

# Has Falling Crime Invited Gentrification?

Ingrid Gould Ellen  
Keren Mertens Horn  
Davin Reed  
Homer Hoyt  
May 19th, 2017



# Internal Census Data

The research in this paper was conducted while the authors were Special Sworn Status researchers of the U.S. Census Bureau at the New York Census Research Data Center.

Any opinions and conclusions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Census Bureau.

All results have been reviewed to ensure that no confidential information is disclosed.

United States  
**Census 2010**

U.S. DEPARTMENT OF COMMERCE  
Economic and Statistics Administration  
U.S. CENSUS BUREAU

This is the official form for all the people at this address.  
It is quick and easy, and your answers are protected by law.

Use a blue or black pen.  
**Start here**

The Census must count every person living in the United States on April 1, 2010.  
Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?  
Number of people =

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? Mark ☒ all that apply.

- ☐ Children, such as newborn babies or foster children
- ☐ Relatives, such as adult children, cousins, or in-laws
- ☐ Nonrelatives, such as roommates or live-in baby sitters
- ☐ People staying here temporarily
- ☐ No additional people

3. Is this house, apartment, or mobile home — Mark ☒ ONE box.

- ☐ Owned by you or someone in this household with a mortgage or loan? Include home equity loans.
- ☐ Owned by you or someone in this household free and clear (without a mortgage or loan)?
- ☐ Rented?
- ☐ Occupied without payment of rent?

4. What is your telephone number? We may call if we don't understand an answer.  
Area Code + Number  
 -  -

OMB No. 0507-0919-C Approval Expires 12/31/2011.  
Form **D-61** (2-2008)

5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.  
What is Person 1's name? Print name below.  
Last Name   
First Name  MI

6. What is Person 1's sex? Mark ☒ ONE box.  
☐ Male ☐ Female

7. What is Person 1's age and what is Person 1's date of birth? Please report babies as age 0 when the child is less than 1 year old. Print numbers in boxes.  
Age on April 1, 2010  Month  Day  Year of birth   
→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?  
☐ No, not of Hispanic, Latino, or Spanish origin  
☐ Yes, Mexican, Mexican Am., Chicano  
☐ Yes, Puerto Rican  
☐ Yes, Cuban  
☐ Yes, another Hispanic, Latino, or Spanish origin — Print origin, for example, Argentinian, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.

9. What is Person 1's race? Mark ☒ one or more boxes.  
☐ White  
☐ Black, African Am., or Negro  
☐ American Indian or Alaska Native — Print name of enrolled or principal tribe.   
☐ Asian Indian ☐ Japanese ☐ Native Hawaiian  
☐ Chinese ☐ Korean ☐ Guamanian or Chamorro  
☐ Filipino ☐ Vietnamese ☐ Samoan  
☐ Other Asian — Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.   
☐ Other Pacific Islander — Print race, for example, Fijian, Tongan, and so on.   
☐ Some other race — Print race.

10. Does Person 1 sometimes live or stay somewhere else?  
☐ No ☐ Yes — Mark ☒ all that apply.  
☐ In college housing ☐ For child custody  
☐ In the military ☐ In jail or prison  
☐ At a seasonal or second residence ☐ In a nursing home  
☐ For another reason

→ If more people were counted in Question 1, continue with Person 2.

