

Separate and Unequal: Race and the Geography of the American Housing Market

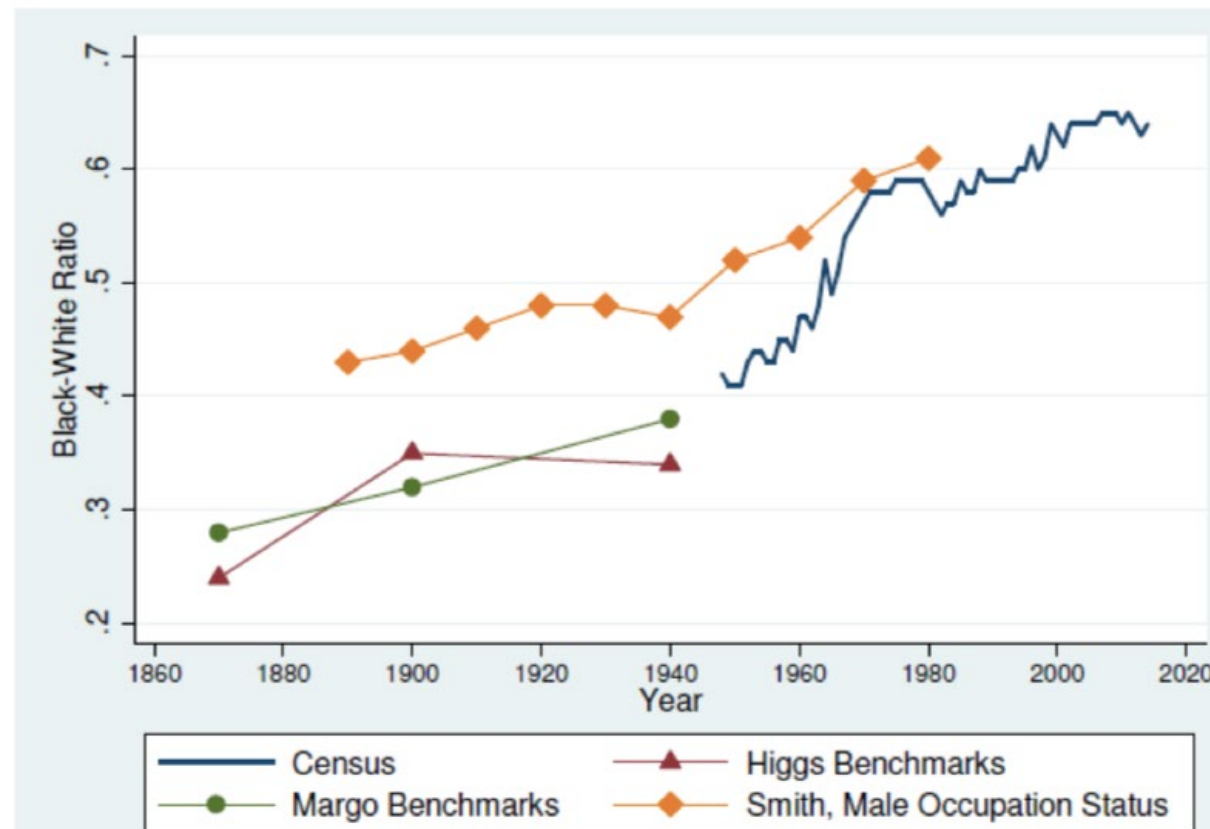
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Introduction

Since the end of the Civil War, racial economic convergence in the United States has proceeded at a glacial pace

Figure 1: Black/White Income Ratios, 1870-2014



Speed of Racial Economic Convergence

Compare to a benchmark of how quickly group differences would diminish if economic mobility from one generation to the next were independent of race

- Margo (2016) estimates that the difference in per capita income declined at *less than half* the expected speed from 1870-2010.
- Holds for Reconstruction and Jim Crow eras, but also recent decades

This means:

- For past 150 years, for generation after generation, the economic fortunes of Black Americans have consistently and severely lagged those of white Americans who *began their lives in otherwise comparable economic circumstances*.

What Drives Slow Speed of Racial Economic Convergence?

Racial Discrimination

- Schooling, jobs, professions, lending, housing, policing, criminal justice, etc.
- *Directly targeted* at individuals

Racial Sorting

- In almost every aspect of society, especially schools and neighborhoods
- *Less direct* - driven by millions of individual location/school choices
- Enormous impact: in every American metropolitan area, an equilibrium neighborhood structure emerges that is segregated and vastly unequal
- Black & white families *who are identical in every other way* routinely reside in neighborhoods that look nothing alike in terms of available resources.

Documenting Neighborhood Inequality

Vast differences in the neighborhoods in which Black and white households *with identical incomes* reside in metropolitan areas across the United States.

- Logan (2011) reports the following remarkable fact:
 - Affluent Black households (those with income above \$75,000) live in neighborhoods with a higher average poverty rate than poor white households (those with income below \$40,000).
- We show substantial neighborhood inequality throughout entire household income distribution.
 - It takes more than \$65,000 in household income for Black households to reside (on average) in the median American neighborhood (measured by income), while white households with just \$21,000 in income reside in comparable neighborhoods.

Within Metropolitan Areas

Racial inequality in neighborhood resources is even starker in many metropolitan areas

- In Chicago metro area,
 - It takes more than \$150,000 for Black households to live in neighborhoods with the median level of income,
 - White households with just \$10,000 in income actually live in neighborhoods *above the median*.
- Strong correlation of racial segregation and neighborhood inequality
 - Highest in most segregated cities of North & Midwest
 - Lowest in less segregated cities of Sunbelt & West

Exploring Mechanisms

Second part of paper explores mechanisms that might contribute to this equilibrium structure of racial segregation and neighborhood inequality

1. Decentralized Racial Sorting
2. Housing Discrimination
3. Racial Differences in Wealth
4. Racial Differences in Home Ownership

Goal is not to provide definitive causal evidence on any of these mechanisms, but instead to highlight suggestive evidence for each

Conclude with discussion about link between neighborhood inequality and intergenerational mobility.

Data and Definitions

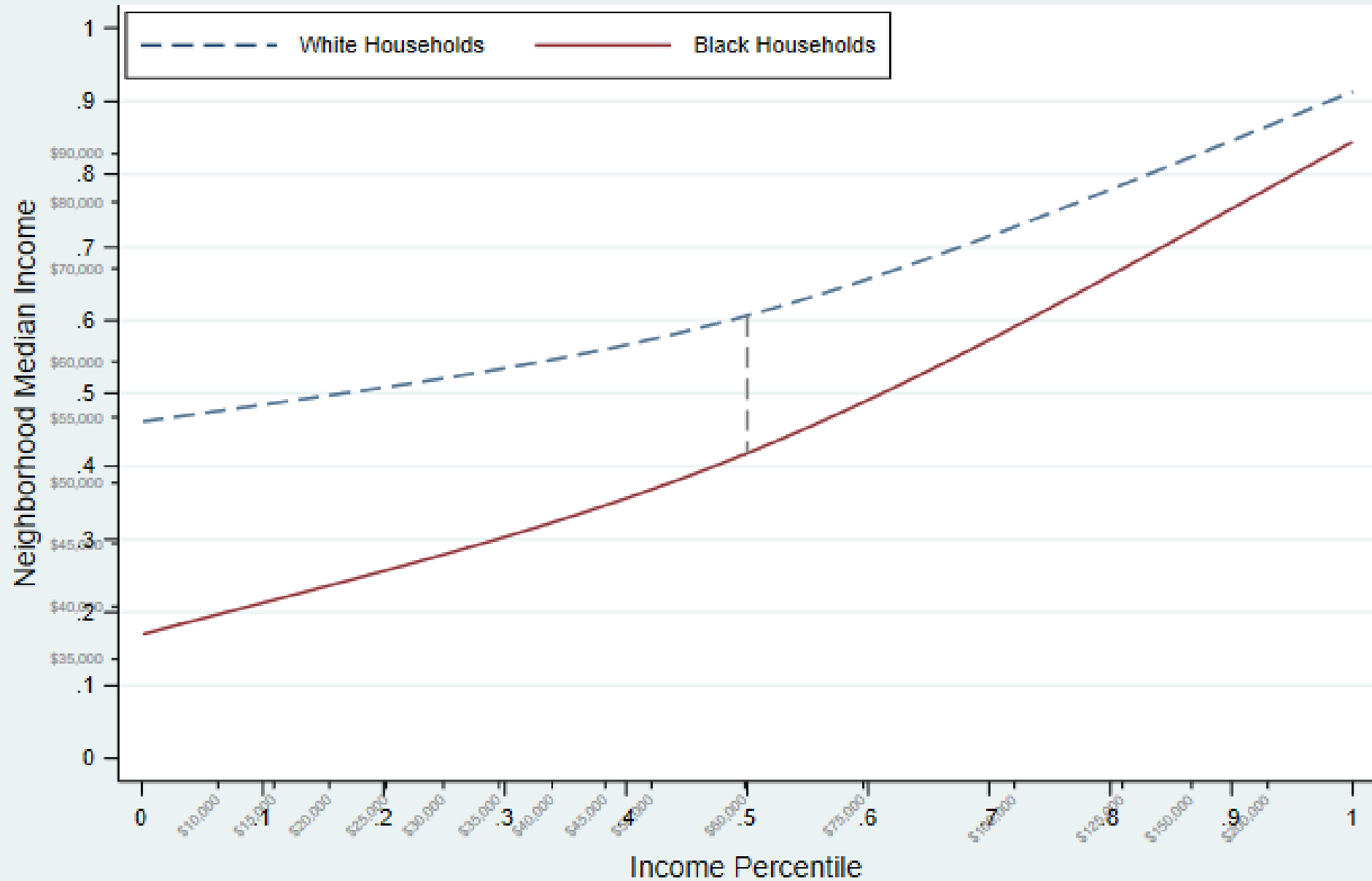
- Primary data from 5-year sample of the American Community Survey, 2014-18
- Focus on results for Non-Hispanic Black and Non-Hispanic white households
 - We report comparable results for Asian and Hispanic households (as defined by the Census) for key aspects of our analysis in the Appendix.
- Use Census tracts to define neighborhoods (roughly 4,000 people)
- Use median income as a summary statistic for available neighborhood resources

Neighborhood Inequality

United States as a whole

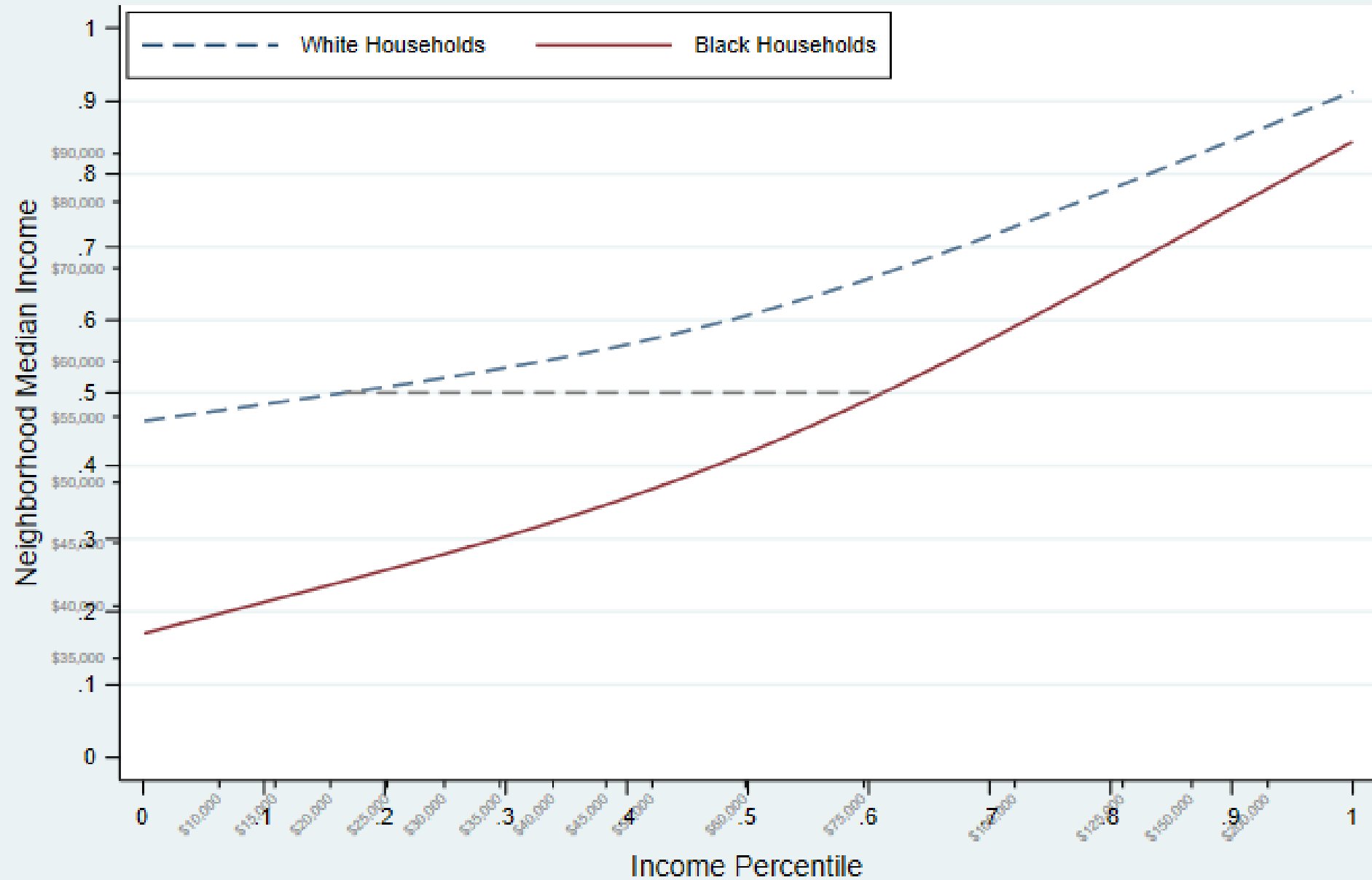
Neighborhood Median Income by Household Income and Race

