Estimating Neighborhood Effects on Turnout from Geocoded Voter Registration Records

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Motivation

- Do voters turn out more or less frequently when surrounded by those like them?
- Decades of research on turnout and demographic characteristics:
  - Older, educated, wealthy people vote more often
  - Whites vote more frequently than minorities
- But we know little about how your turnout is affected by the characteristics of other voters around you

- Challenges of neighborhood effects research:
  - Different voters live in different neighborhoods
    \( \leadsto \) cannot simply compare them
  - Neighborhood effects are confounded by electoral and other factors
    \( \leadsto \) require a large scale individual-level data collection
Overview of the Talk

- **Theories:**
  1. Psychological theories
  2. Mobilization theories

- **Data:**
  1. Labels & Lists, Inc: a non-partisan firm specializing in voter files
  2. 50 million geocoded voter registration records in FL, CA, and GA
  3. Past voter registration files for FL and CA

- **Identification strategies:**
  1. Cross-section difference-in-differences
  2. Panel difference-in-differences

- **Findings:**
  1. Turnout is affected by those you live near
  2. A 10 percentage point (ppt) increase in the out-group in your neighborhood leads to a 0.5 to 2 ppt decrease in your turnout
  3. Neighborhood effects persist even in non-competitive districts
Theories of Neighborhood Effects

- **Psychological theories:**
  1. **Threat:** you feel threatened and vote more often when surrounded by those different from you
     \[ \Rightarrow \text{Neighborhood-majorities vote more often as minorities increase} \]
  2. **Empowerment:** you are more likely to express yourself when your neighbors are like you
     \[ \Rightarrow \text{Neighborhood-minorities vote more often as their group size increases} \]

- **Mobilization theories:**
  1. **Individual:** campaigns target potential supporters regardless of their neighborhood
     \[ \Rightarrow \text{No neighborhood effects} \]
  2. **Neighborhood:** campaigns target neighborhoods of potential supporters but single out potential voters
     \[ \Rightarrow \text{Neighborhood-majorities vote more often than minorities} \]
Goals of the Project

- Estimate neighborhood effects at the census block level
- Consider partisan minority and racial minority neighborhood effects in the same framework
  - partisanship and ethnicity are both social identities
- Neighborhood effects differ from district or candidate effects
  - We examine the interaction between a voter and her neighbors
  - Interaction with candidates/districts:
    - coethnicity
    - majority-minority districts
Florida Cross-Section Data

- Voter files from 2004 and 2012
  - 10.5 million registered voters
  - 25 congressional districts
  - 2010 census block neighborhoods
  - 293,056 census blocks
  - Geocode addresses
  - Turnout: ‘02 and ‘10 elections

- Partisanship
  - 36% Republican
  - 40% Democratic
  - 20% Independent
  - 4% Other parties

- Racial Demographics
  - 14% Black
  - 17% Latino
  - 68% White
California Cross-Section Data

- Voter files from 2006 and 2012
  - 15 million registered voters
  - 53 congressional districts
  - 2010 census block neighborhoods
  - 383,892 census blocks
  - Geocode addresses
  - Turnout: ‘04 and ‘10 elections

- Partisanship
  - 30% Republican
  - 43% Democratic
  - 21% Independent
  - 5% Other parties

- Racial Demographics
  - 6% Black
  - 21% Latino
  - 65% White
Georgia Cross-Section Data

- Voter file from 2012
  - 4.6 million registered voters
  - 13 congressional districts
  - 2010 census block neighborhoods
  - 291,086 census blocks
  - Geocode addresses
  - Turnout: ‘10 elections

- Partisanship
  - 27% Republican
  - 22% Democratic
  - 51% Independent

- Racial Demographics
  - 33% Black
  - 3% Latino
  - 53% White
Census Block as a Neighborhood

Democrat
Republican
Non-partisan
Other Parties
Mixed Household
Census Blocks are Small Neighborhoods

