Red Place, Blue Place: Tiebout Sorting and Labor Misallocation

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Motivation

- Increasing geographic partisan segregation in the US (polarization) [Brown et al., 2022]
- Migration trend out of blue states (California, New York) towards blue cities in red states (Austin, Raleigh, Miami)
  - Benefit from a mix of red state and blue city amenities (housing, culture, public spending)
- Does politics push or pull these migration choices?
- Does migration change politics in destinations?

Migration response to political changes has consequences for public finance and labor allocation [Kleven et al., 2020]

Tiebout Sorting

- Do people vote with their feet? Mixed past evidence from public econ [Rhode and Strumpf, 2003, Tausanovitch and Warshaw, 2014, Bernstein et al., 2022, Urquiola, 2005, Banzhaf and Walsh, 2013, McCartney et al., 2024]
- Urban/spatial work suggest amenities matter, endogenous to labor composition [Diamond, 2016]
- Might be increasingly relevant
  - politization of school policy [Parolin and Lee, 2021]
  - polarizing state-level changes (ex. Roe v Wade) [Lu and Ye, 2023]
  - housing policy between red and blue regions [de Benedictis-Kessner et al., 2022, McCartney et al., 2024]
- Even if people don't sort on local public goods, skill-bias mobility and peer matching can create it empirically

Research Questions

1. **Do people move in response to local or state-level policy changes?**
   - Do democrats and republicans respond differently
   - How elastic are people to state vs. local political amenities
2. **How do economic shocks affect political composition and political amenities?**
   - D vs R responses to local labor demand shocks

Road Map

- Sketch labor supply problem
- Voter Registration Data
- Descriptives
- 3 Empirical Exercises
  1. Dynamic changes in migration flows – polarization in flows?
  2. Migration responses to state and county policies
  3. Migration responses to county-level demand shocks

Endogenous Political Amenities: Labor Supply

- Workers from political party $\in (D, R)$ are born in region o and decide to reside in county d nested in state s, where they receive the equilibrium wage w_d.
- Worker i from party D and birthplace o receives the following total utility if they move to d:

$$U_{iod} = \frac{w_d}{P_d} A_d A_s \tau_{od} \phi_{id} \tag{1}$$

Where A_d, A_s are county and state political amenities, P_d is the local price index. ϕ_{id} is a preference shock. τ_{od} is a migration cost

Endogenous Political Amenities: State and Local Government

- Two governments at level state s and county d
- If government follows median voter, then political amenities are just function of relative D and R residents:

$$A_d = (\frac{D_d}{R_d})^{\upsilon} \tag{2}$$

$$A_s = (\frac{D_s}{R_s})^{\beta} \tag{3}$$

- could introduce more complicated mapping from local amenity A_d to state amenity A_s (ex. winner-take-all state elections, gerrymandering)

