## Title

# The Value of Legislative Design: A Comparative Analysis of State Legislative Institution 

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Publication Date
2018
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## UNIVERSITY OF CALIFORNIA, MERCED

The Value of Legislative Design: A Comparative Analysis of State Legislative Institutions

# A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy 

in

Political Science
by

Kaitlyn Tessa Provins Smith

Committee in charge:
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The Dissertation of Kaitlyn Tessa Provins Smith is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

## David Fortunato

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## Dedication

It takes a village and mine made this possible.
-To my editor, my mechanic, and my baker

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## Acknowledgments

The completion of this dissertation could not have been possible without the participation and assistance of so many people. I am so grateful and I would like to express my deep appreciation to the following groups of extraordinary individuals:

I would like to thank my committee chair and members - Nathan W. Monroe, Jessica Trounstine, Brad LeVeck, and David Fortunato - for their time, valuable discussions and detailed comments on my dissertation.

In addition, I would like to thank the many scholars who gave me feedback on individual chapters including: Courtenay Conrad, Sarah Fulton, Tom Hansford, Daniel de Kadt, Justin Kirkland, Tracy Osborn, Melissa Sands, and Emily Ritter.

Finally, thank you to my colleagues at the University of California, Merced Political Science Department including Melissa Baker, Kayla Canelo, Peter Carey, and Josh Franco for your many comments on my dissertation and presentations on these pieces.

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September 2017, Gender Effects on Member Assignments to Committees in State Legislatures was presented at American Political Science Association Conference, by Tessa Provins.

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#### Abstract

My dissertation is comprised of three essays investigating the economic and representative implications of institutional variation in legislatures using time and space varying data as well as experimental methods. The first essay argues that there is substantial variation in informational resource centrality. My theory predicts that intra-partisan voting discipline is more difficult to enforce when members have access to individual informational resources. The empirical implication, which is supported by the data, is that there will be higher levels of party cohesion when party leadership dominates informational resources. My results provide a new understanding of the role of informational resources in legislative behavior and how the parties use information to control members. My second essay considers the contextual variation in state economic productivity and derives testable hypotheses regarding committee membership. I find that majorities tend to dominate committees that receive high value political contributions and have jurisdiction over policy areas with decreasing economic stability while minority members are overrepresented on committees which receive lower contributions and that have jurisdiction of policy areas with increasing economic stability. Additionally, these differences are conditioned in some cases by formal committee assignment procedures. These findings have implications associated with how the majority party gains power in the legislature outside of traditional procedural and agenda control powers. Finally, my third essay argues that committee request procedures can mitigate and exacerbate gender bias in committee assignments. I predict that gender bias will manifest and women will be more frequently assigned to committees handling stereotypically feminine jurisdictions absent an open request procedure. I use a scientific approach to finding the gender stereotypes associated with policy areas. Using the results of this analysis, I find experimental support for my prediction that committee request procedures mitigates gender bias. These findings have implications for understanding of how the design of institutions allow for bias against minority groups which can impact subsequent policy outcomes and representation.


# The Effect of the Information Environment on Party Cohesion: Evidence from State Legislatures 


#### Abstract

Information is a fundamental component of the legislative process, however, the degree to which information is easily obtained and controlled by members or leaders can vary greatly. How does the structure of the information environment - the allocation of informational resources such as staff - impact party cohesion in roll call voting? I argue that parties are able to control information flow and voting directives when informational resources are centralized to legislative leadership. By contrast, when informational resources are decentralized - given to individual members - legislators have more control over the gathering of information used to make voting decisions. Using a survey of state legislatures, I create indicators of the legislative information environment for the access and control of legislators' staff resources. Using over 6 million roll-call voting records for ninety U.S. state legislative chambers across two sessions, I find that party cohesion on the floor is greater when informational resources are centralized.


In order to make policy and govern effectively, legislators need information. They need to know what problems constituents want addressed and they need to know what policy solutions will be both effective and politically feasible. As a result, information is a fundamental component of the legislative process. The degree to which information is easily obtained by members and leaders can vary. Scholars have developed theories explaining the effects of the structure and flow of information in legislatures in what I call the information environment. These theories focus on information flow between parties and/or individual members (e.g. Krehbiel 1992) while ignoring the structure of information access within the legislature itself. In this paper, I begin to fill this important gap.

Scholarly works theorize about the role that information plays in the legislative process by making basic assumptions about the different levels of information available to legislators and parties. In particular, much of the scholarship concerning the effects of information are built on the assumption that there is incomplete information in most contexts. Further, some works assume that there is asymmetric information between legislative actors. For instance, party leadership may have more information about the likelihood of a bill being passed than other party members (Curry 2015). Yet, a key piece of the puzzle surrounding the role of information in legislative outcomes has been largely ignored: an explanation of how differences in information environments affect political outcomes. Specific to the focus of this paper I answer: How does the structure of the information environment - the allocation of informational resources such as staff - impact party cohesion in roll call voting?

I argue that leadership can control party members through the provision of information. This is however conditioned on the structure of the information environment in a legislature. When the information environment is centralized, that is the leadership control informational resources, members will have higher costs associated with the acquisition of information outside of what leadership has provided on bills and party voting preferences. When the information environment is decentralized, where individual members are allocated informational resources, members are better able to acquire information to make voting decisions based on their own preferences and judgments rather than the party's preferences. I hypothesize that when the information environment is decentralized that (1) members will be more likely to vote against the party-line and (2) members will be more likely to abstain from voting.

I test these hypotheses using information on personal staff and roll call data for approximately ten thousand legislators across ninety state legislative chambers over two sessions. I find that when the information environment allocates personal staff to members, which are located in ether the district or the capitol, that there is an increased likelihood of voting against the party-line. However, having year-round staff, hired by members or leadership (as compared to other personnel in the legislature) and leadership controlling staff salaries decreases the likelihood of members voting against the party. I also find that there is an increased likelihood of legislator abstention is driven by the member being allocated personal staff and that staff being located directly in a member's district. While the likelihood of abstention is decreased when the legislature provides only year-round or session-staff (as opposed to both) and when members control staff salaries. These findings show the impact that the information environment can have on shaping the individual voting behavior of legislators and party-level voting outcomes.

The remainder of this paper is organized as follows. In the next section, I discuss previous scholarship on the role of information in legislatures. I then present my theoretical argument
for how the structure of the information environment in legislatures impacts legislators' voting decisions and the ability of parties to control their members. Following my theory, I discuss the research design, data, and results for the empirical tests of the two hypotheses derived in this paper. I conclude with a discussion of the contributions of this project and future directions for research on the impacts of information on behavior and party politics in legislatures.

## Perspectives on Information and Party Structure

Over the last 30 years, the number and complexity of policy issues taken on by state legislatures has grown dramatically (Jewell 1994, Guston, Jones and Branscomb 1997). This has led scholars to shift their focus from how information is affected by professionalism (Squire 1992a, 2007) to understanding how the institutional features of state legislatures enables legislators to better handle the increasing demands on rank and file members and leadership's time and capabilities.

Information or the lack of information, plays a key role in the ability of parties, more specifically party leadership, and rank and file members to make decisions. Party leaders require information in order to make strategic member placements, agenda decisions, and to advise or persuade their party members how to vote (Lupia and McCubbins 1994, Carey 2007). Further, much of a party leader's role is to use the information he or she possess in order to inform other members of the party (Carey 2007, Krehbiel 1992). Rank and file members need information to make informed decisions on how to create, amend, and vote on policies (Mooney 1991). Further, members require information in order to make these decisions under the constraints of their constituents' wishes, party needs, and personal ideology. However, both leadership and other members are limited by the source quality and quantity of information that they can obtain.

It is not only important to consider the role that information plays in a legislative setting but where information comes from within a legislature. More specifically, the source of a legislator's information can affect how that information is used (March and Simon 1958, Mathews and Stimon 1957, Kingdon 1981). Sources of information in a legislature predominately include party leaders, other members, interest groups, expert testimonies, personal staff, and committee staff. In state legislatures the availability of these information sources depends on the level of professionalism of the legislature. Some state legislatures, for example California, are ranked very high in professionalism where informational resources are extensive and include all of the sources that are listed above. Other state legislatures, such as New Mexico, are far less professional and lack many of Californias informational resources. It is also important to note that any information which is transmitted for a purpose is a biased aggregation of information that portrays facts that the individual or entity wants to share (Gerbner 1967; Schneider, Hastorff and Ellsworth 1981).

Given that there are many sources of information, we must take into account how information flows in a legislature. The literature includes numerous studies on information flow, some of which present theoretical models (March and Simon 1958, Sabatier and Whiteman 1985). Other studies have looked closely at specific types of information flow such as following the communication of members (Kovenock 1973, Entin 1973, Porters 1974, 1975),
following specific sources of information in state legislatures (Feller et. al. 1975, 1979, Wissel, OConnor, and King 1976, Bradley 1980) and those that follow specific bills and the changes as the bill moves through the process (Zwier 1978, 1979). An important connection in these papers is that party leaders are the central sources of information for rank and file members

More recent work has begun to theorize about the structure of information and the impact this has on rank in file members decisions and policy outcomes. Curry (2015) discussed the implications of a fixed information environment in the U.S. House of Representatives where leadership is able to manipulate the information environment in order to influence certain agenda items and voting outcomes. However, Curry (2015) conceptualizes this as one fixed information environment. In other words, the information environment in Congress is centralized (as I define in depth later) and does not change much over time due to the control of the information environment by party leaders. To the contrary, there is far more variation in the structure of information environments in state legislatures. I consider the different potential structures of the information environment and the choice of how to allocate informational resources in order to explore the consequences of centralized versus decentralized information structures. That is, I begin in this paper to build a broader theory of how the provisions of information can influence outcomes and the implications for rank and file members of the structure regarding the information environment in which members must operate.

## A Theory of Party Cohesion and Information

Before describing my theory for the effects of the legislative information environment, it is important to outline two key assumptions that I make regarding informational resources. First, chamber rules dictate the allocation of informational resources. That is, the rules decide the amount of information resources that are to be allocated for the use of the entire membership (chamber informational resources) and the allocation of informational resources to individual members (member informational resources). An example of informational resources is staff. Imagine that the chamber has a budget for a staff of 100 staff members. The chamber leadership will be able to decide whether or not to assign all (or part) of the 100 staff as chamber informational resources or member informational resources. If the leadership decides to keep the 100 staff members as chamber informational resources, then it can control the information given to members. The leadership controls information by being able to dictate the type of information that members are able to ask staff to gather (information about policy areas important to the party) and the focus of information given to members by staff (information in line with the party preferences). On the other hand, if leadership allocates the 100 staff members to individual members, then the legislators will be able to dictate what information staff will collect. For instance, members may want staff to gather information about a members district's preference for a particular policy or the impact of a policy focusing directly on the members district.

Second, I assume that leadership can influence members through access to informational resources. By this I mean that leadership controls the flow of information to their membership. Given that leadership has the ability to control the allocation of informational resources, this implies that the party controls the flow of information. With control over the flow of infor-
mation, parties are able to act as gatekeepers of the information legislators recieve in order to make voting decisions.

Scholars have defined the information environment as the way that information is acquired and disseminated in a legislature. Although we might imagine innumerable variations in the information environment, I focus on a single conceptual dimension, the degree to which the environment is centralized. Taking two extreme categories, centralized and decentralized, allows me to explore the effect of different information environments on the ability of parties to influence their members roll call choices. For now, I assume that the allocation of information resources is sufficient enough that each member could be provided informational resources. First, centralized information structures allow for one or a small number of actors to control the informational resources available to a group. In the case of legislatures, this would be the party leadership controlling the informational resources available to their members. If information is transmitted to members through resources controlled by the party, members will receive one set of information which provides a signal for how the party (leadership) wishes members to vote on a given bill. Decentralized information structures occur when informational resources are dispersed to individual members of the group rather than a controlling actor. Specific to legislatures in a decentralized information environment resources are allocated to individual legislators. Therein, parties (leadership) will have less control over the information that members have been exposed to or seek out. This will lead to less party unity in voting and higher rates of voting in line with a members personal preferences or the preferences of a members constituents.

Extending the example above using the allocation of staffers, we can imagine a policy situation in which each of these structures would create differences in the information available to members regarding party preferences and constituent preferences related to a specific policy. Such differences will likely affect members vote choices. In the hypothetical example above, each party is allocated 100 staff members. Let us add to this example that there are 100 legislators in the party and that the policy to be voted on is a fee for plastic bags. Here the party stance is that there should be a fee (yea vote by members) because the party would like to protect the environment by incentivizing individuals to use fewer plastic bags. Consider however that the preferences of constituents for at least some members of the party differ from the preference of the party.

In the case of a centralized information structure, the staff are all allocated to the party. Members are then given information by leadership about the effects of the policy. The staff will be instructed to gather information about the effects of plastic bags on the environment and the subsequent effects of enacting a policy to charge a fee on plastic bags. Information gathered and disseminated by staff might include the number of plastic bags used per day, the percent of landfills accounted for by plastic bags disposal, and the amount of money spent mitigating the negative externalities of plastic bags. When this information is given to members, the information would likely reflect how the party stands on the plastic bag fee. Having the staff as a central informational resources for members in order to gather information the party is able to control the information collected and given to members and clearly articulate the party stance to members, therefore informing members how the party would prefer they vote.

Under a decentralized information structure, each of the 100 members is allocated one of the 100 staff members and the party does not have designated staff. Staff are then instructed
to gather information by the member that he or she is assigned to support. This will lead to substantial variation in the information requested and gathered by staff. The information that is of interest to one legislator may not matter to another legislator. For instance, one member may be interested in the environmental impact of plastic bags while another member may be interested in the levels of decreased use that are projected at various bag fees. Further, members will request information that is important to constituents. Particularly, legislators will likely want to know what their constituents' preferences are for the policy. The information that is given to members by staff will therefore lead members to have not only different information, but to prioritize personal beliefs or the preferences of the members constituents. This will likely lead to divergent voting decisions compared to the party's preferred stance unless all three preferences are in line.

Legislators may in some sense have less complete information in decentralized information environments. Instead of a group of staff members being able to collect, synthesize and aggregate information, a single staff member can likely gather only a limited amount of information for a legislator. While in a centralized information structure, there will be more information given to legislators about a bill, however, this information is very likely to focus on providing evidence in support of the party's preference. This leads me to my hypotheses:

## Hypothesis 1 - Party Unity Hypothesis: The more decentralized the informational resources, the less likely party unity will be exhibited by members.

Hypothesis 2-Informed Abstention Hypothesis: The more decentralized the informational resources, the more likely members will be to abstain from voting.

## Data and Model Specification

When thinking about the best approach to designing a test for whether members will exhibit different levels party unity on the floor when informational resources are centralized versus decentralized, it is important to consider where one might observe legislative settings with these information environments. Ideally, I would be able to observe a legislature where the information environment is changed from being centralized to decentralized, or visa versa, holding constant all other features including chamber rules, partisan composition, and members. To my knowledge there has been no distinct shift from one type of information environment to another in a legislature. However, to approximate variation in the information environment, I use another nearly ideal design - especially given the availability of data - to test my party unity and strategic abstention hypotheses using U.S. state legislatures.

Using state legislatures I am able to observe a cross-section of legislative bodies that exhibit substantial variation in the structure of the information environment, while holding constant other features such as national institutions and party system. ${ }^{1}$ In addition to the variation state legislatures exhibit in their information environments, other institutional and contextual features of these legislatures including variation in size, rules governing chambers, and professionalism allow me to observe the conditions under which party unity is impacted by the structure of the information environment.

[^0]Remember, I am interested in how the structure of informational environment impacts members voting behavior, therefore the unit of analysis implied by both hypotheses is at the member level. To construct my dependent variables, I use state legislative roll call data for approximately ten thousand legislators during the 1999-2000 and 2003-2004 sessions collected by Wright (2004) and Clark et al. (2009). This data has been used in a number of scholarly studies of individual and party level voting behavior (Fortunato and Provins 2017; Anzia and Jackman 2013).

I create two dependent variables: (1) the proportion of votes against the party-line a member casts during a chamber-session and (2) the proportion of abstentions a member makes during a chamber-session. The predicted party-line for a vote is measured by whether $50 \%$ or more of the party members voted in favor of or against a proposal. ${ }^{2}$ For example, if $80 \%$ of the membership votes yea on a proposal, then yea would be considered the party-line. I define party-line voting as a member casting a vote in line with the party's preferred stance (e.g. the party vote yea and the member votes yea). I measure a members party-line voting discipline as the number of times a member casts a vote in the party's preferred direction out of the total number of possible votes a member could cast during a session. For example, a member that votes against the party-line for half of the votes in a session would have a voting discipline of $50 \%$. For my second dependent variable, I define abstention as a legislator not casting a vote during a roll call. I measure a members abstention voting record as the number of times that a legislator chose to abstain out of the total number of roll call voting opportunities in a given session.

I now turn to the measurement of the covariates used in this analysis. I want to be clear that I am interested in the information environment, centralized versus decentralized, that affects the informational resources (e.g. staff) allocated to legislators. I do not make assumptions nor provide a theoretical explanation for informational resources that are not controlled, directly or indirectly, by the legislature including lobbyists and interest groups which are beyond the scope of this project. Transitioning from the conceptual aspect to the measurement of the information environment provides a unique opportunity to think critically about what features make up the information environment in a legislature. These features are the access to and control of informational resources by legislators or leadership.