Florida

California

Georgia

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Partisanship Measure Correlates Well with Vote Share

Florida

2008 Republican Pres Voteshare by Precinct (election results)

Percent Registered Republican (our measure)

0 20 40 60 80 100

0 20 40 60 80 100

correlation = .85

California

2008 Republican Pres Voteshare by Precinct (election results)

Percent Registered Republican (our measure)

0 20 40 60 80 100

0 20 40 60 80 100

correlation = .84

Georgia

2008 Republican Pres Voteshare by Precinct (election results)

Percent Registered Republican (our measure)

0 20 40 60 80 100

0 20 40 60 80 100

correlation = .84
Race Measure and Validation

- Florida and Georgia: self-reported race (more accurate)
- California: predicted using name and census characteristics
Racial Composition of Census Blocks

Density

Florida
Percent Black
Percent Latino
Percent White

California

Georgia

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Cross-Section Identification Strategy

- Cannot simply compare two voters in different neighborhoods
- Our identification strategy:

\[ \begin{align*}
\text{(a) Democratic neighborhood} & \quad \text{(b) Republican neighborhood} \\
\overline{Y}_D^D & \quad \overline{Y}_D^R \\
\overline{Y}_R^D & \quad \overline{Y}_R^R \\
\end{align*} \]

- Difference-in-differences: 
  \[ (\overline{Y}_R^D - \overline{Y}_D^D) - (\overline{Y}_R^R - \overline{Y}_D^R) \]
We analyze congressional districts separately for each election

Average results across districts and elections

Liner probability partisanship model with fixed effects:

\[ Y_i = \alpha^D_{\text{group}[i]} + \beta^D \text{Dem}_i + \gamma^D \text{Dem}_i \times \overline{\text{Rep}}_{\text{block}[i]} + \delta^D_1 \text{age}_i + \delta^D_2 \text{age}_i^2 + \epsilon^D_i \]

where \( \alpha^D_{\text{group}[i]} \) is the fixed effects based on the full interaction between census blocks, gender, and race

Fitted to a subset of Democrats and Republicans for each district

Comparison within the same neighborhood, gender, and race

Interpretation of \( \gamma \): percentage point (ppt) increase in turnout when the proportion of out-group increases by 1 ppt
Modeling Racial Neighborhood Effects

- Partisanship neighborhood effects:

\[ Y_i = \alpha_{\text{group}[i]}^B + \beta^B \text{Black}_i + \gamma^B \text{Black}_i \times \overline{\text{Non} - \text{Black}}_{\text{block}[i]} + \delta_1^B \text{age}_i + \delta_2^B \text{age}_i^2 + \epsilon_i^B \]

where \( \alpha_{\text{group}[i]}^B \) is the fixed effects based on the full interaction between census blocks, gender, and partisanship

- Fitted to the entire data

- Comparison within the same neighborhood, gender, and partisanship

- Interpretation of \( \gamma \): percentage point (ppt) increase in turnout when the proportion of out-group increases by 1 ppt
<table>
<thead>
<tr>
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| sign of $\gamma$ | + | − | 0 | − |
Data Overview for Panel Analysis

- Geocode voters from old files in FL and CA
- Match voters between old and new files with name and birthdate
- Among matched calculate difference in
  - Neighborhood partisanship
  - Neighborhood racial composition
- Non-movers only

Florida
- 2012 voter file
- 2004 voter file
- Turnout: ’10 – ’02, ’08 – ’00
- 40% match
- 66% do not move
- 80% do not change party

California
- 2012 voter file
- 2006 voter file
- Turnout: ’10 – ’02, ’08 – ’04
- 44% match
- 70% do not move
- 80% do not change party
Panel Identification Strategy

- Within-voter comparison for non-movers:

\[
Y_{i,t}^R - Y_{i,t+1}^D - (Y_{i',t+1}^D - Y_{i',t}^R)
\]