All households in U.S., 2014-2018



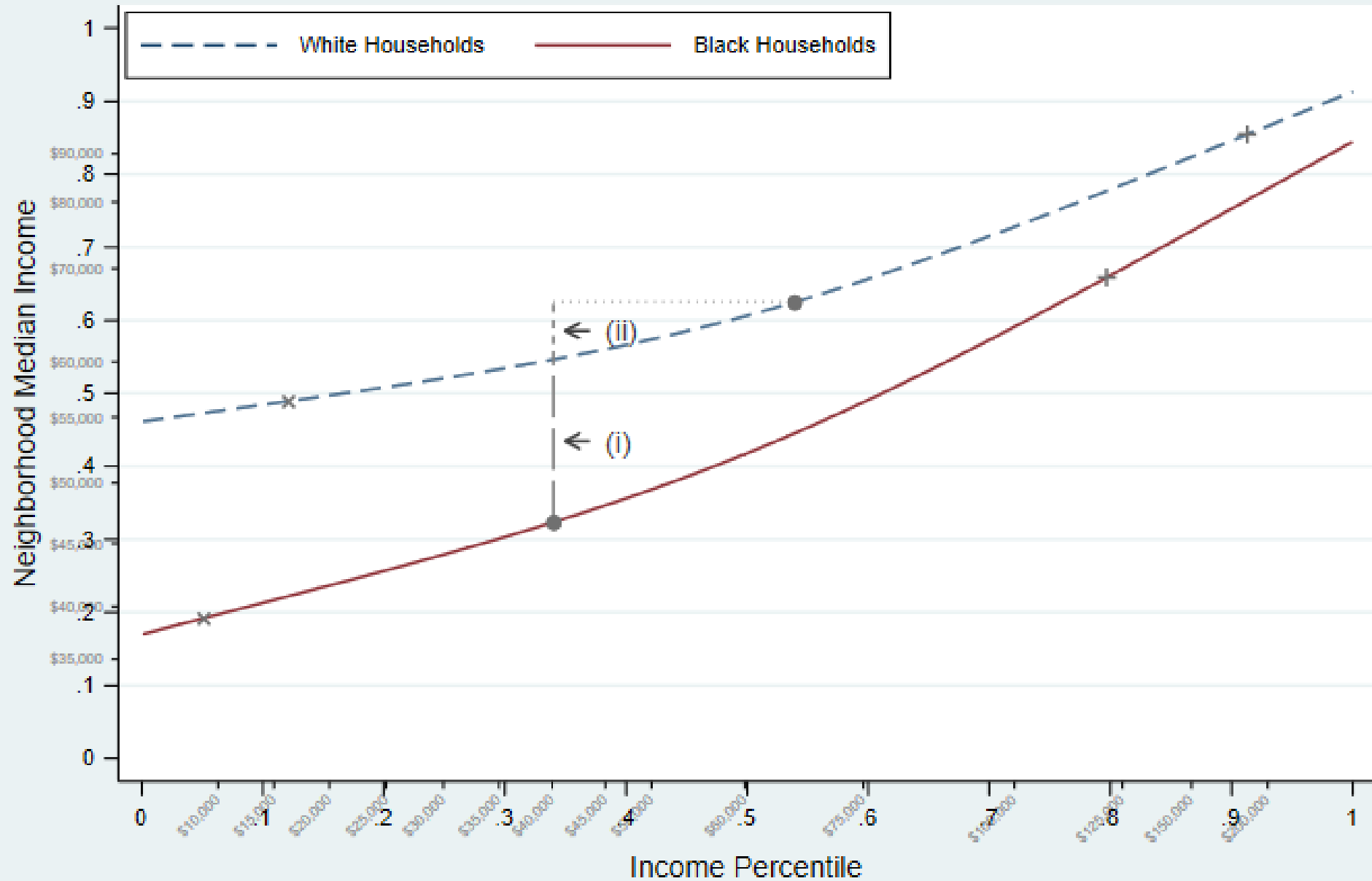
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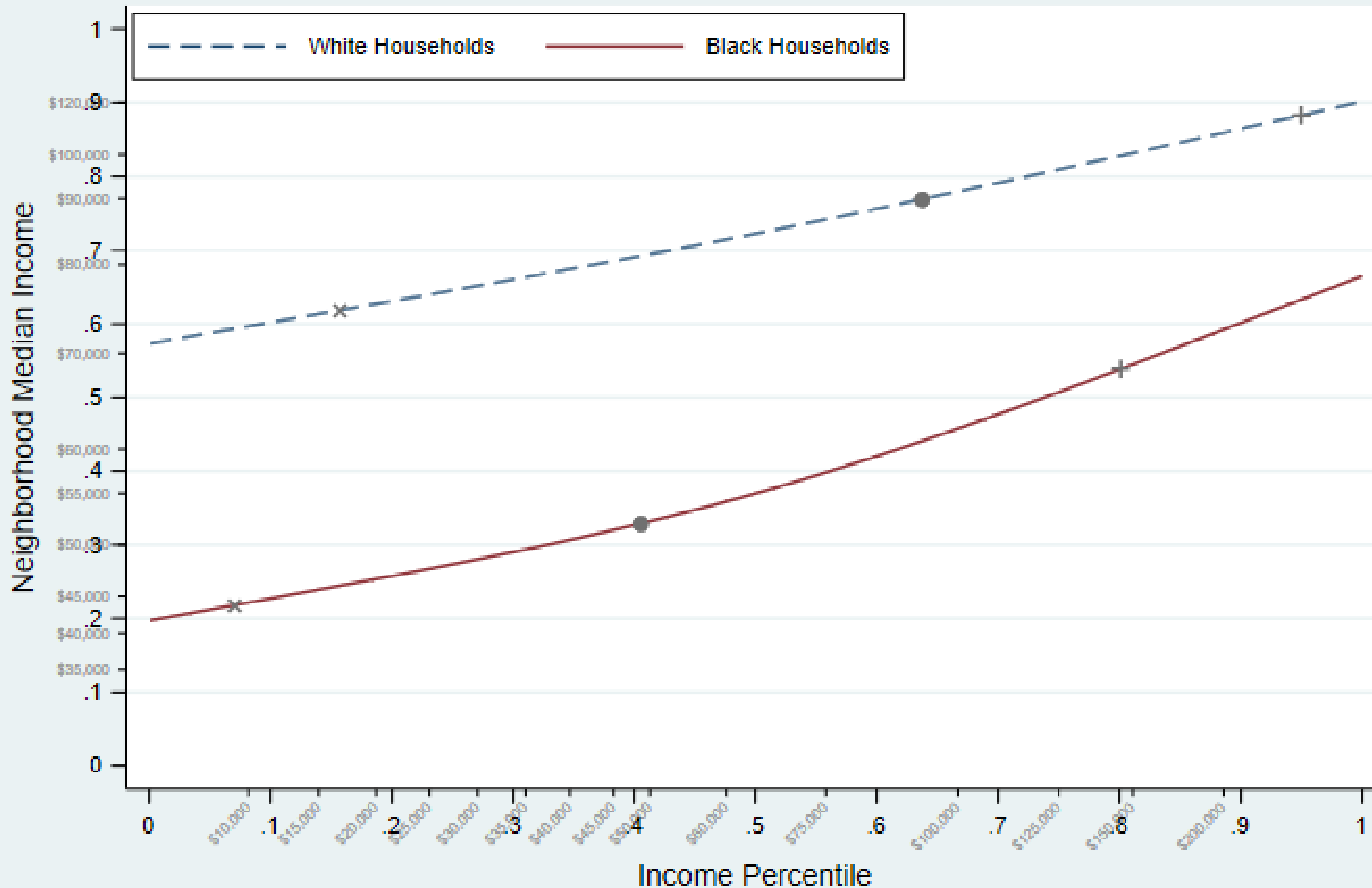


Neighborhood Inequality

Metro Areas

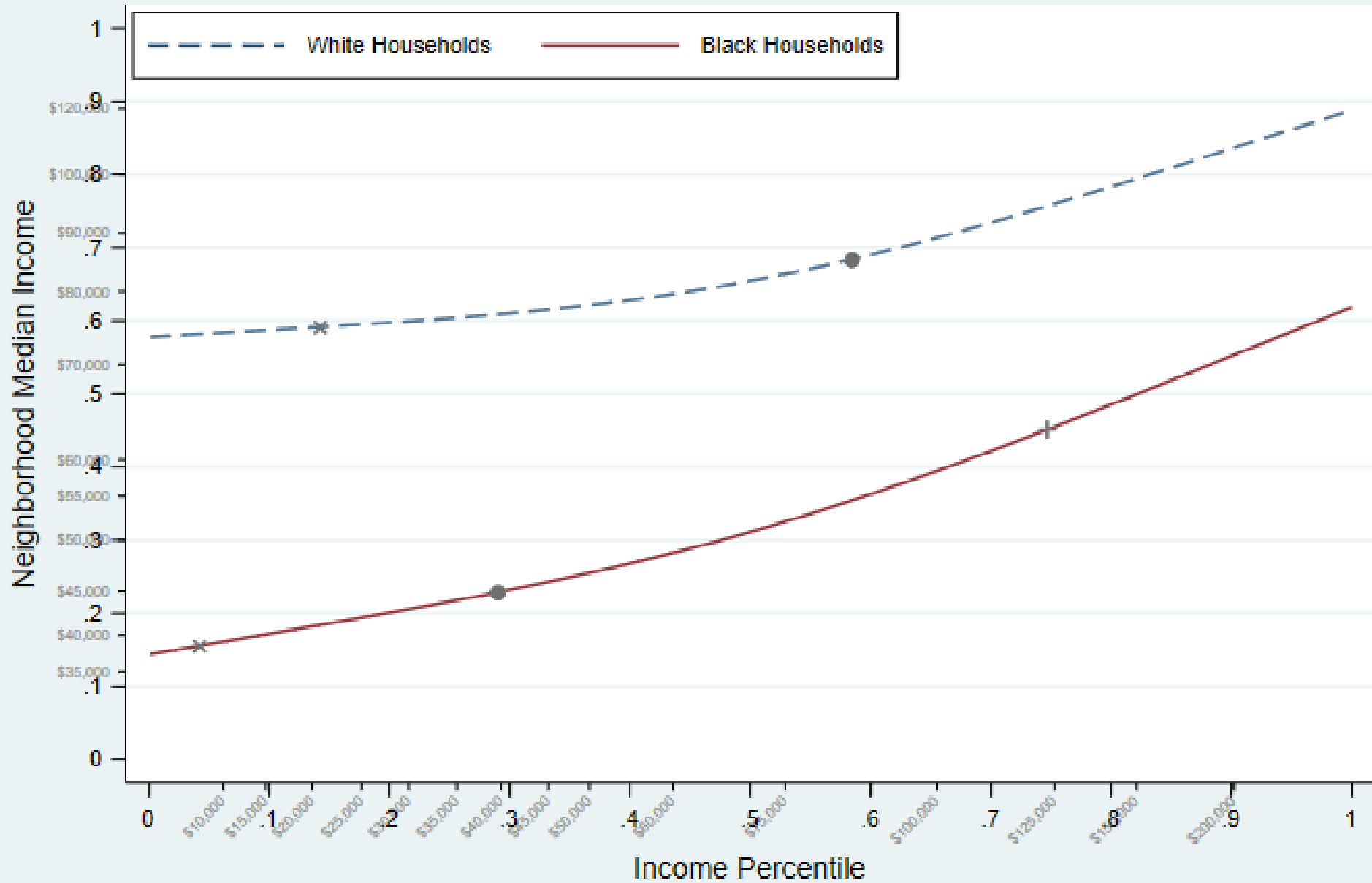
Neighborhood Median Income by Household Income and Race

NEW YORK-NEWARK, NY-NJ-PA, 2014-2018



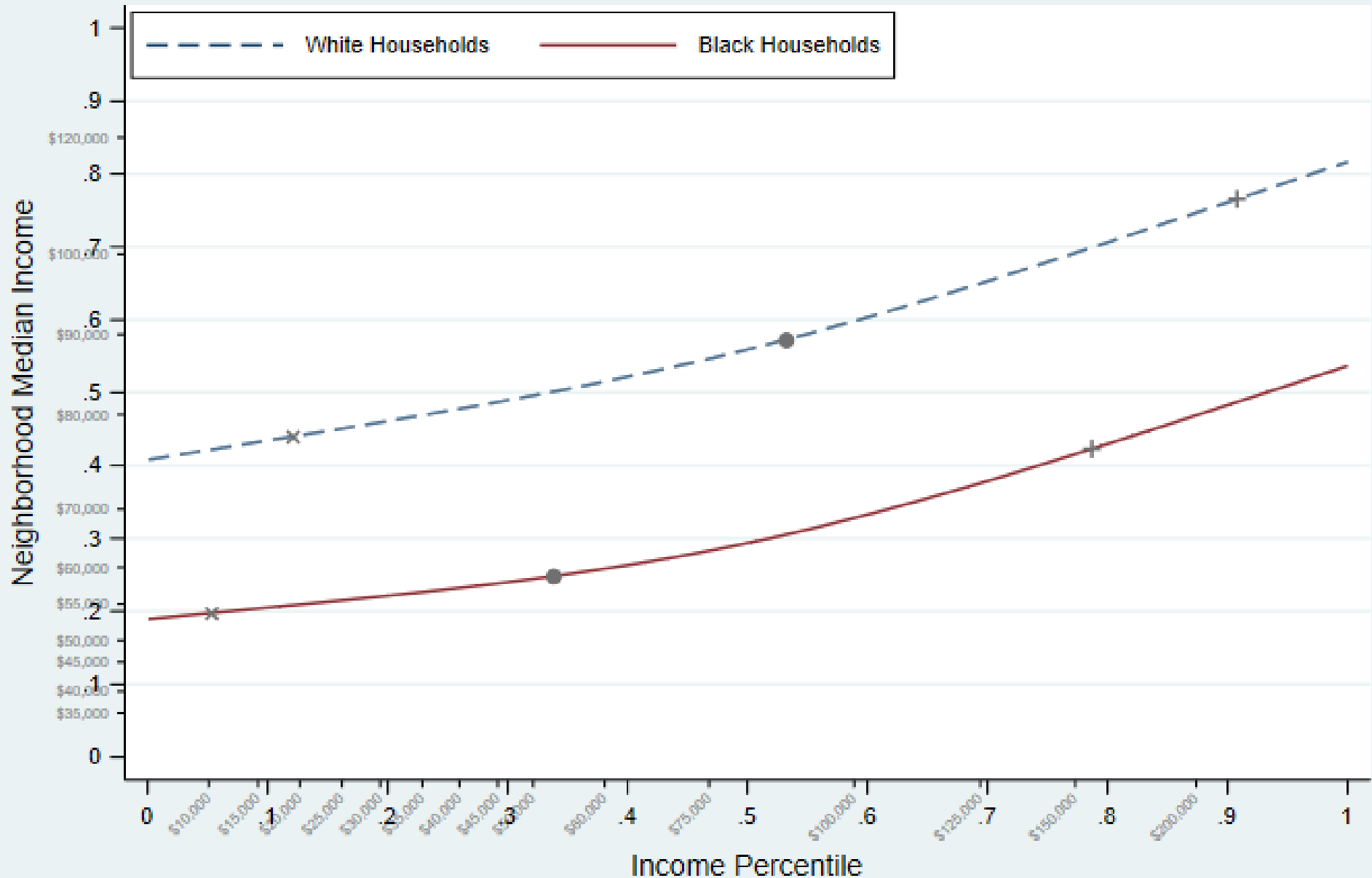
Neighborhood Median Income by Household Income and Race

