

# Urban ‘Pioneers’: Why do Higher Income Households Choose Lower Income Neighborhoods?

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March 8, 2011

# Motivation

- Q: why do some households move into neighborhoods where they earn more than their neighbors, so have *lower* income neighbors?
  - We want to understand such moves in part because they are an important source of neighborhood change.
- Standard economic theories of household sorting (neighborhoods, jurisdictions) predict sorting into fairly homogeneous communities with respect to income (Tiebout, Schelling).
  - Due to similar preferences for public services, comparable ability to pay for housing, preferences for living among similar neighbors.
  - With possibly some incentives to live near *higher* income neighbors.

# Roadmap

- Data/definitions
  - AHS, NCDB
- Frame using housing choice theory
- Predictions (preferences, constraints)
  - For whom/where pioneering is more likely
- Empirical results
  - Modeling the likelihood of pioneering based on observable characteristics/housing markets.
  - Contrasting neighborhood choices of pioneers vs non pioneers
  - Selective AHS data on motivations and outcomes

# Data

- American Housing Survey (AHS, *internal census version*)
  - National sample of 55,000 units surveyed bi-annually
  - Panel of housing units
  - Focus on units experiencing turnover (receive movers)
    - 1991-1995, 2001-2005
  - Extensive data on household characteristics
  - *Internal version*: census tract identifiers
  
- Neighborhood Change Database (NCDB)
  - Geolytics, Urban institute
  - Census tract data
  - Constant geographic boundaries

# Disclosure statement

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- Much of the research in this presentation was conducted while the authors were Special Sworn Status researchers of the U.S. Census Bureau at the New York Census Research Data Center (Baruch). Research results and conclusions expressed are those of the authors and do not necessarily reflect the views of the Census Bureau. This paper has been screened to insure that no confidential data are revealed.
    - *Some numbers suppressed, not all samples/ analyses can be released*
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# Definitions

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- A Pioneering move is:
    - ❑ When a household replaces a previous occupant whose income was at least 5 percent lower than it's own.
    - ❑ Made by a household whose own income is not below 40 percent of area median income
    - ❑ Into a neighborhood whose median income is below the MSA median (lower income neighborhood)
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# Theory

- Place these decisions in a simple model of residential choice (Quigley, 1985), recognizing housing as a bundled good containing:
  - a housing unit [H<sub>j</sub>], a neighborhood [N<sub>j</sub>], which includes neighbors and services, and a location of given accessibility [A<sub>j</sub>]
- The Utility of household i of income Y,

$$U_{ij} [H_j, N_j, A_j, Y_i - R_j] = V(ij) + \varepsilon_{ij}$$

- Simplifying, have two neighborhood types: Low quality (income) and High, and if maximizing their utility, then

$$P_i (N_l) = \text{prob} [U_{il} (N_l, H_l, A_l, Y_i - R_l) > U_{ih} (N_h, H_h, A_h, Y_i - R_h)]$$

# Theory

Extensions:

- Households have more choices of neighborhoods, but not all desired combinations exist.
- Simplifying  $H_j, N_j$  and  $A_j$  into a vector of housing characteristics,  $X_j$

$$U_{ij} = \alpha(Y_i - R_j) + \beta_i X_j + \varepsilon_{ij}$$

- The likelihood of household  $i$  selecting unit  $j$  can then be expressed as

$$P(U_{ij} = \max(U_{i1}, \dots, U_{ik})) = \frac{e^{\alpha(Y_i - r_j) + \beta_i X_j}}{\sum_{n=1}^k e^{\alpha(Y_i - r_n) + \beta_i X_n}}$$

(Vigdor, 2010)

# Predictions: Different Residential Preferences

- H 1: Those who consume fewer neighborhood/public services: childless households
- H 2: Those who face less asset risk in making this choice: renters
- H3: Pioneers more likely to choose neighborhoods that are ‘ripe for improvement,’ have older housing stocks (Breukner and Rosenthal, 2009)
- H4: Those who prioritize access

# Predictions: Limited information and/or constrained choices

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- H5: First time homeowners
  - H6: Minority households
    - Particularly in more segregated housing markets
  - H7: Households in metropolitan areas with hot housing markets.
    - Particularly new homeowners
  - H8: In housing markets where the quality tradeoffs are less extreme (lower crime).
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# Pioneering Moves:

- Probability of a pioneering move:

$$\text{Pion}_{it} = \text{HH}_{it} + \eta \text{MSA} + \lambda_t + \varepsilon_{it}$$

- $\text{Pion}_{it}$  represents the decision to make a pioneering move, by household  $i$  in time  $t$ .
- $\text{Hh}_{it}$ , a collection of household characteristics
- $\text{MSA}_{it}$ , a number of metropolitan characteristics
- $\lambda_t$ , a series of year dummies

We pool six cross-sections of household moves (1991, 1993, and 1995; 2001, 2003, and 2005).

