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Democracy on Shifting Ground: An Analysis of the Use of Precincts in Spatial Electoral Studies

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Democracy on Shifting Ground: An Analysis of the Use of Precincts in Spatial Electoral Studies

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In the Department of Geography of the College of Arts and Sciences by

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Abstract

The use of geography and spatial analysis within the field of political science offers a wealth of opportunities to explore the spatial aspects of politics. Given the proliferation of political jurisdictions throughout the United States spatial analysis and electoral geography is a common sense approach to understanding patterns of voting behavior. Despite the benefits offered by using geographic analysis there are several drawbacks and difficulties that researchers must consider when attempting geographic analysis of voting behavior in local, state, and federal elections.

First, many social scientists look to state and county election results to provide information about political behavior and the population of voters within those political jurisdictions. State and county election results are readily available and boundaries of their jurisdictions are constant over time, providing a concrete foundation from which to analyze voting patterns and behavior. However, drawing conclusions from county and state election results, particularly conclusions about the demographics within counties and states as they associate to voting, is highly problematic. The areas are too large and many spurious conclusions are made by drawing correlations between voters in states and counties and election outcomes within those jurisdictions.

Second, because of the problems associated with county and state level election data, in particular the suspect conclusions drawn from them, it makes logical sense to use a smaller unit of analysis to decrease the negative effects of data aggregation. Precincts are the smallest unit of analysis available when examining voting districts and provide much more detailed and rich results. However, unlike county and state boundaries, they are subject to frequent change over
time. Also, depending on which jurisdiction(s) you wish to analyze, up to date and correct
precinct maps are difficult to obtain.

Even more disturbing, is that election results may be missing and records of precinct
changes may be spotty to none existent. This not only represent a problem for research be also
represents a problem for our democracy. The United States, as a republican form of government,
relies on democracy in order for citizens to elect representatives. Missing records call into
question the entire democratic process and may add to the growing distrust and disapproval of
almost every government institution (Jones, 2011). Hence precinct analysis provides its own
source of difficulties that require attention.

This thesis will examine the costs and benefits of using precincts as a unit of analysis for
studying election results and conducting analysis. Methods for this analysis will rely on
qualitative analysis based on research and experiences obtaining information for and using
precinct level election data. Results will help future researchers determine what unit of analysis
will best fit their needs based on the benefits and costs of using different political jurisdictions to
analyze election results and voting behavior.
Acknowledgements

This thesis is the result of frustrations encountered while working on a dissertation. After going to a member of my dissertation committee (and thesis chair) several times to complain about the difficulties encountered while trying to obtain election results and other necessary records, Dr. McTague encouraged me to complete a Master’s Thesis detailing the interesting and, at times, disturbing problems encountered while attempting to complete empirical research using voting results in precincts. As was always the case, Dr. McTague offered helpful and keen insight that proved to be so valuable during my entire academic career at the University of Cincinnati. For that, I am eternally grateful for her guidance and insight; very few could ever hope to have a better mentor.

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Chapter 1

Introduction

Spatial analysis provides a wealth of information for those who study political science. Due to the fact that many countries, especially the United States, are broken up into multiple electoral units it makes sense to be able to view election results geographically (See Figure 1.1 for a description of voting districts). There are thousands of voting districts throughout the United States, with California alone totaling nearly 30,000 voting districts within its boundaries. According to the United States Census Bureau voting districts are a “wide variety of small polling areas, such as election districts, precincts, or wards that state and local governments create for the purpose of administering elections (US Census Bureau).” It is also important to note that “some states also use grouping of these entities to define their State and local legislative districts, as well as districts they define for election of members of U.S. House of Representatives (US Census Bureau).”

Given the number voting districts and elections that occur at any given time it is possible to find commonalities between issue, local, state, and federal elections. Also, given that many electoral districts also mirror that of census districts, many important data is available about voters within each district. Finally, as technology improves, especially via Geographic Information Systems (GIS), there is even more of an opportunity to research spatial aspects of voting.
Using electoral geography to study electoral and voting behavior may yield critical results to help social scientists via analyzing voters within voting districts and patterns of voting behavior. However, despite the many opportunities presented by spatial analysis and the increasing ease of doing this analysis with programs such as GIS there are several pitfalls and problems that are present. Ironically, due to the numerous voting districts available in the United States there is a problem with boundary overlap and change over time. There are several voting districts that do not match with other voting districts, municipal boundaries, or census boundaries and go through numerous changes over time. What is even more interesting is the lack of discussion or acknowledgement of these problems.

This thesis will explore the benefits of conducting spatial analyses with voting districts and discuss the various pitfalls that can be encountered when conducting spatial research. The arguments made in this thesis will be based primarily on the first hand experiences of trying to collect election and precinct data within fifteen counties that make up the Cincinnati Metropolitan Statistical Area as designated by the Census Bureau. Ultimately, during the data collection aspect of a dissertation much was learned about the difficulties of data collection, some of it by accident. It was determined that these experiences warrant an independent examination of the research possibilities afforded by examining precinct level data but, even more so, the difficulties, intended and otherwise, of trying to use precinct data for an in depth analysis.

Using qualitative research, this thesis will present the benefits and drawbacks to analyzing precinct data. The thesis will first evaluate literature on electoral geography, how it has manifested over time, different methodologies used, and how it is being used today. The
thesis will then provide a research question, hypotheses, and methodology used to test the
different hypotheses. Results from the research will be presented and discussed. Finally, a
conclusion is provided summarizing the findings and presenting ideas to further explore political
analysis via electoral geography.
Chapter 2

Literature Review

The use of maps in political analysis is as old as the use of maps themselves. Denoting the location of groups of people, tribes, empires, countries, etc., has been a crucial task since maps were first made. More recently, maps have become a critical tool in providing information about American politics. The creation and refinement of Congressional Districts as well as state legislative districts require a high degree of precision and accuracy. In particular, the nature of the Electoral College system has yielded a variety of maps, analysis, and strategies based on the results of presidential elections. The use and analysis of the spatial side of politics is broadly conceived as electoral geography, which in itself has several different variations.