U.S. CENSUS BUREAU

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions



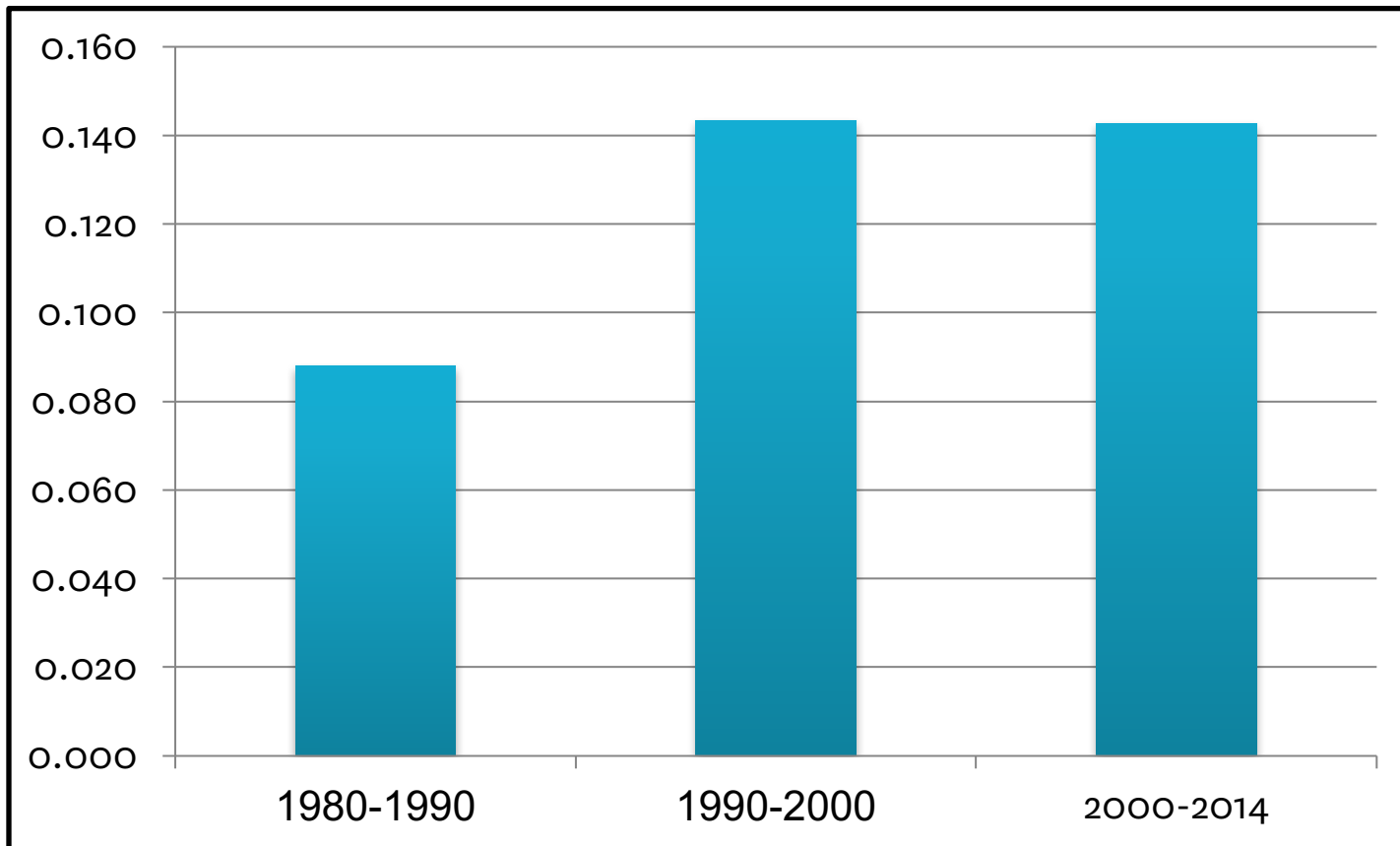
## 1. Motivation

# Growing Concerns About Gentrification, Even in Detroit



## 1. Motivation

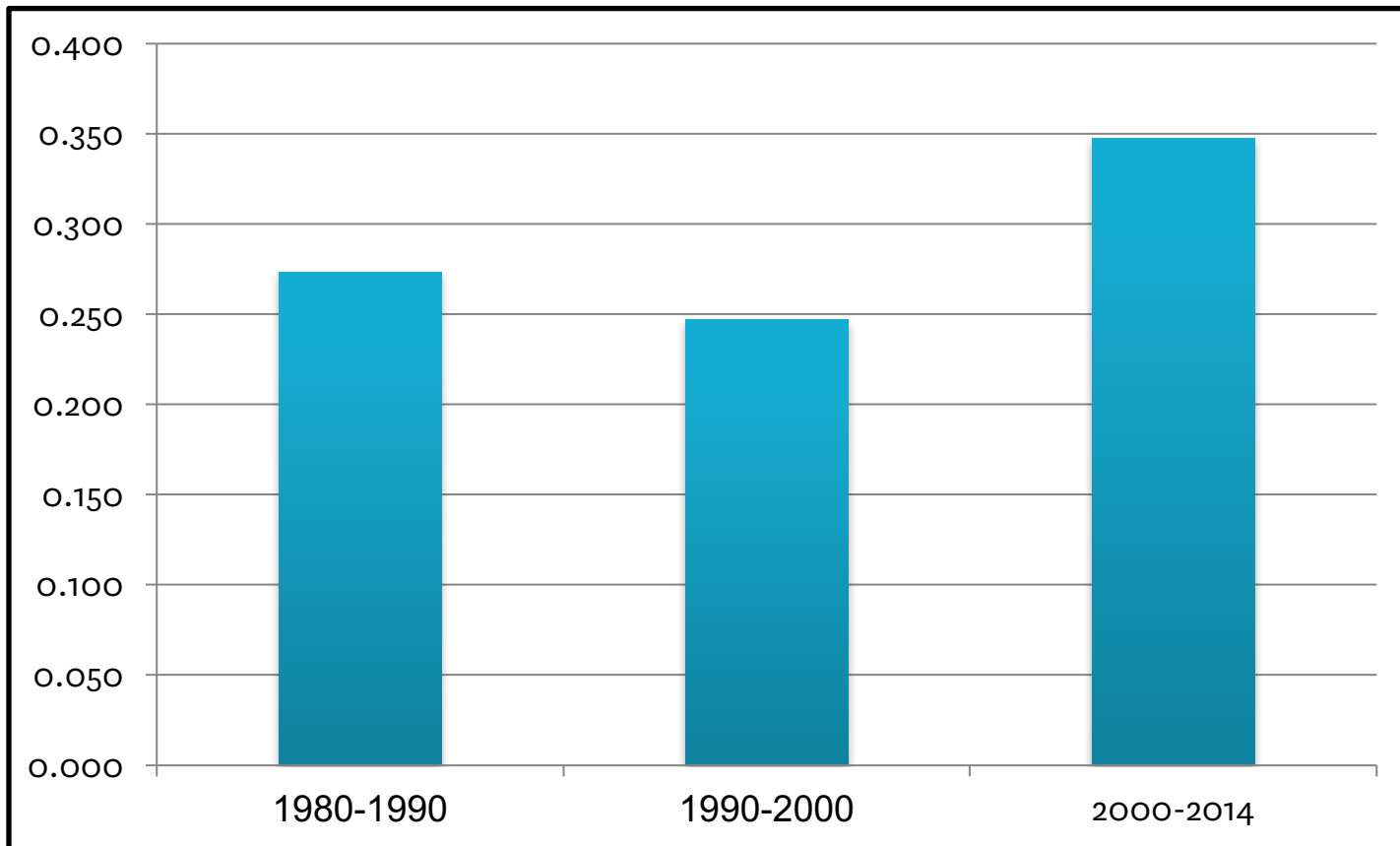
# A Greater Share of Low-Income City Tracts in US Seeing Large *Relative* Gain in Income



Sources: Data source, NYU Furman Center

## 1. Motivation

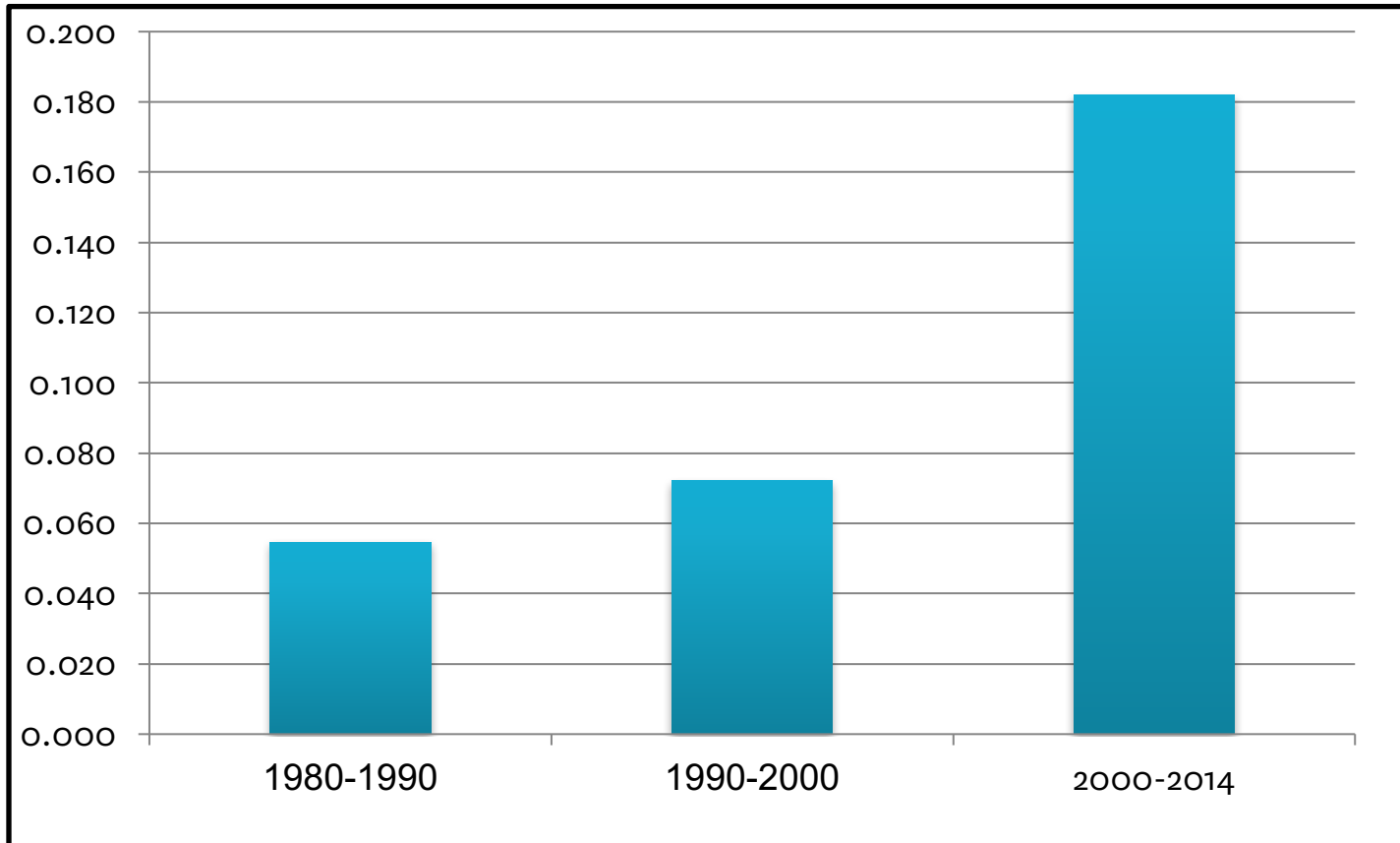
# A Greater Share of Low-Income City Tracts in US Seeing Large *Relative* Gain in % College-Educated



Sources: Data source, NYU Furman Center

## 1. Motivation

# A Greater Share of Low-Income City Tracts in US Seeing Large *Relative* Gain in % White



Sources: Data source, NYU Furman Center

## 1. Motivation

# The Real Cause of Gentrification

When cities like Oakland prohibit new apartments and condos in wealthy neighborhoods, low-income areas pay the price.

