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ELECTION ADMINISTRATION WITHIN THE SPHERE OF POLITICS: HOW  
BUREAUCRACY CAN FACILITATE DEMOCRACY WITH POLICY DECISIONS

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

PUBLIC AFFAIRS

by

Nicholas Sergio Martinez

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## DEDICATION

This dissertation is dedicated to my sons Sergio and Mateo. Keep building.

Ni pa' cojer impulso.

## ACKNOWLEDGMENTS

The list of people who have helped me reach this point in my career is too immense to note. Many people recognized my potential when I held doubt. From the people who gently nudged me to continue, to those who outright demanded it, I thank you all.

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Lastly, I want to thank my wife, Jacqueline. Thank you for going through another big academic journey with me. I know it was disruptive to our lives, but worth it in the end. Your support is always the most critical aspect of anything I hope to undertake and accomplish. Thank you.

## ABSTRACT OF THE DISSERTATION

### ELECTION ADMINISTRATION WITHIN THE SPHERE OF POLITICS: HOW BUREAUCRACY CAN FACILITATE DEMOCRACY WITH POLICY DECISIONS

by

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Florida International University, 2018

Miami, Florida

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Public bureaucracy finds itself in a strange place at the intersection of political science and public administration. Political science finds that, within representative democracy, discretion granted to bureaucrats threatens the nature of democracy by subverting politicians who represent the will of the people – bureaucracy vs democracy. At the same time, public administration holds that, in the interest of promoting democracy, bureaucracy should be objective in its implementation of policy in a way that eliminates the influence of politics from decision-making – politics vs bureaucracy. Those positions are seemingly contradictory in nature. From one perspective, bureaucracy is undemocratic because it is outside of politics, yet an overreach of politics into the bureaucracy yields undemocratic outcomes.

Bureaucracy can facilitate democracy outside of politics. This study looks to empirically test whether local bureaucrats, who should be willing to act in-line with influential co-partisans, might still promote democratic outcomes for their constituents with their discretionary decision-making. Florida provides an empirical backdrop for testing bureaucracy's impact on democracy with a natural experimental scenario created

with the passing of new early voting limitations in 2011. Florida's Republican (R) lawmakers passed House Bill 1355 (HB 1355), which was signed into law by Governor Scott (R), that dramatically limited the early voting days allowed for federal elections. HB 1355 changed the early voting (EV) period from fourteen (14) days to eight (8) days and eliminated the last Sunday before Election Day as well. The move was widely seen as a political calculation aimed at stifling the participation of Democrats in the 2012 General Election. In seeming lockstep, local Supervisors of Elections (SOEs) from both parties utilized their statutory discretion over the location of early voting sites to alter the distribution of sites before the 2012 General Election.

I find that Republican SOEs did not distribute early voting locations in a way that negatively impacted early voting participation rates (EVPR) for their local precincts. Furthermore, I find that, all else equal, their decisions did not statistically impact EVPR differently than the EVPR in communities managed by Democrats. Republican SOEs did not add new costs to voters in their communities. I provide new evidence that demonstrates that bureaucrats can indeed limit the impact of undue politics from their influential co-partisans to promote more democratic outcomes.



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## CHAPTER 1

### INTRODUCTION

#### **Protecting a Fundamental Right**

President Barack Obama began his victory speech confirming his reelection at 11:20 PM Eastern on Election Day, November 6, 2012. While he was speaking, voters were still waiting to cast ballots. News stations simulcast the President speaking live contrasted by footage of Florida's voters waiting in the dark to enter their assigned polling station; the polls had officially closed in Florida over four hours earlier. The President told the audience that night, "[W]e have to fix that," referring to the long lines voters had to endure to cast their ballots during early voting and on Election Day; he urged voters to stay in line.

During his State of the Union in February of 2013, President Obama reflected on the importance of voting and the implications of long lines.

*"Defending our freedom, though, is not just the job of our military alone. We must all do our part to make sure our God-given rights are protected here at home. That includes one of the most fundamental rights of a democracy: the right to vote. Now, when any American, no matter where they live or what their party, are denied that right because they can't afford to wait for 5 or 6 or 7 hours just to cast their ballot, we are betraying our ideals."*

– President Barack Obama, State of Union, February 12, 2013 –

Recognizing that the integrity of an election is vital to maintaining democracy, the President announced he would create a nonpartisan commission to, "...improve the voting experience in America." (President Barack Obama, 2013).

Following the State of the Union, President Obama released Executive Order 13639 – Establishment of the Presidential Commission on Election Administration (PCEA) – on March 28, 2013. The PCEA’s official mission stated that, “The Commission shall identify best practices and otherwise make recommendations to promote the efficient administration of elections in order to ensure that all eligible voters have the opportunity to cast their ballots without undue delay, and to improve the experience of voters facing other obstacles in casting their ballots, such as members of the military, overseas voters, voters with disabilities, and voters with limited English proficiency.” The President’s goal was to ensure that those tasked with running U.S. elections are equipped to manage their responsibility in safeguarding election integrity. Election administration was the culprit behind the problems surrounding the 2012 General Election, as it was during the maligned 2000 General Election.

### **Statement of the Problem**

Obstacles that impede voter participation deteriorate election integrity. Excessive wait times are symptomatic of inefficient election administration. Inefficient election administration imposes costs on voters. The introduction of new costs to vote will dissuade voters from casting their ballot. Election administrators have wide discretion to make decisions about election processes. Sometimes, election administrators use discretion in a politically motivated way which can burden citizens by adding new obstacles to voting. When that is true, election administrators can be culpable of malpractice.

International elections scholars segregate the malpractices that weaken election integrity into two categories – first-order and second-order problems. First-order

problems are those characterized by egregious violence or violations of human-rights; second-order problems, "...involve mundane issues of maladministration, lack of technical capacity, or human error." Established democracies, like the United States, deal with second-order problems characterized by maladministration. Though much of the issues surrounding poor election administration may be the result of a simple accident or poor decision-making, malpractice can be purposeful, and even legally sanctioned. (Norris, 2013, p. 566)

Unfortunately, voters standing in long lines and enduring extensive wait-times to vote in Florida was not simply the consequence of poor decision-making, but rather second-order malpractice that was driven by political motivation. A dramatic change to Florida's election laws came during Florida's 2011 legislative session. Florida's Republican state lawmakers passed House Bill 1355 (HB 1355) which altered Florida's election laws. HB 1355 restricted the early voting period from fourteen (14) days to eight (8) days and ended the term on the Saturday before Election Day. Early voting is a method of voting that allows voters to cast their ballot before Election Day. Early voting is permitted to promote convenience, and to boost voter participation (Gronke, 2008). The changes to Florida's early voting laws made early voting less convenient; it was a purposeful political action codified in state legislation (Herron & Smith, 2014).

### **Purpose of the Study**

Florida's elected officials passed specific legislation that negatively impacted its voters. Apart from the elected official's actions, Florida has sixty-seven (67) local bureaucrats, the County Supervisors of Elections (SOEs). The SOEs are responsible for local election administration. They hold broad discretionary authority over numerous

aspects of the voting process, like the number of voting registration drives they host, the type of voting machine used in their jurisdiction, the number of poll workers assigned to facilitate voting, etc.

They also have the authority to decide the number and location of early voting facilities in their communities. Pursuant to F.S 101.657, the SOEs are only required to have one early voting site for their jurisdiction. Beyond that, the SOE can select any city hall or permanent public library facility as early voting sites as long as the sites are, “[G]eographically located so as to provide all voters in the county an equal opportunity to cast a ballot, insofar as is practicable.”

SOEs have full discretion over the number and location of early voting sites within their respective communities. This dissertation seeks to uncover what caused lower early voting participation in 2012 than in 2008. Existing research shows that changing the location of polling stations adds costs to voters (Brady & McNulty, 2011). This dissertation shows how the SOEs changed their early voting locations between 2008 and 2012, how those changes impacted early voting participation, and whether those decisions were politically motivated

### **Research Question and Hypothesis**

Many factors can influence whether groups of voters who live in the same voting precinct (analogous to a neighborhood) vote. Is precinct early voting participation affected by changes in the distance to the nearest early voting site from one election to the other? More specifically, do local SOEs make discretionary decisions, based on their partisan affiliation, that can impact how constituents cast their ballot? Since Florida’s state Republican leaders limited early voting by passing new laws, I hypothesize that if a



local Supervisor of Elections, who is registered as a Republican, moved the location of early voting sites in their communities for the 2012 General Election from their location in the 2008 election, then those changes will lower precinct early voting participation. The analysis reveals the differentiated effect Republican SOEs had on early voting participation.

### **Findings and Contribution**

Very few studies have looked at the impact that discretionary decisions made by the LEO have on voters. This dissertation provides new empirical evidence showing the effects of partisanship on decision-making as it relates to election laws and administrative practices. It further showcases how local discretion affects outcomes, shown here as the corresponding impact on voter participation in an election. Specifically, the research explores the discretionary decision-making of the local Supervisors of Elections (SOEs) in Florida. I find that, although local-level bureaucrats, SOEs, have discretionary powers to manipulate election systems, they disregard efforts of political co-optation. Therefore, public bureaucrats do not abuse their discretion at the whim of their political counterparts, suggesting they are duty-bound.

The results support the hypothesis that bureaucrats do play a role in ensuring democratic processes, and do not succumb to political brinksmanship. Ultimately, I find that Republican SOEs, who used their discretion in selecting the number and location of early voting sites, did not negatively impact early voting participation rates (EVPR) differently than other SOEs.

Public bureaucrats provide a firewall between politics and citizen interest, making them integral to a healthy representative democracy. This research provides new insight

into the core theories of public administration – politics vs. bureaucracy and representative bureaucracy - to ascertain how they manifest in this empirical setting.

### **Theoretical Framework**

Local discretion can be motivated by partisan identity through active representation. Active representation is decision-making on the part of the bureaucracy that purposely targets a specific group of citizens (Hindera, 1993, p. 419) in a manner that is partial and purposeful (Lim, 2006, p. 194). Scholars in public administration advocate for active representation of the bureaucracy to, “promote minority interests” (Selden, Brudney, & Kellough, 1998). Yet, if those actions are motivated by political interests, local bureaucrats can promote public policy that is injurious to their citizens. This theoretical framework is important to understand the implicit motivation behind certain public policy decisions.

### **Research Design and Methods**

The empirical scenario creates a natural experiment whereby the local SOEs moved some early voting locations from one election to the next. The research methods use advanced regression models to explore the political influence of partisan identity of local SOEs, and whether their response to politically motivated changes in the State’s early voting election laws affected voting outcomes, namely the early voting participation rate (EVPR). The analysis uses publicly available voter data made available by Florida’s Department of State, Division of Elections, to build reliable models that can assess what factors influence early voting participation. This dissertation uses spatial econometric methods, primarily the spatial Durbin error model (SDEM), for estimation. The SDEM is

a statistical method that estimates local spillover effects by incorporating the average of the independent variables from its neighbors and adding a spatially weighted error term.

### **Organization of the Dissertation**

Chapter 2, Background and Questions, describes the empirical scenario driving the main question of the analysis. A new election law, HB 1355, altered the days and times available for early voting, making it less convenient. The chapter shows that, in response to new the new election laws, Florida's local election bureaucrats, the Supervisor of Elections, added or removed early voting sites using their discretionary authority. These changes may have been motivated by politics and the party identity the SOEs carry. The chapter closes introducing the research questions and corresponding hypotheses.

Chapter 3, Theoretical and Empirical Foundation, introduces the politics/bureaucracy divide that causes friction in a representative democracy. The chapter explains how local discretion can be motivated by partisan identity. The chapter continues to show how public policy that adds costs to voting will dissuade voters from participating in an election through simple economic models; limitations to convenience adds costs to voters. The chapter concludes by describing the inherent inequities built into voting participation and how voters calculate the cost impacts of distance and quality of voting locations in their decision to vote.

Chapter 4, Data and Operationalization of the Variables, introduces the main data sources for this dissertation. They are the Florida Voter Registration System (FVRS), U.S. Census Tiger Line files, early voting site lists from the Department of State, Division of Elections, and the Florida State Association of Supervisors of Elections

(FSASE) directory. The FVRS dataset contains over 12 million voter records that are combined with another 51 million records of voting history data. The Tiger data contains over 1 million line-segments that facilitate geocoding of the voter data. Those points are aggregated into neighborhood geographies, precincts, which are the unit of analysis.

Chapter 5, Methods, covers the research design. I specify the importance social scientists must place on the spatiotemporal aspects of data analysis, to deal with the spatial dependence artifacts that a traditional ordinary least squares (OLS) regression cannot handle. Five additional spatial regression models, the spatial lag X, the spatial lag model, the spatial error model, the spatial Durbin model, and the spatial Durbin Error model show how spatial regressions improve upon a traditional OLS. Each model adds spatial aspects of the data to the regression model. The chapter closes by describing the generic and specific equations for of the OLS and SDEM.

Chapter 6, Findings and Results, provides the model returns for the OLS and SDEM models and compares them. The SDEM model allows for the interpretation of the direct and indirect effects of a control variable on the dependent variable, or the ‘total effect’. I find that Republican SOEs did not distribute early voting locations in a way that negatively impacted early voting participation rates (EVPR) for their local precincts. Furthermore, I find that Republican SOEs did not add new costs to voters in their communities. When controlling for other factors, the decisions of Republican SOEs to change the location of early voting sites in their community from their locations in 2008 did not statistically impact precinct EVPR differently than the precinct EVPR in communities managed by Democrats/NPA Supervisors.

Chapter 7, Conclusion, provides final thoughts on the dissertation, including both theoretical and empirical findings, limitations, and ideas for new policy implementations. Ultimately, this study presents new evidence that demonstrates that bureaucrats can indeed limit the influence of undue politics from their influential co-partisans to promote more democratic outcomes.

## CHAPTER 2

### BACKGROUND AND QUESTIONS

#### **U.S. Elections**

Democracies use elections to facilitate the transfer of power from one representative to another. In fact, “free and fair” elections are a critical element of a true democracy. For elections to be “free and fair” certain simple conditions must be met. “Free” means that everyone who is eligible to participate in an election can participate in that election without undue restriction; “fair” means that every ballot is counted appropriately with each vote having the same weight. The United States has changed its laws over time to reach closer to its ideal, “free and fair” elections for its democracy. Numerous amendments to the Constitution expanded the franchise over the years (14th, 15th, 19th, 24th and the 26th). The Voting Rights Act of 1965 (VRA 1965) was an important advancement of the Civil Rights movement creating federal election protections and allowing for minorities to participate more widely in their expression of the franchise. President Bush reconfirmed the VRA in 2006 as the Voting Rights Reauthorization and Amendments Act of 2006.

Though federal law might establish the framework for elections, the United States, unlike many international democracies, does not have a federal agency that is responsible for election standards. The U.S. election system is a hyper-federalized administrative system; decision-making authority is vested in very small jurisdictions at the county and sub-county level (Ewald 2009). It is imperative to underscore that election administration is the practical management of voting. “Election administration is the administrative procedure used for casting votes and compiling the electoral register”

(James 2012, p. 15). Some of the more notable tasks of election administrators are maintaining the voter register, qualifying candidates, performing outreach to register voters, programming voting equipment, training poll workers, and identifying polling locations. Scholars noted problems with election administration decades ago; “There is probably no other phase of public administration in the United States, which is so badly managed as the conduct of elections” (Harris, 1934, p. 1). Some issues with election management are a result of changes to election laws, latent technology adoption, and issues with administrative capacity. Every citizen’s individual right to participate in elections without impediment is still not fully actualized across all communities in the nation. Election laws and election administration are to blame. The scrutiny of votes cast demonstrates the little attention paid to election administration and how election administration is integral to a healthy democracy.

### **Florida and Election Administration**

Unprofessionally managed elections have failed our democracy’s fundamental requirement of holding “free and fair” elections. The United States’ poorly run elections continue to be a spectacle as the balance of international politics sways with every contested ballot. In 2000, Florida became the example of poorly run elections and why election administration matters to the validity of election outcomes. (James 2012)

Florida is markedly important to federal election outcomes, not only from the lessons learned from its handling of the 2000 General Election but also from its population growth as well. Since 2000 Florida has been one of the most influential swing states in the nation. The State offers twenty-nine (29) electoral votes to its winner, making it a crucial battleground for presidential candidates. Away from the elections

themselves, Florida’s lawmakers strategize ways to influence turnout to ensure their party can favorably compete for Florida’s coveted electoral votes.

Before General Election Day on November 7, 2000, lawmakers, legal scholars, and academics traditionally focused on the *laws* that dictate elections, while the media and public honed-in on the *candidates*; few were interested in the *bureaucrats* who administer US elections. Our collective attention changed the next day. “On the morning of Wednesday 8 November 2000, the world’s attention was on electoral administration” (James, 2010, p. 357). The nation learned that morning that the systems that allow us to participate in our democracy – how we cast our votes – can have an outsized weight on the reliability of election outcomes.

Election administration is the operational aspect of an electoral system. Election administration is particularly complex because it involves many actors. The States are responsible for election administration. Within the states, many smaller jurisdictional agencies, or local elections officers (LEOs), administer elections. In Florida, where the problems of long lines and excessive vote times were especially bad, the Florida Legislature and the Supervisors of Elections (SOEs) run the elections. There is an SOE for each of Florida’s 67 counties, pursuant to the Florida Constitution. The SOEs put into practice the election laws as designated by the Florida Legislature with interpretation provided by the Division of Elections.

The main bureaucrats who facilitate and affect election administration are the local election officials (LEOs). LEOs are the people who make decisions on how to provide voting access, only constrained by budget and their professional capacity.

Election administrators are the “street-level bureaucrats” of the election system (Kimball



& Kropf, 2006). The 2000 General Election brought a renewed interest in LEOs as important decision-makers who have wide discretion in running elections. In 2000 Florida's local election officials, the Supervisors of Elections (SOEs), had the discretionary authority to select voting machines (mechanical vs. digital) and ballot design (paper ballots vs. punch card) to count the votes. Different technology and ballot design led to inconsistent administration from one Florida county to the next. The mixed practices made for an inconclusive election outcome, causing a recount. In their ruling in *Bush v. Gore*, the Supreme Court ended the recount blaming the lack of uniformity from one county to the next in how they handled the recount; some counties performed a machine recount while others conducted a hand recount. The 2000 General Election invited the public to question the outsized role election administrators have on election outcomes and, precisely what might influence the decisions they make in facilitating an election.

After the 2000 election, the federal government enacted new laws aimed at promoting uniformity in election administration. Elements of the Help America Vote Act (Public Law 107-252) (commonly referred to as HAVA) required the states to limit local discretion. For instance, HAVA (2002) required that states compile statewide databases of all voter records to build confidence in the lists of eligible voters. HAVA (2002) also established the Election Assistance Commission (EAC). The EAC helps election administrators with guidance on how to implement the HAVA requirements. Both were designed to not only improve access to elections but also to provide additional capacity to election administrators. That notwithstanding, election administration continues to impact elections.

## **The 2012 General Election**

Florida has been particularly troublesome since 2000. In 2012 Florida again showcased mismanaged elections. Floridians were still waiting to cast ballots at midnight on Election Day in 2012 because fewer voters cast their votes during the preceding early voting period than had in 2008. The 2008 General Election was a watershed moment for American politics. American voters elected the U.S.' first African-American president. New segments of the American electorate voted in higher rates taking advantage of expanded early voting laws. Florida, a pivotal swing-state, made early in-person voting available to its voters only four years earlier during the 2004 election cycle. Early voting participation increased 86.3% from 2004 to 2008, growing from approximately 1.43 million early voters in 2004 to 2.66 million early voters in 2008. Democrats, minority, and younger voters were more likely to utilize early voting in 2008 (Herron and Smith, 2013). In 2008, demand for early voting was so great that Florida's Governor, Republican Charlie Crist, extended the early voting period by executive order. However, by the 2012 General Election, early voting decreased in Florida by 9.5% in 2012 shrinking down to 2.41 million early voters. What caused the drop in early voters in 2012 from 2008 when the number of eligible voters grew by 686,812 voters during the same period?

