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**Electoral Dysfunction: Assessing State Electoral Laws and Turnout in
Presidential Elections**

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Abstract:

Due to the United States' shockingly low turnout in comparison to other Western democracies, many states around the country have enacted laws to increase the number of people who participate in presidential elections. Scholars have found mixed results when testing the effects of specific electoral reforms in individual states, but few have looked at comprehensive models to test the overall effects of these reforms on turnout. This thesis examines the ways in which electoral reforms across all fifty states have led to increases or decreases of turnout in presidential elections. It utilizes a comprehensive longitudinal model accounting for electoral reform and socio-economic, geographical, and political variables to explain why turnout rates are at the levels they are. The results indicate that, although there are small effects, electoral laws overall do little to influence turnout and alternative reforms should be investigated in attempts to influence turnout.

I. Introduction

Majority rules is the defining factor of the United States democracy. But, in 2016, the presidential election marked the fifth time in the history of the United States of America that the winner of the presidency did not win the popular vote. The issue is not necessarily with the Electoral College as many assume, but rather with the fact that over 100 million U.S. citizens did not cast a ballot in the 2016 election (Ingraham 2016). Examining comprehensive polling data of both non-voters and voters alike, Fraga deduces that if all citizens had voted, Hillary Clinton would have won (Fraga 2018). The increase of voting would have flipped states including Florida, Wisconsin, and Texas.

In the case of Wisconsin, Donald Trump won the state by 22,748 votes (Wines 2017). The turnout was 69.5% of eligible voters, the lowest rate of participation in the state since the election of 2000, yet still higher than the majority of other states (U.S. Elections Project). Mayer and Decrescenzo (2017) found that a significant number of eligible voters were deterred from the polls by the state's recently enacted strict voter identification law. In total, they estimate that as many as 23,252 voters could have been deterred from voting in the 2016 election, a number that could have easily swung the presidency (Mayer and Decrescenza 2017). This law and many others like it have been emerging across the United States, and many suggest they act to decrease voter turnout. Contrary to the actions of these states, others have been implementing more sweeping reforms that attempt to both increase turnout levels and make voting more convenient. We will never know what would have been if these laws had not been in place during the 2016 election; but it suffices to question whether, in reality, election laws are able to influence the course of a presidential election by increasing or decreasing voter turnout.

Political participation is an essential part of any functioning democracy, and a country's voter turnout is regarded as one of the strongest indicators of democratic quality. In the United

States, voting is the form in which most people participate in government; yet only 58% of eligible voters participated in casting a vote in the 2016 presidential election (Regan 2016). Voter turnout is defined as the percentage of eligible voters who cast a vote for a candidate in an election.¹ The turnout rate for presidential elections in the United States has consistently hovered between 50% and 60% for the past twenty years. But, when you look at individual states' turnout rates, a different picture appears. Depending on the state, turnout levels differ immensely from 43.6% of eligible Hawaiian voters to 74.8% of Minnesota voters (U.S. Election Project 2016). From these differences arises the question of what factors account for these discrepancies in states' turnout rates and are state electoral laws partially responsible for states' fluctuating turnout percentages.

II. Literature Review

The main objective of this study is to examine the sources of variation in the voter turnout among the states. Specifically, the goal is to evaluate the relative importance of socioeconomic, legal, and political factors for turnout variation in order to determine how electoral reforms influence turnout. Although presidential elections are for a federal position, federalism has given states the ability to control the ways in which the elections are run, with few limitations. Just as states have varying demographics and levels of political involvement, they have also developed vastly different voting laws that act either to restrict or to enlarge the voting eligible population and can make casting a ballot easier or more difficult. All decisions, from who can vote and how people register to vote to how they cast their ballot, are left up to the

¹ There are three ways in which to measure voter turnout: voting age population (VAP), voting eligible population (VEP), and registered voter population (Holder 2006). Turnout measured by VAP is the percentage of the population over the age of 18 that turned out to vote. Turnout based on VEP is the percentage of eligible voters, those that are citizens, over the age of 18, and not ineligible because their voting rights have been revoked (e.g. felons in some states). Registered voter population comprises of the voting eligible population that has registered to vote, that are eligible on election day. For this study, the voting eligible population will provide us with the most accurate data to assess whether election laws that ease or strain registration and voting increase or decrease turnout.

states (U.S. Constitution Article II). According to G. Bingham Powell, Jr. (1982, 57-58), in his award-winning book, *Contemporary Democracies*, the United States' low turnout is due to its institutional context that inhibits high participation levels. Blais (2006) highlights that the two largest determining factors in national election turnout are socioeconomic factors and the institutional set-up of voting.

In order to understand why states' voter turnout varies, we must understand the complexity of the decision to cast a ballot. The most widely accepted model for explaining why someone chooses to vote is Rational Choice Theory (Downs 1957, 36-46). The theory posits that individuals decide to vote based on a cost-benefit model, which explains that people are most likely to vote when the benefits outweigh the costs. Although voting is in the collective's best interest, with the general population benefiting from the act, it is rarely in the best interest of an individual to vote (Downs 1957; Aldrich 1993). Therefore, turnout is seen as a theoretical puzzle, in which some decide the benefits are worth the time and effort it takes, while others decide they are not. This model explains the basis of the long-held belief that making voting more convenient, by easing registration rules, allowing for early voting, and increasing the use of absentee ballots, will help to increase voter turnout (Burden and Gaines 2015). These policies began to be implemented with the intent to increase overall state turnout, as well as to restore equality in participation rates among different demographic groups. These laws attempt to "level the playing field" in order to make voting easier and increase turnout, but also to equalize the participation of different demographic groups that vote at very different rates around the country (Rigby and Springer 2011, 420).

To aid in the implementation of these policies, the federal government passed the National Voter Registration Act of 1993, expanding voter registration opportunities to motor vehicle licensing bureaus, public assistance agencies, and mail-in registration. The measured

potential of this policy was massive, with an estimate that 90% of the population in these states had encountered a DMV with the ability to register to vote (Larocca and Klemanski 2011, 77-78). And then again in 2002, the Help America Vote Act, which sought to create uniformity on within-state balloting systems, as well as to reduce voter fraud with voter identification requirements, was passed. Yet, since these electoral reforms' initial implementation, studies have varied in their conclusions about whether these policies actually increase or decrease voter turnout (Burden et al. 2014).

Gronke et al. (2008) propose in their review of other scholars' voter turnout research that most studies conducted up to that point were focused on individual-level voting behavior. Although this micro-level approach to analyzing turnout has exposed the reasons for individual-level turnout, it is poorly equipped to address macro-level turnout and the larger question of why state electorates vote at the rates they do. They urge further research to look at larger picture turnout to find explanations. Putnam (2000, 35) analogized recent low turnout rates to a "fever" that indicates "deeper trouble in the body politic." Although studies have been conducted looking at state-level voting, very few have included demographics and electoral laws in one full model in order to control for each factor and to test their relationship with turnout within a state. Depending on the model researchers use, the effects on turnout attributed to electoral reforms can be vastly different.

Since Downs (1957) introduced the Rational Choice Voting Model, many political scientists have studied its validity inside the U.S. election system, and many politicians have used it to justify electoral policies, created in hopes of increasing turnout. Yet, it is not clear whether these policies have actually been helpful in expanding the electorate or reducing the inequality of voting among demographic groups. It is clear that this model is most helpful in predicting individual, micro-level voter turnout, but when more aggregate macro-level variables

are included, this model can also help to explain some important characteristics of the electorate (Darmofal 2006).

In order to find if there are any associations between state electoral policies and voter turnout, other characteristics of the state electorate have to be explored and controlled for. Harder and Krosnick's (2008) study on the psychology of why people vote produced the following five explanations on why people turnout: turnout is made more difficult/less likely based on complicated registration procedures; turnout is more likely among certain demographics due to greater motivation or ability; one's social setting can affect motivation and ability; characteristics of an electoral contest can promote or discourage voting; and canvassing can have the ability to increase turnout. Based on these conclusions, the authors direct future research to examine specific variables that are derived from these five explanations. The literature points research to examine not only electoral policies, but also the composition of a state including demographics, political features, and geographic settings that contribute to a state's overall turnout rate. From the expansive literature on voter turnout, this study identifies at least 15 variables on states' composition that have the potential to affect turnout in individual states. In the following pages, each potential variable will be discussed in detail in order to assess its relationship with state turnout.

Demographic, Geographic, and State Political Features:

Blais (2006) highlights that there are a number of socio-demographic features in an electorate that are associated with higher or lower turnout levels. In his cross-national study, he finds that in countries with a strong economy, turnout is higher than in the poorest countries. He indicates that this theory could be converted to account for small differences in state turnout levels within the U.S. He also highlights that the competitiveness of an election (measured by how close the outcome is) can increase turnout levels. Following the cost-benefit model of

voting, more people vote when the election is close. But, he highlights that the magnitude of this association has not been measured.

In the 1990s, the most typical and prevalent type of voter was white, conservative, middle-to-upper-class, politically aware, and Republican due to the set-up of the electoral system (Jefte and Jefte 1990). But, Gronke et al. (2008) point out that in part due to the changing demographics of the United States and in part due to the adoption of more and more convenient voting methods, this typical voter has changed slightly. They question exactly what the voting population looked like at the time of their research and what the largest demographic groups to take part in voting look like. Based on this literature, there are several indicators of turnout that need to be addressed and analyzed.

Race/Ethnicity:

Accurate race and ethnicity data are extremely difficult to obtain depending on the level of data one desires. But, most scholars agree that race and ethnicity have played defining roles in U.S. electoral politics since its inception. This is all due to the historical context of race in America. Neighley and Hill (1999) found that racial diversity is associated with lower voter turnout, weaker state mobilizing institutions, and weaker mobilizing effects in presidential elections. Thus, in states with larger percentages of the three largest racial groups, Non-Hispanic whites, African Americans, and White Hispanics, the expected voter turnout will be lower than in states with less diversity (Leighley and Nagler 2014). Minority turnout is consistently low across elections. But, leading research finds that minority voters' turnout is the largest number when there are co-ethnic candidates on the ballot (Barreto 2010; Washington 2006). Adding to this research, in 2008, African-American voter turnout was at the highest level ever recorded, almost equal to white voter turnout. Philpot et. al (2009) argue that, although this was primarily

due to the possibility of the first African-American President of the United States, the underlying force that drove Black voters to the polls was party mobilization and increased political efficacy.

Fraga (2016) finds a different reason for an increase in minority voting in some elections. He finds that minorities are more likely to vote in both primary and general elections if their share of the population increases in their district, area, or state, regardless of the race of the candidate. This finding is said to be due to “minority empowerment” in which minorities are more likely to participate in elections if they feel like their participation is likely to have an impact on politics (Barreto, Segura, and Woods 2004; Gay 2001). In other words, the larger the population of minorities, the high levels of voter turnout that area will exhibit. Leighley (2001) offers an alternative explanation that rather than empowerment encouraging minority voters to participate, it is elite mobilization that encourages minorities to get to the polls. That is, in competitive elections, when minority voters comprise a key element of the voting public, elites spend more time encouraging these groups to vote, which turns out to be effective. The take-away from these studies is that one of the main theories of minority participation is that as the size of an ethnic group within an area or state expands, rates of participation for that ethnic group will increase as well, but overall these groups have historically lower turnout than white Americans.

Age:

There are two common statements about the age of voters in elections: young people don’t vote, and old people vote a lot. So, due to this discrepancy, more and more politicians have been focusing on increasing the youth vote in the United States. Olsen (1972) found that age had a significant effect on the likelihood of someone voting and that as age increased, so did that likelihood. For decades, politicians have given notice to older voters as a pivotal and consistent voting bloc. The reason for this is that older voters have and will continue to make up a

substantial proportion of the electorate for as long as young voters continue not to vote (Binstock 2000). Young adults are said to face “start-up problems,” which refer to priorities outside the political sphere that lead to low involvement in civic life (Smets 2012, 3-4). These alternative priorities make political participation more difficult and less meaningful for this age group. As they age into adulthood, citizens cannot escape dealing with political issues, and these higher levels of political concern boost political participation (Strate et al. 1989). Therefore, age is an excellent predictor of voting behavior and it can be expected that the older a person is, or state in this case, the more they will vote.

Educational Attainment Level:

There is a plethora of research that has been conducted on the effect education has on political participation. Most research finds that the higher level of education an individual has, the higher the probability they are to vote (Abramson and Aldrich 1982; Wolfinger and Rosenstone 1980; Franklin 2004; Milligan, Moretti, and Oreopoulos 2004; Powell 1986). There is debate over the causal interpretation of all these results. According to the "civic education" theory, as an individual's educational development progresses, the ensuing increase in civic skills and knowledge leads to greater political involvement. This theory accounts for the idea that the more educated a person becomes, the more likely they are to vote (Tenn 2007; Converse 1972).

On the other side of the argument, scholars argue that education is an indicator of family background and innate cognitive ability which are the true causes of participation (Card 1999; Sondheimer and Green 2010; Rosenzweig and Wolpin 2000). There is also the claim that education functions merely as a sorting device, differentiating high- and low-status individuals (Nie, Junn, and Stehlik-Barry 1996). If education operates as a signifier of one's status, it is the the minimal costs and great benefits of political participation that encourage high-status individuals to participate and discourage those with lower status. In research assessing the

validity of these theories, Milligan, Moretti, and Oreopoulos (2004) and Dee (2004) find that educational attainment strongly influences voter turnout, but the later studies by Tenn (2007) and Kam and Palmer (2008) conclude that the schooling itself has no effect.

Regardless of which causal theory is actually accurate, it is clear that education is an incredibly strong indicator of political participation. The more educated one is, the more likely one is to participate. Thus, on the state level it seems to make sense that states with a larger percentage of college graduates would have higher levels of turnout as well.

Urban Rural Index:

Few studies have been conducted on the impact on turnout of having more urbanity or rurality. But, the studies that have been produced show a strong connection. Most studies on voter turnout ignore the difference between urban and rural settings or they cite the generalization that urban areas have higher levels of turnout (Milbrath 1965). One of the earliest studies on the effect of different sized communities on political participation was executed in 1963 by scholars Gabriel Almond and Sidney Verba, in which they found that the attitudes and behaviors that influence participation in politics are influenced little, if at all, by the size of the community in which one lives. However, researchers later found that Almond and Verba had failed to account for the education levels that were significantly higher in urban areas (Finifter and Abramson 1975). With this variable included, they found that not only was an individual's willingness to participate impacted by community size, but also that this willingness was greatest among citizens in smaller communities. This study directly conflicted with Milbrath's findings that people closest to the center of society are more likely to participate than those who live on the fringes of society. Oliver (2000) added to this work by doing a study that directly focused on the impact community size has on political participation in the United States. His results showed that city size had a statistically significant impact on participation and that rates of participation

declined steadily as city size increased. Blais (2006) also found that in a sub-national study, smaller communities have reported higher turnout percentages than in heavily populated areas. Blais theorizes that this may be due to the fact that people feel that their vote counts for more in a small community, thus there is a higher benefit to voting.

