

**Hello from the Other Side; I'll Compromise a
Thousand Times
How Minority Party Governors Win Unlikely Elections**

by

Megan Elizabeth Goldberg

Submitted to the Department of Political Science
in partial fulfillment of the requirements for the degree of

Doctorate of Philosophy

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 2019

© Massachusetts Institute of Technology 2019. All rights reserved.

Signature redacted

Author

Department of Political Science
May 29, 2019

Signature redacted

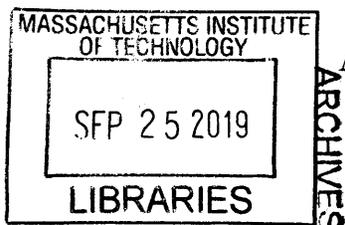
Certified by

.....
Adam Berinsky
Mitsui Professor of Political Science
Thesis Supervisor

Signature redacted

Accepted by

.....
Taylor Fravel



Arthur and Ruth Sloan Professor of Political Science
Chairman, Graduate Program Committee



77 Massachusetts Avenue
Cambridge, MA 02139
<http://libraries.mit.edu/ask>

DISCLAIMER NOTICE

Due to the condition of the original material, there are unavoidable flaws in this reproduction. We have made every effort possible to provide you with the best copy available.

Thank you.

The images contained in this document are of the best quality available.

Hello from the Other Side; I'll Compromise a Thousand Times
How Minority Party Governors Win Unlikely Elections

by

Megan Elizabeth Goldberg

Submitted to the Department of Political Science
on May 29, 2019, in partial fulfillment of the
requirements for the degree of
Doctorate of Philosophy

Abstract

Despite increasing nationalization and polarization in state politics, some blue states continue to elect Republican governors, while some red states continue to elect Democratic governors. These *minority party governors* are out of step with their state's mass ideology and partisanship when research on public opinion and voting behavior suggests that it should be fairly easy for voters to elect officials that match their own ideology by using partisan cues and other information shortcuts. How do these governors win elections and maintain relatively high approval ratings? This dissertation uses data and text from gubernatorial social media accounts from 2009 through 2017 to argue that minority party governors are able to defy electoral odds by distancing themselves from their national party, through the use of language to downplay their partisan identity and ideological moderation, and then emphasize non-ideological valence issues such as the economy, good governance, and public health to shift the focus from issues that are highly partisan.

Thesis Supervisor: Adam Berinsky
Title: Mitsui Professor of Political Science

Acknowledgments

This dissertation was only made possible by a scaffolding of support and invisible labor that deserves not only recognition, but celebration and thanks:

My committee and chair (Adam Berinsky, Devin Caughey, and Chris Warshaw), and all the faculty in the Political Science department, who guided me through the many ups and downs of coursework and dissertation writing, and who showed me the many ways to be a political scientist. Thank you for finding ways to support me navigating the past three years as a new working parent and the vast amount of feedback you've given me over the past six years.

My fellow graduate students, and especially my cohort who entered in the fall of 2013: you have been an bottomless well of support, a source of great friendship, and the best possible colleagues I could have ever hoped for. I never would have survived the past six years without our many trips to the Sloan Cafeteria for Diet Coke and research talk, your willingness to babysit my kids at the last minute so I can make a meeting, and our yearly winter trips to Vermont.

The staff and administrators in the Political Science department, who always made sure the t's were crossed and the i's dotted, and always went out of their way to make sure I had the support I needed as a graduate student mother. Thank you for always being willing to look at baby pictures and help me figure out what forms I needed.

My faculty and mentors at Saint Mary's College, especially Joanne Snow, Amy Caverder, and Patrick Pierce, who always made themselves available for guidance years after I graduated, and who made sure I left Saint Mary's prepared for graduate work. To Pat, especially: thank you for planting the seed over a decade ago the first time I sat in your office, and you told me you wished more women at Saint Mary's knew they were capable of doing PhD work. You guided me through my first ever research projects, and your influence on my work will last far into the future.

And finally, my family. My mom, who flew and drove all over the country to provide childcare at conferences and interviews, reminded me to work *and* take care of myself, and sent us a week's worth of takeout before my defense. My dad, who is always up for a conversation about statistics or politics, and goes out of his way to read my work. My siblings, who were nothing but encouraging and always knew the right time to remind me what the end goal was.

And most importantly: David and the girls. Thank you, David, for taking on countless hours of labor to make sure I had the time and space to write and work when I needed to. Thank you for pushing me to do better work, for always being willing to let me bounce ideas off you, and for going above and beyond to learn more about political science than you ever wanted so that you could help me more. And thank you to my two daughters, Finn

Maddie and Ari - thank you for being a daily reminder that life exists outside the pages of a dissertation, and for the love you have injected in our lives. A non-trivial number of pages of this dissertation with one or the other (or even both!) of you asleep in my lap, and the drive to work quickly was often inspired by a fear that you would soon wake up. Without your disinclination to sleep, I might still be slowly writing.

Contents

1	Introduction	15
1.1	Minority party governors as puzzles	16
1.2	Electoral strategies of minority party governors	17
1.3	Overview of Dissertation	18
2	Minority Party Governors	21
2.1	Representation and Minority Party Governors	22
2.2	Challenges from the Mass Public for Minority Party Governors	26
2.3	A Measurement Strategy for Minority Party Governors	28
2.4	Minority Party Governors, 1972 - 2014	32
2.5	The Role and Impact of Minority Party Governors	34
3	Winning Unlikely Elections	37
3.1	Overcoming the Power of Party Identity	38
3.2	Minimizing Partisan Effects	40
3.3	Evaluating Candidates on a Non-Policy Dimension	42
3.3.1	Interaction of Spatial Models with Valence	43
3.3.2	Measuring Valence	44
3.3.3	Minority Party Governors and Valence	45
3.4	Importance of Communications	46
3.5	Minority Party Strategies	47
4	Data on Political Communications	49
4.1	Gubernatorial Communications	52
4.1.1	Data Collection for Gubernatorial Tweets	52
4.2	Turning Tweets into Usable Data	53
4.2.1	Text Processing	53
4.2.2	Extracting Text Features: Document Term Matrix and Word Embeddings	55
5	Mavericks or Party Loyalists?	57
5.1	Governor Partisanship Intensity	58
5.1.1	Results	60
5.2	Copying the National Party	64
5.2.1	Results	66

6	Beyond Party Cues: Moderating on Ideology	71
6.1	Are minority party governors ideological moderates?	72
6.1.1	Estimating ideology using Twitter follows	73
6.1.2	Results	75
7	A Focus on Valence Criteria	81
7.1	Using structural topic models to evaluate tweets	82
7.1.1	Estimating the Structural Topic Model	82
7.2	Estimating the structural topic model	84
7.3	Locating valence topics	84
7.4	Relationship between valence topics and oppositional party strength	86
8	Discussion and Conclusion	91
8.1	Next Steps	92
A	Descriptive Data: Minority Party Governors, 1972-2014	95
B	Gubernatorial Twitter Handles	97
C	Supplementary Analysis for Ideal Points	103
D	Structural Topic Model Additional Analysis	111

List of Figures

2-1	<i>Pooled Partisan Selection:</i> The figure on the left shows a strong positive relationship between mass liberalism and presidential vote share for Democrats pooled over 1972 to 2012, while the relationship between state level mass liberalism and gubernatorial vote share for Democrats is much flatter.	23
2-2	<i>Partisan selection for state and national executive races over time:</i> the figure on the left shows the coefficient from an OLS regression of mass liberalism on state level election outcomes. In presidential races, mass liberalism consistently has a positive, statistically significant effect on election outcomes, while results are far less consistent at the gubernatorial level.	24
2-3	<i>Four ways to compare a governor to their electoral context:</i> This project will compare a governor’s party to mass partisanship in that state	30
2-4	<i>Oppositional party strength:</i> Oppositional party strength is fairly normally distributed, with a slight skew towards the left. While there are more governors elected in states where their partisanship matches the presidential election outcomes, there are still many states where we see split results at the aggregate level.	33
2-5	<i>Oppositional Party Strength by Party of Governor:</i> Democrats, shown in blue, are more likely to be minority party governors, shown in red.	34
2-6	<i>Oppositional Party Strength over Time:</i> Average oppositional party strength was slightly higher in the 1970s, but has still been fairly consistent over time.	34
2-7	<i>Oppositional Party Strength by Region:</i> While minority party governors were more common in the South in the 1970s, they have been equally common in Southern and non-Southern states in more recent decades.	35
2-8	<i>Oppositional Party Strength over time by party:</i> Democrats are more likely to be minority party governors, especially in the 1970s. The differences between parties are less stark in recent decades.	36
4-1	<i>Governors on Twitter:</i> The number of current governors on Twitter in each year, 2009-2017	52
4-2	<i>Geographic Distribution of Tweets:</i> The above map shows the geographic distribution of tweets.	53
4-3	<i>Tweet Volume over Time:</i> The above figure shows the distribution of tweets sent over time, by party.	53
4-4	Descriptive Data for Tweets	53

5-1	<i>Party Intensity for Republican and Democratic Governors:</i> This figure shows the average and range of party intensity scores for individual governors. . . .	62
5-2	<i>Party Intensity for Republican and Democratic Governors:</i> This figure shows the overlapping distributions of party intensity for Republican and Democratic governors.	64
5-3	<i>Opposition Party Strength and Party Intensity:</i> This figure shows the relationship between opposition party strength and party intensity for each party.	65
5-4	<i>Party Intensity for Republican and Democratic Governors:</i> This figure shows the party intensity for Republican governors in the top panel and Democratic governors in the bottom panel.	66
5-5	<i>Similarity to Democratic National Committee Tweets:</i> This figure shows the cosine similarity between gubernatorial tweets and tweets from the Democratic National Committee.	67
5-6	<i>Similarity to Republican National Committee Tweets:</i> This figure shows the cosine similarity between gubernatorial tweets and tweets from the Republican National Committee	68
5-7	<i>Cosine Similarity to Own Party by Oppositional Party Strength:</i> This figure shows the relationship between the cosine similarity between a governor's tweets and his own national party and oppositional party strength.	69
6-1	<i>Gubernatorial ideal points using follows:</i> This figure shows the average ideal point estimate generated for each governor and the corresponding 95% confidence interval. Republican governors are shown in red, while Democratic governors are shown in blue.	76
6-2	<i>Distribution of Gubernatorial Ideal Point:</i> This figure shows the distribution of ideal point estimates by party. The red distribution represents Republican governors and the blue distribution represents Democratic governors.	77
6-3	<i>Relationship between oppositional party strength and ideal point estimates:</i> This figure shows the relationship between oppositional party strength on the x-axis and ideal point estimates for governors on the y-axis. Republican governors are plotted in red, and Democratic governors are plotted in blue.	78
6-4	<i>Marginal effects of opposition party strength:</i> This figure shows the effect of oppositional party strength on both Republican governors on the left and Democratic governors on the right, with 95% confidence intervals.	80
7-1	<i>Predicted Prevalence of Opioid Topic:</i> This figure shows predicted prevalence of the opioid topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.	87
7-2	<i>Predicted Prevalence of Legislative Productivity Topic:</i> This figure shows predicted prevalence of the legislative productivity topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.	88

7-3	<i>Predicted Prevalence of Economy/Jobs Topic:</i> This figure shows predicted prevalence of the economic and jobs topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.	89
7-4	<i>Predicted Prevalence of Healthcare Topic:</i> This figure shows predicted prevalence of the healthcare topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.	90
A-1	<i>Detailed View of Oppositional Party Strength by State, over Time:</i> darker blue indicates higher levels of oppositional party strength, meaning that governor in that state/year was more out of step with electorate's partisanship.	96
C-1	<i>Convergence of MCM Markov Chains</i>	104
C-2	<i>Convergence of MCM Markov Chains</i>	105
C-3	<i>Convergence of MCM Markov Chains</i>	106
C-4	<i>Convergence of MCM Markov Chains</i>	107
C-5	<i>Convergence of MCM Markov Chains</i>	108
C-6	<i>Relationship between estimated party intensity and ideal point estimates from network:</i> When partisan intensity is averaged over time for each governor, the relationship between the estimated ideal points from networks of followers has little bearing on the partisan intensity of the governor's tweets.	109

List of Tables

5.1	Partisan Intensity and Opposition Party Strength	63
6.1	Effect of Oppositional Party Strength on Ideology	79
7.1	Effect of Oppositional Party Strength on Topic Prevalence	86

Chapter 1

Introduction

In the 2015 Louisiana governor's race, the Democratic candidate John Bel Edwards faced an unfavorable electoral environment in the decidedly red state: the state's electoral votes have not gone to a Democratic candidate in over 20 years, and Republicans have carried the presidential vote by nearly 20 points in the last three elections. Louisiana is also home to some of the most conservative state policies, and a strong conservative ideology in the mass public (Caughey and Warshaw 2015, 2016). Despite what seemed like slim chances given the state's ideological and partisan climate, Bel Edwards won the gubernatorial election in 2015 with over 56% of the popular vote - nearly 20 percentage points more than fellow Democrat Hillary Clinton would win just a year later in the 2016 presidential election in Louisiana. In fact, despite an overall trend among the mass public where presidential and gubernatorial voting have become increasingly aligned (Hopkins 2018), minority party governors like Bel Edwards have been able to eke out electoral victories with some regularity in unfriendly election environments.

Minority party governors are those governors who are elected despite the strength of the opposite party in their state. They include governors like Democrat Bel Edwards, as well as Republicans like Larry Hogan of Maryland and Charlie Baker of Massachusetts. Not only do these governors defy electoral odds, they are some maintain some of the highest approval rates in the country. Republican governors in blue New England made up four of the top ten

highest approval ratings at the end of 2018¹ Democratic governors in red states have been able to maintain their popularity while in office as well: Bel Edwards' approval rating stands at 49% before a re-election bid in fall 2019.² Steve Bullock, the Democratic governor of Montana, had an approval rating of over 50% at the end of 2018.³ Democrat Steve Beshear of Kentucky won re-election in 2011 and remained popular until he was term-limited out of office, despite being a strong supporter of President Barack Obama's Affordable Care Act, being the first state to implement the Common Core Curriculum, and supporting Syrian refugee settlement in his state.

These governors are all out of step with their state electorates, and yet remain electorally successful despite an abundance of political science literature suggesting that the distribution of ideological preferences and partisanship in a state should lead to control of the state government by the appropriate party. These governors represent a puzzle not just for pundits attempting to explain their ability to win unlikely elections, but for several threads of political science literature.

1.1 Minority party governors as puzzles

First and foremost, minority party governors are a representation puzzle. While there is some evidence that dynamic responsiveness can be achieved through adaptation (Caughey and Warshaw 2017; Kousser, Lewis, and Masket 2007; Stimson, MacKuen, and Erikson 1995), another mechanism for responsiveness is partisan selection, wherein the public translates their policy preferences into appropriate party control, and partisan control has an effect on policy outcomes. However, while partisan selection works well for national offices at the state level - liberal states' electoral votes go to Democratic candidates, while conservative states' electoral votes go to Republican candidates - the relationship between state level

¹Easley, Cameron. "America's Most and Least Popular Governors." *Morning Consult*. January 10, 2019.

²Crisp, Elizabeth. "Poll: Roughly half of Louisiana voters approve of Gov. John Bel Edwards' job performance heading into 2019." *The Advocate*. January 10, 2019.

³"Governor Rankings." *Morning Consult*.

preferences of policy on a left-right dimension and partisan control of the executive office is weak. Red states elect Democratic governors on a fairly regular basis, and blue states election Republican governors somewhat regularly.

This failure of partisan selection defies much of what we know about political behavior. The electoral success of minority party governors suggests that some number of voters are splitting their ballots⁴, despite the literature in political behavior that suggests, at the individual level, that voters tend to vote based on party identity. The election of minority party governors also contradicts trends of nationalization and partisan polarization that have been recently documented (Caughey, Dunham, and Warshaw 2018; Hopkins 2018; Sievert and McKee 2018). As politics becomes more nationalized, voters will increasingly align their votes for state and national offices, because they will use similar criteria to evaluate candidates from both office. As parties become more polarized, so do choices, increasing the loss of voting for a candidate outside of your own party.

1.2 Electoral strategies of minority party governors

Popular commentary often paints minority party governors as acting as political moderates, especially in the modern context of partisan polarization. Indeed, Bel Edwards himself publicly declared himself moderate on key issues in an op-ed to *The Times-Picayune*, describing himself as a “pro-life, pro-guns, conservative Democrat.”⁵ opponents of governors running in states with unfriendly electorates clearly think that ideologic Meanwhile, the Republican Gll; overall positioning matters as wenor’s Association ran ads to associate Bel Edwards with the Democratic party and Obama, repeatedly referring to Bel Edwards as an ”Obama liberal.”⁶ A *New York Times* piece explained these governors’ victories, attributing the wins to the

⁴“Splitting the ballot” refers to voting for candidates of different parties on the same ballot. For example, voting for the Democratic presidential candidate and the Republican gubernatorial candidate is an example of split ticket voting.

⁵Bel Edwards, John. “Thank goodness pundits don’t pick the governor.” *The Times-Picayune*, May 20, 2015.

⁶Crisp, Elizabeth. “Republican governors group weighs in on Louisiana governor’s race with ad targeting John Bel Edwards.” *The Advocate*, October 21, 2015.

ability to appeal to voters in the other party by painting themselves as ideologically distinct from their own.⁷

The challenge this governors face comes down an obstacle at the individual level: in order to be elected, they need to overcome the influence of party identification at the ballot box. Partisan identification is a strong heuristic because of its power in relaying a great deal of information for almost no cost. It also minimizes the cognitive resources a voter needs to engage in politics, solving a dilemma for voters who want to make the right choice at ballot, but do not have the resources to be fully informed. The strategies they employ rely on reducing the usefulness of party cues so that voters rely more heavily on other sources of information.

I suggest that minority party governors will use language that distances themselves from their national party to downplay the association between themselves and the party brand. Minority party governors go a step further, and also moderate their ideological viewpoints with the goal of making themselves ideologically indistinguishable from their opponents. This makes partisanship less useful as a criteria for voting, since the candidates of each party hold the same ideological positions. This allows minority party governors to emphasize valence, or non-ideological criteria, such as good governance, effectiveness, and pragmatism that voters already value in their state officials.

1.3 Overview of Dissertation

In the remainder of the dissertation, I explore how minority party governors are able to win elections, despite strong opposition in the electorate. First, in Chapter 2, I outline in detail how these governors contradict much of what we know about political behavior, and suggest an exception to the dominant patterns of party influence, as well detailing how I will measure “out of stepness.” In Chapter 3, I outline a theory on how minority party governors first and

⁷Steinhauer, Jennifer. “Republican Governors in Blue States Find a Way to Get Along.” *The New York Times*. August 10, 2018.

foremost want to minimize the partisan effects on voting, and what those strategies could be to weaken the strength of partisanship as a cue.

I suggest that minority party candidates will work to distance themselves from their party, both substantively and superficially, and that they moderate their ideological positions. I argue that moderating their ideological positions makes them indistinguishable on policy issues from their opponents, so that they can emphasize valence, or non policy related, issues. To demonstrate that minority party governors use these strategies, I rely on data from gubernatorial communications on Twitter. Social media has become an important medium for elected officials to communicate with their constituents, and if minority party governors are indeed employing these strategies, they should come across in official communications from the governor's office. In Chapter 4, I introduce a dataset on gubernatorial communications that spans from 2009 through 2017, how it was collected, and how it can be turned into useful political data.

In Chapter 5, I turn to how governors use language to communicate distance from the national party brand. First, I used a supervised method of machine learning to see if it is possible to infer the party of an out of sample governor using text from the rest of the governors. If governors are less partisan in their language usage, it should be difficult to classify them correctly. Since partisan language is also often disseminated by the national party and other elite actors, I compare the tweets of governors to tweets from their national party organization under the assumption that governors who use more partisan language and are closer to the national party brand will be more similar to the national party.

In Chapter 6, I look to see if minority party governors distance themselves from their party in their ideological positions as well. Using Barbera's (2017) method for estimating ideal points of Twitter users by their follower/follow networks, I calculate estimated ideological positions for all governors active on Twitter between 2009 and 2017 under the assumption that Twitter users, including governors, will follow people that have similar viewpoints to their own. This assumption is backed empirically by a large body of work that has observed

homophily in social networks; furthermore, who a prominent user on Twitter follows sends a signal about who they consider to be in their network.

Finally, in Chapter 7, I use a method of unsupervised machine learning on the text of gubernatorial tweets to uncover what messages governors devote time to communicating. I estimate a series of latent topics in gubernatorial Twitter “essays” to determine if minority party governors spend more of their feed talking about non-ideological valence issues. Implementing a structural topic model allows these latent topics to vary based on covariates, like how out of step a governor is with their electorate.

Overall, I find that minority party governors largely follow this strategy of using less partisan language, moderating their ideological positions, and focusing substantively on what can be considered valence issues. In the conclusion, I turn to further extensions of this project and the implications for representation and what we know about trends in nationalization.

Chapter 2

Minority Party Governors

While the relationship between presidential and gubernatorial voting has strengthened over the past half century, blue states still continue to elect Republican governors, and red states continue to elect Democratic governors. These *minority party governors* are elected executives whose partisanship is “out of step” with mass partisanship in their state. In this chapter, I summarize the puzzles in the political science literature represented by minority party governors, and an approach for how to measure how out of step a governor is with their state.

While it is relatively easy to point to a few well known minority party governors - such as Republican Charlie Baker in the very blue Massachusetts - classifying all governors as “minority party” or not is difficult to do with a binary measure. A measure of this concept should go beyond a binary measure, to capture governors of the minority party in deeply partisan states differently than governors whose party is barely in the minority. Furthermore, the measure should capture how the selection mechanism for representation does not often work at the state level. Finally, the measure should reflect how these governors stand in contradiction for what political scientists currently know about political behavior, both at the individual level and in the aggregate. In the following sections, I first explore these puzzles, then develop of measure of “out of stepness” that fits the criteria above.

2.1 Representation and Minority Party Governors

Democratic governance requires, at its core, citizen control over the government. A necessary (although not sufficient) condition of democratic governance is that policy responds to the preferences of the mass public (Dahl 1971; 1989). Dynamic responsiveness at the national level in the US seems to be healthy (?), given the robust empirical relationship between changes in public opinion on specific issues and related policy (Page and Shapiro 1983), and between overall “policy mood”¹ and government activity (Stimson, MacKuen, and Erikson 1995; Soroka and Wlezien 2010). In cross-sectional studies, the correlation between mass preferences and policies is also strong at the state level (Erikson, Wright, and McIver 1993; Gray et al. 2004; Lax and Phillips 2012).

There are two mechanisms by which this responsiveness might be achieved: *adaptation* and *selection* (Fearon 1999; Miller and Stokes 1963; Stimson, MacKuen, and Erikson 1995). In adaptation, elected officials anticipate sanction from voters in the next election and adjust their behavior accordingly (Downs 1957; Kingdon 1989; Mayhew 1974; Snyder and Ting 2003). While some literature suggests that adaptation is not a powerful mechanism for representation (Achen and Bartels 2016), there is also evidence that policy responsiveness at the state level occurs through adaptation (Caughey and Warshaw 2017; Kousser, Lewis, and Masket 2007; Stimson, MacKuen, and Erikson 1995).

The second mechanism is partisan selection; through this mechanism, representation occurs in two steps. In the first step, the mass public elects representatives whose partisanship matches their policy preferences. In the second step, partisan control of government affects public policy, yielding policy that matches the preferences of the mass public. There has been ample evidence that this is an important mechanism for representation (Achen and Bartels 2016; Ansolabehere, Snyder, and Stewart 2001; Fowler and Hall 2017; Lee, Moretti, and Butler 2004; Levitt 1996; Poole 2007). However, while evidence is strong on the second

¹“Policy mood” is a context-specific measure of whether the mass public wants more or less government effort relative to the current output (Stimson, MacKuen, and Erikson 1994, 1995).

step - that partisan control of the government has an effect on policies (Caughey, Tausanovitch, and Warshaw 2017; Caughey, Warshaw, and Xu 2017; Fowler and Hall 2017; Shor and McCarty 2011) - there is less persuasive evidence of the first step. At the state level, the relationship between mass liberalism and partisan control of the government is relatively weak.

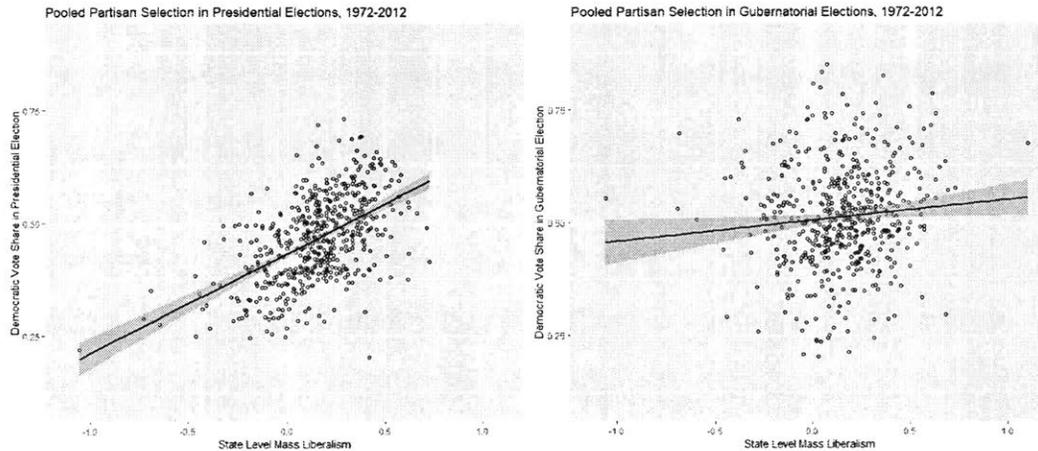


Figure 2-1: *Pooled Partisan Selection*: The figure on the left shows a strong positive relationship between mass liberalism and presidential vote share for Democrats pooled over 1972 to 2012, while the relationship between state level mass liberalism and gubernatorial vote share for Democrats is much flatter.

Figures 2-1 and 2-2 show this weak relationship in comparison with partisan selection in presidential elections at the state level from 1972 through 2012. . The left panel of figure 2-1 shows mass policy liberalism (Caughey and Warshaw 2015)² measured at the state level and state level presidential vote share for Democrats on the y-axis, pooled over the time period. The relationship between mass liberalism and presidential voting is strongly positive; the more liberal the mass public in that state, the greater the voteshare won by Democratic presidential candidates. This indicates that partisan selection measured at the state level

²The measure for mass ideology from Caughey and Warshaw (2015) captures the public’s latent preferences for conservative or liberal policies at the state level by using a Bayesian group-level IRT approach that aggregates polling data on many different policies. The measure is an improvement over existing measures of ideology because it does not rely on the constrained and strategic behavior of Congressional representatives (e.g. Berry et al. 1998) and avoids the problems with use symbolic, self-expressed ideology (e.g. Erikson, Wright, and McIver 1993) by measuring operational ideology. It is time variant without being context specific, which is a limitation of measures like public mood (Stimson 1991, 2012; Enns and Koch 2013; McGann 2014).

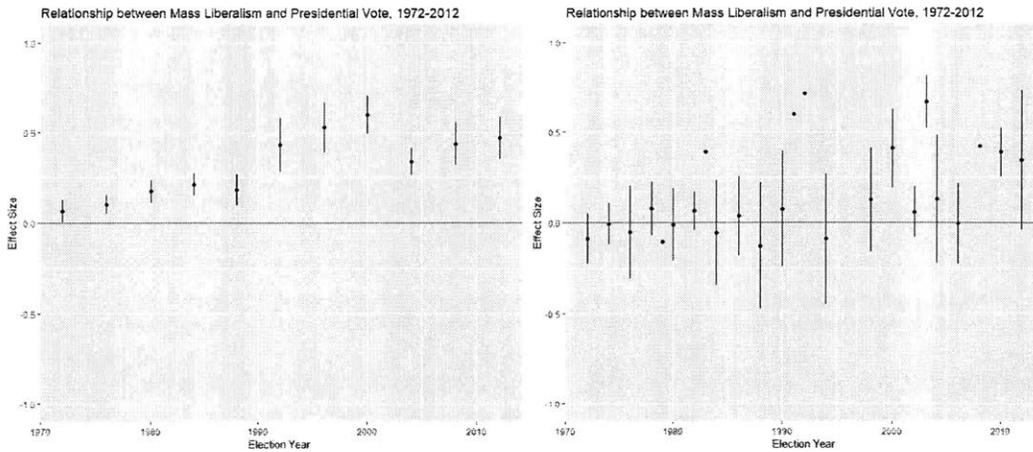


Figure 2-2: *Partisan selection for state and national executive races over time*: the figure on the left shows the coefficient from an OLS regression of mass liberalism on state level election outcomes. In presidential races, mass liberalism consistently has a positive, statistically significant effect on election outcomes, while results are far less consistent at the gubernatorial level.

is reliable in presidential races; that is, the policy preferences of the electorate affect which party is elected.

