

Heterogeneity in Racial and Ethnic Price Differentials: Evidence from Chicago

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Introduction

- Despite ostensible declines in overt/centralized discrimination, there is evidence of persistent discriminatory behavior against racial minorities in the housing market:
 - Audit studies are clear that discrimination in various forms (e.g. exclusion, steering) , though declining, persists in the rental and owner - occupied housing markets e.g. Yinger(1986), Hanson and Hawley (2011).
 - Evidence less clear when examining housing transactions data as past studies were often plagued by data limitations and methodological problems (Yinger, 1998)
- Discrimination, whether by sellers or real estate, imposes restrictions on the choice sets faced by minorities
- As suggested by Becker (1971) and others, these limits may cause minorities to pay more relative to whites for comparable housing

Introduction II

Testing this prediction has proven difficult, in part, because of confounding due to unobserved housing and neighborhood quality -

- Earlier studies using relatively limited sample found evidence of premia paid by nonwhites e.g. Kain and Quigley, 1975; Yinger(1978)
- Later studies found statistically significant discounts for black buyers relative to whites e.g. Follain and Malpezzi (1981); Chambers(1992); Kiel and Zabel(1996)
- Meyers (2004), using a house fixed effects model, finds evidence of black premia; Ihlanfeldt and Mayock (2009) use large set of controls and block fixed effects to find racial/ethnic price premia

Introduction III

Bayer, Casey, Ferreira, and McMillan (2017) control for house and neighborhood - by- time fixed effects:

- Use transactions data from Chicago, LA, SF, Baltimore-Washington DC
- Robust evidence of positive nonwhite price premia of roughly 2 percent overall; present in all 4 major metros
- Difficult to pin down a single source but discriminatory behavior may play part

Today's Talk

I focus on Chicago

- Parts of the city were rapidly gentrifying over my observation period
- Resorting of the population across city and suburban areas in terms race and income/wealth

My question today: Do these price differentials differ substantially for differentially changing neighborhoods?

May help provide some additional evidence on the source of these differentials

Preview of Findings

Evidence on price differentials:

- Positive black/Hispanic price premia found across all neighborhood types
- Some heterogeneity in magnitude of estimates
 - Neighborhoods trending black tend to exhibit lower black/Hispanic price premia
 - No large differences in estimated in black/Hispanic price premia estimated for neighborhoods trending white and those trending Hispanic

Dataquick

- All housing transactions in metropolitan area between 1997 - 2008
- Data on transaction price, date of sale, loan amount, lender name, and house location
- Unique ID – allows for the house fixed effects strategy employed in the paper

HMDA

- Demographics: race and ethnicity; (reported) income
- transaction date, lender, and census tract

Match on the basis of census tract, loan amount, year, and lender name – see Bayer et al. (2017) for more details on the match

Summary Statistics - [▶ Table](#)

Empirical Strategy

Estimate variants of the following price regression:

$$\ln(p_{ijnt}) = \text{raceeth_buyer}_{it}\gamma + X_{ijt}\beta + \mu_j + \theta_{nt} + \epsilon_{ijnt}$$

- *raceeth_buyer* is a vector of indicators for buyer race/ethnicity at time *t*.
- μ_j is a house specific fixed effect ; θ_{nt} is set of neighborhood-by-time fixed effects
- *X* denotes a vector of observable house buyer characteristics
- γ provides estimate of average premium, if any, paid by black and Hispanic buyers relative to whites
- Preferred specification includes set of lender fixed effects as well

- Identification of premium is obtained by changing race within same house over successive transactions
- Inclusion of neighborhood-by-time fixed effects insures these comparisons are for within the same time period and neighborhood; controls for neighborhood specific shocks.
- Coefficients of interest measure differences in within-house appreciation for transactions where race changes averaged over “comparable” houses.
- Potential problems may arise:
 - 1 If buyers systematically bought houses that had different amounts of renovation or maintenance-
 - 2 Drop homes that are flagged as having major renovations; find no differences when the relatively small number of such homes are dropped
 - 3 Given that whites are systematically more wealthy, if so, coefficients would understate the premiums

Results I

Overall - [▶ Table](#)

- Evidence suggests blacks and Hispanics pay premiums relative to whites conditional on research design
- Robust to inclusion of buyer financial position and lender fixed effects

Note: Bayer et al. (2017) show overall results are robust to exclusion of subprime, exclusion of transactions occurring between 2004 -2007, and exclusion of non-perfect matches

Heterogeneity Across Neighborhood Initial Conditions- [▶ Table](#)

- Positive price premia robust across neighborhood initial conditions
- Different patterns across blacks and Hispanics: premium rises in white composition for blacks, whereas premium decreases for Hispanics

Heterogeneity Across Transitional Neighborhood- [▶ Table](#)

- Positive price premia robust across transitioning neighborhoods
- Lower estimate premia for neighborhoods trending more black but confidence intervals are wider

Implications

Is this a pure discrimination effect?

- No clear evidence of pure racial bias but could be a consequence of prejudice/exclusion and/or steering in the search process
- Difficult to get stable estimates at city level but Bayer et al.(2017) shows that in some cases black and Hispanic sellers are actually receiving higher premiums relative to white sellers
- Regardless, results have implications for broad number of social outcomes as black and Hispanic buyers are paying “transaction tax” that may have implications for tenure choice, location choices, and importantly, wealth accumulation

Thank You!

Table 1: Summary Statistics - Data

Number of Observations	382,389
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Transaction Statistics

Mean Transaction Price	220,737
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Median Transaction Price	182,500
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Mean Reported Income	86,558
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Median Reported Income	67,000
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Median Down Payment	27,500
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Buyer Race

White	0.75
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Black	0.09
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Hispanic	0.08
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Asian and Other	0.08
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Repeat Sales

Sold Twice	0.75
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Sold Three Times	0.22
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Sold Four or More Times	0.03
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Table 2: Racial/Ethnic Housing Price Differentials in Chicago

Location	<i>Panel A: Black-White Differential</i>			<i>Panel B: Hispanic-White Differential</i>			Obs.
	(1)	(2)	(3)	(1)	(2)	(3)	
Chicago	0.029 [0.005]	0.035 [0.005]	0.034 [0.006]	0.015 [0.003]	0.023 [0.003]	0.023 [0.005]	382,389
<i>Additional Controls Included:</i>							
House FE	Yes	Yes	Yes	Yes	Yes	Yes	
Tract x Time	Yes	Yes	Yes	Yes	Yes	Yes	
Individual	No	Yes	Yes	No	Yes	Yes	
Lender FE	No	No	Yes	No	No	Yes	

