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EXAMINING THE DRIVERS OF STATE LEGISLATIVE EFFICIENCY, 1993-2016

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ABSTRACT

This research quantitatively analyzes the effects of party polarization and party competition on legislative efficiency, which is defined as the number of bills passed by a legislature in a given year. To do this, I analyzed the effects of polarization, divided government, and party competition on legislative efficiency. This paper finds no significant relationship for the independent variables of polarization and divided government, but finds a strong positive relationship between party competition and legislative efficiency. It also finds that polarization does not affect efficiency more in recent years than it did previously. My work builds on the previous research into the factors behind legislative efficiency, and provides differing conclusions to many works of literature currently in the field.

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Chapter 1

Introduction

"As Gridlock Deepens in Congress, Only Gloom Is Bipartisan" (Stolberg & Fandos, 2018). "Congressional gridlock has doubled since the 1950s" (Ingraham, 2019). "The Least Productive Congress in 164 Years?" (2019). These are all headlines that have been in the news since 2018, a reflection of a popular sentiment that political polarization is as bad as it has ever been and has been getting worse and worse for some time. Long gone are the days of bipartisanship and collaborative lawmaking, and what does Congress even do nowadays anyway? Are we paying these people, our representatives, from our tax dollars to dress up and give speeches, all the while spending the rest of their time obstructing the real work that needs to be done and fundraising to get re-elected? I had the opportunity to observe the man behind the curtain, in many ways, during my two years interning for a U.S. Representative on Capitol Hill. Here, I witnessed first-hand the dismay of my boss and others in our office as the 2017 Farm Bill, something considered by many to be an easy win for President Trump and his new Republican majority, crash and burn due to the Freedom Caucus breaking from their Republican allies on the final vote.

Naturally, as an intern, I soon found myself in the trenches, facing a charge of phone calls, letters, and emails from angry constituents. Being from a mostly rural district, these people were furious over the lack of ability for Congress to accomplish what they felt was a simple, bipartisan piece of legislation that was designed to benefit farmers. Of course, the reality of the Farm Bill significantly more complicated than that, as many of the negotiations had centered

around SNAP provisions and other aspects of welfare included in the massive piece of legislation. But at the end of the day, our boss's rhetoric centered around largely the fact that the Farm Bill had failed due to partisan conversations surrounding issues like DACA and that as in so many cases, polarization had been the death of legislative efficiency. But is that really the case?

To answer this question, this paper will analyze data from all 50 states during a time period of 1993-2016 to look at whether polarization has negatively impacted either the legislative efficiency from the battlegrounds of state legislatures, a platform given much less attention than Congress in the national media but one that should reflect any larger trends related to polarization of American politics. The structure of my quantitative analysis is based heavily on Hicks' Partisan Competition and the Efficiency of Lawmaking in American State Legislatures, 1991-2009. It will be discussed in more detail later, but the loss of two years in my analysis is due to replacing Hicks' measure of polarization with another measure from Shor (2018). In addition, my analysis examines the effects of competition in the form of partisan seat margin, a party competition index, mean margin of victory of the legislative seat, and divided vs. united government. I expect to find that polarization has a negative effect on legislative efficiency, that both measures of competition have a positive effect, and that divided government has a negative effect.

Polarization and any increase of it has effects on the media, dynamics within our legislatures, and on general public discourse. This paper, however, will seek to explain its effects on our governments' abilities to get things done. To do this, I will first examine the exisitng literature surrounding these concepts and past analyses, before discussing the theory and my

hypothesis in more detail. Following a discussion of measurement and my data, I will examine

the results of my quantitative analysis before finally discussing any conclusions and limitations.

Chapter 2

Literature Review

Discussions surrounding the causes of changes in legislative efficiency are not new within the literature, and works by those such as Mayhew (1993) have served to popularize the discussion within the literature. In this section, I will examine various works in the field over the years, broken down by the major concepts discussed in this paper. These include legislative efficiency, polarization, competition, partisan composition, and finishing with a discussion on alternate explanations.

Legislative Efficiency

To begin with a brief discussion on the literature surrounding the dependent variable of legislative efficiency, Hicks' (2015) "Partisan Competition and the Efficiency of Lawmaking in American Legislatures, 1991-2009" defines legislative efficiency simply as the number of bills passed by a legislature; this contrasts with the work of Mayhew (1993), who in his analysis of the effects of divided government on legislative efficiency defines as the ability for a certain government (session of Congress + half term of Presidency) to pass significant, landmark legislation. His measure of "significant legislation" is subjective but very thorough, collected using two "sweeps;" Sweep 1 includes legislation that was known to be significant or important at the time of its passing, and was collected using articles in reputable publications such as the New York Times from the time of discussion on that particular legislation. Sweep 2 includes legislation that may not have been seen as significant at the time of its passing, but was determined to be significant retrospectively using various policy histories.

Speaking more broadly, Mayhew's work on legislative efficiency was able to thoroughly and effectively capture what it meant when individuals referred to a particularly productive or unproductive Congress. While it is not the measure that I end up using in this paper, Mayhew's ability to characterize the concept of legislative efficiency beyond a simple ratio or number of bills passed proved to be of great benefit to the field, seeing the sheer number of works that cite Mayhew's work as foundational to their own (including this one). Central to this importance is the unique ability of Mayhew's work to capture public sentiment when assessing legislative efficiency, which is something that I have found few other measures of the concept to do. The logic here is clear: the numbers can only tell you so much, and certain bills may be perceived by the public as more or less important than maybe even the legislature perceived them as. Alternatively, some legislation turns out to be more or less important than initially anticipated; both of these possibilities are captured by Mayhew's work, which makes it a unique and foundational part of the literature.

Polarization

Hicks argues that the level of polarization between parties at the state level has an effect on legislative efficiency, depending on how seats in the legislature are distributed between the two parties, referred to as the "partisan seat margin" (Hicks, 2015). Polarization is viewed by Hicks as having a conditional effect on legislative efficiency, in that the effect that divided government has on legislative efficiency is determined by the level of polarization present. Specifically, Hicks theorizes that "polarization reduces legislative efficiency when the partisan seat margin is small"; in other words, that polarization primarily has an effect on efficiency when

the gap in seats held by the majority party and minority party is smaller. This hypothesis is supported by Hicks' findings, which find that minority parties are more likely to obstruct legislative proceedings when 1.) the majority party does not hold too substantial of an advantage in seats and 2.) there is sufficiently high polarization to motivate the minority party to engage in obstructionist activities (Hicks, 2015).