Access to informational resources includes whether or not members actually get these resources and where and when these resources are dispersed. Specific to staff, there are a number of states that do not allocate staff to individual members such as Kentucky, Montana, and Maine. In addition, access includes how resources are provided regarding availability (locality and time frame). Again, using the running example of staff, the location of staff includes the capitol, district, or both. This can effect the ability of the legislator to communicate and manage staff which in turn may impact the scope of information legislators are given. Further, the time frame that staff are available may limit the amount of information legislators receive. For instance, in many legislatures staff are only available to legislators during the session versus year-round which constrains the information environment.

Control over informational resources defines who dictates the scope of the information

[^1]environment in a legislature. Using staff as an example, control includes hiring, approval and salary of staff. If a member controls the hiring of their staff, the focus of the information is more likely to support the member, constituent, and party preferences. In contrast, if leadership are choosing and directing the staff, the focus of the information may lean more towards leadership and party preferences. This is further exacerbated by control over staff salary. If leadership are the decision makers for determining staff salary this may create loyalty, and allegiance, asymmetries that effect the information that legislators receive.

Given that I am focused on the information environment and informational resources allocated to legislators through the legislature, the most common and arguably most important informational resources is a legislators personal staff. Previous measures of informational resources used in the study of state legislatures have included the average total expenditures per member ${ }^{3}$ and the average number of staff per member in a legislature. These measures do not give a precise measure of the informational resources that serve individual members. For instance, total expenditures per member can include other items not pertaining to those informational resources provided to individual members including bill writing services, library resources, and legal aid. Likewise, the measure of average number of staff per member is negatively impacted by these same problems. Although this measure is more likely to approximate a measure of informational resources available to members, this does include other staff such as committee or nonpartisan staff.

In order to get a more precise measure of personal informational resources that make up the information environment in a legislature, I use the National Conference of State Legislatures Personal Staff Survey to create my primary treatment variables. ${ }^{4}$ I identify six unique attributes of the personal staff allocated to legislators that allow me to measure access and control in the information environment. To measure access I include three measures for number of personal staff, locality of staff, and the time frame staff are available. I calculate the number of personal staff allowed to individual legislators as the number of staff per member which ranges from 0 to 3. In many states, one staff member is required to work for more than one member. For instance, in the Colorado Senate one personal staff member serves two legislators which would be coded as .5 personal staff per legislator. My next measure is the time frame personal staff are available to legislators: session, year-round, and both. I create binary indicators for each of these categories and omit the both category as a reference in the model. The final measure of access is an indicators for the location personal staff are available: district, capital, or both. Like the indicators for staff time frame, I create binary indicators for each of these categories and omit the both category as a reference in the model.

The information environment treatments that allow me to understand the level of control that members have over personal staff include who controls staff hiring, final approval of staff, and staff salary. Each of these three variables include binary indicators for whether the legislator, leadership, or other non-legislative members ${ }^{5}$ have control over each of these staff decisions. I omit the non-legislative members category in each of these cases as a reference in the model.

[^2]Table 1 includes the expected direction of each of the information environment variables. The expectations are derived based on the discussion regarding access and control of the information environment and coding of the variables described above. Looking first at the expectations for the effect of these variables on voting against the party-line, I expect that number of personal staff, capitol and district (versus both), members hiring staff, members final approval of staff, leadership final approval of staff and members controlling staff salary will increase the probability of voting against the party-line. In contrast, I expect that year-round and session staff (versus both), leadership hiring staff, and leadership setting staff salary will decrease the probability of voting against the party-line. Turning to the expectations for the effect of these variables on abstention, I expect that the number of personal staff, district only staff (versus both), members hiring staff, members approval of staff, and members deciding staff salary will increase the probability of abstention. In contrast, I expect that year-round and session staff (versus both), capitol only staff (versus both), leadership hiring staff, leadership approving staff, and leadership determining salary will decrease the probability of abstention.

In order to address concerns about confounds that may impact legislator's voting behavior, I include indicators for several individual level, district, and institutional control. Beginning with individual level legislator controls, I include whether a legislator is an incumbent. Although, I make no theoretical claims about legislator's gender, I include an indicator for whether a legislator is male. I also include indicators for majority party status. It is important to recognize that the partisan composition - which I call majority strength - may impact the voting behaviors of legislators. I include the ratio of majority to minority members in the legislature to note majority strength. In order to account for the interaction effect both majority status and majority strength, I include an interacted term in the model.

District factors may also impact the voting decisions of legislators. ${ }^{6}$ I include a indicator for whether the legislator faced an opposition candidate(s) during the last election. I include vote share to control for district competitiveness because legislators from more competitive districts may diverge from party preferred stances more often than legislators in less competitive districts. I also include indicators for district type which is coded as a 1 if members are from a multimember district and 0 for single member district. District magnitude is the number of candidates elected from each district. Finally, I include the number of candidates that ran in the member's district in the previous election.

I include several institutional level covariates which are common in the study of state politics. I include an indicator for term limits and the proportion of members that will term out during the session. I include an indicator for term length (in years). Finally, I include the Squire Index for legislative professionalism.

Given the variables described above, I estimate these models using a generalized linear model with a binomial distribution and a logistic link function. For each of my dependent variables, we can think of a members voting behavior as a trial of successes and failures. The choice to vote can be considered a binary success or failure given that a legislator either chose to cast a vote or not. ${ }^{7}$ Likewise, a member's vote choice is binary, where legislators either

[^3]chose to vote with or against the party-line. For now, I consider a legislators choice to vote and what vote the legislator casts (for or against the party-line) to be independent. ${ }^{8}$ Finally, I assume that state chambers are independent across the two sessions so I include fixed effects for chamber-session. ${ }^{9}$

## Results

Table 2 displays the results of this analysis. Model 1 estimates the effect of the information environment on the likelihood of a member voting against the party-line. Examining the impact of the the information environment on legislators' access to information, I find that the number of personal staff, staff location, and time frame staff are available all impact the probability of voting against the party-line. Specifically, increasing the personal staff of legislators by one staffer increases the probability of voting against the party-line by 0.130 . Looking closers, Figure 1 shows the probability of voting against the party-line over the number of personal staff by party. Members of the minority party are more likely to vote against the party-line than their majority party colleagues. Increasing the number of staff from 0 to 1 for a minority party member increases the likelihood of voting against the party-line to about $32 \%$ which is $5.5 \%$ over sample average of $26.5 \%$ (approximately a $20 \%$ increase). When personal staff are available only year-round (as compared to both year-round and session) there is a decrease in the probability of nonresponse by 0.177 . This intuitively makes sense because less access to informational resources - due to the decreased time a member has staff available - will provide less information that may cause them to vote against the party-line. Session only staff availability is in the opposite than expected direction and not significant. In line with my expectation, staff that are available in the capital or the district (as compared to staff at the capitol and the district) increase the probability of voting against the party-line by 0.314 and 0.467 , respectively.
[Table 1 About Here]
When considering the effect of the information environment on the control of informational resources, I find that staff hiring power, approval and salary control have significant effects on the probability of abstention. The effect of members and leadership hiring staff (as compared to other non-legislative personnel hiring staff) decreases the probability of voting against the party-line by 0.379 and 0.340 , respectively. Member approval of staff is in the opposite than expected direction but insignificant, while leadership approval is significant and in the expected direction leading to an increase the probability of voting against the party-line. This is likely to be the case because members or other personnel are allowed to hire the staff that they prefer and leadership give a final approval in these chambers, essentially giving a stamp of approval rather than acting as veto player in hiring staff. Finally, members controlling staff salary is in the opposite than expected direction and insignificant, while leadership control over salary has a significant effect. Leadership control over staff salary as compared to personnel setting staff salary decreases the probability of nonresponse by 0.256 . This is due

[^4]to differences in the allegiance of staff. If staffs salary is dictated by leadership, the staff will be more likely to focus the information gathered and disseminated to members on the party's preferred stance rather than information about the members districts.

## [Figure 1 About Here]

Four variables are in the opposite than expected direction including session staff, members hiring staff, member approval, and member staff salary control. The results of this analysis provide evidence in support of my hypotheses where the variables regarding information environment access indicate that the decentralization of informational resources from the party to members increases the probability of voting against the party-line. There is mixed evidence with regard to my control of informational resources variables. That is, leadership control of informational resources seems to have a significant impact on members voting behavior. When leaders control hiring and the salary of staff, members are less likely to vote against the party-line. Members control over informational resources has a less clear explanation for the estimated direction and significance of the coefficients of these variables.

Of the other covariates included in this analysis, majority party status and strength, vote share, district type, district magnitude, and term limits are significant predictors of the likelihood of voting against the party-line. Majority party status and strength reduce the probability of voting against the party-line by 0.482 and 0.172 , respectively. Prior elections and electoral institutions impact the voting behavior of the legislators. Specifically, a one percent increase in vote share decreases the probability on voting against the party-line by 0.432 , being elected in a multimember district decreases the probability of voting against the party-line by 0.420 , and the number of members elected from a district decreases the probability of voting against the party-line. Finally, term limits decrease the probability of a member voting against the partyline. Incumbency, legislators gender, electoral opposition, number of candidates in the prior election, percentage of members terming out during the session, term length, and professionalism have no significant effect on the probability of a member voting against the party-line.
[Figure 2 About Here]
The results for Model 2 show the estimates for the effect of the information environment on the likelihood of a member abstaining from a vote. First, looking at the effects of access, I find that the number of personal staff that are available to members increases the probability of abstention by 0.236 . Figure 2 plots the predicted probability of abstention over the number of personal staff by party. While there is not a significant different between parties as to whether members choose to abstain, we see that minority party members are slightly more likely to abstain from voting than majority party members. Increasing the number of staff available to a minority party member from 0 to 1 staffer, increases the probability by to about $12.5 \%$ which is $25 \%$ higher than the average rate of abstention ( $10 \%$ ). Having year-round staff decreases the probability of a member abstaining by 0.317 and session only staff decreases the probability of a member abstaining by 0.261 as compared to having both session and year-round staff. While having capital only staff does not have a significant effect on abstention compared to having both capitol and district staff, district only staff increases the probability of abstaining by 1.033 . This result makes sense given that members may not know what the party-line is for a vote or that the member does not want to risk voting against the party or their district when they have differing preferences so they instead abstain.

Moving on to the effects of the control of informational resources, I find that there is no significant difference between who controls hiring staff and a member abstentions. There is a weak effect on the leaders final approval of staff, increasing the probability of abstention by 0.308 . There is also a weak effect of members determination of staff salary which decreases the probability of abstaining by 0.262 .

While some aspects of the information environment effect the probability of abstention, the effect of the information environment on legislators' choice to abstain is weaker than its effect on the a legislators' choice to vote against the party-line. I find limited evidence in support of the strategic abstention hypothesis. The results show that access to informational resources impacts the probability of abstention. However, the control of these informational resources dictated by the information environment does not have a strong impact on legislators abstention.

The estimated coefficients for the control variables in Model 2 show that incumbency increases the probability to abstain by 0.141 , the number of candidates in an election increases the probability to abstain by 0.037 and term length increases the probability of a member abstaining by 0.178 . Professionalism decreases the probability of a member abstaining from a roll-call by 2.038 . Other variables including gender, majority status, majority strength, electoral opposition, vote share, district type, district magnitude, term limits, and the proportion of members terming out are not significant predictors of abstention.

## Conclusion

I have provided a theoretical account and an empirical test of how the information environment in a legislature effects party cohesion on floor voting. I argue that when the informational resources in a legislature are centralized, in other words kept from individual legislators, that party leadership will be able to exhibit more control over members on the floor. And, when informational resources are decentralized by giving information autonomy to individual members, there will be an increased likelihood of members voting against the party-line or abstaining on floor roll-call votes. I find evidence that when the information environment allows individual members access to staff, there is an increased probability of members voting against the party-line and an increase in the probability of abstention. I find mixed evidence on the impact of the control of informational resources dictated by the information environment. When leadership control the hiring and salary of staff, they are better able to control members voting in line with the party's preferences. In contrast, there is little evidence that when members are given control by the information environment that it impacts their decision to vote the party-line. In addition, there is limited evidence that control of informational resources effects abstention.

The results of this study have a number of important implications for representation. If parties are controlling members through limiting their access to information, members are less able to represent the interest of their constituents. This potentially leaves party members districts unrepresented in instances that members do not have the ability to gather and act upon the preferences of their constituents due to the party withholding informational resources. Conversely, members are better able to represent their constituents when given access to infor-
mational resources. Unfortunately, this can have a negative effect for representation since these informational resources also allow legislators to identify instances where the preferences of the party and their constituents are at odds, increasing the likelihood of abstention.

To better consider some of these implications for representation and legislative organization there are a number of avenues for future research. It seems curious given these findings that leadership would ever have decentralized informational resources. This begs the question under what conditions do legislatures make the choice to decentralize informational resources then? How does the party try to use information in order to keep the party together but balance the needs of individual members to get the information they need to be reelected? From the party's perspective, the more informational resources that you can withhold and monopolize, the better you are able to manipulate the members of your party. However, members may then be more vulnerable and the lack of information autonomy from their party may effect their ability to get reelected. Another natural extension of this research is to understand how differences in information environments impacts actual party outcomes. Is it more likely for a party to get rolled or disappointed on floor votes when informational resources are decentralized? Further, does the information environment in legislatures impact legislators' relationships with their districts and subsequent prospects for reelection?

## Figures



Figure 1: Effect of Personal Staff on the Probability
Voting Against the Party-Line


Figure 2: Effect of Personal Staff on the Probability of Abstention

## Tables

Table 1: Expectations for the Direction of the Information Environment Coefficients

|  | Party-line <br> Expectation | Abstention <br> Expectation |
| :--- | :---: | :---: |
| Number Personal Staff | + | + |
| Year-Round Staff | - | - |
| Session Staff | - | - |
| Capitol Staff | + | - |
| District Staff | + | + |
| Members Hire Staff | - | + |
| Leaders Hire Staff | + | - |
| Members Approve Staff | + | + |
| Leaders Approve Staff | + | + |
| Member Staff Salary Control | - | - |
| Leadership Staff Salary Control |  |  |
| Table Notes: |  |  |
| 1. The expectation for year-round and session staff are compared to the |  |  |
| reference category of having both year-round and session staff. |  |  |
| 2. The expectation for capitol and district staff are compared to the |  |  |
| reference category of having both capitol and district staff. |  |  |
| 3. The expectation for members and leaders hiring, final approval, |  |  |
| and salary control are compared to the reference category of other |  |  |
| personnel hiring staff, final approval, and salary control. |  |  |

Table 2: Results of Generalized Linear Model Estimating the Effect of State Information Environment on Legislator Voting

|  | Model 1 | Model 2 |
| :---: | :---: | :---: |
| Number Personal Staff | 0.130** | 0.236*** |
|  | (0.0524) | (0.0733) |
| Year-Round Staff | -0.177** | -0.317** |
|  | (0.0872) | (0.1297) |
| Session Staff | 0.099 | -0.261* |
|  | (0.1027) | (0.1541) |
| Capitol Staff | 0.314*** | -0.034 |
|  | (0.0666) | (0.1006) |
| District Staff | 0.467*** | 1.033*** |
|  | (0.1445) | (0.1862) |
| Members Hire Staff | -0.379*** | -0.128 |
|  | (0.0947) | (0.1474) |
| Leaders Hire Staff | $-0.340 * * *$ | 0.013 |
|  | (0.1209) | (0.1768) |
| Members Approve Staff | -0.086 | 0.134 |
|  | (0.0998) | (0.1576) |
| Leaders Approve Staff | 0.253** | 0.308* |
|  | (0.1110) | (0.1682) |
| Member Staff Salary Control | -0.106 | -0.262* |
|  | (0.0895) | (0.1370) |
| Leadership Staff Salary Control | -0.256*** | -0.014 |
|  | (0.0826) | (0.1174) |
| Incumbent | 0.015 | 0.141* |
|  | (0.0486) | (0.0729) |
| Male | -0.009 | 0.004 |
|  | (0.0495) | (0.0734) |
| Majority Party | -0.482*** | -0.195 |
|  | (0.1060) | (0.1403) |
| Majority Strength | -0.172*** | 0.066 |
|  | (0.0528) | (0.0660) |
| Majority x Majority Strength |  | -0.006 |
|  | (0.0582) | (0.0714) |
| Opposed | -0.078 | -0.053 |
|  | (0.0894) | (0.1316) |
| Vote Share | -0.432* | 0.182 |
|  | (0.2207) | (0.3283) |
| District Type | -0.420*** | -0.118 |
|  | (0.1170) | (0.1767) |
| District Magnitude | -0.202** | -0.105 |
|  | (0.0963) | (0.1415) |
| Number of Candidates | 0.000 | 0.037*** |
|  | (0.0106) | (0.0140) |


| Term Limits | $-0.155^{*}$ | -0.226 |
| :--- | :--- | :--- |
|  | $(0.0931)$ | $(0.1480)$ |
| Term Out | 0.568 | 0.841 |
|  | $(0.3688)$ | $(0.5664)$ |
| Term Length | -0.017 | $0.178^{* * *}$ |
|  | $(0.0273)$ | $(0.0386)$ |
| Professionalism | -0.072 | $-2.038^{* * *}$ |
|  | $(0.3616)$ | $(0.5879)$ |
| Constant | $0.973^{* * *}$ | $-2.381^{* * *}$ |
|  | $(0.3477)$ | $(0.5140)$ |
| Observations | 12071 | 12071 |
| $\ln ($ likelihood $)$ | -4961.834 | -3035.592 |

Standard errors in parentheses

* $p<0.10$, ** $p<0.05$, *** $p<0.01$


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## Appendix

## Appendix 1: U.S. State Legislature Staff Environment Indicators

Figure 1: Personal Staff in U.S. State Upper Chambers


Figure 2: Personal Staff in U.S. State Lower Chambers


Figure 3: Number of Personal Staff in U.S. State Upper Chambers


Figure 4: Number of Personal Staff in U.S. State Lower Chambers


Figure 5: Location of Personal Staff in U.S. State Upper Chambers


Figure 6: Location of Personal Staff in U.S. State Lower Chambers


Figure 7: Session and Year-Round Personal Staff in U.S. State Upper Chambers


Figure 8: Session and Year-Round Personal Staff in U.S. State Lower Chambers


Figure 9: Hiring Personal Staff in U.S. State Upper Chambers


Figure 10: Hiring Personal Staff in U.S. State Lower Chambers


Figure 11: Final Approval of Hiring Personal Staff in U.S. State Upper Chambers


Figure 12: Final Approval of Hiring Personal Staff in U.S. State Lower Chambers


Figure 13: Deciding Personal Staff Salary in U.S. State Upper Chambers


Figure 14: Deciding Personal Staff Salary in U.S. State Lower Chambers


# The Role of the Economy in the Assignment of Committee Seats in State Legislatures 


#### Abstract

Scholarly works have theorized about the distribution of committee seats, however, they have yet to take into account how external factors, the economy, can effect the value of committee seats to parties. I argue that majority party will stack committees associated with large sectors of the economy and sectors that decline in strength. Through their work on committees, members are given the opportunity to both credit claim and build relationships with donors for campaign contributions. I test three hypotheses using a unique dataset of state legislative committee compositions for the 2013-2014 session, member campaign contributions, and state level economic indicators. The finding from my analyses provide evidence that majority party members make up a higher proportion of the membership on committees where members receive more contributions relative to the members of other committees in the chamber and when sectors of the economy associated with the committee are declining in a state.