CHICAGO, IL, 2014-2018



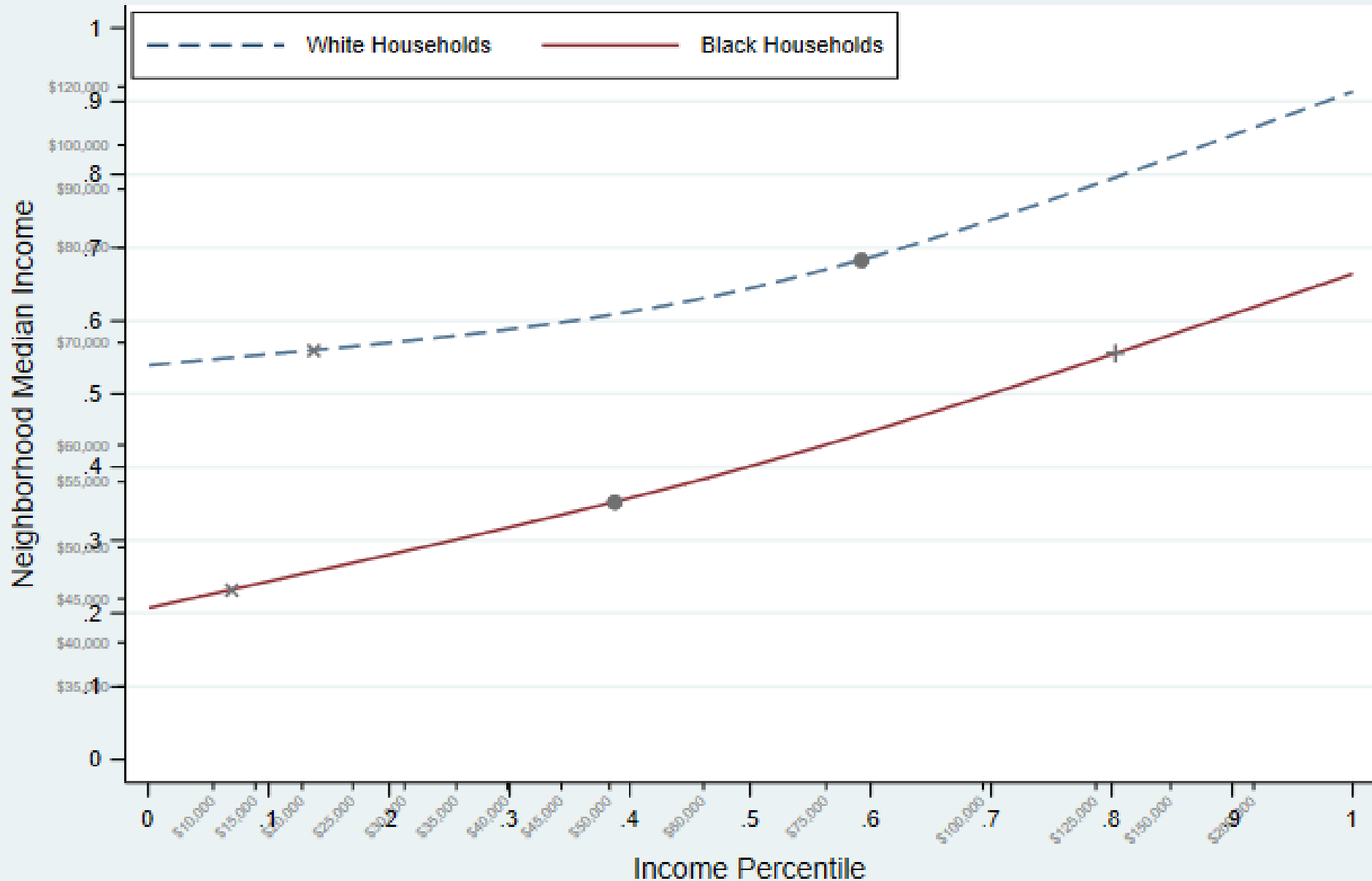
Neighborhood Median Income by Household Income and Race

BOSTON-WORCESTER-LAWRENCE-LOWELL-BROCKTON, MA, 2014-2018



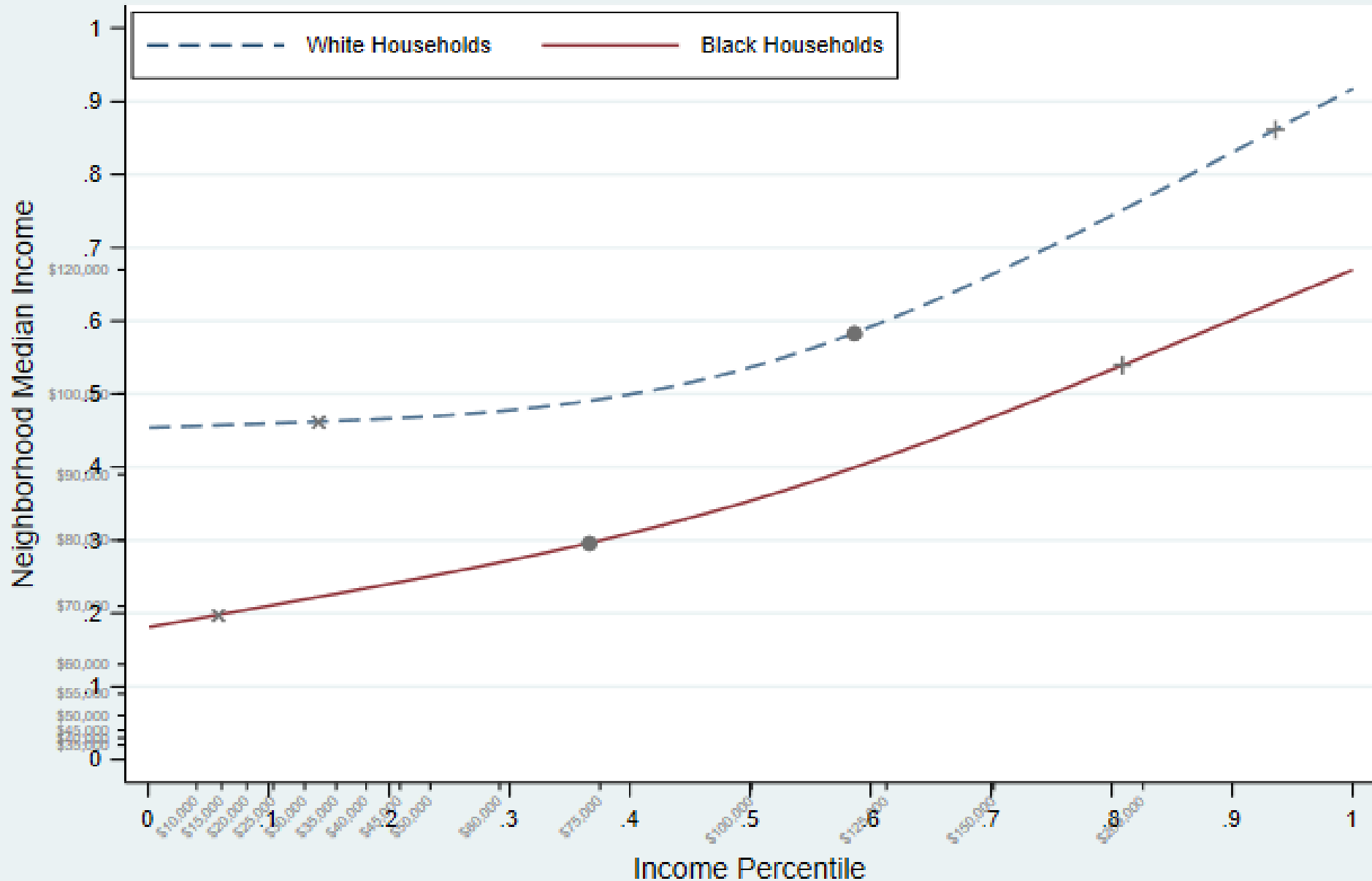
Neighborhood Median Income by Household Income and Race

ATLANTA, GA, 2014-2018



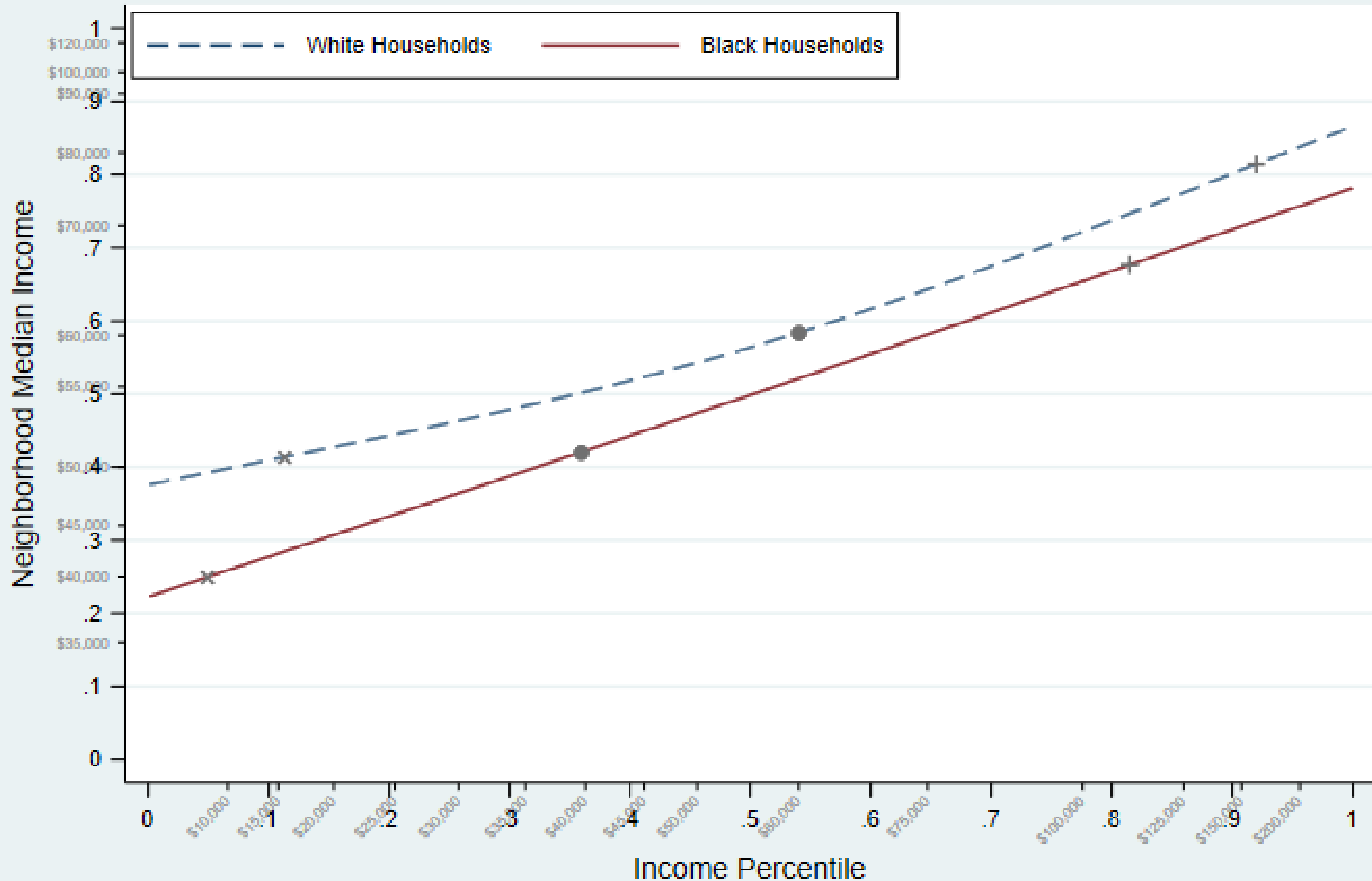
Neighborhood Median Income by Household Income and Race

