Racial Representation, Segregation, and Sorting

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Abstract: The Black population in U.S. cities has declined in recent decades. Whether this is due to more appealing amenities in the suburbs or the rising cost of living in cities and displacement, politics might have a role in shaping demographic trends. This paper investigates the impact of electing a Black mayor on the location choices of Black and white individuals. Utilizing data from closely contested mayoral elections and a migration dataset I constructed from North Carolina voter registration records, I establish causal links between the presence of a Black mayor and individual location decisions within and across cities. The analysis reveals that having a Black mayor leads to a 4% net increase in the population of majority-Black neighborhoods and a 2% rise in white neighborhoods. These findings are corroborated by tract-level data from 120 major U.S. cities. In majority-Black neighborhoods, the net population increase is attributed to the reduced out-migration of both Black and white residents, coupled with an influx of Black individuals from outside the city. In white neighborhoods, out-migration decreases for residents of both racial groups. The net effect of these changes is an increase in racial segregation arising from the increased concentration of Black individuals in majority-Black neighborhoods. Further analysis into the underlying mechanisms shows that Black representation narrows the amenities disparity between majority-Black and white neighborhoods, and shifts local media focus towards Black neighborhoods.

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1 Introduction

Historically, the migration of Black individuals into the central neighborhoods of major U.S. cities occurred alongside a suburbanization trend among white households (Boustan, 2010). However, Over the last 50 years, the percentage of Black residents in the 40 most populous central cities has decreased from 40% to 24% (Bartik and Mast, 2022). This trend intensified after 2000, with a significant reduction of 300,000 Black individuals in the central cities of the 100 largest metropolitan areas between 2000 and 2010. Major cities that were key hubs during the Great Migration, such as Detroit, Chicago, New York, Atlanta, Dallas, and Los Angeles, have all experienced a decline in their Black demographics (Frey, 2018). As suggested by Bartik and Mast (2022), the decrease in the urban Black population is largely due to the differences in amenities between Black urban neighborhoods and suburban areas. Black households moving to the suburbs generally had higher incomes than those who stayed in the city . In contrast, those who chose to stay, are primarily the economically disadvantaged and the elderly.

On the other hand, the past decades have seen a marked increase in the number of minority elected officials, at all levels of government in the United States. The Voting Rights Act (VRA) of 1965 and its later amendments gave voting rights to African Americans and promoted greater representation of minorities in elected office (Grofman, Handley, and Niemi, 1992). Today, more than one-third of the US's 100 largest cities are governed by African Americans. However, social and economic racial gaps remain wide. Historically Black neighborhoods in urban areas have suffered from a loss of vitality, leading to a sense of hopelessness and diminishing prospects for improvement. The impact of having Black officials on majority-Black neighborhoods, and the well-being of their Black constituents remains an open question. Does having a Black leader reduce racial gaps through fairer public policies, and counteract the trend of Black flight? This paper aims to explore this question. I investigate how changes in Black representation affect the migration choices of different racial groups, both within and across municipalities. This research also delves into overall segregation patterns and the public provision in various neighborhoods.

Using North Carolina voter registration files, I constructed a migration database. The individual-level migration dataset enables me to track each voter's moving decisions both within and across cities and to conduct a heterogeneous analysis for different racial groups. When this database is combined with neighborhood-level demographic data, it provides a more comprehensive assessment of the impact of Black mayors on racial dynamics. To estimate the causal effect of Black mayors on the migration decisions of different racial groups, I employ a stacked difference-in-differences design using close mayoral elections between Black and white candidates in North Carolina. Furthermore, I expand my sample to 120 major U.S. cities. Using aggregated Census population data at the tract level, I can examine the impact of Black mayors on a broader sample (but with less detailed migration data).

In North Carolina cities, I find that electing Black mayors led to a net increase in population across majority-Black neighborhoods (4%), diverse neighborhoods (0.8%), and white neighborhoods (2%). [1] Across the city, the election of Black mayors results in a more significant net growth in the Black population (1.2%) compared to the white population (0.6%). Specifically, Black mayors have attracted approximately equal proportions of Black and white residents to predominantly Black neighborhoods— both groups grew by around 4% relative to their population shares. In white neighborhoods where the Black population is less than 30%, there is a pronounced 6% increase in Black residents compared to a 2% rise in white residents. Additionally, When expanding the analysis to encompass 120 major U.S. cities, the trends observed in North Carolina largely mirror those in these cities.

Nonetheless, merely examining the shifts in population distribution among racial groups in various neighborhoods does not furnish the full context. A specific contribution of this paper is that I can observe not just population changes, but the source and destination of migrants. A deeper dive into migration decomposition reveals that, on average, the net population growth is mainly due to a reduction in migration outflows. The rise in population in predominantly Black neighborhoods primarily stems from a drop in the departure rates of both Black (7%) and white (4%) residents. In diverse neighborhoods, the increase is mainly attributed to a 1.7% decrease in Black residents' outflows. In white neighborhoods, there is a 1.4% increase in white residents' inflows and a concurrent decrease in both Black and white residents' outflows. Based on revealed residential preferences, the presence of a Black mayor benefits current residents. Predominantly

[1]In this paper, I define diverse neighborhoods as those in which 30% to 50% of the population is Black, white neighborhoods as those in which Blacks constitute less than 30% of the population.

Black neighborhoods witness the most significant positive changes, notably a reversal of the Black flight trend.

The considerable increase in Black residents in majority-Black neighborhoods and white residents in white neighborhoods could potentially increase segregation. This hypothesis is further substantiated through the examination of changes in racial composition and segregation patterns. I find that having a Black mayor boosts the concentration of the Black population in majority-Black neighborhoods of a city, and amplifies city-level segregation.

The findings on migration and segregation presented above suggest the potential implementation of place-based intervention or resource redistribution under the leadership of a Black mayor. Later in the mechanism section, I first show that having a Black mayor improves the amenity conditions in majority-Black neighborhoods using the entry of polluting facilities across neighborhoods as a neighborhood-level amenity measure. Secondly, the presence of a Black mayor redirects public attention towards majority-Black neighborhoods, which in turn brings their issues more prominence in public discourse. Through my data collection from local newspaper coverage in major U.S. cities, I find that Black neighborhoods receive significantly more frequent coverage in local newspapers following the inauguration of a Black mayor.

This paper contributes to work on minority representation. Logan (2020) found that during Reconstruction, a politician's race impacted public finance and social outcomes. Cascio and Washington (2014) highlighted the pivotal role of the 1965 Voting Rights Act in improving the economic conditions of Black Americans after the 1950s. In more recent decades, Researchers have considered the impact of increasingly diverse representation on local government spending patterns with mixed results (Beach and Jones, 2017; Hopkins and McCabe, 2012). Other studies have focused on housing prices (Beach et al., 2018), employment and the number of businesses (Sakong, 2021; Sylvera, 2021; Nye, Rainer, and Stratmann, 2015). The above papers differ in methods and samples, while all used aggregated level data and focused on some large U.S. cities. How mayors affect employment in different sectors may be ambiguous. However, mayors can affect resource allocations across different neighborhoods through discretionary investment in local amenities, which can directly change individuals' lives. I propose a new measure to evaluate the Black mayor's influence — individual location choice. The new measure provides richer information for the foot voting behavior across different race/ethnic groups, directly reflecting one's preference's change from having Black mayors. In addition, I evaluate Black mayors' impacts on both North Carolina and the top 120 MSA major cities in the U.S., a larger and more representative sample. The findings of this paper align with the conclusions drawn by Beach et al. (2018), who uses housing prices as an indirect proxy for consumer demand. They find that nonwhite candidates generate differential gains in housing prices in majority nonwhite neighborhoods. This is consistent with my findings that fewer Black people are leaving Black neighborhoods, and are receiving people moving in outside of the city. This paper also adds to a small but growing literature on Black flight (Bartik and Mast, 2022; Baum-Snow and Hartley, 2020), by providing evidence that Black representation has the potential to mitigate Black flight by increasing Black neighborhoods' attractiveness in urban areas.

Additionally, My findings narrow the gap between theoretical and empirical work on racial inequality and segregation by providing rich empirical evidence for both theories papers on racial sorting and segregation (Banzhaf and Walsh, 2013) and empirical papers using aggregated level data (Bayer, Fang, and McMillan, 2014). Banzhaf and Walsh (2013) argue that, when sorting is driven by tastes for the exogenous public good and by demographic tastes, place-based interventions aimed at improving the provision of public goods in high-minority communities that receive less investment can attract wealthier minorities to move back from black neighborhoods, and lead to an unintentional increase in group segregation. Using education level as a proxy for minority groups' class and tract-level minority group ratio, Bayer, Fang, and McMillan (2014) also provide empirical evidence that the emergence of middle-class Black neighborhoods can increase segregation in American cities. This paper's findings align with the arguments presented in those studies. The redistribution of more resources to majority-Black neighborhoods by Black mayors encourages higher retention of the Black population in these areas, inadvertently increasing segregation.

Finally, I contribute to the literature on place-based investment and redistribution (Gaubert, Kline, and Yagan, 2021; Kline and Moretti, 2014; Neumark and Simpson, 2015). Place-based policies necessitate initiation and enforcement by local governments. This study's findings underscore a Black mayor's role in redirecting resources, including amenities and media resources, toward Black neighborhoods. This not only keeps both Black and white residents staying there, but also positively affects the surrounding areas, potentially fostering diverse and white neighborhoods.

The structure of the remaining parts of this paper is organized as follows. Section 2 introduces the institutional backdrop defining the extent of a mayor's power in the U.S. The third section delineates the data utilized and the methodologies adopted in this study. In Section 4, I present the primary findings, focusing on North Carolina and other principal cities in the U.S. Following this, Section 5 explores potential alternative mechanisms and discusses prospective implications. Section 6 is dedicated to verifying the robustness of the findings through various checks. The final section, Section 7, offers a conclusion.

2 Institutional background

Mayoral power in U.S. cities varies significantly depending on a variety of factors including the specific governing structure of the city, the particular powers vested in the mayor by the city's charter, and the political dynamics of the city at any given time. Generally, there are two forms of municipal government: Mayor-Council and Council-Manager. Under these two forms, the powers of a mayor can be categorized into two primary types: strong and weak.