The economy plays a central role in politics and policy making. From being a deciding factor for potential voters to a key topic of discussion for candidates, the economy is a leading source of contention between parties during campaigns. Further, the economy is perhaps the single most important macro factor in determining party competition at the polls where election outcomes can be influenced by the state of the economy. After elections, the economy is one of the main subjects of the bills that are proposed and debated by parties. Yet we still know very little about how the economy drives party competition and the interaction between parties within the legislature.

There has been increasing interest by legislative scholars in the role of the minority party in policy outcomes and how the minority party achieves successes (or minimizes failures) in the policy space (Clark 2015). Some scholarly works have focused on how procedural rules and other institutionally driven factors, such as professionalism and majoritarian rules, effect the ability of the minority party to achieve desired outcomes including committee assignments and policy wins (Anzia and Jackman 2012, Jackman 2013). Thus far these works have included little investigation into the effect of external factors on the relationship between the majority and minority parties. I attempt to fill this gap in the literature by offering an answer to the question: How do external factors affect the interactions between the majority party and minority party? Specifically, what role does the economy play in the distribution of committee seats between the majority and minority parties?

I argue that while there are certainly internal considerations that party leadership take into account, leadership also consider economic conditions outside of the legislature when making committee seat assignments. Assuming that the majority party wants to help their members get reelected, leadership will assign members to committees that are the most valuable in terms of members' ability to credit claim for solving policy issues and connect with individuals or groups that have the highest likelihood of making political contributions. One way to find the value of committees is through the size and health of economic sectors associated with the policy jurisdictions of a committee. Membership on committees associated with economic sectors that makeup a large portion of the economy will allow members to increase the likelihood of gaining more contributions. In addition, committees associated with declining sectors of a state's economy allow members to create policy and credit claim after working on policy issues to their constituents. I hypothesize that majority party members will make up a larger proportion of committees that receive (1) the most donations, (2) are associated with the largest sectors of the economy, (3) or are associated with economic sectors of declining strength compared to other committees in the chamber.

I test the three hypotheses derived from my theory using a dataset of the U.S. state legislatures 2013-2014 partisan committee compositions, member's donor contributions, and state economic sectors. By leveraging a cross-section of 99 state legislative chambers, I am able to observe the partisan compositions of over 1,500 standing committees. In my first analysis, I use member donor contributions aggregated at the committee level to test whether the majority party assigns members at higher rates to committees where members receive higher donor contributions. I find that the majority party members are given a higher proportion of the seats on committees where members receive higher average donor contributions than other committees in the chamber. In a second analysis, I map on the relative size of economic sectors for committees pertaining to five economic sectors that have associated committees in state legislatures:
agriculture, natural resources, transportation, health, and education. I find initial evidence that majority party members receive a lower proportion of seats on committees that are experiencing economic growth, in line with expectation. However, I find no support for differences in the composition of committees based on the size of the economic sector.

The remainder of this paper is organized as follows. In the next section, I discuss the previous scholarship on committee seat assignments in legislatures. I then present my theoretical argument on how economic factors and other financial considerations effect the assignment of legislators to committees in legislatures. Following my theory, I discuss the research design, data, and results for two empirical tests of the three hypotheses derived in this paper. I conclude this paper with a discussion of the contributions of this project and future directions for research on the assignments of committee seats in legislatures.

## The Value of Committee Seat Assignments

Committees are arguably one of the most important parts of the legislative process and the assignment of committee seats to members is valuable both for policy influence and future electoral prospects (Wilson 1885). Scholars have theorized about reasons why seats are allocated to certain members such as seniority (Hinckley 1971), constituency interests (Bullock 1972, 1973, Masters 1961, Rhode and Shepsle 1973), the committee seat assignment process (Asher 1975, Bullock 1970, Masters 1961, Shepsle 1978), member reelection (Masters 1961, Shepsle 1978), and party loyalty (Aldrich and Rhode 2000, Huitt 1957, Smith and Deering 1984).

There is an extensive debate in the literature concerning how the majority party decides the distribution of committee seats (Shepsle 1978, Gilligan and Krehbiel 1987, Krehbiel 1993, Deering 1997, Maltzman 1997, Aldrich and Rohde 1998, Aldrich and Battista 2002). Scholars have determined that committee seat allocations are not reflective of the distribution of the chamber makeup or ideology (Kloha 2003, 2006). Instead, parties choose a seat distribution based on ideology to best serve the party (Cox and McCubbins 2003). But, what factors make certain seats more or less valuable?

Some scholars have considered the value of a committee seat from the perspective of the member or that of outside groups. A member may value a seat because the member wants to be involved in that issue area or the issue area may be particularly important to a member's district, and therefore his or her reelection prospects (Groseclose and Stewart 1998). Other studies have shown that the value of a member to an interest group is based on what committee seat assignment the member has received (Grier and Munger 1988). Here, a member associated with a particular committee is more valuable to some interest groups because the issue areas are aligned and are more able to effect salient policy outcomes. That is a member on the Committee for Environmental Protection and Regulation is more valuable to groups protecting oil companies than a member sitting on the committee for Veterans Affairs. What we lack is a clear explanation for the value of assigning a member a particular committee seat from the perspective of party.

The current explanations in legislative literature for committee assignments do not ac-
count for many potential factors regarding why party leaders might assign members in certain proportions to particular committees. Further, these explanations do not explicitly theorize about the strategy of party assignment and how these choices may help the party as a whole rather than individual members. To my knowledge there has been no theoretical explanation of how parties quantify and qualify the value seats of one committee versus another and why. In this paper, I begin to fill this gap in our understanding by offering a theoretical perspective on the exogenous factors that effect the value of committee seats. Further, I provide an explanation of not only why some members get seats on particular committees but why there are differences in the distribution of committee seats between the majority and minority party due to these factors.

## Theory of Economic Influence on Committee Assignments

I assume, as do many legislative scholars, that legislators want to influence policy and to get reelected (Mayhew 1974). Further, parties want to help members achieve their desired objectives. One aspect of a legislature where the majority party can manipulate the ability of both parties to achieve policy influence is the allocation of committee seats. In most cases majority party leadership is able to assign members to specific committees. This is exacerbated in some chambers where the minority party is not required by the rules to be consulted about the committee seat assignment of its members. This does not mean that parties are affording members specific outcomes, rather that parties are facilitating members ability to obtain their goals.

A powerful tool that parties may utilize to help their members to successfully gain policy influence is assigning members to relevant committees. In addition, this helps members to achieve their second desired objective, to get reelected. On the surface, committee membership helps members to be seen as policy makers, especially when assigned to committees controlling the most important or influential policy areas. This gives members the ability to credit claim due to membership on committees that pass policies and participate in influential and widely known sectors.

Another effect of committee membership is the ability to raise campaign funds. One of the most important resources that a member seeking reelection needs is campaign funds. A way to get these campaign contributions is from donors, particularly large donors. Donors with resources to make sizable campaign donations are likely to have financial stakes in the largest sectors of the economy. These donors need to have bills passed and regulation of their industries that is favorable to continued growth and development. Therefore, the donors have the incentive to give campaign contributions to legislators that have control over the areas wherein donors assets are invested. This leads to my first hypothesis:

Contribution Hypothesis: Majority (Minority) party members will be assigned at lower (higher) rates to committees that receive lower campaign contributions relative to other committees in the chamber.

Not only do parties want to make sure then that their members are getting campaign
contributions but they want to give members the best possible opportunity to maximize the possible contributions. Therefore, a party will place legislators on committees that will maximize their ability to draw on these large donors. In other words, parties want to put members in the position to collect the most campaign dollars by placing members on committee seats that control the most influential sectors of the economy. Committee seats are a scarce resource and valuable to both parties. There are a limited number of seats for a given committee and a party cannot place all of their members on each committee. Therefore, the party must place members on those committees that control policy areas that are related to the largest economic sectors. Some committees are more valuable to parties than others. Particularly, seats on committees that oversee large sectors of the economy would be considered valuable to a legislator.

For example, in California a party being allocated seats on the Committee on Banking and Financial Institutions would be more valuable than being awarded seats on the Committee on Arts. The difference in the value of these committees is because, on average, banking and financial institutions represent a larger sector of the economy and have more campaign dollars to allocate than the nonprofit sector. Even if the party cares equally about the policy areas, one sector has more resources to give party members which will increase their likelihood of reelection.

This leads to how seats will be allocated between the minority and majority parties. The minority party will be allocated seats on specific committees based on the worth of the sector for which the committee controls policy. The majority party will allocate a smaller proportion of seats to minority party members in a case where the committee controls policy governing a large portion of the economy because: (1) serving on this committee will allow the majority party the ability to have greater control of the policy created in committees in these areas and (2) this will give the majority party (and individual members) increased instances to credit claim on more salient/influential topics that can be used to get campaign funds. The leads me to my second hypothesis:

Sector Strength Hypothesis: Majority (Minority) party members will be assigned at lower (higher) rates to committees that control a weaker sector of the economy relative to other sectors of the economy in a given state.

In addition, the power of economic sectors changes over time. Some sectors become increasingly lucrative, while other sectors of the economy decrease in relevance or financial worth. Parties will not always want their members to be on the same committee because these committees will not have the same value over time reducing their ability to credit claim. For example, a committee that oversees the policy creation and regulation of housing and commercial real estate would be more valuable in 2008 than in 2005 before the housing market crash because the majority party will be able to claim credit for fixing. In this instance we will see the minority party being allocated higher rates of seats on committees where there is positive change in the associated economic sector over time. This leads me to my third and final hypothesis:

Sector Change Hypothesis: Majority (Minority) party members will be assigned at lower (higher) rates to committees that control a sector of the economy that has increasing strength relative to other sectors of the economy in a given state.

In the following sections I discuss two research designs and tests of these hypotheses that include the examination of committee seat distributions between parties in state legislatures under differences in political contributions and state economic sectors.

## Contributions and Committee Seat Distributions

I test the contribution hypothesis using a dataset of 2013-2014 partisan committee compositions from all 99 U.S. state legislative chambers. While several theories of committee structure and composition have been tested in Congress (Cox and McCubbins 1994, 2007; Deering and Smith 1997; Groseclose 1994; Smith 2007), this limits the conclusions we can draw because there is far less change over time in rules, committees, and membership than in state legislatures. In one session, I am able to observe approximately 1600 standing committees across 99 different chambers as compared to roughly 40 committees across to 2 chambers in congress. Further, using state legislatures gives me the ability to observe how leadership allocate committee seats under a number of conditions including partisan compositions, rules dictating committee seat allocations, and the size and number of committees.

Remember, that I am interested in testing whether the majority party stacks members on committees that allow them to gain access to more lucrative donor opportunities. An ideal design would allow me to randomly assign different probabilities of getting campaign contributions and then observe how the majority party decides to allocate seats between the two parties. While I am unable to randomly assign the probability of receiving these contributions, I am able to observe the contributions that committee members receive. As implied by this discussion and hypothesis, my unit of analysis in the committee. I do not include joint committees ${ }^{1}$ in this analysis due to possible selection effects. Most importantly, that a member who in on a committee of the same subject matter in their chamber, will be more likely to also be assigned to the joint committee.

This leads me to the measurement of main treatment and outcome variables for this analysis. My main treatment concept is the the worth of a committee in terms of the ability of members to get contributions. I use two committee level measures from the contributions data from Follow the Money ${ }^{2}$ for the average contributions that members of a committee receive and average contributions to leadership of a committee. I scale each of these measures to be average contributions in thousands of dollars. I will call these member contributions and leadership contributions throughout the rest of the discussion.

My main outcome of interest is the distribution of seats between the majority and minority parties on a committee versus the chamber. Conceptually this allows me to compare instances in which the majority party has allocated a large portion of seats on certain committees to its members and other instances where the majority party allocates an increased portion

[^5]of seats to the minority within the same chamber. In order to operationalize the dependent variable in this analysis, I will use the proportion of seats awarded to the majority party members. For example, if there is a committee that has 10 seats and the majority party is awarded 8 seats on the committee, then my measure will be equal to .8 for the given committee. I then subtract the proportion of seats the majority holds in the chamber from the proportion of seats awarded the majority party on a committee. By using the deviation from the chamber, I am able to account for the different partisan compositions across state legislatures.

I acknowledge that there are a number of competing theoretical explanations in both the congressional and state politics literatures which I control for in this test given the lack of ability to randomly assign my treatment. In other legislative studies the type of committee is an import predictor of the committee seats that members receive. Following the scheme from Smith and Derring (1983), I include indicators for committee type including Prestige, Constituency, and Policy. Prestige is coded as 1 if the committee is considered a prestige committee such as rules, ways and means, or appropriations. Constituency is coded as 1 for committees including agriculture, veterans affairs, environment, science and technology, and small business. Finally, policy committees were coded as 1 for banking, intergovernmental affairs, energy, judiciary, education, labor, and government operations. ${ }^{3}$ I also include another committee level control for the total number of committee seats. It may be the case that as the number of committee seats on a committee increases there is less value in awarding additional seats to the majority party.

I include chamber level controls for proportionality rules, rules that require the minority party to be consulted, senate, chamber capacity, republican control, professionalism, and term limits. The percentage of minority party members on a committee may be affected in cases where the state has a proportionality rule. These rules specify that the proportion of members on committees must be representative of the chamber. The distribution of minority party members may also be different in states where minority leadership is consulted during the committee assignment process. Both of these variables enter the models as binary indicators coded as 1 if the chamber has the rule and 0 otherwise. Senate is coded as 1 if the committee is in the upper chamber of the state legislature and 0 otherwise. Chamber capacity enters the model as a continuous indicator for the total number of seats in the chamber. I include the squire index estimates for professionalism (Squire 2015). Finally, I include a indicator for term limits coded as 1 if the chamber has term limits and 0 otherwise.

I estimate the model described in the preceding discussion using OLS regression. This is the ideal estimation strategy given the continuous nature of my dependent variable. ${ }^{4}$ Because I am interested in the within chamber variation of committee seat allocations between parties the models include state-chamber fixed effects.

[^6]
## Results

## [Table 1 About Here]

Table 1 displays the effect of member donor contributions and leadership donor contributions on the majority party composition of committees. The results from Model 1 show a positive and significant relationship between the amount of contributions members receive on average in committees and the percentage of members from the majority party on that committee ( $p<.05$ ). Taking a closer look at these results, Figure 1 displays the predicted difference in majority party representation over members average political contributions on committees, holding all other variables constant at the mean. The result indicates that when the average contributions to members are low, the majority party offers nearly proportional membership on a committee as compared to their representation in the chamber. For instance, on the South Dakota Senate Government Operations Committee the majority party representation is exactly proportional to their representation in the chamber and the average contributions members receive on this committee are $\$ 14,140$ as compared to the chamber average member contributions of $\$ 28,499$. As the average contributions that members receive on particular committees rises, the majority party increasingly places higher proportions of their membership on these committees. For example, on the Pennsylvania House Labor and Industry Committee the majority party representation is $18 \%$ greater than their representation in the chamber and the average contributions members receive on this committee are $\$ 419,222$ as compared to the chamber average of $\$ 316,745$. These results provide evidence in support of the contribution hypothesis.

## [Figure 1 About Here]

Model 2 includes the estimated coefficient for the average contributions committee leadership receive. There is no significant evidence that average leadership contributions are predictive of majority party committee stacking ( $p>.10$ ). This is an important finding for this study because the contributions to committee leadership, who are presumably the most senior and well connected members of the party, are not driving the results found in Model 1.