Electoral Geography

Electoral geography focuses on the geographical aspects of the organization, conduct, and results of elections. Election analysis in political geography relies primarily on the various electoral jurisdictions, such as states, congressional districts, counties, wards, and precincts within the American politics. The majority of studies are empirical analyses of voting patterns, some published in the early twentieth century, but most dating to the 1960s (Taylor, 1979).

According to the Johnston, et al., in their Dictionary of Human Geography, elections are inherently spatial in their form. They identify five separate subfields within electoral geography. The first variation of electoral geography identifies spatial variations of voting patterns along with their relationship to socio-economic characteristics of the population. The second variation
takes into account local contextual factors, such as local newspapers, discussion among neighbors and friends, and religious affiliation to name a few, on political attitudes and voting decisions. The third variation examines the spatial organization of elections with a focus on defining the constituency of parties and candidates. The fourth variation uses spatial patterns of electoral representation to examine the results of elections. Finally, the fifth variation of electoral geography examines the spatial variations in policy implementation that reflect patterns of representation (Johnston et al., 1994).

By the 1960s, the advancement of technology and adoption of quantitative methods to analyze spatial data brought significant advances in electoral spatial analysis. The combination of voting returns and census data allowed for an in-depth analysis of population characteristics and voting behavior. Much of the work of electoral studies, particularly within political science, focused on cleavages in voting. The examination of cleavages involves the examination of division of society into groups that have similar political attitudes and behaviors and, especially the split of people into partisan identifications. These divisions or cleavages can be observed in the geography of the voting surface (Johnston et al., 1994). As the geographic cleavages became more observable, specific forms of electoral analysis began to become popular especially the neighborhood effect and in contextual effects.

*The Neighborhood Effect*

The Neighborhood Effect is based primarily in theory within the field of Geography and has its base of disciples in Europe, primarily in Great Britain. Although not initially associated with electoral studies, it was pioneered in the 1960s and is used to explain the spread of political information. The Neighborhood Effect envisions political information as being synonymous
with the spread of disease and implies that it was a contagious process. It is theorized that individual voting behavior is influenced by the information and cues that are prevalent in the voter’s area of residence. Therefore, voting behavior is influenced by those people with whom a voter has frequent contact (Johnston et al, 1994). The Neighborhood Effect manifests because some people in a certain area convert others to their viewpoint by discussing various political views with them through the neighborhood communications network despite having no overt intention for the conversation (Taylor and Johnston, 1979). Ultimately, the Neighborhood Effect attempts to find how personal networks effect political thought and decision making and is broadly conceived.

*Contextual Theory*

Using the foundations of electoral geography and The Neighborhood Effect as methodological and theoretical foundations, several political scientists began to investigate contextual effects within American politics. One of the first political scientists to create a specific definition of contextual theory is John Agnew. He defined context in terms of “place” and identified three elements that comprise place (1) locale, the setting of routine social interaction, (2) location, the role of place in the world economy, and (3) sense of place, meaning the socialization that occurs when living in a place (Agnew, 1987).

Two other political scientists who added much to the theoretical and methodological mechanisms of contextual theory are John Books and Charles Prysby. Their book, *Political Behavior and the Local Context*, is one of the most important scholarly works to date that seeks to advance the study of contextual theory. In it, the authors narrow the definition of context to “a geographically bound social unit,” including such things as states, counties, cities, communities,
precincts, voting districts, census tracts, and neighborhoods as potential and actual context.
Books and Prysby exclude families, clubs, associations, parties, interest groups, and other organizations on the basis that these groups are better analyzed from the socialization and group dynamic perspectives (Books and Prysby, 1991).

Furthermore, Books and Prysby state contextual effects occur when some aspect of the community in which a person resides alters the flow and meaning of the information that the individual receives. This altered flow and interpretation may lead the individual to behave differently in this specific context than another. Ultimately, people in one context have access to different informational cues than people in other contexts. The goal of contextual theory, according to Books and Prysby, is to advance social science theory and understanding by finding the extent of contextual effects and discovering the mechanisms by which environments influence individuals (Books and Prysby, 1991).

Finally, Books and Prysby provide that there are three variables that may be used in contextual analysis, and they are:

1. Compositional Variables: which are defined as those variables which “are derived from some mathematical operation on absolute individual-level measures. The most common operations are calculating a mean or percentage. Examples include averaging individual educational levels in a community, computing the proportion of party voters in a precinct for a given election, or calculating the median income in a neighborhood (Books and Prysby, 1991, p. 6).
2. Structural Variables: these variables that “are created by measuring some social interacting or behavioral pattern in an area, district, or community. The degree of housing segregation in a city would affect the structural property of that city. Differences in this variable indicate differences in social relations or behavior from city to city (Books and Prysby, 1991, p. 6).” Structural variables use individual level data within a geographic area to examine relationships and identify patterns.

3. Global Variables: these variables “represent information not derived directly or indirectly from the properties of the members of the collective. Obvious examples include climate and topography (Books and Prysby, 1991, p. 6).” Books and Prysby cite more relevant political examples such as type of local government in which voters live or proximity to a foreign border as further examples of global contextual variables.

Ultimately, to varying degrees, several political scientists have used and continue to use these contextual variables to draw conclusions about political behavior.