In a Mayor-Council form of government, the mayor is elected as an executive leader, separate from the legislative body—i.e., city council. This system can be further divided into two categories: the strong Mayor-Council system and the weak Mayor-Council system. In the strong Mayor-Council system, The mayor has a high degree of control over the administrative and operational aspects of the city, including budgeting and financial management. She has the authority to veto legislation passed by the city council, and the sole power to appoint individuals to various city government positions, including department heads, without needing approval from the city council. Most major American cities use the strong-mayor form of the mayor–council system (e.g., New York, Houston, Salt Lake City, Minneapolis, Pittsburgh)(Lineberry, Edwards, and Wattenberg, 1983; Svara, 2003). Under the structure of a weak Mayor-Council system, the mayor's powers are more limited, with the city council holding more legislative and administrative authority. In North Carolina, mayor–council remains the principal form of local government (298/533), predominating among cities with populations below 2,500 (Upshaw, 2014).

Unlike the Mayor-Council system, cities operating under the Council-Manager framework assign the mayor to a role equivalent to other council members. In North Carolina, the majority of cities harboring over 2,500 residents have adopted this governance plan (Upshaw, 2014). As of 2001, the Council-Manager arrangement was prevalent across 3,302 American cities with a population exceeding 2,500, and 371 counties have embraced this system. It has especially garnered favor in municipalities housing over 10,000 inhabitants, notably in regions spanning the Southeast and the Pacific coast. Within this governance model, Phoenix, Arizona is the most populous city in the nation maintaining a Council-Manager system.

Since the onset of the 21st century, there are also hybrid structures that incorporate features from both Council-Manager and Mayor-Council frameworks, blending elements to suit specific local governance needs. Importantly, in the sample used for this analysis, 80% of the cities are operating under the Mayor-Council form, where the mayor's role is not just as the visible leader of the city, but also has more power in executive decisions, council voting influence, and the appointment of individuals to key positions.

3 Methods and Data

3.1 Data

3.1.1 Migration data

I have constructed individual migration records based on the Voter Registration file in North Carolina. This data is maintained by the North Carolina State Board of Elections and encompasses information on voters registered in North Carolina from 2005 to 2023.

The dataset includes details about each voter's registration status (e.g., active, removed) and the reason for that status. It also highlights voter demographics such as race, gender, and age, as well as party affiliation and residential addresses spanning from 2005 to the present day. Each voter has a unique ID, allowing for the tracking of individual voters across different locations and years within the state. By leveraging the extensive geographic data attached to each voter, I have converted every home address into corresponding census-tract and block-group categories using Geographic Information System (GIS) analysis. This conversion maps each voter's residence to various neighborhoods defined by either census tracts or block groups.

The North Carolina voter registration data is sourced from Voter Registration snapshot files. These files offer point-in-time snapshots of information for active voters, inactive voters, and voters removed within the previous decade. Ensuring the data's accuracy and relevance is an ongoing task. Snapshots are taken periodically, at least twice a year (once on Election Day and once at the beginning of each year), ensuring voters addresses are updated. A comprehensive overview of this data is available in the appendix.

I compiled a migration record for each valid voter using the North Carolina Voter Registration data from 2009 to 2020. Since every address has been geocoded and placed within specific block groups, I can observe which voters move in, move out, or stay in each block group per year based on annual address changes. I then calculate the number of inflows and outflows per year for each block group. The net population change within each block group at a specific time (t) is determined by subtracting the outflows from the inflows for that block group during that period (t). My primary focus for migration metrics pertains to the movements at the block group level, encompassing population inflows, outflows, and the overall net population change. I conduct analysis for all voters, white and Black voters, respectively.

In North Carolina, the legal age for voter registration is 18. Thus, I consider individuals aged 18 or 19 in the dataset new registrants rather than newcomers to the city. Conversely, those above the age of 75 who disappear from the dataset are likely deceased, not those who have relocated. My analysis focuses on the subset of voters who have registration records spanning more than two years out of the 12 total, and are over 18. I eliminated potential new registrants by excluding initial registrations for those under 20, and those likely deceased voters, by omitting the final registrations of those over 75. In my sample, 25% of the voters have been consistently registered for all 12 years, while 75% have kept their registration for over two years. In a robustness check, I introduced stricter criteria by excluding all initial and final registration records, but the results remained consistent.

How representative is the voter registration data? I conduced comparative analysis between the demographic information from voter registration records and the 2019-2020 census data for North Carolina at the tract level. To align with the age criteria used in the voter registration data, I limited the census data to individuals aged 20 to 75. I calculate the tract-level total population and population ratios for various racial groups, and gender ratios. Table 1 shows that, on average, within each tract, the voter registration data shows a smaller percentage of American Indian/Alaskan Native and Asian individuals. However, there is more significant representation for both Black and white populations, with a higher female-to-male ratio.

Table 2 displays summary statistics from the North Carolina voter registration data, highlighting block-group level migrations between 2009 and 2020. On average, within a block group, 75% of all move-ins come from outside the city, and 64% are from outside the county. In contrast, 69% of move-outs from a block group relocate beyond the city, and 54% leave the county.

To assess how well the Voter file captures migration more broadly, figure 1 contrasts the Internal Revenue Service (IRS) county migration statistics with the North Carolina voter county migration data, covering counties in my sample from 2012 to 2019. The IRS migration data tracks annual address changes from individual tax returns. The county-level inflow and outflow figures from my migration data correlate well with the IRS migration data, with correlation coefficients ranging from 0.8 to 1.5.

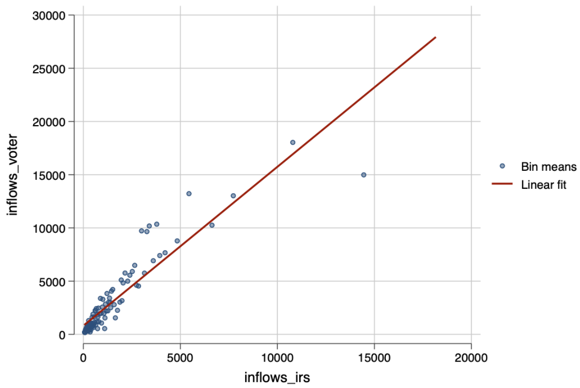
Table 1: *Summary Statistics of tract-level mean comparison*

Variable	NC census data	NC voter registration data	U.S. major cities census data
Total population	2825.919	2012.417	4193.500
Black share	0.229	0.241	0.258
White share	0.662	0.698	0.540
Others	0.130	0.110	0.201
Female/Male	1.072	1.221	1.080

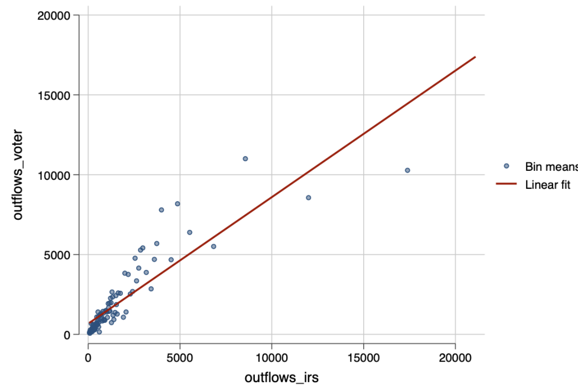
Table 2: *Summary statistics of inflows and outflows in NC migration data*

Variable	Obs	Mean	Std. Dev.	Min	Max	percent of total inflows/outflows
Blockgroup inflows	89,375	58.814	79.16	0	2355	1.000
City inflows	89,375	44.499	64.17	0	2329	0.757
County inflows	89,375	37.902	56.18	0	2323	0.644
Blockgroup outflows	81,688	45.079	53.10	0	3112	1.000
City outflows	81,688	30.940	38.90	0	1990	0.686
County inflows	81,688	24.378	32.20	0	1869	0.541

Figure 1: *Cross-county migration data comparison—voter data v.s. IRS data*



(a) *County-level inflows*



(b) *County-level outflows*

3.1.2 Elections Data

The mayoral election data for North Carolina are sourced from official records available on the North Carolina State Board of Elections website. This data encompasses three main categories: election returns, candidate filings, and voter registration details.

The election returns data are critical in pinpointing the specific instances and locations of closely contested city council elections. These records provide detailed information on each candidate, including their names, the offices for which they were vying, and their respective vote tallies for the election. My focus has been extracting data pertinent to mayoral candidates for the period spanning from 2009 to 2019.

The candidate-level data lacks personal details about the candidates, such as race, gender, or party affiliation. As such, I cannot directly use the election data to identify close elections between white and non-white candidates. To rectify this, I turn to voter registration files to provide the missing information. I match mayoral candidates from election returns with voter files using details like the candidate's name and city. However, candidates with common names could match multiple individuals in the voter registration files within the designated city. When this happens, the candidate filings data is incorporated. This data records everyone running for public office in North Carolina each year, and includes their residential addresses. First, I match candidates by name and city from the candidate filing data to determine their addresses. Then, I pair the zip code data with the election returns, reducing the chance of multiple matches. I should mention that some candidates remain unmatched, possibly due to name discrepancies between the election return data and the voter files (e.g., "John Smith" vs. "J. Brady Smith" or "John B. Smith"). To address this, I manually collect unmatched candidates' demographic details by examining various campaign websites[2] and local government platforms. In elections where more than two candidates are running for mayor, I focus on the top two vote-getters in the final round, emphasizing the "marginal" candidates. Table 3 Panel A displays summary statistics of these candidates' characteristics for my sample. In table A.1, I showcase the summary statistics of the candidates included in my final analysis sample, which is restricted to black and white candidates.

[2] https://www.ourcampaigns.com; https://ballotpedia.org

3.1.3 U.S. major cities sample

I collected election data related to mayoral races in the core cities of the 120 largest Metropolitan Statistical Areas (MSAs). This data comes from https://www.ourcampaigns.com and https://ballotpedia.org. These websites offer election results as well as detailed information about candidates, including their name, gender, and political affiliation. While the racial and/or ethnic backgrounds of many candidates are available, there are instances where this data is missing. To address this, I collected data manually, determining racial backgrounds through photographs from local government websites and local newspaper coverage. Table 3 Panel B provides summary statistics on these candidates' characteristics.

The migration results for the 120 major U.S. cities rely on annual population statistics at the tract level for different racial groups, covering the period from 2006 to 2019. This data is sourced from the U.S. Census Tract Population Data. [3] To align with the North Carolina migration data, the sample includes only individuals aged between 20 and 75 years. Table 1 summarizes this tract-level demographic information.