By Robert Gammon



The Washington Post

Wonkblog

## This could be the biggest force driving gentrification

It's about the time that high-income

By Lydia DePillis November 19, 2015

When we think about the reasons behind the movement of younger, decades-long trend of suburbanization -- lots of things come to mind. The fertility rate sank, lessening the need for three-bedroom value walking and coffeeshops and communal public spaces, rather than

From The Atlantic

CITYLAB

NAVIGATOR

CITYFIXER

MAPS

PHOTOS

COMMUTE WORK HOUSING WEATHER

## The Real Source of America's Urban Revival

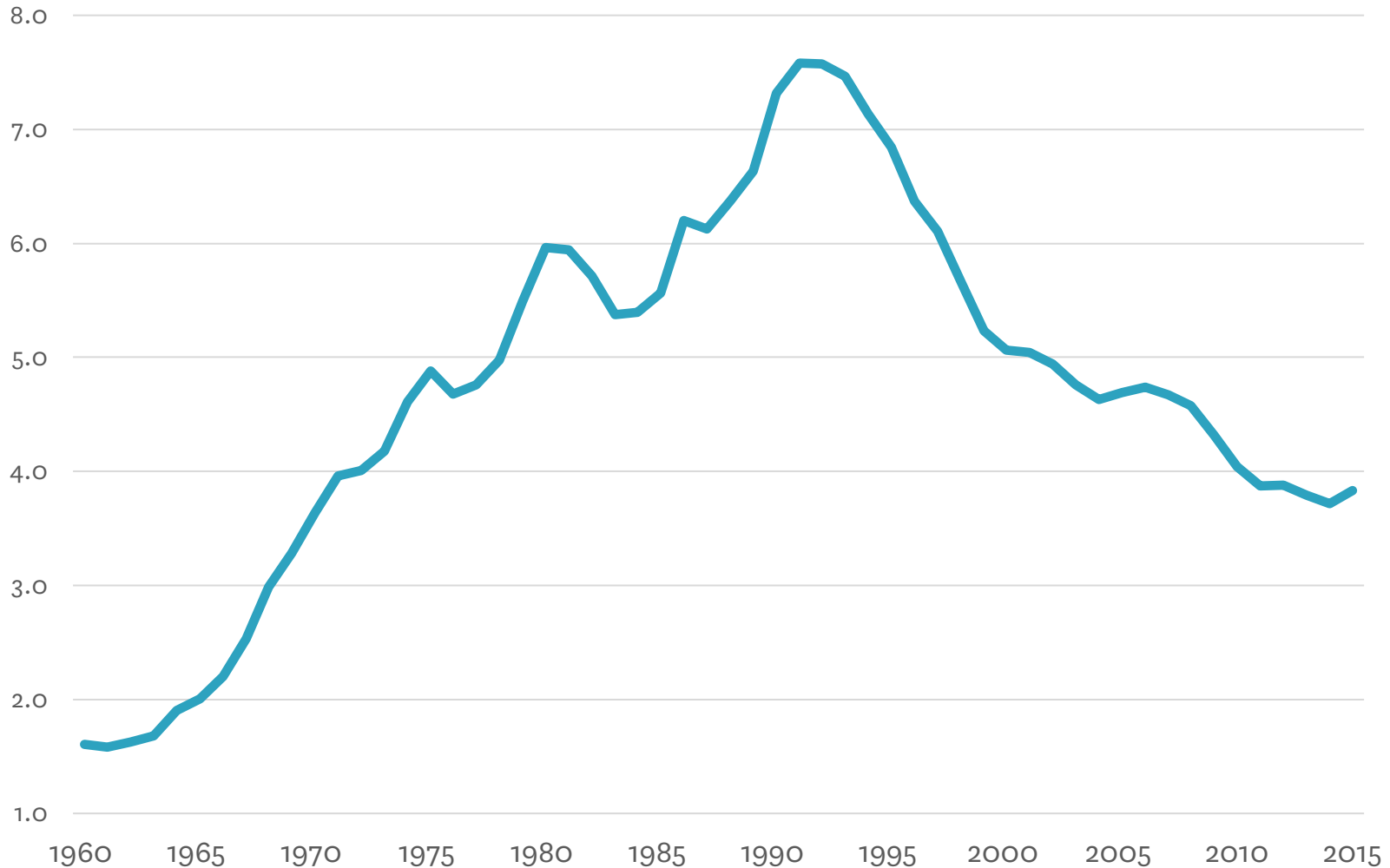
Millennials, housing costs, and shorter commutes are the usual explanations. But a careful new study points to another reason young college grads returned downtown in the 2000s.

ERIC JAFFE | [@e\\_jaffe](#) | Feb 23, 2016 | 81 Comments



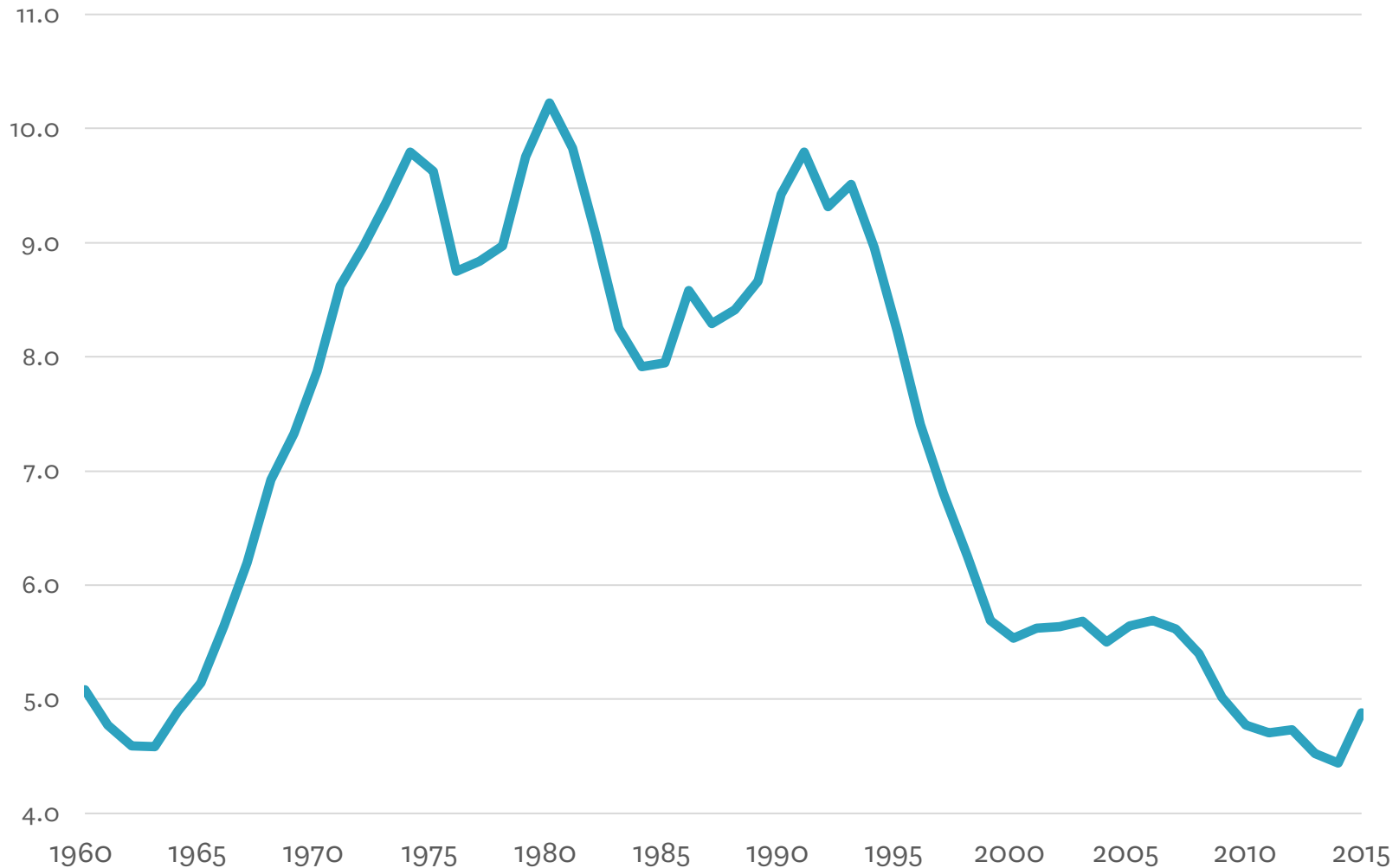
## 1. Motivation

# U.S. Violent Crime Rate (per 1,000)



## 1. Motivation

# U.S. Homicide Rate (per 100,000)



# Research Questions

- 1. As violent crime in a city falls, are ‘gentrifier’ households more likely to move into
  - The city (rather than surrounding suburbs)?
  - Low-income or majority minority neighborhoods in that city?