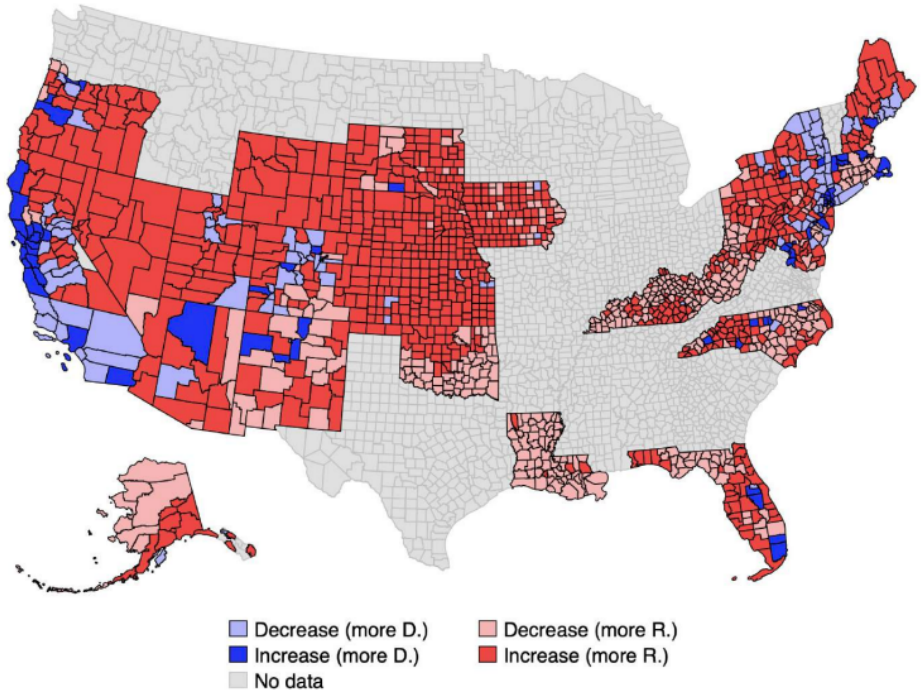
Voter Data

- Individual-level voter registration records
  - universe of U.S. voting-eligible population
  - linked yearly snapshots (2012 - 2021)
  - residential address, age, gender, race – capture moves through name/address linking
  - 30 states record partisan affiliation
  - 11% of US potential voters are unregistered, unlisted
- State and local policies: American Election Database, School closures [de Benedictis-Kessner et al., 2023, Parolin and Lee, 2021]
- Government spending and labor market: Municipal Bonds (MSRB), Gov Finance Database [Pierson et al., 2015], ACS and Census Files

Polarization

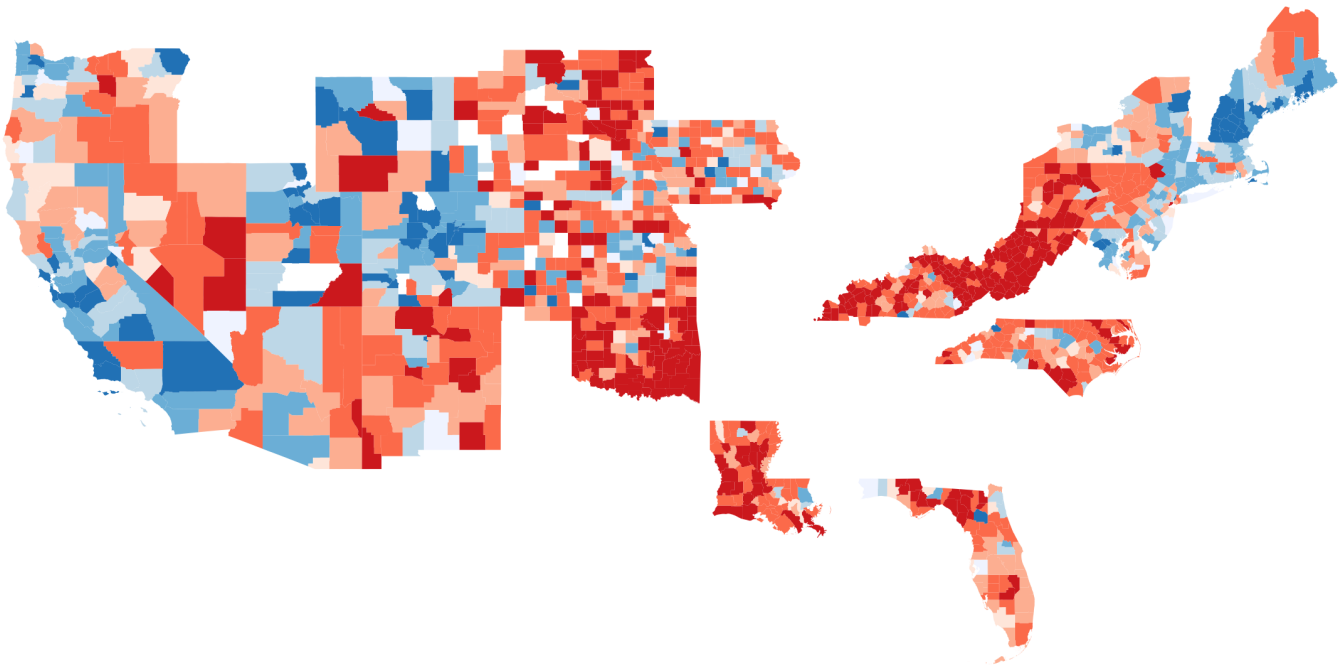
Figure: Change in D, R Homogeneity (Brown et al., 2022)