However, the right hand side of Figure 2-1 tells a different story about the strength of partisan selection in gubernatorial elections. Mass liberalism at the state level is again plotted along the x-axis, and the vote share for Democratic vote candidates is plotted along the y-axis.³ Rather than the steeply positive slope of the best fit line in the lefthand panel that shows strong partisan selection in presidential elections, the righthand panel shows a weak and nearly flat relationship between Democratic vote share in gubernatorial elections and public's policy liberalism between 1972 and 2012. Figure 2-2 echoes this same contrast between the selection step in presidential and gubernatorial elections across time. Figure 2-2 shows the effect sizes from binary regressions of mass liberalism on democratic vote share in presidential elections (left hand side) and gubernatorial elections (right hand side) for a single election year. The relationship between mass liberalism and presidential voting has grown stronger over time, while the relationship between mass liberalism and gubernatorial

³The data for the righthand panel of Figure 2-1 are pooled across the time period of 1972 to 2012.

voting has remained close to zero and inconsistent. Overall, the data suggest that while partisan selection is frequently achieved in presidential elections at the state level, mass liberalism does not have a strong influence over partisan voting patterns.

Minority party governors, then, are not necessarily rare instances, but indicative of the weak relationship between mass liberalism and partisan control of the state government. The election of these governors presents a dilemma for representation, since dynamic responsiveness would then depend on adaptation alone. It also suggests that political parties at the state level are to some degree failing as linkage institutions. While Dahl argued that dynamic responsiveness is a necessary condition for democratic governance, E.E. Schnattschneider argued that “modern democracy is unthinkable save in terms of parties” because they offer voters meaningful choices. Parties also offer a solution to the huge informational deficit in the mass public.⁴ Partisanship, whether conceived of as a deep-seated psychological identity (Campbell et al. 1960) rooted in social identity and reinforced by social and family networks (Berelson et al. 1994; Campbell et al. 1960; Green et al. 2002; Greene 1999) or a continually updated evaluation of performance (Fiorina 1981), voters use the party of candidates as a heuristic, or shortcut, in processing the vast amount of political information available. Parties have been so successful at reducing the cost of decision making for voters that partisan identity has become a major determinant of vote choice (Bartels 2000) Parties serve to reduce the dimensionality of campaigns and take on many of the costs of transmitting information to voters: since the party cue communicates a large amount of information at a low cost, the cost of participation is lower for voters. In this way, parties should help voters relay their preferences through voting. In the cases where mass liberalism is not translated into successful partisan selection, it suggests that the role of parties as linkage institutions in that state has gone awry.

⁴This deficit has been a concern for political scientists who felt that voters do not possess enough information to make real decisions about politics, which would damage their ability to exercise any control over governance (Kinder and Palfrey 1993).

2.2 Challenges from the Mass Public for Minority Party Governors

The relatively weak relationship between mass liberalism and partisan control of the state government in the relatively recent past is surprising because it does not mesh well with what we know about both individual level voting behavior or aggregate trends in voting behavior at the state level in the post New Deal era. The dominant themes in both these literatures suggest that the first step in the selection mechanism for representation should be straightforward. We know that partisanship is a major determinant in who voters choose to vote for, and given that state elections are typically lower salience than national elections, voters should be relying *even more* on partisanship as a heuristic in state elections. However, the election of these minority party governors suggests that there are systematic exceptions to what we know about voting behavior. Beyond challenges posed by the way voters select candidates, marginal party governors face institutional obstacles as well, created by the changing landscape of political parties to improve their performance as linkage institutions.

What we know about individual level voting behavior suggests that successful partisan selection should be fairly straightforward. The first step requires that voters translate their policy preferences into corresponding partisan control in the government. As noted above, parties help voters make decisions by reducing the dimensionality of politics when they package together a set of policy stances and providing informational shortcuts. Partisanship is the dominant driver of vote choice in elections, and so as long as voters are able to correctly join the party that matches their policy preferences, they should be able to correctly match their policy preferences to candidates as well.

Aggregate trends of voting behavior - particularly polarization, partisan sorting, and nationalization - have made it easier for voters to correctly match their own policy preferences to membership in a particular party and strengthened the relationship between partisanship and vote choice. Polarization refers a pattern of increasing ideological distance and distinc-

tion between the two parties; this pattern has made it increasingly easy for Americans to sort into political parties that match their ideological preferences. While the party system in the mid 20th century features parties that were internally ideologically diverse, parties today have become more homogenous and extreme. Polarization has its roots in a spatial model of politics, and refers to changes in the distribution of ideological preferences. A polarized group is a bimodal distribution, with two centers of mass at the extreme; polarization requires not just two modes, but considerable distance between them as well. Polarization has facilitated partisan sorting, wherein the public is more successful at aligning their ideological preferences for policy and partisanship. That is, conservatives are more likely to identify as Republicans, while liberals are more likely to identify as Democrats. Both sorting and polarization make the election of out of step governors less likely; when parties were ideologically diverse, a governor like Charlie Baker in Massachusetts might have been able to rely on his own party's vote, but also appeal to conservative Democrats to build a cross cutting coalition of support.

Nationalization, which is related to polarization, refers to a mass level phenomenon in which the public becomes less interested in and engaged with state and local politics (Hopkins 2018), loses intraparty, cross-state heterogeneity (Caughey, Warshaw, and Dunham 2018), and increasingly evaluates and chooses gubernatorial candidates and presidential candidates using the same criteria (Hopkins 2018). The nationalization of American politics has been well documented (Bartels 1998; Claggett et al. 1984; Gimpel 1996; Klinghard 2010; McCormick 1973; Schattschneider 1960; Stokes 1967; Vertz et al. 1987) with respect to multiple dimensions of behavior. The most problematic part of this trend for marginal party governors is the increasing alignment of presidential and gubernatorial voting, as documented by Hopkins (2018). Voters are now more likely to evaluate gubernatorial candidates and presidential candidates using the same criteria, which often means voting with their party loyalties across all levels of government.

Parties have also continued to undergo the institutional transformation that makes them

more effective at reducing this dimensionality problem for voters, and making it easier for them to connect their policy preferences to a group. Marginal party governors also face a challenge from the national convergence of state party organizations. As parties moved from coalitions of state and local party organizations, governed by patronage (Burrell 1986; Hershey 2000; Mayhew 1986) to more autonomous and ideologically homogenous organizations with their own fundraising capabilities, they helped create national party brands that now infiltrate state and local elections (Hopkins and Schickler 2016). Party platforms demonstrate that over time, parties have become increasingly similar to one another in their offerings, while geography has declined in importance for explaining variation across platforms (Hopkins 2018). This stacks the deck against minority party governors by making it difficult for them to distance themselves from their national party brand, and a more centralized party system that creates uniform platforms despite the ideological leanings of the state means that it is more difficult to convince voters that they may be more moderate than their national parties.

Overall, the literature suggests that the first step of partisan selection should be easily achievable. Voters have increasingly correctly aligned their policy preferences with their partisanship, and the relationship between partisanship and vote choice at the state level has strengthened. Based on what we know about individual and macro patterns in voting, minority party governors face sizable obstacles in getting elections, and when they do succeed, their elections suggest that there are major exceptions to these patterns that dominate the literature on voting behavior.

2.3 A Measurement Strategy for Minority Party Governors

When political pundits and scientists alike are surprised by the election of Republican governors in blue states and Democratic governors in red states, they are expressing surprise

at the election of governors who are in some way out of step with their electorate. These elections are surprising because they stand counter to many dominant theories in political science, and counter to conventional knowledge. But how do we capture in a precise way whether a governor is one who has won a surprising election?

Measuring this phenomenon rests on a comparison between an elected official and the context in which they are elected; what is surprising about the election of certain officials is the degree of contrast between the electoral context in which the official is elected and the candidate. There are several ways in which a governor might be out of step with their electorate, based on the ways in which we can capture the public's preferences and the governor's expressed preferences. Both governors and voters have both partisanship and ideologies, which creates four ways to compare how out of a step a governor is. Figure 2-3 summarizes those four different pairings for comparison and the drawbacks of each potential choice.

The comparison between governor and electoral context that most closely matches the theoretical puzzle is the comparison of mass liberalism to the partisanship of the governor. Partisan selection has long been considered the dominant mechanism for dynamic responsiveness, and the first step of partisan selection is a strong relationship between mass liberalism and partisan control of the government. However, mass liberalism has been historically difficult to measure, due to both data and computational mechanisms. The best existing measure (Caughey and Warshaw 2015) does not extend past 2014, which covers only a short period of the outcome variables (discussed in detail in Chapter 4). Since mass liberalism has data shortcomings, mass partisanship will serve as a proxy. In particular, mass partisanship will be measured with Democratic presidential vote share. Conceptually, mass partisanship in the more contemporary period has become more in line with ideology, since partisan sorting has made liberal Republicans and conservative Democrats a rare breed. Furthermore, it is well known that there is a strong relationship between expressed partisan identification and presidential vote choice, so Democratic vote share in the presidential election is a good

measure for the concept of mass partisanship. Finally, Figures 2-1 and 2-2 both show that the relationship between mass liberalism and Democratic vote share in presidential elections is strong.

	Gubernatorial Partisanship	Gubernatorial Liberalism
Mass Partisanship	<i>data more available, gap between theoretical foundations and literature but matches conventional wisdom</i>	<i>Farther from theoretical foundations, prohibits exploring gubernatorial ideology as an explanation for surprising elections</i>
Mass Liberalism	<i>matches theoretical foundations, data limitations for mass liberalism</i>	<i>gap between theoretical foundations, conventional wisdom and commentary focuses to some degree on partisanship, prohibits exploring whether governors moderate to win; measures would not be jointly scaled</i>

Figure 2-3: *Four ways to compare a governor to their electoral context:* This project will compare a governor’s party to mass partisanship in that state

The governor’s preferences, likewise, could be measured by either their partisanship or their ideology. Gubernatorial ideology presents several problems, both in terms of measurement and theoretically. First, gubernatorial ideology is difficult to measure. Putting aside that ideology measured through policy actions does not necessarily reflect a governor’s true ideology, governors do not take nearly the same number of policy actions as elected officials like legislators. Roll call votes are a frequent source data for measuring legislator ideology, but there is no analogous source of information for governors. Other scaling methods rely on campaign donations, which may not capture a governor’s policy preferences *while in office*, but during campaigns and elections. Using a governor’s ideology also takes a step away from the theoretical foundations in representation literature that focus on parties, as well as popular media commentary that focuses on partisanship.

Using gubernatorial partisanship also has the advantage of being easily obtained and comparable across governors in the contemporary time period. It also matches the literature on the selection mechanism in representation, where voters select parties that match their preferences. Furthermore, when voters are making choices among candidates, they often make their choices using party affiliation as a heuristic for ideology and policy preferences. Democratic candidates are associated with more liberal policies, while Republican candidates are associated with more conservative policies. Furthermore, mass partisanship to the party of the governor allows for analysis of whether governors in traditionally liberal or conservative parties moderate their language or policies based on the electorate as a strategy to win elections in an unfavorable electoral context. Finally, comparing mass partisanship to partisan vote share at the state level does echo some of what we know about political behavior. Split ticket voting should be rare in the past decade, given trends in nationalization and polartization, but the more out of step a governor is with partisanship in the state, the more ticket splitting that must be happening at the individual level and the weaker the relationship between presidential and gubernatorial voting.

Assessing whether a governor's partisanship is a "mismatch" with their electorate is straightforward in many cases. Governors like Democrat John Bel Edwards of Louisiana, for example, is clearly not aligned with his state's electorate. However, some governor's are harder to classify. Was the 2010 election of Republican John Kasich in Ohio as surprising as the election of Republican Charlie Baker in Massachusetts?⁵ This ambiguity suggests that a binary measure of a governor being definitively in or out of the majority party in the state loses too much information. Instead the degree to which the governor's partisanship is out of step of with mass partisanship is measured with the vote share the party opposite the governor won in the most recent presidential election. For example, a Republican governor elected in 2014 in a state where Obama won fifty-four percent of the popular vote in 2012

⁵Ohio voted for the Democratic presidential candidate in 2008 and 2012, and for the Democratic presidential candidate in 4 out of the past 10 presidential elections. Massachusetts, on the other hand, has voted for the Democratic presidential candidate in 8 out of the past 10 presidential elections.

would receive a score of .54. If that state had elected a Democratic governor in 2014 instead, that governor would receive a score of .46. The degree to which a governor is out of step with the electorate is the strength of the opposing party in the electorate; lower scores are governors whose party is more aligned with their electorate, while higher scores are governors whose party is less aligned with their electorate.

2.4 Minority Party Governors, 1972 - 2014

The weak relationship between mass liberalism and partisan control of state government suggests that governors winning elections in states with highly unfavorable electoral environments, while not the modal outcome, still occurs with some regularity. For example, eleven states whose electoral votes went to Obama in 2012 had Republican governors, while in five states with Democratic governors, the popular vote went to Romney. Figure 2-4 shows the distribution of oppositional party strength for state-years from 1972 through 2014. There is a higher concentration of states in the middle around .5, indicating that many governors are elected in “purple” states that are neither strongly Republican nor strongly Democratic. There is a slightly higher concentration of state-years just to left of .5, indicating that even in battleground states, elections at the federal and state level tend to go to the same party. However, there are still a large number of states to the right of .5, demonstrating that minority party governors are elected with some regularity.⁶ Figure 2-6 shows the average oppositional party strength pooled across states for each year; while it was higher in the 1970s, it has remained fairly constant over time.

There is slight variation across parties and region. Figure 2-5 shows the overlapping distributions of oppositional party strength pooled across time, by party of the governor. Democrats are shown in blue, and Republican governors are shown in red. The distribution of Democratic governors is slightly to the right of Republican governors, indicating that Democratic governors face higher rates of opposition party strength, while Republican gov-

⁶To view the data from 1972 to 2014 in greater detail, see Figure A-1 in Appendix A.

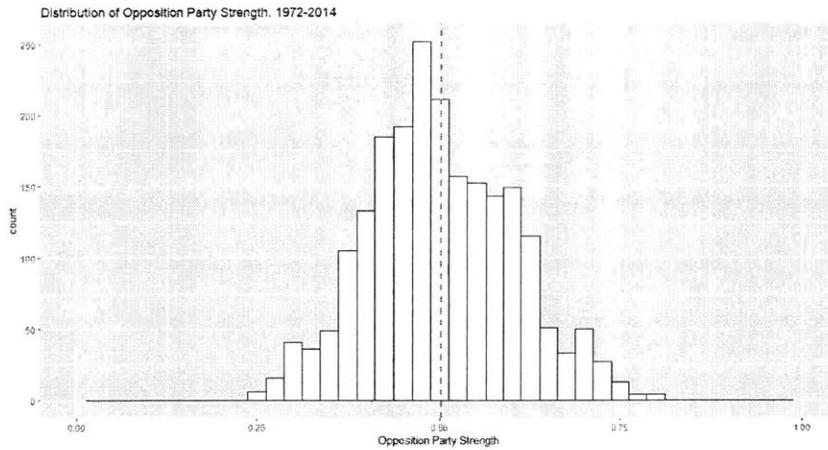


Figure 2-4: *Oppositional party strength*: Oppositional party strength is fairly normally distributed, with a slight skew towards the left. While there are more governors elected in states where their partisanship matches the presidential election outcomes, there are still many states where we see split results at the aggregate level.

ernors face lower rates of opposition party strength. However, these differences are largely driven by the 1970s and 1980s. Figure 2-8 shows the average rate of party opposition for each year from 1972 through 2014, broken down by party. Republican governors in the 1970s faced much less opposition in the electorate, while Democratic governors faced much more. However, the differences between the parties have become much smaller over time. This difference in the 1970s between parties may have been driven in part by southern states, shown in Figure 2-7. Figure 2-7 shows the average opposition party strength for the South on the left panel and all other states on the right panel. While there is less regional variation in recent years, governors in the South in the 1970s faced more opposition in the electorate.

The data from 1972 through 2014 show that many governors face oppositional party strength over 50%, and governors facing electorates with very different partisan preferences are not that much rarer than governors with electorates that are more aligned with their own partisanship. While there has been some variation in what types of governors faced more opposition, in recent decades many of these differences across party and space have disappeared.

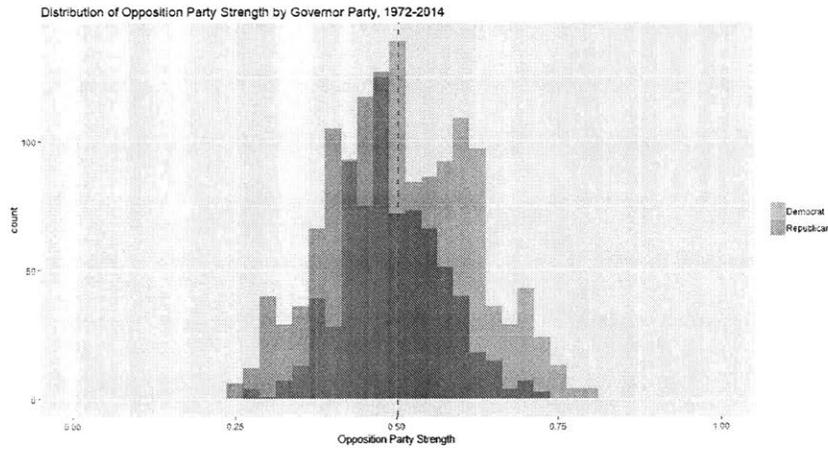


Figure 2-5: *Oppositional Party Strength by Party of Governor*: Democrats, shown in blue, are more likely to be minority party governors, shown in red.

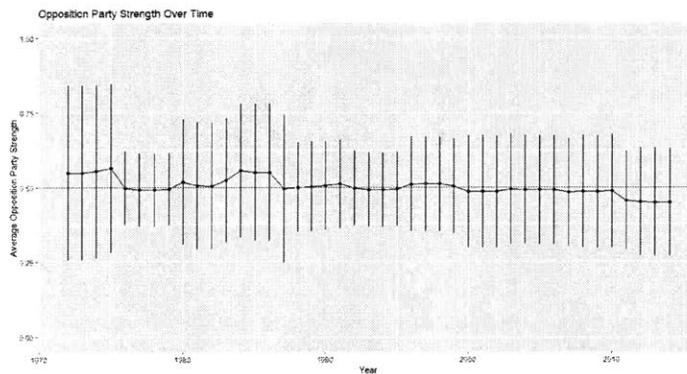


Figure 2-6: *Oppositional Party Strength over Time*: Average oppositional party strength was slightly higher in the 1970s, but has still been fairly consistent over time.

2.5 The Role and Impact of Minority Party Governors

Beyond defying expectations set by dominant theories in political science concerning both individual level and aggregate behavior, governors facing strong opposition parties have made important policy contributions, influence how state and federal relations, and represent an antidote to the current polarized political landscape for many political commentators. Minority party governors - especially Republican governors in blue states - have been a popular subject in mainstream media coverage. These governors seem to suggest an antidote to deeply partisan and increasingly hostile political environment. And indeed, candidates like

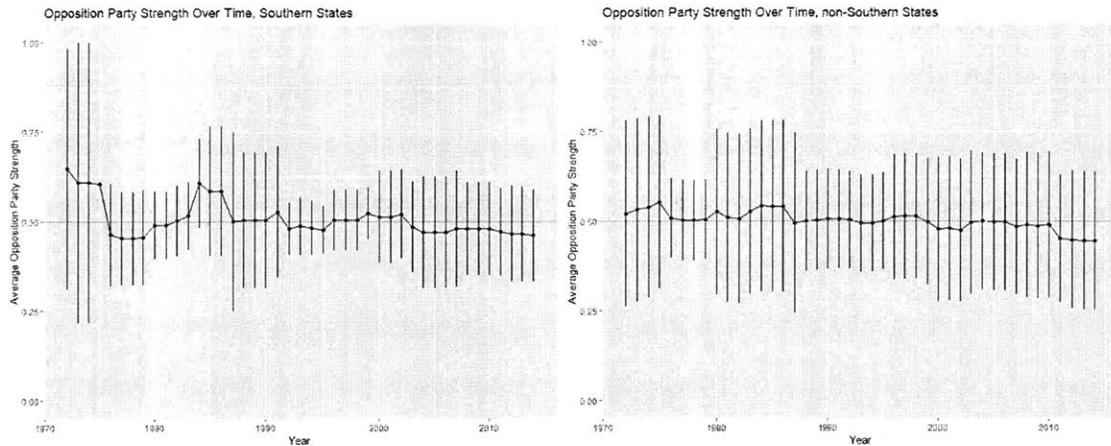


Figure 2-7: *Oppositional Party Strength by Region*: While minority party governors were more common in the South in the 1970s, they have been equally common in Southern and non-Southern states in more recent decades.

Bel Edwards have put out messages to suggest that they may be the foil to increasing polarization as moderate, mild tempered candidates that are not afraid to distance themselves from their national party organization. Bel Edwards declared himself moderate on key issues when he submitted an op-ed to *The Times-Picayune* describing himself as a “pro-life, pro-guns, conservative Democrat.”⁷ Recent media coverage of Republican governors in blue states focuses on a similar strategy as John Bel Edwards: by moderating their views on key issues and taking credit for their accomplishments, they are able to appeal to voters in the other party who view them as political distinct from their national counterparts.⁸ They have been described as pragmatic, even non-partisan leaders.⁹

Minority party governors play an important policymaking role in a federal system as well. One particular policy area in which minority party governors have changed the policy landscape is healthcare; one of the most notable examples of a minority party governor is Republican Mitt Romney, whose moderate Massachusetts healthcare law served as a model

⁷Bel Edwards, John. “Thank goodness pundits don’t pick the governor.” *The Times-Picayune*, May 20, 2015.

⁸Steinhauer, Jennifer. “Republican Governors in Blue States Find a Way to Get Along.” *The New York Times*. August 10, 2018.

⁹Mark, David. “Republican Governors Thrive in Blue States, Polling Shows.” *Morning Consult*. July 18, 2017.

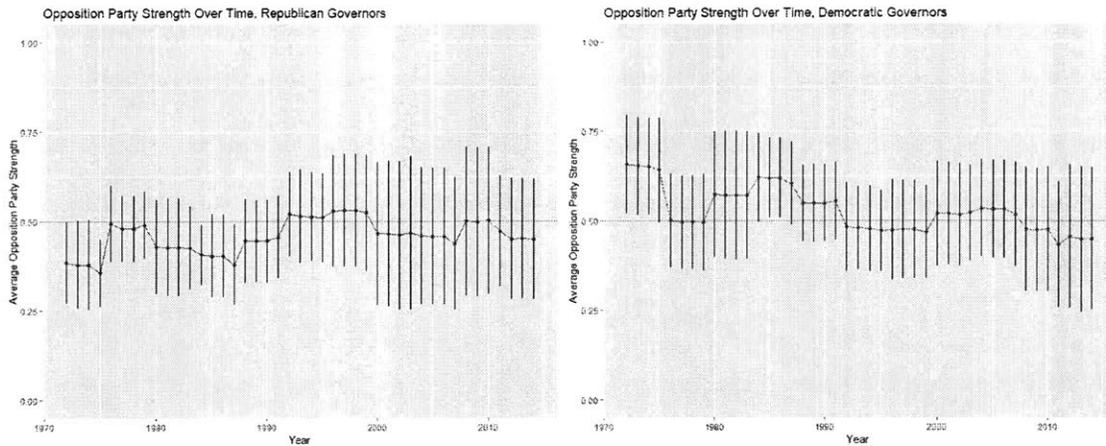


Figure 2-8: *Oppositional Party Strength over time by party*: Democrats are more likely to be minority party governors, especially in the 1970s. The differences between parties are less stark in recent decades.

for the Affordable Care Act passed in 2010. On the opposite side, Democratic governors like Steve Beshear of Kentucky have been instrumental in implementing the Affordable Care Act in conservative states. Beshear oversaw the uninsured rate in his state getting cut in half, the highest drop in the nation.¹⁰ These two examples from healthcare show the opportunity these governors present to both parties in a federal system to bring state policy to the national level and implement policies in unfriendly states. However, these opportunities are dependent on minority party governors finding a way to win elections and remain popular in unfriendly electoral environments that appear to be increasingly hostile.

¹⁰Kliff, Sarah and Byrd Pinkerton. "Interview: Former Gov. Steve Beshear explains how he sold deep-red Kentucky on Obamacare." *Vox.com* February 27, 2017.

Chapter 3

Winning Unlikely Elections

So what is a governor or gubernatorial candidate from the unpopular party to do, given the degree to which the electoral decks are stacked against them? The media attention around these governors has proposed a number of explanations. One is that these governors are simply ideological moderates, or moderate on strategic issues. According to some coverage, the GOP in northeastern states is so weak that governors are entirely unconstrained by the parties and permitted to be as liberal as they need to in order to be electable.¹ One political editor explained that minority party governors “are more in sync with the voters in those states, and what they want and need, than what their party wants from them,” echoing the idea that the party organization does not act as a strong constraint on issue positions taken by these candidates.² Other political observers have noted that Republican governors in blue states have particularly focused on their fiscal conservatism, while either avoiding or moderating on social issues.³ Every current Republican governor in the northeast is pro-choice, while Steve Beshear in Kentucky seemed to take a page from their book as ran as a pro-life, pro-gun Democrat. Some of these governors also rely strongly on their personal

¹Kilgore, Ed. “The Most Popular Governors in America Are Republicans in Blue States.” *New York Magazine: Intelligencer*. April 25, 2019.

²Steinhauer, Jennifer. “Republican Governors in Blue States Find a Way to Get Along.” *The New York Times*. August 10, 2018.

³Sheffield, Matthew. “Why do Blue States keep voting for Republican governors?” *The Hill*. November 9, 2018.

brand to overcome electoral obstacles; Phil Scott of Vermont has a reputation for being “decent and basic,” which may have helped the Republican push through extensive gun control regulations.⁴

Political commentary has also focused on the ability of these candidates to distance themselves from the reputation of the national party brand and nationally prominent figures in their party. Current Republican governors in blue states have made it a point to “almost . . . have no opinion on Donald Trump or Nancy Pelosi.”⁵ In order to implement the Affordable Care Act in a conservative state without entirely sacrificing his electoral chances, Beshear named their state exchange “Kynect” to get as far from the name “Obamacare” as possible. Beshear explained in an interview after his tenure as governor that, at the time, Obama’s approval rate in the state stood at only thirty percent. Disapproval for Obamacare was at sixty percent. Putting the president front and center would have been politically unpopular, and the word “Obamacare” had already garnered a negative meaning.⁶

3.1 Overcoming the Power of Party Identity

The roots of many of these strategies come from what we know about individual voting behavior. The stronger the opposition party in the state electorate, the more voters of the opposite party a gubernatorial candidate must sway to build a coalition large enough to win. In order to sway voters and maintain their popularity, minority party governors must find a way to overcome the microlevel connection between partisanship and evaluation. There are two ways that governors can work to sever the strong tie between a voter’s partisanship and their vote choice. The first is to reduce the usefulness of partisanship as an informational cue. The second is to stress some alternative criteria that voters can use in decision making. These two strategies can work together: if governors can reduce the usefulness of party as a

⁴Richards, Parker. “The Last Liberal Republicans Hang On.” *The Atlantic*. November 3, 2018.