Other covariates in this analysis show a strong impact on whether the majority party allocates a higher proportion of seats on certain committees as compared to their representation in the chamber including if the minority party is consulted, proportionality rules, chamber, chamber size, republican control, and professionalism. Consulting the minority party actually leads to higher majority party representation on some committees. I speculate that since the committee seat assignment process has been found to be more bipartisan in state legislatures (Francis 1985), that the minority party may make some concessions on committee seats for other procedural or policy benefits during the session when given the opportunity to be a part of the assignment process. The effect of proportionality rules is in the expected negative direction given that this should act as an institutional barrier to the majority party stacking committees. I had no expectations about the potential effect of chamber, however being in the senate increases the likelihood of majority committee stacking. Further, the number of seats in the chamber increases the likelihood of majority committee stacking, which may be due to an increasing need to make sure members are getting on valuable committees when there is a larger number of members the party must support. Republican majorities are more likely to stack committees. Finally, and not surprising, professionalism is a positive predictor of majority stacking. This is likely due to leadership sophistication in making strategic committee
assignments for membership. The number of committee seats and term limits are not significant predictors of the difference in the proportion of seats allocated to majority members as compared to their representation in the chamber.

## State Economies and Committee Seat Distributions

I now move to the design of a test for my second and third hypotheses regarding the impact of economic strength and change on committee seat allocations. As in my previous analysis, I test these hypotheses using state legislatures. An ideal research design to test these hypotheses would be one in which we could randomly assign the value and change in value of economic sectors and then observe the distribution of committee seats between majority and minority party members in subsequent sessions. While this is not possible, state legislatures are an excellent option because I am able to observe a cross-section of legislative bodies that have substantial variation in the makeup, size, and change over time of their economies.

It is important to recognize a limitation of testing hypotheses pertaining to matching economic indicators to committees: not all committees have an associated economic sector. For instance, the rules committees does not have a related economic sector in the state since the policies and decisions delegated to these committees are largely for the control and operations of the legislature itself. However, agriculture committees are associated with specific sectors of a state's economy. Therefore, it is important to isolate those committees that have economic value to make within state comparisons about how the committee seats are allocated between parties. With that in mind, one must also consider that there are some committees that are present in all (or almost all) state chambers, while other committees are more unique to the state. For this analysis I chose the five committee types with associated economic sectors that were the most prevalent across all state legislative chambers: agriculture, natural resources, transportation, education, and health. ${ }^{5}$

I use Gross State Product (GSP) data by sector from the Bureau of Economic Affairs ${ }^{6}$ to create measures of sector strength and change. As implied by the sector strength hypothesis, I create a treatment variable identified by the relative size of the economic sectors within a given state for the year prior to the legislative session. ${ }^{7}$ This will allow me to observe which sectors would be most valuable to legislators and parties. To operationalize this variable, I use the percentage of total GSP that a particular economic sector makes up of the GSP. For instance, consider a state whose economy is made of up three sectors: agriculture, transportation and tourism. The percentage of the GSP that is attributed to agriculture is $15 \%$, transportation is $35 \%$, and tourism is $50 \%$. In this case, the committee on agriculture will control policy for the smallest sector of the economy and the committee on Tourism will control policy for the largest sector of the economy in that state.

In order to test my sector change hypothesis, I use a treatment variable for the change in

[^7]the relative strength of the economic sector to observe the effect on the distribution of committee seats. To create an indicator of the change in the relative strength of an economic sector, I subtract the proportion of the GSP the sector was in 2013 from 2012. This measure allows me to observe whether there was positive or negative growth in the relative strength of an economic sector from the previous year. Further, using this measure I am able to capture the magnitude of the change in strength of an economic sector.

While the focal variables differ to test my sector strength and sector change hypotheses as compared to my contribution hypotheses, the other variables used in the previous analysis remain the same. My unit of analysis is still at the committee level and includes the same dependent variable, the difference in the proportion of majority party members on a committee and in the chamber. Similarly, I include controls for the number of committee seats, rules requiring the minority party to be consulted, proportionality rules, senate, republican chamber control, professionalism and term limits. As in the previous analysis, the continuous nature of my dependent variable lends itself to estimating the models using OLS regression. I am still interested in making a within state comparison of how parties stack committees based on the economic value of a committee so I include state fixed effects.

## Results

## [Table 2 About Here]

Table 2 displays the effect of economic sector strength and change on the majority compositions of committees within a legislative chamber. In Model 1 the estimated coefficient for the relative size of an economic sector is in the expected direction but is not a significant predictor of the difference between the majority party representation on a committee as compared to the chamber ( $p>.10$ ). Therefore, I find no evidence in support of my sector strength hypothesis.

The results from Model 2 show a negative and significant relationship between the change in GSP and the representation of majority party members on committees as compared to their representation in the chamber ( $p<.10$ ). Figure 2 displays the predicted difference in majority party representation on committees over sector change, holding all other variables constant at the mean. When there is negative change in the proportion of the GSP for a sector, the majority party has a proportionately higher representation of members on those committees as compared to their representation in the chamber. For example, in the Alaska House (Natural) Resources Committee the majority party was overrepresented by $15 \%$ as compared to the chamber when there was $2.5 \%$ annual drop in the sector GSP. As a sector shows positive growth, the majority party shifts towards a declining representation of their members on those committees. For instance, the West Virginia Natural Resources Committee has a majority representation $11 \%$ lower than the chamber proportion when there was a $1.2 \%$ annual increase in the sector GSP. These results provide evidence in support of my sector change hypothesis, that the majority party will stack members on committees in declining sectors of the economy.
[Figure 2 About Here]
Examining the effects of the other covariates included in Model 1 and Model 2, consult-
ing the minority party and professionalism are positive and significant predictors of increased majority party representation on a committee as compared to their representation in the chamber ( $p<.01$ ). As previously mention, when the minority party is consulted for committee seat assignments, leadership of the parties and chamber may bargain for other benefits during the session in exchange for committee seats. This speculation is not unfounded given that committee seats are considered valuable to members and parties in legislative scholarship. Similarly, professionalism is a positive and significant predictor because leadership in more professionalized legislatures are likely making strategic choices to get their members on the most valuable committees for the members own reelection prospects and party success. The number of committee seats, proportionality rules, chamber, republican majority, and term limits are not significant predictors of the difference in the proportion of seats allocated to majority members as compared to their representation in the chamber.

## Concluding Remarks

In this paper I have argued that theories of how parties assign committee seats are incomplete, in that they do not take into account external considerations that may influence the ways that leadership make strategic committee assignments. Specifically, when we consider the motivations of members and leadership it becomes evident that external considerations can both potentially assist or inhibit members' ability to attain policy influence and reelection resources. We know from previous scholarship that the economy can be impactful for reelection but scholarship has yet to connect the economy to institutional valuations made within legislatures themselves. To that end, the economy may impact the value leadership assigns to certain institutional positions and features.

I test three hypotheses on the impact of political contributions, economic sector strength, and economic sector changes on the proportion of seats awarded to the majority party on committees. Specifically, I expected that the majority party members would be stacked on committees where members received higher average political contributions, controlled larger sectors of the economy, or declining sectors of the economy. I find evidence that supports two of these hypotheses that majority members are stacked on committees that receive higher average political contributions and control declining sectors of the economy. As I mentioned above, I am tempered about the conclusions that I can draw due to the scope of my data, however, the empirical evidence used here and the results of these analyses have important implications for our understanding of what influences parties and party leadership in their organizational choices.

While there are implications for legislative organization, there are also a number of important implications of this research for representation. For instance, if minority members are being crowded out of important committees, then supporters of the minority party are even more poorly represented than scholars might have previously thought. It is also important to consider the implication for who has control over policy making. If seats are being valued based on potential donor contributions, it shifts control of policy from the areas that might need policy intervention to those that may be the most lucrative for members. This would mean that the majority party might be reactive on policy rather than proactive due to a focus on campaign contributions.

There are a number of avenues for future research regarding the economic valuation of institutional features. Specifically, it is important to further study the impact of economic and other financial considerations in aspects of party politics, legislative decision making, and other institutional settings. For instance, while I focus on how the majority party uses economic considerations to make committee seat assignments, we know little about how these effect the decision making of the minority party. Further, how do local legislative bodies such as city councils or school boards use economic considerations when making organizational decisions that affect representation? Are there other institutions outside of legislative bodies such as executives that use economic valuation to make internal organization decisions? Applying the basic framework of institutional economic valuation can be important for our next steps in theorizing and testing what influences partisan politics and, more generally, institutional organization and the decision making of elites.

## Figures



Figure 1: Effect of Average Member Political Contributions on Committee Composition


Figure 2: Effect of Economic Sector Change on Committee Composition

## Tables

Table 1: Linear Regression Models for the Effect of Campaign Contributions on Committee Composition

|  | Model 1 | Model 2 |
| :--- | :---: | :---: |
| Member Contributions | $0.00003^{* *}$ |  |
|  | $(0.0000)$ |  |
| Leader Contributions |  | 0.00002 |
|  |  | $(0.0000)$ |
| Prestige | -0.0129 | -0.0135 |
|  | $(0.0082)$ | $(0.0082)$ |
| Policy | -0.0017 | -0.0013 |
|  | $(0.0065)$ | $(0.0065)$ |
| Number Committee Seats | -0.0003 | -0.0003 |
|  | $(0.0005)$ | $(0.0005)$ |
| Minority Party Consulted | $0.0346^{* * *}$ | $0.0339^{* * *}$ |
|  | $(0.0055)$ | $(0.0055)$ |
| Proportionality Rule | $-0.0334^{* * *}$ | $-0.0322^{* * *}$ |
|  | $(0.0063)$ | $(0.0063)$ |
| Senate | $0.0169^{* *}$ | $0.0172^{* *}$ |
|  | $(0.0074)$ | $(0.0074)$ |
| Total Seats Chamber | $0.0002^{* * *}$ | $0.0002^{* * *}$ |
|  | $(0.0001)$ | $(0.0001)$ |
| Chamber Republican Control | $0.0549^{* * *}$ | $0.0549^{* * *}$ |
|  | $(0.0060)$ | $(0.0060)$ |
| Professionalism | $0.0607^{* *}$ | $0.0685^{* *}$ |
|  | $(0.0304)$ | $(0.0295)$ |
| Term Limits | -0.0058 | -0.0054 |
|  | $(0.0068)$ | $(0.0068)$ |
| Constant | $-0.0514^{* * *}$ | $-0.0517^{* * *}$ |
|  | $(0.0133)$ | $(0.0133)$ |
| Observations | 1531 | 1527 |
| $R^{2}$ | 0.097 | 0.096 |

Standard errors in parentheses
${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

Table 2: Linear Regression Models for the Effect of State Economy on Committee Composition

|  | Model 1 | Model 2 |
| :--- | :---: | :---: |
| Proportion of 2012 GSP | 0.0893 |  |
|  | $(0.0889)$ |  |
| Sector Change 2012 to 2013 |  | $-1.8604^{*}$ |
|  |  | $(1.0462)$ |
| Number Committee Seats | -0.0001 | -0.0002 |
|  | $(0.0011)$ | $(0.0011)$ |
| Minority Party Consulted | $0.0383^{* * *}$ | $0.0381^{* * *}$ |
|  | $(0.0132)$ | $(0.0132)$ |
| Proportionality Rule | 0.0031 | 0.0018 |
|  | $(0.0279)$ | $(0.0278)$ |
| Senate | -0.0021 | -0.0025 |
|  | $(0.0105)$ | $(0.0104)$ |
| Chamber Republican Control | -0.0402 | -0.0400 |
|  | $(0.0249)$ | $(0.0248)$ |
| Professionalism | $0.9046^{* * *}$ | $0.8619^{* * *}$ |
|  | $(0.2129)$ | $(0.2142)$ |
| Term Limits | 0.0284 | 0.0329 |
|  | $(0.0339)$ | $(0.0339)$ |
| Constant | $-0.1041^{*}$ | -0.0896 |
|  | $(0.0617)$ | $(0.0616)$ |
| Observations | 388 | 388 |
| $R^{2}$ | 0.550 | 0.552 |

Standard errors in parentheses
${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

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# The Effect of Gender on Member Assignments to Committees in State Legislatures 


#### Abstract

Women are significantly over-represented on legislative committees perceived as femalegendered but do these skewed committee assignments reflect gender bias, or the preferences of female legislators? To disentangle these two possible explanation, I employ a three-part empirical analysis: First, I survey wide-ranging populations to empirically measure the perceived gender association of each committee and cross-validate these measures. Second, I examine how rules that require leadership to collect legislator preferences for committees impact the gender composition of committees in US legislatures. I find that the rules dictating the submission of legislators' preferences increases the representation of women on committees. Third, I deploy a conjoint experiment to study how hypothetical assignments vary when legislators express their preferences. The results demonstrate that subjects are more likely to assign women to female-gendered committees when no information on legislator preferences is available, but subjects display no gender bias when legislators reveal their preferences for committee assignments. My results suggest that female over-representation on some committees (and under-representation on others) is largely the product of female legislator's preferences, rather than prejudice of the assigner.


Women are underrepresented at almost every level of government from city councils to Congress. This underrepresentation is not limited to women in the U.S., in fact women have been found to be underrepresented in political offices across the globe. While women are still underrepresented, their representation has increased over the last 30 years, and will likely continue to do so. Moving forward the next level of concerns and issues that face women in politics is: the representation of women within the institutions that they serve, and specifically, the roles that women are assigned in these institutions.

To date, it is unclear how the arraignments of institutions may be impacting the ways in which women can and do serve their constituencies. Moreover, we know little about how gender bias can manifest itself in different institutional settings. Some might argue the design of these institutions helps to deter gender bias from impacting the ability of women to serve their constituents. Others might argue that when we observe gender asymmetries, we are only seeing part of the impact of gender bias on women leading to a more pervasive and deeply rooted set of behaviors in institutions. In this paper, I seek to understand whether or not gender bias effects the roles women are assigned in legislatures. And if gender bias does effect the roles women are assigned, what are the conditions that exacerbate or mitigate the effect of gender bias?

Evidence shows that while women have been just as successful as their male colleagues in areas such as raising campaign funds (Burrell 1994; Fox 2006; Uhlaner and Schlozman 1986) and winning elections (Burrell 1994; Fox 2006; Newman 1994; Seltzer, Newman, and Leighton 1997), there is still clear evidence of bias towards women entering the political arena (Huddy and Terkildsen 1993; Lawless 2004; McDermott 1997; Fox and Lawless 2004; Dolan 1997, 2004). The study of women's representation in legislative bodies once women are elected to office has largely focused on the impact of women on the policy process, where women tend to focus on policies in areas that are traditionally considered women's issues (Dolan 1998; Taylor-Robinson and Heath 2003; Swers 2005, 2013; Volden, Wiseman, and Wittmer 2016). However, especially in the U.S. context, there has been far less work attributed to how the institutional arrangements may be allowing for or even perpetuating gender bias which is in turn affecting how women are allocated roles within the legislature. ${ }^{1}$

I argue that women's institutional assignments are affected by the same gender stereotypes present in society today. Further, I argue that these gender stereotypes can become key factors in determining the roles assigned to women given the institutional rules dictating the assignment of legislative positions. Specifically, the committee assignments of men and women will differ because committee subject matters pair with prevalent gender stereotypes. For example, women are stereotyped as being skilled educators so they may be more likely to be assigned to the committee on education. Likewise, men are seen as being skilled at math so they may be more likely to be assigned to the committee on business and finance. However, these gender stereotypes may be overcome when the chamber rules require leadership to request legislators to formally submit committee preferences. When committee preferences are formally given to legislative leaders, the impact of gender stereotypes on the assignment of women to committees associated with female stereotypes is decreased if female legislators are requesting committees not traditionally associated with women.

[^8]To test the implications of my theoretical argument, I use a three part empirical design that focuses on identifying the policy areas women are associated with and if there is an asymmetry between the assignment of men and women in committees. Further, these designs allow me to empirically differentiate between the mechanisms, including women's self-selection, that defines the distribution of women serving on specific types of committees across state legislatures. In my first test, I use a list of forty-five policy areas associated with committee jurisdiction in state legislatures. I find a clear set of both male and female gendered policy areas that I use to code the gender of committees in the observational and experimental analyses that follow. In addition, I find that the strength of the association of women to stereotypically female issue areas is much stronger than the association of men to stereotypically male issue areas.

In my second analysis, I identify if there is a difference in the committee assignments of men and women and test whether formal committee preferences account for the difference in the assignments of female legislators. I use a unique observational dataset of legislator committee compositions of 97 U.S. state legislative chambers for the 2017-2018 session and chamber rules for assigning committee seats. I find that female legislators are more likely to serve on committees that are typically connected with policy areas associated with women. The results of the models, however, provide evidence that women are self-selecting rather than being stereotyped by assigners into specific policy areas.

Finally, I use a conjoint experiment manipulating individual legislator characteristics such as gender, previous occupation, and political experience - and varying if legislator committee preferences are provided to observe how gender is used as a cue for assigning committees. I find that when legislator preferences are not provided to subjects, that gender is a significant predictor of assigning female legislators to female-biased committees. However, when committee preferences are provided, the gender effect becomes void and instead legislators are assigned to committees based on their preferences.

The remainder of this paper is organized as follows. In the next section, I discuss the previous scholarship on women in legislatures. I then present my theoretical argument on how gender stereotypes and the way committee requests are submitted effect the assignment of legislators to committees in legislatures. I end this section with the hypotheses derived from my theory which will be tested in this paper. Following my theory, I discuss the research design and data used for my three empirical analyses. I then review the results of each of my empirical analyses in turn. I conclude this paper with a discussion of the contributions of this project and future directions for research on the impact of the design of institutions on women.