Figure 3: Change in partisan homogeneity by U.S. county, using Catalist data



D/R Flows

Figure: % Change in D/R Inflows 2013-2019



Educational Polarization

Table: Predictors of Democrat over Time

	Dem 2012	Dem 2012	Dem 2020	Dem 2020
College	0.042	0.028	0.094	0.078
	[0.005]***	[0.006]***	[0.006]***	[0.006]***
Age	-0.003	-0.003	-0.003	-0.003
	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Male	-0.102	-0.105	-0.076	-0.081
	[0.006]***	[0.006]***	[0.006]***	[0.006]***
Black	0.432	0.384	0.331	0.288
	[0.009]***	[0.010]***	[0.010]***	[0.011]***
Hispanic	0.035	0.020	-0.012	-0.015
	[0.019]*	[0.019]	[0.019]	[0.019]
FE	State	County	State	County
Mean Dep.	0.559	0.561	0.621	0.623
Observations	29,683	29,127	22,175	21,931

Notes: Data from Cooperative Election Study Data representative surveys. "Democrat" defined by declared D/R party affiliation in survey, excluding independents and unregistered.

Empirical Exercises

Aggregate data to yearly county-county flows of total migration (all states), then split democrats and republicans (30 states).

1. Estimate dynamic changes in migration flows - is there polarization in migration?
2. Estimate migration responses to variety of staggered state and county policies
3. Estimate migration responses to county-level demand shocks

Fragmentation in D and R Flows

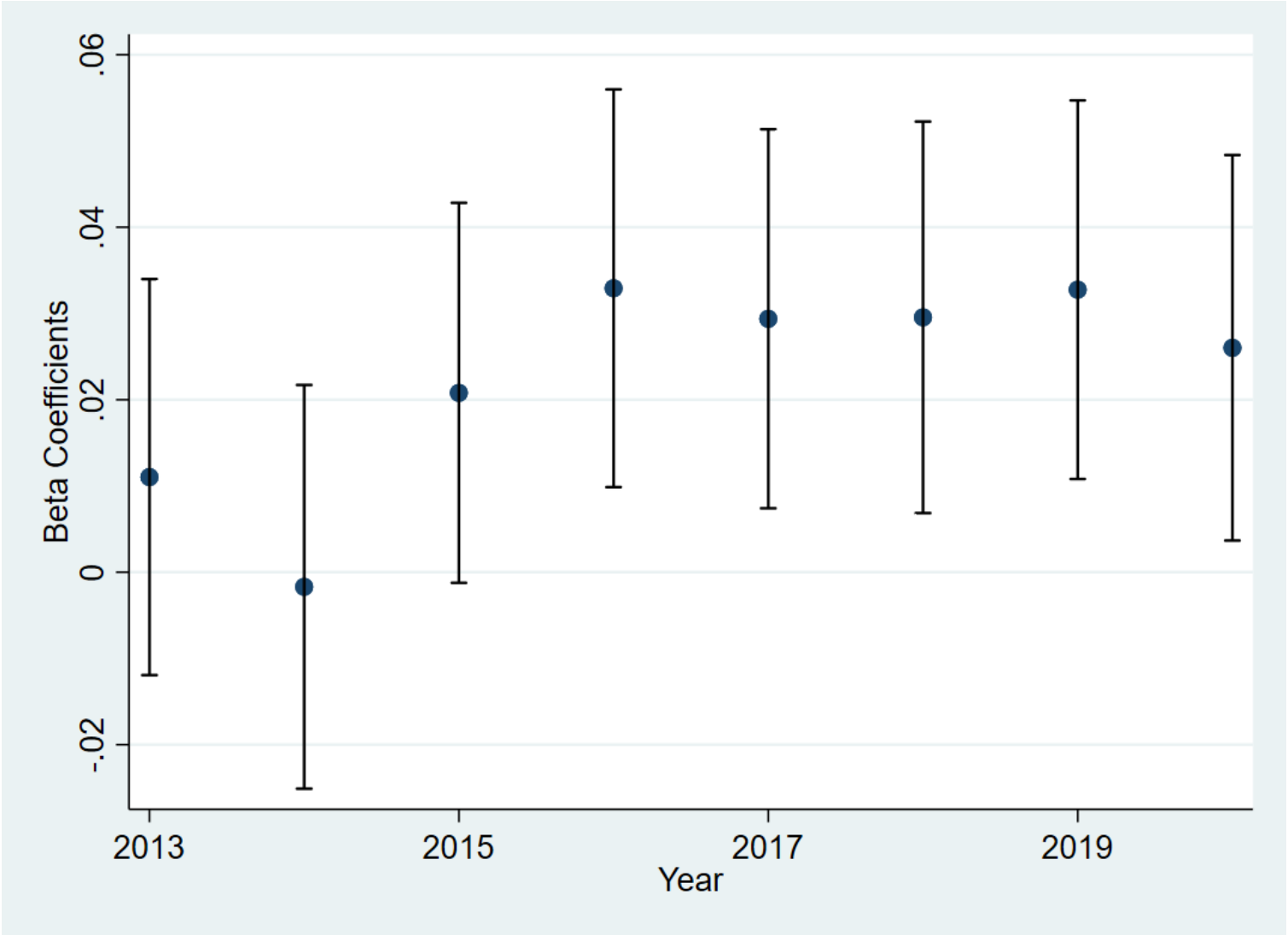
- Structural changes in migration flows over time, borrow from the trade fragmentation literature [Gopinath et al., 2024, Beyer et al., 2022, **?**]
- How does political similarity affect migration flows, does this change over time?