Table 3: *Summary statistics of mayoral election candidates*

Panel A: North Carolina mayor candidates characteristics			
	Percent		Percent
Black share	15.5%	Democratic	28.4%
White share	82.6%	Republican	16.8%
Others	1.9%	Non Partisan	44.5%
Female share	33.2%	Unaffiliated	10.1%
Panel B: U.S. major cities mayor candidates characteristics			
	Percent		Percent
Black share	21.0%	Democratic	54.5%
White share	72.2%	Republican	24.2%
Others	6.8%	Non Partisan	20.8%
Female share	23.6%	Unaffiliated	0.6%

[3] https://seer.cancer.gov/censustract-pops/

3.1.4 Analysis data

The election dataset for North Carolina encompasses mayoral elections from 2009 to 2019 in which one of the two top candidates (either the winner or the first runner-up) was white and the other was Black. I identified 216 distinct contests in 122 different municipalities that met this criteria. Of these, 55 contests in 48 municipalities are "close" with a victory margin of less than ten percentage points. After merging the election data with the migration data, we are left with a final count of 108 municipalities with 180 elections in total, and 39 municipalities with 46 elections for those contests decided by a margin of ten percentage points or fewer.

For the 120 major cities in the U.S., the final election dataset covers mayoral elections from 1999 to 2019. It highlights cases where one of the top two candidates (either the winner or the primary runner-up) was white, and the other was Black. This criteria fits 177 unique elections in 70 different municipalities. Of these, 44 elections in 32 municipalities were "close", defined as those with a victory margin of less than 10 percentage points.

When integrating the election data with migration data, I form a panel around each election. For every election, I incorporate four years of migration data preceding the new mayor taking office and four years following. However, due to uncertainties regarding the exact time mayors assume their positions, and because of policy shifts in election years (McCrary, 2002; Baicker and Jacobson, 2007), we exclude migration data from the election years.

Regarding migration data, I compile individual location choices at the tract level, organizing tracts into three categories: majority-Black tracts, where Black residents outnumber any other racial group; diverse tracts, where the Black population makes up 30% to 50% of the total; and white tracts, where all racial groups, except whites, comprise less than 30% of the population. I use demographic percentages from the 2010 census tract as the foundation for neighborhood classifications. The main findings are presented at the tract level, specifically within the three aforementioned neighborhood classifications.

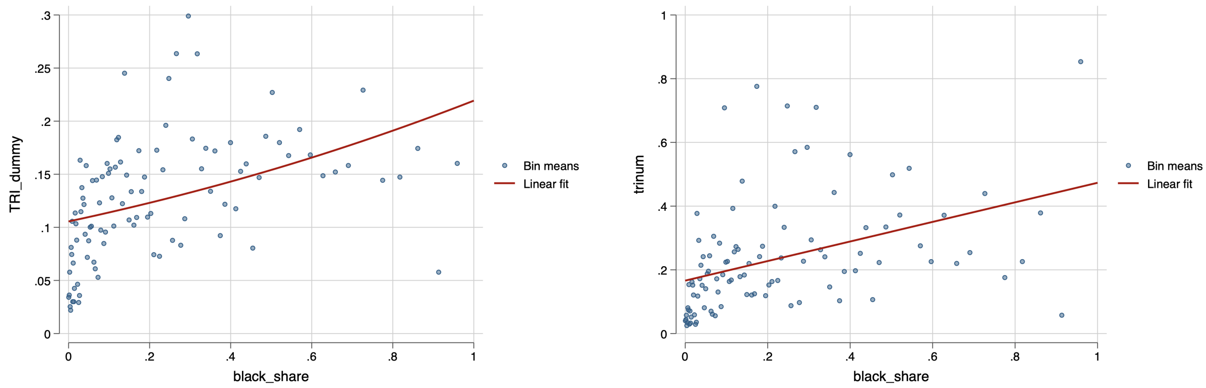
3.1.5 Other datasets

In the mechanisms section, I use the Toxics Release Inventory (TRI) numbers and public school enrollment data in North Carolina as indicators of neighborhood amenity levels. Additionally, I gather data from local newspapers and compile names of neighborhoods to assess media attention directed towards Black communities.

The Toxics Release Inventory (TRI) is a resource that monitors the management of specific toxic chemicals that could potentially harm human health and the environment. Annually, facilities across various U.S. industry sectors must report the amounts of these chemicals either released into the environment or managed through means like recycling, energy recovery, or treatment. This data is then compiled into the TRI. Typically, facilities reporting to TRI are large establishments in sectors such as manufacturing, metal mining, electric power generation, chemical production, and hazardous waste treatment. This data has been widely used as measures of pollution exposure for individuals and areas Banzhaf and Walsh (2008); Wang et al. (2021). Banzhaf and Walsh (2008) presents evidence suggesting that TRI facilities are linked to a deterioration in the socio-economic status of the community over time. For this research, I sourced the TRI data from the United States Environment Protection Agency's website. This data provides details such as each inventory site's name, its geographical coordinates (longitude and latitude), and the total amount of chemicals released. I then created two metrics to measure the environmental quality of individual neighborhoods. The first is a binary variable that becomes 1 if a given block group has any TRI sites situated within it. As of 2015, 13% of the block groups reported the presence of TRI facilities in North Carolina. The second metric denotes the total count of Toxics Release Inventories within each block group. Figure 2 visualizes the spread of TRI in relation to the proportion of Black residents in neighborhoods. The representation indicates a discernible positive association between the presence of TRI and the percentage of Black residents in a neighborhood (0.105 for whether the neighborhood has TRIs and 0.3 for the count of TRIs in each neighborhood).

The data on public school enrollment is sourced from The Education Data Portal database. My sample encompasses 2,600 K12 public schools listed in the Common Core of Data, spanning from 2004 to 2019. Among these, 30% qualify as majority-Black schools based on the proportion

Figure 2: *Toxic Release Inventories' distribution*



(a) *TRI dummy distribution* (b) *TRI numbers distribution*

of Black student enrollment, while 14% are situated in predominantly Black neighborhoods. Table A.2 provides a detailed overview of the demographic breakdown of school enrollments.

For the media coverage analysis, I concentrate on major U.S. cities due to the limited availability of digitized newspaper archives for North Carolina cities. I source the digital archives of local newspapers from two websites: newspaper.com and newsbank.com. By conducting a combined search across these databases, I collected any pages that mention both the name of a specific neighborhood and its associated city, in articles published between 2000 and 2019. I constructed two variables to measure local coverage of each neighborhood. The first variable represents the absolute number of pages that mention the neighborhood's name. The second variable indicates the proportion of coverage each neighborhood receives relative to the total coverage all local neighborhoods garner.

I derived the names of these neighborhoods from neighborhood boundary maps, which I personally gathered from each city's Planning and Development Department. Out of the 39 cities that experienced close elections (where a close election is defined by a vote share margin $\leq 15\%$), I managed to gather neighborhood names for 32 cities. To determine the demographics of each neighborhood and identify those that are Black neighborhoods, I overlaid the neighborhood boundaries with census block maps. Using this approach, I was able to compute the proportion of Black residents within each neighborhood by considering the ratio of neighborhood areas to the areas of the census blocks, supplemented with block-level data on racial demographics. Table A.3 provides a detailed breakdown of neighborhood demographics and media coverage for the subset of my data associated with close election cities. Given that the median proportion of Black residents in each neighborhood is 15.6%, I categorize neighborhoods with a Black population exceeding 30% as "Black neighborhoods" in my analysis. The analysis outcomes remain consistent when the categorization thresholds vary between 30% and 40%.

3.2 Methods

3.2.1 Baseline difference-in-difference specification

This paper adopts a difference-in-differences (DiD) methodology, paired with the intuition of a regression discontinuity approach. Due to the low number of municipalities and elections in the final dataset, I do not use a more typical regression discontinuity design. The canonical close-elections regression discontinuity design is grounded in exploiting post-election variations, aligning data to candidates' victory margins both below and above the winning threshold; this strategy ideally utilizes a substantial quantity of data points flanking the cutoff to fit the lines accurately and pinpoint the discontinuity precisely at the cutoff. However, given our smaller number of observations around the cut-off, a difference-in-differences approach, comparing averages before and after an event, imposes less structure. As such, it is a better fit for scenarios in which there is a smaller number of observations on either side of the cutoff. While identification at the cutoff is lost, the aim of the difference-in-differences design instead is to account for any unobserved confounders via fixed effects.

I also construct a panel around each relevant election event, to take advantage of the ability to observe both the pre- and the post-election outcomes of each election. Therefore, the difference-in-differences setup compares changes in migration outcomes before vs. after an election between a white and Black candidate in municipalities where the Black candidate narrowly won (relative to cities where the Black candidate narrowly lost). The estimating Equation is:

$$\text{Migration Outcome}_{bct} = \beta_1(\text{Black Win}_{ct} \times Post_t) + \beta_2\,\text{Post}_t + \theta_c + neigh_b + \tau_t \quad (1)$$

In the Equation, b indexes neighborhood, c elections, and t time periods (relative to the election year). Migration Outcome_{bct} is migration outcome at neighborhood b, city c during period t.

$1(\text{Black Win}_{ct})$ is an indicator variable equal to 1 if the Black mayor wins in election c. Post $_t$ is the time dummy which indicates whether it is pre- or post- the election. θ_c and τ_t controls the election-level fixed effect and year fixed effect. $neigh_b$ controls for the neighborhood fixed effect. $\beta 1$ identifies the differential effect of a Black mayor's win on the outcome.

However, I still draw on the regression discontinuity intuition that outcomes in narrowly contested elections are more plausibly exogenous than they would be in the full range of contests. As such, while the estimating Equation is a difference-in-difference specification, I restrict attention to narrowly decided contests (with margins of victory of less than 10-15 percentage points).[4] In my study, given that optimal bandwidths differ depending on the outcome variables and sample sizes, I start by determining the optimal bandwidths for three primary outcome variables—net population for all voters, net population for Black voters, and net population for white voters. I then average these three bandwidths to maintain consistency across various analyses and facilitate comparisons. Consequently, the bandwidth for the North Carolina sample stands at a 10% vote share margin, while for U.S. major cities, it is 13%. The appendix documents the robustness to other bandwidths ranging from 0.06 to 0.14. The estimation results are robust across multiple bandwidths. In addition, I plotted the event study graphs for my primary findings in the subsequent section. These graphs show no signs of violating the parallel assumption required for a difference-in-difference design.