Leading to the 2012 election cycle, Florida's Republican leaders changed election laws to limit early voting. HB 1355 limited voting registration and early voting; this could have been part of an effort to standardize election administration practice across the State of Florida (Hasen, 2014). Politics most likely provoked the changes to election law. In Florida, the Republican Party holds majorities in both chambers of the Florida Legislature; the Governor is a Republican as well. Republicans have sought to

incorporate higher levels of integrity into elections and to limit illegal votes. Regulating uniformity in election administration, like requiring that all voters present a government-issued identification card at the polling station, is part of a strategy to control voting outcomes. Standardizing early voting days and times also promotes uniformity. Calls for uniformity came directly from the 2000 General Election when the United States Supreme Court found that Florida's election processes were not uniform during the recount. Although the courts have found that uniformity in election administration has often had a disproportionately negative impact on minority communities, efforts to require uniformity persist. For example, in July of 2018 the 5<sup>th</sup> Circuit Court of Appeals overturned a Texas Federal judge's ruling from 2016 that blocked a Texas bill that would require voter id for all Texas' voters. Texas' SB 214 will be the law again for Texas' voters.

In 2011, many voting rights advocates like the League of Women Voters, the American Civil Liberties Union (ACLU), and various media outlets reported that the restrictions on early voting would have a detrimental impact on early voting participation and, consequently, overall voter turnout (see the ACLU's, "Cutting Early Voting is Voter Suppression"). Democrats argued that the changes were implemented to limit the early voting advantage they gained during the 2008 General Election; Florida's early voters helped usher Democrat Barack Obama into the White House. Nevertheless, the Florida Legislature approved HB 1355 in the spring of 2011; Governor Rick Scott signed the bill into law in the summer of 2011.

Changes to election law are often subject to federal review to protect minority voters. The United States Department of Justice (USDOJ) had a requirement, dictated by

the 1965 Voting Rights Act (VRA), to test the changes HB 1355 introduced to Florida's early voting period. The test would determine if those changes would have a retrogressive effect on minority voter participation. Changes made by the Florida Legislature to the election laws in 2011 required preclearance from the USDOJ. Section 5 of the VRA covered five (5) Florida Counties – Collier, Hardee, Hendry, Hillsborough, and Monroe – because those counties had a history minority access to the polls. Those counties had to seek “pre-clearance” of any changes to their voting laws (the Supreme Court struck the Section 5 “preclearance” requirements finding them unconstitutional in 2013). Therefore, changes in state election laws that impacted those counties were also subject to federal review. The USDOJ put a freeze on the changes to the early voting times so that it could analyze their impact on minority groups. The USDOJ initially invalidated HB 1355 because it shrank the total number of hours available for early voting from the totals allowed in 2008. The State was able to keep HB 1355's restrictions for early voting days by reaching the 2008 hour total. By early 2012, the USDOJ found the new schedule of times complied with the “preclearance” in that they did not have a discriminatory purpose or effect. With HB 1355 clearing federal scrutiny, the new law dictated a new set of early voting days for the 2012 General Election.

### **Florida's Supervisor of Elections**

With new laws in place, Florida's election bureaucrats, the Supervisor of Elections (SOEs) had to administer the 2012 elections. The Florida Constitution creates Florida's SOEs. Article 8, Section 1(d) COUNTY OFFICERS of the Florida Constitution creates Florida's constitutional officers. “There shall be elected by the electors of each county, for terms of four years, a sheriff, a tax collector, a property appraiser, a

supervisor of elections, and a clerk of the circuit court; except, when provided by county charter or special law approved by vote of the electors of the county, any county officer may be chosen in another manner therein specified, or any county office may be abolished when all the duties of the office prescribed by general law are transferred to another office.” Per the Florida Constitution, 66 county SOEs are elected; only Miami-Dade County appoints its SOE as part of its home-rule charter. The SOEs hold four-year terms in office. All SOEs are members of the Florida State Association of Supervisors of Elections (FSASE) whose core mission is conducting fair, honest and accurate elections. Although the SOE is elected (except in Miami-Dade County), the role is ministerial, and their function is purely administrative. SOEs make no policy decisions and are required to enforce federal and state election laws.

The new law made the climate for running the election in 2012 very politically intense. Florida’s SOEs experienced political pressure from both higher-order elected officials and their local constituents. From the top, state policy-makers expect the SOEs to utilize their discretion to reinforce the party platform. At the local level, SOEs must represent the voters in their community.

The SOEs have a political party identity. Ninety-three percent (93%) of the SOEs in place for the 2012 General Election identified with a major party – 30 Democrats (45%) and 33 Republicans (49%); only 4 have No Party Affiliation (6%). Figure 2.2 shows the difference in total early voters aggregated by the party identity of the SOE. Florida is split nearly evenly with 33 Republican (REP) SOEs, 30 Democrat (DEM) SOEs, and 4 SOEs who have No Party Affiliation (NPA). Figure 2.1 shows the total early votes cast in the 2008 and 2012 General Elections aggregated to the party of the SOE.

**Figure 2.1. Difference of Early Voter Totals by SOE Party, 2008 & 2012**

<b>Party</b>	<b># SOEs</b>	<b>Tot. EV Votes '08</b>	<b>Tot. EV Votes '12</b>	<b>Difference</b>
DEM	30	889,981	799,159	(90,822)
NPA	4	377,330	288,730	(88,600)
REP	33	1,394,361	1,321,208	(73,153)
<b>Total</b>	<b>67</b>	<b>2,661,672</b>	<b>2,409,097</b>	<b>(252,575)</b>

Early voting totals fell across the board. There is some empirical evidence that partisan identity of the local election bureaucrats affects voter participation (Burden, Canon, Lavertu, Mayer, & Moynihan, 2013; Burden, Canon, Mayer, & Moynihan, 2012; Kimball & Kropf, 2006). The SOEs party identity may explain why early voting turnout was lower in 2012. A deeper look into how SOEs may have influenced early voting is necessary.

### **Early Voting Facilities**

How can SOEs influence early voting participation? Florida’s SOEs have broad discretion over early voting locations. Section 101.657 (1)(a), Florida Statutes (2012), required that each supervisor of elections open at least one early in-person voting location in the county at the main office of the supervisor. Outside of that requirement, SOEs are permitted to allocate additional early voting sites at their discretion. The section provides very clear discretionary authority to the supervisors with respect to additional early voting locations, “The supervisor may also designate any city hall or permanent public library facility as early voting sites; however, if so designated, the sites must be geographically located so as to provide all voters in the county an equal opportunity to cast a ballot, insofar as is practicable.”

SOEs have full discretion over the number and location of early voting sites within their respective communities. They are only limited by the physical facilities available to them that meet the letter of the statute – branch offices of the supervisor, public libraries, and various city hall buildings. The sites must only be geographically located as is “practicable” to allow for equal access. The Florida Statutes do not provide any required metric to measure the distribution of early voting sites in any county.

### **Early Voting Site Changes**

SOEs control the number and location of early voting sites from one election to the next. Florida’s SOEs made 267 early voting sites available in 2008; in 2012 they made 289 early voting sites available. Florida’s SOEs do have discretionary authority to decide the number and location of early voting sites within their county. Bureaucrats have ample discretion and wide latitude to allocate benefit to a preferred group (Lim 2006, p. 198). Florida’s SOEs could have allocated early voting sites in a way that preferred their party preference of limiting early voting participation. Figure 2.2 shows how the local SOEs changed the number of early voting facilities in their communities and the corresponding change to the early voting participation rate (EVPR). The EVPR is the percentage of voters who voted early of all voters who voted in that same election.

**Figure 2.2. The Percent Change in EVPR by SOE Party**

Party	# SOEs	EV Site Changes	EVPR '08	EVPR '12	% Change '08-'12
<b>DEM</b>	<b>30</b>		<b>24.28%</b>	<b>20.00%</b>	<b>-17.63%</b>
	1	-1 site	37.38%	28.60%	-23.48%
	23	No Changes	25.36%	20.38%	-19.65%
	3	+1 site	30.78%	27.60%	-10.32%
	1	+2 sites	24.77%	26.81%	8.26%
	2	+3 sites	17.54%	14.57%	-16.96%
<b>NPA</b>	<b>4</b>		<b>26.11%</b>	<b>18.86%</b>	<b>-27.79%</b>
	3	No Changes	26.36%	18.17%	-31.06%
	1	+1 site	24.31%	23.67%	-2.63%
<b>REP</b>	<b>33</b>		<b>22.72%</b>	<b>20.62%</b>	<b>-9.24%</b>
	1	-3 sites	28.26%	23.20%	-17.91%
	2	-1 site	27.16%	21.30%	-21.58%
	20	No Changes	21.21%	18.73%	-11.69%
	5	+1 site	26.14%	25.16%	-3.75%
	4	+2 sites	24.74%	23.96%	-3.17%
	1	+3 sites	14.76%	13.52%	-8.38%
<b>Total</b>	<b>67</b>	<b>+22</b>	<b>23.66%</b>	<b>20.19%</b>	<b>-14.70%</b>

Reading Figure 2.2, a third of Florida's 67 local Supervisors of Elections (SOEs) altered their early voting sites in number after the approval of the new law. Democrats removed 1 site and added 11 sites for a net change of +10 across their counties. Conversely, according to Figure 2.2, Republican SOEs removed 5 sites and added 16 sites for a net change of +11 sites across their counties. Figure 2.2 also provides insights on how the changes to the number of EV sites at the county level affected EVPR. Florida's SOEs added 22 net new sites across the state for the 2012 General Election, yet EVPR fell by 14.70% from 23.66% during the 2008 General Election to 20.19% in 2012. According to the summary data in Figure 2.2, the elimination of early voting sites always resulted in lower EVPR, irrespective of the partisan identity of the SOE. However, the addition of sites was not as consistent as the elimination of sites; EVPR only increased in one (1) county corresponding to the addition of early voting sites. It is important to note



that, in all cases where the county SOE is a registered Republican, the EVPR was lower in 2012 than in 2008.

These summary statistics showcase preliminary evidence that partisan identity of the local SOE has an impact on the early voting participation behavior of local constituents. Voter behavior is inconsistent with the deletion or addition of early voting sites. Even when the total number of sites did not change, EVPR fell.

The total number of sites alone is not adequate to explain the phenomenon. In addition to changing the number of sites, SOEs may have moved sites. SOEs showed bureaucratic discretion by changing early voting locations. HB 1355 became law in June 2011. SOEs had the opportunity to assess the impact of the change in early voting days would have on voters. The SOEs also had the discretion and the time to actively change early voting facilities to respond to the new election laws. What might motivate the SOEs to change the number and location of early voting facilities?

### **Research Question and Hypothesis**

This dissertation seeks to uncover what caused lower early voting participation in 2012 than in 2008. SOEs have a role to play in the election process that can influence voting participation. Was the decrease in early voting participation caused by SOEs decisions to add or remove early voting facilities? Specifically, did SOEs, who are registered Republicans, use their discretionary authority to alter the number and location of early voting sites within their communities to limit early voting in tandem with their political co-partisans? I hypothesize that if a Republican moved the location of early voting sites in their communities for the 2012 General Election from their location in the 2008 election, then those changes will lower precinct early voting participation. The

research follows a natural experimental design to explore the political influence of partisan identity of local SOEs, and whether their response to politically motivated changes in the State's early voting election laws affected voting outcomes: the early voting participation rate (EVPR).

#### *Additional Research Questions and Corresponding Hypotheses*

The main research question raises a sequence of ancillary questions that need to be resolved before the main hypothesis can be properly interpreted.

1. Did the SOE comply with F.S. 101.657 and locate their early voting sites “so as to provide all voters in the county an equal opportunity to cast a ballot” for the 2012 General Election? If voters must travel long distances, then EVPR will decrease. I calculate the distance between the voter precinct and the nearest early voting location for 2012 and test this independent variable.
2. When an EV site changes from one General Election to the next (a four-year period), does that change in location have an impact on EVPR? As distance increases from one election to the next, EVPR will decrease. I calculate the distance between the voter precinct and the nearest early voting location for both 2008 and 2012 and calculate the difference and test this as an independent variable.
3. Is there a difference in the way precincts early vote when the SOE is a Republican versus a non-Republican? If the SOE is a Republican, then they will not promote early voting. Precincts that are in Republican SOE counties will have lower EVPR rates than other SOEs. I find the party identity of each SOE and assign the

value to each precinct as a dummy variable where 1=Republican, and 0=non-Republican. I test this dummy variable as an additional independent variable.

There are additional control variables that provide the necessary context for understanding the empirical phenomenon. Each of the control variables answers additional questions that are not the focus of this study but are nonetheless important for the discussion. I control for Saturday and Sunday early voting since those are the only traditional, convenient non-working days of the week. I also control for traditional neighborhood variables, like party identity, age, years registered to vote, race, median household income, and education and note their statistical impact on EVPR.

### **Summary**

The Background and Questions chapter describes in further detail the scenario driving the main question of the analysis. Florida's voters had to wait for long periods of time in unreasonably long lines in order cast their ballot in 2012. Early voting participation strangely shrank for the 2012 General Election. A new election law, HB 1355, altered the availability of early voting making it less convenient. The chapter shows that, as a response, Florida's local election bureaucrats, the Supervisor of Elections, may have added or removed early voting sites using their discretionary authority. These changes may have been motivated by politics and the party identity the SOEs carry. The chapter closes by introducing the research questions and corresponding hypotheses.

## CHAPTER 3

### THEORETICAL AND EMPIRICAL FOUNDATION

#### **Representative Democracy**

The United States of America is a representative democracy. Representative democracies allow citizens to elect their leaders in open elections to represent their interests. Elected representatives define the laws and govern. Legislative authority alone cannot implement and execute those laws. A vast bureaucracy implements those laws. Career bureaucrats in various agencies of federal, state, and local government are the working arm of government. Public administration is the management of public services.

The interaction between elected officials and public bureaucrats is of interest to public administration research. Early on, the field of public administration found that, normatively, public bureaucrats should manage their agencies in the interest of the public, not expressly in the interest of politics. Since public administrators manage all levels of government, there is a curious interplay between politicians and the bureaucracy that manifests in many interesting ways (Meier & O'Toole, 2006).

#### **Politics versus Bureaucracy**

The reach of politics into the bureaucracy is a timeless question asked by public administration researchers since Wilson (1887). We expect that our public bureaucrats deliver services objectively. Bureaucracy is a paradoxical organizational structure within a representative democracy. This paradox is particularly complicated when comparing how the academic traditions of political science and public administration construe bureaucracy and its place in overall public governance. Political science submits that the wide discretion granted to bureaucrats threatens democracy; through discretion,

bureaucrats can unduly subvert the politicians who represent the will of the people – bureaucracy versus democracy. Public administration holds that bureaucrats must implement policy objectively; public sector professionals can deliver citizen services in a way that limits the reach of partisanship – politics versus bureaucracy. One tradition’s position seemingly contradicts the other. From one perspective, bureaucracy is undemocratic because it is outside of politics, yet paradoxically, the overreach of politics into the bureaucracy can yield undemocratic outcomes.

“Political parties in a democracy formulate policy strictly as a means of gaining votes” (Downs 1957, p. 137). Assume a state’s majority party passes legislation that alters election law to gain a competitive electoral advantage; manipulation of elections in this manner can negatively impact individual civil liberties. If state politicians change election law for partisan gains, they signal to local-level bureaucrats to utilize their position to reinforce that effort. Evidence suggests local bureaucrats will actively utilize their discretion to alter administrative practices in a way that advantages their partisan identity group (Kropf et al., 2013). In this case, political influence on election law is clear. The discipline of public administration stands on a tradition of separation between elected officials who make the laws, and the public bureaucrats who implement policies in communities. This separation assumes a necessary level of independence on the part of bureaucrats that normatively compels them to deliver services objectionably with overarching impartiality toward political demands and a notable disassociation from intrinsic personal interests. Burden et al. (2013) studied the objectivity of local election officials (LEOs) across Wisconsin and claimed that those LEOs that were elected, “...represent and pursue the preferences of the electorate” (Burden et al., 2013, p. 904).

Burden et al. (2013) also found that partisanship of appointed LEOs who identified as Republican did have a negative impact on voter turnout.

### **Representative Bureaucracy**

Undoubtedly, politicians represent their partisan interests in contemplating election law changes. We expect the bureaucrats, local election administrators, to “[lie] outside the proper sphere of *politics*” (Wilson 1887, 210). What is less clear is how politics and personally held partisan agendas influenced Florida’s 67 county election bureaucrats, the Supervisors of Elections (SOEs), to change the number and location of early voting sites as a response.

Representative bureaucracy is a concept Mosher (1968) introduced as an extension of representative democracy. A representative bureaucracy has personal characteristics that mimic segments of the public they serve – they represent the people. According to Mosher, “A broadly representative public service, especially at the level of leadership, suggests an open service in which access is available to most people, whatever their station in life, and in which there is equality of opportunity” (Mosher in Lim 2006, p. 194). Bureaucrats also hold attitudes and values that are generally representative of the population subgroup they identify with and may use those values in implementing policy (Kropf et al., 2013, p. 242).

Active representation is decision-making on the part of the bureaucracy that purposely targets a specific group of citizens (Hindera, 1993, p. 419) in a manner that is partial and purposeful (Lim, 2006, p. 194). Election administrators in the State of Florida, the Supervisors of Elections (SOEs), are elected bureaucrats responsible for impartially facilitating elections in each county. Under Florida law, SOEs have wide discretion to

allocate various voting resources to the public. Having discretionary authority is critical in the application of active representation by a bureaucrat. This study will look at how SOEs use discretion in the allocation of early voting facilities, and how they use discretion in response to political signals to gauge the influence of partisan politics on bureaucratic decisions.

“Similarly, Subramaniam (1967) questions whether the bureaucracy can adequately serve sectional and general interests. If each member of the bureaucracy represents the sectional interests he or she reflects, the overall bureaucracy will be riddled with conflict and ineffective at serving the can adequately serving the broad public interest.” (Kennedy, 2014, p. 412)

There is concern that shared belief systems will motivate bureaucrats to “behave in ways that increase the substantive benefits for their social group” (Lim, 2006, p. 195). Bureaucrats have ample discretion and wide latitude to allocate benefit to a preferred group (Lim, 2006, p. 198). Recent scholarship finds that local election administrators showcase *active representation* of their partisan values in their actions and attitudes while conducting their duties (Burden et al., 2013; Kimball, Kropf, & Battles, 2006; Kropf, Vercellotti, & Kimball, 2013). When party identity motivates active representation, politics controls the bureaucracy. Noting there are limited studies on the partisanship of election administrators and how that impacts measurable outcomes related to voter turnout (Kimball & Kropf, 2006, p. 1260), this study will review the dramatic changes to Florida’s early voting laws in 2011 and the actions local Supervisors of Elections took following those changes. This study goes further by testing how discretionary decisions

made by the local SOEs affected the early voting participation of the local voting constituents.

### **Active Representation and Partisan Identity**

Did Florida's SOEs use their discretion in siting early voting facilities in 2012 to make it easier/harder for partisans to vote, demonstrating active representation in the bureaucracy? Election administration provides a fertile setting for research into representative bureaucracy and "in which to test competing theories related to representative bureaucracy" (Kropf et al., 2013, p. 250). This is especially true of the relationship of partisan identity and resource allocation to voters. Election administrators could be taking actions that are actively partisan. This is the primary interest of this research project.

Partisanship is a critical personal identity trait that can have serious implications when it translates from passive into active representation which, "might tell us a great deal about political control of the bureaucracy" (Meier and O'Toole 2006, p. 180). [E]lection administration provides an important setting in which to test competing theories related to representative bureaucracy" (Kropf et al., 2013, p. 250). For instance, a Republican election supervisor might actively disenfranchise Democrats to limit the opposition party's access to participate in election contests (the converse could be true as well) (Burden et al., 2013). Morton et al. (2008) questioned the role of the election administrator in delivering the vote equitably. They argued that elections administrators use their position to affect the partisan vote, assisting party affiliates and impeding opposition voters. Using turnout from gubernatorial elections, they found a statistical significance that correlates the party affiliation of the chief election official and the level



of turnout for the party in general. Evidence of party allegiance and political gaming has cast a shadow on election officers. Kimball, Kropf, and Battles (2006) found a conditional effect of partisanship in election administration: in heavily Republican jurisdictions with a Democratic local election official, there were fewer provisional votes cast and counted” (Kropf et al., 2013, p. 244). Partiality is objectionable (Lim, 2006, p. 195). The ethics of all administrators of elections are forcibly called into question when the implications of these results are shared. Unchecked outside motivations can become “a major threat to orderly democratic government” (Mosher 1968). Voters are not satisfied with partisanship affecting their ability to cast ballots either. Accordingly, Alvarez et al. (2008) surveyed 1,176 voters and non-voters and concluded that there is a preference among voters for state and local registrars that are elected, non-partisan and who would work on a collective board. This is hardly the case as most US election supervisors are elected partisans.