$$Log(Total)_{odt} = \sum_{2012}^{2020} \beta_t D2D_{od} * Time_t + \delta_{od} + \tau_{ot} + \phi_{dt} + \epsilon_{odt} \quad (4)$$

- $Log(Total)_{odt}$ is total flow of people in year t from county o to county d

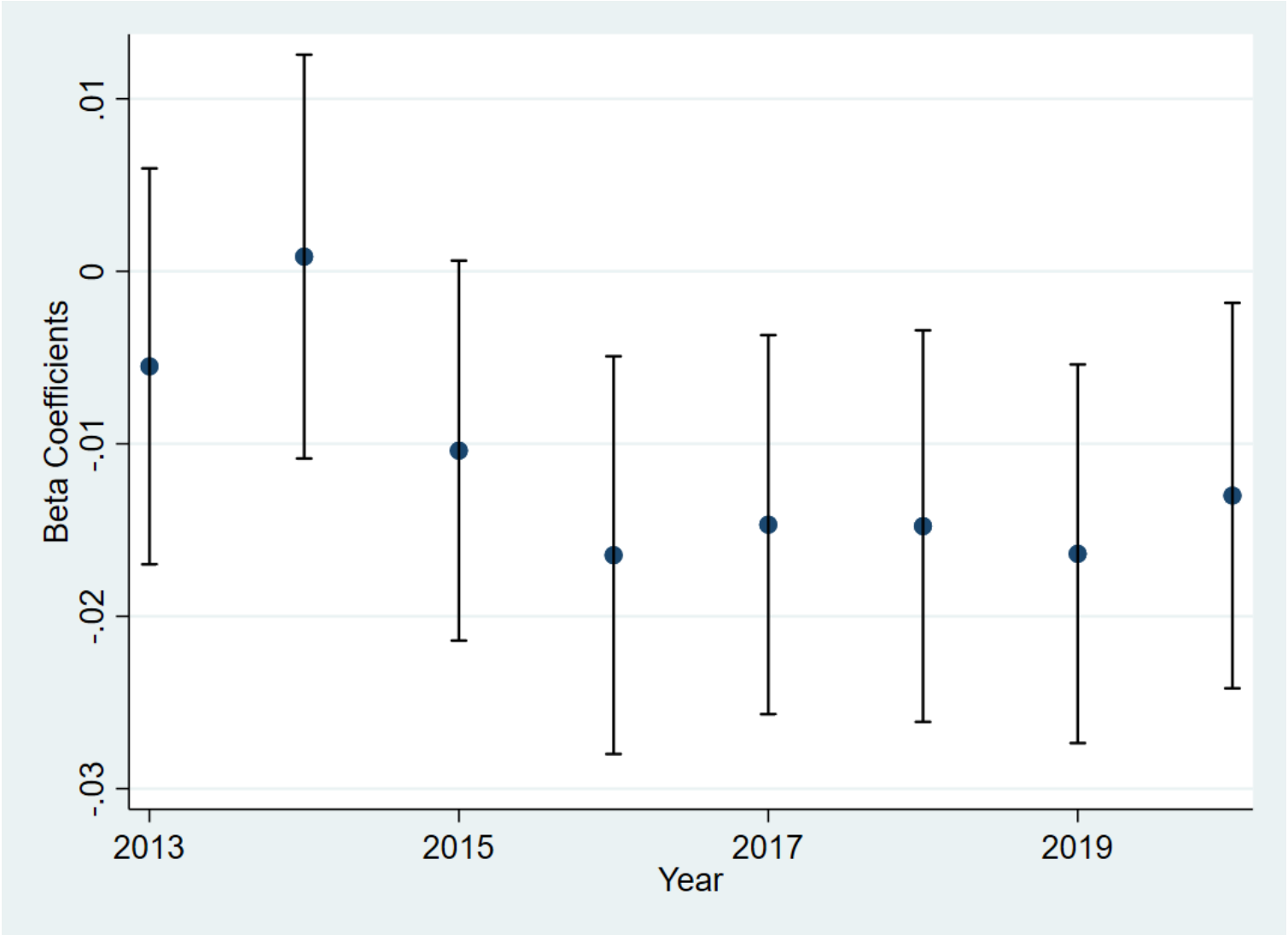
Fragmentation in D and R Flows

Figure: Changes in D to D County Flows Over Time)



Fragmentation in D and R Flows

Figure: Changes in R to D County Flows Over Time)



State-Level Policy Changes

- Roll-out of policy changes over time, study impact on democrat vs. republican migration
- The flow of people from origin state o to destination state d at time t given by $Flow_{odt}$

$$log(Flow_{odt}) = PolicyGap_{odt} + \tau_t + \omega_{od} + \epsilon_{st} \tag{5}$$