⁵Malpass, Adele. “How 3 GOP Governors Defied Blue State Voting Patterns.” *Real Clear Politics*. November 27, 2018.

⁶Kliff, Sarah and Byrd Pinkerton. “Interview: former Gov. Steve Beshear explains how he sold deep-red Kentucky on Obamacare.” February 27, 2017.

cue, it will be easier to get voters to rely on some alternative criteria for evaluation at the ballot box.

A central component of the tie between party identification and voting comes from the usefulness of party as a heuristic. The goal of voters is select the candidate whose ideology most closely reflects their own (Adams et al. 2005; Buttice and Stone 2012; Jessee 2009, 2012). However, determining which candidate is the closest ideological match requires a great deal of information about all the candidates. Voters face a dilemma at the ballot: information is expensive to obtain and process, and resources (such as time, interest, or information availability) may be scarce. The solution is to minimize the amount of information necessary to make a decision in the polling booth with as little uncertainty as possible (Downs 1957), so that they can act as if they are sufficiently informed enough to make non-random decisions (Arceneaux 2008; Druckman 2001). In the context of most elections, voters rely on information shortcuts; one of the most powerful of these heuristics is party identification (Jacoby 1988; Mondak 1993; Schaffner and Streb 2002).⁷ The party label attached to a candidate contains a wealth of information for voters about what that candidate stands for, serving as a mental shortcut for candidate ideology (Grynaviski 2010; Dropp and Peskowitz 2012; Snyder and Ting 2002) because they recognize the ideological content of party labels (Woon and Pope 2008).

Gubernatorial candidates from a state's unpopular party have to sway some number of voters from the opposite party to win elections; doing so relies on breaking this bond between partisanship and vote choice. While these candidates can do little about an individual's partisan identity or, scaling up, the partisanship of the state electorate, they can take advantage of informational deficit voters are trying to overcome in making a decision. Partisanship is powerful because of its deep roots as an identity, but also because of the sheer amount of information provides. Minimizing or eliminating the information in the party cue by dis-

⁷Part of the power of partisanship is in the amount of information it contains, but another component is how deeply held partisan identities are held by voters; partisan is a deep seated psychological identity rooted in many aspects of social identity and reinforced by family and social networks (Campbell et al. 1960, Berelson et al. 1954, Greene 1999, Green et al. 2002).

tancing themselves from the national party renders the cue useless as a party shortcut, and voters may not rely on it to solve their information dilemma.

In the absence of useful partisan cues, voters will turn to other informational shortcuts or heuristics. In many local elections (and even some at the state level), races are non-partisan. Non-partisan elections have roots in Progressive Era reforms that sought to reduce the influence of party machines (Pomper 1966; Williams and Adrian 1959; Wright 2008), and the assumption of many reformers was that removing partisan labels would force voters to become more informed on issues, rather than using party as a shortcut (Lovrich and Sheldon 1988). However, rational ignorance (Downs 1957) is a powerful force, and a large body of work on non-partisan elections suggests that voters find other heuristics to use in the absence of partisan cues, such as incumbency (Glibert and Clague 1962; Shaffner, Streb, and Wright 2001), appearance (Banducci et al. 2008), social group information (Badas and Stauffer 2019; Matson and Fine 2006), endorsements (Benjamin 2016; Boudreau, Elmendorf, and Mackenzie 2014, 2019) or information from interest groups. This suggests that if minority party candidates can minimize the usefulness of party as a cue, voters will attempt to overcome their lack of information by substituting another shortcut for party. This opens the door for candidates to emphasize a non-policy dimension where they may have an advantage.

3.2 Minimizing Partisan Effects

The usefulness of partisanship as a cue lies in how much information is contained in a small, easily accessible piece of information; it tells voters whether a candidate is likely to be liberal or conservative and where they stand on a wide range of issues. That partisan cue, however, puts minority party candidates at an immediate disadvantage. Popular media coverage of these candidates suggests that distancing themselves from the national party brand is of utmost importance in these candidates' strategies. The idea of party brand comes from Stokes (1963) and has two components: the party policy brand, which conveys information

about the party's ideological positioning to voters; and the party's valence, which accounts for the non-ideological actions of the party. Although it is difficult to disentangle these two elements, the party policy brand is what we traditionally think of as providing information to voters. In particular, this is the dimension on which we think partisan cues are helpful for translating mass liberalism into the corresponding partisan control of government.

An obvious response to this is to moderate their positions. There is anecdotal evidence of governors employing this strategy: John Bel Edwards has declared himself a pro-life Democrat, while Mitt Romney, during his term as governor of Massachusetts, declared that he would "honor and uphold" a woman's right to choose.⁸ This strategy has roots in spatial models of voting: by converging to the median voter in the state, governors can maximize their vote shares (Downs 1957). By shifting their positions left or right to be closer to the opposing party, minority party governors can minimize the ideological distinctions between the two candidates and the parties, obscuring the choices available (Frymer 1994), and forcing voters to find some other criteria with which to judge the candidates.

While there is anecdotal evidence of minority party governors using this strategy, the empirical evidence on moderating positions based on electoral context is mixed. We know empirically that the position of the median voter varies across districts and states (Erikson, Wright, and McIver 1989). Grofmen et al's (2000) "conservative midpoints model" suggests that the highest proportion of split outcomes occurs in ideologically extreme districts: conservative districts that vote for Democratic House members will elect Republican presidents, and liberal districts that elect Republican House members will elect Democratic presidents. Karp and Garland (2007) explore this theory further using a survey data from an ideologically extreme district. Data from their case study show that in ideologically extreme districts, there is a high level of uncertainty about candidate position, and this leads to high rates of split ticket voting. Although Karp and Garland (2007) find uncertainty among the mass public on where these candidates stand, Ansolabehere and Stewart (2001) assert that

⁸Mooney, Brian C.; Stephanie Ebbert; and Scott Helman. "The Making of Mitt Romney: Ambitious Goals, Shifting Stances." *The Boston Globe*. June 30, 2007.

most members of Congress do not moderate their roll call voting based on the ideological preferences of their constituency.

Moderating on policy areas is not without its drawbacks, however. Based on what we know about partisanship in the US, distancing themselves from the national party's policy brand is an uphill battle, especially as parties become more polarized and differentiated. Furthermore, political knowledge decreases as voters move to down ballot races, so voters are less informed about gubernatorial races than they are about presidential races. Even if minority party gubernatorial candidates adjust their ideal points based on the median voter in their state, they may not actually effect the partisan cue. They also may risk censure from their state or national party organizations. Party brand is defined collectively by many actors, including those at the state level; in order to preserve the party brand, party organizations have an interest in promoting ideological constraint (Converse 1964) among elected officials.⁹ Finally, there is some evidence that voters punish candidates who are ideologically unpredictable (Rogowski and Tucker 2017). If minority party governors take on some issue positions that in line with their national party and some that are closer to the median voter in the state, voters might interpret the variation in spatial positions across issue positions as risky (Kam and Simas 2010, 2012; Morgenstern and Zechmeister 2001), and punish them at the ballot box.¹⁰

3.3 Evaluating Candidates on a Non-Policy Dimension

Even if the strategy of moving towards the median voter - and towards the opposing party - in the state presents some obstacles and risks, if two candidates are indistinguishable on matters of policy, it may be easier for a candidate to win based on non-ideological, non-

⁹The interest in preserving the party brand stems from the leverage it provides party caucuses in the legislature. A strong party brand can provide caucuses with leverage in getting its members to vote along party lines (Aldrich 2011; Cox and McCubbins 1993, 2005).

¹⁰This is distinct from ideological ambiguity, a condition that results from candidates making imprecise statements about their positions, which they may actually be rewarded for (Callander and Wilson 2008; Tomz and Van Houweling 2009).

policy matters. In response to the Downsian model of spatial voting and large literature that followed it (Erikson 1978; Miller and Stokes 1963; Stimson, MacKuen, and Erikson 1995), Stokes (1963, 1992) introduced the idea of “position” vs. “valence” issues. While positions issues are those that groups support or oppose particular stances on, valence issues are those that “merely involve the linking of the parties with some condition that is positively or negatively valued by the electorate” (Stokes 1963). Classical examples of valence issues include the economy, corruption, competence, and peace. There is a general consensus on all of these: we all want a strong economy, minimal corruption in government, competent officials, and a state of peace. However, parties or candidates may disagree on the best approaches to achieving these conditions. More importantly, parties become associated with certain states of the world and enjoys a valence advantage in that area. Over time, the term “valence” has come to refer to almost any non-policy advantage a party or candidate might have.¹¹

While voters may care about valence issues for their own sake (McCurley and Mondak 1995; Mondak 1995), using valence to make a decision about a candidate may help voters with their information deficit. Citizens know that they cannot monitor every decision made by an elected official; instead, they opt to try to select a candidate that they can trust to act in their best interests. To this end, knowing the policy preferences of candidates might not be the most useful piece of information, while the personal integrity, dedication to public service, and competence of a candidate might be more helpful indicators (Bianco 1994). These non-ideological criteria make for a trusting relationship between citizen and representative (Burden 2004).

3.3.1 Interaction of Spatial Models with Valence

Despite the development of valence coming in part from criticism of spatial models of voting, formal models including valence have borne out theories that valence can be a powerful

¹¹While there is some degree of debate in the literature over its inclusion, incumbency has been considered part of valence as well.

influence over voter choice. However, these spatial theories also suggest that valence changes the equilibrium positions of the candidates, even though there is disagreement in the literature with regards to where the new equilibrium positions under the addition of valence are located. In the 1950s and 1960s, the “marginality hypothesis” suggested that electorally weak candidates were more moderate than their opponents (Fiorina 1973). More recent literature supports the marginality hypothesis, finding that “in many districts the winning candidate is actually further from the center than the loser, but manages victory on the basis of non-ideological criteria that overwhelm the modest effects of ideological proximity” (Burden 2004, 221). The marginality hypothesis suggests that when candidates have a valence advantage, they use their advantage to move closer to their own more extreme policy preferences.¹²

However, another body of literature suggests the opposite: candidates with a valence advantage move towards the center to minimize the policy ideal points of the two candidates, which increases the importance of valence considerations (Aragones and Palfrey 2004; Adams, Merrill, and Groffman 2005; Ansolabehere and Snyder 2000; Berger, Munger, and Potthoff 2000; Feld and Groffman 1991; Groseclose 2001; Moon 2004). In response to the candidate with the valence advantage moving towards the center, the candidate with the valence disadvantage moves to a more extreme ideal point in order to differentiate themselves on the policy spectrum.

3.3.2 Measuring Valence

While Stokes’ (1963) original conception of valence issues was fairly straightforward, valence has come to refer to almost any non-ideological consideration a voter might bring the ballot box. While valence issues were tied to the party for Stokes (1963), but has come to be used to describe non-ideological advantages an individual might have as well. It ranges from personal traits and characteristics to associations with good economic performance,

¹²These models assume candidates are at least partially motivated by their own personal ideal points.

and has come to describe virtually any non-ideological advantage a candidate might have. This expansion of concept has introduced significant measurement problems with capturing the valence advantage.

A common approach to measuring valence has been using incumbency (i.e. Groseclose 2001) or holding office previously (i.e. Burden 2004) as a measure of valence advantage. However, this commonly used measure has serious problems. First, valence criteria used in voting can span a wide range, from name recognition to professional competence, or personal characteristics like humor, integrity, and charisma. While incumbency may encompass some of these, like name recognition, it does not necessarily capture other valence criteria, like charisma, which can of course be an advantage for especially personable non-incumbents. Furthermore, some of the literature distinguishes between “campaign valence,” which just describes the ability to campaign well and effectively, and “personal valence,” which are those personal characteristics that cultivate a trusting relationship between constituent and representative (Stone and Simas 2010). Incumbency as a proxy cannot separate the effects from these two types of valence. While Stone and Simas (2010) improve upon earlier research by using survey data from the mass public and ratings by experts,¹³ the two categories are not mutually exclusive and elements of each are not independent of each other.

3.3.3 Minority Party Governors and Valence

Emphasizing valence criteria over ideology may be a winning strategy for minority party governors. More specifically, media coverage of these governors suggest that they depend on a reputation of productivity and effective governance. Republican governors of New England blue states have been described as “pragmatic . . . affable and competent. . . and each has

¹³Stone and Simas (2010) had delegates to the state wide convention had members rank the candidates on both dimensions. Measures for campaign valence included ability to raise funds from others, ability to fund own campaign, current name recognition in district, ability to attract attention, ability to be persuasive in public, ability to run a professional campaign, overall strength as a campaigner. Measures for personal valence included personal integrity, ability to work well with other leaders, ability to find solutions to problems, competence, grasp of the issues, qualifications to hold public office, and overall strength as a public servant.

been able to produce results with a Democratic-controlled legislature.”¹⁴ This focus is not surprising, given that governors are often rewarded for pragmatism (Stanfield 1996). While minority party governors in particular may face more barriers to enacting their legislative barriers, governors generally are more effective in negotiating the state budget (Kousser and Philips 2012). This is the area in which minority party governors might focus on a valence advantage; since they have relatively more control and likelihood for success in budgeting, minority party governors might be expected to highlight their effectiveness in budgetary politics.

3.4 Importance of Communications

In order to focus voters’ attention away from policy issues and on valence issues like effectiveness, minority party governors can rely on political communication. The frequency and content of political communication can change the way voters perceive candidates and their effectiveness in governing, and eventually even change their support for those officials (Grimmer, Messing, and Westwood 2012). Political communication is essential because it allows candidates and officials to change the standards on which they are judged by emphasizing certain criteria over others (Fenno 1978), by increasing the salience of particular issues or framing issues differently (Canes-Wrone 2010; Cohen 1995; Kernell 1993; Schattschneider 1960). Even if minority party governors are not primarily responsible for a passed budget, or are unsuccessful in getting their proposed budget, they can use communication with constituents to claim credit for budgetary or other accomplishments (Jensen et al. 2013). Emphasizing the budget also speaks to the desire of governors to deliver broad, statewide spending (Barrileaux and Berkman 2003) over particularistic spending, since minority party governors in particular need to build a broad coalition (Crain and Miller 1989).

To use communication to downplay attachments to the national party and emphasize valence issues like performance, governors can adopt a presentational style that focuses on

¹⁴Malpass, Adele. “How 3 GOP Governors Defied Blue State Voting Patterns.” *Real Clear Politics*.

issues like the budget. Presentational style refers to the way in which elected officials present constituents with their actions in office and explain why they took those actions (Grimmer 2013). Elected officials may employ a wide range of communications to deploy their presentational style: they hold press conferences, issue statements to reporters and press releases, send newsletters and mailers to constituents, and give speeches and interviews. In the last ten years, social media has become another important outlet for communicating with voters. Communications through these channels are meant to shape how voters view the work that their elected officials are doing, taking advantage of the low levels of knowledge most voters have concerning politics. Grimmer (2013) finds that, for members of Congress, members aligned with the partisanship of their districts adopt presentational styles that emphasize nationally salient policy debates. Legislators who are from the minority party in their district, on the hand, focus more taking credit for particularistic benefits that they offer to the district.

3.5 Minority Party Strategies

The election of minority party governors stands contrary to much of what we know about individual level voting behavior and aggregate trends in voting and public opinion. However, gubernatorial candidates frequently overcome these odds are elected in states where their party is in the minority. However, theories on political communications and spatial models suggest that out of step governors are able to successfully navigate their terms and win elections when they are able to make their candidacies and governorship about valence issues rather than policy issues. The next chapters are devoted to exploring just how they accomplish this task. Using data on gubernatorial communications, I explore how minority party governors can distance themselves from their national party using language, whether or not they moderate their ideological positions, and finally, if minority party governors focus on more on valence issues.

Chapter 4

Data on Political Communications

Since Twitter's creation in 2006, it has increasingly become a venue for political discussion. There are over 330 million active users, and 68 million of those users are in the US. Altogether, they produce over 500 million tweets every day. Politicians largely joined Twitter in 2009, following the 2008 presidential election, where Barack Obama's campaign engaged with voters on 15 different social media sites (Cogburn and Espinoza-Vasquez 2011; Johnson 2011; Pole and Xenos 2011).

One reason Twitter is the subject of so much attention in political science is its potential for democratization. Although early studies of social media like Twitter pointed to social networking sites as a way to engage average citizens in politics (Carpenter 2010), a study of Twitter users that engaged with gubernatorial candidates on Twitter during 2011 elections found that they were strong partisans and highly engaged in traditional political activity (Bekafigo and McBride 2013). There is still some disagreement over the degree to which sites like Twitter can aid in democratization by bringing new players to the table, but users who have a pre-existing interest in a given topic are more likely to engage with that topic on Twitter (Hargittai and Litt 2011). In general, political Twitter reflects many of the inequalities we see in political participation more broadly: users are more likely to be white, urban, and more ideologically extreme (Barbera and Rivero 2014). Even when average

citizens are tweeting about politics, the dialogue tends to be dominated by political elites like bloggers, journalists, or the politicians themselves (Larsson and Moe 2011; Sprenger, Sandner, and Welpé 2011). Political activity on Twitter has clear patterns to its structure. While retweets and followers tend to look like digital echo chambers with only co-partisans retweeting each other, user mentions, like those collected for this dataset, form one large network wherein users with opposing ideologies engage with one another (Conover et al. 2011, Hong and Kim 2015). Over the past decade, some of this polarized structure has increased (Garimella and Weber 2017), although other work suggests that the degree to which social media forms partisan echo chambers has been overstated (Barbera et al. 2015).

Twitter is a promising source for text as data for governors. For the purposes of this project, it is not crucial that tweets from gubernatorial offices reflect what governor's believe in their heart of hearts; rather, Twitter feeds represent a public face of the governor's office that reflects the public positions and agenda of the governor. If governors are strategically communicating with voters, the office of the governor should be the source for this strategy. This is why the dataset focuses on the official accounts of governors while they are in office, rather than personal or campaign accounts.¹ These accounts have three central purposes: marketing, mobilization, and dialogue (Theocaris et al. 2016); the marketing purpose of social media is akin to presentational style that officials engage in with more traditional media sources (Grimmer 2013).

Twitter, compared to traditional sources of text for officials (such as press releases, State of the State addresses, or newsletters), have a relatively low cost to post, since they are only 140 characters. Since they are so short, governors can tweet more frequently and respond to more events and issues than they could with press releases. They can also respond with tweets much more quickly. While the dataset does not stretch over a long time period, it is much richer than sources like State of the State addresses, which only occur once a year. Twitter is also a way for governors to directly reach and engage with their constituents,

¹Official Twitter accounts are also the most consistently available. While there is certainly variation in the professionalism of these accounts, the general purpose of the accounts is the same across states.

and bypass traditional media (Benoit 2007). Many of the accounts have a fair number of followers, and may be larger audiences than official speeches draw.

There is also a body of literature on how political elites use social media, although it is slightly more limited than work on how social media is used for political discussion more generally. Analysis of retweets suggests a highly segregated and partisan structure among national political actors (Conover et al.), and using interactions and followers on Twitter has resulted in some successful scaling of ideology among political elites (Barbera 2017). Analysis of hashtags used by members of Congress suggests representatives of different parties employ diverse strategies to reflect partisan frames (Hemphill 2016). Other work shows that Democratic and Republican governors are similarly active on Twitter, but that Republicans comprise a more tightly clustered network compared to Democrats (Yang et al. 2016); the authors argue that is because Democrats tend to share info constituents are interested in hearing, while Republicans share their own political agenda (Chi and Yang 2010, Shogan et al.), although they use a relatively small sample of gubernatorial tweets.

While Obama's presidential campaigns illustrated the usefulness of social media, platforms like Twitter are especially useful to elected politicians, especially those at lower levels of office who may have trouble reaching their constituents. Twitter, unlike some more traditional communication outlets, allows politicians to dynamically set their political agenda, take positions, make announcements, and claim credit, which are communicated directly to their audience. They can also use social media to bypass traditional media sources and directly affect their image and how issues are framed, and there is evidence that members of Congress make use of Twitter in this way (Hemphill, Culotta, and Heston 2013). Moreover, governors have substantial followings on Twitter, and their followers numbers are far greater than those who, for instance, might view the yearly State of the State Address or sign up for email newsletters.

4.1 Gubernatorial Communications

To observe these strategic communication strategies, I turn to gubernatorial Twitter accounts, a platform where governor's can directly reach their constituents. Using texts from tweets sent by governors between 2009 and 2017, I examine whether minority party governors engage in different presentational styles than their counterparts who are more aligned with the partisanship of their state using a mix of supervised and unsupervised machine learning methods.

Governors first started to join Twitter in 2009, like many other political actors. Since then, almost all states have followed suit and have official gubernatorial Twitter accounts. Figure 4-1 shows the number of governors with Twitter accounts in each year, starting in 2009 and extending through the end of 2017. There was a dramatic uptick in the number of governors on Twitter in 2011, and by 2017, nearly all governors had Twitter accounts.²

Figure 4-1: *Governors on Twitter*: The number of current governors on Twitter in each year, 2009-2017

4.1.1 Data Collection for Gubernatorial Tweets

The raw text data is comprised of the tweets from verified governors' Twitter accounts from 2009 through 2017, pulled from the Twitter API using tweet identification numbers.³ The resulting dataset consists of the text of each tweet, when it was published, the number of favorites, the number of retweets, whether the tweet was a reply to another user, and which user if applicable. In total, the scripts collected over 325,000 tweets from 102 different governors. Next, tweets that were sent by a governor when that individual was not holding office were eliminated, resulting in just over 212,000 tweets from 79 governors.⁴

²Oklahoma and Kansas are the lone holdouts by 2017. Neither states have ever had a current governor on Twitter.

³See Appendix B for a list of governors and their corresponding Twitter handles.

⁴20 of the 102 governors who had Twitter handles did not tweet while in office; these are overwhelmingly governors from the 2009-2011 period who later made accounts.

Figure 4-2: *Geographic Distribution of Tweets*: The above map shows the geographic distribution of tweets.

Figure 4-3: *Tweet Volume over Time*: The above figure shows the distribution of tweets sent over time, by party.

Figure 4-4: Descriptive Data for Tweets

Figures 4-2 and 4-3 show the number of tweets sent by each state and party. In Figure 4-2, darker green indicates more tweets sent by sitting governors in that state, while yellow circles represent the fewest tweets sent by sitting governors in that state. The number indicates the exact number of tweets governors from that state sent while in office between January 1, 2009 and December 31, 2017. States with relatively low volumes of Twitter activity are not especially geographically isolated, and there is not a strong regional pattern of Twitter activity. Figure 4-3 shows the volume of tweets over the time period from 2009-2017, broken down by party. The height of the blue and red streams show the volume of tweets from governors at each point in time, and the blue and red lines indicate the number of governors in that time period. Republican governors have a slightly higher volume of tweets overall, and there are usually more Republican governors tweeting in a given month compared to Democrats, but this is due to the ratio of Republican and Democratic governors holding office. Twitter activity from governors has grown over time, and often responds to significant events, causing temporary turnouts. The general trend in volume has steadied over the past several years.

4.2 Turning Tweets into Usable Data

4.2.1 Text Processing

There are many ways to turn text into meaningful political data (Laver et al. 2003; Slapin and Proksch 2008; Lucas et al 2015), but in order to do so, raw text must be processed and

converted to numerical representation. To turn tweets into useful data about communication strategies, the text of each tweet go through a series of pre-processing steps before it is converted into a numerical representation. Standard text pre-processing includes converting all text to lowercase, removing punctuation, removing stopwords, and stemming (Grimmer and Stewart 2013). However, TWitter data poses some additional difficulties that add to the pre-processing steps. First, tweets often include text that is not easily processed by natural language processing tools, including hashtags, URL's, acronyms, and non-standard abbreviations. URL's and hashtag marks are removed using regular expressions, but the biggest obstacle in using tweets in current text analysis tools is the short length of the tweets (Naveed et al. 2011; Saif et al. 2014). The core problem is that most language processing tools rely on terms co-occurring within documents to compare terms to other terms and documents to other documents. Because tweets are very short, there are often many many more infrequently used terms across the entire vocabulary⁵ and not enough co-occurrence of words. Work in this area has demonstrated that many of our current tools for natural language processing do not work well with tweets; for example, topics produced using Latent Dirichlet Allocation are often incoherent (Zhao et al. 2011).

There are a few ways to approach mediating this problem. Some of them involve “lexical normalization,” in which a dictionary is derived from the body of tweets to create substitutions (for example, it this approach can translate “tmrw” into “tomorrow”) (Han, Cook, and Baldwin 2012). However, this approach can add a layer of uncertainty into text that is not accounted for later on, since the replacements are probabilistic. A more intuitive approach is to simply aggregate tweets in larger bodies of text, which solves many of the problems created by the brevity of tweets. There are many methods of pooling, but they vary in their suitability for different methods of analysis. The benefit of pooling tweets together to make longer documents is that it does less to obscure the original text, and can improve the performance of various text analysis tools without altering their machinery. The philosophy

⁵Vocabulary refers to the full set of terms used in all the documents.

of all the pooling methods is to use some sort contextual clue to indicate tweets might go together by some criteria, and aggregating them into one document. The most common ways to do so are by author (Das et. al 2018; Hong and Davison 2010; Radford and Sinclair 2016; Weng, Jiang, and He 2010; Yan et. al 2019), temporal pooling, or aggregating by hashtag (Steinskog 2017). While aggregating by hashtag is one of the most effective tools for aggregation for several natural language processing tools, governors are not often adept users of hashtags, less than half of all tweets sent by governors have hashtags, and it would not allow us to observe any temporal patterns in the text. Furthermore, there is also some evidence that hashtags are often used incorrectly in political texts by users who wish to inject themselves in online dialogues (Conover et al. 2010). To overcome challenges posed by the brevity of an individual tweet, I instead employ a hybrid method of tweet aggregation by combining temporal and author pools. Tweets are aggregated into both monthly and weekly “essays” for each user.⁶ Aggregating by week creates approximately 15,000 Twitter “essays,” while monthly aggregation produces roughly 3,800 essays. While there are fewer observations total after pooling, the size of each resulting document is considerably longer.

4.2.2 Extracting Text Features: Document Term Matrix and Word Embeddings

Once the text has been processed, two different approaches to representing the each document as a vector are used. In the first approach, a document term matrix consisting of a row for each document (a single tweet or a day of tweets from a single user), and a column for each word in the vocabulary is filled with the number of times each term is used in a document. The short length of tweets results in a matrix that is largely comprised of zeroes, and after removing words used infrequently, documents that only used infrequent terms are also removed. Each document is associated with metadata, which tells us the author, state, time

⁶Weekly aggregation strikes a balance between having documents that are long enough for meaningful analysis and not aggregating across too many distinct topics, which can produce less sensible topics (Hopkins 2018).

period, and other relevant information. The resulting matrix is the numerical representation of text wherein we have recorded what words occur together in documents, although we do not preserve the order of the words.

The second approach overcomes the “bag of words” assumption ⁷by employing a process called Word2Vec (Mikolov et al. 2013), which allows us to analyze the text without that assumption. It is especially useful for Twitter data, where there are many infrequent terms. In short, Word2Vec uses the context around words to infer which other words it is similar to. The algorithm learns these “word embeddings” from a training set of tweets.⁸ Using a process called Doc2Vec (Mikolov and Le 2014), every word in a tweet is represented as a vector, and another vector called the document ID is added. In the following chapters, I use these numerical representations of gubernatorial tweets to first examine the use of partisan language in tweets, then create a measure of ideology, and finally, examine the degree to which minority party governors focus on valence issues.

⁷The bag of words assumption is the assumption that the order of words does not matter.

⁸Chapter 5 covers in more detail how this training set was built.

Chapter 5

Mavericks or Party Loyalists?

Minority party governors have strong motivation to at least appear to not be tied too closely their national party. Minority party governors come from states where the other party performs better in national elections, and as voters increasingly align their voting for state and national offices, minority party candidates have an interest in minimizing their association with their party label in those states. In this chapter, I examine whether governors use language to distance themselves from their party, both by using governors' tweets to try to predict their partisanship, and by comparing governors' language in tweets to tweets from the national party's Twitter accounts.

