

Minority Representation, Segregation, and Racial Sorting

Jiangnan Zeng

Department of Economics
University of Pittsburgh

August 29, 2023

Motivation-Segregation

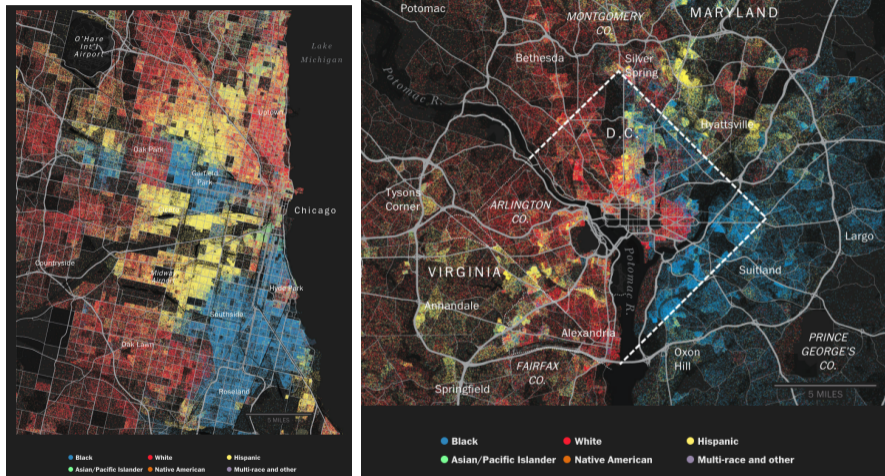


Figure: Segregation map of Chicago and DMV, 2012-2016 (Source: The Washington Post)

Motivation-Black flight

Popular Latest Newsletters

The Atlantic

What's Causing Black Flight?

The demographic shift from cities to suburbs illuminates many stories: of families moving to opportunity, of inequality replicating itself when they get there, and of the people left behind.

By Jerusalem Demsas



"Top 5 Cities With Highest "Black Flight": 5. Miami 4. Dallas 3. Washington, D.C. 2. Houston 1. Atlanta" —The Atlantic

Motivation-Black flight

- From 2000 to 2010, the Black population of the central cities in America's 100 largest metro areas decreased by 300,000. (William Frey, 2014)

Motivation-Black flight

- From 2000 to 2010, the Black population of the central cities in America's 100 largest metro areas decreased by 300,000. (William Frey, 2014)
- The Black households that left for the suburbs, moreover, tended to be higher income than those left behind. (Bartik and Mast, 2021)

Motivation-Black flight

- From 2000 to 2010, the Black population of the central cities in America's 100 largest metro areas decreased by 300,000. (William Frey, 2014)
- The Black households that left for the suburbs, moreover, tended to be higher income than those left behind. (Bartik and Mast, 2021)
- People left behind—disproportionately poor and elderly—were left watching their neighborhoods deteriorate even further.

Motivation-Minority representation and racial gap

Although racial/ethnic minority groups are still largely under-represented in elected office, we've seen increases in the number of minority elected officials at different levels of government in the United States.

- Today, more than one-third of America's top 100 cities are governed by African Americans
- Social, political, and economic racial gaps remain wide.
- Can minority representations improve the situations of minority groups/minority neighborhoods, and reverse black outflows?
- If yes, through which mechanisms?

Research question

How does **minority representation** and any associated change in government policy impact **individual migration decisions and residential segregation**?

Research question

How does **minority representation** and any associated change in government policy impact **individual migration decisions and residential segregation**?

Summary of results:

- Having a black mayor significantly increases the net inflows in both majority-black and non-majority-black neighborhoods. The impact is larger for black neighborhoods.

Research question

How does **minority representation** and any associated change in government policy impact **individual migration decisions and residential segregation**?

Summary of results:

- Having a black mayor significantly increases the net inflows in both majority-black and non-majority-black neighborhoods. The impact is larger for black neighborhoods.
- The population change is mainly driven by reduced out-migration and more across-city move-ins.

Research question

How does **minority representation** and any associated change in government policy impact **individual migration decisions and residential segregation**?