# Research Questions

- 1. As violent crime in a city falls, are ‘gentrifier’ households more likely to move into
  - The city (rather than surrounding suburbs)?
  - Low-income or majority minority neighborhoods in that city?
- 2. Are their choices more crime-sensitive than those of others, changing the mix of households opting for cities and low-income, majority minority city neighborhoods?

# Research Questions

- 1. As violent crime in a city falls, are ‘gentrifier’ households more likely to move into
  - The city (rather than surrounding suburbs)? **YES**
  - Low-income or majority minority neighborhoods in that city? **YES**
  
- 2. Are their choices more crime-sensitive than those of others, changing the mix of households opting for cities and low-income, majority minority city neighborhoods? **YES**

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions



## 2. Background

# Causes of Urban Resurgence and Gentrification

- Aging housing stock ‘ripe’ for renovation  
(Brueckner and Rosenthal, 2009)
- Rapidly appreciating housing markets driving higher-income households to choose lower-income neighborhoods  
(Ellen, Horn and O’Regan, 2013)
- Increasing importance of knowledge in economy leading to growth in employment in central cities  
(Baum-Snow and Hartley, 2016; Diamond, 2016)
- Demand for shorter commutes from time-stressed, skilled workers  
(Edlund, Machado and Sviatschi, 2015)
- Increasing preferences for urban amenities  
(Glaeser and Gottlieb, 2006; Couture and Handbury, 2016)

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions

### 3. Theory/Hypotheses

# Why Falling City Crime Might Change Mix of In-movers to Central Cities

## Falling City Crime

- Differentially attracts households with higher incomes and more earning potential or choices to move into cities
- Change in city population composition

## Why?

- High-income households have higher marginal willingness to pay to avoid crime (O'Sullivan, 2005).
- Low-income HHs may prioritize unit quality, and may be more confident they can manage high crime rates (Rosenblatt and De Luca 2012).
- College-educated HHs may have differential access to information.

### 3. Theory/Hypotheses

# Why Falling City Crime Might Change Mix of Inmovers to *Low-Income or Majority Minority Neighborhoods in Central Cities*

## Falling City Crime

- Differentially attracts households with higher incomes and more earning potential or choices to move into *low-income or majority minority, city neighborhoods*
- Change in neighborhood composition

## Why?

- Direct effect: These are the neighborhoods where crime is in fact falling the most.
- Indirect effect: Falling crime makes cities as a whole seem safer, invites higher income households to consider low-income neighborhoods that they would have previously avoided

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
- 4. Data**
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions

#### 4. Data

## Restricted Census Data

- Household level data from 1990 and 2000 decennial census and 2010-2012 ACS
- Limit sample to households who moved in past year
- Sample
  - Over four million mover households
  - 244 Largest Core-Based Statistical Areas (CBSAs)
- *Data identifies census tract of residence*



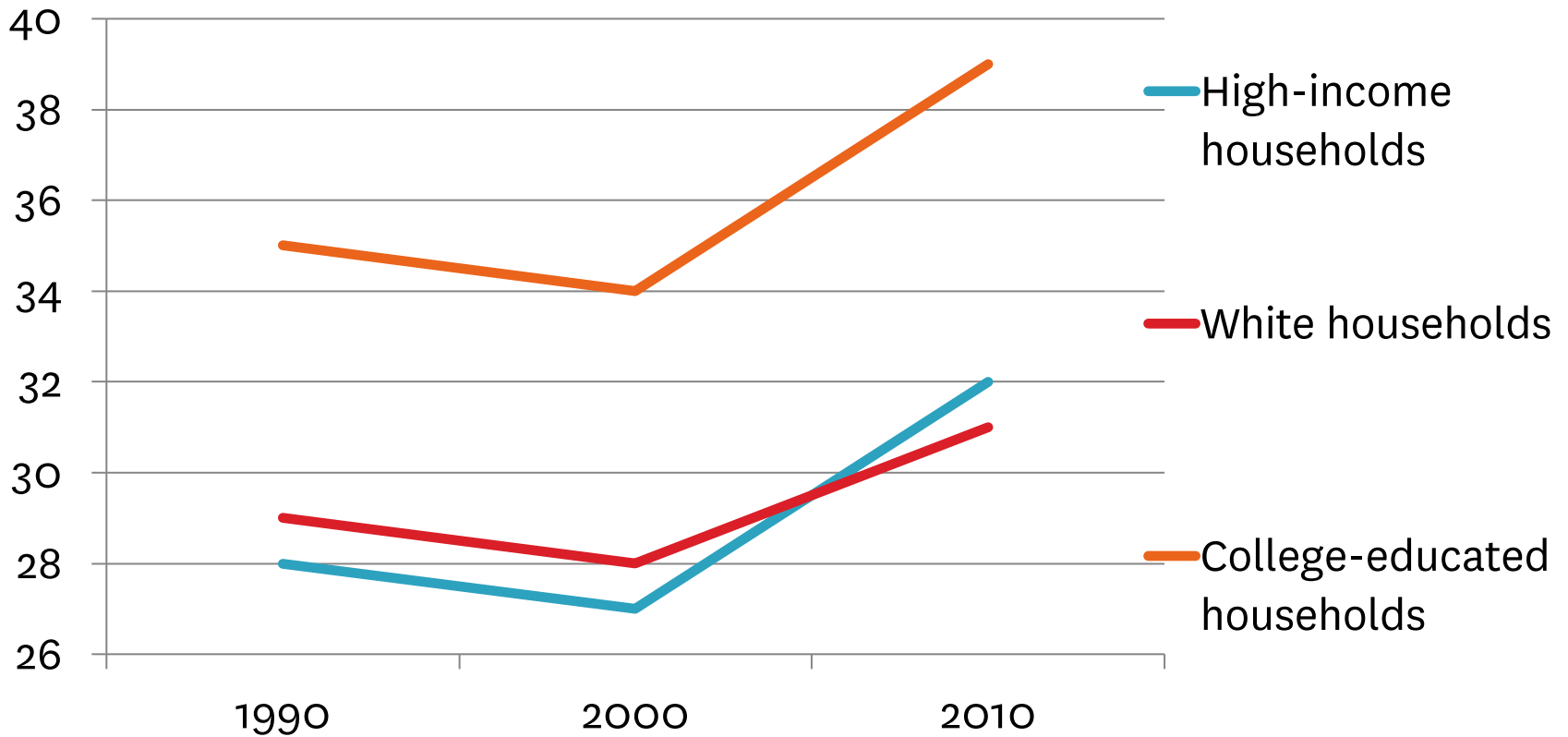
#### 4. Data

## Measures/Definitions

- ‘Gentrifier’ households:
  - High-income (income higher than CBSA median) (39%)
  - College-educated (28%)
  - White (69%)
- Moves to homes in central city:
  - Moves to largest principal city in CBSA
- Moves to homes in low-income or majority minority, central city neighborhood:
  - Moves to central city census tract with income below CBSA median
  - Moves to central city, majority minority census tract