However, having a specific identity, like party affiliation, does not necessarily mean that a decision-maker will automatically behave in favor of their identity group (Lim, 2006, p. 194). Indeed, active representation has had beneficial effects as well. Meier and O’Toole (2006) found that active representation of school district employees had a positive impact on the success of Hispanic students. Advocacy still has its opponents. “Bureaucrats cannot be allowed, as bureaucrats, to pursue their extraorganizational commitments, however meritorious these may appear to them.” (Lim, p. 201). Mosher considered active representation as a threat to democracy (Mosher in Lim, 2006, p.194), and inequities in public service would result in fragmented communities (Lim, 2006, p. 194).

This research will look at whether partisanship was a factor in the SOE's decisions to change early voting locations. This research project follows what Hinderer (1993) called "second generation" studies of active representation by addressing both elements necessary for an appropriate research design. Firstly, partisans on either side are both the group that is representing and that which is being represented. If State laws were meant to be punitive to specific partisan or ethnic groups, then voter participation by those groups will fall from the 2008 General Election to the 2012 General Election. SOEs might follow suit in allocating resources to specific groups. Secondly, the siting of early voting sites for a jurisdiction must be both allocative and discretionary; pursuant to F.S. 101.657, SOEs had the discretion to authorize alterations to the early voting options within their communities.

### **Economics of Voting**

The basic tenet of economics is simple – increase the price of a good, and demand will fall, lower it and demand will increase. Downs (1957) substantiated the economic bases for understanding the rationale behind voting. Downs (1957) used rational choice theory to conclude that voting is irrational. Downs (1957) explained that there are costs and benefits to each individual voter. Downs (1957) committed his ideas to an equation.

#### **Equation 3.1: Downs' Equation for Voting**

$$R = (BP) - C; \text{ where}$$

- R = reward for voting
- B = the benefit of a preferred candidate winning
- P = probability that one's vote is the tie-break
- C = costs to vote

The probability that a single vote will win the election is very low, so seemingly insignificant additional costs will deter voters from participating in an election. The

voters are rational will vote when their costs do not exceed their personal benefit. Riker and Ordeshook (1968) extended Downs' model to incorporate a metric that captures the civic duty component of voting.

### **Equation 3.2: Riker and Ordeshook's Equation for Voting**

$$R = (BP) - C + D, \text{ where}$$

- R = reward for voting
- B = the benefit of a preferred candidate winning
- P = probability that one's vote is the tie-break
- C = costs to vote
- D = satisfaction of participating in democracy

Even with Riker and Ordeshook's (1968) extension of Downs' (1957) original model, small disturbances in the cost to vote will dissuade voters from participating. Costs that impact the voting decision range from overly complex procedures to the distance to a polling location. This analysis focuses on two cost variables that can inconvenience voters – the availability of weekend days, and the distance voters must travel. The number and location of voting facilities added new costs for voters to absorb to vote early in the 2012 General Election.

### **Economics of Bureaucracy**

Models of applied microeconomics are useful for understanding the actions of public sector actors. Public choice theory informs public policy decision-making by providing a positivist platform for the exploration of public policy questions. The assumptions of microeconomics are extended to the field of public administration research. Niskanen (1971) stated that the bureaucracy functions like a private sector enterprise. The bureaucrat replaces the entrepreneur as the necessary catalyst for the business endeavor. Niskanen believed that the bureaucrat seeks to maximize the budget

as the goal, unlike the entrepreneur who has a profit motive. Niskanen (1971) claimed that the bureaucracy has an explicit budget motivation which forces them to always seek to budget-maximize and grow its annual budget from year-to-year. The Niskanen (1971) model showed a bureau produces inefficiently at a level that exceeds the equilibrium point where marginal benefit meets the marginal cost.

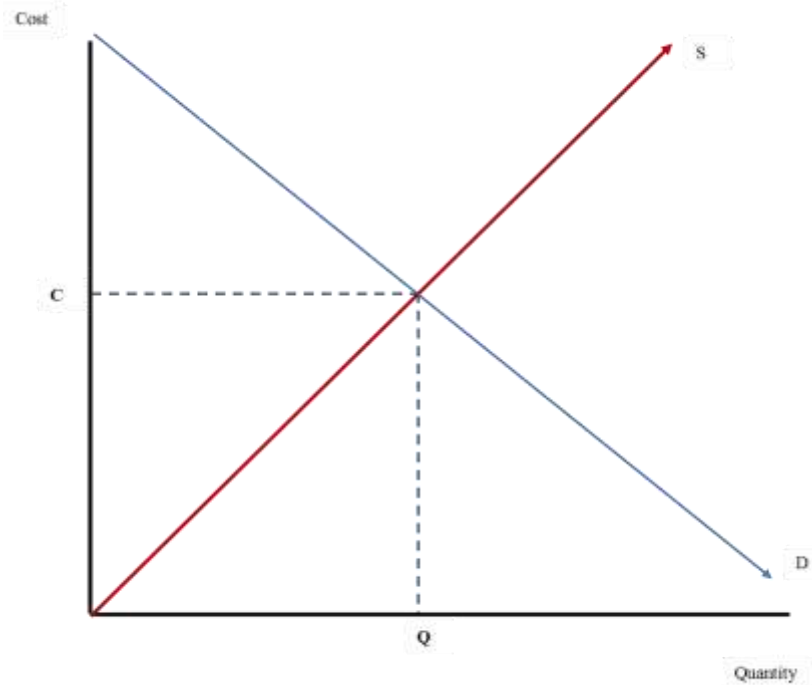
Dunleavy (1991) reviewed the economic models of bureaucracy presented by both Downs (1967) and Niskanen (1971) and regarded them as the bedrock for exploring the bureaucracy from an economic perspective. Dunleavy (1991) did take issue with his predecessors' work, questioning the basic assumptions used to dictate the motivation behind a bureaucracy's budget growth motivation. In his critique of Downs' (1967) utility function for a bureaucrat, Dunleavy remarked, "Down's last two components – pride in the proficient performance of work, and a commitment to specific programs – seem objectionable for another reason. These are behavioral traits which a public choice model of bureaucracy should be aiming to predict as likely or unlikely to occur, rather than directly incorporating them into the model assumptions" (Dunleavy 1991, 165).

### **Economic Model of Early Voting Participation**

It is easier to express the early voting cost phenomenon as an economic model that explains different impacts to participation, displayed here as Figure 3.1. The consumers are the voters. Demand represents the voters who want to participate in the election during early voting. The producers are the SOEs; they supply early voting to the voting consumer. The SOEs have production costs associated with each early voting site that is consistent with canonical economic production – land, labor, and capital. Land consists of the physical sites that can be used for an election polling location. F.S 101.657

limited early voting sites to branch offices of the Supervisor of Elections, public libraries, or City Halls. Those options are limited. Labor consists of the temporary workers that are called into work during the early voting period. They may be temporary staff, but often they are pollworkers; neither are volunteers and are paid for their time. Capital consists of voting machines, voting booths, and technology. The technology used during the early voting period is very expensive. The SOE staff that is working a given early voting location must have the ability to verify the eligibility of every voter that wishes to cast a ballot. To facilitate voting before Election Day, early voting locations must have computers that are directly connected to the state's registration network that can confirm whether the voter is a valid voter, and configure the correct ballot for the voter. Pursuant to 98.0981, F.S. Ballots can be very different from one another. Each precinct ballot-on-demand printers supply is a function of the days allowed under Florida Statute and the number of sites (as defined by the local SOE). Price is the convenience "cost" the voter absorbs to participate in the election; quantity represents the number of people who participate in early voting. Assume that the 2008 General Election is equilibrium. 2008 saw the largest turnout in any election in Florida's history. The election ran very smoothly, and there were no reports of excessive wait times for voters. Figure 3.1 is an efficient model of the early voting market.

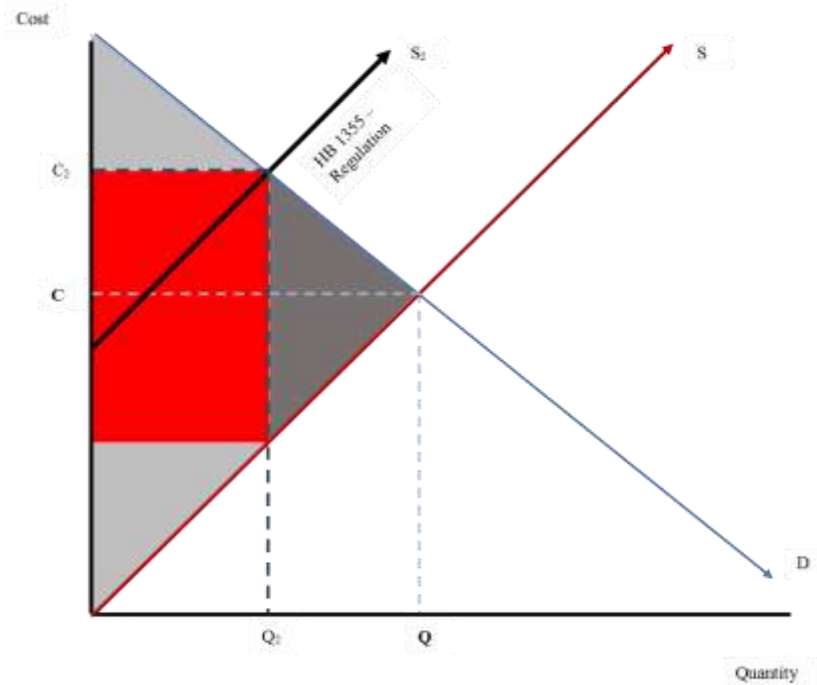
**Figure 3.1. Proposed Economic Model of Early Voting in Equilibrium**



I assume supply efficiently met demand in 2008.

HB 1355, passed in 2011, imposed limitations to the number of days early voting could be held effectively limits the supply of early voting alternatives. As illustrated in Figure 3.2, the new regulation limits supply and creates inefficiency in the market. As a result, cost increases from  $C$  to  $C_2$  resulting in additional costs to voters and to election administrators; quantity falls from  $Q$  to  $Q_2$  creating a shortage. Both the consumers (the voters) and the producers (SOEs) absorb the costs of the “tax”. People pay by waiting.

**Figure 3.2. Economic Model of State Reduction of Early Voting Days**



The next economic model shows the interplay of decision-making at the state and local levels. As a response, local SOEs can, through their statutory authority, reconfigure early voting sites at their own discretion. Both sets of decision-makers, state politicians, and local SOEs have the capacity to add and remove costs to voters.

A dynamic model helps illustrate the discretionary response of the various SOEs. Figure 3.3 shows how the model changes if the local SOE adds early voting sites to their community. If the local SOE added sites after the imposition of the “tax”, the cost to voters falls from  $C_2$  to  $C_{3a}$  and more demand, from  $Q_2$  to  $Q_{3a}$ , is met.

**Figure 3.3. Economic Model of Sites Added**

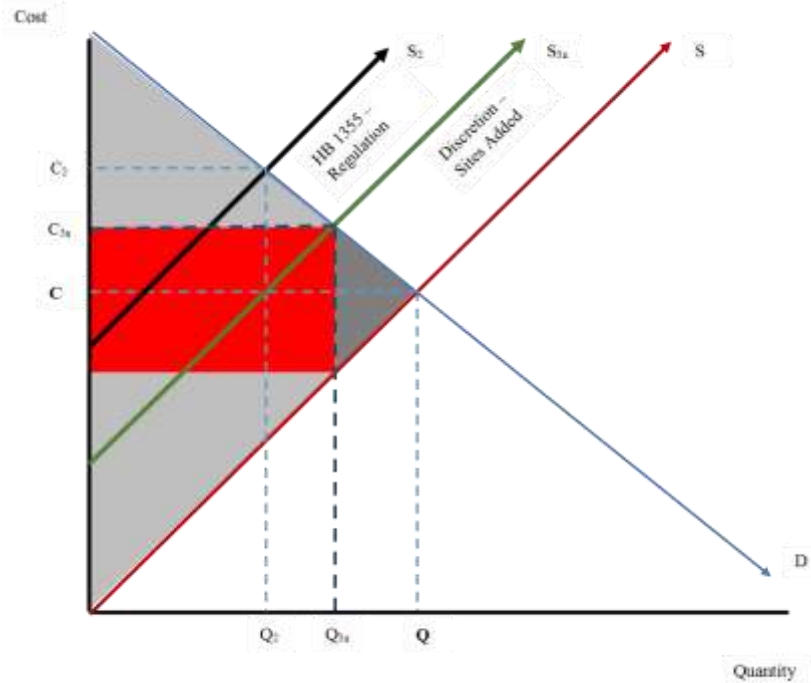
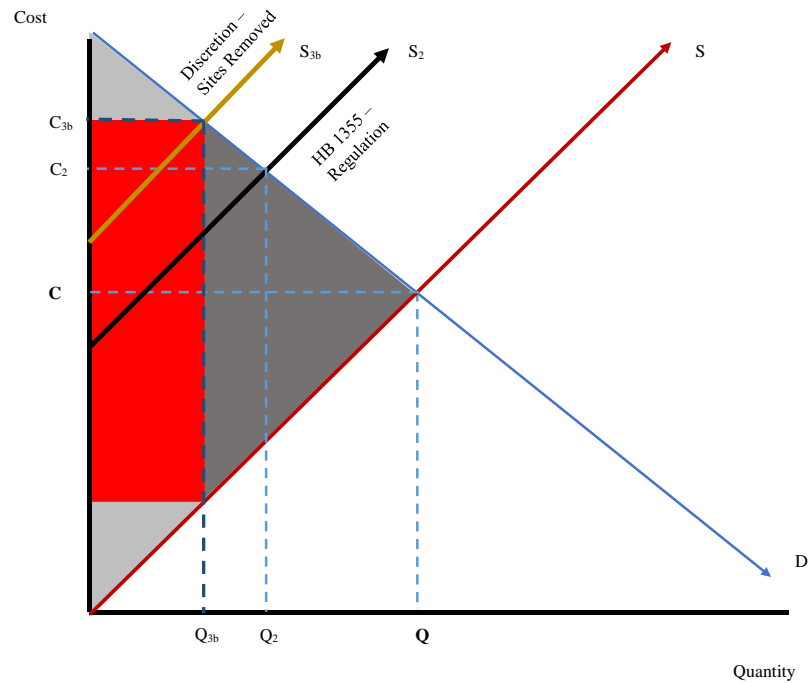


Figure 3.4 shows how the model changes if the local SOE removes early voting sites from their community. If the local SOE removed sites after the imposition of the “tax”, the cost increases from  $C_2$  to  $C_{3b}$  with less demand, from  $Q_2$  to  $Q_{3b}$ , captured

If the local SOE removed sites after the imposition of the “tax”, then they would have effectively raised the cost to vote. This disturbance should be enough to dissuade voters from participating in the election because there was an even greater shortage of convenient early voting options.



**Figure 3.4. Economic Model of Sites Removed**



### Accessibility Factors Affecting Voting Behaviors

Consistent with Downs (1957), Lacombe et al. (2012) found that small disturbances in the environment and timing around casting a vote will sway whether a person participates in an election. This study follows closely the work of Gimpel & Schuknecht's (2003) non-market valuation of the cost of voting as expressed by transportation costs to vote. Their analysis used GIS and a spatial lag regression model to demonstrate that increased distance adds cost to voting and that increased distance from a residential neighborhood to a polling site can depress turnout. This research explores the direct and indirect effects of a series of demographic, distance, and action variables on turnout.

The individual decision to vote or abstain is influenced by both intergroup and intragroup relations (Schram 1991). There are interactions within and between voters, so much so that those spatial interactions must be accounted for to model voting participation accurately. In their analysis, Lacombe et al. (2012) suggest that a Spatial Durbin Error Model (SDEM) is better for exploring issues of voter turnout. The particularities of the model will be discussed in the Methods section.

### **Voting Turnout**

The federal government does not run US elections. Many other international countries have a federal election body. They also have a higher turnout. According to research released by the Pew Research Center in 2017, the US is ranked 27<sup>th</sup> in overall voter turnout percentage in comparison to its peer democracies in the most recent elections; Belgium, Sweden, and Denmark had turnout rates over 80% of their voting age population, while the US had only 55.7% percent turnout in 2016 (Pew Research Center, 2017).

Previous studies of voter turnout have looked at the spatial aspect of voter turnout to assess the impact of administrative decisions. Studies by Gimpel & Schuknecht (2003) and Dyck & Gimpel (2005) took a geographic approach to analyze access to voting. Dyck & Gimpel (2005) used a multinomial logistic regression (MNL) that includes distance to polls and demographic characteristics to predict voter turnout by type: absentee, early, precinct and non-voting.

Dyck, Gaines, & Shaw (2009) found that convenience voters thus tend to be better informed, older, more partisan, and more psychologically attached to the political system” (Dyck, Gaines, & Shaw, 2009, p. 1091); it is necessary to control for the

education and income level of these locales. Less obviously, within states, there is geographic variation in the implementation of laws at the county level. Dyck et al. (2009) also found that the number of migrants in an area depressed convenience voting. To control for this aspect of the limited information, I only include voters who were in the FVRS system for both elections. Unlike Dyck, Gaines, & Shaw (2009), I use the precinct as the neighborhood instead of the Census tract.

Ansolabehere (2006) studied the effect of polling places on voter participation from the 2000 General Election. The Census Current Population Survey (CPS) asked citizens what caused them to participate or not in 2000. He postulated if racial and ethnic minorities encountered long lines or inferior technology they would not vote, and this would be significant (Ansolabehere, 2006, p. 205). What he found was that race did not matter and that everyone had problems with registration and polling places (Ansolabehere, 2006, p. 208). He also found that covered jurisdictions did no worse than those not-covered by Section 5 of the VRA. He concludes that the VRA and other efforts to expand the franchise have worked. His study of CPS data found no relation between demographic variables and barriers to voting (Ansolabehere, 2006, p. 219).

EV (in-person) changes the dynamic of pitting neighborhoods against one-another for limited resources. EV allows for voters to find the most convenient location to vote; the most convenient location may not be near their residence, but their place of work, or a child's school, etc. Precinct-based voting exacerbates racial and ethnic divisions that derive from our history of development. So, for instance, because black people live in neighborhoods together, they will be required to vote together. White people tend to live close together as well. White people also vote in higher rates than minorities. Since white

people tend to have higher turnout, they will be allocated more resources for a precinct-based election. If a precinct tends to have low turnout, very little resources will be allocated to those precincts. But, if turnout is unexpectedly high (a minority candidate is on the ballot), there will not be enough time to respond, so minority voters will be required to wait longer and not be able to vote at all.

EV also promotes intergroup contact. People from different racial, ethnic and socio-economic statuses should interact more. This is the basis for integrated schools (Brown vs. Board of Education). Normatively, should SOEs advance active representation by promoting integration and equity at the polls? Indeed, intergroup contact theory, from the psychology and sociology literature, suggests that the interaction of different racial groups would begin to alter perceptions of racial prejudice among groups.

Intergroup contact theory was first described by Gordon Allport in 1954 and was applied to the study of school integration by Pettigrew (1975). There are four key conditions, easily met during an election, in which intergroup contact can truly occur in a situation when: 1) Equal status – all groups have an expectation and perception that they are on level ground; 2) Common goals – all groups meet to share an experience in the same capacity; 3) Intergroup cooperation – groups work together to reach a common outcome, without competition; 4) Support of authorities, law or custom – the interaction must be situated within a governing structure (Pettigrew, 1998, pp. 67–68).

Changing some the voting locations from one election to the next, while leaving other locations consistent, creates a natural social experiment (Brady & McNulty 2011). Physical distance changes might be impactful, but other lingering effects of structural

neighborhood racial and ethnic segregation might influence voter behavior. Barreto et al. (2009) found that the quality of the polling facility and its location within a neighborhood has an impact on turnout. They found that lower quality polling locations are found more often in low-income and minority neighborhoods. The negative appearance of the voting facility, both from its exterior and interior, factor into the depression of voter turnout of those precinct voters that are directed to cast their ballots within those facilities.