Electoral Geography and the Study of American Politics

Perhaps one of the most important studies to usher in electoral geography in American politics was V.O. Key’s Southern Politics in State and Nation. Key used a variety of election results and demographic information of counties in the eleven states that formerly made up the Confederacy during the Civil War. His results were a boon for spatial analysis: Key found that there were regional variations in voting behavior. He investigated the Democratic primary
elections in several Southern States and found a relationship between the location of a candidate’s home and the percentage of the vote received. Perhaps his most important and enduring finding was with respect to voters who supported segregationist politicians. Key found that white voters who lived in counties with a high percentage of blacks were more likely to vote for segregationist candidates and candidates who support racial intolerance. He also found that turnout among white voters in those same counties within the Democratic primary was much higher than in other counties within the state (Key, 1949).

Another critical piece within the field of political science is Walter Burnham’s *Critical Elections and the Mainsprings of American Politics*. In his book, Burnham uses spatial analyses techniques similar to those Key employed in *Southern Politics in State and Nation* and also draws upon precinct and county voting behavior in Pennsylvania to point out critical elections and changes in partisan loyalties. One particular example Burnham used involves an analysis by precinct of Delaware County in Pennsylvania. It compared the votes for Kennedy and Nixon in the 1960 presidential election to the number of skilled and unskilled laborers in each precinct, according to the census and further mapped the percent of each precinct that later voted for Wallace as a third-party candidate in the 1968 presidential election. Burnham used this to point out the shift of partisan loyalties that was underway in the 1960s (Burnham, 1970).

Within contemporary American political analysis electoral geography and contextual analysis have experienced a major boon. Much attention and analysis focuses on party and ideological polarization with particular focus on whether partisan voters are ideologically polarized and whether there is any relationship between voters, their party support, and where
they live. Much of this analysis has focused on the difference between so called blue and red states and blue and red counties.

Within the field of political science, there are two groups with divergent ideas about whether politically like-minded individuals are geographically clustered. One group, spearheaded by writings by Morris Fiorina argues that divisions within the electorate are geographically close but not deep. Fiorina uses limited political mapping to make his points. However, in his book *Culture War? The Myth of a Polarized America*, he points to a state map of the Electoral College results of 2004. Using this map he argues that by observing state-level data it can be perceived that America is deeply divided. However, he uses a map of counties and blends them based on the percent in each county who voted Democratic or Republican. A county that voted completely Republican in 2004 would be colored red, and a county that voted completely Democrat in 2004 would be colored blue, with varying shades of purple for those somewhere in between, leaving a map that is overwhelmingly purple. Using this map, which indicates a closely divided but not deeply divided electorate, he argues that there is no culture war but only a “culture skirmish” (Fiorina et al., 2006).

Perhaps one of the most important and extensive discussions of geographic political and ideological clustering was done by reporter Bill Bishop and sociologist Robert Cushing. In their book, *The Big Sort*, they argue that Americans are moving to communities with politically like-minded individuals. Bishop argues that this sort has increased dramatically since 1976 and he uses county-level data to demonstrate the political divisions within the United States. These findings are based Bishop’s analysis of the percent of voters who live in a landslide county during competitive (where the margin of victory in the popular vote is single digits) and
uncompetitive (where the margin of victory in the popular vote was in double digits) presidential elections since 1948. He uses presidential elections as the measurement of geographic political sorting because it is the one common election among all counties, which avoids the effects of having different candidates and changing voting districts. According to Bishop’s methodology, a landslide county is one in which there is a difference of twenty percent or more support for the presidential candidate of the two major parties. Bishop excludes third parties to even out the comparison over time (Bishop, 2008).

Using counties as his unit of analysis, he argues that since World War II, the number of counties that have tipped in supporting one party each presidential election has grown considerably. Prior to the growth of the “tipping” phenomenon, the difference between Republican and Democratic presidential candidates over the years was usually between two and three percent in “untipped” counties. However, once a county tipped, the spread kept growing. According to Bishop, the trend was more pronounced in Republican counties since Democratic counties tended to attract a more diverse population. He also surmises that people who left Republican and Democratic counties in 2004 were highly likely to move into similar areas (Bishop, 2008).

The number of counties with a voting gap or the margin between votes cast for each candidate in presidential elections between the two parties increased between 1976 and 2004. This voting gap increased in 2,085 counties, making them significantly less competitive, while 1,026 counties became more competitive. To further prove the point, in the close election of 1976, only 38 percent of the nation’s counties had a disparity larger than twenty percentage points between voting for the Democratic and Republican candidates. However, looking at the
close election of 2004, more than sixty percent of all of the nation’s counties produced landslide results. This tipping phenomenon is not relegated to specific regions. Every region in the country has become more segmented as it has tipped toward one party or the other (Bishop, 2008).

In his book, *Patchwork Nation*, James Gimpel examines sectionalism in several states throughout the country. He concludes that several sections and counties in several states are politically polarized. Gimpel points to several different underlying causes of sectionalism or sorting within geographic areas including religion, economics, ideology, and race to help explain in most instances why certain geographic units are heavily partisan (Gimpel, 2004).

Although most books use county level data, in his book “Red State, Blue State, Rich State, Poor State: Why Americans Vote the Way They Do,” Gelman uses states to make his argument. Gelman argues that there are strong correlations between “red” and “blue” states and individual level characteristics. Using aggregate data, he attempts to explain American voter behavior in each state by analyzing the differences between aggregate differences of characteristics of people in habitually Republican (red) and Democrat (blue) states (Gelman, 2008).

