No Surprises, Please: Voting Costs and Electoral Turnout

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Motivation

→ Organizing elections that foster **voter participation** is a key challenge for modern democracies

- Downsian view: Any single vote is **insignificant** for electoral outcome → even tiny voting costs can deter voters from turning out
- Modern view: People vote for expressive reasons → small voting costs are negligible

Research Q: Do seemingly harmless shocks to voting costs affect voter turnout?

This paper

Estimate impact of relocating polling places on

- the mode of voting (mail-in vs. in-person),
- voter participation

Key contributions:

→ Empirical evidence on turnout effects of tiny changes to voting costs

→ *Causal* effect of common (and sometimes contentious) practice

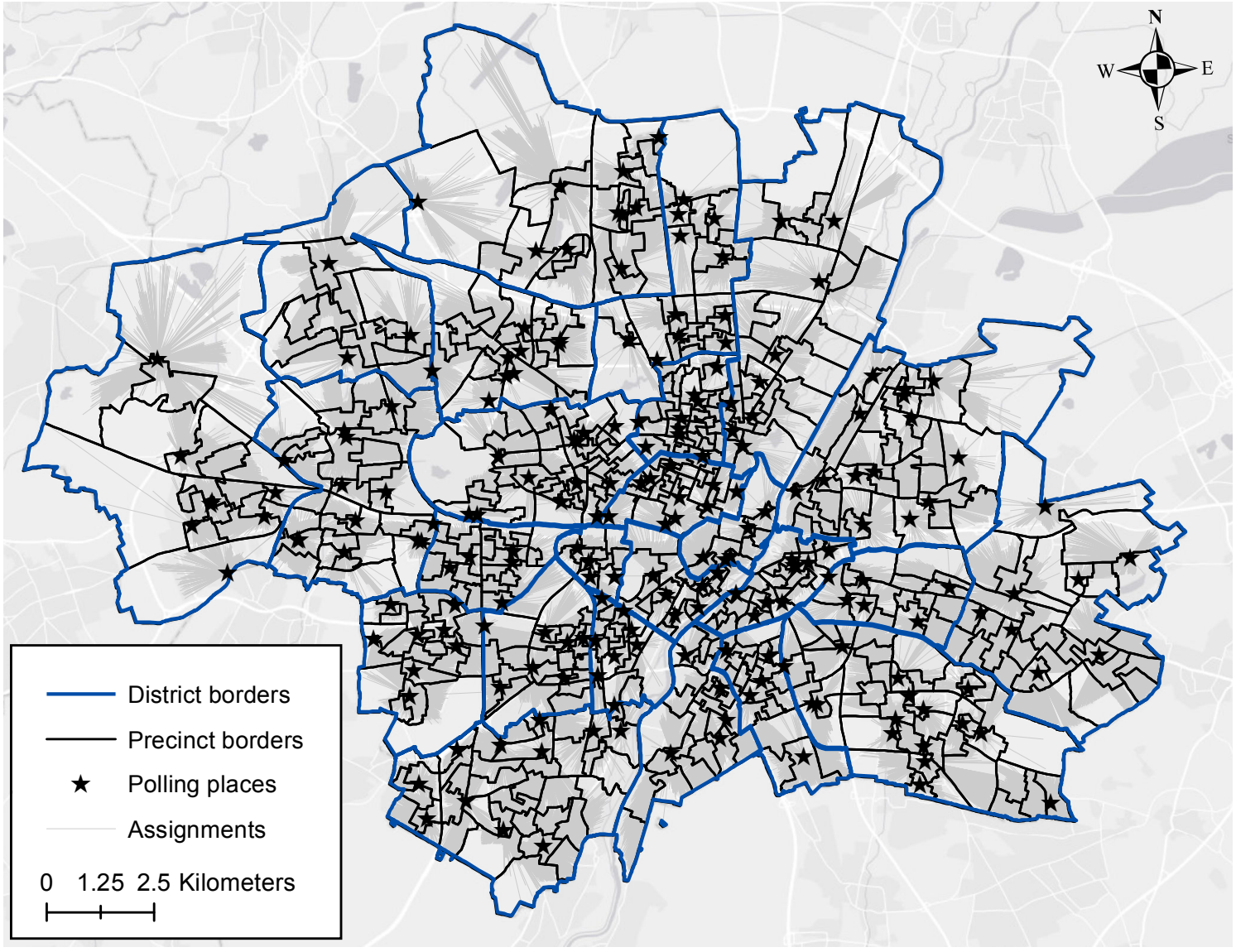
Context: Elections in Munich (GER)

→ Polling place reassignments product of well-intentioned, uncontroversial policy aimed at facilitating access to voting

→ No partisan influence ▸ Related Lit

Setting

Electoral Map of Munich, 2018



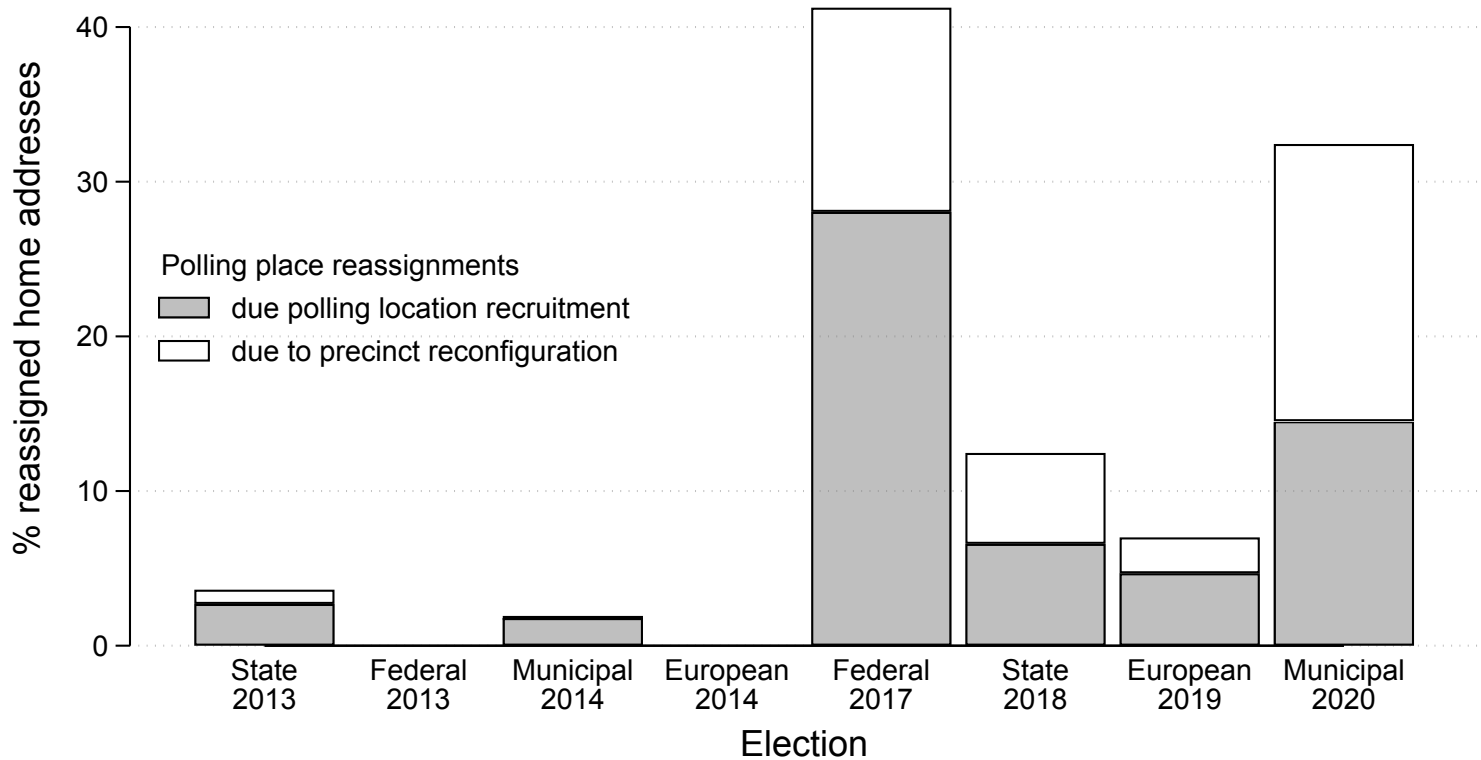
Reassignments at the Address-Level

2 Reasons for polling place reassignments:

→ Polling place turnover (mainly due to city council resolution)

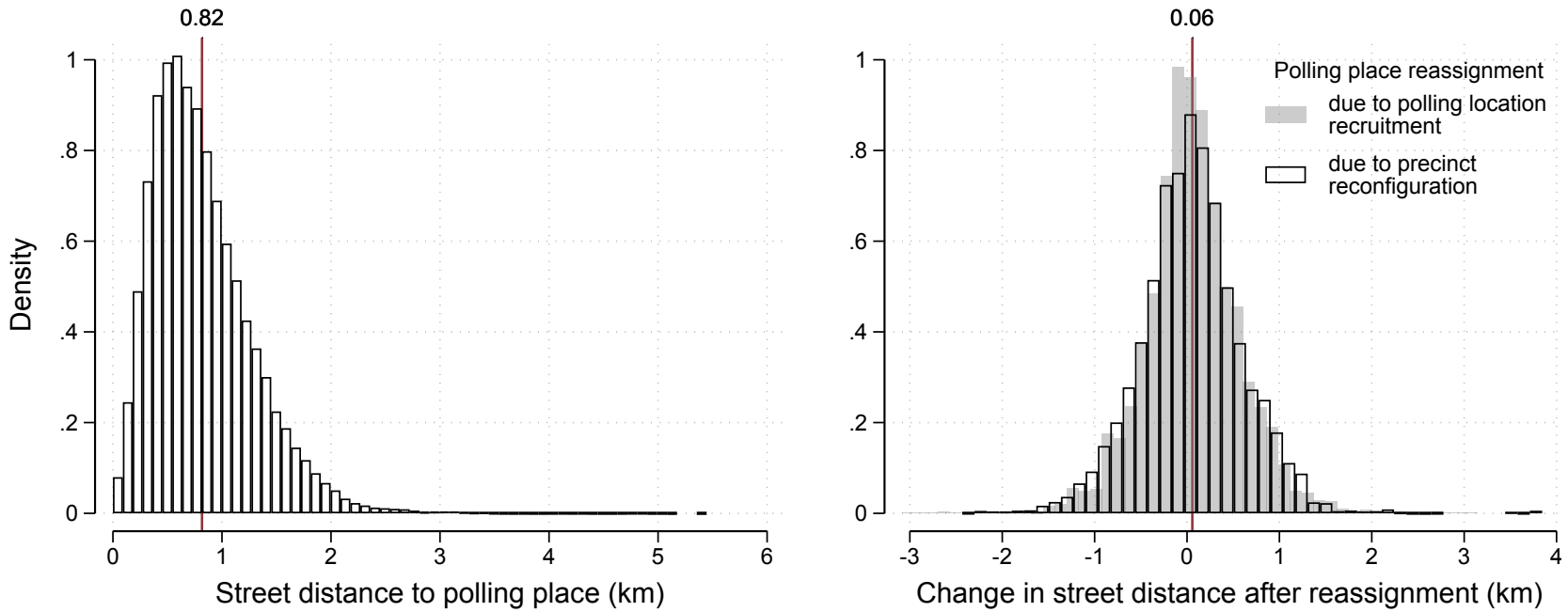
→ Reconfiguration of precincts

% Addresses Reassigned to Different PP Relative to Previous Election



Change in Distance at the Address-Level

Densities of Distance and *Change* in Distance to the PP



→ 90% of reassignments change the walking distance by ***less*** than one kilometer

Data & Estimation Sample

All data come from administrative sources (Munich Electoral Office and Statistical Office)

1. **Geolocate** residential addresses and polling locations
2. **Compute distances** b/w addresses and assigned polling places in every election & **identify reassignments**
3. Suppose precinct boundaries as of 2018 and **aggregate to precinct level**
4. **Merge precinct-level variables** (turnout, demographics) to time-invariant precinct delineations

$\Rightarrow$ Panel of 618 precincts with harmonized boundaries

Summary statistics

Model: Summary

Rational choice model of voting with following ingredients:

1. Moving the polling locations *always* generates a reassignment disutility

2. Change in distance increases/decreases cost of voting in-person

3. **Inattention** to reassignments
   - → fraction of polling place voters **miss the deadline** for requesting mail-in ballots
   - → fraction of abstainers **always remain abstainers**
   - → mail-in voters are not inattentive

Model: Implications

Model implies:

- Asymmetric effects by distance:
  - → increase in distance always raises cost of voting in person
  - → decrease in distance only makes in-person voting more attractive when enough to compensate for reassignment disutility

- **Inattention**
  - → **amplifies** shift toward abstention when in-person voting becomes more costly
  - → **weakens** shift from abstention toward in-person voting when in-person voting becomes less costly

Event Study Design

Let E_p = first time a precinct is fully treated (2017 for most), estimate:

$$Y_{pt}^{s} = \sum_{k \neq -1} \mu^{k} \mathbb{1}(\tau = k) + \mathbf{X}_{pt}' \phi + \delta_p + \delta_{d(p)t} + \varepsilon_{pt}, \qquad (1)$$