Normatively, governments should look for opportunities to maximize efficiency, equity, and interaction of its population. EV is an efficient use of resources because it takes advantage of economies of scale; many voters can be served in one location. EV is equitable because everyone can have similar access to the same level of resources (not pitting neighborhoods against one-another). EV promotes interactivity because it allows for different people to share the same space at a specific moment in time in a place that they feel is most convenient for them.

### **Summary**

The Theoretical and Empirical Foundation chapter introduces the politics/bureaucracy divide that causes friction in a representative democracy. The discretionary action of local bureaucrats can undercut the decisions of elected politicians who represent the will of the electorate.

Local discretion can be motivated by partisan identity through active representation. Active representation is decision-making on the part of the bureaucracy that purposely targets a specific group of citizens (Hindera, 1993, 419) in a manner that is partial and purposeful (Lim, 2006, 194). If those actions are motivated by political interests, local bureaucrats can promote public policy that is injurious to their citizens.

Empirically, public policy that adds costs to voting will dissuade voters from participating in an election. Simple economic models explain how voters decide to vote and how changes to election law change the cost structure to participation. The economic costs of voting, as understood through distance metrics, is well documented. The chapter concludes by describing the inherent inequities built into voting participation and how voters calculate the cost impacts of distance and quality of voting locations in their decision to vote.

## CHAPTER 4

### DATA AND OPERATIONALIZATION OF THE VARIABLES

#### **Data Sources**

The data I use comes from the Florida Department of State Division of Elections. Florida has very broad and open public records laws. Pursuant to Chapter 119, Florida Statutes, all records captured by all of Florida's government agencies during the normal conduct of official business are available for inspection and copy by the public; the information must be provided in its original format. The main data for this analysis is the Florida Voter Registration System (FVRS) maintained by the Florida Division of Elections (DOE); the data is subject to the provisions of Chapter 119. The 2002 Help America Vote Act (HAVA 2002) mandated that each state create a uniform voter database. The State of Florida released its version of the statewide database in 2005. The statewide system standardized the information for each voter between counties; for instance, prior to the creation of the FVRS some counties assigned voters a six (6) digit voter identification number, while other counties used a nine (9) digit number. Each Florida county now shares its data directly with the DOE.

The dataset is a cross-sectional snapshot in time of the voter roll. The FVRS data contains information on each registered voter including, party affiliation, ethnicity, age, gender, residence address, voting activity, voter ID number, etc. The statewide voter roll is available on digital video disc (DVD) by written request to the Division of Elections. The DVD contains tab-delimited text files of the voter records for each voter in the State by Florida county. There are sixty-seven (67) tables of voter records and an additional

sixty-seven (67) tables with the corresponding voter history. I acquired a copy of the data that reflected Florida's voter rolls as of January 2014.

The FVRS data set is very large. The voter list I obtained for this study contains 12,748,023 individual voter records with another 51,169,284 records in the voter history tables. The data is in a raw, relatively unusable format. Fortunately, the data is very well organized into individual files for each county. For initial data preparation, I created a relational database in Microsoft SQL Server (MSSQL). MSSQL is a relational database management system (RDBMS) software. An RDBMS allows users to combine datasets, aggregate data, and filter data based on defined criteria; an RDBMS is especially good at managing data with many records.

Relationships are created when two tables are “matched” on a common data point. Usually, that data point is a unique identifier in each data table that allows for data queries. Each voter record has a unique VOTER ID number which is like a social security number. Data carry rich geographic markers that social scientists, who now benefit from intelligent software and stronger computing, can analyze for spatiotemporal effects. The database I created matched voters to their voting records allowing for speedy searches, and facilitated geoprocessing within ArcGIS. After combining voters to their voting records, I geocoded each voter record to create a statewide spatial dataset of voters.

### **Unit of Analysis – Precincts**

The unit of analysis is the precinct. Precincts are the geographical, political units used for assigning groups of residents together who share common elected representatives. Precincts are neighborhoods and can be thought of as analogous to Census block groups. Pursuant to 100.001 (1), Florida Statutes (2012), precincts must



exhaustively cover the entire geography of each county. Each precinct boundary must be mutually exclusive from its neighbor with no overlapping boundary lines; a voter can only reside in one precinct in one county. A precinct is also the management used by the SOE to facilitate election planning and delivery. Figure 4.1 presents the precinct totals for each county.

**Figure 4.1. Precinct Totals by County**

County	Precinct Count	Total Voters	Average Size
<b>Total</b>	<b>5,767</b>	<b>12,732,725</b>	<b>2,208</b>
ALA	63	173,773	2,758
BAK	9	14,872	1,652
BAY	44	123,208	2,800
BRA	14	16,617	1,187
BRE	159	401,673	2,526
BRO	576	1,183,996	2,056
CAL	15	8,850	590
CHA	79	128,291	1,624
CIT	31	104,870	3,383
CLA	47	141,515	3,011
CLL	63	214,015	3,397
CLM	24	37,758	1,573
DAD	786	1,362,157	1,733
DES	15	16,663	1,111
DIX	10	10,355	1,036
DUV	199	601,090	3,021
ESC	79	219,533	2,779
FLA	23	77,377	3,364
FRA	8	7,917	990
GAD	25	30,378	1,215
GIL	10	11,044	1,104
GLA	13	6,831	525
GUL	9	10,055	1,117
HAM	8	8,340	1,043
HAR	12	12,780	1,065
HEN	10	18,016	1,802
HER	37	132,912	3,592
HIG	25	66,059	2,642
HIL	346	807,699	2,334
HOL	8	11,651	1,456
IND	37	103,418	2,795
JAC	14	29,994	2,142
JEF	15	9,506	634
LAF	5	4,564	913
LAK	103	218,340	2,120
LEE	127	414,170	3,261
LEO	130	200,118	1,539
LEV	13	26,953	2,073
LIB	8	4,509	564
MAD	11	12,127	1,102
MAN	99	226,776	2,291
MON	33	60,408	1,831
MRN	127	237,658	1,871
MRT	31	111,071	3,583
NAS	16	57,411	3,588
OKA	52	149,595	2,877
OKE	11	19,683	1,789
ORA	227	762,930	3,361
OSC	70	186,342	2,662
PAL	703	904,840	1,287
PAS	111	324,611	2,924
PIN	296	665,678	2,249
POL	167	372,831	2,233
PUT	39	47,431	1,216
SAN	41	124,529	3,037
SAR	100	292,942	2,929
SEM	80	290,068	3,626
STJ	46	166,285	3,615
STL	62	186,338	3,005
SUM	28	81,875	2,924
SUW	16	26,254	1,641
TAY	14	13,159	940
UNI	13	7,140	549
VOL	126	355,226	2,819
WAK	12	19,139	1,595
WAL	21	43,420	2,068
WAS	16	15,091	943

In total there are 5,767 precincts across Florida's sixty-seven (67) counties in the dataset. These precincts are the sample-set for the analysis. Average precinct sizes range from 525 voters in Glades County to 3,626 voters in Seminole County. Lafayette County has the fewest total precincts with only 5; Miami-Dade County has 786 precincts overall – the most of any county. Since each voter's precinct assignment is noted in the tabular data, creating precinct geography based on the individually geocoded voter records is simple.

The unit of analysis for the research is the precinct, but the tabular version of the data does not allow for geospatial methods. This research uses advanced geospatial techniques to determine the impact of policy decisions on voter turnout. I turned the tabular data into spatial data by using geoprocessing in ArcGIS. I took the individual voter, geocoded them to an address, and aggregated them into their precincts.

### **Geocoding Voter Records**

Geocoding is a process that matches addresses from one data table to another data table that is spatially enabled. The US Census provides street network data for all states and counties which is useful for geocoding. The Census TIGER line data can be used as an input to create an address locator. The Census polyline data consists of digital line-work with corresponding data that represent real city street segments. Each street segment has an appropriate range of addresses. The polyline data (and corresponding data table) are input into a tool that takes each line segment and interpolates an (X, Y) coordinate for a given point along each line. The road data can be used to create a geocoding database. All sixty-seven counties have a corresponding Census TIGER line data set for its road network. In total, there are over 1.3 million line-segments in the

TIGER line file for the State of Florida. These files must be downloaded and merged to allow for appropriate geocoding. Merging data allows for multiple geographic datasets to be combined and analyzed as one. After merging the files, I created an address locator from the combined road network. The address locator allows the geocoding of the tabular data. The GIS software located over twelve (12) million voter records across the roughly 1.3 million line-segments.

Although I created a spatial representation of each voter, an aggregate version of the voter records is more valuable to this study. I prefer the precinct as the unit of analysis over the individual voter since precincts allow for the simpler integration of additional traditional neighborhood variables into the overall dataset that are not found in the FVRS data. After the geocoding process completes, each voter record becomes a point on the map.

Using the geocoded voter records, I find the mean geographic center for each group of voters based on their precinct assignment. The mean center is the mean geographic distance on both the horizontal and vertical axes between many clustered points that share a common identity variable. ArcGIS has a tool in the spatial statistics toolbox, Mean Center, which makes the calculation of the geographic average of the input dataset straightforward. Since each geocoded voter record has a unique precinct assignment, I can calculate the mean center of every voter cluster for a precinct. This center point allows for distance calculations.

### **Early Voting Sites**

The Florida Division of Elections keeps the list of early voting locations for each Florida County on its website. The lists for 2008 and 2012 are available in PDF. I

converted the data into a flat-file table in Excel. I standardized the two lists to make them usable in the GIS environment. I then geocode the lists to create a dataset of the 267 early voting locations for 2008 and the 289 early voting locations for 2012. Once the precincts and early voting sites are accurately placed on the map, finding the distance between them is simple. Using the (X, Y) coordinates of the mapped data, I calculate the rectilinear distance (also known as taxicab distance, or Manhattan block distance) between the precinct centroid and the nearest early voting location. Both Shucknecht (2003) and Dyck & Gimpel (2005) used Manhattan block-distances to estimate the effect of distance on voter turnout. McNulty et. Al. (2009) analyzed five different distance measurements to test their effect on model accuracy; they found that simple estimation techniques, like the Manhattan block calculation, are best for social science researchers to utilize since, “They provide parsimony in computation and explanation” (McNulty et al., p. 20, 2009).

### **The Dependent Variable**

The dependent variable is the early voting percentage rate, abbreviated as EVPR. The EVPR represents the proportion of the voters who cast an in-person early voting ballot as compared to all voters who participated in the 2012 General Election.

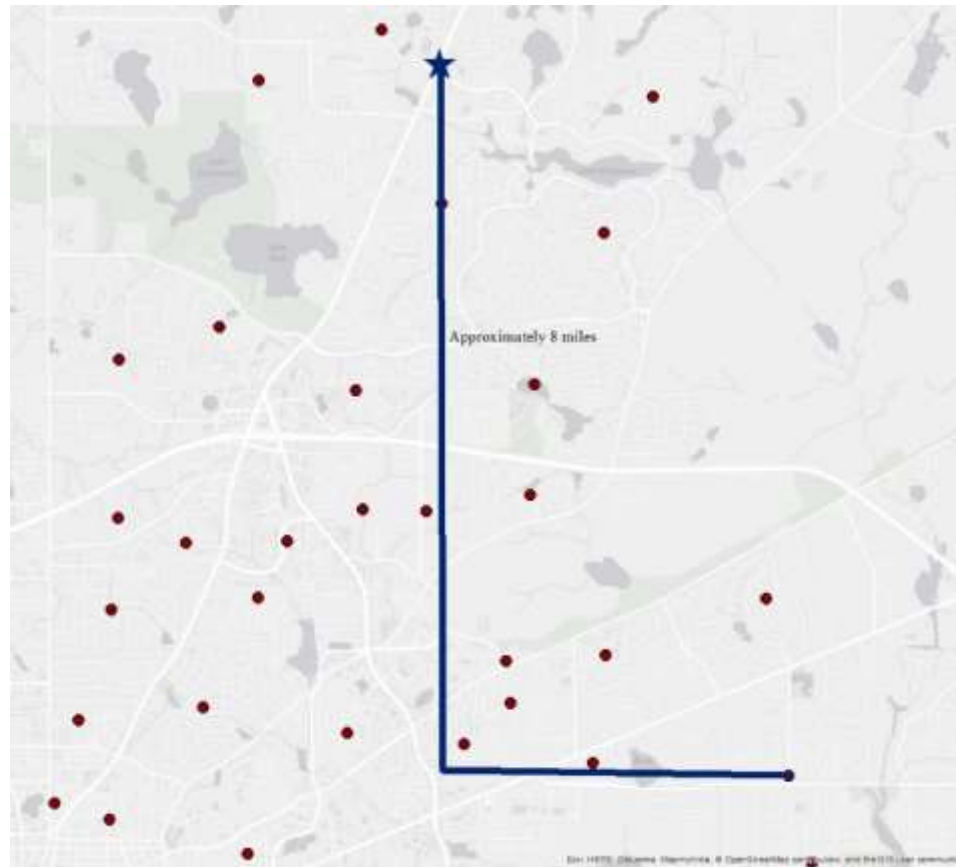
$$\ln(\text{EVPR}) = \text{Early voters}_{2012} / \text{Voters}_{2012}$$

The EVPR is different from voter turnout which is a ratio of all voters who voted in an election as a proportion of those who were eligible to vote in that election. The EVPR allows for an analysis of the effect of the changes in law and discretionary activity. The model uses a log-transformed dependent variable.

## Understanding the Effect of Distance

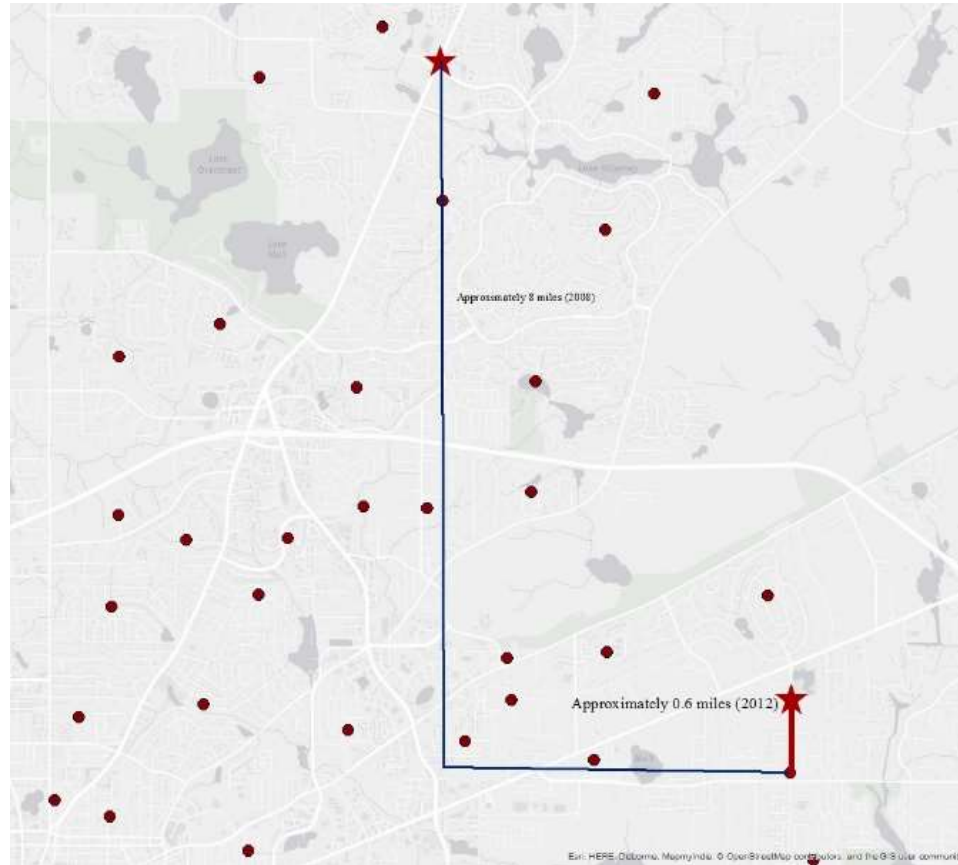
I hypothesize that distance from the precinct to the early voting location impacts the early voting participation rate. Furthermore, I believe when that distance changes between elections, EVPR will change in response. It is important to isolate those precincts whose nearest early voting location changed. Of the 5,767 precincts, 1,270 precincts (22% overall) had their nearest early voting location moved. 1,270 precincts saw their nearest early voting location move between 2008 and 2012. Of those precincts whose early voting locations moved, 854 precincts saw their nearest early voting site move further away, while 416 precincts saw their nearest early voting site get closer. On average, the nearest early voting sites got further away by one mile.

### Map 4.1. Example of Distance to Nearest EV Site



Map 4.1 represents how the distance calculation is calculated. Voters in Leon County's Precinct 5251, represented by the blue star, had to travel approximately 8 miles to reach the closest early voting facility during the 2008 General Election. The early voting participation rate (EVPR) for precinct 5251 in 2008 was 21.8%.

**Map 4.2. Example of Shortened Distance to Nearest EV Site**

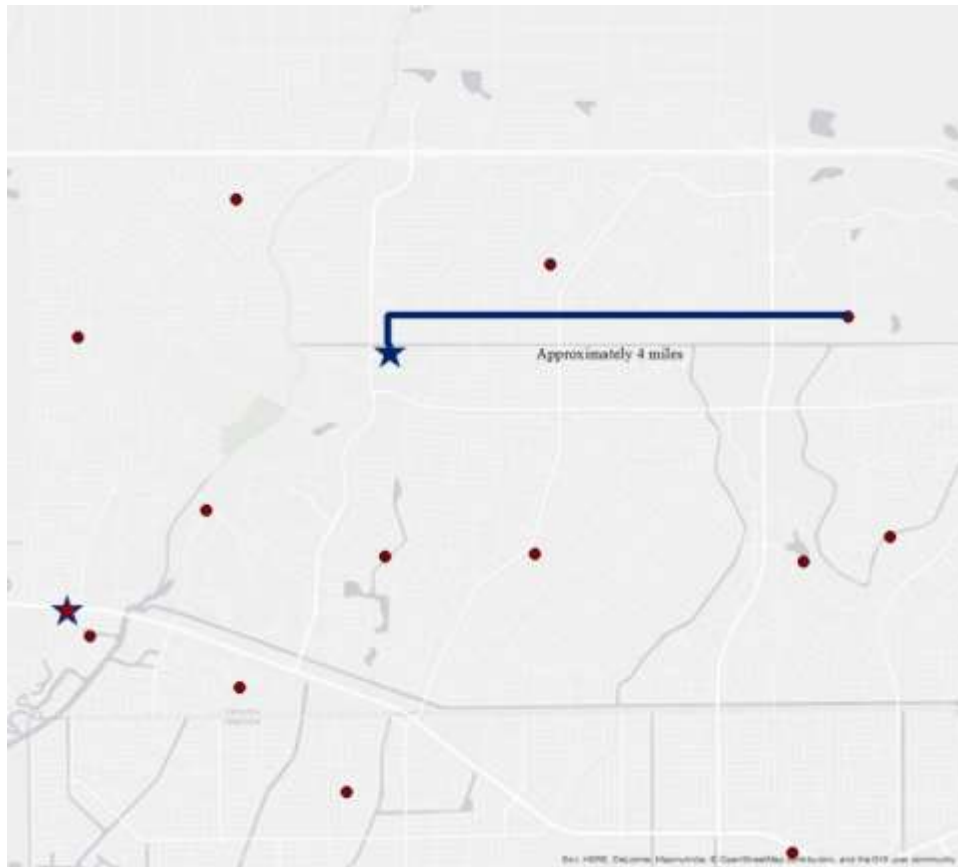


Map 4.2 is an example of a precinct whose early voting location got closer to the center of the neighborhood in 2012 from 2008. Before the 2012 General Election, the SOE added a new site to the county. Voters in precinct 5251 only had to travel 0.6 miles to reach the nearest early voting location. The early voting participation rate (EVPR) for precinct 5251 was 47.3%. Voters in Leon County's Precinct 5251 responded to the

change. The early voting participation rose by 117% as the distance (cost) to the nearest early voting site fell by nearly 7.5 miles.

