

# Segregation and Homeownership in the Early Twentieth Century

Trevon D. Logan, The Ohio State University  
John Parman, College of William & Mary

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# Introduction

- Among the persistent black-white gaps, homeownership is one of the most substantial
- In 2016, the white homeownership rate was at 63.5 percent while the black homeownership rate was only 41.3 percent (CPS Housing Vacancy Survey)
- This translates into significant gaps in wealth between white and black households
- Compounding this are differences in the returns to housing wealth: for every \$1 in wealth accrued through homeownership for the median black household, the median white household accrues \$1.34 (Sullivan et al., 2015)

# Introduction

- These gaps are a product of a long history of discriminatory policies in lending, institutional barriers to black homeownership, and the effects of residential sorting
- Our goal is to provide new evidence of the relationship between residential segregation and homeownership rates over the first half of the twentieth century
- Our main contribution is to introduce new panel of segregation data that lets us look at the relationship between segregation and homeownership outside of just the largest American cities

# Introduction

- We construct new data on segregation from 1880 through 1940 and relate levels of segregation to levels of homeownership by race
- The segregation measure exploits the federal 100 percent samples of the census to identify the races of next-door neighbors
- We find a rise in segregation over time in both urban and rural areas that mirrors the rise in homeownership rates
- However, in the cross section, segregation and homeownership are negatively correlated for both white and black households
- Using the approach of Fetter (2013), we show that exogenous shocks to the ability to finance a mortgage had substantially lower impacts on homeownership in more segregated counties

## Race and Homeownership over the 20th Century

- The 20th century saw the Great Migration of black households from the South to cities in the North coupled with suburbanization
- Boustan (2010) documents the impact of black arrivals on white flight to the suburbs in the mid-twentieth century, Shertzer and Walsh (2016) demonstrate white flight occurred in earlier decades as well
- As this residential sorting occurred, the nature of mortgages changed as well with the rise of longer loans with lower down payments, the Home Owner's Loan Corporation (HOLC), the Federal Housing Administration (FHA), and racial covenants (until 1948)
- These changes to the lending market were far from race neutral

## Measuring Segregation

- We are not the first to look at segregation and homeownership during this period (see, for example, Collins and Margo, 2001 and 2011)
- However, prior studies have had to rely on traditional segregation measures like dissimilarity or isolation
- These measures fail to capture segregation within wards or outside of cities, limiting their scope
- With the release of digitized 100 percent samples of the federal census, it is possible to look at segregation at the household level



# The 1880 Federal Census

7		12 16	Jenkins, Prance,	B	M	46		1	Farm laborer	
8		13 17	Abbott, James,	B	M	49		1	Farm laborer	14
9			Wiley,	B	F	40	Wife	1	Keeping house	
10	Prince George Street		Harry,	L	M	16	Son	1		
11		14 18	Bonner, James,	B	M	60		1	Baker	
12			Permyer,	B	F	38	Wife	1	Keeping house	
13			Mary J.	B	F	27	Daughter	1	Domestic servant	1
14			Ella,	B	F	13	Daughter	1		
15			Mary E.	W	F	11	Grand-daughter	1		
16			Roberson, Martha	B	F	6	Grand-daughter	1		
17		15 19	Lacy, Theodore S.	W	M	36		1	Salesman	
18			Kate H.	W	F	31	Wife	1	Keeping house	
19			Southall, Virginia A.	W	F	27	Sister-in-law	1		
20		Virginia C.	W	F	22		1			
21	16 20	Brown, James F.	W	M	47		1	Carpenter		
22	17 21	Toussaint, Thomas,	B	M	25		1	Laborer	8	
23		Rachel,	B	F	30	Wife	1	Servant		
24		Shepherd, Emma,	B	F	13	Step-daughter	1	Servant	3	
25		Boyl, George,	W	M	12	Step-son	1			
26		Jeremiah,	W	M	10	Step-son	1			

