

State Policies and the US Election Franchise: A Multistage Approach

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ABSTRACT

Although studies of voter participation posit a relationship between state election laws and turnout, empirical evidence has been mixed. Some studies identify strong relationships while others are inconclusive. We seek to resolve the discrepancy by showing that state policies influence election outcomes not just through turnout but at multiple stages: voter registration, voter turnout, ballot issuance, and ballot counting. Using county-level survey data from the US Election Assistance Commission, we estimate the effects of state policies on voter participation in 2008, 2012, and 2016. Specifically, we examine five categories of policies: eligibility restrictions, voter registration, convenience voting, voter identification, and provisional balloting. We show that in four of these areas, state policies influence multiple stages of the election franchise. Using the case of turnout to illustrate, we argue that a multistage approach reduces the potential for biased empirical results.

Keywords: state politics, policy effects, election franchise, election outcomes, voter participation, voter registration, voter turnout

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1 INTRODUCTION

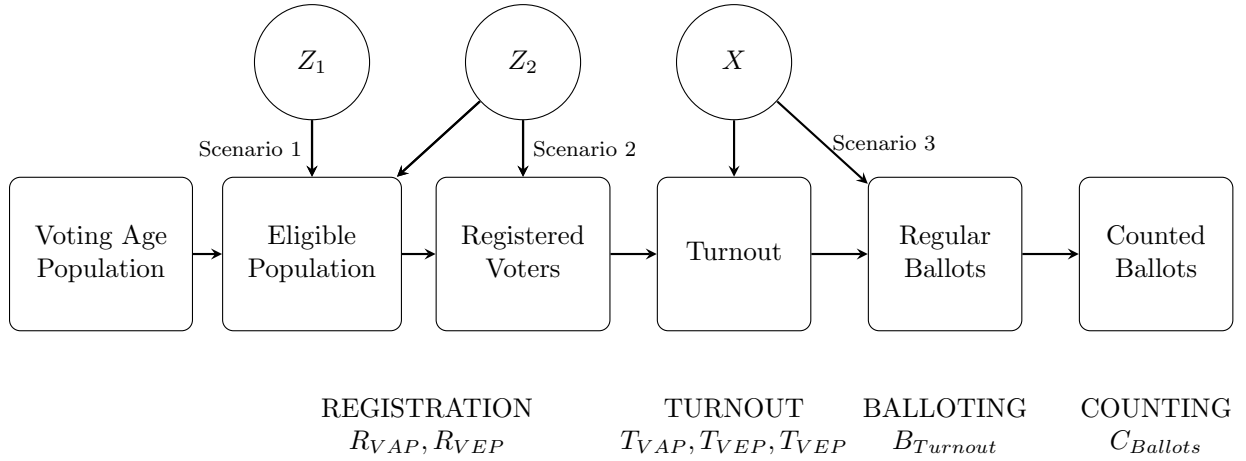
In the United States, the federal election franchise includes multiple stages: registration, turnout, balloting, and counting (Gerken, 2009). While state policies and practices shape outcomes at all stages, most studies of voter participation examine a single stage. These studies estimate the effects of state policies and practices, such as voter registration laws (Highton, 2004), voter identification laws (Highton, 2017), or the availability of online voter registration (Yu, 2019), on a single election outcome measure such as turnout. This approach of evaluating policies within a single stage offers a limited view of how state policies and practices affect voters as they move through the election process. Specifically, a single-stage focus can lead to biased inferences or a misinterpretation of valid inferences.

In this study, we present a multilevel analysis of how state policies affect voters in all stages of the election franchise. Using nationwide county-level data for three consecutive presidential election years between 2008 and 2016, we estimate the effects of policies in five areas: eligibility, registration, turnout, ballot issuance, and ballot counting. Across the policy areas, all but provisional-ballot counting policies influence multiple stages, suggesting that a single-stage focus may lead to bias in the estimates and interpretation of policy effects. Turning to specific policies, we find that eligibility restrictions affect only registration, while voter registration policies affect registration, turnout, and balloting. In contrast, convenience voting influences turnout and balloting, while voter identification policies influence balloting and counting. Finally, we found null effects for provisional ballot policies.