WASHINGTON, DC-MD-VA-WV, 2014-2018



Neighborhood Median Income by Household Income and Race

LAS VEGAS, NV-AZ, 2014-2018

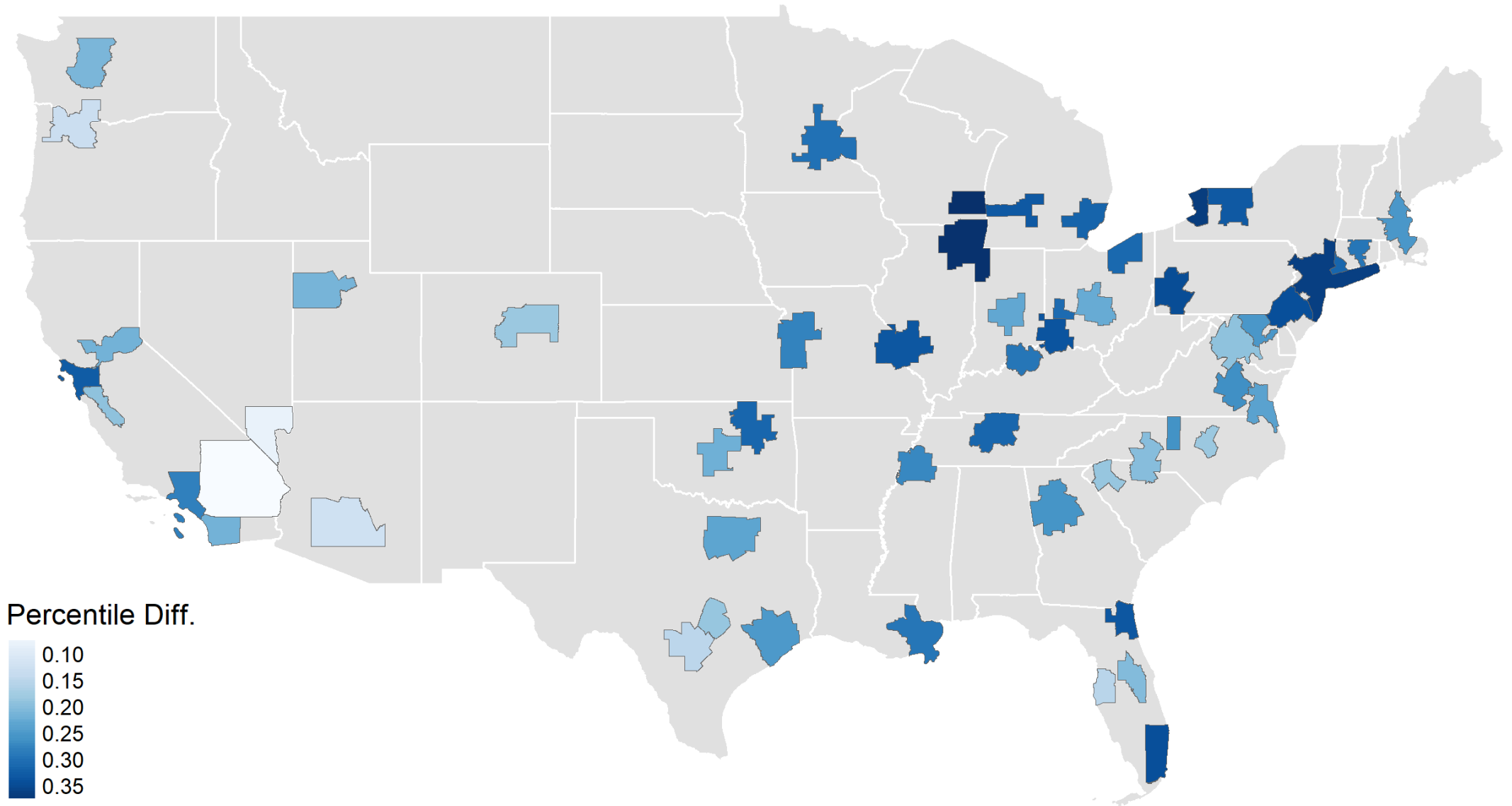


Metro Areas with Largest/Smallest Gaps

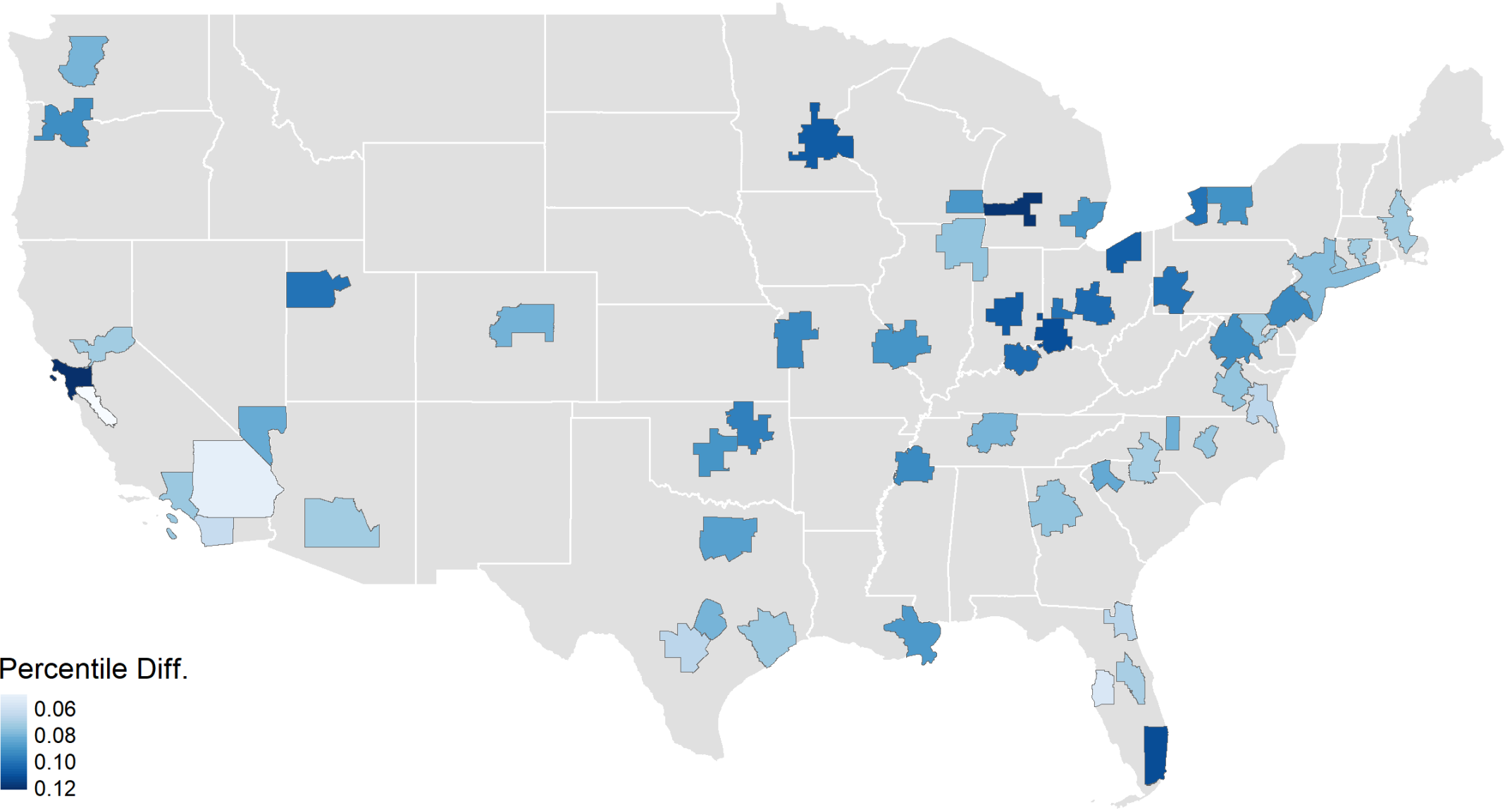
Top 10	
Milwaukee	0.373
Chicago	0.371
Buffalo	0.364
Miami	0.351
New York	0.347
Philadelphia	0.331
Rochester	0.330
Pittsburgh	0.322
Grand Rapids	0.322
St. Louis	0.322

Bottom 10	
Riverside	0.069
Las Vegas	0.092
Phoenix	0.120
Portland	0.131
Anaheim	0.145
San Antonio	0.165
Austin	0.170
Greenville	0.170
Tampa	0.174
Raleigh-Durham	0.181

Neighborhood Outcome Disparities



Residential Segregation



Exploring Mechanisms

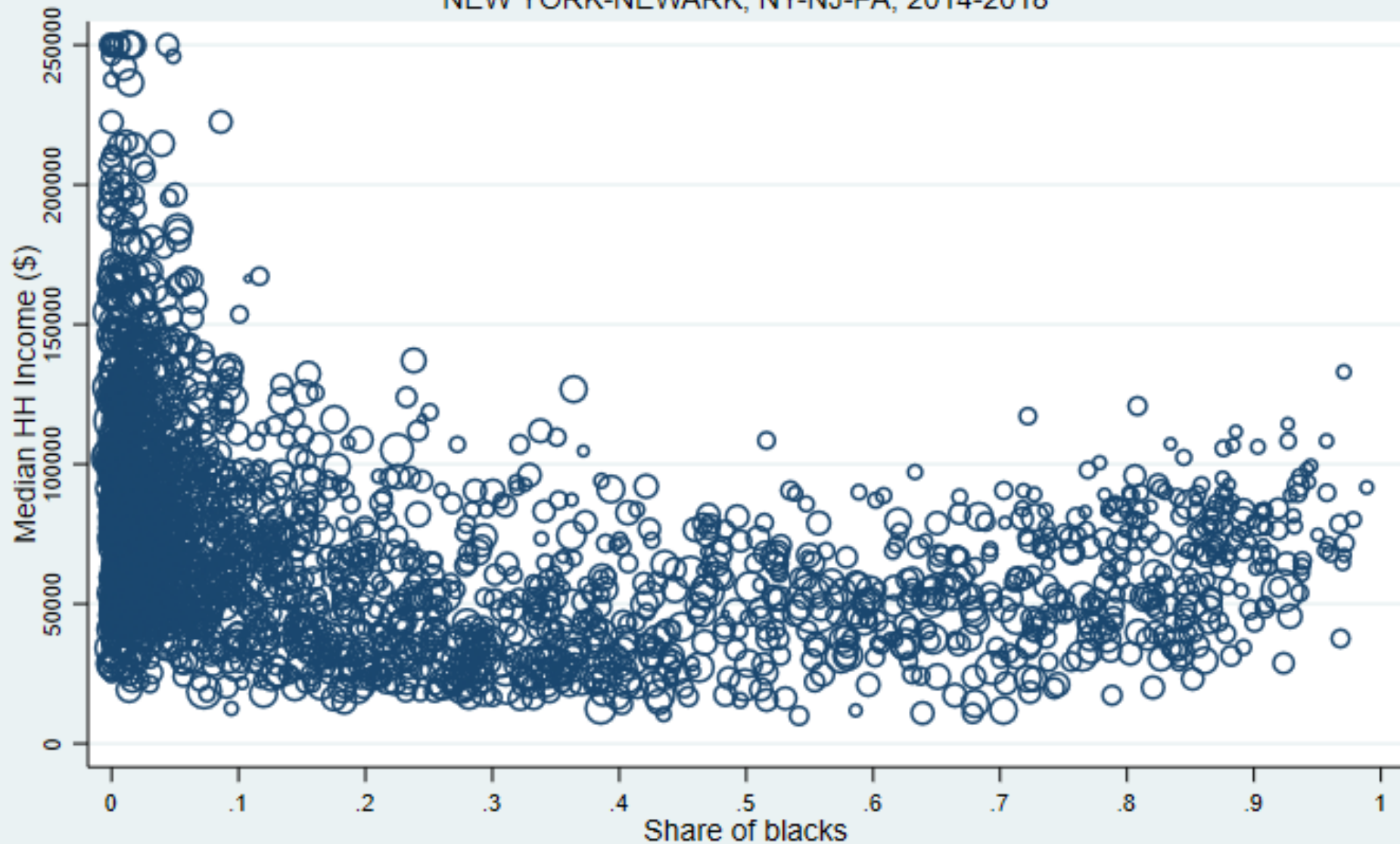
1. Racial Sorting Across Neighborhoods

Racial sorting - self-selection into neighborhoods based on preferences over racial composition

- Clearly drives segregation but how does this contribute to unequal neighborhood resources for otherwise identical Black and white households?
- Neighborhood resources are often tightly bundled with neighborhood racial composition
 - Difficult (or even impossible) to choose a neighborhood that simultaneously provides even moderate levels of *both* median income and the share of Black neighbors in most US cities (w/ few exceptions like Washington DC)