# The 1940 Federal Census

State Virginia Incorporated place Williamsburg Ward of city \_\_\_\_\_ Unincorporated place \_\_\_\_\_  
 County James City Township or other division of county \_\_\_\_\_ Block No. \_\_\_\_\_ Institution \_\_\_\_\_  
(Name of unincorporated place having 100 or more inhabitants)  
(Name of institution and town or village within its reach)

Line No.	LOCATION	HOUSEHOLD DATA					NAME	RELATION	PERSONAL DESCRIPTION	EDUCATION	PLACE OF BIRTH	ETHNIC ORIGIN	RESIDENCE, AS					
		Householder or subholder (name and address)	Persons in household in which of whom listed (all or some) (M)	Male stated (M or female) (F)	Name of other person or persons (name, address, and relationship)	Has this household a telephone? (Yes or No)							IN WHAT PLACE DID THIS PERSON LIVE 1 YEAR AGO, ON APRIL 1, 1935, WAS BEING LIVED IN "OTHER HOME PLACE," AND FOR 10 YEARS, IF FOR A PERIOD WHO LIVED IN A DIFFERENT PLACE, 1 YEAR AGO, WAS BEING LIVED IN "OTHER HOME PLACE" (State address)	CITY, TOWN, OR VILLAGE (Leave blank if none)	COUNTY	STATE		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
41	N Nassau Street	13	Here	We turn corner to	right on to	Nassau Street												
42		13	0 1200	No	Davis, Henry E. ♂	Head	M	W	58	M	No	7	Virginia	Same house				
43					Maxie W.	wife	F	W	48	M	No	2	West Virginia	Same house				
44					Hiram W.	son	M	W	23	S	No	5	West Virginia	Same house				
45					Henry E. III	son	M	W	20	S	No	2	West Virginia	Same house				
46					Robert L.	son	M	W	16	S	Yes	4	Virginia	Same house				
47		200	14	0 8000	No	Goodwin, Ethel H. ♂	Head	F	W	53	W	No	4	Alabama	Same place			
48					E. Howard	son	M	W	20	S	Yes	1	New York	Same place				
49					William A. H.	son	M	W	19	S	Yes	4	New York	Same place				
50					John S. ♂	son	M	W	16	S	Yes	4	Virginia	Same place				
51	Prince George Street		Here	We turn corner to	right on to	Prince George Street												
52		15	R 60	No	Farish, Hatter D. ♂	Head	M	W	42	S	No	5	Alabama	Native Monroe				
53					George W.	brother	M	W	19	S	Yes	1	Alabama	Namden Wilcox				
54					This space vacant due to misinterpretation of original													
55		309	16	0 10000	No	Foster, Merritt W.	Head	M	W	46	M	No	2	Virginia	Same house			
56					Nancy O. ♂	wife	F	W	44	M	No	2	Virginia	Same house				
57					Merritt W. Jr.	son	M	W	19	S	No	3	Virginia	Same house				
58					Polivey	son	M	W	18	S	Yes	1	Virginia	Same house				
59					Dixon L. ♂	son	M	W	17	S	No	4	Virginia	Same house				
60		313	17	0 9000	No	Humphrey, Mary P. ♂	Head	F	W	60	W	No	4	Virginia	Same house			
61				James G.	son	M	W	29	S	No	4	Virginia	Same house					
62				Haynes, Ella	daughter	F	W	26	M	No	4	Virginia	Same house					
63				Russell	son-in-law	M	W	22	M	No	4	Virginia	Freeville					

## Neighbor-based Segregation

The measure is based on how the number of black households living next to white neighbors compares to the expected number under random assignment and under perfect segregation:

$$\alpha = \frac{E(\overline{x_b}) - x_b}{E(\overline{x_b}) - E(\underline{x_b})}$$