- precinct p, election held in period $t = 1, 2, ..., 8$
- $\tau \equiv t - E_p$: time relative to the event
- Turnout Y at $s \in \{\text{polling place, mail-in, overall}\}$
- δ_p, $\delta_{d(p)t}$: precinct FE / district-election FE
- $\mathbf{X}_{pt}$: vector of time-varying controls at the precinct level

→ **staggered design**: treatment switches on and *stays* on

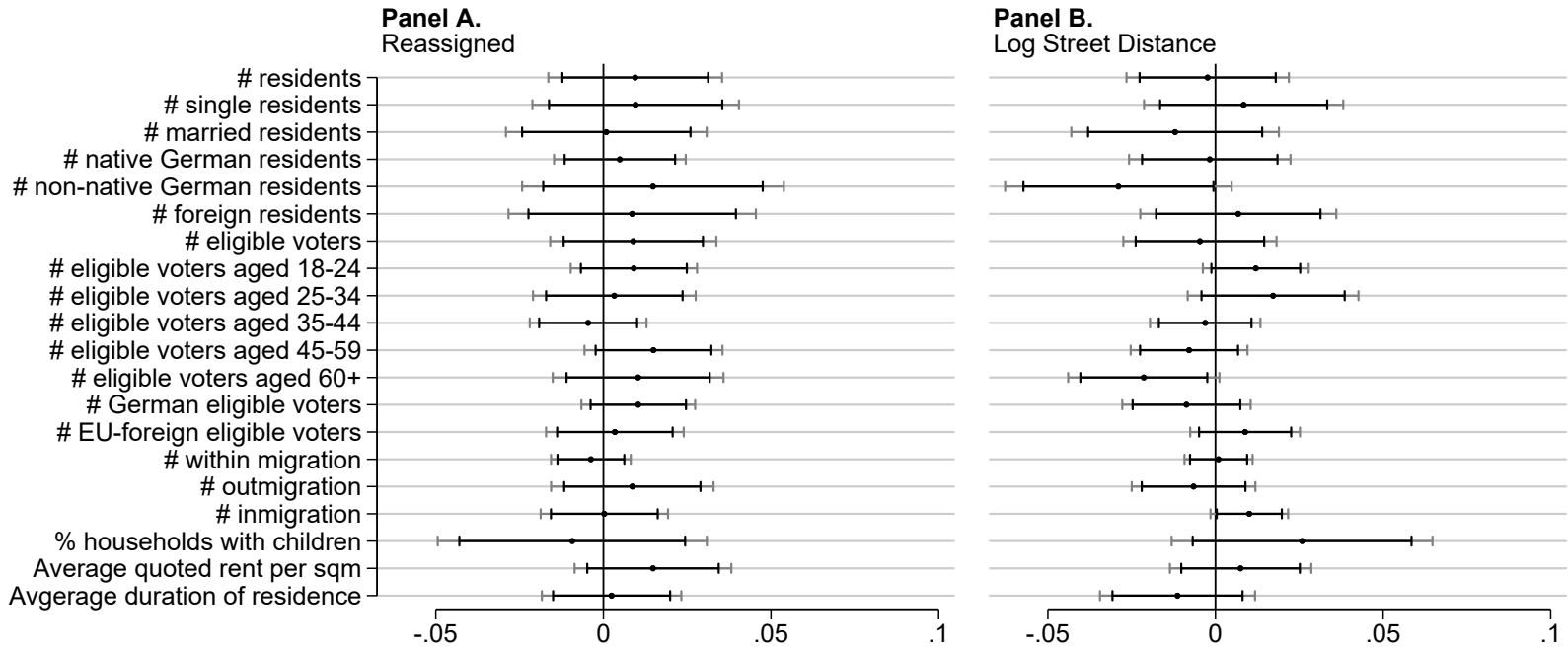
→ obs after possible second treatment are either *dropped* from sample or ignored

→ account for staggered timing using novel DiD estimators

▸ Treatment Timing ▸ Reassignment density

Reassignment Timing

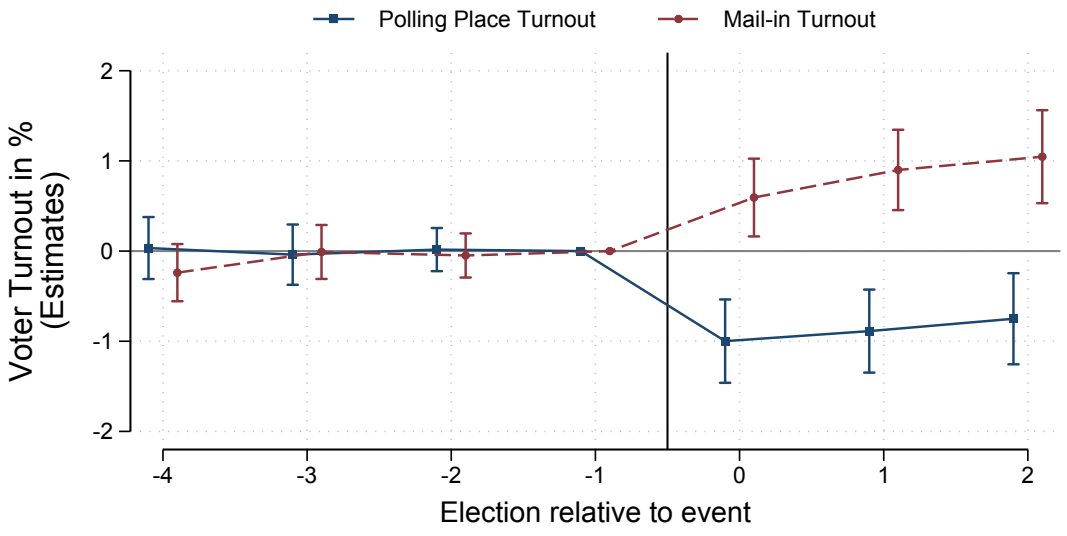
→ Is the reassignment timing correlated with *changes* in precinct characteristics? No.



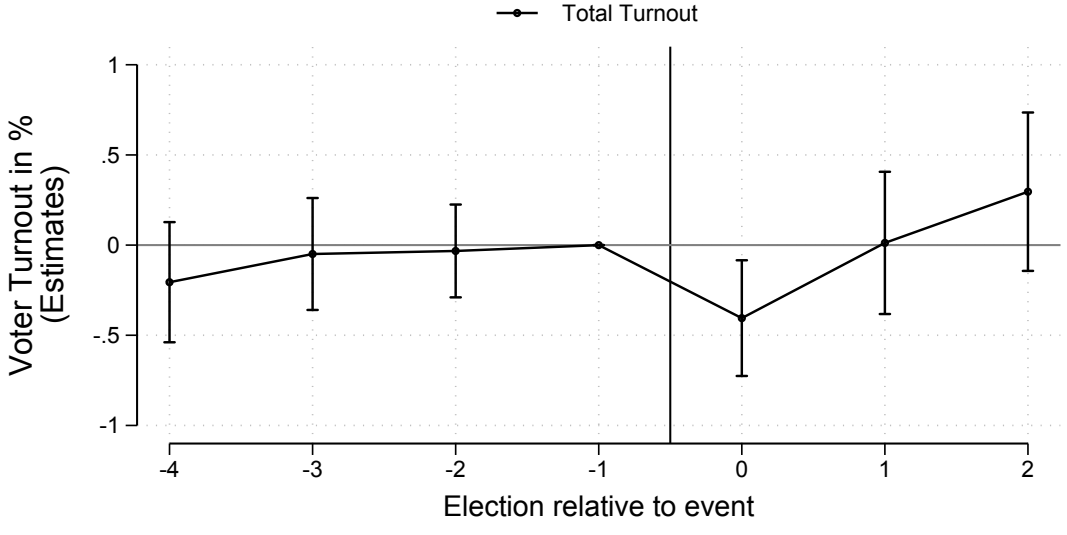
Notes: Each coefficient is standardized and comes from a separate univariate OLS regression including election and precinct FE. Outcome in panel A is the share of reassigned addresses. Outcome in panel B is the log street distance to the polling location.

Event Study Results: Effect of an average reassignment

Panel A. Effect on Mail-in and In-person Turnout



Panel B. Effect on Overall Participation

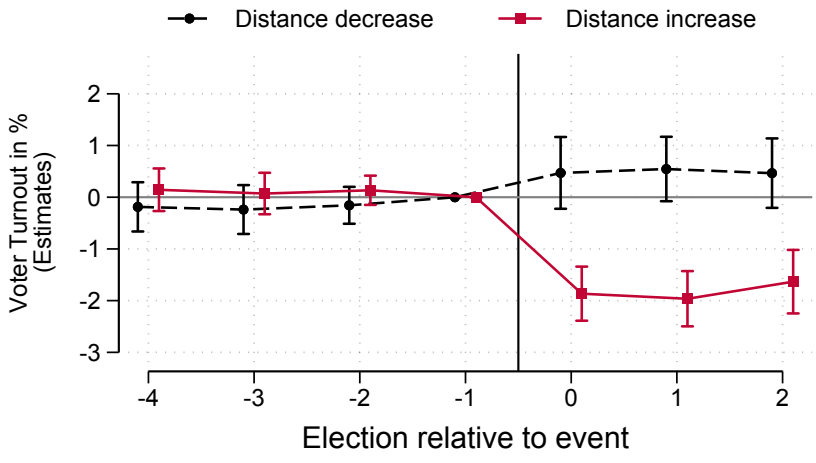


Effect Magnitude

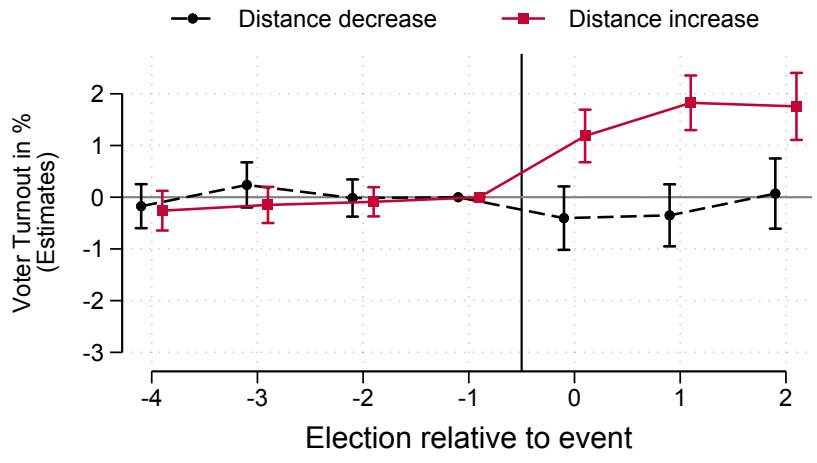
- **persistent substitution** away from in-person toward mail-in voting
- **transitory drop** in overall turnout by 0.5 percentage points (1 percent) equivalent to
  - → ≈ reducing (in-person) early voting days by 2-3 (Kaplan and Yuan, 2020)
  - → ≈ compensate positive turnout effect of newspaper around 1900 (Gentzkow et al., 2011)
  - → contrasts with null effects estimated in the US (correlational) (Clinton et al., 2021; Tomkins et al., 2023)

Effects by Proximity Change to Polling Location (1/2)

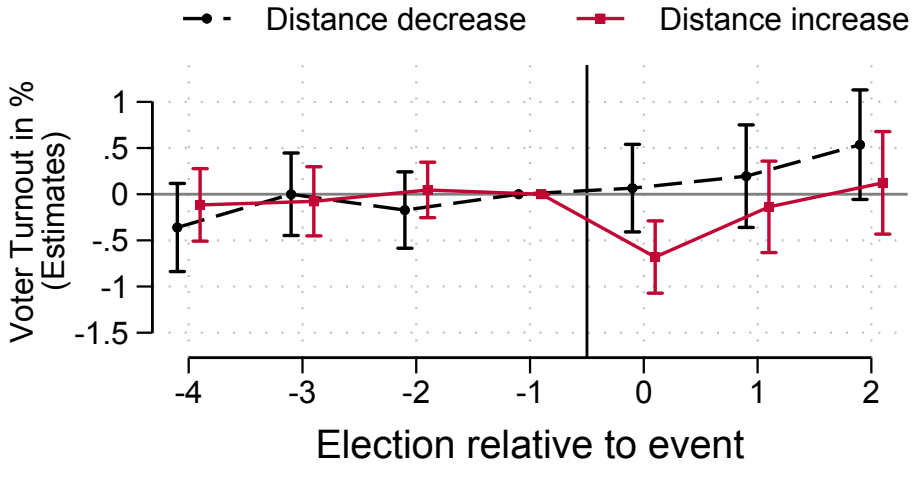
Panel A. Effect on Polling Place Turnout