## Perspectives on Women in Legislatures

Women's participation in legislative politics has shown dramatic growth over the last 50 years. The percentage of women in state legislatures was 5\% in the 1970's and rose to about $17 \%$ by the early 1990's (Thomas and Welch 1991). Since 2010 the percentage of women legislators has remained consistent at approximately $25 \%$ (NCLS). In Congress, women's representation in the Senate and House during the 1970's was at $4 \%$ and $3.7 \%$, respectively. In 2017, women made up $42 \%$ of Senators and $20 \%$ of Representatives. ${ }^{2}$ The increase in female

[^9]legislators over the last 50 years has spurred research on the effect of a rising percentage of women in policy making positions. With the changing proportion of female legislators, the scholarly arguments and findings have also developed and changed regarding women in legislatures. Until recently much of the focus has been on how women impact the policy process and far less attention has been provided in terms of how institutional arrangements impact the placement of women on committees.

Female legislators are known to pursue policy agendas that increase the descriptive representation of women (Mansbridge 2005; Swers 2001). In essence, women have been found to work on policy areas that are associated with stereotypically female issues. For instance, the subject matter of bills that women are likely to propose is associated with female issue areas such as health and education (Bratton 2002; Bratton and Haynie 1999; Dodson and Carroll 1991; Reingold 2000; Thomas 1991, 1994). Scholars also found that there were comparable levels of participation among men and women, specifically, speaking on committees and on the floor but that the subject matter was largely focused on traditional women's issues (Thomas and Welch 1991; Osborn and Mendez 2010).

While there is substantial evidence that women choose to focus stereotypically female policy areas, there is another body of literature that shows how contextual factors impact the roles that women are allocated within a legislature. Some scholars have suggested that contextual factors rather than stereotypes may effect the ability of female legislators. Features such as legislatures with proportionally higher representation of women and the presence of formal women's caucuses has led to female legislators proposing more legislation (Thomas 1991). Further, contextual factors seem to influence which legislation women focus on (Thomas 1991, 1994; Also see Vega and Firestone 1995), where women in skewed legislatures do not propose legislation lower rates for issues concerning families and education. Further, the marginalization of women in some legislatures has led to differences in their rate of proposing policies in women's issues as compared to men, even when there is little gendered difference in their roll call voting behaviors on these issues (Schwindt-Bayer 2006). There are other contextual factors that may also be driving the behavior of female legislators such as majority party status or seniority (Rosenthal 1998; Considine and Deutchman 1996). Much of the literature on state legislatures is characterized by the professionalism of legislature, however, scholars have argued that there is no relationship between legislators' gender and the professionalism of the legislature (Ellickson and Whistler 2000). Finally, there is evidence that liberal leadership and party control impacts the assignments that women receive to both committees and cabinets (Escobar-Lemmon and Taylor-Robinson 2005, 2009; Osborn 2012, 2014).

Specific to women's participation on committees, research has postulated that the assignment of women to female biased committees is reflective of the preference of women rather than the attitudes of leadership making committee assignments (Carroll 1989). However, more recent work has argued that women are being assigned to committees dealing with women's issues when the committee assignment process is controlled by leadership (Heath, SchwindtBayer and Taylor-Robinson 2005). Interestingly, recent work has also connected female legislators' bias towards proposing policies regarding women's issues to the actual committee process rather than women's self-selection alone (Volden, Wiseman, and Wittmer 2016).

Even with some changes in the proportion of women on certain committees, there is mixed evidence of movement towards more equitable gender representation. There are still
scholars who argue gender matters and affects legislators because the stereotypes are embedded in our society (Heath, Schwindt-Bayer and Taylor-Robinson 2005). This impacts the ways in which women can integrate themselves into legislatures (Considine and Deutchman 1996, Heath, Schwindt-Bayer and Taylor-Robinson 2005). In addition, there seems to be a gap in our understanding of how different institutional factors might interact with societal perceptions of women to effect female legislators while serving in the legislature, particularly those dictating the assignment of women to committees. I begin to address these gaps in the following sections where I present a theory of how stereotypes interact with institutional characteristics of legislatures to impact the roles women are assigned and test this theory by leveraging representative data and a research design which allows me to observe the mechanisms through which stereotypes effect committee assignments.

## Gender Bias, Preferences and Committee Assignments

Before addressing how women are thought of in legislatures and the bias that women might face, it is helpful to first consider how women are thought of in a broader social context. Scholars have found evidence of the presence of gender stereotypes when making decisions about the roles women take and are assigned to in professional settings. These stereotypes have been found even in instances in which women have broken invisible barriers ${ }^{3}$ in order to achieve roles not typically held by women such as Chief Executive Officers (CEOs). So, what are the specific stereotypes that women face? And, how do these stereotypes affect women in politics?

Women are associated with specific capabilities and interests that are quite different than those associated with men. Some of the key stereotypes connecting gender and issue expertise include women being better at education, family issues, and healthcare, whereas men are typically associated with issue areas regarding finance and security (Dolan 2004, 2014). These stereotypes are specific to subject areas but there are also occupational field stereotypes that are associated with women (Conway, Pizzamiglio, and Mount, 1996; Eagly and Kite, 1987; Eagly and Steffen, 1984, Hoffman and Hurst 1990). For example, women typically work in fields related to education and health. ${ }^{4}$ Women may be encouraged to seek careers as nurses or elementary school teachers which are stereotypically roles that women are associated with and women are less likely to be encouraged to pursue occupations in law enforcement or engineering.

Recognizing the prevalent stereotypes generally used to describe women, we can consider the effects of these stereotypes on the steering and placement of women into positions in politics. Similar to women in other settings, these gender stereotypes effect women in politics even when they have passed the threshold to run for office and earned enough trust to be elected to political office, namely policy making positions. The stereotypes discussed thus far have natural analogs in the legislative sphere in politics. For instance, the stereotype of women

[^10]being associated with education may lead to more women being on the education committee. Thus, I assume that the stereotypes women face in society still hold when women obtain elected positions. More specifically, I assume that when women are assigned tasks within a legislature, those tasks will be informed by the same stereotypes that women face in other fields.

Committee assignments map onto the same general stereotypes present in society. Committees in legislatures sort by policy jurisdiction or particular policy areas. These policy areas include education, science and technology, finance, and health to name a few (See Appendix A for a complete list of policy areas addressed in state legislatures). In legislatures, the committee system provides a way for the division of labor to be sorted by topic. This topic based committee structure is useful to assign individuals to areas in which they have a vested interest or expertise. However, sorting by policy area also makes the committee system particularly vulnerable to gender stereotypes. If women are stereotyped to have more knowledge or be better equipped to handle specific topics such as health and education, this may affect committee assignments. If these stereotypes are prevalent, women may be less likely to be assigned to serve on committees that involve analytical and scientific policy such as the committee on science and technology while being more likely to get assigned to serve on the education committee.

The assignment of women to committees could occur as the result of two mechanisms: women self-selecting on to certain committees and women being assigned by leadership. The process by which legislators are assigned to committees allows for the potential of both mechanisms. In some legislatures members submit their committee preferences to leadership. Therefore, women may request to sit on committees that are associated with stereotypically female policy areas.

However, how legislators submit committee preferences varies from state to state which may impact whether or not a legislator gets his or her preferred committee. This is the first important juncture where gender stereotypes may impact the committee assignment process. In legislatures where members are able to formally submit their preferences, leaders have a clear set of requests from members that signal the members preferences for specific committees. In other legislatures, submitting committee preferences is informal and members are able to mention their preferences in passing. In second case, the leader has more discretion in the interpretation of a legislator's preferences. Further, when informal means are the method of submitting committees preferences, legislators are usually not required to submit preferences if they choose not to. Therefore, in instances where committee requests are informally given to leaders, a leader's personal bias may impact the weight of the committee request that a member submits. In addition, there is an increase in the likelihood that not every legislator will make a committee request if he or she is not required to do so, which may result in an asymmetry in the likelihood of receiving a particular committee across legislators.

After members submit committee requests, either formally or informally, leaders vet these requests when applicable and assign members to committees. This is the second important juncture in the committee selection process where stereotypes may come into play because leaders get to make choices about who sits on what committee. Legislative leaders are responsible for ignoring some and fulfilling other committee requests by members. Assuming that the leadership responsible for committee assignments are subject to the same gender stereotypes outside of the legislature, these stereotypes may also influence how leaders view members within the legislature. Therefore, the assigner may consider the relevant explicit factors such as
expertise in the policy area, years of service, and majority party membership status. However, the assigner will also be effected by factors when choosing to assign members to committees, namely gender stereotypes. In the instance of informal committee requests, the assigner will have to establish the best fit for a member in the absence of the members preferences. Therefore, the assignments of women are likely to be influenced by these preconceived notions about where women will best fit. Further, the way that members are able to submit preferences may mitigate or exacerbate the influence of a leader's gender bias in assignment of members to a particular committee. This leads to the following two hypotheses:

Gender Stereotyping Hypothesis: Women are more (less) likely to receive their requested committee seat when their committee requests are associated with skill sets that are (not) stereotypically connected to women.

Committee Request Hypothesis: Women are more (less) likely to receive their requested committee seat when their committee requests are formally (informally) submitted to leadership.

In the next section, I continue to a systematic test of my hypotheses, using observed committee assignments from U.S. state legislative chambers and a conjoint experiment to operationalize committee seat preferences.

## The Effect of Gender Bias and Preferences Rules

When studying gender in politics, it is difficult to leverage research designs that can identify - or at least take into consideration - whether or not women self-select into particular policy areas or are being assigned by leaders based on their gender (Volden, Wiseman, Wittmer 2016). To account for this selection problem and more accurately test the role of gender bias, I employ a three part identification and design strategy. First, I use a pretest to identify the gender association for forty-five policy areas. Second, I attempt to determine whether women are being placed on female-biased committees at a higher rate than other types of committees and if using formal preferences mitigates the asymmetry in these assignments. Third, I use a conjoint experimental design to observe how individual level characteristics in conjunction with the explicit statement of committee preferences impacts the committee assignments of legislators.

Before discussing each of these designs, I describe the way that I operationalize my main independent concept - the gender association of committees - throughout the empirical section of this paper. I define committee gender as the gender stereotype associated with a given committee. Specifically, I create a typology of committees that resembles the analogues discussed in my theory regarding the subject specific stereotypes associated with gender. The types of committees include: male biased, female biased and neutral. I define female biased committees as those committees which involve subject areas and skill sets that are associated with being female. This reasoning follows for defining male biased committees. Neutral committees are defined as those committees which include subjects areas that are not directly associated with a specific gender. For example, if women are associated with subjects areas regarding education then a committee on eduction will be considered a female biased committee. Likewise, an example of a neutral committee might be the committee on insurance which does not align with a specific gender. I use the pretest outlined in the following section as the strategy for identifying
the gender associated with each committee.

## Gender Stereotypes and Policy Areas

The empirical analysis in this paper relies on correctly identifying gender stereotypes associated with particular committees. I employ the use of a pretest to determine the gender associated with specific policy areas and in turn committees. This test allows me to make inferences for which subject areas are most likely associated with societal gender stereotypes. Given the breadth of policy areas that are handled by legislatures, the coding of committees can not be solely based on the stereotypes mentioned in existing research. Using this analysis is necessary because I argue that leaders are exposed to stereotypes that are prevalent in society. Therefore, using a sample of non-elite individuals to identify gender associations, I am able to identify the association and strength of the association of male and female stereotypes for policy areas in society.

In this pretest, I use a list of policy subject areas provided by Open States as the basis for my survey. ${ }^{5}$ The list of words is displayed in alphabetical order. Using the list of policy subject areas, I ask respondents two questions: ${ }^{6}$ (1) if the respondent thinks that one gender or the other prioritizes a given policy area and (2) how well the respondent thinks a typical male and female legislator makes policy in a given policy area. ${ }^{7}$ For the first question respondents are able to choose male, female, or neutral for each policy area. In the second question, respondents are asked to provide a score for both a male and female legislator on a 7-point scale. The pretest includes 272 respondents that were recruited to take the pretest through Mturk. ${ }^{8}$

I assume that the gender stereotypes in society map onto the policy jurisdictions of committees in legislatures. I argue that how legislators submit their committee preferences in conjunction with these associated stereotypes impacts the assignment of female legislators to specific gendered committees. Rules about committee preferences are categorized in three ways: not permitted, informal and formal. Figure 1 and Figure 2 show the distribution of committee preferences rules in U.S State Legislatures upper and lower chambers. Legislators then use these preferences (if given) and their own judgments to make final assigns of legislators to committees.

Gender Stereotyping Hypothesis: Women are more (less) likely to receive their requested committee seat when their committee requests are associated with skill sets that are (not) stereotypically connected to women.

Committee Request Hypothesis: Women are more (less) likely to receive their requested committee seat when their committee requests are formally (informally) submitted to leadership.

[^11]
## [TABLE 1 ABOUT HERE]

The results of this pretest are displayed in Table 1 and Table 2. Table 1 shows the policy areas respondents associated as male, female, or neutral. These associations were determined for each issue area based on the greatest number of respondent associations. ${ }^{9}$ Men are associated with areas including: Budget, Spending \& Taxes, Business \& Consumers, Commerce, Gambling \& Gaming, Guns, Military, and Trade. Women are associated with Animals Rights, Arts \& Humanities, Education, Family \& Children, Health, Reproductive Issues, Sexual Orientation \& Gender Issues, and Social Issues. All other policy areas in the pretest study did not align with a particular gender, and therefore catagorized as neutral.
[TABLE 2 ABOUT HERE]
Table 2 displays the results for the scores given by respondents to male and female legislators on their ability to make policy for specific issue areas. These differences were calculated by taking the average of respondent scores for the ability of men and women to make policy in a given policy area and then subtracting the average ability score of female legislators from male legislators. The significance of the difference in the ability of legislators to make policy for a policy area correlates with the results for the association of gender and issue areas presented in Table 1. An important finding from these results is the magnitude of difference between the ability to make policy for a given area depending on a legislators gender. For example, the difference in respondents average score for female legislators to make policy on issues associated with women such reproductive issues is -2.5404 . However, the difference in respondents average score for male legislators to make policy on issues associated with men such the military is 1.0956 . I discuss the implications of the results in the analysis of committee assignments in the following section.

While the results of this pretest are interesting on their own merit, I further employ these results to code the gender of committees in my subsequent analyses in two ways. First, in the observational analysis of state legislative committee assignments, the results of Table 1 were used to assign a gender association to committees. For instance, a committee on Children and Family is indicated as a committee that creates policy about issues that are typically associated with women. Second, the results of both Table 1 and Table 2 were used to choose the committees that were used in the conjoint experiment. I chose committees for female, male, and neutral treatment categories that had the largest number of respondent associations with that issue area (Table 1) and the strongest association with regard to the difference in ability to make policy in the corresponding issue area (Table 2). For instance, education was associated by 6 respondents with men, 181 respondents with women, and 85 respondents with no gender relation and the difference in respondent scoring about the ability of women to make policy was large ( -0.9963 ) and statistically significant. This process was used to identify each of nine committees used in the experimental design.

[^12]
## Committee Assignments in U.S State Legislatures

## Research Design and Data

In this analysis, I explore whether a gender imbalance exists on particular types of committees and the role committee preference submission has on increasing or decreasing this imbalance. Could it be that women are selected by others to fill these committees? Or, are women self-selecting onto these committees? In this design, I attempt to account for this selection effect by examining how committee requests of legislators are submitted in state legislatures. In order to understand how women are selected to serve on committees, I use an identification strategy that allows me to approximate whether women are self-selecting or being assigned to specific gendered committees. To briefly reiterate the formal committee selection process used in some legislatures, leadership asks legislators to submit committee requests and subsequently leaders use these requests along with their own judgments to make final committee assignments. In other legislatures, legislators are only able to informally request particular committee assignments where these preferences might not be given the same weight or taken into account at all as compared to legislatures which allow for the submission of formal preferences. I will note that using formal preference submission does not mean that committee requests and final placement of legislators on committees align. Moreover, informally requesting a committee does not necessarily mean the request receives less weight than formal request. ${ }^{10}$

Given my theoretical argument, if women are choosing to be on committees that are associated with female issue areas, we should observe no difference between chambers that allow legislators to submit formal and informal preferences. However, if there is a difference in the rate at which women are assigned to certain types of committees based on legislators' ability to give explicit committee preferences, it provides evidence that how legislators submit preferences can directly impact the gender composition of a committee. Specifically, one can imagine that when female legislators are able to give explicit preferences for committees not typically associated with issues that are stereotypically associated with women, then leaders bias of where the legislator would best serve is more easily overcome than in instances where legislative leadership has more discretion.

I use committee data collected by Open States and state legislature websites for committees in 97 U.S. state legislatures during the 2017-2018 session. ${ }^{11}$ The unit of analysis is committees, where I am able to observe the proportion of female legislators assigned to a particular type of committee which will allows me to make comparisons both within and between chambers. I include several control variables for committee and chamber level considerations. The data for these control variables was collected from a number of sources that include Open

[^13]States, National Conference of State Legislatures (NCSL) ${ }^{12}$, the Book of States(BOS) ${ }^{13}$, Correlates of State Politics ${ }^{14}$, and the rules for each chamber.

Again, I hypothesize women will more likely be assigned to committees that make policy for issues that are stereotypically associated with women. I also hypothesize that submitting formal preferences will decrease the bias of leadership assigning women to committees that are stereotypically associated with women's issues. Therefore, my dependent variable in this analysis is the difference in the proportion of female legislators on a given committee and the proportion of women in the chamber. ${ }^{15}$ Negative values of this variable reflect underrepresentation and positive values reflect overrepresentation of women on a committee.