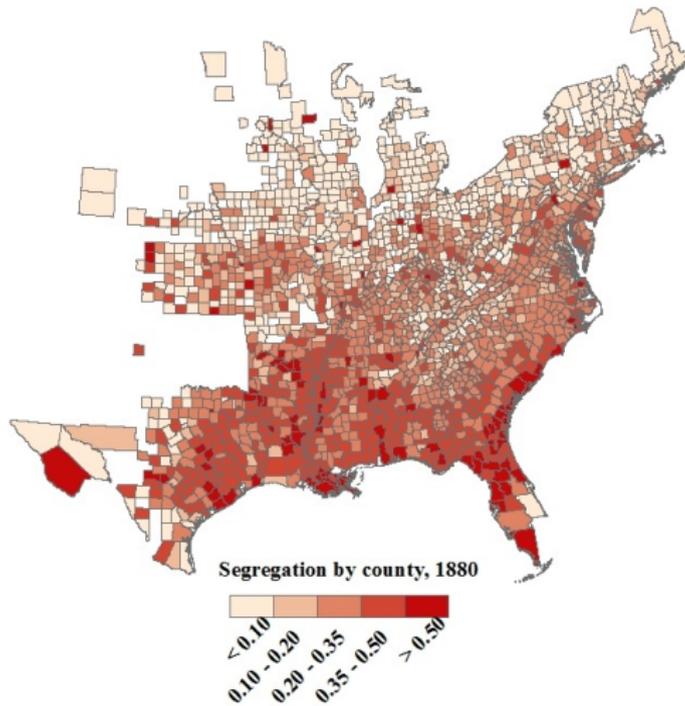
- $x_b$ : number of black household heads living next to white neighbors
- $E(\overline{x_b})$ : expected number under random assignment of households
- $E(\underline{x_b})$ : expected number under complete segregation

## Neighbor-based segregation

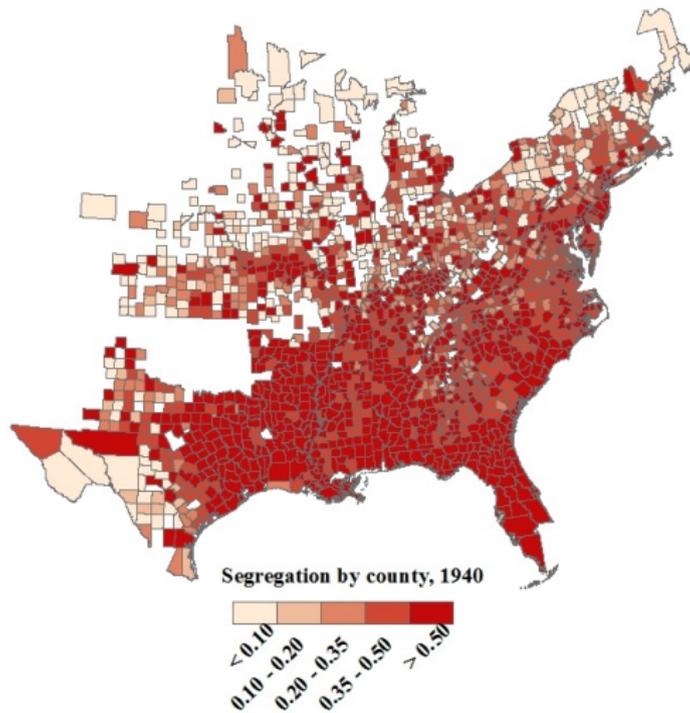
$$\alpha = \frac{E(\overline{x_b}) - x_b}{E(\overline{x_b}) - E(\underline{x_b})}$$

- Note that the measure goes to zero under random assignment (no segregation)
- As counties become more segregated,  $x_b$  decreases leading to a larger value for the statistic
- The measure goes to one under complete segregation

