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DATA TALK

BLACK HOMEOWNERSHIP GAP: RESEARCH TRENDS AND WHY THE GROWING GAP MATTERS

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June 2019

Black-White Homeownership Gap: A Closer Look Across MSAs

Housing Finance Policy Center

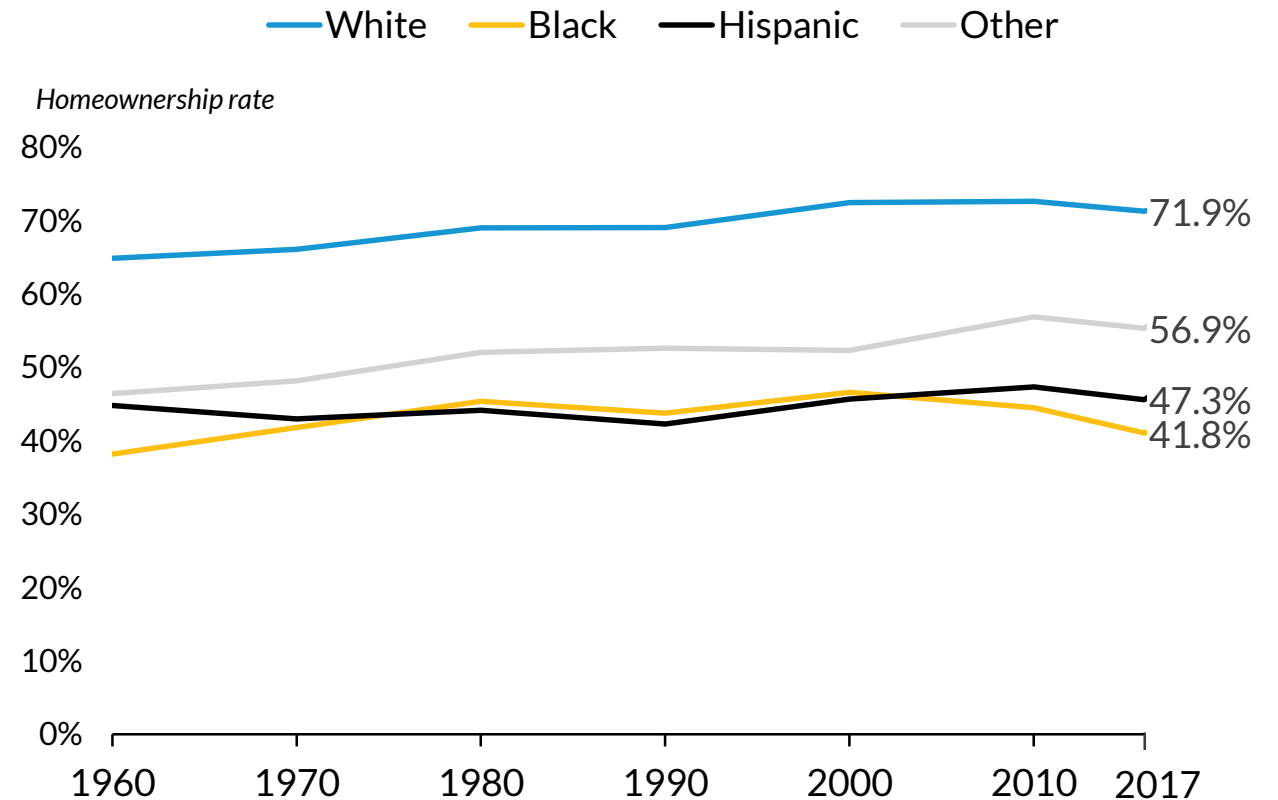
NEW HOME

Photo by Monkey Business Images/Shutterstock

Gaps in Black-White Homeownership & Wealth

The black homeownership rate has persistently lagged the white homeownership rate

- Currently, the black homeownership rate is the lowest of all racial groups, standing at 41.8 percent.
- Blacks have been the slowest to recover from the housing crisis.

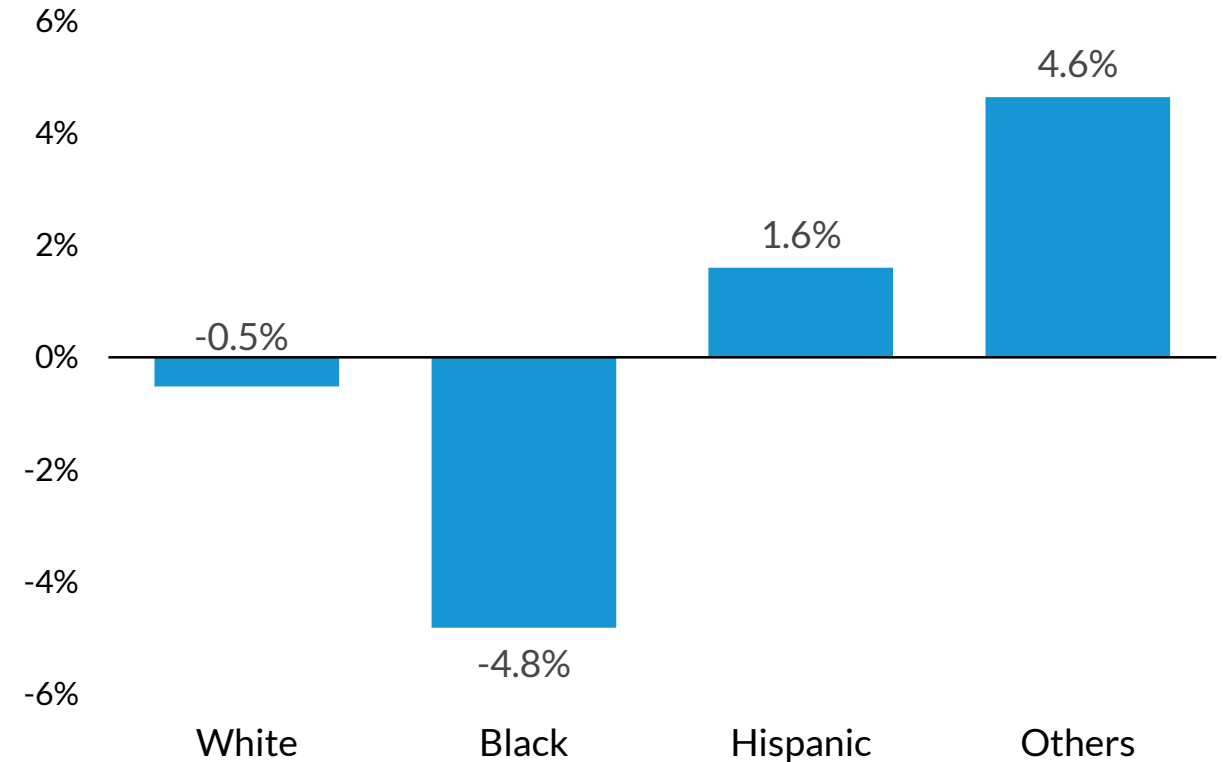


Source: Decennial Census, American Community Survey, and Urban Institute.

Black households experienced greatest drop in homeownership since 2000

- From 2000-2017, the black homeownership rate dropped by 4.8 percentage points, while Hispanics and other race/ethnic groups experienced an increase in homeownership rate.
- If the homeownership rate stayed the same as the rate in 2000, we would have about 770,000 more black homeowner households in 2017.

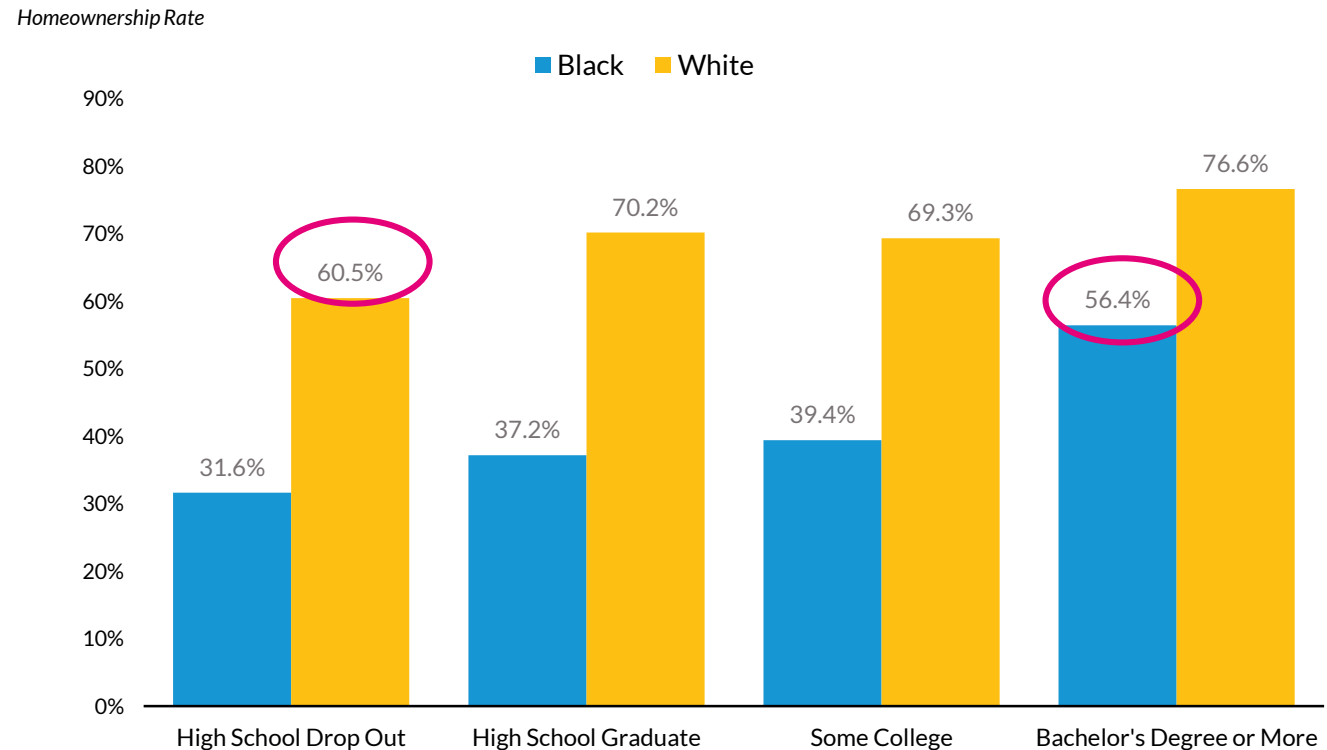
% Change in Homeownership Rate 2000-17



Source: Decennial Census, American Community Survey, and Urban Institute.

College graduate blacks have lower homeownership rate than high school drop out whites

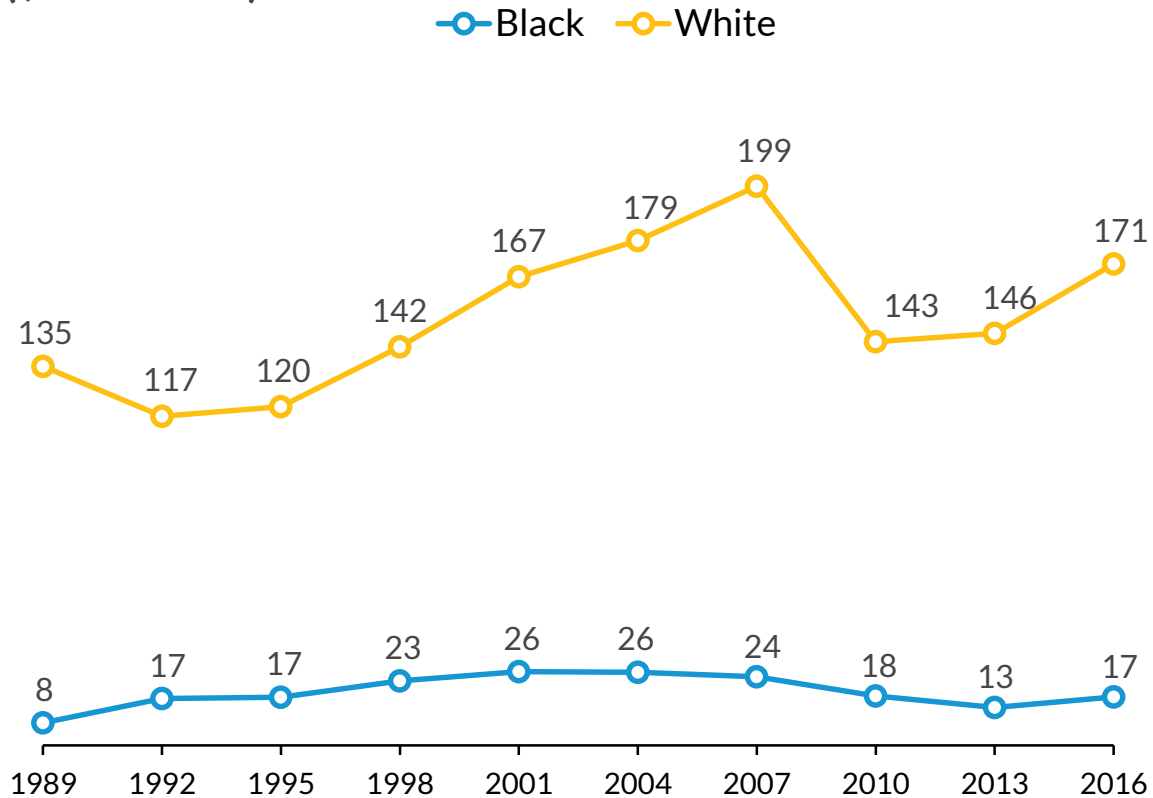
- For both blacks and whites, homeownership increases with the level of educational attainment.
- However, college graduate blacks have a lower homeownership rate (56.4 percent) than that of whites who did not complete high school (60.5 percent) in 2017.