The studies conducted on urban-rural participation rates produce conflicting answers. There are those that have found that the greater the population, the greater amount of participation (Milbrath 1965; Fischer 1975; Fisher 1999). Yet, many scholars have also found that the smaller the community, the more participation (Conway 2000; Monroe 1977; Finifter 1970). The most recent research all points to signs that in smaller communities voting is more prevalent. Now the question is can this be expanded to the state level where states with a higher percentage of the population living in rural areas have higher turnout than states with higher percentage people living in urban areas.

Electoral Competition:

Time after time, evidence has shown that turnout is higher in states and in elections that are more competitive. The reason for this increase in turnout is based on V.O. Key's (1949) "Competitive Threat Theory," which argues that party leaders will put more effort into mobilizing voters in a competitive race than the party leaders will in an uncompetitive race. Gray (1976) based her study on Key's theory and found that in a cross-sectional study of states, toss-up states had much higher turnout levels than did solidly Democrat or Republican states. The Rational Voter Theory as developed by Downs (1957) and Riker and Ordeshook (1968) specifies that a person's expected benefit from voting increases when there is a high probability that his vote is decisive. This argument is illogical because the probability of casting a decisive vote in most elections of interest is essentially zero. The probability that a single vote will decide a presidential election may differ from year to year, but it is hard to believe voters can sense such

small changes. Thus, Cox and Munger (1989) proposed an alternative theory: elites are more likely to motivate citizens to vote in close elections. Glazer and Grofman (1992) offered another explanation, by demonstrating that causality may be the opposite: high turnout leads to close elections. No matter the cause, it is clear that the higher the stakes are in elections, the more likely people are going to show up to cast a ballot, which will, in turn, increase turnout.

Income:

Although income and economic adversity have been the focuses of multiple large-scale research projects in the recent years, there has been no consensus on their effects on voter participation. Thus, there are competing claims for how this adversity affects the motivation to participate in politics. Before the 2012 election, election economists identified that the dramatic increase in income inequality has been a distinguishing feature in American life (Gottschalk and Danziger 2005). A growing attention has focused on the effect income inequality has on representation, wealth, and overall political participation (Beramendi and Anderson 2008; McCarty, Poole, and Rosenthal 2008; Page and Jacobs 2009). These scholars have a rather negative view of the future of political participation and inequality, in which the further isolated and ignored the poor feel, the less likely they are to participate in political society.

Mass support by scholars follows the same train of thought, arguing that the poor, marginalized voters are much less likely to vote because the costs are too high, and they do not think the rewards are any higher (Lijphart 1999). In his cross-national study, Blais (2006) finds that in countries with a strong economy, turnout is higher than in the poorest countries. This theory could be converted to account for small differences in state turnout levels as well. Many scholars look at how to increase the turnout rate of these low-income individuals to try to reduce the effects income can have on participation (Berinsky 2005; Erikson and Minnite 2009; Knack

and White 2000). Most have found that reducing barriers to voting and making it as easy as possible can have the greatest impact on increasing this group's turnout level.

One theory that competes with all the rest is that economic adversity and low income increase voter turnout (Scholzman and Verba 1979). Their explanation is that those who are not doing as well economically have a greater incentive to vote because they have more to gain from government. Yet, the evidence for this argument is much less compelling. Generally, scholars agree with the argument that higher incomes correlate with increases in political participation. So, when applying this logic to state turnout levels, it is possible that states with a higher median income would also have a higher rate of turnout.

Unemployment Rate:

There has been a great deal of research done on "economic voting" and how citizens vote depending on the economy. But, very little of this work has looked at how the state of the economy can actually affect a voter's decision to vote in the first place. One would assume that as the economy worsens, more people would vote in order to hold elected officials accountable for their actions. Yet, some researchers have found that as the economy worsens, fewer people actually turnout (Basinger, Cann, and Ensley 2012; Verba, Scholzman, and Brady 1995; Radcliff 1994). Radcliff (1994) explains this trend as economic hardship causing people to withdraw from political life and disengage from politics. The causes for the withdrawal include decreased resources, greater opportunity costs, heightened alienation, and distraction by one's personal circumstances (Burden and Wichowsky 2014). Most of this research is decades old and posits that a worsening economy, or a high unemployment rate in particular, discourages voter participation.

However, there is some recent research on the effect economics has on participation that has produced differing results from studies in the past. Arceneaux (2003) hypothesizes that a

worsening economy can increase turnout, but only when people blame the government for economic outcomes. This finding indicates that rising unemployment increases turnout only if a majority of the electorate holds the government responsible. Lim and Sander (2013) show that individual unemployment decreases civic and political activity, but they found that state-level unemployment was positively related to political participation. Burden and Wichowsky (2014) challenged the original idea of withdrawal and found that aggregate increases in unemployment led to higher levels of voter turnout. These conflicting scholarly conclusions leave much up to interpretation. But, it is clear the economic adversity, in the form of unemployment, can have an impact on turnout one way or another, thus it is important to consider it in a model.

Incumbency:

Since the 1960s, status as an incumbent in an election, especially a congressional one, gives the candidate a huge advantage (Mayhew 1974; Cain, Ferejohn, and Fiorina 1987). Yet, in recent years, political scientists have seen a decrease in the advantage incumbents have during House and Senate races (Jacobson 2015). But, it is unclear whether the fact that an incumbent is running encourages or discourages people from voting in the first place, regardless of who they vote for. Most of the work done in regard to turnout and incumbency is testing the hypothesis that higher than usual turnout points to a wave of anti-incumbency, a call for change (Hansford and Gomez 2010). This theory is tested primarily at the congressional and local levels, but it is an important consideration for when the data contain an incumbent for some elections and not others. If this anti-incumbency theory reveals itself at the presidential level would be an important finding.

Region:

Federalism has created a system in which states form their own electoral policies and voting habits, and the political development each state had is still reflected today. But, Springer has found that the patterns translate to larger areas than just states when she says:

Regional differences in both the quality of electoral institutions and their effects have emerged throughout the twentieth century. Most apparent are the distinct differences between voter turnout and electoral institutions in the non-southern states and the southern states (Springer 2014, 116).

Springer's work built on Onuf's (1996) work that found that largest disparities in turnout were accounted for by the divergent political developments of the Northern and Southern states in the 19th and 20th Centuries that can still be seen today. Springer goes on to highlight that voting rates are consistently above the national average in many midwestern and western states and a few northeastern states, while southern states' turnout levels are consistently lower than average. Voting in the Southern states was below the average for the entire 20th century, even after the passage of the 1964 Civil Rights Act and the 1965 Voting Rights Act (Springer 2014, 137).

Scholars have argued that these southern low turnout rates have depressed the entire nation's average turnout levels. So, when assessing turnout, one must look at southern states separately from non-southern states (Kousser 1999; McDonald and Popkin 2001). Yet, Springer does point out when you disaggregate the turnout data between states in the South, she still finds large variations among those states; yet overall, they are all below the national average. Thus, to examine regional political participation, the key is to look at the historical context that is instrumental in shaping sections of the country (Springer 2014, 14). It is clear that region plays an important role in assessing why certain states are more likely to adopt some electoral laws over others and why different areas have starkly different rates of turnout.

State Political Culture:

Following the research analyzing the impacts of region on turnout, there is evidence that different regions have distinct political cultures that contribute to their participation rates. In 1966, Daniel Elazar released *American Federalism: A View from the States* in which he formulated that the United States could be divided into three distinct political cultures: moralistic, individualistic, and traditionalistic. He attributed these differences to the migratory patterns of specific immigrant groups in America that spread out across the country and settled in different locations. These migrants had different political and religious backgrounds that influenced their concepts of the role of government, political participation, and political parties.

Moralistic political culture sees the government as a vehicle to improve society and increase everyone's welfare. The government and the political process is seen in a positive light and promote the expanded role of government in citizens' lives, especially to help minority and marginalized citizens. In Elazar's model, citizens from moralistic states should be more inclined to devote their time to political campaigns, and to vote (Elazar 1966, 96).

States with an individualistic political culture see the role of government as to address issues that are important to individual citizens and help pursue individual goals. They expect the government to provide services and goods that are essential to their success. The focus is on individual and private needs rather than on the common good of society. Thus, people from these states are only motivated to get involved in politics and vote if they see a incentive or if there is a personal interest in the outcome (Elazar 1966, 94).

Traditionalistic state culture sees the government as a necessary entity to maintain the social order and process. This political culture also believes in the importance of the individual. While political participation is encouraged and expected, it is usually seen as a privilege that not everyone should have. Thus, lower levels of turnout persist in these states (Elazar 1966, 99).

Shankansky (1969) performed an analysis of Elazar's formulation of political cultures to deduce that the differing political cultures pertain primarily to political participation in elections. He concluded that moralistic states will always have the highest levels of voter turnout, individualistic states will have decent turnout, along the lines of the national average as long as the election will affect individuals enough to motivate them to vote, and traditionalistic states will have the lowest turnout level because these states have the intrinsic belief that voting is a privilege that not everyone should possess.

These formulations are incredibly important to assessing turnout levels in different states. Not only does it partly explain why some comparable states have dramatically different turnout levels from others, but it also helps to explain why some states adopt electoral policies that are intended to increase the electorate or shrink it.

State Electoral Policies:

Several scholars have outlined multiple facets of electoral laws and policies across different states that can have an effect on voter turnout. There are two key arguments to the theoretical background of the purpose for election reform. One holds that by reducing the costs of voting, more citizens will turnout, and the other seeks policies to reduce fraudulent voting in the electorate. These policies are either part of convenience voting, in an attempt to reduce the costs on people to participate, or voting restrictions, attempting to make it more secure to vote, which can at the same time make it more difficult. I will outline each institution and the literature behind it in the following paragraphs. While same-day registration, early voting, mail-in ballots, and no-excuse absentee ballots are the most common policies that states have adopted in hopes of increasing turnout, voter identification laws, which have proliferated in recent years, act to reduce fraudulent voting, and have the potential to deter voters from participating.

Same-Day Registration:

Same-day registration, or election day registration, is a policy in which people can register to vote and cast their ballot on election day, instead of having a separate registration day or deadline weeks to months before voting. Ansolabehere and Konisky (2004, 83) argued that eliminating registration features all together would increase turnout five to ten percentage points. Another part of their research found that states with later registration dates or same-day registration had higher turnout rates than places with restrictive registration laws. Adding onto this research, Brians and Grofman (2001) found that same-day registration had the greatest impact on those with a high school education and middle-class income, with less educated and poorer citizens having significantly increased turnout as well. The group this reform affects the least is upper class, highly educated individuals for which the turnout rate is already substantially higher than with the other groups.

Census data from the 2004 Presidential Election indicated that 24% of 18-24-year old citizens were not registered/did not vote because they missed registration dates (Dorsey et al. 2008). The authors argue that the issue with early registration deadlines is that the number of people that care about elections increases dramatically between polls taken in September and polls taken in October of an election year. Therefore, early registration dates act explicitly to alienate people from the voting process and have the ability to reduce turnout by large margins. Shino and Smith (2018) state that voters that register at a time closer to the election day are more likely to vote than those that register earlier in the election cycle because they seek an immediate return of their investment.

Although there are many strong proponents for election day registration, there are also some skeptics who show research that election-day registration does not affect turnout significantly enough for all states to necessarily adopt it. Hamner (2009) found that registration reforms neither significantly increased turnout levels nor strengthened the voting percentages of

those demographics less likely to vote. Yet, he does point out that these findings could be in part due to the poor implementation of these processes by the states themselves. Hamner also highlights the fact that many states are still in the process of adopting these reforms and the true effect may not be witnessed until further implementation. Similarly, Fitzgerald (2005) pointed out that turnout in U.S. elections may be less about convenience and costs than most scholars understand it to be.

Overall, it is clear that although intended to increase voter turnout, the total impact of same-day registration is heavily debatable. Depending on the type of analysis scholars conduct and the variables accounted for in the model, same-day registration shows vastly different effects. It seems to be unknown if same-day registration does have a positive impact, how strong that impact is, or if it is even worth implementing the policy.

Early Voting:

Early voting has been one of the biggest election overhauls in terms of trying to increase voter turnout in the past few decades. It was reported that in the 2008 and 2012 Presidential Elections, one-third of U.S. voters cast their ballots before Election Day (Fullmer 2015). And, in 2016, an estimated 40% of voters voted before election day (*U.S. Election Assistance Commission* 2017). Early voting is when counties and states open the polls for an extended period of time rather than only allowing people to vote on Election Day. It is intended to ease the burden of voting and bring more people to the polls that otherwise would not have voted or not been able to vote.

There are varying levels of belief that the goal of increased turnout by early voting can be achieved. Giammo and Brox (2010) have shown evidence in their research on early voting that although it makes voting easier and more convenient, it does little to reduce the overall costs of participation. Similarly, Gronke et al. (2007) report the minimal effects of early voting, and

Fitzgerald (2005) reports no effect at all. There are even some researchers who report a negative effect of early ballots (Larocca and Klemnaski 2011; Burden et al. 2013).

Fullmer (2015) finds a different answer to the same question these other researchers asked. In his study he found that these other studies ignored the important differences in the implementation of early voting and its effect on turnout. Thus, by analyzing aggregate county data from states, and controlling for implementation design, findings show that early voting has a significant positive effect on turnout levels within states. Herron and Smith (2014) also took a different approach to their study on early voting. They found that when a state has extensive early voting and then reduces it, those that had previously voted early, are far less likely to vote at all. This finding thus shows that although implementing early voting may not provide a significant increase in voter turnout, removing early voting can severely impact turnout levels in a state.

Mail-In Ballots:

As a fairly new reform, Washington, Oregon, and Colorado are the only three states that conduct a full mail-in ballot voting system for all levels of elections. By definition, a mail-in ballot system is one in which a ballot is automatically sent to every registered voter in advance of election day, and they are expected to mail-in or drop off their ballots by the day of the election. Gerber, Huber, and Hill (2013) expose the positives and negatives of this type of system while analyzing its effects. In regard to the convenience of mail in voting, and reducing the costs of voting, this system proves valuable, allowing voters to vote from the comfort of their own homes and research their choices as they make them. But, the social aspects of the voting booths and the focal point of drawing attention to Election Day is lost on this system. In the early stages of mail-in ballots, Berinsky, Burns, and Taugott (2001) argued that although mail-in ballots increase turnout in the long run, they primarily make it easier for current voters to continue to participate,

and results in no change in the equality of different demographic groups participating in elections. Kousser and Mullin (2007) argue that the characteristics of a voter that lead them to vote by mail also make it more likely that they will turn out to vote, regardless of the voting process. This conclusion points to the argument once again that mail-in voting could be seen as a form of convenience voting, making it easy to vote for people that will vote regardless, rather than a way to increase overall turnout.