Summary of results:

- Having a black mayor significantly increases the net inflows in both majority-black and non-majority-black neighborhoods. The impact is larger for black neighborhoods.
- The population change is mainly driven by reduced out-migration and more across-city move-ins.
- Potential mechanism: location of polluting facilities, media attention shifting.
- The above results suggest that minority representation can decrease racial disparities by improving conditions in minority neighborhoods, slowing down black flight, and making cities more appealing to all groups.

Literature: Minority Representation

Voting rights act (Aneja & Avenancio-Leon 2019; Bernini, Facchini & Testa 2023)

No difference:

- No difference in employment and fiscal policies (Hopkins and McCabe 2012)

Literature: Minority Representation

Voting rights act (Aneja & Avenancio-Leon 2019; Bernini, Facchini & Testa 2023)

No difference:

- No difference in employment and fiscal policies (Hopkins and McCabe 2012)

Widen racial gaps:

- Unemployment (small private firms), mortgage denials, and racial prejudice increase. (Sakong 2021)

Literature: Minority Representation

Voting rights act (Aneja & Avenancio-Leon 2019; Bernini, Facchini & Testa 2023)

No difference:

- No difference in employment and fiscal policies (Hopkins and McCabe 2012)

Widen racial gaps:

- Unemployment (small private firms), mortgage denials, and racial prejudice increase. (Sakong 2021)

Narrow racial gaps:

- Black employment and labor force participation rise (Nye, Rainer, and Stratmann 2015)
- The number of businesses, self-employment increases (Sylvera 2021)
- Housing price (Beach et al. 2023)

Literature: Minority Representation

Voting rights act (Aneja & Avenancio-Leon 2019; Bernini, Facchini & Testa 2023)

No difference:

- No difference in employment and fiscal policies (Hopkins and McCabe 2012)

Widen racial gaps:

- Unemployment (small private firms), mortgage denials, and racial prejudice increase. (Sakong 2021)

Narrow racial gaps:

- Black employment and labor force participation rise (Nye, Rainer, and Stratmann 2015)
- The number of businesses, self-employment increases (Sylvera 2021)
- Housing price (Beach et al. 2023)

They all look at aggregated outcomes. This paper proposes a new measure to evaluate black mayor's influence—**individual location choice**

- It allows me to examine the move-in/move-outs for different race/ethnic groups

Literature: Segregation and Black Suburbanization

Racial inequality leads to higher levels of segregation. (Cutler and Glaeser,1997)

Segregation increases as racial inequality narrows:

- Place-based interventions that improve the public good in a low-income, high minority community ↑ group segregation. (Banzhaf and Walsh 2013)
- The emergence of middle-class black neighborhoods: ↑ segregation as racial inequality narrows. (Bayer, Fang, and McMillan 2014)

Black flight and black suburbanization: Baum and Hartley 2020; Bartik and Mast 2021

This paper narrows the gap between theoretical and empirical works on racial inequality and segregation by providing rich empirical evidence, suggesting that minority representation can potentially slow down black flight.

Institution background: How powerful is a mayor?

Two forms of general forms of municipal government: mayor–council and council–manager.

Mayor–council

- the mayor serves as the chief executive of the government. The mayor appoints department heads, hires executive staff, proposes the budget, and may serve as a member of planning and/or development boards
- In NC, the mayor–council form remains the principal form of local government (298/533). It predominates among cities with populations of less than 2,500.
- Most major American cities use the strong-mayor form of the mayor–council system (New York, Houston, Salt Lake City, Minneapolis, Pittsburgh, etc.)

Institution background: How powerful is a mayor?

Council–manager

- the mayor is a council person whose powers in general do not differ from other council persons.
- In NC, council–manager plan is used by most cities with populations larger than 2500.
- In the U.S., it is most popular in cities with populations over 10,000, mainly in the Southeast and Pacific coast areas (Phoenix, San Antonio, Rockville, etc.)

