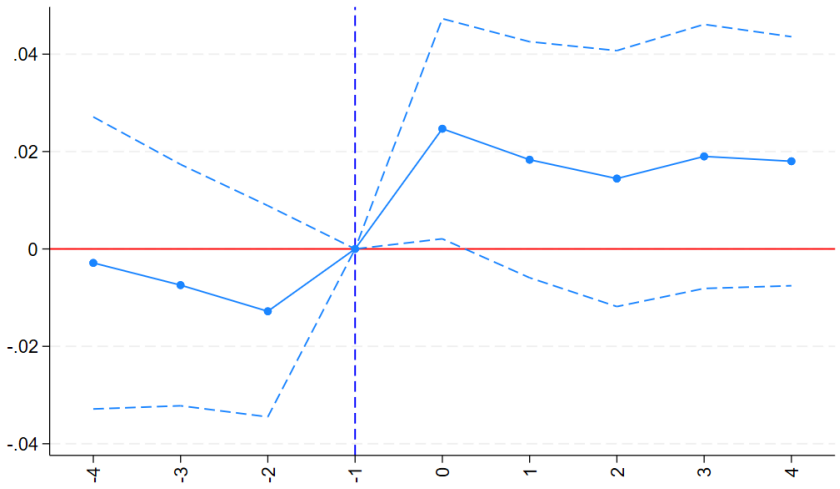
Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 for the robustness test described in Section A.3.1. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on a sample of first round treatment county neighbors all control counties, where opening events and closing events could occur within the same treatment county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Table A.10. DID specifications explaining black homeownership 1900 - 2000

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%) - DID - Unrestricted				
Treat × Post	0.016	0.029**	0.029**	0.027**	0.026*
	(0.014)	(0.014)	(0.014)	(0.013)	(0.013)
L10.Total population (ln)		-0.019**	-0.022**	-0.031***	-0.029***
		(0.009)	(0.010)	(0.010)	(0.010)
L10.Literate population (ln)		0.011***	0.010**	0.000	0.001
		(0.004)	(0.004)	(0.005)	(0.005)
L10.Black population (share)		-0.466***	-0.466***	-0.173***	-0.164***
		(0.045)	(0.047)	(0.040)	(0.041)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	15,479	14,502	14,436	14,497	14,431
Counties	2324	2322	2317	2322	2317
Mean of Dep. Variable	0.422	0.426	0.426	0.426	0.426
Adjusted R-squared	0.399	0.441	0.441	0.491	0.491
Economic Relevance	0.038	0.068	0.068	0.063	0.061

Notes. This table presents the results from Equation (3) where we perform the robustness test described in Section A.3.1. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) and (2) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on a sample of second round treatment county neighbors all control counties, where opening events and closing events could occur within the same treatment county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.9. DID



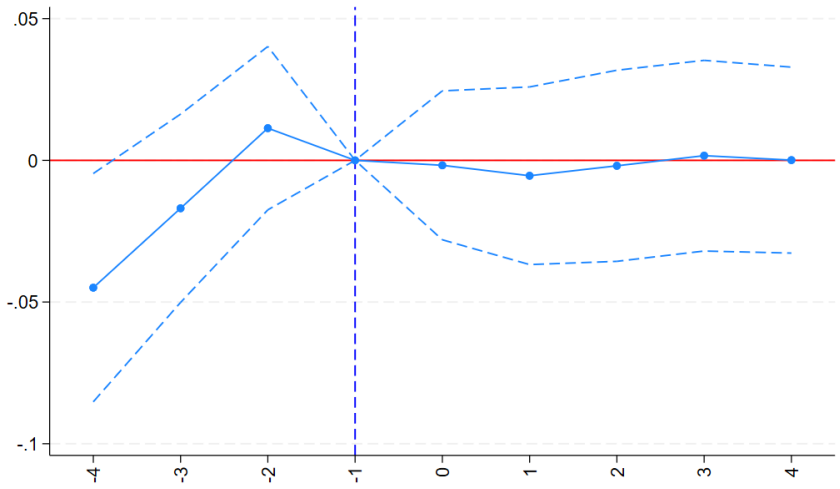
Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 for the robustness test described in Section A.3.1. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on a sample of second round treatment county neighbors all control counties, where opening events and closing events could occur within the same treatment county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.

Table A.11. DID specifications explaining black homeownership 1900 - 2000

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Black Homeownership Rate (%) - DID - Unrestricted				
Treat × Post	0.004	0.001	0.001	0.005	0.006
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
L10.Total population (ln)		-0.006	-0.007	-0.024*	-0.024*
		(0.012)	(0.012)	(0.012)	(0.013)
L10.Literate population (ln)		0.012**	0.012**	0.003	0.004
		(0.005)	(0.005)	(0.006)	(0.006)
L10.Black population (share)		-0.469***	-0.462***	-0.181***	-0.159***
		(0.061)	(0.063)	(0.059)	(0.061)
Year FE	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State-year FE	No	No	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Additional Controls	No	No	Yes	No	Yes
Observations	11,747	10,955	10,900	10,935	10,880
Counties	1787	1786	1782	1785	1781
Mean of Dep. Variable	0.419	0.424	0.424	0.424	0.424
Adjusted R-squared	0.374	0.408	0.408	0.448	0.449
Economic Relevance	0.010	0.002	0.002	0.012	0.014

Notes. This table presents the results from Equation (3) where we perform the robustness test described in Section A.3.1. The unit of observation is county i, decennial year t. The dependent variable in Columns (1) and (2) is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. *Post* equals one after a black bank has opened within a county, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on a sample of third round treatment county neighbors all control counties, where opening events and closing events could occur within the same treatment county between 1910 and 2000. All models include county and time fixed effects. State-year fixed effects, controls and additional controls are included whenever indicated. Controls include the following variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$ and $\text{Literate population (share)}_{it-1}$. Additional controls include the following variables: $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. All estimated coefficients are reported in each first row with standard errors in parentheses clustered at the county level. ***, ** and * indicate significance at the 1%, 5% and 10% level respectively.

Figure A.10. DID



Notes. This figure shows the impact of a county's exposure to a black bank opening on the county's black homeownership rate by plotting the decennial year estimates from Equation (3) between 1910 and 2000 for the robustness test described in Section A.3.1. The unit of observation is county i, decennial year t. The dependent variable is the *Black Homeownership Rate*, i.e., the total number of African-American households that are home owners divided all African-American households within a county. *Treat* equals one if a black bank has ever opened within the county between 1910 and 2000, and zero otherwise. The sample period is from 1910 to 2000 and the analysis is performed on a sample of third round treatment county neighbors all control counties, where opening events and closing events could occur within the same treatment county between 1910 and 2000. The model includes county fixed effects, time fixed effects, state-year fixed effects and the following control variables: $\ln(\text{Total population})_{it-1}$, $\text{Black population (share)}_{it-1}$, $\text{Male population (share)}_{it-1}$, $\ln(\text{Median age})_{it-1}$, $\text{Literate population (share)}_{it-1}$, $\ln(\text{Total number of banks})_{it-1}$, $\text{Church member population (share)}_{it-1}$ and $\ln(\text{Manufacturing establishments})_{it-1}$. All variables are described in Appendix Table A.1. Standard errors clustered at the county level and we report 90% confidence intervals.