Many authors found a delayed effect for mail-in ballots and they draw attention to the importance of how the systems are implemented in the amount turnout increases. The difference in implementation and its effect on turnout is specifically shown by the fact that since adopting mail-in registration, Washington and Oregon have reported higher turnouts, yet California's county mail-in ballot systems suggests a negative effect between mail-in ballots and turnout (Elul et al. 2017). A large appeal of mail-in ballots is its ability to increase turnout in demographic groups that traditionally have low turnout levels. Elul et al. (2017) report that this system has led to a significant increase in voting by minorities and young people, but the turnout levels for traditional voters (white and older) have remained the same. The ability of mail-in voting to increase minority and youth voting is a promising sign for proponents, in an attempt to garner more support and participation from those specific groups and create equality in participation, as well as increase overall participation in elections.

The concern that many have with mail-in systems is with the "integrity" of the system and whether there will be an increase in voter fraud because mail-in ballots could be more prone to fraud and coercion than booth voting. But, Gronke (2005) reports that not only are there the same number or fewer cases of fraud in the mail-in ballot system in Oregon, but the system allows election officials to recognize fraudulent voting faster because of the system. The Oregon Legislative Research Service found in their study that there was no evidence of an increase in

fraudulent voting with mail-in ballots in counties where it was used (Hamilton 1988). Hamilton also points out that in these studies, researchers found not only a lack of fraud, but also an increase in electoral integrity.

No-Excuse Absentee Ballots:

Until the past few decades, the only voters eligible nationwide to vote via mail were persons over the age of 65, persons who were travelling outside their voting jurisdiction during the election, and the infirmed (Oliver 1996). Yet, these past few decades have shown a dramatic change in the number of people granted absentee ballots. In a state which allows no-excuse absentee ballots, any citizen can file a form in request to receive an absentee ballot by which they can vote through the mail, or even online in some cases concerning the military and remote areas of the country. California was the first state to adopt a “no excuse absentee ballot” in 1978, and many others have followed suit in the years since. There are many critics of this system, stating that there is an increased risk of voter coercion, lack of privacy, and the potential for fraud. Others criticize the use of these ballots in fear that people will cast less informed votes, as they cast the votes months before the actual election day (Karp and Banducci 2001).

Yet, there is plenty of evidence to suggest that there are benefits to these less regulated absentee ballot laws. Evidence has shown that upon the introduction of more flexible absentee ballot laws, states saw large increases in the percentage of the total vote coming from absentee ballots. Scholars have argued that allowing voters to vote on their own time and in the comfort of their own home reduces the costs of voting, which in turn increases the turnout (Alvarez, Hall, and Sinclair 2008; Aldrich 1993). Oliver (1996) found that overall turnout is increased only when there is a liberalization of absentee voter eligibility in combination with party mobilization effort. In 1985, Patterson and Caldeira conducted a study to examine the effects of expansive absentee ballots in California compared to states with restrictive absentee ballot regulations.

They found that no-excuse absentee ballots had no significant impact on increasing turnout, but they did find that the people most likely to vote absentee were members of underrepresented groups in political participation. Thus, they address that although there was currently no impact, the types of people voting absentee indicate that no-excuse absentee laws could eventually have a significant impact on increasing turnout.

Voter Identification Laws:

In contrast to laws which try to ease registration and promote voting, the increase in the passage of voter identification laws (“Voter ID”) has been labelled as a push to reduce fraudulent or illegal voting in the United States. Most of these laws have come into effect by requiring voters to present a photo ID either at time of registration or at the time of voting. The National Conference of State Legislatures (NCSL) identified four different levels of voter identification requirements: Strict Photo ID Law, Non-Strict Photo ID, Strict Non-Photo ID Law, and Non-Strict Non-Photo ID (Underhill 2018).² NCSL has identified that in 2004, not a single state enforced a photo identification requirement at the polls, but since then the numbers have increased drastically with eight states enforcing one of these laws in the 2016 election. Although designed to reduce fraudulent voting, several studies have found that there are a very small number of fraudulent votes to begin with, so the laws have very little impact (Minnite 2016; Cottrell, Herron, Westwood 2017). Rather, these laws have acted to raise the costs of voting and reduce convenience, especially for certain groups of voters who are unlikely to have a photo ID.

² Non-strict identification laws are defined as “at least some voters without acceptable identification have an option to cast a ballot that will be counted without further action on the part of the voter” (Underhill 2019). Strict identification laws are defined as “voters without acceptable identification must vote on a provisional ballot and also take additional steps after Election Day for it to be counted.”

As for the differentiation between photo and non-photo ID, the National Conference of State Legislature’s define the difference as “Photo identification is a driver’s license, state-issued identification card, military ID, tribal ID, or many other forms of government ID. Non-photo identification include a bank statement with name and address or other document that does not necessarily have a photo” (Underhill 2019).

Specifically, Hajnal et al. (2017) recognize photo identification laws as an attempt at voter suppression in order to discourage minority voters from participating. Biggers and Hanmer (2017) discover in their research that the passage of these electoral reforms is mostly a partisan one, in which the likelihood of their passage increases in a state which switches control of the legislature and governor to Republican or as the Latino and African-American population expands within the state. Highton (2017) argues that this highly partisan debate of presenting identification when voting is fairly new, with the first strict photo ID law being passed in 2006 in Indiana. Yet, with the caveat that the full effects of these laws have not yet taken or been reduced by outside variables, he finds that the effect of these laws is only moderate, reducing turnout by a small amount.

III. Hypotheses

H₁ Same-Day Registration leads to an increase in voter turnout.

Based on the literature for same-day registration, there are many conflicting opinions on its impacts. Yet, there is no denying what Briars and Grofman (2001) found, which is that same-day registration had the greatest impact on those with a high school education and middle-class income. Given that these voters are underrepresented in state electorates, a law that impacts these groups would see significant increases. Also given that as Dorsey et al. (2008) point out that the number of people who care about elections increases dramatically between polls taken in September and polls taken in October of an election year, you would expect those less-likely voters to benefit greatly from these policies. Unlike other policies which can simply increase the convenience of voting for people who already plan to vote, the policy of same-day registration attracts the people who are less politically aware and thus would not be able to vote if this policy were not in effect.

H₂ The longer the period of early voting is, the higher the level of turnout a state will have.

States have remarkably different policies regarding early voting. While some states only have voting on election day itself, others have voting open for two months beforehand, and there are states with all sorts of policies in between. There seems to be a divide in the literature on early voting depending on when the studies were conducted. While older studies found only minimal effects of early voting, the newer studies done by Fullmer (2015) and Herron and Smith (2014) have found significant increases in turnout rates due to early voting. Thus, it can be expected that as early voting has become more of an established policy across the country, people who are not frequent voters have continued to take advantage of this form of voting which would increase the overall turnout in those states that have these laws. Also, it would be expected that as the number of early voting days increases, the turnout level would also experience these increases.

H₃ States that adopt mail-in ballot systems already present high levels of turnout, so there are no overall increases associated with these policies.

Given that only three states have total mail-in ballot system for presidential elections, there is a limited amount of data to prove whether this variable has a powerful ability to increase turnout. Although there are some expected increases in turnout, the states that have introduced mail-in systems to their electorate already present higher levels of turnout than the average state. Thus, the associated effects would be minimal. Yet, this does not mean that the overall impacts of mail-in ballot systems should be underestimated. If small increases in turnout appear in high turnout states, we may expect to find that if these policies were inducted into a state with low turnout, the results could potentially be much stronger.

H₄ States that institute no-excuse absentee ballots experience increased overall turnout compared to states without absentee ballot systems.

Unlike the other state policies, there is far less controversy over whether no-excuse absentee ballots have a positive influence on voter turnout levels inside states that adopt these laws. Scholars have come close to consensus that no-excuse absentee ballots increase voting (Alvarez, Hall, and Sinclair 2008; Aldrich 1993; Oliver 1996). No-excuse absentee voting is undoubtedly a form of convenience voting, trying to make it as easy as possible for someone who already votes to vote; yet it also expands the electorate by allowing those who may not have the ability to vote at the polls on election day still to be able to cast a ballot. Whether this inability be due to age, employment, location, or various other factors, no-excuse absentee ballots incentivize groups of people that would otherwise not be able to vote. Thus, what we expect to see from the data is that no-excuse absentee ballots are associated with an overall increase in turnout.

H₅ Voter Identification laws, specifically strict ones, lead to a decrease in overall voter turnout.

Not many scholars deny that voter identification laws can potentially lead to very small decreases turnout. But some do argue that the decrease is due to the reduction of fraudulent voters in the states, not due to the limited access to polls. Yet, many other scholars have found that these laws, especially ones that require photo identification, increase the costs of voting for many people, and decrease their ability to vote, thus cause a decline in turnout (de Alth 2008). Voter ID laws are a relatively new formulated reform in electoral policy; thus, the effects are still being measured. But, with any law that is intended to restrict or reduce the ease of voting, it is expected that turnout levels will definitely not increase, and in all likelihood will decrease.

IV. Data Collection and Model Methodology

In order to evaluate the associations between electoral laws and turnout, there must be enough data points to test the relationship and to see and identify changes in turnout, if they exist. There has been an increase in the adoption of voting laws in the last 16 years, so most of the effects can be examined if the data include observations back to 2004. The data for analysis were therefore collected for each of the 50 states for every presidential election since 2004, four elections in total. If the study were to go further back, it would have become increasingly difficult to get the data necessary to run the model, as information from 2000 and before became problematic to obtain in my research. The components of the study not only include indicators for the electoral laws enacted by each state during the designated time period, but also other predictors of turnout within states that can contribute to overall high or low turnout levels identified by election scholars. These demographic, geographic and political variables are necessary parts of the study in order to understand the associations between electoral laws and turnout and to create models that most accurately reflect the varying turnout levels between states.

State Demographics, Geographic, and Political Features

Table 1 displays the 15 corollary explanatory variables which turnout scholars have found to be influential in accounting for variance in turnout. Although these are not the subjects of interest in this study, they are necessary for narrowing variance due to different predictors and explaining turnout at the macro-level. The variables I have chosen are only a subset of state features that account for the variance, the main variables left out of this study are concerned with political party influence and campaign strategy. These predictors are highly variable and are difficult to quantify comparatively. Thus, this study seeks to see how a state's electoral make-up and laws, rather than campaign strategy account for variance in turnout levels.

Table 1. State Demographic, Geographic, and Political Variables Coded

Control Variable	Type of Variable	Assigned Values	Source
Year	Factored	2004 2008 2012 2016	
Caucasian	Numerical	Percent of State Population	<i>Almanac of American Politics</i>
Black/African-American	Numerical	Percent of State Population	<i>Almanac of American Politics</i>
Asian	Numerical	Percent of State Population	<i>Almanac of American Politics</i>
Latino/Hispanic	Numerical	Percent of State Population	<i>Almanac of American Politics</i>
Median Income	Numerical	Median Income of State in Dollars	<i>Almanac of American Politics</i>
Unemployment	Numerical	Percent of Total State Population currently searching for employment	<i>Almanac of American Politics</i>
Urban Population	Numerical	Percent of State Population Living in Urban Areas	<i>Almanac of American Politics</i>
Median Age	Numerical	Median Age of Total State Population	<i>Almanac of American Politics</i>
Education: College Degree or Higher	Numerical	Percent of State Population	<i>Almanac of American Politics</i>
Region	Factored-Indicator	0: Midwest 1: West 2: Northeast 3: South	U.S. Census Data
Political Culture	Factored- Indicator	0: Individualistic 1: Moralistic 2: Traditionalistic	Daniel Elazar (1972): <i>American Federalism: A View from the States</i>
Electoral Competition	Factored- Indicator	1: Strong Democrat 2: Likely Democrat 3: Lean Democrat 4: Toss-Up 5: Lean Republican 6: Likely Republican 7: Strong Republican	Cook Political Report Electoral Scorecard
Gubernatorial Race	Factored	0: No 1: Yes	Secretary of State Websites
Senate Race	Factored	0: No 1: Yes	Secretary of State Websites

Every ten years the U.S. Census Bureau releases precise data on a variety of demographic and geographic indicators for the country that can be subdivided by state. Every five years, the Census releases the American Communities Survey, which is a smaller sample estimate of demographics for each state. The *Almanac of American Politics* (Barone and Cohen) publish biennial editions with Census estimates for population demographics and state geographic changes. The variables collected from the U.S. Census and the *Almanac of American Politics* are all identified by scholars and the voting literature to contribute to the overarching view of differing state turnout levels.

The four racial groups chosen to account for differences in turnout due to a state's racial composition are identified as having the largest overall national populations: Caucasian, Black, Hispanic/Latinx, and Asian.³ Urban population is defined as the percentage of a state's population that live in what is categorized as "urban areas." The Census identifies "urban areas" with two categories: urbanized areas of 50,000 people or more and urban clusters of more than 2,500 people and fewer than 50,000 people. The percentage of state population living in urban areas is the combination of these two classifications (*United States Census Bureau: Geography*). The variable of education is classified as the percentage of a state's population that has a 4-year college degree or a graduate degree, thus the remainder of the population has some college but not a degree or a high school degree or less. The unemployment level of a state is defined as the

³ The American Native and the Alaska Native populations, which make up less than 1% of the population, and the Native Hawaiian population, which makes up less than .5% of the population, will not be included in the race indicators for this study. The states with the most significant populations of these racial identities are New Mexico, Oklahoma, South Dakota, and Hawaii. But, even then, the populations make up much less than 10% of the states' populations, representing a relatively small voting bloc.

