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DOES CONTEXT OUTWEIGH INDIVIDUAL CHARACTERISTICS IN DRIVING VOTING BEHAVIOR? EVIDENCE FROM RELOCATIONS WITHIN THE U.S.

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Does Context Outweigh Individual Characteristics in Driving Voting Behavior? Evidence from Relocations within the U.S.
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ABSTRACT

We measure the overall influence of contextual versus individual factors (e.g., voting rules and media as opposed to race and education) on voter behavior, and explore underlying mechanisms. Using a U.S.-wide voter-level panel, 2008–18, we examine voters who relocate across state and county lines, tracking changes in registration, turnout, and party affiliation to estimate location and individual fixed effects in a value-added model. Location explains 37 percent of the cross-state variation in turnout (to 63 percent for individual characteristics) and an only slightly smaller share of variation in party affiliation. Place effects are larger for young and White voters.

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1 Introduction

Which is a more powerful driver of vote choice: who you are, or where you live? Rival traditions in social science attribute variations in voter preferences and behavior primarily to voters' characteristics or, instead, to the context in which they live. On one hand, large discrepancies in participation (e.g., Wolfinger and Rosenstone, 1980) and policy preferences (e.g., Alesina and La Ferrara, 2005) across voters of different age, race, education, income, and religiosity point to the explanatory role of individual sociodemographic factors. On the other hand, stark differences in partisanship and turnout across countries and states (e.g., Powell, 1986; Johnston et al., 2016) suggest that contextual factors such as voting rules, electoral campaigns, the media environment, and the rate of economic growth also shape the behavior of voters.

Since the groundbreaking work by Siegfried (1913) and Gosnell (1930) in the early 20th century, researchers have built a store of evidence on voting behavior differences across groups and locations. Yet, we still do not know how much individual and contextual factors matter overall. The difficulty comes from the strong correlation between these two sets of factors: due to geographic segregation by ethnicity, age, and income, states and counties vary both in their institutions and their demography, such as racial mix, average age, or affluence (Massey and Denton, 1998; Enos, 2017). To be sure, recent studies have provided compelling causal evidence on the impact on participation and partisanship of *specific* factors, from individual stock ownership to voting technology and the media landscape, by exploiting naturally occurring or experimental variation in the presence of these factors (e.g., DellaVigna and Kaplan, 2007; Fujiwara, 2015; Jha and Shayo, 2019). However, this strategy is not well suited to assess the *overall* importance of the individual and the context. Indeed, factors influencing voter behavior may reinforce or weaken each other, and it is impossible to pinpoint all of them.

In this paper, we estimate the relative influence of individual and contextual drivers of voter behavior. Using individual-level panel data covering the vast majority of the U.S. voting-age population from 2008 to 2018, we follow voters who relocate (henceforth *movers*) as they cross state or county lines, and test whether and to what extent their likelihood to register, vote, and affiliate with the Republican or Democratic Party adjusts to their destination's context. The size of the post-move adjustment reveals the importance of the context.

We make three distinct contributions. First, we decompose the large differences in participation and partisanship across counties and states in the shares due to individual versus contextual factors. Second, we provide evidence on the main components of place and individual effects. Third, we investigate which groups of voters are the most influenced by the context in which they live and shed new light on two longstanding political economy questions: what explains the low participation of ethnic minorities, and what shapes the behavior and preferences of young voters.

By identifying the drivers of citizens' partisanship and their decision to vote or abstain, our results also shed light on important determinants of election outcomes and, consequently, of public policies. Indeed, the distribution of partisan preferences among voters directly affects the pool of competing candidates, their policy platforms, and their vote shares. Participation decisions can be equally consequential: turnout differences across groups may result in the election of candidates who differ substantially from the preferences of the majority of the population (Meltzer and Richard, 1981),[1] and low average turnout can weaken the legitimacy of elected officials and, consequently, constrain policymaking (Powell, 1982). Once elected, politicians are likely to favor places and communities which vote at higher rate (Cascio and Washington, 2014) or are politically aligned with them (e.g., Berry et al., 2010; Brollo and Nannicini, 2012; Bracco et al., 2015).

Our analysis relies on the largest individual-level dataset ever assembled to study voter participation and partisanship. These novel administrative data, collected and maintained by the political data vendor Catalist, cover the vast majority of voting-age individuals in the United States from 2008 to 2018 and track them over time, resulting in a total of over 1.5 billion observations (approximately 250 million observations per election times six general elections).

The first part of our results focus on voter turnout. Using our full sample, we estimate a value-added model regressing individual participation on voter, state, and election fixed effects. Our ability to jointly estimate the sets of voter and state fixed effects owes to the presence of voters observed in multiple states over time: the movers. We also estimate an event-study equivalent of our model to directly track changes in movers' turnout after move. If geographic heterogeneity in participation is entirely driven by individual characteristics, then post-move changes in turnout will be uncorrelated with differences in average participation across states of origin and destination. Conversely, if this heterogeneity is attributable to contextual factors, then movers' turnout will, after move, converge toward the average in the destination state. We find that movers' turnout jumps by 0.40 (or about 40 percent of the difference in average participation between origin and destination) after move. In line with the event study, a decomposition based on the estimates of the value-added model obtains that state characteristics explain about 37 percent of the observed variation in voter turnout between states with above- and below-median voter turnout, and voter characteristics the residual 63 percent. A second decomposition, estimating the shares of cross-state variance in voter turnout due to voter and place characteristics, delivers the same insight: while the influence of contextual factors is considerable, it is dominated by the impact of individual factors.

Our estimates rely on two important assumptions. The first regards identification. The set

[1] While preferences stated in surveys by non-voters tend to be relatively similar to those of voters (Highton and Wolfinger, 2001), large shifts in vote shares and policies have typically ensued from higher and more equal turnout (e.g., Mueller and Stratmann, 2003; Bechtel et al., 2016), particularly after the enfranchisement of women (Miller, 2008), ethnic minorities (Husted and Kenny, 1997; Cascio and Washington, 2014), or less educated citizens (Fujiwara, 2015).

of voter fixed effects included in our equations captures any difference in turnout *levels* across individuals. In particular, it allows the participation of movers to be arbitrarily different from non-movers, and accounts for the possibility that movers with a high propensity to vote may sort to different states (e.g., states with higher average participation) than those less likely to vote.[2] However, we do need to assume that *changes* in individual drivers of turnout for movers do not correlate systematically with differences in average participation between their states of origin and destination – for instance, that voters who become more inclined to vote over time do not systematically move to states with higher turnout. The event studies do not show any pre-trend in movers' turnout before their move, supporting this assumption. Second, our model assumes that voter behavior is additively separable in its voter- and place-specific components. We do show that our results are robust to alleviating this assumption and allowing the state fixed effects to differ across voters of different age, gender, or race.

We go beyond the overall decomposition of turnout variation between voter and place effects by exploring the main components of these effects. We distinguish two broad types of contextual factors: the influence of peers on one hand, and of institutions as well as the economic and political environment on the other. Our event study shows a sharp jump immediately after move, indicating that the adjustment of movers' participation is complete by the first post-move election. Peer effects would likely take more time to materialize, suggesting that they do not contribute much to the place effects. We provide further support for this interpretation by including within-state, cross-county moves in our analysis, and decomposing overall cross-county differences in turnout between voter and county (not state) effects. Two counties of the same state share similar institutions, including typically identical voting rules and methods, but their sociodemographic makeup can be very different, generating important differences in the composition of a voter's peers before and after move. Yet, the share of cross-county variation in turnout due to county effects is lower than the share of cross-state variation due to state effects, suggesting again that institutional and macro factors are responsible for most of the place effects. To identify which specific contextual factors are the most important, we go a step further and regress the state fixed effects on observable state characteristics. The strongest observable correlates of the state effects are electoral competitiveness, along with the availability of same-day registration and no-excuse absentee voting. Meanwhile, the voter characteristic which most strongly correlates with average voter turnout effects is the average level of education in the state.

The second part of the paper shifts focus to the second main dimension of voter behavior: not *whether* people vote, but *who* they tend to vote for. While the choices of individual voters are not recorded in administrative data, of course, our data enable us to study a close proxy: individual-

[2] We also include fixed effects for election relative to move, to permit differential average trends between movers and non-movers such as a systematic decrease in turnout after movers arrive to their destination state, due to the need to re-register. See Section 3.1 for more details.

level party affiliation, which has been found repeatedly to be one of the strongest predictors of a person's likelihood to vote for the Republican or Democrat candidate (e.g., Miller, 1991; Gerber et al., 2010).

A large body of evidence suggests that people's political views and partisan preferences are highly persistent and difficult to change (e.g., Campbell et al., 1960; Jennings and Niemi, 1974; Alwin and Krosnick, 1991; Niemi and Jennings, 1991; Green et al., 2002). Yet, our decomposition of cross-state variation in the likelihood to be affiliated with the Democratic party, the Republican Party, or either of these two parties, reveals that place effects explain 22 to 44 percent of the observed difference between states above and below the median of these outcomes. The magnitude of the jumps we observe in the event studies tracking movers' party affiliation outcomes is consistent with these estimates.

We address two possible concerns in the interpretation of the results on party affiliation. First, some changes in this outcome may be driven by differences in primary election voting rules across the states of origin and destination rather than by actual changes in partisan leaning. However, the magnitude of the post-move changes in party affiliation only decreases slightly when we restrict the sample to moves between pairs of states with identical rules. Second, we only observe party affiliation conditional on people being registered and define the corresponding outcomes to 0 for unregistered voters, to avoid sample selection issues. As a result, effects on party affiliation outcomes may capture effects on registration itself. We circumvent this issue by proposing a bounding strategy inspired from Lee (2009) to measure place effects on an outcome that is as close as possible to partisanship: being affiliated with the Democratic Party (or with the Republican Party), conditional on being registered and on being affiliated with either of the two major parties. We find that place effects also exert a large influence on conditional party affiliation.

While contextual factors explain party affiliation and participation to a similar extent overall, the detailed picture differs. In the event study graphs, we observe reassuringly flat pre-move patterns for both party affiliation and turnout. However, while turnout jumps sharply post-move, party affiliation changes more gradually, especially if we restrict the sample to states with identical primaries. In addition, the fraction of cross-county differences explained by county fixed effects is much higher for party affiliation than for turnout. Furthermore, state effects for Democratic Party affiliation and for affiliation with either major party correlate with a sociodemographic characteristic – average household income – while state effects from turnout and registration decompositions do not. Taken together, these different pieces of evidence suggest that peer effects contribute to the impact of place on partisanship more than on participation. On the other hand, education remains one of the most important correlates of average voter effects on Democratic and Republican Party affiliation, similarly as for turnout, along with median age and "universalist" versus "communal" values.[3]

Finally, we compare the relative influence of contextual and individual factors for voters of different ages, genders, and races. Place effects explain a larger share of the cross-state variation in registration, turnout, and, to a lesser extent, party affiliation, for younger relative to older voters. This result is in line with the impressionable years hypothesis, which posits that the first years after young voters come of age critically shape their behavior (Mannheim, 1952; Hyman, 1959). The decomposition of cross-state variation in party affiliation between individual and contextual factors is very similar across Whites and non-Whites, but place effects explain a larger share of cross-state differences in voter registration for ethnic minorities and, perhaps surprisingly, a *smaller* share of the differences in their average turnout. A common explanation for the low political participation of minority voters points to disenfranchising rules such as strict ID laws, felony disenfranchisement laws, and regulations allowing extensive voter roll purges, which can disadvantage these voters and are sometimes implemented more stringently against them (e.g., Atkeson et al., 2014; White et al., 2015; Brennan Center for Justice, 2018). Yet, these rules are only present in a subset of states. Therefore, the modest difference in average minority turnout between states above versus below the median which is due to place effects suggests that contextual factors present across all states and individual factors are at least as important, and that they deserve more attention than they receive today. In contrast to the heterogeneity we find across age and race, the decomposition of cross-state variation in voter behavior is very similar for men and women.

Our paper contributes to the literature studying the determinants of voter behavior by exploring this question from an entirely new perspective. Existing studies, including some of our own, tend to focus on a *specific* contextual factor, and they use variation in time, across space, or across individuals, to estimate its impact. Some papers exploit state-level changes in voting rules, including voter registration laws, compulsory voting, early voting, Election Day Registration, or voter ID requirements (e.g., Knack, 1995; Hoffman et al., 2017; Kaplan and Yuan, 2019; Cantoni and Pons, 2020). Others leverage variation – either naturally occurring or introduced by experimental manipulation – in localities and individuals' exposure to some of the aforementioned voting rules as well as other contextual factors, including voting technologies, electoral campaigns, the media, favorable economic context, and neighborhood composition (e.g., Braconnier et al., 2017; Perez-Truglia, 2018; Gerber and Green, 2000; Pons, 2018; Spenkuch and Toniatti, 2018; Gentzkow et al., 2011; Adena et al., 2015; Brender and Drazen, 2008). A complementary strand of the literature uses similar forms of experimental or quasi-experimental variation to document the effects of voter characteristics such as education, income, stock ownership, or religiosity (e.g., Doherty et al., 2006; Gerber et al., 2016; Kaustia et al., 2016; Milligan et al., 2004; Marshall, 2019).

[3] Universalist values include individual rights and impartial fairness, and communal values community, loyalty, and tradition (Haidt, 2012).

Our goal is diametrically different. Instead of focusing on a specific dimension, we assess the *overall* importance of all relevant place and voter-driven factors. Previous research was not equipped to address this question, for at least three reasons. First, factors co-move: states may adopt a bundle of new policies in an effort to facilitate participation, and richer individuals tend to also be older and more educated. Single-factor studies see these correlations as a threat. In fact, they are primarily judged based on their ability to isolate the impact of one factor from the influence of correlated variables. In contrast, the place effects that we measure capture these co-movements. Second, separate factors may reinforce or weaken each other. We measure the total net effect of these interactions, which existing studies only explore partially, at most. Third, quasi-experimental designs leveraging exogenous differences in the presence of a factor cannot assess the influence of determinants that are unobserved or that do not offer such variation: voting rules that differ across space but not over time, for example, or biological factors such as race, gender, or age, which unlike income or education are inherent to an individual. On the other hand, multivariate regressions of participation or partisanship can control for these factors, but they measure correlations that are not necessarily causal and they remain silent about unobserved dimensions. Instead, our estimates based on changes in movers' behavior compare the combined influence of *all* factors varying across states and across individuals, and we provide evidence supporting a causal interpretation of the results.

Additionally, we contribute to strands of the literature which have focused on particular groups of voters, including work investigating specific forces such as civic education and peers' influence which shape the choices of young voters and may affect their behavior in the long run (Neundorf and Smets, 2017), and disenfranchising laws and other causes responsible for the low political participation of ethnic minorities today and in the past (e.g., Filer et al., 1991; Naidu, 2012; Cantoni, 2020). We shed new light on these questions by implementing our decompositions for voters of different ages, genders, and races, and by comparing the overall influence of the context and the individual across groups.

The evidence we provide on the most significant correlates of place and individual effects improves on multivariate regressions of voter turnout and partisanship (e.g., Verba et al., 1995; Schlozman et al., 2012) by using the state and voter components of these outcomes on the left-hand side. While this part of our results does not necessarily warrant a causal interpretation, an important strength is that we are able to estimate and compare the influence of a large number of factors in a unique setting, in contrast to the individual single-factor studies above, which obtain their results in a large patchwork of different places and times. Our setting is also unusually broad, since it covers the close-to-entire population of the world's richest country over the entire last decade.

Methodologically, we draw on value-added models estimated in other settings, in particular on a number of recent studies which, like ours, track movers across states, companies, or schools to investigate the sources of spatial variation in health care utilization (Finkelstein et al., 2016), intergenerational mobility (Chetty and Hendren, 2018a,b), and brands' market shares (Bronnenberg et al., 2012), wage differences across workers and companies (Abowd et al., 1999; Card et al., 2013; Song et al., 2019), and variations in students' outcomes (Chetty et al., 2014). We are particularly indebted to the empirical framework laid out in Finkelstein et al. (2016). To the best of our knowledge, we are the first to study voter behavior using this empirical strategy. We also extend the method by proposing a way to measure effects on outcomes (here, party affiliation) which are only observed conditional on movers adopting a certain behavior (here, registering to vote).

Finally, while our focus on movers is primarily driven by the goal to disentangle the influence of individual- and state-level factors, it allows us to make a substantial contribution to the literature on the political motives (e.g., Hirschman, 1970; Bishop, 2009; Abrams and Fiorina, 2012; Sussell, 2013; Tam Cho et al., 2013) and effects (e.g. Squire et al., 1987; Gay, 2012) of spatial mobility: we do not find evidence that spatial sorting across states is driven by gradual changes in movers' level of political participation but we do observe a systematic drop in participation after the move.

The remainder of the paper is organized as follows. Section 2 provides more information on Catalist's voter-level panel data and Section 3 lays out the empirical specifications. Section 4 presents the results for turnout and Section 5 the results for registration and party affiliation. Section 6 compares the importance of contextual factors for voters of different age, gender, and race, and Section 7 concludes.

2 Data

2.1 Catalist's Voter-Level Panel Data

Our empirical strategy requires observing both individual voter behavior (registration, turnout, and party affiliation) and place of residence for the universe of the U.S. voting-eligible population at multiple elections to track movers' behavior as they cross state (or county) boundaries. Outside of the United States, voter registration and turnout records are rarely available beyond individual municipalities, and in most countries, administrative data on party affiliation simply do not exist as keeping records of the partisan preferences of citizens is not considered appropriate. Implementing our design would require surveying people about their vote choice, contacting them over and over again for multiple elections and, critically, keeping track of them when they relocate. This process would be extremely costly, and reporting biases as well as large attrition would severely limit the quality of the data. In other words, we would likely be unable to use our design to study partisan preferences in a country other than the U.S. In contrast, 30 American states record people's party affiliation when they register to vote – in many cases, to determine eligibility to participate in the primary elections of the Democratic and Republican parties.

Still, building a panel spanning the entire U.S. territory is challenging, because files commercialized by political data vendors typically contain voters' residential information as of the day the records are purchased, but lack any information on movers' previous addresses. Fortunately, Catalist's data allow us to overcome this limitation.

Catalist is a political data vendor that maintains a national database of over 256 million unique voting-age individuals. Information on registered voters comes from voter registration and turnout records collected from all 50 states and the District of Columbia. These administrative data are supplemented by commercial records on unregistered individuals provided by data aggregation firms and based on customer files from retailers and direct marketing companies.

Catalist continually updates its database by incorporating new state voter files released after each election as well as commercial data refreshes, and it identifies deceased voters based on the Social Security Death Master File (SSDMF) datasets. Crucially for our ability to follow movers across states, Catalist also identifies people changing addresses based on records in the USPS National Change of Address (NCOALink®) and by systematically comparing the voter lists and commercial records of different states. Catalist gives each person a unique ID, invariant across years and files, and uses data matching procedures to identify potential matches across files. For example, if a voter registered with the first name "Bob," but commercial records include an individual called "Robert" with the same last name, address, and sociodemographic characteristics, Catalist will recognize that it is the same individual and reconcile the two entries (Ansolabehere and Hersh, 2014).

The information Catalist shares with its clients usually stems from a cross-sectional "live file," containing the present-day location and the full voter turnout history of every individual who ever appeared in its database. However, Catalist has also been saving "historical files": snapshots of its live file as of the date of each biennial federal election.

We received six historical files, corresponding to the 2008, 2010, 2012, 2014, 2016, and 2018 nationwide elections, and matched them with the current live file. The historical files constitute our source of longitudinal information on voter residence and the live file our source of longitudinal information on voter behavior. To the best of our knowledge, we are the first researchers to use voter-level panel data on geographic residence, registration, turnout, and party affiliation covering the vast majority of the U.S. voting-eligible population.

For each election, the historical files we received from Catalist report a voter's state and county of residence at that time, a flag for whether they were deceased, registration status,[4] party affiliation

[4] Voter registration features five possible values: A, I, D, M, or U. "A" and "I" denote voters appearing on a state registration file with, respectively, "active" or "inactive" registration status. "D" stands for "dropped" and indicates individuals who appeared on past state voter files, but not in the most recent one. "M" stands for "moved, unregistered", that is, voters who, according to NCOA or commercial data, have moved into the state, but are not found re-registered for that state. "U" are voters whose status is "unregistered" as they do not appear on current or past voter files but are known to reside in the state.

(for voters registered in states with party registration), an indicator for permanent absentee status, and a flag for "best state."[5] According to these data, about 4.3 million voters (resp. 5.5, 4.9, 6.0, and 6.6 million) moved across state borders between 2008 and 2010 (resp. 2010-2012, 2012-2014, 2014-2016, and 2016-2018). The corresponding numbers of cross-county movers are, respectively, 9.7, 13.7, 11.7, 18.4, and 16 million voters. From the Catalist live file, we received the following variables: full turnout history, the state where the voter cast her ballot in each general election in our sample, if any, age, race, source of race information, and gender. Catalist's information on age, race and gender is available for nearly all voters and has been shown to be very reliable (Fraga, 2016a, 2018). Other variables in the Catalist's full database are only available for a subset of individuals or at a more aggregate level (such as the census block). We did not request them out of budgetary considerations.

2.2 Data Limitations

While an in-depth assessment of the Catalist's database is beyond the scope of this project,[6] it is important to note two limitations of the data. First, Catalist's coverage of the unregistered population is imperfect. In fact, Catalist acknowledges that the commercial data used for unregistered citizens cover the voting-age (VAP), rather than the voting-eligible population (VEP). Moreover, Jackman and Spahn (2018) estimate that at least 11% of the adult citizenry does not appear in commercial voter lists like Catalist's. Second, Ansolabehere and Hersh (2014) argue that Catalist's deceased flag misses some dead voters, making the total number of deceased voters in the voter file lower than it really is. The mis-categorization of some deceased voters and commercial data covering the VAP instead of the VEP likely explain why Catalist's state turnout rates are lower than those compiled by McDonald (2018).[7]

Despite this discrepancy in levels, two-way and Spearman's rank correlations between Catalist's and McDonald's state-by-year turnout rates are very high (respectively 0.90 and 0.89), assuaging

[5]When a voter is observed moving across states, Catalist creates a new record, and updates the original record (e.g., recoding the voter's registration status from "active" to "dropped") instead of erasing it. As a result, the Catalist database is uniquely identified by voter ID *and* state. After using voter ID and state to match the historical files with the live file, we use the "best-state" flag to deduplicate on voter ID. Specifically, we deduplicate the matched historical files using the following lexicographic rules: we privilege highest the record corresponding to the state where a voter voted, if any; followed by records flagged as "best state"; then we use voter registration, privileging voter registration statuses in this order: "A", "M", "U", "I", and "D"; then the record with the oldest registration date; finally, among residual duplicates, we keep a reproducibly random record. All results are virtually identical when we deduplicate ignoring the voter turnout criterion.

[6]See Ansolabehere and Hersh (2014) for a thorough discussion of Catalist's database and the underlying data collection and maintenance practices. Other papers using cross-sectional extractions of Catalist's data include Nickerson and Rogers (2014), Fraga (2016a), Fraga (2016b), Hersh and Nall (2016), and Hersh and Goldenberg (2016).

[7]McDonald's turnout figures are widely considered the most reliable estimates of the share of the state voting-eligible population turning out in a particular election. See McDonald and Popkin (2001) for a discussion on how these rates are computed.

concerns that cross-state heterogeneity in the quality of Catalist's state registration records may bias our estimates. Moreover, our event-study results are very similar when we compute mean state turnout using data from McDonald (2018) instead of Catalist (see Section 4.2).

2.3 Summary Statistics

Our estimation strategy, described in detail in Section 3, relies on tracking the voting behavior of cross-state movers. Our sample includes a total of 14.3 million one-time movers, who crossed state boundaries exactly once. Appendix Table A.1 shows the fraction of movers who moved between any two of the nine census divisions: East North Central, East South Central, Middle Atlantic, Mountain, New England, Pacific, South Atlantic, West North Central, and West South Central. The number of one-time cross county movers is naturally much larger: 34 million. For simplicity, all analyses exclude voters who change states more than once.[8] Table 1 reports summary statistics separately for one-time movers and non-movers, who never cross state borders in the study period. On average, movers are more likely to be White and women than non-movers, and they are slightly younger. They have higher registration and turnout rates and are more likely to be affiliated with the Republican Party or registered but affiliated neither with the Republicans nor with the Democrats. Appendix Figure A.1 plots the distributions of destination-minus-origin differences in mean state turnout, registration, and party affiliation (being registered and affiliated with either of the two major parties, with the Republican Party, and with the Democratic Party) for one-time movers. All distributions are roughly symmetric and the average differences in outcomes are approximately zero, which implies that moves from low- to high-participation states or moves from red to blue states are as frequent as moves in the opposite directions.

3 Empirical Specifications

3.1 Decomposition of Voter Behavior Differences Across States

The first part of our analysis aims to estimate the share of differences in voter behavior across states (or counties) that results from differences in contextual factors instead of differences in the individual characteristics of the people living in each state. This decomposition is based on the following equation:

$$y_{ijt} = \alpha_i + \gamma_j + \tau_t + \rho_{r(i,t)} + \varepsilon_{ijt}, \tag{1}$$

[8] As shown in Appendix Table A.2, our results are virtually unchanged when we include movers who change states multiple times, using a specification of the form in equation [1], in which $\rho_{r(i,t)}$ is redefined as a set of fixed effects for election relative to the *first* move, along with sets of fixed effects for election relative to the second, third, fourth, and fifth move. Since our sample includes six elections, a voter can move five times at most.

where y_{ijt} is a binary outcome for voter i living in state j at election t. (For the decomposition of differences across counties, j indicates the county.) α_i, γ_j and τ_t denote voter, state, and election fixed effects, respectively. Election fixed effects are normalized to be equal to 0 on average. For movers, $r(i,t) = t - t_i^*$ is the election relative to the first post-move election t_i^* (so $r(i,t) = 0$ if t is the first election after the move, $r(i,t) = -1$ if t is the last election before the move, etc.) and $\rho_{r(i,t)}$ indicates fixed effects for election relative to move. Under the assumption of additive separability in i, j, and t embedded in equation [1], $E(\varepsilon_{ijt}|i,j,t) = 0$.

We estimate the parameters in this equation using all movers and non-movers in the Catalist database. The equation is only identified because the data include movers. Otherwise, the state fixed effects γ_j would be absorbed by the individual fixed effects α_i.

Estimating equation [1], we pursue two objectives. First, we want to estimate the total contributions of state-specific characteristics (such as voting rules and the media) and voter-specific factors (such as race and education) to cross-state variation in voter behavior. Second, we aim to decompose the *share* of variation in voter behavior due to these two sets of factors and, thus, determine the relative influence of state and voter characteristics on registration, turnout, and party affiliation.

Our decomposition between these two types of factors follows Finkelstein et al. (2016). Let $\bar{y}_{jt}$ be the expectation of y_{ijt} across voters living in state j in election t, and $\bar{y}_j$ be the average of $\bar{y}_{jt}$ across t. $\bar{y}^{vot}_{jt}$ and $\bar{y}^{vot}_j$ denote the analogous expectations for the part of voter behavior imputable to voter characteristics, $y^{vot}_{it} = \alpha_i + \rho_{r(i,t)}$. Using this notation, equation [1] implies that $\bar{y}_j = \bar{y}^{vot}_j + \gamma_j$ and, for any two states j and j',

$$\bar{y}_j - \bar{y}_{j'} = (\gamma_j - \gamma_{j'}) + (\bar{y}^{vot}_j - \bar{y}^{vot}_{j'}). \tag{2}$$

Equation [2] shows that the difference in average voter behavior across states j and j', $\bar{y}_j - \bar{y}_{j'}$, is the sum of two components. The first component, imputable to state-specific factors, is given by the difference between the corresponding state fixed effects: $\gamma_j - \gamma_{j'}$. The second component, due to voter characteristics, is given by the difference between the voter-specific components: $\bar{y}^{vot}_j - \bar{y}^{vot}_{j'}$.

The shares of the difference in voter behavior between states j and j' attributable to states and voters are then given by, respectively:

$$S^{state}(j,j') = \frac{\gamma_j - \gamma_{j'}}{\bar{y}_j - \bar{y}_{j'}}, \tag{3}$$

$$S^{voter}(j,j') = \frac{\bar{y}^{vot}_j - \bar{y}^{vot}_{j'}}{\bar{y}_j - \bar{y}_{j'}} = 1 - S^{state}(j,j'). \tag{4}$$

Although $S^{state}(j,j')$ and $S^{voter}(j,j')$ sum to 1, neither needs to be within the unit simplex, since $\gamma_j - \gamma_{j'}$ and $\bar{y}^{vot}_j - \bar{y}^{vot}_{j'}$ can have opposite signs. When we apply our decomposition to the difference in behavior between groups of states, $\bar{y}_R$, $\bar{y}^{vot}_R$, and $\bar{\gamma}_R$ denote the simple averages of $\bar{y}_j$, $\bar{y}^{vot}_j$, and

γ_j across the states in group R. Similarly, we define $S^{state}(R,R')$ and $S^{voter}(R,R')$ as the shares of differences in voter behavior between states in groups R and R' attributable to states and voters, respectively. We compute the sample analogues of $\bar{y}_j$ directly from the Catalist data and denote them $\hat{y}_j$. We obtain consistent estimates $\hat{\gamma}_j$ of $\bar{\gamma}_j$ from estimating equation [1] and derive consistent estimates of $\bar{y}_j^{vot}$ by subtracting $\hat{\gamma}_j$ from $\hat{y}_j$: $\hat{y}_j^{vot} = \hat{y}_j - \hat{\gamma}_j$.

Equation [1] allows for arbitrary differences in outcome levels across voters. In particular, via the α_i's, the mean behavior of movers can be arbitrarily different from that of non-movers without biasing our estimates. Moreover, fixed effects for election relative to move $\rho_{r(i,t)}$ permit differential *trends* in voter behavior across movers and non-movers. Such differential trends may arise for example for turnout and registration, if movers face a cost of re-registering to the voter rolls of the state of destination (Squire et al., 1987) or if the loss of preexisting social ties associated with moving decreases civic engagement (Gay, 2012).