Finally, Oppenheimer examines the competitiveness of congressional elections and identifies three causes of the incumbency advantage and decline in competitiveness in his article, “Deep Red and Blue Congressional Districts: The Causes and Consequences of Declining Party Competitiveness.” The first explanation is that there has been “improved data and computer technology available to those doing the redistricting and the incentives they have to create noncompetitive districts.” A second explanation for the lack of competitive districts is “declining partisan competitiveness resulting from the creation of increasingly majority-minority
districts.” The final explanation, and the argument most important to the thesis of this
dissertation, is “that the increasing ability of Americans to select where they reside, and their
tendency to do so on bases that are strongly correlated with political party preferences, is the
underlying cause for the decline in partisan competitiveness” (Oppenheimer, 2005, p. 136).

Oppenheimer argues that mobility has allowed Americans to select where they will
reside. This is applicable to people across the social and political spectrum. White and blue-
collar workers have multiple locations from which to choose from when deciding where to go to
work. Retirees can select where and with whom they will spend their retirement and college
students can select to attend a school anywhere in the nation and are not bound by constraints of
proximity. Although partisanship is most likely not a conscious consideration when determining
a place to live, the criteria on which the decision of where to live are linked to partisanship and
political ideology, hence the ease of movement has partisan consequences (Oppenheimer, 2005).

Partisan and ideological factors help people decide where to go to college, where to work
and where to retire. After an area is selected, partisanship and ideology provide guidance in
deciding where to reside once arriving at a certain locale, such as whether to live in the central
city, a first or second tier of suburbs, or even in a more rural location. Oppenheimer uses this
principle to explain the disappearance of Republican Congressional districts that once existed on
the periphery of many Northern cities (Oppenheimer, 2005).

Oppenheimer argues that residential self-selection did occur in the past; however, it was
not as extensive as it has been recently. Americans now tend to live in areas with people who are
more ideologically similar. Voters today are less likely to live in areas that are politically
heterogeneous or live near someone with different political points of view. This phenomenon
has made a significant impact on Congressional elections and has especially allowed for the parties to “pack” districts (Oppenheimer, 2005).

Ultimately, the bulk of recent research using electoral geography utilizes states, congressional districts, and especially counties to make comparisons and draw conclusions. Although there are significant benefits in using state and county election data as a unit of analysis there are also significant drawbacks as well, particularly the loss of detailed information and aggregate data which may lead to drawing correlations between people in states and counties and voting behavior. Also, the use of states, congressional districts, and counties do not allow for an examination of voting behavior of local elections, leaving a gap in research about local election. Elections that feature school board, city council, mayoral, local initiative, recall, and referenda on taxes and services, and a host of other elections are not able to be examined. One method of fixing this is to use a smaller unit of analysis: the precinct. However, precinct level voting information, despite offering several advantages, also poses its own difficulties that will be discussed in more detail below.
Chapter 3

Methods, Results, and Discussion

As political scientists continue to utilize voting districts to explore a wide range of topics, it is critical to weigh the costs and benefits of using certain voting districts. As discussed above, most of the current literature within the field of political science relies on larger voting districts such as congressional districts, states, and counties, with each offering several benefits.

States are a natural voting district to analyze because they are used in the Electoral College, have easily accessible voting results, match census data, and have stable boundaries. Congressional districts offer several of the same benefits except for they change boundaries after each census. Despite these changes, which occur once every ten years, they offer smaller units of analysis for more in depth analysis and are nationwide. Counties offer several specific advantages when used to analyze election data that make them preferable to other voting districts. They are the smallest unit available whose boundaries do not change, are large in number allowing for analysis of national and state elections, and mirror census boundaries.

Despite the benefits of using these voting districts as units of analysis they are all still large geographic areas. Due to the fact that they contain large, diverse populations, comparing voting results with populations within these voting districts is cause for major methodological concerns. Simply drawing correlations between voting outcome and the population is problematic because of the aggregation of data. Voting behavior within each of these voting districts varies much more than can be measured because of the aggregation of data. Hence
detail is lost and false conclusions may be made via these voting districts. The only way to
diminish the loss of information due to aggregation of data and ensure maximum detail is to use
the smallest units of analysis available, which are precincts.

What are precincts? Precincts are the smallest voting districts used by county and state
governments to organize and administer voting by individuals. Most states, including those in
the areas studied for this thesis, stipulate that precincts must be completely contained within
other existing boundaries such as a county, city, school district, congressional district, etc. and
cannot straddle nor overlap those boundaries. Boundaries for precincts are typically set by
county Board of Elections composed of appointed and elected officials. Unlike legislative
districts, precincts are similar are building blocks of other electoral jurisdictions and are created
for administrative purposes only and their geographic manipulation does not benefit or inhibit a
candidate or party in and of themselves. Unlike counties, whose boundaries are set in stone,
precinct boundaries can and do change.

Precincts boundaries change for several reasons. Many precinct changes occur to reflect
an influx or reduction of voters within the boundary of a precinct. Another reason precinct
boundaries change is because of boundary changes of larger voting districts or the annexation of
land by a city creates boundary change that precincts must accommodate. Each state will have
different definitions as to the “ideal” number of voters within a precinct, such as Indiana statute
states that precincts should have no more than 1,200 voters within a precinct (Indiana Code) or in
Kentucky if more than 700 votes are cast than a precinct should be split prior to the next election
(Kentucky Revised Statute). Also, if the number of votes or voters decreases over time,
precincts are merged when the number of voters becomes too small to necessitate the cost of
maintaining a precinct. Recently, Kenton County, KY and Hamilton County, OH decreased the number of precincts to accommodate voters and/or as a cost saving measure (Enquirer, 10/14/11 and 5/23/11). Typically, decisions to combine precincts requires evidence that the cost and administrative benefits of combining them do not significantly interfere with voter access and ease of voting.