Neighborhoods by neighborhood median income and percent black

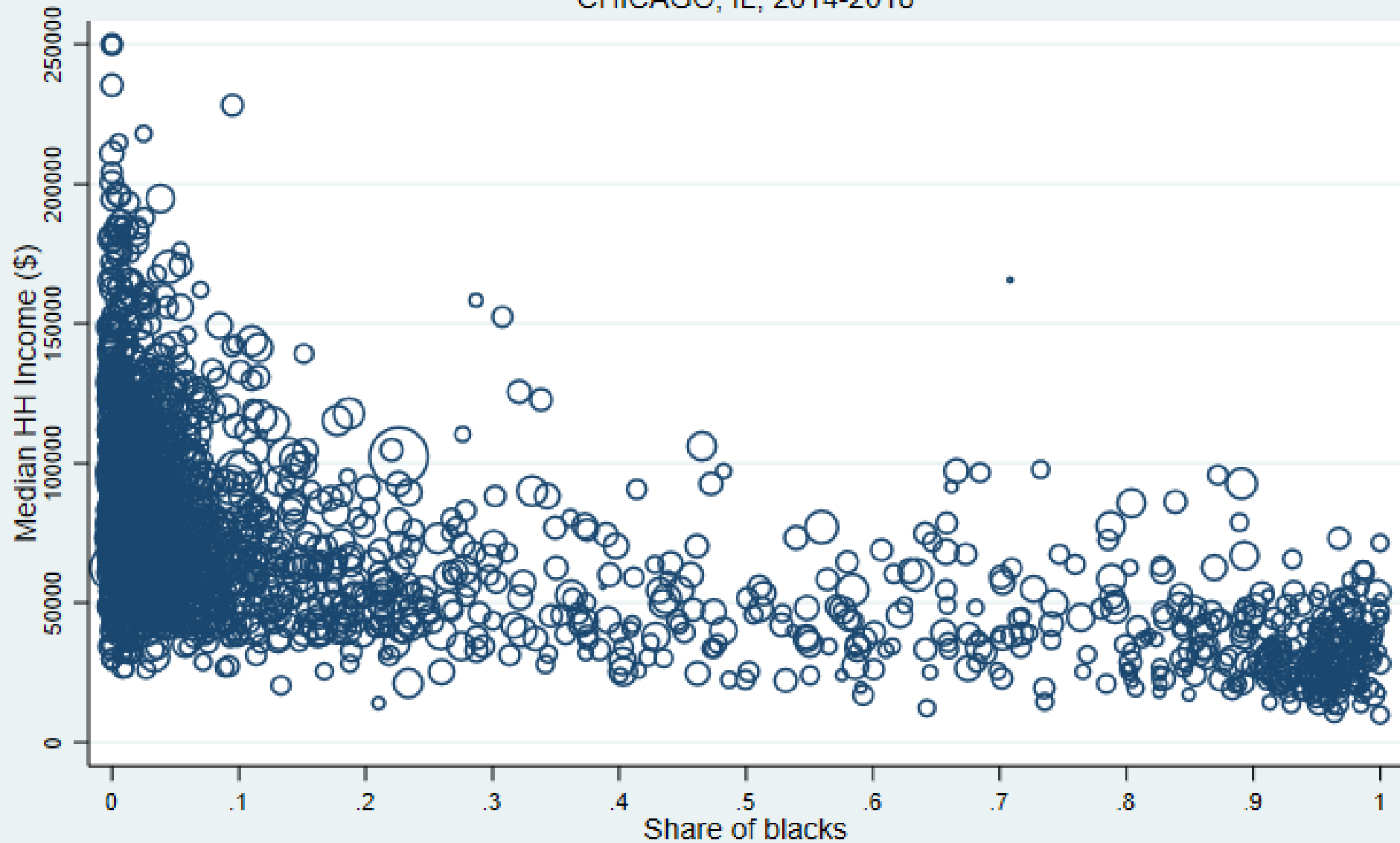
NEW YORK-NEWARK, NY-NJ-PA, 2014-2018



There are 2474 neighborhoods in this MSA. Each circle represents the neighborhood, and its size indicates the number of households in each neighborhood.

Neighborhoods by neighborhood median income and percent black

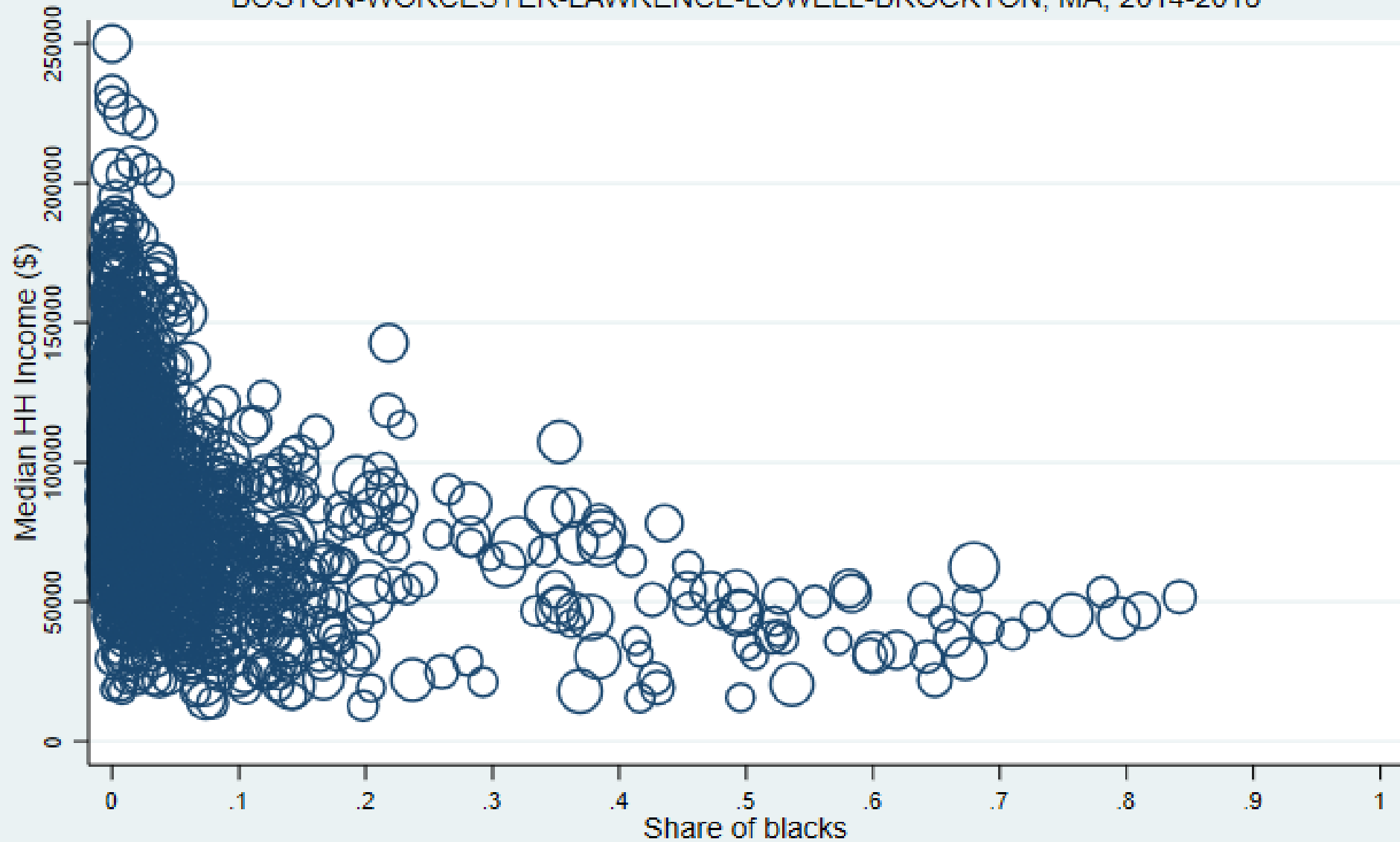
CHICAGO, IL, 2014-2018



There are 2016 neighborhoods in this MSA. Each circle represents the neighborhood, and its size indicates the number of households in each neighborhood.

Neighborhoods by neighborhood median income and percent black

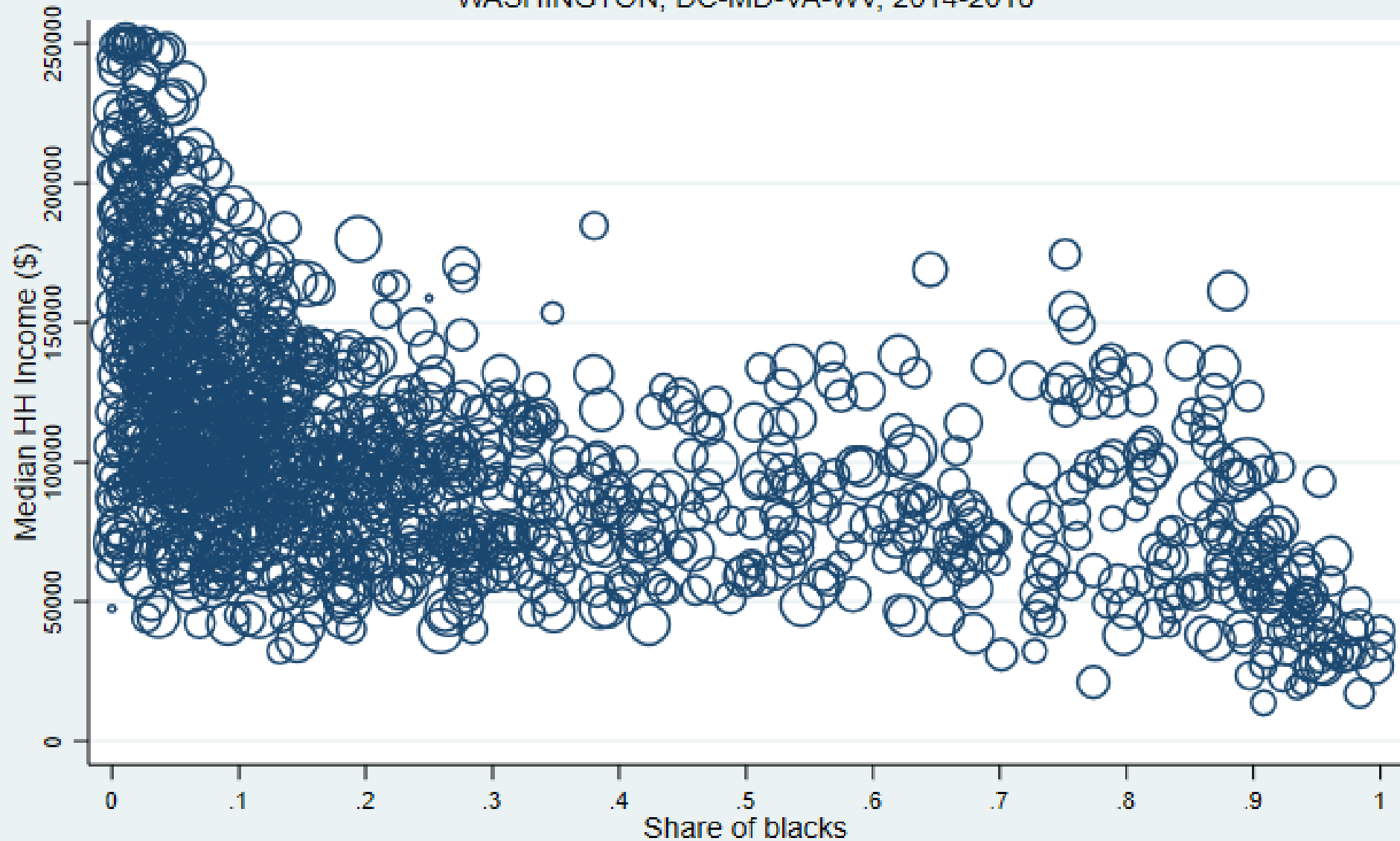
BOSTON-WORCESTER-LAWRENCE-LOWELL-BROCKTON, MA, 2014-2018



There are 1427 neighborhoods in this MSA. Each circle represents the neighborhood, and its size indicates the number of households in each neighborhood.

Neighborhoods by neighborhood median income and percent black

WASHINGTON, DC-MD-VA-WV, 2014-2018



There are 1376 neighborhoods in this MSA. Each circle represents the neighborhood, and its size indicates the number of households in each neighborhood.

Table 2: Number of Tracts in United States in 2000 by Race and Education

Percent Black	Percent College Degree or More			
	<i>All</i>	<i>>20%</i>	<i>>40%</i>	<i>>60%</i>
>0% Black	49,021 100.0%	26,351 53.8%	11,094 22.6%	3,005 6.1%
>20% Black	9,149 100.0%	2,567 28.1%	641 7.0%	59 0.6%
>40% Black	5,657 100.0%	1,164 20.6%	142 2.5%	14 0.2%
>60% Black	3,921 100.0%	623 15.9%	44 1.1%	5 0.1%
>80% Black	2,559 100.0%	271 10.6%	21 0.8%	1 0.0%

Table 2: Number of Tracts in United States in 2000 by Race and Education

Percent White	Percent College Degree or More			
	<i>All</i>	<i>>20%</i>	<i>>40%</i>	<i>>60%</i>
>0% White	49,021 100.0%	26,351 53.8%	11,094 22.6%	3,005 6.1%
>20% White	43,179 100.0%	25,178 58.3%	11,041 25.6%	2,999 6.9%
>40% White	39,602 100.0%	24,566 62.0%	10,839 27.4%	2,967 7.5%
>60% White	35,154 100.0%	22,543 64.1%	10,214 29.1%	2,870 8.2%
>80% White	26,910 100.0%	17,539 65.2%	8,102 30.1%	2,339 8.7%

Table 4: Neighborhood Patterns for College-Educated Households in the United States

Panel A: Neighborhood Patterns for College-Educated Black Households

Individuals first ranked by percent black in Census tract within its MSA

Quintile	1	2	3	4	5	Total
Percent Black	5.7	14.4	28.3	54.6	78.9	32.0
Percent College Educated	38.0	31.6	26.2	18.4	13.8	27.2
Percent Black and College E	1.3	3.3	6.2	8.0	10.0	5.2

Panel B: Neighborhood Patterns for College-Educated White Households

Individuals first ranked by percent black in Census tract within its MSA

Quintile	1	2	3	4	5	Total
Percent White	55.0	77.9	86.6	90.4	94.5	77.4
Percent College Educated	27.0	36.2	40.7	39.3	39.2	35.3
Percent White and College E	20.1	30.4	36.2	36.1	37.4	30.4