Despite the flexibility given by the voter and relative election fixed effects, our model is restrictive in three important ways.

First, like in other studies using movers to estimate value-added models, the crucial identifying assumption required to uncover unbiased estimates from equation [1] is that *changes* in individual drivers of voter behavior for movers do not correlate systematically with differences in average outcomes between their states of origin and destination. Importantly, the influence of individual factors which do not change over time is captured by the individual fixed effects, so we do not need to assume that the *level* of individual factors is uncorrelated with state differences. For instance, the possibility that voters who have long felt close to the Democratic Party sort to blue states does not threaten our identification. What does is if voters whose preferences converge to the Democratic Party platform over time disproportionately follow this trajectory or if voters who become more politically engaged respond by moving to relatively high-turnout states.

We can reject empirically changes of this type that develop *gradually*. Gradual changes in individual drivers of movers' behavior that correlate with outcomes in the origin and destination would appear as pre-trends in the event-study analysis described in Section 3.2. We find little evidence of this, which indicates that our event-study estimates do not mistakenly capture underlying changes in movers' individual characteristics and reinforces our confidence in the decomposition of cross-state differences in voter behavior based on equation [1].

In contrast, we do not have any direct way to test for the presence of shocks to movers' behavior that coincide *exactly* with the year of the move and that also correlate with outcome differences between origin and destination. Importantly, sudden shocks that are uncorrelated with origin-minus-destination outcome differences are orthogonal to the state fixed effects γ_j. Thus, they simply enter the error term ε_{ijt} and do not threaten the validity of our estimates. While life changes coinciding with the year of move may affect voting behavior, it is unclear why such effects would be systematically correlated with differences in average outcomes between the states of origin and destination. Furthermore, we check the robustness of our results to excluding voters below 25 or above 65, who may be affected by particularly impactful shocks such as entering or exiting the labor market. Reassuringly, the results of our decompositions remain very similar in this subsample (see Appendix Table A.2).

Second, equation [1] assumes that voter behavior is additively separable in its voter- ($\alpha_i + \rho_{r(i,t)}$) and state-specific components (γ_j). Since relative-election effects $\rho_{r(i,t)}$ do not depend on the specific states of origin and destination, additive separability of voter and state effects implies that the absolute change in voter behavior for voters moving from j to j' (experiencing a change in state factors equal to $\gamma_{j'} - \gamma_j$) should, net of the effects of the $\rho_{r(i,t)}$, be the same as for voters moving from j' to j (experiencing a change in state factors equal to $\gamma_j - \gamma_{j'}$). We present a test of this implication in Section 4.1 for voter turnout and Section 5.1 for the other outcomes. A second implication is that state fixed effects estimated based on movers of different races, genders, and ages should be of similar magnitude. We test this implication and show the robustness of our decompositions to including race-, gender-, or age-specific state fixed effects in Section 6.

Finally, we assume that movers and non-movers face identical state effects γ_s. If movers differ from non-movers in ways that alter the relevant state effects, then our decomposition between state- and individual-level determinants of voter behavior only applies to movers, and not to the rest of the population.

3.2 Event-Study Specification

To trace out changes in voter behavior around moves, we also estimate an event-study equivalent of equation [1]. For voter i who moves from origin state $o(i)$ to destination state $d(i)$, equation [1] can be rearranged as:

$$y_{ijt} = \alpha_i + \gamma_{o(i)} + I_{r(i,t)\geq 0} \times S^{state}(d(i), o(i)) \times \delta_i + \tau_t + \rho_{r(i,t)} + \varepsilon_{ijt}, \tag{5}$$

where δ_i is the difference in average outcomes between i's states of destination and origin, $\bar{y}_{d(i)} - \bar{y}_{o(i)}$, and $I_{r(i,t)\geq 0}$ is an indicator for post-move elections.[9]

Combining $\alpha_i + \gamma_{o(i)}$ into a single voter fixed effect $\tilde{\alpha}_i$, replacing $I_{r(i,t)\geq 0}$ with indicators for election relative to move, and replacing δ_i with its sample analogue $\hat{\delta}_i = \hat{y}_{d(i)} - \hat{y}_{o(i)}$ (computed using both movers and non-movers), we obtain the following event-study specification:

$$y_{it} = \tilde{\alpha}_i + \theta_{r(i,t)} \hat{\delta}_i + \tau_t + \rho_{r(i,t)} + \varepsilon_{it}. \tag{6}$$

[9] To recover equation [1], observe that $S^{state}(d(i), o(i)) \times \delta_i = \frac{\gamma_{d(i)} - \gamma_{o(i)}}{\bar{y}_{d(i)} - \bar{y}_{o(i)}} \times (\bar{y}_{d(i)} - \bar{y}_{o(i)}) = \gamma_{d(i)} - \gamma_{o(i)}$.

The parameters of interest are the $\theta_{r(i,t)}$'s. In relative election $r(i,t)$, $\theta_{r(i,t)}$ measures movers' response to differences in average outcomes between states of destination and origin. Assuming heterogeneity in S^{state} is orthogonal to the other covariates in the model, $\theta_{r(i,t)}$ is a weighted average of $S^{state}(d(i),o(i))$, with weights given by the relative frequency of all pairs of origin and destination states.

The pattern of estimated effects offers indirect tests of our identification assumption: if move-induced changes in state characteristics cause changes in movers' behavior, then $\theta_{r(i,t)}$ should be approximately flat in all pre-move elections. For $r(i,t) \geq 0$, $\theta_{r(i,t)}$'s describe the extent to which post-move voter behavior adjusts to the difference in average outcomes between states of destination and origin. Namely, a discontinuity in the level of $\theta_{r(i,t)}$ after the move indicates how much state-level factors influence individual-level voter behavior. Moreover, the pattern of post-move coefficients can illuminate the underlying mechanisms: effects that appear suddenly on move and then remain stable suggest that discrete factors that are easy to get accustomed to (e.g., election laws) are important drivers of voter behavior, while effects that increase over time underscore the importance of "slow-moving" factors such as the influence of other voters or learning about the candidates in the destination state. Because we include voter fixed effects, the $\theta_{r(i,t)}$ coefficients are only identified up to a constant term; we therefore normalize θ_{-1} to 0.

In all event-study specifications, we compute two-way clustered standard errors by states and voters, thus accounting for the possibility that regression residuals are serially correlated at the individual level and spatially correlated at the state level.

We use the method outlined in this section to assess the overall influence of contextual and individual factors on voter turnout, in Section 4, and on registration and party affiliation, in Section 5.

4 Voter Turnout

4.1 Relative Influence of Individual and Contextual Factors

Descriptive Analysis

Figure 1a shows average turnout rates across the 50 states and the District of Columbia. State averages are computed by first calculating the percentage of individuals in the state who turn out in each election, and then taking a simple average across elections. The map reveals a North-versus-South turnout divide, with states in the northern half of the country characterized by higher voter participation than their southern counterparts. As shown on the histogram in Appendix Figure A.2a, the mean state has an average turnout rate of 43.8 percent. Minnesota has the highest turnout rate (57.8 percent), while Mississippi trails all other states with an average turnout of only 33.8 percent.

The first step of our analysis tracks changes in the participation of movers after they cross state borders to estimate the share of differences in Figure 1a that results from differences in contextual factors rather than differences in the individual characteristics of the people living in each state.

As a preliminary look at how voter turnout changes after move, Figure 2 plots the change in movers' turnout against the destination-origin difference in voter participation $\hat{\delta}_i$. For each mover, we compute the change in voter turnout as the difference between average turnout in all post-move elections minus average turnout in all pre-move elections. If states explained individual-level turnout entirely, we would expect the slope of the graph to be 1. Conversely, if voter turnout were independent of state characteristics, we would expect the slope to be 0.

Figure 2 shows that the slope is 0.36, suggesting that state characteristics explain around 36 percent of the observed variation in voter participation. The relationship is symmetric around zero and linear, thus lending support to our model, which implies identical absolute changes in voter turnout for voters moving from state j to j' and for voters moving in the opposite direction.

With an $\times$, we also plot average changes in voter turnout for a sample of matched non-movers. The matched sample is constructed by randomly drawing, for each mover, a non-mover who shares the mover's state of origin, sex, race, and age ventile bin, and who is observed over the same elections.[10] To construct Figure 2, the matched sample is assigned $\delta = 0$. The matched sample and all points for movers lie vertically below 0, which reflects an overall decline of voter participation occurring in our sample period. Moreover, the matched sample lies vertically above all points for movers, indicating that cross-state moves are associated with a decline in voter participation. In our model, this negative effect of moving is captured by the relative election dummies $\rho_{r(i,t)}$.

Main Decomposition of Cross-State Variation in Voter Turnout

We implement two decompositions of voter turnout in its state- and voter-driven components. We start with the linearly additive decomposition discussed in Section 3.1. Using both movers and non-movers, we run a specification in the form of equation [1] to estimate place and voter effects for all 50 states and the District of Columbia. For different sets of high- and low-turnout states, we then estimate the overall and relative contributions of state and voter characteristics. That is, for different groups of states R and R' (with high and low turnout, respectively), Table 2 reports estimates of the following quantities: the total difference in average voter turnout $(\bar{y}_R - \bar{y}_{R'})$, the difference due to voters $(\bar{y}_R^{vot} - \bar{y}_{R'}^{vot})$, the difference due to states $(\gamma_R - \gamma_{R'})$, the share of difference due to voters $\left(S^{voter}(R,R') = \left(\bar{y}_R^{vot} - \bar{y}_{R'}^{vot}\right) / \left(\bar{y}_R - \bar{y}_{R'}\right)\right)$, and the share of difference due to states $\left(S^{state}(R,R') = \left(\gamma_R - \gamma_{R'}\right) / \left(\bar{y}_R - \bar{y}_{R'}\right)\right)$.

Column 1 reports the comparison between states with above- and below-median turnout. The

[10] Age ventile bins are computed using all movers and non-movers with non-missing values of age. Along with these 20 bins, we have another category for voters with missing age.

difference in average turnout across the two groups is 7.2 percentage points, of which 4.5 and 2.7 percentage points are due to voter and place characteristics, respectively. This translates to voter factors accounting for approximately 63 percent of the overall difference and state factors for the residual 37 percent. Standard errors are computed using a voter-level bootstrap with 50 repetitions. Thanks to the large number of cross-state movers (approximately 14 million) and the large total number of observations (more than 1.5 billion), the estimated shares are extremely precise: their standard error is equal to 0.3 percentage points, which is two orders of magnitude smaller than the corresponding point estimates.

In columns 2–4, we report comparisons for other groups of high- and low-turnout states. Column 2 compares the 15 highest- and 15 lowest-turnout states. The overall difference in turnout is 10.6 percentage points, of which 6.8 and 3.8 percentage points are due to voter and state characteristics, respectively. The overall difference grows to 12.6 percentage points in the top-10-versus-bottom-10 comparison (column 3), and to 15.8 percentage points in the top-5-versus-bottom-5 comparison (column 4), with voter and state characteristics accounting for 7.7 and 4.9 percentage points and 9.8 and 6.1 percentage points respectively.

The corresponding relative contributions of voter and state factors are very similar across comparisons, with states accounting for 36 to 39 percent of the overall variation in voter turnout. These figures are in line with the slope of 0.36 on Figure 2. Along with the linear relationship shown in Figure 2, the stability of the state shares estimated using different groups of high- and low-turnout states suggests that $S^{state}(j, j')$ is not strongly correlated with $\bar{y}_j - \bar{y}_{j'}$.

As discussed in Section 3.1, a possible concern is that our results only apply to movers. To control for differences between movers and non-movers in the sociodemographic characteristics observed in the Catalist data, we implement a new decomposition weighting movers based on the fraction of people with the same age, gender, and race in their state of origin. Using these weights, we find that place effects explain 73 percent of the difference in turnout between above and below median states, which is broadly in line with (albeit slightly larger than) our baseline estimate of 63 percent (Appendix Table A.2). While we cannot account for unobserved differences between movers and non-movers, the closeness between these two estimates suggests that the validity of our decomposition goes beyond movers.

Variance Decomposition

Table 3 presents a second, alternative decomposition to assess the relative importance of state and voter factors. We first compute the cross-state variance of average voter turnout and estimate the cross-state variances of voter and state effects, along with their correlation: $Var(\bar{y}_j)$, $Var(\bar{y}_j^{vot})$, $Var(\gamma_j)$, and $Corr(\bar{y}_j^{vot}, \gamma_j) = \frac{Cov(\bar{y}_j^{vot}, \gamma_j)}{\sqrt{Var(\bar{y}_j^{vot})Var(\gamma_j)}}$. To estimate the variance of γ_j and $\bar{y}_j^{vot}$ and the covariance between these variables we use a split-sample approach to take into account the fact that the underlying parameters are themselves estimated.[11] We then estimate the share of cross-state *variance* in voter turnout due to voter characteristics, defined as the share of the total variance that would be eliminated by erasing differences in voter characteristics. Since $\bar{y}_j = \bar{y}_j^{vot} + \gamma_j$, the variance in $\bar{y}_j$ remaining after erasing differences in voter characteristics is $Var(\gamma_j)$ and the share of the total variance due to voter characteristics is given by:

$$S_{var}^{voter} = 1 - \frac{Var(\gamma_j)}{Var(\bar{y}_j)}. \tag{7}$$

Similarly, the share of the total variance due to place characteristics is given by:

$$S_{var}^{state} = 1 - \frac{Var(\bar{y}_j^{vot})}{Var(\bar{y}_j)}. \tag{8}$$

The advantage of this decomposition is that, unlike S^{voter} and S^{state}, S_{var}^{voter} and S_{var}^{state} do not require choosing specific sets of states to be compared. However, differently from S^{voter} and S^{state}, the variance decomposition is not additive: S_{var}^{voter} and S_{var}^{state} will not sum to 1 as long as $Cov(\gamma_j, \bar{y}_j^{vot}) \neq 0$.

The variance decomposition delivers two key results. First, equalizing voter effects would eliminate 64 percent of the cross-state variance in voter turnout; equalizing state effects would reduce the variance slightly less, by 42 percent. Second, the correlation between voter and state effects is positive, which explains why S_{var}^{voter} and S_{var}^{state} sum to more than 1. This positive correlation could signal, for instance, that states with politically engaged voters face more requests to approve forms of convenience voting and that they tend to respond to these demands.

4.2 Event Studies

Our main event-study results are shown in Figure 3, which plots the estimated $\theta_{r(i,t)}$ coefficients on indicators for election relative to move from equation [6]. The 95-percent confidence intervals are constructed from two-way clustered standard errors at the voter and state levels. Event-study regressions use $\hat{\delta}_i$'s estimated using all movers and non-movers in each state, but, for computational ease, they are run using the movers sample only.[12]

[11] We randomly assign movers within each origin-destination pair and non-movers within each state to either of two subsamples of approximately identical size. We then estimate equation [1] separately on each subsample. We estimate $Var(\gamma_j)$ (resp. $Var(\bar{y}_j^{vot})$) as the covariance between the estimated γ_j (resp. $\bar{y}_j^{vot}$) from the two subsamples. To estimate $Cov(\gamma_j, \bar{y}_j^{vot})$, we take the simple average of the covariances between the estimated γ_j from one subsample and the estimated $\bar{y}_j^{vot}$ from the other subsample.

[12] Estimating two-way clustered standard errors (by voters and states) using both movers and non-movers is in fact computationally very costly. However, we find virtually identical point estimates when estimating equation [6] on the full sample (results available upon request).

The plot reveals no (partial) correlation between pre-move turnout and destination-minus-origin differences in average state turnout: estimates of θ_{-5} to θ_{-2} are close to zero and statistically insignificant. The pattern of $\theta_{r(i,t)}$ then jumps discretely at the first post-move election and slightly decreases afterwards. The point estimates on the $\theta_{r(i,t)}$'s and their standard errors are reported in Table A.3, column 1.

The pre-move effects help identify differences in turnout trends as a function of where voters move (as described by δ_i). The lack of pre-trends supports the key identifying assumption that changes in individual drivers of voter turnout are not systematically correlated with differences in average participation between origin and destination. In other words, moves are not systematically preceded by gradual changes in individual determinants of voter turnout (e.g., increases in political activism before moving to high-turnout states) which would complicate the causal interpretation of post-move estimates.

The sharp positive change in $\theta_{r(i,t)}$ in the first post-move election (i.e., at $r(i,t) = 0$) indicates a significant and immediate effect of state factors on voter turnout. Consistent with the slope of Figure 2 and with the linearly additive decomposition of turnout differences in Table 2, the magnitude of the discontinuity is approximately 0.40, suggesting that state characteristics explain approximately 40 percent of the observed cross-state variation in voter turnout. Moreover, the lack of increase in post-move adjustments is consistent with the state characteristics driving turnout being "discrete" (e.g., voting rules) and easy for voters to adapt to.[13] In contrast, peer effects could in principle be captured as place-specific factors, since the composition of peers usually changes when a voter moves, but they would likely take some time to fully materialize. The fact that coefficients do not increase over time after movers arrive in their destination state suggests that peer effects or other factors involving slow changes are not the main mechanism responsible for post-move adjustments of participation.

State average turnout rates computed from the Catalist data enter in the $\hat{\delta}_i$'s used as regressors in the event study and they directly affect the estimated $\theta_{r(i,t)}$ as a result. For this reason, limitations of the Catalist data discussed earlier may affect the $\hat{\delta}_i$'s and thus the event-study results. To assess

[13] There are two possible interpretations for the fact that the $\theta_{r(i,t)}$'s are actually decreasing after the move. The first is that the influence of the contextual drivers of voter turnout in the destination state decreases over time. A second possible interpretation is that the influence of contextual factors remains equally strong two to five elections after the move but that differences in these factors across states decreased between 2008 and 2018. Since the $\hat{\delta}_i$'s (the differences in average turnout between states of destination and origin) with which the $\theta_{r(i,t)}$'s are interacted in equation [6] are time invariant, we should then mechanically expect the observed decreasing pattern. Figure A.5 brings support for this interpretation. We report the results from a specification of the form in equation [6], in which we interact the $\theta_{r(i,t)}$'s with year-specific $\hat{\delta}_{it}$'s: $y_{it} = \tilde{\alpha}_i + \theta_{r(i,t)}\hat{\delta}_{it} + \tau_t + \rho_{r(i,t)} + \varepsilon_{it}$. In this equation, we can estimate the coefficients on all $\theta_{r(i,t)}\hat{\delta}_{it}$'s, which are no longer collinear, and the magnitude of the post-move $\theta_{r(i,t)}$'s can no longer be directly interpreted as weighted averages of $S^{state}(d(i), o(i))$ but should be compared to the pre-move $\theta_{r(i,t)}$'s. We observe a jump between θ_{-1} and θ_0 of similar magnitude as the on-move jump visible in Figure 3. In addition, the $\theta_{r(i,t)}$'s remain flat afterwards, which is in line with our interpretation.

whether this is the case, we estimate a specification in the form of equation [6] replacing the $\hat{\delta}_i$'s computed using the Catalist data with $\hat{\delta}_i$'s constructed using Michael McDonald's turnout figures (McDonald, 2018).[14] Appendix Figure A.6, which relies on $\hat{\delta}_i$'s computed using McDonald's data, is very similar to the event-study plot based on the Catalist data. Like in Figure 3, there is no evidence of significant pre-trends. θ jumps upwards by approximately 0.36 on move, decreases to 0.23 in the fourth election since moving across states and goes back up a little in the fifth election (see column 2 of Table A.3). The overall similarity of Figures 3 and A.6 assuages the concern that the data limitations discussed in Section 2.2 dramatically affect our results and increases our confidence in the event-study estimates and in the related decomposition of turnout between voter and state factors.

4.3 Main Components of Voter and Place Effects

The patterns shown in Figure 3 give a first indication on the type of factors responsible for place effects. We now explore the main components of place and individual effects in more detail.

Cross-County Moves

While contextual factors such as the identity of the governor or voter registration requirements vary at the state level, others such as local economic conditions or the composition of peers vary at a more local level. We provide evidence on the relative importance of both types of factors by comparing the decomposition of cross-state variation in turnout, shown in Table 2, with the decomposition of cross-county variation between county- and voter-driven components.

The results of this second decomposition and the corresponding event study are shown in Table 4 and in Figure 4. They are based on versions of equations [1] and [6], in which the state fixed effects γ_j are replaced by county fixed effects. We identify individual and county fixed effects based on cross-state movers as well as people moving across counties of the same state. Therefore, the decomposition accounts for turnout differences across counties of different states as well as differences across counties of the same state.

As in the event-study graph for cross-state movers, adjustments in participation shown in Figure 4 take place immediately after the move and do not increase afterward. However, the magnitude of the jump is much smaller. Overall, the share of cross-county differences in participation explained by county effects oscillates between 26 and 30 percent for different sets of high- and low-turnout

[14] We use McDonald's rates defined as the count of votes cast for the highest office in a given state-election divided by the estimated voting-eligible population in the same state-year. McDonald also reports two other turnout rates: the total number of ballots counted divided by the voting-eligible population, which is not available for all states-years, and the count of votes cast for the highest office divided by the voting-age population. Results (available upon request) based on the count of votes cast for the highest office divided by the voting-age population are very similar to those we report in the paper.

counties, which is also less than the share of cross-state turnout differences explained by state effects. This suggests that county-level factors, which could generate differences even across counties of the same state, have a modest influence in practice; and, instead, that state-level factors, which can generate variation across but not within states, exert an important influence on voter behavior.[15]

Correlates of Place Effects

To go one additional step and assess the contribution of specific factors to place effects, we use the fixed effects $\hat{\gamma}_j$'s estimated from equation [1] as an independent variable in cross-sectional regressions that control for observable state and voter characteristics. We then repeat the same exercise but using the $\hat{y}_j^{vot}$'s as an independent variable, to shed light on the determinants of voter effects. While the results do not necessarily represent causal evidence (causation may actually run in the opposite direction for some characteristics), we improve upon multivariate regressions of voter turnout or partisanship by identifying observable correlates of their state and voter components.

We explore three sets of state characteristics: voting and registration rules, characteristics of the electoral landscape, and socioeconomic and political environment. Among voting rules, we include the availability of same-day registration, automatic registration, early voting, no-excuse absentee voting, strict voter ID laws, open primaries, and closed primaries.[16] While our regressions are

[15] Appendix Table A.4, Panel A, which decomposes cross-county variation in turnout separately within states (using non-movers and within-state movers) and across states (using non-movers and cross-state movers), as well as the corresponding event-study Figures A.7 and A.8 further corroborate this conclusion. Within states, the share of cross-county variation due to county fixed effects is only around 10 percent, indicating that county-level contextual factors have limited influence. In addition, on Figure A.7, we observe that the participation of within-state movers converges to the average in the county destination before they move, implying that the (small) post-move adjustment may not necessarily reflect the impact of place factors. We do not observe such pre-trends in the participation of cross-state movers (Figure A.8). Across states, the share of cross-county variation due to county fixed effects is larger (between 20 and 27 percent), but it remains lower than the share of cross-state variation due to state fixed effects shown in Table 2. This difference is striking, since both decompositions are estimated out of cross-state movers. The fact that the post-move adjustment of these voters corresponds to a larger share of the difference in participation between the destination and origin states than between the destination and origin counties suggests, again, that contextual factors varying at the state level determine participation to a larger extent than those varying at the county level.

[16] We follow the National Conference of State Legislature (NCSL)'s classification of same-day and automatic registration, early and no-excuse absentee voting, strict voter identification laws, and open and close primaries. See `https://www.ncsl.org/research/elections-and-campaigns/election-laws-and-procedures-overview.aspx`, last accessed October 7, 2020. Same-day registration means that eligible voters can register to vote and cast a ballot on Election Day, and automatic registration that eligible voters who interact with the Department of Motor Vehicles and/or with other public agencies are automatically registered, with the possibility to opt out. Early (in-person) voting means that any eligible voter may cast a ballot in person during a designated period before Election Day, without providing an excuse. No-excuse absentee voting means that the state will mail an absentee ballot to all registered voters who request one. The voter, who does not need to offer an excuse (e.g., being out of town on Election Day), may return the ballot by mail or in person. In states with strict voter ID laws, voters are required to present an accepted form of identification document before voting. Voters who fail to do so can cast a provisional ballot, but they must present a proper ID within the next few days for their vote to be counted. Finally, states with closed primaries allow only registered party members to cast a ballot in a given party's state primary election. By contrast, a voter in

cross-sectional, some states changed these voting rules during our sample period. We therefore construct time-invariant regressors by measuring the share of elections in our sample covered by each rule. The second group of state factors includes the share of 2008–2018 elections concurring with gubernatorial and U.S. Senate elections and average electoral competitiveness in presidential elections.[17] We expect voting rules and the electoral landscape to primarily affect registration and turnout state fixed effects. Instead, our third group of state factors may affect both participation and party affiliation, which we turn to in the next section. We characterize the socioeconomic and political environment through five variables. State GDP growth may affect the likelihood of reelecting the incumbent, and having a Republican governor may affect partisanship as well as the stringency with which voting rules are applied. Population density might matter for at least two reasons: low density might limit interpersonal discussions about politics and hence voters' interest in elections, and it also correlates with larger average distance to the polling station (Gimpel and Schuknecht, 2003), thus making voting more costly. The incarceration rate may also be an important obstacle to participation.

For voters, we include state averages of standard sociodemographic predictors of voter turnout and ideology: age, minority status, education, income, the fraction of homeowners, and the fraction of immigrants. We also include voters' relative emphasis on universalist relative to communal values, which may influence their vote choice when candidates make different appeals to both sets of values (Enke, 2020).

Figure 5a summarizes the correlates of the estimated state effects on voter turnout. Each row represents a different correlate. The left panel reports estimates and heteroskedasticity-robust confidence intervals (both at the 90- and 95-percent levels) from bivariate OLS regressions of the estimated state effects ($\hat{\gamma}_j$) on state and voter correlates. All covariates are standardized by subtracting the mean and dividing by the standard deviation. There are 51 observations, corresponding to the 50 states and the District of Columbia. In the right panel, we present estimates and confidence intervals from a multivariate OLS regression on regressors chosen with a first-stage Lasso regression (Belloni and Chernozhukov, 2013).[18] Our discussion primarily focuses on the covariates which are significantly correlated with state or voter effects in the multivariate post-Lasso regression.

Among state characteristics, the strongest predictors of turnout state effects are the availability of Election Day voter registration and no-excuse absentee voting, which lower the cost of voting,

an open-primary state is free to choose in which primary to vote and this decision does not register the voter with that party.

[17] We use electoral competitiveness in presidential elections because Washington D.C. elects no voting member of Congress (though it holds mayoral elections concurrently with midterm federal elections). Results are very similar when we use average electoral competitiveness in congressional elections and drop D.C.

[18] In the first stage, we select regressors using a Lasso regression with a penalty chosen by a 10-fold cross-validation to minimize the mean squared error. In the second stage, we estimate coefficients and standard errors through a multivariate OLS on the selected covariates.

as well as electoral competitiveness, which increases its benefits and may, in addition, proxy for the intensity of the campaign. All three variables are positively correlated with state effects, consistent with intuition and the existing literature, and they are all significant at the 5 percent level, in the multivariate regression. Strikingly, in this regression, none of the state averages of sociodemographic characteristics is significantly correlated with state fixed effects, suggesting that the characteristics of voters' neighbors contribute only a limited amount to place effects.

Three factors – this apparently weak effect of neighbors' characteristics, along with the rapidity of the post-move adjustment to the average participation in the destination state observed in Figure 3 and the fact that the share of cross-county variation in turnout due to county effects is lower than the share of cross-state variation due to state effects – point to the same conclusion: place effects on turnout reflect the influence of institutions and of the economic and political environment – most prominently, competitiveness, same-day voter registration, and no-excuse absentee voting – more than the impact of more local factors, including the influence of peers.

Correlates of Voter Effects

Figure 5b reports the corresponding results for the estimated average voter effects. We find a negative (but not significant) correlation of voter effects with incarceration rate, likely explained by the cost faced by convicted felons to vote (and, in some states, their outright ineligibility). We also find a surprising negative, marginally significant correlation with early voting, which could result from an institutional effort to facilitate participation in places in which the propensity to vote is low. Bivariate correlations with voter characteristics are broadly consistent with intuition: average voter effects are higher in states with more U.S.-born, non-Hispanic white, homeowners, older, richer, and more educated voters. This is particularly true for education, which is the only voter characteristic selected in the Lasso regression.

Finally, we regress *individual-level* (not average) voter fixed effects ($\hat{\alpha}_i$'s) on individual-level covariates available from Catalist: age, gender, and race. We show the results in Figure 5c.[19] Again, we find a positive correlation with age and a negative one with minority status.

[19] When we explore correlates of average voter fixed effects, we have only 51 observations (i.e., one per state) but a large set of covariates, thus justifying the Lasso selection procedure. At the opposite, here we have a large number of observations (i.e., one per voter) but few controls. Therefore, in each graph exploring the correlates of the individual-level fixed effects, the right panel reports estimates from a multivariate OLS regression that includes all voter characteristics that are observed at the individual level. Multivariate OLS regressions include separate dummies for voters with missing age or gender.

5 Voter Registration and Party Affiliation

We now disentangle the role played by contextual and individual factors in explaining variation in voter registration and party affiliation. Being registered is required to vote. Therefore, the decomposition of differences in voter registration that are attributable to place and individual factors can shed light on the decomposition we obtained for turnout. Party affiliation relates to a different dimension of voting behavior: not whether people participate in elections, but which party and candidates they prefer and vote for. There is substantial evidence that voters' partisanship (which party they identify with, if any) is strongly correlated with the party they are registered with, and that it is one of the strongest predictors of their actual vote choice (e.g., Miller, 1991; Bartels, 2000; Gerber et al., 2010). We use party affiliation as a proxy for partisanship but study it together with voter registration because we only observe it conditional on people being registered.[20]

We first consider voters' *unconditional* likelihood to be affiliated with certain parties: outcomes defined whether voters are registered or not, and equal to 1 if they are affiliated with these parties, and 0 if they are either not registered or registered but not affiliated with these parties. Among voters affiliated with a party, 55.5 percent are affiliated with the Democrats and 39.7 percent with the Republicans, leaving only 4.8 percent of voters affiliated with a third party. We study party affiliation by focusing on three distinct outcomes: affiliation with the Democratic Party; affiliation with the Republican Party; and affiliation with either (as opposed to not being affiliated with any party or being affiliated with a third party), henceforth defined as "major-party affiliation". The last outcome measures voters' decision to engage in politics beyond simply registering to vote. For instance, voters may choose to affiliate with a party in order to participate in primary elections in states where they are restricted to affiliated voters, or to receive targeted partisan communication.