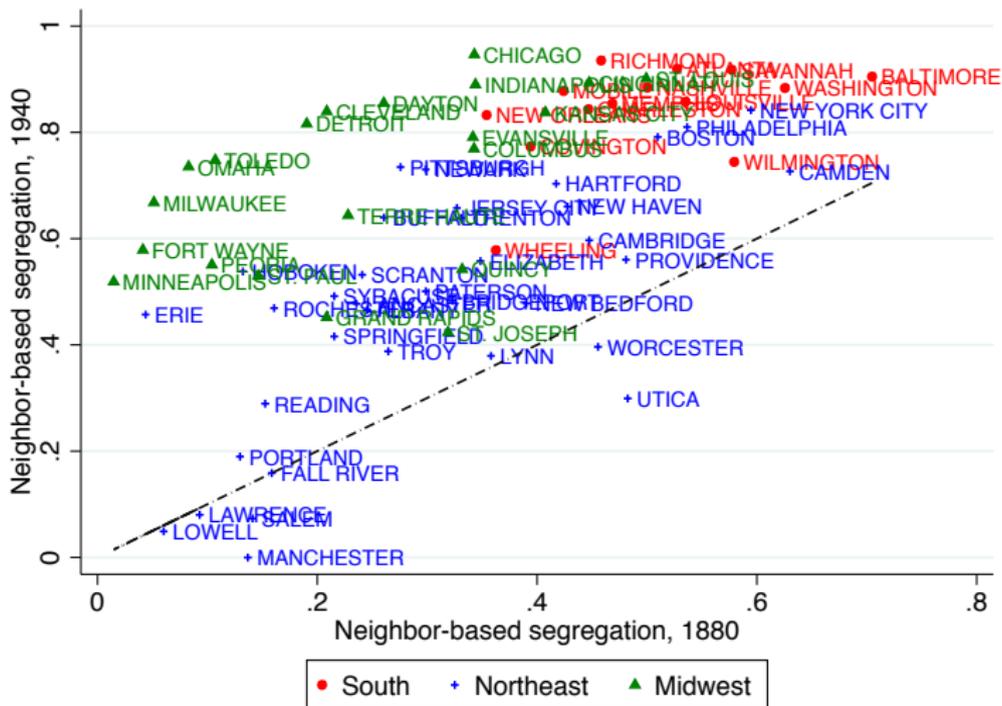
# Segregation by County, 1880



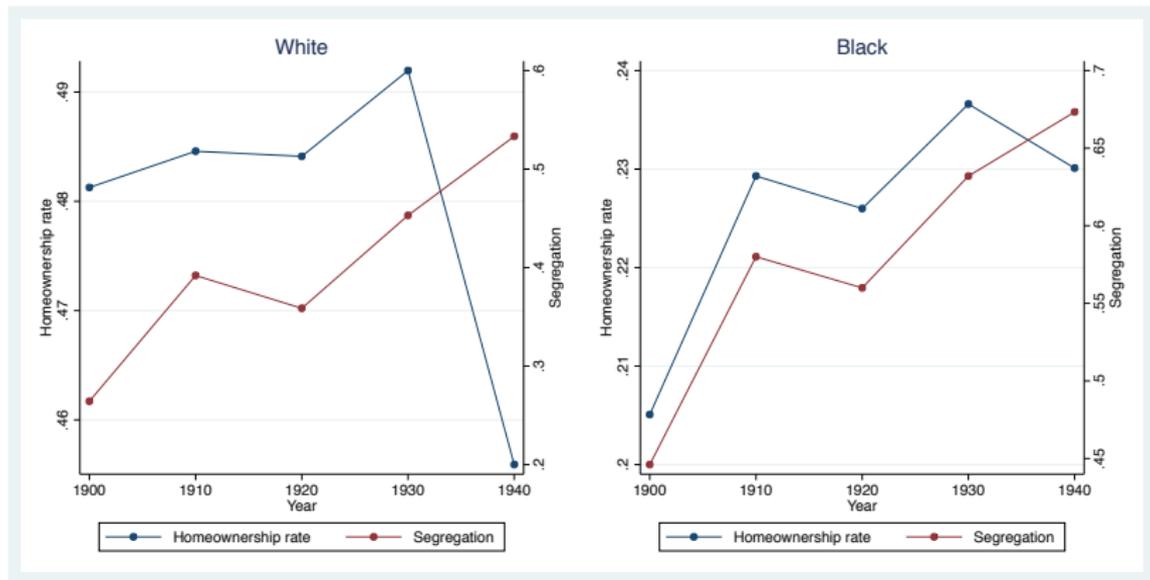
# Segregation by County, 1940



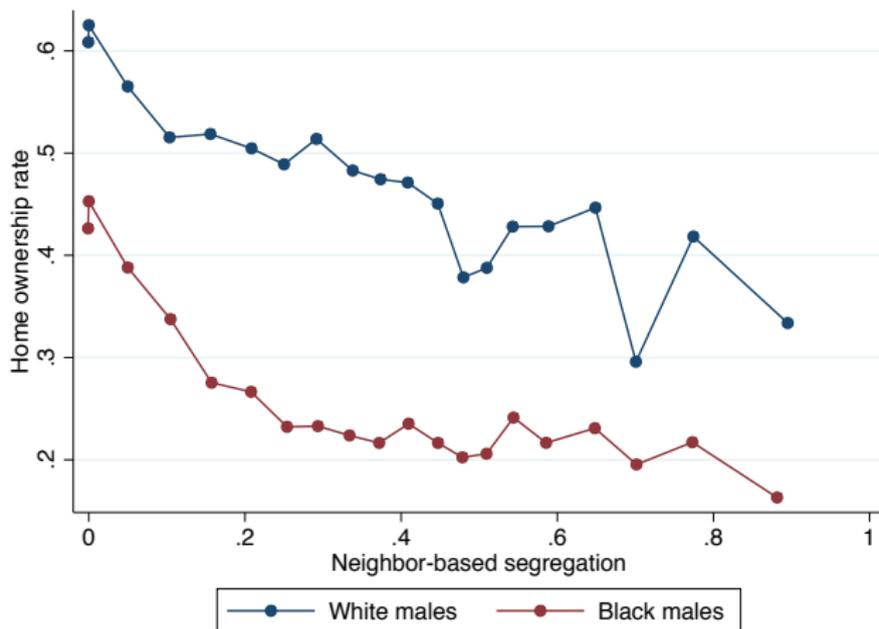
# Segregation by City, 1880 to 1940



# Segregation and Homeownership Over Time



# Segregation and Homeownership Across Space



## Segregation and the GI Bill

- While the rise in residential segregation was concurrent with increasing homeownership rates, more segregated counties in any particular decade had lower levels of homeownership
- These patterns hold for both white and black households and after controlling for urban/rural status and state fixed effects
- To dig a little deeper, we build off of Fetter (2013) and use the GI Bill as a shock to individuals' ability to purchase a home
- Fetter demonstrates that the GI Bill had significant impacts on homeownership rates of WWII and Korean vets
- We want to know whether those impacts differed by levels of segregation

## Segregation and the GI Bill

- We adopt Fetter's approach of instrumenting for veteran status with an indicator for being born before the birth quarter cutoff for serving in the military
- Segregation is measured using the neighbor-based index for every county in 1940 (the most recent 100 percent sample available)
- We use the IPUMS 5 percent sample of the 1960 federal census to get homeownership, veteran status, age and race
- Interacting veteran status (based on quarter of birth) with segregation let's us look at how a shock to mortgage terms depends on local segregation levels

# Segregation and the GI Bill

IV Estimates of the impact of segregation and veteran status on black homeownership, homeownership rate as the dependent variable.