One way in which governors could distance themselves from their party is to avoid using some of the language of their co-partisans and party elites. Steve Beshear noted that he used this strategy in implementing Obamacare in conservative Kentucky. In an interview with *Vox*, Beshear explained the reason the name of the Kentucky health care exchange was missing any connection to the ACA: "Obviously another reason we named it Kynect is because we wanted to get as far away from the word "Obamacare" as we could . . . it's not popular politically to have the president front and center on any issue here. The term Obamacare had already been turned into a curse word by the critics of the program."¹

¹Kliff, Sarah, and Byrd Pinkerton. "Interview: former Gov. Steve Beshear explains how he sold deep-red Kentucky on Obamacare." *Vox.com* February 27, 2017.

Beshear’s strategy to stay away from key phrases connecting the state health exchanges in Kentucky to the Democratic party has its roots in the role language plays in partisan politics. Speech is a powerful indicator of group identity (Milroy 1982), and certain phrases or words can be used to signal to followers that a political actor is part of their group. They could be direct, like a reference to the president (possibly the easiest to understand and most readily available partisan cue), or a more subtle reference. These types of cues are particularly prominent and well studied in the area of racial politics. Coded racial discourse includes terms that are not overtly related to race - such as “inner city” or “gangs” - are can prime people to take racial considerations into account when evaluating the issue at hand (Gilens 1996; Jamieson 1992). Part of the power of partisan language is also the way it passes from source to source to maintain consistent messaging across many contexts, eventually diffusing into everyday discourse (Gentzkow and Shapiro 2010; Greenstein and Zhu 2012; Martin and Yurunkoglu 2017). For example, Yan et al. (2018) found that partisan language from members of Congress flows to the media, and accounts for some degree of partisan bias in the media. Elite cueing and way they frame an issue is an important source of information and influence for voters (Boninger, Krosnick, and Berent 1995; Chong and Druckman 2007; Graetz and Shapiro 2006; Nelson et al. 1997; Rokeach 1973; Tetlock 1989), and when partisan language is consistent across political actors, organizations, and the media, those cues are easier to identify and interpret with relatively little cognitive energy. Translating this to partisan politics, governors or other elected officials can use what they say to signal their partisanship. More importantly for minority party governors, they can also use it to obscure ties to their own party or even suggest an affinity for the opposing party.

5.1 Governor Partisanship Intensity

There is a relatively recent but growing literature on using text in machine learning classification methods to identify partisanship. Most of these methods have the same underlying

intuition: a set of reference texts are linked to an ideal point or other label (such as party), and new texts are scored based on that set of reference texts (Gentzkow, Shapiro, and Taddy 2019, Jensen et al. 2012, Laver et al. 2003; Monroe et al. 2008; King 2010). These methods fall into a class of *supervised* machine learning algorithms, where our interest lies in the ability to create a function that predicts a known truth. Previous studies have found some success in classifying texts according to party. Jensen et al. (2012) use the Congressional Record to show that Congressional speech is polarized, and that the timing of polarized speeches corresponds to increased legislative gridlock. Gentzkow, Shapiro, and Taddy (2019) also apply supervised methods to the Congressional Record over an extended historical time period to show that partisanship in language has increased over time. A marked increase in polarization in speech in Congress that occurred in the 1990s coincides with Newt Gingrich’s Republican Congress, united under his “Contract with America” platform. This platform was one of the first instances of nationally unified political communication from a party, purposefully crafted to disseminate politically effective speech and language to Congressional candidates across the country ²

I apply one of these supervised classification methods to the set of tweets sent by governors between January 1, 2009 and December 31, 2017. Minority party governors, eager to minimize the effect of partisanship on voters’ evaluations of them, should use *less partisan language* than governors who are more aligned with the electorate’s partisanship. In other words, minority party governors should want to minimize how many partisan cues they are communicating to voters in order to deprive the cue of its informational power. If they do indeed use less partisan language, it should be more difficult to distinguish them from governors of the other party. This is why a supervised method of classification is appropriate: we know the absolute truth (the party of the governor), but are interested in whether a model can distinguish between the party of a particular governor and others on the basis of their text alone. In this case, the model is meant to mimic what a Twitter user reading a feed

²Bai, M. “The framing wars.” *New York Times*, July 17, 2005.

might do. A Twitter user has some knowledge of political language from other candidates or officials; given what they have encountered, how well would they be able to guess the partisanship of this governor based only on what they have tweeted?

For this measure, I use tweets aggregated at the weekly level, so that each governor has one Twitter essay per week.³ I first measure partisanship *compared to all other governors*, rather than relying on an outside set of reference texts, using leave-one-out cross validation. To estimate the partisan intensity of governor i in month m , I train a logistic regression on monthly Twitter essays from all other governors during all other months, where each essay in the training set is labeled as 0 or 1, depending on whether or not the author was a Democrat. Using the model trained on the rest of the governors, I can then predict the partisanship of governor i .⁴ I also extend some of the current similar methods (Yan et al. 2018; Das et al. 2018) by employing word embeddings, rather than a document term matrix. The training data set is made up the vectors that result from using Doc2Vec.⁵ These scores, following the leads of Yan et al. (2018) and Das et al. (2018), the accuracy of classification for a particular governor at a snapshot in time can be thought of as “partisan intensity.” The more a governor exhibits partisan language, the easier she is to classify.

5.1.1 Results

Despite strong partisan language in Congressional speeches, as well as in Congressional tweeting (Yan et al 2018), the partisanship of governors overall is difficult to classify with the text of their tweets alone.⁶ One of the common ways to evaluate classifiers is measuring the AUC. The average area under the ROC curve (AUC) was .98, which means that if a Democrat

³This allows for future work taking advantage of election timing, but also ensure that the training set is sufficiently large. Using word embeddings helps us make use of shorter text than if we aggregated across time as well

⁴Because I aggregate the tweets weekly, I have multiple documents for each governor. The leave-one-out method actually leaves out every Twitter essay for a particular governor, so that the similarity between the same governor at different points does not drive the results.

⁵Using word embeddings also makes it possible to use shorter texts than some previous work with good results, because it alleviates some of the issues posed by short documents.

⁶I tested this classification method for tweets pooled by author as well, which provides longer, richer essays but fewer to train on. The classifier performed slightly worse under author based pooling.

and Republican were chosen at random, the classifier would correctly rate the Democrat as such (compared to the randomly selected Republican) roughly 98% of the time. However, the party intensity scores, which measure the probability that a tweet essay is Democratic based on the test data (made up of all other governors), the results are not so clear. Figure 5-1 shows, for each governor, the average partisan intensity of their weekly essays is plotted along the y-axis, and individual governors are plotted on the x-axis. The vertical line segments represent the range of partisan intensity values an individual governor's tweets took over time.⁷ While Figure 5-1 does show a slightly heavier concentration of Democratic governors on the left with higher party intensity scores (meaning their tweets were more likely to be authored by Democrats) and a slightly heavier concentration of Republicans on the right, there is significant overlap in the parties.

This pattern can be seen again in Figure 5-2, which shows the distributions of party intensity for governors of both parties. Republican governors are shown in red and Democratic governors are shown in blue. While the distribution of Republican party intensity is to the left (which here means less likely to be classified as Democrat), the distributions are almost entirely overlapping. There appears to be little distinction between the two parties, and rather than a bimodal distribution with modes near 0 and 1, the mass of both parties is centered around .3.

This suggests that language use by governors may not primarily be driven by partisanship, unlike some other political actors. However, even given that governors are on the whole not incredibly partisan *in their language use*, minority party governors may be even harder to classify than the general population of the governors. Figure 5-3 shows the relationship between opposition party strength and party intensity of tweets, and fits an OLS line for each party. Republican governors are shown in red, and Democratic governors in blue. A higher party intensity score means the tweet is more likely to be authored by a Democrat. The best fit line for Republicans has a slightly positive slope, so Republican governors who

⁷The upper limit of the segments represent the 97.5 percentile, while the lower limit of the segments represent the 2.5 percentile.

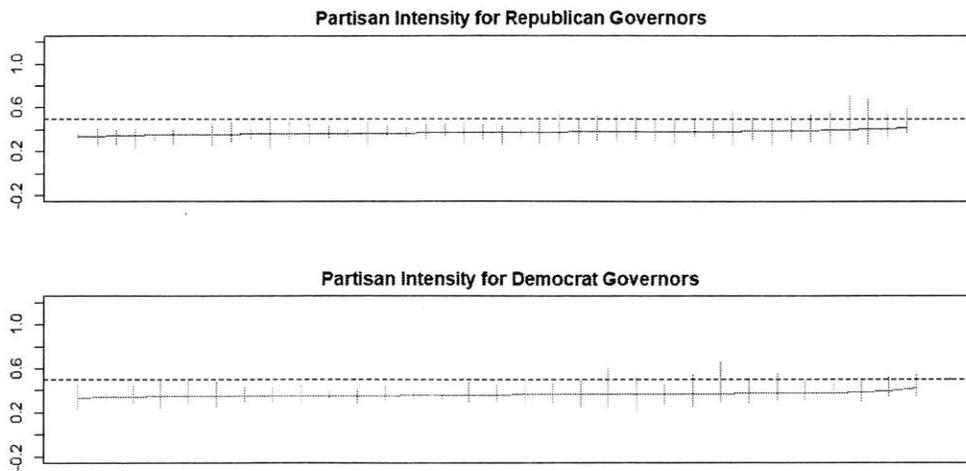


Figure 5-1: *Party Intensity for Republican and Democratic Governors*: This figure shows the average and range of party intensity scores for individual governors.

face higher levels of party opposition are more difficult to correctly classify as Republican. The slope on the line for Democratic governors has a slightly negative slope; as opposition party strength increases, it is harder to classify a Democratic governor’s tweet correctly.

To further investigate this relationship, I estimate an interaction model with opposition party strength, the party of the governor, and an interaction between the two. Table 5.1 shows the results from this regression; all three variables are statistically significant and echo the relationships shown in Figure 5-3. Figure 5-4 plots the marginal effects of opposition party strength by party of the governor, and shows a positive coefficient for Republican governors and a negative one for Democrats, again reflecting the patterns seen in Figure 5-3. These results suggest that, despite the classification method struggling to classify party overall, minority party governors are still behaving differently than their co-partisans in friendlier electoral environments.

Table 5.1: Partisan Intensity and Opposition Party Strength

	<i>Dependent variable:</i>
	Partisan Intensity
Opposition Party Strength	0.201*** (0.017)
Governor Party	0.204*** (0.012)
Interaction	-0.387*** (0.025)
Constant	0.200*** (0.008)
Observations	14,148
R ²	0.030
Adjusted R ²	0.030
Residual Std. Error	0.122 (df = 14144)
F Statistic	147.479*** (df = 3; 14144)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

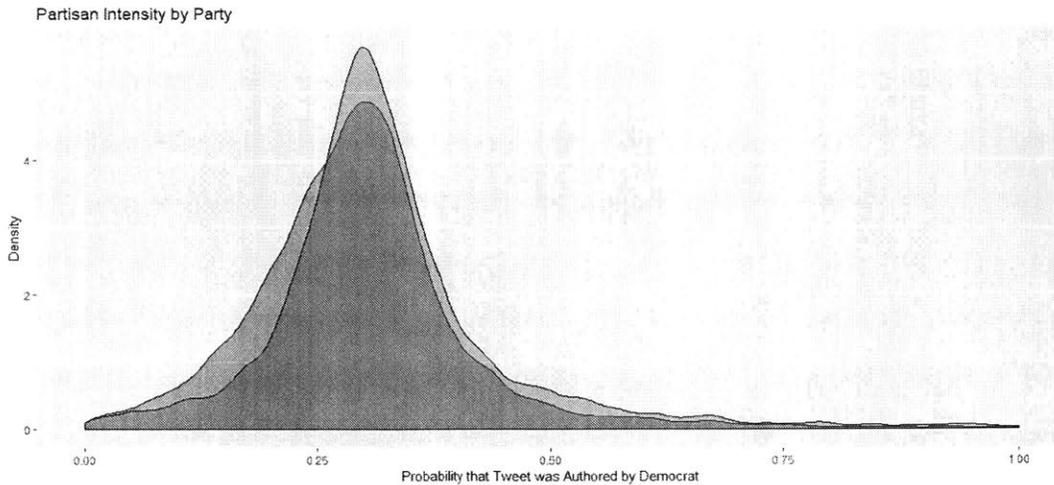


Figure 5-2: *Party Intensity for Republican and Democratic Governors*: This figure shows the overlapping distributions of party intensity for Republican and Democratic governors.

5.2 Copying the National Party

While partisan language might be shared amongst governors of the same party, partisan messaging and language might also diffuse through a central source. One such source is the national party organization. Party organizations exist in part to help coordinate the efforts of candidates and elected officials spread throughout a widespread geographic area, and party organizations also help cultivate and maintain the party brand. If a governor wanted align himself closely with the party, borrowing language from the national party is a way to take advantage of the party brand.

Language borrowing is common in politics; Yan et al. (2018) show that the media frequently copies partisan language from members of Congress. Copying political language even extends to crafting legislation at the state level: state legislators frequently copy legislative language directly from other states' statutes (Jansa et al. 2015). This diffusion of language is aided by a large network of organizations and individuals affiliated with the party who help transmit resources - including messaging and language - across state lines. Recent work on the role of campaign consultants suggests that the national party organizations help coordinate messaging and strategies by recommending consultants to candidates, and candidates

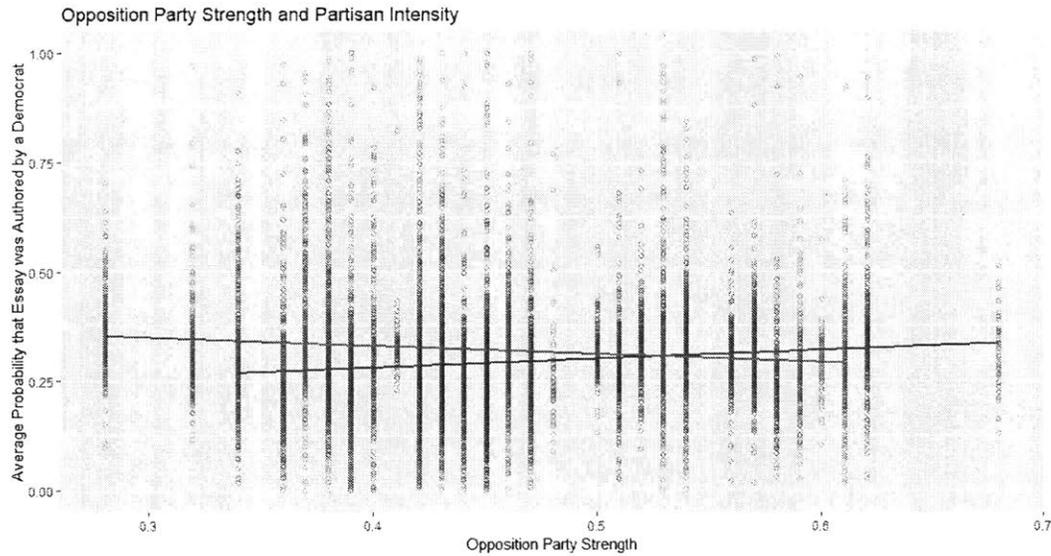


Figure 5-3: *Opposition Party Strength and Party Intensity*: This figure shows the relationship between opposition party strength and party intensity for each party.

who share consultants over use similar campaign and communication strategies (Clark 2010; Nyhan and Montgomery 2015; Weig et al. 2010).

National party organizations are also quite active on Twitter; each of the major national parties have over 1.5 million followers, both joined the platform in 2008, and since then, both accounts have posted tens of thousands of tweets.⁸ The tweets from both of these organizations are highly partisan, since the feeds are meant to help communicate what the party brand is. It is also a source of information and messaging for other political actors that is low cost and easy to access; in short, we can expect partisan language to diffuse from the national party’s Twitter account to accounts who wish be associated with the brand.

In the next section, I examine language similarities between governors’ tweets and the tweets of their respective national party. Governors who want voters to associate them strongly with the national party brand should have more language in common with the national party, and governors who want to distance themselves from the national party brand should have less in common with their national party’s tweets.

⁸The official account for the Republican National Committee can be found GOP, while the official account for the Democratic National Committee can be found TheDemocrats.

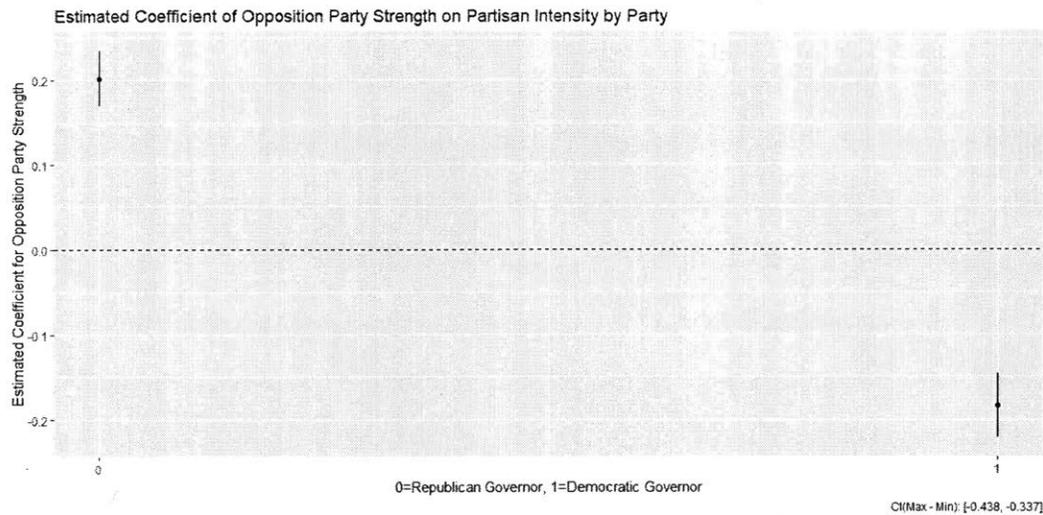


Figure 5-4: *Party Intensity for Republican and Democratic Governors*: This figure shows the party intensity for Republican governors in the top panel and Democratic governors in the bottom panel.

5.2.1 Results

To compare the language similarities between the national party organizations and a governor, I compute the cosine similarity between a vector representing the term frequencies in gubernatorial tweets and a vector representing the term frequencies in the tweets of each national party. Cosine similarity is a measure of how similar two sets of texts are; mathematically, cosine similarity captures how similar two non-zero vectors are by measuring the cosine of the angle between them. In positive space, cosine similarity has the nice property of being bounded by 0 and 1: parallel vectors are maximally similar and have a cosine similarity of 1, while orthogonal vectors are maximally dissimilar and have a cosine similarity of 0. Likewise, texts that are similar to each other have a cosine similarity closer to 1, and texts that have less in common have a cosine similarity closer to 0.

Figures 5-5 and 5-6 show the distribution of cosine similarity scores between gubernatorial tweets and the Democratic and Republican National Committees, respectively. The distribution of Republican governors is plotted in red on both figures, while Democratic governors are plotted in blue. The cosine similarity between the DNC and the RNC is .95,

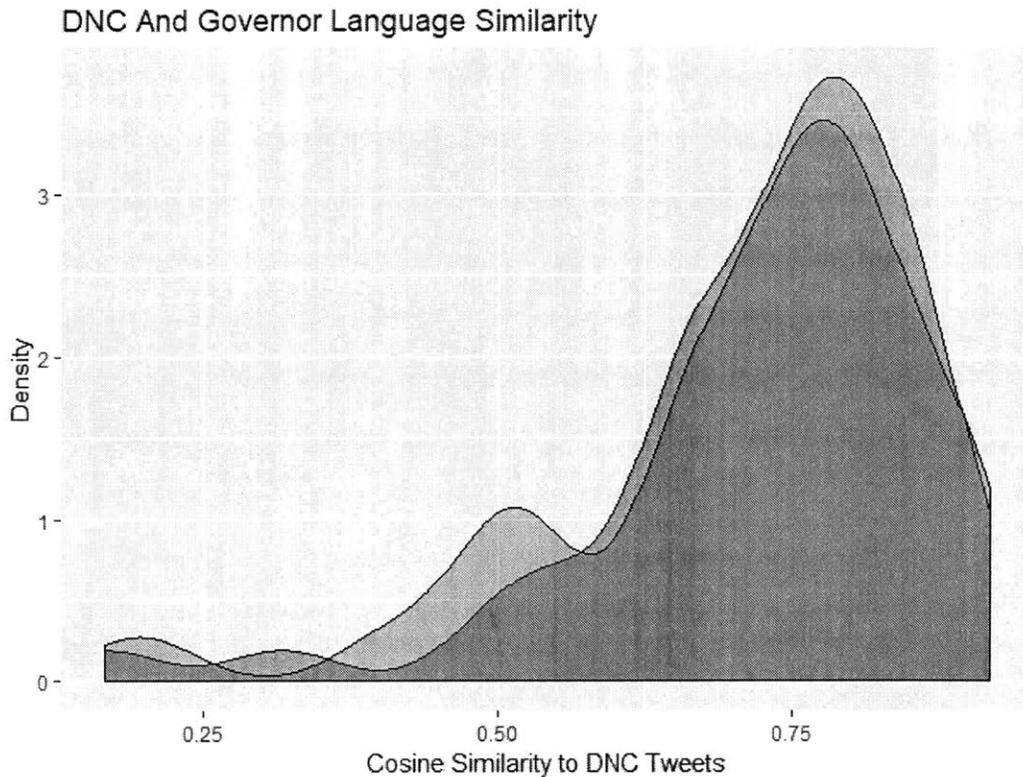


Figure 5-5: *Similarity to Democratic National Committee Tweets*: This figure shows the cosine similarity between gubernatorial tweets and tweets from the Democratic National Committee.

which indicates that there actually are not large differences in the words used by each party organization. As a result, we see that governors, regardless of party, exhibit high degrees of similarity to both parties with the distribution of similarity scores skewed to the right. However, there are still differences in how similar governors are in their word usage to their national parties when we examine similarity to a governor’s *own* party by oppositional party strength. Figure 5-7 plots oppositional party strength along the x-axis and similarity to the governor’s own party on the y-axis. Republican governors are plotted in red, and Democratic governors are plotted in blue. While Republican governors do not seem to change their word usage significantly when they are out of step with their state electorate (as shown by the relatively flat slope on the red line representing the trend for Republican governors), Democratic governors use language quite different from their national party as they are in-

RNC And Governor Language Similarity

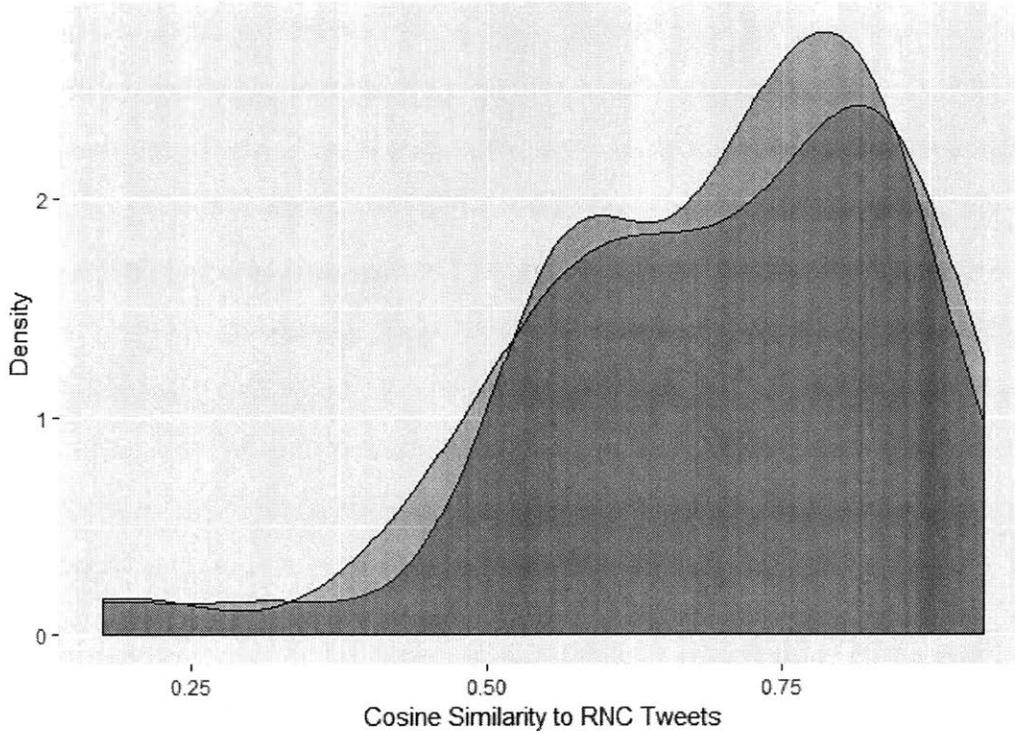


Figure 5-6: *Similarity to Republican National Committee Tweets*: This figure shows the cosine similarity between gubernatorial tweets and tweets from the Republican National Committee

creasingly out of step with their state electorate (as shown by the negative slope on the blue line representing Democratic governors). Overall, it appears to be relatively difficult to distinguish governors partisanship using their word usage and language. However, upon further examination, it is still possible to discern differences in partisan behavior based on oppositional party strength in that state: minority party governors use language less similar to their national party and are harder to classify as members of their own party.

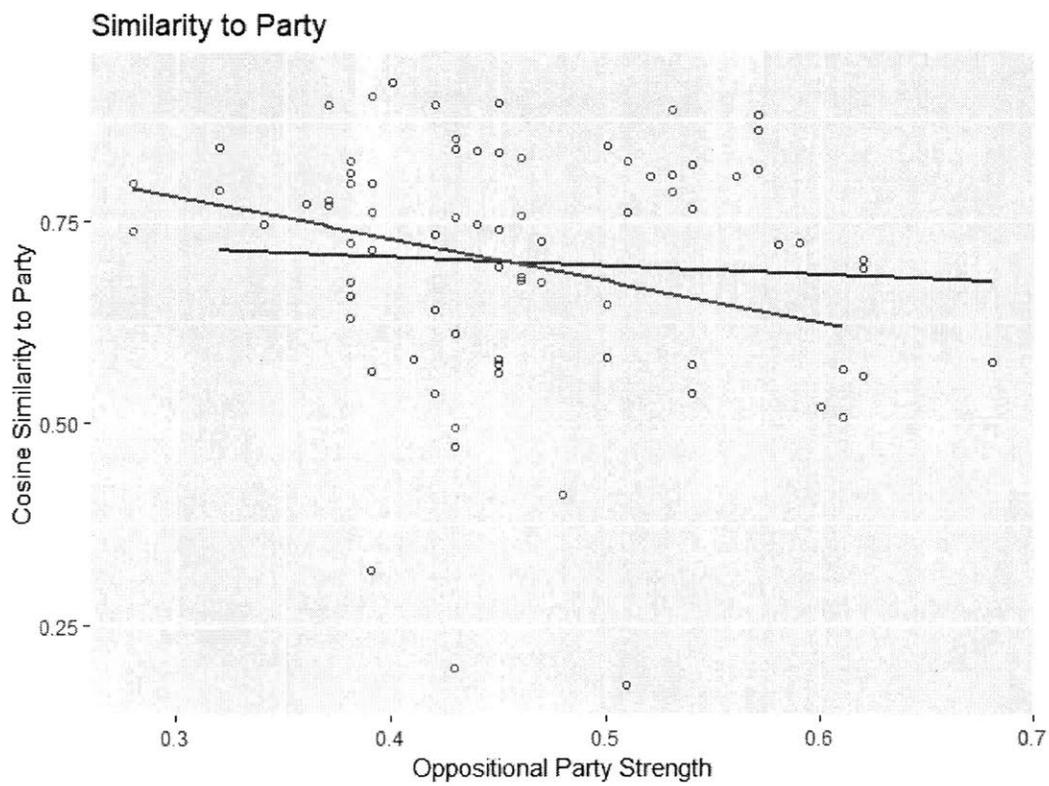


Figure 5-7: *Cosine Similarity to Own Party by Oppositional Party Strength*: This figure shows the relationship between the cosine similarity between a governor's tweets and his own national party and oppositional party strength.

