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THE DIFFUSION OF SAME-SEX MARRIAGE LEGALIZATION IN THE UNITED
STATES: AN EMPIRICAL ASSESSMENT OF EXPLANATORY FACTORS AND
DIFFERING METHODS

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ABSTRACT

This thesis examines why certain states legalize same-sex marriage at certain times, while others do not, and of those states that do legalize, why some do so utilizing one particular method (the state legislature, the judiciary, or a ballot measure) versus another. A two-tiered event history analysis model is employed to study all fifty American states from 2000 through 2014. The first tier of analysis utilizes a binomial logistic regression to determine the relationships between a number of in-state demographic and political factors and the likelihood of a state legalizing same-sex marriage in a particular year. The second tier of analysis contains only those states that have legalized, and utilizes a multinomial logistic regression to determine the relationships between those same demographic and political factors and the likelihood that a state legalizes in a particular year utilizing a specific method. This paper adopts the hypotheses that certain demographic and political factors impact both the likelihood of a state legalizing, and the method it employs to do so. It also posits that these factors will have differing impacts in the different tiers of analysis, but that political factors will be more significant overall. The results support the idea that there are certain in-state characteristics that impact both tiers, and that they do so in different ways, but do not support the hypothesis that political factors will have a more noticeable overall impact.

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Chapter 1

Introduction

The movement to legalize same-sex marriage has arguably become the preeminent social movement of the last decade, particularly the past five years. In 2000, there were zero states in the United States with laws that permitted same-sex marriage. Massachusetts became the first state in 2004, and remained the sole American jurisdiction to do so until Connecticut became the second state to legalize same-sex marriage in 2008. In the six years between 2008 and 2014, thirty-one more states legalized same-sex marriage. By January 1, 2015, barely over ten years since the first state legalized, thirty-five out of fifty, or 70% of American states, had legalized same-sex marriage (National Conference of State Legislatures 2015). Figures 1 and 2 displayed at the end of this chapter highlight the stark contrast between 2004 and 2014.

Looking to other social movements, such as the civil rights or feminist movements, as examples, it becomes clear that such broad changes in public policy addressing social issues generally tend to occur over much longer periods of time. The momentum with which public opinion, and subsequently public policy, regarding same-sex marriage has shifted nationwide is surprising and rather unprecedented. Thus, this paper seeks to understand why these changes have occurred through analyzing what factors influence certain states to legalize during certain years and, of the states that do legalize, why they utilize one particular method (the state legislature, the judiciary, or ballot measure), versus any others, to do so.

As public opinion has shifted and same-sex marriage has become legal in an increasingly large number of states, conversation around the topic has rapidly shifted from being relatively

infrequent, as it was in the 1990s, to nearly inescapable. Arguably, there is currently no political subject matter more topical and culturally relevant than same-sex marriage. As momentum built within the LGBT rights movement, and more states legalized, a number of lawsuits emerged, challenging these new laws. As such, since 2008, there have been an increasing number of ongoing state-level court cases regarding the issue each year. With multiple jurisdictions creating different rulings that touch on the same issue, federal judicial involvement became inevitable. In 2013, the Supreme Court addressed the issue of same-sex marriage twice in its *United States v. Windsor* and *Hollingsworth v. Perry* decisions. The rulings in each of these cases essentially removed the federal government from making a broad ruling regarding the constitutionality of same-sex marriage, and relegated the issue back to the states to decide on an individual basis.

However, as state-level judicial precedent has built and more states have legalized and subsequently dealt with lawsuits opposing that legalization, the Supreme Court has decided to involve itself again. Writs of certiorari regarding states' refusal to accept same-sex couples' marriage licenses have been granted in cases from four different states: *Obergefell v. Hodges* (Ohio), *Tanco v. Haslam* (Tennessee), *DeBoer v. Snyder* (Michigan), and *Bourke v. Beshear* (Kentucky). These four cases from separate jurisdictions will be consolidated into one case and oral arguments will be heard April 28, 2015, with a decision expected in June. Clearly, at this moment in history, the issue of same-sex marriage is omnipresent, and weighs heavily on the minds of those in the legal and political arena.

This paper conducts an empirical assessment of a number of variables thought to explain same-sex marriage legalization in order to determine why certain states pass these policies at certain times while others do not. Additionally, a second tier of assessment, using only the pool of states that have legalized same-sex marriage, is conducted to determine why these certain

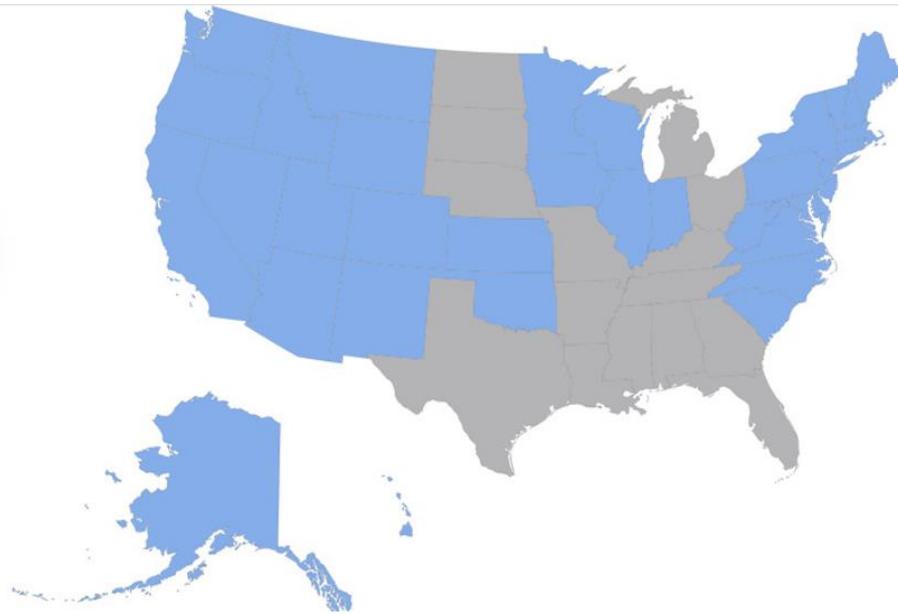
states legalize via one method versus another. There are three methods commonly utilized by states to pass public policy, including: legalization via the state legislature, legalization via the judiciary (state or federal), and legalization via popular vote in a state ballot measure. This paper will investigate whether a number of political and demographic factors impact whether a state legalizes, and if they do, which of these methods is implemented.

The second chapter of this paper is a literature review, which will examine previous research surrounding the topic. A number of potential explanatory variables of individual attitudes towards LGB (lesbian, gay, and bisexual) people and same-sex marriage will be identified. Additionally, a number of potential frameworks regarding policy diffusion among American states will be explored. In the third chapter, the theoretical background behind the framing of this paper's research question will be presented. The hypotheses will be identified, and alternative rationalizations as to why they could potentially be false will be produced. The common explanatory factors identified in the literature review will be expanded upon to clarify why they are potentially relevant in explaining both levels of the research question. The subsequent chapter will explain the methodology behind the research design. It will present the base mathematical model used in both tiers of analysis. Following that, the fifth chapter will focus on the data, and explain in detail the data sources that were chosen, and the reasoning behind those choices. Next, the results and analysis section will contain the numerical results of the statistical analyses explained in the methodology section, and will expand upon the real-world significance of those results. And finally, the conclusion will end the paper by summarizing the major research findings, addressing their unique contributions to the existing literature, and identify potential limitations of the analysis.

Figure 1. States with Legal Same-Sex Marriage in 2004



Figure 2. States with Legal Same-Sex Marriage in 2014



Chapter 2

Literature Review

Previous literature has yielded a number of factors thought to impact both individuals' personal attitudes towards same-sex marriage, as well as the likelihood of a state legalizing of same-sex marriage. All the states included in this analysis that have legalized, have done so in the past ten years. Due to the incredibly recent nature of this phenomena of legalization, much of the research focuses on the factors that impact the passage of state-level same-sex marriage bans. In this way, some of the findings are not directly applicable since legalizing and banning same-sex marriage are two different political acts. However, because the two acts seem to be the inverse of each other (if there is no ban, then same-sex marriage is legal), the findings are extrapolated and the relationships of particular factors are assumed to have the opposite directionality for legalization as they are for bans. This is one area of research that will strengthen over time, as the period between when the first state legalized and the present continues to increase.

On an individual level, Dawn Baunach identifies several factors that in recent years have had a notable impact on individuals' attitudes towards same-sex marriage. Her 2012 study examines changes in individuals' attitudes towards same-sex marriage from 1988 to 2004, 2006, 2008, and 2010. OLS regression and decomposition techniques were utilized to analyze data from the General Social Science Survey. The dependent variable was support for same-sex marriage and was determined through response to a survey question and coded on a five-point scale. Independent variables include: age, gender, race, geographic region, education level, and religion, among others. They were measured using the survey and appropriately coded for the empirical analysis. The influences on same-sex marriage attitudes differed substantially over

time. Many of the characteristics commonly thought to increase opposition to same-sex marriage (including being African American, living in the southern United States, being an evangelical Protestant, and being Republican) are associated with attitudes only in the later years. These findings are significant in that they show a real national cultural shift in individual attitudes towards same-sex marriage over a period of time, as well as confirming the idea that internal state characteristics can impact support for same-sex marriage.

Gaines and Garand (2010) developed a model based on a number of clusters of factors, and utilized it to measure individuals' attitudes towards same-sex marriage. Their quantitative analysis uses data collected in the 2004 American National Election Studies survey, as well as the U.S. Census. The dependent variable is whether or not an individual supports same-sex marriage and is coded on a three point scale. The independent variables include: moral and religious attitudes and traditions, attitudes towards gays and lesbians, concepts of gender and women's rights, and support for black civil rights, among others. These variables are measured using a number of survey answers, and then coded. The authors find that attitudes towards same-sex marriage are a function of moral and religious factors, attitudes towards gays and lesbians, and gender roles. These conclusions are significant in that they provide a good source for comparison to see if factors that influence same-sex marriage support on an individual level also translate to the collective level and influence the ways in which public policy surrounding the issue is either enacted or not. It also supports the theory that individuals' religious beliefs play a significant role in their support of or opposition to same-sex marriage. Age has also been identified as significant in determining the likelihood of an individual's support (Lewis & Gossett, 2008).