5.1 Relative Influence of Individual and Contextual Factors

Descriptive Analysis

Figure 1b is the counterpoint of Figure 1a. It shows an equally striking but different geographic clustering of partisanship by state. We plot state averages of the Democratic Two-Party affiliation share, defined as the fraction of voters affiliated with the Democratic Party among voters affiliated either major party, in all 30 states in which party affiliation is available. We observe a familiar divide between blue coastal states and red interior states. The Democratic Two-Party affiliation share goes from 18.4 percent in Utah to 92.5 percent in DC, and is 55.3 percent in the mean state,

[20] For other recent studies using party affiliation as a proxy for partisanship, see for instance Peterson (2016), Hall and Yoder (2020), and Brown and Enos (2020).

as reported in Appendix Figure A.2b.[21]

To estimate the share of registration and party affiliation differences across states which result from contextual factors, our method relies again on tracking the behavior of movers as they cross state borders. We first replicate Figure 2 for voter registration, major-party affiliation, Democratic Party affiliation, and Republican Party affiliation: Figure 6 plots the change in movers' behavior against the destination-origin difference in these outcomes. As for voter turnout, the relationship is symmetric around zero and linear, indicating identical absolute changes for voters moving from state j to j' and for voters moving in the opposite direction, as additive separability in voter- and place-specific components implies. In addition, the matched sample of non-movers lies vertically above all points for movers, indicating that cross-state moves are associated with a decline in voter registration (since people need to register again after the move) and in unconditional party affiliation.

Decompositions of Cross-State Variation in Registration and Party Affiliation

We exploit the variation underlying Figure 6 to implement linearly additive decompositions of voter registration and of our three party affiliation outcomes in their state- and voter-driven components. Using point estimates from specifications of the form in equation [1], we compute the share of differences between states with high and low outcome averages that are explained by contextual and individual factors. Which states enter in the high and low groups is specific to each outcome. For instance, states with high Democratic Party affiliation differ from states with high Republican Party affiliation. For the party affiliation outcomes, we restrict the sample to the 30 states in which this outcome is available.

As shown in Table 5, contextual factors account for 32 percent of the difference in average voter registration between states with above- and below-median registration, and for 44 percent (resp. 29 and 22 percent) of the difference in party affiliation between the 15 states with highest and lowest major-party affiliation (resp. Democratic Party and Republican Party affiliation). Individual factors account for the remaining cross-state variation. The shares due to states and voters are similar when we consider other groups of states, and we obtain nearly identical decompositions when weighting movers based on the fraction of people with the same age, gender, and race in their state of origin to increase the representativeness of the results (Table A.2). Overall, these results indicate that the relative influence of contextual factors, in comparison to individual factors, is lower for registration than it is for voter turnout, and that these factors also exert a substantial influence on partisanship.

The results of the second decomposition, which estimates the shares of cross-state variance in registration and party affiliation due to voter characteristics and place characteristics, bring further

[21] Appendix Figures A.3 and A.4 show the same maps and histograms for the four following additional outcomes: registration, major-party affiliation, affiliation with the Democratic Party, and affiliation with the Republican Party.

support for this conclusion. Equalizing voter effects and state effects would reduce cross-state variance in voter registration by 53 and 21 percent, respectively (Table 6), as compared to 64 and 42 percent for the variance in turnout (Table 3). The reductions would be 73 and 63 percent for major-party affiliation, 89 and 45 percent for Democratic Party affiliation, and 89 and 33 percent for Republican Party affiliation.

Event Studies

We use the event study in equation [6] to analyze election-to-election changes in voter registration and party affiliation for movers. The pre-move effects for voter registration show no systematic correlation with destination-minus-origin differences in this outcome (Figure 7a). Instead, we see a sharp positive change in the first post-move election, and no significant change afterwards. The size of the jump after move is approximately 0.20 (see Table A.5 column 1 for the detailed point estimates).

To run the event study for our party affiliation outcomes, we restrict the sample to moves between any pair of the 30 states in which this outcome is available. On average, people's likelihood to be affiliated with either of the two major parties as a function of destination-minus-origin differences in average party affiliation is flat before the move, jumps by about 0.47 on the first post move election and remains flat afterward (Figure 7b). We observe a very similar pattern for Democratic Party affiliation, with a slightly smaller jump (0.33) (Figure 7c). Republican Party affiliation shows a small but significant convergence to the destination state averages before the move, with impact estimates going from -0.10 to -0.04 between relative elections -5 and -2 (Figure 7d), suggesting that voters who become closer to the Republican Party are a bit more likely to move to more Republican states. However, the post-move change is of a different order of magnitude, 0.28, and the adjustment continues in the following elections: the point estimate reaches 0.34 on relative election 5. Overall, the size of the jumps broadly corresponds to the share of cross-state differences in party affiliation explained by contextual factors, in the decompositions shown in Table 5.

5.2 Place and Voter-Driven Effects on Partisanship

While party affiliation is the best available proxy for registered voters' partisanship in individual-level administrative data, this outcome has two important limitations. First, registered voters may update their party affiliation even absent any actual ideological change. For instance, registered Democrats may turn into registered independents if they move from a state with closed primaries to a state with primaries open to unaffiliated voters, even if their issue positions remain as close to the Democratic Party's platform and their likelihood to vote for Democratic candidates as high as before. Second, we only observe the party affiliation of registered voters. As mentioned at the beginning of this section, our unconditional party affiliation outcomes are set to zero for unregistered voters. While this choice eliminates any risk of endogenous sample composition that would come from missing values, it implies that changes in voters' registration status may change our party affiliation outcomes independently of changes in political preferences. For instance, a voter coming from a state with Election Day registration may fail to reregister after moving to a state which does not allow it. If this voter was also affiliated with a party, say the Republicans, in her state of origin, her unconditional Republican Party affiliation would change from 1 to 0 post move, even if she remained equally close to the Republican Party.

We use two distinct approaches to circumvent these limitations and get as close as possible to isolating the impact of contextual factors on actual partisanship.

Moves Between States with Identical Primary Rules

First, we control for differences in primary rules by running the event studies on the subsample of moves between pairs of states with identical rules. We follow the National Conference of State Legislatures, which distinguishes between closed primaries, partially closed primaries, partially open primaries, primaries open to unaffiliated voters, and top-two primaries.[22] As shown on Figure A.9 (and in Appendix Table A.6, reporting the exact regression estimates), the post-move changes are only slightly lower than the change in the full sample of states with party affiliation. This suggests that differences in states' primary rules only explain a small part of the post-move change in party affiliation, in the full sample. However, we now observe an increase in point estimates over multiple elections after the move both for major-party affiliation and for Republican Party affiliation. This post-move adjustment suggests that some contextual factors have an impact on party affiliation which is less immediate than for participation. We return to the exploration of the factors responsible for place and individual effects on voter registration and on party affiliation in Section 5.3.

For now, let us note that restricting the sample to moves between pairs of states with identical primary rules allows us to study changes in party affiliation which are more likely to correspond to actual changes in partisanship than those observed on Figure 7, but that it does not fully resolve the issues listed above. Beyond differences in primary rules, registered voters may decide to affiliate with a political party (or to stop being affiliated with it) for reasons orthogonal to changes in ideology – because they want to get more involved politically, perhaps. In addition, the possibility that changes in voter registration status mechanically affect unconditional party affiliation remains. Therefore, we now consider an outcome that is as close as possible to partisanship: being affiliated with the Democratic Party (or with the Republican Party), *conditional on being registered and on being affiliated with either of the two major parties*. Changes in this outcome can be driven neither

[22] See https://www.ncsl.org/research/elections-and-campaigns/primary-types.aspx. Last accessed October 7, 2020.

by changes in registration nor by changes in the decision to be affiliated with a party.

Conditional Party Affiliation

To estimate the influence of the context on conditional party affiliation, we cannot simply restrict the sample to registered voters who are affiliated with either of the two major parties and run event studies and decompositions on this sample. Indeed, the resulting estimates would likely be affected by sample selection bias: the place effects on voter registration and on major-party affiliation documented in Section 5.1 indicate that voters who register and affiliate with a party after moving to a state with high rates of registration and affiliation may fail to do so when they move to a state with lower average registration and affiliation, so that their conditional party affiliation is observed only in a subset of destination states.

We address this selection issue with the following two-step procedure.

We first use a difference-in-difference design to measure the impact of moving to a state with higher *unconditional* major-party affiliation and higher *conditional* Democratic Party affiliation than the state of origin (henceforth, trajectory one) relative to moving to a state with lower unconditional major-party affiliation and lower conditional Democratic Party affiliation (trajectory zero):

$$y_{it} = \alpha_i + \beta I_{r(i,t)\geq 0} \times T_i + \tau_t + \rho_{r(i,t)} + \varepsilon_{it}, \tag{9}$$

where $T_i = 1$ if mover i followed trajectory one and 0 if she followed trajectory zero. We measure effects on unconditional major-party affiliation and on unconditional Democratic Party affiliation, and estimate this equation using all movers who followed trajectory one or zero and no other voter. Importantly, note that we compare moves to states with higher versus lower conditional Democratic Party affiliation in order to measure the effect of state differences in partisanship. In addition, we require trajectory one (resp. trajectory zero) destination states to have higher (resp. lower) average unconditional major-party affiliation than the state of origin, to satisfy a "no-defiers" assumption required by our bounding exercise and described below.

Second, we construct bounds on the effects on conditional Democratic Party affiliation by adapting Lee (2009)'s method to our setting and based on the estimates derived in step one.

Using the potential outcomes framework, we define A_0 and A_1 as variables indicating if the mover registers and gets affiliated with either of the two major parties after the move when $T = 0$ and $T = 1$, respectively. In the data, we only observe $A = TA_1 + (1-T)A_0$: we know whether movers following trajectory one affiliate after the move but not whether they would have done so had they followed trajectory zero, and vice versa. Similarly, we define D_0 and D_1 as variables indicating if the mover affiliates with the Democratic Party conditional on getting affiliated with either major party when $T = 0$ and $T = 1$, respectively. We only observe $D = A[TD_1 + (1-T)D_0]$: when the voter does not affiliate with either major party after the move ($A = 0$), she is not affiliated with the Democratic Party ($D = 0$) and we do not observe whether she would have done so if she had gotten affiliated with a party. When she gets affiliated after the move ($A = 1$), we observe whether a voter following trajectory one affiliates with the Democratic Party but not whether she would have done so had she followed trajectory zero, and conversely.

We further define four types of movers: "always takers," who always affiliate with either of the two major parties after the move, whether they follow trajectory zero or one; "never takers," who never affiliate after the move; "compliers," who affiliate after the move if they follow trajectory one, not if they follow trajectory zero; and "defiers," who affiliate after the move if they follow trajectory zero, not trajectory one. The key assumption we use to derive bounds is that there are no defiers: all movers who follow trajectory zero and affiliate would also have affiliated after trajectory one. Our choice to compare moves to states with higher unconditional major-party affiliation versus lower affiliation makes this assumption likely to be satisfied. Under this assumption, we have that $A_1 \geq A_0$ and we can write the impact on unconditional Democratic Party affiliation as the sum of the impact on unconditional major-party affiliation, multiplied by the likelihood that compliers would affiliate with the Democrats if they got affiliated after following trajectory zero; and the impact on conditional Democratic Party affiliation (for compliers and always takers), multiplied by the probability of getting affiliated of movers following trajectory one:

$$\underbrace{E(D_1A_1 - D_0A_0)}_{\text{Effect on } D} = \underbrace{Prob(A_1 > A_0)}_{\text{Effect on } A} \cdot \underbrace{E(D_0|A_1 > A_0)}_{\text{Unobservable}} + \overbrace{E[D_1 - D_0|A_1 = 1]}^{\text{Effect on Dem affiliation conditional on being always-taker or complier}} \cdot E(A_1)$$

From this expression, we get:

$$\overbrace{E[D_1 - D_0|A_1 = 1]}^{\text{Effect on Dem affiliation conditional on being always-taker or complier}} = \frac{1}{E(A_1)}\Big[\underbrace{E(D_1A_1 - D_0A_0)}_{\text{Effect on } D} - \underbrace{Prob(A_1 > A_0)}_{\text{Effect on } A} \cdot \underbrace{E(D_0|A_1 > A_0)}_{\text{Unobservable}}\Big] \tag{10}$$

$E(D_0|A_1 > A_0)$ is the likelihood that, after moving, compliers would affiliate with the Democratic Party if they got affiliated with either of the two major parties, absent treatment (i.e., when they follow trajectory zero). By definition, compliers do not affiliate when they follow trajectory zero (but only when they follow trajectory one). This term is thus unobservable. Since all the other terms on the right-hand side of equation [10] are observed, we can derive bounds on the effect on getting affiliated with the Democratic Party conditional on being registered and affiliated with either of the two major parties by making assumptions about this term.

To obtain an upper bound, we set $E(D_0|A_1 > A_0) = 0$, as the largest possible effect occurs if we assume that compliers would never affiliate with the Democratic Party after following trajectory zero if they decided to register and affiliate with either of the two major parties. To obtain a lower bound, we need to make an assumption about how high $E(D_0|A_1 > A_0)$ could possibly be. We replace this term by the fraction of affiliated Democrats among trajectory one movers affiliated with either of the major parties in their state of destination: 57 percent. Indeed, voters' propensity to affiliate with the Democrats rather than the Republicans can be expected to be higher after following trajectory one and moving to a state with higher conditional Democratic Party affiliation than in the state of origin; and again higher in the state of origin than after following trajectory zero and moving to a state with lower conditional Democratic Party affiliation. Note also that this fraction is higher than the fraction of affiliated Democrats among trajectory zero movers who do affiliate in their destination state. The choice of this high probability makes our lower bound conservative.

We use this method to construct bounds for the impact of trajectory one relatively to trajectory zero on average conditional Democratic Party affiliation after the move, using estimates of unconditional major-party affiliation and unconditional Democratic Party affiliation effects based on equation [9]. We use a bootstrapping procedure to estimate the standard errors of the bounds: we draw a sample from our data with replacement, compute the lower and upper bounds as indicated above, repeat these two steps 50 times, and estimate the bounds' empirical standard deviation.

Finally, we divide the results by the difference in average conditional Democratic Party affiliation between trajectory-one destination and origin states minus the difference in this outcome between trajectory-zero destination and origin states, so that the magnitude of the change after the move can be compared to estimates for unconditional outcomes provided in the rest of the paper.

We replicate this process to construct bounds on the effects on conditional Republican Party affiliation of moving to a state with higher unconditional major-party affiliation and higher conditional Republican Party affiliation than the state of origin (trajectory three), relative to moving to a state with lower unconditional major-party affiliation and lower conditional Republican Party affiliation (trajectory two). Since the difference in conditional Republican Party affiliation is negative the difference in conditional Democratic Party affiliation, each mover falls in exactly one trajectory (zero, one, two, or three), and our estimates make use of the entire set of movers.

The results are shown in Table 7. Following trajectory one instead of trajectory zero (again, moving to a state with higher unconditional major-party affiliation and higher conditional Democratic Party affiliation than the state of origin, relative to moving to a state with lower unconditional major-party affiliation and lower conditional Democratic Party affiliation) increases the likelihood of movers to affiliate with the Democratic Party by 5.1 to 13.0 percentage points, or 23.5 to 59.8 percent of the relative difference in conditional Democratic Party affiliation between destination and origin states (column 1). Following trajectory three instead of trajectory two (moving to a state with higher unconditional major-party affiliation and higher conditional Republican Party affiliation, relative to moving to a state with lower unconditional major-party affiliation and lower conditional Republican Party affiliation) increases movers' likelihood to affiliate with the Republican Party by 14.9 to 67.7 percent of the relative difference in conditional Republican Party affiliation. But Republican Party affiliation conditionally on being affiliated with either major party is equal to one minus conditional Democratic Party affiliation. Therefore, the point estimates in column 2 can also be read as a decrease in movers' likelihood to affiliate with the Democratic Party by 14.9 to 67.7 percent of the relative difference in this outcome. These bounds are consistent with those shown in column 1 but a bit wider. Applied to two independent sets of movers, our method delivers similar results on the relative influence of contextual factors.

We conclude that contextual factors exert a large influence not only on unconditional party affiliation but also on conditional party affiliation and partisanship. Overall, place effects explain at least one fourth of the variation in partisanship across states.

5.3 Main Components of Voter and Place Effects

Cross-County Moves

The increase in post-move coefficients over time, in Figures 7d, A.9a, and A.9c suggests that peer effects or other slow-moving factors are important drivers of partisanship. Unlike state-level factors (such as the party exerting power, or state-wide party platforms), peers' influence and other local factors may generate differences in party affiliation across counties of the same state. If these factors contribute an important share to place effects, one should expect the fraction of cross-county differences in party affiliation explained by county fixed effects to be high.

Table 8 shows the decomposition of cross-county variation for registration and for the three unconditional party affiliation outcomes between county- and voter-driven components, and provides support for this prediction. The corresponding event studies are shown in Figure 8 and in Appendix Figure A.10 (for the subsample of moves between pairs of states with identical primary rules).

The share of cross-county differences in registration explained by county effects oscillates between 19 and 27 percent for different sets of high- and low-registration counties (Table 8, Panel A). This share is generally higher for unconditional major-party affiliation, affiliation with the Democratic Party, and affiliation with the Republican Party: 49 to 52 percent, 28 to 33 percent, and 21 to 28 percent, respectively (Table 8, Panels B, C, and D). These fractions are remarkably similar to the shares of cross-state differences in party affiliation explained by state effects (see Table 5), contrasting with the large difference we observed between the cross-county and cross-state turnout decomposition.[23]

The pattern of post-move coefficients in party affiliation event studies, and the large share of cross-county differences explained by county effects both point to effects of the composition of peers on partisanship. We contribute one additional piece of evidence to the exploration of the main components of place effects on registration and party affiliation by identifying the factors that most strongly correlate with the corresponding state fixed effects.

Correlates of Place Effects

We report the results from the regressions of voter registration and unconditional party affiliation state fixed effects estimated from equation [1] on observable state and voter characteristics in Figure 9a (for Democratic Party affiliation) and in Appendix Figures A.13a, A.14a, and A.15a (for the other outcomes). Again, we focus on the covariates which are significantly correlated with state effects in the multivariate post-Lasso regression (right panels).

Interestingly, Election Day voter registration is negatively correlated with registration state effects (Appendix Figure A.13a). This may result from the fact that many people only register conditional on voting, in states in which same-day registration is available, while in other states the number of registrants exceeds the number of those who actually turn out on the day of the election. In addition, electoral competitiveness is positively correlated with registration state fixed effects, similarly to the positive correlation we observed with turnout state fixed effects.

We interpret the results on observable correlates of place and, below, average voter effects on unconditional party affiliation with more caution since they rely on fewer observations (i.e., the 30 states for which Catalist has party affiliation records) and any factor's impact on these outcomes may reflect its influence on registration, on getting affiliated with a party, or on affiliating specifically with the Republican or Democratic Party, conditional on being affiliated. As shown on Appendix Figure A.14a, state effects for affiliating with either of the two major parties are positively

[23] Table A.4, Panels B-E decomposes cross-county variation in registration and in our three party affiliation outcomes separately within and across states, and Figures A.11 and A.12 show the corresponding event studies. The share of cross-county variation in voter registration due to county fixed effects is low both within and across states, a result which is similar to the result obtained for turnout and calls for the same explanation. In contrast, the share of cross-county differences in party affiliation due to county fixed effects remains nearly as high when we focus on within-state variation, thereby entirely shutting down any influence of state-level factors. This brings additional support for our interpretation that peer effects and, possibly, other local factors, substantially affect partisanship.

correlated with closed primaries. In closed-primaries states, participating in the primaries of the Democratic or Republican Party is conditional on being affiliated with that party, providing a strong incentive for voters to take this step. Interestingly, state effects for major-party affiliation are also negatively correlated with household income, contrasting with the lack of significant correlation of turnout and registration state effects with any state average of sociodemographic characteristics. This correlation may reveal the influence of peers: as shown below, household income is also negatively correlated with voter effects. The positive and negative correlations with closed primaries and median household income are also observed for Democratic Party affiliation (Figure 9a), and the negative correlation (albeit here insignificant) with automatic registration for Republican Party affiliation (Appendix Figure A.15a).

Correlates of Voter Effects

Average voter effects on registration are again negatively correlated with incarceration rate (Appendix Figure A.13b). At the individual level, being Hispanic, being older than 30, and missing age information correlate negatively with the probability to be registered (Appendix Figure A.13c). The latter correlation (which can be inferred from the positive correlation of all age-group dummies in the left panel) is unsurprising, as it is harder for Catalist to obtain age information for never-registered voters. The negative correlation with being above 30 years old probably comes from the fact that young voters are more likely to interact with a DMV and thus benefit more from motor voter and automatic registration laws. In addition, conditional on being registered, the youths were registered for fewer years, by construction, and they are therefore less likely to get purged from voter rolls.

Average voter effects on unconditional major-party affiliation are negatively correlated with median household income, perhaps reflecting an opportunity cost that richer voters face when getting involved in politics beyond registering and voting (Appendix Figure A.14b). Consistent with intuition, average voter effects on Democratic Party affiliation are negatively correlated with average education (Figure 9b). More surprising is the positive correlation found with median age. We also find a significant positive correlation with population density, which may reflect the fact that voters living in more urban areas are more likely to hold issue positions aligned with the Democrats. The only (negative) covariate of average voter effects on Republican Party affiliation selected by a Lasso regression is universalist versus communal values (Appendix Figure A.15b), which corroborates Enke (2020)'s finding that Republican voters are more likely than Democrats to hold communal values.

Correlates of individual-level voter fixed effects (Figure 9c and Appendix Figures A.14c and A.15c for Democratic Party, major-party, and Republican Party affiliation, respectively) mostly follow intuition: minority status strongly and positively correlates with Democratic affiliation, and negatively so with Republican affiliation. Similarly, being a woman predicts larger voter fixed effects for Democratic than Republican affiliation. Finally, being aged 45 and above correlates with larger voter fixed effects for any type of affiliation than being a young voter.

6 Heterogeneity by Voter Characteristics

Thus far, the object of our investigation was the variation in *overall* participation and party affiliation. We now shift focus to specific groups of voters, defined by age, gender, or race, and we test how the relative importance of contextual factors varies across them.

Formally, we run linearly additive decompositions of the form in equation [1] separately for men and women, Whites and non-Whites, and for voters aged 18 through 29, 30 through 44, 45 through 59, and 60 and above. In each regression, the sample is restricted to movers and non-movers of the corresponding group. The results are shown in Table 9. Before presenting them, let us make an important technical aside on additive separability.

6.1 Robustness of the Main Results to Using Group-Specific State Fixed Effects

Heterogeneity across age, gender, and race in the share of outcome differences attributable to state effects $S^{state}(R,R')$ may result from heterogeneity in any of the following dimensions: the split between the states with highest and lowest average outcome (R,R'); the difference between voter-specific components $\left(\bar{y}_R^{vot} - \bar{y}_{R'}^{vot}\right)$; and the difference between state fixed effects $(\gamma_R - \gamma_{R'})$.

The difference between state fixed effects can only vary across voter types if state fixed effects are themselves different across voters, which would violate the hypothesis of additive separability. Our estimates of equation [1] separately by groups of voters allow to explore this possibility. The correlations between state fixed effects estimated separately on men and women, voters younger and older than 45, and Whites and non-Whites are not perfect but strong: 0.99, 0.67, and 0.76, respectively.

In addition, we check the robustness of the main decompositions shown in Sections 4 and 5 to including group-specific state, time, and election relative to move fixed effects in an augmented version of equation [1]:

$$y_{ijt} = \alpha_i + \sum_k \left(\gamma_j^k + \tau_t^k + \rho_{r(i,t)}^k\right) + \varepsilon_{ijt}, \tag{11}$$

where k denotes a group of voters defined by age, gender, or race. We use this equation to compute alternative decompositions of outcome differences between state and voter shares. We first define $\tilde{y}_{jt}$ as the weighted average of y_{ijt} across groups of voters living in state j in election t, and $\tilde{y}_j$ as the average of $\tilde{y}_{jt}$ across t. For a reason that will become clear below, these averages use weights δ^k that correspond to the share of voters of each group in the entire U.S. population, not just in state j. As a result, $\tilde{y}_{jt}$ and $\tilde{y}_j$ differ from the simple state averages $\bar{y}_{jt}$ and $\bar{y}_j$ defined in Section 3.1. Using the estimates from equation [11], we can write $\tilde{y}_j$ as the sum of a place effect, equal to the weighted average of group-specific state fixed effects, and a voter effect, equal to the weighted average of group-specific voter effects: $\sum_k \delta^k \gamma_j^k$ and $\sum_k \delta^k \bar{y}_j^{vot,k}$. Then, for any two states j and j',

$$\tilde{y}_j - \tilde{y}_{j'} = (\sum_k \delta^k \gamma_j^k - \sum_k \delta^k \gamma_{j'}^k) + (\sum_k \delta^k \bar{y}_j^{vot,k} - \sum_k \delta^k \bar{y}_{j'}^{vot,k}), \tag{12}$$

and the share of the difference in voter behavior between these states attributable to state effects is given by

$$S^{state,weight,group}(j,j') = \frac{\sum_k \delta^k \gamma_j^k - \sum_k \delta^k \gamma_{j'}^k}{\tilde{y}_j - \tilde{y}_{j'}}. \tag{13}$$

We assess the extent to which allowing state fixed effects to differ across groups affects our results by comparing $S^{state,weight,group}(j,j')$ (or $S^{state,weight,group}(R,R')$, for groups of states R and R') to $S^{state,weight}(j,j') = \frac{\gamma_j - \gamma_{j'}}{\tilde{y}_j - \tilde{y}_{j'}}$ (or $S^{state,weight}(R,R')$), the share obtained by using the average state fixed effects γ_j estimated with equation [1] instead of group-specific state fixed effects γ_j^k, in equation [13]. $S^{state,weight}(j,j')$ differs from $S^{state}(j,j')$, defined in Section 3.1, since $\tilde{y}_j$ differs from $\bar{y}_j$.

The reason why $S^{state,weight,group}(j,j')$ requires identical group-specific weights δ^k across all states is that, for each group, state fixed effects are only identified up to a constant. Thus, if we used state-specific weights (e.g., group k's share of state j's population), $S^{state,weight,group}(j,j')$ would depend on the arbitrary choice of the baseline state. To see why, imagine that group k's state fixed effects are all scaled by a constant μ. This constant cancels out when multiplied by the same δ^k on both sides of the difference in the numerator of equation [13], but it would not cancel out using state-specific weights δ_j^k and $\delta_{j'}^k$.

Using group-specific state fixed effects does not substantively alter our results. As shown in Appendix Table A.7, the estimated shares of differences between states with above- and below-median outcome which are due to state effects are similar whether we use group-specific state fixed effects ($S^{state,weight,group}(R,R')$) or not ($S^{state,weight}(R,R')$).

6.2 Heterogeneity Across Ages

A growing body of evidence shows that the first years of adult life can be critical because young adults undergo a learning process which profoundly and durably shapes attitudes and behaviors, including voting behavior (e.g., Neundorf and Smets, 2017). On the other hand, a different strand of the literature finds that the behavior of young voters is partly determined by individual traits developed in early childhood, such as psychosocial skills (e.g., Holbein, 2017). Table 9 first compares the relative influence of contextual and individual factors for voters of different ages. If voters in their twenties are truly more malleable, one could expect them to be relatively more influenced by place effects.

We observe that the difference between state fixed effects of the top- and bottom-half of states ranked by average turnout is larger for young voters (3.6 percentage points), who also participate less on average, than for any other age. The younger the voters, the higher the share of state differences in their average turnout that are explained by place factors: from only 17 percent, for voters older than 60, to 47 percent, for voters less than 30 years old. We find qualitatively similar patterns for registration and two of our party affiliation outcomes: being affiliated with either major party or with the Democratic Party. The picture only looks different for Republican Party affiliation: place effects on this outcome are of similar magnitude for voters aged 18 through 29, 30 through 44, and 45 through 59, and they are higher for voters above 60, who are also the most likely to be affiliated with the Republicans.

Overall, these decompositions by age group reveal that the context matters relatively more for younger voters, and particularly so when it comes to the decision of voting or staying at home. While these voters have been found to be more susceptible to the influence of specific factors such as voting rules (e.g., Holbein and Hillygus, 2016) or electoral campaigns (e.g., Le Pennec and Pons, 2020), our results provide a more general test of the impressionable years hypothesis.

6.3 Heterogeneity Across Races

Table 9 further reports the results of linearly additive decompositions for Whites and non-Whites (Blacks, Hispanics, or voters of other race).