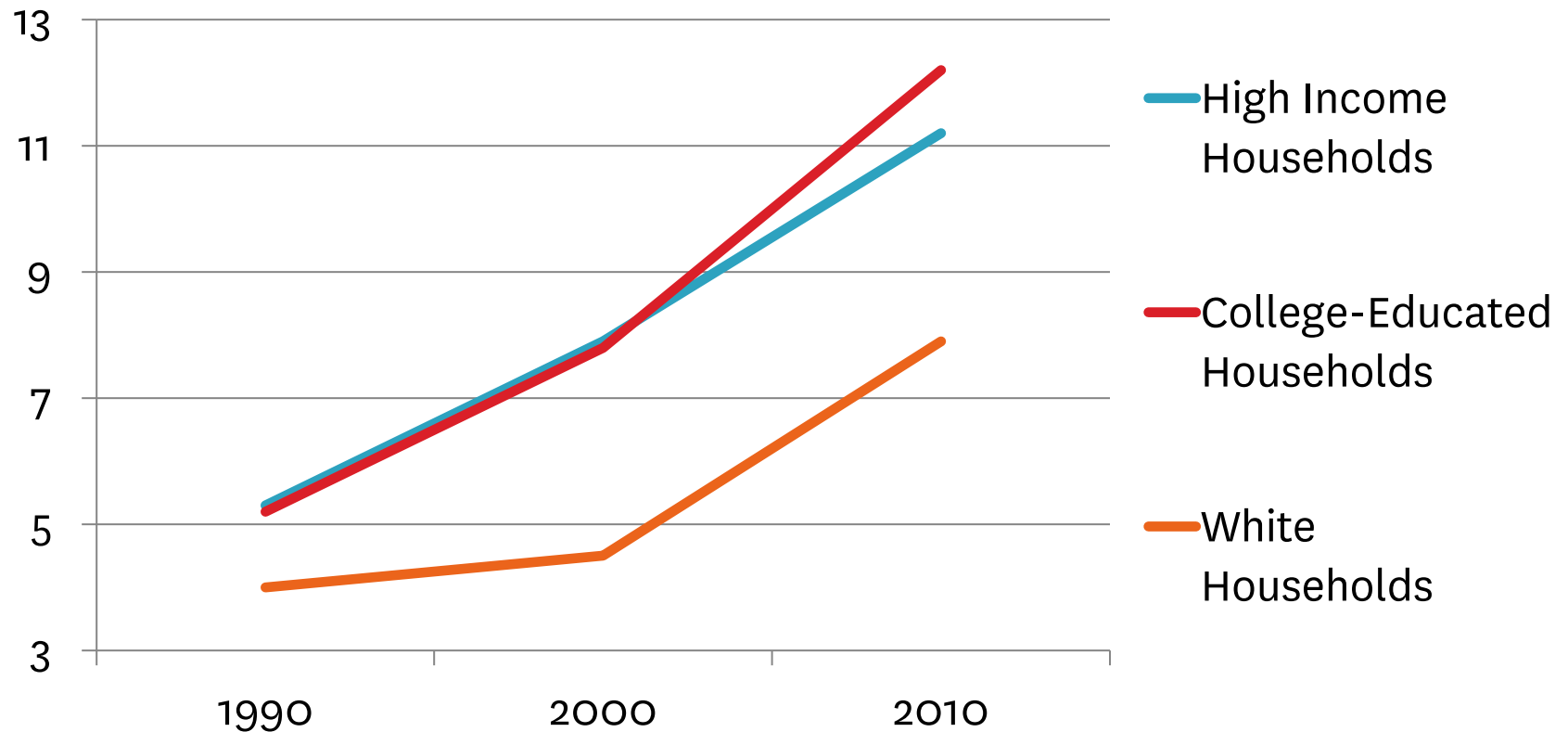
#### 4. Data

## Increase in Share of Moves to Homes in Central City



#### 4. Data

## Increase in Share of Moves to Homes in Majority Minority City Neighborhoods



#### 4. Data

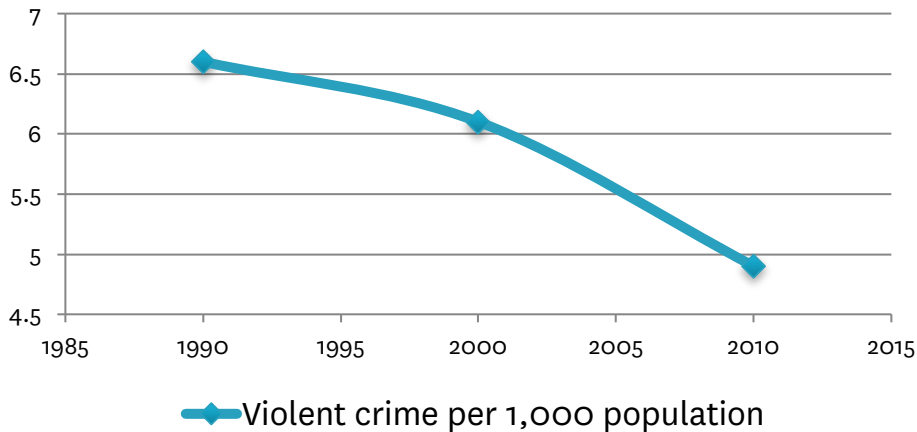
# Crime

- Violent crime and homicide per capita of largest principal city in CBSA (central city)
- FBI Uniform Crime Reports
- Lag by one, two, or three years to rule out reverse causality

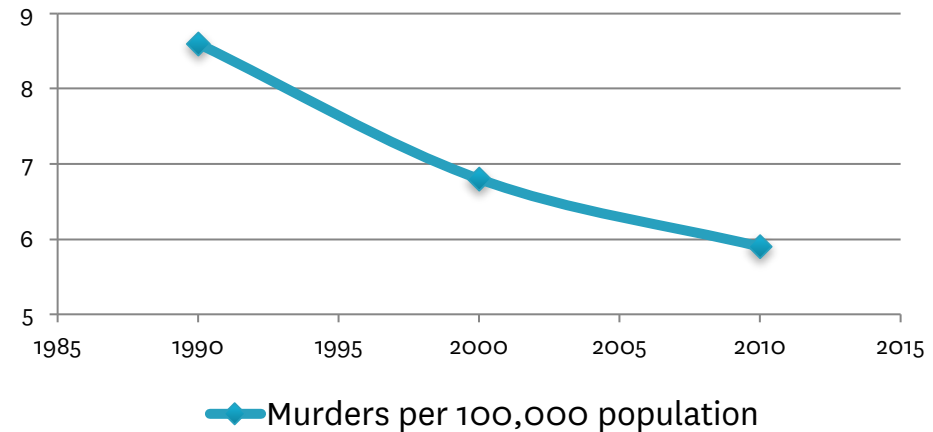
#### 4. Data

# Large Reductions in Violent Crime in U.S. Cities

Violent crime per 1,000 population



Homicides per 100,000 population



#### 4. Data

## Large Variation in Changes in Violent Crime in U.S. Cities

Table 3 Variation in 1988 to 2008 Crime Changes Across Central Cities

Percentile	Percent change declines, violent crime per capita	Percent change declines, homicides per capita
10%	-73.8%	-75.7%
25%	-56.9%	-59.5%
50%	-25.9%	-38.4%
75%	7.9%	0.6%
90%	43.9%	40.2%
Mean	-18.2%	-20.4%
Std. Dev.	50.5%	72%
N	244	244

Note: Weighted by 2010 central city population.