I include two treatment variables in this analysis: the gender associated with a committee and how committee preferences are submitted. First, committee gender is a coded using two binary variables. Female committees are coded as 1 if the committee creates policy for areas typically associated with women and 0 otherwise. Male committees are coded as 1 if the committee creates policy for areas typically associated with men and 0 otherwise. I expect to find that for female biased committees the coefficient will be positive and statistically significant, while for male biased committees the coefficient will be negative and statistically significant. Neutral committees are omitted throughout this analysis as a reference category.

## [FIGURE 1 AND FIGURE 2 ABOUT HERE]

My second treatment variable is the committee preference submission. This variable was collected by calling each state legislature and asking leadership if and how committee requests are submitted in the chamber. ${ }^{16}$ Figure 1 and Figure 2 show the distribution of formal, informal, and no preferences in the House and Senate for U.S. state legislatures. I include a variable for formal preferences which is coded as a 1 when the chamber requires preferences to be submitted formally and 0 otherwise. ${ }^{17}$ With regard to formal preferences, I expect that the coefficient will be negative and statistically significant due to women being able to explicitly state their preferences, increasing the likelihood of overriding gender bias of committee assigners.

I am interested in whether formal preferences impact the gender composition of particular types of committees, therefore, I include two interaction variables in my analysis. The first interaction variable is between female committees and formal preferences. The second interaction variable is between male committees and formal preferences. I expect that the interaction for female committees and formal preferences will be negative and significant if women are selecting to be on neutral and male committees. I expect that the interaction for male committees and formal preferences will be positive and significant if women are selecting to be on male biased committees.

[^14]In this analysis I include committee and chamber level control variables for number of members on a committee, chamber rules requiring members to have a minimum number of committee assignments, committee proportionality rule, chamber, republican chamber majority, number of women in the chamber, size of the chamber, term limits, and professionalism. Number of committee members is the count of members on a given committee. Minimum number of committee assignments is coded as 1 if rules put a floor on the number of committees legislators can serve on and 0 otherwise. Maximum number of committee assignments is coded as 1 if rules put a ceiling on the number of committees legislators can serve on and 0 otherwise. Proportionality rule is coded as 1 if chamber rules require committees to be composed of members that reflect the composition of the chamber and 0 otherwise. Chamber is coded as 1 for the senate and 0 otherwise. ${ }^{18}$ Female membership is coded as the number of women legislators serving in the chamber. Size of the chamber is coded as the number of members that are in the legislative chamber. I code term limits as a binary variable where states with term limits are coded as 1 and 0 otherwise. Professionalism is measured using the corrected 2015 Squire Index (Squire 2017). ${ }^{19}$

## Results

Table 3 reports the results of the linear regression models with state fixed effects. ${ }^{20}$ Model 1 displays the results for whether the gender association of a committee impacts the difference in the proportion of women assigned to a committee as compared to the chamber. Women are significantly more likely ( $p<.01$ ) to be assigned to committees stereotypically associated with women as compared to neutral committees. This equates to a 5.4 percentage point difference in the proportion of women on female associated committees. The indicator for committees associated with men as compared to neutral committees is positive but insignificant. Remember from the results of the pretest in Table 2 that the strength of the association of women to specific policy areas was much stronger than the strength of the policy areas associated with men. It might be the case the women are so strongly associated with certain issue areas that there is no difference between the assignment of women to male and neutral committees. Women are 5.1 percentage points more likely to be on committees in chambers with formal preferences ( $p<.01$ ). Both interactions between committee type, male and female, and formal preference submission are insignificant.

## [TABLE 3 ABOUT HERE]

Model 2 displays the results for the impact of my main treatment variables - the gender association of a committee and the existence of formal preferences - with controls and state fixed effects. Similar to the results presented in Model 1, there is a positive and significant relationship between female legislators being assigned to committees associated with female

[^15]subject matter and a negative but insignificant relationship for the assignment of female legislators to male biased committees as compared to neutral committees. The variable for formal preference is positive and significant. The interaction between female bias committees and formal preferences is positive and insignificant. The interaction between male bias committees and formal preferences is negative but insignificant. These results match the results displayed in Model 1. Covariates that show positive and significant relationships with the proportion of women on a committee as compared to the chamber are professionalism, number of women in the chamber, and term limits. The covariates that show a negative and significant relationship with the proportion of women on a committee as compared to the chamber are being in the senate, number of committee seats, and number of seats in the chamber.

In summary, the results of this empirical analysis of the gender composition of state legislative committees indicate some observational equivalence: women might be self-selecting to be on committees that are stereotypically associated with women or leadership may override women's committee preferences and assign women to committees in both formal and informal preference chambers. In the next analysis, I seek to further examine the mechanism of providing explicit preferences on the assignment of legislators to particular gendered committee types in an experimental setting.

## Legislator Committee Assignment Experiment

## Experimental Design and Data

The above design accounts for the institutional level considerations that may impact how gender bias effects the assignments of legislators. In my experimental design, I examine the impact of how individual level characteristics may also play a role in how committee assignments are decided in conjunction with legislators' preferences. Modifying the experiment used by Hainmueller and Hopkins (2015), I use a choice based conjoint experiment assigning respondents in the role of legislative leader where they are asked to consider a number of characteristics for pairs of legislators and choose which legislator should serve on a given committee. The respondents repeat this for five randomly chosen committees.

The experiment was proctored online to 815 subjects that were recruited through the University of California, Merced research participation system at the University of California, Merced for research credits. Subjects used a link that redirected them to an external site, Qualtrics, where the survey experiment was hosted. Subjects were given a consent form and then asked a variety of demographic questions. ${ }^{21}$

The first part of the experiment randomly assigns a subject to one of two conditions: (1) the control condition where the subject sees a list of characteristics for the two legislators with no committee preferences or (2) the treatment condition where the subject sees a list of characteristics for the two legislators that includes committee preferences. Adding this condition allows me to observe how including the committee preference may impact a legislator's propensity to be assigned to a particular committee given other individual level considerations. I expect that when a respondent is assigned to the treatment condition - seeing the legislators

[^16]committee preferences - that the gender effect will be insignificant when the legislator's committee preference is the same as the committee the subject is choosing one of the legislator profiles. For example, if a respondent is choosing between a pair of legislator profiles for the Committee on Finance and one of the two legislators prefers to be on that committee, then I expect gender will not impact the assignment.

I chose nine committees to use in this experiment given the strength and direction of the gender bias from the results in the pretest. The three committees associated with women include: Committee on Family and Children, The Committee on Education, and Committee on the Arts. The three committees associated with men include: Committee on Trade Policies, Committee on Military and Veteran Affairs, Committee on Gambling and Gaming. The three committees that did not have any significant gender association, or are in other words gender neutral committees include: Committee on Municipal and County Issues, Committee on Housing and Property, and the Committee on Insurance. To be clear, these committee names are reflective of committee names that are used in current US State Legislatures.

## [TABLE 4 ABOUT HERE]

These committees are used in two ways in this experiment. The first is that subjects were randomly assigned for five of the nine committees to see paired profiles of legislators. The subject was asked to do two tasks per profile: (1) choose which of the two legislators that he or she would assign to the specific committee and (2) rank each of the legislator profiles on a seven point scale as to whether or not they should be assigned to a given committee, where 1 signified that the legislator should absolutely not be assigned to that committee and 7 was that the legislators should definitely be assigned to that committee. The second way that these committees were used was in the treatment condition, where legislators profiles include committee preferences for legislators. Table 4, displays the legislator characteristics that were included in the profiles shown to subjects. The categories of legislator attributes included: gender, age, education level, profession, annual income, political experience, and committee preference (in the treatment condition only). The legislators' attributes were randomly selected and randomly ordered to avoid potential structural bias in the experiment.

## Results

Table 5 and Table 6 display the results of the linear probability models for the conjoint experiment. The data was subset so that the models reflected respondent choices at the committee type level. For example, the female biased committee model in Table 6 includes the data from respondents that were randomly assigned to choose legislators for one or more of the three female biased committees in the condition where the subject sees no committee preferences. Subsetting the data in this manor helps to clearly display how different legislator characteristics played a role in decisions to assign a legislator to a committee associated with a particular gender. In each of these analyses the dependent variable is whether or not a legislator was chosen to be on a committee, coded as 1 when the legislator is chosen and 0 otherwise.

Using the model results in Table 5, we can observe the effect of a legislator's gender on the likelihood of being assigned to a particular type of committee while taking into account a variety of other legislator characteristics. The female committee model shows that when
choosing a committee typically associated with women, being a female legislator is a positive and statistically significant indicator. In addition, a legislator's higher education institution including state universities, Baptist colleges, ivy league colleges, and small liberal arts colleges and being a teacher increased the likelihood of a legislator being chosen to serve on a female gendered committee. The significance of these indicators are probably because the education committee is one of the committees that subjects were asked to assign legislators to in this experiment. A legislator being in their third and fourth term is a positive and significant predictor of being assigned to a committee.

## [TABLE 5 ABOUT HERE]

The neutral and male committee models reflect a positive and significant relationship between gender and being assigned to a neutral committee, however gender is a negative, albeit insignificant, indicator of women being assigned to male committees. Educational indicators are a significant predictor of legislator assignments in both the male and neutral models. Being a financial analyst, professor, lawyer, or business owner (only for neutral model) is significant predictor of committee assignments. Legislative experience for multiple terms is a positive and significant predictor of being assigned to a committee as in the female committee model.

Moving to the results presented in Table 6, we are able to compare the effect of knowing the legislator's preference when choosing committees. As expected, gender is not a significant predictor of women being assigned to female, male or neutral committees. Education is a positive and significant predictor of committee assignments but age, income, and profession and experience indicators are almost all insignificant predictors of committee assignments. Looking at the indicators for committee preferences in the female model, legislators are significantly more likely to be assigned when their preferences are for a female committee and significantly less likely if their preferences are for male biased committee as compared to preferring a neutral committee. A legislator is significantly less likely to be assigned to a neutral committee when they show committee preferences for female or male bias committees. When assigning a legislator to the male committee type, there is a negative relationship between preferring a female biased committee and a positive relationship when preferring a male biased committee as compared to preferring a neutral committee, however, both indicators are insignificant.

## [TABLE 6 ABOUT HERE]

Comparing the results across models for each condition provides strong support for my theoretical argument that when preferences are formally given the effect of gender along with other individual characteristics will become insignificant for the committee assignment of legislators. When preferences are not given education, connected professions, and experience are strong predictors of committee assignments, however age and income had little impact on the assignment of legislators to committees. However, when the committee preferences of legislators are shown, almost all covariates except some education and ample experience become insignificant predictors of a legislator being assigned to a committee. These results show that legislators are more likely to be awarded the committee assignments they prefer, rather than assigners using their individual bias to make assignment decisions.

## Concluding Remarks

I have argued that women face gender bias even after being elected to political office. My theory pertains to how stereotypes may effect the committee assignments of women in two ways. First, after being exposed to these stereotypes over time women may request to be on committees that oversee policy areas that are perceived to be better suited to women. Second, women may be assigned by leadership to female biased committees at a higher rate than their male counterparts. Arguably, the latter is more concerning for matters of representation. However, the chamber rules dictating how committees are assigned - how preferences are submitted - may mitigate the gender bias of leadership assigning legislators to committees.

I find that women are underrepresented on male biased and neutral committees, though this seems to be due to women choosing to not be on these types of committees rather than not being assigned due to a bias towards women. In the experimental analysis, I find that when preferences are submitted, respondents are not significantly more likely to use gender as a cue to assign legislators to specific types of committees. The three design approach used in this paper allows me to consider and remedy the shortcomings in each of the designs in order to effectively create a body of supporting evidence. For example, in my second analysis, I am able to use a large number of actual legislator committee assignments decided by leadership in almost every state legislature. There are however a number of inferential problems that I am unable to control for in my analysis including individual level characteristics of legislators. In my third analysis, a conjoint experiment, I am able to see how individual level characteristics such as age and experience effect legislators' propensity to be placed on particular committees. Unlike the assignments I am able to observe in the prior design, these choices are being made by non-elites. To be clear, my intention is to provide initial evidence in a larger research program involving a number of scholars looking at the role of gender stereotypes in institutions and my conclusions are tempered accordingly. That said, this approach is intended to be a strong first effort to provide a test of this theoretical argument.

I believe that this paper makes four key contributions to the study of gender in politics. First, I provide a theory of how institutional structures allow for gender bias to impact the outcomes for female legislators in the committee process. This is pertinent to continue to identify how gender bias might effect outcomes when women are being selected by voters to represent their interests. Second, I empirically test the theoretical expectations through a series of tests in order to gain a fuller understanding of the role of gender bias in legislatures. Much of the work in gender politics does not account for the potential selection bias that inhibits causal inference in these studies. I leverage a design strategy and data that allows me to take into account that women may self select into certain roles. Third, I use state legislatures as a testing ground to better understand how other contextual such as number of women in the chamber or chamber size might impact women in politics. This is important in furthering our understanding because I am able to test whether there are certain institutional designs or contextual factors, such as allowing legislators submit committee preferences, alleviate or perpetuate the gender bias in politics. The argument made in this paper lends itself nicely to empirical testing in other types of legislatures.

Women are not being openly singled out because of gender in the political arena as often as they once were (Schroeder 1999; Witt, Paget, and Matthews 1994; Woods 2000), but there
is still much to understand related to how gender impacts the treatment of legislators. In what instances do gender bias still exists and why? Given the argument and initial empirical results in this paper, there are a number of directions for research that I can suggest. First, knowing that women are represented at higher rates on committees that are female biased, it is important to now understand why female legislators might be choosing to be on these types of committees. Is it because they feel most confident and able to make the largest policy contributions in these areas or because these are the policy areas that are most important to their constituents. Differentiating between these will shed light on both women in politics and how legislators choose to represent their constituents. Second, and related, it is important to recognize under what conditions gender effects the leadership positions that women receive in legislatures and the explanations for why women are still underrepresented in legislative leadership roles. It may be the case that how leadership roles are chosen in institutions impacts the ability of women to attain leadership roles when bias is allowed into the process.

## Figures

Figure 1: Committee Preference Submission in U.S. State Senates


Figure 2: Committee Preference Submission in U.S. State Houses


Tables

Table 1: Gender Association of Policy Areas

| Male | Female | Neutral |
| :---: | :---: | :---: |
| Budget, Spending, \& Taxes <br> Business \& Consumers <br> Commerce <br> Gambling \& Gaming <br> Guns <br> Military <br> Trade | Animals Rights <br> Arts \& Humanities <br> Education <br> Family \& Children <br> Health <br> Reproductive Issues <br> Sexual Orientation \& Gender Issues <br> Social Issues | Agriculture \& Food <br> Animals Rights <br> Campaign and Elections <br> Civil Rights \& Civil Liberties <br> Crime <br> Drugs <br> Energy <br> Environmental Issues <br> ExecutiveBranch <br> Government Relations <br> Government Reform <br> Housing \& Property <br> Immigration <br> Indigenous People <br> Insurance <br> Judiciary <br> Labor \& Employment <br> Legal Issues <br> Legislative Affairs <br> Municipal \& County <br> Nominations <br> Public Service <br> Recreation <br> Resolutions <br> Safety \& Security <br> Science \& Medical Research <br> Senior Issues <br> State Agencies <br> Technology \& Communication <br> Transportation <br> Welfare \& Poverty |

Table 2: Difference in Gender Ability to Make Policy for Policy Issue Areas

| Policy Area | Difference | P-Value | Significant |
| :--- | :--- | :--- | :--- |
| Reproductive Issues | -2.5404 | 0.0000 | Yes |
| Family and Children Issues | -1.8860 | 0.0000 | Yes |
| Sexual Orientation and Gender Issues | -1.5184 | 0.0000 | Yes |
| Arts and Humanities | -1.4412 | 0.0000 | Yes |
| Social Issues | -1.1324 | 0.0000 | Yes |
| Education | -0.9963 | 0.0000 | Yes |
| Animal Rights and Wildlife Issues | -0.9706 | 0.0000 | Yes |
| Welfare and Poverty | -0.9669 | 0.0000 | Yes |
| Health | -0.8860 | 0.0000 | Yes |
| Civil Liberties and Civil Rights | -0.8676 | 0.0000 | Yes |
| Senior Issues | -0.7684 | 0.0000 | Yes |
| Environmental | -0.6765 | 0.0000 | Yes |
| Indigenous Peoples | -0.5699 | 0.0001 | Yes |
| Public Services | -0.4926 | 0.0001 | Yes |
| Recreation | -0.4890 | 0.0001 | Yes |
| Housing and Property | -0.3272 | 0.0070 | No |
| Immigration | -0.1618 | 0.2486 | No |
| Resolutions | -0.1471 | 0.2255 | No |
| Science and Medical Research | -0.1324 | 0.2938 | No |
| Agriculture and Food | -0.1324 | 0.2519 | No |
| Government Reform | -0.1287 | 0.3494 | No |
| Nominations | -0.0772 | 0.5493 | No |
| Municipal and County Issues | -0.0551 | 0.6478 | No |
| Labor and Employment | -0.0515 | 0.6862 | No |
| Campaign Finance and Election Issues | 0.0110 | 0.9339 | No |
| State Agencies | 0.0441 | 0.7169 | No |
| Federal, State, and Local Relations | 0.0846 | 0.4747 | No |
| Legal Issues | 0.0882 | 0.4801 | No |
| Drugs | 0.1471 | 0.2593 | No |
| Insurance | 0.1507 | 0.2477 | No |
| Transportation | 0.1581 | 0.2112 | No |
| Judiciary | 0.1618 | 0.1898 | No |
| Legislative Affairs | 0.1654 | 0.1763 | No |
| Energy | 0.1765 | 0.1735 | No |
| Budget, Spending, and Taxes | 0.1765 | 0.1889 | No |
| Safety and Security | 0.2868 | 0.0262 | Yes |
| Technology and Communication | 0.4191 | 0.0006 | Yes |
| Executive Branch | 0.4228 | 0.0009 | Yes |
| Business and Consumers | 0.4522 | 0.0002 | Yes |
| Crime | 0.4596 | 0.0004 | Yes |
| Commerce | 0.4669 | 0.0001 | Yes |
| Guns | 0.4890 | 0.0011 | Yes |
| Trade | 0.5074 | 0.0001 | Yes |
| Gambling and Gaming | 0.0956 | 0.0000 | Yes |
| Military | 0.0000 | Yes |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table 3: Linear Coefficients for the Difference in the Proportion of Female Legislators on a Committee

|  | Model 1 | Model 2 |
| :---: | :---: | :---: |
| Female Committee | 0.0543*** | 0.0553*** |
|  | (0.013) | (0.013) |
| Male Committee | 0.0075 | 0.0092 |
|  | (0.013) | (0.012) |
| Formal Prefs | 0.0506*** | 0.0445*** |
|  | (0.014) | (0.017) |
| Female Comm x Formal Prefs | 0.0268 | 0.0236 |
|  | (0.018) | (0.0179) |
| Male Comm x Formal Prefs | -0.0104 | -0.0152 |
|  | (0.0167) | (0.017) |
| Professionalism |  | 0.4940* |
|  |  | (0.253) |
| Number Members |  | -0.0014** |
|  |  | $(0.001)$ |
| Senate |  | -0.0435*** |
|  |  | (0.013) |
| Number Women Chamber |  | 0.0059*** |
|  |  | (0.001) |
| Number Chamber Seats |  | -0.0017*** |
|  |  | $(0.000)$ |
| Republican Majority |  | -0.0097 |
|  |  | (0.089) |
| Term Limits |  | -0.0296 |
|  |  | (0.036) |
| Proportionality Rule |  | 0.0174 |
|  |  | (0.017) |
| Min Number Assignments |  | -0.0063 |
|  |  | (0.018) |
| Intercept | 0.0007 | 0.0052 |
|  | (0.020) | (0.096) |
| N | 1794 | 1698 |
| $R^{2}$ | 0.212 | 0.265 |

NOTE 1: ${ }^{*} \mathrm{p}<0.10 ;$ ** $^{*} \mathrm{p}<0.05 ;{ }^{* * *} \mathrm{p}<0.01$, in a two tailed test.
NOTE 2: Both models include state fixed effects and robust standard errors in parentheses.