On a broader level, when looking at factors that impact the actual passage of policy legalizing same-sex marriage, many of the same factors were found to be important. Fleischmann and Moyer (2009) conducted a study focusing on explaining variation in local support for proposed constitutional amendments to ban same-sex marriage in 22 states during 2004 and 2006. Fleischmann and Moyer use social movement theory to explain such variation between states. Their quantitative analysis uses OLS regression in conjunction with county-level data to explain the variation in local support for amendments banning same-sex marriage. The dependent variable is the percent of “yes” votes on the proposed amendment in the county in 2004 and 2006. The independent variables are: political culture, political opportunity structure, and resource mobilization. These variables are measured through various means that determine the county’s “gay-friendliness”, and are subsequently coded. The study found that support for the amendments in both years was positively related to the proportion of a county that was evangelical or Republican, but negatively related to its level of education and proportion of Catholics. This research is significant because it displays that community characteristics have a substantial effect on levels of support for same-sex marriage bans, showing the importance of internal determinants in the policy decision making process.

With regards to factors that could potentially influence policy diffusion, regardless of the content the particular policy, Jack Walker (1969) identified two categories of independent variables: demographic factors (e.g., income, urbanity, manufacturing/farm output, literacy, and years of education) and political factors (e.g., party competitiveness, turnover in office, and malapportionment). Both categories of factors were found to be significant, but the demographic factors more so. He created a so-called tree model that has several premises. The first premise is that legislators satisfice, and rationality and information are bounded. Thus, heuristics are used.

The second premise is that a common heuristic among state legislators is to look for analogous situations in another state. Legislators have a better probability of passing some policy change if they can demonstrate that it worked elsewhere. The third premise is that a policy's quality is perceived through its comparison to reference groups. All states are comparing themselves to the average. The fourth premise is that states compare themselves more to regional reference groups than national reference groups. As such, the country can be classified as a state system of emulation and competition. This premise of states comparing themselves to each other and taking policy cues based on the outcomes of similar policies in neighboring states is one possible explanation for the differences in the diffusion of the legalization of same-sex marriage.

As policy diffusion specifically relates to states' passage or ban of same-sex marriage, Haider-Markel (2001), conducted a study that examined the factors that affected states considering legislative bans on same-sex marriage in 1996. Haider-Markel focused on these happenings as a geographic expansion of the range of the conflict, rather than the more traditional state-centered policy creation. The premise of the study is that the diffusion of such legislative bans on same-sex marriage was influenced by organized efforts of advocacy coalitions and internal state characteristics, instead of regional diffusion or interaction between policy experts. The dependent variable is whether or not a state considered passing a law during the defined time period that banned same-sex marriage in its jurisdiction, and is coded as either zero or one. The independent variables are: internal state characteristics, policy innovation and regional policy diffusion effects, and national advocacy coalition efforts. The independent variables were measured using both state and national-level data collected from activists, media accounts, and official sources to establish whether there were organized efforts to pass these bans. These variables were then empirically tested through a model of policy diffusion to predict

both state consideration and adoption of policies banning same-sex marriage. The conclusions suggested the diffusion of these policies is best explained by the presence of an organized national campaign by conservative religious groups, the local resources of interest groups, and other internal state characteristics rather than by regional diffusion patterns. The results of this study again support the theory that a state's internal characteristics play a significant role in the passage of policy regarding same-sex marriage.

This research contributes to the body of research regarding the legalization of same-sex marriage through its further focus on the particular methodology used by each state in its legalization of the policy. The paper aims to assess a number of the variables previously identified as having an impact on legalizing or banning same-sex marriage, and identify if any of them impact the method states used to legalize the policy. There is a dearth of research in this specific area, and the goal is to clarify if there are truly any inherent differences in the states that utilize one method versus another to pass this policy. The results could then be extrapolated and potentially used to identify which states are most likely to next legalize same-sex marriage, or to do so utilizing one specific method, based on their particular internal demographic and political characteristics.

Chapter 3

Theory

As of February 2015, thirty-seven states have legalized same-sex marriage. Of those states, twenty-six have done so via the judiciary, eight have done so via their state legislature, and three have done so via popular vote in a ballot measure. Why have certain states utilized one method versus another? Are there certain internal characteristics of states that make it more or less likely for them to not just legalize, but to do so utilizing one particular method instead of another?

According to Haider-Markel (2001), there can be significant differences in the ways states enact policy regarding lesbian and gay issues, and how the issue diffuses. In general, gay and lesbian politics resembles interest group politics, where interest groups interact with political elites. This leads to more policies being created and passed through legislation. However, when opposition groups expand the scope of conflict to electoral politics and utilize ballot initiatives, then the pattern changes to one of traditional morality politics, which is distinct from the interest group model. This supports the theory that different variables influence the three potential methods of legalization of same-sex marriage in divergent ways.

Conversely, it is entirely possible that there is no one variable or combination of variables that determines why some states have legalized same-sex marriage, or the method they used to do so. Instead, the rapid legalization may simply be due to a broader cultural shift in attitudes towards the gay community, and same-sex marriage in particular, the quantification of which may not be capable of being measured in any of the variables this analysis tests. Per a May 2014 Gallup poll, 55% of Americans support the recognition and legalization of same-sex marriages

(McCarthy 2014). This shift in public opinion could be the most significant factor in legalization efforts, with public policy simply shifting to reflect the views of the majority of Americans. The Williams Institute, a national think tank at UCLA Law, conducted a study in 2013 that reported state-level change in public support for same-sex marriage. In 2004, not a single state had a population with a majority in favor of same-sex marriage legalization. Since Connecticut became the first state to legalize in 2004, every single state has experienced an increase in their approval of same-sex marriage. When comparing state-level approval ratings in 2004 to those in 2012, all but four displayed a statistically significant positive increase in support for same-sex marriage (Flores & Barclay 2013). Given this, it would be logical that this significant increase in public support would be reflected in state's public policy surrounding the issue, regardless of the values of any of the identified explanatory factors in this analysis.

Additionally, the method each state uses for legalization could simply be a byproduct of the internal political structure of that state and what historically has been the method most used for passing social policy. The likelihood of the different legalization methods may also change over time, with legalization via the judiciary becoming increasingly likely as greater judicial precedent is built with every additional state that legalizes utilizing that method. Thus, the presence of judicial precedent would become the relevant explanatory factor, rather than any other internal state characteristic. There may also be a change in the factors that affect the method of legalization over time. Across the whole time period of interest, 2000 to 2014, no one variable is significant, because the effects could have changed over short periods within that range. As such, they may render themselves insignificant when observed over the whole time period of the analysis, instead of in smaller temporal increments.

Potential Explanatory Factors

The factors potentially explaining the trend of same-sex marriage legalization can be divided into two types: demographic and political. Both demographic and political factors have previously been found to have an impact on policy diffusion, though demographic factors more so (Walker 1969).

Demographic Factor Explanations

Demographic factors assume that many of a person's individual characteristics (age, religion, education, etc.) and geographic location (region, urbanity, etc.) impact their political attitudes and behaviors with regards to public policy (Walker 1969).

Age.

The age explanation argues that the average age of a state's population impacts legalization, with populations of a higher average age being less likely to legalize, and if they do legalize, much less likely to do so using methods involving direct democracy, such as ballot measures. On an individual level, a person's age is known to be related to their political stance regarding same-sex marriage (Lewis & Gossett, 2008). Older individuals tend to be more conservative and less supportive than those who are younger. This conservatism is displayed in relation to both social and economic policy issues, including attitudes regarding same-sex marriage (Baunach 2012).

Education.

According to Baunach's 2012 research, the amount of education a person has received has a significant impact on their individual attitudes towards same-sex marriage. One explanation for why this would be the case is that individuals with more higher education tend to

be more liberal than those with less, and their attitudes towards same-sex marriage could be a manifestation of that trend. Additionally, those with higher levels of education are generally more likely to have been more exposed to issues relating to gay rights than those with less. Thus, states where the population has higher average levels of education are potentially more likely to legalize same-sex marriage.

Evangelism.

One of the main justifications people use for not supporting same-sex marriage is that to do so would be against their religious beliefs. On an institutional level, many of the organizations that actively oppose the legalization of same-sex marriage are religiously based or affiliated. Level of religiosity is a significant predictor of bans on same-sex marriage, as well as individual approval or disapproval of same-sex marriage (Lewis 2008; Lewis 2011). Specifically, levels of evangelism are positively associated with an increase in the likelihood of passing a ban on same-sex marriage (Baunach 2012). As such, states with a higher average level of evangelism are less likely to support measures to legalize same-sex marriage, particularly those that enact direct democracy through ballot measures.

Population Density.

Urban areas tend to be more politically liberal than rural areas, as evidenced by the political trends in many densely populated cities. Additionally, people who live in urban areas are exposed to people with different characteristics than them, including race, ethnicity, religion, and sexual orientation. People in rural areas tend to live in a much more homogenous environment and are not as exposed to such differences. More specifically, individuals who live in areas with a higher population density are more likely to approve of legalizing same-sex

marriage (Baunach 2012). Thus, states with more dense populations are more likely to support the passage of same-sex marriage.

Neighbors (The Neighborhood Effect).

The neighborhood effect is a principal that says the higher the number of surrounding states that have enacted a particular measure, the more likely a state is to also enact that measure. One of Walker's premises from his tree-model explanation of policy diffusion is that a policy's quality is perceived through its comparison to reference groups, with all states comparing themselves to the average. Additionally, he argues that states compare themselves more to regional reference groups than national reference groups (1969). Following this logic, a state surrounded by other states that have legalized same-sex marriage is more likely to also legalize that same policy than a state where none of its neighbors have legalized same-sex marriage. If a state sees that a neighboring state enacted the policy and there have been no negative consequences, they would be more likely to also enact that same policy, potentially even utilizing the same method of legalization.

Region.

Different areas in America tend to be more or less conservative dependent upon their geographic region. For instance, in general southern states tend to be more conservative than northeastern states. States with differing political leanings tend to pass different kinds of legislation, with more conservative populations less likely to legalize same-sex marriage and more liberal populations more likely to do so (Baunach 2012; Fleishman & Moyer 2009). States also tend to compare themselves more to their regional neighbors, rather than to the national average (Walker 1969). Thus, the geographic region of the country that a state is located in could potentially be a predictor of the likelihood of a state to legalize.

Political Factor Explanations

The political factor explanation assumes that the internal political structure (malapportionment, judicial system) and circumstances (majority legislative party, gubernatorial party, etc.) of a state impact the likelihood of legalization of same-sex marriage (Walker 1969).

Political Ideology.

The political ideology of the majority of people within a state is likely to be indicative of the type of public policy that will be enacted in that state. Simply put, states with a more democratic population are more likely to be supportive of measures legalizing same-sex marriage, while states with a more republican population are less likely to be supportive of the same measures (Baunach 2012; Fleishman & Moyer 2009).

Legislative Majority Party (included in Total Democratic Control variable).