- Where $PolicyGap_{odt} = Policy_{ot} - Policy_{dt}$

State-Level Policy Changes

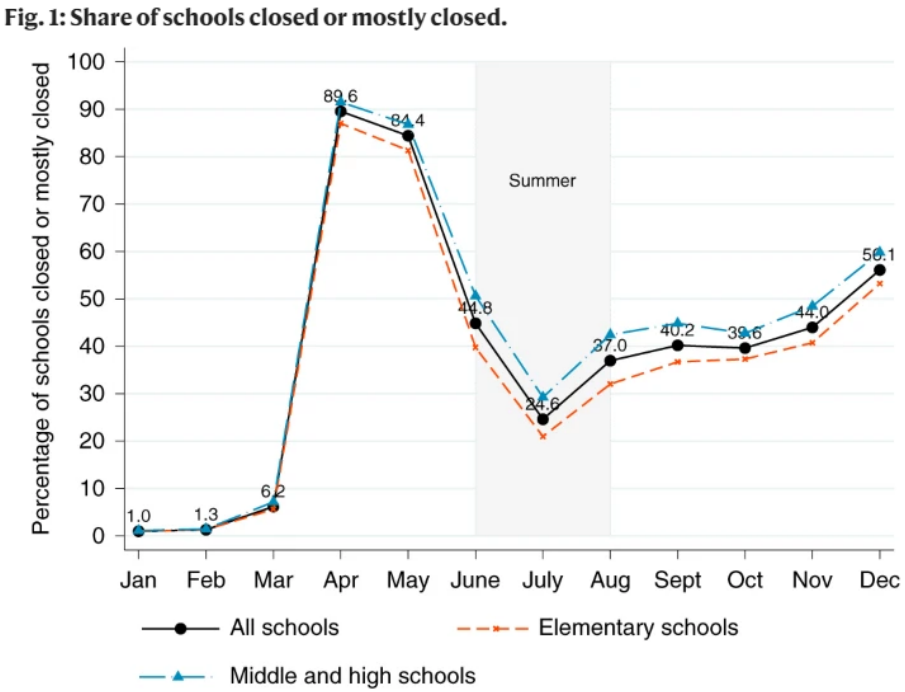
Table: Migration Response by Policy

	Log(Total)	D/R
Same Sex Marriage	0.005	-0.007
	(0.011)	(0.007)
Marijuana Policy	-0.030	0.007
	(0.011)***	(0.006)
Public School Choice	-0.025	0.010
	(0.018)	(0.007)
Median Income Tax Rate	-0.027	0.001
	(0.005)***	(0.002)
Time FE	Y	Y
State O-D FE	Y	Y

County-Level Policy Changes: COVID School Closures

- School districts made decisions to implement distance learning starting in 2020
- Define a school as closed if 50% year over year decline in visits [Parolin and Lee, 2021]

Figure: COVID School Closures (Parolin and Lee, 2021)



County-Level Policy Changes: COVID School Closures

- Aggregate share of schools with closures at the county level