Average participation is lower by nearly 12 percentage points among non-Whites. A large literature investigates the causes of this difference. Our research setting does not allow us to address this question directly: our identification based on movers enables to decompose outcome variation across places or within groups, not across groups.[24] Yet, we can shed light on one particular hypothesis: the possibility that the low turnout of ethnic minorities comes from efforts by a subset of states to selectively disenfranchise them. A first prediction of this theory, supported in our data, is that the electoral participation of ethnic minorities varies a lot across states. Indeed, the difference in registration and turnout rates of non-Whites between states above versus below the median outcome is 12.3 and 8.2 percentage points, respectively, which is larger than the difference for Whites (7.3 and 7.2 percentage points). A second prediction is that the share of the difference in these outcomes due to place effects is itself very large. We find some support for this prediction for voter registration, with a share of place effects for non-Whites of 41 percent, compared to 25 percent for Whites, suggesting that registration rules and other registration-related place factors exert more

[24] State fixed effects obtained by estimating equation [1] separately for different types of voters are only identified up to a constant, in each group. Therefore, their magnitude cannot be directly compared across groups.

influence on the former. However, the comparison is completely reversed for voter turnout, with shares of place effects of 43 and 15 percent, for Whites and non-Whites, and differences between average turnout in the 25 top and bottom states due to states of 3.1 and 1.2 percentage points, respectively. The low share of cross-state variation in the participation of non-Whites that is explained by the state-specific component suggests that, overall, their low average turnout is driven by individual factors (which are responsible for a difference between top and bottom states of 7.0 percentage points, as compared to 4.2 percentage points for Whites) and by contextual factors present across all states (such as racial disparities in voting wait times Chen et al. (e.g., 2019)), more than by exclusionary voting laws and other contextual factors prevailing in some specific states only.

In contrast to the differences observed for registration and voter turnout, the decomposition of cross-state variation in party affiliations between individual and place factors is very similar across Whites and non-Whites.

6.4 Heterogeneity Across Genders

Finally we compare the role of place- and voter-driven effects across genders. The decomposition of cross-state variation in voter registration and turnout between individual and place factors is much closer for men and women than it is across age groups and races. Similarly, the share of differences in party affiliation between states above versus below the median outcome which is due to place effects is very similar for both genders.

7 Conclusion

This paper gives precise new evidence on the overall influence of the context versus individual factors on voter behavior, using a total of over one and a half billion observations. We complement a large number of studies which have provided piecemeal responses to this question, each focusing on a single factor. In contrast, our method relies on identifying voters who move across states and tracking their behavior over time. We find that movers' turnout, registration, and party affiliation are mostly stable before move, suggesting that changes in individual drivers of their behavior do not correlate systematically with differences in average outcomes between their states of origin and destination. But turnout among movers jumps by 40 percent of this difference after the move, and adjustments in movers' likelihood to be affiliated to the Republican or Democratic Party are only slightly smaller – 28 and 33 percent of the destination minus origin differences in these outcomes.

Exploiting the variation underlying these event-study results, we decompose voter behavior in its state and voter components, and find that state characteristics explain about 37 percent of the observed difference in participation between states with above- and below-median voter turnout, and voter characteristics the residual 63 percent. Place factors also explain 32 percent of the difference in average registration rates between states with above- and below-median voter registration and 22, 29, and 44 percent of the cross-state variation in Republican Party affiliation, Democratic Party affiliation, and affiliation with either major party, respectively.

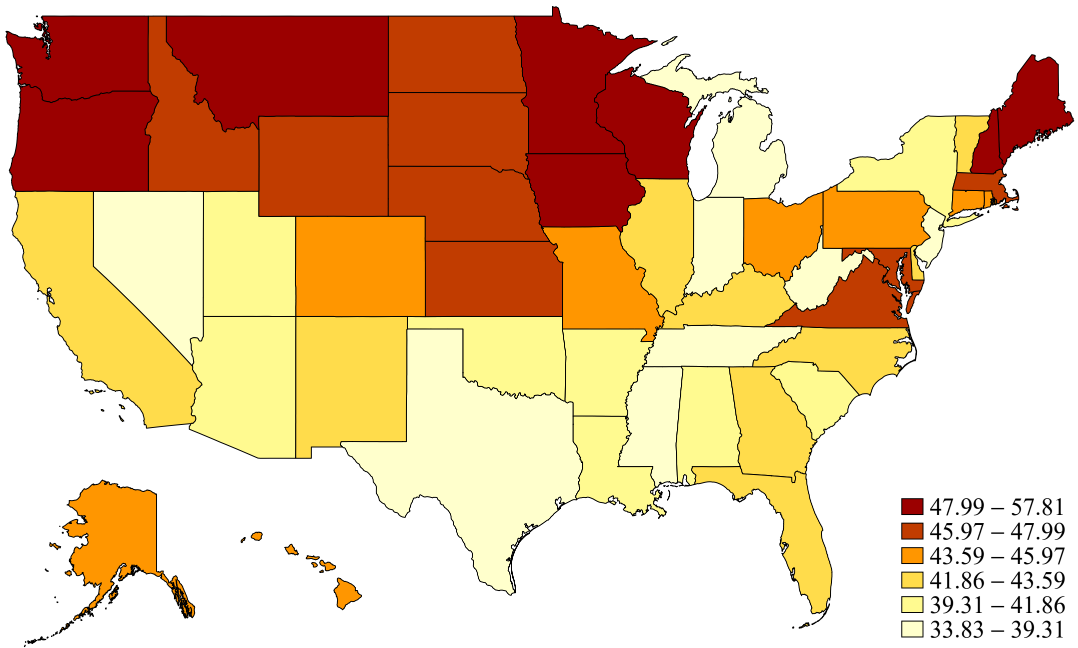
While the overall influence of the context on participation and partisanship is of similar magnitude, the underlying mechanisms differ. Peer effects appear to contribute to the influence of context on party affiliation, whereas place effects on turnout mostly reflect the impact of state-specific rules, as well as economic and political environments. The strongest correlates of the state effects also differ across the two outcomes: electoral competitiveness, along with the availability of same-day registration and no-excuse absentee voting, for voter turnout, and closed primaries and median income, for party affiliation.

Overall, our findings demonstrate that context exerts a considerable influence on participation and on partisanship, but that it does not outweigh individual drivers of voting behavior. The fact that place effects are nearly as large for partisanship as for turnout is particularly striking, given the widely held prior that partisan views are highly persistent. It remains that more than half of the variation in registration, turnout, and any type of party affiliation observed across states, overall and for most groups of voters, is driven by voter effects. The relative influence of context versus the individual on voting behavior is substantially lower than for other types of behavior such as health care utilization (Finkelstein et al., 2016) or purchases of consumer goods (Bronnenberg et al., 2012).

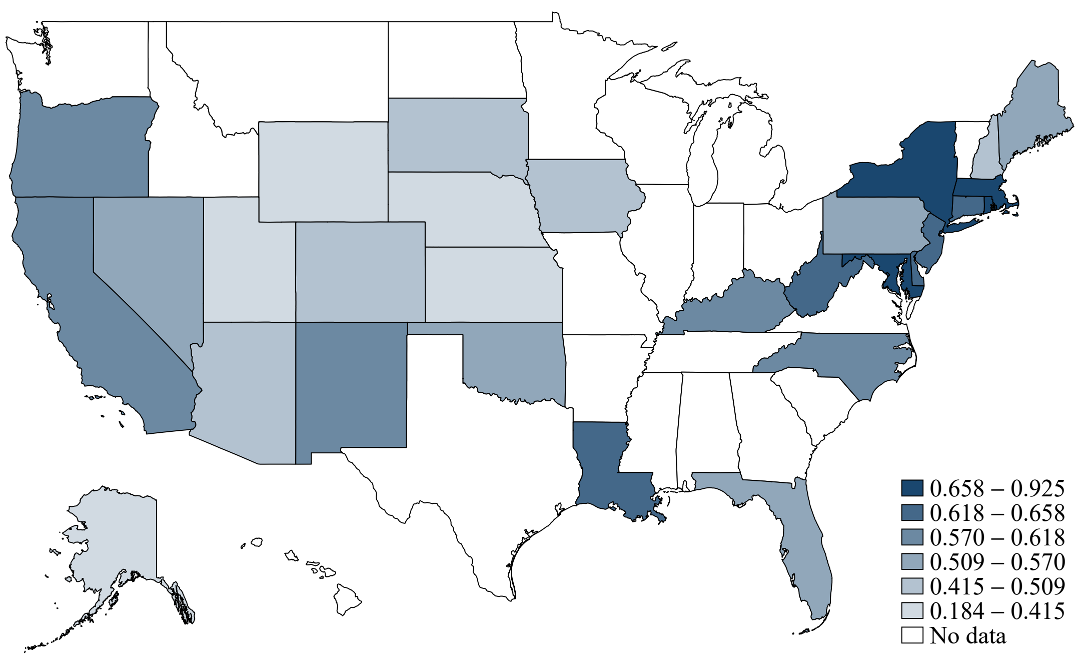
Only among one group – young voters – does context match individual factors in determining voter behavior. The influence of place on the participation and, to some extent, party affiliation of voters aged 18 to 29 is much larger than for older voters. These differences across age are greater than across gender and race. Furthermore, education is one of the strongest correlates of average voter effects for both turnout and party affiliation, suggesting that formative experiences shape people's attitudes and behavior for a long time. Current debates rightly focus on the effects of voting rules across race, and the consequences of the underrepresentation of women and ethnic minorities among politicians for the political engagement of these groups. Our results suggest a broadening of this discussion to another minority, young voters. The contextual forces responsible for the long-term decline in turnout and for the recent rise in polarization in the United States – whatever those may be – are likely to affect youths disproportionately, with lasting consequences. This is another important reason to work to understand and counteract such trends.

Figure 1: Voter Turnout and Democratic Two-Party Affiliation Share by State, 2008–2018

(a) Voter Turnout

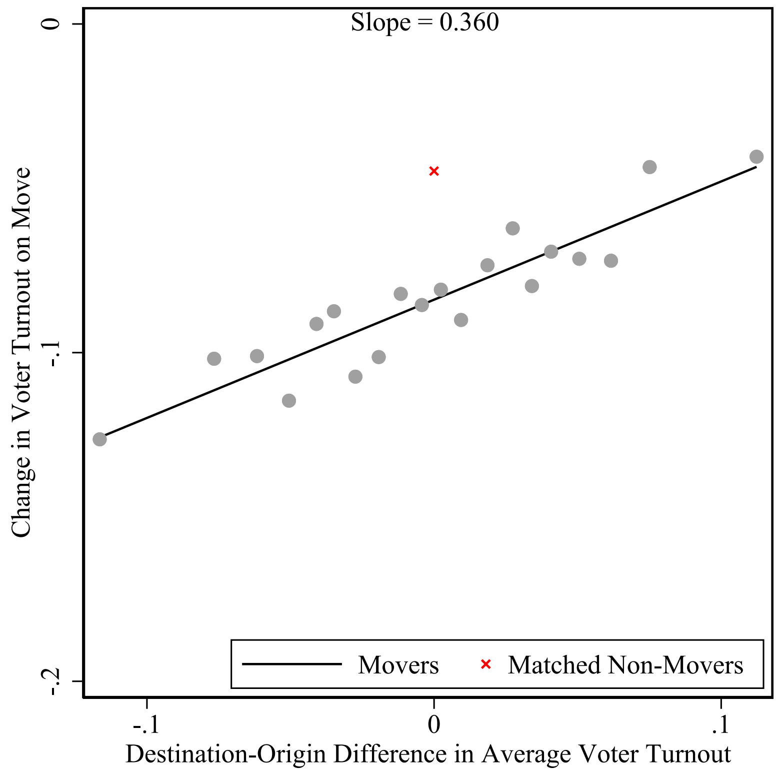


(b) Democratic Two-Party Affiliation Share



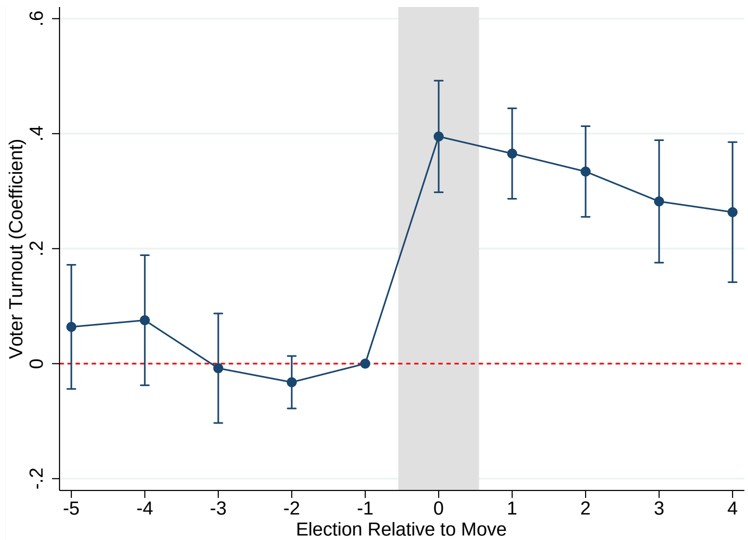
Notes: The maps plot average state voter turnout and Democratic Two-Party affiliation share (the number of voters affiliated with the Democratic Party as a fraction of voters affiliated either with the Republican or the Democratic Party) in the Catalist data in six bins. The lower and upper limits of the outcome in each bin are displayed in the legend. For each state, we take the simple outcome average across the six elections (2008–2018) in the Catalist data. The sample consists of all movers and non-movers.

Figure 2: Change in Movers' Voter Turnout Against Destination-Origin Difference in Turnout



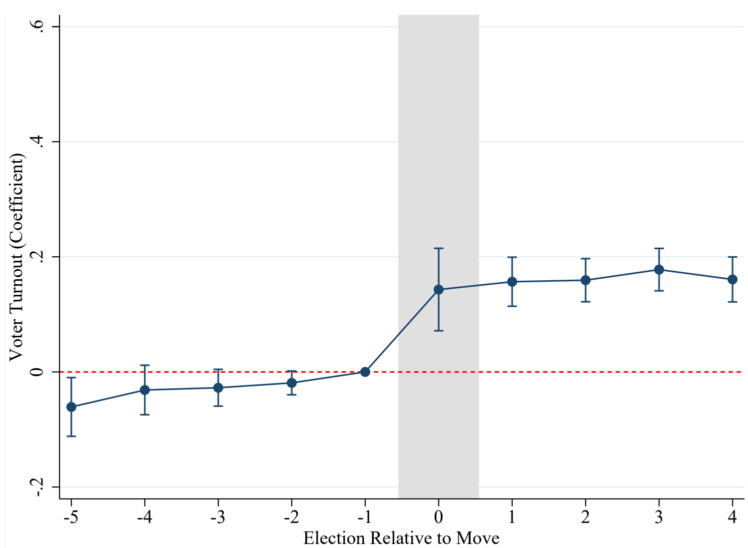
Notes: The figure shows how voter turnout changes before and after move in relation to differences in average turnout across states of destination and origin. The *x*-axis displays the average $\hat{\delta}_i$ for movers in each ventile. For each ventile, the *y*-axis shows average turnout in all post-move elections minus average turnout in all pre-move elections. The line represents the best linear fit from a simple OLS regression using the 20 data points, and its slope is reported on the graph. For comparison, we also compute the change in turnout for a sample of matched non-movers and denote it with an $\times$ in the graph. Details on the matching procedure are provided in the text.

Figure 3: Event-Study Plot, Voter Turnout



Notes: The figure plots estimates of $\theta_{r(i,t)}$ and 95-percent confidence intervals (robust to two-way clustering by states and individuals) from event-study specification [6]. The dependent variable y_{it} is a dummy equal to 1 if voter i voted in election t, and 0 otherwise. For each mover, $\hat{\delta}_i$ is constructed using the difference in average turnout in the state of destination across all elections in our sample minus average turnout in the state of origin. The sample consists of all mover-years ($N = 77,988,314$).

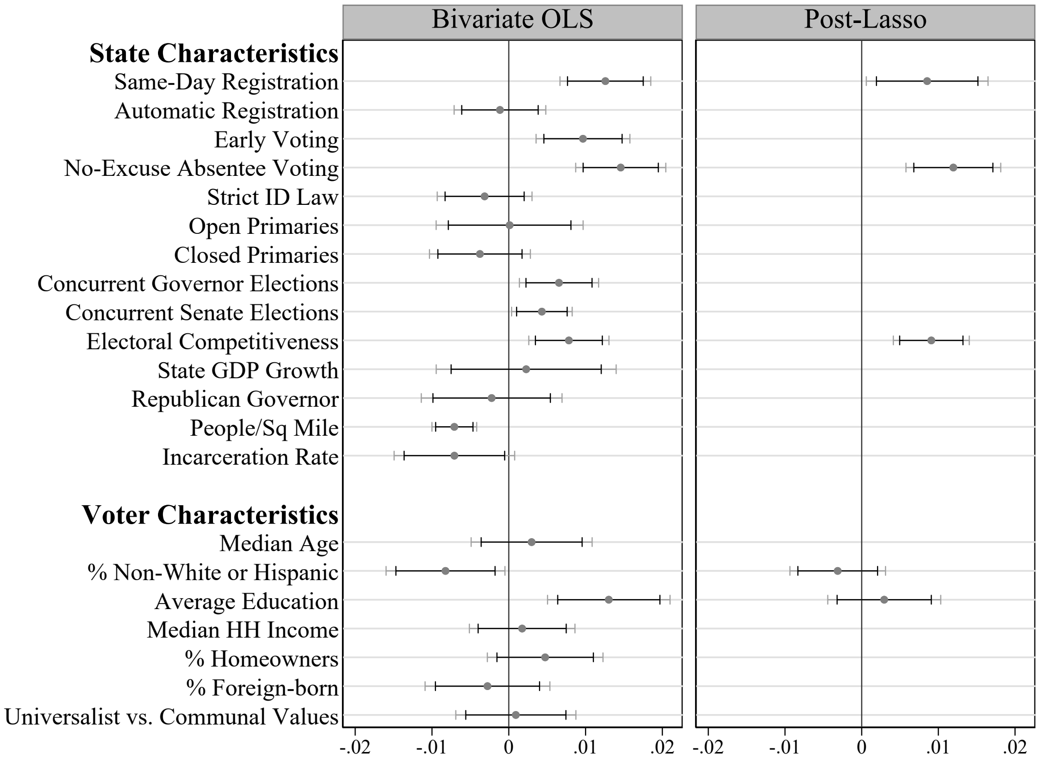
Figure 4: Event-Study Plot, Voter Turnout, Cross-County Moves



Notes: The figure plots estimates of $\theta_{r(i,t)}$ and 95-percent confidence intervals (robust to two-way clustering by states and individuals) from event-study specification [6] in which the state fixed effects are replaced by county fixed effects. The sample consists of all mover-years for movers whose county is known ($N = 180,106,108$). Other notes as in Figure 3.

Figure 5: Correlates of Voter Turnout State and Voter Effects

(a) Correlates of Voter Turnout State Effects



(b) Correlates of Voter Turnout Average Voter Effects

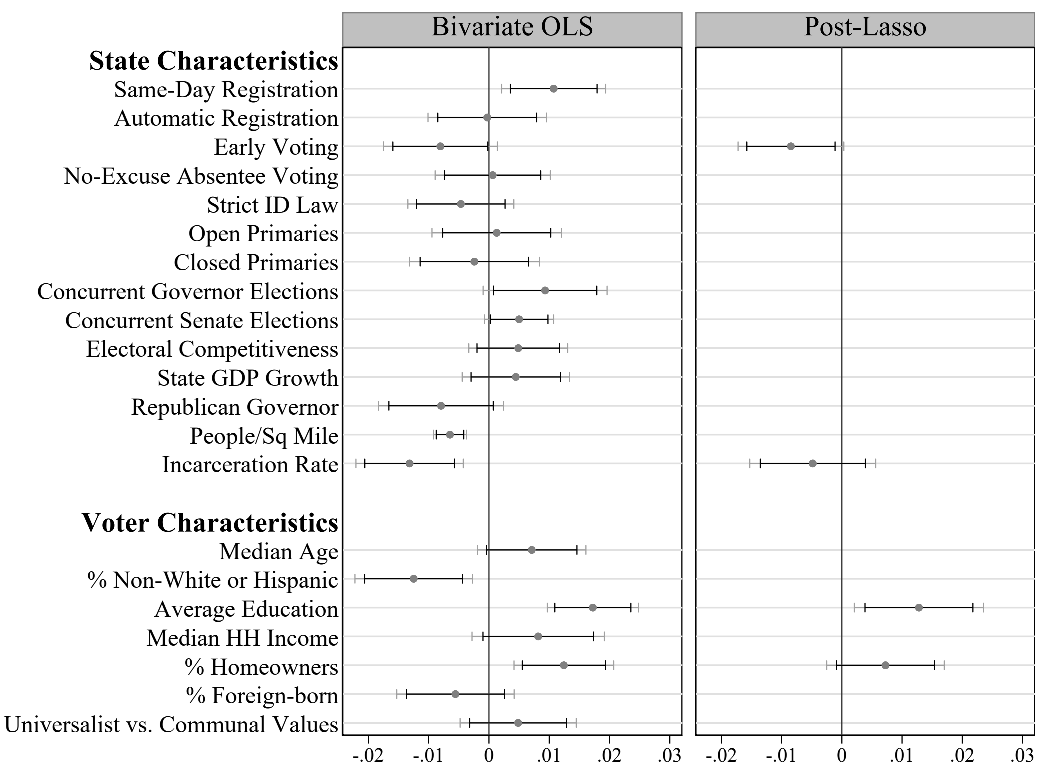
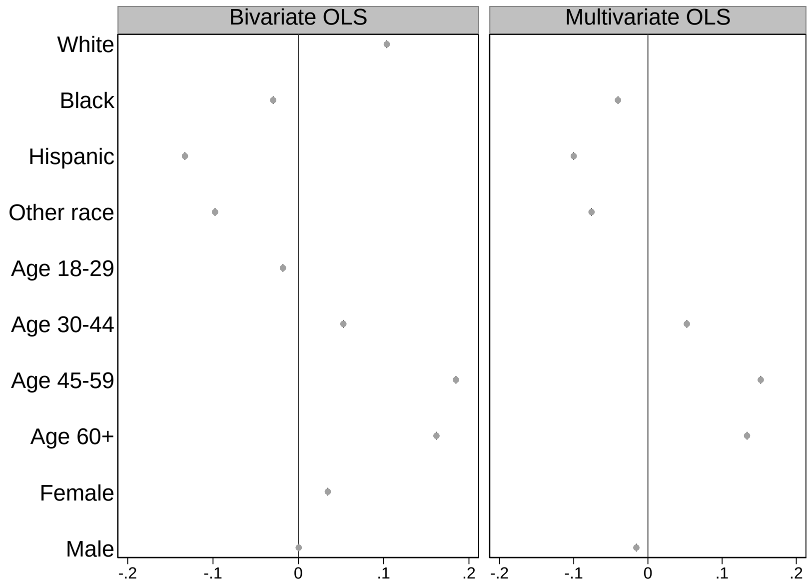


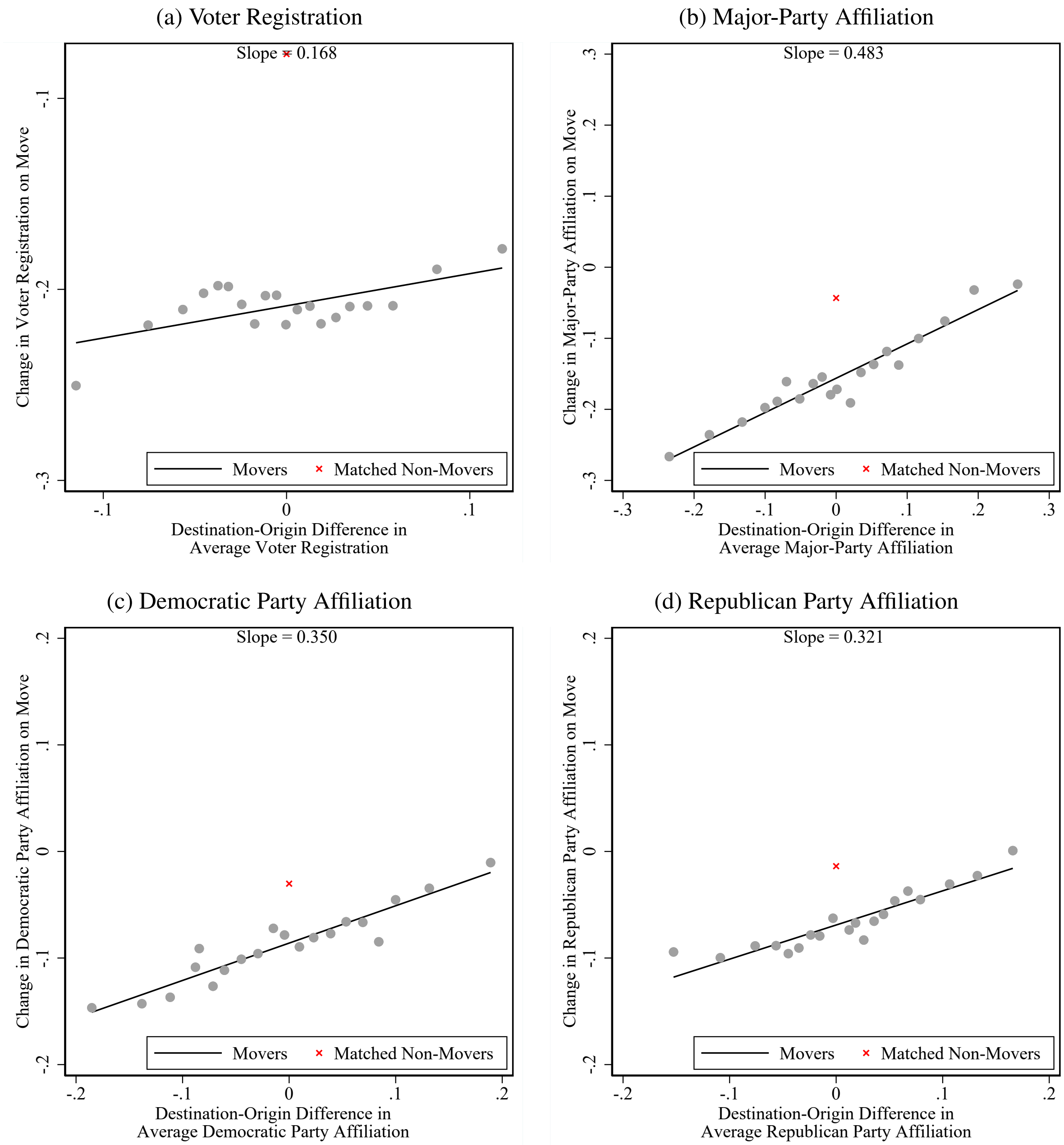
Figure 5: Correlates of Voter Turnout State and Voter Effects (cont.)

(c) Correlates of Voter Turnout Individual-Level Voter Effects



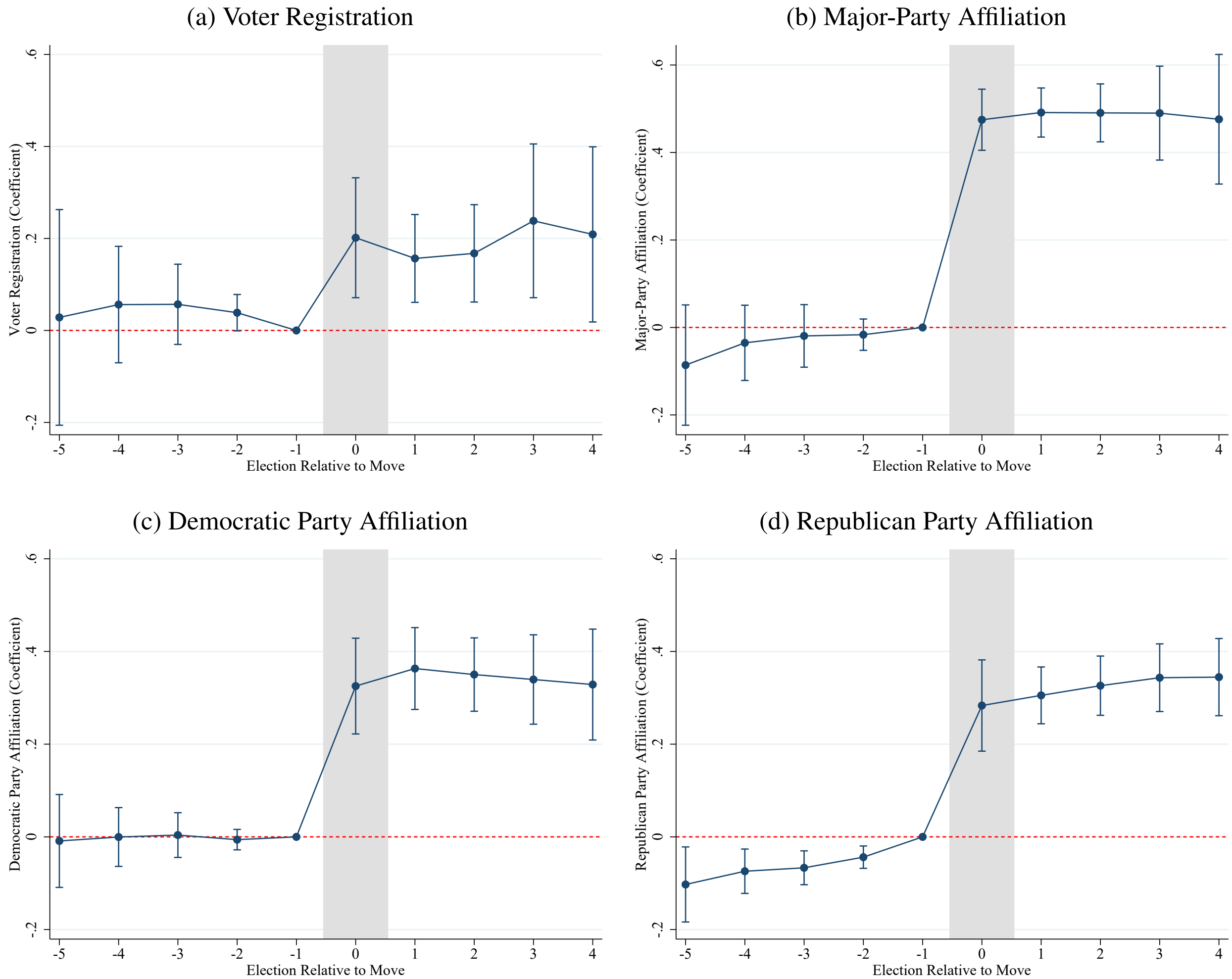
Notes: The left panel of Figure 5a reports estimates and heteroskedasticity-robust confidence intervals (at the 90- and 95-percent levels) from bivariate OLS regressions of state fixed effects $\hat{\gamma}_j$'s on state and average voter characteristics. The right panel shows results of a post-Lasso multivariate regression. All covariates are standardized to have mean 0 and unitary standard deviation. To obtain post-Lasso estimates, we first run a Lasso regression using all covariates, choosing the penalty with a 10-fold cross-validation to minimize the mean squared error. We then run a single multivariate OLS regression on the covariates selected by the Lasso regression. The sample in both panels consists of the 50 states plus the District of Columbia. The share of 2008-2018 general elections in which same-day voter registration, automatic voter registration, early voting, and no-excuse absentee voting were available to voters in each state, as well as the share of elections covered by strict voter ID laws come from the National Conference of State Legislatures. Information on states' primary election types also comes from the NCSL. Electoral competitiveness is defined as the average margin of victory of the presidential candidate who carried the state in the 2008, 2012, and 2016 presidential elections. 2008Q1-to-2018Q4 state GDP compound annual growth rates come from the U.S. Bureau of Economic Analysis. "Republican governor" denotes the share of 2008–2018 elections with a sitting Republican governor. Population density comes from 2015 5-year ACS data. The incarceration rate (per 100,000 adults) comes from the Bureau of Justice Statistics, 2013 correctional population figures. Median age, the share of non-white or Hispanic population, and the share of population in owner-occupied housing units, median household income, and the percentage of foreign-born population come from 2015 5-year ACS data. Average education is the share of the state population 25 or older with a high-school degree as computed from 2015 5-year ACS data. County-level data on the relative importance of universalist versus communal moral values come from Enke (2020); we take state averages weighting counties by total headcounts according to 2015 5-year ACS data. Figure 5b shows results from bivariate OLS regressions (left panel) and from a post-Lasso multivariate regression (right panel) of state-level averages of voter effects ($\hat{y}_j^{vot}$) on state and voter characteristics. Figure 5c shows results from bivariate OLS regressions (left panel) and from a multivariate OLS regression (right panel) of individual voter effects ($\hat{y}_j^{vot}$) on voter characteristics available in the Catalist data. The reference categories (i.e., the voter characteristics omitted from the right panel) for age and gender consist of voters with missing age and gender information, respectively. The reference category for race includes voters with unknown race, along with non-White, non-Hispanic, non-African American voters.