Panel B. Effect on Mail-in Turnout

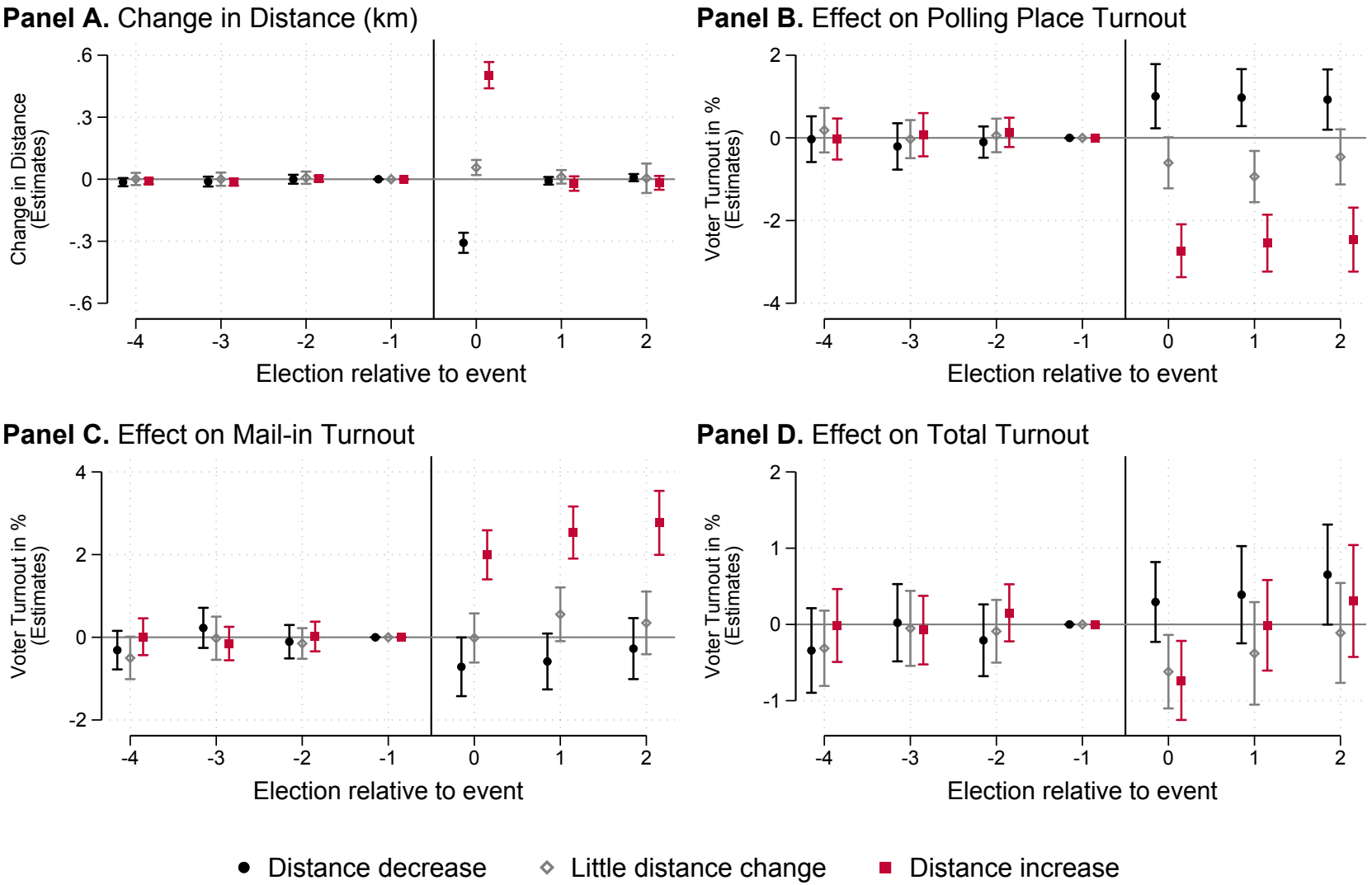


Panel C. Effect on Total Turnout



Reassignment Disutility vs. Distance Effect

Effects by Proximity Change to Polling Location (2/2)



→ PP needs to move 50% closer to voters to offset drop in total turnout

▸ Decomposition

Mechanism

What drives the recovery in voter participation?

Two potential mechanisms:

- **Waning Costs** → Implies recovery driven by increase in in-person turnout
- **Inattention to reassignments** → Implies recovery driven by increase in mail-in turnout

Table: point estimates

Heterogeneity I: Precinct Characteristics

Triple-difference estimator:

$$Y_{pt} = \sum_{k \neq -1} \gamma^k [Z_p \times \mathbb{1}(\tau = k)] + \sum_{k \neq -1} \theta^k \mathbb{1}(\tau = k) + \mathbf{X}'_{pt}\eta + \pi_p + \pi_{d(p)t} + \epsilon_{pt}, \quad (2)$$

- E.g., if Z_p = dummy for "older" precincts

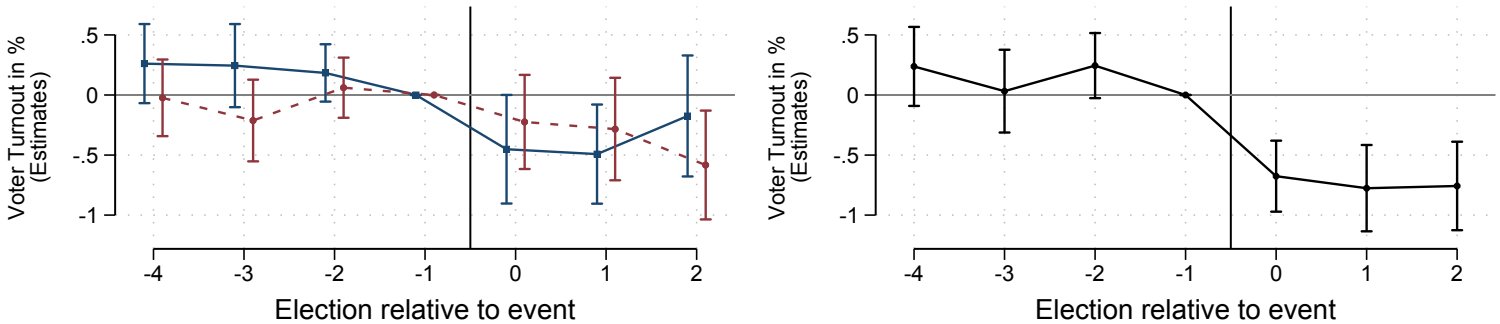
$\rightarrow$ Then, $\hat{\gamma}^k$ trace differential turnout trend in old relative to young (treated) precincts before and after reassignment

- Estimate Eq. 2 for different Z_p, which are continuous, standardized & measured in 2013

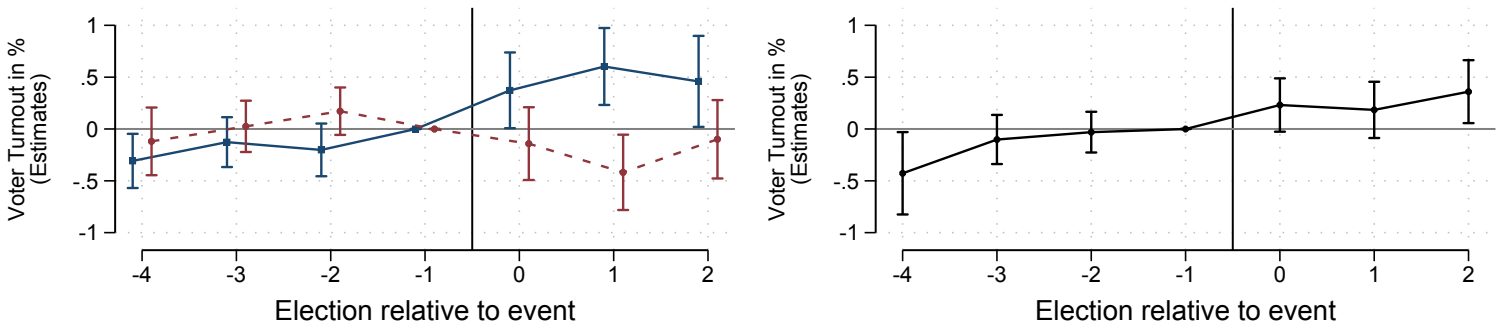
Heterogeneity I: Triple Diff Estimates (1/2)

Outcomes: ■ Polling Place Turnout ● Mail-in Turnout ○ Total Turnout

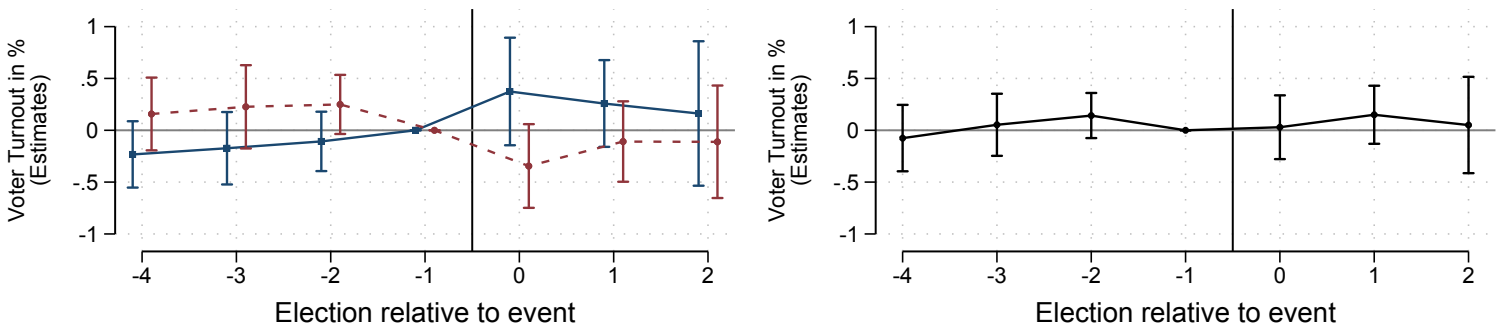
Panel A. Heterogeneity by % electorate aged 60+



Panel B. Heterogeneity by % electorate aged 18-24

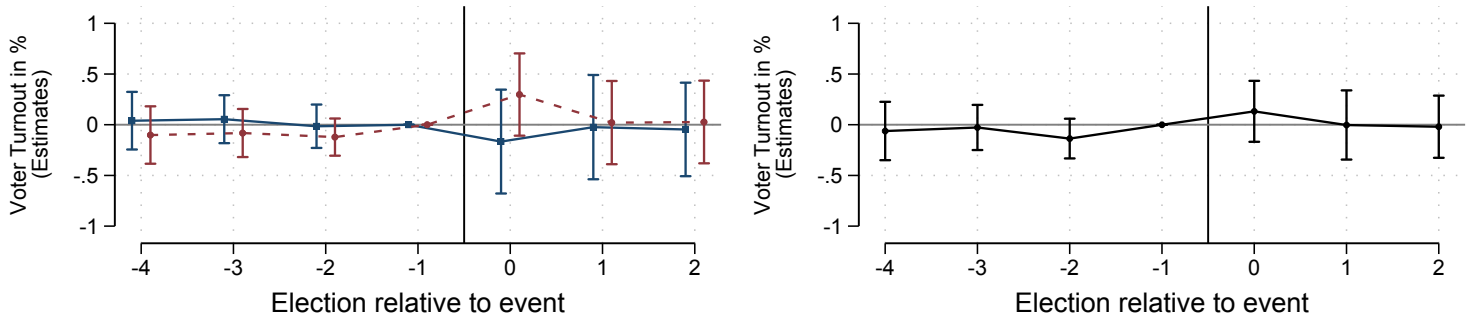


Panel C. Heterogeneity by % households with children

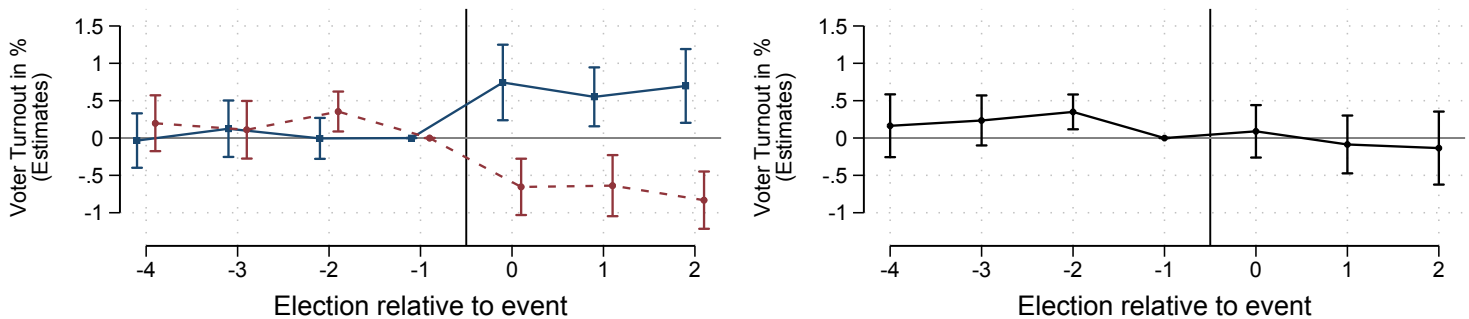


Heterogeneity I: Triple Diff Estimates (2/2)