In contrast, voters in Sarasota County’s precinct 319 had to travel approximately 4 miles to reach the closest early voting facility during the 2008 General Election. The early voting participation rate (EVPR) for precinct 319 in 2008 was 31.3%.

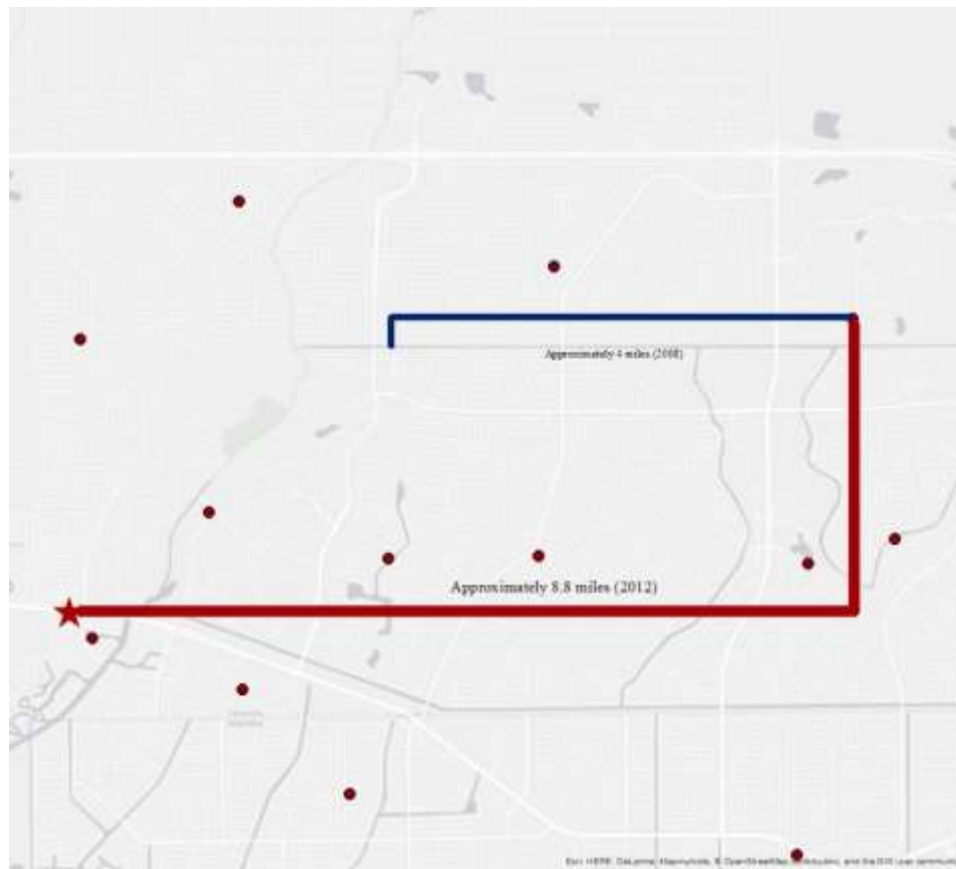
**Map 4.3. Example of Lengthened Distance to Nearest EV Site**



Map 4.3 shows the distance a precinct needed to travel before its nearest early voting location changed. Voters in this Sarasota County precinct, number 319, had to travel 4 miles to reach the closest early voting site in 2008. Before the 2012 General Election, the Sarasota County SOE removed the site nearest to Precinct 319, forcing voters to commute over 8 miles to the nearest site in 2012.

Map 4.4 shows how voters in Precinct 319 had to travel approximately 8.8 miles to reach the nearest early voting location during the 2012 General Election. The early voting participation rate (EVPR) for precinct 319 was 16.9% in the 2008 General Election. Early voting participation for precinct 319 was only 9.1% in the 2012 General Election. As the distance to the nearest EV site increased over 4.7 miles, early voting participation fell by 46%.

**Map 4.4. Example of Lengthened Distance to Nearest EV Site**



The two illustrated examples from Leon County, Florida and Sarasota Florida show how changes to a precinct’s nearest early voting location can impact early voting participation – when the early voting facility moves closer to the precinct, the early



voting participation rate increases; when the early voting facility gets further away, the early voting participation rate decreases.

### **Independent Variables**

The explanatory variables include: distance to the nearest EV site, the distance difference to the nearest EV site from the 2008 General Election to the 2012 General Election, the SOE's party affiliation (dummy, where 1=Republican, and 0=Democrat/NPA), the SOE's party affiliation interacted with the distance differences, the percentage of voters early voting on Sunday, and the percentage of voters early voting on the last day. The control variables include ethnicity, age, gender, median household income, education levels, and number of years registered to vote. Figure 4.2 shows the variables, their definition and measurement, treatment, and respective sources. Seven of the control variables are log transformed so that the elasticity of EVPR to each variable is identifiable. The variables have coefficients that represent the elasticity of EVPR as it pertains to that variable. Five (5) of the variables represent the semi-elasticity of EVPR. Two (2) are dummy variables.

**Figure 4.2. Variable Matrix**

VARIABLES	DEFINITION & MEASUREMENT	TREATMENT	SOURCE
<b>DEPENDENT VARIABLE</b>			
Early voting percentage rate (EVPR)	The EVPR represents the proportion of the voters in the precinct who cast an in-person early voting ballot of all votes cast in the 2012 General Election.	<i>continuous/log transformed</i>	FVRS; Martinez 2018
<b>INDEPENDENT VARIABLES</b>			
<i>Explanatory Variables</i>			
Nearest EV Site Dist	distance between a precinct centroid and the nearest early voting location (meters)	<i>continuous</i>	Florida DOS/DOE; Martinez 2018
Nearest EV Site Dist Diff '08-'12	difference in distance to the nearest early voting site between 2008 and 2012 (meters)	<i>continuous</i>	Martinez 2018
SOE is REP	indicator of the partisan identity of a precinct's SOE	<i>dummy: 1=Rep; 0=Not Rep</i>	FSASE Directory; Martinez 2018
SOE REP interact Dist Diff '08-'12	distance difference when SOE is a Republican (meters)	<i>interaction</i>	Martinez 2018
<i>Exploratory Variables</i>			
Percent Sunday	percentage of the voters who voted on the available Sunday in 2012	<i>continuous/log transformed</i>	FVRS; Martinez 2018
Percent Last Day	percentage of the voters who voted on the available Sunday in 2012	<i>continuous/log transformed</i>	FVRS; Martinez 2018
<i>Control Variables</i>			
Percent EV 2008 General Election	lagged dependent variable – percent EV participation in 2008 General	<i>continuous/log transformed</i>	FVRS; Martinez 2018
Percent Dems	percentage registered Democrats to all voters in the precinct	<i>continuous/log transformed</i>	FVRS; Martinez 2018
Percent Female	percentage registered voters who are female in the precinct	<i>continuous/log transformed</i>	FVRS; Martinez 2018
Percent Black	percentage registered AA voters to all voters in the precinct	<i>continuous/log transformed</i>	FVRS; Martinez 2018
Percent Educated	percentage of the population over 25 that has a Bachelor's degree or higher	<i>continuous/log transformed</i>	US Census ACS; Martinez 2018
Median Household Income	the median household income for the neighborhood	<i>continuous</i>	US Census ACS; Martinez 2018
Average Age	the average age of the precinct's population	<i>continuous</i>	FVRS; Martinez 2018
Average years registered to vote	the average length of time a precinct's voters have been registered to vote	<i>continuous</i>	FVRS; Martinez 2018

Figure 4.3 provides the summary statistics for the independent variables.

**Figure 4.3. Summary Statistics**

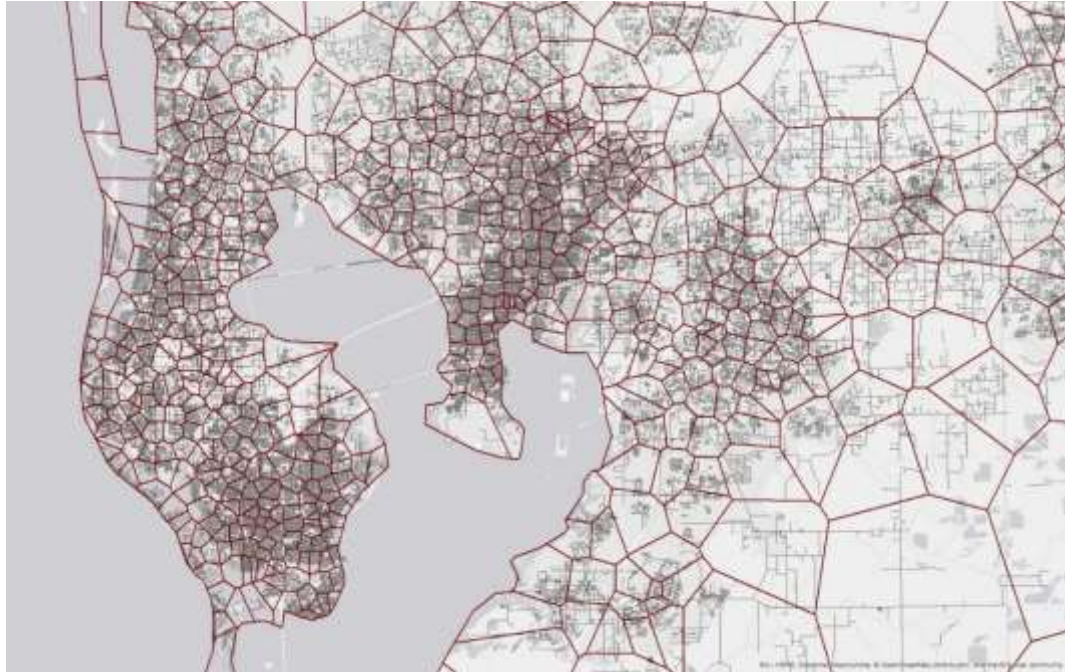
Variable	Median	Mean
Nearest EV Site Dist ( <i>miles</i> )	3.29	4.45
Nearest EV Site Dist Diff '08-'12 ( <i>miles</i> )	0	-0.25
SOE is REP	0	0.46
SOE REP interact Dist Diff '08-'12 ( <i>miles</i> )	0	-0.14
Percent Sunday	9.7%	9.8%
Percent Last Day	16.0%	15.7%
Percent EV 2008 General Election	30.6%	28.3%
Percent Dems	37.9%	38.7%
Percent Female	52.7%	52.8%
Percent Black	6.4%	6.1%
Percent Educated	98.2%	96.3%
Median Household Income ( <i>USD</i> )	\$ 48,313	\$ 53,668
Average Age	51.8	53.2
Average years registered to vote	15.1	15.2

### Precinct Geography

The mean center points represent the precincts in a way that is useful for distance calculations but are not wholly sufficient as an input for further geospatial analysis. The spatial methods I used for this analysis (explained in detail in the subsequent chapter) require polygon as input geography. Polygon shapes that represent Florida's precincts do not exist. Savas (1968) showed how GIS could be used to draw efficient precincts. I created new precinct geography will by converting the precinct center points into Voronoi tessellated polygons. Voronoi polygons are geometric shapes that exhaustively cover a two-dimensional plane (Wade & Sommer, 2006). With a given a center point, here the center of the population in a voting precinct, a shape is extruded in all directions along the X/Y axes where any random point within the final polygon is closer to the

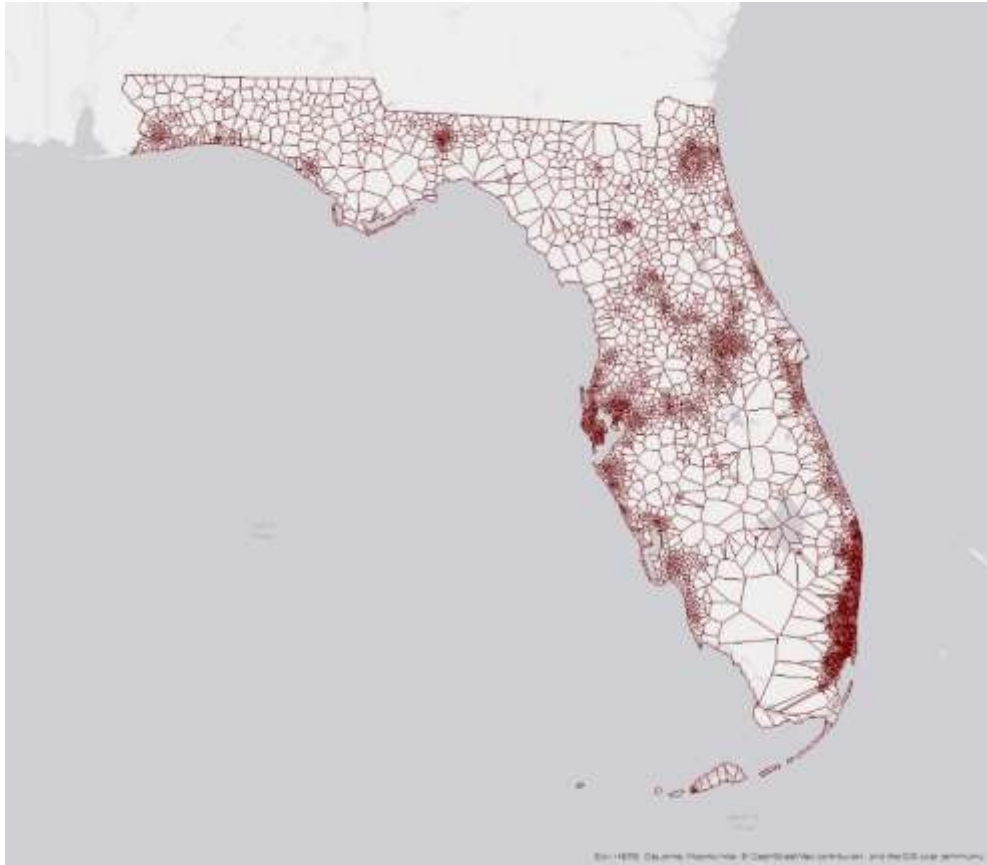
given center point than it is to any other center point in the spatial data frame. This precinct geography is projected in a coordinate system. Map 4.5 shows an example of Voronoi tessellated polygons for Hillsborough County, Florida built around the precinct center points.

**Map 4.5. Precinct Fabric for Hillsborough County, Florida Area**



Map 4.5 is an example of a large county in the state that has over 340 precincts. Map 4.6 represents the whole tessellated precinct fabric of 5,767 geometries for the entire State of Florida. There are clear concentrations around Florida's major cities, like the Miami metro area in South Florida, Tampa on the west coast, Orlando in Central Florida, Jacksonville in the northeast, and the capital of Tallahassee.

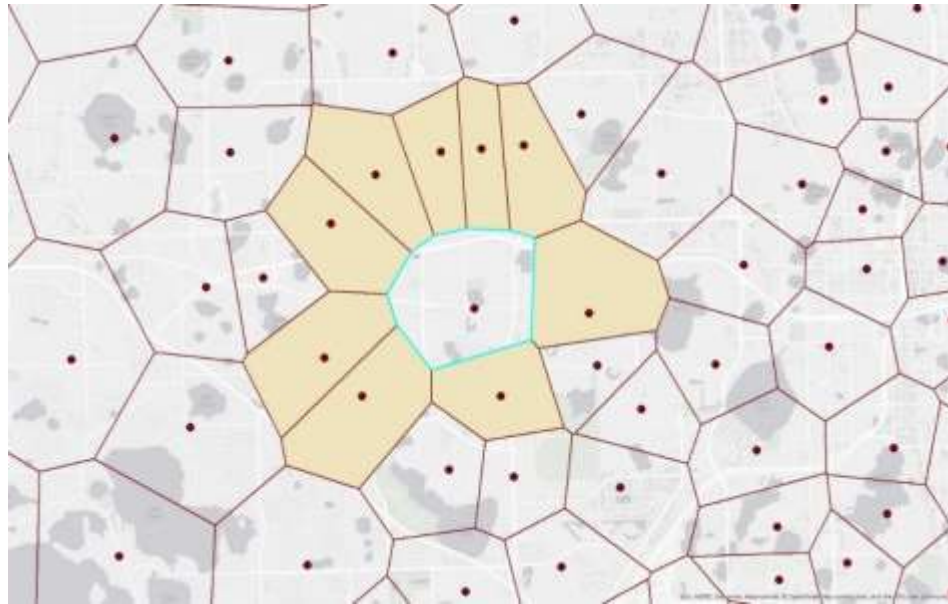
**Map 4.6. Precinct Fabric for the State of Florida**



The precinct polygon fabric is necessary for uncovering the implicit spatial interactions between neighborhoods at this large geographic scale. Spatial regressions require that the spatial interaction is defined by naming the neighbors of a target observation. Each neighbor has a corresponding effect on the target. Neighbors are defined by their proximity to the target. Neighbors may be based on distance or nearness. I use a proximity measure that defines neighbors based on their contiguity with the target. This analysis uses first-order queen contiguity as the basis for defining neighbors. For a given target geography whose dependent and independent variables will serve as the basis for a discrete observation, there is an unknown number of neighbors that might impact the outcomes in the target. Each target has neighbors that are comprised of those

precincts that have a contiguous side or vertex that is coincident with the target. Map 4.7 shows how this works. A target precinct, outlined in blue, has nine (9) neighbors based on the number of shared sides and vertices the target has with adjacent polygons.

**Map 4.7. A Precinct Neighborhood using Queen-Contiguity**



**Summary**

The Data and Operationalization of the Variables chapter introduces the sources of data, the unit of analysis, the dependent, and independent variables. This chapter also spends time explaining the ways geography, in terms of distance and proximity, become important to the analysis.

The main data source for this dissertation is the Florida Voter Registration System, or FVRS, dataset. The dataset contains over 12 million voter records that are combined with another 51 million records of voting history data. That data is geocoded, or placed on a digital map with assigned coordinates. Those points are aggregated into neighborhood geographies, precincts, for further study.

## CHAPTER 5

### METHODS

#### **Research Design**

The social sciences ask questions about human behavior and interaction without always respecting influences that affect a social phenomenon, like space and time (LeSage, 2014). Any social phenomenon is simply the manifestation of people taking actions within a certain place at a specific time; place provides the backdrop for interaction, while time provides contextual color. Human behavior is intrinsically spatiotemporal – belonging to both space and time. Therefore, empirical explorations of any social phenomenon should explore its fundamental spatiotemporal aspects to understand fully how that phenomenon manifests. The discipline of public administration has yet to integrate spatiotemporal elements into empirical policy research. The space-time principle drives the methodology of this study.

How can researchers in the social sciences better integrate methods into their academic work that respect the spatiotemporal aspects of a social phenomenon? Geographic Information Science (GIS – an acronym that also refers to geographic information systems) provides methods and tools for geospatial analysis that allow for a richer understanding of space-time. GIS provides both the framework and software for managing and exploring the spatial elements of data. GIS allows researchers to map datasets. Researchers in political science have effectively used GIS and spatial statistics to explore voting participation behavior because voting behavior is particularly spatial in nature. I use various tools within a GIS to reveal the spatial aspects of my research questions. I use the GIS techniques of geocoding, geographic transformations, pattern

analysis, distance calculations, and spatial regressions to understand what affects early voting participation.

Space must be revealed as part of the data analysis. Recall, voters will participate in an election event when the cost to vote (real or perceived) is smaller than the benefit (also real or perceived). Part of the cost to vote is the distance a voter must travel to cast their ballot; proximity to a voting location is a facet of the spatial aspect of voting. The distance a voter must travel to a voting facility is an explicit cost that affects voting behavior. But there are implicit and underlying spatial interactions of a social phenomenon that go beyond a single variable making them more vital to uncover. Spatial econometric models find that each observation will impact its neighbors in a spill-over effect. Observations influence one another because they cannot be contained unto themselves. A reasonable starting point for the design of a public policy analysis relies on a traditional ordinary least squares (linear) regression on the data, per Equation 5.1.