In general, the Republican Party is less supportive of measures that would legalize same-sex marriage. In fact, the Republican Party platform of many states blatantly asserts that they do not support same-sex marriage. Political identification at both an individual and institutional level is found to have a significant impact on the passage of same-sex marriage bans (Baunach 2012). Thus, inverting that logic, states with a republican controlled legislative branch are less likely to legalize same-sex marriage, particularly through legislation, than states with a democratically controlled legislative branch.

Gubernatorial Party (included in Total Democratic Control variable).

Governors have the power of veto, and can derail legislation with one swipe of their pen. Given that Republicans are less likely to support measures legalizing same-sex marriage (Baunach 2012), it is possible that states with Republican governors are less likely to do so as well. Thus, states with Republican governors may be less likely to legalize same-sex marriage via legislation because it would have to be approved by the governor before it could be enacted.

Constitutional Ban.

Numerous states have passed amendments to their state constitutions defining marriage as solely between one man and one woman. The relative difficulty of invalidating a constitutional amendment versus any other type of state law is higher simply due to institutional constraints. Thus, it is likely that states with this type of same-sex marriage ban would be more likely to legalize via the judiciary, as was the case for numerous states in 2014.

Pre- or Post-U.S. v. Windsor (2013) Supreme Court Ruling.

The Defense of Marriage Act was a law that federally defined marriage as “only a legal union between one man and one woman as husband and wife” (Defense of Marriage Act 1996). There were many judicial challenges to the law, which eventually culminated on June 26, 2013, with the Supreme Court issuing a ruling on the constitutionality of the law in the case of *United States v. Windsor*. In doing so, they not only set judicial precedent, but also indicated a new cultural era, one where the federal government recognizes same-sex marriages as equal to opposite-sex marriages. States could potentially take cues from this ruling, and may be more likely to legalize (via any method) once the federal government has made their official public stance on the issue. In particular, because of the precedent that has been set by the most powerful court in the nation, states may be more likely to legalize via the judiciary.

Availability of Initiatives or Referendums.

Out of the 50 states, only 24 allow write-in initiatives or referendums on the ballot. Obviously, a state cannot legalize via this method if it is not legal in their state. This institutional constraint may make it less likely for a state to legalize in general, because it has one fewer avenue to do so, and also to legalize via this particular method, since there are simply fewer states that are legally able to do so.

These variables will be analyzed to determine: 1) why certain states legalize same-sex marriage and 2) of those states that do legalize, why do some do so via one method versus another. There are several hypotheses (H1-H5) that seek to predict the potential answers to these questions. Hypothesis 1 is the overarching hypothesis that forms the basic theoretical framework from which this research was guided. Hypothesis 2 follows from that logic, and carries the framework into the second tier of analysis. Hypothesis 3 links the two tiers of analysis together through a shared set of independent variables (the various demographic and political factors). Hypothesis 4 theorizes about the different effects of demographic and political factors in determining which method of legalization a state employs. And finally, hypothesis 5 posits that political factors will, overall, be more significant in both tiers of analysis. Hypothesis 5 is based on the fact that the majority of states that have legalized have done so via federal judicial rulings, which have very little to do with the internal demographic characteristics of the state, and have a greater connection to the political structure of the state.

Hypotheses

H1: There are certain demographic and political factors that impact the likelihood of a state legalizing same-sex marriage.

H2: There are certain demographic and political factors that impact the likelihood of a state legalizing same-sex marriage utilizing one specific method (state legislature, judiciary, popular vote) versus another.

H3: Many of the same demographic and political factors that impact the likelihood of a state legalizing same-sex marriage will also impact the method that state utilizes to legalize.

H4: In the second tier of analysis, demographic and political factors will have different effects depending on the method utilized to legalize.

H5: In both tiers of analysis, political factors will be more significant than demographic factors.

Chapter 4

Methodology

Based on the model used by Berry and Berry (1990) in their oft-cited study of state lottery policy diffusion, I employ a two-tiered event history analysis model to answer the two research questions. Event history analyses are used to explain some sort of qualitative change, or an event (in this case, the legalization of same-sex marriage), that occurs in the behavior of an individual (in this case, a state) at a particular moment. The data used in the analysis are called an “event history”, which are longitudinal in nature and show whether and when the event (in this case, the legalization of same-sex marriage) was experienced by a particular group of individuals (in this case, states) in a certain time period. This analysis uses a discrete time model, and divides the period of analysis (in this case, 2000 through 2014) into units (in this case, state-years). These units are part of the risk set, which in this analysis is the set of states in the sample that have a chance of experiencing the event.

The variable that discrete event history analysis seeks to explain is called the hazard rate. It is the probability that an individual will experience the event during a particular time period, given that the individual is “at-risk” in that time period. In this case, the hazard rate for the first tier of analysis can be conceptualized as the probability of a state legalizing same-sex marriage during a particular year. The hazard rate for the second tier can similarly be conceptualized as the probability of a state-year legalizing same-sex marriage utilizing one particular method versus another. The hazard rate will be determined by a set of predictive values, which are the independent variables (evangelism, education, population density, political ideology, etc.).

The data in the analysis are a pooled cross-sectional time series, and the unit of analysis is the “state-year”. The data include one observation of each independent variable per state for

each year that the state is at risk of adopting, from 2000 to 2014. Once the state-year experiences the event, it moves out of the risk set, and data are longer be reported for that state in following years. For the first level of analysis, the dependent variable is a dummy variable that is coded: 1, for each individual state-year that experiences the event and 0, for those state-years that have not experienced the event.

For the second tier of the analysis, the same discrete event history analysis model is used, with the modification that the sample of individuals is reduced to solely those cases that moved out of the risk set (i.e., legalized same-sex marriage) in the first tier of analysis. The dependent variable will thus be changed from whether a state legalized same-sex marriage in a given year to which method a state-year utilized to legalize same-sex marriage. There are three methods that a state can potentially use for legalization: the legislature, the judiciary, or a ballot measure. The dependent variable is a dummy variable coded as: 1 for legalization via the legislature, 2 for legalization via the judiciary, or 3 for legalization via a ballot measure. The data set in the analysis will also be a pooled cross-sectional time-series, with the unit of analysis remaining the “state-year”.

A binomial logistic regression is utilized in the first tier of analysis to measure the relationship between the categorically distributed dependent variable and a number of independent variables, some of which are continuous and others of which are categorical. In this first tier of analysis, the following model was used as a base:

$$\begin{aligned}
\textit{Legalization} = & \alpha + \beta_1(\textit{population density}) + \beta_2(\textit{age}) + \beta_3(\textit{education}) + \beta_4(\textit{political} \\
& \textit{ideology}) + \beta_5F(\textit{evangelism}) + \beta_6(\textit{total democratic control}) + \beta_7(\textit{neighbors}) + \beta_8(\textit{region}) \\
& + \beta_9(\textit{pre-DOMA}) + \beta_{10}(\textit{constitutional ban}) + \beta_{11}(\textit{time}) + \beta_{12}(\textit{time squared}) + \beta_{13}(\textit{time} \\
& \textit{cubed}) + \beta_{14}(\textit{ballot availability}) + \beta_{15}(\textit{total democratic control over time}) + \beta_{16}(\textit{total} \\
& \textit{democratic control over time squared}) + E
\end{aligned}$$

The dependent variable in the first model is binary and coded either 1 (when a state-year legalizes same-sex marriage) or 0 (when a state-year does not legalize). The analysis is used to predict the odds of success (a state-year legalizing same-sex marriage) based on the values of a number of different predictor variables. The odds are calculated by dividing the probability that an outcome is a success by the probability that the outcome is not a success.

For the second tier of analysis, a multinomial logistic regression was utilized instead of the binomial model of the first tier of analysis because the dependent variable has more than two discrete outcomes. In this second tier, the following model was used as a base:

$$\begin{aligned}
\textit{Method of Legalization} = & \alpha + \beta_1(\textit{population density}) + \beta_2(\textit{age}) + \beta_3(\textit{education}) + \\
& \beta_4(\textit{political ideology}) + \beta_5F(\textit{evangelism}) + \beta_6(\textit{total democratic control}) + \beta_7(\textit{neighbors}) + \\
& \beta_8(\textit{region}) + \beta_9(\textit{pre-DOMA}) + \beta_{10}(\textit{constitutional ban}) + \beta_{11}(\textit{time}) + \beta_{12}(\textit{time squared}) + \\
& \beta_{13}(\textit{time cubed}) + \beta_{14}(\textit{ballot availability}) + \beta_{15}(\textit{total democratic control over time}) + \\
& \beta_{16}(\textit{total democratic control over time squared}) + E
\end{aligned}$$

The dependent variable for this second tier of analysis is the method of legalization, which is not coded as binary due to the increased number of categories. Rather, it is coded as: 0, for no legalization; 1, for legalization via the legislature; 2, for legalization via the judiciary; or 3, for legalization via ballot measure. This dependent variable is nominal, meaning that although there are discrete categories, those categories cannot be ordered in any meaningful manner. For

example, a state-year that legalizes same-sex marriage via the legislature, which is coded as 1, does not inherently hold less value than a state-year that legalizes same-sex marriage via ballot measure, though that method is coded as 3.

Chapter 5

Data

The two-tiered hypothesis was tested through the above-described time-series, which utilized two multivariate models. The two base models test all of the same independent variables, and are identical apart from the dependent variables that they seek to explain the variation in.