Figure 6: Change in Movers' Voter Registration and Party Affiliation Against Destination-Origin Differences



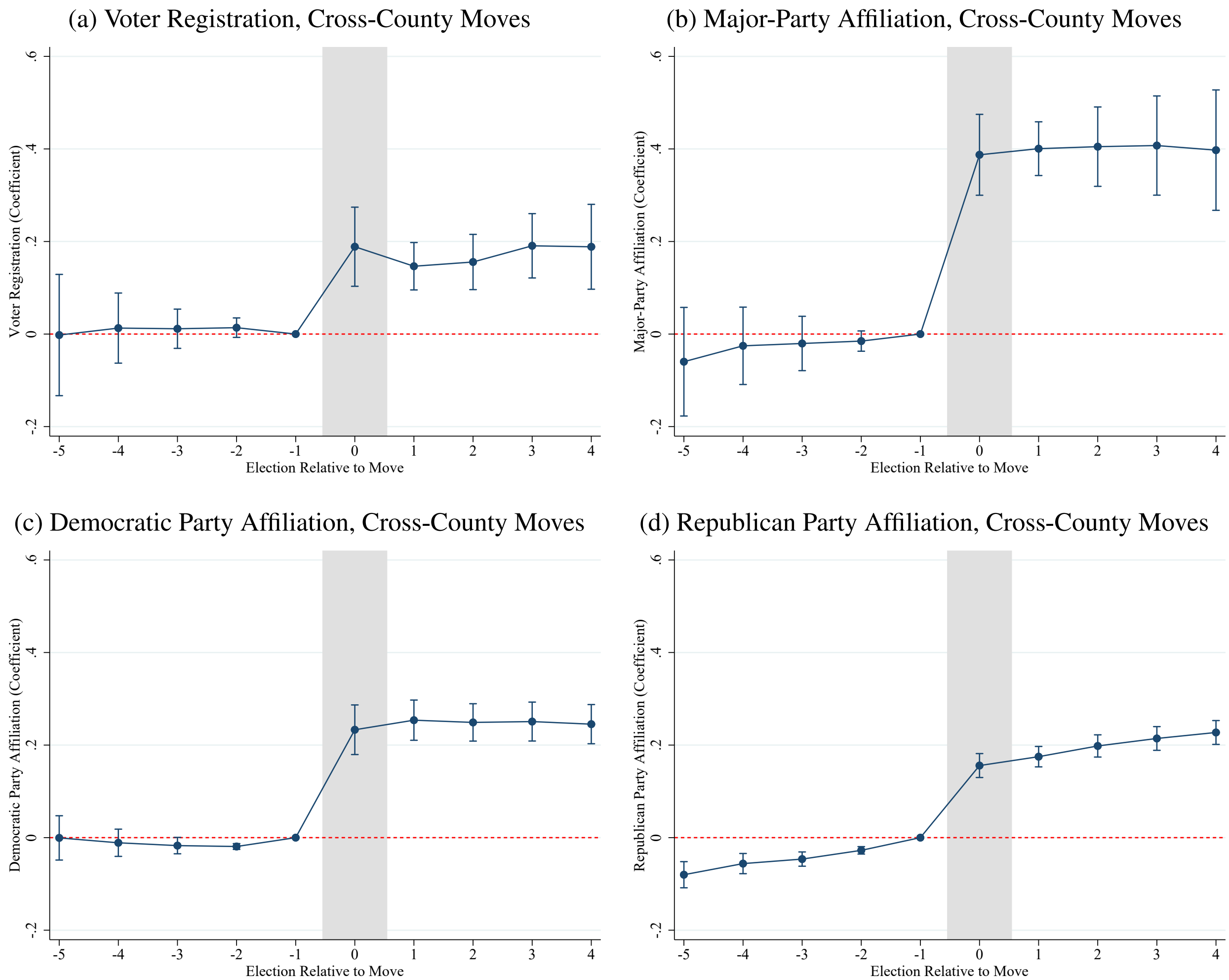
Notes: The figures show how voter registration, major-party affiliation, affiliation with the Democratic Party, and affiliation with the Republican Party change before and after move in relation to differences in average outcomes across states of destination and origin. Other notes as in Figure 2.

Figure 7: Event-Study Plots, Voter Registration and Party Affiliation



Notes: The figure plots estimates of $\theta_{r(i,t)}$ and 95-percent confidence intervals (robust to two-way clustering by states and individuals) from event-study specifications [6]. In the first graph, the dependent variable y_{it} is a dummy equal to 1 if voter i was registered for election t, and 0 otherwise. In the second, third, and fourth graphs, the dependent variable is a dummy equal to 1 if voter i was affiliated with either of the two major parties, with the Democratic Party, and with the Republican Party for election t and 0 if they were registered but not affiliated with this party or if they were not registered. For each mover, $\hat{\delta}_i$ is constructed using the difference in average outcome in the state of destination across all elections in our sample minus average outcome in the state of origin. The sample consists of all mover-years ($N = 77,988,314$) in the first graph and all mover-years for moves between states in which party affiliation is available ($N = 28,009,915$) in the second, third, and fourth graphs.

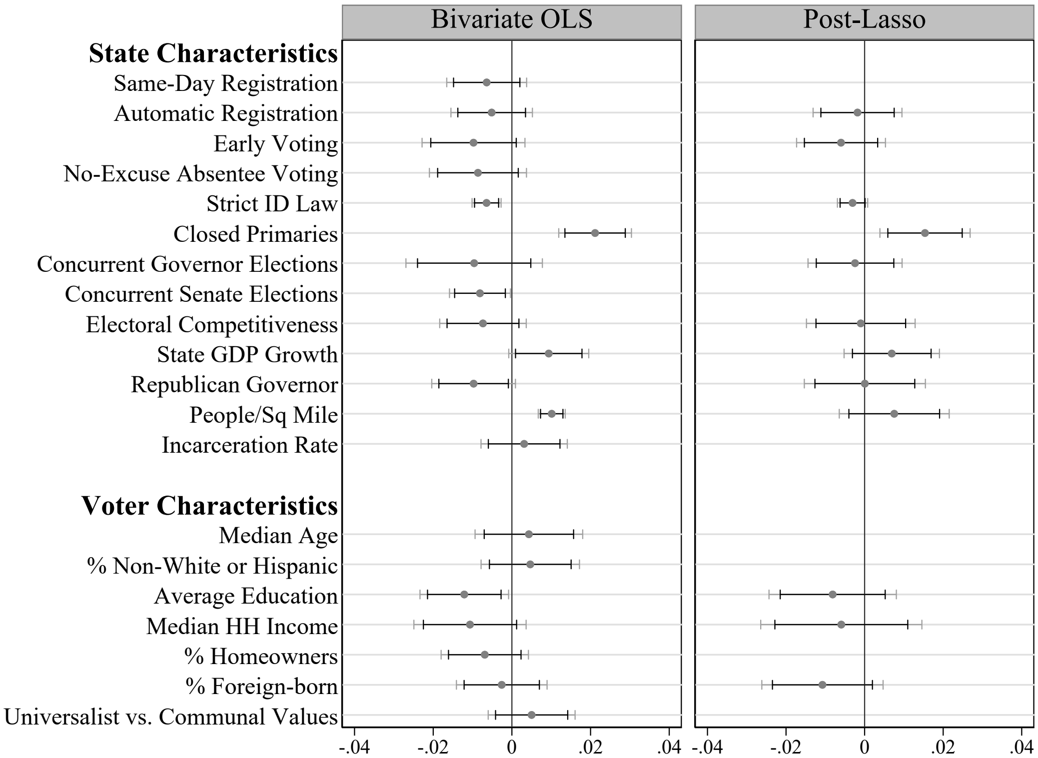
Figure 8: Event-Study Plots, Voter Registration and Party Affiliation, Cross-County Moves



Notes: The figure plots estimates of $\theta_{r(i,t)}$ and 95-percent confidence intervals (robust to two-way clustering by states and individuals) from event-study specifications [6] in which the state fixed effects are replaced by county fixed effects. The sample consists of all mover-years for movers whose county is known ($N = 180,106,108$) in the first graph and all mover-years for moves between states in which party affiliation is available and for movers whose county is known ($N = 83,812,573$) in the second, third, and fourth graphs. Other notes as in Figure 7.

Figure 9: Correlates of Democratic Party Affiliation State and Voter Effects

(a) Correlates of Democratic Party Affiliation State Effects



(b) Correlates of Democratic Party Affiliation Average Voter Effects

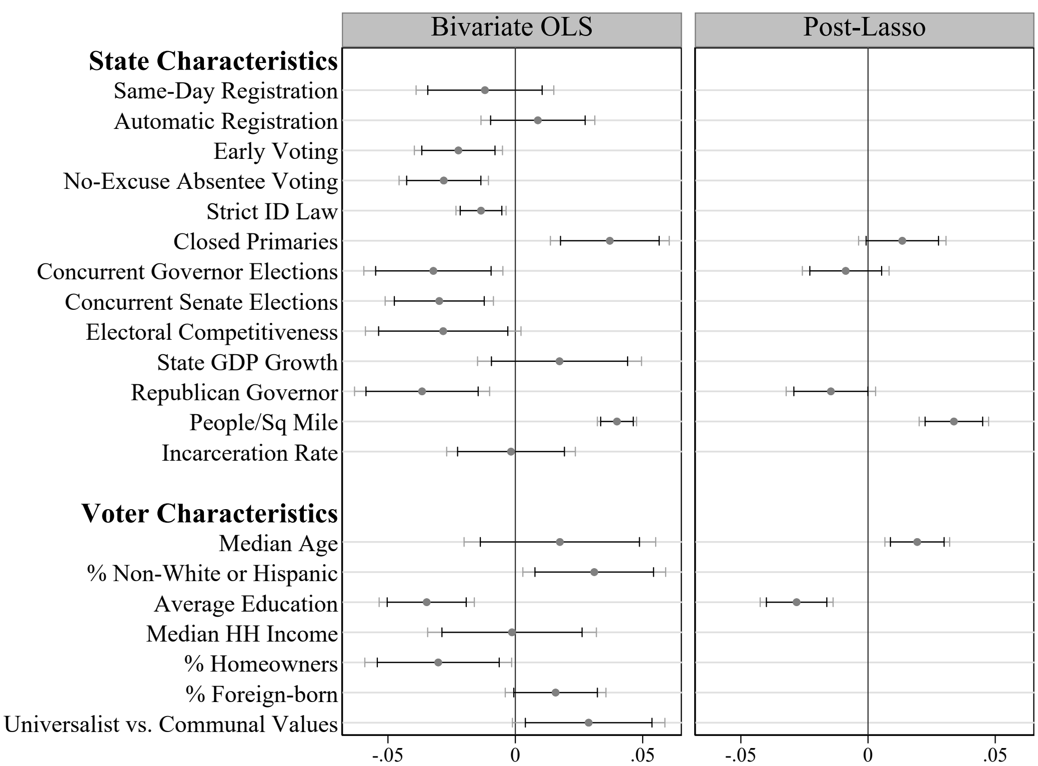
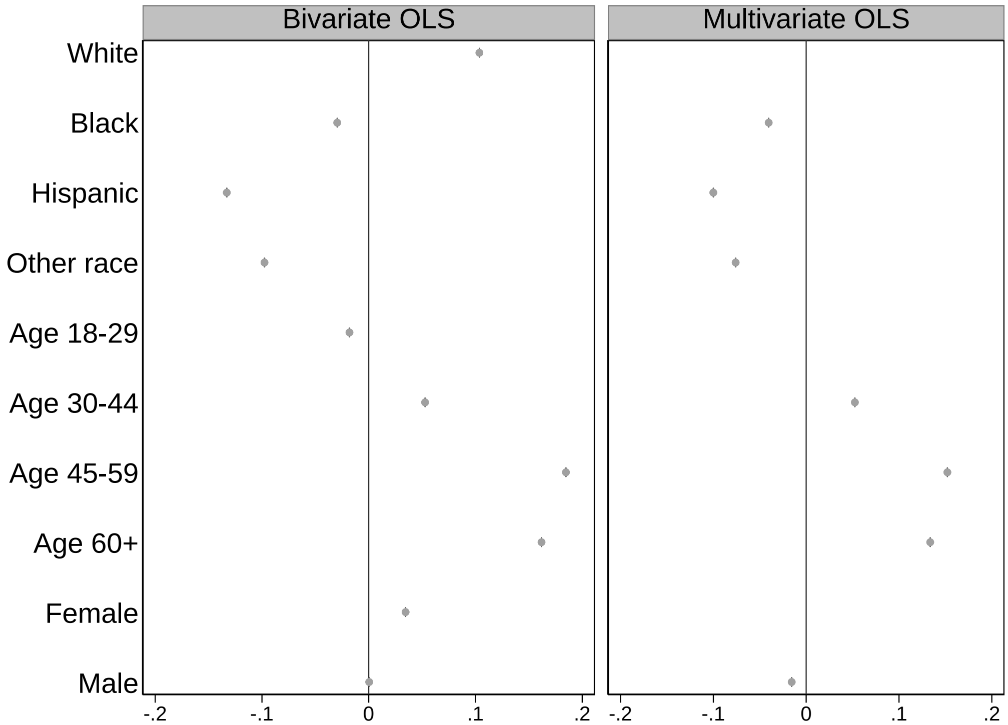


Figure 9: Correlates of Democratic Party Affiliation State and Voter Effects (cont.)

(c) Correlates of Democratic Party Affiliation Individual-Level Voter Effects



Notes: Notes as in Figure 5.

Table 1: Summary Statistics on Movers and Non-Movers

	Non-movers (1)	Movers (2)
Female	.527	.545
Non-Hispanic White	.734	.834
Non-Hispanic Black	.118	.083
Other race	.051	.034
Hispanic	.096	.049
Age:		
Missing values	.102	.026
Mean	49.01	47.78
Std. dev.	18.21	18.19
Voted	.422	.518
Registered	.681	.770
Party registration:		
Living in a state recording party registration	.556	.592
…and registered as Democrat	.160	.165
…and registered as Republican	.112	.147
…and registered for other party or unaffiliated	.106	.145
…and unregistered	.178	.135
Avg N Elections Observed	4.29	5.44
N voters	348,147,968	14,337,593
N voter-years	1,494,236,978	77,988,314

Notes: Columns 1 and 2 report summary statistics, respectively, in the samples of non-movers (i.e., voters who never cross state borders) and movers (i.e., voters who cross state borders exactly once).

Table 2: Linearly Additive Decomposition of Voter Turnout Differences

	Outcome: 1(Voted)			
	Top 25/ Bottom 26 states (1)	Top 15/ Bottom 15 states (2)	Top 10/ Bottom 10 states (3)	Top 5/ Bottom 5 states (4)
Difference in average voter turnout				
Overall	.072	.106	.126	.158
Due to voters	.045	.068	.077	.098
Due to states	.027	.038	.049	.061
Share of difference due to				
Voters	.629	.643	.613	.617
States	.371	.357	.387	.383
	(.003)	(.002)	(.003)	(.004)

Notes: Each column reports the results of our main decomposition of voter turnout using a different set of states R and R'. Standard errors (in parentheses) are calculated using a voter-level bootstrap with 50 repetitions. The sample used to run the underlying regression [1] consists of all movers and non-movers (N=1,572,225,292 voter-years).

Table 3: Variance Decomposition of Voter Turnout Differences

	(1)
Cross-state variance of average	
Voter turnout	.0021
Voter effects	.0012
State effects	.0008
Correlation of average voter and state effects	.0644
	(.0062)
Share variance would be reduced if:	
Voter effects were made equal	.638
	(.003)
State effects were made equal	.421
	(.004)

Notes: The table reports the results of the variance decomposition described in Section 4.1. Cross-state variances of state and average voter effects, as well as their correlation, are estimated using the split-sample approach described in the text. Standard errors, reported in parentheses, are computed using a voter-level bootstrap with 50 repetitions. The sample used to run the underlying regression [1] consists of all movers and non-movers (N=1,572,225,292 voter-years).

Table 4: Decomposition of Voter Turnout Differences Across Counties

	Outcome: 1(Voted)			
	Above/ Below median	Top/ Bottom quartiles	Top/ Bottom deciles	Top/ Bottom ventiles
	(1)	(2)	(3)	(4)
Difference in average voter turnout				
Overall	.096	.170	.238	.277
Due to voters	.070	.125	.174	.195
Due to counties	.026	.045	.065	.081
Share of difference due to				
Voters	.730	.736	.728	.705
Counties	.270	.264	.272	.295
	(.003)	(.004)	(.007)	(.009)

Notes: The table decomposes cross-county variation in voter turnout between its county- and voter-driven components. Each column reports the results obtained using a different set of counties R and R'. In computing outcome means as well as average county and voter effects in R and R', we weight counties by total population based on the 2015 ACS 5-year estimates. Standard errors (in parentheses) are calculated using a voter-level bootstrap with 50 repetitions. For computational reasons, the sample used to run the underlying regression [1] consists of all movers and, for each county, a random sample of non-movers of size equal to the largest between 1,000 (or a county's population, for counties with fewer than 1,000 distinct non-movers) and 5% of the county's non-movers (N=248,113,128 voter-years). Non-movers are weighted by the inverse of their sampling probability to account for the sampling procedure.

Table 5: Linearly Additive Decomposition of Voter Registration and Party Affiliation Differences

	Top 25/ Bottom 26 states (1)	Top 15/ Bottom 15 states (2)	Top 10/ Bottom 10 states (3)	Top 5/ Bottom 5 states (4)
Panel A. Outcome: 1(Registered)				
Overall difference	.069	.107	.132	.163
Due to voters	.047	.085	.102	.111
Due to states	.022	.022	.030	.051
Share due to voters	.684	.797	.775	.684
Share due to states	.316	.203	.225	.316
	(.003)	(.004)	(.002)	(.004)
Panel B. Outcome: 1(Affiliated with a Major Party)				
Overall difference	-	.157	.215	.281
Due to voters	-	.087	.117	.151
Due to states	-	.070	.098	.130
Share due to voters	-	.555	.546	.537
Share due to states	-	.445	.454	.463
	-	(.004)	(.004)	(.003)
Panel C. Outcome: 1(Affiliated with the Democratic Party)				
Overall difference	-	.142	.195	.276
Due to voters	-	.102	.136	.197
Due to states	-	.041	.058	.079
Share due to voters	-	.713	.699	.712
Share due to states	-	.287	.301	.288
	-	(.003)	(.003)	(.003)
Panel D. Outcome: 1(Affiliated with the Republican Party)				
Overall difference	-	.111	.160	.244
Due to voters	-	.087	.120	.199
Due to states	-	.024	.040	.045
Share due to voters	-	.784	.749	.816
Share due to states	-	.216	.251	.184
	-	(.005)	(.004)	(.004)

Notes: Each panel in this table replicates the decompositions of Table 2 using a different outcome. In Panels B-D, the sample of the underlying regressions is restricted to the 30 states for which Catalist records party affiliation. N in Panel A=1,572,225,292 voter-years; N in Panels B-D=877,053,668 voter-years.

Table 6: Variance Decomposition of Voter Registration and Party Affiliation Differences

	Outcome:			
	1(Registered)	1(Affiliated with a Major Party)	1(Affiliated with the Democratic Party)	1(Affiliated with the Republican Party)
	(1)	(2)	(3)	(4)
Cross-state variance of average				
Outcome	.0022	.0094	.0090	.0061
Voter effects	.0018	.0034	.0050	.0041
State effects	.0011	.0025	.0010	.0007
Correlation of average voter and state effects	-.2187	.5904	.6692	.4125
	(.0040)	(.0040)	(.0067)	(.0112)
Share variance would be reduced if:				
Voter effects were made equal	.526	.735	.887	.891
	(.005)	(.003)	(.002)	(.002)
State effects were made equal	.206	.633	.447	.332
	(.004)	(.004)	(.004)	(.007)

Notes: Each column in this table reports results of the variance decomposition described in Section 4.1 for a different outcome. Cross-state variances of state and average voter effects, as well as their correlations, are estimated using the split-sample approach described in the text. Standard errors, reported in parentheses, are computed using a voter-level bootstrap with 50 repetitions. In column 1, the sample used to run the underlying regression [1] consists of all movers and non-movers (N=1,572,225,292 voter-years). The sample for columns 2-4 is restricted to the 30 states for which Catalist records party affiliation (N=877,053,668 voter-years).

Table 7: Bounds on the Decomposition of Conditional Party Affiliation Differences

	1(Affiliated with the Democratic Party) (1)	1(Affiliated with the Republican Party) (2)
Quantities on the right-hand side of equation [10]		
Unconditional effect on major-party affiliation: *Prob* $(A_1>A_0)$	.061	.114
	(.013)	(.015)
Unconditional effect on party affiliation: $E(D_1A_1 - D_0A_0)$	.058	.067
	(.009)	(.008)
Share major-party affiliated after trajectory 1: $E(A_1)$	.443	.471
Assumption on minimum value of $E(D_0 \vert A_1>A_0)$	.000	.000
Assumption on maximum value of $E(D_0 \vert A_1>A_0)$	.570	.455
Bounds on conditional party affiliation effects of trajectory one relative to trajectory zero		
Lower bound for effects on conditional party affiliation: $E(D_1\text{-}D_0 \vert A_1=1)$	.051	.031
	(.001)	(.001)
Upper bound for effects on conditional party affiliation: $E(D_1\text{-}D_0 \vert A_1=1)$	.130	.142
	(.001)	(.001)
Bounds on conditional party affiliation effects rescaled by outcome differences		
Δ conditional party affiliation between trajectory-one destination and origin states	.109	.106
Δ conditional party affiliation between trajectory-zero destination and origin states	-.109	-.103
Lower bound/(Δ trajectory one - Δ trajectory zero)	.235	.149
	(.004)	(.004)
Upper bound/(Δ trajectory one - Δ trajectory zero)	.598	.677
	(.005)	(.006)
N	15,138,489	12,871,473

Notes: The table reports bounds on conditional party affiliation effects following the procedure described in Section 5.2. The sample in column 1 (resp. column 2) consists of two subsets of movers: movers going to a state with higher unconditional major-party affiliation and higher conditional Democratic Party (resp. Republican Party) affiliation than the state of origin (i.e., trajectory-one movers in column 1, trajectory-three movers in column 2), and voters moving to a state with lower major-party affiliation and lower conditional Democratic Party (resp. Republican Party) affiliation (i.e., trajectory-zero movers in column 1, trajectory-two movers in column 2). Impact estimates of unconditional effects come from regressions in the form of equation [9] and the corresponding standard errors are two-way clustered by voters and states. To make an assumption on the maximum value of $E(D0|A1>A0)$ in column 1 (resp. column 2), we take the fraction of affiliated Democrats (resp. Republicans) among trajectory-one (resp. trajectory-three) movers affiliated with either major party in their states of destination. Standard errors for bounds on conditional party affiliation effects are computed using a voter-level bootstrap with 50 repetitions.

Table 8: Decomposition of Voter Registration and Party Affiliation Differences Across Counties

	Above/ Below median (1)	Top/ Bottom quartiles (2)	Top/ Bottom deciles (3)	Top/ Bottom ventiles (4)
Panel A. Outcome: 1(Registered)				
Overall difference	.070	.127	.187	.233
Due to voters	.052	.098	.145	.189
Due to counties	.019	.029	.042	.044
Share due to voters	.736	.769	.773	.810
Share due to counties	.264	.231	.227	.190
Panel B. Outcome: 1(Affiliated with a Major Party)				
Overall difference	.144	.250	.353	.407
Due to voters	.069	.124	.177	.210
Due to counties	.075	.126	.176	.197
Share due to voters	.481	.496	.502	.515
Share due to counties	.519	.504	.498	.485
Panel C. Outcome: 1(Affiliated with the Democratic Party)				
Overall difference	.149	.296	.437	.499
Due to voters	.106	.213	.293	.348
Due to counties	.043	.084	.143	.150
Share due to voters	.714	.718	.672	.698
Share due to counties	.286	.282	.328	.302
Panel D. Outcome: 1(Affiliated with the Republican Party)				
Overall difference	.156	.289	.442	.501
Due to voters	.122	.228	.324	.360
Due to counties	.034	.061	.118	.141
Share due to voters	.783	.790	.733	.718
Share due to counties	.217	.210	.267	.282

Notes: Each panel in this table replicates the decompositions of Table 4 using a different outcome. In Panels B-D, the sample of the underlying regressions is restricted to the 30 states for which Catalist records party affiliation. N in Panel A=248,113,128 voter-years; N in Panels B-D=136,787,987 voter-years. For computational reasons, we only computed the standard errors for the turnout cross-county decomposition.

Table 9: Decomposition of Voter Turnout, Registration, and Party Affiliation Differences by Subgroup

	Sample	N	Mean outcome	Difference in outcome above/below median	Difference due to voters	Difference due to states	Share due to voters
		(1)	(2)	(3)	(4)	(5)	(6)
				Panel A. Outcome: 1(Voted)			
(1)	Aged 18 through 29	244,306,032	.342	.077	.041	.036	.529
(2)	Aged 30 through 44	368,066,624	.392	.085	.056	.029	.662
(3)	Aged 45 through 59	398,033,472	.514	.092	.062	.030	.671
(4)	Aged 60 or older	405,816,736	.574	.088	.073	.015	.825
(5)	White	1,161,493,760	.458	.072	.042	.031	.573
(6)	Non-white	410,731,532	.339	.082	.070	.012	.849
(7)	Female	829,378,368	.437	.071	.046	.025	.646
(8)	Male	713,789,184	.430	.075	.046	.029	.615
				Panel B. Outcome: 1(Registered)			
(1)	Aged 18 through 29	244,306,032	.809	.096	.041	.054	.433
(2)	Aged 30 through 44	368,066,624	.709	.084	.060	.023	.722
(3)	Aged 45 through 59	398,033,472	.749	.066	.053	.013	.806
(4)	Aged 60 or older	405,816,736	.756	.055	.076	-.020	1.365
(5)	White	1,161,493,760	.697	.073	.055	.018	.749
(6)	Non-white	410,731,532	.653	.123	.072	.051	.587
(7)	Female	829,378,368	.692	.072	.058	.014	.803
(8)	Male	713,789,184	.697	.071	.048	.023	.673
				Panel B. Outcome: 1(Affiliated with a Major Party)			
(1)	Aged 18 through 29	135,305,840	.502	.200	.103	.098	.513
(2)	Aged 30 through 44	203,190,544	.470	.176	.109	.066	.622
(3)	Aged 45 through 59	222,805,248	.552	.172	.115	.057	.668
(4)	Aged 60 or older	231,677,248	.608	.162	.111	.051	.683
(5)	White	631,302,528	.500	.152	.087	.064	.575
(6)	Non-white	245,751,140	.467	.199	.112	.087	.563
(7)	Female	461,490,848	.509	.161	.092	.069	.571
(8)	Male	398,460,512	.487	.159	.094	.065	.592
				Panel C. Outcome: 1(Affiliated with the Democratic Party)			
(1)	Aged 18 through 29	135,305,840	.319	.167	.120	.047	.718
(2)	Aged 30 through 44	203,190,544	.283	.155	.113	.042	.731
(3)	Aged 45 through 59	222,805,248	.310	.161	.121	.040	.752
(4)	Aged 60 or older	231,677,248	.344	.166	.119	.047	.715
(5)	White	631,302,528	.247	.121	.079	.041	.657
(6)	Non-white	245,751,140	.389	.200	.130	.070	.652
(7)	Female	461,490,848	.315	.149	.106	.044	.707
(8)	Male	398,460,512	.263	.141	.103	.038	.733
				Panel D. Outcome: 1(Affiliated with the Republican Party)			
(1)	Aged 18 through 29	135,305,840	.183	.122	.101	.021	.829
(2)	Aged 30 through 44	203,190,544	.187	.116	.097	.020	.830
(3)	Aged 45 through 59	222,805,248	.242	.127	.104	.024	.813
(4)	Aged 60 or older	231,677,248	.264	.138	.095	.043	.689
(5)	White	631,302,528	.253	.121	.092	.029	.761
(6)	Non-white	245,751,140	.079	.056	.045	.011	.801
(7)	Female	461,490,848	.193	.113	.091	.023	.801
(8)	Male	398,460,512	.224	.113	.085	.028	.753

Notes: The table reports state-level decompositions for states above versus below the median outcome, estimated separately by age categories, gender, and race. Each panel corresponds to a different outcome. Each row corresponds to a distinct sample/decomposition. In Panels C-E, the sample of the underlying regressions is restricted to the 30 states for which Catalist records party affiliation.