Data: individual level migration

North Carolina:

- NC voter registration data
2009 - 2020
Around 5000,000 unique registration per year
individual identifier for each voter across years, address, race, age
- A yearly panel data of voters' migration records

I restrict my sample into voters who are:

- valid registered voters
- aged 20-75
- have been registered for more than 2 years
- I built move-ins and move-outs for each voter who registered in multiple places.

Data: Mayor election data

North Carolina:

- Local elections: mayor election 2009-2019
- North Carolina State Board of Elections

Data: Summary statistics for NC

Tract level African American population ratio in NC: (aged 20-75)

Panel A: Mayor candidates characteristics			
	Percent		Percent
Black share	15.5%	Democratican	28.4%
White share	82.6%	Republican	16.8%
Others	1.9%	Non Partisan	44.5%
Female/Male	33.2%	Unaffiliated	10.1%

Panel B: Tract-level mean comparison		
	NC census data	NC voter registration data
Total population	2825.919	2012.417
American Indian/Alaska Native	0.013	0.010
Asian share	0.027	0.009
Black share	0.229	0.241
White share	0.662	0.698
Female/Male	1.072	1.221

Data: Summary statistics for NC

Summary Statistics of Move-in/Move-out in NC

Variable	Obs	Mean	Std. Dev.	Min	Max	percent of total move-in/move-out
blockgroup_in	89,375	58.814	79.16	0	2355	1.000
city_in	89,375	44.499	64.17	0	2329	0.757
county_in	89,375	37.902	56.18	0	2323	0.644
blockgroup_out	81,688	45.079	53.10	0	3112	1.000
city_out	81,688	30.940	38.90	0	1990	0.686
county_out	81,688	24.378	32.20	0	1869	0.541

Large cities in the US:

- Mayor elections in top 160 MSA central cities; collected from <https://www.ourcampaigns.com/>
- Census tract-level population by year
- Check whether the NC results also hold for the U.S. major cities.

Methods: RD+Diff-in-Diff

Main equation:

$$y_{bct} = \alpha + \beta_1 1(\text{MinorW}_{ce}) * \text{Post-Ele}_{ce} + \beta_2 1(\text{MinorW}_{ce}) + \beta_3 \text{Post-Ele}_{ce} + \text{can}_{ce} + v_{ce} + \text{Year}_t + \epsilon_{bct} \quad (1)$$

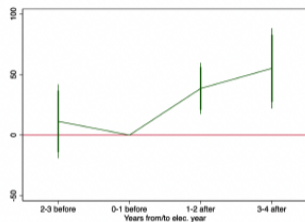
- y_{bct} is migration outcome at neighborhood b , city c during period t .
- $1(\text{MinorW}_{ce})$ is an indicator variable equal to 1 if the black mayor wins in election e at city c .
- Post-Ele_{ce} is the time dummy which indicates whether it's pre- or post- the election.
- v_{ce} : city-election level fixed effect

RD: Restrict to a set of elections with a relatively close margin of victory.

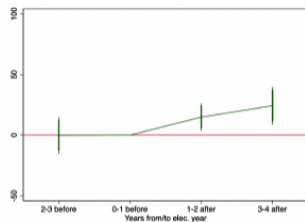
Results Roadmap

- tract-level net population change in NC
- move-in and move-out results in NC
- Potential mechanisms
- tract-level population change in 300 major cities in the U.S.

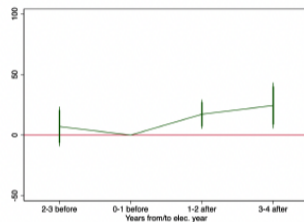
Results: North Carolina- All neighborhoods



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



(b) *African American voters*
(sample mean= 636)

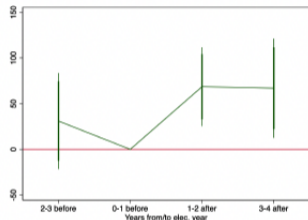


(c) *White voters* (sample mean=1022)

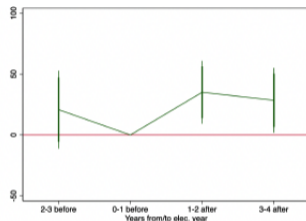
Figure: Net population change for all neighborhoods

Note: the voteshare margin I use for this and the following results is 0.1. The optimal bandwidth calculated for different outcome variables range from 0.09-0.15. So I use 0.1 for all of them. The time window is 4 years.