Panel D. Heterogeneity by average quoted rent per sqm

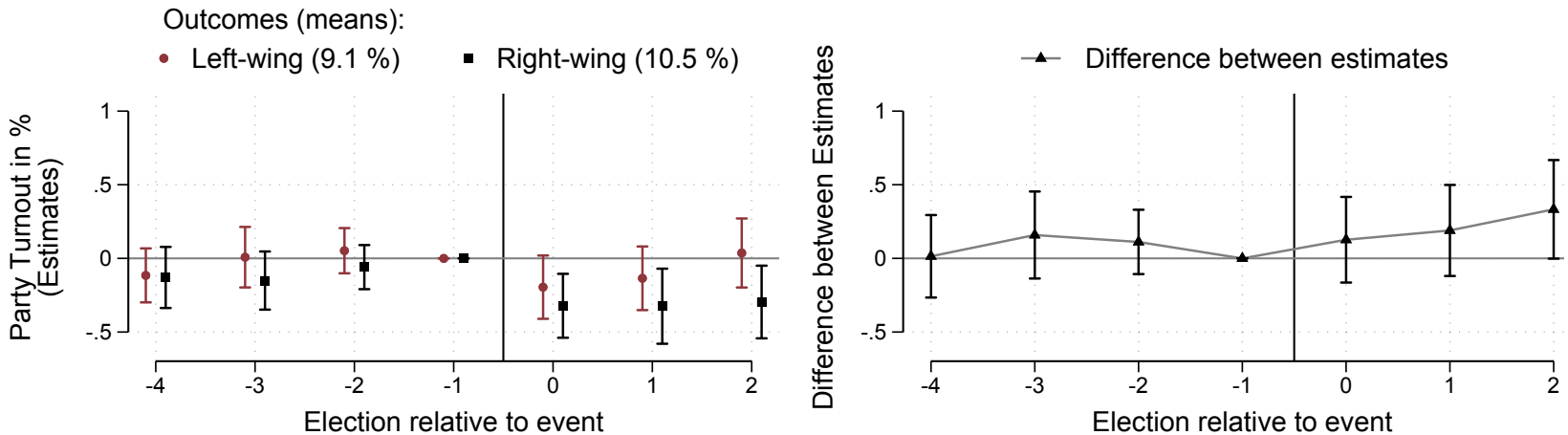


Panel E. Heterogeneity by % Germans with migrant background

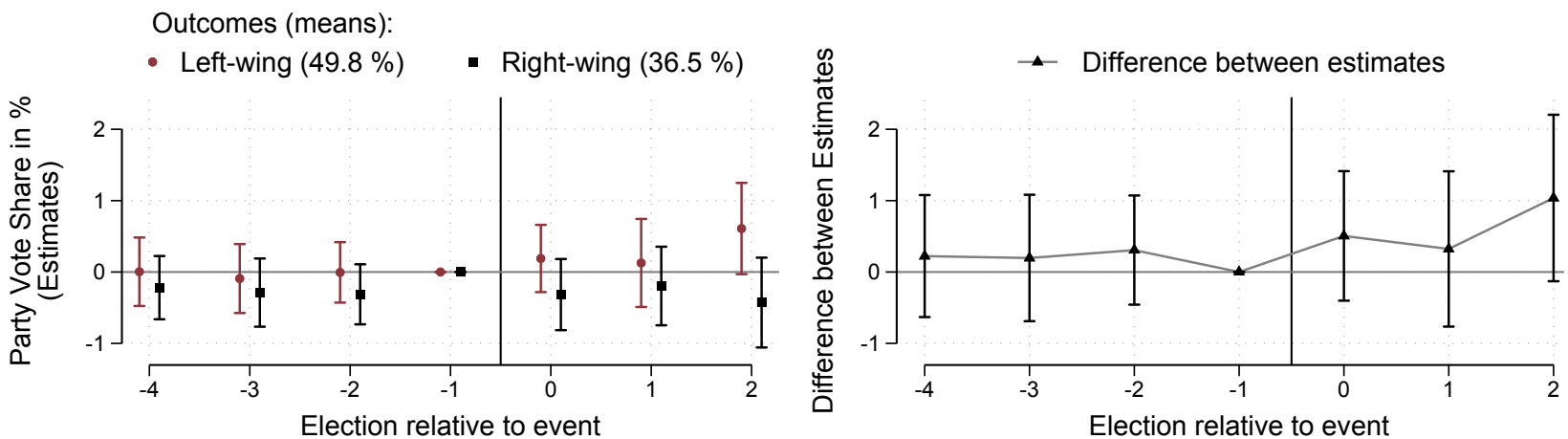


Heterogeneity II: No effect on party outcomes

Panel A. Effect on Party Turnout



Panel B. Effect on Party Vote Shares



Conclusion

- Small shocks to voting costs generate sizable turnout effects
- Well-intentioned policy is on average detrimental for voter participation
- Access to mail-in voting important to compensate for votes lost at the polls
- Policy implication: Increase salience of reassignments ahead of Election Day

Thank you for your attention!

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Related Literature

Determinants of voter participation:

- personal traits (Milligan et al., 2004; Gerber et al., 2016; Ortoleva and Snowberg, 2015)
- contextual factors (e.g., election closeness, place effects) (Bursztyn et al., 2022; Cantoni and Pons, 2022)
- electoral institutions (e.g, voter ID laws, compulsory voting, registration, early voting) (Cantoni and Pons, 2021; Bechtel et al., 2018; Hoffman et al., 2017; Braconnier et al., 2017; Kaplan and Yuan, 2020)

Polling place accessibility:

- Ambiguous turnout effects of distance to the polling place in the US (precinct boundary RD designs) (Cantoni, 2020; Tomkins et al., 2023; Bagwe et al., 2022)
- Correlational evidence of polling place *relocations* on turnout show null or negative effects (Brady and McNulty, 2011; Clinton et al., 2021; Yoder, 2019; Tomkins et al., 2023)

  Contribution: Causal ID + Effect persistence after reassignment shock (inattention) + Mode of voting

Model: Set Up

Set up:

- Two periods $t \in \{0, 1\}$, continuum of eligible voters $i \in [0, 1]$
- Individuals can vote *in-person* (P), *via mail* (M), or *abstain* (A)
- Benefits of voting $B > 0$ and costs of mail-in voting $c^m > 0$ are constant (across time and individuals)
- Two types of voters:
  - share $\alpha \in (0, 1)$, c^{mL} s.t. $U_i^{mL} \equiv B - c^{mL} > 0$
  - share $(1 - \alpha)$, c^{mH} s.t. $U_i^{mH} \equiv B - c^{mH} < 0$
- Cost of in-person voting: $c_{i,t}^p = \gamma dist_{i,t} + \epsilon_t$, with $\gamma > 0$, $\epsilon_0 = 0$

Model: Period 0

- Rank individuals s.t. $dist_{i,t}$ is continuous and strictly increasing in i
- **For simplicity:** $dist_{i,t} = k^t i$, and $k^0 = 1$

$\rightarrow$ Net utility in-person voting in $t = 0$: $U^p_{i,0} = B - \gamma dist_{i,0}$

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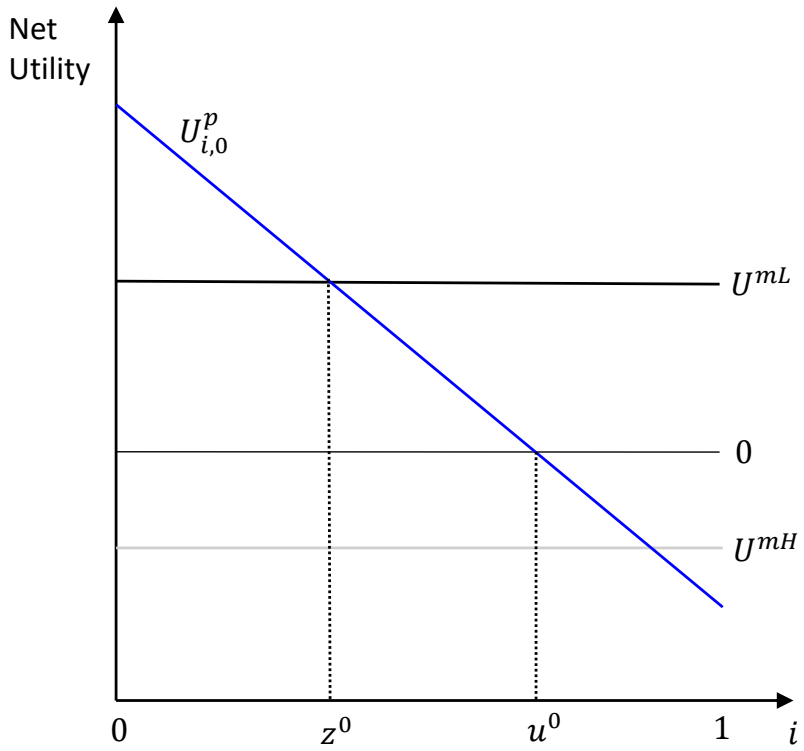

Turnout in period 0:

- in-Person: $P^0 = z_0 + (1 - \alpha)u_0$
- via mail: $M^0 = \alpha(1 - z_0)$
- total turnout: $T^0 = u_0 + \alpha(1 - u_0)$

Model: Period 1

Polling place reassignment:

- changes distance: $dist_{i_t} = k^1 i$ with $k^1 > 0$
- introduces $\epsilon_1 > 0$ (disutility of going to unfamiliar place)

$\rightarrow$ Net utility of in-person voting: $U^p_{i,1} = B - \gamma dist_{i,1} - \epsilon_1$

For example, suppose $k^1 > 1$: Distance $\uparrow$ (proportionally) $\forall i$

Model: Period 1

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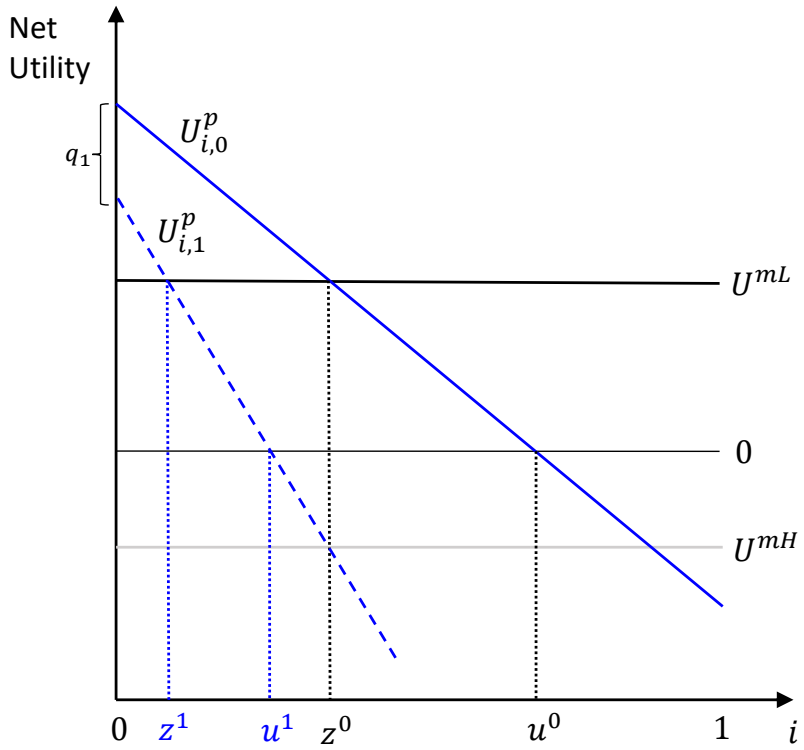
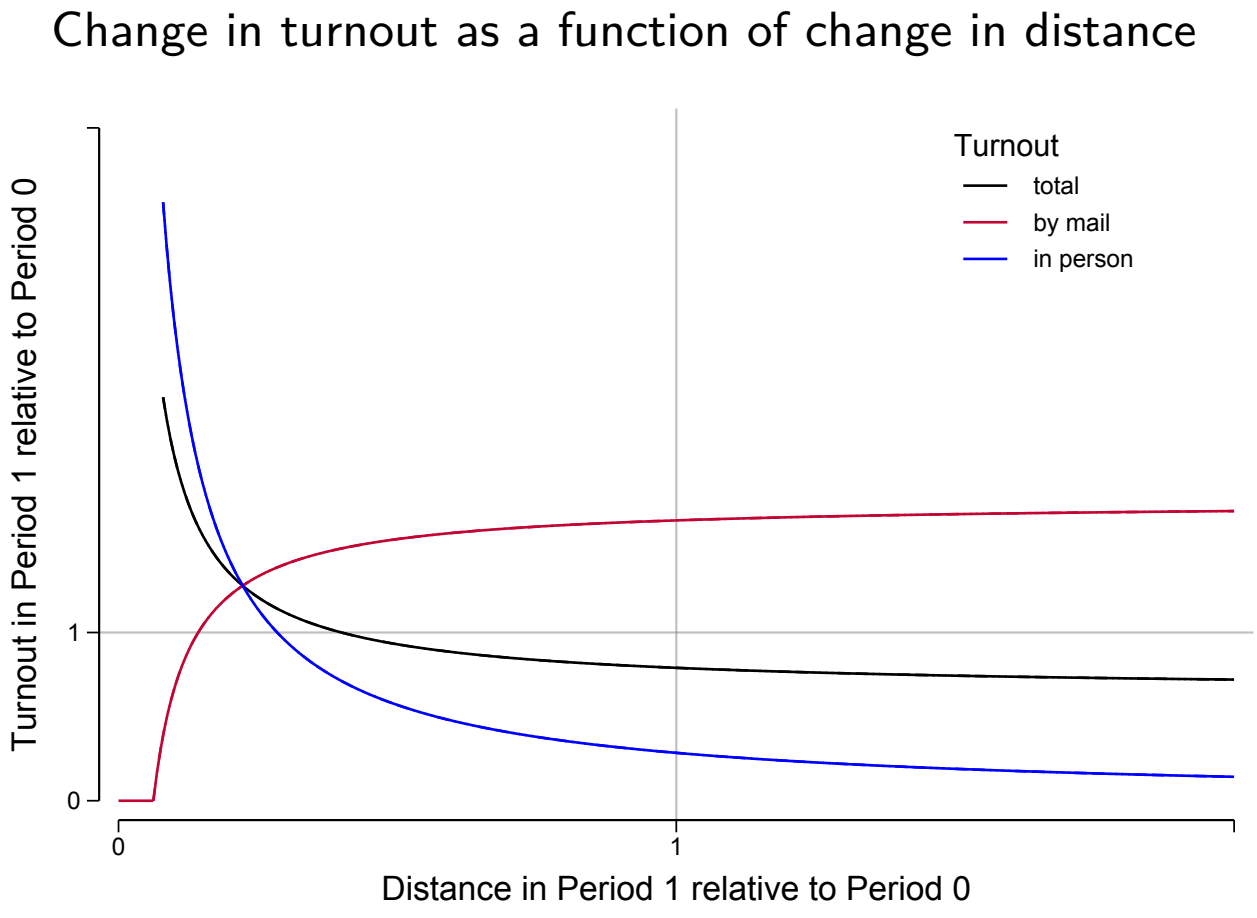


