

A Multi-Level Residential Sorting  
Model with an Application to Quality  
Adjusted Income

Timothy Hamilton

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# Residential Sorting Model

- Households choose from a set of locations that which best fits their preferences; i.e. maximizes utility
- This reveals some value placed on the characteristics of the individual house and location
  - Environmental amenities, school quality, crime, culture

# Residential Choice

- Research generally assumes that individuals:
  - Choose from among states, MSAs within the country
  - Choose from among neighborhoods/census blocks within an MSA
- What is the actual choice that an individual faces when deciding where to live?
  - Model location choice as a “two-step” process

# Interaction of Amenities

- How does the macro-level choice depend on the available micro-level choices?
- How does the micro-level choice depend on the observed macro-level choice?
- Allows for analysis of how the value of amenities varies with other factors (amenities)
  - complementary and substitute amenities

# Two-Stage Budgeting

- Apply two-stage budgeting framework to a two-stage location decision
- Individuals choose macro location based on allocation of income to consumption and housing expenditures
  - Micro locations are aggregated to develop an index of housing costs

# Data

- Confidential Census data
  - Identifies individuals at the census block level
  - Birth, previous, and current location

# Cost of Living Indices

- Sorting model estimates parameters of an indirect utility function
- Solve for income to get expenditure function
- Relative (location) expenditure functions define Cost of Living Index
  - COL reflects market prices, and public amenities
  - What is the effect of policy at different geographic levels on the COL?