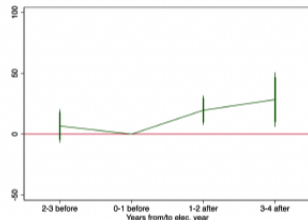
Results: North Carolina- Majority black neighborhoods



(a) *All voters (1674)*



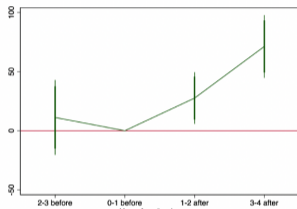
(b) *African American voters (833)*



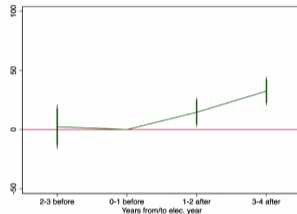
(c) *White voters (690)*

Figure: Net population change for majority black neighborhoods ($\geq 50\%$)

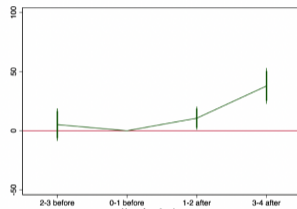
Results: North Carolina- 30%-50% black share neighborhoods



(a) *All voters (1795)*



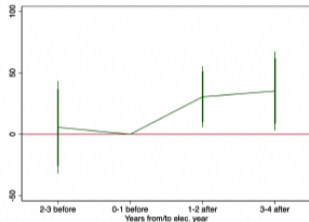
(b) *African American voters (728)*



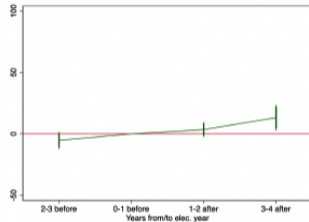
(c) *White voters (903)*

Figure: Net population change for 30%-50% black share neighborhoods

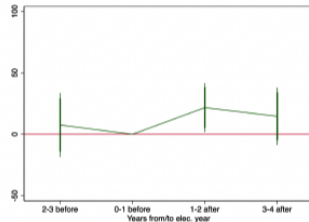
Results: North Carolina- White neighborhoods



(a) *All voters (2037)*



(b) *African American voters (276)*



(c) *White voters (1615)*

Figure: Net population change for white neighborhoods ($\leq 30\%$)

NC results summary

- More net population in all neighborhoods (3%)
- Both majority black neighborhoods and diverse neighborhoods experienced an increase in both black (4%) and white populations (3%-4%).
- A rise in the number of white population in predominantly white neighborhoods (.5%)

Results: Move-in/out at block group level

	(1)	(2)	(3)	(4)	(5)	(6)
	All voters	Move-in African American	White	All voters	Move out African American	White
Panel A: All neighborhoods						
Post*Minorwin	6.538** (2.783)	-2.753* (1.609)	7.197*** (2.031)	-6.202*** (1.086)	-12.17*** (0.879)	-3.670*** (1.310)
mean	68.95	24.5	35.85	74.4	26.49	40.59
Elections	52	52	52	52	52	52
Observations	20169	20169	20169	19132	19132	19132
Panel B: Majority black neighborhoods						
Post*Minorwin	7.870*** (2.656)	-0.158 (0.861)	6.070*** (1.748)	-22.21*** (1.900)	-14.17*** (0.944)	-5.777*** (1.346)
	68.16	29.42	30.06	73.21	32.22	33.53
Elections	48	48	48	48	48	48
Observations	10801	10801	10801	10225	10225	10225
Election FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Results: Move-in/out at block group level