2 ILLUSTRATIVE EXAMPLE: TURNOUT

Each stage of the election franchise involves a different population: registered voters are a subset of the voting eligible population, and voters who turn out are a subset of the registered voter population. Scholars have documented how the use of different population baselines can introduce systematic measurement error (McDonald and Popkin, 2001; Holbrook and Heidbreder, 2010; Stockemer, 2017); however, the operating assumption has still been that the policies under study influence

Figure 1. The Election Franchise



voters primarily through turnout. In addition to bias resulting from measurement error, policies may exert separate influences on these populations at different stages, creating a multiplier effect. In this section, we provide an illustration of how estimates of turnout may be biased when earlier stages are ignored, and how inferences might be misinterpreted when later stages are ignored. We show that the magnitude and direction of bias depend on the underlying populations used to calculate turnout.

Figure 1 provides a diagram of the election franchise. The flowchart represents the path a member of the voting age population would take to register, participate on election day, receive a ballot, and have their ballot counted. Below the flowchart are the stages—registration, turnout, balloting, and counting—along with their corresponding outcomes of interest. Registration outcomes include R_{VAP} and R_{VEP} : registration rates calculated using the voting age population and voting eligible population, respectively. Outcomes for the turnout stage, the focus of this illustration, are calculated using each of the voting age (T_{VAP}), voting eligible (T_{VEP}), and registered voter (T_{RVP}) populations. Above the franchise flowchart, the variables X , Z_1 , and Z_2 correspond to state policies that influence outcomes at the given stage(s). Although state policies and practices exert influence at each stage, we limit the illustrative example to these three variables in order to demonstrate the limitations of a single-stage analysis.

The illustration consists of a simple experiment where members of the voting age population reside in counties. Some counties are randomly assigned to policies X , Z_1 , and Z_2 , and the remaining

counties comprise the control group. Suppose that an analyst observes all populations within the election franchise, but estimates only the effect of X on turnout. In this *baseline* experiment, the effect of X on turnout is calculated as the difference in turnout between treated counties and control counties.

Table 1. Illustration Scenarios

	VAP	VEP	RVP	R_{VAP}	R_{VEP}	T	T_{VAP}	T_{VEP}	T_{RVP}	B	B_{TP}
Baseline (X)											
Control	1000	1000	750	0.750	0.750	500	0.500	0.500	0.667	500	1.00
Treat	1000	1000	750	0.750	0.750	475	0.475	0.475	0.633	475	1.00
				—	—		-0.025	-0.025	-0.033		—
Scenario 1: Early Stage (X, Z_1)											
Control	1000	1000	750	0.750	0.750	500	0.500	0.500	0.667	500	1.00
Treat	1000	950	750	0.750	0.789	475	0.475	0.500	0.667	475	1.00
				—	0.039		-0.025	—	—		—
Scenario 2: Multiple Stages (X, Z_2)											
Control	1000	1000	750	0.750	0.750	500	0.500	0.500	0.667	500	1.00
Treat	1000	950	677	0.677	0.713	475	0.475	0.500	0.702	475	1.00
				-0.072	-0.037		-0.025	—	0.035		—
Scenario 3: Late Stage (X)											
Control	1000	1000	750	0.750	0.750	500	0.500	0.500	0.667	500	1.00
Treat	1000	1000	750	0.750	0.750	475	0.475	0.475	0.633	451	0.95
				—	—		-0.025	-0.025	-0.033		-0.050

The baseline, where only turnout is affected by X , is represented by the first panel of Table 1. The population sizes for the voting age population, voting eligible population, registered voter population, turnout voters, and ballots are given by columns **VAP**, **VEP**, **RVP**, **T**, and **B**. The remaining columns provide the outcomes of interest for registration, turnout, and balloting. For simplicity, we establish the true impact of policy X in the baseline scenario as reducing turnout by five percentage points, from 500 individuals to 475. For all scenarios, we assume that control counties exhibit a registration rate of 75% and a turnout rate of 50%. Among treated counties, we assume that each policy has the same effect of reducing the given population by five percentage points. Among these counties, the size of any affected population is indicated in bold.

In each scenario, registration and turnout are calculated for each population. For example, the

effect of policy X on the voting age population in the baseline scenario is calculated as follows:

$$T_{VAP|Control} = \frac{T_{Control}}{VEP} = \frac{500}{1000} = 0.500$$

$$T_{VAP|Treat} = \frac{T_{Treat}}{VEP} = \frac{475}{1000} = 0.475$$

$$\text{Treatment Effect} = T_{VAP|Control} - T_{VAP|Treat} = 0.500 - 0.475 = 0.025$$

Since X affects only turnout, the treatment effect is zero for both R_{VAP} and R_{VEP} . The voting age and voting eligible populations are equal in size, so the treatment effect is -0.025 for T_{VAP} and T_{VEP} . Given the assumption that not all eligible voters will register, the treatment effect for T_{RVP} is slightly larger in magnitude, at -0.033. Next, we consider the implications of estimating the effects on turnout when policies influence the size of the relevant populations in treatment groups for other stages. Specifically, we consider: an early-stage policy Z_1 that influences the VEP; a policy Z_2 that influences multiple stages and therefore the VEP and RVP; and a case where policy X influences both turnout T , and balloting B , a later stage.