Table 4: Attributes for Legislator Profiles in Conjoint Experiment

| Attributes | Values |
| :---: | :---: |
| Gender | Male |
|  | Female |
| Age | 36 |
|  | 45 |
|  | 52 |
|  | 60 |
|  | 68 |
|  | 75 |
| Education Level | No College |
|  | Community College |
|  | State University |
|  | Baptist College |
|  | Small Liberal Arts College |
|  | Ivy League College |
| Profession | Nurse |
|  | Teacher |
|  | Financial |
|  | Analyst |
|  | Research |
|  | Scientist |
|  | Doctor |
|  | Professor |
|  | Lawyer |
|  | Business Owner |
|  | Farmer |
| Annual Income | \$32K |
|  | \$54K |
|  | \$65K |
|  | \$92K |
|  | \$210K |
| Political Experience | 1st Term |
|  | 2nd Term |
|  | 3th Term |
|  | 4th Term |
| Committee Preference | Committee on Children and Families |
|  | Committee on Arts |
|  | Committee on Education |
|  | Committee on Municipal and County Issues |
|  | Committee on Housing and Property |
|  | Committee on Insurance |
|  | Committee on Trade Policy |
|  | Committee on Military and Veteran Affairs Committee on Gambling and Gaming |

Table 5: Effects of Legislator Attributes on Probability of Being Assigned to Committees When Preferences Are Not Provided

|  |  | Female | Neutral | Male |
| :---: | :---: | :---: | :---: | :---: |
| Gender | Female | 0.0745*** | 0.0993*** | -0.0228 |
|  |  | (0.029) | (0.028) | (0.029) |
| Age | 45 | 0.0368 | 0.0570 | 0.0238 |
|  |  | (0.051) | (0.050) | (0.049) |
|  | 52 | -0.0011 | -0.0131 | -0.0265 |
|  |  | (0.050) | (0.049) | (0.048) |
|  | 60 | -0.0011 | -0.0256 | -0.0191 |
|  |  | (0.050) | (0.049) | (0.050) |
|  | 68 | -0.0114 | -0.0805 | -0.0221 |
|  |  | (0.050) | (0.050) | (0.049) |
|  | 75 | -0.0727 | -0.0881* | 0.00362 |
|  |  | (0.051) | (0.048) | (0.048) |
| Education | State University | 0.2860*** | 0.2280*** | 0.2010*** |
|  |  | (0.049) | (0.048) | (0.049) |
|  | Community College | 0.1160** | 0.1540** | 0.2070*** |
|  |  | (0.049) | (0.050) | (0.049) |
|  | Baptist College | 0.1650*** | 0.1220** | 0.0998** |
|  |  | (0.049) | (0.048) | (0.049) |
|  | Ivy League College | 0.2770*** | 0.1700*** | 0.2820*** |
|  |  | (0.049) | (0.049) | (0.050) |
|  | Small Liberal Arts College | 0.2720*** | 0.1150** | 0.1700*** |
|  |  | (0.050) | (0.050) | (0.049) |
| Income | 54K | 0.1040** | -0.0265 | 0.0447 |
|  |  | (0.046) | (0.045) | (0.045) |
|  | 65K | 0.0660 | 0.0635 | 0.0931** |
|  |  | (0.046) | (0.043) | (0.046) |
|  | 92K | 0.0983** | 0.0582 | 0.0492 |
|  |  | (0.045) | (0.046) | (0.044) |
|  | 210K | 0.00875 | 0.0385 | 0.0460 |
|  |  | (0.046) | (0.045) | (0.046) |
| Profession | Teacher | 0.1700** | 0.1660** | -0.0634 |
|  |  | (0.058) | (0.059) | (0.062) |
|  | Financial Analyst | -0.0145 | 0.4030*** | 0.1510** |
|  |  | (0.059) | (0.061) | (0.060) |
|  | Research Scientist | 0.0572 | 0.1130 | 0.0688 |
|  |  | (0.061) | (0.060) | (0.0630) |
|  | Doctor | -0.0370 | 0.0562* | -0.0526 |
|  |  | (0.060) | (0.061) | (0.062) |
|  | Professor | 0.0537 | 0.166** | 0.145** |
|  |  | (0.060) | (0.059) | (0.061) |
|  | Lawyer | 0.0219 | 0.257*** | 0.1430** |
|  |  | (0.061) | (0.060) | (0.060) |


|  | Business Owner | -0.0789 | $0.2600^{* * *}$ | 0.0871 |
| :--- | :--- | :--- | :--- | :--- |
|  |  | $(0.060)$ | $(0.060)$ | $(0.062)$ |
| Experience | Farmer | 2nd Term | $-0.1510^{* *}$ | $0.137^{* * *}$ |$)-0.0206$

Table 6: Effects of Legislator Attributes on Probability of Being Assigned to Committees When Preferences Are Provided

|  |  | Female | Neutral | Male |
| :---: | :---: | :---: | :---: | :---: |
| Gender | Female | 0.0320 | 0.0430 | 0.0009 |
|  |  | (0.028) | (0.028) | (0.028) |
| Age | 45 | -0.0439 | 0.0245 | -0.0325 |
|  |  | (0.047) | (0.050) | (0.048) |
|  | 52 | -0.0242 | 0.0792 | 0.0264 |
|  |  | (0.049) | (0.049) | (0.050) |
|  | 60 | -0.0410 | 0.0121 | -0.0132 |
|  |  | (0.046) | (0.048) | (0.049) |
|  | 68 | -0.0284 | -0.0014 | -0.0050 |
|  |  | (0.049) | (0.048) | (0.048) |
|  | 75 | -0.0684 | 0.0255 | -0.0252 |
|  |  | (0.047) | (0.050) | (0.048) |
| Education | State University | 0.1220* | 0.1200* | 0.0899 |
|  |  | (0.048) | (0.049) | (0.047) |
|  | Community College | 0.0920 | 0.0896 | 0.0886 |
|  |  | (0.048) | (0.050) | (0.046) |
|  | Baptist College | 0.1120* | 0.1040* | 0.0549 |
|  |  | (0.049) | (0.050) | (0.047) |
|  | Ivy League College | 0.109* | 0.118* | 0.118* |
|  |  | (0.048) | (0.050) | (0.048) |
|  | Small Liberal Arts College | 0.113* | 0.125* | 0.107* |
|  |  | (0.048) | (0.050) | (0.048) |
| Income | 54K | 0.0314 | 0.0642 | 0.0204 |
|  |  | (0.044) | (0.044) | (0.044) |
|  | 65K | -0.0439 | 0.0244 | -0.0469 |
|  |  | (0.044) | (0.044) | (0.044) |
|  | 92K | 0.0241 | 0.107* | 0.0281 |
|  |  | (0.043) | (0.044) | (0.044) |
|  | 210K | -0.0237 | 0.0485 | -0.0071 |
|  |  | (0.042) | (0.044) | (0.042) |
| Profession | Teacher | 0.0838 | 0.0440 | -0.0321 |
|  |  | (0.059) | (0.062) | (0.060) |
|  | Financial Analyst | -0.0539 | 0.1300* | 0.0776 |
|  |  | (0.059) | (0.060) | (0.057) |
|  | Research Scientist | -0.0450 | 0.0331 | -0.0020 |
|  |  | (0.059) | (0.057) | (0.058) |
|  | Doctor | -0.0481 | 0.0216 | -0.0463 |
|  |  | (0.060) | (0.059) | (0.059) |
|  | Professor | 0.0732 | 0.0805 | 0.0009 |
|  |  | (0.060) | (0.058) | (0.059) |
|  | Lawyer | -0.00156 | 0.1340* | 0.1120 |
|  |  | (0.059) | (0.059) | (0.057) |


|  | Business Owner | -0.0946 | 0.0595 | 0.0483 |
| :--- | :--- | :--- | :--- | :--- |
|  |  | $(0.060)$ | $(0.057)$ | $(0.056)$ |
| Experience | Farmer | -0.112 | 0.0673 | -0.0099 |
|  |  | 2nd Term | $(0.058)$ | $(0.059)$ |
|  |  | -0.0195 | 0.0242 | $0.059)$ |
|  | 3rd Term | $(0.040)$ | $(0.040)$ | $(0.038)$ |
|  |  | 0.0378 | 0.0704 | -0.0303 |
| Committee Type | Female | $(0.039)$ | $(0.040)$ | $(0.039)$ |
|  |  | $0.0833^{*}$ | $0.0838^{*}$ | 0.0522 |
|  | Male | $(0.039)$ | $(0.039)$ | $(0.039)$ |
|  |  | $0.1510^{* * *}$ | $-0.0719^{*}$ | -0.0102 |
|  | Constant | $(0.034)$ | $(0.034)$ | $(0.033)$ |
|  |  | $-0.0726^{*}$ | $-0.1250^{* * *}$ | 0.0141 |
|  | Observations | $(0.034)$ | $(0.035)$ | $(0.034)$ |
|  | R-Squared | $0.4030^{* * *}$ | $0.2710^{* * *}$ | $0.4050^{* * *}$ |

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## Appendix

## List of Issue Areas

The following list of issue areas that were used in the pretest that informed the coding of state committees and choice of committees used in the experimental analysis:

- Agriculture and Food
- Animal Rights and Wildlife Issues
- Arts and Humanities
- Budget, Spending, and Taxes
- Business and Consumers
- Campaign Finance and Election Issues
- Civil Liberties and Civil Rights
- Commerce
- Crime
- Drugs
- Education
- Energy
- Environmental
- Executive Branch
- Family and Children Issues
- Federal, State, and Local Relations
- Gambling and Gaming
- Government Reform
- Guns
- Health
- Housing and Property
- Immigration
- Indigenous Peoples
- Insurance
- Judiciary
- Labor and Employment
- Legal Issues
- Legislative Affairs
- Military
- Municipal and County Issues
- Nominations
- Public Services
- Recreation
- Reproductive Issues
- Resolutions
- Safety and Security
- Science and Medical Research
- Senior Issues
- Sexual Orientation and Gender Issues
- Social Issues
- State Agencies
- Technology and Communication
- Trade
- Transportation
- Welfare and Poverty


## Pretest Question Wording

## Question 1:

"There are a number of important issues that we expect elected officials to make policy about. Below is a list of some of the issue areas that are used to describe policies. Many people think of certain issue areas as being associated more with men or women perhaps because one gender typically prioritizes certain issue areas. For the following issue areas please indicate if you think that one gender or the other prioritizes the following issue areas?"

The options will allow respondent choose: (1) Male, (2) Female, or (3) Neutral.
Question 2:
"There are a number of important issues that we expect legislators to make policy about.
Below is a list of some of the issue areas. We are interested in how well you think a typical
[male/female] or [male/female] legislator makes policy in the following areas. For the following issues, please indicate how well you think typical [male/ female]and [male/ female] legislators make policy for that specific issue on a scale from 1 to 7 , where 1 indicates that you believe the legislator will do a poor job and 7 indicates that you believe the legislator will do an excellent job:"

Male and female were randomized in the question wording that respondents observed. The options will allow respondents to choose a score for male and female legislators on a 7-point scale.

Pretest Additional Tables from Mturk

Table 7: Respondent Counts for Gender Association of Issue Areas

| Policy Area | Male | Female | Neutral | Gender Bias |
| :--- | :--- | :--- | :--- | :--- |
| Agriculture and Food | 72 | 31 | 169 | Neutral |
| Animal Rights and Wildlife | 13 | 144 | 115 | Female |
| Art and Humanities | 5 | 169 | 98 | Female |
| Budget and Spending | 151 | 14 | 107 | Male |
| Business and Consumers | 157 | 8 | 107 | Male |
| Campaign Finance and Elections | 112 | 13 | 147 | Neutral |
| Civil Rights and Civil Liberties | 22 | 119 | 131 | Neutral |
| Commerce | 134 | 6 | 132 | Male |
| Crime | 120 | 23 | 129 | Neutral |
| Drugs | 102 | 24 | 146 | Neutral |
| Education | 6 | 181 | 85 | Female |
| Energy | 105 | 30 | 137 | Neutral |
| Environmental | 21 | 108 | 143 | Neutral |
| Executive Branch | 129 | 10 | 133 | Neutral |
| Family and Children | 6 | 224 | 42 | Female |
| Federal, State, and Local Relations | 90 | 12 | 170 | Neutral |
| Gambling and Gaming | 155 | 15 | 102 | Male |
| Government Reform | 87 | 26 | 159 | Neutral |
| Guns | 169 | 16 | 87 | Male |
| Health | 13 | 132 | 127 | Female |
| Housing and Property | 48 | 57 | 167 | Neutral |
| Immigration | 73 | 24 | 175 | Neutral |
| Indegeous People | 26 | 65 | 181 | Neutral |
| Insurance | 77 | 30 | 165 | Neutral |
| Judiciary | 98 | 12 | 162 | Neutral |
| Labor and Employment | 88 | 31 | 153 | Neutral |
| Legal Issues | 32 |  |  |  |
| Legislative Affairs | 84 | 12 | 176 | Neutral |
| Military | 87 | 12 | 173 | Neutral |
| Municipal and County | 211 | 2 | 59 | Male |
| Nominations | 76 | 23 | 173 | Neutral |
| Public Service | 69 | 20 | 183 | Neutral |
| Recreation | 44 | 73 | 155 | Neutral |
| Reproductive Issues | 37 | 81 | 154 | Neutral |
| Resolutions | 8 | 233 | 31 | Female |
| Safety and Security | 45 | 29 | 198 | Neutral |
| Science and Medical Research | 99 | 37 | 136 | Neutral |
| Senior Issues | 78 | 29 | 165 | Neutral |
| Sexual Orientation and Gender Issues | 24 | 14 | 142 | 161 |
| Neutral |  |  |  |  |
| Social Issues | 10 | 148 | 116 | Female |
| State Agencies | 72 | 18 | 182 | Female |
| Technology and Communication | 117 | 6 | 149 | Neutral |
| Trade | 138 | 6 | 128 | Neutral |
| Transportation | 727 | 153 | Neutral |  |
| Welfare and Poverty | 134 | Neutral |  |  |
|  | 72 | 7 |  |  |