Chapter 6

Beyond Party Cues: Moderating on Ideology

Do minority party governors moderate their policy positions and move away from their national party's positions on issues in order to remain electable? The literature on this topic is mixed: candidates who want voters to focus their attention on valence issues might try to move closer to their opponent, so that voters need to rely on criteria other than policy positions to distinguish the candidates. Other models have found that candidates can use a valence advantage to have more extreme positions. Anecdotal evidence from governors is mixed as well; while some minority party governors like Democrat John Bel Edwards of Louisiana wrote in an op-ed that he was pro-life and pro-gun, other Democratic governors like Steve Beshear have used their office to implement policies like the Affordable Care Act, set by Democrats who hold national office. Furthermore, literature on members of Congress suggest that representatives do not moderate based on their district's ideology (Ansolabehere, Snyder, and Stewart 2001). How well those results would translate to governors is unclear though; as state executives, they may have more freedom to diverge from the national party platform since they are not subjected to party discipline within a legislature. Ideology measures created from data on political contributions suggests that governors are

polarized, but does not specifically examine the relationship between the state electorate and gubernatorial candidates (Bonica 2013).

Governors occupy a unique spot to be able to adapt their ideological positions to the context and employ strategic communication to change the conversation around them. They have more freedom than members of Congress to diverge from the national party platform because they are not subjected to party discipline, however weak, in Congress. Furthermore, the inattention gap that enables governors to adapt effective presentational styles is even larger for governors; the recent literature on nationalization shows that voters have increasingly little information about state elected officials (Hopkins 2018).

6.1 Are minority party governors ideological moderates?

There are many methods available to place political actors and voters in a policy space, most conceptually based on identifying a latent characteristic labeled as “ideology” (Bonica 2013; Clinton, Jackman, and Rivers 2004; Caughey and Warshaw 2015; Londregan 2000; Poole and Rosenthal 1985, 1991, 1997, 2007; Shor, Berry, and McCarty 2010; Jessee 2009). While there is a rich body of literature on estimating ideal points for national actors, the research on ideal point estimation at the state level is considerably less developed (Aldrich and Battista 2002; Berry et al. 1998, 2007; Bonica 2013; Caughey and Warshaw 2015, 2016; Gerber and Lewis 2004; Kousser, Lewis, and Masket 2007; Shor and McCarty 2011; Wright 2007). However, many of these approaches are problematic for estimating ideological ideal points for governors. Governors, unlike legislators, do not create a large collection of roll call votes from which we could estimate an underlying tendency towards conservatism or liberalism. Furthermore, ideal points generated from data on contributions (Bonica 2013) can only be updated during election years. Governors also serve different term lengths, so ideal point estimates are more sparse for some governors than others. Finally, using social

media data from governors when they are holding office can give us an idea of their behavior in office, not just during campaigns.

6.1.1 Estimating ideology using Twitter follows

New methods for ideal point estimation with text and social networks (Barbera 2015; Gentzkow et al. 2018; King 2010; Laver et al. 2003; Monroe et al. 2008) have opened up the possibility of using information gathered from social media to estimate ideal points, although there are relatively few works using social media to measure ideology (Boutet et al. 2012; Conover et al. 2010; King, Orlando, and Sparks 2011; Das et al. 2018). The first method I use for measuring gubernatorial ideology leverages information about a governor’s followers to determine their ideal point (Barbera 2015).¹ This method treats Twitter users almost as experts rating the ideological content of a governor’s Twitter feed by choosing to follow or not follow that governor. Barbera (2015) uses a Bayesian spatial model of following behavior by Twitter users; the key assumption is that Twitter following behavior follows the same logic as spatial voting (Enelow and Hinich 1984; Downs 1957): namely, just as voters want to select the candidate whose latent position on the left-right matches their own, Twitter users choose to follow political accounts who closely match their own spatial position.

This assumption is supported theoretically and empirically. First, most users want to avoid cognitive dissonance (Cotton 1985; Festinger 1962), and following political actors with different ideological content introduces cognitive dissonance into a user’s Twitter feed by challenging their own viewpoints. This pattern of selective exposure holds true in forms of traditional media, where media consumers search out news that validates and reinforces their existing viewpoints (Bryant and Miron 2004; Iyengar and Han 2009; Lazarsfeld, Berelson, and Gaudet 1944; Stroud 2008). Since many Twitter users rely on the platform as a news source as well (Kwak et al. 2010), the theory of selective exposure should extend to

¹A Twitter user can choose to “follow” another user on the platform, which alerts the follower to new content created by the other user.

Twitter feeds as well. Barbera (2013) also argues that following users with different political viewpoints creates an opportunity cost; if a user spends a constant amount of time on social media, opposing viewpoints in their feed detracts from seeing content that they do agree with and competes for the finite attention a user devotes to reading tweets. Finally, there is evidence that individuals, both in everyday life and on social media, form into like-minded groups. Homophily² is well documented on social media (Conover et al. 2012; Wu et al. 2011), and suggests that since users self-segregate into groups with similar views, they will follow political actors with views close to their own. Given that many Twitter users also use the platform as a news source (Kwak et al. 2010),

Barbera's (2015) Bayesian spatial model assumes that an individual has a latent ideology that drives who they decide to follow on Twitter, based on their spatial proximity to the user.³ The probability that an individual follows a particular user is estimated with a logit regression where none of the parameters are directly observed, and solved using Monte-Carlo Markov Chains (Barbera 2015).⁴

Barbera's (2015) model has been applied to political actors at the national level (presidents, members of Congress), as well as political elites and organizations (journalists, pundits, think tanks, and media outlets). As long as a user follows some political actors, the model is able to estimate their ideal point (Barbera 2015).⁵ The assumptions for the model are reasonable for political actors like governors. Who prominent figures on social media follow is a crucial part of their image, so governors can be expected to craft this part of their social media presence as well.

²Homophily describes the phenomenon of individuals forming social networks that are largely homogeneous along demographic, socioeconomic, and behavioral characteristics (McPherson, Smith-Lovin, and Cook 2001).

³Barbera's model (2015) also includes parameters to account for some political actors being more likely to be followed in general, like Barack Obama or high profile, especially prolific tweeters, and parameters to account for an individual's interest in following political accounts on Twitter.

⁴The convergence of the chains for each user can be found in Appendix C.

⁵There are several governors who do not follow any users on Twitter, and are therefore missing from this dataset.

6.1.2 Results

To estimate ideal points for governors, I applied Barbera's (2015) method to information about who governors follow.⁶ The result is one average estimated ideal point for each governor⁷, along with standard errors for each estimate. Estimates and the corresponding 95% confidence intervals for individual governors are plotted in Figure 6-1. Governors are plotted along the x-axis, and ideal points are plotted along the y-axis. Republican governors are represented in red, and Democratic governors are represented in blue. The estimates range from approximately -3.5 to 3.5, where more positive numbers represent more conservative governors and more negative numbers represent more liberal governors. The average Twitter user is estimated to be around 0, represented by the black horizontal line on the plot.⁸ The plot shows a degree of cross-over between parties: one of the most notable is Democratic governor Steve Beshear of red Kentucky, whose ideal point estimate marks him as one of the most conservative governors. The next most conservative Democratic governor is Roy Cooper of North Carolina, another red state. There are quite a few liberal Republican governors as well, including Paul LePage of Maine, Charlie Baker of Massachusetts, and Arnold Schwarzenegger of California.⁹

Next, I examine the distributions of ideal points across the two parties; if governors exhibited patterns of polarization like Congress, we would expect to see a bimodal distribution with some distance between the two peaks. Figure 6-2 shows the distribution of the ideal point estimates for governors. The distribution of ideal points for Republican governors is plotted in red, and the distribution for Democratic governors is plotted in blue. Rather than strict partisan polarization, there is a good degree of overlap between the two distributions. There is some partisan distinction, but the overlap in the center suggests that there is some

⁶See Appendix C for how many political elites each governor follows.

⁷Because it is not possible to get a dynamic account of followers from the past, the ideal point estimates come from follower information collected in 2018.

⁸For reference, President Barack Obama is estimated at about -1.5, the median House Democrat in 2015 was -1.3, and the median House Republican about .8 (Barbera 2015).

⁹The bivariate relationship between these estimates and the estimates on partisan intensity from the previous chapter can be found in Figure C-6 in Appendix C.

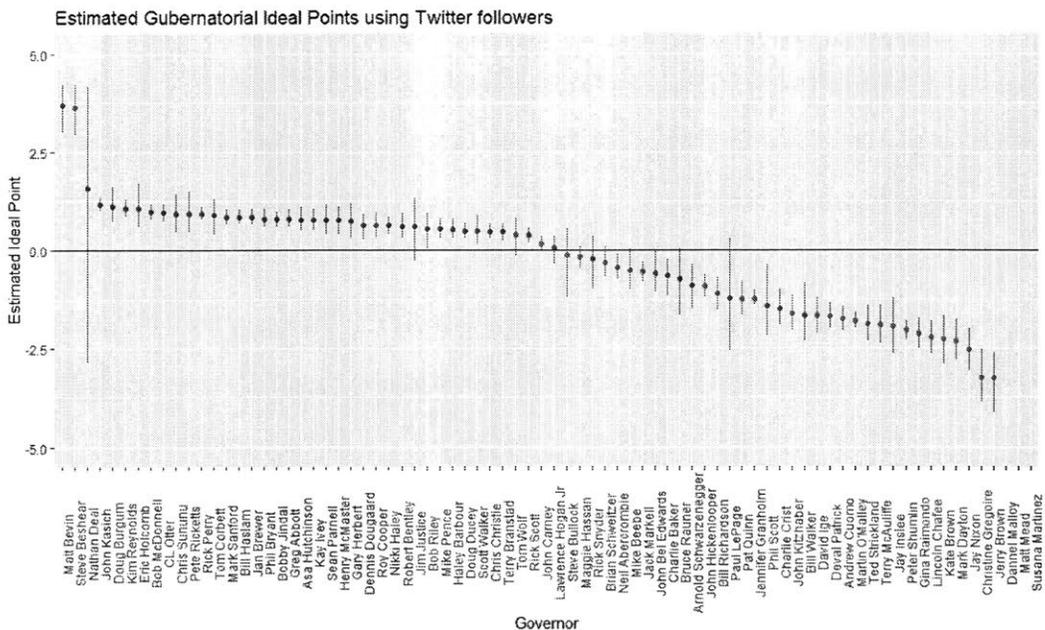


Figure 6-1: *Gubernatorial ideal points using follows*: This figure shows the average ideal point estimate generated for each governor and the corresponding 95% confidence interval. Republican governors are shown in red, while Democratic governors are shown in blue.

ideological moderation among governors.

Next, I examine whether this ideological moderation corresponds to oppositional party strength. Are these ideologically moderate governors found more often in states where the opposition party is stronger? In other words, are minority party governors more likely to be ideological moderates? Figure 6-3 shows the relationship between oppositional party strength plotted on the x-axis and the ideal point estimates for the governors plotted on the y-axis. Republican governors are plotted in red, and Democratic governors are plotted in blue; the lines are estimated using ordinary least squares, and the shaded areas represent 95% confidence intervals. The positive slope on the blue line for Democratic governors indicates that as oppositional party strength increases, Democratic governors are more conservative, based on their Twitter follows. The negative slope on the red line for Republican governors indicates that as oppositional party strength increases, Republican governors are more liberal.

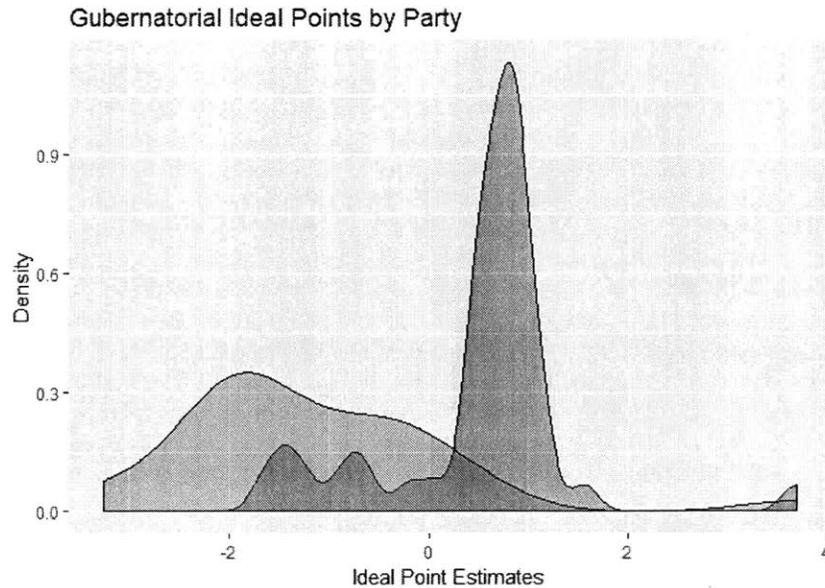


Figure 6-2: *Distribution of Gubernatorial Ideal Point*: This figure shows the distribution of ideal point estimates by party. The red distribution represents Republican governors and the blue distribution represents Democratic governors.

Table 6.1 shows the results from an interaction regression model that formalizes the patterns shown in Figure 6-3. The model uses ideal point estimates as the outcome, with average opposition party strength during the time the governor was office, the party of the governor, and an interaction between the two as independent variables. Including the interaction allows for the effect of opposition party strength to vary between the two parties, because we would expect Republican minority party governors to be more liberal, but Democratic minority party governors to be more conservative. All three independent variables, including the interaction term, are statistically significant ($p < .01$). Because the terms in an interaction model can be difficult to interpret, Figure 6-4 plots the marginal effects of opposition party strength for each party, along with 95% confidence intervals. The effect size for Republicans is on the left side of the figure, and the effect size for Democrats is on the right. Both are statistically distinguishable from 0. For Republican governors, the negative effect indicates that increased opposition party strength (which means the state is more blue) results in a lower, or more liberal, ideal point. The opposite is true for Democrats: increased opposition

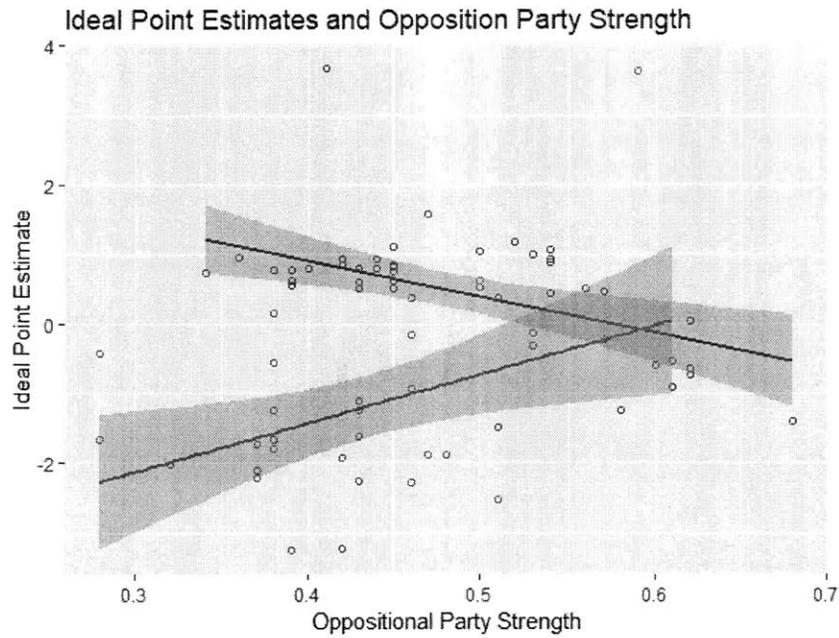


Figure 6-3: *Relationship between oppositional party strength and ideal point estimates:* This figure shows the relationship between oppositional party strength on the x-axis and ideal point estimates for governors on the y-axis. Republican governors are plotted in red, and Democratic governors are plotted in blue.

party strength is associated with a higher, or more conservative ideal point estimate. This suggests that minority party governors are indeed moderating their ideological positions.

Table 6.1: Effect of Oppositional Party Strength on Ideology

	<i>Dependent variable:</i>
	Ideal Point Estimates from Follows
Opposition Party Strength	-5.108*** (1.857)
Democratic Governor	-7.196*** (1.331)
Democratic Gov x Opp Party	12.148*** (2.881)
Constant	2.953*** (0.904)
Observations	75
R ²	0.492
Adjusted R ²	0.470
Residual Std. Error	1.003 (df = 71)
F Statistic	22.906*** (df = 3; 71)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

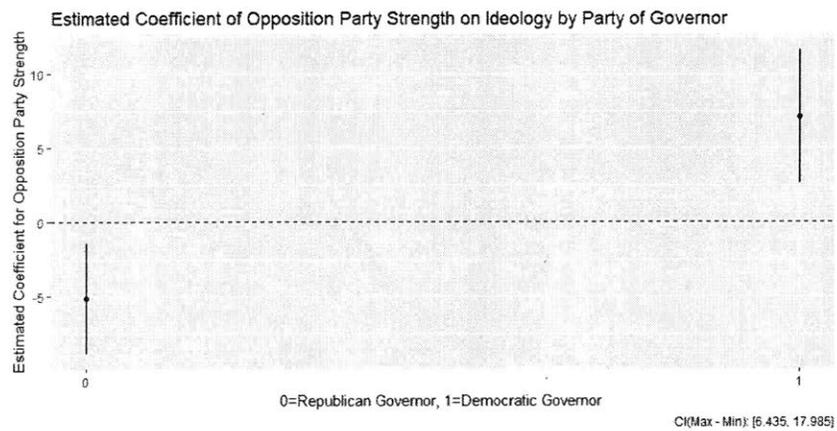


Figure 6-4: *Marginal effects of opposition party strength*: This figure shows the effect of oppositional party strength on both Republican governors on the left and Democratic governors on the right, with 95% confidence intervals.

Chapter 7

A Focus on Valence Criteria

When minority party governors moderate on their expressed ideological positions, they shift closer to their opponent. The effect is to make them indistinguishable on policy, so that voters cannot rely on partisanship as a cue for ideological positions anymore. Furthermore, when candidates are spatially close to each other on the liberal-conservative dimension, policy relevant considerations no longer help a voter decide which candidate to choose since the potential loss is the same for both candidates. This enables governors to then shift attention to what are known as valence concerns, which has come to be blanket term for any criteria in an election that is non-ideological.

Testing whether minority party governors focus more on non-ideological issues requires knowing something about *what* governors are communicating to the public. Public officials disseminate a wide variety of information on social media, ranging from announcements about new policies, public safety information, to position taking. In particular, I am interested in the amount of tweets governors devote to valence issues, particularly those concerning performance and effectiveness. To measure how much governors talk about particular topics, I estimate a structural topic model on the text of tweets sent by governors between 2009 and 2017.

7.1 Using structural topic models to evaluate tweets

Structural topic models ((Roberts et al. 2013; Roberts, Stewart, and Airolidi 2015) are particularly suited to this task. Structural topic models (STM) estimate the topics¹ of documents and estimates their relationship to metadata about each document.² Metadata refers to covariates describing the documents.

STM falls into a larger class of modeling techniques known as topic models, which identify a data generating process, then use the data to best approximate the parameters of that data generating process. The intuition for STM is fairly straightforward: each document is a mixture of topics. Document level covariates, such as country of origin or ideological slant, can affect topic prevalence (the frequency with which a topic is discussed).³ For each word-place in a document, first a topic is drawn from the document specific distribution over topics. Then, the particular word used is drawn from a distribution of words for that topic. To find the distribution of the latent topic for each word, the posterior distribution is estimated using variational inference, an algorithm that approximates the posterior by minimizing the KL-distance between the actual distribution and the approximate distribution (Roberts et al. 2013).

7.1.1 Estimating the Structural Topic Model

In implementing STM, several modeling choices must be made by the researcher. The first is the type of covariates to include; these covariates affect the topic prevalence in a document. I include three: the measure of oppositional party strength, the party of the governor, an interaction between oppositional party strength and the party of the governor, plus dummy

¹STM is part of a class of mixture topic models, where each document belongs to a mixture of topics, rather than exclusive membership in one topic.

²STM is a model that is “unsupervised,” rather than supervised learning. In supervised models, a researcher decides on the set of topics ex ante, and codes a set of documents based on those topics; then, the model “learns” the classification scheme for the rest of the documents. In unsupervised models like STM, the model infers the topics, rather than assuming them (Roberts, Stewart, and Airolidi 2015).

³STM also has the ability to incorporate *topical content* covariates, which allow the words used in each topic to vary by some other variable

variables for the 50 states to control for state idiosyncracies in topics. My main interest is in whether oppositional party strength corresponds to higher proportions of valence topics; however, some valence issues may be a benefit to one party compared to another (similar to the idea of issue ownership). Valence issues are those where most voters agree on the outcome (say, for example, a stronger economy), and some parties are considered “better” at achieving those states of the world. Including the interaction with party of the governor means I can detect if Democratic minority party governors focus on different valence issues that Republican ones.

Next, even though STM is unsupervised, which does not require the researcher to ex ante decide on the content of topics, the researcher must still choose the *number* of topics. Roberts et. al (2013) offer that there is “no right answer to this choice.” but that the nature of documents and goals of the researcher should determine the choice. With more topics, the researcher gets a more granular level view of the data; however, the findings may be harder to summarize. While there is no empirical validation scheme, Roberts et. al (2013) suggest that topics should be cohesive and exclusive, meaning that multiple high probability words from a given topic occur in a single document (cohesive) and high probability words for a particular topic are not likely to be a high probability word in another topic (exclusive).⁴ I chose an initial number of topics using a procedure described in Mimno and Lee (2014), which Roberts et al. (2013) recommend as a useful starting point. From there, several models in a small window around the initial number were run, and 39 topics produced the most coherent and exclusive topics.

⁴Although STM can be sensitive to initial values, the researcher must choose where to initiate the model. Roberts et al. 2016 recommend using the “spectral” initialization as a best practice, which decomposes the matrix of word co-occurrences using non-negative matrix factorization. Most importantly, it has the feature that the topics and estimates the model produces are constant for any initial seed value and saves the researcher from running many models from different starting values. The STM I run uses the spectral initialization.

7.2 Estimating the structural topic model

STM has an important advantage over other topic models in that it allows for the incorporation of covariates that affect the prevalence of topics in a document or allow the same topic to be discussed with different language. To examine topics discussed by governors on Twitter, I estimated a structural topic model with 39 topics using the equation

$$Prevalence_i = \beta GovernorParty_i + \alpha OppositionStrength_i + \delta(GovernorParty_i * OppositionStrength_i)$$

where $Prevalence_i$ is the proportion of document i devoted to a particular topic, $GovernorParty_i$ is a dummy variable for whether or not the governor authoring document i is a Democrat, $PresidentialVote_i$ is the percent of the popular vote won by the Democratic presidential candidate in the last election for the state where the document came from, an interaction term between the governor's party and the previous election's presidential vote, plus a flexible spline for the week and dummy variables for each state.⁵

7.3 Locating valence topics

The next step to evaluate the topics produced by the model that can be considered “valence” topics based on the top words associated with each topic and the content of documents that have high proportions of those topics.⁶ Of the 39 topics, there were some clear canonical valence issues as well as some valence issues that emerged during that period.

The first two valence issues are classically considered to be valence issues: government

⁵The model also contained a topical covariate identifying the state where the tweet essay came from. This allowed for different states to use slightly different language when discussing the same topic, and more importantly for our sources, accounted for most of the use of named entities like states, governors, cities, and counties.

⁶The full list of topics and associated high probability words can be found in Appendix D.

effectiveness and the economy. Topic 3 from the structural topic model focuses on bill signing; the top words are “sign bill,” “bill sign,” “sign legisl,” “sign law,” “proud sign,” “today will,” and “take action.” These top words indicate that the topic involves governors announcing what their administration has accomplished legislatively, and legislative accomplishments indicate that the administration is not plagued by gridlock. Topic 4 from the structural topic model focuses on job creation, an important component of economic growth. The top words are “new job,” “creat new,” “announc new,” “great news,” “grand open,” “proud announc,” and “break ground.” The top words associated with this topic indicate tweets associated with a high proportion of this topic are focused on new jobs created in the state economy. Both of these are classic valence issues mentioned by Stokes (1963): most everyone can agree that a growing economy and lack of gridlock are a good thing, and governors would want to emphasize these topics.

However, new valence issues emerge based on emerging crises. For instance, the growing cost of healthcare created a new valence issues wherein nearly everyone agreed that healthcare needed reforming, even if they disagreed on the right approach. Another emerging valence issue in the 2009 and 2017 time period was the growing opioid epidemic, and most everyone agreed the rising rates of addiction and death constituted a public health crisis. . Both of these issues received attention from governors in this time period, and could be considered contemporary valence issues. Topic 1 estimated by the structural topic model represents tweets discussing the opioid crisis, with top words like “governor ’s,” “statement governor,” “opioid epidem,” “opioid crisi,” “statement,” “governor announc,” and “combat opioid.” Topic 30 estimated by the structural topic model represents tweets discussing the issue of healthcare, with the highest probability words “health care,” “good news,” “mental health,” “health insur,” “higher educ,” ”higher ed,” and “medicaid expans.”

7.4 Relationship between valence topics and oppositional party strength

Next, I estimate the relationship between the prevalence of these four topics in gubernatorial tweets and the degree to which governors are in the minority party, using oppositional party strength. Table 7.1 displays the results from interaction models for all four valence topics. Because the effect size of oppositional party strength can vary by party of the governor (in case Democratic and Republican governors emphasize different valence issues), the coefficients in Table 7.1 are difficult to interpret directly. Instead, the predicted prevalence of each topic by party for each topic are shown in Figures 7-1, 7-2, 7-3, and 7-4. On each figure, oppositional party strength is plotted along the x-axis, with estimated prevalence on the y-axis. Republican governors are plotted in red, and Democratic governors are plotted in blue. The dashed lines represent 95% confidence intervals.⁷

Table 7.1: Effect of Oppositional Party Strength on Topic Prevalence

	Opioid Crisis	Legis. Credit	Jobs	Health
<i>Dem Gov</i>	0.007 (0.006)	0.062*** (0.005)	-0.098*** (0.008)	0.053*** (0.005)
<i>Opp Party</i>	0.043*** (0.008)	0.049*** (0.008)	0.005 (0.011)	-0.060*** (0.006)
<i>Interaction</i>	0.034* (0.013)	-0.133*** (0.013)	0.191*** (0.018)	0.147*** (0.011)
<i>Constant</i>	-0.020* (0.008)	0.010* (0.009)	0.032* (0.013)	0.056*** (0.008)

As Figure 7-1 shows, for both Democratic and Republican governors, the amount of time devoted to the opioid crisis increases with oppositional party strength; that is, as governors are more “out of step” with their state, the more they focus on the opioid crisis. The opioid crisis is a valence issue where either party could have a clear advantage, since neither party has established issue ownership in this area.

⁷The regression results are normal standard errors but do account for measurement uncertainty from the structural topic model.

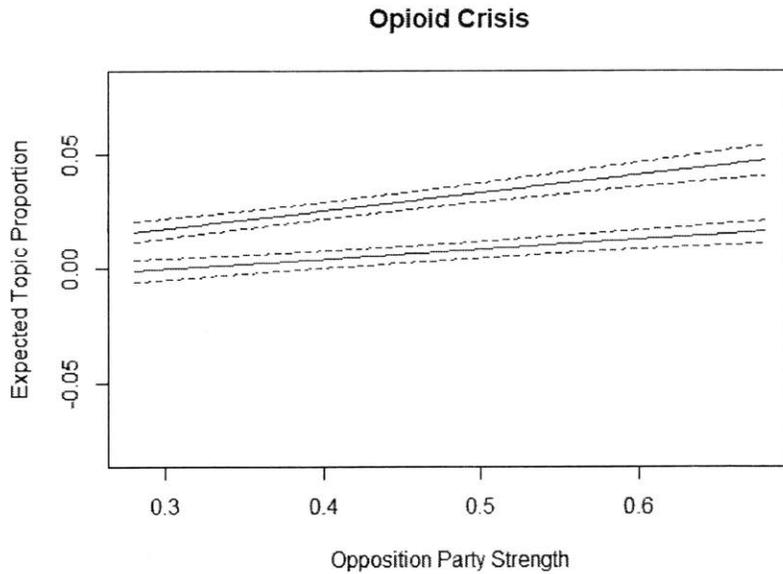


Figure 7-1: *Predicted Prevalence of Opioid Topic*: This figure shows predicted prevalence of the opioid topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.

