Comparing Administrative Data to ACS Estimates of Income and Wealth

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ACS Data Users Conference | May 14-15 | Washington, DC https://www.nyti

Unlocking the (Neon Green) Door to Gentrification

Architecture is often the first chapter in the story of neighborhood change.

By Emily Badger

May 3, 2019

NBER WORKING PAPER SERIES

DO PEOPLE SHAPE CITIES, OR DO CITIES SHAPE PEOPLE? THE CO-EVOLUTION OF PHYSICAL, SOCIAL, AND ECONOMIC CHANGE IN FIVE MAJOR U.S. CITIES

Nikhil Naik
Scott Duke Kominers
Ramesh Raskar
Edward L. Gl

ASA
AMERICAN SOCIOLOGICAL ASSOCIATION

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Divergent Pathways of Gentrification: Racial Inequality and the Social Order of Renewal in Chicago Neighborhoods

Jackelyn Hwang[a] and Robert J. Sampson[a]

Abstract
Gentrification has inspired considerable debate, but direct examination of its uneven evolution across time and space is rare. We address this gap by developing a conceptual framework on the social pathways of gentrification and introducing a method of systematic social observation using Google Street View to detect visible cues of neighborhood change. We argue that a durable racial hierarchy governs residential selection and, in turn, gentrifying neighborhoods. Integrating census data, police records, prior street-level observations, community surveys, proximity to amenities, and city budget data on capital investments, we find that the pace of gentrification in Chicago from 2007 to 2009 was negatively associated with the concentration of blacks and Latinos in neighborhoods that either showed signs of ... still disinvested in 1995. Racial composition has a threshold ...

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on
pter in the story of

www.bbc.com/capital/story/20180105-how-your-car-signals-your-income

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Money

What Google Street View tells us about income

We often drive cars around town to flaunt wealth or image. But a surprising source – Google Street View – reveals deeper connections between cars and inequality.

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$$income = f(wealth, other\ factors)$$

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The most sensitive question on the ACS

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Most people hold most wealth in their homes

$$income = f(wealth, other\ factors)$$

The most sensitive question on the ACS

Most people hold most wealth in their homes

Home value is publicly available administrative data

Restricted-Use ACS Microdata ↔ County Assessed Value

1940 1% PUMS household wages & salaries ⟷ 1940 1% PUMS estimated home value

2017 1% PUMS household wages & salaries ⟷ 2017 1% PUMS estimated home value

1940

Log(Family Earnings)

	Null Model		Value Model	
intercept	6.303	*	4.274	*
log(VALUE)			0.309	*
HHAGE	0.002		-0.010	*
HHAGE^2	0.000		0.000	*
NEARN	0.378	*	0.374	*
EMPLOY (1=employed)	0.596	*	0.493	*
METRO (1=nonmetro)	-0.503	*	-0.257	*
HHRACE (1=nonwhite)	-0.832	*	-0.507	*
SAMHOU (1=no move)	0.002		0.030	*
R-squared	0.287		0.391	

* significant at 0.01

Only households:

- That own
- Have 1+ earner
- Not farms

1940

Log(Family Earnings)

	Null Model		Value Model	
intercept	6.303	*	4.274	*
log(VALUE)			0.309	*
HHAGE	0.002		-0.010	*
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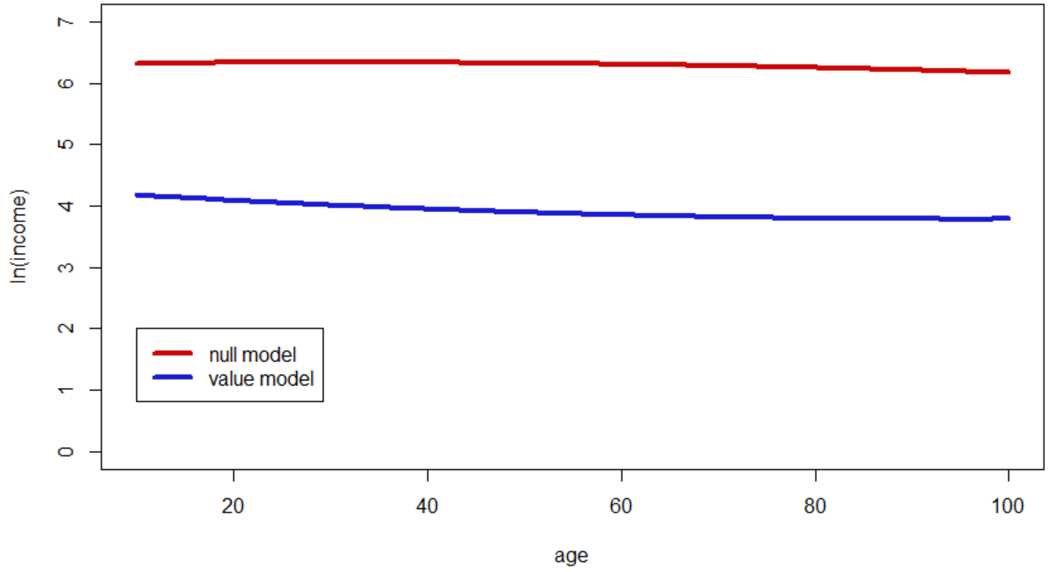
Age changes signs