Source: American Community Survey 2017: MSAs with more than 40,000 black population

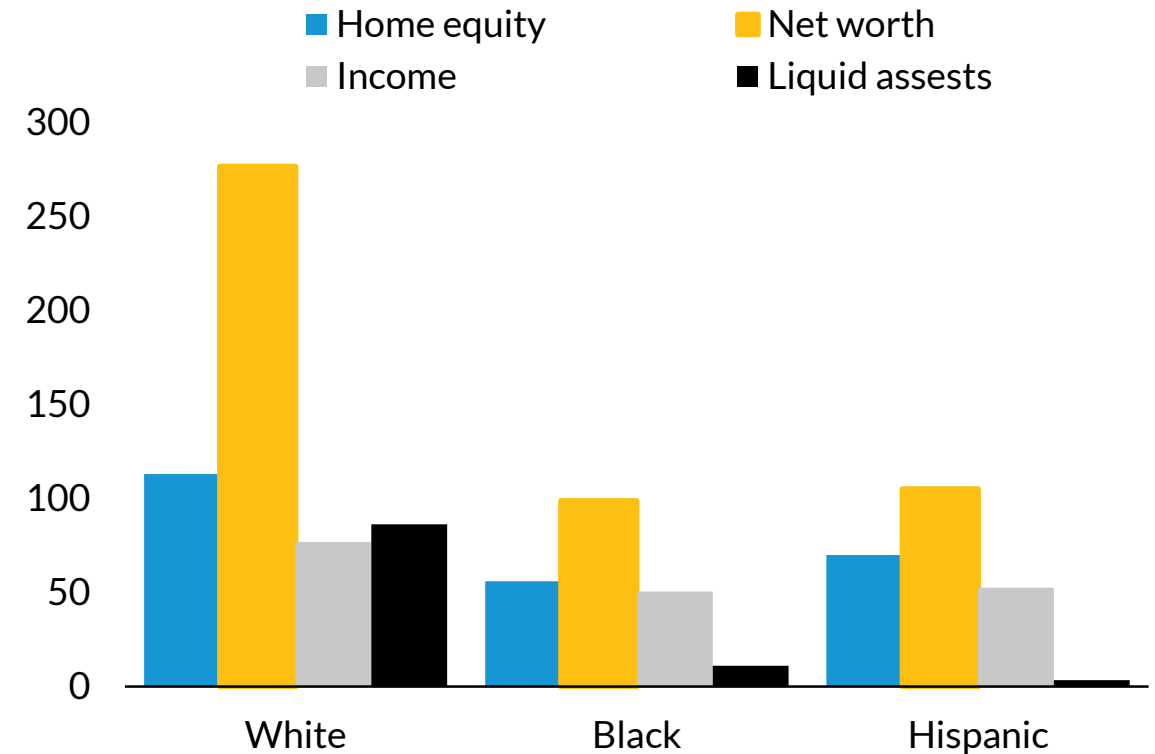
Black net worth significantly lags white net worth

Median net worth of black and white families
(\$ thousands)



Source: Survey of Consumer Finance and Urban Institute.
Note: Values are in 2016 dollars.

Home equity, net worth, liquid assets and income
(\$ thousands)

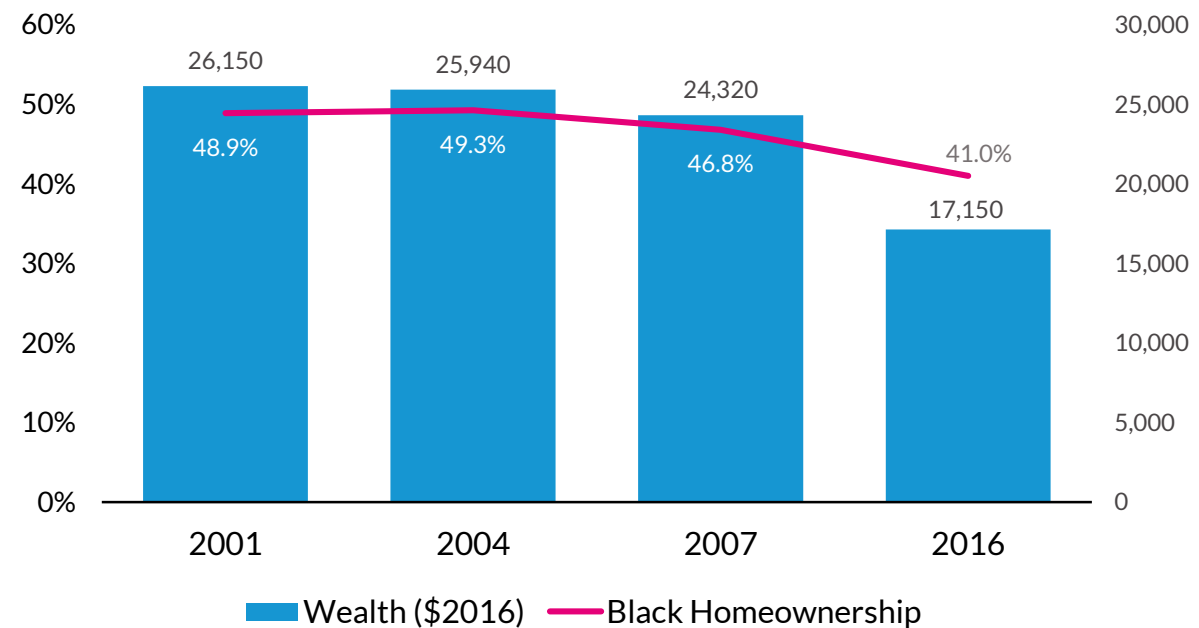


Source: Survey of Consumer Finance and Urban Institute.

Decreasing black wealth and homeownership

- Homeownership is currently the largest single source of wealth building.
- Unlike other race and ethnic groups, black homeownership has not recovered from the aftermath of the 2007 financial crisis.

Black Homeownership and Wealth



Source: American Community Survey, Survey of Consumer Finance and Urban Institute.

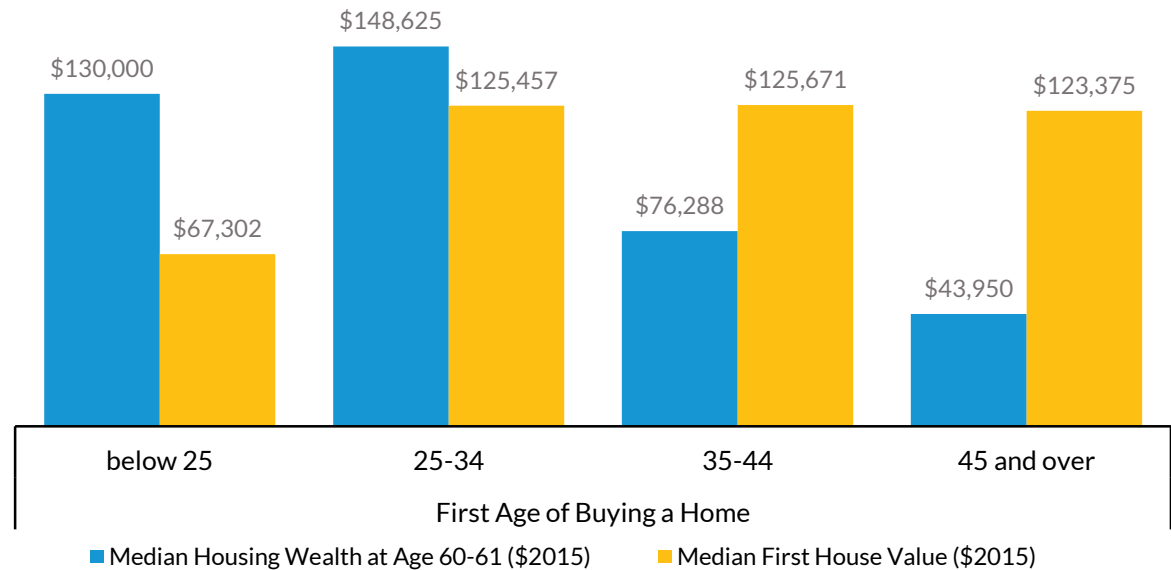
Why is it important?

Homeownership affects future wealth

Homeownership is an important tool to build future wealth.

The younger you buy, the greater return you gain from your initial housing investment.

Median Home Equity at Age 60/61 and Median First House Value



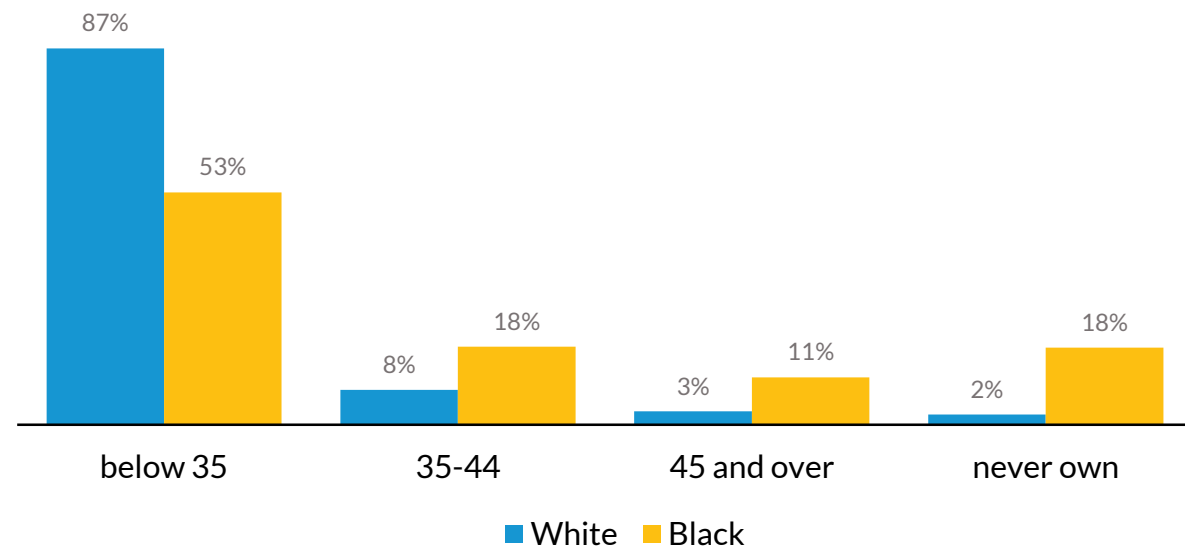
Source: Panel Study of Income Dynamics

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Blacks buy homes later in life

- Blacks are significantly less likely to buy homes at an earlier age compared to whites.
- This translates to lower home equity near the retirement age.