Relative change in turnout:

- in-person: $P^1/P^0 = [z_1+(1-\alpha)u_1]/[z_0+(1-\alpha)u_0]$
- via mail: M^1/M^0
- total turnout: T^1/T^0

Model: Change in Turnout

$\rightarrow$ compute the *relative change* in turnout (in-person, mail, and overall) as a fct of *relative change* in distance



Model: Inattention

The Elections Office *does not* inform of reassignments

→ **inattentive** voters may be surprised by reassignment (or miss it completely)

Suppose

- Share $\theta \in [0,1]$ of $i \in P^0$ is **inattentive**

→ In-person voters are surprised by reassignment on Election Day (cannot vote by mail t1)

- Share $\pi \in [0,1]$ of $i \in A^0$ is **inattentive**

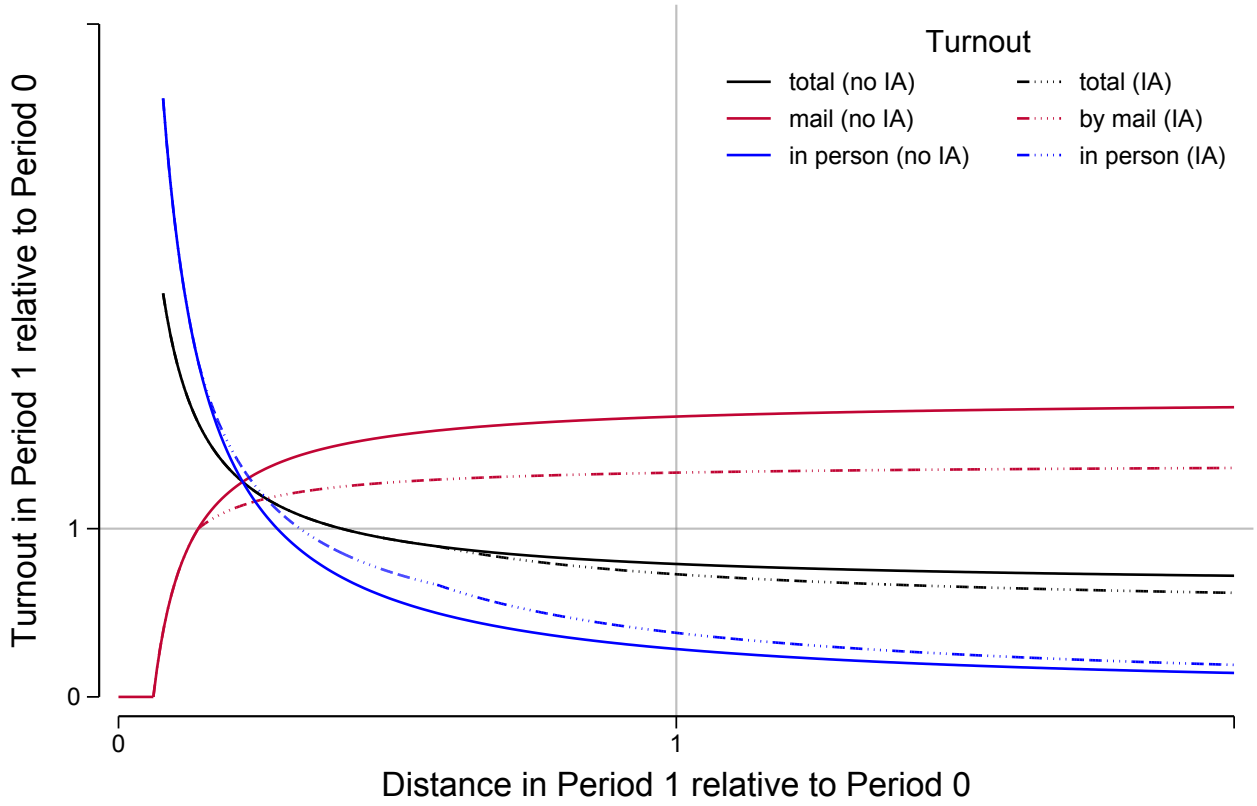
→ Inattentive Abstainers do not realize reassignment at all (stay abstainers t1)

- Mail-in voters $i \in M^0$ are **not** inattentive

Model: Change in Turnout and Inattention

$\rightarrow$ Only in-person voters inattentive ($\theta > 0, \pi = 0$)

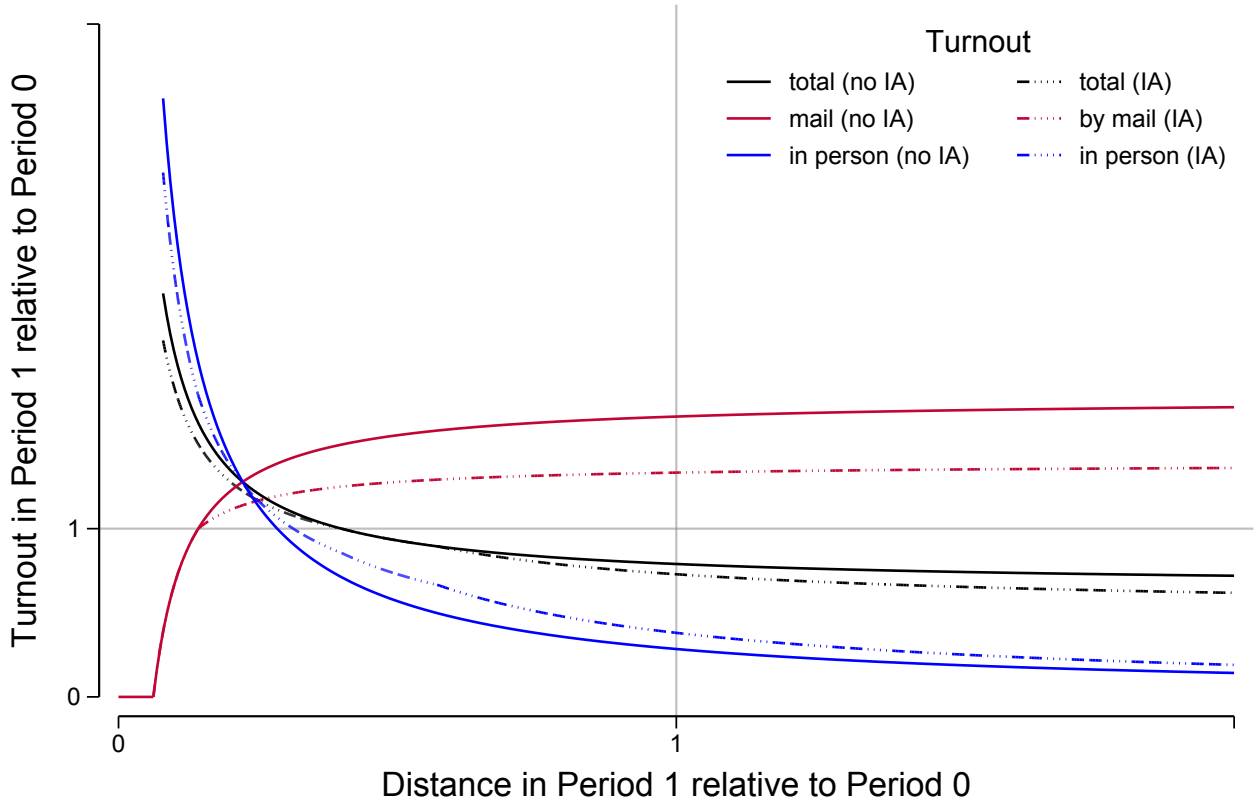
Change in turnout as a function of change in distance with inattention



Model: Change in Turnout and Inattention

$\rightarrow$ in-person voters and abstainers inattentive ($\theta > 0, \pi > 0$)

Change in turnout as a function of change in distance WITH inattention



Model: Summary

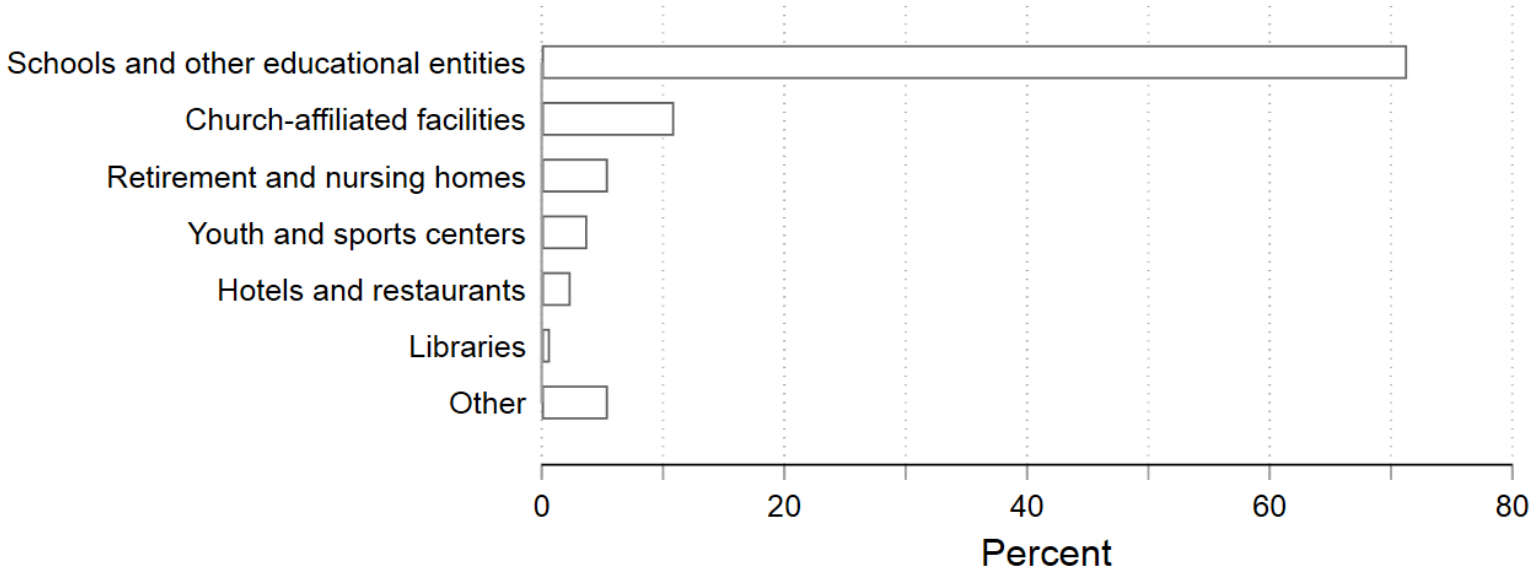
Model implies:

- Asymmetric effects by distance:
  - → decrease in distance only makes in-person voting more attractive when enough to compensate for reassignment disutility
  - → increase in distance always raises cost of voting in person

- **Inattention**
  - → **amplifies** shift toward abstention when in-person voting becomes more costly
  - → **weakens** shift from abstention toward in-person voting when in-person voting becomes less costly

Appendix

Types of Polling Place Venues (293 observations)



return

Reassignment Disutility vs. Distance Effect

Event Study Estimates Conditional on Log Street Distance

	Turnout at the Polling Place		Turnout by Mail		Total Turnout	
	(1)	(2)	(3)	(4)	(5)	(6)
Log Street Distance	-3.31***	-3.36***	2.56***	2.56***	-0.75***	-0.79***
	(0.26)	(0.26)	(0.25)	(0.26)	(0.22)	(0.23)
Reassignment $(t-4)$	0.02	-0.15	-0.23	-0.07	-0.21	-0.22
	(0.17)	(0.19)	(0.16)	(0.17)	(0.17)	(0.17)
Reassignment $(t-3)$	-0.08	-0.09	0.02	-0.07	-0.06	-0.17
	(0.17)	(0.20)	(0.15)	(0.20)	(0.16)	(0.17)
Reassignment $(t-2)$	0.03	0.16	-0.06	-0.16	-0.03	0.00
	(0.12)	(0.14)	(0.12)	(0.14)	(0.13)	(0.15)
Reassignment $(t+0)$	-0.55***	-0.65***	0.25	0.21	-0.30*	-0.44***
	(0.21)	(0.22)	(0.21)	(0.23)	(0.16)	(0.17)
Reassignment $(t+1)$	-0.62***	-0.63***	0.70***	0.69***	0.07	0.06
	(0.20)	(0.23)	(0.20)	(0.22)	(0.20)	(0.20)
Reassignment $(t+2)$	-0.44*	-0.44*	0.81***	0.78***	0.37	0.33
	(0.23)	(0.24)	(0.24)	(0.26)	(0.23)	(0.24)
R^2	0.98	0.97	0.96	0.95	0.99	0.99
Fraction of effect explained by distance	0.39	0.35	0.35	0.34	0.25	0.19
Observations	4,672	4,672	4,672	4,672	4,672	4,672
Precinct FE	×	×	×	×	×	×
Election-District FE	×		×		×	
Election FE		×		×		×