3.2.2 Stacked difference-in-differences specification

Recent research has highlighted potential biases in two-way fixed effects difference-in-differences (TWFE-DID) estimates. These biases become particularly pronounced in situations that involve (1) staggered treatment implementations, as observed in this paper, and (2) variable dynamics of treatment effects, which should be expected in the context of the present study (Goodman-Bacon, 2021; Baker, Larcker, and Wang, 2022). The primary concern with the traditional TWFE-DID in staggered treatment scenarios is that units that have already been treated are used as references for

[4] Bandwidths of 10-15 percentage points were determined by collapsing the data to one observation per agency, measuring post vs. pre changes in the residualized outcomes (residualizing out the main set of fixed effects and controls used in our analysis). I then use theCalonico, Cattaneo, and Titiunik (2014) method, positing a polynomial of degree zero (to match that our analysis does not fit lines to either side of the cutoff), to identify the optimal bandwidths.

those awaiting treatment. This approach can compromise the consistent trends assumption.

In my analysis, I utilize the "stacked" difference-in-differences method (Cengiz et al., 2019). This approach classifies units (in this case, cities) based on the year they begin the treatment, which I term as "treatment year groups" or simply "groups". Within each group, I create data panels spanning four years before and four years after the treatment's commencement. For instance, for a city that started mayoral elections in 2014, I generate a unique panel covering data from 2010 to 2018. This panel incorporates not only the city that began the treatment in 2014 but also control units — cities that had not experienced the treatment until at least after 2018. This method allows for a comparison between cities that began the treatment in a specific year and the appropriate control cities within a set period, providing a more refined analysis.

The panels are designed to prevent overlapping treatments in difference-in-difference (DID) configurations and are subsequently "stacked" to enable a comprehensive regression that amalgamates the effects discerned across all panels. This "stacked" configuration adopts a structure akin to the two-way fixed effects difference-in-difference (TWFE-DID) approach but further refines it by excluding observations under treatment (with a Black mayor) from the panels of White-win elections. Hence, the identification is derived from comparisons within each panel, ensuring that treated units are only juxtaposed with "clean" controls — those neither previously nor imminently treated.

3.2.3 Other concerns

While approximately 50% of the sample in North Carolina and 20% in major U.S. cities consists of non-partisan and unaffiliated candidates, it is essential to explore any correlation between the Black mayor effect and the influence of party affiliation. In Section 6.1, titled "The Robustness Section", I introduce another dummy variable, "demwin". This variable is set to 1 if the mayor is a Democrat, and 0 otherwise. I then interact this variable with the time dummy "post" and integrate it into Equation 1. The revised Equation is as follows:

$$\text{Migration Outcome}_{bct} = \beta_1(\text{Black Win}_{ct} \times Post_t) + \beta_2(\text{Dem Win}_{ct} \times Post_t) + \beta_3 \text{ Post}_t + \theta_c + neigh_b + \tau_t \tag{2}$$

If there is a strong correlation between the impact of having a black mayor and the impact of having a democratic mayor, then the coefficient β_1 for $1\,(\text{Black Win}_{ct}) * \text{ Post }_t$ should be rendered insignificant. Otherwise, it indicates that party affiliation is not the primary factor influencing the Black mayor effect. As per table 14, the Black mayor effect does not primarily arise from variations in party affiliation.

4 Main results

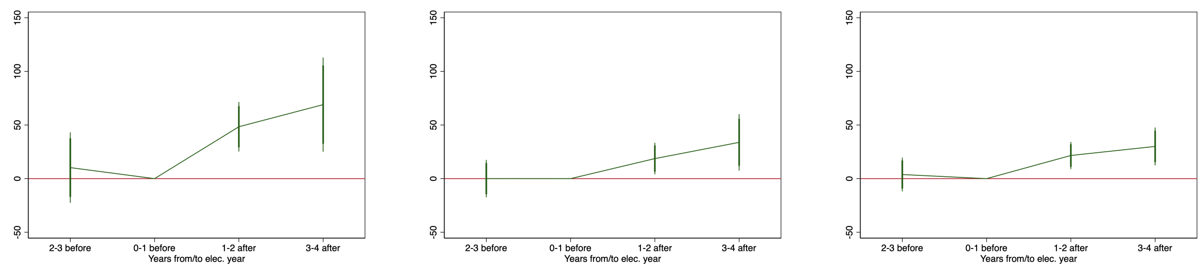
4.1 Net population change

In this section, I first present the effects of Black mayors on changes in net population at the tract level across different neighborhood categories, utilizing both event studies and tables. Figures 3 through 6 alongside Table 4 reveal that in North Carolina, electing Black mayors increases the net population across all three neighborhood classifications, particularly observed in majority-Black and white neighborhoods. In particular, Black mayors drew a nearly equal percentage of Black and white residents to majority-Black neighborhoods (around 4%), while in diverse neighborhoods, they attracted slightly more Black residents (1%) than white ones (0.5%). In white neighborhoods, interestingly, despite a lower baseline Black population in white neighborhoods, there was a pronounced 6% increase in Black residents compared to a 2% rise in white residents.

To further explore the migration patterns, I divide the above results into within-city and across-city net population changes. Concentrating on the shifts stemming from inter-city migration, Table 5 shows that approximately one-third of the net population augmentation in all neighborhood types is primarily fueled by individuals moving from different cities. Both majority-Black and white neighborhoods witness a swell in their demographics due to these cross-city re-allocations. Among these, majority-Black neighborhoods witness the most significant inter-city population boost, with Black residents constituting 34% of this increase.

However, understanding the net changes in population distribution across different racial groups in various neighborhoods does not provide the complete picture. For example, while majority-Black neighborhoods saw increases in both Black and white populations, it remains unclear what underlies this trend. Is it due to gentrification, with affluent white and Black residents moving in? Or perhaps it is due to reduced outflows, indicating that residents are choosing to remain? The subsequent migration decomposition will shed light on these dynamics.

Figure 3: *Net population change in all tracts (North Carolina)*

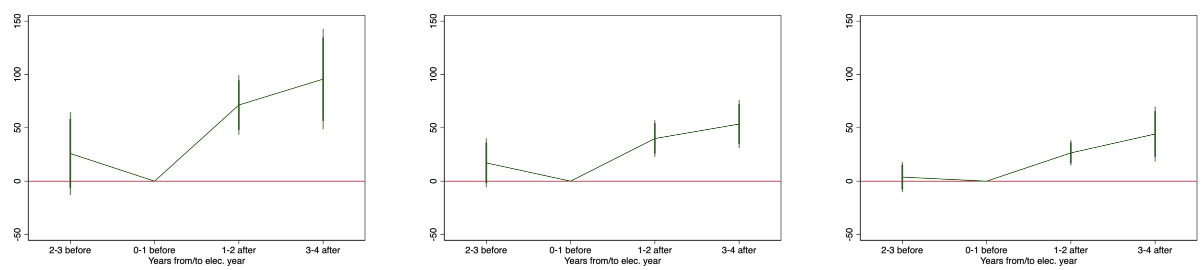


(a) *All voters (population mean=1811)*

(b) *Black voters (population mean= 636)*

(c) *White voters (population mean=1022)*

Figure 4: *Net population change in majority-black tracts (North Carolina)*

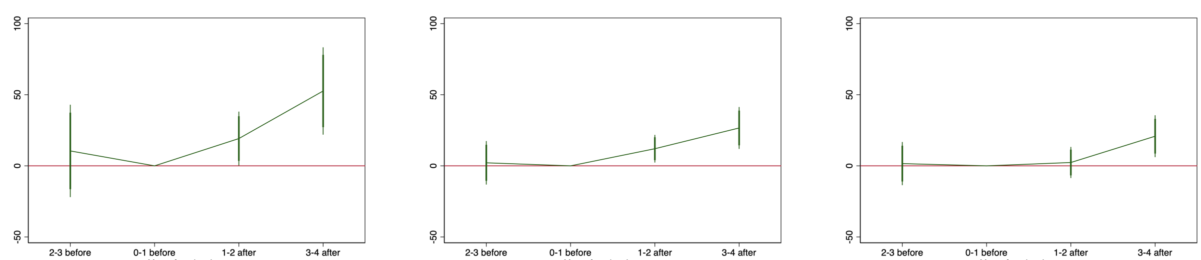


(a) *All voters (1623)*

(b) *Black voters (798)*

(c) *White voters (685)*

Figure 5: *Net population change in 30%-50% black tracts (North Carolina)*

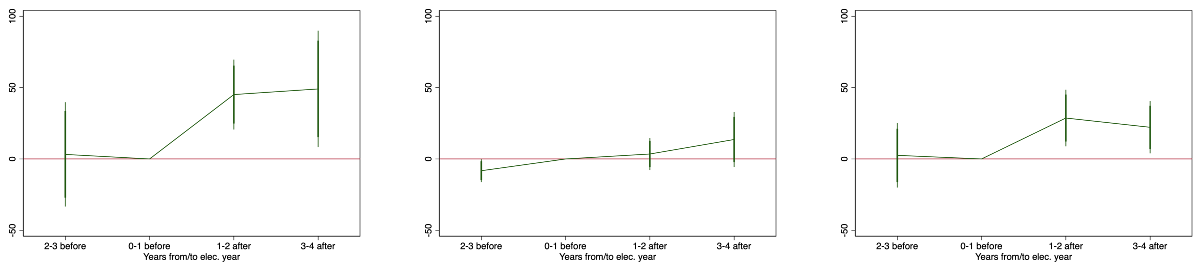


(a) *All voters (1868)*

(b) *Black voters (713)*

(c) *White voters (977)*

Figure 6: *Net population change in 30% less black tracts (North Carolina)*



(a) *All voters (2140)* (b) *Black voters (171)* (c) *White voters (1830)*

Table 4: *Population change in all types of neighborhoods*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A		All tracts			Majority-Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	58.58***	25.67***	28.42***	74.13***	42.76***	32.44***
	(7.879)	(4.484)	(4.673)	(11.76)	(7.507)	(4.476)
pop mean	1811	636	1022	1623	798	685
close election #	45	45	45	26	26	26
observations	10515	10515	10515	3863	3863	3863
Panel B		30-50% Black tracts			30% less Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	20.38***	12.98***	5.786	61.72***	12.00**	37.52***
	(5.976)	(3.427)	(3.806)	(6.789)	(5.496)	(7.730)
pop mean	1868	713	977	2140	171	1830
close election #	30	30	30	29	29	29
observations	1835	1835	1835	4510	4510	4510
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