Scenario 1: Early Stage Omission In the first scenario, policy X reduces turnout and policy Z_1 reduces the eligible population, but the analyst estimates only the effect of X . For example, Z_1 might be a policy that reduces the eligible voter population by excluding temporary residents such as college students (Niemi et al., 2009). When Z_1 reduces the number of eligible voters in the treatment group to 950, the outcomes for both registration and turnout are impacted. As shown in the second row of the Scenario 1 panel, the registration rate in the treatment group increases from 75% to 78.9%, and the turnout rates calculated from the VEP and RVP appear no different from the control group. If the analyst calculated turnout using the VAP, no bias is introduced, as this population is not affected by Z_1 . However, the remaining effects for T_{VEP} and T_{RVP} would appear to be null, resulting in a false negative. While we assume for this illustration that control counties are unaffected, the bias would be eliminated if both treatment and control counties are influenced by policy Z_1 .

Scenario 2: Multiple Stage Omissions The second scenario is similar to the first, except that multiple stages are omitted, as policy Z_2 separately reduces both the eligible population and the number of registered voters. For example, restrictions on the voting rights of convicted felons may reduce the number of eligible voters as well as the number of registered voters. A recent study shows that children of incarcerated or formerly incarcerated parents are less likely to register, less likely to vote, and less likely to engage in community service (Lee et al., 2014). This scenario could also result if the voters deemed ineligible would have registered if eligible. The Scenario 2 panel of Table 1 indicates the affected populations, VEP and RVP, in bold. The registration outcomes are biased regardless of underlying population. Registration denoted R_{VAP} is 7.2 percentage points lower among treated counties than among control counties, and R_{VEP} is 3.7 percentage points lower. The treatment effect for turnout is null if calculated using the VEP and 3.5 percentage points larger if calculated using the RVP. Notably, T_{RVP} changes sign, such that the analyst may interpret policy X to have a positive effect on turnout.

More generally, if we calculate turnout as a proportion of the voter eligible population and do not account for the effects of a given policy on registration, then the estimate of turnout will be biased. It will be overestimated if the policy reduces registration and underestimated if it increases registration. Even if the policy does not affect registration, our choice of baseline population can affect the substantive interpretation of the results because the estimates will be interpreted relative to the size of that population. As voters move through the election franchise, the population of participants necessarily shrinks. If the appropriate population for that stage is smaller, then the magnitude of the effects may be interpreted as substantively insignificant.

Scenario 3: Late Stage Omission In the third scenario, policy X reduces both turnout and the number of voters who receive regular ballots. For example, strict identification policies may deter low-income or less educated registered voters from voting on election day due to the barriers associated with acquiring the proper identification (Alvarez et al., 2008). In addition, voters who turn out to vote on election day but do not have the proper ID may receive provisional ballots, lowering the number of regular ballots (Pitts, 2008). In this scenario, the registration and turnout

outcomes are not affected by the policy's influence on balloting. However, the proportion of voters receiving regular ballots, B_{TP} is reduced by 5 percentage points. An analyst examining only turnout may misinterpret the results by claiming that policy X has a small impact on voter participation, when the magnitude of the effects when considering turnout and balloting is actually twice as large.

The literature provides ample evidence of policies that affect some combination of election franchise stages. For example, election day registration affects both registration and turnout (Street et al., 2015). Photo identification policies increase the number of registrants (Valentino and Neuner, 2016) but lower the number of traditional ballots (Pitts, 2008). Registration websites influence both registration and turnout. Also, many models utilize demographics such as race as controls in elections outcomes, but race may exert an influence on all stages. Bias may also result from interactions between policies that may not be accounted for in a model (Burden et al., 2014). We use data from the 2008, 2012, and 2016 presidential elections to demonstrate our proposed multistage approach.

3 STATE POLICIES AND THE ELECTION FRANCHISE

Using a multistage approach, we estimate the effects of several state policies and practices on registration, turnout, balloting, and counting. We focus on policies that have historically had a disparate impact on voters, based on either research or court rulings. These fall into five categories: felon eligibility restrictions, voter registration, convenience voting, voter identification, and provisional balloting.