References

Abowd, John M, Francis Kramarz, and David N Margolis, "High Wage Workers and High Wage Firms," *Econometrica*, 1999, *67* (2), 251–333.

Abrams, Samuel J and Morris P Fiorina, "The Big Sort That Wasn't: A Skeptical Reexamination," *PS - Political Science and Politics*, 2012, *45* (2), 203–210.

Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya, "Radio and the Rise of the Nazis in Prewar Germany," *Quarterly Journal of Economics*, 2015, *130* (4), 1885–1939.

Alesina, Alberto and Eliana La Ferrara, "Preferences for Redistribution in the Land of Opportunities," *Journal of Public Economics*, 2005, *89* (5), 897–931.

Alwin, Duane F and Jon A Krosnick, "Aging, Cohorts, and the Stability of Sociopolitical Orientations Over the Life Span," *The American Journal of Sociology*, 1991, *97* (1), 169–195.

Ansolabehere, Stephen and Eitan D Hersh, "The Measure of American Elections," in Barry C Burden and Charles I I I Stewart, eds., *Voter Registration: The Process and Quality of Lists*, Cambridge: Cambridge University Press, 2014, chapter 3, pp. 61–90.

Atkeson, Lonna Rae, Yann P Kerevel, R Michael Alvarez, and Thad E Hall, "Who Asks for Voter Identification? Explaining Poll-Worker Discretion," *Journal of Politics*, 2014, *76* (4), 944–957.

Bartels, Larry M., "Partisanship and Voting Behavior, 1952-1996," *American Journal of Political Science*, 2000, *44* (1), 35–50.

Bechtel, Michael M, Dominik Hangartner, and Lukas Schmid, "Does Compulsory Voting Increase Support for Leftist Policy?," *American Journal of Political Science*, 2016, *60* (3), 752–767.

Belloni, Alexandre and Victor Chernozhukov, "Least squares after model selection in highdimensional sparse models," *Bernoulli*, 2013, *19* (2), 521–547.

Berry, Christopher R, Barry C Burden, and William G Howell, "The President and the Distribution of Federal Spending," *American Political Science Review*, 2010, *104* (4), 783–799.

Bishop, Bill, *The Big Sort: Why the Clustering of Like-Minded America is Tearing Us Apart*, Martiner Books, 2009.

Bracco, Emanuele, Ben Lockwood, Francesco Porcelli, and Michela Redoano, "Intergovernmental Grants as Signals and the Alignment Effect: Theory and Evidence," *Journal of Public Economics*, 2015, *123*, 78–91.

Braconnier, Celine, Jean-Yves Dormagen, and Vincent Pons, "Voter Registration Costs and Disenfranchisement: Experimental Evidence from France," *American Political Science Review*, 2017, *111* (3), 584–604.

Brender, Adi and Allan Drazen, "How Do Budget Deficits and Economic Growth Affect Reelection Prospects? Evidence from a Large Panel of Countries," *The American Economic Review*, 2008, *98* (5), 2203–2220.

Brennan Center for Justice, "Purges: A Growing Threat to the Right to Vote," Technical Report 2018.

Brollo, Fernanda and Tommaso Nannicini, "Tying Your Enemy's Hands in Close Races: The Politics of Federal Transfers in Brazil," *American Political Science Review*, 2012, *106* (4), 742–761.

Bronnenberg, Bart J., Jean-Pierre H. Dubé, and Matthew Gentzkow, "The Evolution of Brand Preferences: Evidence from Consumer Migration," *American Economic Review*, 2012, *102* (6), 2472–2508.

Brown, Jacob R. and Ryan D. Enos, "The Measurement of Partisan Sorting for 180 Million Voters," 2020.

Campbell, Angus, Philip E Converse, Warren E Miller, and Donald E Stokes, *The American Voter*, JohnWiley & Sons, 1960.

Cantoni, Enrico, "A Precinct Too Far: Turnout and Voting Costs," *American Economic Journal: Applied Economics*, 2020, *12* (1), 61–85.

_ **and Vincent Pons**, "Strict ID Laws Don't Stop Voters: Evidence from a U.S. Nationwide Panel, 2008-2018.," 2020.

Card, David, Jörg Heining, and Patrick Kline, "Workplace Heterogeneity and the Rise of West German Wage Inequality," *The Quarterly Journal of Economics*, 2013, *128* (3), 967–1015.

Cascio, Elizabeth U and Ebonya L Washington, "Valuing the Vote: The Redistribution of Voting Rights and State Funds Following the Voting Rights Act of 1965," *The Quarterly Journal of Economics*, 2014, *129* (1), 379–433.

Chen, M. Keith, Kareem Haggag, Devin G. Pope, and Ryne Rohla, "Racial Disparities in Voting Wait Times: Evidence from Smartphone Data," *NBER Working Paper 26487*, 2019.

Chetty, Raj and Nathaniel Hendren, "The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects," *Quarterly Journal of Economics*, 2018, pp. 1–56.

_ **and** _ , "The Impacts of Neighborhoods on Intergenerational Mobility II: County-Level Estimates," *Quarterly Journal of Economics*, 2018, pp. 1–66.

_ **, John N Friedman, and Jonah E Rockoff**, "Measuring the Impacts of Teachers I: Evaluating Bias in Teacher Value-Added Estimates," *American Economic Review*, 2014, *104* (9), 2593–2632.

DellaVigna, Stefano and Ethan Kaplan, "The Fox News Effect: Media Bias and Voting," *Quarterly Journal of Economics*, 2007, *122* (3), 1187–1234.

Doherty, Daniel, Alan S Gerber, and Donald P Green, "Personal Income and Attitudes toward Redistribution: A Study of Lottery Winners," *Political Psychology*, 2006, *27* (3), 441–458.

Enke, Benjamin, "Moral Values and Voting," *Journal of Political Economy*, 2020.

Enos, Ryan D, *The Space between Us. Social Geography and Politics*, Cambridge University Press, 2017.

Filer, John E, Lawrence W Kenny, and Rebecca B Morton, "Voting Laws, Educational Policies, and Minority Turnout," *Journal of Law and Economics*, 1991, *34*, 371–393.

Finkelstein, Amy, Matthew Gentzkow, and Heidi Williams, "Sources of Geographic Variation in Health Care: Evidence from Patient Migration," *The Quarterly Journal of Economics*, 2016, *131* (4), 1681–1726.

Fraga, Bernard L, "Candidates or Districts? Reevaluating the Role of Race in Voter Turnout," *American Journal of Political Science*, 2016, *60* (1), 97–122.

_ , "Redistricting and the Causal Impact of Race on Voter Turnout," *The Journal of Politics*, 2016, *78* (1), 19–34.

_ , *The Turnout Gap: Race, Ethnicity, and Political Inequality in a Diversifying America*, Cambridge University Press, 2018.

Fujiwara, Thomas, "Voting Technology, Political Responsiveness, and Infant Health: Evidence From Brazil," *Econometrica*, 2015, *83* (2), 423–464.

Gay, Claudine, "Moving to Opportunity: The Political Effects of a Housing Mobility Experiment," *Urban Affairs Review*, 2012, *48* (2), 147–179.

Gentzkow, Matthew, Jesse M Shapiro, and Michael Sinkinson, "The Effect of Newspaper Entry and Exit on Electoral Politics," *American Economic Review*, 2011, *101* (7), 2980–3018.

Gerber, Alan S and Donald P Green, "The Effects of Canvassing, Telephone Calls, and Direct Mail on Voter Turnout: A field experiment," *American Political Science Review*, 2000, *94* (3), 653–663.

Gerber, Alan S., Gregory A. Huber, and Ebonya Washington, "Party Affiliation, Partisanship, and Political Beliefs: A Field Experiment," *American Political Science Review*, 2010, *104* (4), 720–744.

Gerber, Alan S, Jonathan Gruber, and Daniel M Hungerman, "Does Church Attendance Cause People to Vote? Using Blue Laws' Repeal to Estimate the Effect of Religiosity on Voter Turnout," *British Journal of Political Science*, 2016, *46* (3), 481–500.

Gimpel, James G and Jason E Schuknecht, "Political participation and the accessibility of the ballot box," *Political Geography*, 2003, *22* (5), 471–488.

Gosnell, Harold Foote, *Why Europe Votes*, The University of Chicago Press, 1930.

Green, Donald, Bradley Palmquist, and Eric Schickler, *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*, New Haven: Yale University Press, 2002.

Haidt, Jonathan, *The Righteous Mind: Why Good People Are Divided by Politics and Religion*, Pantheon, 2012.

Hall, Andrew B. and Jesse Yoder, "Does Homeownership Influence Political Behavior? Evidence from Administrative Data," *Journal of Politics*, 2020.

Hersh, Eitan D and Clayton Nall, "The Primacy of Race in the Geography of Income-Based Voting: New Evidence from Public Voting Records," *American Journal of Political Science*, 2016, *60* (2), 289–303.

_ **and Matthew N Goldenberg**, "Democratic and Republican physicians provide different care on politicized health issues," *Proceedings of the National Academy of Sciences*, 2016, *113* (42), 11811–11816.

Highton, Benjamin and Raymond E Wolfinger, "The Political Implications of Higher Turnout," *British Journal of Political Science*, 2001, *31* (1), 179–192.

Hirschman, Albert O, *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*, Boston: Harvard University Press, 1970.

Hoffman, Mitchell, Gianmarco León, and María Lombardi, "Compulsory voting, turnout, and government spending: Evidence from Austria," *Journal of Public Economics*, 2017, *145*, 103–115.

Holbein, John B., "Childhood Skill Development and Adult Political Participation," *American Political Science Review*, 2017, *111* (3), 572–583.

Holbein, John B and D Sunshine Hillygus, "Making Young Voters: The Impact of Preregistration on Youth Turnout," *American Journal of Political Science*, 2016, *60* (2), 364–382.

Husted, Thomas A and Lawrence W Kenny, "The Effect of the Expansion of the Voting Franchise on the Size of Government," *Journal of Political Economy*, 1997, *105* (1), 54–82.

Hyman, Herbert, *Political Socialization: A Study in the Psychology of Political Behavior*, New York: Free Press, 1959.

Jackman, Simon and Bradley Spahn, "Politically Invisible in America," *Working Paper*, 2018.

Jennings, M. Kent and Richard G. Niemi, *The Political Character of Adolescence: The Influence of Families and Schools*, Princeton: Princeton University Press, 1974.

Jha, Saumitra and Moses Shayo, "Valuing Peace: The Effects of Financial Market Exposure on Votes and Political Attitudes," *Econometrica*, 2019, *87* (5), 1561–1588.

Johnston, Ron, David Manley, and Kelvyn Jones, "Spatial Polarization of Presidential Voting in the United States, 1992-2012: The Big Sort Revisited," *Annals of the American Association of Geographers*, 2016, *106* (5), 1047–1062.

Kaplan, Ethan and Haishan Yuan, "Early Voting Laws, Voter Turnout, and Partisan Vote Composition: Evidence from Ohio," *American Economic Journal: Applied Economics*, 2019.

Kaustia, Markku, Samuli Knüpfer, and Sami Torstila, "Stock Ownership and Political Behavior: Evidence from Demutualizations," *Management Science*, 2016, *62* (4), 945–963.

Knack, Stephen, "Does Motor Voter Work? Evidence from State-Level Data," *Journal of Politics*, 1995, *57* (3), 796–811.

Le Pennec, Caroline and Vincent Pons, "How do Campaigns Shape Vote Choice? Multi-Country Evidence from 62 Elections and 56 TV Debates," *NBER Working Paper 26572*, 2020.

Lee, David S, "Training,Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects," *Review of Economic Studies*, 2009, *76* (3), 1071–1102.

Mannheim, Karl, "The Problem of Generations," in Paul Kecskemeti, ed., *Essays on the Sociology of Knowledge: Collected Works, Volume 5*, New York: Routledge, 1952, pp. 276–322.

Marshall, John, "The Anti-Democrat Diploma: How High School Education Decreases Support for the Democratic Party," *American Journal of Political Science*, 2019, *63* (1).

Massey, Douglas S and Nancy A Denton, *American Apartheid. Segregation and the Making of the Underclass*, Harvard University Press, 1998.

McDonald, Michael P, "State Turnout Rates in General Elections, 2008-2016," 2018.

_ **and Samuel L Popkin**, "No Title," *The American Political Science Review*, 2001, *95* (4), 963–974.

Meltzer, Allan H and Scott F Richard, "A Rational Theory of the Size of Government," *Journal of Political Economy*, 1981, *89* (5), 914–927.

Miller, Grant, "Women's Suffrage, Political Responsiveness, and Child Survival in American History," *Quarterly Journal of Economics*, aug 2008, *123* (3), 1287–1327.

Miller, Warren E., "Party Identification, Realignment, and Party Voting: Back to the Basics," *American Political Science Review*, 1991, *85* (2), 557–568.

Milligan, Kevin, Enrico Moretti, and Philip Oreopoulos, "Does Education Improve Citizenship? Evidence from the United States and the United Kingdom," *Journal of Public Economics*, 2004, *88* (9-10), 1667–1695.

Mueller, Dennis C and Thomas Stratmann, "The economic effects of democratic participation," *Journal of Public Economics*, 2003, *87* (9), 2129–2155.

Naidu, Suresh, "Suffrage, Schooling, and Sorting in the Post-Bellum U.S. South," *NBER Working Paper 18129*, 2012.

Neundorf, Anja and Kaat Smets, "Political Socialization and the Making of Citizens," *Oxford Handbooks Online*, 2017, (January), 1–28.

Nickerson, David W and Todd Rogers, "Political Campaigns and Big Data," *Journal of Economic Perspectives*, 2014, *28* (2), 51–74.

Niemi, Richard G and M. Kent Jennings, "Issues and Inheritance in the Formation of Party Identification," *American Journal of Political Science*, 1991, *35* (4), 970–988.

Perez-Truglia, Ricardo, "Political Conformity: Event-Study Evidence from the United States," *Review of Economics and Statistics*, 2018, *100* (1), 14–28.

Peterson, Erik, "The Rich are Different: The Effect of Wealth on Partisanship," *Political Behavior*, 2016, *38* (1), 33–54.

Pons, Vincent, "Will a Five-Minute Discussion Change your Mind? A Countrywide Experiment on Voter Choice in France," *American Economic Review*, 2018, *108* (6), 1322–1363.

Powell, Bingham G, *Contemporary Democracies. Participation, Stability, and Violence*, Harvard University Press, 1982.

_ , "American voter turnout in comparative perspective," *American Political Science Review*, 1986, *80* (1), 17–43.

Schlozman, Kay Lehman, Sidney Verba, and Henry E Brady, *The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy*, Princeton, N.J.: Princeton University Press, 2012.

Siegfried, André, *Tableau politique de la France de l'Ouest sous la Troisième République*, Armand Colin, 1913.

Song, Jae, David J. Price, Fatih Guvenen, Nicholas Bloom, and Till von Wachter, "Firming Up Inequality," *Quarterly Journal of Economics*, 2019, *134* (1), 1–50.

Spenkuch, Jorg L and David Toniatti, "Political Advertising and Election Results," *Quarterly Journal of Economics*, 2018, *133* (4), 1981–2036.

Squire, Peverill, Raymond E Wolfinger, and David P Glass, "Residential Mobility and Voter Turnout," *American Political Science Review*, 1987, *81* (1), 45–66.

Sussell, Jesse, "New Support for the Big Sort Hypothesis: An Assessment of Partisan Geographic Sorting in California, 1992-2010," *PS - Political Science and Politics*, 2013, *46* (4), 768–773.

Tam Cho, Wendy K, James G Gimpel, and Iris S Hui, "Voter Migration and the Geographic Sorting of the American Electorate," *Annals of the Association of American Geographers*, 2013, *103* (4), 856–870.

Verba, Sydney, Kay Lehman Schlozman, and Henry E Brady, *Voice and Equality: Civic Voluntarism in American Politics*, Cambridge, MA: Harvard University Press, 1995.

White, Ariel R, Noah L Nathan, and Julie K Faller, "What Do I Need to Vote? Bureaucratic Discretion and Discrimination by Local Election Officials," *American Political Science Review*, 2015, *109* (1), 129–142.

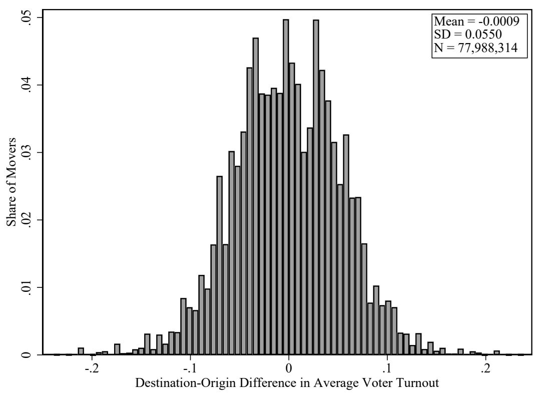
Wolfinger, Raymond E and Steven J Rosenstone, *Who votes?*, New Haven: Yale University Press, 1980.

A Online Appendix

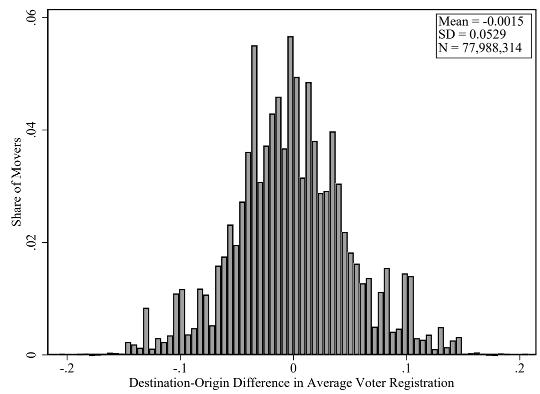
A.1 Additional Summary Statistics

Figure A.1: Destination-Origin Difference in Voter Turnout, Registration, and Party Affiliation

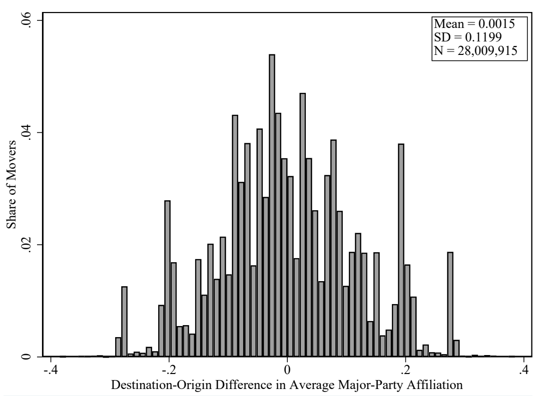
(a) Voter Turnout



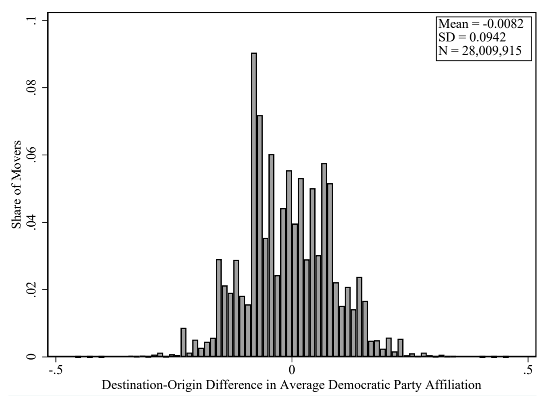
(b) Voter Registration



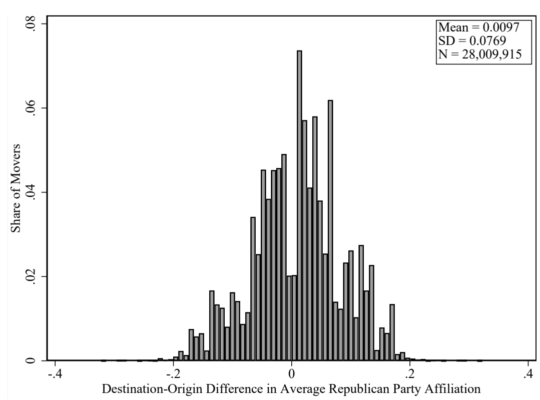
(c) Major-Party Affiliation



(d) Democratic Party Affiliation



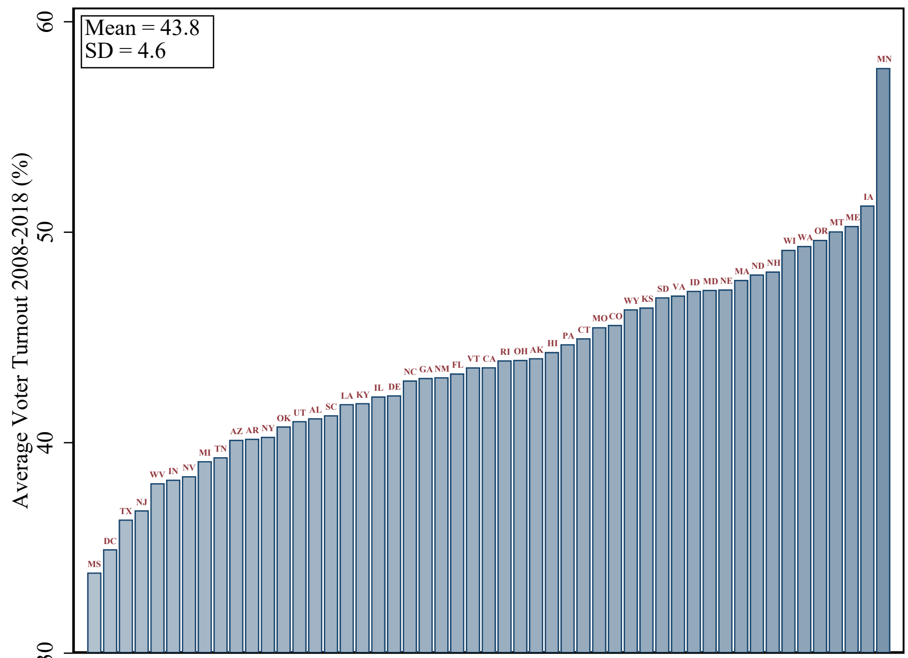
(e) Republican Party Affiliation



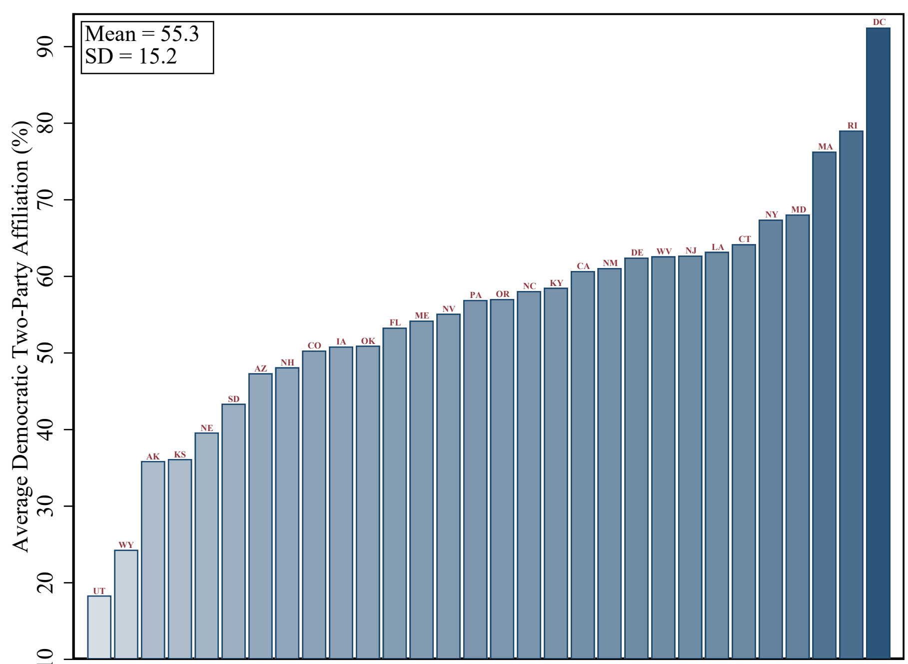
Notes: The figures show the distributions of the difference in average voter turnout, registration, major-party affiliation, Democratic Party affiliation, and Republican Party affiliation across states of origin and destination ($\hat{\delta}_i$) in the movers sample. The sample consists of all mover-years.

Figure A.2: Average Voter Turnout and Democratic Two-Party Affiliation Share by State, 2008–2018

(a) Voter Turnout



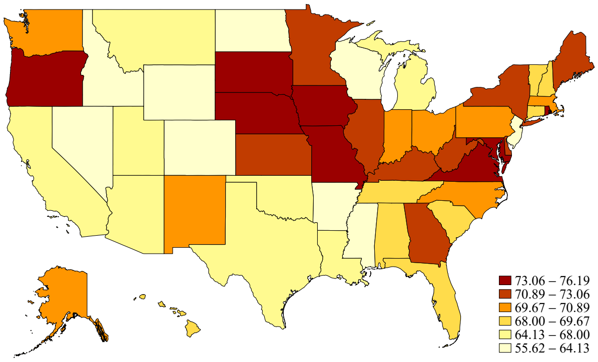
(b) Democratic Two-Party Affiliation



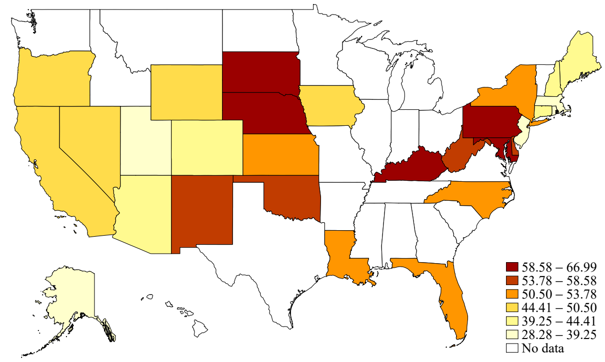
Notes: For each state, we show the simple average of voter turnout and Democratic Two-Party affiliation share across the six elections (2008–2018) in the Catalist data. The sample consists of all movers and non-movers.

Figure A.3: Distribution of Voter Registration and Major-Party, Democratic Party, and Republican Party Affiliation by State, 2008–2018

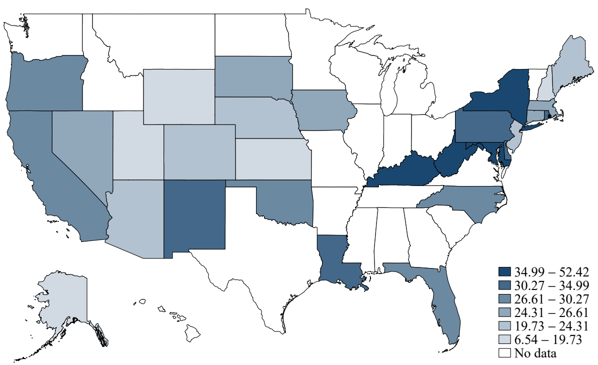
(a) Voter Registration



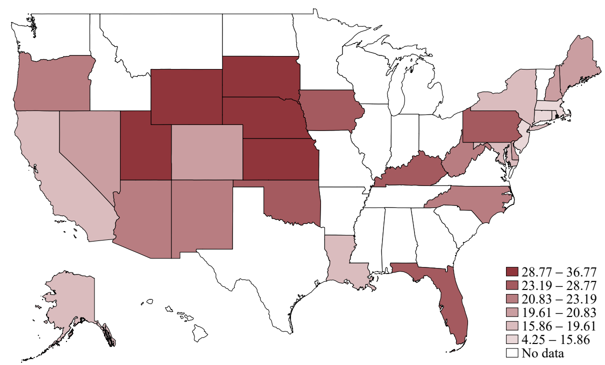
(b) Major-Party Affiliation



(c) Democratic Party Affiliation

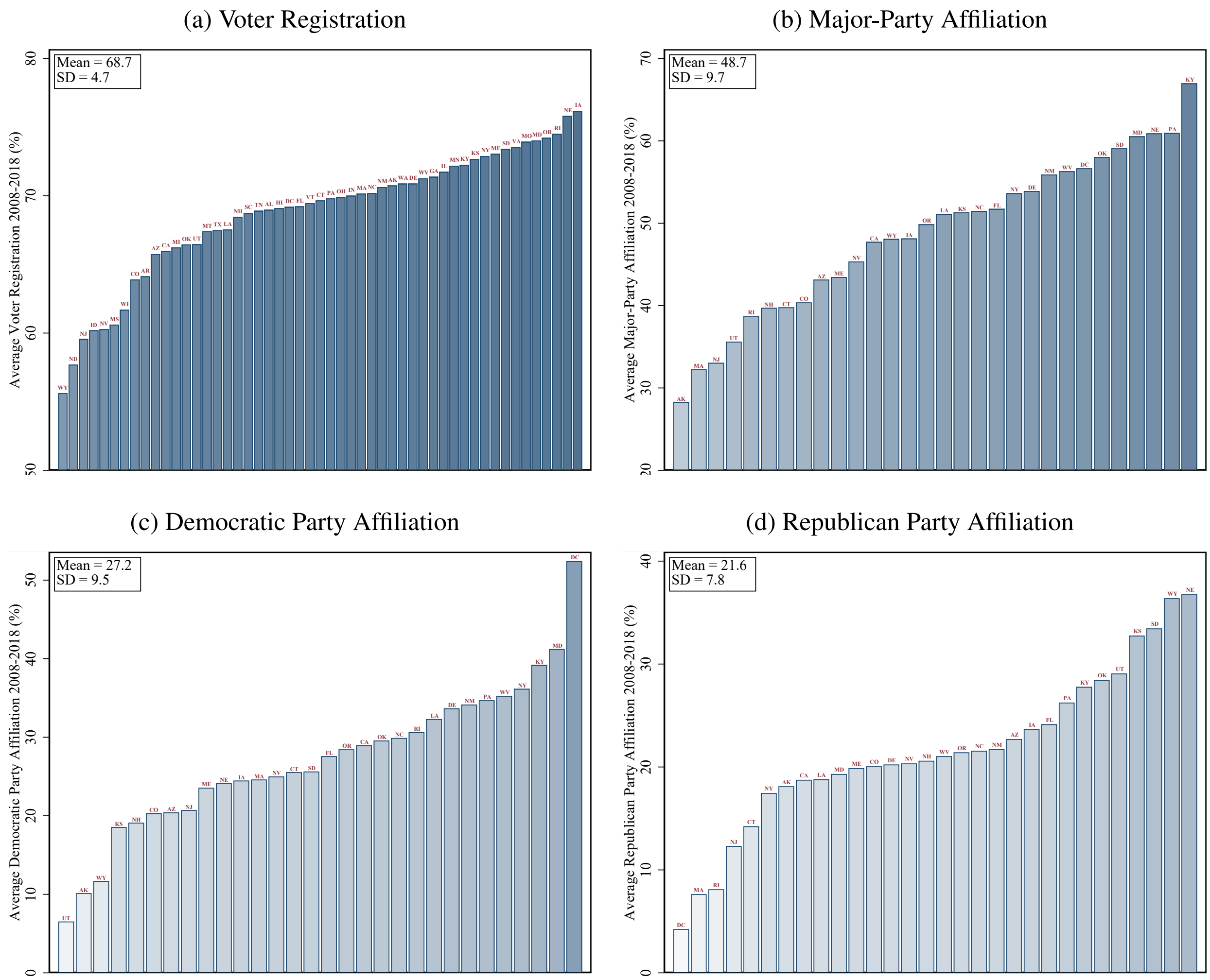


(d) Republican Party Affiliation



Notes: The maps plot average state voter registration, major-party affiliation (a dummy equal to 1 for citizens who are registered and affiliated with either major party), Democratic Party affiliation (a dummy equal to 1 for registered Democrats and 0 for people who are not registered or registered but not affiliated with the Democrats), and Republican Party affiliation (defined similarly) in the Catalist data in six bins. Lower and upper limits of the outcome in each bin are displayed in the legend. For each state, we take the simple outcome average across the six elections (2008–2018) in the Catalist data. The sample consists of all movers and non-movers.