The census data provided in the Almanac for American Politics accounts for ethnicity when defining Hispanic/non-Hispanic. Those categorized as white are considered non-hispanic whites and those that are categorized as Latinos identify of latino/hispanic origin. It must also be recognized for the sake of the analysis that for a racial demographic group that is less than 0.5% of total population, they are written as 0%.

percentage of the state population that is unemployed and seeking a job, as defined by the Census Bureau. Both median income and median age are measured off of the median measure of the total state population.⁴

The remaining political and geographical variables were collected from various sources. Competitiveness of election, as defined by Cook Political Report, is the probability that a majority of a state's voters will choose the Democrat or Republican presidential candidate. In other words, the likelihood of each party's candidate winning the electoral votes for the states. The levels of competition will be coded as indicators, where each factor level is assigned the value of zero or one depending on if it is present for that specific election. For the seven levels of competition there will be six indicator variables, with a baseline of "toss-up" elections. Thus, all the model analyses of the indicator variables will be in comparison to whether turnout is lesser or greater than states that have a toss-up election. The variable of region was defined by the Census with four regions: South, West, Northeast, and Midwest. These are coded as indicators as well with a baseline of the Midwest because Midwestern states report the highest levels of turnout comprehensively. Finally, a state's political culture, with three categories of individualistic, moralistic, or traditionalistic, was provided in Elazar's (1966) book on political cultures of the United States referencing the ways in which immigration patterns have influenced residents' relationships with government and voting. These three levels will be coded as indicators with a baseline of individualistic political culture because it represents the largest group of states. All of the variables specified in this section will act as controls in the data analysis that will follow.

⁴ For all demographic variables, total state population encompasses voting citizens, non-voting citizens, and non-citizens. The theory of including all categories of inhabitants, rather than just the voting eligible population, is that the people you are surrounding with can affect a person's potential to vote (Tam Cho, Gimpel, and Dyck 2006). It would also have been nearly impossible to produce demographic data for every state for only the voting eligible population

State Electoral Policies

While the fifteen variables mentioned above are important predictors of turnout, the aforementioned state electoral laws are the independent variables of main interest to answer the main research question of how electoral laws influence turnout in states for presidential elections.

Compiling information on current and previous state electoral laws poses more of a challenge with data collection than the demographics did. The National Conference of State Legislators has detailed information about current state electoral policies, which were used primarily for the 2016 election. But, for state laws that were in effect during the 2012 election and before, Westlaw and individual Secretary of State Election pages were useful in tracking changes. *Table 2* below exhibits the independent variables of interest that I will test to assess for their associations with turnout.

Table 2. State Electoral Policy Variables

Variable Name	Type of Variable	Assigned Values
All Mail-In System	Categorical	0: No 1: Yes
Absentee Ballot System	Categorical	0: Excuse Required 1: No Excuse Required
Early Voting	Categorical	0: No 1: Yes
Days of Early Voting	Quantitative	Days of Early Voting Available
Same Day Registration	Categorical	0: No 1: Yes
Voter Identification Law	Categorical- Indicator	0: No Law 1: Non-Strict Non-Photo ID 2: Strict Non-Photo ID 3: Non-Strict Photo ID 4: Strict Photo ID

Mail-in systems, absentee ballot systems, and early voting system are sometimes used interchangeably by legislators, so it is important to clarify the exact definitions and differences

between these policies so that they can be operationalized in this study. All mail-in systems are a policy in which the entire population of registered voters in a state are sent ballots in the mail weeks before election day. Voters fill out the ballots in their own time and either mail them back in or drop them off at any designated location. As of 2019, only three states have all-mail in systems for presidential elections statewide: Colorado, Washington, and Oregon. Colorado became the first state in the country to establish an all-mail-in system in 1998 by popular consensus. The first presidential election mail-in ballots were used in was the election of 2000 (*Oregon Secretary of State*). Although these three states are the only full mail-in systems, 19 other states have provisions allowing for some mail-in elections whether at a county or district level. For the purpose of this study, only statewide mail-in systems will be considered.

Separately, absentee ballot systems are defined as requesting, completing and returning a ballot prior to Election Day, and being able to do so without being present at an election office or voting precinct. States have different requirements for their absentee ballot systems, but this study will investigate whether there is a difference in turnout between states that require an excuse to receive an absentee ballot versus states that have “no excuse absentee ballots,” where any registered voter can receive an absentee ballot if they request one.

As shown in *Table 3*, there has been an increase in the number of states that accept no-excuse absentee ballots, just as there has been an increase in mail-in ballot states. The difference between mail-in systems and “no-excuse absentee ballots” is that with absentee ballots, registered voters must send in a written or electronic request for a ballot; whereas, with mail-in systems, voters automatically receive their ballots. Finally, early voting is defined as an in-person transaction where a registered voter goes to a designated polling place to cast a ballot before election day. With in-person early voting, states sometimes have different definitions and

applications, but for the purpose of this study, if states provide a location to cast a ballot in-person before election day, it is considered early voting.⁵

Table 3. States with No-Excuse Absentee Ballot Laws 2004-2016

Year	No-Excuse Absentee States	Excuse Required Absentee States
2016	30	20
2012	30	20
2008	27	23
2004	24	26

The operationalization of all three voting policies is simply if they have any of these laws in place during the year of the presidential election, then they are counted in the study. Early voting though has an additional step in which I am not only documenting if states have an early voting period, but I am also testing whether the number of days available for early voting can influence turnout. Thus, for every state with early voting policies, an additional variable with the number of days of early voting available is added. States without early voting are registered as “0” early voting days.

As *Table 4* shows, in the time between the elections of 2004 and 2016, ten states adopted early voting periods in which voters could go to the polls in the days or weeks before election day to cast their ballot. The effects of these laws are in question though, and that is what this study seeks to discover. Early voting does make voting more convenient for those that already vote, as explained in earlier passages, but it may also increase the chances that non-voters turnout to vote. These will be coded as “0” for No and “1” for Yes.

⁵ Maine designates their early voting period as absentee voting, where a registered voter can go to a polling place before election day and request and fill out an absentee ballot. For the sake of this study, this is considered to be in-person early voting as well as no-excuse absentee ballots.

Table 4. Early Voting States from 2004-2016

Year	States with Early Voting	States Without Early Voting
2016	35	15
2012	32	18
2008	29	21
2004	25	25

Another policy that has been increasing in presence across the United States is same-day registration, which is also known as election-day registration. Same-day registration policies are defined as policies which allow voters to register on the same day they vote at the polls. In other words, it essentially opens registration up until the day of the election. The laws will, therefore, be categorized by a simple “yes” if they have same-day registration, or “no” if they have no laws regarding it and coded with either a “0” or “1,” respectively.

Table 5. Same-Day Registration in States 2004-2016

Year	Same-Day Registration Available	Same-Day Registration Not Available
2016	17	33
2012	11	39
2008	9	41
2004	6	44

Table 5 highlights the gradual increase in the number of states that have adopted same-day registration laws between 2004 and 2016. The intent of this law is that many voters do not think about the election or become concerned with it until the registration period has already closed. By allowing people to register to vote up until election day or on election day itself, it could potentially increase the chances that voters will turnout at the polls, in part because of the reduced barriers. This law will be coded as an indicator as well.

Finally, voter identification laws are state policies which either request or mandate registered voters bring a valid form of identification to the polls. Although voter ID laws of varying strictness go back all the way to the 1950s, there was not a single state that required a valid photo ID to vote before 2006. Indiana became the first state to enact a photo ID law in 2006, and it was later upheld by the Supreme Court in 2008 (*Crawford v. Marion County Election Board*, 553 US 181 2008). Soon after Indiana’s law went into effect, states across the country began adopting similar laws.

Table 6. Voter ID Laws active in Presidential Elections from 2004-2016.

Year	No Law	Non-Strict Non-Photo ID Law	Strict Non-Photo ID Law	Non-Strict Photo ID Law	Strict Photo ID Law
2016	18	14	2	8	8
2012	20	13	6	7	4
2008	29	10	2	7	2
2004	38	10	0	2	0

Table 6 shows the large push of states to adopt protections against fraudulent voting since 2004. While only 10 states had a law requesting a non-photo ID be presented while two states had laws requesting a photo ID be presented in 2004, the laws have expanded in the past 12 years to the point that 21 states required identification in the 2016 election and 8 of those states mandated a state-approved photo ID. These laws have been the fastest growing electoral policy implemented in the last 18 years. Many of these states that have strict photo identification laws by 2016, have progressed to this point from instituting other less strict identification laws. The quick proliferation of voter ID laws gives us the chance to analyze how these forms of electoral laws can affect turnout in states. For the study, I have identified and separated the laws into 5 categories: “no law,” “non-strict non-photo ID,” “strict non-photo ID,” “non-strict photo ID,”

and “strict photo ID required.”⁶ With the intention that each one of these types of laws may affect turnout in different ways or to varying degrees. In the coding process for the analysis, the voter ID laws will be coded as indicator variables. This means that each level will be coded as either one if the law is in effect or zero if the law is not in place. The baseline will be “no law,” so that when the analysis occurs all of the variables will be in comparison to whether there is no voter ID law implemented.

Data Analysis

The next step of the process is to find if and how these previously mentioned variables influence turnout. The analysis of the previously mentioned data takes three approaches to investigate and answer the original research question of how state electoral policies affect state voter turnout. The first step is to analyze the descriptive statistics associated with the variables to assess any trends that appear. This will include visual representations and data for the reader to examine average changes in the variables through the election years. The second approach is a more detailed multivariate analysis of each individual presidential election year assessing the associations between each of the predictors and the response variable, giving focus to how the electoral laws associations fluctuate between the different elections. The models for this section will seek to identify if states with the electoral laws have statistically different turnout rates than states without the laws. Finally, a longitudinal analysis will be used to make assessments on the specific associations between the implementation of these specific electoral policies and voter turnout. This comprehensive model will take into account how the addition of electoral laws in new states led to overall turnout level changes and will predict how each of the variables is related to turnout.

⁶ While they are categorized as “no law,” all states have some form of validation process for identifying individuals for voting. “No Law” states are categorized differently because they do not require a government issued ID in order to submit a ballot.

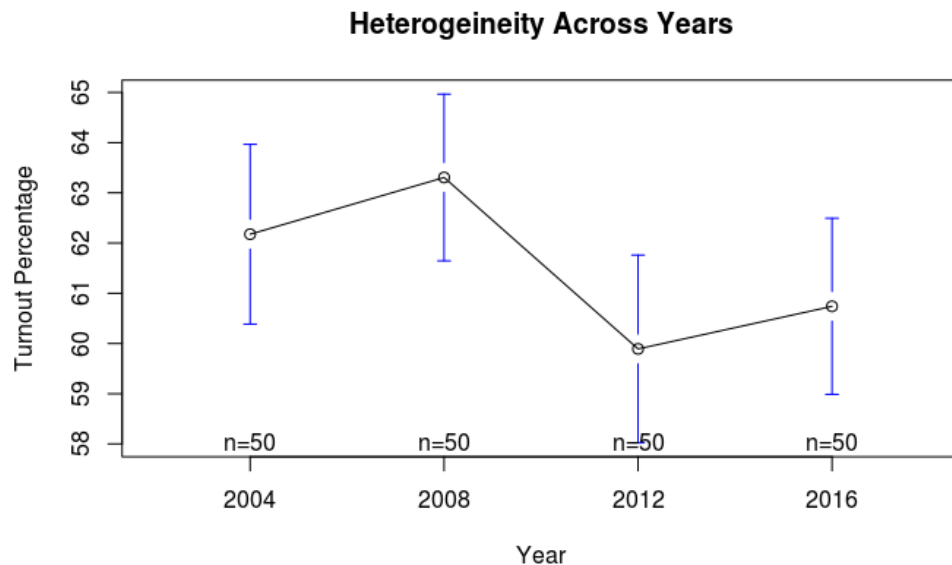
V. Results

This section will seek to confirm or reject my original hypotheses on electoral reforms while investigating the relative importance of socioeconomic, geographic, and political factors for turnout variation in order to determine the electoral policies that are associated with improved or diminished turnout levels nationwide among those eligible to vote. To start the analysis, an investigative look at the data itself throughout the multiple election cycles will give us a cursory glance at the potential associations between the independent variables and turnout before investigating the statistically significant associations.

Descriptive Statistics

While states traditionally maintain relatively stable turnout levels as long as their electoral laws remain the same (See *Figure 1*), this study attempts to discover if the promotion and passage of electoral laws can be associated with an increase or decrease in turnout. If this is true, it to a certain degree explains why states have such drastically different turnout levels, even if the state's demographic, geographic and political compositions are similar.

Figure 1. Mean State Turnout Variation by Year



As *Figure 1* depicts, in the past four presidential election cycles, the mean turnout rate for the United States collectively was between 60% and 64% with the peak turnout being in 2008 and the lowest turnout in 2012, just four years later. From initial glance, it is unclear what causes these shifts. In general, the United States has experienced low turnout rates, compared to other western democracies, for the past 60 years, since the 1960s. But, starting in the election of 2000, these turnout levels began to rise. As the explanatory variables identified shift, these turnout rates among states vary even more. *Table 7*, below, exhibits the median state turnout percentage as well as the median quantity for each quantitative variable identified as a potential predictor of turnout separated by year. As can be seen in the last 16 years, the demographic composition and economic features of the United States have changed rather dramatically.

Table 7. Median Per Year for Quantitative Variables

Variable	2004	2008	2012	2016
VEP Turnout	62.75%	63.6%	59.65%	60.9%
Caucasian	78.9%	76.5%	74.5%	72%
Black	6.5%	6.5%	6.5%	7%
Latino/Hispanic	4.7%	7%	9%	10%
Asian	1.6%	2%	2%	3%
Median Income	\$40,740	\$42,740	\$48,970	\$52,958
Urban Population	71.55%	71.55%	69.9%	73.75%
Education: High School or Less	76.7%	76.65%	73.75%	71.9%
Education: College Degree or More	23.35%	23.35%	26.25%	28.1%
Median Age	36.95 years	37.4 years	37.2 years	38.3 years
Unemployment	5.45%	5.3%	7.25%	4.8%

Before beginning the model analyses, we can hypothesize that these demographic, geographic and political changes in the timespan of four election cycles will also cause changes

to the importance or levels of association these variables have with turnout. The table depicts that the quantitative variables do not all change in the same direction (positive or negative) or have continuous trajectories. Clearly, *Table 7* exhibits that racial minority populations have increased their percentage of the total population in many states between the years of 2004 and 2016. It is also clear that four-year degrees are gaining in prevalence across the United States as larger numbers of residents in states are becoming increasingly college educated. And, it is also evident that the population is aging, as the median age of states has risen by over a year since 2004. Unemployment is unlike the other variables as it has a change in trajectory of the last 4 election cycles. In 2012, while the United States was still recovering from the recession, unemployment was at an all-time high. But by 2016, the unemployment rate had improved to be lower than the levels in 2004. As all of these variables are known to contribute to turnout, these fluctuations are expected to affect the overall estimated turnout in states, which helps to accurately predict the electoral reforms influence on turnout.

The models below will seek to identify if the mean turnout levels of states are different depending on their use of electoral laws. But, the first step to this is to understand when states adopted these laws and to visually examine if states' turnout increased after the introduction of the laws before analyzing it statistically. While this provides no evidence as to the significance of the laws, it will provide initial observations on the trends of turnout within the United States during the time frame of 2004 to 2016. Below, I will present tables of turnout for each state in each election year. For each table the highlighted election years represent the years in which the electoral law was in place during the presidential election. If there are obvious changes, they could potentially be due in part to the passage of the electoral laws.