Age of First Homebuying

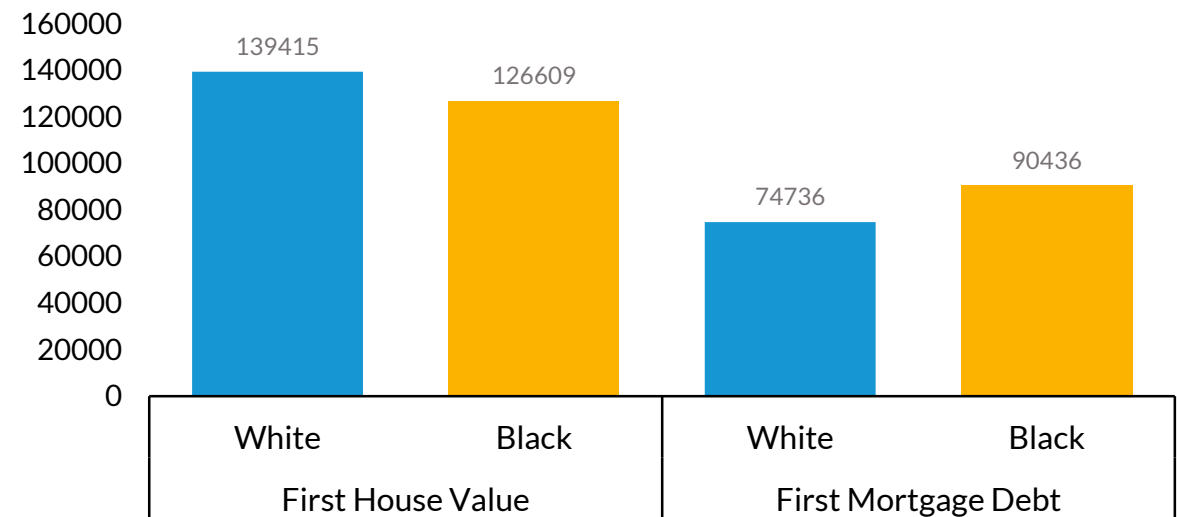


Source: Panel Study of Income Dynamics

Blacks buy cheaper first homes with greater debt

- The average value of first homes for black households are about **13,000** dollar lower than white households.
- However, average mortgage debt is about **16,000** dollar higher for blacks.

Average Value of First Home & Mortgage Debt



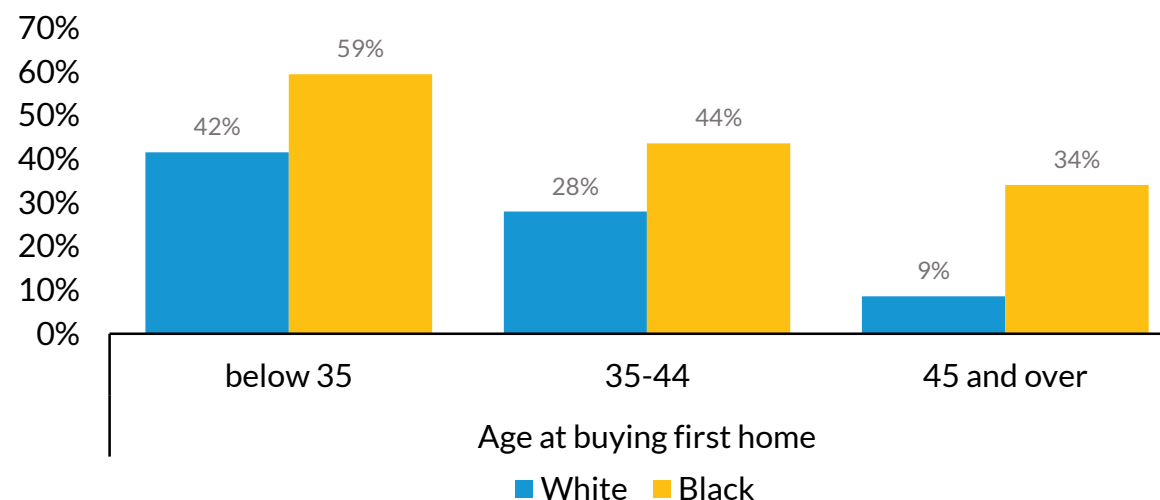
Source: Panel Study of Income Dynamics.

Blacks are more likely to switch to renters

- Blacks are substantially less likely to sustain homeownership after their first home.
- For example, among the households who bought their first homes after age 44, only 9 percent of white households switched to rental housing, while 34 percent of black households did so

% Switched to Rental Unit

At least once after first ownership before age 60/61

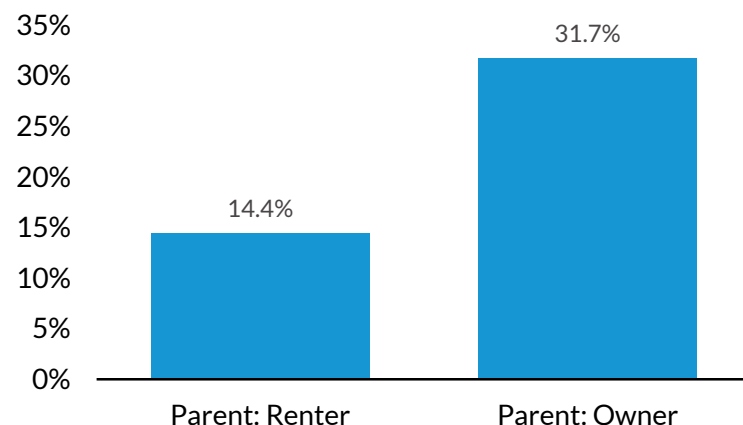


Note: Panel Study of Income Dynamics

Impact on future generations

- Wealth and homeownership transfers from parent to children.
 - Children of homeowner parents are 4-5 percentage points more likely to be homeowners, all else equal. A 10 percent increase in parental wealth increases child's likelihood of owning by 0.15-0.20 percentage points.

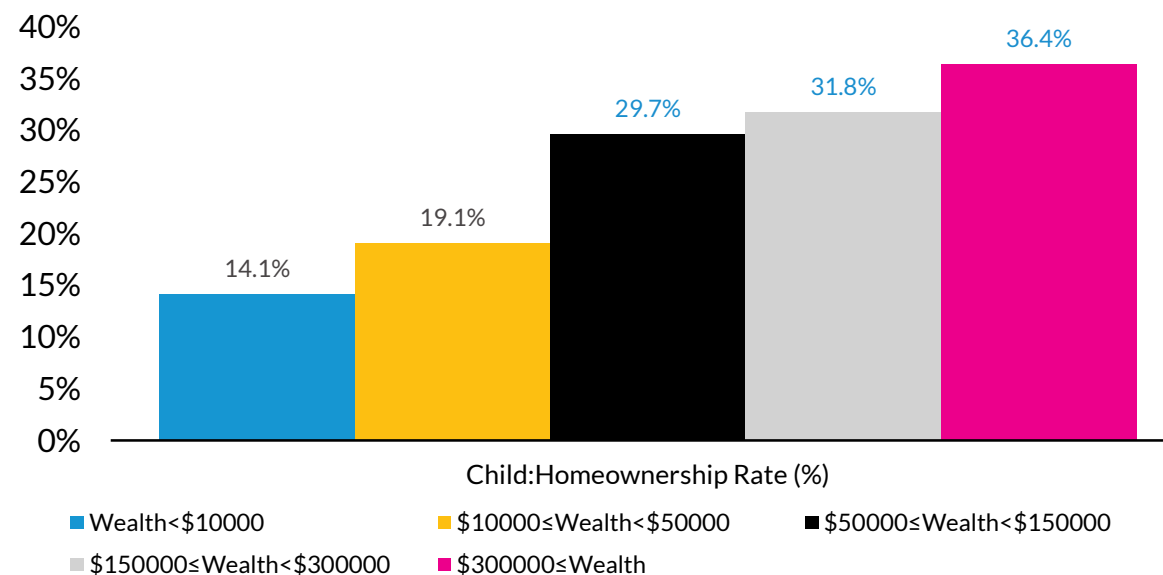
Child Homeownership by Parent Ownership (Age 18-34)



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Source: PSID

Child Homeownership by Parent Wealth



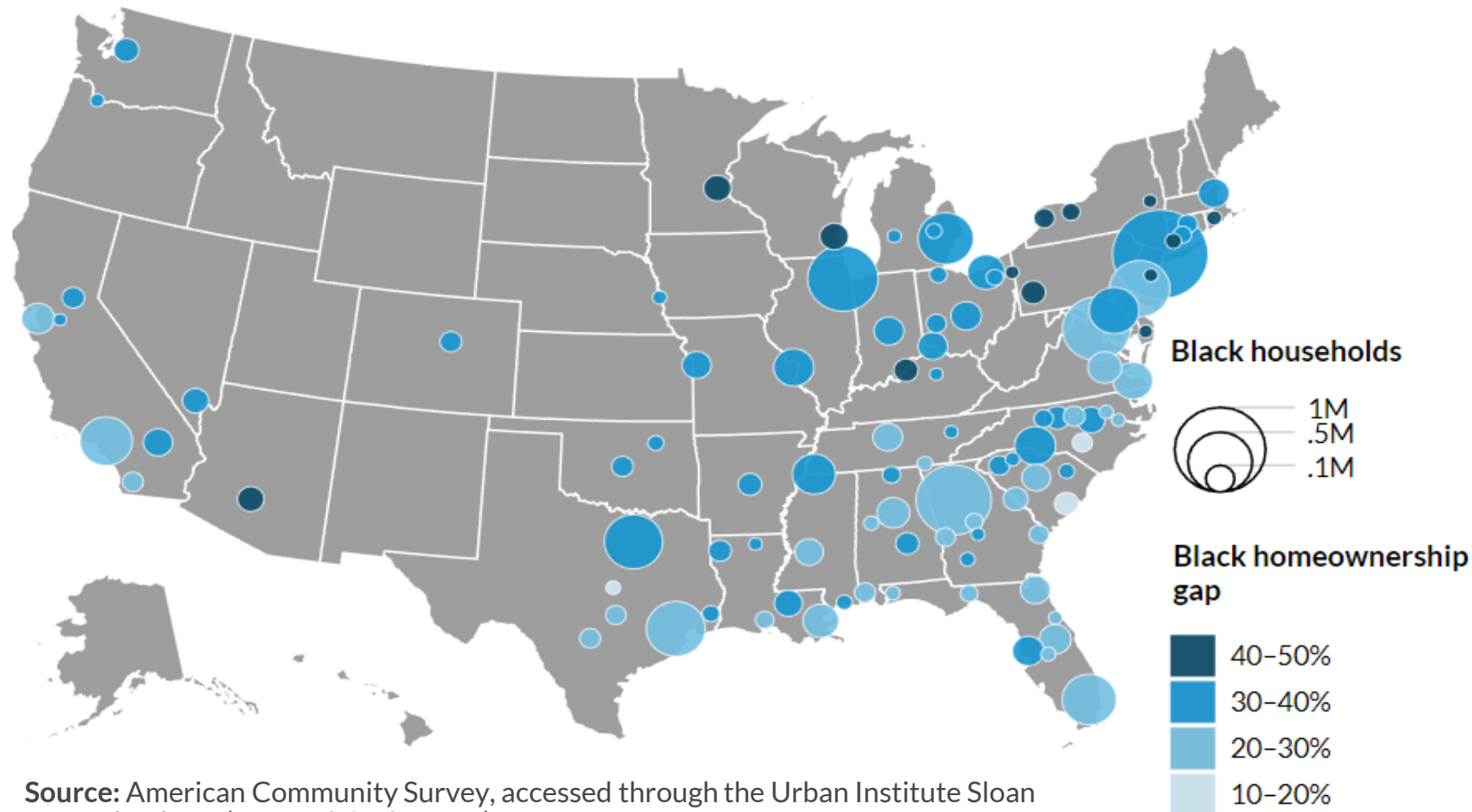
Source: PSID

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Black-White Homeownership Gap Across Cities

No city has closed the homeownership gap

Variations in the Black-White Homeownership Gap across MSAs



Source: American Community Survey, accessed through the Urban Institute Sloan ADRF database (www.adrf.urban.org)

Top MSAs by Number of Black Households

New York-Newark-Jersey City, NY-NJ-PA
 Atlanta-Sandy Springs-Roswell, GA
 Chicago-Naperville-Elgin, IL-IN-WI
 Washington-Arlington-Alexandria, DC-VA-MD-WV
 Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
 Houston-The Woodlands-Sugar Land, TX
 Dallas-Fort Worth-Arlington, TX
 Detroit-Warren-Dearborn, MI
 Miami-Fort Lauderdale-West Palm Beach, FL
 Los Angeles-Long Beach-Anaheim, CA
 Baltimore-Columbia-Towson, MD
 Memphis, TN-MS-AR
 Charlotte-Concord-Gastonia, NC-SC
 St. Louis, MO-IL
 New Orleans, LA
 Cleveland, OH

Black-White homeownership gap: 2017

- In 2017, black-white homeownership gap ranged from **51.0%** in **Minneapolis** to **15.0%** in **Charleston-North Charleston-Summerville, SC** (36.0 percentage points).