Table 5: *Across-city net population change outcomes*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A		All tracts			Majority-Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	19.38***	8.220***	7.084***	28.71***	14.04***	8.359***
	(3.087)	(1.759)	(2.035)	(3.776)	(2.275)	(1.142)
pop mean	1811	636	1022	1623	798	685
close election #	44	44	44	26	26	26
observations	9947	9947	9947	3624	3624	3624
Panel B		30-50% Black tracts			30% less Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	6.249**	3.198**	0.888	15.91***	3.310*	10.08***
	(2.566)	(1.386)	(1.493)	(2.992)	(1.812)	(2.928)
pop mean	1868	713	977	2140	171	1830
close election #	30	30	30	28	28	28
observations	1738	1738	1738	4296	4296	4296
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

4.2 Decomposing net population change

, I use individual-level migration records to examine the origins and destinations of each mover. This allows me to decompose the net population change in each neighborhood into migration inflows and outflows. Analyzing these inflows and outflows sheds light on the forces driving the net population changes, and offers direct evidence of a Black mayor's impact on Black flight – insight not otherwise attainable through aggregate-level data. Table 6 presents data for three distinct neighborhood types. Having a Black mayor results in more residents choosing to remain in their neighborhoods, with this effect being most pronounced in majority-Black and diverse neighborhoods. The surge in population in majority-Black neighborhoods is largely attributed to a reduction in departures by both Black (7%) and white residents (4%). For diverse neighborhoods, the population growth is predominantly due to a 1.7% decline in the departure of Black residents. In predominantly white neighborhoods, there is a noticeable 1.4% uptick in the inflow of white residents along with decreased outflows from both the Black (9%) and white populations (0.7%).

Turning to table 7, which details inter-city migration trends. Column 2, Panel B, and Column 3, Panel D indicate that the election of a Black mayor results in a 0.4% increase in Black residents moving into majority-Black neighborhoods from outside the city. Similarly, there is a 0.3% rise in white residents moving into the city's white neighborhoods. At the same time, the decrease in inter-city departures for both Black and white residents from majority-Black and white neighborhoods is more pronounced than the respective intercity inflows. When combined with the insights from table 6, the overarching narrative suggests that the net population growth is chiefly due to a reduction in departures from cities. This observation may challenge the gentrification hypothesis. Essentially, based on revealed residential preferences, the presence of a Black mayor predominantly benefits those who originally resided in their neighborhoods, with the impact being more substantial for majority-Black neighborhoods.

Table 6: *Move-in Move-out outcomes*

	(1)	(2)	(3)	(4)	(5)	(6)
		Move-in			Move out	
	All voters	Black voters	White voters	All voters	Black voters	White voters
			Panel A: All tracts			
Post*Blackwin	23.35**	6.013	11.12*	-53.33***	-28.40***	-19.26***
	(10.28)	(3.849)	(5.515)	(12.24)	(7.477)	(3.268)
population mean	1811	636	1022	1811	636	1022
close election #	45	45	45	44	44	44
observations	10515	10515	10515	10515	10515	10515
			Panel B: Majority-Black tracts			
Post*Blackwin	18.29	10.12	3.323	-96.69***	-52.30***	-30.03***
	(11.84)	(7.191)	(4.130)	(14.56)	(9.506)	(4.417)
population mean	1623	798	685	1623	798	685
close election #	26	26	26	26	26	26
observations	3863	3863	3863	3863	3863	3863
			Panel C: 30%-50% Black tracts			
Post*Blackwin	13.24	6.076	3.672	-6.370	-8.100	-2.481
	(9.191)	(6.001)	(4.454)	(7.806)	(4.868)	(4.431)
population mean	1868	713	977	1868	713	977
close election #	30	30	30	30	30	30
observations	1835	1835	1835	1835	1835	1835
			Panel D: 30% less Black tracts			
Post*Blackwin	31.48**	-1.418	23.03***	-33.06***	-13.12***	-17.84***
	(12.81)	(3.404)	(8.180)	(11.23)	(3.998)	(5.250)
population mean	2140	171	1830	2140	171	1830
close election #	29	29	29	29	29	29
observations	4510	4510	4510	4510	4510	4510
year & election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

Table 7: *Across-city move-in move-out outcomes*

	(1)	(2)	(3)	(4)	(5)	(6)
		Move-in			Move out	
	All voters	Black voters	White voters	All voters	Black voters	White voters
			Panel A: All tracts			
Post*Blackwin	7.489***	2.440**	3.358**	-12.49***	-5.758***	-4.225***
	(2.013)	(0.962)	(1.528)	(2.318)	(1.301)	(1.142)
population mean	1811	636	1022	1811	636	1022
close election #	45	45	45	44	44	44
observations	10515	10515	10515	9947	9947	9947
			Panel B: Majority Black tracts			
Post*Blackwin	6.539**	3.843**	0.750	-21.85***	-10.42***	-7.118***
	(2.707)	(1.404)	(0.903)	(2.639)	(1.559)	(0.917)
population mean	1623	798	685	1623	798	685
close election #	26	26	26	26	26	26
observations	3863	3863	3863	3624	3624	3624
			Panel C: 30%-50% Black tracts			
Post*Blackwin	5.430**	2.202**	1.408	-1.322	-1.441	0.671
	(2.114)	(0.977)	(1.185)	(2.723)	(1.333)	(1.768)
population mean	1868	713	977	1868	713	977
close election #	30	30	30	30	30	30
observations	1835	1835	1835	1738	1738	1738
			Panel D: 30% less Black tracts			
Post*Blackwin	8.456***	0.778	6.286**	-9.072***	-2.504**	-5.197**
	(2.518)	(0.982)	(2.541)	(2.496)	(0.951)	(1.892)
population mean	2140	171	1830	2140	171	1830
close election #	29	29	29	28	28	28
observations	4510	4510	4510	4296	4296	4296
Election FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

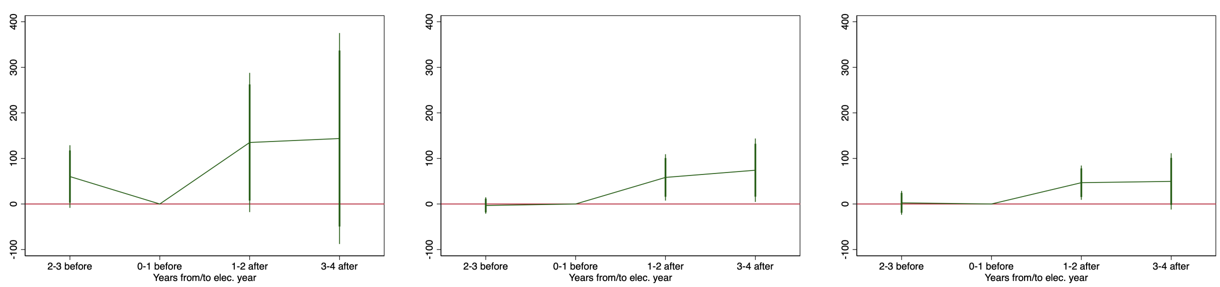
Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

4.3 Replication with national data

In this section, I extend the net population change analysis to a broader sample of 120 major U.S. cities. This is to ascertain whether the patterns identified in North Carolina are consistent with other major U.S. cities. The results, represented in Figures 7 through 10 and detailed in table 8, depict the population shifts following the election of a Black mayor in closely contested elections across various neighborhoods in these major cities. On average, there is a rise of approximately 2.4% in the total population across all neighborhoods. This surge is predominantly attributed to population growth in majority-Black and white neighborhoods. In majority-Black neighborhoods, this growth is primarily attributed to an influx of Black residents. Conversely, white neighborhoods witness a significant increase in both Black (6%) and white residents (3%). These trends from major U.S. cities largely align with those observed in North Carolina, with a notable exception: in North Carolina cities, majority-Black neighborhoods see a similar influx of both white and Black residents.

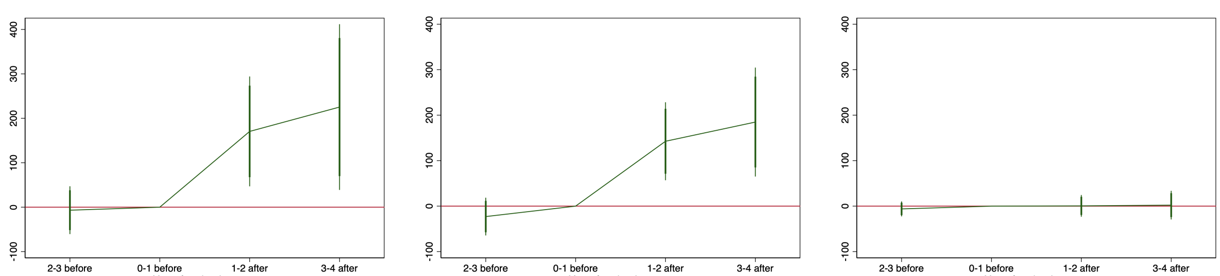
The findings from the major U.S. cities predominantly indicate that Black mayors tend to draw more Black individuals to majority-Black neighborhoods, and more white individuals to white neighborhoods, hinting at a potential increase in segregation. In the following section, I will investigate the shifts in the composition of various racial groups, as well as the broader city-level segregation dynamics after having a Black mayor.