Table 8: Average Respondent Scores for Gender Ability to Make Policy for Issue Areas

| Policy Area | Average Score Male | Average Score Female |
| :--- | :--- | :--- |
| Reproductive Issues | 3.25 | 5.79 |
| Family and Children Issues | 3.98 | 5.87 |
| Sexual Orientation and Gender Issues | 3.88 | 5.40 |
| Arts and Humanities | 4.09 | 5.53 |
| Social Issues | 4.24 | 5.38 |
| Education | 4.49 | 5.49 |
| Animal Rights and Wildlife Issues | 4.33 | 5.30 |
| Welfare and Poverty | 4.27 | 5.24 |
| Health | 4.45 | 5.34 |
| Civil Liberties and Civil Rights | 4.44 | 5.31 |
| Senior Issues | 4.49 | 5.26 |
| Environmental | 4.50 | 5.18 |
| Indigenous Peoples | 4.17 | 4.74 |
| Public Services | 4.69 | 5.18 |
| Recreation | 4.61 | 5.10 |
| Housing and Property | 4.73 | 5.06 |
| Immigration | 4.61 | 4.78 |
| Resolutions | 4.65 | 4.79 |
| Science and Medical Research | 4.87 | 5.00 |
| Agriculture and Food | 4.77 | 4.90 |
| Government Reform | 4.56 | 4.69 |
| Nominations | 4.64 | 4.72 |
| Municipal and County Issues | 4.73 | 4.79 |
| Labor and Employment | 4.82 | 4.88 |
| Campaign Finance and Election Issues | 4.68 | 4.67 |
| State Agencies | 4.70 | 4.66 |
| Federal, State, and Local Relations | 4.89 | 4.81 |
| Legal Issues | 4.88 | 4.79 |
| Drugs | 4.93 | 4.78 |
| Insurance | 4.79 | 4.64 |
| Transportation | 4.85 | 4.69 |
| Judiciary | 4.89 | 4.73 |
| Legislative Affairs | 4.80 | 4.64 |
| Energy | 4.93 | 4.75 |
| Budget, Spending, and Taxes | 4.97 | 4.79 |
| Safety and Security | 5.10 | 4.81 |
| Technology and Communication | 5.13 | 4.71 |
| Executive Branch | 5.04 | 4.61 |
| Business and Consumers | 5.18 | 4.72 |
| Crime | 5.08 | 4.62 |
| Commerce | 5.03 | 4.57 |
| Guns | 4.86 | 4.37 |
| Trade | 4.99 | 48 |
| Gambling and Gaming | Military | 5.33 |
|  |  |  |

## Pretest Results from Student Population

Table 9: Gender Association of Issue Areas

| Male | Female | Neutral |
| :---: | :---: | :---: |
| Budget, Spending, \& Taxes <br> Business \& Consumers <br> Camaign Finance \& Elections <br> Crimes <br> Drugs <br> Executive Branch <br> Gambling and Gaming <br> Guns <br> Military | Animals Rights <br> Arts \& Humanities <br> Education <br> Family \& Children <br> Reproductive Issues <br> Sexual Orientation \& Gender Issues | Agriculture \& Food <br> Civil Rights \& Civil Liberties <br> Commerce <br> Energy <br> Environmental <br> Federal, State, \& Local Relations <br> Government Reform <br> Health <br> Housing \& Property <br> Immigration <br> Indegeous People <br> Insurance <br> Judiciary <br> Labor \& Employment <br> Legal Issues <br> Legislative Affairs <br> Municipal \& County <br> Nominations <br> Public Service <br> Recreation <br> Resolutions <br> Safety \& Security <br> Science \& Medical Research <br> Senior Issues <br> Social Issues <br> State Agencies <br> Technology \& Communication <br> Trade <br> Transportation <br> Welfare \& Poverty |

Table 10: Difference in Gender Ability to Make Policy for Policy Issue Areas

| Policy Area | Difference | P-Value | Significant |
| :--- | :--- | :--- | :--- |
| Reproductive Issues | -1.9097 | 0.0000 | Yes |
| Family and Children Issues | -1.4947 | 0.0000 | Yes |
| Sexual Orientation and Gender Issues | -1.3468 | 0.0000 | Yes |
| Arts and Humanities | -1.2409 | 0.0000 | Yes |
| Education | -1.0978 | 0.0000 | Yes |
| Animal Rights and Wildlife Issues | -1.0914 | 0.0000 | Yes |
| Social Issues | -0.8445 | 0.0000 | Yes |
| Health | -0.8066 | 0.0000 | Yes |
| Environmental | -0.7464 | 0.0000 | Yes |
| Welfare and Poverty | -0.7033 | 0.0000 | Yes |
| Civil Liberties and Civil Rights | -0.5797 | 0.0000 | Yes |
| Senior Issues | -0.5544 | 0.0000 | Yes |
| Public Services | -0.5274 | 0.0000 | Yes |
| Indigenous Peoples | -0.4667 | 0.0000 | Yes |
| Resolutions | -0.4424 | 0.0000 | Yes |
| Immigration | -0.4128 | 0.0000 | Yes |
| Recreation | -0.4009 | 0.0000 | Yes |
| Science and Medical Research | -0.1464 | 0.0400 | Yes |
| Housing and Property | -0.1134 | 0.1112 | No |
| Labor and Employment | -0.0975 | 0.1828 | No |
| Energy | -0.0945 | 0.1827 | No |
| Agriculture and Food | -0.0901 | 0.2036 | No |
| Insurance | -0.0373 | 0.5971 | No |
| Nominations | 0.0408 | 0.5677 | No |
| Legal Issues | 0.0806 | 0.2586 | No |
| Safety and Security | 0.0858 | 0.2360 | No |
| State Agencies | 0.1014 | 0.1509 | No |
| Municipal and County Issues | 0.1068 | 0.1314 | No |
| Government Reform | 0.1446 | 0.0438 | Yes |
| Judiciary | 0.1704 | 0.0173 | Yes |
| Transportation | 0.1890 | 0.0077 | Yes |
| Federal, State, and Local Relations | 0.1934 | 0.0054 | Yes |
| Budget, Spending, and Taxes | 0.2552 | 0.0004 | Yes |
| Legislative Affairs | 0.2619 | 0.0002 | Yes |
| Campaign Finance and Election Issues | 0.2922 | 0.0001 | Yes |
| Executive Branch | 0.3123 | 0.0000 | Yes |
| Technology and Communication | 0.3234 | 0.0000 | Yes |
| Commerce | 0.3245 | 0.0000 | Yes |
| Drugs | 0.3276 | 0.0000 | Yes |
| Crime | 0.4236 | 0.0000 | Yes |
| Trade | 0.5077 | 0.0000 | Yes |
| Guns | 0.5152 | 0.0000 | Yes |
| Business and Consumers | 0.5239 | 0.0000 | Yes |
| Gambling and Gaming | 0.0000 | Yes |  |
| Military | 0.0000 | Yes |  |

Table 11: Respondent Counts for Gender Association of Issue Areas

| Policy Area | Male | Female | Neutral | Gender Bias |
| :--- | :--- | :--- | :--- | :--- |
| Agriculture and Food | 243 | 79 | 534 | Neutral |
| Animal Rights and Wildlife Issues | 40 | 421 | 395 | Female |
| Arts and Humanities | 28 | 464 | 364 | Female |
| Budget, Spending, and Taxes | 397 | 90 | 369 | Male |
| Business and Consumers | 493 | 35 | 328 | Male |
| Campaign Finance and Election Issues | 410 | 64 | 382 | Male |
| Civil Liberties and Civil Rights | 116 | 334 | 406 | Neutral |
| Commerce | 319 | 66 | 471 | Neutral |
| Crime | 406 | 75 | 375 | Male |
| Drugs | 412 | 60 | 384 | Male |
| Education | 32 | 443 | 381 | Female |
| Energy | 230 | 136 | 490 | Neutral |
| Environmental | 92 | 283 | 481 | Neutral |
| Executive Branch | 412 | 54 | 390 | Male |
| Family and Children Issues | 23 | 611 | 222 | Female |
| Federal, State, and Local Relations | 312 | 75 | 469 | Neutral |
| Gambling and Gaming | 540 | 38 | 278 | Male |
| Government Reform | 299 | 81 | 476 | Neutral |
| Guns | 558 | 57 | 241 | Male |
| Health | 41 | 401 | 414 | Neutral |
| Housing and Property | 180 | 185 | 491 | Neutral |
| Immigration | 139 | 117 | 600 | Neutral |
| Indigenous Peoples | 84 | 153 | 619 | Neutral |
| Insurance | 205 | 111 | 540 | Neutral |
| Judiciary | 258 | 59 | 539 | Neutral |
| Labor and Employment | 241 | 130 | 485 | Neutral |
| Legal Issues | 238 | 85 | 533 | Neutral |
| Legislative Affairs | 282 | 61 | 513 | Neutral |
| Military | 581 | 27 | 248 | Male |
| Municipal and County Issues | 253 | 80 | 523 | Neutral |
| Nominations | 228 | 88 | 540 | Neutral |
| Public Services | 97 | 300 | 459 | Neutral |
| Recreation | 135 | 259 | 462 | Neutral |
| Reproductive Issues | 57 | 539 | 260 | Female |
| Resolutions | 112 | 214 | 530 | Neutral |
| Safety and Security | 266 | 172 | 418 | Neutral |
| Science and Medical Research | 163 | 139 | 554 | Neutral |
| Senior Issues | 88 | 247 | 521 | Neutral |
| Sexual Orientation and Gender Issues | 45 | 413 | 398 | Female |
| Social Issues | 57 | 378 | 421 | Neutral |
| State Agencies | 236 | 71 | 549 | Neutral |
| Technology and Communication | 322 | 55 | 479 | Neutral |
| Trade | 395 | 37 | 424 | Neutral |
| Transportation | 73 | 517 | Neutral |  |
| Welfare and Poverty | 279 | 498 | Neutral |  |
|  |  |  |  |  |

Table 12: Average Respondent Scores for Gender Ability to Make Policy for Issue Areas

| Policy Area | Average Score Male | Average Score Female |
| :--- | :--- | :--- |
| Reproductive Issues | 3.93 | 5.84 |
| Family and Children Issues | 4.44 | 5.93 |
| Sexual Orientation and Gender Issues | 4.34 | 5.69 |
| Arts and Humanities | 4.34 | 5.58 |
| Education | 4.74 | 5.84 |
| Animal Rights and Wildlife Issues | 4.47 | 5.56 |
| Social Issues | 4.67 | 5.51 |
| Health | 4.84 | 5.65 |
| Environmental | 4.65 | 5.40 |
| Welfare and Poverty | 4.76 | 5.47 |
| Civil Liberties and Civil Rights | 4.89 | 5.47 |
| Senior Issues | 4.72 | 5.27 |
| Public Services | 4.80 | 5.33 |
| Indigenous Peoples | 4.45 | 4.92 |
| Resolutions | 4.76 | 5.20 |
| Immigration | 4.88 | 5.29 |
| Recreation | 4.82 | 5.22 |
| Science and Medical Research | 5.31 | 5.45 |
| Housing and Property | 5.10 | 5.21 |
| Labor and Employment | 5.06 | 5.16 |
| Energy | 4.98 | 5.07 |
| Agriculture and Food | 5.02 | 5.11 |
| Insurance | 4.99 | 5.02 |
| Nominations | 4.94 | 4.90 |
| Legal Issues | 5.11 | 5.03 |
| Safety and Security | 5.28 | 5.19 |
| State Agencies | 5.01 | 4.91 |
| Municipal and County Issues | 4.98 | 4.88 |
| Government Reform | 5.08 | 4.93 |
| Judiciary | 5.04 | 4.87 |
| Transportation | 5.11 | 4.92 |
| Federal, State, and Local Relations | 5.13 | 4.94 |
| Budget, Spending, and Taxes | 5.23 | 4.98 |
| Legislative Affairs | 5.15 | 4.89 |
| Campaign Finance and Election Issues | 5.20 | 4.91 |
| Executive Branch | 5.24 | 4.93 |
| Technology and Communication | 5.33 | 5.00 |
| Commerce | 5.15 | 4.83 |
| Drugs | 5.17 | 4.85 |
| Crime | 5.29 | 4.86 |
| Trade | 5.27 | 4.76 |
| Guns | 5.21 | 4.90 |
| Business and Consumers | 5.42 |  |
| Gambling and Gaming | Military | 5.46 |
|  |  |  |
|  |  |  |


[^0]:    ${ }^{1}$ Nebraska is a nonpartisan legislature, however I deal with this later in my analysis.

[^1]:    ${ }^{2}$ Other measures of party unity voting create scores at the party level (See Carey 2002,2007). In this paper, I seek to examine how individual members vote compared to the preference of their party. Therefore, I am not looking at the party level but rather my unit of analysis is individual legislators.

[^2]:    ${ }^{3}$ See Bowen and Greene 2014 for discussion of total expenditures as a proxy for informational resources.
    ${ }^{4}$ The report of this survey can be found using the following link: http://www.ncsl.org/research/ about-state-legislatures/summary-of-personal-staff-survey.aspx.
    ${ }^{5}$ Non-legislative members include chief clerk, secretary, and human resource officers.

[^3]:    ${ }^{6}$ Data for district level indicators are from Klarner et al. (2013)
    ${ }^{7}$ Fortunato and Provins (2017) show that abstention can be driven by certain legislative professionalism factors including access to information and the time that legislators are required to spend in the legislature. I have included covariates to account for these alternative abstention explanation.

[^4]:    ${ }^{8}$ I have also estimated a model of legislature party-line voting conditional on a legislators choice to vote. The substantive results produced by this estimation strategy are equivalent to those presented in this the results section of this paper.
    ${ }^{9}$ Fortunato and Provins use the assumption.

[^5]:    ${ }^{1}$ Joint committees are those committees that include members from both chambers of the legislatures.
    ${ }^{2}$ This data can be found by going to the following url: https://www.followthemoney.org/. Using the "My Legislature" section choose a state and year then submit the request. On the next page select the committee tab and click the submission button "to analyze data for all committees". The analysis provides the average contributions to committee members, the average contributions to committee leadership, number of contributions to the members of the legislature, and the total amount of contributions made to members during the selected year.

[^6]:    ${ }^{3}$ Following Smith and Derring (1983) I created indicators for Policy and Constituency that did and did not include education and labor committees. The substantive results discussed in the next section do not change under different variations of these variables. The results show education and labor committees as policy committees.
    ${ }^{4} \mathrm{I}$ also run the models using a fractional probit estimation strategy. The substantive results are unchanged. I include the OLS regression results due to ease of interpretation.

[^7]:    ${ }^{5}$ Subsetting my sample of standing committees in state legislatures to these five types produces a sample of 388 committees, where the majority of these chambers have at least four of the five committee types.
    ${ }^{6}$ This data can be obtained by using the following link:https://www.bea.gov/regional/index. htm.
    ${ }^{7}$ Since I am using the 2013-2014 state legislative session

[^8]:    ${ }^{1}$ See Escobar-Lemmon and Taylor-Robinson (2005) and Heath, Schwindt-Bayer and Taylor-Robinson (2005) for works looking at the effect of institutional arrangements on women's roles in a comparative perspective.

[^9]:    ${ }^{2}$ These statistics available on the Women in Congress Sites for the House and the Senate.

[^10]:    ${ }^{3}$ "Breaking the glass ceiling" is a phrase made popular about women that are able to break through invisible barriers, most commonly noted to be gender stereotypes, to moving up the ladder in companies and taking on increasingly powerful positions such as CEO. Therefore implying that women have broken the glass ceiling that prevented upward advancement in organizations.
    ${ }^{4}$ It must be noted when in the health care field, that women are generally stereotyped as nurses rather than doctors.

[^11]:    ${ }^{5}$ This list is included in the Appendix of this paper and can be found using the following link: http://docs.openstates.org/en/latest/policies/categorization.html\#subjects.
    ${ }^{6}$ The exact questions and options are included in Appendix of this paper.
    ${ }^{7}$ Male and Female are randomly ordered in the question to avoid respondent being bias towards rating male or female legislators differently because of the order presented.
    ${ }^{8}$ A student sample of 898 respondents at the University of California, Merced was also gathered while piloting the pretest. The results of the student sample tracked closely with the results from the Mturk sample. The results of the student sample are included in the Appendix. The coding of committees was based on the Mturk sample results because it represented respondents from a larger range of geographic and demographic characteristics.

[^12]:    ${ }^{9} \mathrm{~A}$ table in the appendix displays the raw counts by gender category for each issue area.

[^13]:    ${ }^{10}$ One might argue that it is better to use committee request data, I would agree. However after contacting all 99 chambers, not one was willing to share the actual committee requests of members for analysis. Committee request data for state legislatures has not been collected for recent state legislative chambers (see Hedlund and Patterson 1992). Hedlund and Patterson 1992 collected committee request data for Pennsylvania, Iowa, Maine, and Wisconsin for lower house members in 1986.
    ${ }^{11}$ Instances where the committee membership data was not available on OpenStates, I supplemented the data set with the committee membership available on the state legislatures website if possible. I do not include joint committees or subcommittees in my analysis. There is no committee data for Connecticut House and Senate because all committees in the legislature are joint committees.

[^14]:    ${ }^{12}$ http://www.ncsl.org/
    ${ }^{13}$ http://knowledgecenter.csg.org/kc/category/content-type/content-type/ book-states
    ${ }^{14}$ http://ippsr.msu.edu/public-policy/correlates-state-policy
    ${ }^{15}$ I used the R Package "gender" to code the gender of the legislators on each committee. I then constructed my dependent variable by summing the number of female legislators serving on each committee.
    ${ }^{16}$ Legislatures not included in the sample are due to two reasons: (1) refusal to discuss the committee assignment practices in the chamber and (2) nonresponse to a minimum of three attempts to make contact.
    ${ }^{17}$ There are four chambers in my sample that do not take preferences into account. I have included these with a separate indicator in other analyses and there is no substantive change in the results presented in this paper.

[^15]:    ${ }^{18}$ Nebraska is a unicameral chamber and is coded as 1 for senate. This is consistent with the coding of Nebraska as the upper chamber in state legislative scholarship.
    ${ }^{19}$ Since my data is for the 2017-2018 session the metrics for the squire index is not yet available for. I assume that the small changes in state legislative professionalism in the 2017-2018 session will not change the results of my analysis. Professionalism is not a significant predictor of the number of women on a committee in the models I present below.
    ${ }^{20}$ Neutral committees are omitted in both models as a reference group.

[^16]:    ${ }^{21}$ The demographic questions follow the same wording as the demographic questions used on American National Election Study (ANES) and the General Social Survey (GSS).