**Benefits of Precinct Analysis**

Using data collected from the State of South Carolina as well as the Greater Cincinnati Metropolitan Statistical Area as examples; note the contrast of detail between counties in Figures 4.1 and 4.3 as opposed to precinct level data in Figures 4.2 and 4.4. Both examples categorize counties and precincts as being either a landslide victory for Republicans or Democrats (landslide indicating a victory by the party presidential candidate by twenty percent or more) or precincts as being landslide for either party’s candidate or not. What also should be apparent is the problem of simply declaring a county (much less a state or congressional district) as being “blue” or “red” indicating allegiance for the Democrat or Republican parties, respectively, and simply correlating the populations within these areas with voting for one party or the other. Although precincts do not eliminate the problem of aggregation they do provide a different perspective and provide greater detail. This can be viewed by noting the variation within counties and the patterns prevalent in many counties. Furthermore, several contextual and compositional theorists will examine populations within precincts and draw detailed, rich comparisons between voting behavior and demographics, even for local elections as minute as city ordinances on gay rights (Brown et al., ).
Precinct analysis in the context of understanding political behavior and spatial perspective offers several unique and critical benefits. First, it displays a closer representation of spatial patterns in the electorate than any other electoral jurisdiction. Second, it decreases the amount of aggregate error. Despite these critical benefits, precinct analyses suffer from several problems that must be considered and understood when using these electoral boundaries as unit of analysis in doing any political research.

**Difficulties of Precinct Analysis**

As mentioned above, there are multiple benefits of using precincts as a unit of analysis when studying voting behavior and spatial variation in voting. Despite these benefits, there is substantial difficulties researchers face when using precincts to study politics in general. The information in this thesis that outlines the difficulties of precinct analysis is a compilation of various difficulties encountered during the data collection and analysis for a dissertation in which precincts were the unit of analysis. The areas of focus include the Greater Cincinnati Statistical Area and the State of South Carolina. The difficulties encountered include problems obtaining election results, obtaining precinct maps and changes, precinct boundary changes, and the fact that precinct boundaries do not adhere to census and other boundaries.

**Difficulties Obtaining Precinct Election Results**

By law, election results and records are open and available to the public. The availability to the public of the process and results of elections are one of the hallmarks of a functioning democracy. Yet, while collecting historical data on precinct elections in the fifteen counties in the Cincinnati Metropolitan Statistical Area, it was difficult and in some cases not possible to
obtain election results by precinct of presidential elections that occurred between 1976 and 2008. Election results were “missing” for various reasons or said to be missing as an attempt to dissuade the researcher.

There were several instances where election results were not available because they were missing. In Ohio County, Indiana, the county clerk, who is tasked with keeping election results, made election results available for years in the bottom of the county courthouse unguarded and unrestricted for the general public. At some point, individuals stole election and other seemingly important documents from this area. Employees, I was told, were not aware of the theft until they received a phone call from a concerned citizen who informed them that the records were being sold on E-Bay. After proper authorities were contacted many of the stolen documents were retrieved, however all election results occurring between 1980 and 1988 were never recovered.

In adjacent Dearborn County, Indiana, the county clerk and employees were unable to locate the 1976 election results. These results as well as others are entered into a large book and are supposed to be available for the public. The book was not in the clerk’s office “where they are supposed to be,” according the clerk and his staff. When I persisted in acquiring the results I was told they could only be in one other place, the storage for records in the courthouse basement. I was also informed it would be up to me to find the election results, was given a key to the records room, and sent to the basement. After spending a half a day in the records room and finding various records, some of which date back to the Civil War, I was unable to locate the election results at the close of business and told that there was nothing more that could be done to locate the election records.
Obtaining election results was not a problem isolated to Indiana. In Campbell County, Kentucky, it took several trips to the county clerk’s office to obtain all election results. Several times employees of the clerk’s office indicated that the precinct election results for 1976 and 1980 were simply gone and had been lost when the office moved locations. In Gallatin County, Kentucky, election results for the 1984 presidential election were recorded in the official election book by county only, with no other official records kept. The staff in the Boone County, Kentucky, Clerk’s Office claimed that after hours of searching they were unable to locate the 1976 election results. Finally, in Grant County the elected county clerk point blank stated that her turnout records were in a storage area, that it would take too much time to find them, and that she was simply going to refuse my request.

While attempting to find historical (although recent) data on elections by precinct the only state where I encountered no problems was in Ohio. Indiana does have a safeguard in that a copy of election results is kept at the Indiana State Archives in Indianapolis where I was able to obtain the missing election data for Ohio and Dearborn Counties. Kentucky’s State Board of Elections, however, does not keep county election results and therefore obtaining backup records in Frankfort for past elections was not an option like it was in Indiana. Kentucky required a year of persistence before obtaining most of the election results. A friend of my family’s was a former elected official in Campbell County and, after telling them of my story, called the county clerk and, rather miraculously, the election results were found. The clerk’s office in Boone County offered to let me search in the archive room for the missing election book. After accepting their offer and searching for five minutes I was able to locate the missing 1976 election results. Ultimately, Gallatin County’s 1984 election results were the only election records never
fully obtained. Turnout figures varied greatly in availability from county to county, typically the outlying counties of the edge of the study area only had turnout figures for recent elections.