- Compare flows before after 2020, interacted with county-level school closure intensity
- Continuous DiD treatment, intensity defined as share of schools in county d that were closed on average in 2020:

$$Y_{dt} = \beta_t \text{Share Closed}_d * \text{Post}_t + \tau_t + \omega_d + \epsilon_{st} \tag{6}$$

Look at population outflows from county d, democrats vs. republicans

County-Level Policy Changes: COVID School Closures

Table: Effect of School Closures on Migration Outflow

	Log(Outflow)	Log(D Outflow)	Log(R Outflow)	D/R Outflow
Closure Share	0.049	0.360	0.075	0.204
	[0.035]	[0.050]***	[0.040]*	[0.047]***
Mean Dep.	7.677	5.953	6.187	1.133
Observations	6,877	6,877	6,877	6,877

Notes: All regressions include county and year fixed effects.

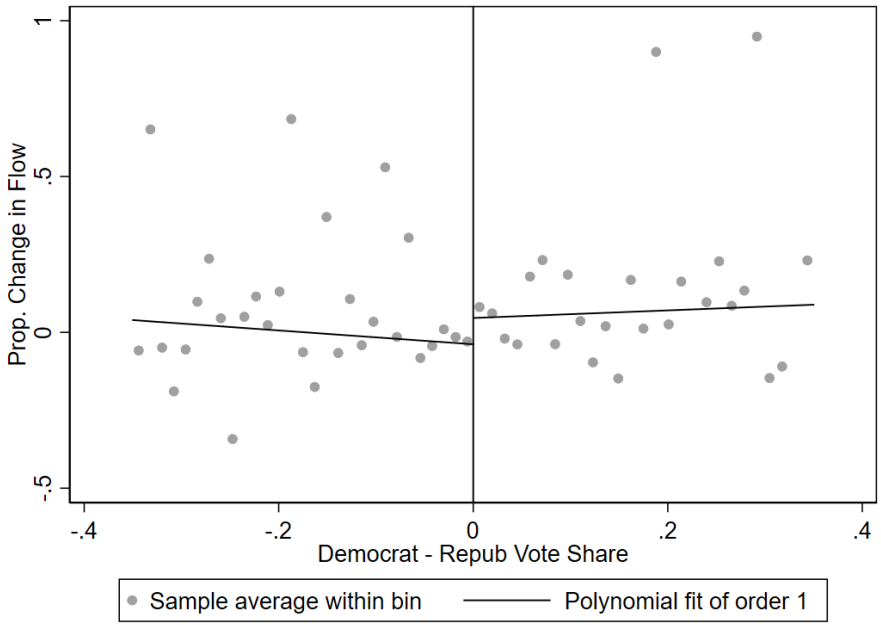
County-Level Policy Changes: Close Elections