	<u>Black males</u>			
	<u>World War II</u>		<u>Korean War</u>	
Veteran	-0.2300 (0.3627)	-0.2448 (0.3544)	0.1492 (0.2400)	0.0294 (0.0333)
Segregation	-0.3834* (0.2310)	-0.4353* (0.2585)	-0.1381* (0.0812)	-0.1760*** (0.0294)
Percent black		0.1660 (0.3170)		0.2219*** (0.0369)
Veteran x Segregation		0.2118 (0.4633)		-0.0284 (0.0416)
Veteran x Percent black		-0.2054 (0.5974)		-0.0383 (0.0519)
Observations	18,277	18,277	16,770	17,205

# Segregation and the GI Bill

IV Estimates of the impact of segregation and veteran status on white homeownership, homeownership rate as the dependent variable.

	<u>White males</u>			
	<u>World War II</u>		<u>Korean War</u>	
Veteran	0.07890 (0.0550)	0.0676 (0.0545)	0.1202*** (0.0429)	0.1352*** (0.0440)
Segregation	-0.1864*** (0.0420)	-0.2813*** (0.0492)	-0.1149*** (0.0173)	-0.1372*** (0.0200)
Percent black		0.5733*** (0.1230)		0.1994*** (0.0554)
Veteran x Segregation	0.0085 (0.0557)	0.0653 (0.0655)	-0.1041*** (0.0339)	-0.1623*** (0.0396)
Veteran x Percent black		-0.2767* (0.1674)		0.3206*** (0.1139)
Observations	159,637	159,637	136,251	136,251

## Segregation and the GI Bill

Percent of veterans who used a VA home loan for a home they purchased or built

	<u>Period of service</u>			
		Vietnam	Korean	WW II
	Total	only	only	only
Total	38.2	36.5	37.4	41.2
White	38.0	35.2	37.2	41.6
Black	42.8	58.4	38.7	37.8

Source: National Survey of Veterans, published 1980

# Segregation and the GI Bill

Percent of veterans reporting attitude of real estate broker towards us of a VA loan

Salesman's attitude	<u>All periods</u>		<u>Vietnam only</u>		<u>WW II only</u>	
	White	Black	White	Black	White	Black
Encourage	7.8	14.4	9.5	21.7	6.5	9.5
Discourage	5.5	5.0	10.5	0.0	3.4	7.1
Neutral	11.7	16.9	20.2	27.0	8.1	5.6
Seller would not sell VA VA loan not discussed	7.9	8.8	13.4	27.0	5.6	3.2
	67.1	54.9	46.4	24.3	76.4	74.6

Source: National Survey of Veterans, published 1980

# Housing Characteristics and Segregation

Correlations of segregation with individual and housing characteristics

	<u>White adult males</u>		<u>Black adult males</u>	
	Mean	Correlation with segregation index	Mean	Correlation with segregation index
Segregation index (in 1940)	0.592 (0.249)	1.000	0.750 (0.168)	1.000
Income	4805.13 (4027.08)	0.050	2389.79 (2036.49)	-0.051
House value (in 1960 \$)	12725.59 (7918.38)	0.066	7420.40 (5452.62)	-0.047
Never attended high school (1=never attended)	0.365	-0.013	0.598	0.030
High school graduate (1=graduate)	0.442	0.004	0.206	-0.026
Deteriorating or delapidated house (1=yes)	0.148	-0.060	0.453	-0.037
Lacks complete plumbing (1=yes)	0.103	-0.055	0.378	0.001
Lacks hot water (1=no hot water)	0.087	-0.045	0.357	0.005
Old house (1=house over 30 years old)	0.452	-0.038	0.563	0.066
Observations	1,396,551		147,357	

## Moving Forward

- These new segregation estimates show that the rise in homeownership occurred alongside rising segregation in both urban and rural areas
- However, homeownership rates were lower in more segregated counties for both white and black households (even after controlling for urban/rural and state fixed effects)
- The GI Bill evidence suggests that segregation was a barrier to white homeownership in addition to black homeownership
- Up next is to explore the channels through which segregation influences homeownership both in and outside of cities