Figure 7: *Net population change in All voters tracts (U.S. major cities)*



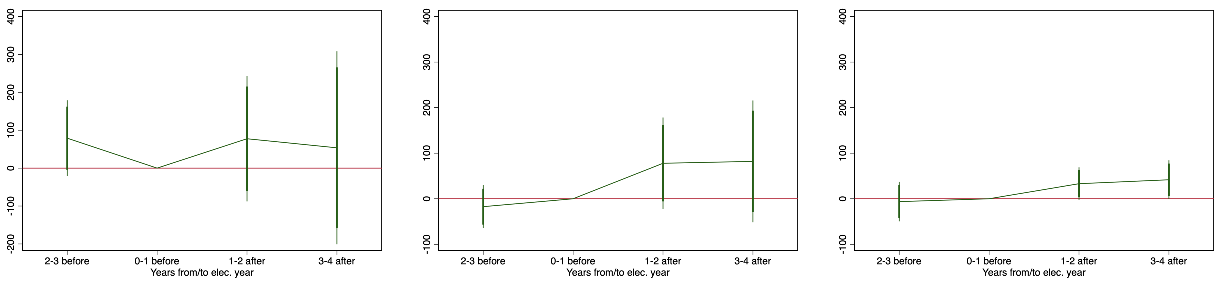
(a) *All voters (population mean=4625)* (b) *Black voters (population mean= 1085.5)* (c) *White voters (population mean=2242.1)*

Figure 8: *Net population change in majority black neighborhoods (U.S. major cities)*



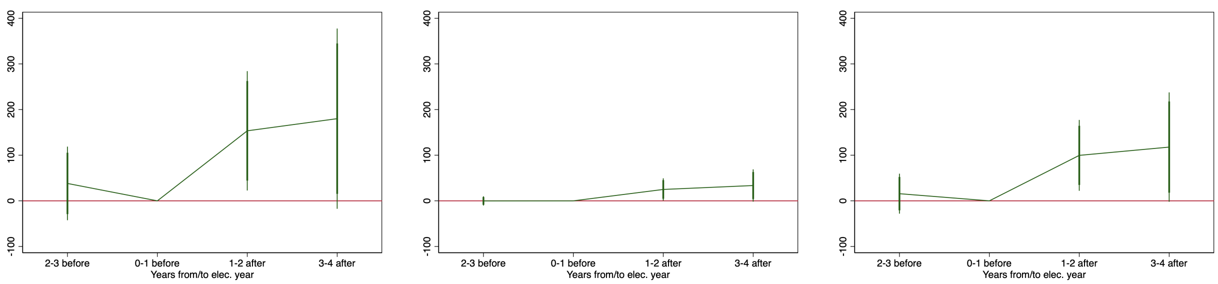
(a) *All voters (3471)* (b) *Black voters (2664.7)* (c) *White voters (438.8)*

Figure 9: *Net population change in 30%-50% black neighborhoods (U.S. major cities)*



(a) *All voters (4560.3)* (b) *Black voters (1736)* (c) *White voters (1465.47)*

Figure 10: *Net population change in 30% less black neighborhoods (U.S. major cities)*



(a) *All voters (4994.1)* (b) *Black voters (497.9)* (c) *White voters (2918.5)*

Table 8: *Population change in all types of neighborhoods*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A		All tracts			Majority-Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	106.8	67.33**	46.75	199.2**	173.9***	4.134
	(112.2)	(30.15)	(29.02)	(81.03)	(50.36)	(14.72)
pop mean	4625	1086	2242	3471	2665	439
close election #	52	52	52	51	51	51
observations	65206	65206	65206	15766	15766	15766
Panel B		30-50% Black tracts			30% less Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	24.11	89.03	40.35	144.8	28.91*	99.23*
	(125.7)	(59.82)	(26.48)	(94.75)	(15.24)	(57.66)
pop mean	4560	1736	1465	4994	498	2919
close election #	51	51	51	52	52	52
observations	4983	4983	4983	28322	28322	28322
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

4.4 Segregation

Table 9 presents the changes in city-level segregation and the proportion of Black residents following the election of a Black mayor in a closely contested race. I employ the dissimilarity index as the metric for city-level segregation. Conceptually, the dissimilarity index quantifies the percentage of a group's population that would need to relocate in every neighborhood to reflect the same percentage of that group as the entire metropolitan area. The index varies from 0.0 (indicating complete integration) to 1.0 (signifying complete segregation).[5]

Columns 1 and 2 detail patterns from North Carolina, while Columns 3 and 4 outline findings from major U.S. cities. While major U.S. cities tend to have a somewhat greater degree of segregation with a marginally lower average Black population, results from both samples indicate that the inauguration of a Black mayor tends to boost the Black population in the city and amplify its segregation. Furthermore, table 10 outlines the effect of a Black mayor on racial composition shifts within majority-Black neighborhoods, diverse neighborhoods, and predominantly white neighborhoods. As detailed in table 10, the augmentation in the city-wide Black demographic is primarily driven by a surge in the Black population share in predominantly Black neighborhoods. These outcomes align with the theoretical and empirical discoveries presented in the studies of Bayer, Fang, and McMillan (2014) and Banzhaf and Walsh (2013). These studies propose that place-based interventions aimed at extending public goods provisions in minority communities that are initially of lower quality can lead to an increase in group segregation. Following the inauguration of a Black mayor, majority-Black neighborhoods retain a disproportionately larger number of Black residents who opt to stay rather than relocate to other areas such as suburbs. The evident shifts in locational preferences and segregation trends hint at the possibility of place-based initiatives or resource redistribution taking place under the leadership of a Black mayor. In the following section, I delve

[5]The basic formula for the index of dissimilarity is: $D = \frac{1}{2}\sum_{i=1}^{N}\left|\frac{a_i}{A} - \frac{b_i}{B}\right|$,
where a_i = the population of Group A in the ith area, e.g. census tract. A = the total population in Group A in the large geographic entity for which the index of dissimilarity is being calculated. b_i = the population of Group B in the ith area B = the total population in Group B in the large geographic entity for which the index of dissimilarity is being calculated.

into potential mechanisms, assessing shifts in the amenity distribution and changes in media focus following the election of a Black mayor.

Table 9: *Segregation*

	(1)	(2)	(3)	(4)
	North Carolina		US major cities	
	segregation index	Black share	segregation index	Black share
Post*Blackwin	0.00560**	0.00516	0.0104***	0.00785**
	(0.00236)	(0.00306)	(0.00349)	(0.00347)
mean	0.52	0.39	0.57	0.27
close election #	45	45	52	52
observations	15104	10515	65206	65101
year&election fe	YES	YES	YES	YES
tract fe		YES		YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

Table 10: *Black share across neighborhoods*

	(1)	(2)	(3)	(4)
Panel A: North Carolina		Black share		
	all	Majority-Black	30-50%	30% less
Post*Blackwin	0.00516	0.0106***	0.00727	0.00214
	(0.00306)	(0.00331)	(0.00517)	(0.00419)
mean	0.39	0.68	0.39	0.13
close election #	45	26	30	29
observations	10515	3863	1835	4510
Panel B: US major cities	all	50% more	30-50%	30% less
Post*Blackwin	0.00785**	0.0145***	0.0181**	0.00204
	(0.00347)	(0.00525)	(0.00889)	(0.00171)
mean	0.27	0.73	0.36	0.09
close election #	52	51	51	52
observations	65101	15702	4983	28292
year&election fe	YES	YES	YES	YES
tract fe	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

5 Mechanisms and future implications

What do the Black mayors do to attract people staying in the city, and specifically to the majority-Black neighborhoods? What happens to these neighborhoods? I address these questions using a neighborhood-level amenity measure in North Carolina: pollution exposure. In addition to the investment reallocation, Black mayors could also shift public attention to Black neighborhoods through local media. I use the local newspaper coverage of different neighborhoods as a measure of public attention allocation.

5.1 The reallocation of locally unwanted land use

Air pollution significantly impacts neighborhood quality. Individual choices about where to live are heavily influenced by exposure to pollution (Bayer et al., 2016; Banzhaf and Walsh, 2008). It has been consistently observed that low-income communities and communities of color face disproportionate exposure to pollution. In the economic literature, environmental disparities have commonly been attributed to household sorting patterns (Banzhaf and Walsh, 2008; Gamper-Rabindran and Timmins, 2011; Depro, Timmins, and O'Neil, 2015; Hausman and Stolper, 2021).

In this section, I use the EPA's Toxics Release Inventory to measure pollution exposure in each neighborhood, and examine how having a Black mayor might influence the distribution of amenities across various areas. Table 11 in Column 1 indicates that the presence of a Black mayor tends to decrease the overall occurrence of TRI in a city. Columns 2-4 offer a heterogeneous analysis across white, diverse, and predominantly Black neighborhoods. Columns 3 and 4 reveal that for neighborhoods already containing TRIs, having a Black mayor significantly narrows the disparity in the number of TRIs between majority-Black and white neighborhoods. These findings underscore local government's role in not only reshaping resource allocation across communities, but also in diminishing environmental disparities among diverse groups. While the existing literature on government interventions addressing environmental inequities has centered on the Clean Air Act (CAA) amendments (Currie and Walker, 2019; Sager and Singer, 2022), pollution information disclosures (Wang et al., 2021; Banzhaf and Walsh, 2008), and various federal government-led initiatives (Haninger, Ma, and Timmins, 2017), this study provides insight into how local political economy can influence environmental injustice at a granular, neighborhood level.

Table 11: *Toxics Release Inventories outcomes*

	(1)	(2)	(3)	(4)
	TRI	TRI	TRI_num	TRI_num
	OLS	OLS	OLS	PPML
Post*Blackwin	-0.00524	-0.00172	0.0594**	0.194**
	(0.00360)	(0.00575)	(0.0253)	(0.0833)
Post*Blackwin*diverse		-0.00815	0.0211	0.00798
		(0.00492)	(0.0320)	(0.0927)
Post*Blackwin*majorblack		-0.00433	-0.0370	-0.183*
		(0.00949)	(0.0259)	(0.0998)
blockgroup fe	YES	YES	YES	YES
year&election fe	YES	YES	YES	YES
Elections	44	44	44	30
Observations	13023	13023	13023	2001

Notes: Sample restricted to narrow elections (less than 10% vote share margin). Post*Blackwin represents the coefficient β_1 for the baseline group - white neighborhoods. Post*BlackwinXmajorBlack indicates a differential impact on majority-Black neighborhoods. In Columns 1-3, ordinary least squares regression is used. In Column 4, Poisson pseudo-likelihood regression with multiple levels of fixed effects is used due to the distribution of TRI count in my sample. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

5.2 The reallocation of media attention

Local media holds a significant position in fostering neighborhood development. It serves as a spotlight, drawing attention to a range of issues specific to individual neighborhoods, spanning from infrastructure deficiencies to educational requisites. By spotlighting these issues, the media holds the potential to galvanize action, urging local authorities and policymakers to respond and rectify these challenges. Furthermore, local media provides a forum for community members to express their thoughts, grievances, and aspirations for their locale, ensuring that a more diverse array of viewpoints is incorporated in the decision-making frameworks (Milan, 2009).

IIn addition to reallocating amenity resources, Black mayors have the potential to redirect public attention towards Black neighborhoods, shedding light on their issues through public discussion. To investigate this further, I collect local newspaper coverage data for major U.S. cities spanning from 2000 to 2019, and the neighborhood-level boundary and name data for these cities. I compare white neighborhoods with non-white neighborhoods where the Black share is greater than 30%. Table 12 shows that the names of Black neighborhoods are mentioned more frequently in local newspapers after the election of a Black mayor. In Column 1, the outcome variables represent the absolute amount of local coverage for each neighborhood. Additionally, I include the total coverage of all neighborhoods in each city as a control variable. Having a Black mayor diminishes the disparity in media coverage between Black and white neighborhoods by 15%.[6]. In Column 2, the outcome variable is the proportion of coverage that each specific neighborhood receives in relation to the total coverage of all neighborhoods. The presence of a Black mayor elevates the media coverage percentage for Black neighborhoods by 0.039 standard deviations.