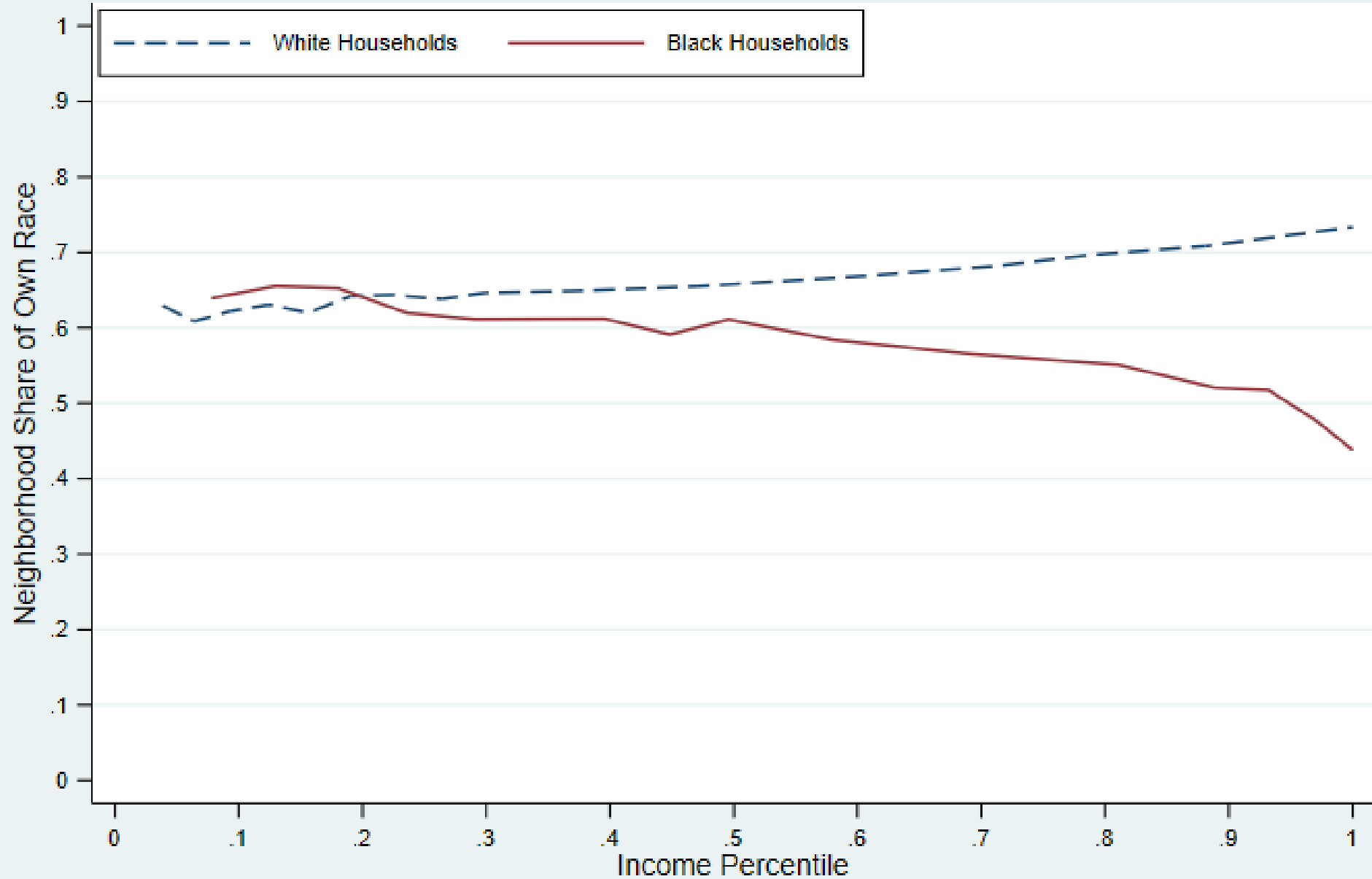
Mechanism 1: Racial Sorting Across Neighborhoods

Strong correlation between neighborhood racial composition and neighborhood income.

- Buying into a higher income neighborhood generally means both
 - higher housing prices
 - higher (lower) fraction of white (Black) neighbors
- Given any form of segregating preferences, the presence of additional white neighbors increases the relative value of these neighborhoods for white vs. Black households
- In economic terms: the increased whiteness of high amenity neighborhoods provides an *implicit subsidy* to white households → white households to bid up housing prices for these neighborhoods

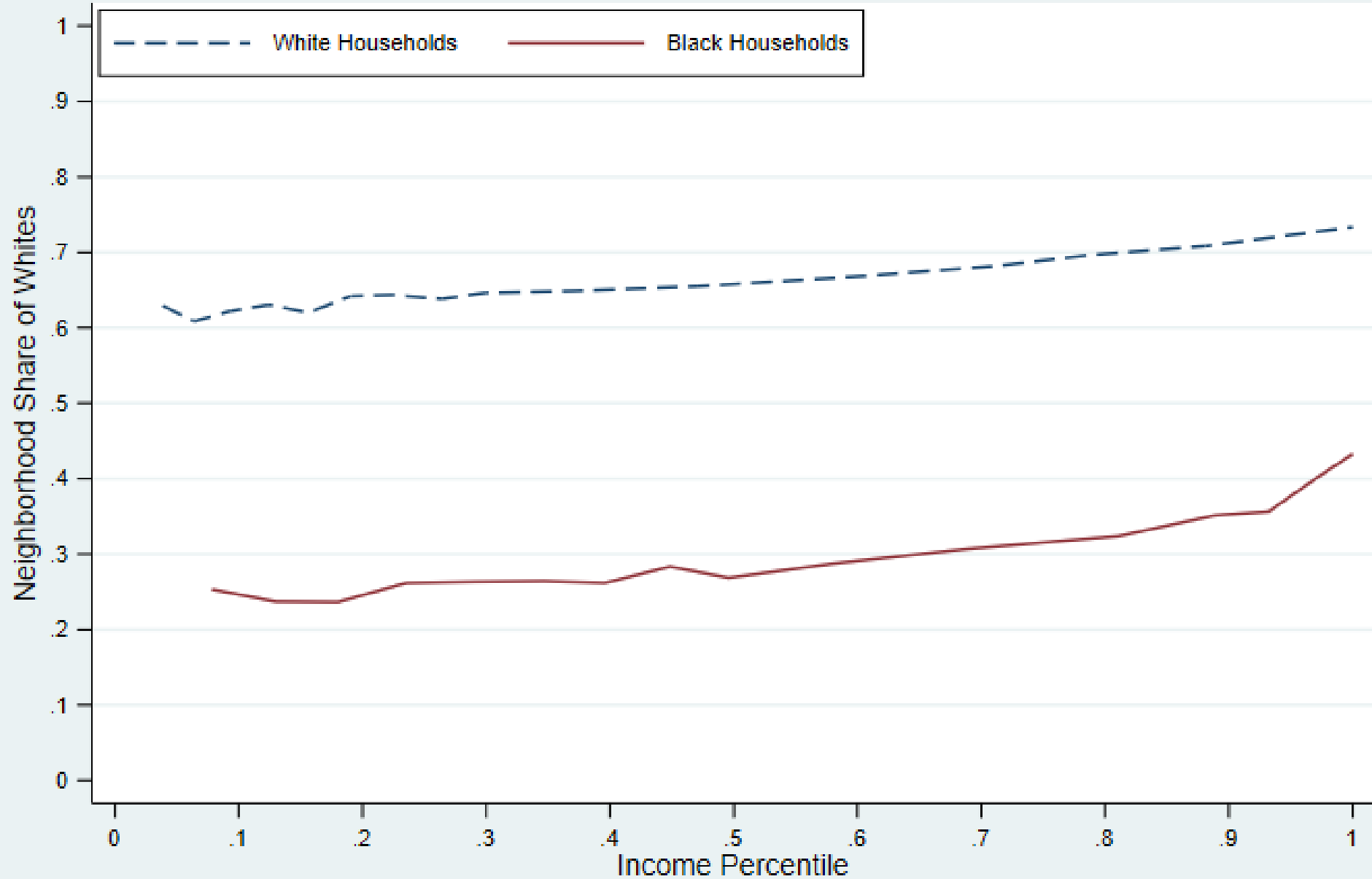
Average Exposure to Own Race by Each Race

ATLANTA, GA, 2014-2018



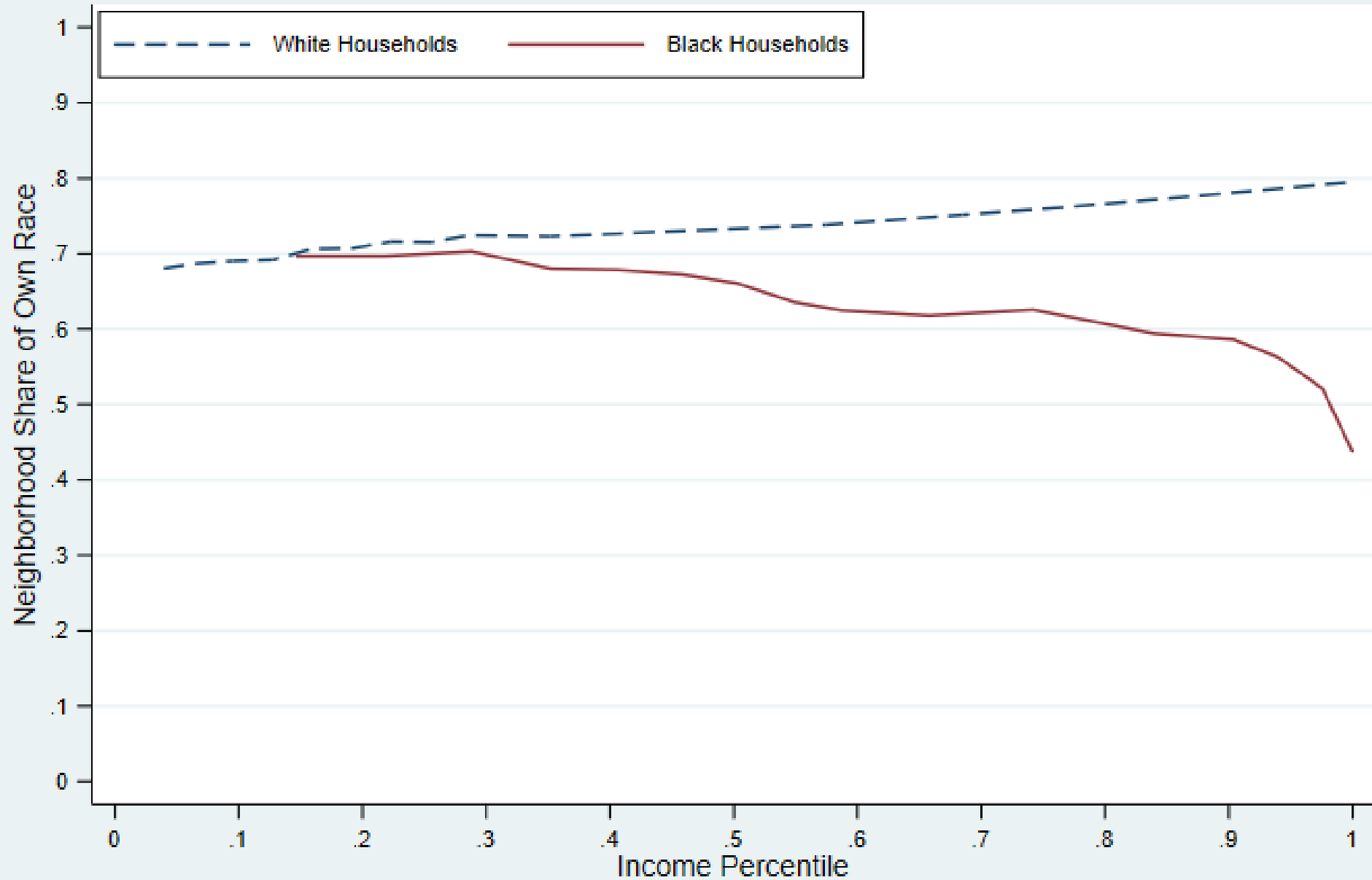
Average Exposure to Whites by Each Race

ATLANTA, GA, 2014-2018



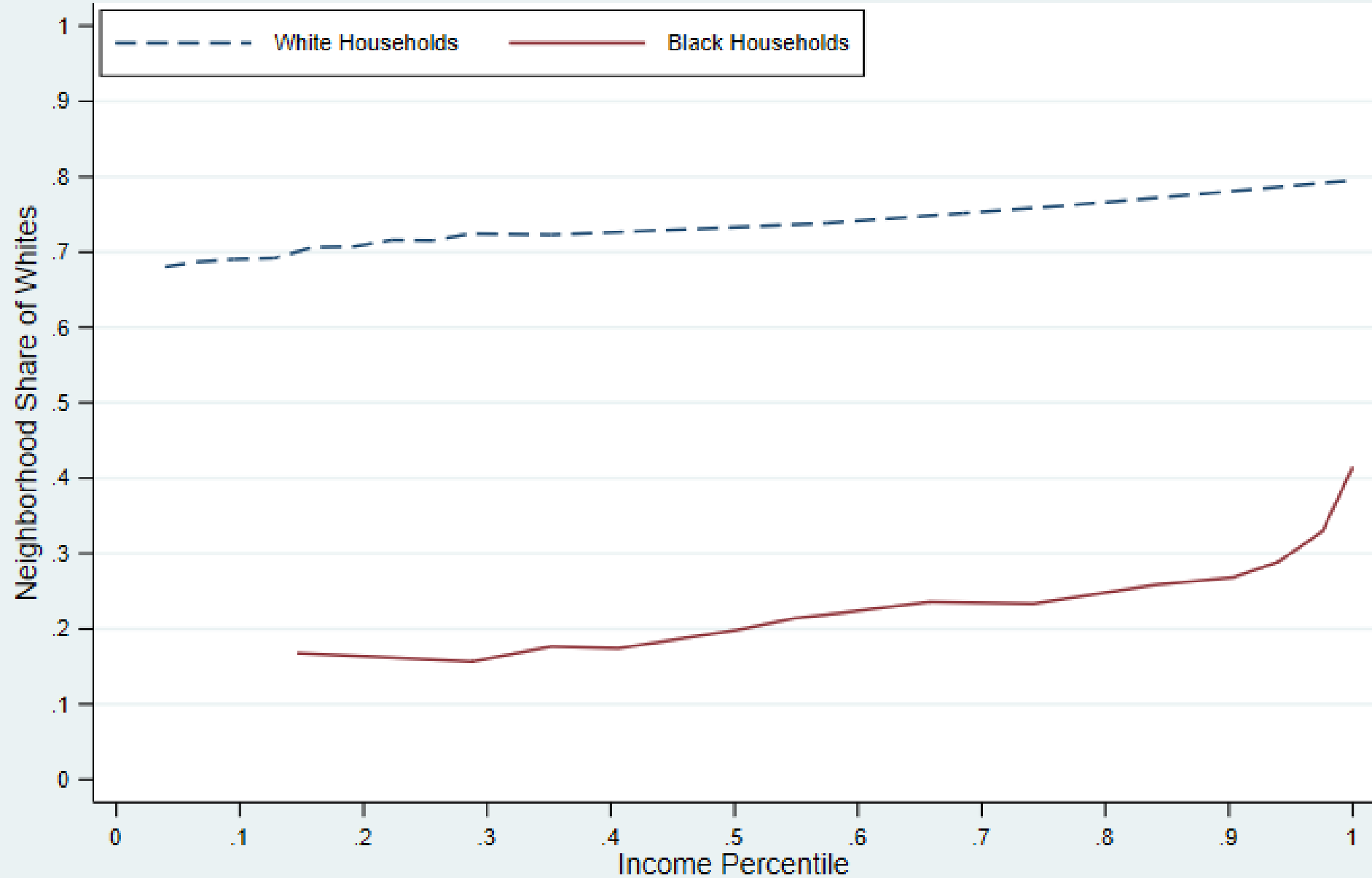
Average Exposure to Own Race by Each Race

CHICAGO, IL, 2014-2018



Average Exposure to Whites by Each Race

CHICAGO, IL, 2014-2018



Mechanism 1: Quantifying Importance of Racial Sorting

Bayer and McMillan (2005) estimates a model of neighborhood choice and simulates new sorting equilibrium in a world without preferences for the race of one's neighbors.