While Brady & Volden (1998) primarily point their fingers at the presence of supermajority institutions as the main cause of grid-lock at the federal level, their work on polarization is valuable to look at in the context of the literature. Their work places members of Congress on a single ideological continuum ranging from liberal to conservative. From here, the focus is on the interaction between the single median member of the legislative body, not the distance between the median Republican and median Democrat. This can be explained largely by the fact that Brady & Volden are testing the distance between this median member and a "status quo point" to determine the likelihood of a piece of legislation passing given its placement on the spectrum (Brady & Volden, 1998). This piece largely views partisan position as a general constraint on the passing of legislation and thus a negative factor of legislative efficiency, as compared to Hicks' (2015) largely conditional view of ideological position's impact on legislative efficiency.

Competition

Whereas I am separating my discussions of competition and polarization, Hicks in his work breaks down the concept of partisan competition into three components, one of them being polarization and the other two being partisan seat margin and divided government. Hinchcliffe &

Lee (2015) examined competition in several different ways in their work "Party Competition and Conflict in State Legislatures." Here, the authors actually examine the links between competition and party polarization, two of my independent variables. In their analysis, five measures of competition are used, notably including, the ratio of Democrats to Republcians in the electorate, the closeness of presidential elections in the state, and an index of party competition in a given state and a given year. To create the index, the authors "averaged over the preceding decade the Democratic Party's proportion of the (1) gubernatorial two-party vote, (2) state House seats, and (3) state Senate seats and then "folded" the average by calculating the absolute difference from 0.5." Of these measures, the work found the state party competition index to be best predictor of polarization (Hinchcliffe & Lee, 2015).

Their paper found that states with two competitive parties tend to be more polarized than in states where one party is dominant, supporting the theory that in competitive states, legislators seek to distinguish their party from the opposition as much as possible and thereby increasing polarization. The authors point to these findings being contradictory to the rhetoric typically espoused by pundits and even politians who see competitive elections and legislatures as an indicator of increased bipartisanship. Instead of a mandate for cooperation, Lee and Hinchcliffe see a directive to separate from the other party as much as possible in order to attract the maximum number of voters.

As mentioned, Hicks (2015) also looks at partisan seat margin as a measure of competition. In this case, Hicks primarily examines this variable as an interaction, finding, for example and as discussed previously in this section, that polarization reduces legislative efficiency when partisan seat margin is small, but that divided government "significantly enhances legislative efficiency when the partisan seat margin is large" (p. 745).

Partisan Composition

Hicks' examination of polarization as having a conditional effect on the way that government composition influences efficiency provides implications for the work of David Mayhew (1993), whose main idea is that legislative efficiency is influenced by the composition of the government, be it unified or divided. By far and away the most important work in the study of the effect of party control on legislative efficiency, Mayhew's work at the federal level serves as a foundation upon which Hicks builds his polarization-based argument. Hicks' relationship to Mayhew is complicated, as the former finds that "a small partisan margin reduces legislative efficiency if the government is divided" while at the same time finding that legislative efficiency is enhanced by divided government if "the distribution of legislative seats strongly favors the party opposite that of the governor" (Hicks, 2015). The main takeaway when comparing Mayhew and Hicks is on the view of the effect of partisan conditions on legislative efficiency, with Hicks claiming a significant effect and Mayhew claiming a more marginal effect in favor of divided vs. united government.

Hicks is not alone in departing from such a simplified view of partisanship in legislatures. In "The Dynamics of Legislative Gridlock, 1947-96," Binder (1999) specifically points out the flaws in only considering divided vs. unified governments when considering partisan dynamics, stating: "But elections do more than simply divide up control of the major branches of government. They also determine the distribution of policy preferences within and between the two major legislative parties. At times, partisan preferences are polarized, with most legislators at the respective ends of the underlying ideological spectrum; at other times, greater numbers of legislators stand closer to the ideological center." This statement succinctly highlights why work like Hicks and this paper are necessary, to flesh out the very specific and particular dynamics

that are left as gaps in the work of Mayhew and others. Hicks' work also agrees with sentiments

expressed by Binder, when she states that the more polarized the two parties are, the greater the

incentive for differentiation and the lower the incentive for compromise and deal-making

(Binder, 1999).

Alternative explanations

An important part of understanding my work's place in the literature are the areas of

disagreement in the field, as well as alternative explanations for legislative efficiency. For

example, Gray & Lowery (1995) use the same simplistic measure of legislative efficiency in

examining number of enactments versus legislation introduced. Their work, however, examines

the effects of interest organization populations, specifically their size and density, on legislative

efficiency; the two also take a look at the effects of divided government at the state level. This

work actually controls for party competition and party control, while Hicks actually includes

variables in his analysis to also measure interest group influence (Hicks, 2015). Challenging

Mayhew's work, Gray & Lowery find no significant relationship between divided government

and legislative efficiency, while finding that the size of interest organization populations, that is,

how many interest groups are present, have a negative relationship with legislative efficiency

(Gray & Lowery, 1995). This is interesting given that Hicks actually finds no significant

relationship between interest group influence and legislative efficiency (Hicks, 2015).

Another explanation for variation in legislative efficiency is given by Squire (1998) in the

form of membership turnover. Measuring legislative efficiency as the quantity of legislation

passed (though in two different ways, percentage of bills enacted vs. introduced as well as

enactments per day), Squire finds that membership turnover does not have a significant relationship with legislative efficiency. Instead, he finds that the level of professionalism (negative), number of interest groups (positive), and limits on introductions (positive) have the greatest weight on affecting legislative efficiency (Squire, 1998). The point on interest groups is particularly interesting as it challenges the work of Gray & Lowery discussed previously in this section.