[6] exp(0.14) - 1=0.15

Table 12: *Local media coverage*

	(1) coverage ppmlhdfe	(2) Share of coverage ols
post	0.0158	0.00520
	(0.0680)	(0.0131)
post x Blackwin	-0.117	0.00362
	(0.0769)	(0.0140)
post x Blackwin x Blackneigh	0.140***	0.0395
	(0.0475)	(0.0230)
mean	524.2	0.01
local_coverage	yes	
year, city , election FE	yes	yes
neighborhood fe	yes	yes
close election #	33	33
observation	27250	27931

Notes: Sample restricted to narrow elections (less than 13% vote share margin). Post*Blackwin represents the coefficient β_1 for the baseline group - white neighborhoods. Post*BlackwinXBlackneigh indicates a differential impact on Black neighborhoods, specifically those where the Black population exceeds 30%. In Column 1, Poisson pseudo-likelihood regression is used with multiple levels of fixed effects due to the distribution of coverage in my sample. In Column 2, ordinary least squares regression is used. I also standardize the outcome variable (share of coverage), to better interpret the results. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

5.3 Further analysis-Public school enrollment

In this section, I investigate the influence of Black leadership on public school enrollments, with a focus on Black students and schools situated in predominantly Black neighborhoods. Although the local governments are not directly involved in the public schools' finances (this is the responsibility of the school board), public school enrollment is a mechanical result following the neighborhoods' population change.

Based on their geographical locations, schools are classified into three categories: those in white neighborhoods, those in diverse neighborhoods, and those in majority-Black neighborhoods. Table 13 illustrates the varying impacts on public schools according to their neighborhood classification. The presence of a Black mayor leads to a rise in Black student enrollment in schools located in majority-Black neighborhoods. This trend can be attributed in part to an increase in Black families staying in these neighborhoods, boosting the enrollment of Black students. As the school district sees an influx of Black families, the school board composition may diversify. This potential diversity in leadership could lead to shifts in budget allocations and policy changes, potentially making these schools more attractive to Black groups.

Table 13: *Public school outcomes*

	(1)	(2)	(3)
	total	black	white
Post*Blackwin	24.88**	1.043	6.023
	(10.29)	(5.044)	(5.883)
Post*BlackwinXdiverse	35.01***	6.492	2.368
	(12.62)	(9.437)	(5.648)
Post*BlackwinXmajorblack	34.25*	31.95**	-4.052
	(19.46)	(11.83)	(5.281)
mean	657.8	281.4	211.7
close elections #	44	44	44
observations	6166	6166	6166
school fe	YES	YES	YES
year&election fe	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 for the baseline group - white neighborhoods. Post*BlackwinXmajorBlack indicates a differential impact on majority-Black neighborhoods. Standard errors are clustered at the city level. Sample restricted to narrow elections (less than 10% vote share margin). Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

6 Robustness tests

6.1 The effect of party affiliation compared to the Black mayor impact

In mayoral elections between Black and white candidates in North Carolina, only 14.8% are contests between Republican and Democratic candidates. Given this, it is essential to explore if there is a correlation between the Black mayor effect and the democratic mayor effect. I have incorporated an interaction between the party affiliation dummy and the election time dummy into Equation 1. As presented in table 14, even after including the interaction term $Post * demwin$, the coefficients for $Post * Blackwin$ remain significant across all specifications. All of the party coefficients are insignificant, except for the white population in majority-Black neighborhoods and the Black population in diverse neighborhoods. The findings above indicate that the effects of having a Black mayor can largely account for the migration patterns in most of the scenarios presented. While a mayor's party affiliation might influence racial distribution, it is not the primary factor shaping these outcomes.

Table 14: *Results with party controls*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A		All tracts			Majority-Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	69.49***	26.02***	29.29***	83.44***	54.36**	19.17***
	(18.91)	(8.220)	(9.838)	(28.18)	(19.49)	(4.697)
Post*demwin	-14.54	-0.464	-1.161	-11.58	-14.43	16.52***
	(20.06)	(8.674)	(12.85)	(28.71)	(19.58)	(4.724)
	45	45	45	26	26	26
Observations	10515	10515	10515	3863	3863	3863
Panel B		30-50% Black tracts			30% less Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	40.80***	23.01***	12.55	67.36***	9.778	35.26***
	(12.65)	(3.689)	(8.522)	(11.77)	(6.637)	(9.641)
Post*demwin	-27.55*	-13.53***	-9.126	-8.296	3.265	3.322
	(14.25)	(4.002)	(8.637)	(13.94)	(6.970)	(14.29)
close election #	30	30	30	29	29	29
observations	1835	1835	1835	3579	3579	3579
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Sample restricted to narrow elections (less than 10% vote share margin). Post*Blackwin represents the coefficient β_1 in Equation 2. Post*demwin represents the coefficient β_2 in Equation 2. Standard errors are clustered at the city level. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

6.2 A stricter migration standard

To prevent confusion between new registrations and inflows, as well as deceased registrations and outflows, I applied a more rigorous standard to the migration data by omitting all initial and final registration entries. The results remain consistent with earlier observations. Table 15 showcases the primary findings from this revised migration dataset. The pattern of results bears a strong resemblance to those in Section 4, but with an approximately 20% [7] reduction in magnitude. By leaving out all initial and final registration records, I eliminate not only potential new registrants and deceased voters, but also potential inter-state migrants. This is because first-time registrations could also be from individuals relocating to North Carolina from other states. The similarity between

[7]For the overall net population change across all tracts, the primary results in Section 4 have a coefficient of 58.5. In comparison, the coefficient from this new sample is (58.5-47.12)/58.5 = 19.4%

these findings and the main results reinforces the robustness of the identification.

Table 15: *Results with the stricter migration standard*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A		All tracts			Majority-Black	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	41.95***	15.13***	18.99***	52.02***	28.82***	16.43***
	(7.643)	(3.237)	(4.722)	(11.42)	(6.694)	(3.617)
pop mean	1811	636	1022	1623	798	685
close election #	45	45	45	26	26	26
Observations	10515	10515	10515	3863	3863	3863
Panel B		30-50% Black tracts			30% less Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	15.23**	8.556**	5.533	45.04***	4.190	27.98***
	(6.526)	(3.852)	(3.593)	(7.637)	(4.064)	(6.386)
pop mean	1868	713	977	2140	171	1830
close election #	30	30	30	29	29	29
observations	1835	1835	1835	4510	4510	4510
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. The sample restricted to narrow elections (less than 10% vote share margin). Significance levels are indicated by $* < .1$, ** $< .05$, *** $< .01$.

6.3 Excluding re-elected Black mayor

In the set of mayoral elections contested between Black and white candidates, 10% have a Black incumbent who gets re-elected for a subsequent term. These cities have experienced Black leadership for over four years, potentially leading to dynamics differing from those of cities transitioning from a white to a Black mayor. In this section, I leave out the re-elected Black mayors and center my analysis on cities undergoing a racial shift in leadership from white to Black. Table 16 showcases the net population data from this refined sample. The results resemble the initial findings, though most of the coefficients are of a reduced magnitude. Notably, there is a significant reduction in the coefficients for net population change in predominantly Black neighborhoods. For example, the overall net population change effect drops from 74.13 to 55.16. One plausible interpretation is that the influence of a Black mayor is magnified in cities that have successive terms under Black leadership, or in cities where a Black mayor gets re-elected.

Table 16: *Net population change without reelected Black mayors*

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A		ALL tracts			Majority-Black	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	47.12***	18.74***	25.07***	55.16**	35.65*	21.51***
	(13.66)	(5.127)	(8.013)	(22.20)	(20.38)	(4.956)
pop mean	1811	636	1022	1623	798	685
close election #	43	43	43	24	24	24
observations	6466	6466	6466	2109	2109	2109
Panel B		30-50% Black tracts			30% less Black tracts	
	All voters	Black voters	White voters	All voters	Black voters	White voters
Post*Blackwin	21.97**	16.65***	5.556	55.54***	6.756	37.54***
	(8.178)	(5.755)	(6.088)	(12.71)	(4.430)	(13.05)
pop mean	1868	713	977	2140	171	1830
close election #	28	28	28	27	27	27
observations	1319	1319	1319	2914	2914	2914
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Notes: Post*Blackwin represents the coefficient β_1 in Equation 1. Standard errors are clustered at the city level. The sample is restricted to narrow elections (less than 10% vote share margin). Significance levels are indicated by $* < .1$, ** $< .05$, *** $< .01$.

6.4 Multiple bandwidths checks

I estimate the effect of having a Black mayor on primary migration outcomes across several bandwidths, spanning from 0.6 to 0.14. Figures A.1 through A.3 display the pertinent coefficient for three core outcome variables: total net population change, net Black population change, and net white population change, across all neighborhoods. For every outcome variable, the coefficients consistently exhibit significance and maintain a similar scale. [8]

[8] The coefficient at a bandwidth of 0.6 appears smaller than the rest, possibly due to the limited number of closely contested elections, which total 29 in this case.

7 Conclusions

This paper examines the influence of Black representation in local government on individual migration decisions both within and between cities, as well as on residential segregation. I have created individual-level migration data using voter registration details from North Carolina. To causally identify the impact of Black mayors on the migration behaviors of Black and white voters, I employ a close-election R.D. design.

My findings reveal that in cities in North Carolina, the election of Black mayors has led to a net population increase in both majority-Black and non-majority-Black neighborhoods. Notably, there is a significant rise in the populations of majority-Black and white neighborhoods. Black mayors have attracted roughly equivalent proportions of Black and white residents to primarily Black neighborhoods, with each group increasing by about 4%. In neighborhoods where Black residents constitute less than 30% of the population, there is a marked influx of white residents (2%). When broadening the scope of analysis to include 120 major U.S. cities, the patterns identified in North Carolina largely correspond to those observed in these larger cities.