However, the story is slightly different for legislative productivity. Figure 7-2 shows a negative slope for Democratic governors and a positive slope for Republican governors. This suggests that Republican governors who are minority party governors devote more time to stressing good governance, while Democratic governors actually devote more time to legislative productivity when they are aligned with their electorate. This may be due to natural valence disadvantages of each party; Democrats in conservative states may not want to suggest that they push through unnecessary legislation in an attempt to increase regulation. Republican governors in liberal states, on the other hand, may play up productivity and a lack of gridlock to demonstrate that they are not obstructionist and support increased regulation.

Surprisingly, Republican governors who are out of step with their electorate do not emphasize jobs and economic growth, as shown in the relatively flat slope on the red line indicating Republican governors in Figure 7-3. Democrats, on the other hand, spend sig-

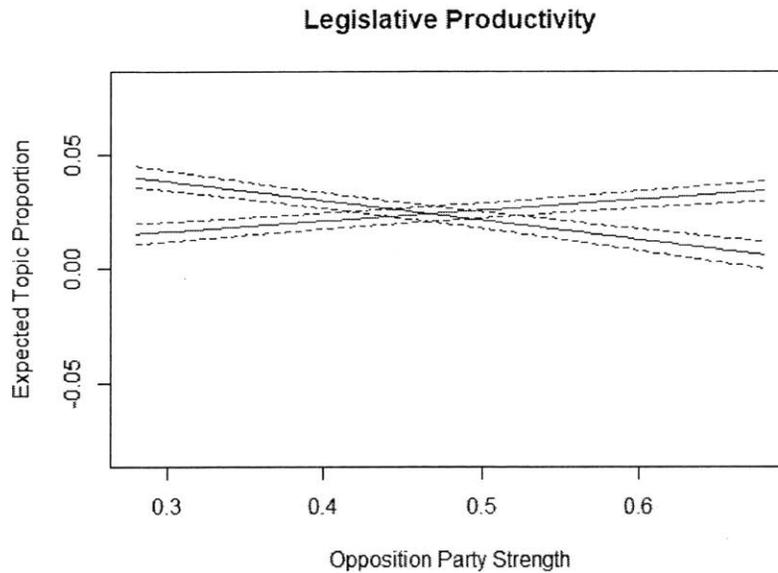


Figure 7-2: *Predicted Prevalence of Legislative Productivity Topic*: This figure shows predicted prevalence of the legislative productivity topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.

nificantly more time talking about job growth when they are more out of step with their state. It is unclear why Republican minority party governors have not adopted this strategy as well, although they may emphasize other areas of economic growth and development.

Finally, Figure 7-4 shows that Republican governors who are out of step with their electorate devote much less of their social media activity to healthcare. Meanwhile, the more out of step Democratic governors are, the more they talk about healthcare. This could be attributed to the issue evolution of healthcare in this particular time period. In 2010, the Affordable Care Act (ACA) was passed. In the following few years, the ACA was subject to a number of lawsuits that originated in the states, and governors were largely responsible for implementing state level health insurance exchanges. It may be that Republican governors in blue states took a back seat on the issue of healthcare, letting national actors and the legislature dictate the direction of policy in order to not align themselves with their own party nationally. Democratic governors in conservative states, however, may have used social

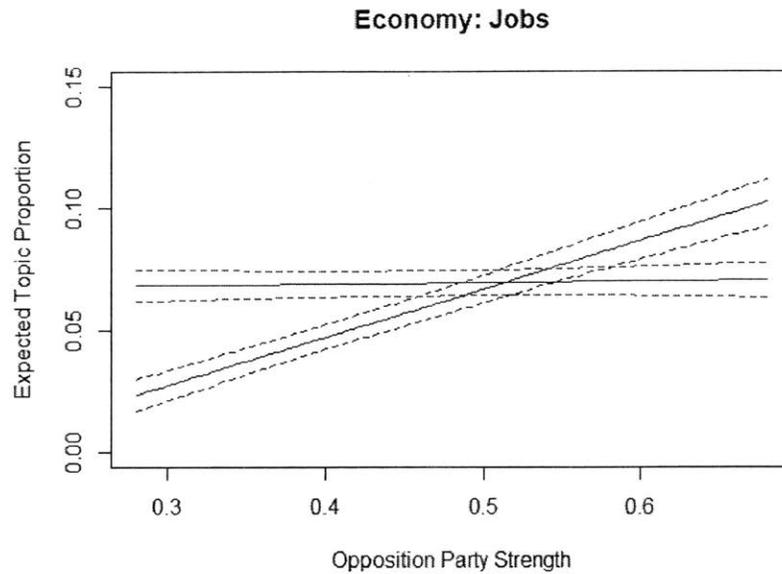


Figure 7-3: *Predicted Prevalence of Economy/Jobs Topic*: This figure shows predicted prevalence of the economic and jobs topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.

media as a platform to explain how the federal legislation could be implemented in the state or explain why they did not join federal lawsuits. Furthermore, the Democratic party had what Stokes (1963) would have considered a “valence advantage” on healthcare. There was relatively universal agreement that healthcare needed reforming, and Democrats were actively pursuing solutions to the problem. Democratic governors may have capitalized on that advantage, and simultaneously emphasized their solutions to healthcare while distancing themselves in name from the national program.⁸

These findings suggest that while minority party governors do emphasize valence issues, there are additional nuances to explore. When do Republican and Democratic governors focus on the same types of valence issues, and when do they differ? An important question for further analysis is how issue ownership interacts with valence issues. It seems that issue ownership does in part drive which valence issues a governor focuses on, but additional insight

⁸Steve Beshear of Kentucky is a prime example of this strategy: he implemented state exchanges called “Kynect” that were very popular and successful, even amid high disapproval rates for the ACA.

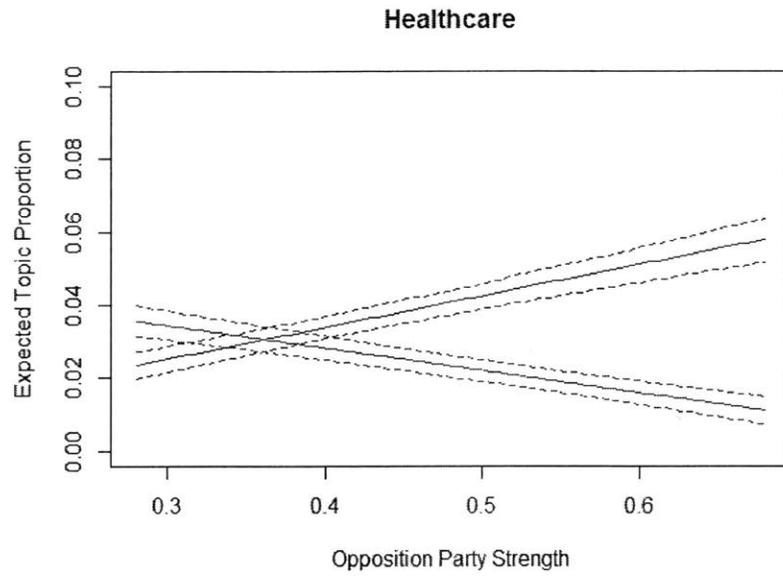


Figure 7-4: *Predicted Prevalence of Healthcare Topic*: This figure shows predicted prevalence of the healthcare topic in a single weekly Twitter essay for Republican governors, plotted in red, and Democratic governors, plotted in blue.

could illustrate how individual governors choose valence issues to center their campaigns and governorships around.

Chapter 8

Discussion and Conclusion

Despite mounting evidence that the mass public has nationalized and polarized, Republican (Democratic) governors have continued to win blue (red) states. This project explored how these governors have survived an increasingly polarized and hostile political context. They do so by eschewing many of the positions of their own party, creating a rift between ideology and party labels, and by shifting the focus of elections to non-ideological valence issues.

While differences in the communications strategies of these governors may have given us insight into *how* these minority party governors cope with such unfriendly electoral environments, it is not clear if these governors still pose a dilemma for the quality of representation at the state level. While the communications of minority party governors paint a picture of moderates adapting to the electorate, these communications do not necessarily translate into policy that matches the median voter. There is some evidence that partisan control of the governorship has an effect on policy outcomes (Caughey, Warshaw, and Xu 2016), which would suggest that minority party governors shift policy away from the median voter.

Literature on valence issues suggest that voters evaluate candidates on qualities like integrity and competence in order to select a candidate they find trustworthy, who will make the decisions the voters would have made if they were fully informed. While some of the literature on representation argues that this is a good model for representation, it is unclear how the

incorporation of valence criteria affects the quality of representation if we still hold the same standard: that good representation is dynamic responsiveness to public opinion.

Minority party governors are also often hailed in media coverage as a path out of the current hostile political environment, because they are relatively high profile political actors that are able to build broad coalitions of bipartisan support, an achievement that seems impossible given the level of political polarization. While their communications on social media do indeed suggest that minority party governors defy the patterns of polarization found in Congress, further work is needed to see if their leadership leads to less partisan conflict in their states. Does their ability to build bipartisan coalitions in the electorate help them build similar coalitions in the legislature? Do states face more or less gridlock under minority party governors? Going beyond the policy outcomes and performance that might result from having a governor that is more moderate, how does having a minority party governor affect political attitudes in the state towards the minority party? In other words, does having a governor who seems to be “above the fray” of polarization trickle down to mitigate the effects of polarization in other branches of government or in the mass public?

8.1 Next Steps

While this project describes ways in which minority party governors differ systematically from their co-partisans in friendlier states in the public images and messages that they convey on social media, it does rely largely on cross-sectional variation to make these claims. While Twitter is a rich data source, it only extends as far back as 2009, making historical analysis difficult.

There are two central directions for this project moving forward. The first is to find alternative sources of gubernatorial messaging to create a longer time series, which might allow for some causal identification to measure the effects of electoral incentives in states with a strong opposition party, taking advantage of institutions like gubernatorial terms

limits. For example, there is anecdotal evidence of Republican governor of Massachusetts Mitt Romney changing policy positions near the end of his tenure in office. While he was likely motivated by his approaching presidential run, data spanning more time might allow us to gauge if minority party governors are more extreme in their final days in office when they are no longer electorally motivated.

The second direction is to examine how these strategies affect the discourse and public opinion surrounding governors. This project demonstrates that minority party governors communicate differently than their co-partisans who are more aligned with their electorates. Do they successfully shift the criteria voters use in their evaluations? While it may be possible to measure this with polling data, the ability to analyze text means that we can use written conversations about the governor. To begin with, I have collected over 1.7 million tweets that mention the governors active on Twitter between 2009 and 2017. Future projects will examine what topics these tweets - which are either mentioning or responding directly to the governor - engage with. Are they focused on valence issues, or ideological ones? New advances in measuring civility and hostility in text might also help answer some of the question raised above about whether minority party governors influence the overall tone of political conversation in their state, by virtue of being skilled at building bipartisan coalitions. Additional text evidence that could be brought to bear includes media coverage and endorsements of governors. Once it is clearer how people talk about these governors, it may be possible to extend that knowledge to polling data and create a way to measure the degree to which voters are relying on valence criteria versus ideological criteria.

Appendix A

Descriptive Data: Minority Party Governors, 1972-2014

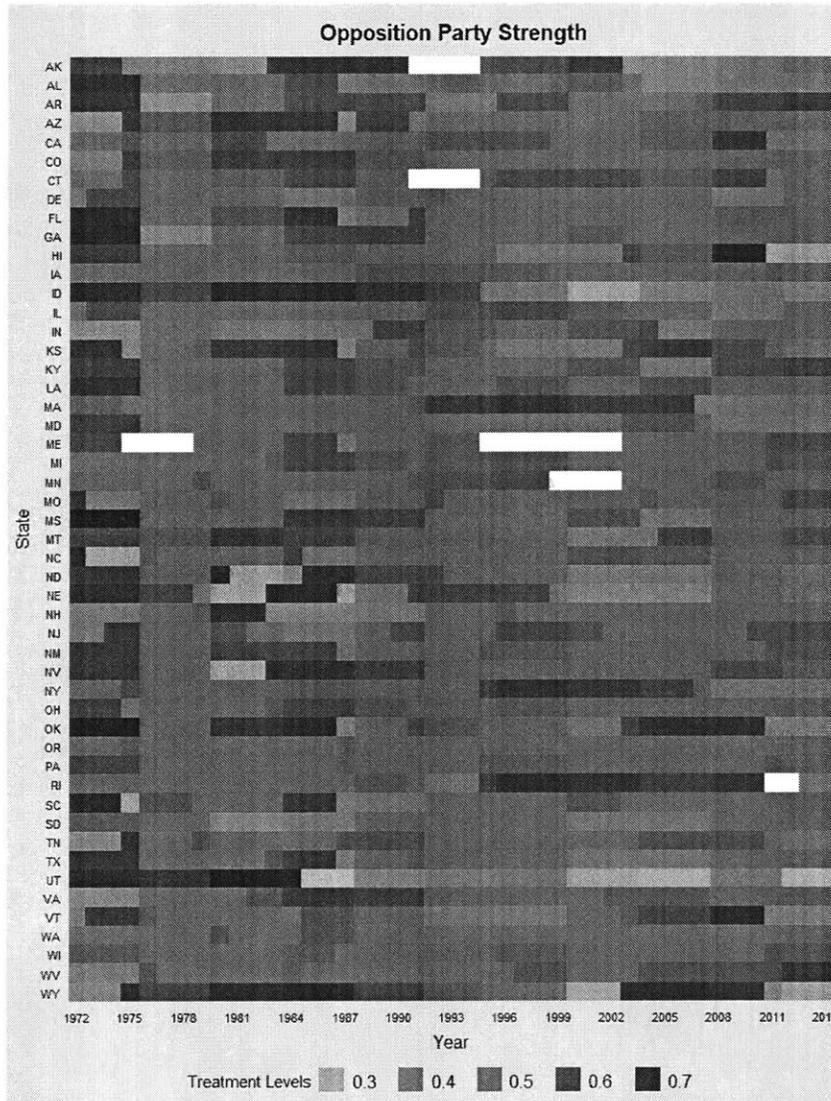


Figure A-1: *Detailed View of Oppositional Party Strength by State, over Time*: darker blue indicates higher levels of oppositional party strength, meaning that governor in that state/year was more out of step with electorate’s partisanship.

Appendix B

Gubernatorial Twitter Handles

Governors' Twitter Handles				
<i>State</i>	<i>Name</i>	<i>Handle</i>	<i>Tweets</i>	<i>Followers</i>
Alabama	Kay Ivey	@KayIvey	3,184	23.2k
Alabama	Robert Bentley	@DrRobertBentley	7,065	40.6k
Alabama	Bob Riley	@GovernorRiley	341	6,347
Alaska	Bill Walker	@AkGovBillWalker	2,322	7,762
Alaska	Sean Parnell	@SeanParnellAK	1,970	5,774
Alaska	Sarah Palin	@SarahPalinUSA	12,400	1.5M
Alaska	Frank Murkowski	NA	NA	NA
Arizona	Doug Ducey	@dougducey	10.1k	36.4k
Arizona	Jan Brewer	@GovBrewer	2,417	55.7k
Arizona	Janet Napolitano	NA	NA	NA
Arkansas	Asa Hutchinson	@AsaHutchinson	4,423	55.2k
Arkansas	Mike Beebe	@MikeBeebeAR	729	17.6k
Arkansas	Mike Huckabee	@GovMikeHuckabee	8,357	972k
California	Jerry Brown	@JerryBrownGov	2,189	1.18m

California	Arnold Schwarzenegger	@Schwarzenegger	5,816	4.44m
Colorado	John Hickenlooper	@GovofCO	758	11.6k
Colorado	Bill Ritter	NA	NA	NA
Colorado	Bill Owens	NA	NA	NA
Connecticut	Dannel Malloy	@GovMalloyOffice	12.9k	138k
Connecticut	Jodi Rell	NA	NA	NA
Delaware	John Carney	@JohnCarneyDE	2,555	19.4k
Delaware	Jack Markell	@GovernorMarkell	8,161	50.2k
Delaware	Ruth Ann Minner	NA	NA	NA
Florida	Rick Scott	@FLGovScott	10.2k	192k
Florida	Charlie Crist	@CharlieCrist	2,434	31.4k
Florida	Jeb Bush	@JebBush	4,849	1.47m
Georgia	Nathan Deal	@GovernorDeal	2,880	142k
Georgia	George E. Perdue	NA	NA	NA
Hawaii	David Ige	@GovHawaii	4,876	7,982
Hawaii	Neil Abercrombie	@neilabercrombie	7,141	14.1k
Hawaii	Linda Lingle	@linda_lingle	47	447
Idaho	CL Otter	@ButchOtter	1,618	21.7k
Idaho	Jim Risch	@SenatorRisch	1,088	52.2k
Idaho	Dirk Kempthorne	NA	NA	NA
Illinois	Bruce Rauner	@BruceRauner	2,734	27.9k
Illinois	Pat Quinn	@GovernorQuinn	2058	18.1k
Illinois	Rod Blagojevich	NA	NA	NA
Indiana	Eric Holcomb	@GovHolcomb	3,962	15.3k
Indiana	Mike Pence	@GovPenceIN	10.3k	221k

Indiana	Mitch Daniels	@purduemitch	508	32.3k
Indiana	Joe Kernan	NA	NA	NA
Iowa	Kim Reynolds	@KimReynoldsIA	4,067	15.9k
5Iowa	Terry Branstad	@TerryBranstad	6,983	23.7k
Iowa	Chet Culver	@ChetCulver	156	471
Iowa	Tom Vilsack	NA	NA	NA
Kansas	Jeff Colyer	@GovJeffColyer	360	20k
Kansas	Sam Brownback	NA	NA	NA
Kansas	Mark Parkinson	NA	NA	NA
Kansas	Kathleen Sebelius	@SecSebelius	774	31.8k
Kentucky	Matt Bevin	@GovMattBevin		
Kentucky	Steve Beshear	@Steve_Beshear		
Kentucky	Ernie Fletcher	NA	NA	NA
Louisiana	John Bel Edwards	@LouisianaGov		
Louisiana	Bobby Jindal	@BobbyJindal		
Louisiana	Kathleen Blanco	NA	NA	NA
Maine	Paul LePage	@Governor_LePage		
Maine	John Baldacci	NA	NA	NA
Maryland	Lawrence Hogan Jr	@GovLarryHogan		
Maryland	Martin O'Malley	@MartinOMalley		
Maryland	Robert Ehrlich Jr.	NA	NA	NA
Massachusetts	Charlie Baker	@MassGovernor		
Massachusetts	Deval Patrick	@DevalPatrick		
Massachusetts	Mitt Romney	@MittRomney		
Michigan	Rick Snyder	@onetoughnerd		

Michigan	Jennifer Granholm	@JenGranholm		
Minnesota	Mark Dayton	@GovMarkDayton		
Minnesota	Tim Pawlenty	@TimPawlenty		
Mississippi	Phil Bryant	@PhilBryantMS		
Mississippi	Haley Barbour	@HaleyBarbour		
Missouri	Eric Greitens	@GovGreitensMO		
Missouri	Jay Nixon	@GovJayNixon		
Missouri	Matt Blunt	@MattBlunt		
Montana	Steve Bullock	@GovernorBullock		
Montana	Brian Schweitzer	@brianschweitzer		
Nebraska	Pete Ricketts	@GovRicketts		
Nebraska	David Heineman	@DaveEHeineman		
Nevada	Brian Sandoval	@GovSandoval		
Nevada	Jim Gibbons	NA	NA	NA
New Hampshire	Chris Sununu	@GovChrisSununu		
New Hampshire	Maggie Hassan	@SenatorHassan		
New Hampshire	John Lynch	@GovJohnLynch		
New Jersey	Phil Murphy	@GovMurphy		
New Jersey	Chris Christie	@GovChristie		
New Jersey	Jon Corzine	NA	NA	NA
New Mexico	Susana Martinez	@Gov_Martinez		
New Mexico	Bill Richardson	@GovRichardson		
New York	Andrew Cuomo	@NYGovCuomo		
New York	David Paterson	@NYGovPaterson55		
New York	Eliot Spitzer	@EliotSpitzer		

North Carolina	Roy Cooper	@NC_Governor		
North Carolina	Pat McCrory	NA	NA	NA
North Carolina	Beverly Perdue	NA	NA	NA
North Carolina	Mike Easley	NA	NA	NA
North Dakota	Doug Burgum	@DougBurgum		
North Dakota	Jack Darymple	NA	NA	NA
North Dakota	John Hoeven	@SenJohnHoeven		
Ohio	John Kasich	@JohnKasich		
Ohio	Ted Strickland	@Ted_Strickland		
Oklahoma	Mary Fallin	@GovMaryFallin		
Oklahoma	Brad Henry	NA	NA	NA
Oregon	Kate Brown	@OregonGovBrown		
Oregon	John Kitzhaber	@GovKitz		
Oregon	Ted Kulongowski	NA	NA	NA
Pennsylvania	Tom Wolf	@GovernorTomWolf		
Pennsylvania	Tom Corbett	@GovernorCorbett		
Pennsylvania	Ed Rendell	@GovEdRendell		
Rhode Island	Gina Raimondo	@GovRaimondo		
Rhode Island	Lincoln Chafee	@LincolnChafee		
Rhode Island	Donald Carcieri	NA	NA	NA
South Carolina	Henry McMaster	@henrymcmaster		
South Carolina	Nikki Haley	@nikkihaley		
South Carolina	Mark Sanford	@MarkSanford		
South Dakota	Dennis Daugaard	@SDGovDaugaard		
South Dakota	Mike Rounds	NA	NA	NA

Tennessee	Bill Haslam	@BillHaslam		
Tennessee	Phil Bredesen	NA	NA	NA
Texas	Greg Abbott	@GovAbbott		
Texas	Rick Perry	@GovernorPerry		
Utah	Gary Herbert	@GovHerbert		
Utah	Jon Huntsman Jr.	@JonHuntsman		
Vermont	Phil Scott	@GovPhilScott		
Vermont	Peter Shumlin	@GovPeterShumlin		
Vermont	Jim Douglas	NA	NA	NA
Virginia	Ralph Northam	@GovernorVA		
Virginia	Terry McAuliffe	@TerryMcAuliffe		
Virginia	Bob McDonnell	@BobMcDonnell		
Virginia	Tim Kaine	@timkaine		
Washington	Jay Inslee	@GovInslee		
Washington	Christine Gregoire	@GovGregoire		
West Virginia	Jim Justice	@WVGovernor		
West Virginia	Earl Ray Tomblin	NA	NA	NA
West Virginia	Joe Manchin	@Sen_JoeManchin		
Wisconsin	Scott Walker	@GovWalker		
Wisconsin	Jim Doyle	NA	NA	NA
Wyoming	Matt Mead	@GovMattMead		
Wyoming	Dave Freudenthal	NA	NA	NA