Table 8. Mapping Out Changes in Absentee Ballot Laws Throughout the States, 2004-2016

State	2004 Turnout	2008 Turnout	2012 Turnout	2016 Turnout
Alabama	57.2	60.8	58.6	58.8
Alaska	69.1	68	58.7	61
Arizona	54.1	56.7	52.6	54.9
Arkansas	53.6	52.5	50.7	52.8
California	58.8	60.9	55.1	56.5
Colorado	66.7	71	69.9	70
Connecticut	65	66.6	61.3	63.7
Delaware	64.2	65.6	62.3	64.2
Florida	64.4	66.1	62.8	64.5
Georgia	56.2	62.5	59	59.1
Hawaii	48.2	48.8	44.2	42.3
Idaho	63.2	63.6	59.8	59.2
Illinois	61.5	63.6	58.9	61.6
Indiana	54.8	63.6	55.2	56.4
Iowa	69.9	69.4	70.3	68.4
Kansas	61.6	62	56.9	57.7
Kentucky	58.7	57.9	55.7	58.6
Louisiana	61.1	61.2	60.2	60
Maine	73.8	70.6	68.2	70.7
Maryland	62.9	67	66.6	66.4
Massachusetts	64.2	66.8	65.9	67.2
Michigan	66.6	69.2	64.7	64.7
Minnesota	78.4	77.8	76	74.1
Mississippi	55.7	61	59.3	55.2
Missouri	65.3	67.6	62.2	62.2
Montana	64.4	66.3	62.5	61.8
Nebraska	62.9	62.9	60.3	62.8
Nevada	55.3	57	56.4	57.4
New Hampshire	70.9	71.7	70.2	71.4
New Jersey	63.8	67	61.5	64.4
New Mexico	59	60.9	54.6	54.5
New York	58	59	53.1	56.8
North Carolina	57.8	65.5	64.8	64.5
North Dakota	64.8	62.7	59.8	60.8
Ohio	66.8	66.9	64.5	62.9
Oklahoma	58.3	55.8	49.2	52.3
Oregon	72	67.7	63.1	66.2
Pennsylvania	62.6	63.6	59.5	63.6
Rhode Island	58.5	61.8	58	59.1
South Carolina	53	58	56.3	56.7
South Dakota	68.2	64.7	59.3	58.6
Tennessee	56.3	57	51.9	51.1
Texas	53.7	54.1	49.6	51.4
Utah	58.9	56	55.5	56.8
Vermont	66.3	67.3	60.7	63.7
Virginia	60.6	67	66.1	66.1
Washington	66.9	66.6	64.8	64.7
West Virginia	54.1	49.9	46.3	50.2
Wisconsin	74.8	72.3	72.9	69.5
Wyoming	65.7	62.8	58.6	59.5
	= Yellow Box indicates law is in effect during election			

In *Table 8*, we witness that the majority of states that have no-excuse absentee ballot laws have had them for all four election cycles. We also see that with the states that have instituted no-excuse absentee ballots in the last 20 years, there is no identifiable large shift in the turnout rates that would support the hypothesis that absentee ballots are associated with increased turnout levels. This leaves me to hypothesize that when absentee ballot laws are statistically assessed there may not be any significant effect.

Table 9, below, showing same-day registration laws enacted between the years of 2004 and 2016, clearly exhibits that same-day registration is a much less frequently enacted law in comparison to others and that the largest number of states that have adopted same-day registration did so between the elections of 2012 and 2016. One hypothesis as to why this may have been is that as shown in *Figure 1*, the average turnout rate of states decreased significantly in 2012, thus states were more likely to adopt laws that had potential to increase the voter pool. This can be seen in the numbers of attempted electoral reform bills sent through state legislatures in 2013, where 237 bills were introduced in 47 states (Brennan Center for Justice 2013). From observing the data, of the states which implemented same-day registration prior to 2004, the turnout rates appear to be some of the highest overall in the US. Whereas, of the states that implemented same-day registration, many (but not all) increased their turnout rate by more than a percentage point.

Table 9. Mapping Changes in Same-Day Registration Laws in States, 2004-2016

State	2004 Turnout	2008 Turnout	2012 Turnout	2016 Turnout
Alabama	57.2	60.8	58.6	58.8
Alaska	69.1	68	58.7	61
Arizona	54.1	56.7	52.6	54.9
Arkansas	53.6	52.5	50.7	52.8
California	58.8	60.9	55.1	56.5
Colorado	66.7	71	69.9	70
Connecticut	65	66.6	61.3	63.7
Delaware	64.2	65.6	62.3	64.2
Florida	64.4	66.1	62.8	64.5
Georgia	56.2	62.5	59	59.1
Hawaii	48.2	48.8	44.2	42.3
Idaho	63.2	63.6	59.8	59.2
Illinois	61.5	63.6	58.9	61.6
Indiana	54.8	63.6	55.2	56.4
Iowa	69.9	69.4	70.3	68.4
Kansas	61.6	62	56.9	57.7
Kentucky	58.7	57.9	55.7	58.6
Louisiana	61.1	61.2	60.2	60
Maine	73.8	70.6	68.2	70.7
Maryland	62.9	67	66.6	66.4
Massachusetts	64.2	66.8	65.9	67.2
Michigan	66.6	69.2	64.7	64.7
Minnesota	78.4	77.8	76	74.1
Mississippi	55.7	61	59.3	55.2
Missouri	65.3	67.6	62.2	62.2
Montana	64.4	66.3	62.5	61.8
Nebraska	62.9	62.9	60.3	62.8
Nevada	55.3	57	56.4	57.4
New Hampshire	70.9	71.7	70.2	71.4
New Jersey	63.8	67	61.5	64.4
New Mexico	59	60.9	54.6	54.5
New York	58	59	53.1	56.8
North Carolina	57.8	65.5	64.8	64.5
North Dakota	64.8	62.7	59.8	60.8
Ohio	66.8	66.9	64.5	62.9
Oklahoma	58.3	55.8	49.2	52.3
Oregon	72	67.7	63.1	66.2
Pennsylvania	62.6	63.6	59.5	63.6
Rhode Island	58.5	61.8	58	59.1
South Carolina	53	58	56.3	56.7
South Dakota	68.2	64.7	59.3	58.6
Tennessee	56.3	57	51.9	51.1
Texas	53.7	54.1	49.6	51.4
Utah	58.9	56	55.5	56.8
Vermont	66.3	67.3	60.7	63.7
Virginia	60.6	67	66.1	66.1
Washington	66.9	66.6	64.8	64.7
West Virginia	54.1	49.9	46.3	50.2
Wisconsin	74.8	72.3	72.9	69.5
Wyoming	65.7	62.8	58.6	59.5
	=Yellow box indicates the law was in effect during election			

Table 10. Mapping Changes in Early Voting Laws in States, 2004-2016

State	2004 Turnout	2008 Turnout	2012 Turnout	2016 Turnout
Alabama	57.2	60.8	58.6	58.8
Alaska	69.1	68	58.7	61
Arizona	54.1	56.7	52.6	54.9
Arkansas	53.6	52.5	50.7	52.8
California	58.8	60.9	55.1	56.5
Colorado	66.7	71	69.9	70
Connecticut	65	66.6	61.3	63.7
Delaware	64.2	65.6	62.3	64.2
Florida	64.4	66.1	62.8	64.5
Georgia	56.2	62.5	59	59.1
Hawaii	48.2	48.8	44.2	42.3
Idaho	63.2	63.6	59.8	59.2
Illinois	61.5	63.6	58.9	61.6
Indiana	54.8	63.6	55.2	56.4
Iowa	69.9	69.4	70.3	68.4
Kansas	61.6	62	56.9	57.7
Kentucky	58.7	57.9	55.7	58.6
Louisiana	61.1	61.2	60.2	60
Maine	73.8	70.6	68.2	70.7
Maryland	62.9	67	66.6	66.4
Massachusetts	64.2	66.8	65.9	67.2
Michigan	66.6	69.2	64.7	64.7
Minnesota	78.4	77.8	76	74.1
Mississippi	55.7	61	59.3	55.2
Missouri	65.3	67.6	62.2	62.2
Montana	64.4	66.3	62.5	61.8
Nebraska	62.9	62.9	60.3	62.8
Nevada	55.3	57	56.4	57.4
New Hampshire	70.9	71.7	70.2	71.4
New Jersey	63.8	67	61.5	64.4
New Mexico	59	60.9	54.6	54.5
New York	58	59	53.1	56.8
North Carolina	57.8	65.5	64.8	64.5
North Dakota	64.8	62.7	59.8	60.8
Ohio	66.8	66.9	64.5	62.9
Oklahoma	58.3	55.8	49.2	52.3
Oregon	72	67.7	63.1	66.2
Pennsylvania	62.6	63.6	59.5	63.6
Rhode Island	58.5	61.8	58	59.1
South Carolina	53	58	56.3	56.7
South Dakota	68.2	64.7	59.3	58.6
Tennessee	56.3	57	51.9	51.1
Texas	53.7	54.1	49.6	51.4
Utah	58.9	56	55.5	56.8
Vermont	66.3	67.3	60.7	63.7
Virginia	60.6	67	66.1	66.1
Washington	66.9	66.6	64.8	64.7
West Virginia	54.1	49.9	46.3	50.2
Wisconsin	74.8	72.3	72.9	69.5
Wyoming	65.7	62.8	58.6	59.5
	=Yellow box indicates the law was in effect during election			

As can be seen in *Table 10*, early voting is the most frequent voter convenience law adopted by states. By 2016, 35 states had at least one day of voting available before election day. From initial observations, no states which implemented early voting laws between the time frame of 2004 to 2016 experienced a large increase in turnout. In fact, it appears that for the states that instituted early voting, there was a decline in turnout the following election. But, without statistical analyses, these observations could be due to a number of factors and not specifically due to the implementation of the law. One thing to note about both Washington and Colorado in this table is that unlike in the other states, early voting was revoked beginning in 2012 and 2016, respectively. This is due to the implementation of all mail-in ballot systems, which allow for registered to vote from their own home instead of from a voting precinct. Although in both states you can still vote in person if need be, there is no system in place for people to vote in person earlier than election day. This has the potential to partially skew the results of early voting if anything reducing the size of the increase in turnout.

For *Table 11*, below, yellow boxes indicate years in which non-strict non-photo ID laws are implemented, green boxes as years that strict non-photo ID laws are implemented, blue as years that non-strict photo ID laws are in place, and red as years that strict voter ID laws are implemented. As discussed previously, the proliferation of voter identification laws, specifically strict photo ID laws, began after the election of 2000. As can be seen, photo ID laws became more popular starting in the 2008 election. From looking at the data, most of the states which implemented strict voter identification laws witnessed a decrease in turnout the following election. It is much more unclear for the other identification reforms and whether there are increases and decreases in turnout associated with their implementation. While some appear to decrease upon their implementation, others actually increase.

Table 11. Mapping Changes in Voter ID Laws, 2004-2016

State	2004 Turnout	2008 Turnout	2012 Turnout	2016 Turnout
Alabama	57.2	60.8	58.6	58.8
Alaska	69.1	68	58.7	61
Arizona	54.1	56.7	52.6	54.9
Arkansas	53.6	52.5	50.7	52.8
California	58.8	60.9	55.1	56.5
Colorado	66.7	71	69.9	70
Connecticut	65	66.6	61.3	63.7
Delaware	64.2	65.6	62.3	64.2
Florida	64.4	66.1	62.8	64.5
Georgia	56.2	62.5	59	59.1
Hawaii	48.2	48.8	44.2	42.3
Idaho	63.2	63.6	59.8	59.2
Illinois	61.5	63.6	58.9	61.6
Indiana	54.8	63.6	55.2	56.4
Iowa	69.9	69.4	70.3	68.4
Kansas	61.6	62	56.9	57.7
Kentucky	58.7	57.9	55.7	58.6
Louisiana	61.1	61.2	60.2	60
Maine	73.8	70.6	68.2	70.7
Maryland	62.9	67	66.6	66.4
Massachusetts	64.2	66.8	65.9	67.2
Michigan	66.6	69.2	64.7	64.7
Minnesota	78.4	77.8	76	74.1
Mississippi	55.7	61	59.3	55.2
Missouri	65.3	67.6	62.2	62.2
Montana	64.4	66.3	62.5	61.8
Nebraska	62.9	62.9	60.3	62.8
Nevada	55.3	57	56.4	57.4
New Hampshire	70.9	71.7	70.2	71.4
New Jersey	63.8	67	61.5	64.4
New Mexico	59	60.9	54.6	54.5
New York	58	59	53.1	56.8
North Carolina	57.8	65.5	64.8	64.5
North Dakota	64.8	62.7	59.8	60.8
Ohio	66.8	66.9	64.5	62.9
Oklahoma	58.3	55.8	49.2	52.3
Oregon	72	67.7	63.1	66.2
Pennsylvania	62.6	63.6	59.5	63.6
Rhode Island	58.5	61.8	58	59.1
South Carolina	53	58	56.3	56.7
South Dakota	68.2	64.7	59.3	58.6
Tennessee	56.3	57	51.9	51.1
Texas	53.7	54.1	49.6	51.4
Utah	58.9	56	55.5	56.8
Vermont	66.3	67.3	60.7	63.7
Virginia	60.6	67	66.1	66.1
Washington	66.9	66.6	64.8	64.7
West Virginia	54.1	49.9	46.3	50.2
Wisconsin	74.8	72.3	72.9	69.5
Wyoming	65.7	62.8	58.6	59.5
	Yellow Indicates Non-Strict Non-Photo ID Law in Effect	Green Indicates Strict Non-Photo ID Law In Effect	Blue Indicates Non-Strict Photo ID Law in Effect	Red Indicates Strict Photo ID Law In Effect

Overall, these tables give us clues as to what the analyses can possibly exhibit. While some states' turnout obviously increased after the implementation of convenience laws or decreased with voter ID laws, others had the opposite response. While these tables provide descriptive evidence as to the effects of the electoral reforms, the next section will present statistical evidence in an effort to either confirm and deny the claims of the hypotheses.

Year by Year Analysis of Electoral Reform and Turnout

Modes of Analysis

For each election year, I have created a model to explore the impact of the variables I identified above on voter turnout. In each case, I begin with Analysis of Variance (ANOVA) testing on the five categorical electoral reform variables. These tests seek to determine whether there are differences in mean turnout levels between the states that use the electoral reforms and the states that do not. The results of these tests for each election year will be reproduced in tables in each of the following subsections.