- Municipalities vary in ideological preferences, ideology in local elections matters [Tausanovitch and Warshaw, 2014, Ferreira and Gyourko, 2009, Warshaw, 2019]
- Evidence from discontinuities around close partisan local elections (county, city, school district officials)
- Take first near binary election in a county-year, estimate change in migrations flows before and after election t vs. $t-1$

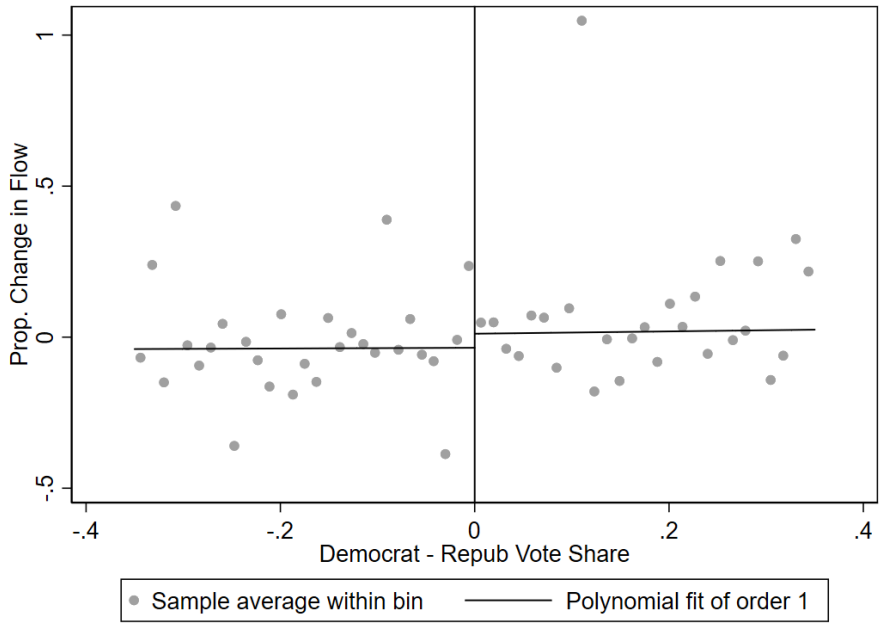
RD design: measure outflows/inflows and change in composition in close democrat vs. close republican wins.