Appendix C

Supplementary Analysis for Ideal Points

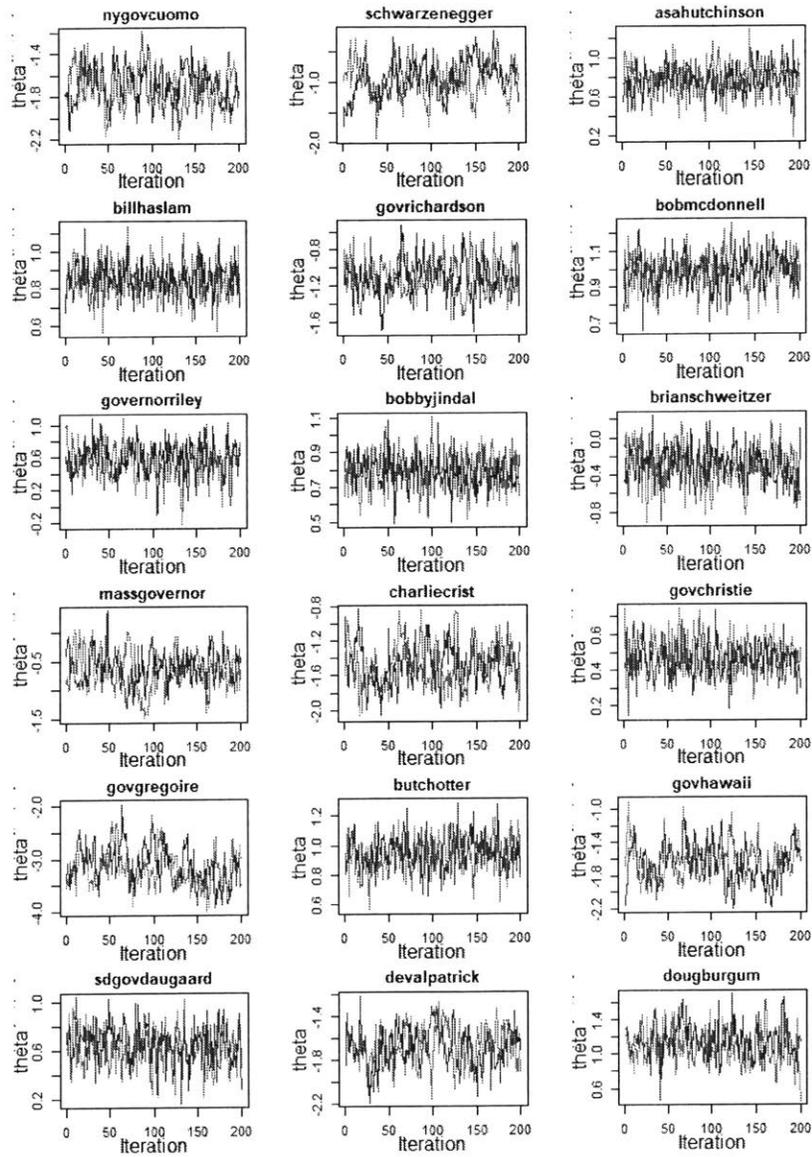


Figure C-1: *Convergence of MCM Markov Chains*

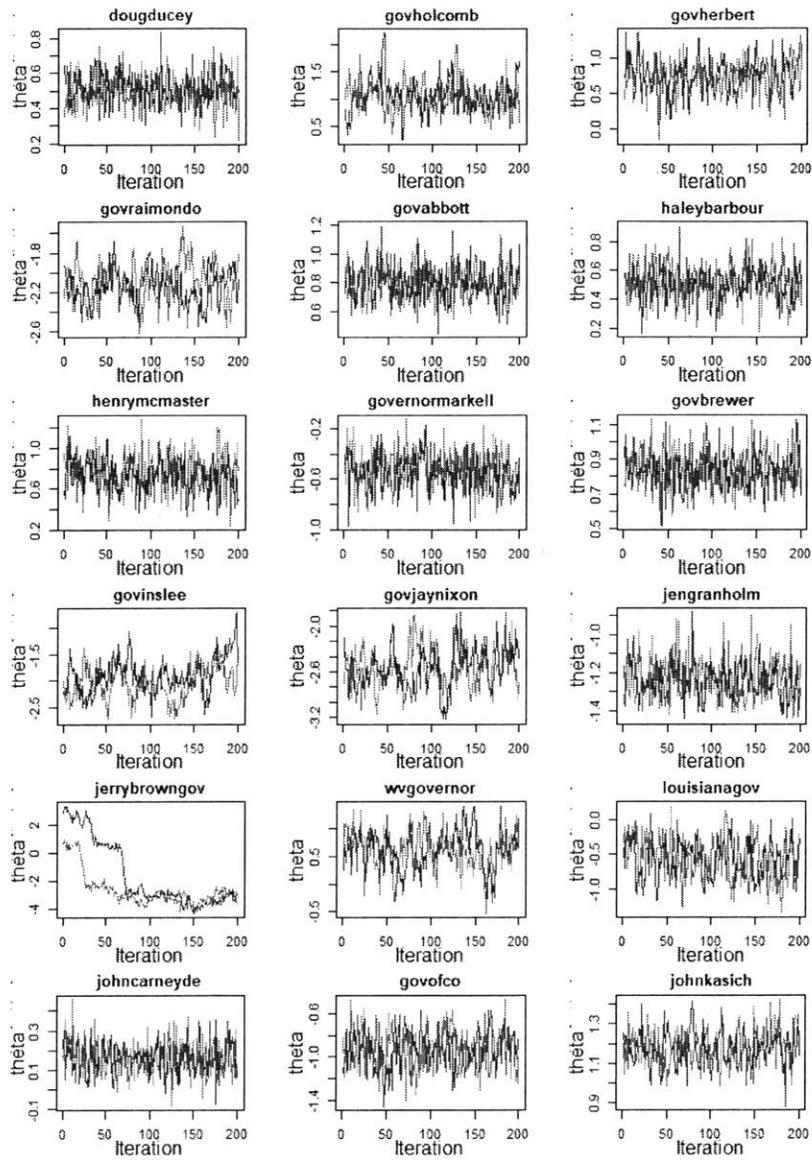


Figure C-2: *Convergence of MCMC Markov Chains*

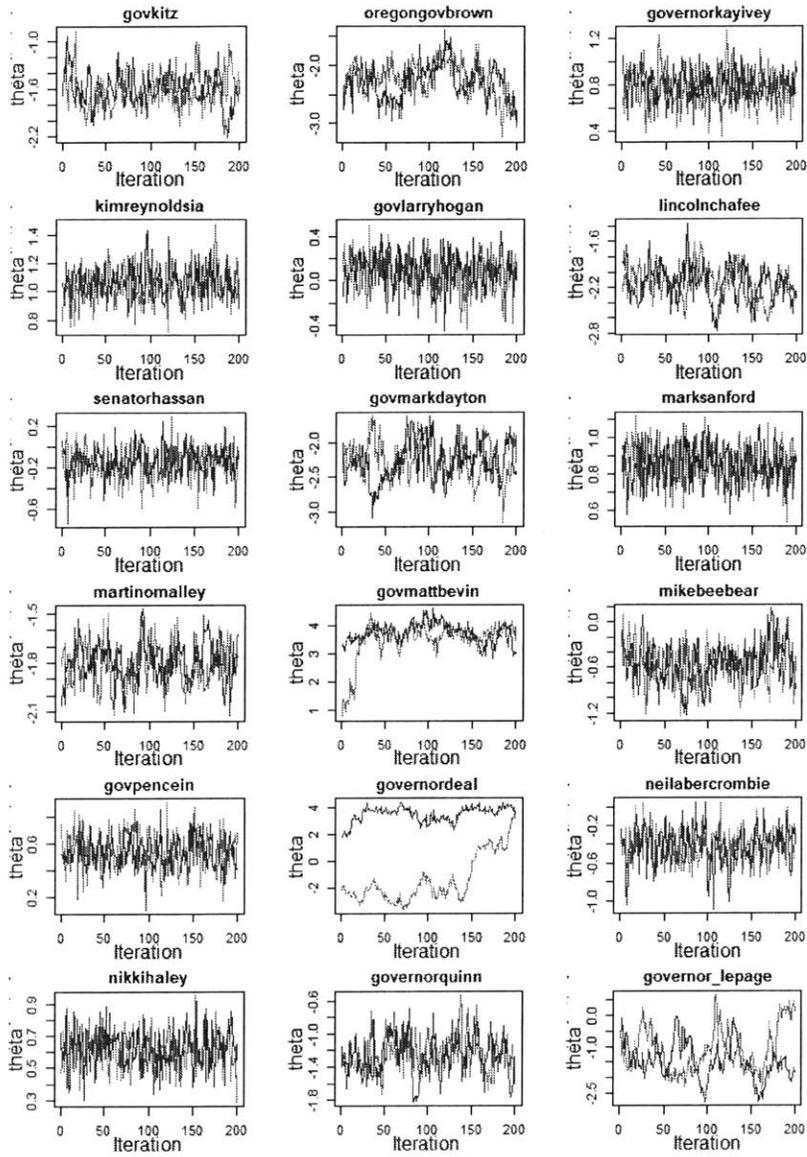


Figure C-3: *Convergence of MCM Markov Chains*

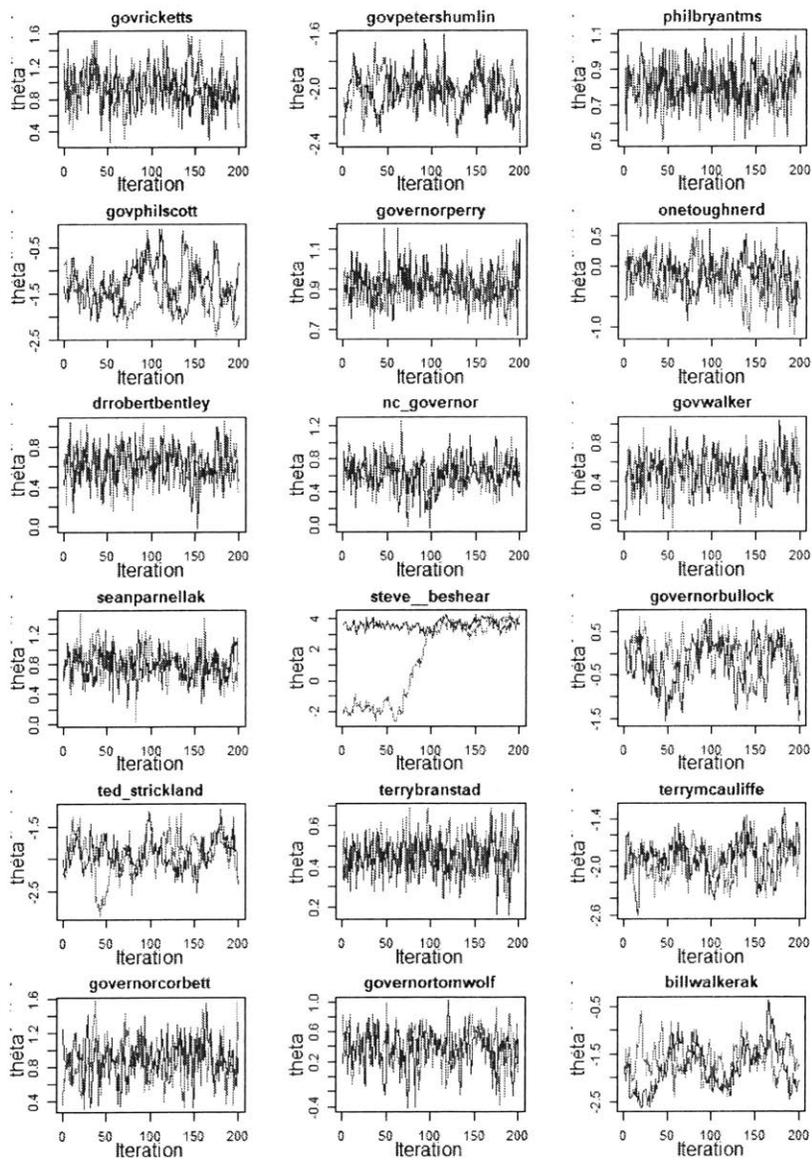


Figure C-4: *Convergence of MCM Markov Chains*

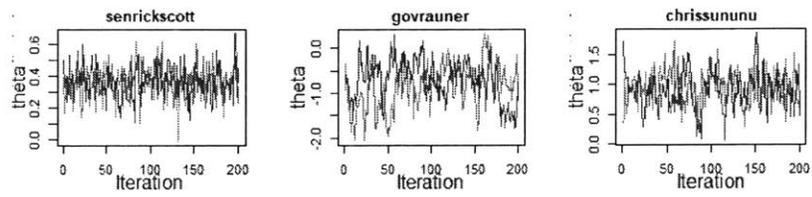


Figure C-5: *Convergence of MCM Markov Chains*

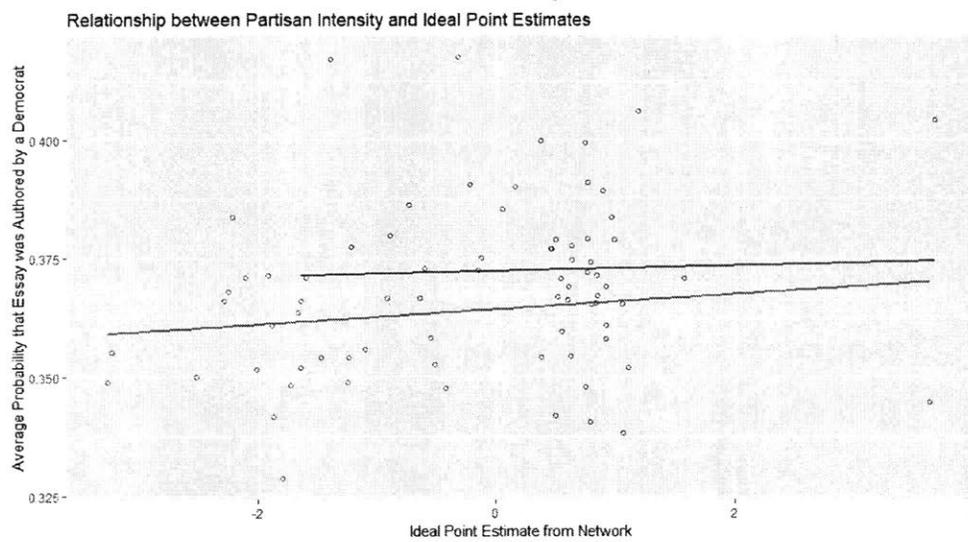


Figure C-6: *Relationship between estimated party intensity and ideal point estimates from network*: When partisan intensity is averaged over time for each governor, the relationship between the estimated ideal points from networks of followers has little bearing on the partisan intensity of the governor’s tweets.

Appendix D

Structural Topic Model Additional

Analysis

1. Topic 1 Top Words:

Highest Prob: governor 's, statement governor, opioid epidem, opioid crisi, 's state-
ment, governor announc, combat opioid

FREX: governor 's, statement governor, opioid epidem, opioid crisi, 's statement, com-
bat opioid, governor announc

2. Topic 2 Top Words:

Highest Prob: last year, year ago, next year, save live, unit state, big win, step forward

FREX: year ago, big win, step forward, ago today, today rememb, unit state, celebr
year

3. Topic 3 Top Words:

Highest Prob: sign bill, bill sign, sign legisl, sign law, proud sign, today will, take
action

FREX: sign bill, bill sign, sign legisl, sign law, bill law, new law, bill will

4. Topic 4 Top Words:

Highest Prob: new job, creat new, announc new, great news, grand open, proud an-
nounc, break ground

FREX: new job, creat new, bring job, job come, break ground, bring new, job announc

5. Topic 5 Top Words:

Highest Prob: creat job, job creation, will creat, privat sector, tax credit, sector job,
job creat

FREX: creat job, job creation, job creat, will creat, job invest, privat sector, busi creat

6. Topic 6 Top Words:
 Highest Prob: small busi, back work, help make, small biz, busi owner, common sens, job creator
 FREX: small busi, back work, small biz, busi owner, help make, job creator, common sens
7. Topic 7 Top Words:
 Highest Prob: join us, get readi, live now, can watch, will join, fy budget, charter school
 FREX: join us, can watch, fy budget, get readi, go live, us today, dont miss
8. Topic 8 Top Words:
 Highest Prob: state emerg, state employe, state govern, state offic, across state, winter storm, state agenc
 FREX: state emerg, state offic, winter storm, sever weather, state govern, declar state, state employe
9. Topic 9 Top Words:
 Highest Prob: domest violenc, young peopl, pleas announc, public servic, s economi, great place, awar h
 FREX: domest violenc, great place, rais awar, better place, place live, public servic, work make
10. Topic 10 Top Words:
 Highest Prob: p er, law enforc, thought p, public safeti, first respond, love one, famili friend
 FREX: p er, thought p, law enforc, p ing, er famili, love one, er go
11. Topic 11 Top Words:
 Highest Prob: state capitol, news confer, fli halfstaff, governor e, flag fli, flag will, disast declar
 FREX: news confer, fli halfstaff, state capitol, governor e, flag fli, flag will, disast declar
12. Topic 12 Top Words:
 Highest Prob: gov sign, gov announc, lt gov, live gov, gov today, gov speak, today gov
 FREX: gov sign, lt gov, gov announc, gov today, gov lt, live gov, news gov
13. Topic 13 Top Words: Highest Prob: order flag, flag halfstaff, memori day, halfstaff honor, flown halfstaff, flag lower, honor victim
 FREX: order flag, memori day, flag lower, honor victim, flag flown, flag halfstaff, flown halfstaff
14. Topic 14 Top Words:
 Highest Prob: governor sign, governor will, governor announc, governor s, news releas, watch governor, live governor
 FREX: governor sign, releas governor, photo governor, watch governor, governor ap-
 point, governor will, news releas

15. Topic 15 Top Words:
Highest Prob: town hall, tonight pm, educ reform, take question, answer question, dont forget, ask governor
FREX: town hall, take question, educ reform, hall meet, dont forget, answer question, tonight pm
16. Topic 16 Top Words:
Highest Prob: will make, s new, lt governor, feder govern, take look, first day, last day
FREX: take look, first day, feder govern, lt governor, s new, will make, last day
17. Topic 17 Top Words:
Highest Prob: press confer, state hous, special session, state budget, today pm, hold press, tomorrow morn
FREX: press confer, special session, hold press, state budget, state hous, tomorrow morn, morn discuss
18. Topic 18 Top Words:
Highest Prob: look forward, great meet, meet w, forward work, good morn, anoth great, spend time
FREX: look forward, great meet, forward work, enjoy meet, good morn, great event, great way
19. Topic 19 Top Words:
Highest Prob: nation guard, can help, help s, christma tree, stay safe, holiday season, take time
FREX: can help, christma tree, nation guard, help s, holiday season, take time, merri christma
20. Topic 20 Top Words:
Highest Prob: thank support, econom growth, proud join, earli childhood, grow economi, talk w, qualiti life
FREX: thank support, talk w, grow economi, proud join, msg takeaway, look fwd, qualiti life
21. Topic 21 Top Words:
Highest Prob: work togeth, hard work, work hard, great work, im proud, god bless, come togeth
FREX: hard work, god bless, great work, never forget, let keep, great thing, im proud
22. Topic 22 Top Words:
Highest Prob: econom develop, best luck, radio address, new blog, great stori, blog post, econom recoveri
FREX: radio address, econom develop, new blog, blog post, best luck, week radio, great stori
23. Topic 23 Top Words:
Highest Prob: suprem court, great state, new year, make state, new state, pres obama,

work famili

FREX: suprem court, new year, make state, pres obama, great state, new state, work famili

24. Topic 24 Top Words:

Highest Prob: watch live, listen live, make announc, minimum wage, happen now, live pm, pm watch

FREX: watch live, make announc, listen live, minimum wage, pm watch, live pm, photo today

25. Topic 25 Top Words:

Highest Prob: will help, today announc, task forc, across state, will provid, announc million, project will

FREX: will help, task forc, today announc, grant will, prescript drug, fund will, program will

26. Topic 26 Top Words:

Highest Prob: unemploy rate, will continu, properti tax, school district, continu work, top prioriti, past year

FREX: properti tax, school district, unemploy rate, rate drop, will continu, top prioriti, continu work

27. Topic 27 Top Words:

Highest Prob: last night, right now, presid obama, great job, earlier today, white hous, look like

FREX: last night, great job, fox news, earlier today, read gov, case miss, look like

28. Topic 28 Top Words:

Highest Prob: good luck, th anniversari, happi birthday, happi th, th birthday, today celebr, ribbon cut

FREX: good luck, th anniversari, happi birthday, happi th, th birthday, celebr th, today celebr

29. Topic 29 Top Words:

Highest Prob: execut order, today sign, sign hb, sign sb, legisl session, full statement, sign execut

FREX: execut order, sign sb, full statement, sign execut, sign hb, today im, today sign

30. Topic 30 Top Words:

Highest Prob: health care, good news, mental health, health insur, higher educ, higher ed, medicaid expans

FREX: health care, good news, health insur, higher ed, mental health, care reform, higher educ

31. Topic 31 Top Words:

Highest Prob: state state, state address, 's time, martin luther, luther king, let get, get done

FREX: state state, state address, martin luther, luther king, get done, s state, 's time

32. Topic 32 Top Words:
 Highest Prob: state park, job growth, state nation, chamber commerc, best state, workforce develop, state busi
 FREX: best state, job growth, state busi, chamber commerc, top state, workforc develop, state nation
33. Topic 33 Top Words:
 Highest Prob: great see, tax cut, incom tax, trade mission, busi leader, tax reform, rais tax
 FREX: tax cut, trade mission, great see, tax reform, rais tax, sale tax, incom tax
34. Topic 34 Top Words:
 Highest Prob: high school, balanc budget, tax relief, middl class, pleas join, elementari school, public school
 FREX: high school, tax relief, balanc budget, middl class, pleas join, save taxpay, plan will
35. Topic 35 Top Words:
 Highest Prob: c te, move forward, clean energi, te chang, lead way, today discuss, next generat
 FREX: c te, clean energi, te chang, lead way, move forward, renew energi, next generat
36. Topic 36 Top Words:
 Highest Prob: men women, everi day, thank servic, today honor, welcom home, let us, th grader
 FREX: men women, thank servic, welcom home, veteran day, brave men, th grader, honor veteran
37. Topic 37 Top Words: Highest Prob: gov s, gov will, happen now, now gov, watch gov, video gov, will hold
 FREX: gov s, watch gov, gov will, now gov, video gov, happen now, pm gov
38. Topic 38 Top Words:
 Highest Prob: first ladi, great time, great day, great news, great visit, today thank, thank everyon
 FREX: first ladi, great day, great time, today great, great visit, capit day, beauti day
39. Topic 39 Top Words:
 Highest Prob: make sure, last week, wkli msg, spread word, thank help, help us, will keep
 FREX: wkli msg, spread word, last week, make sure, thank help, across countri, will keep

Bibliography

- [1] Christopher Achen and Larry Bartels. Democracy for realists: Holding up a mirror to the electorate. *Juncture*, 22(4):269–275, 2016.
- [2] James Adams, Benjamin G. Bishin, and Jay K. Dow. Representation in Congressional Campaigns: Evidence for Discounting/Directional Voting in U.S. Senate Elections. *The Journal of Politics*, 66(2):348–373, May 2004.
- [3] James Adams, Michael Clark, Lawrence Ezrow, and Garrett Glasgow. Understanding Change and Stability in Party Ideologies: Do Parties Respond to Public Opinion or to Past Election Results? *British Journal of Political Science*, 34(4):589–610, October 2004.
- [4] James F. Adams, Samuel Merrill III, and Bernard Grofman. *A Unified Theory of Party Competition: A Cross-National Analysis Integrating Spatial and Behavioral Factors*. Cambridge University Press, March 2005. Google-Books-ID: AHw6vYDv69cC.
- [5] John H. Aldrich. *Why Parties?: A Second Look*. University of Chicago Press, May 2011. Google-Books-ID: vd4xs121zoQC.
- [6] John H. Aldrich and James S. Coleman Battista. Conditional Party Government in the States. *American Journal of Political Science*, 46(1):164–172, 2002.
- [7] Stephen Ansolabehere and James M. Snyder. Valence Politics and Equilibrium in Spatial Election Models. *Public Choice*, 103(3):327–336, June 2000.
- [8] Stephen Ansolabehere, James M. Snyder, and Charles Stewart. Old Voters, New Voters, and the Personal Vote: Using Redistricting to Measure the Incumbency Advantage. *American Journal of Political Science*, 44(1):17–34, 2000.
- [9] Stephen Ansolabehere, James M. Snyder, and Charles Stewart. Candidate Positioning in U.S. House Elections. *American Journal of Political Science*, 45(1):136–159, 2001.
- [10] Stephen Ansolabehere, James M. Snyder, and Charles Stewart. The Effects of Party and Preferences on Congressional Roll-Call Voting. *Legislative Studies Quarterly*, 26(4):533–572, 2001.
- [11] Enriqueta Aragones and Thomas R. Palfrey. The Effect of Candidate Quality on Electoral Equilibrium: An Experimental Study. *American Political Science Review*, 98(1):77–90, February 2004.

- [12] Kevin Arceneaux. Can Partisan Cues Diminish Democratic Accountability? *Political Behavior*, 30(2):139–160, June 2008.
- [13] Alex Badas and Katelyn E. Stauffer. Voting for women in nonpartisan and partisan elections. *Electoral Studies*, 57:245–255, February 2019.
- [14] Joseph Bafumi and Michael C. Herron. Leapfrog Representation and Extremism: A Study of American Voters and Their Members in Congress. *American Political Science Review*, 104(3):519–542, August 2010.
- [15] Susan A. Banducci, Jeffrey A. Karp, Michael Thrasher, and Colin Rallings. Ballot Photographs as Cues in Low-Information Elections. *Political Psychology*, 29(6):903–917, 2008.
- [16] Barbara C. Burrell. Local Political Party Committees, Task Performance and Organizational Vitality. *The Western Political Quarterly*, 39(1):48, 1986.
- [17] Pablo Barbera and Gonzalo Rivero. Understanding the Political Representativeness of Twitter Users. *SOCIAL SCIENCE COMPUTER REVIEW*, 33(6):712–729, December 2015.
- [18] Pablo Barberá. Birds of the Same Feather Tweet Together: Bayesian Ideal Point Estimation Using Twitter Data. *Political Analysis*, 23(1):76–91, January 2015.
- [19] Pablo Barberá, John T. Jost, Jonathan Nagler, Joshua A. Tucker, and Richard Bonneau. Tweeting From Left to Right: Is Online Political Communication More Than an Echo Chamber? *Psychological Science*, 26(10):1531–1542, October 2015.
- [20] Charles Barrilleaux and Michael Berkman. Do Governors Matter? Budgeting Rules and the Politics of State Policymaking. *Political Research Quarterly*, 56(4):409–417, December 2003.
- [21] Larry M Bartels. Electoral continuity and change, 1868–1996. *Electoral Studies*, 17(3):301–326, September 1998.
- [22] Larry M. Bartels. Partisanship and Voting Behavior, 1952–1996. *American Journal of Political Science*, 44(1):35–50, 2000.
- [23] Marija Anna Bekafigo and Allan McBride. Who Tweets About Politics?: Political Participation of Twitter Users During the 2011 gubernatorial Elections. *Social Science Computer Review*, 31(5):625–643, October 2013.
- [24] Andrea Benjamin. Coethnic Endorsements, Out-Group Candidate Preferences, and Perceptions in Local Elections. *Urban Affairs Review*, 53(4):631–657, July 2017.
- [25] Benjamin I. Page and Robert Y. Shapiro. Effects of Public Opinion on Policy. *The American Political Science Review*, 77(1):175, 1983.

- [26] Bernard R. Berelson, Paul F. Lazarsfeld, William N. McPhee, and William N. McPhee. *Voting: A Study of Opinion Formation in a Presidential Campaign*. University of Chicago Press, 1954. Google-Books-ID: Iux07CCye5QC.
- [27] Mark M. Berger, Michael C. Munger, and Richard F. Potthoff. The Downsian Model Predicts Divergence. *Journal of Theoretical Politics*, 12(2):228–240, April 2000.
- [28] William D. Berry, Richard C. Fording, Evan J. Ringquist, Russell L. Hanson, and Carl E. Klarner. Measuring Citizen and Government Ideology in the U.S. States: A Re-appraisal. *State Politics & Policy Quarterly*, 10(2):117–135, June 2010.
- [29] William D. Berry, Evan J. Ringquist, Richard C. Fording, and Russell L. Hanson. The Measurement and Stability of State Citizen Ideology. *State Politics & Policy Quarterly*, 7(2):111–132, June 2007.
- [30] William T. Bianco. *Trust: Representatives and Constituents*. University of Michigan Press, August 1994. Google-Books-ID: d08d2Cy1IwcC.
- [31] Adam Bonica. Ideology and Interests in the Political Marketplace. *American Journal of Political Science*, 57(2):294–311, 2013.
- [32] Cheryl Boudreau, Christopher S. Elmendorf, and Scott A. MacKenzie. Racial or Spatial Voting? The Effects of Candidate Ethnicity and Ethnic Group Endorsements in Low-Information Elections.
- [33] Jennings Bryant and Dorina Miron. Theory and research in mass communication. *Journal of Communication*, 54(4):662–704, 2004.
- [34] Barry C. Burden. Candidate Positioning in US Congressional Elections. *British Journal of Political Science*, 34(2):211–227, April 2004.
- [35] Matthew K. Buttice and Walter J. Stone. Candidates Matter: Policy and Quality Differences in Congressional Elections. *The Journal of Politics*, 74(3):870–887, July 2012.
- [36] Steven Callander and Catherine H. Wilson. Context-dependent voting and political ambiguity. *Journal of Public Economics*, 92(3):565–581, April 2008.
- [37] Angus Campbell. *The American voter : an abridgement*. New York : Wiley, c1964., 1964.
- [38] Brandice Canes-Wrone. *Who Leads Whom?: Presidents, Policy, and the Public*. University of Chicago Press, July 2010. Google-Books-ID: aW1j7LesmQwC.
- [39] Cheris A. Carpenter. The Obamachine: Technopolitics 2.0. *Journal of Information Technology & Politics*, 7(2-3):216–225, May 2010.
- [40] Devin Caughey, James Dunham, and Christopher Warshaw. The ideological nationalization of partisan subconstituencies in the American States. *Public Choice*, 176(1):133–151, July 2018.

- [41] Devin Caughey and Christopher Warshaw. Dynamic Estimation of Latent Opinion Using a Hierarchical Group-Level IRT Model. *Political Analysis*, 23(2):197–211, 2015.
- [42] Devin Caughey and Christopher Warshaw. Policy Preferences and Policy Change: Dynamic Responsiveness in the American States, 1936–2014. *The American Political Science Review; Washington*, 112(2):249–266, May 2018.
- [43] Devin Caughey and Christopher Warshaw. Public Opinion in Subnational Politics. *Journal of Politics*, 81(1):352–363, January 2019.
- [44] Devin Caughey, Yiqing Xu, and Christopher Warshaw. Incremental Democracy: The Policy Effects of Partisan Control of State Government. *Journal of Politics*, 79(4):1342–1358, October 2017.
- [45] Feng Chi and Nathan Yang. Twitter in Congress: Outreach vs Transparency, May 2010.
- [46] Dennis Chong and James N. Druckman. Framing Theory. *Annual Review of Political Science*, 10(1):103–126, May 2007.
- [47] William Claggett, William Flanigan, and Nancy Zingale. Nationalization of the American Electorate. *American Political Science Review*, 78(1):77–91, March 1984.
- [48] Joshua Clinton, Simon Jackman, and Douglas Rivers. The Statistical Analysis of Roll Call Data. *American Political Science Review*, 98(2):355–370, May 2004.
- [49] Derrick L. Cogburn and Fatima K. Espinoza-Vasquez. From Networked Nominee to Networked Nation: Examining the Impact of Web 2.0 and Social Media on Political Participation and Civic Engagement in the 2008 Obama Campaign. *Journal of Political Marketing*, 10(1-2):189–213, February 2011.
- [50] Michael D. Conover, Jacob Ratkiewicz, Matthew Francisco, Bruno Goncalves, Filippo Menczer, and Alessandro Flammini. Political Polarization on Twitter. In *Fifth International AAAI Conference on Weblogs and Social Media*, July 2011.
- [51] Philip E. Converse. The Nature of Belief Systems in Mass Publics (1964). *Critical Review*, 2006.
- [52] Gary W. Cox and Mathew D. McCubbins. *Legislative Leviathan: Party Government in the House*. Cambridge University Press, March 2007. Google-Books-ID: gc1LkxwQtPIC.
- [53] W. Mark Crain and James C. III Miller. Budget Process and Spending Growth Essay. *William and Mary Law Review*, 31:1021–1046, 1989.
- [54] Robert A. Dahl. *Democracy and its critics*. New Haven : Yale University Press, ©1989., 1989.
- [55] Robert A. Dahl. *On democracy*. New Haven : Yale University Press, 1998., 1998.