MSAs with the smallest homeownership rate gap		MSAs with the largest homeownership rate gap	
Charleston-North Charleston-Summerville, SC	15.0%	Minneapolis-St. Paul-Bloomington, MN-WI	51.0%
Fayetteville, NC	17.2%	Syracuse, NY	46.3%
Palm Bay-Melbourne-Titusville, FL	18.4%	Albany-Schenectady-Troy, NY	46.2%
Gainesville, FL	18.8%	Harrisburg-Carlisle, PA	45.4%
Raleigh-Cary, NC	19.2%	Grand Rapids-Wyoming, MI	44.7%
Ocala, FL	21.2%	Fresno, CA	44.0%
Washington-Arlington-Alexandria, DC-VA-MD-WV	21.7%	Milwaukee-Waukesha-West Allis, WI	43.1%
Colorado Springs, CO	21.9%	Omaha-Council Bluffs, NE-IA	42.8%
Augusta-Richmond County, GA-SC	22.2%	Fort Wayne, IN	42.8%
Dover, DE	22.3%	Rochester, NY	42.7%

Source: 2017 American Community Survey,

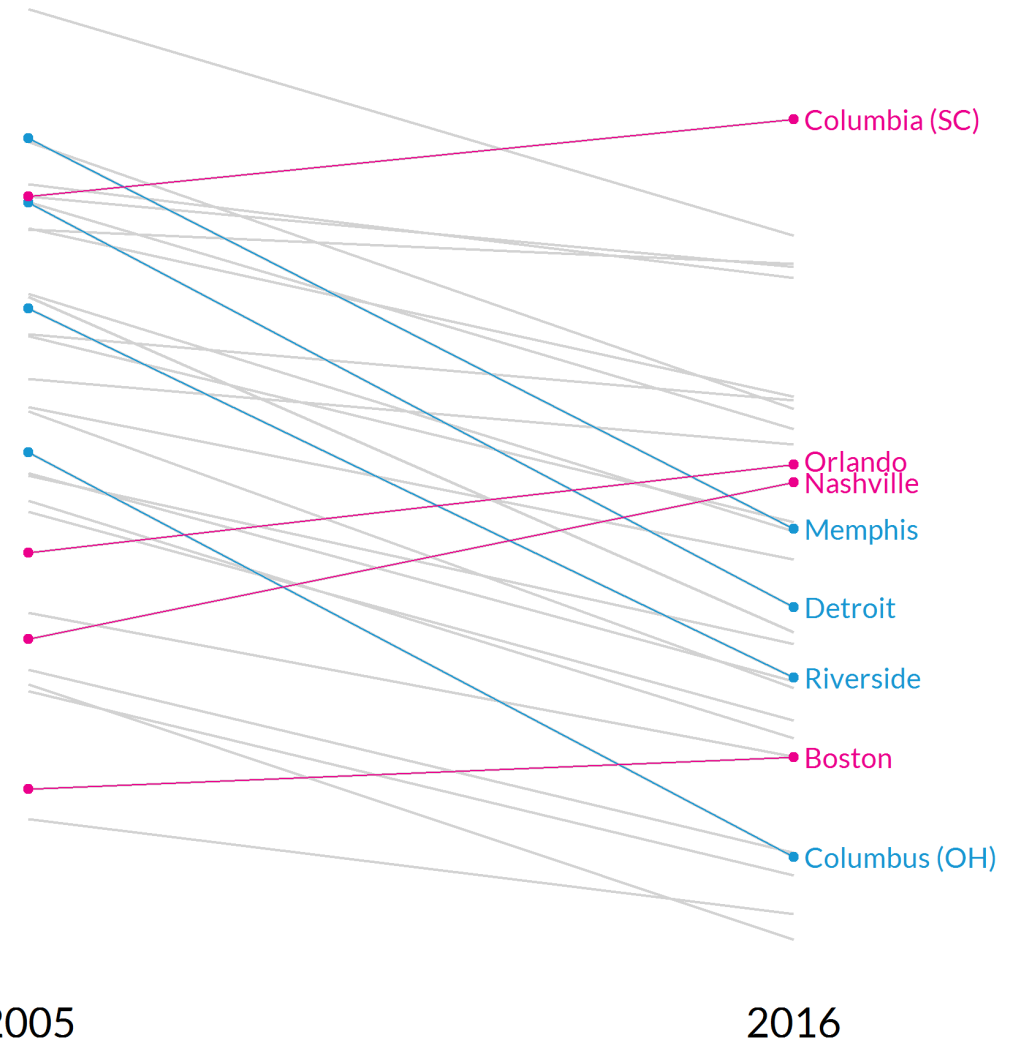
Most cities have seen declines in black homeownership since the crisis

- The financial crisis wiped out gains in homeownership across the country.
- Of the 31 cities with over 100,000 black households, **only 4 cities have seen an increase in the black homeownership rate.**
- The remaining cities have all seen declines- **with some cities seeing declines up to 10 percentage points.**

Source: American Community Survey, accessed through the Urban Institute Sloan ADRF database (www.adrf.urban.org)

Black homeownership rate in 31 largest MSAs

Black homeownership rate



Data & Summary Statistics for MSA Analysis

- 2000 Decennial Census and 2005, 2010, 2015, 2017 American Community Survey.
- MSAs with black populations over 40,000 in 2017, which amounts to 105 MSAs per year.

Variable	Observations	Black		White	
		Mean	Std.Dev	Mean	Std.Dev
By Race					
Homeownership Rate	525	43%	8%	73%	5%
% Under Age 35	525	54%	4%	41%	5%
% College+ (Age>25)	525	18%	6%	33%	9%
% Female Household	525	58%	6%	44%	6%
% Married (Age>16)	525	24%	4%	46%	3%
% Household with Children	525	47%	6%	36%	4%
Unemployment Rate	525	12%	5%	6%	2%
Median Household Income	525	\$38,580	\$9,067	\$66,188	\$13,438
% Below Q25 Area Income	525	40%	5%	21%	2%
Median FICO Score: 2016	525	621	23.7	736	15.9
% FICO below 620: 2016	525	34%	4%	16%	3%
% FICO above 700: 2016	525	20%	4%	51%	6%
% Missing FICO Score 2016	525	32%	5%	17%	3%
MSA Aggregate					
Dissimilarity Index	524	56%	11%	56%	11%
Building Permits per HH	515	1%	1%	1%	1%
Median House Value	525	\$209,911	\$119,380	\$209,911	\$119,380
Median Gross Rent (Monthly)	525	937	213	937	213
GDP Per Capita	525	49,441	15,053	49,441	15,053
Population	525	1,828,562	2,599,026	1,828,562	2,599,026

Regression Results: Black-White Homeownership Gap

	Base		MSA Variables	Credit Scores	
	(1)	(2)		(4)	(5)
Age under 35 (%) : gap	-0.58*** (0.07)	-0.53*** (0.07)	-0.69*** (0.06)	-0.64*** (0.06)	-0.61*** (0.07)
BA+ (%): gap	-0.03 (0.04)	-0.02 (0.04)	-0.04 (0.04)	-0.06 (0.04)	-0.12*** (0.05)
Female HH (%): gap	0.23*** (0.06)	0.26*** (0.05)	0.18*** (0.05)	0.18*** (0.05)	0.21*** (0.05)
Married (%): gap	0.36*** (0.08)	0.27*** (0.08)	0.25*** (0.08)	0.23*** (0.07)	0.26*** (0.07)
HH with children (%): gap	0.26*** (0.06)	0.20*** (0.06)	0.06 (0.05)	0.06 (0.05)	0.07 (0.05)
Unemployment rate: gap	-0.29*** (0.07)	-0.20*** (0.07)	-0.25*** (0.07)	-0.23*** (0.07)	-0.23*** (0.07)
Log(median HH income): gap	0.03*** (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)
HH below Q25 area income (%): gap		-0.29*** (0.06)	-0.19*** (0.06)	-0.17*** (0.06)	-0.19*** (0.06)
Dissimilarity index	0.13*** (0.03)	0.13*** (0.03)	0.04 (0.03)	-0.00 (0.03)	-0.01 (0.03)
Building Permits per HH			-0.60*** (0.21)	-0.59*** (0.21)	-0.61*** (0.21)
Log(Median house value/median rent)			0.24*** (0.02)	0.22*** (0.02)	0.20*** (0.02)
Log(Median house value/medianHH income)			-0.20*** (0.02)	-0.19*** (0.02)	-0.17*** (0.02)
Missing FICO 2016 (%): gap				-0.25*** (0.06)	
FICO above 700 2016 (%): gap					0.22*** (0.06)
MSA Population & GDP	N	N	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	523	523	514	514	514
R-squared	0.470	0.496	0.613	0.627	0.624

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Regression Results: Black Homeownership

	Base		MSA Variables	Credit Scores	
	(1)	(2)	(3)	(4)	(5)
Age under 35 (%)	-0.57*** (0.10)	-0.50*** (0.10)	-0.69*** (0.09)	-0.67*** (0.09)	-0.64*** (0.09)
Female HH (%)	0.46*** (0.08)	0.42*** (0.07)	0.35*** (0.07)	0.35*** (0.07)	0.37*** (0.07)
BA+ (%)	-0.19** (0.08)	-0.13* (0.07)	0.12* (0.07)	0.10 (0.07)	0.07 (0.07)
Married (%)	0.62*** (0.12)	0.58*** (0.11)	0.36*** (0.10)	0.31*** (0.10)	0.30*** (0.10)
HH with children (%)	0.19*** (0.07)	0.11 (0.07)	0.11* (0.06)	0.12* (0.06)	0.13** (0.06)
Unemployment rate	-0.33*** (0.09)	-0.28*** (0.08)	-0.19** (0.08)	-0.17** (0.08)	-0.15** (0.08)
Log(median HH income)	-0.02 (0.02)	-0.07*** (0.02)	0.04* (0.02)	0.04** (0.02)	0.05** (0.02)
HH below Q25 area income (%)		-0.45*** (0.06)	-0.22*** (0.07)	-0.20*** (0.07)	-0.24*** (0.07)
Dissimilarity index	-0.16*** (0.03)	-0.08** (0.03)	0.03 (0.03)	0.06* (0.04)	0.09** (0.04)
Building Permits per HH			1.03*** (0.26)	1.05*** (0.26)	1.18*** (0.26)
Median house value/median rent			-0.13*** (0.03)	-0.13*** (0.03)	-0.15*** (0.03)
Median house value/median income			0.02 (0.02)	0.03 (0.02)	0.02 (0.02)
Missing FICO 2016 (%)				-0.16*** (0.06)	
FICO above 700 2016 (%)					0.30*** (0.09)
MSA Population & GDP	N	N	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	524	524	515	515	515
R-squared	0.392	0.450	0.567	0.574	0.577

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Regression Results: White Homeownership

	Base		MSA Variables	Credit Scores	
	(1)	(2)	(3)	(4)	(5)
Age under 35 (%)	-0.45*** (0.07)	-0.46*** (0.07)	-0.65*** (0.07)	-0.64*** (0.07)	-0.57*** (0.07)
Female HH (%)	-0.17* (0.09)	-0.16* (0.09)	-0.14* (0.08)	-0.16* (0.08)	-0.18** (0.08)
BA+ (%)	-0.05 (0.04)	-0.06 (0.04)	-0.01 (0.04)	-0.03 (0.04)	-0.10** (0.04)
Married (%)	0.76*** (0.09)	0.75*** (0.09)	0.40*** (0.09)	0.39*** (0.09)	0.39*** (0.09)
HH with children (%)	0.37*** (0.07)	0.36*** (0.07)	0.32*** (0.07)	0.32*** (0.07)	0.34*** (0.07)
Unemployment rate	-0.62*** (0.12)	-0.59*** (0.12)	-0.36*** (0.12)	-0.31** (0.12)	-0.26** (0.12)
Log(median HH income)	-0.08*** (0.02)	-0.08*** (0.02)	-0.00 (0.02)	-0.00 (0.02)	-0.01 (0.02)
HH below Q25 area income (%)		-0.18** (0.09)	-0.23** (0.09)	-0.26*** (0.09)	-0.34*** (0.09)
Dissimilarity index	0.09*** (0.02)	0.09*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.07*** (0.02)
Building Permits per HH			0.50*** (0.16)	0.53*** (0.16)	0.63*** (0.16)
Median house value/median rent			0.06*** (0.02)	0.05*** (0.02)	0.02 (0.02)
Median house value/median income			-0.11*** (0.02)	-0.10*** (0.02)	-0.08*** (0.02)
Missing FICO 2016 (%)				-0.12** (0.06)	
FICO above 700 2016 (%)					0.22*** (0.05)
MSA Population & GDP	N	N	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	524	524	515	515	515
R-squared	0.508	0.513	0.601	0.605	0.618