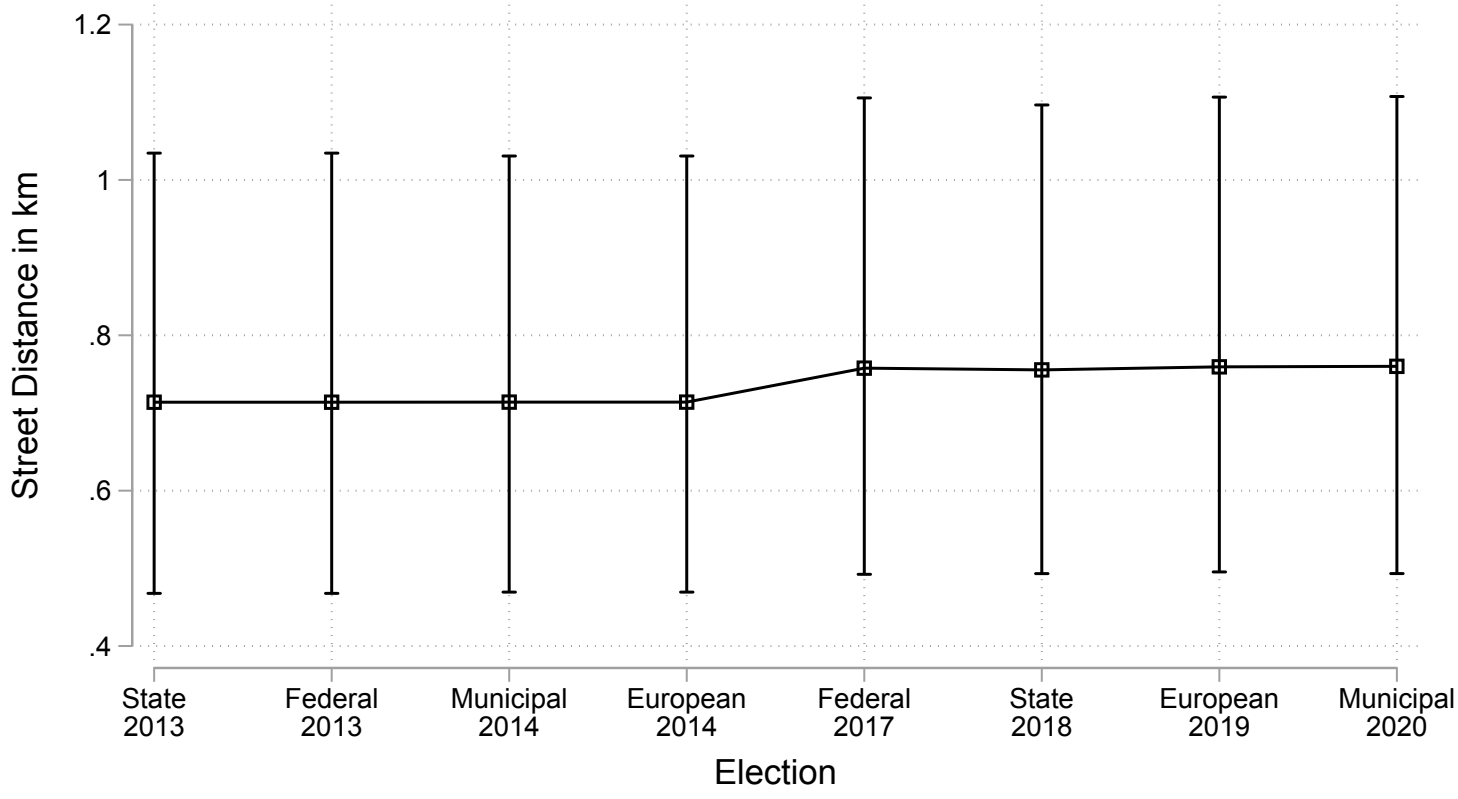
→ PP needs to move 17-19% closer to voters to compensate for reassignment disutility at the polls

→ 50% reduction to compensate for drop in total turnout

◂ Return

Appendix

Median and Interquartile Range of Distance to the Polling Place



return

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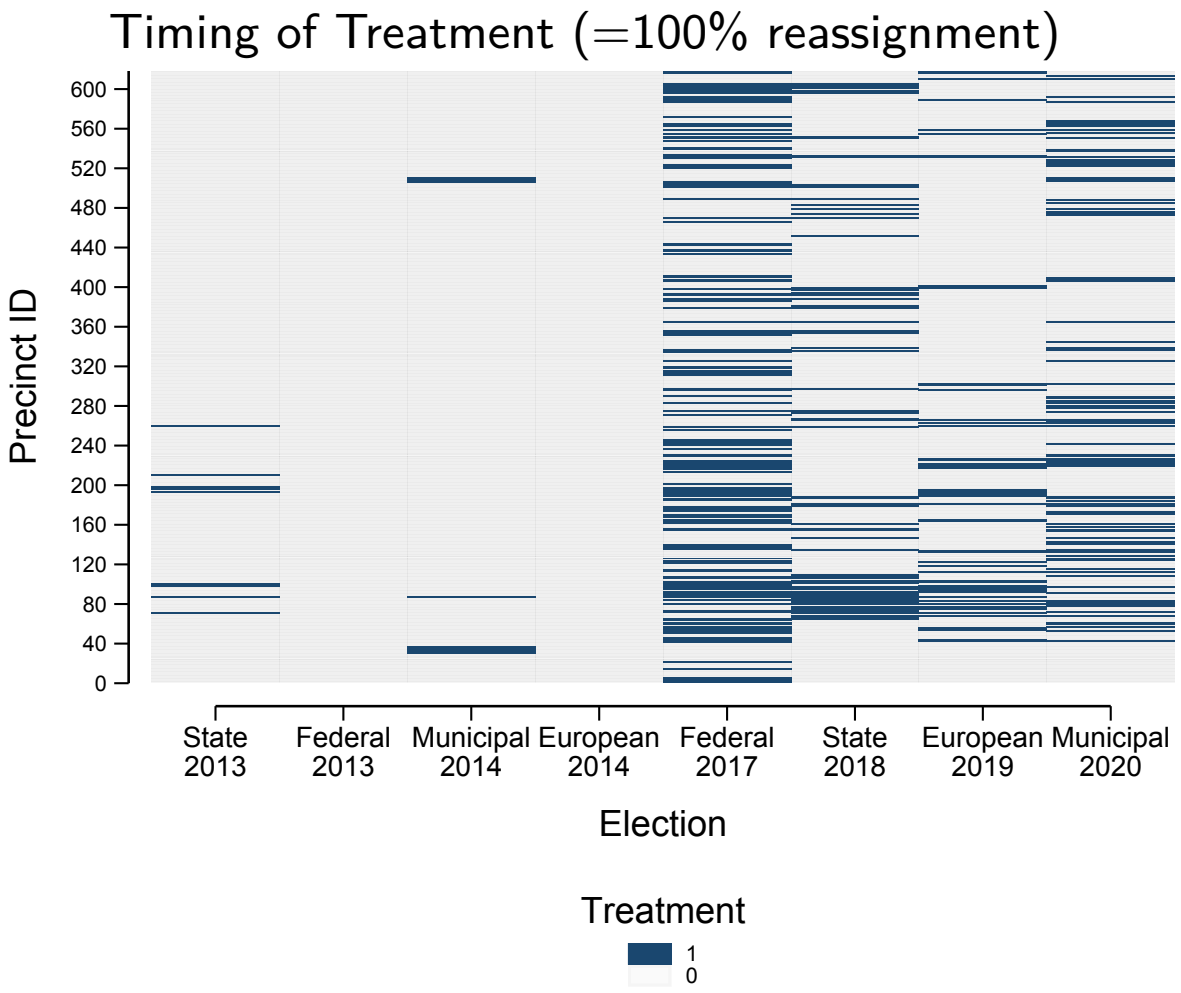


Out of **618** precincts:

- 340 never-treated units
- 150 treated **once**
- 128 treated more than once

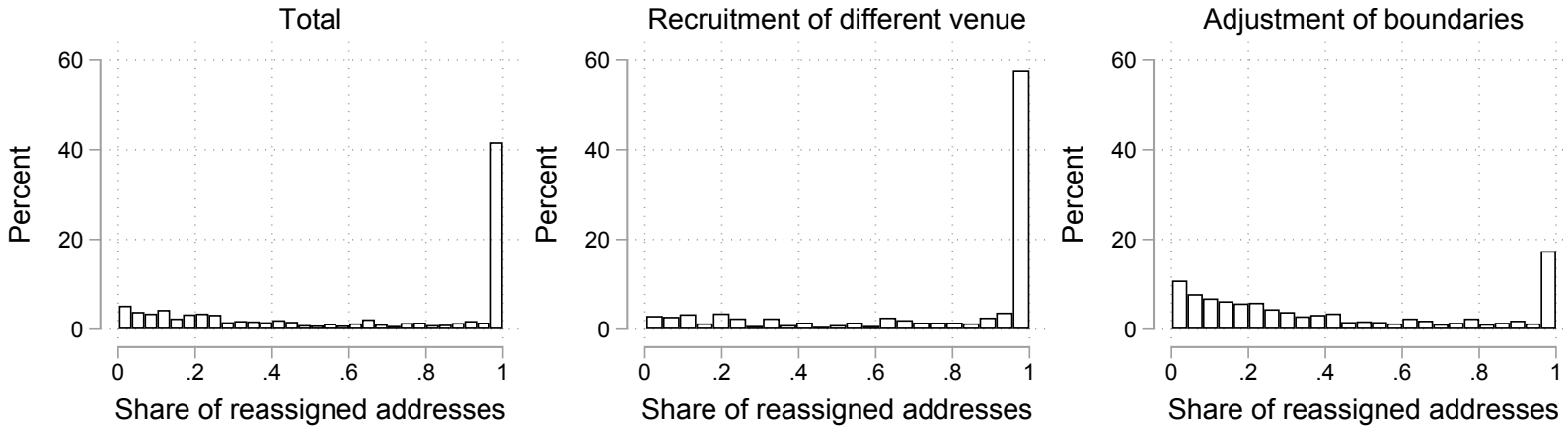
Timing of **first** treatment:

- 62%: Federal 2017
- 13%: State 2018
- 14%: Municipal 2020
- 4%: European 2019
- 3.5%: State 2013
- 3.5%: Municipal 2014

return

Appendix

Density of Reassignment Intensity at the Precinct Level



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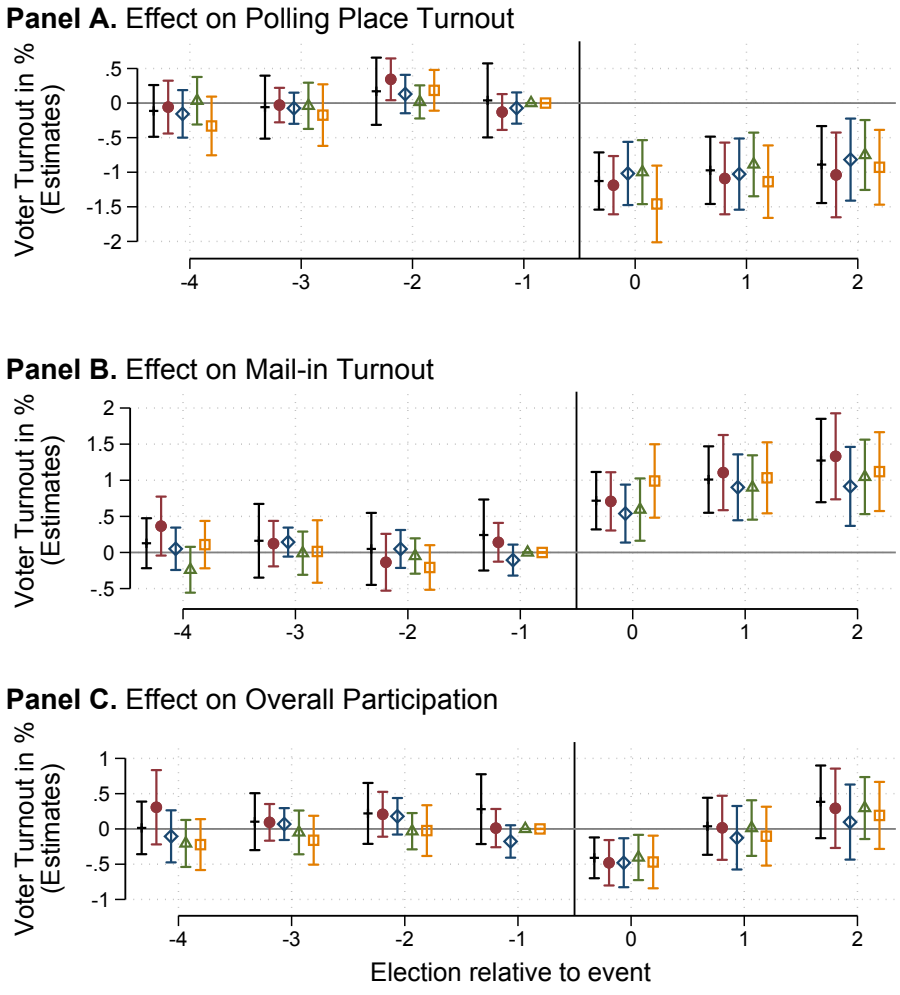
Appendix