RD Plot of Close Elections

Figure: Change in Total Outflow and Inflow by Democrat Share



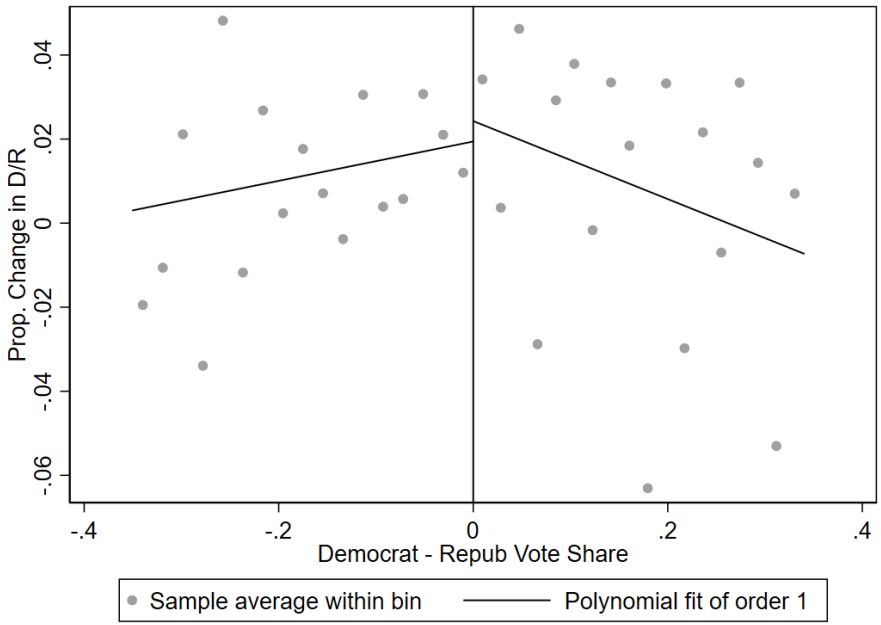
(a) Prop. Change in County Outflow



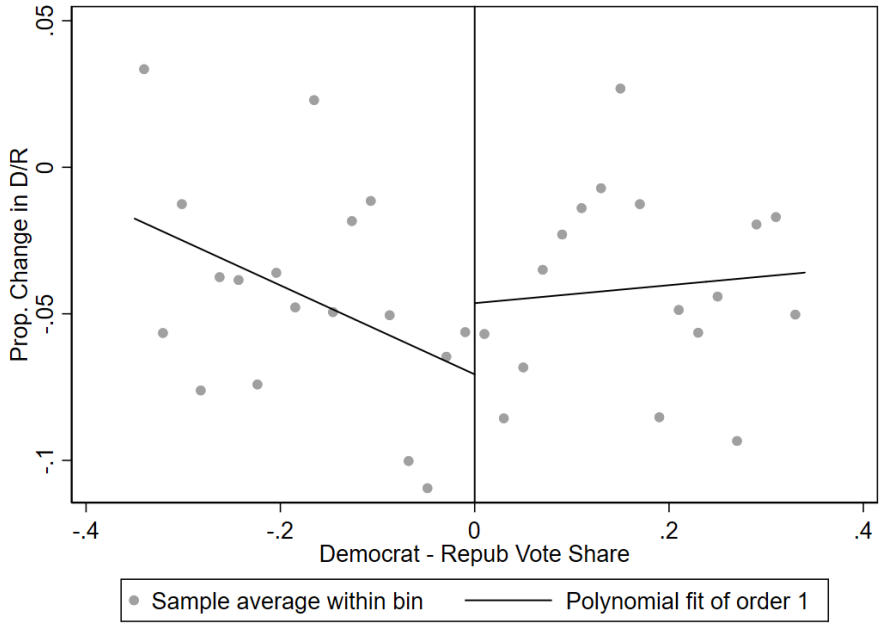
(b) Prop. Change in County Inflow

RD Plot of Close Elections

Figure: Change in D/R Outflow and Inflow by Democrat Share



(a) Prop. Change in County D/R Outflow



(b) Prop. Change in County D/R Inflow

Labor Demand Shocks and D/R Responses

- How do D and R respond to labor demand shocks? What is effect on D/R migration composition?
- Instrument for county-level demand shocks with interaction of national industry growth and local labor shares [Bartik, 2024]
- For county i with industries j employing labor l_{ij}:

$$\Delta \pi_{it} = \sum_{j=1}^{J} \frac{l_{ij}}{N_i} * \Delta L_{j,t+h} \tag{7}$$

Labor Demand Shocks and D/R Responses

- Estimate impact of a demand-shock on migration inflows and composition

$$\Delta\theta_{it} = \hat{L_{it}} - L_{i,t-h}/L_{i,t-h} \tag{8}$$

$$\Delta\frac{D}{R}_{i,t} = \alpha + \beta_1 \Delta\theta_{it} + \epsilon_{it} \tag{9}$$

Labor Demand Shocks and D/R Responses

Table: 2012-2019 Demand Shock Effect on Flows

	Δ N	Δ D/R
Labor Demand Shock 2012-19	0.348	0.156
	[0.174]**	[0.047]***
Mean Dep.	1.796	-0.339
Observations	1,196	1,194

Notes: All regressions include state fixed effects.

Next Steps

1. LinkedIn Data
    1. link individuals by name across voter registration and LinkedIn profiles
    2. individual level migration movements, political identity and occupations
2. Municipal Bonds
    1. cleaned county level bond yields
    2. differential impact of Democrat and Republican migration flows on borrowing costs

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