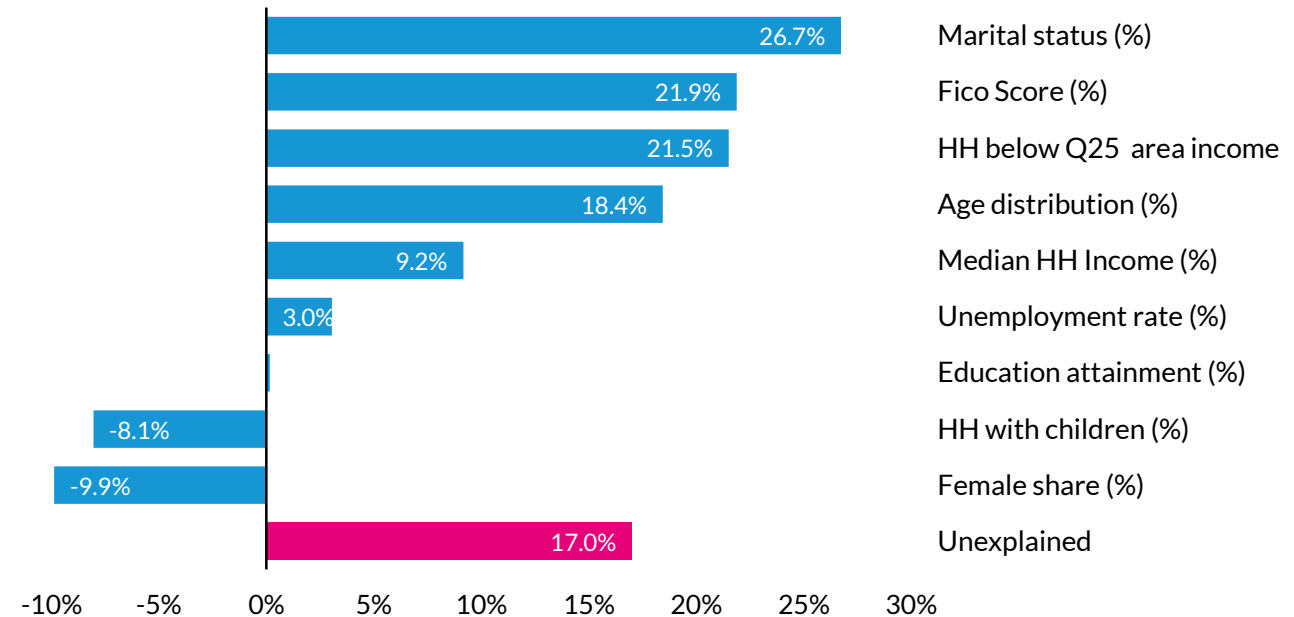
Standard errors in parentheses

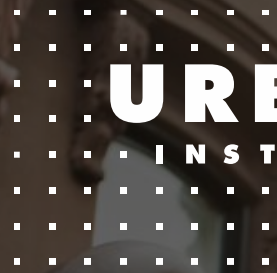
*** p<0.01, ** p<0.05, * p<0.1

Oaxaca Decomposition: Homeownership Gap

- Marital composition, FICO score distribution, income distribution, and age distribution are the four key factors that explain a large proportion of black-white homeownership gap at the MSA level after including controls.
- About 17 percent of the gap remains unexplained.

Oaxaca Decomposition





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BLACK HOMEOWNERSHIP GAP: RESEARCH TRENDS AND WHY THE GROWING GAP MATTERS

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Endowments and Minority Homeownership

Arthur Acolin, University of Washington

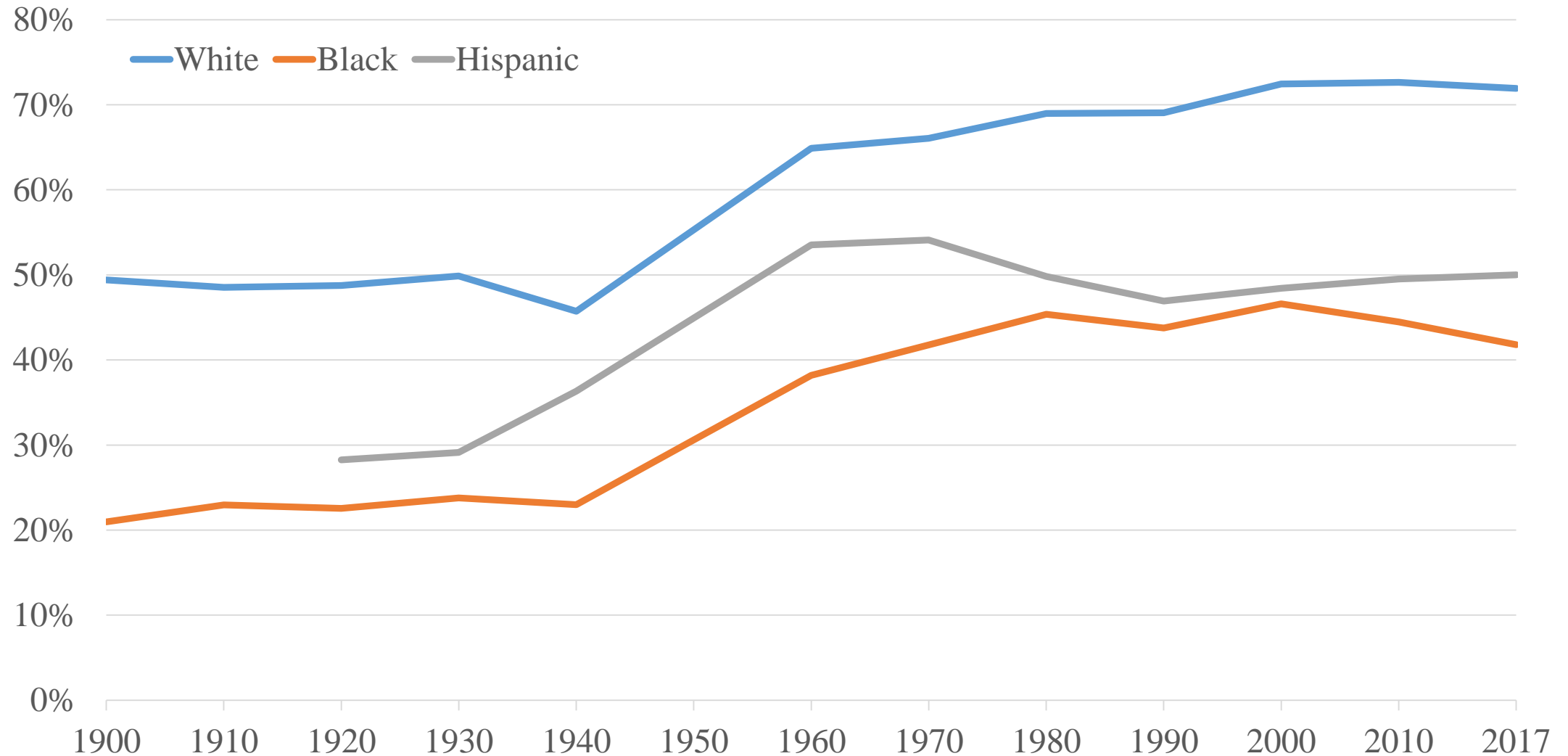
Desen Lin, University of Pennsylvania

Susan Wachter, University of Pennsylvania

Overview

- Minority-White Homeownership Gap: Large, Persistent and Even Growing
- Homeownership Gap Matters for Access to Opportunity
- In Recent Decades Share of Gap for Black-White Households Explained by Differences in Endowments Declined
- Changes Needed to Improve Access for Minority Households

Persistence of Large Gap Over Time



Source: IPUMS, 1900-2010 Decennial Census; 2017 American Community Survey

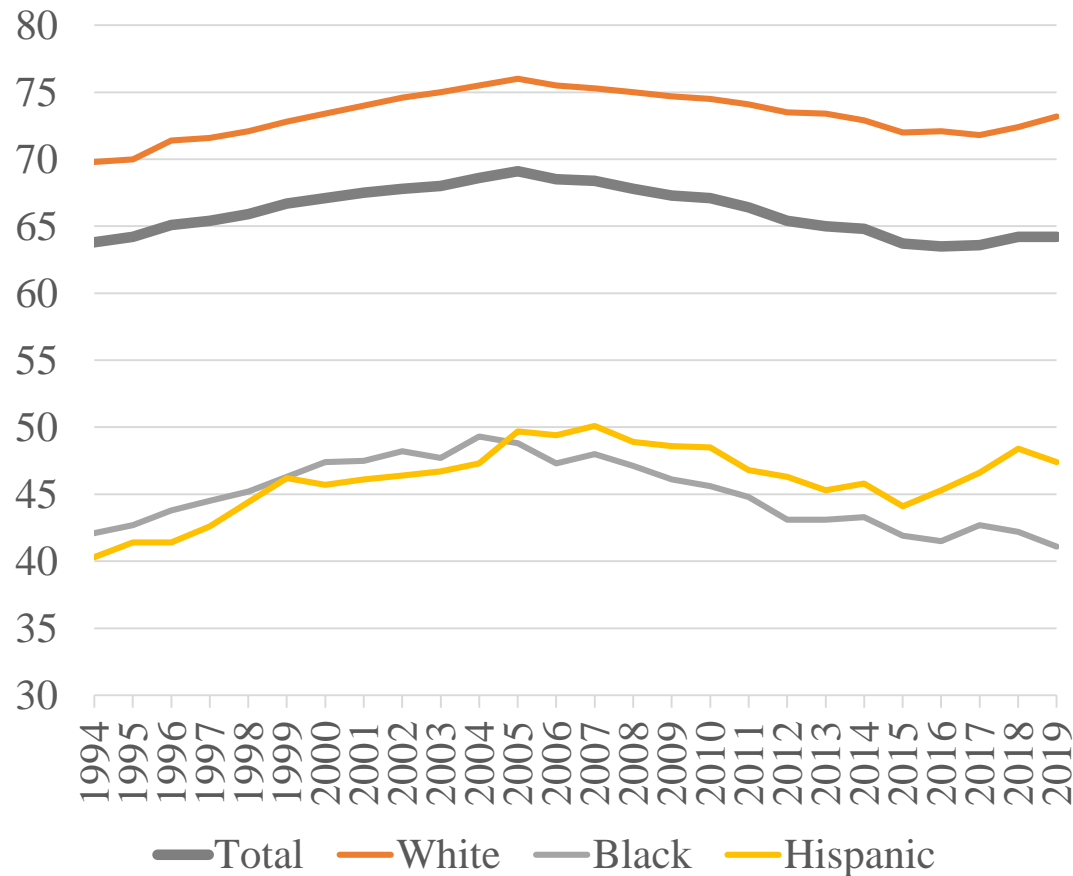
Persistent gap in homeownership despite legislation

- Fair Housing Act adopted in 1968 and subsequent acts make de jure discrimination in housing markets illegal and aim to ensure equal access to mortgage credit.
- Individuals and public market actors can no longer discriminate in access to housing (purchase, rent or credit access).
- Nonetheless no progress in addressing minority-white homeownership gap, particularly for Black households.
- Homeownership rate for black households is 41% in Q1 2019 compared to 73% for white households => 32 percentage points gap.
- Black homeownership was 42% in 1970 and homeownership gap was 24 percentage points.

Why persistent homeownership gap matters?