It is clear after examining the works in this section that there is a place in the literature for another look at Hicks' work on polarization and legislative efficiency. There are so many hypotheses for what actually influences the efficiency of both state legislatures and Congress, many of which conflict with one another. After exploring the literature, I still find polarization to be a compelling explanation for variation in legislative efficiency, and I believe that extending the work of Hicks through 2016 would serve to gain insight as to whether a heightened climate of polarization supports previous insights into the relationship. As stated previously, insights gleaned at the state level using Hicks' methodology should serve to be broadly applicable as an insight into American legislatures in general, including at the federal level.

Chapter 3

Theory

It's clear that there exist many theories that offer to explain the drivers of legislative efficiency, and what those drivers are. For the sake of discussion, let us re-establish that legislative efficiency is, at a theoretical level, a measure of the effectiveness of a given legislature. While there will obviously be some factors unique to individual legislatures and differences between legislatures, whether that be comparing federal to state or a state to another state, the general principle beneath my research question is that insight into factors influencing legislative efficiency at the state level will give insight into legislative efficiency at the federal level and vice versa. With this in mind, the key factors that have surfaced through examining the existing literature are primarily: polarization, divided vs. united government, partisan seat margin, and competition.

Hypothesis 1: Party Polarization

Polarization is what I would call my primary interest when examining drivers of legislative efficiency. In broad, theoretical terms, partisan polarization in the United States can be considered the "ideological gap" between Republican and Democrat legislators. When originally considering the relationship between polarization and legislative efficiency, my primary theory revolved around the very basic idea that increased polarization would lead to lower levels of legislative efficiency. The logic here is pretty simple, in that with a more polarized legislature there would be fewer legislators "in the middle" that might be persuaded to vote one way or the other, and thus fewer bills that reach enactment.

Additionally, as mentioned in the introduction of this paper, one often hears in the media or in discussion that polarization has gotten worse since they were in the 1990s or even in the early 2000s. I seek to test whether or not this is true with an additional hypothesis related to whether polarization has had a stronger negative effective on legislative efficiency when examined more recently as opposed to earlier years within the data. With this in mind, my theory for how party polarization affects legislative efficiency is as follows:

> *Hypothesis 1a: A legislature will enact fewer bills when there are high levels of polarization.*
> *Hypothesis 1b: Polarization has a stronger negative effect on legislative efficiency in recent years (2010-2016) than previously (1993-2009).*

Hypothesis 2: Divided vs. United Government

Divided government should, in an intuitive sense, have a negative relationship with legislative efficiency; naturally, one makes the assumption that a legislative body held by the same party would be able to more effectively pass through legislation that works to achieve its agenda. Mayhew's work disputes this and finds that a divided government is not necessarily less efficient than a united government, but this is also considering legislative efficiency in terms of the number of *significant* pieces of legislation passed. Meanwhile, I find an argument in line with Hicks' findings more compelling, that divided government actually increases legislative efficiency when the partisan seat margin is large. Hicks specifically considers the example of divided government as being when the governor is of the opposite party of the legislative house(s). In this instance, with a small partisan seat margin,

I expect to find that legislative efficiency is negatively affected by divided government due to the natural political dynamics at play; with a small partisan seat margin, there does not

exist the political capital necessary to override a veto or oppose the executive's legislative priorities, through the executive themselves or their allies in the legislature, to a degree where that party's agenda is minimized. On the contrary, in cases of divided government with a large partisan seat margin, there may exist conditions that allow for a veto-proof majority in the legislature that effectively minimizes any powers the executive may possess that would negatively impact legislative efficiency. In fact, one party in effective control of the entire legislature may be incentivized, to an even greater extent than if the government was unified, to pass through their legislative items in an effective manner, to undermine the executive's political position or to even pass legislation curbing executive authority.

Hypothesis 2: A legislature will enact fewer bills when government is divided.

Hypothesis 3: Competition

Two-party competition can be thought of, in simple terms, how competitive the two major American political parties are in a given state, year, legislature, etc. If this definition sounds incredibly broad, that's because it is; this will be discussed shortly. As offered by Hinchliffe and Lee, conventional political wisdom in this realm conflicts with the literature, at least when discussing comparative state politics, in that scholars have typically viewed two-party competition as a "driver of partisanship and party conflict" (Hinchcliffe & Lee, 2015). This contrasts with popular rhetoric surrounding competitive elections and legislatures with narrow partisan seat margins, which political leaders of both parties have offered as evidence that the two parties must work together collaboratively within the legislature. The conflict here raises an interesting question of which effect on legislative efficiency actually holds water.

Partisan seat margin is one way of measuring competitiveness, in that it serves as a measure of how competitive the dynamics are within the legislature; it is essentially the disparity in size between the majority and minority party in a given legislature. When the margin in seats between the majority party and the minority party is lower, the minority party may feel more competitive and energized to engage in disruptive behavior. Hicks asserts that partisan seat margin has an intervening effect on both the relationship between polarization and legislative efficiency as well as the relationship between divided government and legislative efficiency, which I will speak on more in the next section.

The problem with this measure is that it only captures a portion of what competitiveness entails, as one party controlling the vast majority of seats in a house would, under this measure, be deemed non-competitive. However, hypothetically, each of those seats could've been won with a very narrow margin in its election, which under a measure of electoral competitiveness would deem the seats competitive. This conflict calls for additional examination through another independent variable, namely electoral competitiveness in state elections. The thought process here is that when electoral competitiveness for a given seat signals to the legislator that won their seat by a narrow margin that they must take more centrist positions in order to retain that seat; this may lead to an increase in legislative efficiency, as legislators are more urgently motivated to enact bills and policies favored by their constituency. Alternatively, an increase in centrist or even ambivalent positions taken by legislators may lead to a decrease in legislative efficiency, as discussed by Hicks (2015).

The final way to think of competition is in terms of competitiveness for state offices, such as the way Hinchcliffe and Lee (2015) attempt to capture it in their index of party competition.

This is a more general way to capture competitiveness, and in this specific case allows for competitiveness for House seats, Senate seats, and for the office of governor.

Hypothesis 3: A legislature will enact more bills when party competition is high.