3.1 Felon Eligibility Restrictions

Each state determines whether and how citizens who are convicted felons can vote in their state. Although there is a growing movement to restore felon voting rights, most individuals convicted of felony charges are restricted from voting. The Sentencing Project reports that 6.1 million Americans were prevented from voting in 2016 (Uggen et al., 2016) due to felony disenfranchisement, constraining the voting age population by 2.5 percent. Felony voting restrictions affect blacks at a disproportionate rate—7.4 percent of voting age blacks were disenfranchised compared to 1.8 of

non-blacks.

3.2 Voter Registration

Voters in most states are required to register before they are allowed to vote, but practices vary considerably. Election administrators follow either established practices or legislation, when determining deadlines for registration and allowing voter the option to register through online voter registration, automatic voter registration, or same day registration (National Conference of State Legislatures, 2016).

3.2.1 Election Day Registration

States set registration deadlines in order to ensure that voters have an opportunity to become knowledgeable about the candidates and proposals, and to give election administrators adequate time to update the rolls (Lee, 2010). The National Voting Rights Act (NVRA) of 1993 has provisions on voter registration deadlines, but these have not had a large impact on turnout because people tend to register too close to election day¹ (Street et al., 2015; U.S. Department of Justice, 2017). As a result, the earlier the deadline imposed by the state, the smaller the size of the electorate (de Oliveira, 2009). Studies generally show that reducing the number of days from the deadline to the election increases voter turnout by three to four percentage points (Neiheisel and Burden, 2012; Burden et al., 2014). Wide adoption of election day registration would increase the number of registrants by two percentage points and turnout by three percentage points (Street et al., 2015; Larocca and Klemanski, 2011).

3.2.2 Online Voter Registration

In 2016, 35 states and Washington D.C. had voter registration websites that allow eligible voters to register online. Online voter registration websites have had a positive effect on turnout—Yu found a 3 percentage point increase in turnout in states that offered online voter registration (Yu, 2019). Since 2016, more states have implemented online websites. As of June 2019, 42 states and Washington D.C. host online registration portals (Yu, 2019).

¹NVRA requires states to set a cutoff of no more than 30 days before an election

3.2.3 Automatic Voter Registration

In 15 states and Washington D.C., citizens who are already registered with a government agency, like the Department of Motor Vehicles, are automatically registered to vote (National Conference of State Legislatures, 2019). Brennan Center reports that states saw between 9 and 94 percent increase in registration using data from 2013 and 2017. Oregon, the first state to implement automatic voter registration in 2016, witnessed a 15.9 percent increase in registration rates.

3.2.4 Voter List Maintenance

State election offices maintain voter registration lists—a practice that often includes removing inactive voters from the voter rolls and making the voter list available to qualifying groups. Brater has found that collectively, almost 16 million voters were removed from the rolls, constraining the registered population between 2014 and 2016 and marking a 33 percent increase in removed voters (Brater et al., 2018). While some states provide voter lists freely to the public, others are more restrictive about sharing voter lists either by limiting access to political parties or by requiring a high purchase price in order to acquire the voter list. Voter lists contain a trove of personal data including name, address, birth year or date. In cases of voter identity theft, the low cost of accessing statewide voter data may affect provisional balloting since more voters would be asked to cast provisional ballots when they go to the wrong precinct (Sweeney et al., 2017).

3.3 Convenience Voting

Convenience voting is defined as all forms of voting that do not occur on election day or in a traditional location. Convenience voting, overall, has a positive effect on turnout, ranging from two to four percentage points (Gronke et al., 2008).

3.3.1 Vote By Mail

Studies of vote-by-mail (VBM) policies have produced mixed results. Southwell and Burchett originally found that in Oregon, VBM resulted in a 10 percentage-point increase in turnout (Southwell and Burchett, 2000). Researchers were unable to replicate this finding, instead finding that VBM influenced turnout in only local (subfederal) elections (Gronke and Miller, 2012). Another

study reports that a mandatory VBM policy in California lowered turnout by 13 percentage points, although the authors argue that this decline can be mitigated by improved communication (Bergman and Yates, 2011).

3.3.2 Absentee Voting

Twenty-seven states allow voters to request absentee ballots freely (“no-excuse absentee voting”) (U.S. Election Assistance Commission, 2017). The Current Population Survey reports that out of the voters living in states that allow no-excuse absentee voting, 42 percent actually voted with absentee ballots, which suggests a positive effect on balloting (MIT Election Data and Science Lab, ND).