- Access to homeownership matters for household well-being and intergenerational economic mobility:
 - Housing main component of wealth for most households
 - Forced saving mechanism
 - Hedge against future price increases
 - Access to some high amenity neighborhoods where ownership is main form of tenure
 - Higher levels of satisfaction with home and neighborhood and civic engagement

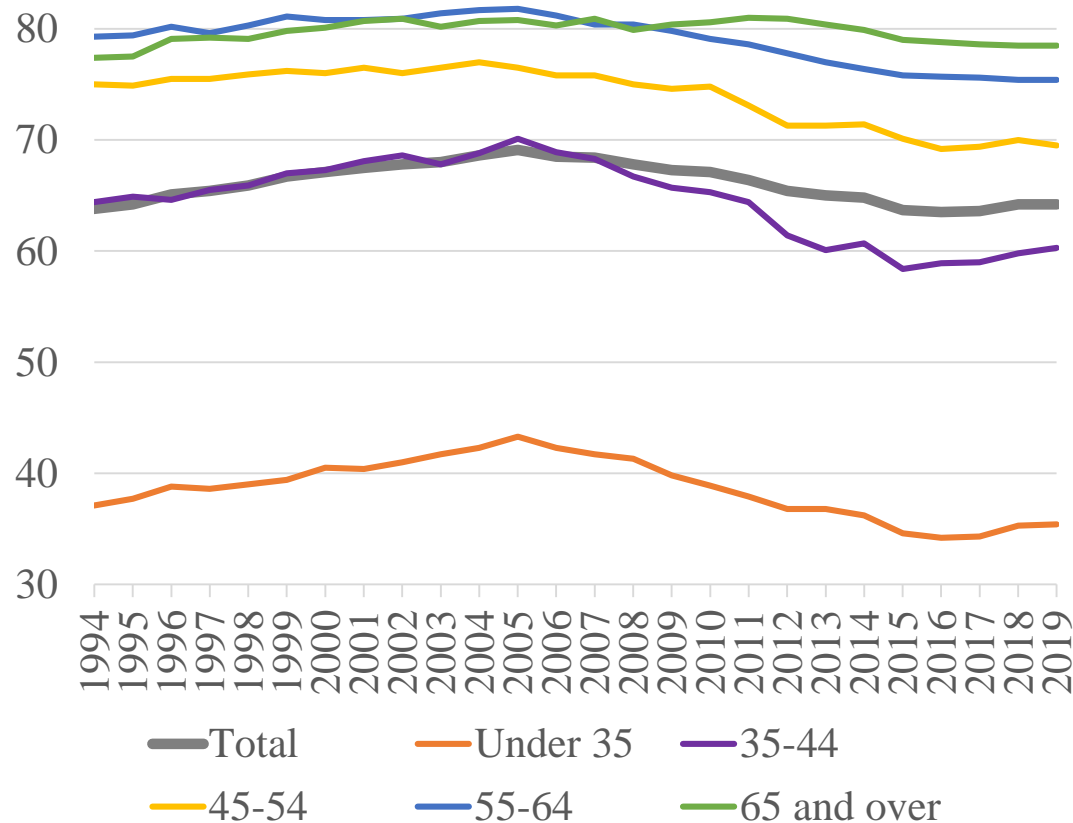
Recent trends by race and ethnicity



- Larger decline and smaller recovery for Black households
- From peak to last quarter:
 - White: -2.8 percentage points
 - Black: -8.2 percentage points
 - Hispanic: -2.7 percentage points

Source: U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey, First Quarter Data

Recent trends by age groups



- More pronounced decline for younger generations that are also more diverse
- In addition Urban Institute report finds that Black first time homeowners are older
- Both opportunity and challenge to increase access to homeownership among younger groups

Source: U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey, First Quarter Data

Research Question

- How did minority-white homeownership gap evolve since 1989?
- What factors contribute to explain these changes (or lack thereof)?

Data

- American Housing Survey (AHS) for 1989, 2005, and 2013
- Nationally representative samples with detailed information on households and housing characteristics that are consistent over time.
- Lacks information about household wealth, credit, and employment history that affect a household's ability to access credit.

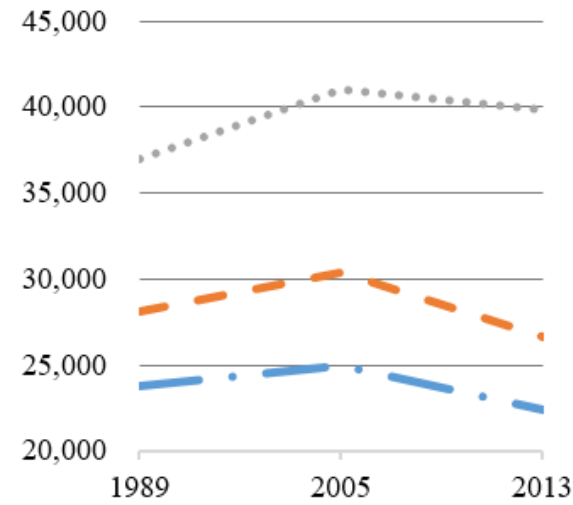
Methodology

- Estimate tenure choice logit models.
- Control for household endowments (transitory and permanent income; age; marital status; gender; household size) and market endowments (value-rent ratio; price-rent price ratio).
- Decompose disparities in homeownership rates into the share accounted for by endowments and a residual share that is unexplained.

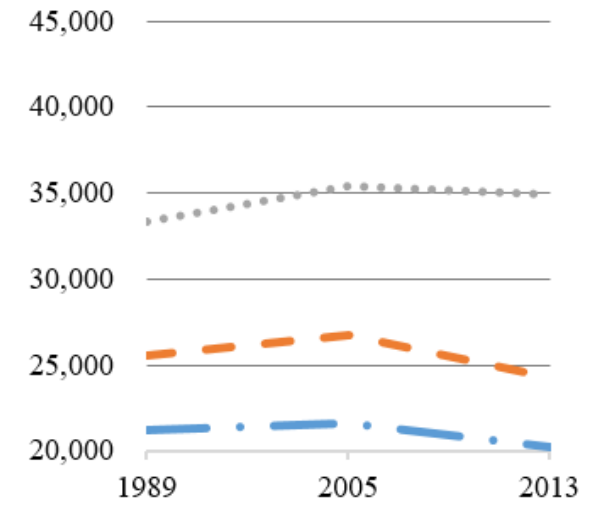
Endowment vs residual

- Compare to extent possible similar households in terms of factors that households are endowed with that are expected to drive homeownership according to standard tenure choice models (permanent income, life cycle, location)
- Residual: portion of the homeownership gap not explained by endowment
 - Omitted variables such as individual and parental wealth, credit scores
 - Unobserved barriers such as discriminatory practices and their legacy

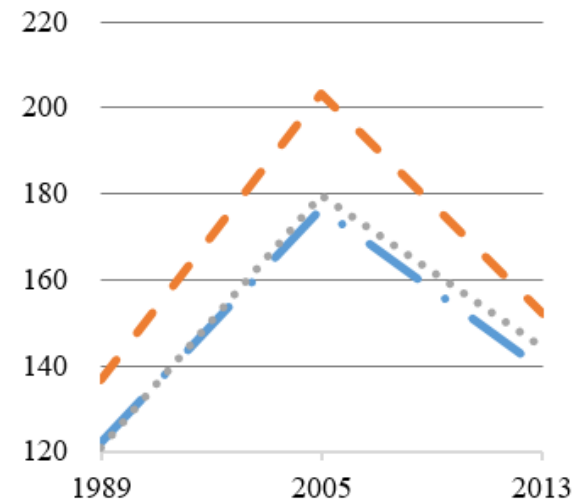
Persistent differences in income and location over time



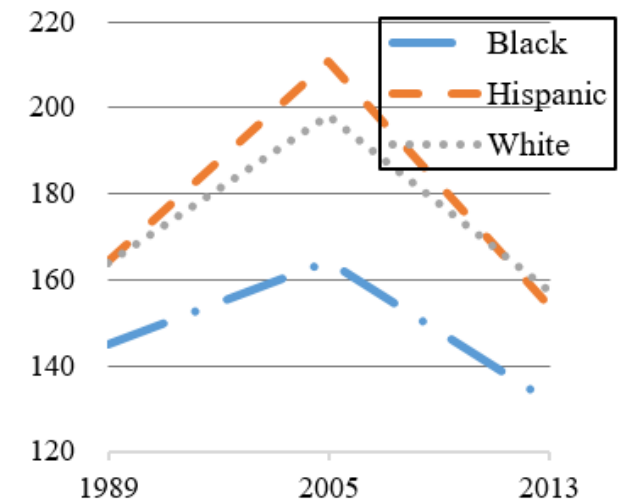
(a) Transitory income



(b) Permanent income



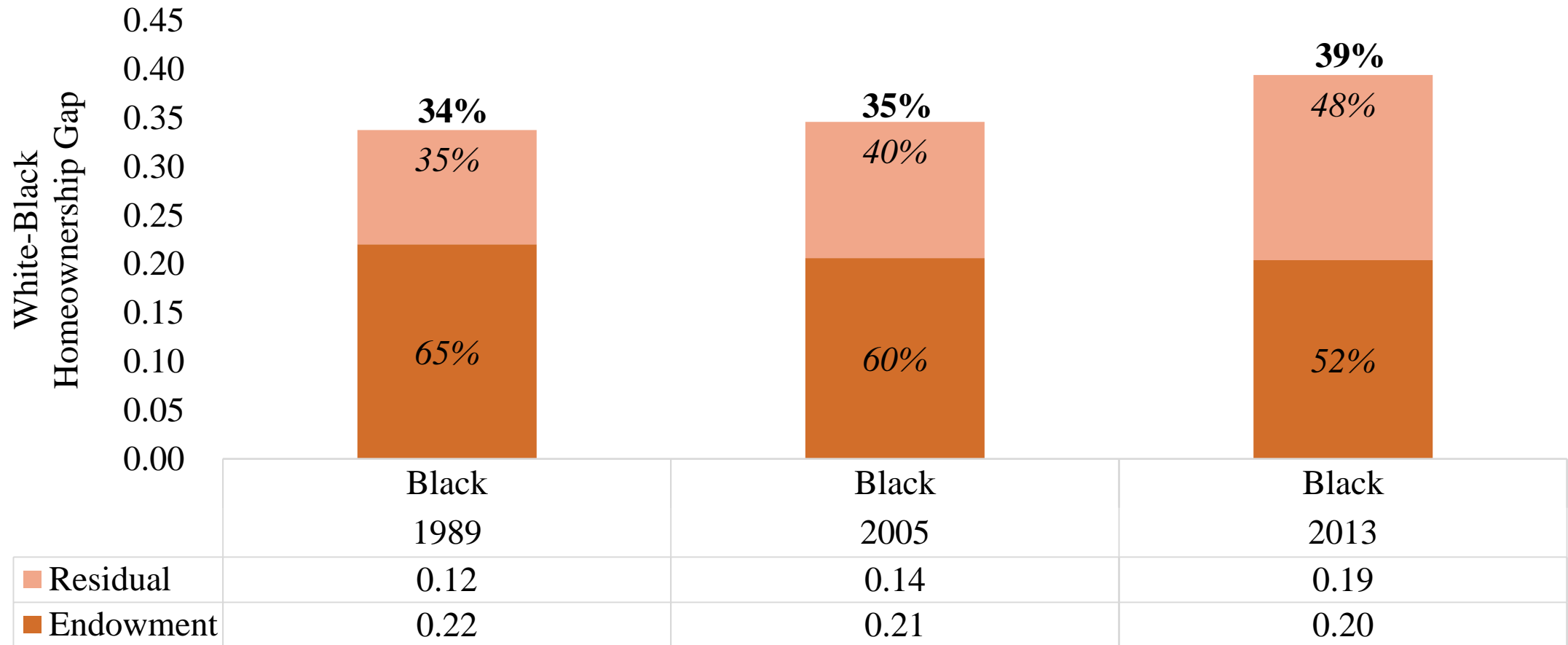
(c) Price-rent ratio



(d) Value-rent ratio

Note: Mean transitory and permanent income (dollars), Price-rent and Value-rent ratios, AHS 1989, 2005, 2013. Income has been inflation adjusted to 1989 dollars.

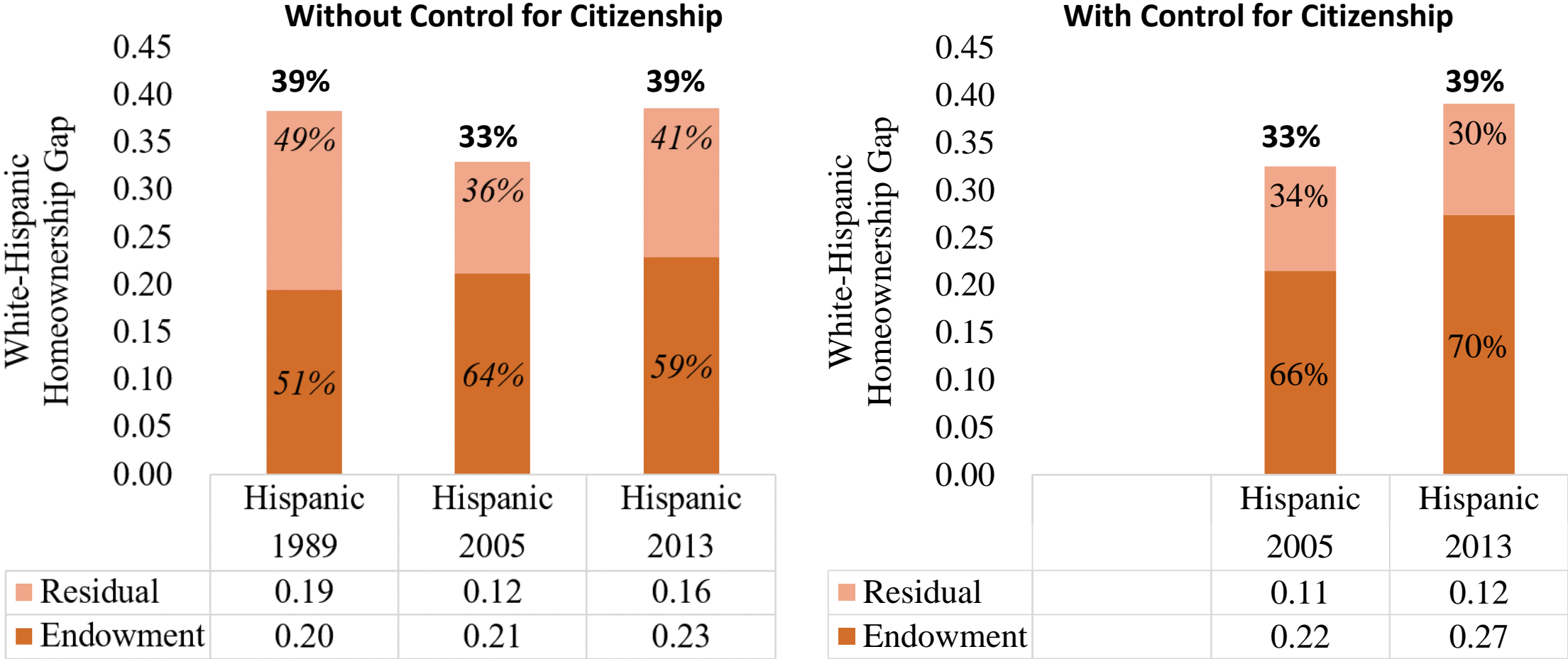
Key Findings: Increasing Gap and Smaller Share Explained by Endowment



Note: Controls include Permanent Income, Transitory Income, Price-Rent Ratio, Value-Rent Ratio, Age, Family Size, Married, Gender.