Chapter 4

Methodology

In order to test these theories, I compiled data from 1993-2016, a period I believe to substantively represent the key timeframe within modern politics that the discussion surrounding increasing polarization covers. It was also helpful for me to already have data from 1993-2009 from Hicks' original work. To extend the data to 2016, I used data on the number of bills enacted and introduced from the Council of State Governments' *The Book of the States*, years 2010-2016. The number of bills enacted serves as my primary dependent variable, though in my analysis I also created a variable that represented a ratio of number of bills enacted to number of bills introduced. Though Hicks chose not to take this route in his original work, I wanted to see if there was a significant difference in the results between when using bills enacted with bills introduced as a covariate and when simply using the ratio.

For my primary independent variable of polarization, I was unable to replicate the exact numbers given by Hicks even though I had access to presumably the same source of data in Shor's "Aggregate State Legislator Shor-McCarty Ideology Data" (2018); this is an admitted weak point for me as I am still unable to determine the discrepancy. In any case, I was able to acquire polarization data from the aforementioned dataset for years 1993-2016, allowing me to still effectively carry out my analysis despite the lack of identical data. Importing the data was as simple as transferring it from one dataset to my own.

Unfortunately, I did not have nearly the same luck with my other independent variables. Acknowledging my time constraints, I settled on using party competition data from Hinchcliffe & Lee (2015); while excellent and incredibly useful data, I was disappointed not to have competition data through the same time period of 1993-2016, instead having data over 1995-

2013 for my competition measures. Similarly, due to time constaints I was unable to extend my

independent variable on divided vs. united government for all 50 states over the time period I am

looking at for polarization; I was able to find data through the aforementioned *Book of the States*,

but due to formatting issues did not feasibly have time to transfer the data over by hand.

Data for my independent variables on competition came from Hinchcliffe and Lee

(2015), and gave me data for years 1995-2013. As discussed in the review of the literature, their

work offers several measures of competition, including a party competition index, the closeness

of presidential elections in that state, the number of recent shifts of party control, the effective

number of political parties in a state, and the ratio of Republicans to Demcorats in the electorate.

Given the existing structure of my analysis, I pulled only the party competition index for use an

independent variable measuring competition. This allowed me to expand on the work of Hicks

while also keeping my analysis relatively simple and intuitive for me to conduct.

Chapter 5

Data

Dependent Variable

Legislative efficiency

There were 431,832 legislative enactments throughout the 50 states from 1993-2016, out of 2,140,503 bills introduced, for a total success rate of bills throughout the country of approximately 20%. Seen below in Figure 1 is a simple display of all of the data points in my dataset, with each point representing a certain state legislature in a given year, and Figure 2 shows the average number of bills enacted by each state per year.
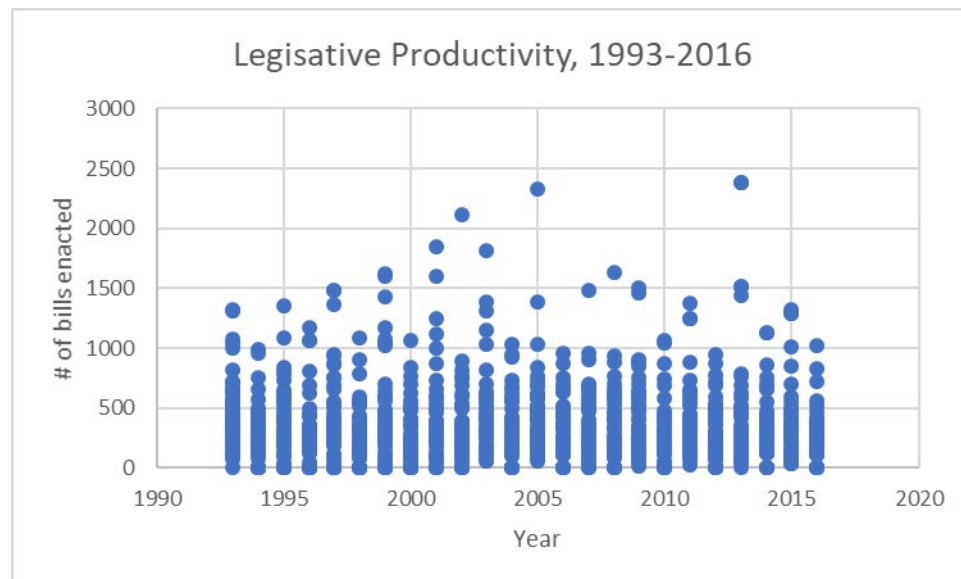

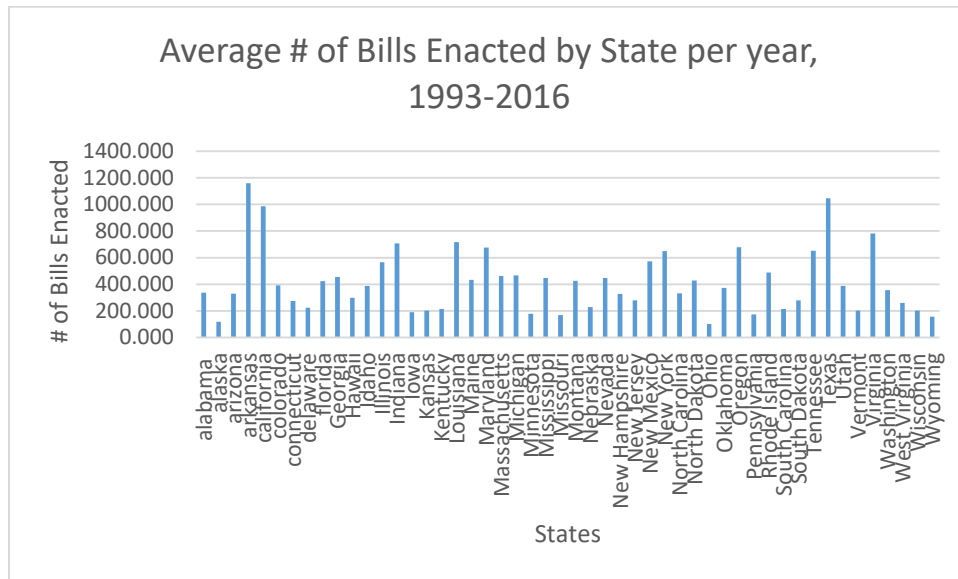Figure 1: Legislative efficiency, 1993-2016

Figure 2: Average # of Bills Enacted by State, 1993-2016

States with large, active legislatures like California, Texas, and Virginia are not surprising, but I do feel the need to address one important outlier: according to the figure above, Arkansas passed, on average, the highest number of bills per year out of any state. This may seem extraordinary and unexpected, but it is in reality due to the fact that the State Assembly convenes a session once every other year, and thus the average is skewed. Irregularities such as this will inevitably be present in some way or another throughout the data, as states vary wildly in composition, professionality, meeting frequency, and just about every other important characteristic.