After the ANOVA results are analyzed, a multiple linear regression model including only the independent variables of primary interest (the election laws) is produced. These models will show whether the laws are significant in relation to turnout before controlling for any other variables that have influence on turnout. If any laws prove to be associated with turnout in this model, their associations may become stronger or may diminish once the control variables are added.

After that, I explore the various comprehensive election year models. In building each election model, I include variables that maximize the adjusted R^2 for explaining turnout in the election by eliminating unnecessary variables and creating interaction variables. I then discuss the variables that are statistically significant at the .05 level. In each case, the coefficients can be interpreted as the average percentage increase or decrease in turnout that states experience based

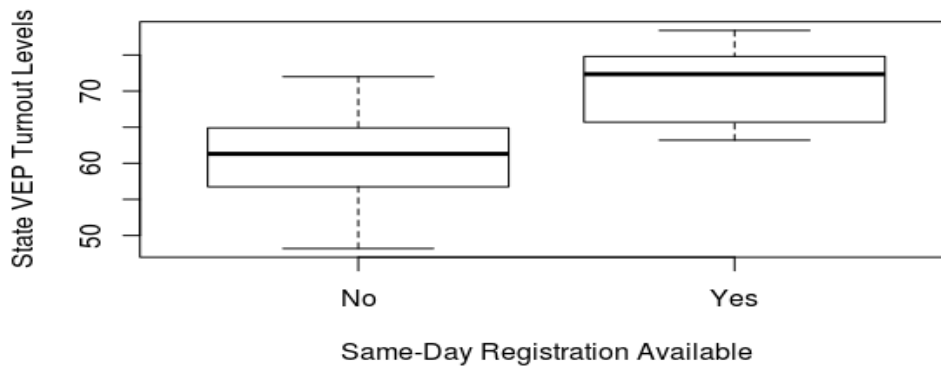
on whether they have the electoral reform or not. For those variables left in the model without significant p-values, the estimated coefficients should not be trusted, but their variability is important in the model to account for changes in the other independent variables. Throughout these analyses I conclude each section with a discussion of the impact of the various electoral reforms on turnout in that cycle, hypothesizing about the findings and their potential implications moving towards the longitudinal model.

2004 Election Turnout Model

As can be seen in Tables 3 through 6, there has been a surge in the number of voter accessibility laws in the last 20 years. The election of 2004 was before any states instituted strict voter ID laws, only Oregon conducted their election fully through mail-in ballots, about half of all fifty states had early voting or no excuse absentee ballots, and only six states had same-day registration.

Upon initial analysis of variance testing, only same-day registration states seem to have a significantly different mean turnout level compared to states without same-day registration. There are several explanations for this finding. These include: a small population size (only 50 states), that there are a wide range of both high and low turnout states that implement voter accessibility laws, so in a single election year there are no obvious differences between the states that have them or not, or, contrary to the hypotheses, election laws do not change turnout levels the way that most proponents expect them too. Yet still, states with same-day registration laws seem to go against the trend of the electoral reforms in 2004 in showing that most laws do not have an association with turnout rates. As can be seen in Figure 2 below, on average states with same day registration have a significantly higher level of turnout than states without same-day registration. The figure shows that in 2004, states with same-day registration had turnout levels far above that of states that did not have same-day registration.

Figure 2. Boxplot of 2004 State Turnout Levels Based on Same-Day Registration



Building off of the ANOVA testing that found only same-day registration to have any significant association with turnout, the regression model below (*Table 12*) presents the electoral reforms without controlling for other variables and the estimated associations each has with turnout.

Table 12. Multiple Linear Regression Model for Election Laws in 2004

Variable	Coefficient	Standard Error	P> t
Intercept	66.855	2.692	0.000***
Absentee Ballots	-4.885	2.438	0.052.
Mail-In Ballots	5.145	5.535	0.358
Same-Day Registration	9.788	2.258	0.000***
Non-Strict Non-Photo ID	-1.703	1.870	0.368
Non-Strict Photo ID	3.079	3.946	0.440
Early Voting	-7.818	2.744	0.007**
Early Voting Days	0.069	0.096	0.475
R ² = 0.494			

Table 12, which presents the model for electoral reforms, shows that same-day registration and early voting are significantly associated with turnout, while no excuse absentee ballot laws are borderline significant. Turnout appears to be negatively associated with absentee

ballots and early voting, while it is positively associated with same-day registration. Although this does indicate that these reforms are significant, the model only explains 49.4% of the variability in turnout according to the R^2 . Thus, to predict accurate coefficient estimates, controls must be added to account for the variability.

Regression Model for Election Laws and Controls in 2004

I conducted a multivariate regression analysis of the election laws, and other turnout predictors that act to explain the differences in turnout between states in the 2004 election. As can be seen in *Table 13*, the model of best fit for turnout in the 2004 election has a large set of variables. Overall, the model accounts for 95.5% of the variance in the turnout data according to the R^2 and the adjusted R^2 is 91.1%. This clearly indicates that the model is a useful predictive method for estimating turnout. Before examining the impacts of the laws on 2004 turnout levels, I must clarify that these observations are not causal, therefore, the act of a state instituting an election law does not contribute to the specified increase in turnout, but rather on average states with the specified laws have increased or decreased turnout by the amount of the specified coefficient estimate.

Table 13. 2004 Presidential Election Turnout Model

Variable	Coefficient Estimate	Error	P > t
Intercept	51.682	6.089	0.000***
Mail-In Ballots	0.031	2.745	0.991
Early Voting	-4.910	1.426	.002**
Days Early	0.105	0.049	0.043*
Absentee Ballots	-4.841	1.338	0.001**
Same Day Registration	5.478	1.097	0.000***
Non-Strict Non-Photo ID	0.499	0.923	0.594
Non-Strict Photo ID	1.627	1.732	0.357
Black Residents	-0.253	0.056	.000***
Latinx/Hispanic Residents	-1.534	0.377	.000***
Asian Residents	-0.473	0.070	0.000***
College Education	0.646	0.166	.001***
Unemployment	2.355	0.508	0.000***
Lean Democrat	-1.671	1.768	0.354
Lean Republican	-10.137	1.963	0.000***
Likely Democrat	-4.453	1.777	0.019*
Likely Republican	-5.730	1.390	.000***
Strong Democrat	-7.631	1.601	0.000***
Strong Republican	-8.520	1.160	0.000***
Traditional Culture	-2.536	1.604	0.127
Moral Culture	-0.363	0.943	0.704
Region: West	-5.782	1.388	0.000***
Region: South	1.141	1.704	0.509
Region: Northeast	-6.501	1.22	0.000***
Latinx/Hispanic: College Education	0.053	0.015	0.002
R ² =0.955			
Adjusted R ² =0.911			

Table 13 shows that Early Voting, Days of Early Voting, No Excuse Absentee Voting, and Same-Day Registration are all significant predictors of voter turnout. The model indicates that states with early voting have turnout 4.91% lower than those without early voting. Yet, the model shows that of states with early voting there is a .1% increase in turnout for every extra day of early voting up to the maximum number of 45 days. States with no-excuse absentee ballots have turnout that is 4.84% lower than those that require an excuse to vote. The unexpected negative effects of early voting and no-excuse absentee ballots work against my original hypotheses, and it will be an important point to draw attention to as we see how the affects transition throughout the presidential elections and as more states adopt these convenience voting methods.

Unlike the other associated electoral reforms, same-day registration states are estimated to have turnout 5.478% higher than states without same-day registration. Whether this association is due to the fact that states that institute these convenience laws may be more likely to have higher turnout to begin with, or whether this is actually associated with the implementation of the law is unclear at this point and will be analyzed later on in my findings when I discuss comprehensive longitudinal turnout models.

Although many of the predictors were found to be significantly associated with turnout, mail-in ballots and voter ID laws are not associated with turnout in 2004. There are multiple reasons for why this is true. Oregon was the only state in 2004 with an all-mail-in system, so there is not enough data to estimate the association accurately. Thus, just because the model cannot accurately predict a linear correlation does not discount that mail-in ballots could potentially an important predictor of turnout in the future. Similarly, in 2004 only 12 states had any type of voter ID law and if they had them, they were non-strict, meaning they only requested (not required) to see a form of identification. The model did not find a significant association

between identification laws and turnout; yet this result aligns with previous scholarship done in this time period arguing that identification laws have minimal effects on turnout and do not severely hinder a person's ability to vote (Mycoff, Wagner and Wilson 2007).

The model analysis would be incomplete without discussing the associations of the other predictors. As expected, race plays an important role in predicting turnout. The higher the percentage of a state which is Black, Latino/Hispanic and Asian are all associated with lower turnout rates. As previous studies have shown Asian-Americans register and vote at levels lower than 50%, and this is reflected in the model where larger Asian populations contribute to a - 0.47% decrease for every percent increase in population proportion (Kim 2017). Similarly, Latinx populations are associated with a 1.534% decrease for every percentage point increase in Latinxs. Whereas, Black voters contribute with the least percentage decrease of 0.25%. Caucasian populations were found to be detrimental variable to the model with insignificant estimates. This could be that because every state other than New Mexico, California and Hawaii are majority white, thus the variability in state turnout cannot be due to the Caucasian population because some states with extremely polar turnout levels have similar Caucasian population sizes.

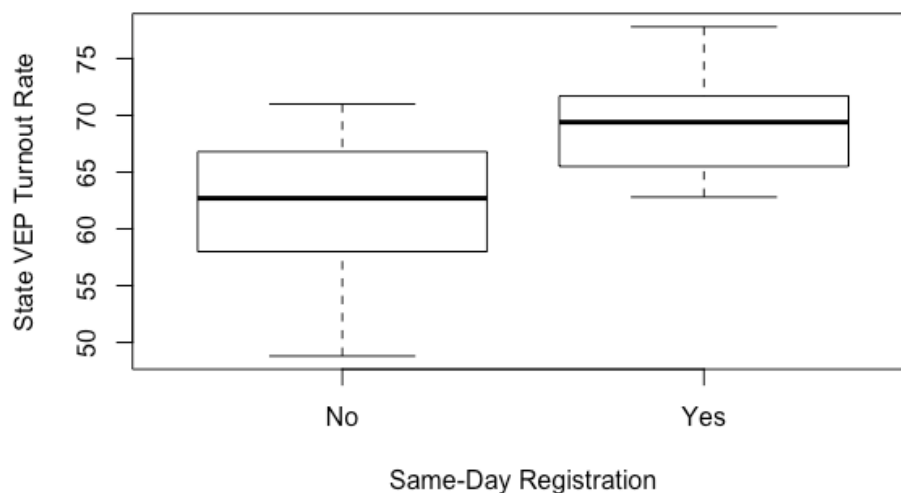
Election competition is predicted exactly as expected, with the least competitive elections having the lowest associated turnout rates. The only indicator that goes against this expectation with competition is that states in 2004 that "Lean Republican" had a higher estimated turnout rate than states that were "Likely Republican." But this can be explained as there were fewer states that "Lean Republican" in 2004, which gave it fewer data points to collect and average from. The variables of political culture, college education, region, and unemployment all contributed as the literature predicted. Overall, the model for 2004 exhibits a strong correlation between most tested predictor variables.

2008 Election Turnout Model

The 2008 election features some changes to election laws and turnout in general. During this election cycle, the first strict identification laws were put into place, while a number of other states adopted non-strict forms of voter identification as well. In fact, we witnessed an increase in the use of all 5 electoral reform laws. Black voter turnout increased in 2008, surpassing the level of all other minority groups, the result, in part at least, of the candidacy of Barack Obama, the first African American to run for president (Roberts 2009). And, turnout in general spiked during the election cycle, where we witnessed unprecedented turnout rates across the country.

Initial ANOVA testing for election laws in 2008 present similar habits as 2004 where only states with same-day registration seems to have a significantly different mean than states without same day registration.

Figure 3. Boxplot of 2008 State Turnout Levels Based on Same-Day Registration



While the ANOVA test and the *Figure 3* above seem to corroborate that same-day registration leads to higher levels of turnout, this variance testing does not fully capture the associations between all the variables we are examining and turnout.

Table 14. Regression Model for Election Laws in 2008

Variable	Coefficient	Standard Error	P> t
Intercept	64.890	2.351	0.000***
Absentee Ballots	-2.589	2.016	0.206
Mail-In Ballots	2.810	5.599	0.619
Same-Day Registration	6.630	2.010	0.002***
Non-Strict Non-Photo ID	1.497	1.961	0.453
Non-Strict Photo ID	1.706	2.261	0.455
Strict Non-Photo ID	-0.084	3.887	0.983
Strict Photo ID	3.253	3.870	0.406
Early Voting	-6.968	2.326	0.005**
Early Voting Days	0.132	0.071	0.069.
R ² = 0.382			

Presented in *Table 14* is the multi-variate regression model for the election laws without control variables. The regression model accounts for 38.2% of the total variability in turnout, meaning the complex model presented later is necessary for producing accurate association estimates. Similar to the 2004 model, same-day registration and early voting are significantly associated to turnout with same-day registration having a large positive turnout association and early voting having a large negative association.

Regression Model for Election Laws and Controls, 2008

In order for the association estimates to be trusted, a full model controlling for confounding variables was constructed. The R² for the 2008 model indicates that 89.8% of the variance in the data is accounted for by the model, and an adjusted R² of 80.8%. While both of these are lower than in the 2004 model, it may be because of the large spike in turnout for the 2008 election, which the model parameters do not account for.

Table 15. 2008 Presidential Election Turnout Model

Variable	Coefficient Estimate	Standard Error	P> t
Intercept	43.907	4.928	0.000***
Mail-In Ballots	4.889	3.454	0.169
Early Voting	-1.333	3.454	0.325
Absentee Voting	-3.399	1.433	0.025*
Same-Day Registration	5.454	1.307	0.000***
Non-Strict Non-Photo ID	2.390	1.228	0.063.
Non-Strict Photo ID	2.951	1.372	0.041*
Strict Non-Photo ID	-0.966	2.498	0.702
Strict Photo ID	0.423	2.368	0.859
Latinx/Hispanic Residents	-0.151	0.057	0.013*
Asian Residents	-0.518	0.102	0.000***
Median Income (per \$1000)	0.205	0.157	0.204
College Education	0.470	0.226	0.047*
Unemployment	1.039	0.429	0.023*
Lean Democrat	4.222	1.757	0.024*
Lean Republican	-0.979	2.443	0.692
Likely Democrat	-	-	-
Likely Republican	-5.353	3.050	0.091.
Strong Democrat	2.558	2.056	0.225
Strong Republican	-1.238	1.443	0.399
Traditional Culture	1.840	2.708	0.503
Moral Culture	-1.164	1.273	0.369
Region: West	-3.544	1.545	0.030*
Region: South	-4.615	2.441	0.069.
Region: Northeast	-4.418	1.647	0.013
R ² = 0.898			
Adjusted R ² =0.808			

In the 2008 election, absentee ballots, same-day registration, and non-strict photo identification laws were all significant in predicting turnout. No-excuse absentee ballot laws appear to continue to have the same level of association with turnout as they did in 2004 with only a minor decrease in trajectory, changing from an association of 4% to 3%. Same-day registration states witnessed equal shifts to 2004 in turnout due to their registration laws, where same-day registration states have turnout that is 5.45% higher than those without turnout.