A deeper dive into migration decomposition reveals that the average net population growth is primarily driven by a reduction in outflows. The population growth in predominantly Black neighborhoods chiefly arises from decreased departure rates for both Black (7%) and white (4%) residents. In mixed-race neighborhoods, the growth is predominantly due to a 1.7% decrease in outflows of Black residents. In white neighborhoods, there is a notable 1.4% increase in white resident inflows and a concurrent reduction in outflows for both Black and white residents. These results indicate that a Black mayor counteracts the trend of Black flight.

From a compositional perspective, electing a Black mayor increases the percentage of Black residents in a city and amplifies its segregation. Further probing into the underlying factors reveals that Black representation diminishes the amenity disparities between majority-Black and white neighborhoods, and also shifts local media attention to these areas. The evidence indicates that Black representation fosters more equitable resource distribution towards majority-Black neighborhoods, moderates the rate of Black out-migration, and increases a city's attractiveness.

A Appendix

A.1 Summary statistics for other datasets

Table A.1: *Summary Statistics of Mayoral election candidates for final sample*

Panel A: North Carolina mayor candidates characteristics (final sample)			
	Percent		Percent
Black share	50.0%	Democratican	44.41
White share	50.0%	Republican	11.47
Female/Male	36.9%	Non Partisan	38.82
Total #	432	Unaffiliated	5.29
Panel B: U.S. major cities mayor candidates characteristics (final sample)			
	Percent		Percent
Black share	50.0%	Democratican	65.49%
White share	50.0%	Republican	17.3%
Female/Male	24.2%	Non Partisan	1.6%
Total #	452.0%	Unaffiliated	0.9%

Table A.2: *Summary Statistics of Public school enrollment*

North Carolina K12 Public school enrollment	
	Percent
Black share	28.2%
White share	51.1%
Others	20.6%
Female/Male	112%

Table A.3: *Summary Statistics of local news and neighborhood demographics*

Variable	Obs	Mean	Std. Dev.	Min	Max
neighborhood population	52,488	6873.293	15746.11	0.0002741	216437.3
neighborhood black share	52,488	0.2776021	0.2587979	0	0.9856255
neighborhood media covergae	52,488	656.8309	1788.87	0	37730

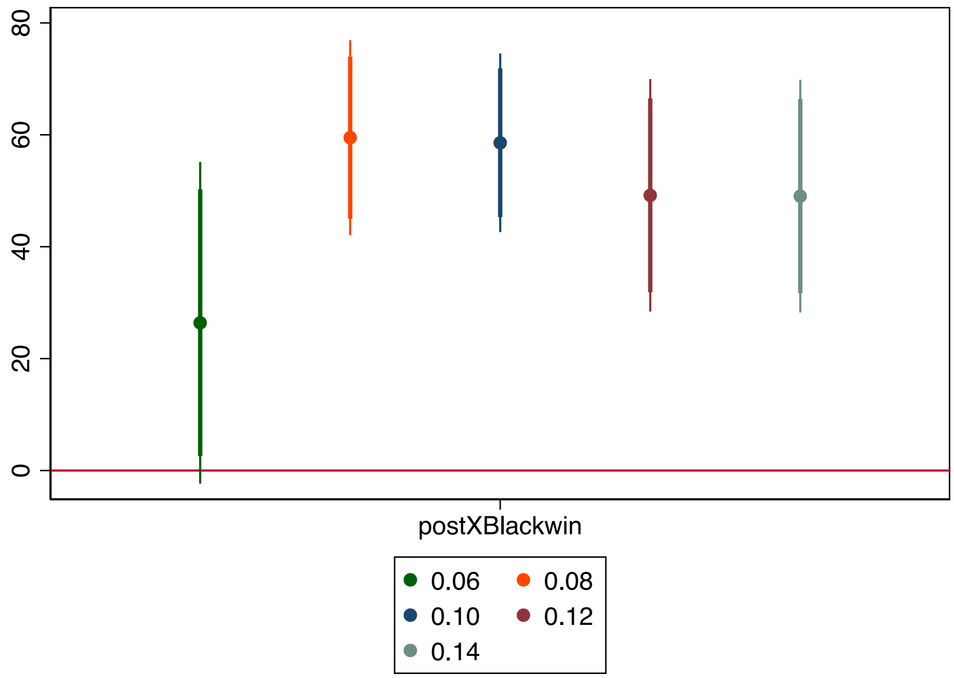


Figure A.1: *Tract-level net population change coefficient*

A.2 Multiple bandwidths

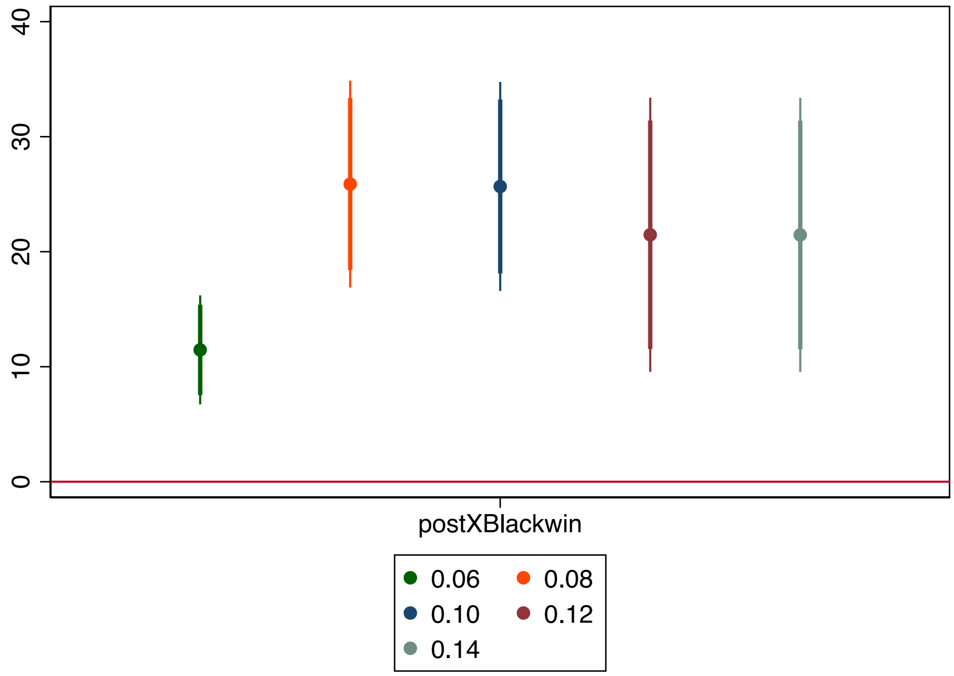


Figure A.2: *Tract-level net Black population change coefficient*

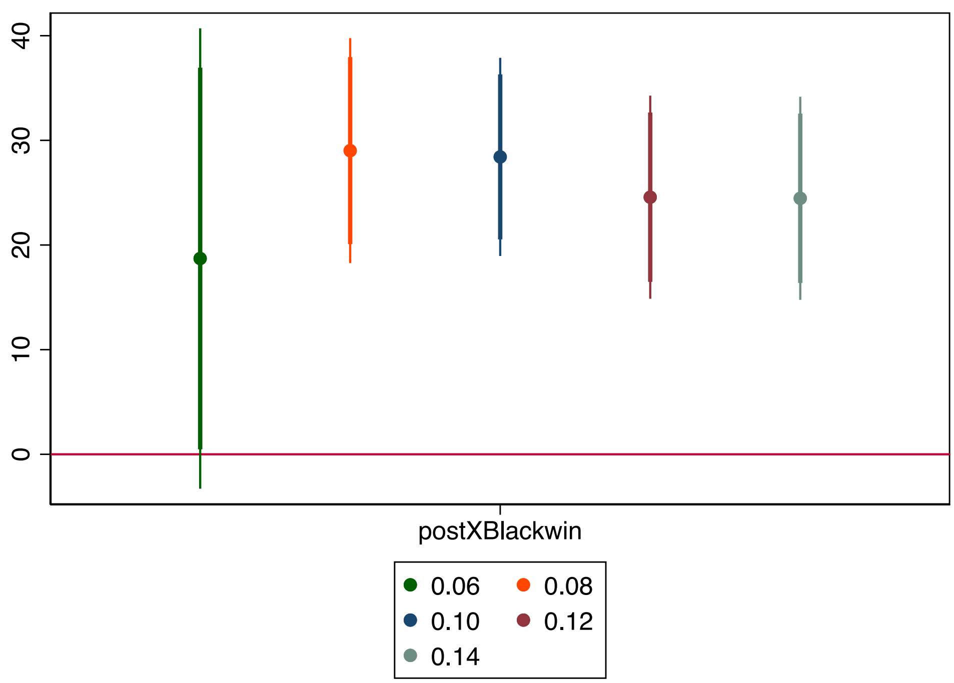


Figure A.3: *Tract-level net white population change coefficient*

A.3 The institution background of voter registration data in North Carolina

North Carolina has a high voter registration rate. As of January 9, 2021, there were 7,186,435 registered voters in North Carolina, accounting for 67% of the state's total population.

To register as a voter in North Carolina, several qualifications need to be met. Firstly, one must be a U.S. citizen, though it is worth noting that specific citizenship documents are not required during registration. Potential voters can refer to the USCIS website for more details on citizenship. Secondly, an individual must reside in the county where they are registering and must have lived there for at least 30 days before the election. While these rules apply to most, there are special provisions under the federal Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA). This act grants special rights to active duty military members, their families, and U.S. citizens living abroad, offering them a streamlined process to register and vote via mail-in ballots. Age is also a determining factor; one must be 18 years or older on the date of the general election. However, North Carolina does permit 16- and 17-year-olds to preregister. Moreover, 17-year-olds are allowed to vote in primary elections if they will turn 18 by the general election. Finally, those currently serving a felony sentence, which includes probation, post-release supervision, or parole, are ineligible to register.

Voter registration snapshot files provide up-to-date details for active voters, inactive voters, and voters removed within the past decade in North Carolina. They also include those who have tried to register or have unfinished registration steps. If a voter's last voting date is over 10 years before the snapshot, they are excluded from these files, which are refreshed every Saturday. Post-election, finalizing voter registration might take several days across all counties. Voters are not removed from records for not voting. Instead, a biennial list maintenance process, as per federal and state laws, determines removals. After two federal election cycles without contact, voters receive a confirmation mailing, which they must return within 30 days. Failure to do so, or if the mail is undelivered, marks them as inactive. Although inactive voters remain registered, they need to confirm their address when voting. After another two federal election cycles without contact, they are removed from the rolls, necessitating re-registration. This process aligns with N.C.G.S § 163-82.14.

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