#### 4. Data

# Central City Characteristics

- Decennial Census and ACS
  - Share minority
  - Share foreign born
  - Share college or more
  - Share poverty
  - Share units built before 1940
  - Share units built last 10 years
  - Population (equivalent to population density)
  - Median gross rent
  - Median value owner-occupied housing
  - Median household income
- Consistent geographic boundaries

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
- 5. Model 1: Move to Central City**
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions

## 5. Move to Central City Model

# Explaining Moves to Central City

- Are 'gentrifier' households more apt to move to home in central city when crime in that city falls?
- Are their choices *more* sensitive to violent crime than those of other households?
  - High income vs low income
  - College vs non-college
  - White vs non-white

## 5. Move to Central City Model

# Explaining Moves to Central City

- Are 'gentrifier' households more apt to move to home in central city when crime in that city falls? **YES**
- Are their choices *more* sensitive to violent crime than those of other households?
  - High income vs low income **YES**
  - College vs non-college **YES**
  - White vs non-white

## 5. Move to Central City Model

# Explaining Moves to Central City

$$Y_{ict} = \alpha + \beta \text{CRIME}_{ct-1} + \lambda_1 H_{ict} + \lambda_2 X_{ct} + \kappa_c + \tau_t + \varepsilon_{ict}$$

Where:

- Y is a binary variable:
  - 1 if household i moves to largest central city in the CBSA
  - 0 if household moves elsewhere in CBSA
- CRIME = violent crime or homicides per capita in largest CC

## 5. Move to Central City Model

# Explaining Moves to Central City

$$Y_{ict} = \alpha + \beta \text{CRIME}_{ct-1} + \lambda_1 H_{ict} + \lambda_2 X_{ct} + \kappa_c + \tau_t + \varepsilon_{ict}$$

Where:

- H set of household characteristics
  - Married, single mother, children under 18, income, race/ethnicity, foreign born status, education level
- X set of central city characteristics
  - Median gross rent, median value owner occupied house, median income, poverty rate, share non-white, share foreign born, share housing built before 1940, share housing built in past 10 years



## 5. Move to Central City Model

# Explaining Moves to Central City

$$Y_{ict} = \alpha + \beta \text{CRIME}_{ct-1} + \lambda_1 H_{ict} + \lambda_2 X_{ct} + \kappa_c + \tau_t + \varepsilon_{ict}$$

Where:

- $\kappa$  CBSA fixed effects
- $\tau$  year fixed effects
- Standard errors clustered at CBSA level
- Both city and crime variables are reported as logs so results can be interpreted as effects of percentage change

## 5. Move to Central City Model

# Explaining Moves to Central City

$$Y_{ict} = \alpha + \beta \text{CRIME}_{ct-1} + \lambda_1 H_{ict} + \lambda_2 X_{ct} + \kappa_c + \tau_t + \varepsilon_{ict}$$

We stratify our sample to test whether results differ for  
high-income vs. low-income households  
college educated households vs. less educated  
white vs. non-white households

## 5. Move to Central City Model

# Results: High-income/College Graduates/White More Likely to Choose Homes in Central City when City Crime Lower

Table 7: Linear Probability Models, Probability of Moving to Central City vs. Suburbs

**Table 7 Panel A: Violent crime**

	Low- Income	High- Income	Non- College	College	Non- White	White
Violent crime per capita, ln	0.000 (0.010)	-0.030*** (0.010)	-0.002 (0.006)	-0.027*** (0.007)	-0.007 (0.013)	-0.015** (0.007)
Test diff btw samples		***		***		

**Table 7 Panel B: Homicides**

	Low- Income	High- Income	Non- College	College	Non- White	White
Homicides per capita, ln	0.000 (0.000)	-0.010** (0.000)	-0.001 (0.003)	-0.011*** (0.004)	0.005 (0.006)	-0.006* (0.003)
Test diff btw samples		***		***		**
Observations	2,530,000	1,624,000	2,974,000	1,180,000	1,276,000	2,878,000

Cluster-robust standard errors

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

CBSA fixed effects included

# Crime Coefficient Magnitudes

- Using high-income households as an example:
  - A 18.2% decline in central city crime from 1988 to 2008 (average for our sample) → 0.6 percentage point increase in share of moves to central city
  - A 43% decline in crime (average of 10 biggest CBSAs) → 1.4 percentage point increase

# Robustness to Other CBSA Trends

- Results for high-income and college-educated households robust to “double selection” method of Belloni, Chernozhukov and Hansen (2014), a data driven method to address threat of time-varying omitted variables.
  - Identifies all variables and interactions among them correlated with move to central city and/or violent crime through LASSO regressions.
  - Re-estimate regressions with union of variables that are correlated with crime and residential choices.

## 5. Move to Central City Model

# Results Robust to Alternative Models/Samples

- Inclusion of time-varying CBSA characteristics in addition to central city characteristics
  - Sub-Samples
    - Sample of 100 largest CBSAs
    - Sample of 2000 and 2010 moves
    - Sample of movers from outside the CBSA
- Crime coefficients larger for all three of these sub-samples

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions

## 6. Multinomial model

# Explaining Moves to Low-Income or Majority Minority, Central City Neighborhoods

- When violent crime falls, are 'gentrifier' households more likely to opt for homes in:
  - Low-income central city neighborhoods
  - Majority minority central city neighborhoods
- Are 'gentrifier' households *more* sensitive to crime than for other households, leading to change in mix of households moving into low-income and majority minority urban neighborhoods.



## 6. Multinomial model

# Explaining Moves to Low-Income or Majority Minority, Central City Neighborhoods

- When violent crime falls, are 'gentrifier' households more likely to opt for homes in:
  - Low-income central city neighborhoods **YES**
  - Majority minority central city neighborhoods **YES**
- Are 'gentrifier' households *more* sensitive to crime than for other households, leading to change in mix of households moving into low-income and majority minority urban neighborhoods. **YES**

## 6. Multinomial model

# Multinomial Logit Models

$$Y_{ict}^{inc} = \alpha + \beta \text{CRIME}_{ct-1} + \lambda_1 H_{ict} + \lambda_2 X_{ct} + \kappa_c + \tau_t + \varepsilon_{ict}$$

$$Y_{ict}^{eth} = \alpha + \beta \text{CRIME}_{ct-1} + \lambda_1 H_{ict} + \lambda_2 X_{ct} + \kappa_c + \tau_t + \varepsilon_{ict}$$

- $Y_{ict}^{inc}$  takes value of:
  - 1 if a household moves to a low-income central city nbhd
  - 2 if a household moves to a high-income central city nbhd
  - 3 if a household moves to the suburbs
- $Y_{ict}^{eth}$  takes value of:
  - 1 if a household moves to a majority non-white cc nbhd
  - 2 if a household moves to a majority white cc nbhd
  - 3 if a household moves to the suburbs

## 6. Multinomial model

# Results: High Income vs. Low Income HHs

Table 11: Multinomial Logit Models, Moves by Low-Income and High-Income Households

<b>Panel A: Moves to central city low-income neighborhoods</b>						
	<u>Low-income households</u>			<u>High-income households</u>		
	Move to low-inc CC	Move to high-inc CC	Move to sub (ref)	Move to low-inc CC	Move to high-inc CC	Move to sub (ref)
Violent crime per cap, ln	0.025	-0.099***		-0.073	-0.209***	
Chow test of sig diff				***	***	
Homicides per cap, ln	0.015	-0.048**		-0.043**	-0.087***	
Chow test of sig diff				***	**	
<b>Panel B: Moves to central city non-white neighborhoods</b>						
	<u>Low-income households</u>			<u>High-income households</u>		
	Move to non-wht CC	Move to wht CC	Move to sub (ref)	Move to non-wht CC	Move to wht CC	Move to sub (ref)
Violent crime per cap, ln	-0.029	0.089**		-0.166*	-0.107**	
Chow test of sig diff				***	***	
Homicides per cap, ln	-0.029	0.021		-0.135***	-0.051**	
Chow test of sig diff				***	***	
Observations	2,530,000			1,624,000		

Cluster-robust standard errors  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  
 CBSA fixed effects included

To interpret magnitude →  
 Using 20.4% decline in homicide, yields  
 increase in relative odds of moving to low-inc cc  
 tract instead of sub of 1%.