The models are as follows:

$$1) \text{ Legalization} = \alpha + \beta_1(\text{population density}) + \beta_2(\text{age}) + \beta_3(\text{education}) + \beta_4(\text{political ideology}) + \beta_5F(\text{evangelism}) + \beta_6(\text{total democratic control}) + \beta_7(\text{neighbors}) + \beta_8(\text{region}) + \beta_9(\text{pre-DOMA}) + \beta_{10}(\text{constitutional ban}) + \beta_{11}(\text{time}) + \beta_{12}(\text{time squared}) + \beta_{13}(\text{time cubed}) + \beta_{14}(\text{ballot availability}) + \beta_{15}(\text{total democratic control over time}) + \beta_{16}(\text{total democratic control over time squared}) + E$$

$$2) \text{ Method of Legalization} = \alpha + \beta_1(\text{population density}) + \beta_2(\text{age}) + \beta_3(\text{education}) + \beta_4(\text{political ideology}) + \beta_5F(\text{evangelism}) + \beta_6(\text{total democratic control}) + \beta_7(\text{neighbors}) + \beta_8(\text{region}) + \beta_9(\text{pre-DOMA}) + \beta_{10}(\text{constitutional ban}) + \beta_{11}(\text{time}) + \beta_{12}(\text{time squared}) + \beta_{13}(\text{time cubed}) + \beta_{14}(\text{ballot availability}) + \beta_{15}(\text{total democratic control over time}) + \beta_{16}(\text{total democratic control over time squared}) + E$$

where Legalization is the likelihood a state legalizes same-sex marriage; Method of Legalization is the method a state utilizes to legalize; α is the intercept of the event history that represents the value of the dependent variable when all the independent variables are equal to zero; population density is the number of people per square mile in the state; age is the average

age of the state's residents; education is the percentage of the state's residents over the age of twenty-five who have obtained a bachelor's degree or higher; political ideology is the percentage of the state's population that identifies as liberal; evangelism is the percentage of the state's population that identify as Evangelical Christians; total democratic control is a dummy variable indicating whether or not democrats hold a majority in the state legislature and also hold the governorship; neighbors is how many contiguous states have legalized same-sex marriage; geographic region is the geographic area of the country where the state is located; pre-DOMA is a dummy variable indicating whether or not the Supreme Court had yet issued a ruling in *United States v. Windsor*; constitutional ban is a dummy variable indicating whether or not the state has a constitutional amendment banning same-sex marriage; time is a measure of the number of years after 2000, time squared is the value of the time variable when it is squared, time cubed is the value of the time variable when it is cubed, ballot availability is a dummy variable indicating where or not a state allows write-in measures (referenda or initiatives) via a ballot in elections, total democratic control over time is an interactive variable that is the total democratic control variable multiplied by the time variable, total democratic control over time squared is an interactive variable that is the total democratic control variable multiplied by the time squared variable, β_{1-16} are the slope coefficients that indicate the change in the dependent variable for every one unit change in the independent variable; and E is the error. Table 1 is located at the end of the chapter and summarizes the definitions, operationalizations, and data sources of the independent variables.

Population density is defined as the number of permanent residents in a state per square mile in a given year. Data were obtained from the U.S. Census Bureau Statistical Abstract of the United States for the years 2000-2012. The U.S. Census Bureau terminated the collection of data

for the Statistical Abstract in 2011, with 2012 as the final year of publication. Thus, for the years 2013 and 2014, population density was calculated by dividing the number of a state's permanent residents (obtained from the American Community Survey's annual state population estimates by the U.S. Census Bureau) by the area of its corresponding state measured in square miles. (U.S. Census Bureau 2013).

Age is defined as the average age of a state's permanent residents in a given year. Data were obtained from the U.S. Census Bureau's annual survey of its population, called the American Community Survey for the years 2000 through 2013 (United States Census Bureau 2013). Data for 2014 had not been publically released at the time of analysis, so alternative measures were used to estimate age values for that year. Using the data from 2000 through 2013, a linear trend line was created. The slope of that line was then used to extrapolate best estimate values for 2014 based on the trend of the previous 14 years.

Educational attainment is defined as the percentage of a state's residents over the age of 25 that hold at least a bachelor's degree. Data were obtained from the American Community Survey for the years 2000 through 2013 (United States Census Bureau 2013). Corresponding data for 2014 were not publically available, so alternative measures were used to estimate age values for that year. Using the data from 2000 through 2013, a linear trend line was created. The slope of that line was then used to extrapolate best estimate values for 2014 based on the trend of the previous 14 years.

Political Ideology is defined as the percentage of a state's population who self-identify as liberal. Data were obtained from Enns and Koch's "Public Opinion in the U.S. States: 1956 to 2010" (2013). Approximately 700,000 individual responses about political ideology were collected from over 300 different surveys from the years 1976 through 2010. Those responses

were then analyzed using a process called multilevel regression and post-stratification. In the first step, the relationship between the survey response and individuals demographic and geographic variables is estimated through a multilevel regression model. In the next step, those estimates are subsequently utilized in order to predict responses for each respondent type, demographic or geographic, which are then weighed based on census data. This post-stratification allows for the estimation of the percentage of individuals in a given state who self-identify as liberal based on their responses to multiple survey questions on an annual basis. This method has been demonstrated to result in legitimate state-level public opinion data estimates (Lax and Phillips 2009b). For the years 2000 through 2010, values were extracted directly from the existing dataset. A linear trend line was created based on the values for those years, and the slope of that trend line was subsequently used to extrapolate the values for 2011 through 2014.

Evangelism is defined as the percentage of a state's residents who self-identify as Evangelical Christians. It is calculated as the rate of adherence per 1,000 state residents. Data were obtained from two separate surveys, "Religious Congregations and Membership Study, 2000" and "Religious Congregations and Membership Study, 2010", which provided values for the years 2000 and 2010, respectively. The data were obtained from the Association of Religion Data Archives and were collected by the Association of Statisticians of American Religious Bodies (The ARDA 2000; 2010). A linear interpolation was then created, and the trend was utilized to determine the evangelism values for the years 2001 through 2009. That same slope coefficient was subsequently extrapolated to produce values from 2011 through 2014.

Total Democratic Control is defined as when Democrats hold control over both the executive and legislative branches of the state. It is measured by whether, in a given year, there is both a Democratic governor and a Democratic majority in the state legislature. It is a dummy

variable that is coded as 0, if no total control; and 1, if yes total control. Data on state-level legislative and executive partisan control were obtained for 2000 through 2014 from “State Partisan Composition (National Conference of State Legislatures 2014)

Neighbors is defined as the number of contiguous states, with reference to one specific state of interest, which have legalized same-sex marriage at a particular point in time. It is used to measure the neighborhood effect, a concept that measures the impact of a states’ neighbor(s) on their policy-making decisions. For example, for the state-year Pennsylvania 2013, the value for this variable would be 4, because that is the number of contiguous states (Delaware, Maryland, New Jersey, New York) to Pennsylvania that had legalized same-sex marriage by or in 2013. Data regarding the timing of state legalization were obtained from “State Policies on Same-Sex Marriage Over Time” (Pew Research Center 2015).

Region is defined as the particular geographic location of the United States a given state is located. It is a dummy variable that is categorized according to the U.S. Census Bureau’s classification system. In the analysis, the regions are given numerical variables ranging from 1 through 4. Region 1, which is coded as 1, is the Northeast, and contains: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. Region 2, which is coded as 2, is the Midwest and contains: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Region 3, which is coded as 3, is the South and contains: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Region 4, which is coded as 4, is the West and contains: Alaska, Arizona, California, Colorado, Hawaii, Idaho, New Mexico, Montana, Utah, Nevada, Washington, and Wyoming. Regions remain fixed over time,

thus there is no temporal variation in the values. Data were obtained from “Census Bureau Regions and Divisions with State FIPS Codes” (U.S. Census Bureau 2015).

Pre-DOMA is a dummy variable that is defined as whether a given state legalized same-sex marriage before or after the Supreme Court’s ruling on the constitutionality of the Defense of Marriage Act (DOMA) in *United States vs. Windsor* (2013). It seeks to explain the influence of federal judicial precedent, at the highest level, over state’s likely legalization and methods of legalization. It is coded as: 0, for no legalization pre-DOMA decision; and 1, for yes, legalization pre-DOMA decision. Data regarding the timing of state legalization were obtained from “State Policies on Same-Sex Marriage Over Time” (Pew Research Center 2015).

Constitutional Ban is a dummy variable that is defined as whether or not a state has a constitutional amendment banning same-sex marriage. It is coded as: 0, for no constitutional ban; and 1, for yes, constitutional ban. Data regarding state constitutional bans were obtained from “History of State Constitutional Marriage Bans” (Human Rights Campaign 2015).

Ballot Availability is a dummy variable that measures the ability of a given state’s residents to legalize or ban same-sex marriage via ballot measures. It is defined as whether or not a state allows initiatives or referenda on their ballot. The variable is coded as: 0, if initiatives or referenda are not allowed; and 1, if initiatives or referenda are allowed. Data were obtained via the Initiative & Referendum Institute’s “State-by-State List of Initiative and Referendum Provisions” (University of Southern California 2011).

Time is a measure of the time period of 2000 through 2014 and seeks to show if the passage of time has any impact on a state’s legalization and/or its methods. It is represented by the equation: $\text{Time} = \text{Year} - 2000$. In the equation, Year is defined as the calendar year of interest, and 2000 is the value subtracted from it because that was the first year data were

collected. Thus, for the year 2001, the value for this variable would be 1 (calculated by subtracting 2000 from 2001) and for the year 2014, the value for this variable would be 14 (calculated by subtracting 2000 from 2014). Data were not obtained from any one source, but rather calculated.

Time-Squared is an extension of the time variable, and also seeks to measure the impact of the passage of time. It is represented by the equation: $\text{Time-Squared} = (\text{Time})^2$. For example, for the year 2002, this value would be 4 (calculated by subtracting 2000 from 2002, and then squaring the result of that subtraction) and for 2008 this value would be 64 (calculated by subtracting 2000 from 2008, and then squaring the result of that subtraction). This variable was created to allow for the possibility that the passage of time does not have a linear effect, but rather has a nonlinear relationship with the dependent variables of interest. Data were not obtained from any one source, but were instead calculated.

Time-Cubed is again an extension of the Time and Time-Squared variables and seeks to examine the same relationship as those variables respectively. It is represented by the following equation: $\text{Time-Cubed} = (\text{Time})^3$. Thus, for the year 2002, the value for the time-cubed variable would be 8 (calculated by subtracting 2000 from 2002, and subsequently cubing the result) and for the year 2008 the value would be 512 (calculated by subtracting 2000 from 2008, and subsequently cubing the result). This variable, similar to time-squared, was created to allow for a nonlinear relationship between the passage of time and the dependent variables of interest. In conjunction with the previous two time related variables, data were not obtained from any one source, but rather calculated.

Total Democratic Control Over Time is defined as the interaction between the Time and Total Democratic Control variables. It measures the relationship between the two and it is

represented by the equation: Total Democratic Control Over Time = Time x Total Democratic Control. Data were calculated through an equation, thus there is not an outside source for the variable.

Total Democratic Control Over Time, Squared is defined as the squared interaction between Time and Total Democratic Control. It measures the relationship between the two variables and is represented by the equation: Total Democratic Control Over Time, Squared = (Time x Total Democratic Control)². Data were calculated through an equation, thus there is not an outside source for the variable.