Independent Variables

Polarization

As mentioned, my data for polarization in the states runs from 1993-2016, and includes

data from all states in each year. As a reminder, polarization is measured as the distance between

the median Democratic legislator and the median Republican legislator in a given year and

legislature averaged across the chambers. A higher polarization score, therefore, implies greater

ideological distance between the median legislators and therefore a more polarized legislature as

a whole. While the numbers may seem arbitrary in a vacuum, the relative scores provide an

excellent idea of the relative polarization of respective legislatures. Below is a simple table,

displaying the average polarization by state over the timeframe of the data. This provides a quick

snapshot of which states tend to be the most polarized versus those that see more ideological
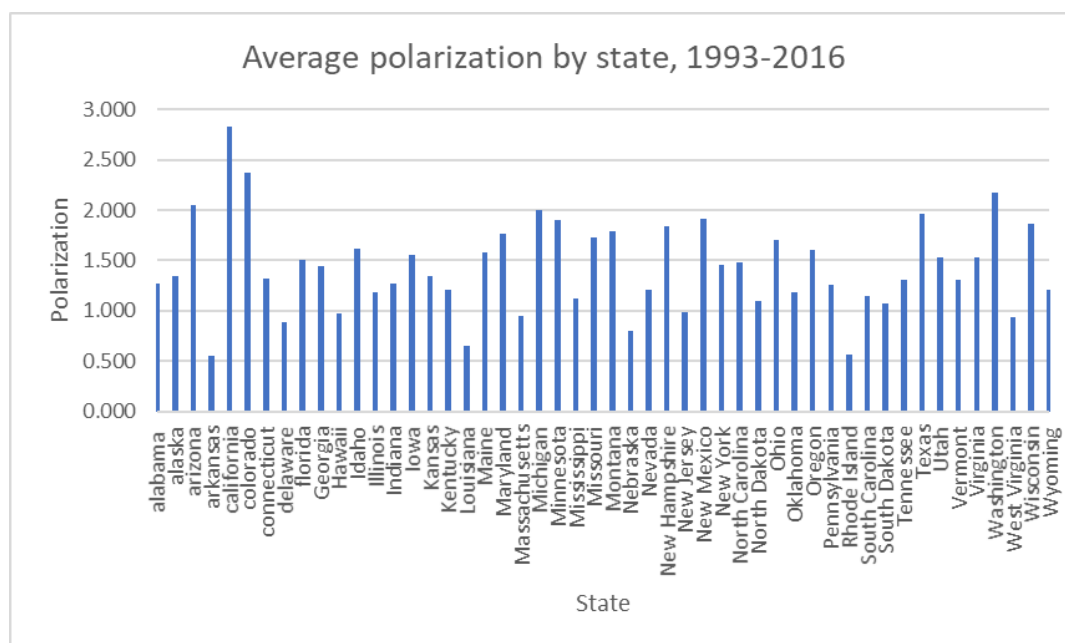
homogeneity in their legislatures.

Figure 3: Average polarization by state, 1993-2016

As seen in the table, California takes the crown for most polarized state, followed by Colorado and Washington. States that round out the bottom include Arkansas, Louisiana, and Rhode Island. In all reality, this figure does not actually tell us too much that's helpful in drawing conclusions on the state of our democracy, other than which states generally deal with a more divisive climate than others. But before taking a look at how polarization fluctuates within individual states from 1993-2016, its worth seeing at least for completion's sake the full picture of polarization over time for all fifty states, which is shown below in Figure 2:
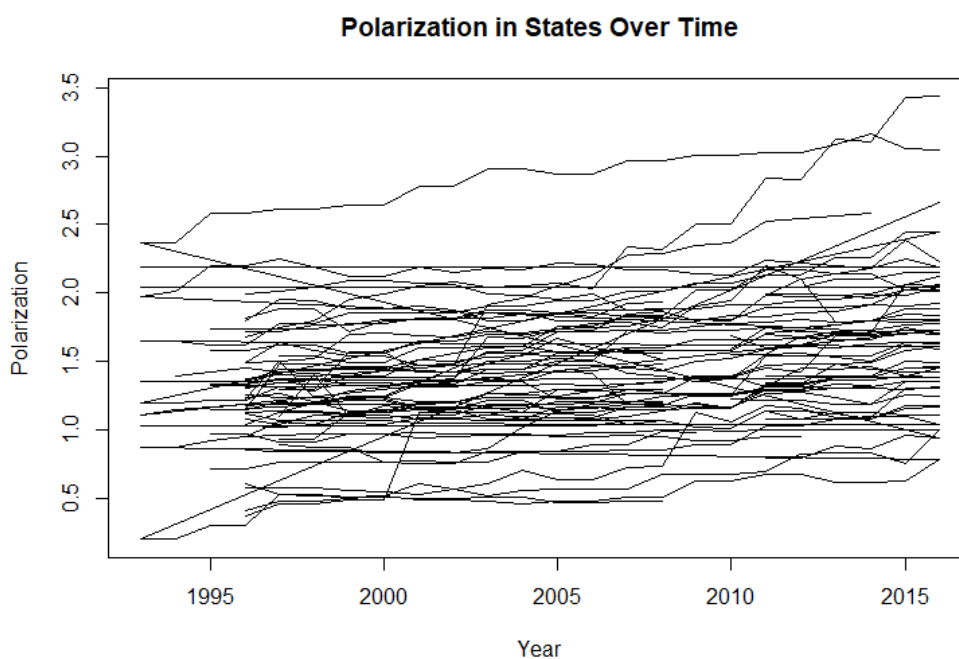