As discussed at the beginning of this section, we witnessed the first major increase in voter identification laws in the country's history during the 2008 election. Unlike my predictions, the model finds that states that have both non-strict photo identification laws have a higher rate of turnout than states which have no laws whatsoever. Non-strict photo identification states have an average turnout that is 2.951% higher than states without strict identification laws. While the strict identification laws are included in the model as well, they must not be regarded because they are found to be insignificant, thus the predicted value cannot be trusted. There are numerous reasons for this, and it seems to confirm the "myth of voter ID," which presents evidence that contrary to people's beliefs about voter identification laws, they neither decrease overall turnout nor the turnout of specific demographic groups (Cantoni and Pons 2019). Another theory derived from interpreting the data is that although states with a traditional political culture (which believe that voting is a privilege not a right which in turn produce low turnout) may be most likely to institute strict identification laws; states that institute non-strict identification laws are a mixture of all three political cultures, which explains why these non-strict laws may actually be associated with increased turnout in states. As in the 2004 model, the association between mail-in ballot states and voter turnout is not significant, which is most likely attributed to the fact that in 2008, Oregon was still the only state that had passed a comprehensive mail-in voting system.

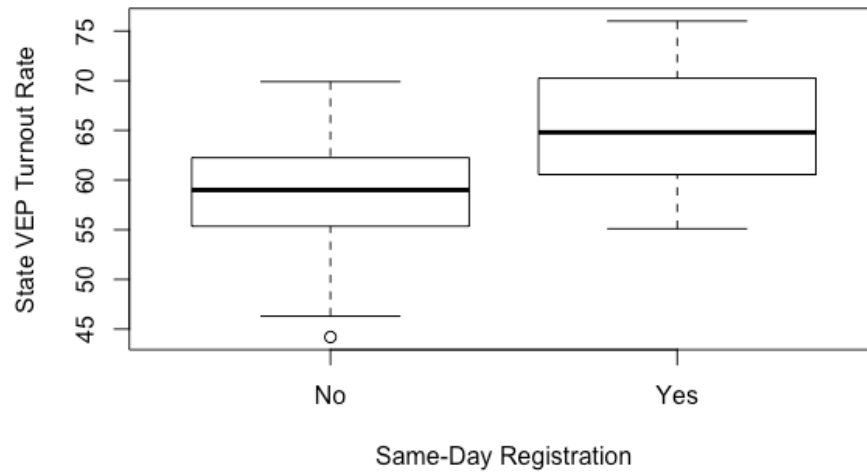
As for the additional variables included in the model, we find some dramatically different patterns from those in the 2004 model. In regard to race, the negative association between Latinx resident population and turnout decreased to only 0.5% indicating that racial differences in voting may be decreasing, though the Asian resident population's association with turnout remained constant between 2004 and 2008. Interestingly, in regard to electoral competition, only the indicator for lean democratic was significantly associated with turnout, estimating that states that are predicted to lean democrat in the election will have turnout 4.2% higher than toss-up states. The main contributor to this effect could be that the 2008 election witnessed high turnout levels, with the highest recorded overall turnout in 40 years (Associated Press 2008). Given data on typical non-voters, that are young, racially diverse leaning democratic citizens, it is clear that when these non-voters turned out in 2008, they voted democratic (Pew Research Center 2016). With an election that is highly competitive like 2008, it is clear that turnout does not necessarily depend on electoral competition, but rather the large proportions of all states are turning out.

2012 Election Turnout Model

Following the high turnout witnessed in 2008, voter turnout in 2012 was lackluster. The turnout levels for states returned to levels lower than even 2004, there was an incumbent president running for office, and many people were still recovering from the economic recession, which historically leads to lower turnout. With all these factors in mind, electoral reforms increased in presence across the United States.

ANOVA testing for the 2012 electoral reform variables concluded once again, as with the 2004 and 2008 models, that same-day registration is the only law which has a significant difference in means.

Figure 4. Boxplot of 2012 State Turnout Rates Based on Same-Day Registration



The initial electoral reforms model below will confirm the results of the analysis on same-day registration, but also add additional laws that actually do have significant effects not revealed by variance testing.

Table 16. Initial Regression Model for Electoral Reforms

Variable	Coefficient Estimate	Standard Error	P > t
Intercept	61.901	3.081	0.000
Absentee Ballots	-1.212	2.612	0.645
Mail-In Ballots	2.630	5.062	0.606
Same-Day Registration	5.893	2.259	0.013*
Non-Strict Non-Photo ID	-1.163	2.246	0.607
Non-Strict Photo ID	-0.112	2.672	0.967
Strict Non-Photo ID	-1.358	3.055	0.659
Strict Photo ID	-2.206	3.582	0.542
Early Voting	-6.239	3.184	0.057.
Early Voting Days	0.126	0.093	0.183
R ² = 0.325			

While the electoral reforms model presented in *Table 16* show that same-day registration is significant in predicting turnout, it also finds that early voting laws are borderline significant as well. The R^2 for this model is only 32.5%, so the exact association estimates are not as strong as those of the model with controls that I present below.

Regression Model for Election Reforms and Controls in 2012

The model below for 2012 turnout again accounts for most of the variability ($R^2 = 89.7$), once again proving that the variables collected to account for turnout do an excellent job of explaining states' varying turnout rates. The 2012 model is very different than the first two. The main observation is that fewer variables in this model are statistically significant than were in either 2004 or 2008. As discussed above (recall *Figure 1*), the Presidential Election of 2012 had a significantly lower mean turnout rate than either of the two previous elections. In fact, although the voter eligible pool of voters expanded by over eight million citizens between 2008 and 2012, almost every state (with the exceptions of Iowa and Louisiana) recorded lower turnout levels (Berrang 2012). This was an unexpected change in turnout given that since the 2000 election, the United States had begun to reverse its slow turnout decline that began to occur in 1964 (Berrang 2012). The decline in turnout was caused by many factors, but two main reasons were, first, a lack of voter enthusiasm for either candidate and, second, politics had become a low priority for citizens during a sluggish economy, while the United States was continuing to recover from the recession at the end of the last decade (Frey 2013).

Table 17. 2012 Presidential Election Turnout Model

Variable	Coefficient Estimate	Standard Error	P > t
Intercept	24.368	8.953	0.012*
Mail-In Ballots	4.326	3.619	0.243
Early Voting	-1.465	2.184	0.508
Days of Early Voting	0.026	0.062	0.677
Absentee Ballots	-1.821	1.571	0.257
Same-Day Registration	3.440	1.422	0.023*
Non-Strict Non-Photo ID	0.505	1.430	0.727
Non-Strict Photo ID	-0.052	1.631	0.975
Strict Non-Photo ID	-1.027	1.946	0.602
Strict Photo ID	-5.877	2.064	0.009**
Caucasian Residents	0.229	0.064	0.001**
Black Residents	0.396	0.093	0.000***
Gubernatorial Race	-2.035	1.246	0.115
Median Income (per \$1000)	0.152	0.137	0.279
College Education	0.482	0.239	0.055.
Lean Democrat	-0.255	2.597	0.923
Likely Democrat	2.928	2.814	0.308
Likely Republican	-1.884	2.599	0.475
Strong Democrat	-5.967	2.215	0.012*
Strong Republican	-5.722	1.729	0.003**
Traditional Culture	-0.645	3.211	0.842
Moral Culture	2.842	1.731	0.113
Region: West	-1.487	1.772	0.410
Region: South	-0.681	3.159	0.831
Region: Northeast	-2.682	2.369	0.268
R ² = 0.897			
Adjusted R ² = 0.797			

Same-day registration continued to be an important element associated with increased turnout levels in the 2012 election. States with same-day registration laws had, on average, turnout that was 3.44% higher than states without same-day registration. For the first time, strict photo identification laws show an association of -5.877%, which means that states with these laws had significantly lower turnout than those without strict photo identification laws, a result many scholars have expected (Highton 2017, but see also Cantoni and Pons 2019, for the conflicting view).

Compared to the previous models, the 2012 model indicates that most election laws are not influential or associated with different levels of turnout. Early voting, no-excuse absentee ballots, and all identification laws other than strict photo identification laws appear to have no association or at least not a measured one in this instance. These findings may be interpreted as reflecting the low turnout level experienced in 2012 compared to other election years. Turnout may have decreased as a result of factors for which we do not account for.

As for the other predicting variables, they also have reduced significance in 2012 compared to the earlier election cycles. One important note is that the association between black population percentage and turnout is stronger than that of Caucasian population percentage, meaning black voters are beginning to vote at higher rates than Caucasian residents. The only other variable that had a strong association with turnout was the competitiveness of election predictor in which it was found that both strong Republican and Strong Democrat states significantly reduced turnout rates by 5.7% and 5.9%, respectively. Given, the dramatically different associations presented in the 2012 model compared to early models, the 2016 model will be an interesting test to see if 2012 was an off-year in turnout or if it is the beginning of a new turnout pattern.

2016 Election Turnout Model

The 2016 election is an interesting case for analyzing voter turnout in the case of low turnout due to apathy towards candidates, yet an increase in turnout in key swing states which analysts assign as the reason for Donald Trump's upset win (Regan 2016). There was also a large increase in the number of electoral reform laws in use around the country, with many states using early voting and absentee ballots at unprecedented numbers (Martin 2016).

With ANOVA testing, same-day registration continues to be the only election law that produces significantly different turnout levels between states without and with same-day registration. But, unlike in previous years, mail-in ballots do present to be borderline significant, which is something to be aware of while investigating the models and could have implications for states further down the road when deciding whether to adopt this type of election reform.

Figure 5. Boxplot of 2016 State Turnout Rates Based on Same-Day Registration

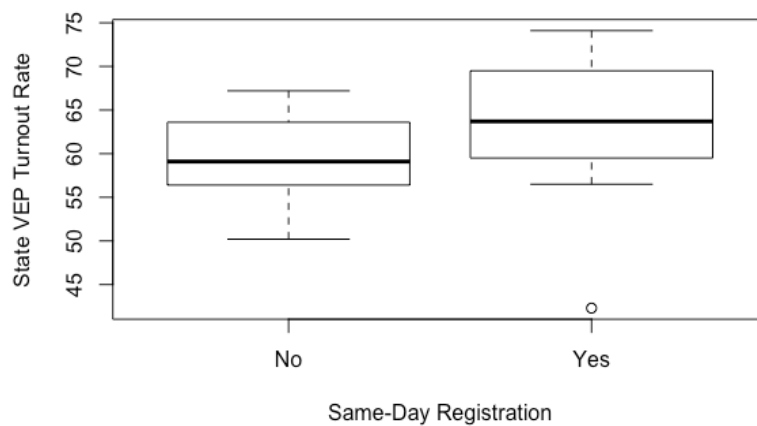
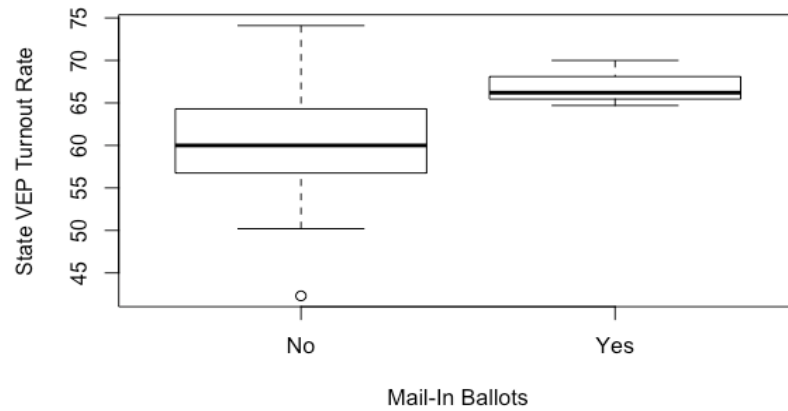


Figure 6. Boxplot of 2016 Voter Turnout Rates Based on Mail-In Ballots



Unlike in previous initial election models, the model for 2016 does not confirm the results of the 2016 analysis of variance testing. The model only finds early voting to be borderline significantly associated with turnout. Yet, as discussed before this model only accounts for 30.9% of the variability in turnout, so but investigating a model with controls, the true associations of the reform laws may be presented.

Table 18. Initial Model for Electoral Reform Laws

Variable	Coefficient Estimate	Standard Error	P > t
Intercept	62.905	3.581	0.000***
Absentee Ballots	-0.754	2.633	0.776
Mail-In Ballots	3.874	4.445	0.389
Same-Day Registration	3.361	1.999	0.101
Non-Strict Non-Photo ID	-1.399	2.336	0.553
Non-Strict Photo ID	-3.06	2.541	0.553
Strict Non-Photo ID	-1.383	4.429	0.756
Strict Photo ID	-1.560	2.592	0.551
Early Voting	-6.236	3.100	0.051.
Early Voting Days	0.136	0.086	0.120
R ² = 0.309			

Regression Model for Election Laws and Controls in 2016

The 2016 model appears at a cursory glance to follow the same patterns as the 2012 model with increasingly fewer electoral laws seeming to be associated with increased turnout. We cannot be comfortable in this conclusion until we perform analyses that look at these reforms and state experiences over time; but it appears that as more states have adopted election laws, their attributed associations with turnout have decreased. These findings point to the idea that the laws were originally adopted by states which already had high levels of turnout, and as more states with lower turnout have adopted the very same laws, the laws' associations with turnout have decreased, mail-in ballots and strict photo ID laws appear to be the exceptions to this rule. The model accounts for 85.7% of the variability in turnout which is a lower percentage than all three previous elections. This may be due to an array of things including the increased importance of campaigning in increasing turnout and other election specific political factors not accounted for in the models. Of the electoral law variables in the 2016 model, only mail-in ballot systems, non-strict photo identification laws and strict photo identification laws appear to have an association with turnout levels.