3.3.3 Early Voting

Burden et al find that early voting lowers turnout by about 3 to 4 percentage points (Burden et al., 2014). Fullmer finds that counties with significant numbers of black voters tend to have lower early voting site density, where voting site density is measured as the number of early voting sites in a county per 1,000 voting-age residents (Fullmer, 2015). This result, explained by accounting for state policies, suggests that blacks are more likely to live in a county with limited access to early voting.

3.3.4 Polling Place Access

Recent policies and practices have either reduced the number of polling places, or increased access through vote centers. A 2016 report by the Leadership Conference Education Fund examined 361 counties in the US and found that 45 percent of the counties closed at least some polling places, resulting in a total of 868 fewer polling places in the 2016 presidential election than in prior years (Simpson, 2016). Brady and McNulty report that changes in polling places in Los Angeles County in 2003, such as consolidating and decreasing polling place density in an area, decreased turnout by 1.85 percent (Brady and McNulty, 2011). Vote centers are polling locations that allow individuals to vote regardless of residential precinct. Stein and Vonnahme find that election day vote centers had a positive effect on turnout using data from the first county to implement vote centers in the

United States in 2003. They found turnout to be 2.6 percent higher in the treatment group who had access to election day vote centers in Colorado (Stein and Vonnahme, 2008).

3.4 Voter Identification

Voter identification policies affect who is able to vote with a traditional ballot. These “ID” laws have grown in prominence only recently in order to decrease voter impersonation at the polls and increase confidence in the voting system, but many studies show that these laws may actually decrease turnout. Before the 2014 elections, only four states had strict ID laws that require a form of ID to submit a ballot (Highton, 2017). In 2016, there were ten states with strict ID laws. Hajnal et al find that strict ID laws lower turnout by 10 percentage points among Latinos, by 8.8 ppt among Democrats, and 3.6 ppt among Republicans (Hajnal et al., 2017). They also differentiate a stricter subset of states that require a photo ID only rather than all forms of ID. Another study looking at the impact of voter ID policies on different racial groups finds that voter ID policies depressed turnout among Hispanic voters but only when the requirement was new (Vercellotti and Anderson, 2009). Strict ID requirements tend to lower turnout by two percentage points, primarily among less educated and lower income residents (Alvarez et al., 2008). However, accounting for modeling problems with estimating voter turnout, strict ID laws’ effects on turnout are no longer statistically significant (Erikson and Minnite, 2009).

3.5 Provisional Ballots

The Help America Vote Act of 2002 (HAVA) was designed to aid states in removing outdated voting machinery, administering provisional and sample ballots, and improving accessibility to voting (Burris and Fischer, 2016). While HAVA requires that polling places provide provisional ballots, not all states count them (National Conference of State Legislatures, 2015). For example, only Maine fully counts provisional ballots that are cast in the wrong precinct. While provisional ballots are intended to be a safety net for some voters, provisional ballots can also lead to administrative confusion and disenfranchisement for eligible voters if their votes are ultimately not counted because of a state’s provisional ballot policy (Weiser, 2006).

4 DATA

In 2002, HAVA established the US Election Assistance Commission (EAC), which has conducted surveys of all US counties following federal elections, every two years since 2004². These surveys comprise comprehensive, county-level voter registration and election administration information (Field et al., 2014; Fullmer, 2015).

We compiled information on individual state-level policies and state partisanship by reviewing reports from the National Conference of State Legislatures, The Pew Charitable Trusts, and the Brennan Center for Justice (National Conference of State Legislatures, 2015, 2018; Pew Center on the States, 2013; Norden et al., 2012). For state-level information on voter registration websites and their features, we used measures from Sweeney et al (Sweeney et al., 2017). Finally, we retrieved HAVA spending from the USASpending API (U.S. Department of the Treasury, 2019).

The unit of analysis for this study is the county-year. We retrieved election returns for each presidential election from 2008 to 2016 from the Federal Register, and annual demographics from the US Census Bureau API, specifically the American Community Survey and Small Area Poverty and Income Estimates (U.S. Census Bureau, 2019)³. The Census Bureau uses identifiers based on the Federal Information Processing Standards (FIPS), and we use these FIPS codes to match election and demographic data to the EAC survey results.

