Love thy neighbor?

An empirical test of neighborhood ethnicity change and Schelling behavior

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Contents

Hello yes yes yes

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Overview

- **Motivation**: Demographic transition and Schelling's model
- **Research Question**: Does the ethnicity of your nearest neighbor affect propensity to move?
- **Methods**: Nearest-neighbor research design with comprehensive administrative data
- **Results**: Schelling behavior?
- **Heterogeneity Analysis**: SES
- **Conclusion**

Defintions:

1. Native households: All members are of Danish origin
2. Non-Western households: At least 1 member is of non-Western origin
3. Western households: At least 1 member is of Western origin (but no non-Western household members)

Introduction

Theoretical Background: Schelling's Model

- (Schelling, 1971) proposed that neighborhoods may "tip" when minority share reaches a threshold
- Even with relatively tolerant preferences toward diversity
- Three types of segregation:
  1. Organized segregation (e.g., historical Jim Crow laws)
  2. Economically induced segregation (clustering by income/education)
  3. Individually motivated segregation ← **Focus of this paper**

Schelling's key insight: Small individual preferences can lead to macro-level segregation

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Methods

Identification Challenge

$$V_{i,j,t} = f(Z_{i,t}, X_{j,t}, \xi_{j,t}) + \sum_k g(Z_{i,t}, Z_{k,t}, D_{i,k}) + \delta E[V_{i,j,t+1}] + \varepsilon_{i,j,t}$$

Where:

- $f(\cdot)$: Utility from neighborhood amenities
- $g(\cdot)$: Utility from characteristics of each neighbor k at distance $D_{i,k}$
- Z_i: Observable household attributes
- X_j: Observable neighborhood attributes
- ξ_j: Unobservable neighborhood attributes
- $\varepsilon_{i,j,t}$: Idiosyncratic preferences

Key identification challenges:

- Unobserved neighborhood amenities
- Dynamic preferences (expectations of future changes)
- Selection effects (who moves where is not random)

Innovative approach from (Bayer *et al.*, 2022):

Compare households within the same neighborhood who receive different-type neighbors. Why does this work? Consider two households:

- Household a: New different-type e' neighbor among their nearest (rank 1-3) neighbors
- Household b: New different-type e' neighbor slightly further away (rank 4-6)

Difference in moving propensity:

$$\begin{aligned} Y_a(e', k_{\text{nearest}}) - Y_b(e', k_{\text{near}}) &= (\mathbb{P}[e', k_{\text{nearest}}]) - \mathbb{P}[e', k_{\text{near}}])) \\ &+ (\xi_a B(e', k_{\text{nearest}}) - \xi_b B(e', k_{\text{near}})) \\ &+ (\rho_a - \rho_b) + \left(\omega_j - \omega_j\right) \leftrightarrow \\ &= \mathbb{P}[e', k_{\text{nearest}}]^* + \rho_a - \rho_b \end{aligned}$$

1. $\mathbb{P}[e', k_{\text{nearest}}]) - \mathbb{P}[e', k_{\text{near}}]) > 0$
2. $\xi_a B(e', k_{\text{nearest}}) - \xi_b B(e', k_{\text{near}}) \approx 0$: (almost) no difference in future neighborhood quality expectation

3. $Y_a(e', k_{\text{nearest}}) - Y_b(e', k_{\text{near}}) \perp \rho_a - \rho_b$: For existing households, location of new neighbors are not related to idiosyncratic factors ρ.

Nearest neighbor research design

- **Treatment group**: Households with new different-type neighbors among their 3 nearest neighbors
- **Control group**: Households with new different-type neighbors "just down the road" (ranks 4-6)

$$Y_{i,j,t} = \beta_1 I[e', k = n_{\text{nearest}}] + \beta_2 I[e', k = n_{\text{near}}] + \beta_3 I[e', k = n_{\text{close}}] + \gamma Z_{i,j,t} + \omega_{j,t} + \varepsilon_{i,j,t}$$

Parameter of interest:

$$\beta_1 - \beta_2$$

This design addresses key identification challenges by comparing households experiencing same neighborhood conditions but different micro-geography of new neighbors.

Data

Results

Conclusion

Key Findings

1. Native Danish households increase moving propensity by 1.6% when receiving non-Western neighbors
2. Non-Western households show no significant response to new native neighbors
3. Heterogeneity by SES: Low-SES native households responding to low-SES non-Western neighbors show strongest effects (2.8%)
5. Magnitude in Denmark (1.6%) more modest than in U.S. context (4-6%)

Extensions

- Do native households respond to new Western neighbors?
- How much are native households willing to pay in premium to live in a more homogenous neighborhood?
  - Variation?
- Those who show Schelling behavior, where do they move to?

Thank you for your attention!

Questions?

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References

Bayer, P. *et al.* (2022) "Distinguishing Causes of Neighborhood Racial Change: A Nearest Neighbor Design," *Social Science Research Network* [Preprint]. Available at: https://doi.org/10.3386/w30487.

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Appendix