#### **Equation 5.1: Ordinary Least Squares**

$$y = \alpha \iota_N + X\beta + \varepsilon$$

OLS tests the impact of an independent variable on a dependent variable. The ordinary least squares (OLS) model is the most specific regression model. Cross-sectional data is prone to spatial autocorrelation which demonstrably violates the requirements of randomness, or independently and identically distributed variables, *i.i.d.*

#### **Spatial Econometric Modeling**

Spatial econometric models expand the traditional ordinary least squares regression model by integrating spatial variables. Expanding the regression models to respect the spatial structure of cross-sectional data is necessary. The econometric models



that impart spatial features into the analysis can control for violations of *i.i.d.* under the assumption that observable features of a given phenomenon interact in ways that require incorporation into any regression model. Researchers must rely on their knowledge around the given phenomenon they study, and how it particularly manifests, to ascertain whether spatial interactions are relevant to the question at hand.

Recall that traditional linear regression models poorly represent cross-sectional data because cross-sectional data is prone to spatial-autocorrelation. The models used in spatial regression consider the inherent spatial aspects of cross-sectional data. Each spatial regression model requires that space is integrated. Each model has some spatial interaction term. Those terms represent spillover effects from one region to the next. The spillovers can be local or global, or a mix of both. This could be a spatially lagged dependent variable, independent variable, error term, or some combination of the three.

LeSage (2014) showed that OLS models are inappropriate for applied work that uses data that is obviously spatial in nature. LeSage (2014) also suggested that there is no reason to spend time proving OLS is ineffective in modeling a spatial phenomenon. LeSage (2014) proposed a series of principles for applied econometric analyses. LeSage's (2014) Second Principle states that, "[T]here are only two model specifications worth considering for applied work" (LeSage, 2014, p. 10) – the Spatial Durbin Model and the Spatial Durbin Error Model.

Nevertheless, I ran six models to determine which best represents the data. The unit of analysis is the voting precinct. The data-set has an overall sample size is 5,767. Each model uses the same independent variable and mix of dependent variables. This

analysis will test the percentage of the voters who early vote to see if there is a noticeable effect of the day or distance on voter turnout among the other variables.

OLS is a non-spatial and is the baseline for model comparison in this chapter. The other five (5) models incorporate space in the independent variables, the error term, a spatially lagged dependent variable, or some mix of the three. The five (5) models are the 1) SLX – spatial lag X – model incorporates, for a given independent variable, the average of the values of the independent variables for an observation’s neighbors; 2) SLM – spatial lag model – incorporates the average of the dependent variable for an observation’s neighbors; 3) SEM – spatial error model – incorporates the average of the error for the neighbors; 4) SDM – spatial Durbin model – incorporates the average of the independent variable for an observation’s neighbors; SDEM – spatial Durbin Error model – incorporates the average of the independent variables for the neighbors and a spatially weighted error term. Figure 5.1 shows the generic equation for various models I tested using the cross-sectional of data.

**Figure 5.1. Generic Equations of the Regression Models**

OLS	$y = \alpha + X\beta + \varepsilon$
SLX	$y = \alpha + X\beta + WX\theta + \varepsilon$
SLM	$y = \rho WY + \alpha + X\beta + \varepsilon$
SEM	$y = \alpha + X\beta + u; \text{where } u = \lambda Wu + \varepsilon$
SDM	$y = \rho WY + \alpha + X\beta + WX\theta + \varepsilon$
SDEM	$y = \alpha + X\beta + WX\theta + u; \text{where } u = \lambda Wu + \varepsilon$

OLS = Ordinary Least Squares

SLX = Spatial Lag X

SLM = Spatial Lag Model

SEM = Spatial Error Model

SDM = Spatial Durbin Model

SDEM = Spatial Durbin Error Model

Selecting an appropriate model that depicts the actual empirical scenario requires a modeling exercise that estimates and tests different models for cross-comparison of

model parameters. Four model parameters provide the statistics necessary to review, contrast, compare, and ultimately judge model performance. Models can be judged on the Akaike information criterion (AIC), log-likelihood, Schwarz criterion, and standard error. The best performing model maximizes or minimizes the value of each of the model parameters. Figure 5.1 indicates how each model parameter should be judged.

**Figure 5.2. Model Parameter Optimization Goals**

Parameter	Goal
Akaike Information Criterion (AIC)	minimize
Log likelihood	maximize
Schwarz criterion	minimize
Standard error	minimize

Figure 5.2. compares the model parameter outputs for the six models. Each model uses the same dependent and independent variables, only varying according to how the model incorporates space. The outputs are derived from the Geoda statistical software package (Anselin, Syabri, & Kho,2006).

**Figure 5.3. Model Parameter Comparison**

Parameter	Model Type					
	OLS	SLX	SLM	SEM	SDM	SDEM
Akaike Information Criterion (AIC)	397.3	71.4	-610.2	-1104.4	-1136.5	-1188.4
Log likelihood	-183.7	-6.7	321.1	567.2	598.2	625.2
Schwarz criterion	497.2	264.6	-503.6	-1004.5	-936.7	-1250.3
Standard error	0.2498	0.2423	0.2265	0.2105	0.2119	0.0146

OLS = Ordinary Least Squares  
 SLX = Spatial Lag X  
 SLM = Spatial Lag Model  
 SEM = Spatial Error Model  
 SDM = Spatial Durbin Model  
 SDEM = Spatial Durbin Error Model

The spatial models improve upon the OLS in every category. The SDEM has the best model parameters. The SDEM flipped the sign of the AIC, log-likelihood, and Schwarz criterion in the desired directions. Reviewing the parameters across models reveals diminishing returns on model specification. The SDEM is preferred for its model

parameter statistics, and its ability to model global disturbances and local spillover effects.

Equation 5.2. presents the specific equation this analysis using the OLS model.

### **Equation 5.2 – Specific Form of the Ordinary Least Squares Model**

$$\begin{aligned} \log(\text{EVPR } 2012) = & \alpha + \beta_1 * (\text{Nearest EV Site Dist}) + \beta_2 * (\text{Nearest EV Site Dist Diff '08-} \\ & \text{'12}) + \beta_3 * (\text{SOE is REP}) + \beta_4 * (\text{SOE REP interact Dist Diff '08-'12}) + \\ & \beta_5 * \log(\% \text{Sunday}) + \beta_6 * \log(\% \text{Last Day}) + \beta_7 * \log(\% \text{EV } 2008 \text{ GE}) + \\ & \beta_8 * \log(\% \text{Democrats}) + \beta_9 * \log(\% \text{Female}) + \beta_{10} * \log(\% \text{Black}) + \\ & \beta_{11} * \log(\% \text{Educated}) + \beta_{12} * (\text{Med. HH Inc}) + \beta_{13} * (\text{Avg. Age}) + \beta_{14} * (\text{Avg. Years} \\ & \text{Regis}) + \varepsilon \end{aligned}$$

Taken alone the OLS model provides an adequate representation of the empirical phenomenon, but this data is intrinsically spatial. Testing the initial data model for spatial correlation of the residuals yields the true spatial nature of the data. An initial model of the data was run using a traditional ordinary least squares (OLS) with results listed in Table 1. Moran's I was calculated on the model residuals. Moran's I is a global measure of spatial dependence; valid values fall between -1 and 1 with -1 being complete dispersion, 1 being complete clustering, and 0 being complete spatial randomness. The value of -0.3577 was significant at the 99% interval. The model did not appropriately deal with the spatial dependence inherent in voter turnout data.

### **Spatial Durbin Error Model**

The analysis follows a specific-to-general approach whereby a simple linear model, Ordinary Least Squares (OLS), is specified and tested for spatial dependence; this is considered the benchmark model useful for comparison of both model parameters and

values of individual variables (Elhorst, 2010). Analysis with voter data is inherently spatial in nature (Gimpel & Schuknecht 2003). Gimpel & Schuknecht (2003) used a spatial lag model to deal with the inherent spatial dependence in the data. Following Lacombe et al. (2012) the data will be analyzed using a Spatial Durbin Error Model (SDEM). The SDEM adds a spatially autocorrelated error term and lagged versions of the independent variables to the equation (Elhorst 2010). This model then factors in the direct ( $\beta$ ) and indirect effects ( $\theta$ ) of the independent variables on EV participation and deals with global spatial dependence in the error term. Elhorst (2010) found that this model has been used infrequently in empirical work. Lacombe, Halloway, & Shaughnessy (2014) sought to test the model against traditional spatial regressions, including the Spatial Durbin model, and found that, in the case of voter turnout analyses, the SDEM is preferred, not only because the Bayesian model tests clearly point to the SDEM as the best for their work, but for the fact that voter participation has many unknown and unquantifiable variables that can have a direct influence on the individual voter. Using this method also permits the direct comparison of coefficients from the OLS model and the SDEM (Elhorst 2010). This analysis is focused on using the OLS to SDEM specific-to-general approach. Equation 5.3 gives the specific equation for the Spatial Durbin Error Model (SDEM).

### Equation 5.3. – Specific Form of the Spatial Durbin Error Model

$$\begin{aligned} \log(\text{EVPR}) = & \alpha + \beta_1 * (\text{Nearest EV Site Dist}) + \beta_2 * (\text{Nearest EV Site Dist Diff } '08-'12) + \\ & \beta_3 * (\text{SOE is REP}) + \beta_4 * (\text{SOE REP interact Dist Diff } '08-'12) + \\ & \beta_5 * \log(\% \text{Sunday}) + \beta_6 * \log(\% \text{Last Day}) + \beta_7 * \log(\% \text{EV 2008 GE}) + \\ & \beta_8 * \log(\% \text{Democrats}) + \beta_9 * \log(\% \text{Female}) + \beta_{10} * \log(\% \text{Black}) + \\ & \beta_{11} * \log(\% \text{Educated}) + \beta_{12} * (\text{Med. HH Inc}) + \beta_{13} * (\text{Avg. Age}) + \beta_{14} * (\text{Avg. Years} \\ & \text{Regis}) + \theta_1 * W(\text{Nearest EV Site Dist}) + \theta_2 * W(\text{Nearest EV Site Dist Diff } '08-'12) \\ & + \theta_3 * W(\text{SOE is REP}) + \theta_4 * W(\text{SOE REP interact Dist Diff } '08-'12) + \\ & \theta_5 * W \log(\% \text{Sunday}) + \theta_6 * W \log(\% \text{Last Day}) + \theta_7 * W \log(\% \text{EV 2008 GE}) + \\ & \theta_8 * W \log(\% \text{Democrats}) + \theta_9 * W \log(\% \text{Female}) + \theta_{10} * W \log(\% \text{Black}) + \\ & \theta_{11} * W \log(\% \text{Educated}) + \theta_{12} * W(\text{Med. HH Inc}) + \theta_{13} * W(\text{Avg. Age}) + \\ & \theta_{14} * W(\text{Avg. Years Regis}) + u; \text{ where } u = \lambda W u + \varepsilon \end{aligned}$$

### Summary

The Methods chapter covers the research design. I specify the importance social scientists must place on the spatiotemporal aspects of data analysis. The lingering effects of spatial dependence persist in analyses that use cross-sectional data. To deal with the lasting spatial dependence of the data when using a traditional ordinary least squares (OLS) regression, the chapter introduces five additional spatial regression models, the SLX, or the spatial lag X; the SLM, or spatial lag model; the SEM, or the spatial error model; the SDM, or the spatial Durbin model; and the SDEM, or the spatial Durbin Error model. Each model adds additional independent variables, or error terms, that are added into the model which were derived from the spatial interaction of the variables.

The chapter goes on to demonstrate how the other various spatial regression models improve upon the traditional ordinary least squares model by along a battery of model parameters. The spatial models improve the log-likelihood, Akaike information criterion, the Schwarz criterion, and the standard error parameters. The Spatial Durbin Error Model (SDEM) performs the best in model parameter optimization.

The chapter closes by describing the generic and specific forms of the OLS and SDEM. Chapter 6 shows the model outputs for both the OLS and SDEM and shares insights on how the model answers the hypothetical questions.

## CHAPTER 6

### FINDINGS AND RESULTS

#### **Testing for Impact**

Slight changes in costs to participate in casting an early vote will dissuade voters from utilizing that voting method for casting their ballot. To test the hypothesis that early voting participation rates for electoral precincts is predicated on the costs incurred by the voters, I test three main variables that capture the costs dynamically. Four explanatory variables are the distance to the nearest early voting location and the change in distance to the nearest early voting location from the 2008 General Election to the 2012 General Election. Expanding upon the basic cost calculations, I test whether politics enters the bureaucracy by isolating precincts where a change occurred between General Elections and the local SOE is a Republican. Isolating in this manner allows the identification of the impact of local discretionary decision-making on voting participation outcomes. Equation 4.1.a gives the general equation for the ordinary least squares (OLS) model.

#### **OLS Results**

I provide the results of the OLS regression in Figure 6.1. The OLS has a high R-squared of 0.7813, suggesting the model is very good at predicting EVPR. Ten of the fourteen variables are significant at 99%. Of the explanatory variables – Nearest EV Site Dist., Distance Difference, SOE is REP, Distance changed with REP SOE – three are significant. Consistent with prior expectations, each additional mile to the nearest EV site lowers EVPR by almost -0.3%; and, a one-mile increase in the distance to the nearest EV site lowers EVPR by about -4.4%. However, when the SOE is a Republican, EVPR is 8.5% higher; and when a REP SOE changed sites, the effect was not significant.



**Figure 6.1. OLS Model Output**

	Model I Linear (OLS)
<b>Variable</b>	<b>Direct Effect - <math>\beta</math></b>
Nearest EV Site Dist ( <i>1 mile</i> )	-0.2898*** [0.000]
Distance Difference ( <i>1 mile</i> )	-4.3781*** [0.000]
SOE is REP	8.5271*** [0.008]
Distance changed with REP SOE ( <i>1 mile</i> )	-0.1588 [0.000]
Percent Sunday ( <i>ln</i> )	-0.0275*** [0.006]
Percent Last Day ( <i>ln</i> )	-0.0458*** [0.009]
Percent EV 2008 General Election ( <i>ln</i> )	0.9444*** [0.008]
Percent Democrats ( <i>ln</i> )	-0.0004 [0.014]
Percent Female ( <i>ln</i> )	-0.4455*** [0.045]
Percent Black ( <i>ln</i> )	0.0268*** [0.003]
Percent Educated ( <i>ln</i> )	0.3077** [0.065]
Median Household Income ( <i>\$10K USD</i> )	0.1589 [0.000]
Average Age ( <i>5 years</i> )	-1.4989*** [0.001]
Average Years Registered to Vote ( <i>5 years</i> )	2.2319*** [0.001]
n	5767
R-squared	0.7813
Akaike Inforation Criterion (AIC)	397.3
Log likelihood	-183.7

*Significance tests \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$   
Standard errors are in brackets [].*

**Figure 6.2. Variable Correlation Matrix**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>1</b> Percent EV 2008 General Election	1.0000													
<b>2</b> Percent Dems	0.2729	1.0000												
<b>3</b> Percent Female	0.0525	0.2415	1.0000											
<b>4</b> Percent Black	0.3694	0.6452	0.1444	1.0000										
<b>5</b> Percent Educated	-0.0966	-0.2490	-0.0688	-0.1676	1.0000									
<b>6</b> Percent Last Day	-0.0008	0.1250	-0.0787	0.3334	-0.1232	1.0000								
<b>7</b> Percent Sunday	0.0032	0.0036	-0.0904	0.1112	0.0119	0.2131	1.0000							
<b>8</b> Median Household Income	-0.0704	-0.3908	-0.1973	-0.2422	0.3497	-0.1460	0.0875	1.0000						
<b>9</b> Average Age	-0.3178	-0.2827	0.1880	-0.4898	0.1122	-0.4110	0.0388	0.0152	1.0000					
<b>10</b> Average Years Registered to Vote	-0.2410	0.0663	0.1570	-0.0986	0.0700	-0.1068	0.0261	0.0986	0.2915	1.0000				
<b>11</b> Nearest EV Site Dist	-0.3837	-0.1726	-0.0929	-0.2169	0.0578	-0.0396	-0.0682	0.0005	0.1184	0.0678	1.0000			
<b>12</b> Nearest EV Site Dist Diff '08-'12	0.0935	-0.0279	0.0156	-0.0601	0.0467	-0.0050	0.0138	0.0271	0.0236	0.0094	0.0523	1.0000		
<b>13</b> SOE is REP	-0.1840	-0.3426	-0.0088	-0.1519	0.1669	-0.0093	-0.1485	-0.0596	0.0955	0.0118	0.1572	-0.0308	1.0000	
<b>14</b> SOE REP interact Dist Diff '08-'12	0.0766	0.0108	0.0086	-0.0124	0.0420	-0.0045	0.0466	0.0530	-0.0016	-0.0106	0.0172	0.6929	-0.1394	1.0000

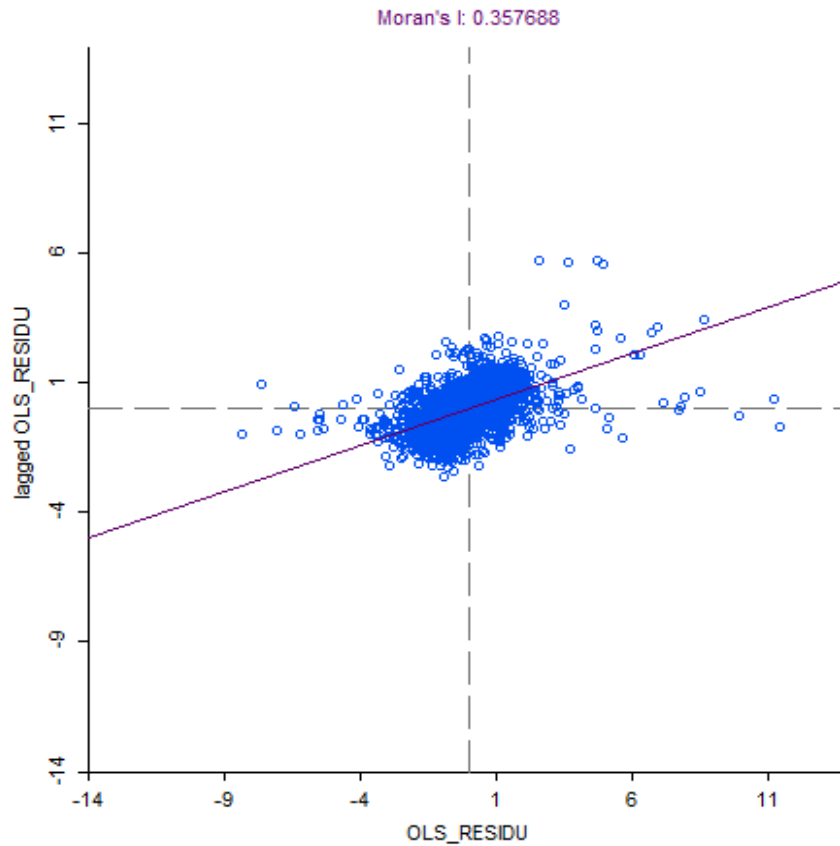
Figure 6.2 shows the correlation matrix of the independent variables. There is a moderate correlation between the percentage Democrats and the percentage black voters of the sample precincts. Figure 6.3 shows that no individual variable has a high VIF, and the Mean VIF is low overall at 1.61.

**Figure 6.3. Test for Multicollinearity**

Variable	VIF
Percent Dems	2.47
Percent Black	2.42
SOE REP interact Dist Diff '08-'12	1.99
Nearest EV Site Dist Diff '08-'12	1.99
Average Age	1.86
Median Household Income	1.51
Percent EV 2008 General Election	1.50
Percent Last Day	1.44
SOE is REP	1.33
Average Years Registered to Vote	1.23
Nearest EV Site Dist	1.22
Percent Female	1.21
Percent Educated	1.21
Percent Sunday	1.16
<b>Mean VIF</b>	<b>1.61</b>

Recall that an OLS regression that uses cross-sectional data violates the *i.i.d* assumption. Though the R-squared of the initial analysis is very high, and the tests for correlation and multicollinearity look good, cross-sectional data is susceptible to spatial autocorrelation. Figure 6.4 shows the results of the Moran's I test for spatial autocorrelation of the residuals. The Moran's I value is 0.3567, meaning the residuals are clustered; the value is statistically significant at 99%. OLS will not work for this type of data. The model residuals show that the spatial elements of this cross-sectional dataset have not been dealt with.