_Precinct Boundaries and Boundary Changes_

Another major obstacle of studying precincts and vote change over time using precincts as the unit of analysis is that precinct boundaries are subject to change. As mentioned above, precinct boundaries change for a host of reasons. A spatial analysis of change over time using precincts must account for those changes over time. Within the Cincinnati Metropolitan Statistical Area between the years of 1976 and 2008 there were no presidential elections that occurred with the exact same precincts as the previous presidential election. This poses severe methodological problems that must be accounted for through one of two methods. First, precinct maps may be adjusted to reflect the changes that occur between each election. Second, the votes within past precincts can be manipulated to reflect the changes that occurred, which is the method I selected.

In order to account for precinct boundary changes I used a method that requires splitting and merging precinct votes over time using the historical data of precinct changes. This method requires all 2008 precinct boundaries and documentation that reflects all of the changes leading up to the current geographic boundaries. Totals for each precinct are split or added together to reflect precinct splits and merges. This method also requires proportional splits because it is impossible to know how many voters from a previous precinct moved. For instance, if a precinct splits, half of the votes would move to the new precinct and the other half in the old, keeping the proportion the same a reflecting the actual vote in that precinct during that election. If three precincts were split to make a new precinct than one third of each precinct would be pulled to
form the new precinct, again to reflect the proportions of the former precincts. All of this requires maps and documentation.

Each of the fifteen counties within the study area had gaps in the maps detailing precinct changes and the formal documentation detailing those changes. Considering all of the difficulties encountered when studying voting change over time using precincts as the unit of analysis, overcoming precinct changes is by far the most difficult part of the process, particularly when going back several decades. Each county in each state required a different strategy in order to overcome this obstacle.

For the three counties in Indiana, some information was available in each county clerks’ office to at least get started. This information ranged from newspaper clippings, to documentation of precinct changes, to oral records from employees and clerks who had been in their respective position for long periods of time. Other records were obtained from the Indiana State Archives in Indianapolis.

Several Kentucky counties required a similar effort as those in Indiana. Some counties have some records on precinct changes or “institutional memory” of the changes, while the bulk of precinct changes had to be obtained from the State Board of Elections in Frankfort, Kentucky. However, Kentucky counties introduced several other, unexpected problems. First, it was not a law in Kentucky for counties to submit precinct changes to the State Board of Elections until 1995; therefore all previous changes done at the county level relied on the county to record those changes, which they frequently did not. The easiest state to deal with, in the context of precinct changes, was Ohio. Ohio counties typically keep all records of precinct changes and have these sheets readily available for the public. They also kept better records of precinct changes and, if
all else failed, had Board of Elections meeting minutes that recorded instances where the board voted to change a precinct’s boundaries and how they chose to do so.

Despite obtaining all of the records available in each county, there were still several gaps in the precincts when comparing the records to those precincts from election to election. These gaps could be filled using the maps and when precinct boundaries were manipulated. In essence, it is similar to putting together a puzzle where there is no picture at the end, only if shapes seem to fit together. This process is arduous and could be compared to educated guessing, but yields the most accurate results possible, particularly when documentation was later obtained it simply confirmed what was already found. Beyond any other problem when using precincts to analyze voting over time, accounting for precinct changes is extremely difficult given the number of changes that occur between each election, especially each presidential election (see Figure 4.5).

Maps and Spatial Analysis

Finding and adequately addressing precinct changes over time, whether by adjusting votes or maps, is extremely difficult. Another problem is obtaining the actual maps. For my research, it was only necessary to obtain the 2008 precinct maps and then manipulate the precinct votes rather than the maps. Therefore, I either purchased or was given precinct maps by a county or state agency. However, not all counties and states have and use GIS and shapefiles.

Three of the seven counties in Kentucky had and to this day have no electronic copy of their precinct maps. Using street and census maps in combination with copies of precinct maps that had been drawn by Kentucky Legislative Research Commission (LRC), maps for these four counties had to be created from scratch. All other counties in all other states have an office that
creates and making changes to their “shapefiles” of their precinct boundaries. In Ohio, each county is responsible for maintaining these records. In Indiana counties continue to create these electronic files, however there is an effort underway in that state to create a statewide database. In South Carolina, there is an up to date statewide precinct map available. Unfortunately, in Kentucky, only a few counties currently have and maintain their precinct boundaries electronically. There also seems to be no specific agency in Kentucky or within the counties whose authority includes maintaining such documents. At the time when I was looking for any copy of Gallatin’s, Grant’s, or Bracken’s precinct files I was informed by the LRC that they have Portable Document Format (PDF) files of drawn precincts but they argue that they are not supposed to keep and maintain these files but the Kentucky Board of Elections is to do so but has refused. Hence, I unwittingly stepped into a turf war between two agencies simply by requesting the documents. In the Kentucky counties that did have “shapefiles” of their precincts made them available through county or regional planning commissions.

Another important and frequently misunderstood feature of precincts is that they do align to other elections boundaries but do not align to other non-electoral boundaries such as census boundaries and neighborhood boundaries and even, in some jurisdictions, do not conform to other official boundaries such as cities and school districts. This further complicates the usefulness of precincts. First, it is difficult to obtain an accurate number of people and demographic information about those who live in all precincts because they do not always match census boundaries (see Figures 4.6). Hence, states typically set a number of registered voters or actual voters as the measure for adjusting precinct boundaries. Second, it is difficult, if not impossible to obtain elections results for certain geographic jurisdictions such as an historic
neighborhood (See Figures 4.7). Therefore, it is difficult to use precincts for certain types of analyses, particular if you want to compare neighborhoods or demographics.

This is also a key point to consider when drawing definitive conclusions about demographics and voting behavior using geographic boundaries, including and especially precincts. Correlations can be drawn between demographics within precincts and voting behavior but it is especially important to consider that correlation does not equate to causality. Although this is common knowledge to anyone who has taken basic statistics, it is critical to consider when examining voting results and drawing conclusions about the demographics of voters within the precinct. Those who voted may not be the same as the demographic population within the precinct and may only be determined if demographics of actual voters are kept.