Figure A.4: Average Voter Registration and Major-Party, Democratic Party, and Republican Party Affiliation by State, 2008–2018



Notes: For each state, we show the simple average of voter registration, major-party affiliation, Democratic Party affiliation, and Republican Party affiliation across the six elections (2008–2018) in the Catalist data. The sample consists of all movers and non-movers.

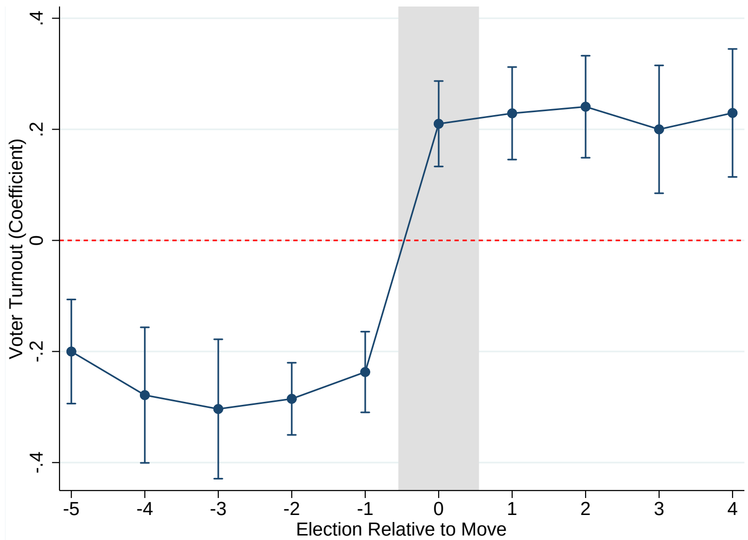
Table A.1: Movers by Pairs of Census Divisions

		Destination									
		ENC	ESC	M-A	M	NE	P	SA	WNC	WSC	Total
Origin	East North Central	3.05	1.32	0.65	1.58	0.26	1.17	4.08	1.31	1.19	14.59
	East South Central	0.79	0.87	0.16	0.27	0.06	0.26	1.72	0.20	0.66	4.98
	Middle Atlantic	0.76	0.33	2.73	0.73	1.05	0.99	6.01	0.21	0.60	13.42
	Mountain	0.77	0.27	0.35	2.40	0.20	2.44	1.16	0.74	1.13	9.45
	New England	0.25	0.12	0.69	0.32	1.72	0.46	2.00	0.10	0.22	5.88
	Pacific	0.87	0.40	0.67	3.97	0.37	3.46	1.76	0.60	1.47	13.57
	South Atlantic	2.17	1.91	2.66	1.37	1.00	1.62	9.78	0.66	1.72	22.90
	West North Central	1.14	0.27	0.18	1.14	0.09	0.64	1.04	1.94	0.95	7.39
	West South Central	0.65	0.67	0.32	1.15	0.14	0.97	1.54	0.67	1.73	7.82
	Total	10.45	6.16	8.39	12.92	4.89	12.01	29.09	6.42	9.67	100.00

Notes: Each cell reports the percentage of all movers who moved from the census division in row to the census division in column. The denominator is all movers.

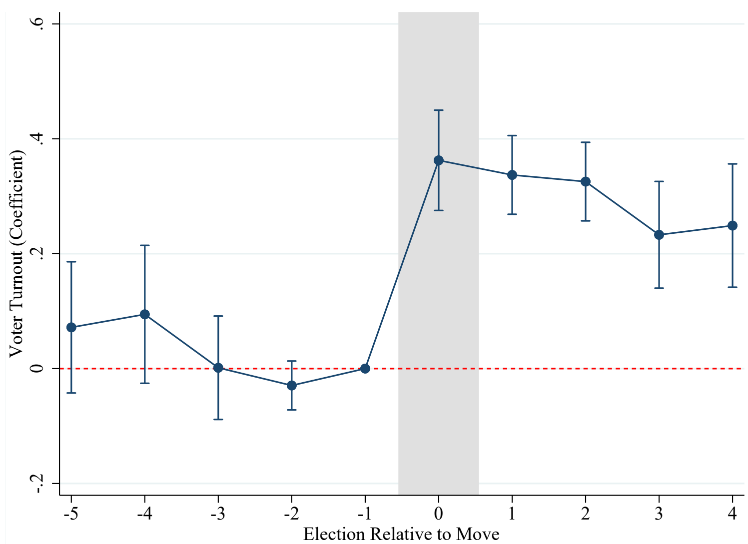
A.2 Additional Results

Figure A.5: Event-Study Plot: δ_i Defined Using Year-Specific Differences in Average Voter Turnout Between States of Destination and Origin



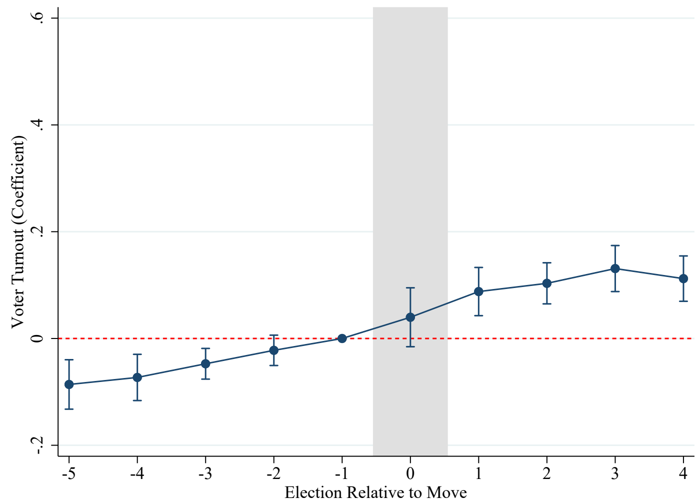
Notes: The figure replicates Figure 3 using year-specific $\hat{\delta}_{it}$'s instead of the time-invariant $\hat{\delta}_i$'s.

Figure A.6: Event-Study Plot: δ_i Defined Using McDonald's State Turnout Figures



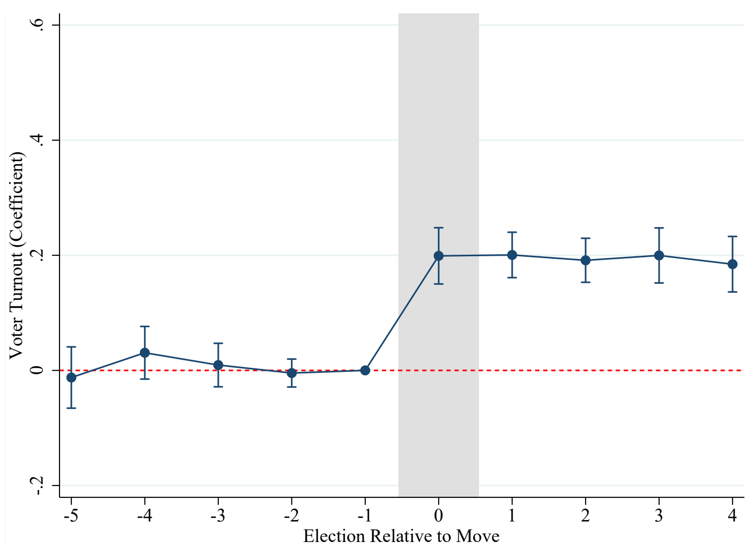
Notes: The figure replicates Figure 3 using $\hat{\delta}_i$'s based on McDonald (2018)'s voter turnout data instead of the Catalist data.

Figure A.7: Event-Study Plot, Voter Turnout, Cross-County Moves Within States



Notes: The figure replicates Figure 4 restricting the sample to within-state movers.

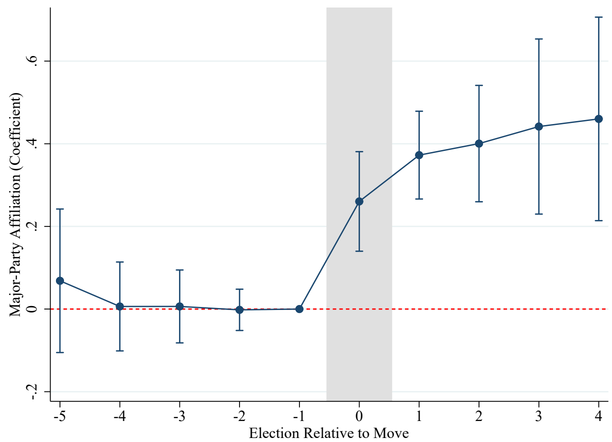
Figure A.8: Event-Study Plot, Voter Turnout, Cross-County Moves Across States



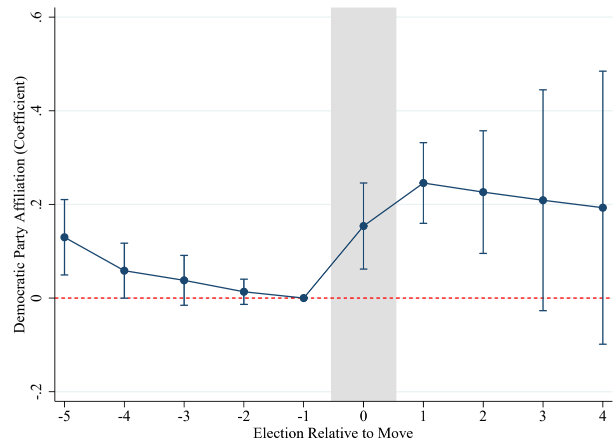
Notes: The figure replicates Figure 4 restricting the sample to cross-state movers.

Figure A.9: Event-Study Plots, Party Affiliation, States with Identical Primaries Rules

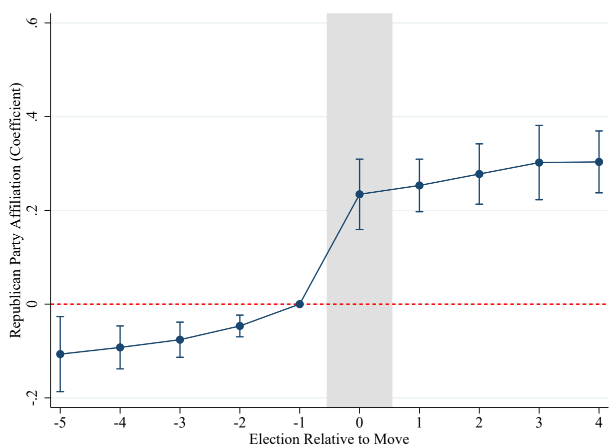
(a) Major-Party Affiliation, States with Identical Primaries Rules



(b) Democratic Party Affiliation, States with Identical Primaries Rules



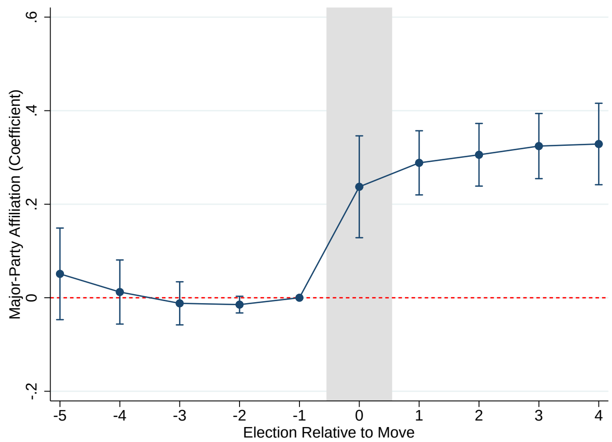
(c) Republican Party Affiliation, States with Identical Primaries Rules



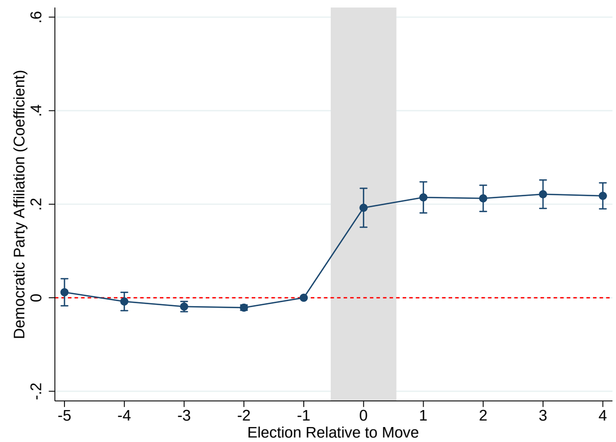
Notes: The figure plots estimates of $\theta_{r(i,t)}$ and 95-percent confidence intervals (robust to two-way clustering by states and individuals) from event-study specification [6]. The dependent variables are dummies defined whether voters are registered or not and equal to 1 if they are affiliated with either of the two major parties (resp. with the Democratic Party, and with the Republican Party), and 0 otherwise. For each mover, $\hat{\delta}_i$ is constructed using the difference in average outcome in the state of destination across all elections in our sample minus average outcome in the state of origin. The sample consists of all mover-years for moves between states in which party affiliation is available and with identical primaries rules.

Figure A.10: Event-Study Plots, Party Affiliation, States with Identical Primaries Rules, Cross-County Moves

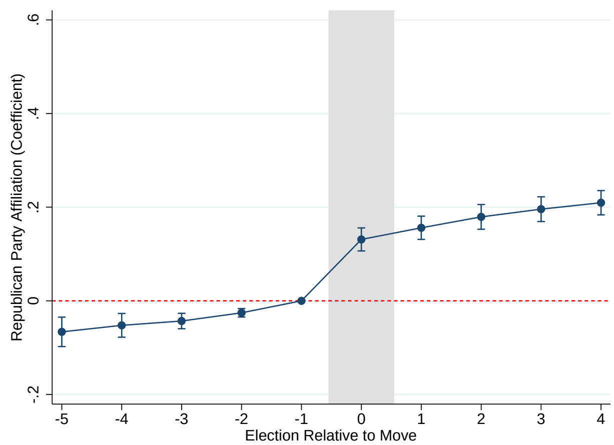
(a) Major-Party Affiliation, States with Identical Primaries Rules, Cross-County Moves



(b) Democratic Party Affiliation, States with Identical Primaries Rules, Cross-County Moves



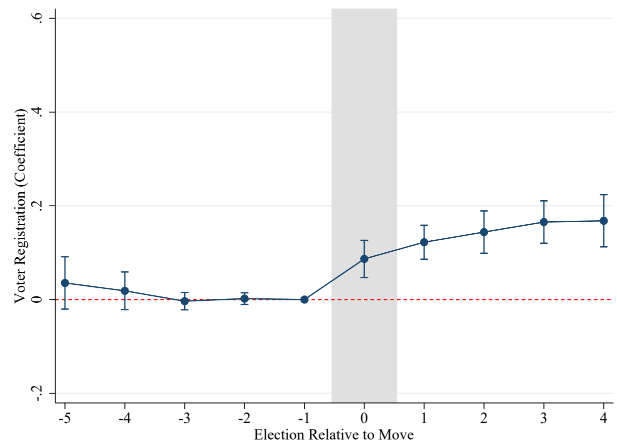
(c) Republican Party Affiliation, States with Identical Primaries Rules, Cross-County Moves



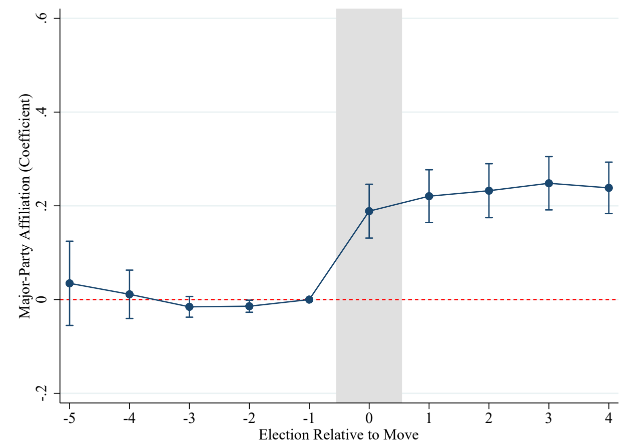
Notes: The figure plots estimates of $\theta_{r(i,t)}$ and 95-percent confidence intervals (robust to two-way clustering by states and individuals) from event-study specifications [6] in which the state fixed effects are replaced by county fixed effects. The dependent variables are dummies defined whether voters are registered or not and equal to 1 if they are affiliated with either of the two major parties (resp. with the Democratic Party, and with the Republican Party), and 0 otherwise. The sample consists of all mover-years for moves between states in which party affiliation is available and with identical primaries rules and for movers whose county is known.

Figure A.11: Event-Study Plots, Voter Registration and Party Affiliation, Cross-County Moves Within States

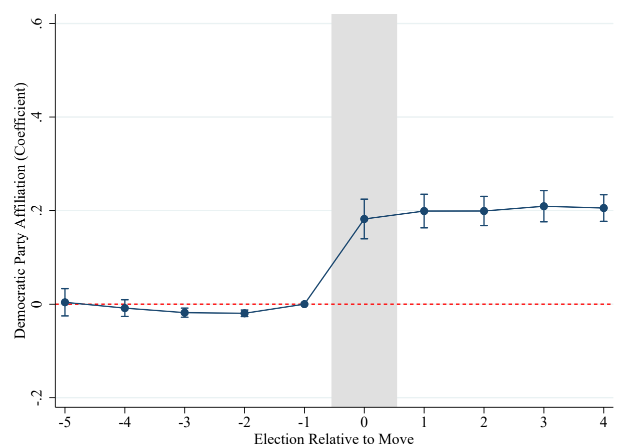
(a) Voter Registration, Cross-County Moves Within States



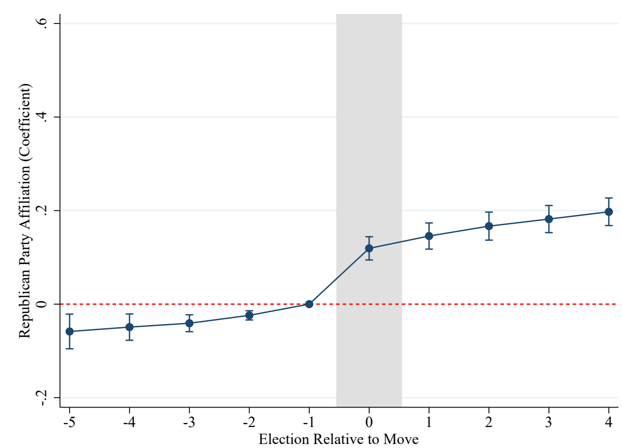
(b) Major-Party Affiliation, Cross-County Moves Within States



(c) Democratic Party Affiliation, Cross-County Moves Within States



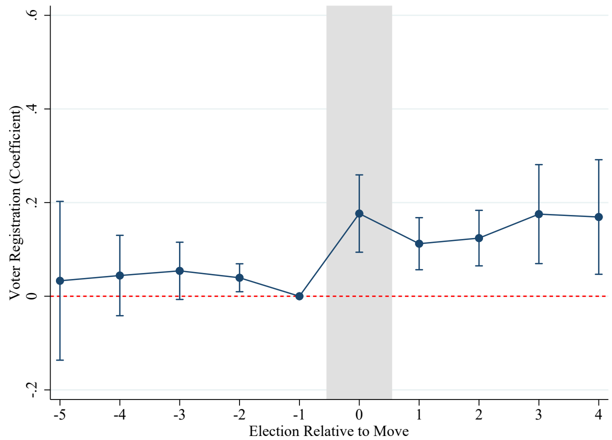
(d) Republican Party Affiliation, Cross-County Moves Within States



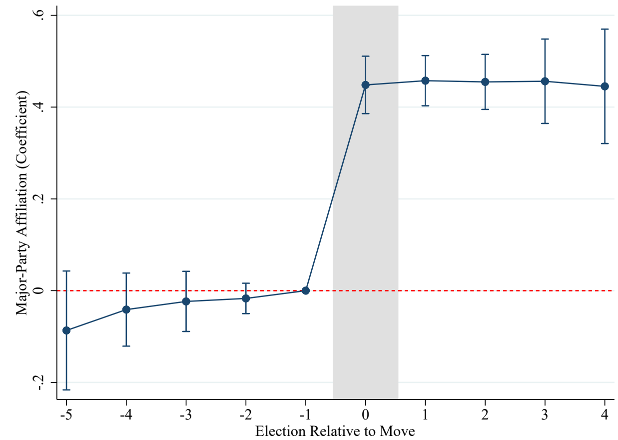
Notes: The figure replicates Figure 8 restricting the sample to within-state movers.

Figure A.12: Event-Study Plots, Voter Registration and Party Affiliation, Cross-County Moves Across States

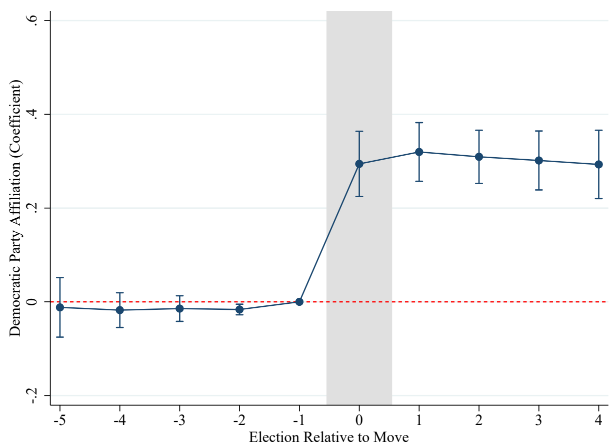
(a) Voter Registration, Cross-County Moves Across States



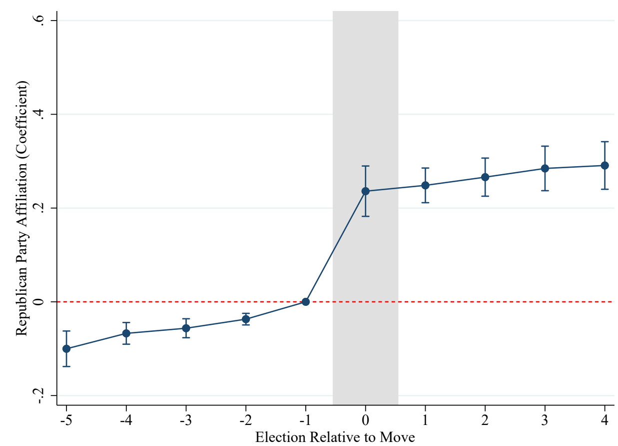
(b) Major-Party Affiliation, Cross-County Moves Across States



(c) Democratic Party Affiliation, Cross-County Moves Across States



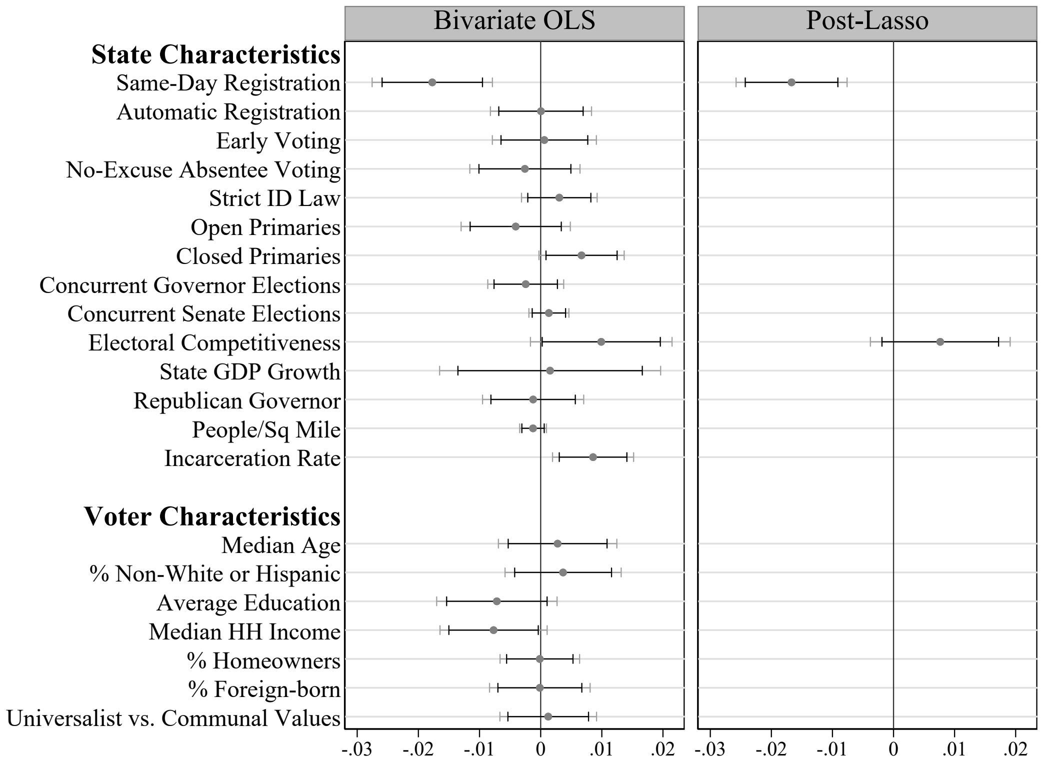
(d) Republican Party Affiliation, Cross-County Moves Across States



Notes: The figure replicates Figure 8 restricting the sample to cross-state movers.

Figure A.13: Correlates of Voter Registration State and Voter Effects

(a) Correlates of Voter Registration State Effects



(b) Correlates of Voter Registration Average Voter Effects

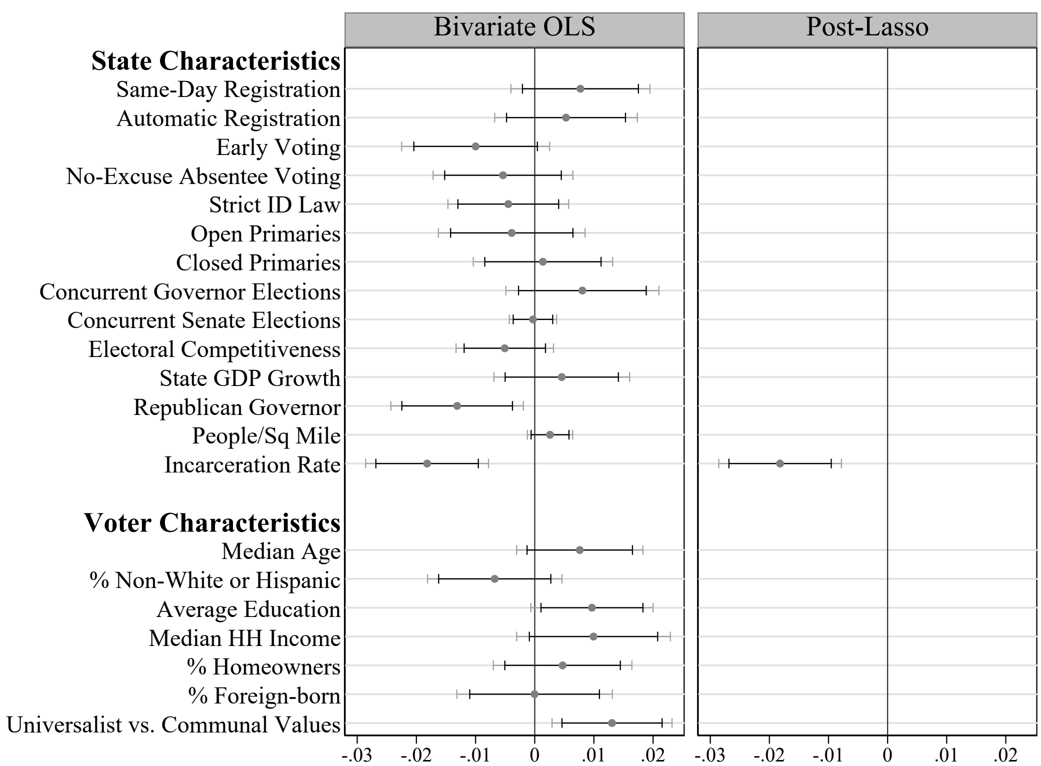
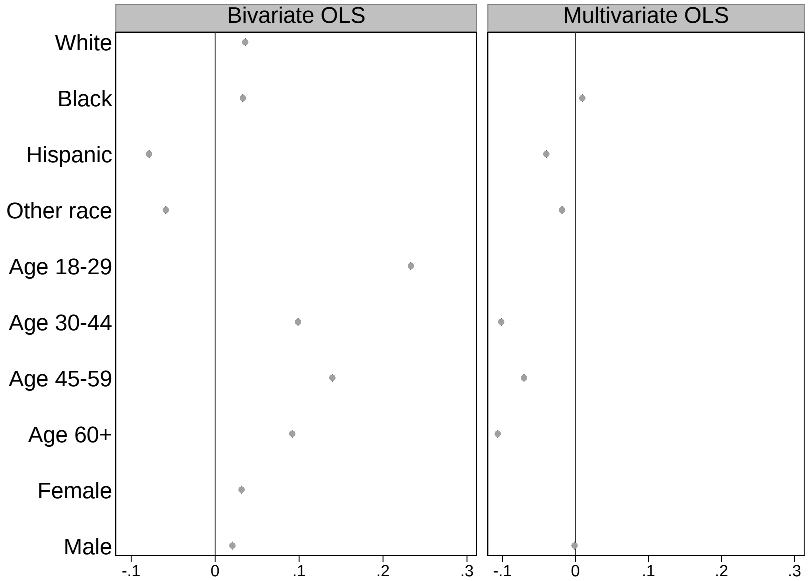


Figure A.13: Correlates of Voter Registration State and Voter Effects (cont.)