**Figure 6.4. Moran's I Test for Clustering of Model Residuals**



### **Spatial Econometric Modeling**

Newer spatial econometric models can account for both global and/or local spillover effects to better control the underlying spatial structure of cross-sectional data. Chapter 5 covers variations of spatial econometric models that researchers use to control for the spatial nature of cross-sectional data. The best fitting model for predicting early voting participation is the Spatial Durbin Error Model. The SDEM factors in the local spatial spillover effects and global disturbances. Figure 6.5 shows the differences in betas between the OLS and SDEM from R using the `spdep` package (Bivand & Piras, 2015). The betas from the SDEM are directly comparable to the OLS.

**Figure 6.5. OLS and SDEM Model Comparison**

	Model I Linear (OLS)	Spatial Durbin Error (SDEM)
<b>Variable</b>	Direct Effect - $\beta$	Direct Effect - $\beta$
Nearest EV Site Dist (1 mile)	-0.2898*** [0.000]	-1.0916*** [0.000]
Distance Difference (1 mile)	-4.3781*** [0.000]	-2.7731*** [0.000]
SOE is REP	8.5271*** [0.008]	7.9280*** [0.026]
Distance changed with REP SOE (1 mile)	-0.1588 [0.000]	-0.6116 [0.000]
Percent Sunday (ln)	-0.0275*** [0.006]	-0.0183*** [0.005]
Percent Last Day (ln)	-0.0458*** [0.009]	-0.0279*** [0.008]
Percent EV 2008 General Election (ln)	0.9444*** [0.008]	0.8401*** [0.011]
Percent Democrats (ln)	-0.0004 [0.014]	-0.0346** [0.016]
Percent Female (ln)	-0.4455*** [0.045]	-0.3565*** [0.043]
Percent Black (ln)	0.0268*** [0.003]	0.0190*** [0.003]
Percent Educated (ln)	0.3077** [0.065]	0.1576** [0.065]
Median Household Income (\$10K USD)	0.1589 [0.000]	0.2840* [0.000]
Average Age (5 years)	-1.4989*** [0.001]	-2.4627*** [0.001]
Average Years Registered to Vote (5 years)	2.2319*** [0.001]	1.3969* [0.001]
Spatial Error Term - Lambda	-	0.5761*** [0.014]
n	5767	5767
R-squared	0.7813	0.855
Akaike Information Criterion (AIC)	397.3	-1188.4
Log likelihood	-183.7	625.2

Significance tests \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Standard errors are in brackets [ ].

NB: For above - The Beta coefficients are cross comparable for the model types used.

The spatial model improves upon the traditional linear regression. There is spatial dependency in the data. Lambda, or the spatial error term, is significant at 99%. R-squared is still very high; both the AIC and the log-likelihood have reversed signs, with the AIC is lower and the log-likelihood much higher. The SDEM pulls some of the value out of the betas that are associated with the spillover impact from the neighbors. Now only nine of the fourteen variables are significant at 99%.

Of the explanatory variables – Nearest EV Site Dist., Distance Difference, SOE is REP, Distance changed with REP SOE – three are still significant, but the values changed dramatically. Having a Republican SOE is still positive; EVPR is 7.9% higher; and when a REP SOE changed sites, the effect was still insignificant. Precincts that have an SOE who is registered Republican have EVPRs that are 7.9280 points higher than those SOEs have different party identities – significant at 99%. Precincts that have an SOE who is registered Republican who moved an EV site have EVPRs that are 0.6116 points lower than those whose SOEs have different party identities – insignificant. Now, each additional mile to the nearest EV site lowers EVPR. As the distance from the precinct to the EV site increases by one mile, the EVPR falls by 1.0916% – significant at 99%. As the distance from the precinct to the EV site that was changed from 2008 to 2012 increases by one mile, the EVPR falls by 2.7731% – significant at 99%.

The OLS model clearly overstates the effect of the lagged dependent variable, the 2008 precinct EVPR. The spatial models dampen the effect of the 2008 precinct EVPR. A 1% change in the EVPR from the 2008 General Election increases the 2012 EVPR by 0.8401%. The impact of the lagged dependent variable is significant at 99%. This

indicates that voters who have had previous experience with early voting will tend to cast an early ballot during the next election.

The following control variables show how elastic EVPR is to that variable which is useful in understanding EVPR. A 1% increase in the percentage of Democrats decreases the EVPR by 0.0346% – significant at 99%. A 1% change in the percentage of Female voters that make up a precinct decreases the 2012 EVPR by 0.3565% – significant at 99%. A 1% change in the percentage of Black voters that make up a precinct increases its EVPR by 0.0190% – significant at 99%. A 1% change in the percentage of Educated voters (completed an AA or higher) that make up a precinct increases its EVPR by 0.1576% – significant at 95%. A 1% change in the percentage of voters that cast an early vote on Sunday for a precinct decreases its EVPR by 0.0275% – significant at 99%. A 1% change in the percentage of voters that cast an early vote on the Last Day (Saturday) for a precinct decreases its overall EVPR by 0.0279% – significant at 99%.

Other traditional controls like income, age, and years registered are in their level form and can be interpreted as a semi-elasticity of the dependent variable. The most important variable is age. When the average age increases by five (5) years, the EVPR falls by 2.4627% – significant at 99%. Older voters may prefer voting substitutes – absentee or traditional precinct voting – over early voting. Median household income is important. When median household income increases by \$10,000 (USD) EVPR increases by 0.2840% – significant at 95%. Yet, the time registered seems less able to predict EVPR. When the average years registered increases by five (5) years, the EVPR increases by 1.3969% points – significant at 90%.

## Spatial Spillovers

The SDEM also calculates the local spillover effects and the global disturbances inherent in the model noted in the spatial error term. Recall that regression models that incorporate space in the model, allow for the calculation of direct effects (own effects) and spillover effects that manifest as either indirect effects (neighbor effects) or macro effects (global effects or disturbances). The spatial Durbin error model (SDEM) provides an advantage over the traditional OLS and the spatial error model by allowing for the calculation of the direct effect and the indirect effects. The indirect effect is an indicator of how homogeneous precinct's surroundings are. The precincts are small areas, so spillovers are natural. For instance, yard signs in one precinct may influence the voters in the neighboring precinct. The indirect effects capture these types of spatial interactions between neighboring geographies.

Figure 6.6 introduces the indirect, or neighbor effects. Reviewing the indirect effects column, six of the fourteen variables are significant at 99%. Of the explanatory variables – Nearest EV Site Dist., Distance Difference, SOE is REP, Distance changed with REP SOE – only two are significant. Now, each additional mile to the nearest EV site lowers EVPR by -0.92%; and, a one-mile increase in the distance to the nearest EV site lowers EVPR by -2.6%. Having a Republican SOE is still positive, but insignificant; when a REP SOE changed sites, the effect was still insignificant.



**Figure 6.6. SDEM Direct and Indirect Effects**

Variable	Model II Spatial Durbin Error (SDEM)	
	Direct Effect - $\beta$	Indirect Effect - $\Theta$
Nearest EV Site Dist (1 mile)	-1.0916*** [0.000]	0.9203*** [0.000]
Nearest EV Site Dist Diff '08-'12 (1 mile)	-2.7731*** [0.000]	-2.5827*** [0.000]
SOE is REP	7.9280*** [0.026]	0.0759 [0.030]
SOE REP interact Dist Diff '08-'12 (1 mile)	-0.6116 [0.000]	1.1679 [0.000]
Percent Sunday (ln)	-0.0183*** [0.005]	-0.0112 [0.014]
Percent Last Day (ln)	-0.0279*** [0.008]	-0.0603*** [0.021]
Percent EV 2008 General Election (ln)	0.8401*** [0.011]	0.1261*** [0.018]
Percent Democrats (ln)	-0.0346** [0.016]	0.0218 [0.030]
Percent Female (ln)	-0.3565*** [0.043]	-0.0926 [0.093]
Percent Black (ln)	0.0190*** [0.003]	0.0202*** [0.007]
Percent Educated (ln)	0.1576** [0.065]	0.3569** [0.147]
Median Household Income (\$10K USD)	0.2840* [0.000]	-0.4670 [0.000]
Average Age (5 years)	-2.4627*** [0.001]	1.9327*** [0.001]
Average Years Registered to Vote (5 years)	1.3969* [0.001]	1.6924 [0.003]

Significance tests \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$   
Standard errors are in brackets [ ].

This section explains only the indirect, or neighborhood effect (shown in the chart as theta). Surprisingly, a Republican SOE has no spillover impact. When an observation's neighboring precincts have an SOE, who is registered Republican, who moved an EV site have EVPRs that are 1.1679 points higher than those whose SOEs have different party identities – insignificant. When an observation's neighboring precincts have an SOE, who is registered Republican, have EVPRs that are 0.0759 points higher than those SOEs have different party identities – insignificant.

As the distance from the precinct to the EV site increases by one mile for an observation's neighboring precincts, the EVPR increases by 0.9203% – significant at 99%. And, as the distance from the precinct to the EV site that was changed from 2008 to 2012 increases by one mile for an observation's neighboring precincts, the EVPR falls by 2.5827% – significant at 99%. The latter is interesting in that it is like the beta value in sign and magnitude. Precincts and their neighbors were very negatively affected by changes in the nearest early voting site from one election to the next.

As suspected, past performance, EVPR from 2008, has a small impact. Once a voter decides to become an early voter, neighborhood influences do not seem to have an appreciable impact. A 1% increase in the EVPR from the 2008 General Election in an observation's neighboring precincts increases the 2012 EVPR by 0.1261%. The impact of the lagged dependent variable is significant at 99%.

Interestingly, some neighborhood variables influence in unexpected ways. Age is now positive. When the average age increases by five (5) years in an observation's neighboring precincts, the EVPR increases by 1.9327% – significant at 99%. Median income is now negative, which might suggest wealthier voters might choose other voting

methods. The median household income for precincts is insignificant to EVPR. The analysis shows that when median household income increases by \$10,000 (USD) in an observation's neighboring precincts EVPR decreases by 0.2840% – insignificant. The increase in percent Black for a precinct's neighbors depicts a more homogeneous region. A 1% change in the percentage of Black voters in an observation's neighboring precincts increases its EVPR by 0.0202% – significant at 99%. For Black voters, the homogeneity of the region seems to grow mobilization efforts around early voting, recognized in the “Souls to the Polls” organization efforts. Concentrated precincts of educated voters behave differently as well. A 1% change in the percentage of Educated voters (completed an AA or higher) in an observation's neighboring precincts increases its EVPR by 0.3569% – significant at 95%; this is twice the local effect.

Many control variables show small neighborhood spillover impacts. A 1% increase in the percentage of Democrats in an observation's neighboring precincts increases the EVPR by 0.0218% – insignificant. A 1% increase in the percentage of Female voters in an observation's neighboring precincts decreases the 2012 EVPR by 0.0926% – significant at 99%. A 1% change in the percentage of voters that cast an early vote on Sunday in an observation's neighboring precincts decreases its EVPR by 0.0112% – insignificant. A 1% change in the percentage of voters that cast an early vote on the Last Day (Saturday) in an observation's neighboring precincts decreases its overall EVPR by 0.0603% – significant at 99%. Familiarity with the election process, years registered to vote, had a similarly similar impact as the local effect. When the average years registered increases by five (5) years in an observation's neighboring precincts the EVPR increases by 1.6924% points – insignificant.

## Total Effect

The Total Effect statistic from the SDEM model gives the clearest picture of how the variables affect precinct EVPR. The total effect statistics output from an SDEM model can flip the sign or the significance of either the direct or indirect measures. The research question seeks to uncover the effect of the discretionary action on precinct early voting turnout. The aggregation of the total effect explains how the decisions affect the average precinct within the state. The “total effect” in an SDEM model is calculated by adding the beta and theta values. Figure 6.7 shows the beta, theta, and total effect statistics for the SDEM model.

**Figure 6.7. SDEM Total Effects**

Variable	Direct Effect - $\beta$	Indirect Effect - $\Theta$	Total Effect = $\beta + \Theta$
Nearest EV Site Dist (1 mile)	-1.0916***	0.9203***	-0.1714
Nearest EV Site Dist Diff '08-'12 (1 mile)	-2.7731***	-2.5827***	<b>-5.3558***</b>
SOE is REP	7.9280***	0.0759	<b>8.0038***</b>
SOE REP interact Dist Diff '08-'12 (1 mile)	-0.6116	1.1679	0.5562
Percent Sunday (ln)	-0.0183***	-0.0112	-0.0296*
Percent Last Day (ln)	-0.0279***	-0.0603***	<b>-0.0882***</b>
Percent EV 2008 General Election (ln)	0.8401***	0.1260***	<b>0.9661***</b>
Percent Dems (ln)	-0.0346**	0.0218	-0.0128
Percent Female (ln)	-0.3565***	-0.0926	<b>-0.4491***</b>
Percent Black (ln)	0.0190***	0.0202***	<b>0.0392***</b>
Percent Educated (ln)	0.1576**	0.3569**	<b>0.5144***</b>
Median Household Income (\$10K USD)	0.2840*	-0.4670	-0.1830
Average Age (5 years)	-2.4627***	1.9327***	-0.5300
Average years registered to vote (5 years)	1.3969*	1.6924	3.0893**

Significance tests \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

NB: The Beta coefficients plus the Theta coefficients create the Total Effect.

According to Figure 6.7, seven of the independent variables have a total effect that is significant. Very surprisingly, precincts that have an SOE who is registered Republican have EVPRs that are 8% higher than non-Republican SOEs – significant at

99%. Republican SOEs may have better facilities, conduct more voter education, or have better early voting facilities; more research is needed to understand this difference. More importantly to the research question, precincts that have an SOE who is registered Republican who moved an EV site have EVPRs that are 0.5562 points higher than non-Republican SOEs – insignificant. Republican SOEs did not use their discretion in a way that added undue costs to their voters. An opposite finding would have been indicative of maladministration that was injurious to citizens.

On distance, for every additional mile the early voting location moves between elections, precinct EVPR falls about 5.4% – significant at 99%. This is a very valuable insight. Election administrators should be reluctant to move voting locations. The impacts on voters are very large. Voters are most likely dissuaded from voting because they incur “searching costs” while looking for a new location they may not be familiar with.

The variables Percent Sunday and Percent Last Day attempt to test the limitations on available weekend days imposed by the Florida Legislature. The convenience days of Saturday and Sunday, do not seem to be so valuable. A one percent increase in the percentage of precinct voters who voted on Sunday shrinks precinct EVPR by 0.0296% – insignificant. A concentration of voters who vote early on the Last Day shows more dramatic negative impacts than Sunday. A one percent increase in the precinct voters that vote on the last available early voting day, a Saturday, shrinks EVPR by 0.0882% – significant at 99%. The weekend days may not be as convenient because many voters will try to use their free-time to vote, and the facilities will not be able to meet the additional demand. Voters may even be dissuaded to stand in line as they pass the early

voting location, preferring to spend their day off engaging in an activity that is more personally rewarding.

Previous early voting participation is the best indicator of future early voting participation. The lagged dependent variable of 2008 EVPR continues to be the best indicator for precinct 2012 EVPR. For every 1% increase in precinct EVPR for the 2008 General Election, precinct EVPR increases by 0.9661%, which is significant at 99%. Prior early voting is nearly unit-elastic with current voting; it is almost one-to-one. This indicates that voters who have had previous experience with early voting will tend to cast an early ballot during the next election.

The age and tenure statistics are no longer significant. As the average age of precinct voters increases by five years, the EVPR falls by 0.53 points. As the average number of years registered for precinct voters increases by one year, the EVPR falls by 0.166%. Years registered is a measure of a voter's familiarity with the voting process. When the average years registered increases by ten (10) years, the EVPR increases by 1.67% points – insignificant. Median income is also insignificant. When the median income of a precinct increases by ten thousand dollars (\$10,000), the EVPR falls by 0.183% – insignificant.

Education is significant as is percent female, but their signs are opposite. As the percent educated increases, precinct EVPR increases by 0.5144% – significant at 99%; this finding is consistent with existing assumptions. A 1% change in the percentage of Female voters that make up a precinct decreases the 2012 EVPR by 0.4491% – significant at 99%.

As precincts and their surrounding areas have higher percentages in Black voters, EVPR goes up. This is significant, and particularly noteworthy given the strong correlation between Democrats and Black voters. Surprisingly, as the percentage of Democrats increases, EVPR falls; though this is insignificant, it is contrary to existing assumptions. The statistics should match more closely. There is more to the patterns of voting participation than a voters' party identity.

### **Answering the Research Questions**

The total effects of the SDEM answer the main research questions and hypotheses. The question is nicely summarized in a quote from Meier & O'Toole (2006) "Does bureau A change what it is doing at time  $t$  ( $t - 1$ ) after some political activity takes place?" (Meier & O'Toole, 2006, p. 183). This study looked at a political activity, the restriction of early voting laws, and asked whether a bureau, the Supervisor of Elections, changed what it does. Meier and O'Toole (2006) used a lagged dependent variable to estimate time effect. I used distance calculations from one election event to the next where the political intervention was in the middle. I find that Republican SOEs, who should have been influenced by a political directive, did not change their early voting locations in a way that impacted voting outcomes, captured here as the early voting participation rate.

1. Did the SOE comply with F.S. 101.657 and locate their early voting sites "so as to provide all voters in the county an equal opportunity to cast a ballot" for the 2012 General Election? If voters must travel long distances, then EVPR will decrease. I calculate the distance between the voter precinct and the nearest early voting location for 2012 and test this independent variable.

As the distance to the nearest EV site increases, EVPR falls slightly; the total effect is insignificant. The hypothesis is rejected.

2. When an EV site changes from one General Election to the next (a four-year period), does that change in location have an impact on EVPR? As distance increases from one election to the next, EVPR will decrease. I calculate the distance between the voter precinct and the nearest early voting location for both 2008 and 2012 and calculate the difference and test this as an independent variable.

As the distance to the nearest EV site changes, EVPR falls by -5.4%. The indirect effects are as high as the direct effects; the total effect is significant at 99%. The hypothesis cannot be rejected.

3. Is there a difference in the way precincts early vote when the SOE is a Republican versus a non-Republican? If the SOE is a Republican, then they will not promote early voting.

When the SOE is a Republican, precinct EVPR is 8.0% higher than other partisan SOEs. The hypothesis cannot be rejected. Furthermore, when a Republican SOE changed EV sites between elections, the effect was insignificant.

### **Summary**

The Findings and Results chapter provides the model returns for the OLS and SDEM models. The chapter introduces the OLS model as the baseline for comparing the model betas. Then the chapter moves to the SDEM. The SDEM model allows for the interpretation of the direct and indirect effects of a control variable on the dependent variable. The direct effects are a measure of the “own effects” of the individual precinct,



while indirect effects represent the “spillover impacts” of the neighboring precincts.

Both models are shown to allow for comparison of their betas, but ultimately, the full “total effect” provided by the SDEM prove most informative.

Using spatial econometric models, I find that Republican SOEs did not distribute early voting locations in a way that negatively impacted early voting participation rates (EVPR) for their local precincts. Furthermore, I find that, all else equal, their decisions did not statistically impact EVPR differently than the EVPR in communities managed by Democrats. Republican SOEs did not add new costs to voters in their communities. I provide new evidence that demonstrates that bureaucrats can indeed limit the influence of undue politics from their influential co-partisans to promote more democratic outcomes.

## CHAPTER 7

### CONCLUSION

#### **Politics and the Bureaucracy**

Political control is a battlefield and political parties game election laws. Elected politicians set the election laws, and local bureaucrats run the mechanics of voting. Florida's long lines in 2012 stem from sweeping changes to the early voting laws Florida's politicians enacted the year prior. In 2011, the Republican-led Florida Legislature passed a bill (HB 1355) that dramatically changed the character of Florida's election laws for the 2012 election cycle; Republican Governor Rick Scott signed the bill into law. HB 1355 both limited individual voter registration activities and early voting access. Chief among the changes, and of primary interest of this dissertation, was the reduction in the early in-person voting (EV) period from fourteen (14) days to eight (8) days and the further temporal restriction which eliminated the last Sunday before Election Day as a viable option for holding early voting.

Conducting an election involves a complex interplay of laws and administrative practices, and maladministration can lead to problems ensuring truly democratic outcomes. Florida is a state with a storied election history. Florida's local election bureaucrats, the Supervisor of Elections (SOE), play a pivotal role in facilitating our democracy and the peaceful transfer of power. The General Election in 2000 was a national wake-up call. Local SOEs became important to understand for their role in the process.