Robustness to Novel DiD Estimators



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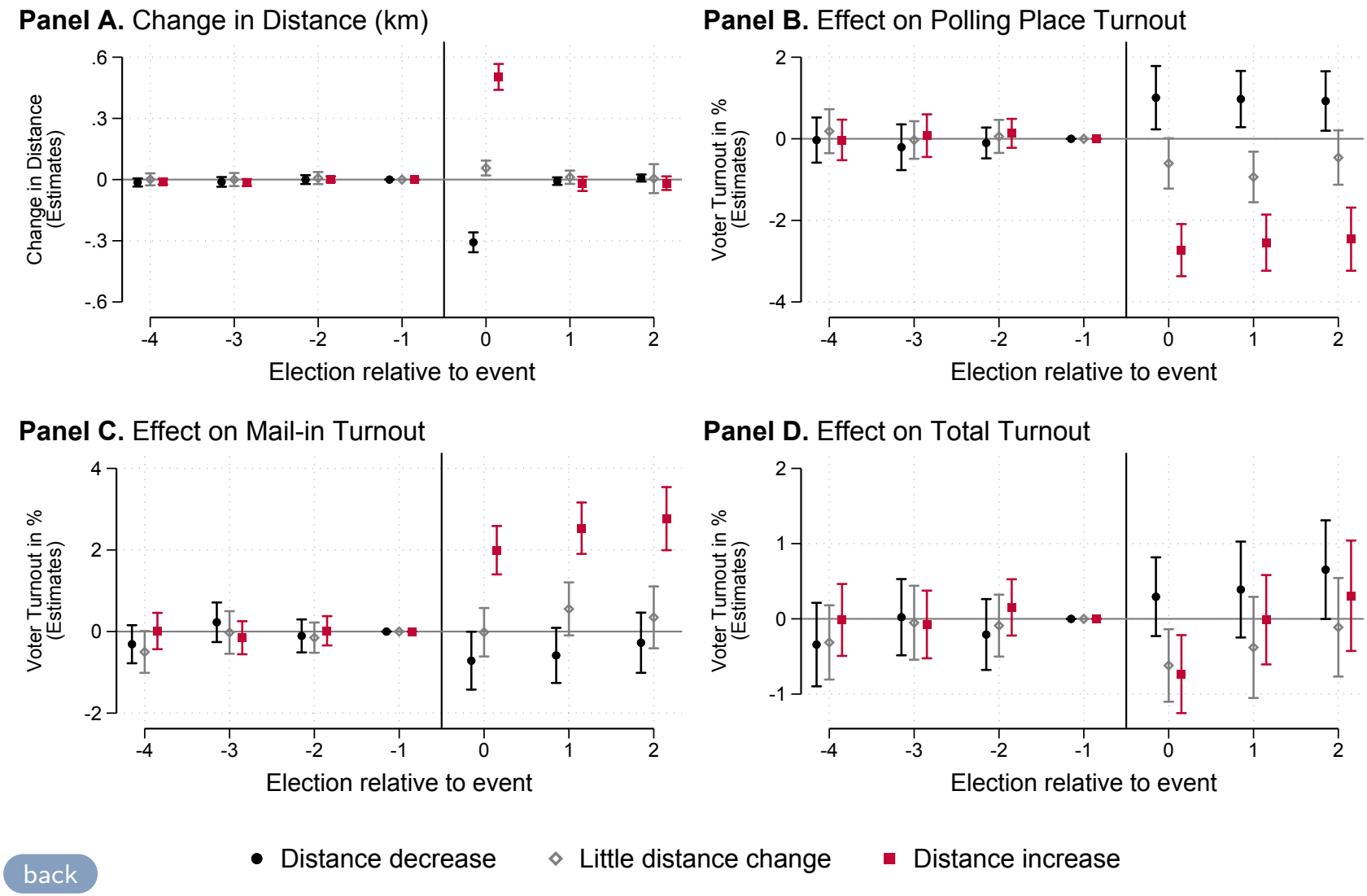
Appendix

Effects by Change in Proximity to Polling Location



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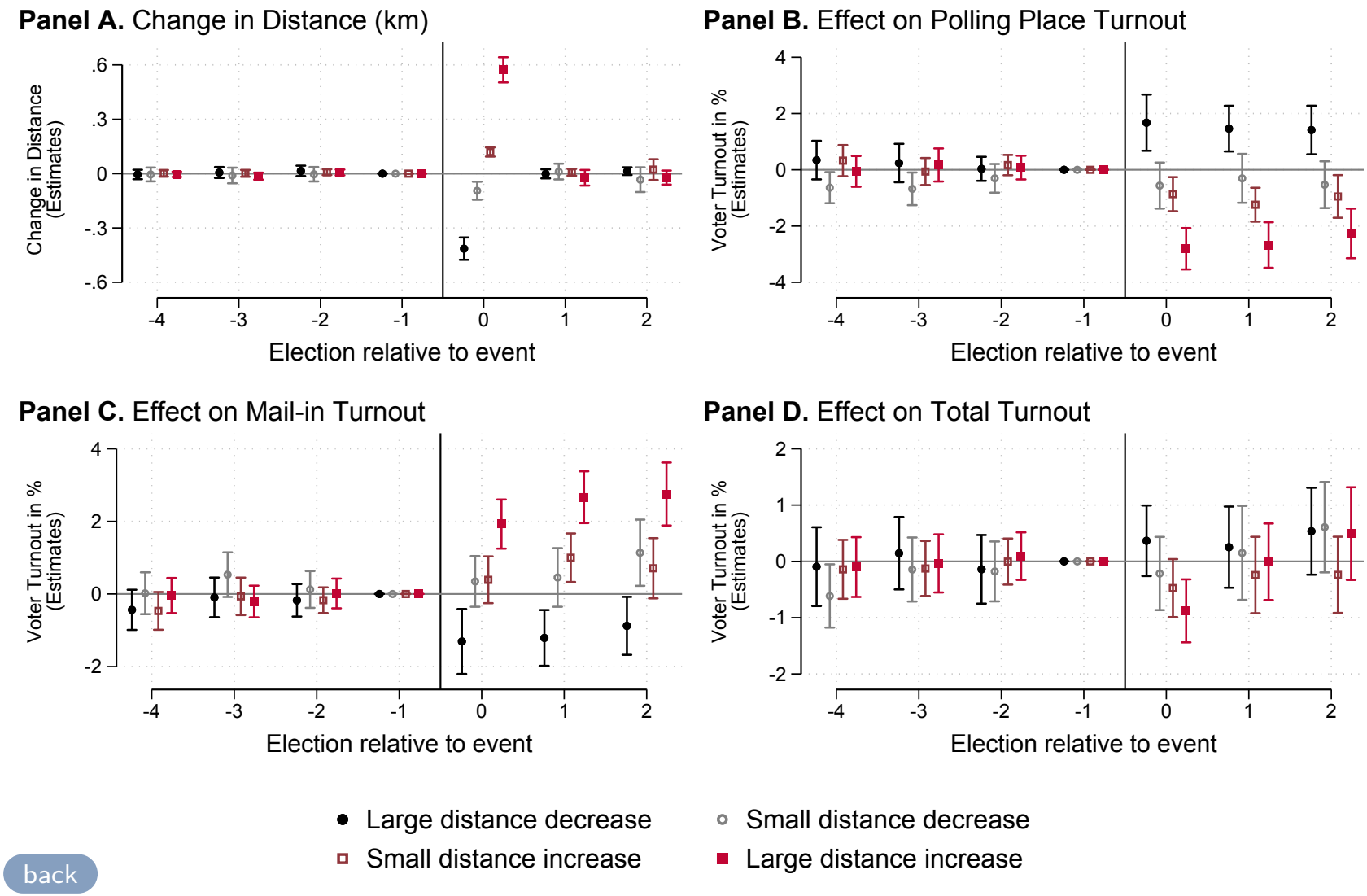
Appendix

Effects by Change in Proximity to Polling Location



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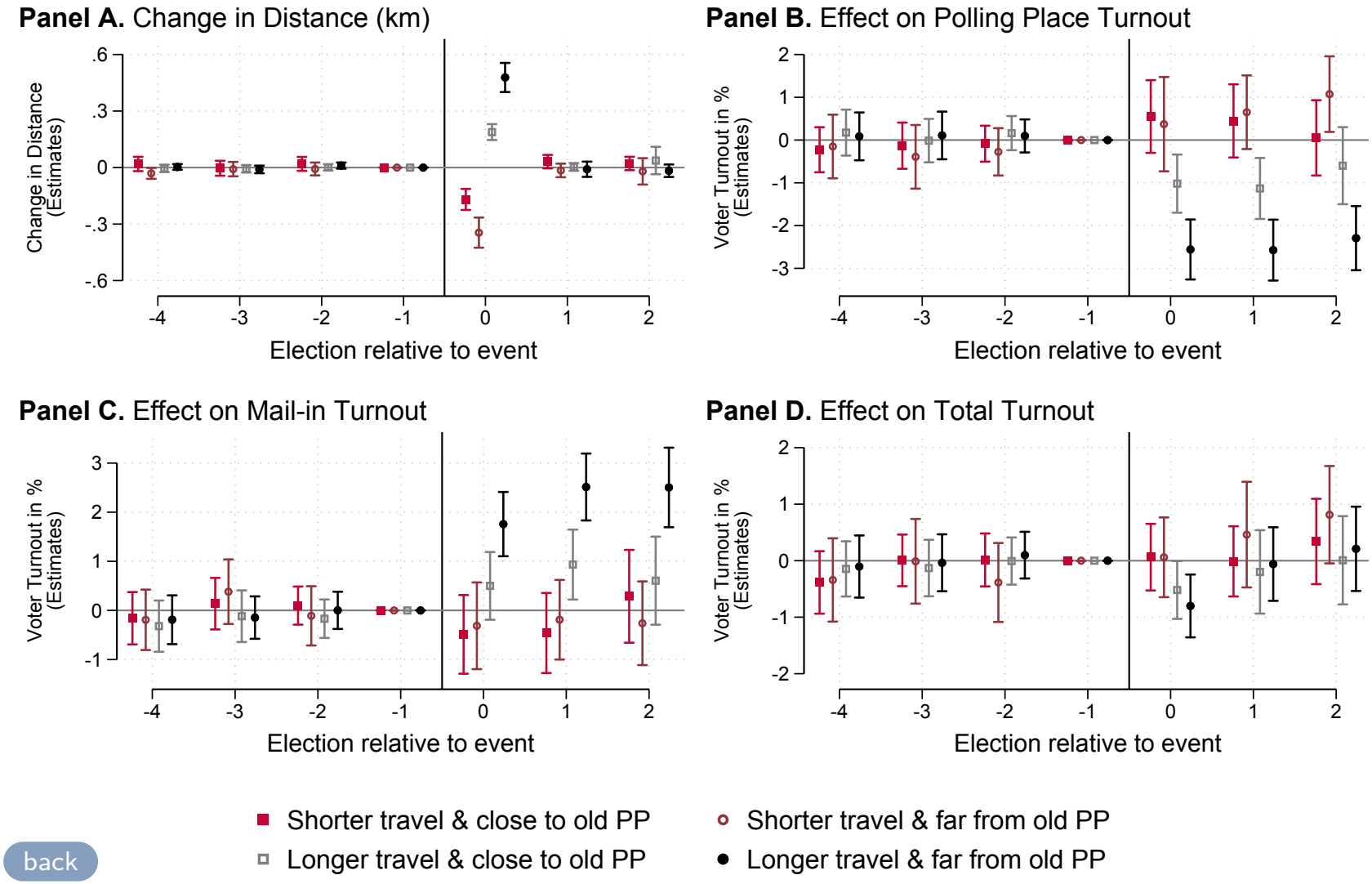
Effects by Change in Distance between old and new PP



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Appendix:Inattention vs. Waning Costs

Differences between point estimates in $k = 1$ and $k = 0$

	(1) Mail-in turnout	(2) Polling place turnout	(3) Overall turnout
Panel A: Differences based on event study estimates restricted to precincts with increased distance			
BJS (2021)	0.73***	-0.21	0.52**
dChDH (2020)	0.87***	-0.33	0.54**
TWFE-OLS	0.72***	-0.05	0.67***
SA (2020)	0.33	0.14	0.48**
CS (2021)	0.98***	-0.31	0.67**
Panel B: Differences based on event study estimates after absorbing transportation effect			
BJS (2021)	0.45**	-0.06	0.39**
dChDH (2020)	0.53***	-0.13	0.40**
TWFE-OLS	0.48***	0.01	0.50***
SA (2020)	0.13	0.20	0.34**
CS (2021)	0.32*	0.06	0.38*

→ Turnout recovery entirely driven by increase in **mail-in** voting: consistent with inattention