- [56] Sanmay Das, Betsy Sinclair, Steven W. Webster, and Hao Yan. Working Paper, All (Mayoral) Politics is Local? December 2018.
- [57] Sushree Das, Ranjan Kumar Behera, Mukesh kumar, and Santanu Kumar Rath. Real-Time Sentiment Analysis of Twitter Streaming data for Stock Prediction. *Procedia Computer Science*, 132:956–964, January 2018.
- [58] Devin Caughey and Christopher Warshaw. The Dynamics of State Policy Liberalism, 1936–2014. *American Journal of Political Science*, 60(4):899, 2016.
- [59] Anthony Downs. *An economic theory of democracy*. New York, Harper [1957], 1957.
- [60] Kyle Dropp and Zachary Peskowitz. Electoral Security and the Provision of Constituency Service. *The Journal of Politics*, 74(1):220–234, January 2012.
- [61] James N. Druckman. The Implications of Framing Effects for Citizen Competence. *Political Behavior*, 23(3):225–256, September 2001.
- [62] James M. Enelow and Melvin J. Hinich. *The Spatial Theory of Voting: An Introduction*. CUP Archive, April 1984. Google-Books-ID: IXY6AAAAIAAJ.
- [63] Peter K. Enns and Julianna Koch. Public Opinion in the U.S. States: 1956 to 2010. *State Politics & Policy Quarterly*, 13(3):349–372, September 2013.
- [64] Robert S. Erikson and David W. Romero. Candidate Equilibrium and the Behavioral Model of the Vote. *American Political Science Review*, 84(4):1103–1126, December 1990.
- [65] Robert S. Erikson, Gerald C. Wright, and John P. McIver. Political Parties, Public Opinion, and State Policy in the United States. *American Political Science Review*, 83(3):729–750, September 1989.
- [66] Robert S. Erikson, Gerald C. Wright, and John P. McIver. *Statehouse Democracy: Public Opinion and Policy in the American States*. Cambridge University Press, 1993. Google-Books-ID: wh0M1be26O0C.
- [67] Robert S. Erikson, Gerald C. Wright, and John P. McIver. Measuring the Public’s Ideological Preferences in the 50 States: Survey Responses Versus Roll Call Data. *State Politics & Policy Quarterly*, 7(2):141–151, June 2007.
- [68] Heather K. Evans, Victoria Cordova, and Savannah Sipole. Twitter Style: An Analysis of How House Candidates Used Twitter in Their 2012 Campaigns. *PS: Political Science & Politics*, 47(2):454–462, April 2014.
- [69] James D. Fearon. Electoral accountability and the control of politicians: selecting good types versus sanctioning poor performance. *Democracy, accountability, and representation*, 55:61, 1999.
- [70] Scott L. Feld and Bernard Grofman. Incumbency Advantage, Voter Loyalty and the Benefit of the Doubt. *Journal of Theoretical Politics*, 3(2):115–137, April 1991.

- [71] Richard F. Fenno. *Home style: House members in their districts*. HarperCollins, 1978.
- [72] Leon Festinger. *A Theory of Cognitive Dissonance*. Stanford University Press, 1962.
- [73] Morris P. Fiorina. Electoral margins, constituency influence, and policy moderation: A critical assessment. *American Politics Quarterly*, 1(4):479–498, 1973.
- [74] Morris P. Fiorina. *Retrospective Voting in American National Elections*. Yale University Press, 1981. Google-Books-ID: _aejQgAACAAJ.
- [75] Anthony Fowler and Andrew B. Hall. Long-Term Consequences of Election Results. *British Journal of Political Science*, 47(2):351–372, April 2017.
- [76] Paul Frymer. Ideological Consensus within Divided Party Government. *Political Science Quarterly*, 109(2):287–311, 1994.
- [77] Venkata Rama Kiran Garimella and Ingmar Weber. A Long-Term Analysis of Polarization on Twitter. In *Eleventh International AAAI Conference on Web and Social Media*, May 2017.
- [78] Matthew Gentzkow and Jesse M. Shapiro. What Drives Media Slant? Evidence From U.S. Daily Newspapers. *Econometrica*, 78(1):35–71, 2010.
- [79] Matthew Gentzkow, Jesse M Shapiro, and Matt Taddy. Measuring Group Differences in High-Dimensional Choices: Method and Application to Congressional Speech. Working Paper 22423, National Bureau of Economic Research, July 2016.
- [80] Elisabeth R. Gerber and Jeffrey B. Lewis. Beyond the Median: Voter Preferences, District Heterogeneity, and Political Representation. *Journal of Political Economy*, 112(6):1364–1383, December 2004.
- [81] Charles E. Gilbert and Christopher Clague. Electoral Competition and Electoral Systems in Large Cities. *The Journal of Politics*, 24(2):323–349, May 1962.
- [82] Martin Gilens. “Race Coding” and White Opposition to Welfare. *American Political Science Review*, 90(3):593–604, September 1996.
- [83] James G. Gimpel. *National Elections and the Autonomy of American State Party Systems*. University of Pittsburgh Pre, May 1996.
- [84] Michael J. Graetz and Ian Shapiro. *Death by a Thousand Cuts: The Fight over Taxing Inherited Wealth*. Princeton University Press, January 2011. Google-Books-ID: KBIJwASAT58C.
- [85] Virginia Gray, David Lowery, Matthew Fellowes, and Andrea Mcatee. Public Opinion, Public Policy, and Organized Interests in the American States. *Political Research Quarterly*, 57(3):411–420, September 2004.

- [86] Donald P. Green, Bradley Palmquist, and Eric Schickler. *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*. Yale University Press, 2004. Google-Books-ID: HVY18n59ThgC.
- [87] Steven Greene. Understanding Party Identification: A Social Identity Approach. *Political Psychology*, 20(2):393–403, 1999.
- [88] Steven H. Greene. *The Psychological Structure of Partisanship: Affect, Cognition, and Social Identity in Party Identification*. Ohio State University, 1999. Google-Books-ID: lhIbygAACAAJ.
- [89] Shane Greenstein and Feng Zhu. Is Wikipedia Biased? *American Economic Review*, 102(3):343–348, May 2012.
- [90] Justin Grimmer. *Representational Style in Congress: What Legislators Say and Why It Matters*. Cambridge University Press, December 2013. Google-Books-ID: O552AgAAQBAJ.
- [91] Justin Grimmer, Solomon Messing, and Sean J. Westwood. How Words and Money Cultivate a Personal Vote: The Effect of Legislator Credit Claiming on Constituent Credit Allocation. *American Political Science Review*, 106(4):703–719, November 2012.
- [92] Justin Grimmer and Brandon M. Stewart. Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts. *Political Analysis*, 21(3):267–297, 2013.
- [93] Bernard Grofman, William Koetzle, Michael P. McDonald, and Thomas L. Brunell. A New Look at Split-Ticket Outcomes for House and President: The Comparative Midpoints Model. *The Journal of Politics*, 62(1):34–50, February 2000.
- [94] Tim Groseclose. A Model of Candidate Location When One Candidate Has a Valence Advantage. *American Journal of Political Science*, 45(4):862–886, 2001.
- [95] Jeffrey D. Grynawski. *Partisan Bonds: Political Reputations and Legislative Accountability*. Cambridge University Press, February 2010. Google-Books-ID: 2G1vdU55rmMC.
- [96] Joshua Guberman, Carol Schmitz, and Libby Hemphill. Quantifying Toxicity and Verbal Violence on Twitter. In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion*, CSCW ’16 Companion, pages 277–280, New York, NY, USA, 2016. ACM. event-place: San Francisco, California, USA.
- [97] Bo Han, Paul Cook, and Timothy Baldwin. Automatically Constructing a Normalisation Dictionary for Microblogs. In *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning*, EMNLP-CoNLL ’12, pages 421–432, Stroudsburg, PA, USA, 2012. Association for Computational Linguistics. event-place: Jeju Island, Korea.

- [98] Eszter Hargittai and Eden Litt. The tweet smell of celebrity success: Explaining variation in Twitter adoption among a diverse group of young adults. *New Media & Society*, 13(5):824–842, August 2011.
- [99] Libby Hemphill, Aron Culotta, and Matthew Heston. Framing in Social Media: How the US Congress Uses Twitter Hashtags to Frame Political Issues. SSRN Scholarly Paper ID 2317335, Social Science Research Network, Rochester, NY, August 2013.
- [100] Marjorie R. Hershey. *Guide to U.S. Political Parties*. CQ Press, April 2014. Google-Books-ID: 7GMXBAAAQBAJ.
- [101] Liangjie Hong and Brian D. Davison. Empirical Study of Topic Modeling in Twitter. In *Proceedings of the First Workshop on Social Media Analytics, SOMA '10*, pages 80–88, New York, NY, USA, 2010. ACM. event-place: Washington D.C., District of Columbia.
- [102] Sounman Hong and Sun Hyoung Kim. Political polarization on twitter: Implications for the use of social media in digital governments. *Government Information Quarterly*, 33(4):777–782, October 2016.
- [103] Daniel J. Hopkins. *The increasingly United States : how and why American political behavior nationalized*. Chicago studies in American politics. Chicago : The University of Chicago Press, 2018., 2018.
- [104] Daniel J. Hopkins and Gary King. A Method of Automated Nonparametric Content Analysis for Social Science. *American Journal of Political Science*, 54(1):229–247, 2010.
- [105] Daniel J. Hopkins and Eric Schickler. The nationalization of US political parties, 1932–2014. In *Annual Meeting of the American Political Science Association, Philadelphia, PA, September*, volume 3, 2016.
- [106] Raghuram Iyengar, Sangman Han, and Sunil Gupta. Do Friends Influence Purchases in a Social Network? SSRN Scholarly Paper ID 1392172, Social Science Research Network, Rochester, NY, February 2009.
- [107] William G. Jacoby. The Impact of Party Identification on Issue Attitudes. *American Journal of Political Science*, 32(3):643–661, 1988.
- [108] James A. Stimson, Michael B. Mackuen, and Robert S. Erikson. Dynamic Representation. *The American Political Science Review*, 89(3):543, 1995.
- [109] Jr. James M. Snyder and Michael M. Ting. An Informational Rationale for Political Parties. *American Journal of Political Science*, 46(1):90, 2002.
- [110] James M. Snyder Jr. and Michael M. Ting. Roll Calls, Party Labels, and Elections. *Political Analysis*, 11(4):419, 2003.

- [111] author Jeffrey E. Cohen. Presidential Rhetoric and the Public Agenda. *American Journal of Political Science*, 1995.
- [112] Stephen A. Jessee. Spatial Voting in the 2004 Presidential Election. *American Political Science Review*, 103(1):59–81, February 2009.
- [113] Stephen A. Jessee. *Ideology and Spatial Voting in American Elections*. Cambridge University Press, June 2012. Google-Books-ID: B1MgAwAAQBAJ.
- [114] Thomas J. Johnson and David D. Perlmutter. *New Media, Campaigning and the 2008 Facebook Election*. Routledge, December 2013. Google-Books-ID: vd5cAgAAQBAJ.
- [115] Cindy D. Kam and Elizabeth N. Simas. Risk Orientations and Policy Frames. *The Journal of Politics*, 72(2):381–396, April 2010.
- [116] Jeffrey A. Karp and Marshall W. Garland. Ideological Ambiguity and Split Ticket Voting. *Political Research Quarterly*, 60(4):722–732, December 2007.
- [117] Samuel Kernell. *Going Public: New Strategies of Presidential Leadership*. CQ Press, October 2006. Google-Books-ID: gWQXBAAAQBAJ.
- [118] Donald R. Kinder and Thomas R. Palfrey. *Experimental Foundations of Political Science*. University of Michigan Press, 1993. Google-Books-ID: B96kBDDmBFoC.
- [119] Aaron King, Frank Orlando, and David B. Sparks. Ideological extremity and primary success: A social network approach. In *Chicago, Illinois: Paper presented at the 2011 MPSA Conference*, 2011.
- [120] John W. Kingdon. *Congressmen's Voting Decisions*. University of Michigan Press, 1989. Google-Books-ID: RKEjlyn0J0QC.
- [121] Daniel Klinghard. *The Nationalization of American Political Parties, 1880–1896*. Cambridge University Press, April 2010. Google-Books-ID: PVwCtvc3NgC.
- [122] Gregory Koger and Matthew J. Lebo. *Strategic Party Government: Why Winning Trumps Ideology*. University of Chicago Press, January 2017. Google-Books-ID: ok-SjDQAAQBAJ.
- [123] Thad Kousser, Jeffrey B. Lewis, and Seth E. Masket. Ideological Adaptation? The Survival Instinct of Threatened Legislators. *Journal of Politics*, 69(3):828–843, August 2007.
- [124] Thad Kousser and Justin H. Phillips. *The Power of American Governors: Winning on Budgets and Losing on Policy*. Cambridge University Press, September 2012. Google-Books-ID: bPXxK2JQj20C.
- [125] Katherine L. Krimmel, Jeffrey R. Lax, and Justin H. Phillips. *Gay Rights in Congress: Public Opinion and (Mis)Representation*. 2013.

- [126] Haewoon Kwak, Changhyun Lee, Hosung Park, and Sue Moon. What is Twitter, a Social Network or a News Media? In *Proceedings of the 19th International Conference on World Wide Web, WWW '10*, pages 591–600, New York, NY, USA, 2010. ACM. event-place: Raleigh, North Carolina, USA.
- [127] Anders Olof Larsson and Hallvard Moe. Studying political microblogging: Twitter users in the 2010 Swedish election campaign. *New Media & Society*, 14(5):729–747, August 2012.
- [128] Michael Laver, Kenneth Benoit, and John Garry. Extracting Policy Positions from Political Texts Using Words as Data. *American Political Science Review*, 97(2):311–331, May 2003.
- [129] Jeffrey R. Lax and Justin H. Phillips. The Democratic Deficit in the States. *American Journal of Political Science*, 56(1):148–166, 2012.
- [130] David S. Lee, Enrico Moretti, and Matthew J. Butler. Do Voters Affect or Elect Policies? Evidence from the U. S. House. *The Quarterly Journal of Economics*, 119(3):807–859, August 2004.
- [131] Steven D. Levitt. How Do Senators Vote? Disentangling the Role of Voter Preferences, Party Affiliation, and Senator Ideology. *The American Economic Review*, 86(3):425–441, 1996.
- [132] Nicholas P. Lovrich, Charles H. Sheldon, and Erik Wasmann. The Racial Factor in Nonpartisan Judicial Elections: A Research Note. *Western Political Quarterly*, 41(4):807–816, December 1988.
- [133] Christopher Lucas, Richard A. Nielsen, Margaret E. Roberts, Brandon M. Stewart, Alex Storer, and Dustin Tingley. Computer-Assisted Text Analysis for Comparative Politics. *Political Analysis*, 23(2):254–277, 2015.
- [134] Gregory J. Martin and Ali Yurukoglu. Bias in Cable News: Persuasion and Polarization. *American Economic Review*, 107(9):2565–2599, September 2017.
- [135] Marsha Matson and Terri Susan Fine. Gender, Ethnicity, and Ballot Information: Ballot Cues in Low-Information Elections. *State Politics & Policy Quarterly*, 6(1):49–72, March 2006.
- [136] David R. Mayhew. *Congress : the electoral connection*. Yale studies in political science: 26. Yale University Press, 1974.
- [137] David R. Mayhew. *Placing Parties in American Politics: Organization, Electoral Settings, and Government Activity in the Twentieth Century*. Princeton University Press, July 2014. Google-Books-ID: nLn_AwAAQBAJ.
- [138] Nolan M. McCarty, Keith T. Poole, and Howard Rosenthal. Income redistribution and the realignment of American politics. 1997.

- [139] Richard Patrick McCormick. *The Second American Party System: Party Formation in the Jacksonian Era*. W. W. Norton, 1973. Google-Books-ID: nVQIRAAACAAJ.
- [140] Carl McCurley and Jeffery J. Mondak. Inspected by #1184063113: The influence of incumbents' competence and integrity in U.S. House elections. *American Journal of Political Science; Oxford*, 39(4):864, November 1995.
- [141] Anthony J. McGann. Estimating the Political Center from Aggregate Data: An Item Response Theory Alternative to the Stimson Dyad Ratios Algorithm. *Political Analysis*, 22(1):115–129, 2014.
- [142] Miller McPherson, Lynn Smith-Lovin, and James M Cook. Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*, 27(1):415–444, 2001.
- [143] Tomas Mikolov, Kai Chen, Greg Corrado, and Jeffrey Dean. Efficient Estimation of Word Representations in Vector Space. *arXiv:1301.3781 [cs]*, January 2013. arXiv: 1301.3781.
- [144] Tomas Mikolov, Ilya Sutskever, Kai Chen, Greg S Corrado, and Jeff Dean. Distributed Representations of Words and Phrases and their Compositionality. In C. J. C. Burges, L. Bottou, M. Welling, Z. Ghahramani, and K. Q. Weinberger, editors, *Advances in Neural Information Processing Systems 26*, pages 3111–3119. Curran Associates, Inc., 2013.
- [145] Warren E. Miller and Donald E. Stokes. Constituency Influence in Congress*. *American Political Science Review*, 57(1):45–56, March 1963.
- [146] Lesley Milroy. Language and group identity. *Journal of Multilingual and Multicultural Development*, 3(3):207–216, January 1982.
- [147] Jeffery J. Mondak. Public opinion and heuristic processing of source cues. *Political Behavior*, 15(2):167–192, June 1993.
- [148] Jeffery J. Mondak. Competence, Integrity, and the Electoral Success of Congressional Incumbents. *The Journal of Politics*, 57(4):1043–1069, November 1995.
- [149] Woojin Moon. Party Activists, Campaign Resources and Candidate Position Taking: Theory, Tests and Applications. *British Journal of Political Science*, 34(4):611–633, October 2004.
- [150] Scott Morgenstern and Elizabeth Zechmeister. Better the Devil You Know Than the Saint You Don't? Risk Propensity and Vote Choice in Mexico. *The Journal of Politics*, 63(1):93–119, February 2001.
- [151] Nasir Naveed, Thomas Gottron, Jérôme Kunegis, and Arifah Che Alhadi. Bad News Travel Fast: A Content-based Analysis of Interestingness on Twitter. In *Proceedings of the 3rd International Web Science Conference*, WebSci '11, pages 8:1–8:7, New York, NY, USA, 2011. ACM. event-place: Koblenz, Germany.

- [152] Thomas E. Nelson, Rosalee A. Clawson, and Zoe M. Oxley. Media Framing of a Civil Liberties Conflict and Its Effect on Tolerance. *American Political Science Review*, 91(3):567–583, September 1997.
- [153] Brendan Nyhan and Jacob M. Montgomery. Connecting the Candidates: Consultant Networks and the Diffusion of Campaign Strategy in American Congressional Elections. *American Journal of Political Science*, 59(2):292–308, 2015.
- [154] Andrew Peterson and Arthur Spirling. Classification Accuracy as a Substantive Quantity of Interest: Measuring Polarization in Westminster Systems. *Political Analysis*, 26(1):120–128, January 2018.
- [155] Richard E. Petty and Jon A. Krosnick. *Attitude Strength: Antecedents and Consequences*. Psychology Press, January 2014. Google-Books-ID: taWYAgAAQBAJ.
- [156] Antoinette Pole and Michael Xenos. Like, comments and retweets: Facebooking and tweeting on the 2010 gubernatorial campaign trail. In *Trabalho apresentado na 11a State Politics & Public Policy Conference. Hanover*, volume 4, 2011.
- [157] Gerald Pomper. ETHNIC AND GROUP VOTING IN NONPARTISAN MUNICIPAL ELECTIONS. *Public Opinion Quarterly*, 30(1):79–97, January 1966.
- [158] Keith T. Poole. Nonparametric Unfolding of Binary Choice Data. *Political Analysis*, 8(3):211–237, March 2000.
- [159] Keith T. Poole. Changing minds? Not in Congress! *Public Choice*, 131(3):435–451, June 2007.
- [160] Keith T. Poole and Howard Rosenthal. A Spatial Model for Legislative Roll Call Analysis. *American Journal of Political Science*, 29(2):357–384, 1985.
- [161] Keith T. Poole, Howard Rosenthal, and Kenneth Koford. On Dimensionalizing Roll Call Votes in the U.S. Congress. *American Political Science Review*, 85(3):955–976, September 1991.
- [162] Anthony R. Pratkanis, Steven J. Breckler, and Anthony G. Greenwald. *Attitude Structure and Function*. Psychology Press, March 2014. Google-Books-ID: av8hAwAAQBAJ.
- [163] Jason Radford and Betsy Sinclair. Working Paper: Electronic Homestyle: Tweeting Ideology. March 2016.
- [164] Robert S. Erikson. Warren E. Miller and Donald E. Stokes. 1963. "Constituency Influence in Congress." "American Political Science Review" 57 (March): 45-56. *The American Political Science Review*, 100(4):674, 2006.
- [165] Margaret E. Roberts, Brandon M. Stewart, and Dustin Tingley. stm: R package for structural topic models. *Journal of Statistical Software*, 10(2):1–40, 2014.

- [166] Margaret E. Roberts, Brandon M. Stewart, Dustin Tingley, and Edoardo M. Airoldi. The structural topic model and applied social science. In *Advances in neural information processing systems workshop on topic models: computation, application, and evaluation*, pages 1–20, 2013.
- [167] Margaret E. Roberts, Brandon M. Stewart, Dustin Tingley, Christopher Lucas, Jetson Leder-Luis, Shana Kushner Gadarian, Bethany Albertson, and David G. Rand. Structural topic models for open-ended survey responses. *American Journal of Political Science*, 58(4):1064–1082, 2014.
- [168] Jon C. Rogowski and Patrick D. Tucker. Moderate, extreme, or both? How voters respond to ideologically unpredictable candidates. *Electoral Studies*, 51:83–92, February 2018.
- [169] Milton Rokeach. *The nature of human values*. The nature of human values. Free Press, New York, NY, US, 1973.
- [170] Hassan Saif, Miriam Fernández, Yulan He, and Harith Alani. On stopwords, filtering and data sparsity for sentiment analysis of Twitter. In *LREC 2014, Ninth International Conference on Language Resources and Evaluation. Proceedings.*, pages 810–817, Reykjavik, Iceland, 2014.
- [171] Brian F Schaffner, Matthew Streb, and Gerald Wright. Tears Without Uniforms: The Nonpartisan Ballot in State and Local Elections. *Political Research Quarterly*, 54(1):7–30, March 2001.
- [172] Brian F. Schaffner and Matthew J. Streb. The Partisan Heuristic in Low-Information Elections. *Public Opinion Quarterly*, 66(4):559–581, February 2002.
- [173] E. E. Schattschneider. *The Semisovereign People* (New York: Holt, Rinehart and Winston, 1960). *Ch. II*, 1964.
- [174] Boris Shor, Christopher Berry, and Nolan McCarty. A Bridge to Somewhere: Mapping State and Congressional Ideology on a Cross-institutional Common Space. *Legislative Studies Quarterly*, 35(3):417–448, 2010.
- [175] Boris Shor and Nolan McCARTY. The Ideological Mapping of American Legislatures. *American Political Science Review*, 105(3):530–551, August 2011.
- [176] Joel Sievert and Seth C. McKee. Nationalization in U.S. Senate and Gubernatorial Elections. *American Politics Research*, page 1532673X18792694, August 2018.
- [177] Jonathan B. Slapin and Sven-Oliver Proksch. A Scaling Model for Estimating Time-Series Party Positions from Texts. *American Journal of Political Science*, 52(3):705–722, 2008.
- [178] James M. Snyder and Michael M. Ting. An Informational Rationale for Political Parties. *American Journal of Political Science*, 46(1):90–110, 2002.

- [179] Stuart Neil Soroka and Christopher Wlezien. *Degrees of democracy : politics, public opinion, and policy*. Cambridge ; New York : Cambridge University Press, 2010., 2010.
- [180] Asbjørn Steinskog, Jonas Therkelsen, and Björn Gambäck. Twitter Topic Modeling by Tweet Aggregation. In *Proceedings of the 21st Nordic Conference on Computational Linguistics*, pages 77–86, Gothenburg, Sweden, May 2017. Association for Computational Linguistics.
- [181] James A. Stimson. *Public opinion in America : moods, cycles, and swings*. Transforming American politics. Boulder, Colo. : Westview Press, 1999., 1999.
- [182] James A. Stimson, Michael B. MacKuen, and Robert S. Erikson. Opinion and Policy: A Global View*. *PS: Political Science & Politics*, 27(1):29–35, March 1994.
- [183] Donald Stokes. Valence politics. *Electoral politics*, pages 141–164, 1992.
- [184] Donald E. Stokes. Spatial Models of Party Competition. *American Political Science Review*, 57(2):368–377, June 1963.
- [185] Walter J. Stone and Elizabeth N. Simas. Candidate Valence and Ideological Positions in U.S. House Elections. *American Journal of Political Science*, 54(2):371–388, 2010.
- [186] Chris Tausanovitch and Christopher Warshaw. Does the Ideological Proximity Between Candidates and Voters Affect Voting in U.S. House Elections? *Political Behavior*, 40(1):223–245, March 2018.
- [187] Michael Tomz and Robert P. Van Houweling. The Electoral Implications of Candidate Ambiguity. *American Political Science Review*, 103(1):83–98, February 2009.
- [188] Andranik Tumasjan, Timm O. Sprenger, Philipp G. Sandner, and Isabell M. Welpe. Election Forecasts With Twitter: How 140 Characters Reflect the Political Landscape. *Social Science Computer Review*, 29(4):402–418, November 2011.
- [189] Jianshu Weng, Ee-Peng Lim, Jing Jiang, and Qi He. TwitterRank: Finding Topic-sensitive Influential Twitterers. In *Proceedings of the Third ACM International Conference on Web Search and Data Mining, WSDM '10*, pages 261–270, New York, NY, USA, 2010. ACM. event-place: New York, New York, USA.
- [190] Oliver P. Williams and Charles R. Adrian. The Insulation of Local Politics Under the Nonpartisan Ballot. *American Political Science Review*, 53(4):1052–1063, December 1959.
- [191] Jonathan Woon and Jeremy C. Pope. Made in Congress? Testing the Electoral Implications of Party Ideological Brand Names. *The Journal of Politics*, 70(3):823–836, July 2008.
- [192] Gerald C. Wright. Charles Adrian and the Study of Nonpartisan Elections. *Political Research Quarterly*, 61(1):13–16, March 2008.

- [193] M. Xenos and A. Pole. Online Campaigning Revisited: Candidates. *Use of Digital Media in the 2010 Midterm Elections*. SSRN eLibrary, 2011.
- [194] Hao Yan, Sanmay Das, Allen Lavoie, Sirui Li, and Betsy Sinclair. Working Paper: The Congressional Classification Challenge: Domain Specificity and Partisan Intensity. February 2019.
- [195] Li Yang, Xinyu Geng, and Haode Liao. A web sentiment analysis method on fuzzy clustering for mobile social media users. *EURASIP Journal on Wireless Communications and Networking*, 2016(1):128, May 2016.
- [196] Xinxin Yang, Bo-Chiuan Chen, Mrinmoy Maity, and Emilio Ferrara. Social Politics: Agenda Setting and Political Communication on Social Media. In Emma Spiro and Yong-Yeol Ahn, editors, *Social Informatics*, Lecture Notes in Computer Science, pages 330–344. Springer International Publishing, 2016.
- [197] Wayne Xin Zhao, Jing Jiang, Jianshu Weng, Jing He, Ee-Peng Lim, Hongfei Yan, and Xiaoming Li. Comparing Twitter and Traditional Media Using Topic Models. In Paul Clough, Colum Foley, Cathal Gurrin, Gareth J. F. Jones, Wessel Kraaij, Hyowon Lee, and Vanessa Mudoch, editors, *Advances in Information Retrieval*, Lecture Notes in Computer Science, pages 338–349. Springer Berlin Heidelberg, 2011.
- [198] Dolf Zillmann and Jennings Bryant. *Selective Exposure To Communication*. Routledge, July 2013. Google-Books-ID: hb9VZZMXeJoC.