Table 1. A Table of Variables

Definitions, Operationalizations, and Data Sources			
Variable	Definition	Operationalization	Source
POP DEN	Population density	Number of permanent residents per square mile	"United States Census Bureau: The Statistical Abstract of the United States 2000-2012"
AGE	Age	Average age of state's residents	"United States Census Bureau: American Community Survey 2000-2013"
EDUCATIONAL ATTAINMENT	Level of education	Percentage of state's residents over the age of 25 with a Bachelor's degree	"United States Census Bureau: American Community Survey 2000-2013"
POLITICAL IDEOLOGY	How politically liberal are the state's residents?	Percentage of state's population who self-identify as liberal	"Pew Research Center: Party Identification"
EVANGELISM	How much of the state's population are Evangelical Christians?	Percentage of state's residents who self-identify as Evangelical Christians	"The Association of Religion Data Archives: 'Churches and Church Membership in the United States, 1990' and 'Religious Congregations and Membership Study, 2000' "
TOTAL DEMOCRATIC CONTROL	Democrats are the majority legislative party and the Governor is a Democrat	0, if no; 1, if yes	"National Conference of State Legislatures: State Partisan Composition"
NEIGHBORS	Neighborhood Effect	Number of contiguous states that have legalized same-sex marriage	"Pew Research Center: State Policies on Same-Sex Marriage Over Time"
REGION	Region of the country	1, if Northeast; 2, if Midwest; 3, if South; 4, if West	"Census Bureau Regions and Divisions with State FIPS Codes"
PRE-DOMA	Legalization pre- or post-Supreme Court DOMA ruling	0, if no legalization pre-ruling; 1, if yes legalization pre-ruling	"Pew Research Center: State Policies on Same-Sex Marriage Over Time"
CONSTITUTIONAL BAN	Does the state have a constitutional ban?	0, if no; 1, if yes	"Pew Research Center: State Policies on Same-Sex Marriage Over Time"
BALLOT AVAILABILITY	Does the state allow initiatives or referendums on their ballot?	0 if no; 1 if yes	"Initiative & Referendum Institute at the University of Southern California"
TIME	Number of years post-2000	Year-2000	
TIME, SQUARED	Squared number of years post-2000	(Year-2000) ²	
TIME, CUBED	Cubed number of years post-2000	(Year-2000) ³	
TOTAL DEMOCRATIC CONTROL OVER TIME	Interaction between time and total democratic control	Time*Total Democratic Control	
TOTAL DEMOCRATIC CONTROL OVER TIME, SQUARED	Squared interaction between time and total democratic control	(Time*Total Democratic Control) ²	

Chapter 6

Results and Analysis

Tier 1

To address why certain states legalize same-sex marriage in a given year and others do not, the first question in this two-tiered analysis, a binomial linear regression was utilized. The initial model of the regression is represented by the following equation:

$$\begin{aligned}
 \text{Legalization} = & \alpha + \beta_1(\text{population density}) + \beta_2(\text{age}) + \beta_3(\text{education}) + \beta_4(\text{political} \\
 & \text{ideology}) + \beta_5F(\text{evangelism}) + \beta_6(\text{total democratic control}) + \beta_7(\text{neighbors}) + \\
 & \beta_8(\text{region}) + \beta_9(\text{pre-DOMA}) + \beta_{10}(\text{constitutional ban}) + \beta_{11}(\text{time}) + \beta_{12}(\text{time squared}) + \\
 & \beta_{13}(\text{time cubed}) + \beta_{14}(\text{ballot availability}) + \beta_{15}(\text{total democratic control over time}) + \\
 & \beta_{16}(\text{total democratic control over time, squared}) + E
 \end{aligned}$$

Based on 705 state-year observations, the model indicated a number of predictive factors to be associated with the likelihood of whether a particular state-year will legalize same-sex marriage. However, some other independent variables were found to be insignificant, or had to be excluded from the analysis altogether.

Model 1.1

The initial model had a pseudo r-squared value of 0.69, indicating that roughly 69% of the variance in the likelihood a state-year legalizes can be explained by the model. In all models, the pre-DOMA variable was dropped because it predicted success perfectly, and including it distorted the actual influence of the other independent variables contained within the model. The initial model, in which pre-DOMA was the only variable dropped, found a number of variables

to be significantly related to the likelihood of a state-year legalizing same-sex marriage, including: education, population density, state constitutional bans, the Midwestern region, time, time squared, time cubed. Of these variables, three could be classified as demographic (education, population density, the Midwestern region), while the other four can be classified as political (state constitutional ban, time, time squared, and time cubed). This follows the hypothesis that political factors play a larger role than demographic factors in determining the likelihood of a state to legalize same-sex marriage, though not by a large margin. The majority of states have legalized via the judiciary, and the final decisions in those cases generally came the federal, and not state-level. As such, the internal demographic characteristics of a state's population would not have as much of an impact, because those residents generally have no direct connection to the federal judiciary.

With regards to the demographic factors, education is by far the most consistently significant. It is significant across every model that was run across both tiers of analysis. Specifically with regards to this initial model, the variable is significant in a one-tailed test at the 0.05 level, displaying that higher levels of education are related to an increased likelihood of a state-year legalizing same-sex marriage. Though the relationship between the two variables was found to be statistically significant, the correlation coefficient was rather low at 0.22, indicating that the magnitude of the effect is rather small. In the same one-tailed test, population density was similarly found to be significantly related to the likelihood of a state-year legalizing at the 0.05 level. However, the directionality of the relationship was opposite what the previous literature would suggest. At an individual level, people who live in areas with a higher population density are more likely to approve of legalizing same-sex marriage (Baunach 2012). This would indicate that state-years with higher population densities would be more likely to

legalize. Despite this, the correlation coefficient was a negative value, representing that the likelihood of state-year legalization decreased as the population density of a state increased. This finding is contrary to previous research and the hypothesized directionality of the relationship.

The only regional variable that was found to be statistically significant was the Midwest. Using the Northeast as a reference, the region was found to be negatively related to the likelihood of a state-year legalizing at the 0.05 level. The magnitude of the correlation coefficient was -3.32, indicating that the relationship may actually have some practical significance. One potential reason for this region registering as significant, as opposed to any other, is that it contains two states (Ohio and Michigan) that are in legal limbo and are currently waiting for the Supreme Court to rule regarding the issuance of marriage license to same-sex couples. Michigan legalized via the state courts, but that ruling has been stayed until the Supreme Court issues a ruling in *Obergefell v. Hodges* in June 2015. As such, these two states may contradict the pattern and general trend of legalization during the waiting period until the case is heard and a ruling is issued.

In terms of the political factors, the state constitutional ban and time cubed variables were both had p-values under 0.01, indicating that they were statistically significant at the highest level of analysis. Similar to education, state constitutional ban was significant in every single model across both tiers of analysis, which demonstrates the importance of that factor as a barrier to legalization efforts. The correlation coefficient is negative in every model, with the magnitude of the value always greater than -1, specifically in this model -3.90. This is logical, given that in order for a state to amend its constitution to remove such a ban, a legislative supermajority is necessary, which is incredibly difficult to achieve, especially in the current political climate. Thus, legalization through the legislative branch becomes incredibly difficult, unless the state

legislature is strongly democratic controlled. Since having a state constitutional ban essentially removes one of the methods of legalization, or at the very least significantly decreases the likelihood of utilizing that method successfully, it follows that states with these sorts of constitutional bans would be less likely to legalize.

The time-cubed variable is significant across every model in the first tier of analysis, and nearly every model in the second tier. Included as a measure of the non-linear relationship between the passage of time, and the likelihood of legalization, one would expect the variable to be positively associated with an increased likelihood of state-year legalization. This relationship carries over to the time and time-squared variables, which are also significant across every model in the first tier of analysis, though only at the 0.05 level. As more time has passed, a greater number of states have legalized, which would indicate that there is a relationship between time and the likelihood of legalization.

The other variables tested in the initial model -- ballot availability, age, evangelism, political ideology, total democratic control, the number of neighboring states with legalization, total democratic control over time, or total democratic control over time, squared -- were not found to be significantly related to the likelihood of a state-year legalizing same-sex marriage.

Though these variables were not found to be significant, the directionality of many of their slope coefficients corresponded with the findings of previous literature and the internal logic behind the formulation of this research. For instance, political ideology, total democratic control, total democratic control over time, and the number of neighboring states with legalization all had positive slope coefficients. This is indicative that within each state, (theoretically, if the associations were significant) greater values of these variables would lead to a greater likelihood of legalization. In this case, increased political ideology value means that a

greater percentage of self-identified liberals reside in the state. According to previous literature (Baunach 2012; Fleishman & Moyer 2009), liberalism is associated with more positive attitudes towards LGB individuals, and those positive attitudes are in turn associated with a greater likelihood of the passage of non-discriminatory public policy aimed at that population.

Total democratic control similarly measures the states' partisanship, but at an institutional state government level versus the individual level. Baunach's research demonstrates that greater levels of Democrats in the legislative and executive branches, leads to less likely passage of same-sex marriage bans, which if the logic is inverted, would indicate an increased likelihood of the legalization of same-sex marriage (2012). The positive slope coefficient of the variable follows with the theoretical logic of this previous finding. Total democratic control over time measures the interaction between the passage of time, and democratic control of the government. Following conventional logic, greater values of both these individual variables should hypothetically be associated with an increased likelihood of legalization.

As time has passed, individual levels of approval have increased dramatically (Lax & Phillips 2009a), so much so that by 2012 the majority of Americans were in support of legalizing same-sex marriage (Flores & Barclay 2013). Thus, it would logically follow that this in combination, with higher levels of democrats holding office in state government should be associated with a greater likelihood of legalization, as the positive correlation coefficient indicates. In the same vein, an increased number of neighbors with successful legalization would theoretically lead to a greater likelihood of legalization, as the positive association with this variable finds.

In the opposite direction, although age was not significant, the slope coefficient was negative, indicating that higher values were associated with lower likelihood of legalization. This

follows previous research that increased age is associated with more conservatism, which in turn is associated with a lower likelihood of individual approval of same-sex marriage (Lewis & Gossett 2008) and higher likelihood of passing same-sex marriage bans (Baunach 2012). Additionally, evangelism had a negative correlation coefficient, indicating that the likelihood of state-year legalization decreased as the percentage of Evangelical Christians in a state increased. The trend confirms past results of other studies (Lewis 2008; Lewis 2011), that demonstrate individual disapproval of same-sex marriage and likelihood of same-sex marriage bans being enacted are positively related to level of religiosity. However, despite the directionality of the trend reflecting previous research, the magnitude of the trend is so surprisingly low, that even if the relationship had been found to be statistically significant, almost no practical significance could be gleaned from the value.

Alternatively, one insignificant variable had a slope coefficient that indicated the directionality of the association between it and legalization was contrary to earlier theory. Ballot availability was hypothesized to have a positive association with the likelihood of a state-year legalizing, because having the option for state's residents to write-in either a referendum or initiative would allow for one more pathway to legalization. Intuitively, increasing the number of methods that could potentially be utilized to legalize would seem to only increase the likelihood of legalization. However, with a correlation coefficient of -0.47, the ballot availability variable is contrary to theory. Despite the directionality, this finding is not as important in the analysis, because the relationship between ballot availability and likelihood of legalization is statistically insignificant.