Source: Acolin, Desen and Wachter 2019

Key Findings: Importance of Immigration for Hispanic Homeownership

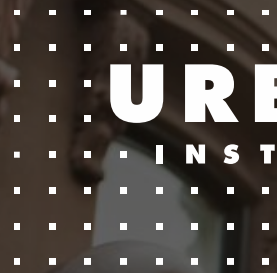


Note: Controls include Permanent Income, Transitory Income, Price-Rent Ratio, Value-Rent Ratio, Age, Family Size, Married, Gender.

Source: Acolin, Desen and Wachter 2019

What explains persistence of gap?

- Lower and decreasing permanent income for minority households contribute to lower access to homeownership.
- We also find an increasing gap in homeownership from 2005 to 2013 for Black households which is unexplained; it may be consistent with an increased impact of tightened credit, relative to White households.
- Further, unmeasured differences in wealth (including parental wealth) and credit records likely contribute to unexplained portion of gap.



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DATA TALK

BLACK HOMEOWNERSHIP GAP: RESEARCH TRENDS AND WHY THE GROWING GAP MATTERS

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Black Homeownership Gap

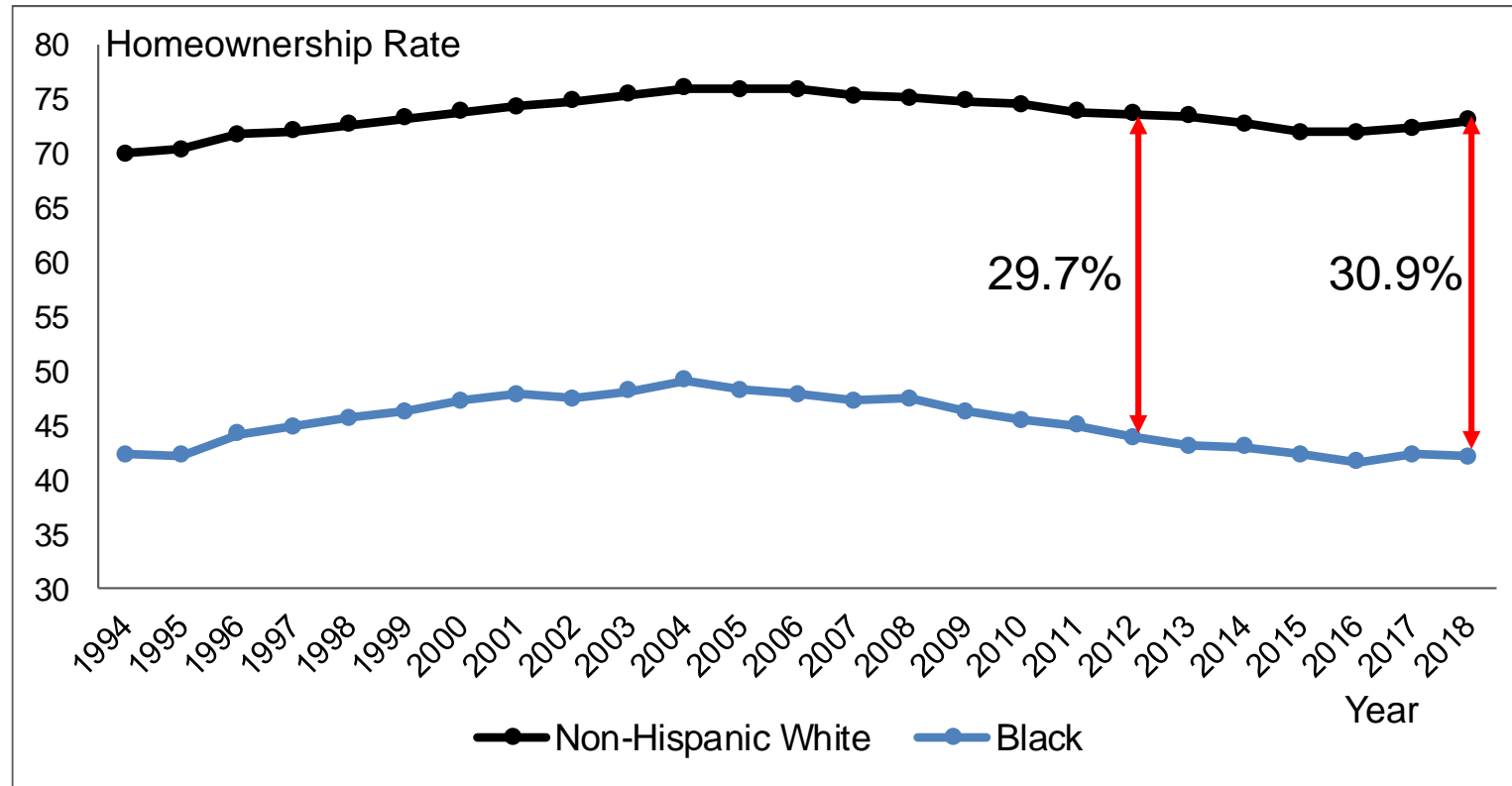
Discussant:

Jaya Dey

Freddie Mac

July 16, 2019

Homeownership Rate, 1994-2018



Source: U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey, April 25, 2019.

- Blacks are 30 percentage points less likely than Non-Hispanic Whites to own a home, and the gap is widening over time.

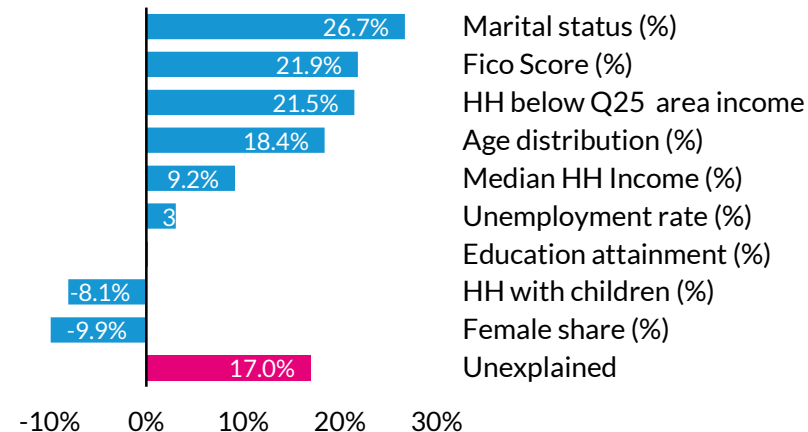
- “Endowments and Minority Homeownership” (A. Acolin, D. Lin and S. Wachter, 2019):
 - » Estimate tenure-choice models that incorporates household endowments (such as “permanent income”) and market endowments to understand racial gap in homeownership rate over time.
 - » Decompose racial gap in homeownership rate over time:

	Black	Hispanic	Asian	Black	Hispanic	Asian	Black	Hispanic	Asian
	1989			2005			2013		
■ Residual	0.117	0.195	0.234	0.140	0.212	0.187	0.190	0.229	0.180
■ Endowment	0.220	0.189	0.042	0.206	0.118	-0.006	0.204	0.157	0.027

- » Residual effect maybe driven by:
 - unmeasured wealth differences (according to May 2019 Freddie Mac report, intergenerational down payment assistance is nearly 25%).
 - unobserved credit quality differences.

- “Black-White Homeownership Gap: A Closer Look Across MSAs” (Jung H. Choi, 2019):
 - » Investigates to what extent White-Black homeownership gap at MSA-level is driven by: socio-demographic variables, MSA level variables, and credit attributes?
 - » Findings suggest FICO score, marital status, income and age distribution largely explain the gap.

Oaxaca Decomposition



- **Question:** To what extent the contribution of each factor changed:
 - » Before and after the financial crisis
 - » In high-cost versus low-cost MSAs

- “Role of Credit Attributes in Explaining Homeownership Gap in the Post-Crisis Period, 2012 – 2018” (L. Brown and J. Dey, 2019)
 - » Uses uniquely constructed anonymized credit bureau data to analyze the racial gap in transition into mortgage ownership by 2018 for a sample of households who were renters in 2012.
 - » Investigates the more recent trends for consumers acquiring new mortgages, including the role of “credit” characteristics.
 - » Sheds light on racial patterns in transition for consumers acquiring new mortgages.

Racial Mortgage Ownership Patterns

Panel A: 2018 Mortgage Ownership Status						
No mortgage in 2012	Non-Hispanic White N=3,009,849		Black N=513,398		Hispanic N=672,294	
	No Mortgage	Has a mortgage	No Mortgage	Has a mortgage	No Mortgage	Has a mortgage
	56.38%	8.99%	76.52%	5.16%	71.17%	7.43%
Had a mortgage in 2012	9.45%	25.17%	5.46%	12.85%	5.87%	15.52%
Panel B: Transition Into Mortgage Ownership (2012-2018)						
New Mortgage Holders in 2018 as a percent of 2012 Non-Mortgage Holders	Non-Hispanic White		Black		Hispanic	
	13.8%		6.3%		9.5%	
Panel C: Transition Into Mortgage Ownership (2012-2016)						
New Mortgage Holders in 2016 as a percent of 2012 Non-Mortgage Holders	Non-Hispanic White		Black		Hispanic	
	10.3%		4.5%		6.6%	

Source: Freddie Mac calculations using anonymized credit bureau data

- Blacks are roughly one-half as likely to enter mortgage ownership as Non-Hispanic Whites.
 - » White-Black gap in transition rate widening over time.

What Are The Big Drivers Of Transitioning Into New Mortgages?

Variable	Category	Marginal Effect
Race indicator	Black	-0.0545
Race indicator	Hispanic	-0.0131
Age cohort	Missing	-0.1628
Age cohort	18 ≤ age ≤ 25	-0.1112
Age cohort	26 ≤ age ≤ 35	-0.0195
Age cohort	36 ≤ age ≤ 45	0.0208
Age cohort	46 ≤ age ≤ 55	0.0000
Age cohort	56 ≤ age ≤ 65	-0.0449
Age cohort	66 ≤ age ≤ 70	-0.0828
Marital status (in 2012)	Single	-0.0816
Household Income (growth rate)		0.0231
FICO score (in 2012)		0.0631
Missing FICO indicator	2012=missing, 2018=not missing	0.4899
Missing FICO indicator	2012=not missing, 2018=missing	-0.1816
Missing FICO indicator	2012=missing, 2018=missing	-0.1778
Thin file indicator (in 2012)		-0.0531
Household DTI growth	Student Debt	-0.0022
Household DTI growth	Auto Debt	0.0016
Household DTI growth	Credit Card	0.0086
All 90D indicator (in 2012)		-0.0417
Foreclosure in 84 mos indicator		0.0472
Bankruptcy	0 < bankruptcy < 12	-0.1334
Bankruptcy	12 ≤ bankruptcy < 24	-0.1310
Bankruptcy	24 ≤ bankruptcy < 36	-0.1276
Bankruptcy	36 ≤ bankruptcy < 48	-0.0878
Bankruptcy	48 ≤ bankruptcy < 60	-0.0145
Bankruptcy	60 ≤ bankruptcy < 72	0.0599
Bankruptcy	≥ 72	0.1784
Mortgage inquiry in 2012 indicator		0.2979
Median house price to median income ratio		-0.0094
Unemployment rate		-0.0059

Note: The table gives marginal effect of select variables. The average predicted probability of transitioning into mortgage ownership is 0.18.