## 6. Multinomial model

# Results: College Grads vs. Less Educated

Table 12: Multinomial Logit Models, Moves by Non-College and College Households

<b>Panel A: Moves to central city low-income neighborhoods</b>						
	<u>Non-college households</u>			<u>College households</u>		
	Move to low-inc CC	Move to high-inc CC	Move to sub (ref)	Move to low-inc CC	Move to high-inc CC	Move to sub (ref)
Violent crime per cap, ln	0.011	-0.0962***		-0.028	-0.192***	
Chow test of sig diff					*	
Homicides per cap, ln	0.008	-0.039**		-0.03	-0.106***	
Chow test of sig diff				**	***	
<b>Panel B: Moves to central city non-white neighborhoods</b>						
	<u>Non-college households</u>			<u>College households</u>		
	Move to non-wht CC	Move to wht CC	Move to sub (ref)	Move to non-wht CC	Move to wht CC	Move to sub (ref)
Violent crime per cap, ln	-0.035	0.087**		-0.166**	-0.070*	
Chow test of sig diff				**	***	
Homicides per cap, ln	Not dis	Not disc		Not disc	Not disc	
Chow test of sig diff				**	**	
Observations	2,974,000			1,180,000		

Cluster-robust standard errors

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

CBSA fixed effects included

## 6. Multinomial model

# Results: White vs. Non White HHs

Table 13: Multinomial Logit Models, Moves by Non-White and White Households

<b>Panel A: Moves to central city low-income neighborhoods</b>						
	<u>Non-white households</u>			<u>White households</u>		
	Move to low-inc CC	Move to high-inc CC	Move to sub (ref)	Move to low-inc CC	Move to high-inc CC	Move to sub (ref)
Violent crime per cap, ln	-0.064	-0.175***		0.01	-0.166***	
Chow test of sig diff				*		
Homicides per cap, ln	0.017	-0.043		-0.008	-0.079***	
Chow test of sig diff						
<b>Panel B: Moves to central city non-white neighborhoods</b>						
	<u>Non-white households</u>			<u>White households</u>		
	Move to non-wht CC	Move to wht CC	Move to sub (ref)	Move to non-wht CC	Move to wht CC	Move to sub (ref)
Violent crime per cap, ln	-0.07	-0.025		-0.186	-0.017	
Chow test of sig diff						
Homicides per capita, ln	-0.006	0.02		-0.058	-0.024	
Chow test of sig diff						
Observations	1,276,000			2,878,000		

Cluster-robust standard errors

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

CBSA fixed effects included

# Results

- High-income households are more likely to move into *both* low-income and majority minority central city neighborhoods when violent crime falls
  - And their choices are substantively and significantly more sensitive to city crime reductions as compared to households with lower incomes.
- College-educated households are more likely to move into *both* low-income and majority minority central city neighborhoods when homicide rate falls.
  - And their choices are significantly more sensitive to city crime reductions as compared to households without college graduates.
- Less evidence that city violence is differentially affecting residential choices of white vs non-white households.

# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. **Model 3: Neighborhood Choice**
8. Conclusions

# Explaining Choice of Specific Neighborhoods

- Combine neighborhood-level violent crime data with neighborhood-level home purchase data from HMDA
  - Austin and Chicago
  - Central city tracts
  - 2000 to 2010
- Explore whether reductions in violent crime in central city neighborhoods are associated with increased home purchases by high-income homebuyers (and more so than low-income homebuyers)



## Two Types of Models

- Tract-level models
  - When neighborhood crime falls, do we see an increase in the share of home purchases in that neighborhood made by high-income households?
- Individual choice models
  - When violent crime in a neighborhood falls, are high-income home buyers more likely to choose that neighborhood from among all neighborhoods in the city?

# Two Types of Models

- Tract-level models
  - When neighborhood crime falls, do we see an increase in the share of home purchases in that neighborhood made by high-income households? **YES**
- Individual choice models
  - When violent crime in a neighborhood falls, are high-income home buyers more likely to choose that neighborhood from among all neighborhoods in the city? **YES**

## 7. Neighborhood choice model

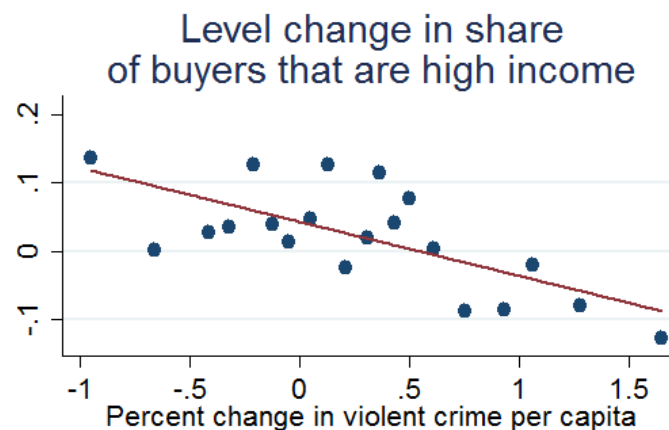
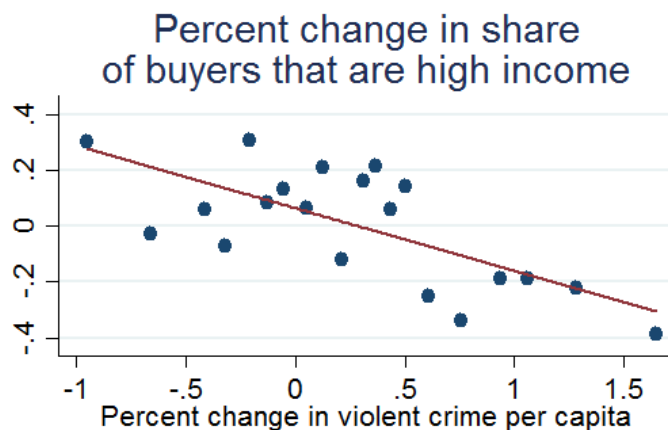
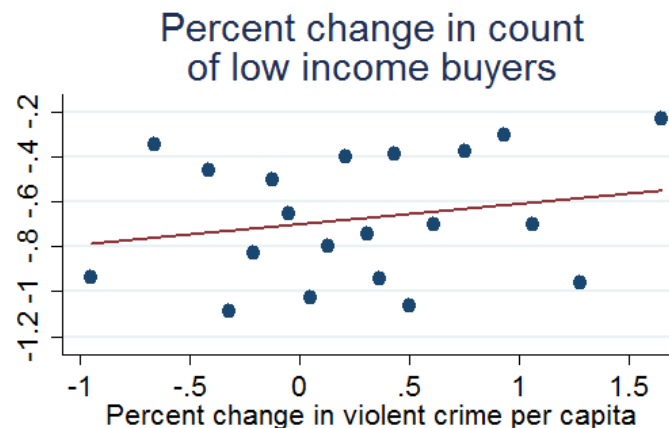
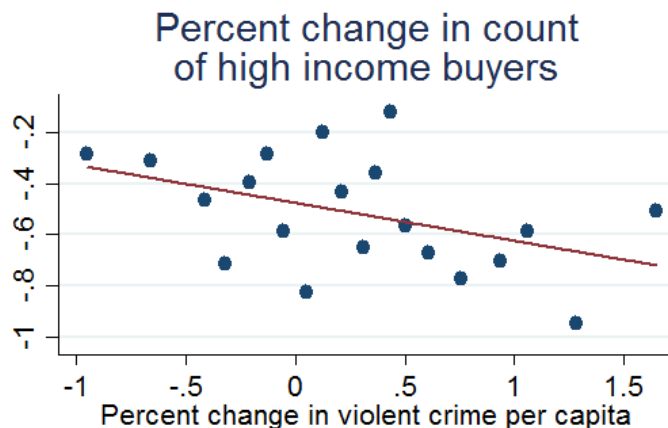
# Crime Variation