Figure 4: Polarization in States Over Time

While not incredibly helpful or significant at first glance, I would argue that there is certainly an upward trend for the majority of the data, and that if you choose a line and follow it, you are more likely than not to see an increase in that polarization over the years in question. That's hardly an exact or scientific argument, so I will now take some time to pick out a few

particular states to demonstrate some varying trends in the larger dataset. Specifically, when

looking at the data, one is able to see that some states absolutely conform to and support the idea

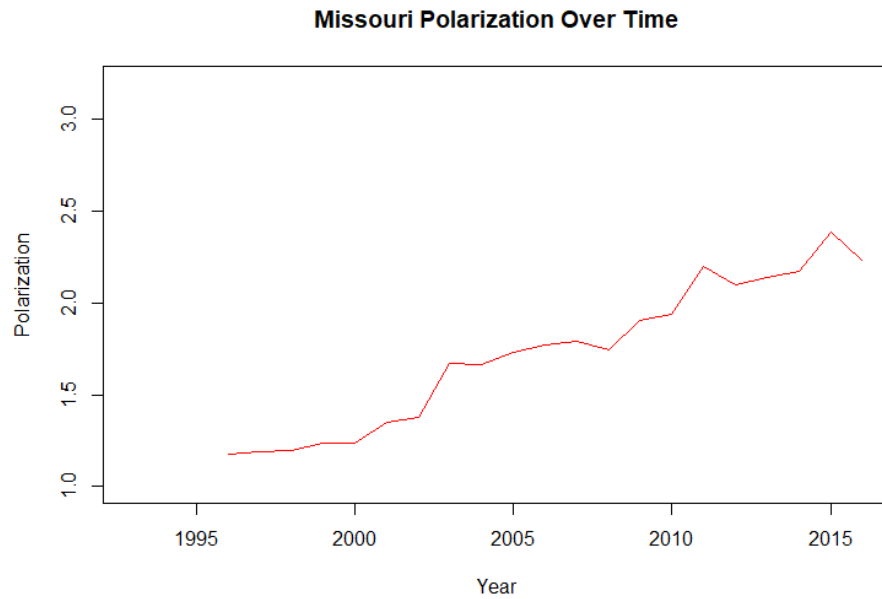that polarization has gotten worse (increased) in recent times. Take, for example, Missouri:

Figure 5: Missouri Polarization Over Time

Polarization has nearly doubled within the state from 1995-2016, a stark increase for a
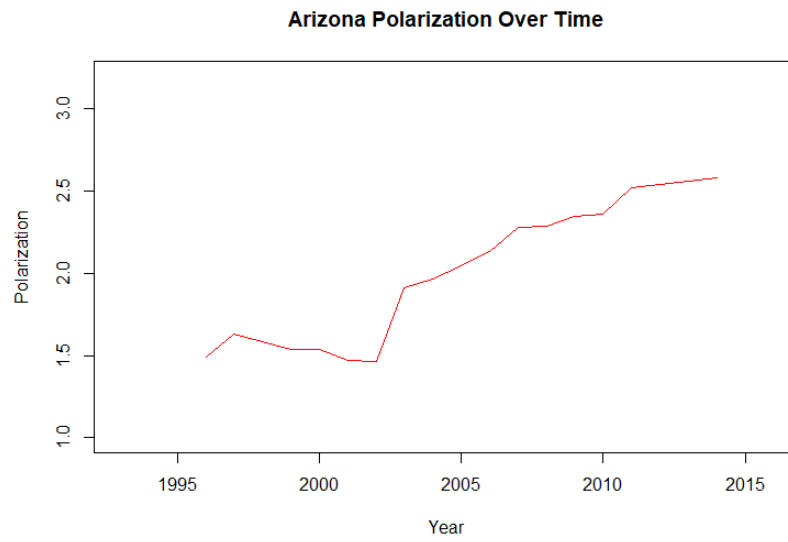
relatively short timeframe. Missouri is not alone, either:

Arizona Polarization Over Time

The increase over an approximately 20-year period is nearly the same: an entire point increase in the Shor-McCarty measure of polarization, reflecting a significant increase in the ideological distances between the median Democrat and Republican lawmakers in the state chambers. The last example I'll give is for the great state of California, which as I mentioned had the highest average polarization among all states. As seen below, they too saw a significant increase in polarization over the duration of the time series:
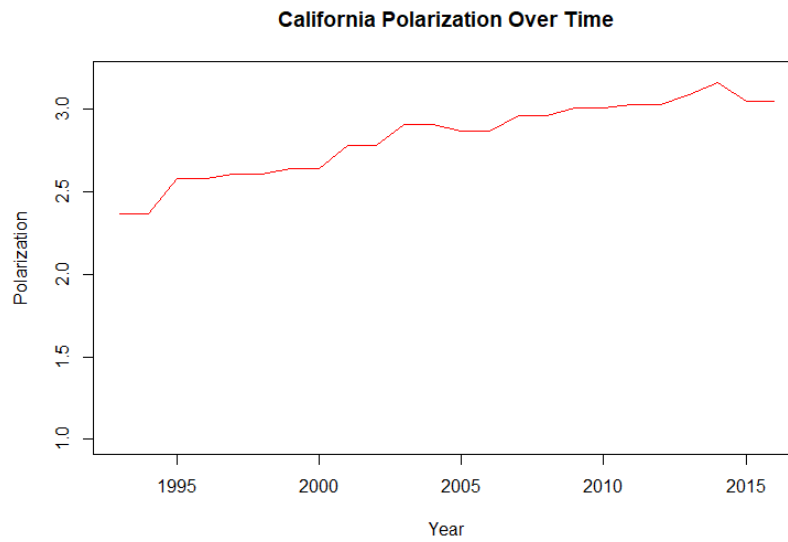
Figure 7: California Polarization Over Time

While the majority of states within the dataset showed some kind of increase in polarization over the time series, it would be misleading to suggest that this was true for every state. As a counterexample to the trend of increasing polarization over the timeframe, Illinois for example starts with a relatively low level of polarization within its state legislature and does not increase substantial over the 20 or so years for which there is data:

Illinois Polarization Over Time

Figure 8: Illinois Polarization Over Time

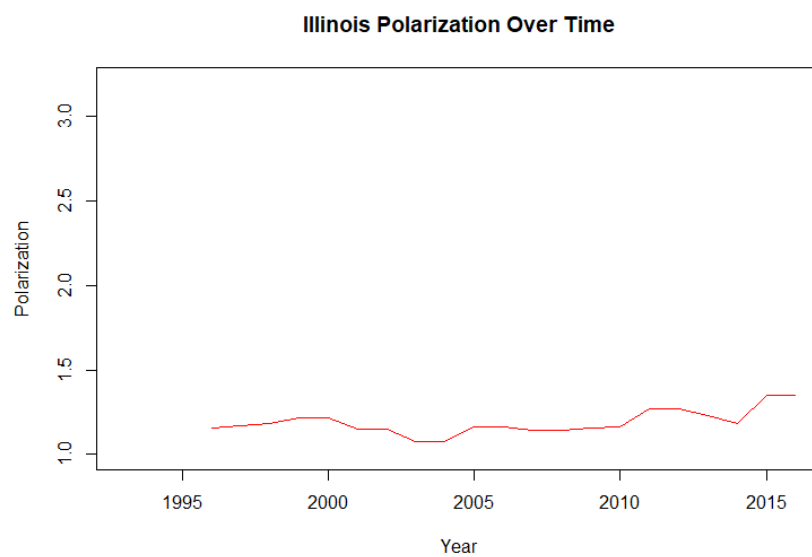Similarly, New Jersey sees very little if any increase in polarization over the course of the time series:
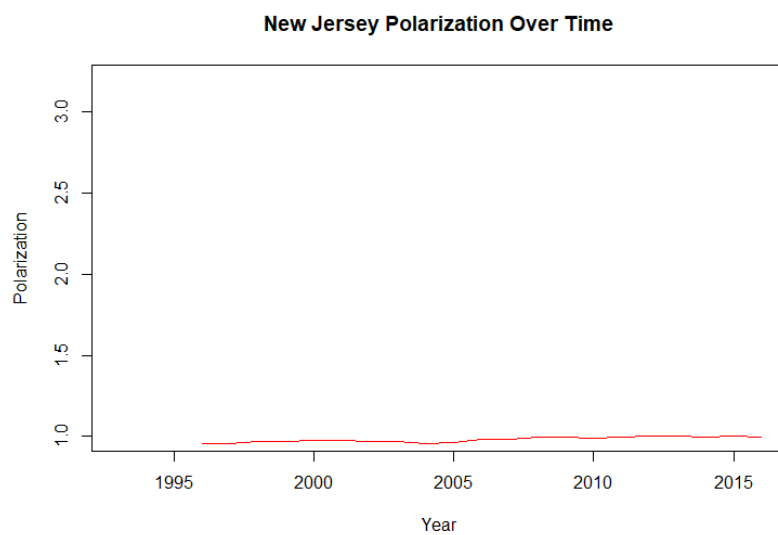
New Jersey Polarization Over Time

Figure 9: New Jersey Polarization Over Time

These examples are meant to provide an idea on how the trend of polarization varies across the states, and how the need for the analysis performed in this work is justified when looking at these preliminary relationships. With the strong relationships displayed for just a few of the states in which there is a strong increase in polarization, I would expect to find that legislative efficiency has decreased proportional to that increase in polarization. The analysis which follows will seek to identify whether or not there is a meaningful relationship between what a appears to be a general increase in party polarization across the states over time, and any sort of trend related to legislative efficiency.

Competition

Data for competition takes place over the time period of 1995-2013, for every state over the time period and in the analysis takes the form of the party competition index used by Hinchcliffe and Lee (2015). The data in full displayed over time is seen below:
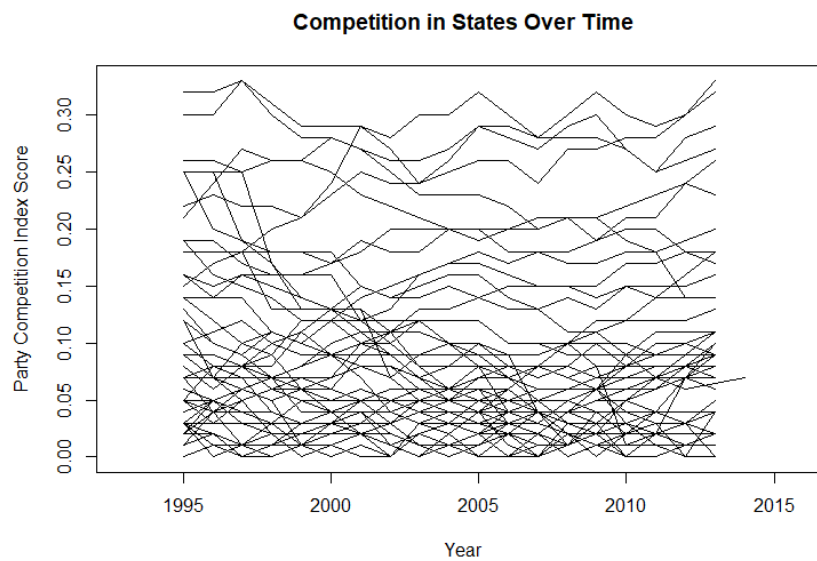

Figure 10: Competition in States Over Time

Much like the figure earlier in the section displaying polarization over time, each line in this figure represents a state's competition levels from 1995-2013. It's clear here that there is no clear trend for many of the data points, and certainly none that can be drawn from the data in a holistic way.

Chapter 6

Results

Table 1 displays Models 1-3, which are state fixed analyses with the results from the fifty states removed to conserve space. The relationship between polarization and enacted bills, divided government and enacted bills, and party competition and enacted bills were all tested, with the number of bills introduced also included as a kind of control, per Hicks' (2015) original analysis. Column 1 of Table 1 shows that the demonstrated negative effect that polarization has on the number of bills enacted, that is, that when polarization increases by one unit that the number of bills enacted decreases by over 70 pieces of legislation, is not significant. Furthermore, Column 2 of Table 1 tells us that the effect of divided government found by the analysis, which is that legislatures pass 11 fewer pieces of legislation when government is divided, is also not significant.