Model 1.2

In the second model that was run, all of the same variables remained apart from political ideology. Political ideology is known to be associated with levels of education, evangelism, and population density, thus there was the potential for collinearity influencing the results of the analysis of the first model. Including political ideology in the analysis could have masked the true effects of these three variables, and removing it from the equation allowed for the possibility of discovering a different association with likelihood of legalization. However, when the second model was run, there were nearly no changes in the results. The pseudo r-squared value remained nearly the same 0.68. All of the variables that were respectively significant and insignificant in the first model remained so in the second, and the directionality of all those relationships apart from one also remained the same. Similarly, the magnitude of the all the coefficients stayed relatively stable and did not vary significantly from their counterparts in the first model, apart from the same variable that changed directionality.

The one variable that changed magnitude and direction was total democratic control, which went from a correlation coefficient of 8.18 in the first model, to one of -11.46 in the second. This dramatic shift would indicate that when those three variables are disregarded, having democratic control of the state legislature and governorship actually makes it much less likely that the state-year to legalize. This finding opposes all previous research, and the explanation for why this would be the case is not clear, though the variable is still insignificant, so it is not as important. The only significant change between the first and second model, was that education moved from being significant at the 0.05 level to the 0.01 level. In that way, political ideology may have been dampening the importance of the relationship between education and likelihood of legalization that was measured in the first model, but only very slightly.

Model 1.3

In the third model of the first tier of analysis, in order to address the same issue of collinearity from the second model, the variables education, evangelism, and population density were removed and political ideology was added back. Without those three variables, political ideology became statistically significant at the 0.05 level. Though the magnitude of the correlation coefficient was low at 0.15, the directionality of the relationship was positive, indicating that state-years with higher levels of individuals who self-identify as liberal are more likely to legalize. This follows previous research, which would indicate more liberal individuals are more likely to approve of same-sex marriage (Baunach 2012).

In terms of other variables, the only other significant change was in the Southern regional variable. It became significant at the level of 0.05, with a correlation coefficient of -2.79, indicating that states in the South are less likely to legalize in comparison to the Northeast. Again, this is not surprising, given that states in the southern United States tend to be less liberal, and thus have less positive attitudes towards both LGB individuals and same-sex marriage. The other variable change was in the magnitude of the total democratic control coefficient, which changed from -11.46 to -1.12, though it still remained statistically insignificant. The pseudo r-squared value dropped somewhat from the first and second model to 0.66.

Model 1.4

In the fourth model, all of the variables are again included, apart from total democratic control over time and total democratic control over time-squared. The interaction of these variables (total democratic control and time/time-squared) could potentially influence the effects of other variables, so they were removed to account for that possibility. Again, there were very few changes in this model. All of the variables that were respectively significant and insignificant in the first model remained the same in this fourth model with the exception of one,

political ideology. Political ideology was not significant in the first model, but became significant at the 0.10 level in this alternate model. The directionality of the correlation coefficient was positive as expected, though the magnitude was low at 0.14. Apart from that change, the model was very similar to the first, although the directionality of the insignificant total democratic control variable was negative, not positive, and the magnitude of the correlation coefficient was much smaller. The pseudo r-squared value was greater than the third model, and the same as the second, with a value of 0.68.

Model 1.5

In the fifth and final model of the first tier of analysis, all three of the time variables (time, time-squared, and time-cubed) were removed from the model, as were the variables they interacted with (total democratic control over time and total democratic control over time squared). Apart from those, all other variables from the initial model were included. A number of variables were found to be significant, including: education, state constitutional ban, number of neighboring states that legalized, the Southern region, and the Western region. Education and state constitutional ban remained significant across all of the binomial models in the first tier of analysis, and their directionality and magnitude stayed relatively the same. However, neither of the regional variables or the number of neighboring states that legalized were statistically significant in the first model. This variance in significance is likely due to the fact that the impact of these particular variables likely changed over time, and including time variables in the model only masked and altered their true effect.

With regards to the variables in the fifth model that were insignificant, there were some interesting changes. Though its magnitude was very small at 0.13, the directionality of the age variable's correlation coefficient changed from negative, which it had been in all the previous

models, to positive in the last model. Similarly, evangelism also switched from negative to positive directionality, although the correlation coefficient was so minute, that the switch from -0.01 to 0.01 is negligible. Population density had been significant in every model it had been included in previously, but without the time variables, it became insignificant. Interestingly, while two other regional variables that had previously been insignificant became significant (the South and West), the one regional variable that had been statistically significant in every previous model (the Midwest) became insignificant in this model. This again supports the idea that the Midwestern region is likely significant due to the stay on any rulings regarding same-sex marriage in Ohio and Michigan and the impending federal judicial ruling from the Supreme Court.

Overall, the results of the first tier of analysis confirm H1, but do not confirm H5. There are certain demographic and political factors that seem to impact the likelihood of a state legalizing same-sex marriage in a particular year, but neither the demographic or political factors seem have a greater effect than the other. In order to address H2-H4, the second tier of analysis must be conducted.

Tier 2

To address why certain states legalize same-sex marriage utilizing one particular method versus another, the second question in this two-tiered analysis, a multinomial linear regression was utilized. The initial model of the regression is represented by the following equation:

$$\begin{aligned} \text{Method of Legalization} = & \alpha + \beta_1(\text{population density}) + \beta_2(\text{age}) + \beta_3(\text{education}) + \\ & \beta_4(\text{political ideology}) + \beta_5F(\text{evangelism}) + \beta_6(\text{total democratic control}) + \beta_7(\text{neighbors}) + \\ & \beta_8(\text{region}) + \beta_9(\text{pre-DOMA}) + \beta_{10}(\text{constitutional ban}) + \beta_{11}(\text{time}) + \beta_{12}(\text{time squared}) + \\ & \beta_{13}(\text{time cubed}) + \beta_{14}(\text{ballot availability}) + \beta_{15}(\text{total democratic control over time}) + \\ & \beta_{16}(\text{total democratic control over time, squared}) + E \end{aligned}$$

The second tier of analysis is conducted among the pool of states that have legalized same-sex marriage as of December 31, 2014 and seeks to explain why they legalized using one particular method (legislature, judiciary, or ballot measure) versus another. Similar to the first-tier of analysis, multiple models were run in order to analyze the data using slightly different variations of independent variables every time, so as to get more well-rounded results that can provide information about different aspects of the hypotheses. The dependent variables differ from that of the first tier of analysis. In this second tier of analysis, the dependent variable is the method of legalization, either via the state legislature, the judiciary, or popular vote in a ballot measure. Once all of the models were run, the results for legalization via ballot measure showed that none of the variables were significant. Across all models, the magnitudes of the correlation coefficients for all of the independent variables were absurdly high, as were the p-values, none of which dipped below 0.992. As such, these results were determined to be insignificant and are not discussed in the analysis. Given that only three out of the thirty-five states that have legalized have done so via this pathway, the lack of discernible information from this method is not

surprising. Unfortunately, there is just not enough data about this method to provide any usable results.

Model 2.1

In the first model, the same independent variables were included as in the initial model of the first tier of analysis, apart from the interactive variables total democratic control over time and total democratic control over time-squared. These two variables created an error when included, which prevented the analysis from running. Thus, they were excluded. Additionally, as in the first tier of analysis, the pre-DOMA ruling variable was dropped because it predicted success perfectly, and including it distorted the actual influence of the other independent variables contained within the model. In this, and the other two models in the second tier, different variables were significant for legalization via the state legislature than are significant for legalization via the judiciary, which supports H4.

In this first model, the variables that are significantly related to legalization via the state legislature are: ballot availability, education, evangelism, population density, political ideology, state constitutional ban, and time-cubed. This is the first model in which evangelism is significant, and although the magnitude of the correlation coefficient is low at -0.09, the directionality is what was expected. Higher levels of evangelism are associated with a decrease in likelihood of legalization via the legislature. Ballot availability, political ideology, and time-cubed are all statistically significant at the 0.10 level. However, while the directionality of the political ideology and time-cubed correlation coefficients are positive as expected, that of ballot availability is actually -2.42. This negative directionality is contrary to theory, since the availability of ballot measures is thought to increase the likelihood and ease with which a state-year can legalize in general, which one would assume would carry over into the various methods

of legalization. Although, whether ballot measures are available to the state's residents are a more general political structure issue, and really has nothing to do with the issue of same-sex marriage specifically, which could be why the directionality is not what was expected.

Out of these significant variables, three are demographic characteristic factors (education, evangelism, and population density) and four are political factors (political ideology, ballot availability, state constitutional ban, and time-cubed). In this case, there does not seem to be a major difference between the significant political and demographic factors. Logically, it would make sense that the demographic factors would be more significant than the political factors for legalization via state legislature. Representatives who serve in state legislatures are elected by the residents of that particular state, and as such that the characteristics and desires of that state's population are directly reflected in the state legislature through their vote choice. It is a more direct form of democracy than legalization via the judiciary, where the judges are appointed through a number of different processes that vary from state to state. Consequently, those judges do not necessarily reflect the characteristics of the population whose jurisdiction they preside over. However, the results signify that the hypothesized relationship between the demographic factors and legalization via the state legislature is not notably greater than those of the political factors. These results thus confirm H4, but not H5.

With regards to legalization via the judiciary, there are fewer statistically significant variables. In fact, the only significant variables are: education, state constitutional ban, and all three time variables. Education and state constitutional ban are significant across all models in both tiers of analysis as stated before, so their inclusion is not unexpected. Similarly, the time variables are significant across the majority of the models. However, they are more significant in legalization via the judiciary due to the role that judicial precedent plays in decision-making.

While they were only significant at the 0.10 level for legalization via the state legislature, all three are significant at the 0.01 level for legalization via the judiciary. This is logical because the more precedent there is in favor of your position, the more likely it is a judge will rule in your favor. As more time has passed, more cases regarding this issue have been heard, and rulings have been issued that have built precedent.

All of these variables have the directionality of association that previous literature, as well as the hypotheses would suggest. It is unsurprising that many of these variables are insignificant, given the nature of the judicial process. Many states legalize via the decision of a lower state court, however because same-sex marriage is still such a controversial issue, these decisions are often stayed until they can be appealed to a higher, federal court. Due to the appointment process of federal court judges, it would logically follow that the internal characteristics of a state, demographic or political, would have relatively little effect on the decisions of those judges. When they come from a higher federal court, rulings that affect specific jurisdictions, such as a particular state, are one of the least direct forms of democracy, because the state's residents did not have a hand in electing the judges who made the decision. As such, it is reasonable to not expect many state characteristics to be significantly related to legalization via the judiciary. With all that in mind, for this model the pseudo r-squared was 0.74, which was actually greater than any of the models from the first tier of analysis.