## 7. Neighborhood choice model

# Neighborhood Scatterplots, Austin

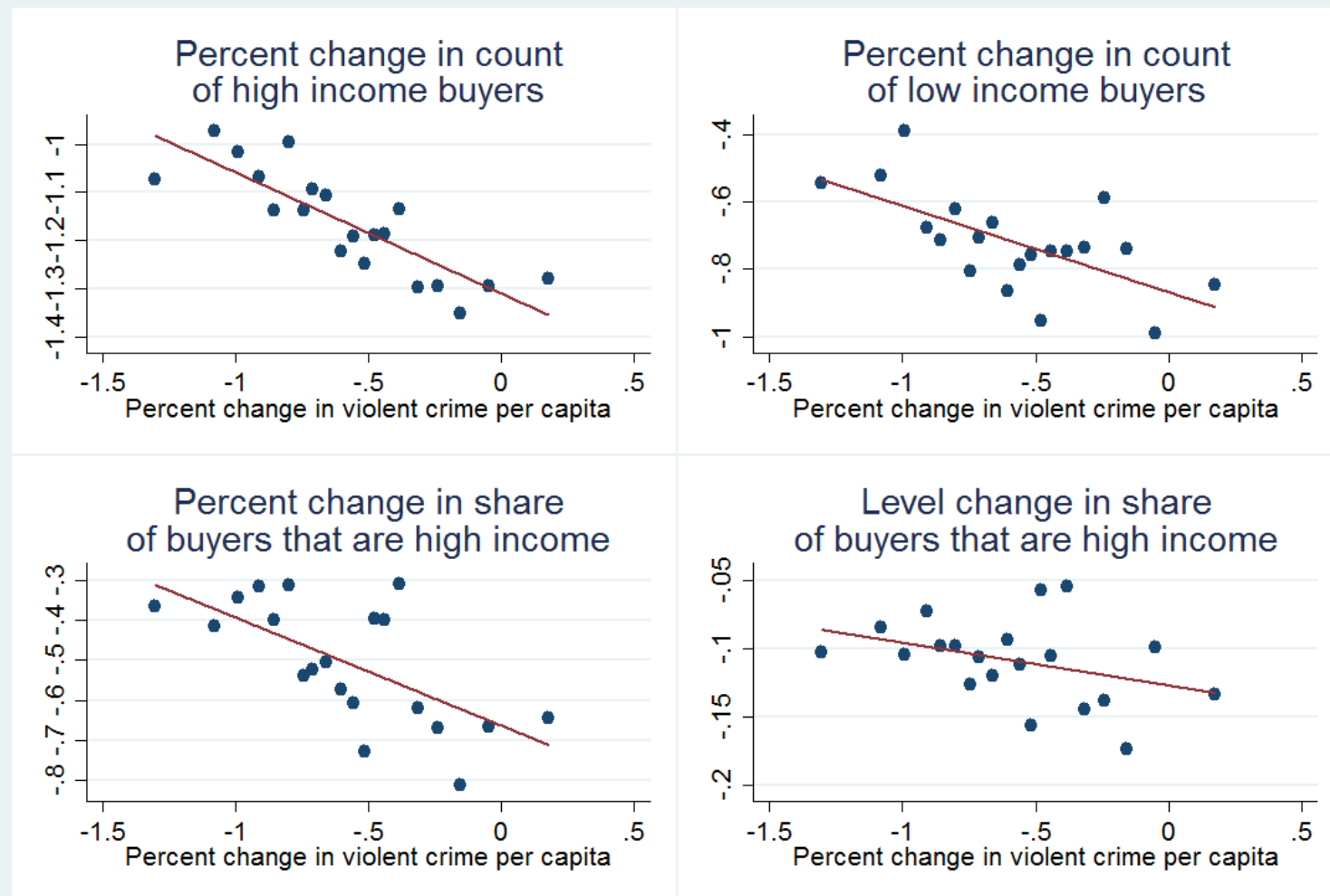
Austin 2000-2010, with controls



## 7. Neighborhood choice model

# Neighborhood Scatterplots, Chicago

Chicago 2000-2010, with controls



## 7. Neighborhood choice model

# Tract-level Model Results, Austin

VARIABLES	Percent change in Perc point change share of buyers in share of buyers that are high- that are high- income income	
Percent change in violent crime per capita	-0.224*** (0.0606)	-0.0786*** (0.0200)
Constant	-0.248 (0.327)	-0.121 (0.108)
Tract 2000 controls included	x	x
Observations	169	169
R-squared	0.214	0.293

Standard errors in parentheses

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

## 7. Neighborhood choice model

# Tract-level Model Results, Chicago

VARIABLES	Percent change in share of buyers that are high- income	Perc point change in share of buyers that are high- income
Percent change in violent crime per capita	-0.269*** (0.0854)	-0.0312 (0.0254)
Constant	-0.145 (0.277)	-0.124 (0.0823)
Tract 2000 controls included	x	x
Observations	783	783
R-squared	0.144	0.071

Standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## 7. Neighborhood choice model

# Individual Choice Model Results, Austin

VARIABLES	High-income buyer Choice	Low-income buyer Choice	High-income buyer Choice	Low-income buyer Choice
Violent crime per capita	-102.3*** (10.41)	-29.76*** (9.473)	-60.10*** (10.73)	-23.27** (10.13)
Tract controls			x	x
Observations	2,323,944	1,088,718	2,299,182	1,077,344
Tract FE	YES	YES		YES

Robust standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



# Has Falling Crime Invited Gentrification?

1. Motivation
2. Background
3. Theory
4. Data
5. Model 1: Move to Central City
6. Model 2: Move to Low-Income, or Majority Minority Central City Neighborhood
7. Model 3: Neighborhood Choice
8. Conclusions

## 8. Conclusions

# Conclusions

- Falling crime appears to change mix of households opting for central city neighborhoods
- Falling violence levels can't explain the full extent of the growth in interest shown by higher income/college-educated/white households for city neighborhoods.
- But greater safety has profoundly shaped the perception of urban environments and urban amenities.

# Thank you

**Ingrid Gould Ellen**

**Homer Hoyt**

**May 19th, 2017**

*This research has been prepared by a Center affiliated with New York University School of Law and Wagner Graduate School of Public Service, but does not purport to present the schools' institutional views, if any.*

# Appendix I

Table 1 Central City Characteristics

	1990	2000	2010
Total households	84,175	90,864	94,130
Share minority	27.9%	35.3%	40.4%
Share foreign born	5.9%	8.5%	10.2%
Share college education or more	21.8%	24.8%	27.4%
Share households in poverty	17.3%	16.7%	19.1%
Share housing units built before 1940	22.2%	19.1%	19.2%
Share housing units built in last 10 years	16.5%	12.3%	10.0%
Median gross rent (\$2010)	698	718	795
Median value of owner-occupied housing (\$2010)	127,589	141,340	184,839
Median household income (\$2010)	44,084	46,384	44,478
N	244	244	244

# Appendix II

Table 4 Household Characteristics

	All households	High- income households	College households	White households
Married	40.6%	60.8%	45.1%	42.5%
Female headed	15.1%	7.1%	6.0%	11.0%
Presence of children under 18	40.5%	42.6%	29.3%	35.2%
Household income (\$2010)	\$24,300	N/A	\$40,100	\$26,900
Householder white	69.3%	78.1%	78.2%	N/A
Householder black	12.3%	7.1%	6.3%	N/A
Householder Hispanic	10.6%	7.5%	4.9%	N/A
Householder other non-white	7.8%	7.3%	10.6%	N/A
Less than high school education	17.3%	8.2%	N/A	12.1%
College education or more	28.4%	43.2%	N/A	32.1%
Foreign born	14.8%	12.8%	16.0%	5.5%
Employed	75.8%	88.6%	87.2%	78.7%
Age less than 35	52.5%	46%	54%	52%
Age 35 to 65	41.0%	50.3%	42.1%	40.6%
Age over 65	6.5%	3.7%	3.9%	7.4%
N	4,154,000	1,624,000	1,180,000	2,878,000

# Appendix III

## TheUpshot

### URBAN STUDIES

## How to Predict Gentrification: Look for Falling Crime



**Emily Badger** @emilymbadger JAN. 5, 2017



The U Street corridor in Washington has attracted a wave of wealthier residents.  
Brendan Smialowski for The New York Times

Everyone has theories for why well-educated, higher-income professionals are moving back into parts of cities shunned by their parents' generation.

Perhaps their living preferences have shifted. Or the demands of the labor market have, and young adults with less leisure time are loath to waste it commuting. Maybe the tendency to postpone marriage and children has made city living more alluring. Or the benefits of cities themselves have improved.