Column 3 of Table 1 show Model 3, which examines the relationship between party competition in the form of a party competition index and the number of bills enacted. Unlike Models 1 and 2, Model 3 is statistically significant, and we see that a one unit increase in party competition leads to a nearly 531-bill increase in legislative efficiency. This result supports my third hypothesis, which is that "A legislature will enact more bills when party competition is high." Seeing this result, it would follow that the logic that the increased competition and perception of competitiveness for the seat won by a given legislator leads that legislator to behave in a way to maximize legislative efficiency, in order to justify their place in that seat.

This may take the form, for example, of behaving in more moderate ways and promoting legislative practices that are generally more conducive to legislative efficiency.

Additionally, this can shed insight not only into the behaviors of individual legislators, but also into the dynamics of legislatures as a whole.

	Dependent Variable: # of Bills Enacted		
Independent Variables	Model 1	Model 2	Model 3
Polarization (polar)	-70.116	---	---
	(67.333)	---	---
Divided Government (divided_gov)	---	-11.185	---
	---	(13.393)	---
Party Competition (partycomp.index)	---	---	530.542***
	---	---	(198.773)
# of Bills Introduced (intbills)	0.193***	0.083***	0.138***
	(0.014)	(0.008)	(0.008)
Observations	903	700	804
R^2	0.654	0.924	0.877
Adjusted R^2	0.632	0.918	0.868
Residual Std. Error	383.961	149.522	189.506
	(df =851)	(df = 649)	(df = 753)
F Statistic	30.876***	154.652***	104.884***
	(df =52; 851)	(df =51; 649)	(df = 51; 753)

Note: *p<0.1; **p<.05; ***p<0.01
Note: State fixed analysis, state results not shown

Table 1: Models 1-3

Table 2, shown below, show the results of state fixed analyses run in Model 4 and Model 5. These models were run by sub-setting the data between two time periods: 1993-2009 and 2010-2016, with Model 4 containing data for the former and Model 5 the latter. The first time

period covers most of the time of Hicks' original analysis, with the second containing the bulk of

the updated dataset. These models were run to analyze whether or not polarization's effect on

legislative efficiency has truly gotten worse over the years, and serves as a way to directly

compare results of more recent years with what could be considered an older political landscape.

Dependent Variable: # of Bills Enacted		
Independent Variables	Model 4	Model 5
Polarization		
(polar)	-56.254	-57.017
	(45.030)	(398.877)
# of Bills Introduced		
(intbills)	0.089***	0.281***
	(0.009)	(0.039)
Observations	602	301
R^2	0.921	0.547
Adjusted R^2	0.914	0.455
Residual Std. Error	154.565	595.676
	(df =550)	(df = 250)
F Statistic	123.280***	5.922***
	(df =52; 550)	(df =51; 250)
Note: *p<0.1; **p<.05; ***p<0.01		
Note: State fixed analysis, state results not shown		

Table 2: Models 4 & 5

As seen in Table 2, the results show that polarization's effects from 2010-2016 are not

significantly different than those of 1993-2009, and that neither of the results are statistically

significant. It is very possible that these results indicate a lack of cases in the later years.

Chapter 7

Conclusion

This analysis examines several explanations for variations in legislative efficiency among the states. I accomplished this by compiling a dataset which contained information on number of bills introduced and enacted, as well as data on a variety of independent variables including polarization, divided government, and party competition. In order to test my hypotheses, I ran a state fixed analysis using data from all fifty states, including number of bills introduced in every model as opposed to measuring efficiency as the ratio of bills enacted to bills introduced. I theorized that a legislature will enact fewer bills as polarization, measured as the ideological difference between the mean Republican and mean Democrat legislators averaged across the chambers, increases. Additionally, I predicted that divided government would have a negative effect on the number of bills passed, and that party competition would have a positive effect. Finally, I hypothesized that that polarization has a stronger effect on legislative efficiency in more recent years than in the past.

Through running this state fixed analysis, I found that there was no significant relationship between polarization and legislative efficiency. I therefore reject my hypothesis that increased polarization leads to decreased legislative efficiency. The second model I ran examined the relationship between divided government and the number of bills enacted, and again found no significant relationship. This allows me to reject my second hypothesis, which is that divided government leads to decreased legislative efficiency.

My third hypothesis was that a legislature will enact more bills when party competition is high, and my third model supported that hypothesis by demonstrating a strongly positive relationship between party competition and polarization. This suggests that as party competition

in a given state increases, the legislature will become more productive. One reason that we may see these results is that the perception of competition may affect legislators in a way in which they are more likely to feel electoral pressure from their constituents to behave in ways that promote increased efficiency. For example, a legislator that wins their seat by a more narrow margin may feel more inclined to engage in bipartisan practices, and with legislators from the opposite party feeling similar pressure, this leads to increased productivity.

Finally, my fourth and fifth models used subsets of my data by year, 1993-2009 and 2010-2016, respectively, to examine any difference in polarization's effects on legislative efficiency in more recent years compared to the earlier portion of my dataset. Both models returned results that were not statistically significant, and so I reject my hypothesis that polarization has a greater effect on efficiency in more recent years than it previously had.

My research contributes to the field and to existing literature by providing insight to the dynamics that effect or do not affect legislative efficiency at the state level, which can also speak to those dynamics at the federal level even if I did not test that directly in this paper. As demonstrated by my literature review, the conversation surrounding what causes variation in legislative efficiency, and on the productivity of legislatures more broadly, is robust and diverse. Though obviously not the definitive answer to any of the questions raised by any means, my use of data from various existing works to analyze the relationships between my dependent and independent variables allows me to look at relationships that have already been examined and come to what ended up being results that are contradictory to many of the pieces of literature that I have looked at.

There are obviously limitations to the study conducted in this paper. I was not able to collect data that consistently covered the entire period that I intended uniformly across all of my

independent variables, and as such a researcher who would be able to have a more robust an

consistent dataset may be more likely to find significant results than I was. I would also think

that a broader time period would be helpful for trying to draw conclusions about changes in these

effects over time, and for the analyses that I performed it would have been nice to have more

data covering a broader time period. Overall, the conversation surrounding the factors of

legislative efficiency will continue, and I have full confidence that studies with these

improvements will offer further insight into these important questions.

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