5 METHODOLOGY

Since counties are nested within states, we use hierarchical linear modeling (Hersh and Nall, 2016; Hicks et al., 2016; Dyck et al., 2009) to estimate logistic regression coefficients for each of the four stages, as follows.

$$\text{Population Rate (Stage)} = \beta_{0[c,s]} + \beta_k \text{Policy}_s + \beta_j \text{Control}_c + \varepsilon$$

²We include data from the Election Administration and Voting Survey (EAVS) as well as an EAVS supplement on the Uniformed and Overseas Citizens Absentee Voting Act.

³We note that the voting eligible population is available as part of the ACS for 2016 only. We imputed estimates of the voting eligible population for the preceding years.

where $\beta_{0[c,s]}$ is the set of random intercepts for each county and state.

5.1 Dependent Variable: Rate

Studies covering elections as far back as 1840 calculate turnout as the sum of votes cast divided by the number of eligible voters (Engstrom, 2012). Municipalities determined eligibility on the basis of age, race, and sex, per the Constitution, rather than local rules. Various measures of turnout appear in the literature, including those based on the voting eligible population (VEP), voting age population (VAP), and registered voter population (RVP) (Alvarez et al., 2008; Erikson and Minnite, 2009; Stockemer, 2017).

We define *registration rate* as the number of registered individuals, divided by the voting eligible population. Next, the *turnout rate* is the number of individuals who participated in the election on or before election day, divided by the registered voter population. Finally, we compute the *ballot rate* as the number of voters who received regular ballots, rather than provisional ballots, divided by turnout and the *count rate* is the number of voters whose ballots were accepted, divided by turnout.

5.2 Independent Variables

We include state-level variables for the following policies: felon eligibility restrictions, election day registration, percentage of voters purged by the state prior to the election, registration website, all-mail voting, absentee-list voting, early voting, strict identification requirements, photo identification requirements, and whether provisional ballots are counted.

We include state-level political variables including indicators for whether the state legislature had a Republican or Democratic majority⁴. We also include controls for administrative practices such as high poll density (which we define as the number of poll workers per county), the amount of money spent to implement provisions of HAVA, and whether the state has low-cost voter data. These election administration variables control for variation in resources, which influence the number of polls and poll workers, the quality of voting machinery, and voter roll management, respectively.

⁴One study included whether an individual resided in a southern state (Burden et al., 2014). This may be a proxy for the constraints of the Voting Rights Act, which only affected certain states, or it may represent a history of rampant voter suppression in the south.

At the county level, we include the percentage of the population with at least a high school diploma, percent unemployed, median income, median age, percent female, percent black, and percent Latino. For the turnout, ballot, and count models, we include an estimate of the rates for all preceding stages. This ensures that the constants reflect baseline rates for each stage (Erikson and Minnite, 2009).

6 FINDINGS

Following the structure of the literature review, we present findings in five policy areas: eligibility restrictions, voter registration, convenience voting, voter identification, and provisional balloting. Table 2 summarizes the direction and magnitude of the findings in each policy area. The *Expectation* column indicates the direction of the policy's effect on the given outcome based on existing literature. For stages denoted "N/A," we were unable to identify policy effects in the literature as of this writing. The *Finding* column indicates the direction of change based on our estimates⁵. Stages denoted "Null" refer to estimates with p-values greater than 0.05. Of the five policy areas reported in Table 2, two—voter registration and voter identification—include policies that influence multiple stages. These multistage effects support our assertion that focusing on a single stage may result in biased policy effects.

Returning to the illustrative example, our results correspond to the policy-stage interactions outlined in Figure 1. Eligibility restrictions correspond to lower registration rates, an early stage that becomes embedded in the calculation of turnout, consistent with the first scenario where turnout is a function of the observed policy X and unobserved policy Z_1 . Voter registration policies affect multiple stages: registration, turnout, and balloting. This is consistent with the illustration's second scenario, where turnout is influenced by policy X and unobserved policy Z_2 at multiple stages. Voter identification policy relationships also fit this pattern, influencing both balloting and counting. Finally, we do not find a relationship between voter identification policies and turnout. Examining only turnout would lead one to conclude that these laws do not affect voter participation, when they

⁵See Table 3 for estimates.