1940

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HHRACE (1=nonwhite)	-0.832	*	-0.507	*
SAMHOU (1=no move)	0.002		0.030	*
R-squared	0.287		0.391	

* significant at 0.01

Coefficients for number of earners & employment of head of household remain similar

1940

Log(Family Earnings)

	Null Model		Value Model	
intercept	6.303	*	4.274	*
log(VALUE)			0.309	*
HHAGE	0.002		-0.010	*
HHAGE^2	0.000		0.000	*
NEARN	0.378	*	0.374	*
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HHRACE (1=nonwhite)	-0.832	*	-0.507	*
SAMHOU (1=no move)	0.002		0.030	*
R-squared	0.287		0.391	

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Less effect of metro status & race

More effect for not moving

1940

Log(Family Earnings)

	Null Model		Value Model		Standardized Betas Value Model
intercept	6.303	*	4.274	*	
log(VALUE)			0.309	*	0.366
HHAGE	0.002		-0.010	*	-0.143
HHAGE^2	0.000		0.000	*	0.076
NEARN	0.378	*	0.374	*	0.315
EMPLOY (1=employed)	0.596	*	0.493	*	0.207
METRO (1=nonmetro)	-0.503	*	-0.257	*	-0.132
HHRACE (1=nonwhite)	-0.832	*	-0.507	*	-0.121
SAMHOU (1=no move)	0.002		0.030	*	0.016
R-squared	0.287		0.391		

* significant at 0.01

The biggest single predictor of income is home value

2017

Log(Family Earnings)

	Null Model		Value Model		Standardized Betas Value Model
intercept	10.140	*	5.508	*	
log(VALUE)			0.403	*	0.492
HHAGE	-0.036	*	0.023	*	0.386
HHAGE^2	0.000	*	0.000	*	-0.397
NEARN	0.367	*	0.309	*	0.275
EMPLOY (1=employed)	-0.092	*	0.065	*	-0.029
METRO (1=nonmetro)	-0.306	*	-0.066	*	-0.037
HHRACE (1=nonwhite)	-0.139	*	-0.130	*	-0.057
SAMHOU (1=no move)	0.056	*	-0.002	*	-0.001
R-squared	0.148		0.362		