Using precincts as a unit of analysis in political studies offers the opportunity to examine voting behavior at a scale that allows for unprecedented detail. It significantly diminishes the aggregation error associated with other voting districts. However, despite these significant benefits, there are several problems that researchers must consider when attempting to study voting behavior especially over time. Records of precinct changes and voting results can be difficult to obtain. Precinct boundaries also do not confirm to other jurisdictions, making it difficult if not impossible to perform certain types of analysis. Finally, it can be difficult to draw causal conclusions about demographic populations and voting within the precinct because of the gap between demographics and who actually votes.
Chapter 4

Conclusions

The use of maps to study politics is a longstanding tradition that provides greater depth and understanding of politics in all realms of political study, whether through international politics or the study of American politics. Recently, much discussion in the study of American politics has centered on the topic of polarization within the public and an excellent way to understand this is through spatial analysis. To date, several prominent scholars have used spatial analysis to examine this topic using states, congressional districts, and counties. Despite the important findings of this research, it suffers greatly from aggregation error and loss of detail that can be overcome by using precincts as the unit of analysis.

The use of precincts as a unit of analysis presents an opportunity to get the greatest level of detail in a spatial analysis. To date, most spatial analyses have relied on states, House Districts, or county-level election data to draw conclusions. Spatial analyses of these voting districts and the aggregation of election data within them may lead to false or incomplete conclusions. Precincts present an opportunity decrease the problem of aggregation and loss of detail inherent with large voting districts (Kinsella, 2011).

Despite the benefits of precincts as a unit of analysis in political research they do pose several difficult problems. First, election records are not always readily available and may difficult to obtain in some cases, particularly when trying to obtain older election results. Second, when examining vote change over time, it is difficult to account for precinct changes over time. Third, when using precincts as a unit of analysis in political research it is important to
note that they do not line up with other boundaries, even those created by the United States Census. Finally, different states and different counties have different guidelines as to when they update their precinct maps and whether they have precinct maps at all.

When examining the shortcomings of using precincts for political analysis there were several key findings obtained through the experience of obtaining election results, precinct changes, and maps (See Figure 4.8). First, states that require counties to have Boards of Elections, such as Ohio, seem to have much more information about election results, maps, and precinct changes than those states that simply make elections part of several different administrative agencies within the county. In Ohio, all counties where data was obtained were by far the easiest to obtain information, without exception. Ohio also requires its counties to have Boards of Elections that have full time employees, directors, and a bi-partisan board the meets regularly and records minutes of all issues discussed. Kentucky and Indiana have Boards of Elections but they are part of the County Clerk’s Office where elections are one part of many administrative duties that these offices are required by law to do in those states. This also was evident in that in Kentucky and Indiana, requests for information were met with attempts to dissuade me from obtaining the results or flat out refusal to locate information.

When obtaining election and precinct information from counties in Kentucky and Indiana, counties in those states were less likely to have resources available or technology to create, save, and manipulate precinct boundaries and election results. In Kentucky, several counties have no electronic copies of the precinct maps and rely on physically drawn maps to denote changes. In Indiana, county governments were slow to reflect changes in precincts and even slower in making sure that precinct changes were updated on statewide precinct maps of Indiana. In several counties in Indiana and Kentucky election results were missing and, unlike
counties in Ohio, these counties made no attempt make electronic copies of their results. At least in Indiana the State Board of Elections requires a copy of election results so that if there is a case such as that in Ohio County, where results were taken or destroyed, there is a backup. In Kentucky, if a county clerk’s office loses election results or precinct records due to any reason those records are lost permanently. These problems in Kentucky and Indiana seemed to be exacerbated when dealing with rural counties, as well.

Finally, after obtaining information from South Carolina it was interesting to see that the state has up to date precinct information for the entire state and that their precincts, unlike in other states, take into account and attempt to emulate Census boundaries. South Carolina also is part of an ongoing process to try and ensure that its precinct boundaries follow or closely follow boundaries created by the Census Bureau. The South Carolina Election Commission also keeps electronic copies of election results, by precinct, that are available for each county through the Commission’s website. If South Carolina is indicative of other southern states, it would be a major advance for making precinct maps and election results widely available. South Carolina like several other states in the Deep South are required by the Voting Rights Act of 1965 to submit all state and local changes to voting jurisdictions and laws to US Department of Justice. It seems likely; out of necessity and expediency, that many if not all of the states adhere to pre-established jurisdictions available through the census bureau to expedite approval of necessary precinct and other boundary changes. Also, due to federal monitoring, they must ensure that all elections and election data is open and available in order to remain in compliance and save from legal and other fees and fines that may result due to boundary inaccuracies and deficient data.
Ultimately, when considering voting records and their importance to trust in democratic institutions, available and open records outweigh expense. States should examine how local governments provide information about voting districts and elections and consider changes when and where necessary. From my experiences in collecting election data and maps there seem to be two models that work. First, counties (especially in Ohio) should have a separate administrative office for elections that specialize in administering elections and keeping data regarding those elections. Second, have a state agency that works in coordination with counties to provide maps and records to the general public, as South Carolina does currently. Again, the costs are a small price to pay when considering the importance of election results and the availability and openness of records to a democratic society.

Limitations of the Research and Future Study

To date, very little exists in the realm of political literature on the use of precincts as a unit of analysis to study political phenomenon. This thesis offers some firsthand experiences of the author to provide qualitative information gathered while doing empirical research using precincts in a multi-state urban region. The information offers a small sample of states and counties, basically limited to three states in the Cincinnati Metropolitan Statistical Area and the State of South Carolina. Despite the small study area of this thesis, it does provide some key findings for future researchers to consider, especially as more political scientists look to use precincts to study voting behavior and partisanship.