Table 2. Summary of Findings by Policy Group and Stage

	Direction of Change:		
	Expectation	Finding	Magnitude
Eligibility Restrictions			
Registration	–	–	1.3 ppt
Turnout	–	Null	
Balloting	N/A	Null	
Counting	N/A	Null	
Voter Registration			
Registration	+/-	+	≤ 2.2 ppt
Turnout	+	+/-	≤ 6.1 ppt
Balloting	N/A	+	0.2 ppt
Counting	N/A	Null	
Convenience Voting			
Registration	N/A	Null	
Turnout	+	+	7.6 ppt
Balloting	N/A	–	1.1 ppt
Counting	N/A	Null	
Voter Identification			
Registration	N/A	Null	
Turnout	–	Null	
Balloting	–	+/-	≤ 1.6 ppt
Counting	N/A	–	≤ 0.2 ppt
Provisional Ballots			
Registration	N/A	Null	
Turnout	N/A	Null	
Balloting	N/A	Null	
Counting	+	Null	

in fact affect voters at a later stage in the process.

Turning to specific policies, we report estimates of the population proportion for each of the registration, turnout, balloting, and counting stages in Table 3. The constant represents the baseline rate across counties, or the proportion of the population that participated in a given stage.

6.1 Eligibility Restrictions

Felon eligibility restrictions alone do not significantly affect registration. However, an interaction between felon restrictions and the percentage of black residents is statistically significant. This indicates that in counties with a higher than average percentage of Blacks, felony restrictions lower registration by 1.3 percentage points. Felon eligibility restrictions, with or without interactions, do not significantly affect the remaining stages.

6.2 Voter Registration

Election day registration affects only one stage, increasing turnout by 6.1 percentage points. The magnitude of this estimate is approximately two to three times the size of other estimates in the literature, and in the same direction. This provides further evidence that election day registration increases turnout, perhaps more substantially than previously thought. The percentage of voters purged by the state corresponds an increase in registration of 0.1 percentage points and a reduction in turnout of 0.2 percentage points. The presence of a state-wide registration website corresponds to an increase in registration of 2.2 percentage points, a decrease in turnout of 1.2 percentage points, and a decrease in balloting of 1.1 percentage points. Across stages, voter purging and registration websites are positively correlated with registration and negatively correlated with later stages. We do not make causal claims, as these rates are likely endogenous. For example, counties with higher rates of registration may be targeted for voter purges.

6.3 Convenience Voting

We expect early voting to be beneficial to certain populations, particularly low-income individuals and minorities who may have more difficulty getting time off from work to vote on election day. In 2016, 37.3 percent of Black voters used early voting, compared to 39.9 percent of white voters and

43.9 of Hispanic voters (United States Census Bureau, 2018). By comparison, in the presidential elections of 2008 and 2012, over 70 percent of African American voters used early voting compared to just over 50 percent of white voters (American Civil Liberties Union, 2014). However, according to our results, early voting has no statistically significant effect on registration, turnout, or counting. It has a small and weakly significant effect of 0.6 percentage points on balloting. Given that our analysis is at the county level, additional studies at the individual level may help to investigate interactions with voter characteristics such as race.

Vote-by-mail (VBM) policies correspond to a large, statistically significant effect of increasing turnout by 7.6 percentage points. Vote-by-mail had no effects on the other stages. This result is consistent with the literature, based on at least one finding that VBM lowered turnout in California (Kousser and Mullin, 2007). In contrast to vote-by-mail, the availability of absentee list voting correspond to a lower balloting rate by 1.2 percentage points.

6.4 Voter Identification

Voter ID laws had no effect on registration or turnout, but had a statistically significant effect on balloting. Strict ID laws correspond to lower turnout by 1.6 percentage points. These results suggest that voters in states with strict ID laws are more likely to receive a provisional ballot and somewhat less likely to have their ballots included in the final count. Although this finding contradicts some findings the literature, it is an intuitive result. Voters without the proper identification are excluded from casting a regular ballot on election day, as mandated by HAVA. This effect may not be registered by voter surveys because people may say they voted even when they don't get a regular ballot. Strict ID laws also lower the count rate by 0.2 percentage points, a small but statistically significant finding. This may suggest that those states with strict ID laws in place are also likely to pass measures that constrain the ability to count provisional ballots. In contrast, photo ID laws correspond to higher ballot rates by 1.2 percentage points.

6.5 Demographic Controls

With the exception of unemployment, all of the demographic variables correspond to one- to two-point increases in registration and turnout. Counties with higher percentages of high school graduates and higher levels of income report higher rates of registration and turnout. Higher unemployment corresponds to a small (half-percentage-point) decrease in turnout. Higher median age and a higher percentage of women corresponds to higher rates of registration, turnout, balloting, and counting. Counties with higher percentages of women, blacks, and Latinos report higher registration and turnout, but lower balloting and counting. These results may correspond to voter suppression efforts, but as noted earlier, this question is better suited to an individual-level analysis.