	(1)	(2)	(3)	(4)	(5)	(6)
	All voters	Move-in African American	White	All voters	Move out African American	White
Panel C: 30%-50% black neighborhoods						
Post*Minorwin	-0.877	-5.454***	2.772*	-23.99***	-11.50***	-7.778***
	(2.630)	(1.473)	(1.380)	(2.201)	(1.211)	(0.704)
mean	65.63	32.46	24.68	74.51	35.41	31.52
Elections	44	44	44	51	51	51
Observations	3022	3022	3022	8907	8907	8907
Panel D: 30% less neighborhoods						
Post*Minorwin	9.801**	-1.937*	8.551***	-18.94***	-4.357***	-0.969
	(3.991)	(1.137)	(2.760)	(1.927)	(0.702)	(0.718)
mean	71.89	12.34	51.03	76.38	12.57	56.81
Elections	46	46	46	46	46	46
Observations	6346	6346	6346	8907	8907	8907
Election FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Probing the mechanisms

What can black mayors impact?

- Place-based redistribution: reallocate resources to minority neighborhoods.
 - Improve the quality of public service provided to minority neighborhoods
 - The location of polluted facilities (measured by Toxic Release Inventories)

Probing the mechanisms

	(1)	(2)	(3)	(4)
	TRI	TRI	TRI_num	TRI_num
	OLS	OLS	OLS	PPML
postXminorwin	-0.00591 (0.00376)	0.00331 -0.0103	0.299*** (0.0881)	0.755*** (0.249)
postXminorwinXmajorb		-0.0195 (0.0155)	-0.288*** (0.0988)	-0.622** (0.247)
postXminorwinXmidb		-0.0133 (0.0135)	0.0164 (0.0734)	0.0384 (0.177)
blockgroup fe	YES	YES	YES	YES
year&election fe	YES	YES	YES	YES
Elections	47	47	33	33
Observations	14036	14036	5517	5517

Figure: Polluting facilities: Toxic Release Inventories

Probing the mechanisms

What can black mayors do?

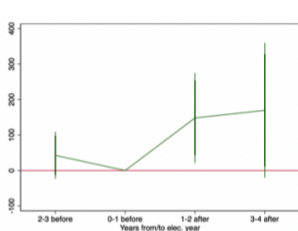
- shifting public attention to majority black neighborhoods
- Attention shifting evaluated by the frequency of black neighborhoods discussed in newspapers.

Probing the mechanisms

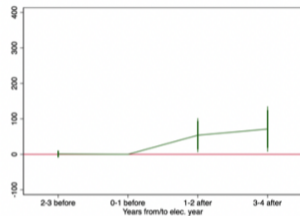
	(1)	(2)
	coverage	Share of coverage
	ppml	ols
post	0.0482 (0.0857)	-0.000271 (0.000395)
post x minorwin	-0.141* (0.0803)	0.000143 (0.000343)
post x minorwin x minorneigh	0.0672 (0.0451)	0.00129* (0.000703)
mean	488	0.008
Local_coverage	yes	
Year & City & Election FE	yes	yes
Neighborhood FE	yes	yes
Election num	27	27
Observation	24410	25513

Figure: Local news coverage

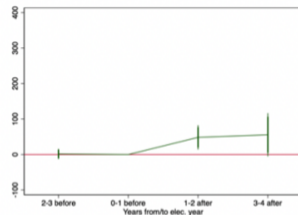
Results: US major city results



(a) All (sample mean=4625)



(b) African American (sample mean=1085.5)

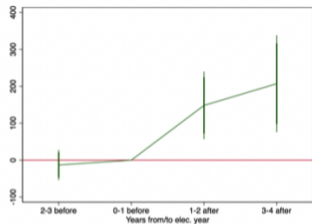


(c) White (sample mean=2242.1)

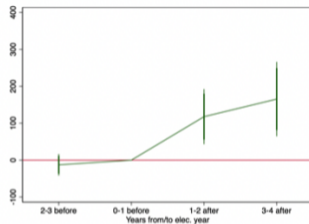
Figure: Population change for all neighborhoods

Note: the voteshare margin is 0.136 (opt). The optimal bandwidth calculated for different outcome variables range from 0.12-0.18. The time window is 4 years.