- Difference-in-differences:

\[
(Y_{i,t+1}^D - Y_{it}^R) - (Y_{i',t+1}^D - Y_{i'}^R)
\]
First-difference linear probability models:

\[ Y_{i,t+1} - Y_{it} = \alpha^D_{\text{group}[i]} + \beta^D \text{Dem}_i + \delta^D_1 \text{age}_i + \delta^D_2 \text{age}^2_i + \gamma^D \text{Dem}_i \times (\text{Rep}_{\text{block}[i,t+1]} - \text{Rep}_{\text{block}[i,t]}) + \eta^D_i \]

\[ Y_{i,t+1} - Y_{it} = \alpha^B_{\text{group}[i]} + \beta^B \text{Black}_i + \delta^B_1 \text{age}_i + \delta^B_2 \text{age}^2_i + \gamma^B \text{Black}_i \times (\text{Non-Black}_{\text{block}[i,t+1]} - \text{Non-Black}_{\text{block}[i,t]}) + \eta^B_i \]

where \( \alpha^D_{\text{group}[i]} \) (\( \alpha^B_{\text{group}[i]} \)) is the fixed effects based on the full interaction of census blocks, gender, and race (partisanship).

Comparison within the same census block, gender, and race (partisanship) groups

Interpretation of \( \gamma \): percentage point (ppt) increase in turnout when the proportion of out-group increases by 1 ppt
Testing the Neighborhood Mobilization Theory

Two theories are consistent with empirical findings:

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\[
\text{sign of } \delta_1 = \begin{array}{ccc}
+ & - & 0 & - \\
\end{array}
\]

Neighborhood mobilization theory:
Campaigns target neighborhoods of potential supporters but single out potential voters
\[\Rightarrow \text{Prediction: Neighborhood effects largest in competitive districts}\]
Cross-Section Evidence

- Uncompetitive districts (hollow) to other districts (solid)
- Neighborhood effects persist in uncompetitive districts
Panel Evidence

- Uncompetitive districts at both time periods (hollow)
- Competitive districts at both time periods (solid)
Turnout is a function of a voter’s demographics and their environment.

Voters turn out less when they live near people not like them.

A 10 ppt increase in the out-group in your neighborhood leads to a roughly 0.5 to 2 ppt decrease in your turnout.

True for both partisanship and race.

True across a variety of geographies and electoral environments.

Mobilization alone cannot explain neighborhood effects.

Utilize experimental data (Moving-to-the-Opportunity Program).
Send additional comments and suggestions to

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Voters Live in Diverse Neighborhoods

Percent Republican Neighbors for a Republican

Percent Democratic Neighbors for a Democrat

Percent Republican Neighbors for an Independent

Percent Democratic Neighbors for an Independent
Voters’ Neighborhoods are Not Always Segregated

Percent Black Neighbors for Blacks

Percent Latino Neighbors for Latinos

Percent White Neighbors for Whites

Florida

California

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Little Evidence of Geographic Sorting - FL & CA

Change in Neighborhood Percent Republican for Republicans

Density
-50 -40 -30 -20 -10 0 10 20 30 40 50
0 2 4 6 8 10 12
Non-Movers
Movers

Change in Neighborhood Percent Democrat for Democrats

Density
-50 -40 -30 -20 -10 0 10 20 30 40 50
0 2 4 6 8 10 12
Non-Movers
Movers

Change in Neighborhood Percent Republican for Independents

Density
-50 -40 -30 -20 -10 0 10 20 30 40 50
0 2 4 6 8 10 12
Non-Movers
Movers

Change in Neighborhood Percent Democrat for Independents

Density
-50 -40 -30 -20 -10 0 10 20 30 40 50
0 2 4 6 8 10 12
Non-Movers
Movers
Little Evidence of Racial Geographic Sorting

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Matched Voters are Different From Unmatched Voters

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