- Model includes household preferences for housing, neighborhood characteristics, schools, and commuting distance.
- Main Result: Removing preferences for neighborhood racial composition eliminates *half of the racial gap* in neighborhood income, neighborhood education, school test scores, and exposure to crime.
- Note that simulation holds constant racial differences in work locations, education, and income levels.

Mechanism 2: Housing Discrimination

Discussion of racial sorting so far is under the implicit assumption that households are free to choose among all available neighborhoods fashion.

- Clear evidence of racial discrimination in the housing and mortgage markets
- Housing discrimination might affect choices by either
 - Effectively eliminating certain neighborhood options for Black households
 - Making them more costly in terms of house prices, rent, or search costs

Mechanism 2: Housing Discrimination

With only observational data on location decisions alone, impossible to tell housing discrimination & unconstrained racial sorting apart

- Are Black households illegally restricted from locating in highly resourced, predominantly white neighborhoods or do white households simply outbid them to live there?
- Both mechanisms have the same impact on neighborhood structure

Housing discrimination effectively *strengthens* the mechanism of decentralized racial sorting and, thus, further accentuates the inequities in neighborhood resources

Mechanism 3: Racial Differences in Wealth

Black households are far less wealthy than white households, even conditional on income.

- Aliprantis et al. (2018) use data from the Panel Study of Income Dynamics (PSID) to analyze how wealth affects household consumption of an index of neighborhood quality
- Striking result: racial differences in wealth explain only about 30 percent of the racial gap in the consumption of neighborhood quality

Racial sorting, housing discrimination, and other mechanisms *triple* the neighborhood inequities due to racial differences in wealth.

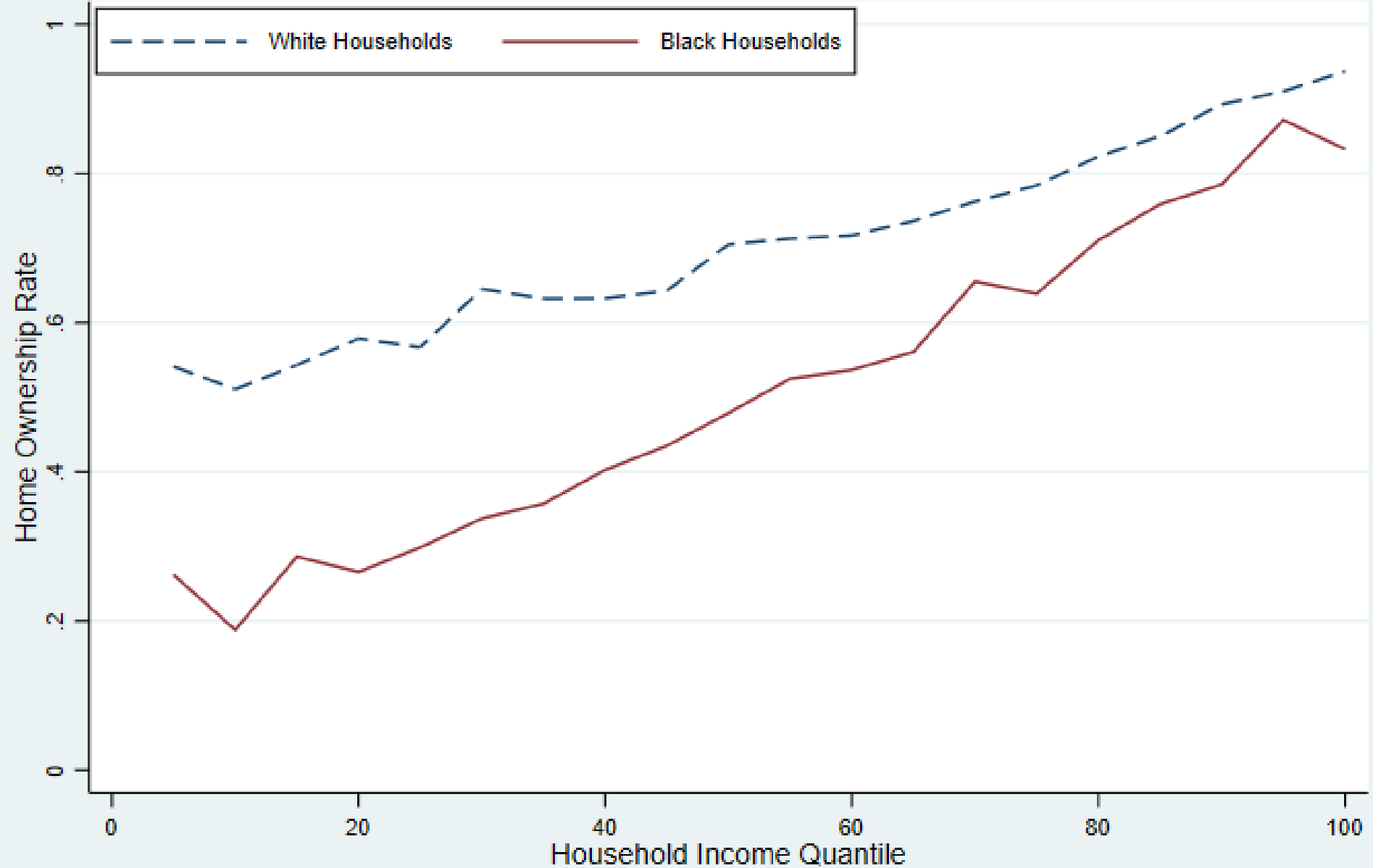
Mechanism 4: Racial Differences in Home Ownership

Substantial racial differences in home ownership rates – 73.6% for white households, 43.6% for Black households in 2018

- There may be a complementarity between location and tenure choices
- May be difficult for renters to locate in high amenity neighborhoods dominated by single family housing driving racial differences in neighborhood choices

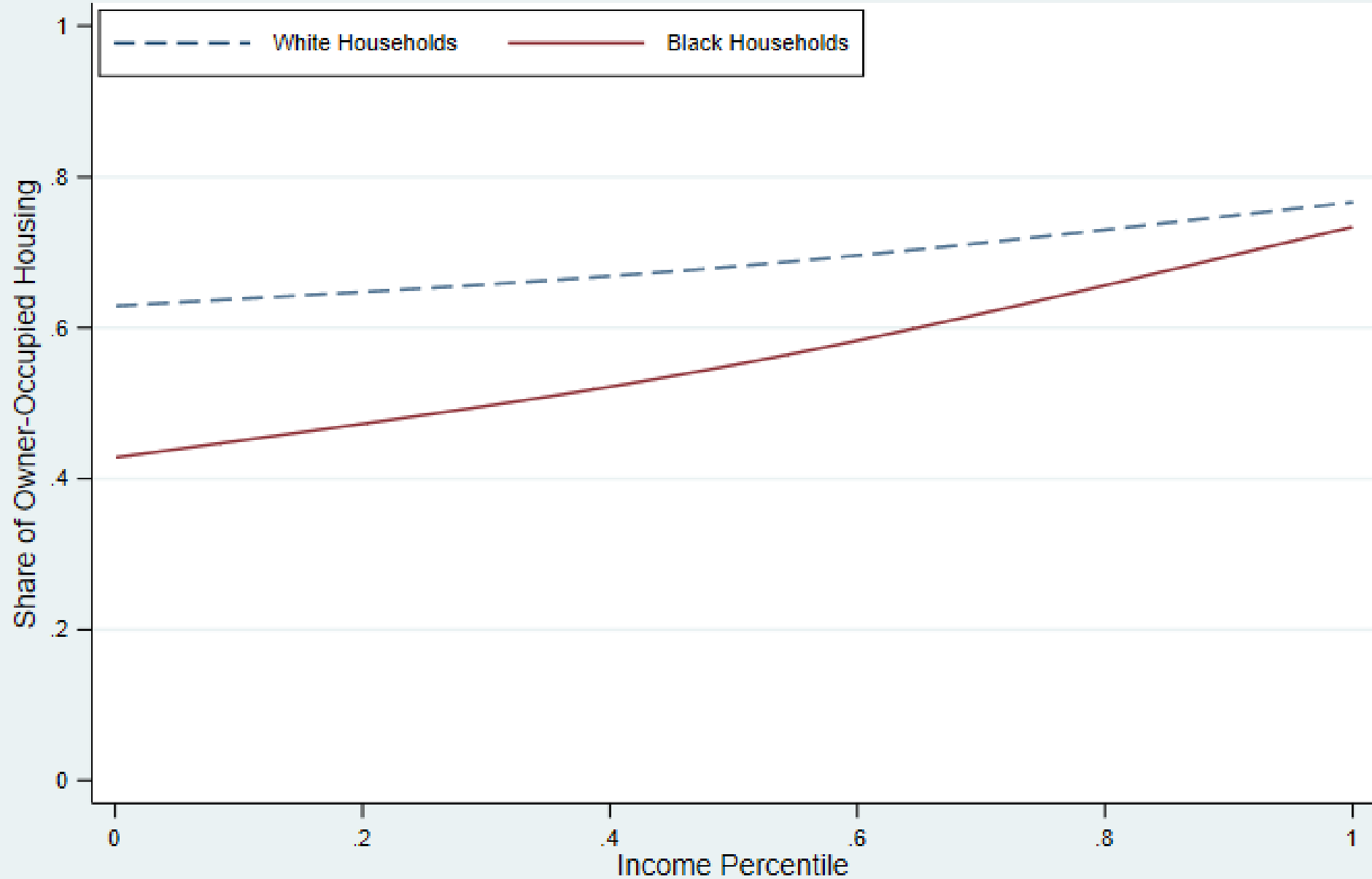
Average Home Ownership by Household Income by Race

Atlanta-Sandy Springs-Roswell, GA, 2014-2018



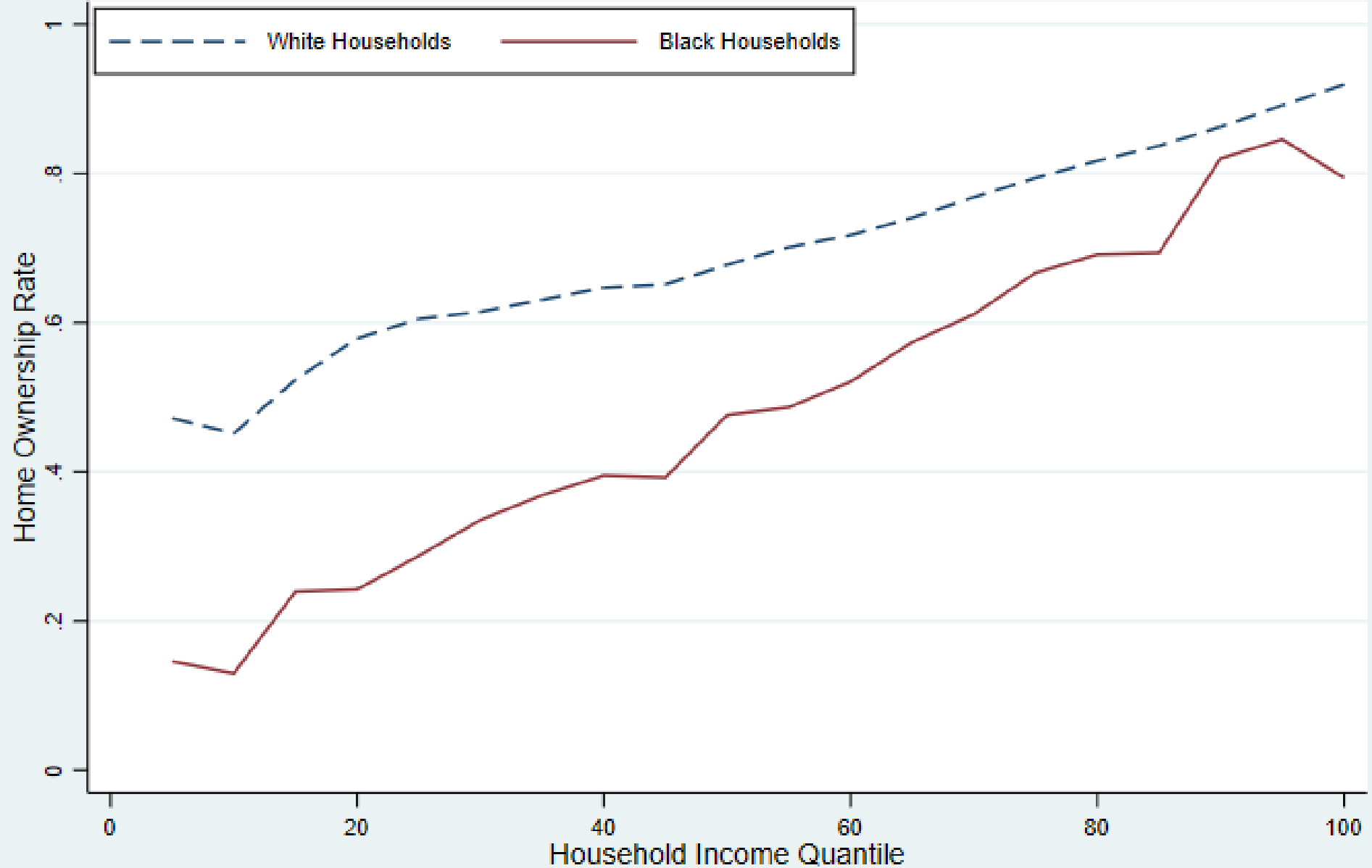
Share of Owner-Occupied Housing by Household Income and Race