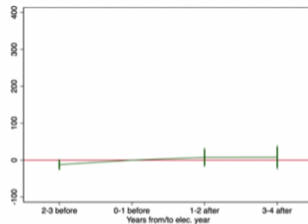
US major city results



(a) *All (3471)*



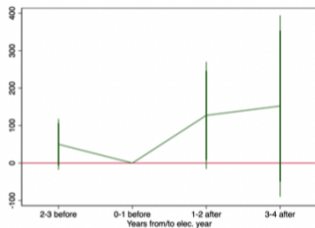
(b) *African American (2664.7)*



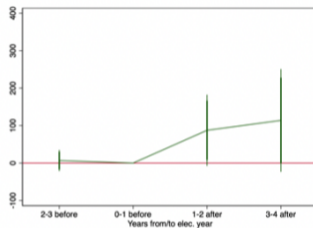
(c) *White (438.8)*

Figure: Population change for black neighborhoods

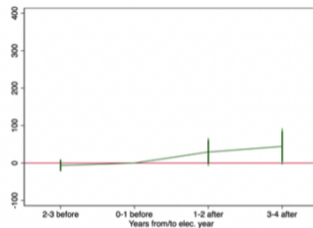
US major city results



(a) *All* (4560.3)



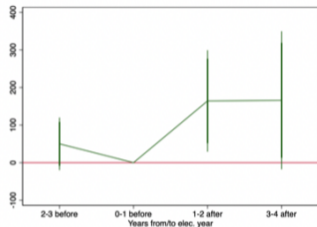
(b) *African American* (1736)



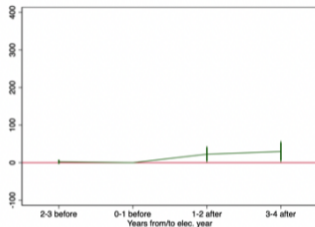
(c) *White* (1465.47)

Figure: Population change for diverse neighborhoods

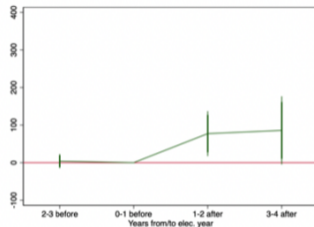
US major city results



(a) *All* (4994.1)



(b) *African American* (497.9)



(c) *White* (2918.5)

Figure: Population change for white neighborhoods

Partisan concerns

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A	All neighborhoods			50% more black neighborhoods		
	total	black	white	total	black	white
postXminorwin	63.86*** (17.80)	22.68*** (6.366)	26.77*** (8.946)	65.07** (29.92)	38.69* (20.52)	16.34*** (5.025)
postXdemwin	-15.98 (20.59)	-3.459 (8.159)	0.0513 (12.61)	1.668 (31.67)	-5.742 (23.12)	14.13** (5.019)
	47	47	47	24	24	24
Observations	11712	11712	11712	3161	3161	3161
Panel B	30-50% black neighborhoods			30% less black neighborhoods		
	total	black	white	total	black	white
postXminorwin	60.28** (22.78)	27.09*** (6.084)	23.50** (10.81)	64.14*** (11.99)	4.622 (3.195)	33.04*** (8.636)
postXdemwin	-27.00 (23.71)	-15.19** (7.281)	1.492 (11.02)	-12.11 (20.82)	-1.144 (2.827)	1.507 (18.19)
Election num	40	40	40	27	27	27
Observations	5168	5168	5168	3579	3579	3579
year&election fe	YES	YES	YES	YES	YES	YES
tract fe	YES	YES	YES	YES	YES	YES

Figure: Results with party controls

Conclusion

- Using close elections for mayors and voter registration data in North Carolina, I causally identify the impact of having a black mayor on the location decisions of individuals within and across cities.
- Increase the net population in both majority-black and non-majority-black neighborhoods in North Carolina and 300 major US cities.
- A black mayor reduces the out-migration of both black and white individuals and attracts more individuals from outside the city.
- Mechanisms: Polluting facilities, media attention
- Minority representation can potentially decrease racial disparities by improving conditions in minority neighborhoods, slowing down black suburbanization trends, and making cities more appealing to all groups.

Thank you!

jiz198@pitt.edu