* significant at 0.01

Home value an even more important predictor

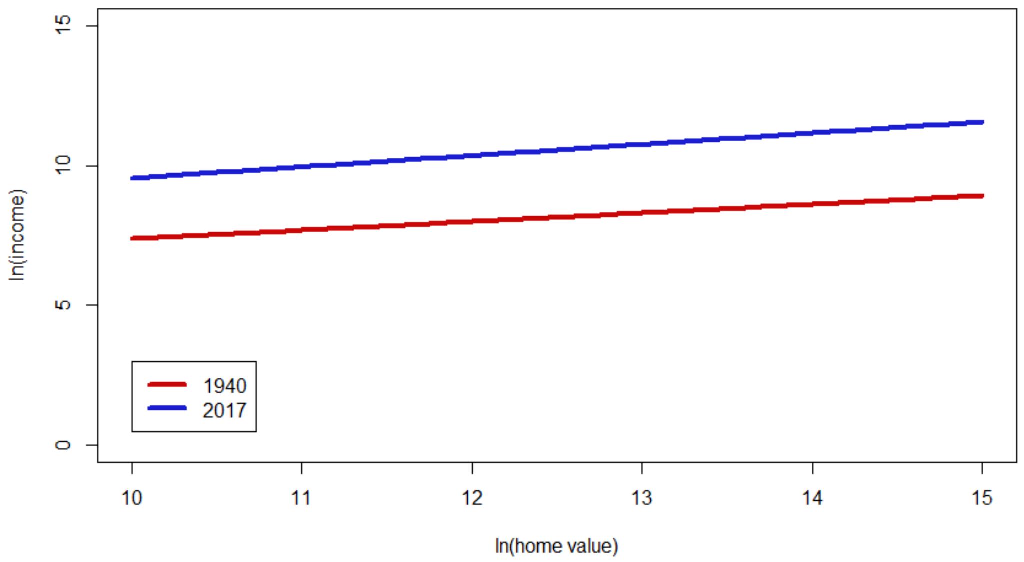
1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
log(VALUE)	0.309	*	0.403	*
HHAGE	-0.010	*	0.023	*
HHAGE^2	0.000	*	0.000	*
NEARN	0.374	*	0.309	*
EMPLOY (1=employed)	0.493	*	0.065	*
METRO (1=nonmetro)	-0.257	*	-0.066	*
HHRACE (1=nonwhite)	-0.507	*	-0.130	*
SAMHOU (1=no move)	0.030	*	-0.002	
R-squared	0.391		0.362	

* significant at 0.01

Home value has a similar relationship



1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
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* significant at 0.01

Age switches signs but remains flat

1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
log(VALUE)	0.309	*	0.403	*
HHAGE	-0.010	*	0.023	*
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SAMHOU (1=no move)	0.030	*	-0.002	
R-squared	0.391		0.362	

* significant at 0.01

The number of earners has a similar relationship

1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
log(VALUE)	0.309	*	0.403	*
HHAGE	-0.010	*	0.023	*
HHAGE^2	0.000	*	0.000	*
NEARN	0.374	*	0.309	*
EMPLOY (1=employed)	0.493	*	0.065	*
METRO (1=nonmetro)	-0.257	*	-0.066	*
HHRACE (1=nonwhite)	-0.507	*	-0.130	*
SAMHOU (1=no move)	0.030	*	-0.002	
R-squared	0.391		0.362	

* significant at 0.01

Employment of HH head has a much smaller impact

1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
log(VALUE)	0.309	*	0.403	*
HHAGE	-0.010	*	0.023	*
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SAMHOU (1=no move)	0.030	*	-0.002	
R-squared	0.391		0.362	

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Metropolitan status also similarly drops

1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
log(VALUE)	0.309	*	0.403	*
HHAGE	-0.010	*	0.023	*
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NEARN	0.374	*	0.309	*
EMPLOY (1=employed)	0.493	*	0.065	*
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HHRACE (1=nonwhite)	-0.507	*	-0.130	*
SAMHOU (1=no move)	0.030	*	-0.002	
R-squared	0.391		0.362	

* significant at 0.01

Race also has a smaller impact

1940 & 2017

Log(Family Earnings)

	1940 Model		2017 Model	
intercept	4.274	*	5.508	*
log(VALUE)	0.309	*	0.403	*
HHAGE	-0.010	*	0.023	*
HHAGE^2	0.000	*	0.000	*
NEARN	0.374	*	0.309	*
EMPLOY (1=employed)	0.493	*	0.065	*
METRO (1=nonmetro)	-0.257	*	-0.066	*
HHRACE (1=nonwhite)	-0.507	*	-0.130	*
SAMHOU (1=no move)	0.030	*	-0.002	
R-squared	0.391		0.362	

* significant at 0.01

Moving houses no longer significant

Conclusions

$$income = f(wealth, other\ factors)$$

- Home value and income appear highly related
- The relationship appears fairly stable over time

Next Steps

- Obtain 1940 Microdata & assessors data
- Break apart income in 2017 into its components

Outstanding Questions

- How does income relate to property value for renters?
- How does moving relate to income?
- What is the best way to specify race?

Thank you.

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