7 DISCUSSION

Multistage analysis of the election franchise is important for a number of reasons. First, even small differences in empirical results can have considerable implications. Many of the races in past election cycles have been decided within a margin of two or three percentage points. During the 2012 presidential election, two states had margins of two points or less (The Cook Political Report, 2017), and in 2016, eight states were decided within a vote margin of less than three percentage points. Second, policies that have a disparate impact on voters can have broader consequences in terms of voters' constitutional rights. The Supreme Court has weighed in on the constitutionality of many of these policies—an indicator of their salience.

Recent state laws and policies point to a larger awareness that the ability to influence outcomes in the voting franchise requires intervention at multiple stages, not just the more commonly studied turnout. Many of the election policies discussed in this paper are contested in both state and federal judicial courts and ballots. For example, in 2018 Florida voted to pass Amendment 4 to restore voting rights to felons. In the past five years alone, 11 states have passed some form of legislation regarding the restoration of voting rights for felons (National Conference of State Legislatures, 2018). As of 2019, 21 states and Washington, D.C offered election day registration. In addition, 38 states plus Washington, D.C offer voter registration websites, an increase of 7 states since 2016

Table 3. Linear Mixed Effects Regression Results

	Registration	Turnout	Balloting	Counting
Constant	0.89242***	0.68200***	0.99833***	0.99894***
<u>Eligibility Restrictions</u>				
Felon Voting	−0.03128	0.01403	−0.00096	−0.00094*
Felon Voting*% Black	−0.01309***	−0.00033	0.00121*	0.00026*
<u>Voter Registration</u>				
Same Day Registration	0.00068	0.06070***	−0.00196	0.00022
Pct Voters Purged	0.00137**	−0.00174***	0.00021	−0.00001
Registration Website	0.02152***	−0.01227***	−0.00222***	0.00021
<u>Convenience Voting</u>				
All-Mail Voting	−0.01504	0.07637**	0.00206	−0.00003
Early Voting	−0.01440	−0.02089	−0.00636*	−0.00084
Absentee List Voting	−0.02399	−0.00531	−0.01079**	0.00027
<u>Voter Identification</u>				
Strict ID Law	−0.02129	0.00002	−0.01610***	−0.00166**
Photo ID Required	0.03626*	−0.01135	0.01157***	0.00100*
<u>Balloting</u>				
Provisional Balloting	−0.00299	−0.00794	−0.00480	−0.00042
High Poll Density	0.00801***	−0.00792***	−0.00030	−0.00019**
HAVA Spending	−0.00196*	−0.00410***	0.00109***	0.00025***
Low Cost Voter Data	−0.00851***	0.02012***	0.00041	−0.00046**
Republican Majority	−0.00431**	0.00006	0.00027	0.00012
Democratic Majority	−0.01570***	−0.00035	−0.00028	−0.00006
% Highschool Grad	0.00856***	0.01300***	0.00018	−0.00010
% Unemployed	0.00207*	−0.00536***	−0.00003	−0.00009*
Ln Median Income	0.02089***	0.03147***	−0.00124***	−0.00036***
Median Age	0.02266***	0.02438***	0.00087***	0.00015***
% Women	0.02876***	0.00866***	−0.00086***	−0.00018***
% Black	0.01934***	0.01199***	−0.00235***	−0.00066***
% Latino	0.02242***	−0.00131	−0.00066**	0.00002
Registration Rate		−0.03549***	0.00084***	0.00049***
Turnout Rate			0.00238***	0.00081***
Ballot Rate				0.00168***
Observations	8,996	8,650	8,649	8,649

Note: Includes year, county, and state random effects

*p<0.1; **p<0.05; ***p<0.01

(Brennan Center for Justice, 2019).

State legislation regarding election administration varies highly per state and targets specific aspects of the voting process. Accordingly, a holistic analysis of the voting franchise can be difficult to evaluate. This study urges a closer inspection of the assumptions associated with choosing to isolate policy effects on election outcomes. Our findings prompt a closer look at each of the policies in light of the entire eligible population's voting experience, from whether a voter can register to whether their full vote will be counted.

We reiterate the importance of examining the holistic effect of policies on political participation. A single-stage focus can lead to biased inferences or a misinterpretation of valid inferences. Our findings provide a sound starting point for further research. Our analysis points to the directional policy effects but each policy can be further investigated in light of the bias estimates and scenarios we demonstrated in Section 2.

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