→ **In-person** turnout tends to further decline

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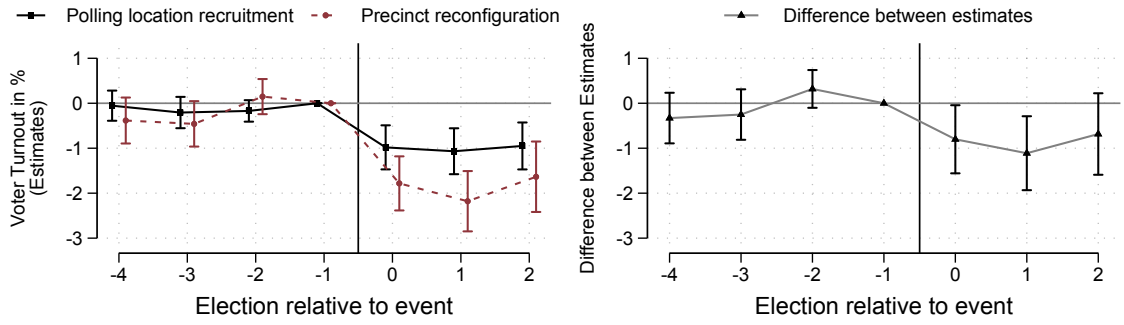
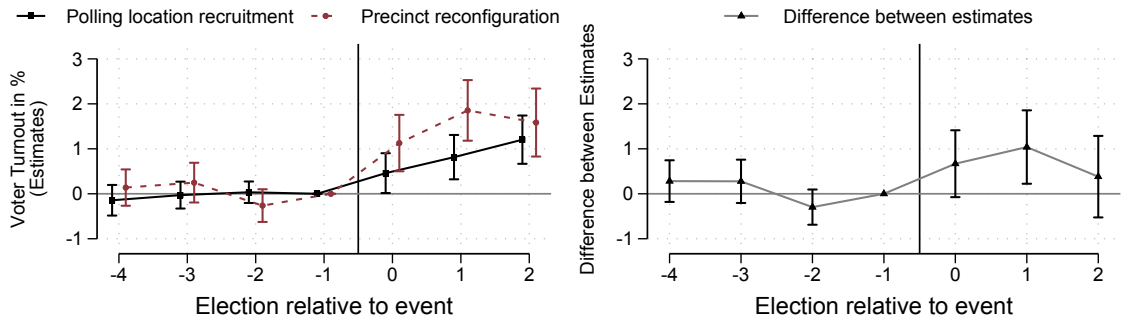
Appendix: Heterogeneity by Reassignment Reason

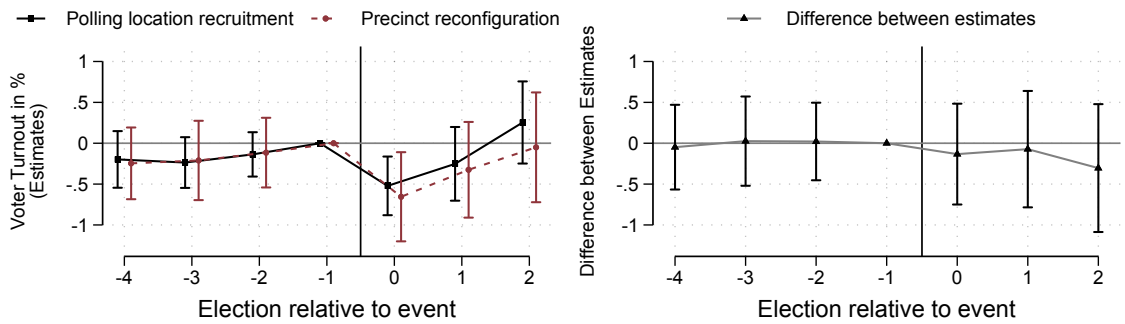
Panel A. Effect on Polling Place Turnout



Panel B. Effect on Mail-in Turnout



Panel C. Effect on Total Turnout



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Appendix

Summary Statistics of Precinct Characteristics

	Mean	Std. Dev.	Min	p25	Median	p75	Max
Outcome Variables							
Polling Place Turnout	34.24	9.04	9.94	26.18	35.54	41.70	55.86
Mail-in Turnout (Requested Polling Cards)	28.92	7.64	4.01	23.10	29.46	34.70	51.99
Overall Turnout	63.15	14.57	15.10	51.20	65.27	75.26	91.72
Variables of Interest							
Avg. Street Distance to the Polling Place (km)	0.71	0.34	0.16	0.47	0.63	0.87	2.83
Share of Reassigned Residential Addresses	0.14	0.32	0.00	0.00	0.00	0.00	1.00
Share Reassigned (Precinct Reconfiguration)	0.05	0.19	0.00	0.00	0.00	0.00	1.00
Share Reassigned (Recruitment of Polling Location)	0.08	0.26	0.00	0.00	0.00	0.00	1.00
Other Precinct Characteristics							
Number of Residents	2,428	403	758	2,169	2,325	2,591	6,272
% Residents Eligible to Vote	65.35	9.15	24.62	60.22	66.42	71.70	86.93
% Non-native German Residents	14.68	4.35	5.50	11.70	13.48	16.45	35.78
% Native German Residents	59.77	11.35	21.00	52.75	61.80	68.11	83.97
% EU Foreigners	12.90	3.97	4.00	10.13	12.38	14.99	36.05
% Non-EU Foreigners	12.66	6.18	1.91	7.97	11.49	16.06	50.82
% Single Residents	49.73	7.34	35.28	43.72	48.84	55.02	80.20
% Married Residents	37.29	6.49	15.50	32.28	37.43	42.77	51.84
% Electorate Aged 18–24	8.74	2.87	2.41	7.20	8.25	9.64	49.07
% Electorate Aged 25–34	21.15	6.57	7.40	15.73	20.83	26.01	42.30
% Electorate Aged 35–44	17.92	4.00	6.30	15.23	17.37	20.08	34.70
% Electorate Aged 45–59	24.62	3.97	4.85	21.97	24.40	27.25	45.32
% Electorate Aged 60+	27.57	8.39	2.61	21.30	27.57	33.29	63.80
% EU Foreigners in the Electorate	8.29	9.13	0.00	0.00	2.70	15.81	46.39
% Households with Children	17.53	6.08	5.31	13.35	16.69	20.43	58.75
Avg. Duration of Residence	21.69	4.45	6.80	18.53	21.72	24.51	45.11
Avg. Quoted Rent per sqm	17.42	4.54	6.69	13.67	16.45	20.30	43.92

return

Appendix: Robustness to Alternative Clustering

	(1) Cluster Precinct (baseline)	(2) TW Cluster Precinct+ Election-District	(3) Wild Cluster Bootstrap Precinct	(4) Wild Cluster Bootstrap District	(5) Wild Cluster Bootstrap District
Panel A: Effect on Turnout at the Polling Place					
Reassignment $(t-4)$	0.03	0.03	0.03	0.03	-0.11
	(0.18)	(0.19)	[0.865]	[0.870]	[0.561]
Reassignment $(t-3)$	-0.04	-0.04	-0.04	-0.04	-0.03
	(0.17)	(0.19)	[0.820]	[0.837]	[0.872]
Reassignment $(t-2)$	0.02	0.02	0.02	0.02	0.16
	(0.12)	(0.14)	[0.904]	[0.886]	[0.342]
Reassignment $(t+0)$	-1.00***	-1.00***	-1.00***	-1.00***	-1.07***
	(0.24)	(0.26)	[0.000]	[0.000]	[0.001]
Reassignment $(t+1)$	-0.89***	-0.89***	-0.89***	-0.89***	-0.87**
	(0.23)	(0.26)	[0.000]	[0.002]	[0.029]
Reassignment $(t+2)$	-0.75***	-0.75***	-0.75***	-0.75**	-0.70*
	(0.26)	(0.27)	[0.001]	[0.030]	[0.052]
Panel B: Effect on Turnout via Mail					
Reassignment $(t-4)$	-0.24	-0.24	-0.24	-0.24	-0.11
	(0.16)	(0.16)	[0.133]	[0.221]	[0.497]
Reassignment $(t-3)$	-0.01	-0.01	-0.01	-0.01	-0.12
	(0.15)	(0.16)	[0.957]	[0.949]	[0.604]
Reassignment $(t-2)$	-0.05	-0.05	-0.05	-0.05	-0.15
	(0.12)	(0.14)	[0.712]	[0.691]	[0.438]
Reassignment $(t+0)$	0.59***	0.59**	0.59**	0.59**	0.54*
	(0.22)	(0.23)	[0.013]	[0.020]	[0.065]
Reassignment $(t+1)$	0.90***	0.90***	0.90***	0.90***	0.87**
	(0.23)	(0.25)	[0.001]	[0.002]	[0.014]
Reassignment $(t+2)$	1.05***	1.05***	1.05***	1.05***	0.98**
	(0.26)	(0.27)	[0.000]	[0.000]	[0.012]
Panel C: Effect on Total Turnout					
Reassignment $(t-4)$	-0.21	-0.21	-0.21	-0.21	-0.21
	(0.17)	(0.17)	[0.214]	[0.256]	[0.229]
Reassignment $(t-3)$	-0.05	-0.05	-0.05	-0.05	-0.15
	(0.16)	(0.16)	[0.739]	[0.766]	[0.388]
Reassignment $(t-2)$	-0.03	-0.03	-0.03	-0.03	0.00
	(0.13)	(0.13)	[0.806]	[0.839]	[0.993]
Reassignment $(t+0)$	-0.41**	-0.41**	-0.41**	-0.41**	-0.54***
	(0.16)	(0.18)	[0.022]	[0.022]	[0.003]
Reassignment $(t+1)$	0.01	0.01	0.01	0.01	0.00
	(0.20)	(0.21)	[0.951]	[0.955]	[0.982]
Reassignment $(t+2)$	0.30	0.30	0.30	0.30*	0.27
	(0.22)	(0.21)	[0.187]	[0.094]	[0.399]
Observations	4,672	4,672	4,672	4,672	4,672
Number of Clusters	618	200+618	618	25	25
Precinct FE	×	×	×	×	×
Election-District FE	×	×	×	×	
Election FE					×

return

Appendix: Robustness to Event Definition and Fixed Effects

	(1)	(2)	(3)	(4)	(5)
Panel A: Effect on Turnout at the Polling Place [Mean outcome=33.7]					
Reassignment $(t-4)$	-0.02	0.03	0.02	-0.11	-0.16
	(0.19)	(0.18)	(0.18)	(0.20)	(0.16)
Reassignment $(t-3)$	-0.06	-0.04	-0.05	-0.03	-0.30*
	(0.18)	(0.17)	(0.17)	(0.21)	(0.16)
Reassignment $(t-2)$	-0.12	0.02	0.02	0.16	-0.07
	(0.14)	(0.12)	(0.12)	(0.14)	(0.11)
Reassignment $(t+0)$	-1.12***	-1.00***	-1.02***	-1.07***	-1.25***
	(0.25)	(0.24)	(0.23)	(0.24)	(0.20)
Reassignment $(t+1)$	-0.97***	-0.89***	-0.80***	-0.87***	-1.42***
	(0.25)	(0.23)	(0.21)	(0.25)	(0.21)
Reassignment $(t+2)$	-0.75***	-0.75***	-0.53**	-0.70***	-1.19***
	(0.28)	(0.26)	(0.22)	(0.27)	(0.23)
R^2	0.97	0.97	0.97	0.96	0.97
Panel B: Effect on Turnout via Mail [Mean outcome=28.7]					
Reassignment $(t-4)$	-0.21	-0.24	-0.22	-0.11	-0.06
	(0.18)	(0.16)	(0.16)	(0.17)	(0.15)
Reassignment $(t-3)$	0.08	-0.01	-0.00	-0.12	0.06
	(0.16)	(0.15)	(0.15)	(0.20)	(0.14)
Reassignment $(t-2)$	-0.17	-0.05	-0.04	-0.15	-0.07
	(0.13)	(0.12)	(0.12)	(0.14)	(0.11)
Reassignment $(t+0)$	0.52**	0.59***	0.60***	0.54**	0.68***
	(0.23)	(0.22)	(0.22)	(0.23)	(0.19)
Reassignment $(t+1)$	0.87***	0.90***	0.73***	0.87***	1.15***
	(0.24)	(0.23)	(0.21)	(0.24)	(0.21)
Reassignment $(t+2)$	0.90***	1.05***	0.72***	0.98***	1.34***
	(0.29)	(0.26)	(0.23)	(0.28)	(0.23)
R^2	0.95	0.96	0.96	0.95	0.96
Panel C: Effect on Total Turnout [Mean outcome=62.4]					
Reassignment $(t-4)$	-0.23	-0.21	-0.20	-0.21	-0.23
	(0.20)	(0.17)	(0.17)	(0.17)	(0.15)
Reassignment $(t-3)$	0.02	-0.05	-0.05	-0.15	-0.24*
	(0.19)	(0.16)	(0.16)	(0.17)	(0.14)
Reassignment $(t-2)$	-0.29	-0.03	-0.02	0.00	-0.14
	(0.18)	(0.13)	(0.13)	(0.15)	(0.12)
Reassignment $(t+0)$	-0.60***	-0.41**	-0.42**	-0.54***	-0.57***
	(0.20)	(0.16)	(0.16)	(0.17)	(0.16)
Reassignment $(t+1)$	-0.10	0.01	-0.07	0.00	-0.27
	(0.25)	(0.20)	(0.19)	(0.20)	(0.19)
Reassignment $(t+2)$	0.15	0.30	0.19	0.27	0.16
	(0.30)	(0.22)	(0.21)	(0.24)	(0.22)
R^2	0.98	0.99	0.99	0.99	0.99
Observations	4,672	4,672	4,944	4,672	4,528
Controls		×	×	×	×
Precinct FE	×	×	×	×	×
Election-District FE	×	×	×		×
Election FE				×	
Full sample			×		
Event: 100% reassigned	×	×	×	×	
Event: >50% reassigned					×

return