ATLANTA, GA, 2014-2018



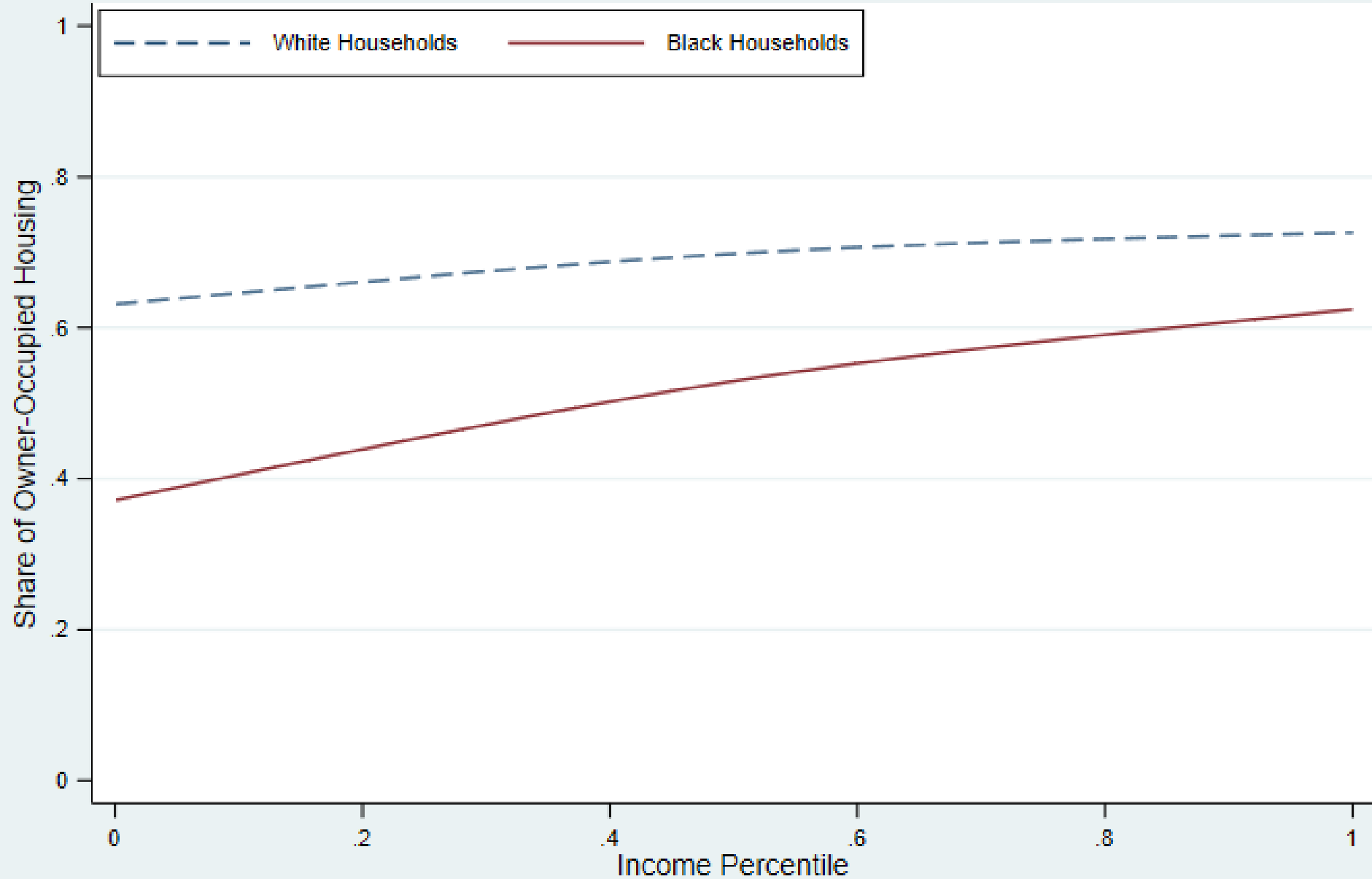
Average Home Ownership by Household Income by Race

Chicago-Naperville-Elgin, IL-IN-WI, 2014-2018



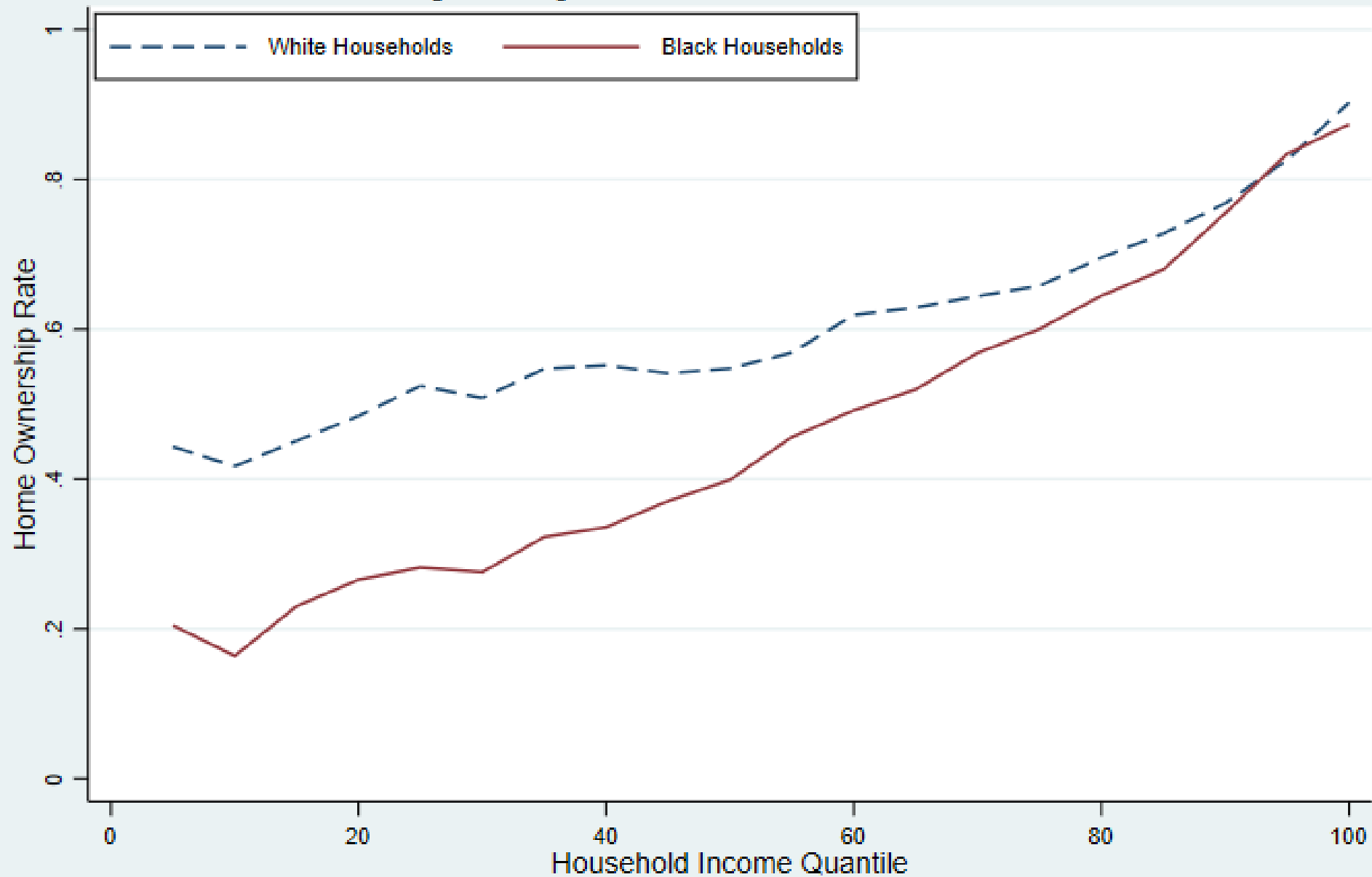
Share of Owner-Occupied Housing by Household Income and Race

CHICAGO, IL, 2014-2018



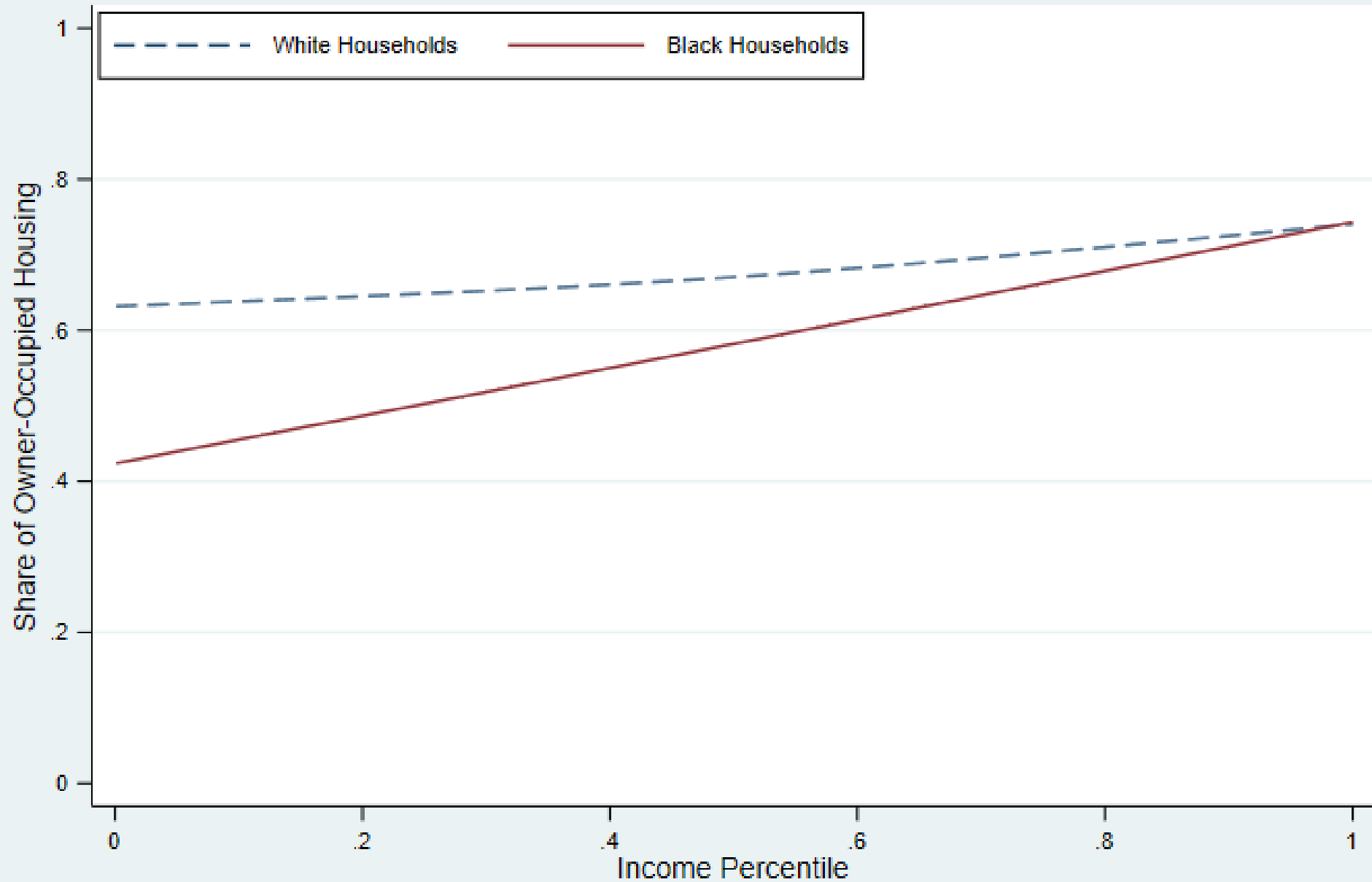
Average Home Ownership by Household Income by Race

Washington-Arlington-Alexandria, DC-VA-MD-WV, 2014-2018



Share of Owner-Occupied Housing by Household Income and Race

WASHINGTON, DC-MD-VA-WV, 2014-2018



Discussion and Conclusion

Motivation for paper can be summarized as a hypothesis with two parts:

1. Racial sorting leads to vast inequities in school and neighborhood resources for Black and white households who are identical in every other way
2. These inequities have important consequences for intergenerational mobility and speed of racial economic convergence in the United States.

While housing/lending discrimination certainly exacerbate it, these racial interactions can arise w/out any acts of targeted discrimination/animosity

- Equilibrium structure emerges as a natural consequence of millions of schooling and residential locations based in part on racial composition

Discussion and Conclusion

The impact of neighborhood inequality on intergenerational mobility

- Chetty et al. (2020) estimate that racial differences in residential neighborhood are associated with a substantial reduction in the intergenerational mobility of Black versus white Americans
 - Equalizing neighborhoods explains about 1/3 of observed gap for boys
 - After controlling for neighborhood resources, Black girls outperform their white counterparts
- Chetty et al. (2020) estimate does not account for differences in school quality related to a similar pattern of sorting in school choices that are not linked directly to residential location.

Discussion and Conclusion

Much of the literature on race and racism in economics (including a number of our own studies) focuses on tests for direct acts of discrimination

- The role of racial sorting has received far less attention
- Vast neighborhood inequities documented here likely have an enormous impact on intergenerational mobility and speed of economic convergence
 - Not enough to focus on reducing direct forms of animosity/discrimination, without addressing the role of individual decisions in creating the structure of our neighborhoods, schools, and other institutions
 - Urgent need for more research on both the causal mechanisms that underlie this form of inequality and its implications for American society