Table 19. 2016 Presidential Election Turnout Model

Variable	Coefficient Estimate	Standard Error	P > t
Intercept	-5.394	2.073	0.797
Mail-In Ballots	7.111	2.993	0.025*
Absentee Ballots	0.693	1.615	0.671
Same-Day Registration	1.067	1.530	0.492
Early Voting	-	-	-
Days of Early Voting	-	-	-
Non-Strict Non-Photo ID	-2.053	1.640	0.222
Non-Strict Photo ID	-3.688	1.714	0.041*
Strict Non-Photo ID	-0.936	4.022	0.818
Strict Photo ID	-4.268	1.965	0.039*
Black Residents	0.067	0.113	0.561
Median Income	0.299	0.151	0.058.
College Education	0.283	0.267	0.299
Median Age	0.958	0.377	0.018*
Unemployment	2.861	0.829	0.002**
Lean Democrat	-5.854	3.076	0.068.
Lean Republican	-2.771	3.462	0.431
Likely Democrat	-1.824	3.342	0.589
Likely Republican	-5.723	3.034	0.070.
Strong Democrat	-1.298	2.779	0.000***
Strong Republican	-3.836	2.885	0.195
Traditional Culture	-8.187	2.968	0.011*
Moral Culture	4.463	1.897	0.026*
Region: West	-4.301	1.873	0.030*
Region: South	-0.742	2.840	0.796
Region: Northeast	4.121	3.287	0.221
R ² = 0.857			
Adjusted R ² = 0.730			

For the first time in the four election cycles, mail-in ballots are shown to have a significant positive association with turnout, with an estimated increase in turnout of 7.111%. This is most likely due to the fact that by 2016, three states had instituted mail-in ballot systems, providing the regression more data to analyze. For the second time in the four election cycles, strict photo identification laws show to have a significant association with turnout, this time predicting a negative association of 4.262%, which is about 1.8% less than it appeared in 2012. Non-strict photo identification laws were also found to have a negative association with turnout of 3.688%. Both of these associations drive support for my hypotheses that photo identification laws have a negative impact on turnout by deterring people from showing up at the polls. Early voting laws were not only deemed insignificant in influencing turnout in 2016, but both early voting and days early were harmful to the model's specificity and were therefore removed. The reason for the lack of statistical significance of early voting in the 2016 election may be that 35 states have implemented early voting by 2016, which makes it the most popular election law out of the five I am investigating. Due to the majority of states having early voting, it can be seen as an easy law to implement in hopes of increasing turnout, but as Giammo and Brox (2008) and Gronke et al. (2008) have previously argued, in reality, it acts to increase the ease of voting for those who already vote regularly, not those who do not vote at all.

As was the case for the election laws in the 2016 model, very few other predictors show significant associations with state turnout levels. Interestingly, the variable of median age, which is not addressed in most of the other models as it was not found to be statistically significant, is significantly associated with turnout in 2016 with a 0.9% increase in turnout. Strangely, young voters, ages 18 to 29 were the only age group to report increased turnout in comparison to 2012 levels, with a reported turnout increase of 1.1 percent. All older age groups reported stagnant levels of turnout, or minor decreases (File 2017). But when accounting for the fact that median

age includes those who are not yet old enough to vote, it is clear that while younger age groups may have turned out more in 2016, compared to other presidential elections, the percentage of 19 to 29-year old citizens that voted is still far below that of other age groups. Another significant predictor of turnout in 2016 was a state's unemployment rate, which is not significant in many other models. Increases in unemployment lead to 2.861% increase in turnout. This may be explained by that fact that the economy was a large factor in the voting habits of many potential voters and Donald Trump ran his campaign in support of rural, low income citizens (Kolko 2016).

From the analysis of all four individual election models, it is clear that there have been many shifts in the electorate in the past 16 years and no presidential election cycle is like another. Consistently, some laws, including absentee ballots, same-day registration, and strict voter identification requirements have shown to be associated with voter turnout in a single election cycles, but other laws like mail-in ballots and early voting have had varying effects throughout the cycles. It is for this reason that a more detailed analysis is needed to look at how these laws have fluctuated each election year and a comparison how the laws have contributed to changes in turnout through all four election cycles. The next section of this paper will analyze these trends through longitudinal analysis which will estimate the laws actual implementation association.

Longitudinal Analysis of Electoral Reforms' Impact on Voter Turnout

While the previously examined election year models reveal how turnout rates within a single cycle can be associated with the election reform laws, they tell us nothing about the overall associations between the laws and any increase or decrease in turnout that may be due to their implementations. This section will produce models which attempt to answer these questions.

Longitudinal data looks at changes in the response variable over a series of time to assess how outside factors (electoral reforms) influence changes in the response. Unlike in the above analyses, this form of analysis is able to compute dependent observations over a series of time points, like election cycles. The initial longitudinal model below shows the associations of the laws without controlling for confounding variables. This will give us an initial picture of the overall impacts of reform laws on turnout, before we look at the more complex model.

Table 20. Initial Longitudinal Model, 2004-2016

Variable	Coefficient Estimate	Standard Error	P > t
Intercept	47.911	2.278	0.000***
Election Year	24.529	2.694	0.000***
Election Year ²	-11.269	1.155	0.000***
Election Year ³	1.495	0.152	0.000***
Mail-In Ballots	0.496	1.443	0.732
Absentee Ballots	-0.577	0.806	0.475
Early Voting	-0.341	0.899	0.705
Days of Early Voting	-0.004	0.026	0.892
Same-Day Registration	0.187	0.610	0.760
Non-Strict Non-Photo ID	-0.019	0.553	0.971
Strict Non-Photo ID	0.191	0.902	0.832
Non-Strict Photo ID	-0.270	0.723	0.710
Strict Photo ID	-1.131	0.783	0.150

To understand how to interpret the table, one must first understand that all of the estimated coefficients are predicted values based off of the data provided in analyzing the model. This model is referred to as a Longitudinal Unstructured Covariance Pattern Model, in which we are able to track changes over time to estimate the associations between certain variables and the

response, in our case electoral laws and turnout. The coefficient estimates for the terms and their p-values are the ones that allow me to answer my research question.

The electoral reforms model produced in *Table 20* shows that not a single electoral reform has a truly significant association with turnout without controlling for confounding variables. Not only do they not appear to be significant, but their p-values are extremely high, meaning there is less of a possibility that this is due to a calculation error. The electoral reform which is closest to being borderline significant is strict photo ID laws, which is an important element to note before assessing the comprehensive model with controls.

Though these results are important in analyzing electoral reforms and their impact on turnout, they are incomplete and not to be trusted without controlling for confounding variables in the model. The next table (See *Table 21*) presents the estimated associations between all electoral reforms and identified confounders to examine if there is potential associated impacts of the laws on turnout.

Table 21. Comprehensive Longitudinal Model with Controls

Variable	Coefficient Estimate	Standard Error	P > t
Intercept	33.510	12.768	0.010*
Election Year	-5.119	1.138	0.000***
Mail-In Ballots	0.869	1.170	0.459
Absentee Ballots	-1.285	0.687	0.063.
Early Voting	-	-	-
Days of Early Voting	-0.028	0.016	0.089.
Same-Day Registration	1.981	1.114	0.077.
Non-Strict Non-Photo ID	-0.497	0.486	0.307
Strict Non-Photo ID	0.151	0.903	0.868
Non-Strict Photo ID	0.109	0.625	0.861
Strict Photo ID	-1.650	0.712	0.022*
Caucasian Resident Population	-0.001	0.109	0.997
Black Resident Population	0.011	0.114	0.926
Latinx Resident Population	-0.105	0.116	0.367
Asian Resident Population	-0.301	0.157	0.057.
Region: South	-2.709	2.087	0.196
Region: West	-1.796	1.364	0.189
Region: Northeast	-3.212	1.510	0.035*
Moralistic Culture	1.758	1.174	0.136
Traditionalistic Culture	-2.012	1.846	0.277
Lean Democrat	0.442	0.595	0.459
Lean Republican	-2.483	0.633	0.000***
Likely Democrat	-2.189	0.792	0.007**
Likely Republican	-2.696	0.687	0.000***
Strong Democrat	-2.695	0.792	0.001**
Strong Republican	-2.395	0.567	0.000***
College Education	0.732	0.115	0.000***
Median Age	0.559	0.170	0.001**
Unemployment	0.573	0.136	0.000***
Incumbency	-3.525	0.410	0.000***
Caucasian: Year	0.023	0.012	0.057.
Black Population: Year	0.056	0.016	0.001**
Latino/Hispanic: Year	0.034	0.018	0.065.
Same-Day Registration: Year	-0.591	0.301	0.050*

Based on the comprehensive model, we have found that one electoral reform has a significant association with voter turnout, while two other reforms are borderline significant. Strict photo identification laws are the only types of law that have a significant association with turnout of -1.65%. This means that while controlling for all other variables, states with strict photo identification laws experience turnout that is 1.65% lower than states without these laws. As for the borderline associations, both absentee ballots and days of early voting appear to be negatively associated with turnout. While the estimates cannot be fully trusted for these reforms, we can argue that in all probability these reforms have a minor association with turnout. As the estimates predict, states with no-excuse absentee ballots 1.285% lower than states without absentee ballots, whereas states with longer periods of early voting actually witness a negative association of 0.028 per day of early voting. Conversely, mail-in ballots and same-day registration had no statistically significant influence on turnout, while the variable of early voting was removed from the model altogether due to the lack of association. An important piece to draw attention to is the interaction variable of same-day registration and year. With a significant p-value, interaction argues that through time the strength of the association between same-day registration and turnout has weakened. This means that the average impact of same-day registration has decreased between the elections 2004 and 2016. Due to the significant interaction term, the singular term for same-day registration does not make sense to interpret. As for the other control variables presented within the model, we find that through longitudinal analysis they present identically to how previous literature has examined them, differing from how the individual election year models presented them. This result acts to strengthen the claims of the impacts and associations with the electoral reforms.

What this all says is that although some of the current electoral reforms are associated with statistically significant increases or decreases in turnout at the state-level, the size of that fluctuation is not large. Rather, we find that the laws have little to no influence on turnout itself. But, we do find that, though not caused by the implementation of the electoral reforms, states that have high turnout originally are the ones most likely to adopt reforms in hopes of their ability to boost turnout even further. States whose citizens have a high civic culture—as evidenced by high voter turnout—are most likely to adopt electoral reforms (Almond and Verba 1963). These reforms support the citizens’ cultural norm of voting, but they, in and of themselves, do not lead to increased turnout. Simply stated, electoral reforms may do better at retaining old voters than they do at garnering new ones.

VI. Conclusion

The conclusion to this research is not as most electoral reform proponents would have hoped. The analyses suggest, contrary to my hypotheses, that electoral reforms, most passed with the intention of increasing voter turnout, will have relatively no influence on the turnout of the state in question. I find that the law’s implementation alone leads to no significant changes to turnout in states that adopt early voting and mail-in ballot systems and potential minor differences due to no-excuse absentee ballots and days of early voting. Whereas, the association between strict photo identification laws and turnout has shown to decrease turnout by as much as 1.65%.

In regard to voter identification laws, the research presented shows that, after controlling for confounding variables, all non-photo identification laws and non-strict photo identification laws are not associated with increases or decreases in turnout. What the model does find is that, in support of the hypothesis, strict photo identification laws can negatively impact turnout by 1.65%. This finding goes along with research that specifies that while voter identification laws

do little to prevent fraudulent voters from voting, it has the ability to negatively affect those that have a low propensity for voting. Although 1.65% does not seem catastrophically large in the scheme of presidential elections, more research must be done on the types of voters that do not vote due to the implementation of strict photo ID laws. If these voters are from a specific racial, economic or demographic group, this law has the potential to significantly impact the results of elections.

More broadly, this research helps to confirm the mixed findings of previous studies in analyzing whether these laws can impact turnout or not. Throughout the literature review, I presented evidence from scholars who argued that electoral reforms both affected turnout in some way or that the reforms had no effect at all. This research lands somewhere in the middle of those statements. While the analyses did find some weak associations for some election laws, they are small enough to call into question whether the laws are worth instituting to begin with. As can be seen by comparing *Table 20* and *Table 21*, depending on the variables used in a model, the results can be vastly different. Thus, depending on the variables used by other researchers, whether the hypotheses are proven true or not can also be different. By forming a comprehensive model, accounting for demographic, economic, geographic, and political variables in this study, the models consider and explain a large amount of variability in turnout, making the estimated associations as close to accurate as possible.

The research also points to the importance of demographic and political variables in predicting turnout in states. This was shown in the year by year analysis models in which electoral reforms accounted for ~30% of all variability in the turnout levels. Yet, when the control variables were added, the model accounted for ~90% of all variability. This goodness-of-fit highlights the strength of the data collected and the accuracy of the model's predictive ability. However, it does raise questions on the ~10% of variability unaccounted for in the data collected

for this study, which encourages further research looking into how campaigns and candidates affect turnout through individual election cycles.

The research demonstrates that no current electoral reform considered in these models has the ability to increase voter turnout, at least at a significant rate. Thus, dictating that those who are advocating for voter convenience laws are fighting battles in which the value is more symbolic than pragmatic, as the laws' impacts are not as large as many would hope. Whereas, photo identification laws tell a different story. They have the potential to harmfully impact turnout by over 1%. This conclusion guides the future of electoral reforms by urging lawmakers to create or discover new reforms that have greater potential to effect change. As for voter identification laws, the total effects may not be completely visible yet. A voter identification law's ability to detract voters completely depends on its implementation, but it is clear that states with these laws witness lower turnout rates than states without them. As this form of reform has only been used in three presidential elections, at most for some states, the ability for it to capture the effects on detracting people from voting is unclear. Although an association of -1.65% is arguably not large, an important further analysis would look into the socio-economic composition of the people that do seem to be deterred from voting due to voter identification laws. Based on the literature, they are not fraudulent voters, but rather those with the inability or lack of resources to obtain photo identification (i.e. minorities, and those of low socioeconomic status).

If the current trajectory of electoral reforms remains, as states continue to adopt the types of voter convenience laws currently in use, turnout will remain steady, controlling for outside factors. It is clear that the laws most frequently enacted have much less of an effect than supporters hope they will, and some have no effect at all. Many states are already in the process of implementing different reforms, and many others are being proposed by voting rights groups.

One with seemingly great potential is automatic voter registration done through DMV records, which Oregon instituted in 2015 (Brennan Center for Justice 2018).⁷ Other methods, which have proponents and opponents, are electronic voting, making election day a national holiday, ranked choice voting, or making voting compulsory. While there is evidence across the world that these methods have worked, given the lack of ability for the five researched reforms to effect change, there is no saying whether these would work in the US. Unless lawmakers find better ways to ease the burden of turning out to vote or discover other ways to appeal to potential voters, the United States will continually have one of the lowest turnout rates of developed democracies in the world.

⁷ While Oregon was the only state in 2016 which had implemented Automatic Voter Registration, since then 16 other states have passed similar laws, yet many have not yet been implemented.

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