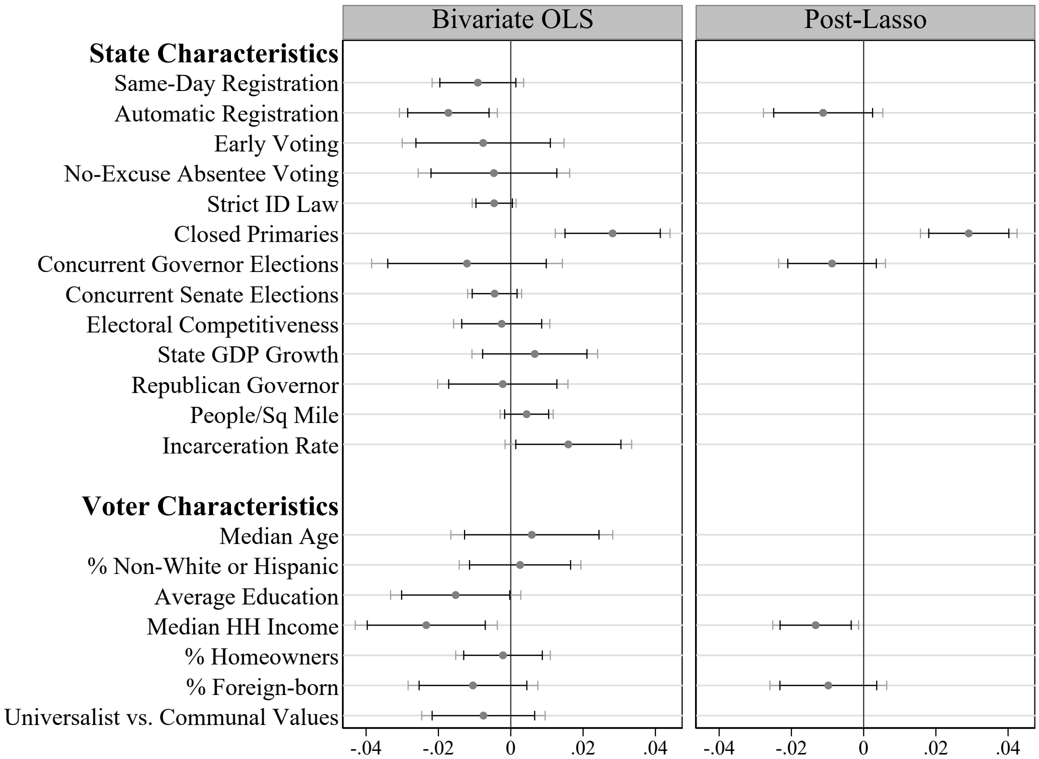
(c) Correlates of Voter Registration Individual-Level Voter Effects



Notes: Notes as in Figure 5.

Figure A.14: Correlates of Major-Party Affiliation State and Voter Effects

(a) Correlates of Major-Party Affiliation State Effects



(b) Correlates of Major-Party Affiliation Average Voter Effects

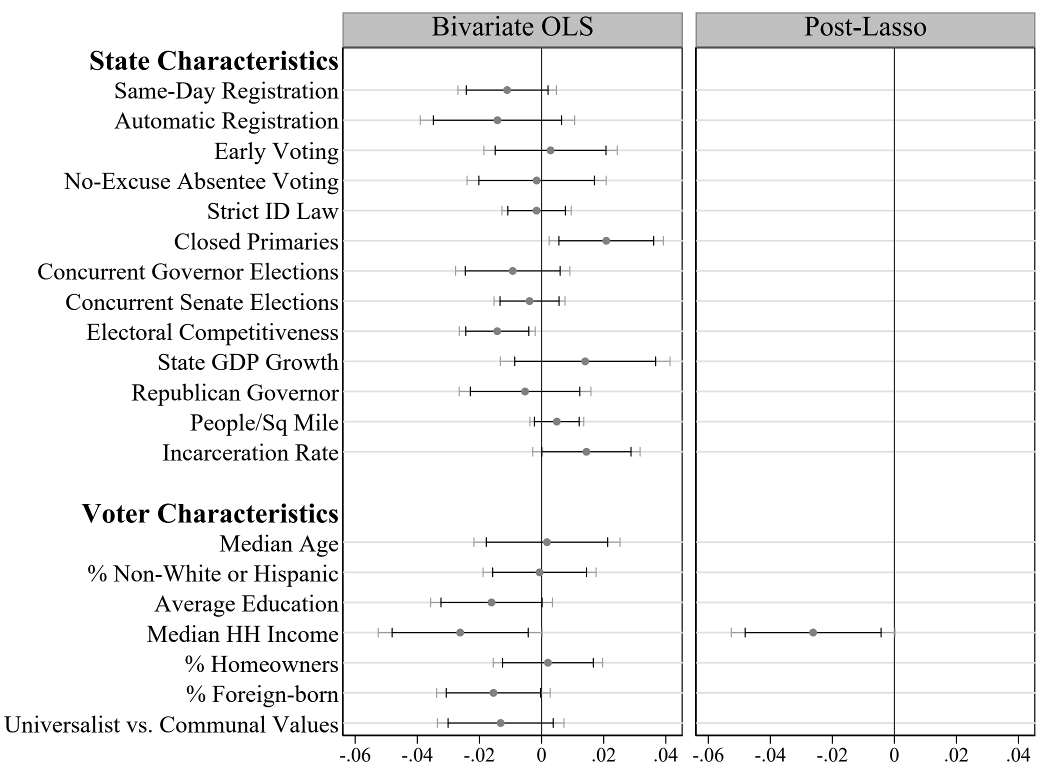
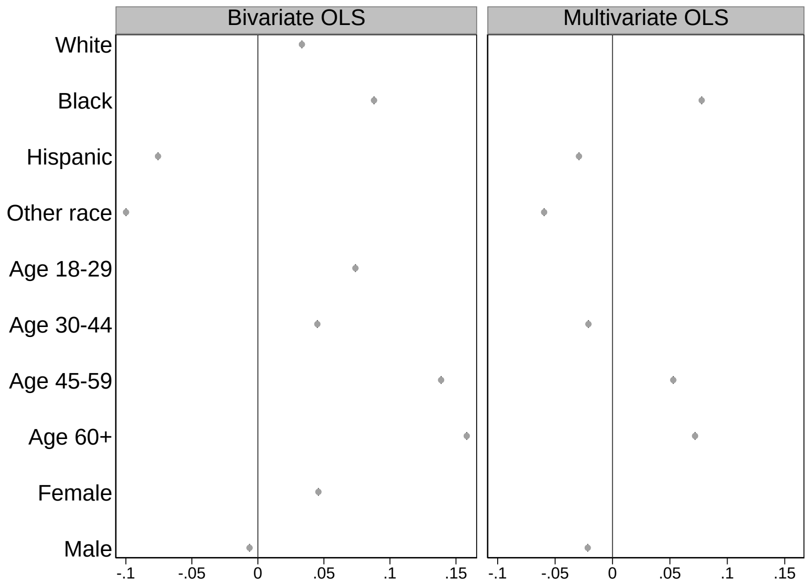


Figure A.14: Correlates of Major-Party Affiliation State and Voter Effects (cont.)

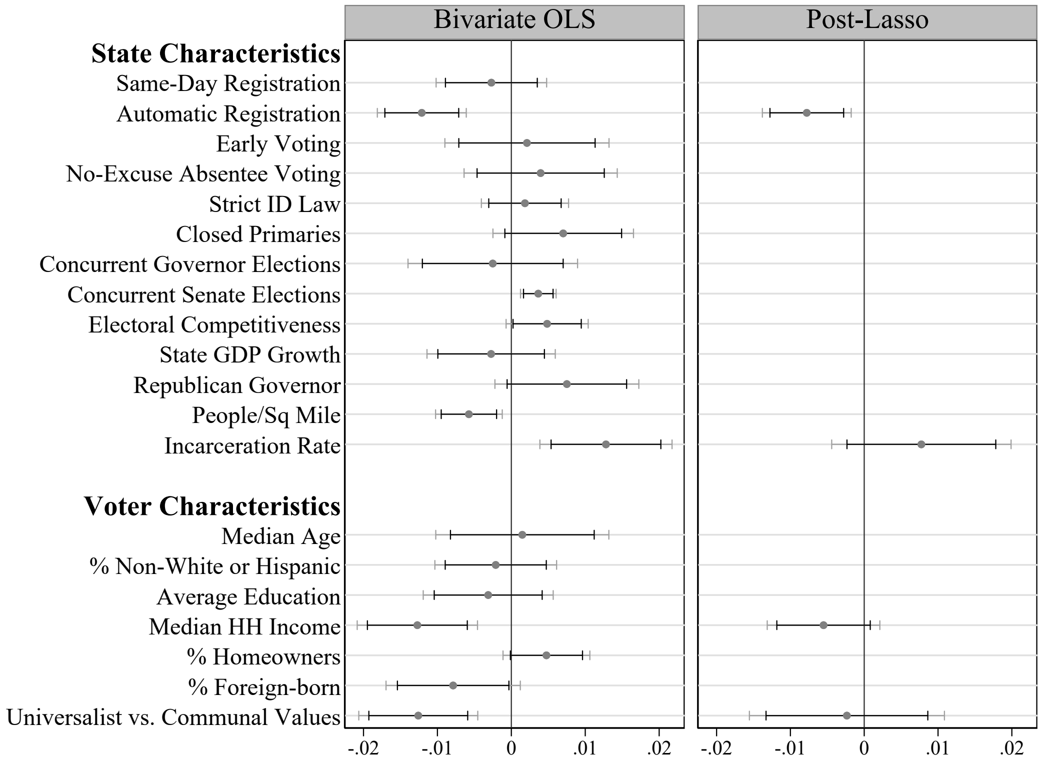
(c) Correlates of Major-Party Affiliation Individual-Level Voter Effects



Notes: Notes as in Figure 5.

Figure A.15: Correlates of Republican Party Affiliation State and Voter Effects

(a) Correlates of Republican Party Affiliation State Effects



(b) Correlates of Republican Party Affiliation Average Voter Effects

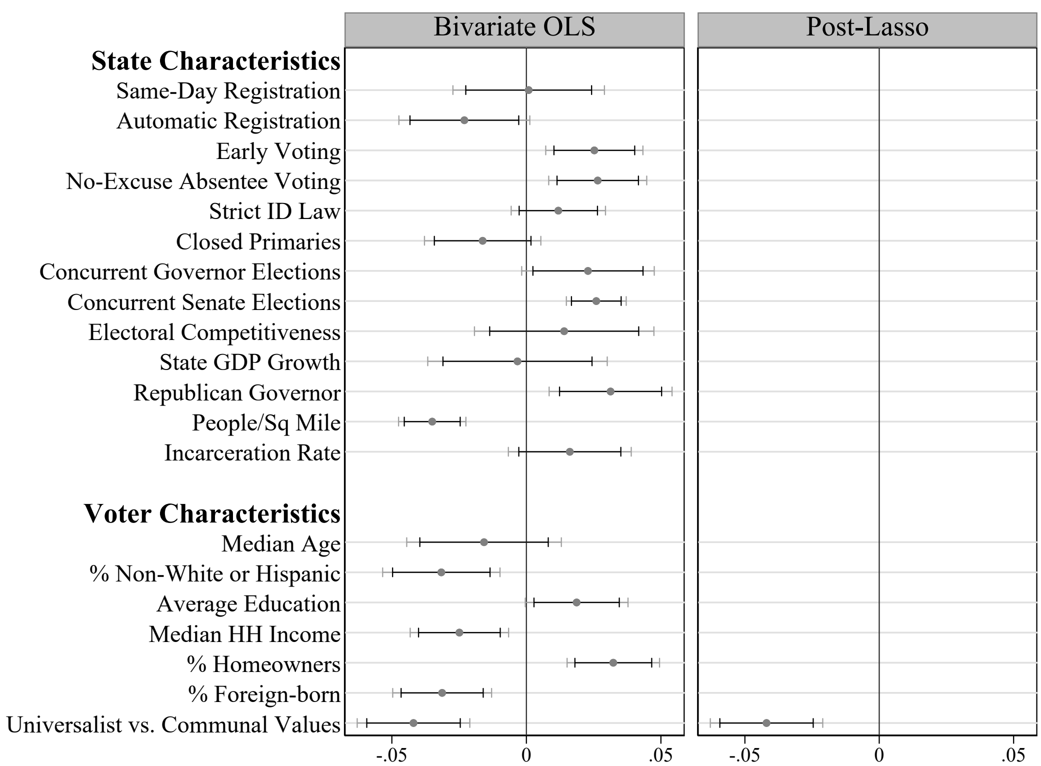
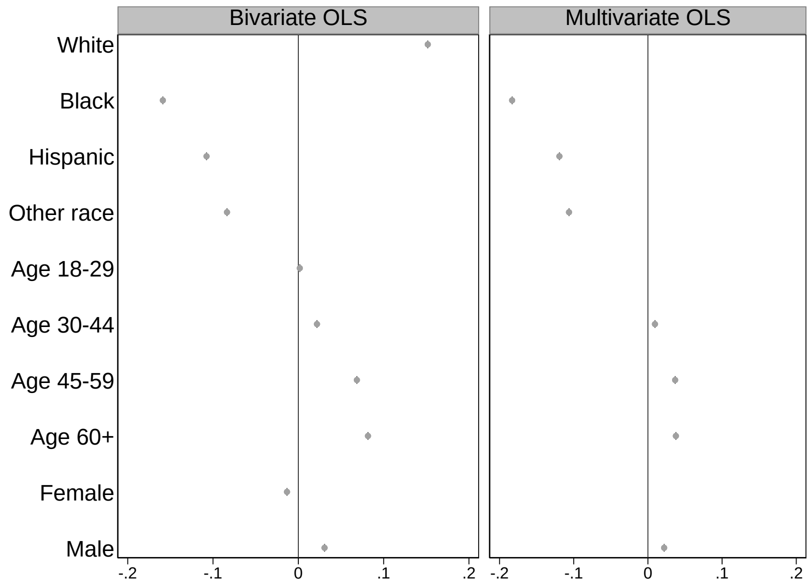


Figure A.15: Correlates of Republican Party Affiliation State and Voter Effects (cont.)

(c) Correlates of Republican Party Affiliation Individual-Level Voter Effects



Notes: Notes as in Figure 5.

Table A.2: Linearly Additive Decompositions, Robustness Checks

Sample	N	Mean outcome	Difference in outcome above/below median	Difference due to voters	Difference due to states	Share due to voters
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Outcome: 1(Voted)						
(1) Baseline	1,572,225,292	.427	.072	.045	.027	.629
(2) Include multiple movers	1,604,600,448	.428	.071	.045	.026	.638
(3) Aged 25 through 65	1,018,004,928	.459	.088	.056	.032	.638
(4) Reweighting movers	1,381,288,448	.474	.088	.064	.023	.733
Panel B. Outcome: 1(Registered)						
(1) Baseline	1,572,225,292	.685	.069	.047	.022	.684
(2) Include multiple movers	1,604,600,448	.686	.069	.040	.029	.583
(3) Aged 25 through 65	1,018,004,928	.739	.072	.051	.020	.716
(4) Reweighting movers	1,381,288,448	.754	.066	.046	.020	.699
Panel C. Outcome: 1(Affiliated with a Major Party)						
(1) Baseline	877,053,668	.491	.157	.087	.070	.555
(2) Include multiple movers	895,357,376	.491	.156	.085	.071	.545
(3) Aged 25 through 65	566,429,888	.521	.173	.109	.064	.630
(4) Reweighting movers	769,869,184	.543	.171	.101	.070	.591
(5) Same primary systems	856,806,080	.491	.122	.075	.048	.611
Panel D. Outcome: 1(Affiliated with the Democratic Party)						
(1) Baseline	877,053,668	.287	.142	.102	.041	.714
(2) Include multiple movers	895,357,376	.286	.142	.100	.042	.705
(3) Aged 25 through 65	566,429,888	.305	.158	.117	.041	.742
(4) Reweighting movers	769,869,184	.315	.161	.118	.043	.732
(5) Same primary systems	856,806,080	.287	.106	.080	.026	.751
Panel E. Outcome: 1(Affiliated with the Republican Party)						
(1) Baseline	877,053,668	.204	.111	.087	.024	.783
(2) Include multiple movers	895,357,376	.205	.111	.089	.022	.799
(3) Aged 25 through 65	566,429,888	.215	.120	.096	.024	.797
(4) Reweighting movers	769,869,184	.227	.122	.095	.027	.777
(5) Same primary systems	856,806,080	.204	.122	.096	.025	.794

Notes: The table reports state-level decompositions for states above versus below the median outcome for alternative specifications. Row (1) repeats the baseline results. Row (2) includes people who move across states more than once. Row (3) excludes voters below the age of 25 or above 65. Row (4) assigns movers weights based on the fraction of people with the same age, gender, and race in their state of origin. For this decomposition, the sample is restricted to voters with known age, gender, and race. For party-affiliation outcomes, samples in row (5) are restricted to non-movers and movers across states with identical party primary systems. In Panels C-E, the sample of the underlying regressions is restricted to the 30 states for which Catalist records party affiliation.

Table A.3: Event-Study Estimates for Voter Turnout

	Outcome:	
	1(Voted)	1(Voted) McDonald's Delta's
	(1)	(2)
δ_i×(5 elections pre-move)	.064	.072
	(.054)	(.057)
δ_i×(4 elections pre-move)	.075	.094
	(.056)	(.060)
δ_i×(3 elections pre-move)	-.008	.001
	(.047)	(.045)
δ_i×(2 elections pre-move)	-.032	-.029
	(.023)	(.021)
δ_i×(1 elections pre-move)	-	-
	-	-
δ_i×(1st post-move election)	.395	.363
	(.048)	(.043)
δ_i×(2nd post-move	.365	.337
	(.039)	(.034)
δ_i×(3rd post-move	.334	.326
	(.039)	(.034)
δ_i×(4th post-move election)	.282	.233
	(.053)	(.046)
δ_i×(5th post-move election)	.263	.249
	(.061)	(.053)
Voter FEs	✓	✓
Year FEs	✓	✓
Relative year FEs	✓	✓
N	77,988,314	77,988,314
N voters	14,337,593	14,337,593

Notes: The table reports event-study estimates and standard errors for voter turnout. Column 2's specification uses deltas based on Michael McDonald's turnout data. Standard errors are two-way clustered by voters and states.

Table A.4: Decomposition of Outcome Differences Across Counties, Using Within- and Cross-State, Cross-County Moves

	Non-movers and within-state movers			Non-movers and cross-state movers		
	Above/ Below median	Top/ Bottom quartiles	Top/ Bottom deciles	Above/ Below median	Top/ Bottom quartiles	Top/ Bottom deciles
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A. Outcome: 1(Voted)					
Overall difference	.066	.107	.168	.097	.170	.235
Share due to voters	.891	.885	.915	.786	.804	.730
Share due to states	.109	.115	.085	.214	.196	.270
	Panel B. Outcome: 1(Registered)					
Overall difference	.047	.077	.111	.070	.134	.192
Share due to voters	.893	.930	.925	.864	.878	.794
Share due to states	.107	.070	.075	.136	.122	.206
	Panel C. Outcome: 1(Affiliated with a Major Party)					
Overall difference	.028	.068	.101	.143	.249	.352
Share due to voters	.566	.740	.721	.509	.482	.458
Share due to states	.434	.260	.279	.491	.518	.542
	Panel D. Outcome: 1(Affiliated with the Democratic Party)					
Overall difference	.099	.154	.235	.149	.293	.443
Share due to voters	.806	.785	.791	.716	.735	.691
Share due to states	.194	.215	.209	.284	.265	.309
	Panel E. Outcome: 1(Affiliated with the Republican Party)					
Overall difference	.093	.160	.234	.154	.286	.443
Share due to voters	.824	.831	.841	.735	.749	.693
Share due to states	.176	.169	.159	.265	.251	.307

Notes: The table decomposes cross-county variation in the outcome indicated in the panel title between its county- and voter-driven components. The sample is restricted to non-movers and within-state movers in columns 1-3, and to non-movers and cross-state movers in columns 4-6. For the within-state decomposition, the groups of counties above and below median are defined based on state-specific medians, so that half of the counties of each state are included in either group (column 1). Similarly, in columns 2 and 3, counties are split across groups based on state-specific quartiles or deciles. Other notes as in Tables 4 and 8. In Panels A-B, the sample size for the regressions underlying columns 1-3 (resp. 4-6) is 183,474,920 (resp. 132,645,228). In Panels C-E, the sample size for the regressions underlying columns 1-3 (resp. 4-6) is 98,163,548 (resp. 76,581,363).

Table A.5: Event-Study Estimates for Registration and Party Affiliation

	Outcome:			
	1(Registered)	1(Affiliated with a Major Party)	1(Affiliated with the Democratic Party)	1(Affiliated with the Republican Party)
	(1)	(2)	(3)	(4)
δ_i×(5 elections pre-move)	.028	-.086	-.009	-.103
	(.117)	(.067)	(.049)	(.040)
δ_i×(4 elections pre-move)	.056	-.035	-.000	-.074
	(.063)	(.042)	(.031)	(.023)
δ_i×(3 elections pre-move)	.057	-.019	.004	-.067
	(.043)	(.035)	(.024)	(.018)
δ_i×(2 elections pre-move)	.039	-.017	-.006	-.044
	(.020)	(.018)	(.011)	(.012)
δ_i×(1 elections pre-move)	-	-	-	-
	-	-	-	-
δ_i×(1st post-move election)	.202	.475	.325	.283
	(.065)	(.034)	(.051)	(.048)
δ_i×(2nd post-move election)	.157	.491	.363	.305
	(.048)	(.027)	(.043)	(.030)
δ_i×(3rd post-move election)	.168	.491	.350	.326
	(.053)	(.032)	(.039)	(.031)
δ_i×(4th post-move election)	.238	.490	.340	.343
	(.083)	(.052)	(.047)	(.036)
δ_i×(5th post-move election)	.209	.476	.329	.345
	(.095)	(.072)	(.058)	(.041)
Voter FEs	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓
Relative Year FEs	✓	✓	✓	✓
N	77,988,314	28,009,915	28,009,915	28,009,915
N voters	14,337,593	5,135,217	5,135,217	5,135,217

Notes: The table reports event-study estimates and standard errors for whether a voter is registered (column 1), registered and affiliated with a major party (column 2), registered and affiliated with the Democratic Party (column 3), or registered and affiliated with the Republican Party (column 4). Standard errors are two-way clustered by voters and states. Samples in columns 2-4 are restricted to the 30 states for which Catalist records party affiliation. Standard errors are two-way clustered by voters and states.

Table A.6: Event-Study Estimates for Registration and Party Affiliation, States with Identical Primaries' Rules

	Outcome:		
	1(Affiliated with a Major Party)	1(Affiliated with the Democratic Party)	1(Affiliated with the Republican Party)
	(2)	(3)	(4)
δ_i×(5 elections pre-move)	.069	.130	-.107
	(.085)	(.039)	(.039)
δ_i×(4 elections pre-move)	.006	.058	-.091
	(.053)	(.029)	(.022)
δ_i×(3 elections pre-move)	.006	.038	-.076
	(.043)	(.026)	(.018)
δ_i×(2 elections pre-move)	-.002	.014	-.047
	(.024)	(.013)	(.011)
δ_i×(1 elections pre-move)	-	-	-
	-	-	-
δ_i×(1st post-move election)	.260	.153	.234
	(.059)	(.045)	(.037)
δ_i×(2nd post-move election)	.372	.245	.253
	(.052)	(.042)	(.027)
δ_i×(3rd post-move election)	.401	.226	.278
	(.069)	(.064)	(.031)
δ_i×(4th post-move election)	.442	.209	.301
	(.104)	(.115)	(.039)
δ_i×(5th post-move election)	.460	.192	.303
	(.120)	(.143)	(.032)
Voter FEs	✓	✓	✓
Year FEs	✓	✓	✓
Relative Year FEs	✓	✓	✓
N	7,762,345	7,762,345	7,762,345
N voters	1,414,962	1,414,962	1,414,962

Notes: The table replicates columns 2-4 of Appendix Table A5, restricting the sample to moves across states with identical state primary election rules. Standard errors are two-way clustered by voters and states.

Table A.7: Linearly Additive Decompositions, Robustness to Using Group-Specific State Fixed Effects

Sample	N	Mean outcome	Difference in outcome above/below median	Difference due to voters	Difference due to states	Share due to voters
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Outcome: 1(Voted)						
(1) Age national weights	1,413,493,632	.470	.083	.056	.026	.680
(2) Age national weights & age × state FEs	1,413,493,632	.470	.083	.057	.026	.689
(3) Gender national weights	1,543,167,616	.434	.072	.045	.027	.630
(4) Gender national weights & gender × state FEs	1,543,167,616	.434	.072	.045	.027	.629
(5) Race national weights	1,572,225,280	.427	.055	.029	.026	.520
(6) Race national weights & race × state FEs	1,572,225,280	.427	.055	.028	.027	.514
Panel B. Outcome: 1(Registered)						
(1) National age weights	1,413,493,632	.751	.067	.047	.020	.708
(2) National age weights & age × state FEs	1,413,493,632	.751	.067	.048	.019	.719
(3) National gender weights	1,543,167,616	.694	.070	.054	.016	.776
(4) National gender weights & gender × state FEs	1,543,167,616	.694	.070	.054	.016	.774
(5) National gender weights	1,572,225,280	.685	.071	.051	.020	.722
(6) National gender weights & race × state FEs	1,572,225,280	.685	.071	.048	.022	.685
Panel B. Outcome: 1(Affiliated with a Major Party)						
(1) National age weights	791,289,408	.539	.539	.321	.217	.596
(2) National age weights & age × state FEs	791,289,408	.539	.539	.326	.212	.606
(3) National gender weights	859,951,360	.498	.498	.280	.218	.562
(4) National gender weights & gender × state FEs	859,951,360	.498	.498	.280	.218	.562
(5) National gender weights	877,053,696	.491	.491	.282	.209	.575
(6) National gender weights & race × state FEs	877,053,696	.491	.491	.273	.218	.556
Panel C. Outcome: 1(Affiliated with the Democratic Party)						
(1) National age weights	791,289,408	.314	.160	.118	.042	.738
(2) National age weights & age × state FEs	791,289,408	.314	.160	.117	.043	.731
(3) National gender weights	859,951,360	.291	.146	.105	.041	.719
(4) National gender weights & gender × state FEs	859,951,360	.291	.146	.105	.041	.719
(5) National gender weights	877,053,696	.287	.132	.091	.041	.690
(6) National gender weights & race × state FEs	877,053,696	.287	.132	.089	.043	.675
Panel D. Outcome: 1(Affiliated with the Republican Party)						
(1) National age weights	791,289,408	.224	.120	.096	.024	.801
(2) National age weights & age × state FEs	791,289,408	.224	.120	.097	.024	.802
(3) National gender weights	859,951,360	.208	.112	.088	.024	.786
(4) National gender weights & gender × state FEs	859,951,360	.208	.112	.088	.024	.785
(5) National gender weights	877,053,696	.204	.096	.068	.028	.706
(6) National gender weights & race × state FEs	877,053,696	.204	.096	.070	.026	.726

Notes: This table reports outcome differences between above- and below-median states due to states and voters for alternative specifications. Each panel corresponds to a different outcome. In each panel, row (1) reports the results of a decomposition where state average outcomes, as well as state and average voter fixed effects are computed weighting voters aged 18-29, 30-44, 45-59, and 60+ based on the national (instead of state-level) share of voters in these age ranges. In addition to reweighting voters based on national age shares, the regression for row (2) controls for age-specific state fixed effects. Similarly, rows (3) and (5) reweight voters based on the national (instead of state-level) share of female versus male and white versus non-white voters, respectively. Rows (4) and (6) supplement the national gender and race reweighting with gender- and race-specific state fixed effects, respectively. Results in row (2) (resp. rows (4) and (6)) should be compared to results in row (1) (resp. rows (3) and (5)).