The research completed here leaves several different directions for future researchers to explore. First and foremost, for a society that practices representative democracy there are appalling gaps in record keeping for elections and voting districts. Considering that the earliest
data collected is from the 1976 Presidential Election and the fact that there was so much
difficulty in obtaining data from just over thirty years ago does not bode well for even earlier
data. The fact that thirty year old data is difficult if not impossible to obtain is cause for alarm in
a democratic society. It is important to find out if this is a problem unique to one or two states or
something prevalent or rural communities or is in indicative of a more widespread systemic
problem.

Second, although the methodology presented here represents a good faith effort to adjust
for precinct changes it may be worthwhile to explore better methods to better account for
precinct changes over time. The methods presented here maintain the vote proportion over time
within precincts but cannot account for the possibility that the portion split may have voted
similarly to the whole, leaving questions about the reliability and validity of the findings. Other
methods should be explored to attempt to better account for voters and votes when precinct
changes occur, particularly splits.

Third, after finding that precinct boundaries are incompatible with several jurisdictions it
would be interesting to see if precinct boundaries in certain states and counties violate other
jurisdictions and, more importantly, if they violate the law by not adhering to other voting
districts. There is evidence that would suggest that violations of state law may have and
continue to occur with the current configuration of precincts given that they do not fit census
boundaries and the census uses those boundaries to ensure that voting districts, particularly state
and federal legislative districts, do not violate court orders of equal representation. Local, state,
and federal officials seem to be unaware of the fact that precinct boundaries and other
boundaries, particularly those of the census, do not line up exactly.
Finally, more research is needed to identify other benefits and drawbacks to precinct analysis within the field of political science and electoral geography. As we begin to rely on this unit of analysis to provide key findings it is important that the unit and methods of analysis continue to receive proper scrutiny.
Figure 1.1: Sample of Voting Districts within the United States

- State
  - US House Districts
  - State House and Senate Districts
  - Special District
  - State Judicial District
- County
  - City
  - Town/Township
  - School District
  - Ward
- Precinct
Figure 4.1: 2008 Landslide Counties in the Cincinnati Metropolitan Statistical Area

Legend

CMSA
Counties

- No Landslide
- Republican Landslide

Data Source: County Election Results from respective Secretaries of State

Note: Landslide denotes a victory by a presidential candidate by twenty percent or more.
Figure 4.2: 2008 Landslide Precincts in the Cincinnati Metropolitan Statistical Area

Legend
Precincts
2008 Landslide Precincts
- No Landslide
- Republican Landslide
- Democrat Landslide

Data Source: Election Results from each of the counties within the Cincinnati Metropolitan Statistical Area

Note: Landslide denotes a victory by a presidential candidate by twenty percent or more.
Figure 4.3: 2008 Landslide Counties in the State of South Carolina

Legend
South Carolina
Landslide Counties
- No Landslide
- Republican Landslide
- Democrat Landslide

Data Source: Election Results from South Carolina Election Commission

Note: Landslide denotes a victory by a presidential candidate by twenty percent or more.
Figure 4.4: 2008 Landslide Precincts in the State of South Carolina

Legend
South Carolina
Landslide Precincts
- No Landslide
- Republican Landslide
- Democrat Landslide

Data Source: Election Results from the South Carolina Election Commission.

Note: Landslide denotes a victory by a presidential candidate by twenty percent or more.
Figure 4.5: Precinct Changes in the Cincinnati Metropolitan Statistical Area 1976-2008 by County

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Figure 4.6: Discrepancies between Precincts and Census Block Boundaries in Covington, KY

Legend
- Census Blocks
- Precincts

Source: US Census Bureau and the Northern Kentucky Area Planning Commission
Figure 4.7: Discrepancies between Precincts and Cincinnati Neighborhoods

Legend

- Precincts
- Neighborhoods

Source: Cincinnati Area Geographic Information Systems
**Figure 4.8: County Scores for Voting and Precinct Records**

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Column Scoring: 0 = Below Satisfactory; 1 = Satisfactory; 2 = Above Satisfactory

Overall Scoring: 0-2 = Below Satisfactory; 3-4 = Satisfactory; 5-6 = Above Satisfactory

*Note: Scores denote availability, accessibility, and ease of obtaining records for each county.*
Bibliography


Boone County, KY, Clerk’s Office, Election Results, 1976-2008.

Bracken County, KY, Clerk’s Office, Election Results, 1976-2008.


Butler County, OH, Board of Elections, Election Results, 1976-2008.

Campbell County, KY, Clerk’s Office, Election Results, 1976-2008.

Dearborn County, IN, Clerk’s Office, Election Results, 1976-2008.


Franklin County, IN, Clerk’s Office, Election Results, 1976-2008.

Gallatin County, KY, Clerk’s Office, Election Results, 1976-2008.


Grant County, KY, Clerk’s Office, Election Results, 1976-2008.

Hamilton County, OH, Board of Election, Election Results, 1976-2008.

Indiana Code, Chapter 1.5. Precincts.

Kenton County, KY, Clerk’s Office, Election Results, 1976-2008.

Kentucky Revised Statute, Chapter 117.055. Kentucky Election Laws.


Ohio County, IN, Clerk’s Office, Election Results, 1976-2008.


Pendleton County, KY, Clerk’s Office, Election Results, 1976-2008.


Warren County, OH, Board of Elections, Election Results 1976-2008.

United States Census Bureau, “Voting Districts” http://www.census.gov/geo/www/GARM/Ch14GARM.pdf