# Probability of a Pioneering Move

**Table 1: Probability of Pioneering**

	Pooled	Owners	Renters
	(1)	(2)	(3)
Owner	-0.164***	NA	NA
New Homeowner	0.056***	0.036***	NA
Income	0.162***	0.113***	0.225***
Income Squared	-0.017***	-0.012***	-0.023***
Black	0.070***	0.084***	0.066***
Hispanic	0.054***	0.041	0.061***
College Degree	-0.072***	-0.077***	-0.068***
Under 40	0.009	0.016*	0.005
Over 60	0.021*	0.014	0.025
Kids present	-0.018***	-0.019**	-0.014*
Married	-0.012**	-0.010	-0.013**
MSA Controls	X	X	X
MSA and Year FE	X	X	X

\*\*\* sig at 1%, \*\* sig at 5%, \* sig at 10%

# Probability of a Pioneering Move (cont)

**Table 1: Probability of Pioneering**

	Pooled	Owners	Renters
	(1)	(2)	(3)
Total Crime	-0.816*	-0.179	-1.132**
House Price Appreciation	0.070	-0.177*	0.123*
Black/White Dissimilarity	0.330**	0.412*	0.258
<i>Interactions</i>			
B/W Segregation*Minority	0.072***	0.047	0.085***
HP Appreciation*New Homeowner	0.180*	0.477***	
Household Controls	X	X	X
MSA and Year FE	X	X	X

\*\*\* sig at 1%, \*\* sig at 5%, \* sig at 10%

# Evidence of different preferences for neighborhoods

- AHS descriptive data on why in-mover households chose the neighborhood
- Estimate a simple regression model, controlling for household characteristics

$$Y_{it} = P_{it} + HH_{it} + \varepsilon_{it}$$



# Results from Residential Choice

- Use Residential Choice Model to estimate the importance of particular neighborhood characteristics to pioneers vs. non-pioneers.
- Find:
  - Evidence that pioneers have different preferences for neighborhood characteristics than non pioneers.
  - Pioneers are more likely to choose neighborhoods with
    - Larger minority populations
    - An older housing stock
  - No evidence that pioneers are choosing neighborhoods that are more centrally located

# Why do Households Pioneer?

## Reason # 1: Savings?

**Table 4: Comparison of Current Housing to Previous**

	Pay More for Current Housing	Current Unit Quality Higher	Current Neighborhood Quality Higher
	(1)	(2)	(3)
Pioneer	_ <b>***</b>	_ <b>***</b>	_ <b>***</b>
Income	+ <b>***</b>	+ <b>**</b>	<i>NS</i>
Owner Occupied	+ <b>***</b>	+ <b>***</b>	+ <b>***</b>
Min	+ <b>***</b>	+ <b>***</b>	+ <b>***</b>
Kids	+ <b>***</b>	+ <b>***</b>	+ <b>***</b>
YR FE	<b>X</b>	<b>X</b>	<b>X</b>

# Why do Households Pioneer?

## Reason # 2: Accessibility?

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**Table 5: Commute Time**

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Pioneer	-0.883***
Income	1.807***
Owner	2.627***
Minority	1.939***
Kids	1.015***
Year FE	X

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# Why do Households Pioneer?

## Reason # 3: Constraints?

**Table 6: How First Heard about Unit?**

	Advertisement	Broker	Friend
Pioneer	-0.016**	-0.032***	0.024***
Income	0.006	0.029***	-0.030***
Owner Occupied	-0.151***	0.315***	-0.157***
White	0.061***	0.009	-0.025***

**Table 7: How Many Units Visited Prior to Choosing**

Pioneer	-0.662***
Income	1.024***
Owner Occupied	6.507***
White	1.018***

# Conclusions

- Broad support for our expectations for who pioneers, and where, based on observable characteristics:
  - Renters, first time home owners, childless households, minorities
  - In MSAs with high housing appreciation, lower crime
- Additional evidence on why:
  - Pioneers do weight neighborhood characteristics differently than non pioneers
    - Selecting neighborhoods ‘ripe for redevelopment’
    - Less sensitive to minority composition
    - Access or Savings?
  - Constraints do seem to shape these decisions as well

# Future Steps

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- Test sensitivity of our results to our definition of pioneering moves.
  - Residential Choice
    - Are household selecting neighborhoods undergoing specific changes?
    - Breaking out pioneers-identifying heterogeneous preferences within pioneers
  - Improve our measures of accessibility?
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