Overall, the results from this model confirm H2-H4, but not H5. There are certain demographic and political factors that impact the likelihood of a state utilizing a specific method to legalize in a particular year, and many of them also impact the likelihood of a state legalizing utilizing any method. The demographic and political factors appear to impact legalization via the state legislature and the judiciary in different ways, with demographic factors seeming to be

more important in the former case and political factors more important in the latter. However, political factors do not appear to be more significant and impactful overall.

Model 2.2

In the second model, in an effort to address the political ideology's potential collinearity, education, evangelism, and population density, were removed, similar to the way they were in the first tier of analysis. In this model, with regards to legalization via the state legislature, the significant variables were: political ideology, state constitutional ban, and all three time variables. This is consistent with findings from the first model, where collinearity was not as big of an issue because political ideology was still found to be significant, even with the inclusion of the other three variables. The only real difference is that political ideology was significant at the 0.05 level in this model, instead of the 0.10 level of the first model. Otherwise, the models are nearly identical in terms of correlation coefficients and their significance, direction, and magnitude.

With regards to legalization via the judiciary in the second model, the significant variables were: state constitutional ban, the Midwestern region, the Southern region, and all three of the time variables. Again, state constitutional ban and the time variables were all expected to be significant, and have the directionality and magnitude comparable to the previous models. Interestingly, two regional variables that were not significant in the initial model of the second tier of analysis, became statistically significant in the second model. The directionality of both the correlation coefficients is negative, indicating that compared to the Northeast, the likelihood of legalization via the judiciary is lower. This is reasonable, given that every state in the Northeast has legalized same-sex marriage, many of them via the judiciary, and out of the fifteen states that have not legalized, many of them are located in the South and Midwest. Additionally, several state courts in states located in these regions have issued rulings in cases regarding same-

sex marriage, but those decisions have been stayed until a higher court can review them. The Supreme Court is currently set to hear oral arguments for *Obergefell v. Hodges* on April 28, a case that is the consolidated version of four separate cases from Ohio, Michigan, Tennessee, and Kentucky, all of which are located in either the South or Midwest. As such, even though state courts have ruled, their decisions have not been taken into effect until the Supreme Court issues its own decision regarding the case in June. This could, in part, account for why these regions appear less likely to legalize via the judiciary. The pseudo r-squared for this model was 0.67, which was less than the first model, indicating that removing education, evangelism, and population density from the equation actually detracted from the model, rather than adding new information to it.

Model 2.3

In the third and final model of the second tier of analysis, the same issue of potential collinearity is addressed through including education, evangelism, and population density in the model, but removing political ideology. The pseudo r-squared for this model was 0.73, indicating that it explains more of the dependent variable variation than the second model in the second tier of analysis, and just barely less than the first.

For legalization via the state legislature, the statistically significant variables were: ballot availability, education, evangelism, population density, state constitutional ban, and all three of the time variables. Of the significant variables, three were demographic (education, evangelism, and population density), while five were political (ballot availability, state constitutional ban, and all three of the time variables). Similar to the first model, ballot availability had a negative correlation coefficient of relatively the same magnitude and was significant at the same 0.10 level. Education, evangelism, and population density were all significant at the 0.05 level, which was the same as the first model. Population density had the same negative correlation coefficient,

though of a slightly lesser magnitude. The evangelism correlation coefficient had the same directionality, but increased in magnitude from -0.09 to -0.67. So, while its effect size is still relatively small, it is larger than the first model, showing that some of the variable's effect was likely absorbed by the political ideology variable. The time variables were all significant at the 0.10 level, which is somewhat different than the first model, where time and time-squared were not statistically significant.

With regards to legalization via the judiciary, the only significant variables were again: education, state constitutional ban, and all three time variables. Education and state constitutional ban were significant at the same level as legalization via the state legislature, and had roughly the same magnitude, although state constitutional ban had a slightly greater effect size with regard to state constitutional ban. This is logical because it is much more difficult for a state legislature to overturn a constitutional amendment than it is for the judiciary to do so.

However, the biggest difference is in the time variables, which are significant at the 0.01 level for legalization via the judiciary, versus the 0.10 level for legalization via the state legislature. Again, this difference is reasonable, in that it takes time for judicial precedent to build, so that in later years, when a body of precedent has been established in favor of legalization of same-sex marriage, the judiciary are more likely to legalize in the face of it. While this trend is somewhat true for state legislatures, precedent is one of the most important aspects of a judicial ruling, and without it, favorable decisions are much rarer. As such, the discrepancy in time variable significance level is understandable.

Final Discussion

Overall, there were a number of significant variables across both tiers of analysis. Education, state constitutional ban, and some variation of the three time variables were significant in every single model across both tiers of assessment. All variables were consistently significant at the 0.01 level, indicating that they have very strong relationships with both the likelihood of legalization, and the likelihood of a state utilizing a particular method to legalize. Other variables were significant several of the models, but not all (i.e., political ideology, regional variables, population density, etc.), indicating that they have some moderate, but not unilaterally consistent, relationship with the likelihood of both legalization and method of legalization. More so, some variables were not significant in any of the models (i.e., age, total democratic control, total democratic control over time), indicating that their levels have no real impact on legalization or method of legalization at any level.

The results confirmed the majority of the initial hypotheses. H1-H4 all seem to be true given the results. There are a number of demographic and political factors that impact the likelihood of a state legalizing in a particular year and the likelihood of a state utilizing one particular method of legalization over another, and many of those same factors impact both outcomes. With regards to the method of legalization, demographic and political factors have different impacts for different methods. Demographic factors seem to have more impact on legalization via the state legislature while political factors seem to have more impact on legalization via the judiciary. However, H5 is not confirmed because the results do not support the idea that political factors are more significant overall. There does not appear to be a noticeable difference between the number of demographic and political factors that have significant relationships with likelihood of legalization or likely method of legalization, or the consistency with which they are significant.

Chapter 7

Conclusions

The first chapter of this paper introduced the topic of same-sex marriage legalization and the various pathways states can take to legalize, depending on certain demographic or political characteristics. Chapter two was a literature review that referenced everything from policy diffusion in general, to specific trends with regards to gay and lesbian politics, attitudes towards LGB individuals and same-sex marriage legalization and bans, and even some of the specific state characteristics thought to impact the likelihood of legalization. Chapter three described the specific perspective behind the formulation of the research questions and hypotheses, and established the theoretical framework from which the analysis was created. Chapter four focused on the particular methodology behind the analytic plan and demonstrated what the research design would be. Chapter five was devoted to describing the specific data that would be used in the analysis, and explained how variables were operationalized and why particular sources were chosen. Chapter six explained the results of the statistical analysis described in chapter four, and explained the theoretical justifications for why they did or did not support the hypotheses.

The issue of same-sex marriage is one of the most prevalent not just in the legal and political arena, but also in popular culture. As one of the fastest mobilizing social movements, same-sex marriage has gone from nonexistent to the reality in 70% of American states in the span of just over ten years (National Conference of State Legislatures 2015). Because the subject matter of marriage is so inherently personal, it is unsurprising how people's intensity in their opinions are manifested in both proposed public policy and protest movements. Understanding the reasons why certain states choose to legalize at particular times, and why they utilize the specific method they do could prove useful for advocacy organizations to determine at which

states they should target their efforts and is more broadly necessary and useful to try to comprehend a national movement for equal rights.

The contemporary nature of same-sex marriage is readily apparent in the fact that the Supreme Court is currently preparing to hear oral arguments regarding the issue on April 28, 2015, and will issue a decision in June that may settle the many legal disputes occurring in states all across the country. Regardless of the decision that is reached in June 2015, it is plain to see that a cultural shift has occurred, with momentum on the side of those in favor of same-sex marriage legalization.

This research is important because it contributes to the existing body of work relating to policy diffusion among American states, and supports many of the findings. Understanding why and how public policy passes at the state-level becomes essential to create circumstances and policies that increase the likelihood of passage, especially in the current federal political climate of gridlock. By studying which factors influence the spread of state policy, and how they influence the various methods of policy passage differently, legislators can gain a better framework from which to generate policy priorities and enhance the probability that those prioritized policies are enacted in the state. At the moment, with politically divided federal executive and legislative branches, the amount of public policy being passed through Congress is incredibly low due to partisan standoffs. This makes understanding factors that influence state policy all the more essential, because that is where much policy has historically been created.

As mentioned, the prevalence of the gay rights movement in popular culture has created a surge of awareness surrounding the legal rights of LGBT individuals that continues to grow with each year. Issues of employment, housing, and marital discrimination have all been addressed at the federal, state, and local levels of government. With the increasing politicization of LGBT

advocacy, comprehending the reasons why certain jurisdictions enact specific policies regarding these individuals is a necessary and useful tool in advancing the case for equality for all. The significance of this research is found through addressing the specific factors at an individual demographic and state political structure level that influence the attitudes of both ordinary citizens and lawmakers, which in turn guide which policies are passed at a given time. This paper's findings can be utilized to target specific states as likely adopters of same-sex marriage, while simultaneously identifying which of those states are most likely to do so using a particular method. In terms of practical significance, this information can then be employed by a variety of interest groups and policymakers as a guide to approaching their specific goals.

Of course, this analysis is not perfect, and there are problems and limitations inherent in the research. One of the biggest of these is in data collection. In 2014, the number of states with legal same-sex marriage doubled from 2013. Those new cases were invaluable in adding depth to my analysis; however, much of the 2014 data had not yet been publically released at the time this paper was written. As such, for a number of variables, extrapolating trends from 2000 through 2013 created data for 2014. Therefore, some values for 2014 could be slightly inaccurate if there were variables that had values different from what previous trends would indicate.

Additionally, one of the bigger limitations of the research is that results could not be obtained for those states that legalized same-sex via popular vote in a ballot measure. Because of the limited nature of my data (only thirty-five cases in the second tier of analysis), having only three of those be legalization via ballot measure severely limited the ability to extract any meaningful information from the models. Having more cases of legalization via ballot measure would hopefully allow for it to actually be included in the analysis and have the potential for obtaining interpretable results.

In the analysis only one measure of religiosity was utilized, which was evangelism. However, previous research has shown that different religious groups tend to have different attitudes towards and voting patterns with regard to policies including language specific to LGBT individuals. Adding several measures of religiosity could potentially give more information about the distinction between different religious groups and their politics and public policy preferences.