- » Consumers who are Non-Hispanic Whites, of age cohort 36-45, who are married, with higher household income growth, are more likely to transition to new mortgages.
- » While FICO scores and mortgage inquiries have positive effect on homeownership propensity, delinquencies have negative effect on homeownership propensity.

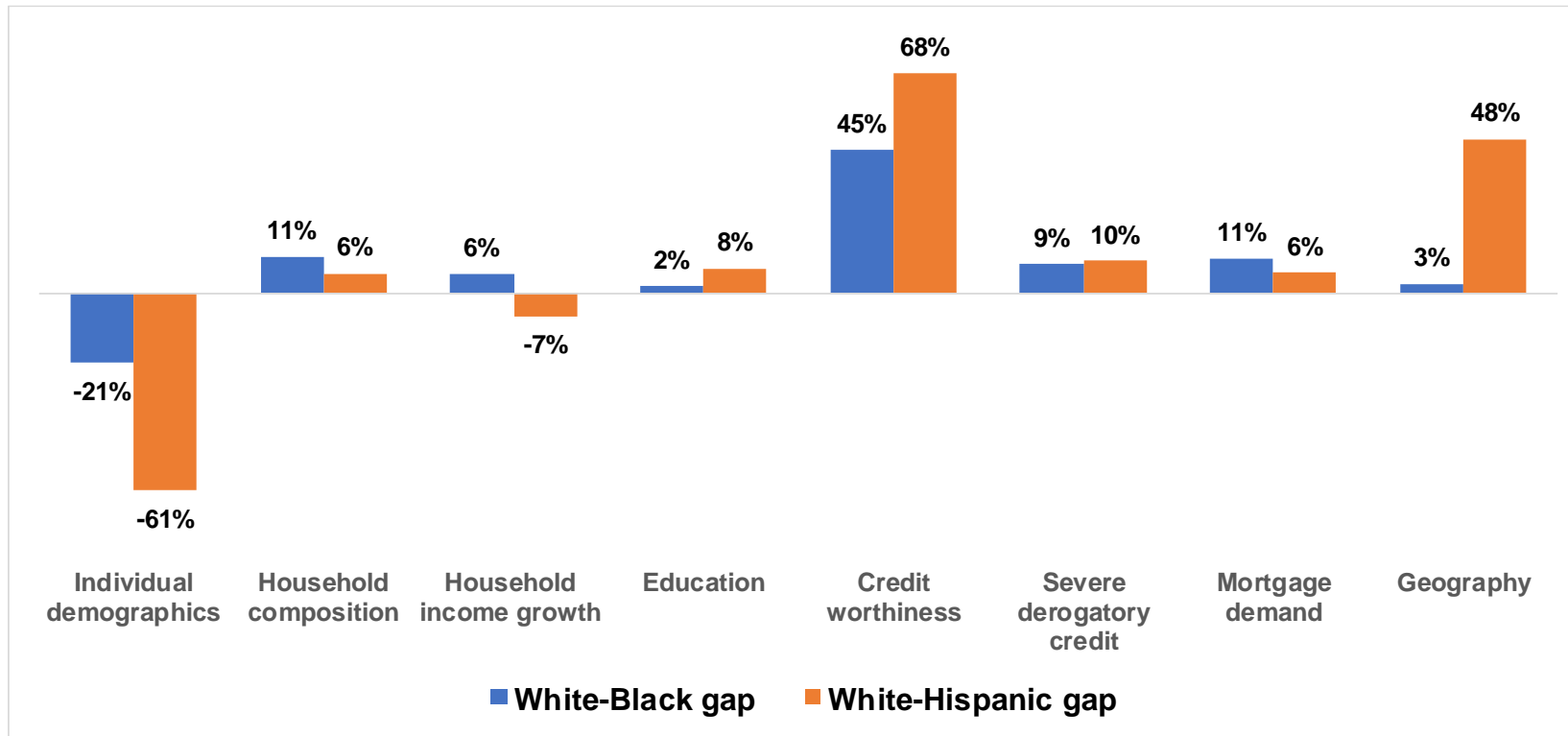
Racial Differences In Characteristics

Variable	Category	NH White Mean	Black Mean	Hispanic Mean
Age cohort	18 ≤ age ≤ 25	0.02	0.03	0.02
Age cohort	26 ≤ age ≤ 35	0.23	0.26	0.26
Age cohort	36 ≤ age ≤ 45	0.16	0.20	0.23
Age cohort	46 ≤ age ≤ 55	0.15	0.17	0.18
Age cohort	56 ≤ age ≤ 65	0.14	0.15	0.13
Age cohort	66 ≤ age ≤ 70	0.06	0.05	0.04
Marital status (in 2012)	Single	0.13	0.34	0.20
Household Income (growth rate)		0.17	0.13	0.20
FICO score (in 2012)		569.74	439.48	486.08
All 90D indicator (in 2012)		0.37	0.64	0.49
Mortgage inquiry in 2012 indicator		0.08	0.06	0.08
Median house price to median income ratio	Single Family	0.79	0.75	1.00

Source: Freddie Mac calculations using anonymized credit bureau data

- Typically, Blacks are skewed younger, are more likely to be single, have lower household income growth, lower FICO, are more likely to have delinquencies and are less likely to have inquired for mortgages compared to Non-Hispanic Whites.

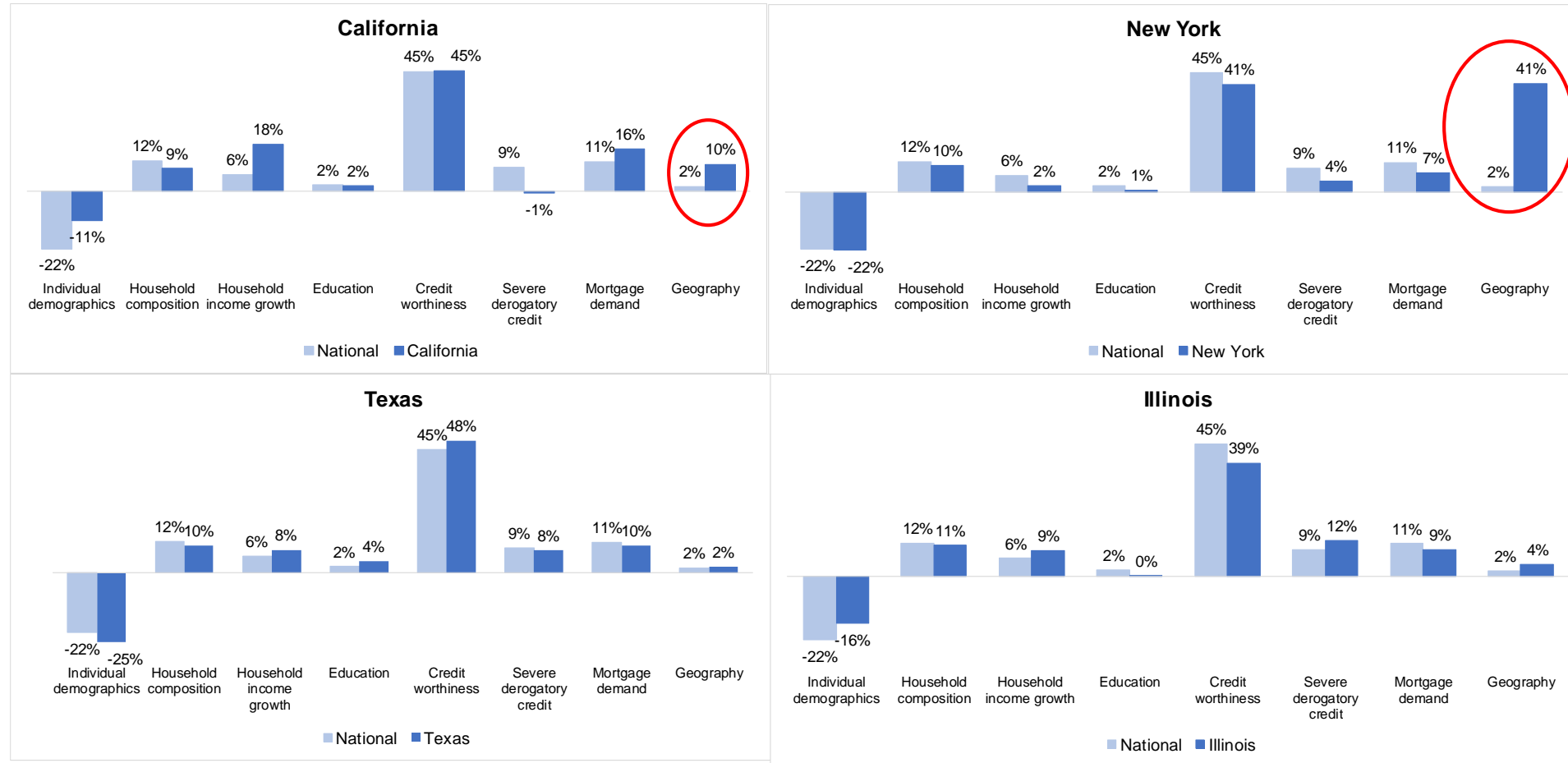
To What Extent Racial Gap In Transition Rate Explained By Racial Differences In Characteristics?



Source: Freddie Mac calculations using anonymized credit bureau data. Based on Blinder-Oaxaca decomposition of White-Black gap in transition rates into mortgage ownership.

- » Credit Worthiness contribute substantially to the White-Black gap.
- » While household composition and income growth matters in explaining the White-Black gap, geography explains virtually none of the gap.

Decomposing White-Black Gap In Transition Rate By State



Source: Freddie Mac calculations using anonymized credit bureau data

» Geography contributes substantially to White-Black gap in areas where affordability is challenged.



Jaya Dey, Ph.D.

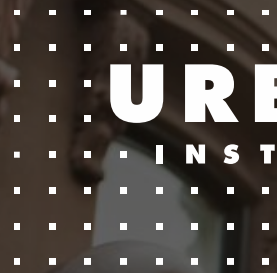
Senior Economist

Affordable Lending Analytics and Research

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Appendix

- Household Panel data:
 - » 5.8 million consumer records: 2% random, anonymized sample of consumers with Credit Bureau records in September 2016
 - » An additional 8.8 million consumers: In the same household in 2016 and in Credit Bureau's database
- Credit data from 2012, 2016 and 2018:
 - » Number, type, and amount of debt held (includes mortgages, student loans, bankcards, and installment loans), foreclosures, delinquencies, charge-offs, bankruptcies, and inquiries
 - » VantageScore® 3.0 credit score, FICO 9.0 credit score
 - » Income InsightSM and Debt-to-Income InsightSM
 - » Individual demographics
- Matched with Credit Bureau's marketing database
 - » Ethnic InsightSM
 - » Household-level demographics



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Black Home Ownership Discussion

David A. Vandembroucke
Senior Economist
U.S. Department of Housing & Urban Development

The views expressed in this presentation are my own and not the official position of HUD or the United States Government.



“Ownership is good”

- Consumption benefits
- Social benefits
- Child-rearing benefits
- Wealth creation through forced saving



Jung Hun Choi

Aggregate MSA-level analysis

- **Dramatic drop in Black ownership rates in the recession**
- **Stubborn lack of recovery since then**
- **Familiar underlying factors**



Jung Hun Choi

Metropolitan analysis

- Smaller gaps in South, higher in Midwest and New York
- Regression results about as one would expect
- Some surprises
- Is this a consequence of the increasing inequality in income and wealth?



Acolin-Lin-Wachter

Use of AHS

- AHS is very good at housing, weak at income, hopeless at wealth
- Neglected variables:
 - Source of downpayment
 - Wage/salary income of persons
 - Journey to work module (1989, 2005)



Acolin-Lin-Wachter

Modeling considerations

Permanent income vs Transient income

Value/rent ratio vs price/rent ratio: Are these different?

Intricate model

- Estimated values used as inputs into other models
- Predictors of those values directly incorporated into later stages



Acolin-Lin-Wachter

Final observations

Counterfactual estimates are clever

What does it all mean?

Would this analysis benefit from linking AHS data to other sources?



Contact

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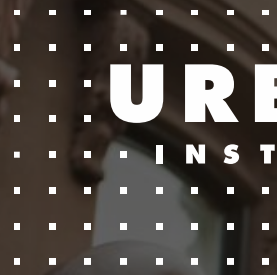
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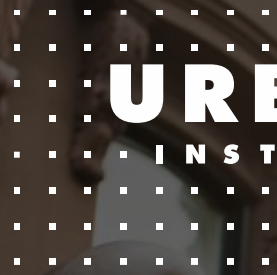
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