

# LOVE THY NEIGHBOR?

An empirical test of neighborhood ethnicity change and Schelling behavior

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# Hello

- **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
- **Resulus:** 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

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- (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) 123
  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

# METHODS

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

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
- $\xi_j$ : Unobservable neighborhood attributes
- $\varepsilon_{i,j,t}$ : Idiosyncratic preferences

## Key identification challenges:

- Unobserved neighborhood amenities
- Dynamic preferences (expectations of future changes)
- Selection effectus (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:

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

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  $\rho$ .

- **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

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# RESULTS

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# CONCLUSION

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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 effect (2.8%)
5. Magnitude in Denmark (1.6%) more modest than in U.S. context (4-6%)



- 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?

# REFERENCES

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Schelling, T.C. (1971) “Dynamic models of segregation,” *Journal of mathematical sociology*, 1(2), pp. 143–186.

# APPENDIX

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