Because the phenomenon of same-sex marriage is so recently occurring, there is not a large body of work surrounding it. Hopefully, as more time elapses, more research regarding the topic in general will be conducted. On a more specific level, future research could benefit not from just looking at what factors impact legalization of same-sex marriage, but look specifically at particular regions, seeing if those factors vary over geographic region. Additionally, since such a great shift in individual opinion around the subject has transpired, an interesting avenue to explore could be examining the factors that impacted that shift, and whether it was simply a function of the passage of time, or whether other political happenings impacted public opinion.

Appendix A Tier 1 Analyses

Table 2. Logistic Regression of Same-Sex Marriage Legalization on Explanatory Factors

Dependent Variable: Same-Sex Marriage Legalization in a State-Year										
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5					
Ballot Availability	-0.47	-0.46	-0.31	-0.49	-0.67					
	0.72	0.73	0.67	0.71	0.53					
	-0.65	-0.64	-0.46	-0.70	-1.26					
Age	-0.05	-0.01	-0.09	-0.24	0.13					
	0.18	0.17	0.16	0.17	0.13					
	-0.03	-0.05	-0.60	-0.14	1.01					
Education	0.22	**	0.26	***	-	0.24	**	0.19	***	
	0.11		0.1		-	0.11		0.06		
	2.08		2.6		-	2.25		2.98		
Evangelism	-0.01		-0.01		-	-0.01		0.01		
	0.01		0.01		-	0.01		0.01		
	-0.62		-0.72		-	-0.65		0.48		
Population Density	-0.26	**	-0.23	**	-	-2.71	**	-0.51		
	0.14		0.13		-	1.39		1.07		
	-1.89		-1.74		-	-1.95		-0.47		
Political Ideology	0.11		-		0.15	**	0.14	*	0.01	
	0.10		-		0.08		0.10		0.06	
	1.09		-		1.84		1.40		0.01	
Total Democratic Control (Legislature and Governor)	8.18		-11.46		-1.12		-0.58		-0.05	
	21.45		22.01		17.25		0.80		0.48	
	-0.38		-0.52		-0.07		-0.73		-0.10	
State Constitutional Ban	-3.90	***	-4.02	***	-3.33	***	-4.16	***	-1.07	**
	1.29		1.27		1.22		1.28		0.60	
	-3.02		-3.17		-2.74		-3.25		-1.79	
Neighbors (Number with Legalization)	0.24		0.28		0.11		0.26		1.56	***
	0.28		0.27		0.25		0.27		0.22	
	0.88		1.03		0.44		0.96		7.15	
Region 1	-		-		-		-		-	
	-		-		-		-		-	
	-		-		-		-		-	
Region 2: Midwest	-3.32	**	-3.2	**	-3.08	***	-3.15	**	1.11	
	1.50		1.52		1.22		1.46		0.92	
	-2.21		-2.1		-2.52		-2.15		1.21	
Region 3: South	-1.94		-1.69		-2.79	**	-1.69		1.63	*
	1.67		1.67		1.27		1.60		1.01	
	-1.17		-1.01		-2.19		-1.05		1.62	
Region 4: West	-1.58		-1.18		-1.4		-1.33		2.58	***
	1.53		1.53		1.13		1.50		1.00	
	-1.03		-0.77		-1.24		-0.89		2.59	
Time	8.32	**	9.93	**	7.11	**	7.35	**	-	
	4.32		4.40		3.73		3.92		-	
	1.93		2.26		1.91		1.87		-	
Time Squared	-1.12	**	-1.3	***	-0.96	**	-1.02	**	-	
	0.50		0.50		0.43		0.45		-	
	-2.26		-2.59		-2.22		-2.26		-	
Time Cubed	0.05	***	0.05	***	0.04	***	0.05	***	-	
	0.02		0.02		0.02		0.02		-	
	2.68		2.96		2.61		2.75		-	
Total Dem Control Over Time	1.07		1.67		0.55		-		-	
	4.16		4.23		3.47		-		-	
	0.26		0.39		-0.16		-		-	
Total Dem Control Over Time, Squared	-0.30		-0.06		0.05		-		-	
	0.20		0.20		0.17		-		-	
	-0.17		-0.29		0.32		-		-	
Intercept	-28.58		-33.29		-19.49		-28.5		-15.28	
N	705		705		705		705		705	
Pseudo R-Sq	0.69		0.68		0.66		0.68		0.35	

One-tailed test: *p<0.10, **p<0.05, ***p<0.01

The values under the coefficients are first standard errors and then z-scores.

In all models, the dependent variable is Same-Sex Marriage Legalization in a State-Year.

Appendix B

Tier 2 Analyses

Table 3. Multinomial Logistic Regression of Same-Sex Marriage Legalization on Explanatory Factors - Model 1

Independent Variable	Dependent Variable: Method of Same-Sex Marriage Legalization in a State-Year	
	Method 1: Legislature	Method 2: Judiciary
Ballot Availability	-2.42 *	-0.67
	1.72	0.89
	-1.41	-0.75
Age	1.00	-0.73
	0.36	0.23
	0.28	-0.32
Education	0.43 **	0.24 **
	0.25	0.13
	1.73	1.80
Evangelism	-0.09 **	0.01
	0.04	0.01
	-2.04	-0.05
Population Density (divided by 100)	-1.01 **	-0.14
	0.52	0.18
	-1.96	-0.08
Political Ideology	0.41 *	0.11
	0.26	0.12
	-1.96	0.95
Total Democratic Control	0.64	-0.96
	1.64	1.05
	0.39	-0.92
State Constitutional Ban	-6.74 **	-4.20 ***
	3.42	1.59
	-1.97	-2.64
Neighbors	0.83	0.06
	0.76	0.32
	1.10	0.19
Region 1: Northeast	-	-
	-	-
	-	-
Region 2: Midwest	4.51	-2.23
	5.04	1.82
	0.89	-1.23
Region 3: South	2.47	-1.63
	3.59	2.08
	0.69	-0.79
Region 4: West	1.04	0.42
	4.10	1.86
	0.25	0.23
Time	85.72	11.86 **
	68.37	5.24
	1.25	2.26
Time Squared	-7.8	-1.17 ***
	6.12	0.64
	-1.28	-2.63
Time Cubed	0.24 *	0.07 ***
	0.18	0.02
	1.33	2.98
Total Dem Control Over Time	-	-
	-	-
	-	-
Total Dem Control Over Time Squared	-	-
	-	-
	-	-
Intercept	-341.72	-36.68
N	705	705
Pseudo R-Sq	0.74	0.74

One-tailed test: *p<0.10, **p<0.05, ***p<0.01

The values under the coefficients are first standard errors and then z-scores.

In both models, the dependent variable is Same-Sex Marriage Legalization in a State-Year.

Table 4. Multinomial Logistic Regression of Same-Sex Marriage Legalization on Explanatory Factors - Model 2
Dependent Variable: Method of Same-Sex Marriage Legalization in a State-Year

Independent Variable	Method 1: Legislature		Method 2: Judiciary	
Ballot Availability	-1.20		-0.68	
	1.26		0.83	
	-0.95		-0.82	
Age	0.09		-0.08	
	0.30		0.19	
	0.29		-0.43	
Education	-		-	
	-		-	
	-		-	
Evangelism	-		-	
	-		-	
	-		-	
Population Density (divided by 100)	-		-	
	-		-	
	-		-	
Political Ideology	0.23	**	0.16	
	0.14		0.11	
	1.68		1.51	
Total Democratic Control	1.14		-0.89	
	1.05		1.00	
	1.08		-0.88	
State Constitutional Ban	-4.81	**	-4.27	***
	2.40		1.75	
	-2.00		-2.44	
Neighbors	0.47		0.01	
	0.49		0.28	
	0.95		0.01	
Region 1: Northeast	-		-	
	-		-	
	-		-	
Region 2: Midwest	-0.53		-2.77	**
	1.98		1.41	
	-0.27		-1.96	
Region 3: South	-2.10		-2.58	**
	1.90		1.52	
	-1.11		-1.70	
Region 4: West	-0.44		-0.45	
	1.78		1.27	
	-0.24		-0.36	
Time	53.66	*	9.83	**
	39.70		4.61	
	1.35		2.13	
Time Squared	-5.09	*	-1.41	***
	3.62		0.57	
	-1.41		-2.50	
Time Cubed	0.16	*	0.06	***
	0.11		0.02	
	1.48		2.84	
Total Dem Control Over Time	-		-	
	-		-	
	-		-	
Total Dem Control Over Time Squared	-		-	
	-		-	
	-		-	
Intercept	-201.06		-24.83	
N	705		705	
Pseudo R-Sq	0.67		0.67	

One-tailed test: *p<0.10, **p<0.05, ***p<0.01

The values under the coefficients are first standard errors and then z-scores.

In both models, the dependent variable is Same-Sex Marriage Legalization in a State-Year.

Table 5. Multinomial Logistic Regression of Same-Sex Marriage Legalization on Explanatory Factors - Model 3
Dependent Variable: Method of Same-Sex Marriage Legalization in a State-Year

Independent Variable	Method 1: Legislature	Method 2: Judiciary
Ballot Availability	-2.30 *	-0.72
	1.69	0.91
	-1.36	-0.79
Age	0.17	-0.03
	0.34	0.22
	0.51	-0.12
Education	0.53 **	0.28 **
	0.23	0.13
	2.28	2.15
Evangelism	-0.67 **	-0.01
	0.03	-0.01
	-2.07	-0.02
Population Density (divided by 100)	-0.59 **	0.03
	0.30	0.18
	-1.95	0.15
Political Ideology	-	-
	-	-
	-	-
Total Democratic Control	0.68	-1.11
	1.36	1.00
	0.48	-1.10
State Constitutional Ban	-6.67 ***	-4.36 ***
	2.88	1.54
	-2.32	-2.83
Neighbors	0.63	0.01
	0.63	0.32
	1.01	0.33
Region 1: Northeast	-	-
	-	-
	-	-
Region 2: Midwest	3.21	-1.92
	4.29	1.80
	0.75	-1.07
Region 3: South	1.50	-1.13
	3.00	2.11
	0.50	-0.54
Region 4: West	2.39	1.11
	3.44	1.79
	0.69	0.62
Time	81.03 *	13.11 ***
	59.2	5.42
	1.37	2.42
Time Squared	-7.58 *	-1.81 ***
	5.30	0.65
	-1.43	-2.79
Time Cubed	0.24 *	0.08 ***
	0.16	0.25
	1.51	3.12
Total Dem Control Over Time	-	-
	-	-
	-	-
Total Dem Control Over Time Squared	-	-
	-	-
	-	-
Intercept	-311.23	-40.77
N	705	705
Pseudo R-Sq	0.73	0.73

One-tailed test: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The values under the coefficients are first standard errors and then z-scores.

In both models, the dependent variable is Same-Sex Marriage Legalization in a State-Year.

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