Again in 2004, and in 2008, various local jurisdictions had trouble with administering national elections. The General Election in 2012 was just as riddled with

issues. Voting was particularly difficult in South Florida. Palm Beach County sent out incorrect ballots to voters; Broward County found many uncounted voted mail ballots after the election was closed. Miami-Dade County had the most visible and egregious problems with long lines of voters waiting for long hours. Failed administration of national elections at the local level eventually manifests as negative externalities outside of those jurisdictions impeding our ability to finalize the selection of national leaders.

Casting a ballot before Election Day is a new phenomenon. Casting an early in-person vote in Florida began in 2004. At the local level, SOEs have discretionary authority to decide the number and location of early voting sites within their community. The main question for this project builds from this scenario. Florida's SOEs have discretion over two facets of early voting for their communities – number and location.

Did SOEs, who are registered Republicans, use their discretionary authority around the number and location of early voting sites within their communities to limit early voting in a way that actively represented the overt position of their co-partisans in State government? I hypothesize that if a Republican moved the location of early voting sites for 2012 in their communities from their location in the 2008 election, then those changes will lower precinct early voting participation. This analysis shows that additional costs borne by the voters will lead to less early voting participation. Early voting participation is relatively elastic to the cost of voting. Demand for early voting is not unit elastic. When voting laws change, the local SOEs (the producers) bear the cost as voters change their method of voting.

## **Theoretical Implications**

The discipline of public administration stands on a tradition of separation between elected officials who make the laws, and the public bureaucrats who implement policies in communities. This separation assumes a necessary level of independence on the part of the bureaucrats that, normatively, compels them to deliver services objectionably with overarching impartiality toward political demands and a notable disassociation from intrinsic personal interests. Yet, the divide is seemingly narrow. This dissertation provides new empirical evidence showing the effects of partisanship decision-making regarding election laws and administrative practices and their impact on voter participation in elections. Specifically, the research explores the discretionary decision-making of the local Supervisors of Elections (SOEs) in Florida, bureaucrats who administer the day-to-day operations of community voting access, to ascertain whether they actively represent the political position of their co-partisans in limiting access to early in-person voting, or if they behave in a manner that is consistent with public administration orthodoxy.

The research follows a natural-experiment designed to explore the political influence of state legislation. Very few studies have looked at the impact that discretionary decisions made by the LEO have on voters. Additionally, this study uses a real-world case that shows how public leaders can impact how citizens access and participate in their democracy. More empirical research that utilizes spatial regression helps the field of public administration as a discipline understand the dynamic interaction between lawmakers and the managers who implement public policy.

Numerous authors have explored public management and found that the discretion public administrators have over decision-making can have significant impacts on communities. The active representation literature has looked at how the decision-making can benefit the represented group; within that research, the notion of active representation of the bureaucrat, or discretionary decision-making on behalf of a specific group, has been held as normatively good (Hindera, 1993; Meier, 1993; Selden et al., 1998). As Lim (2006) indicated, active representation can be abused. Election administration is one area of public administration that we can study to find and uncover the impact of discretionary decision-making that manifests in the form of active representation of the bureaucracy. The effect of discretionary decision-making that is directed to benefit one group is not ideal when the demographic characteristic being advanced is political party identification.

Voting in free and fair elections is a hallmark of our democracy. Understanding the profession of election administration is new and faces constant challenges. The field of public administration can do much to influence the process by studying choices and testing their outcomes. All levels of government are involved in the administration of a federal election from legislation to administration. There is reason to be concerned with the impact legislation has on voter turnout; there is also reason to be concerned with the discretion permitted to local election administrators to implement laws. Care should be taken at all levels of government not to institute policies or practices that promote voter suppression.

## **Policy Implications**

The findings are clear. Changing early voting locations from one location to another affects early voting participation. Local election officials should take pause when contemplating making substantial changes from one election to another.

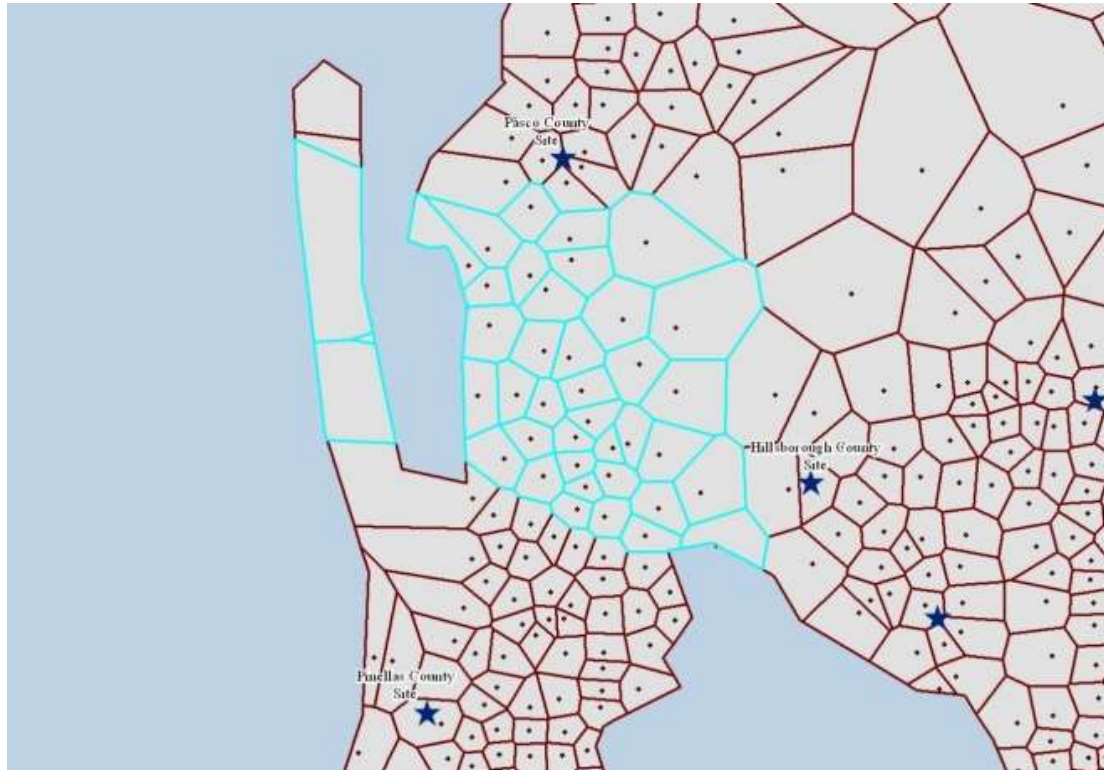
After the 2012 election debacle, the Florida Legislature and Governor Scott were quick to reinstate the early voting period. Governor Scott remarked, “We need more early voting days, which should include an option of the Sunday before Election Day. And, we need more early voting locations.” Governor Rick Scott – January 17, 2013.

In 2013 the Florida Legislature passed a new early voting law that reinstated the early voting period to allow for the same number of early voting days as in 2008. In this case, adding additional Sunday voting back into the early voting period should be considered when the election laws are reviewed during the 2013 legislative session. Senate Bill 600 reintroduces Sunday EV prior to the election. To what level analysis like this has impacted the discussion is unknown. There have not been any changes to the law that defines the number and location of early voting sites for each county. This analysis demonstrates that longer distances to early voting locations do have a negative impact on early voting participation. Fewer sites in a county mean longer distances for certain parts of the community. Some consideration should be spent on loosening the rules on whether voters can cross county lines to vote early.

Florida’s election law has a “one-size-fits-all” solution to early voting. Florida Statute only dictates that the SOE have a minimum of one early voting site in their community; Florida Statute provides SOEs with the discretion to add additional sites based on the practicality of their distribution within the community. SOEs are not

required, under the law, to provide early voting sites based on a per capita minimum (for example, there is no requirement to provide an early voting site for every additional 3,000 registered voters in a community). For instance, Florida’s most populous county, Miami-Dade, is only required to have one early voting site for its over 1.3 million registered voters; that requirement is identical for Liberty County, whose voter population is just over 4,500 people. With no direction from the State, Florida’s Supervisors of Elections must use their local knowledge of their community to make discretionary decisions on the number and location of their early voting facilities. The State should explore setting per capita requirements for the number of early voting facilities needed in each county to ensure efficient and equitable access.

**Map 7.1. Precincts Closer to Ineligible EV Site**



Additionally, per this analysis, over 680,000 voters in the state of Florida live closer to an early voting site in another county than their home county. Map 7.1 shows a cluster of 37 precincts from Pinellas County that are closer to early voting facilities in either Pasco or Hillsborough County. Statewide voting registration systems allow SOEs to access the voting information of all Florida voters. Technology that leverages the statewide system, like electronic poll books and ballot-on-demand systems, could make it possible for voters to early vote in any EV site across the state, irrespective of their county of residence.

This research shows that advanced quantitative methods can be applied in a robust way to explore election administration performance. Analysis, like the one proposed here, can assist election administrators in preparing for voter turnout. I demonstrate how assumptions about how state and local decisions are made affect neighborhood voting preferences. In moving forward, more counties should be measured this way to allow for more generalizability. More work should be done to create a richer understanding of which administrative laws and organizational capacities truly impact the ability for our democracy to grow and flourish. The focus should not be at the federal level, the state level, or the county level specifically. There needs to be a comprehensive dialog, founded on data analytics, that questions the decisions made at all levels of election governance and, together, those decisions impact voters and the whole of the election process. It is imperative for the US to resolve its election practices to remain the beacon for democracy.

This analysis provides additional empirical evidence and insights toward the discussion of the role of county governments in our federalized system. Two issues of



Public Administration Review (1992; 2005) explored the question as to how well the field of public administration understands the role of counties. They promoted a wide research agenda that essentially looked to understand the state-county conflict. In that vein, Salant (Salant in Benton, 2005) suggested that states may be losing their authority to counties. By extension, Benton (2005) suggested that counties can act as laboratories for democracy, and further questioned, “Can counties become pivotal forces between citizen and state?” The analysis provided in this study shows the conflict between state and county in Florida and shows evidence that county administrators do play a role between state and citizen that is pivotal. Florida’s SOEs use their discretion in ways that seemingly conflict with the state; that conflict most likely stems from the relative closeness of local SOEs to their constituents. This analysis speaks to the overarching county research agenda, but more work should be done along these lines to elicit more understanding on the role of county constitutional officers and their relationship with their counterparts at the state.

The exposition of this study suggests that two parallel and opposing perspectives on bureaucracy persist in the academic traditions of political science and public administration – bureaucracy vs. democracy and bureaucracy vs. politics. Upon reflection, a simple reduction in terms might best explain the phenomenon both traditions are genuinely looking to understand – the seemingly adversarial relationship between democracy vs. politics. Bureaucracy is an integral actor in a representative democracy providing a firewall against super-charged political decisions that are calculated in such a way as to be injurious to targeted groups. Alvarez et al. (2008) debated the need for non-partisan election officials. With the results from this analysis, the debate is far from

resolved. This study shows how partisan bureaucrats can behave in accordance with their professional ethics even when faced with an overt directive from their partisan superiors while also evading any expectations of active representation on behalf of the voters who elected them into office.

### **Limitations**

The modeling exercise requires many assumptions that are held throughout the analysis. First, I assume that politics motivates all actors. Next, I assume the state-level politicians responsible for changing the early voting laws preferred lower early voting participation irrespective of how it impacted their own party. I also assume local SOEs are intimately familiar with the communities in which they administer elections.

The SDEM model provides clear benefits over both the OLS and the SEM models. The model has better overall parameters with a smaller AIC and larger log-likelihood than the competing specifications. Nonetheless, a Moran's I test for spatial dependence in the SDEM residuals, though nearly 0 in value, is still significant at 99%. The LM test is also significant. Therefore, the SDEM does not completely remove all spatial effects from the modeled data. This model is either misspecified, or there are true spatial dependencies in the underlying data. The spatial characteristics of the data are true artifacts of the "substantive interaction between observations in space" of the phenomenon being studied (Revelli in Bivand 2008).

### **Final Thoughts**

This study looks to empirically test whether local bureaucrats, who should be willing to act in-line with influential co-partisans, might still promote democratic outcomes for their constituents with their discretionary decision-making. Florida provides

an empirical backdrop for testing bureaucracy's impact on democracy with a natural experimental scenario created with the passing of new early voting limitations in 2011. Florida's Republican lawmakers passed House Bill 1355 (HB 1355) that dramatically limited the early voting days allowed for federal elections. The move was widely seen as a political calculation aimed at stifling the participation of Democrats in the 2012 General Election. Bureaucracy can facilitate democracy outside of politics.

Florida's local bureaucrats, Republican SOEs, should have followed a political motivation, but they did not. Their public service motivation, constitutional requirements, and ethical code guide them from compromising the office and citizens' voting rights. Their behavior may have come from their instinctive "inner-check" that allows them to, "[O]perate beyond the decisions and actions that can reasonably be monitored by political overseers and may even enable bureaucrats to "respond" in an anticipatory sense to broad public preferences without explicit intervention or signaling from politicians." (Meier and O'Toole, 178). Local bureaucrats have a role in protecting our democracy when it is imperiled by politics cementing their necessary role in a representative democracy.

## LIST OF REFERENCES

- Alvarez, R. M., Hall, T. E., & Llewellyn M. (2008). Who should run elections in the United States?. *The Policy Studies Journal*, 36, 3: 325-346.
- Anselin, L., Syabri, I., & Kho, Y. (2006). GeoDa: An Introduction to Spatial Data Analysis. *Geographical Analysis* 38 (1), 5-22
- Ansolabehere, S. (2006). Election Administration and the Voting Rights Act. In D.L. Epstein, R.H. Pildes, R.o. de la Garza, S. O'Halloran (Eds.), *The future of the Voting Rights Act*, pp. 203-222. New York: Russel Sage Foundation
- Barreto, M. A., Cohen-Marks, M., & Woods, N. D. (2009). Are all precincts created equal? The prevalence of low-quality precincts in low-income and minority communities. *Political Research Quarterly*, 62, 3: 445-458.
- Benton, J. E. (2005). An assessment of research on American counties. *Public Administration Review*, 65, 4: 462-474.
- Bivand, R., & Piras, G. (2015). Comparing Implementations of Estimation Methods for Spatial Econometrics. *Journal of Statistical Software*, 63(18), 1-36.
- Brady, H. E., & McNulty, J. E. (2011). Turning Out to Vote: The Costs of Finding and Getting to the Polling Place. *American Political Science Review*, 105(01), 115–134.
- Burden, B. C., Canon, D. T., Mayer, K. R. & Moynihan, D. P. (2012), The Effect of Administrative Burden on Bureaucratic Perception of Policies: Evidence from Election Administration. *Public Administration Review*, 72: 741–751.
- Burden, B. C., Canon, D. T., Lavertu, S., Mayer, K. R., & Moynihan, D. P. (2013). Selection method, partisanship, and the administration of elections. *American Politics Research*, 41: 903-936.
- Dyck, J. J., Gaines, B. J., & Shaw, D. R. (2009). The Effect of Local Political Context on How Americans Vote. *American Politics Research*, 37(6), 1088–1115.
- Dyck, J. J., & Gimpel, J. G. (2005). Distance, turnout, and the convenience of voting. *Social Science Quarterly*, 86, 3: 531-548.
- Downs, A. (1957). An economic theory of political action in a democracy. *The Journal of Political Economy*, 65, 2: 135-150.
- Elhorst, J.P. (2010). Applied Spatial Econometrics: Raising the Bar. *Spatial Economic Analysis*, 5:1, 9-28

- Ewald, A. (2009). *The way we vote: The local dimension of American suffrage*. Vanderbilt University Press.
- Florida Statutes. (2012). Title IIX, Electors and Elections, § 101.657 Early Voting. Retrieved June 21, 2013, from <http://www.flsenate.gov/laws/statutes/2012/0101.657.fl.us/Statutes/index.cfm>
- Gimpel, J. G., & Schuknecht, J.E. (2003). Political participation and the accessibility of the ballot box. *Political Geography*, 22: 471-488.
- Harris, J. P. 1934. *Election administration in the United States*. Institute for Government Research. Studies in Administration, (no 27), xi, 453 p.
- Hasen, R. L. (2014). When is Uniformity of People, Not Counties, Appropriate in Election Administration? The Case of Early and Sunday Voting. *Legal Studies Research Paper Series*, 2015(49), 2–15.
- Hindera, John J. (1993). Representative bureaucracy: Further evidence of active representation in the EEOC district offices. *Journal of Public Administration Research and Theory*. 3 (4): 415-429.
- James, S. C., & Lawson, B. (1999). The political economy of voting rights enforcement in America's Gilded Age: Electoral college competition, partisan commitment, and the Federal election law. *American Political Science Review*, 93, 1: 115-131.
- James, T. S. (2012). *Elite statecraft and election administration: Bending the rules of the game*. Basingstoke: Palgrave Macmillan
- James, T. S. (2010). Researching electoral administration in America: Insights from the “post-florida” era. *Political Studies Review*, 8(3), 357–367.
- Kennedy, B. (2014). Unraveling Representative Bureaucracy: A Systematic Analysis of the Literature. *Administration & Society*, 46(4), 395–421.
- Kimball, D. C., & Kropf, M. (2006). The Street-level bureaucrats of elections: Selection methods for local election officials. *Review of Policy Research*. 23 (6): 1257–68.
- Kimball, D. C., Kropf, M., & Battles, L. (2006). Helping America vote? Election administration, partisanship, and provisional voting in the 2004 Election. *Election Law Journal* 5 (4): 447–61.
- Kropf, M., Vercellotti, T., & Kimball, D. C. (2013). Representative Bureaucracy and Partisanship: The Implementation of Election Law. *Public Administration Review*, 73(2), 242–252.

- Lacombe, D. J., Holloway, & G.J., Shaughnessy, T.M. (2012). Bayesian estimation of the spatial Durbin error model with an application to voter turnout in the 2004 presidential election. *International Regional Science Review*. August 2012: 1-28.
- LeSage, J. P. (2014). What Regional Scientists Need to Know About Spatial Econometrics. *SSRN Electronic Journal*, 13–32.
- Lijphart, A. (1997). Unequal participation: Democracy's unresolved dilemma. *American Political Science Review*, 91, 1: 1-14.
- Lim, H. H. (2006), Representative Bureaucracy: Rethinking Substantive Effects and Active Representation. *Public Administration Review*, 66: 193–204.
- Menzel, D.C, Marando, V. L., Parks, R. B., & Waugh, W. L. (1992). Setting a research agenda for the study of the American county. *Public Administration Review*, 52, 2: 173-182.
- Morton, R., Bassai, A., & Trounstine, J. (2008). Reaping the Political Benefits: Local Implementation of State and Federal Election Laws. Unpublished. Accessed Jan 2009 from [http://as.nyu.edu/docs/IO/2797/bmt\\_empirical.pdf](http://as.nyu.edu/docs/IO/2797/bmt_empirical.pdf)
- Meier, K. (1993). Latinos and Representative Bureaucracy Testing the Thompson and Henderson Hypotheses. *Journal of Public Administration Research and Theory*, 3(4), 393–414.
- Meier, K., & O'Toole, Jr., L. (2006). Political Control versus Bureaucratic Values: Reframing the Debate. *Public Administration Review* 66 (2): 177-192.
- Meier, K., & O'Toole, Jr., L. (2006). Bureaucracy in a Democratic State: A Governance Perspective. *Journal of Public Administration Research and Theory* (Vol. 18)
- Montjoy, R. S. (2008), The Public Administration of Elections. *Public Administration Review*, 68: 788–799.
- Norris, P. (2013). The new research agenda studying electoral integrity. *Electoral Studies*, 32(4), 563–575.
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology* 49: 65-85
- Savas, E. S. (1968). A computer-based system for forming efficient election districts. *Operations Research* 19 1: 135-155

Selden, S. C., Brudney, J. L., & Kellough, J. E. (1998). Bureaucracy as a Representative Institution: Toward a Reconciliation of Bureaucratic Government and Democratic Theory. *American Journal of Political Science*, 42(3), 717–744.

Wade, T., & Sommer, S. (2006). *A to Z GIS*. Redlands: ESRI Press.

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