The Gender Gap in Political Careers: Evidence from U.S. State Legislatures*

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Abstract

How do women's legislative careers differ from men's? Building on research documenting gendered career differences across many contexts, we introduce new data to study the political careers of more than 25,000 U.S. state legislators. Using a series of difference-in-differences designs to account for the types of districts that elect men or women legislators, we find that women are less likely to serve on top-flight committees, are less likely to chair these committees, and are less likely to serve in leadership. Women are also more likely to serve on women's issues committees and to sponsor legislation on women's issues. Follow-up analyses suggest that these differences in policy focus are driven by institutional factors rather than only differences in pre-existing policy interests or backgrounds. Furthermore, while we find no differences between men and women in their productivity as legislators, women raise considerably less money than men. The challenging landscape that women legislators face inside the legislature may help to explain the well-known fact that men are more likely to seek political office than women in the United States.

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1 Introduction

It is well known that women are underrepresented in legislatures across the world (e.g., Rosenbluth, Kalla, and Teele 2015) and run for office at lower rates than men (e.g., Lawless and Fox 2010).[1] Depending on the causes of this political gender gap, it may or may not point to significant normative and positive failures of democratic governance. On normative grounds, descriptive representation—a match between the identities and backgrounds of representatives and those that they represent—is a commonly stated goal of democratic forms of government (Pitkin 1972); on positive grounds, evidence suggests that the gender gap makes government less effective. Existing research suggests that women legislators on average work harder and secure more resources for their constituents (Anzia and Berry 2011), and that increases in the number of women politicians improve representation for women constituents (Chattopadhyay and Duflo 2004) and increase the overall competence of representatives (Besley et al. 2017).

Given these potential reasons to value gender parity in electoral representation, it is important to understand how and why gender imbalances emerge in political careers. Although it is well documented that women are less likely than men to seek political careers (Fox and Lawless 2004; Carroll and Sanbonmatsu 2013; Fox and Lawless 2014), we understand less about the differences in career outcomes between men and women *in* politics, and, in particular, we do not know if such differences indicate disparities in the opportunities our political institutions offer to women, or whether they merely reflect differences in the interests, backgrounds, or electoral contexts of men and women politicians.[2]

[1] More broadly, many labor markets exhibit gender gaps in compensation (Goldin et al. 2017), promotion rates (Blau and DeVaro 2007; Bertrand, Goldin, and Katz 2010), and leadership roles (Bertrand and Hallock 2001; Blau and Kahn 2017). For a recent review, see Olivetti and Petrongolo (2016).

[2] To be clear, there is a body of important work that explores how gender dynamics shape women's legislative careers (e.g., Thomas 1991; Kathlene 1994; Rosenthal 1998; Carey, Niemi, and Powell 1998; Poggione 2004; Volden, Wiseman, and Wittmer 2013; Provins 2017). But while descriptively and theoretically rich, this research has not been able to systematically identify and decompose the various sources of these gender differences as they evolve over time in the legislature.

In this paper, we collect expansive new data to study the gender gap in political career outcomes. Our dataset contains information on the gender, committee assignments, leadership positions, fundraising, and electoral outcomes of roughly 25,000 elected members of U.S. state legislatures over the past three decades. We combine this with data on over 700,000 bills, collected from primary sources, which allows us to observe what issues legislators focus on and how productive they are as lawmakers. As of 2014, women comprised about 25% of all state legislators, held slightly less than 22% of all committee chair positions, and held approximately 23% of all majority and minority party leadership positions.[3] While these aggregate disparities are already well documented (e.g., CAWP 2017), our data allows us to investigate gender differences in legislative careers at a level of detail not previously possible.

Using outcome measures that capture a broad range of lawmaking activities, we provide a comprehensive overview of the ways in which the political careers of women differ from those of men. Women legislators are less likely to serve on top-flight committees, defined to be the committees most valued by donors, are less likely to be chairs of these committees, and are less likely to serve in leadership. On the other hand, women legislators are more likely to serve on women's-issues committees, more likely to sponsor women's issues legislation, and are less likely to sponsor legislation about general fiscal issues. Finally, women are just as productive as men, in terms of sponsoring legislation and attending roll-call votes, yet raise substantially less money from donors than men.

We investigate three possible explanations for these gender disparities. First, women legislators may be elected from districts with different policy preferences, which could lead women legislators to behave differently than men simply due to constituency demand ("district selection"). Second, women may choose different career paths inside the legislature because they possess different interests or expertise than men ("self-selection"). Or, third, institutional factors may shape the opportunities that women receive and the choices they

[3]These numbers closely track those reported by the Center for American Women and Politics (CAWP), who report that the number is 24.8% for 2017. See `http://www.cawp.rutgers.edu/women-state-legislature-2017`.

face inside the legislature ("institutional factors"). Overall, we find evidence that institutional factors contribute substantially to the observed differences in men and women's legislative careers.

In order to account for district selection effects, we employ a difference-in-differences design that examines within-district changes in the gender of legislators, holding fixed the underlying policy preferences of the district. We pursue several strategies to attempt to separate self-selection from institutional incentives. Logically, the underrepresentation of women as chairs of top committees is difficult to square with self-selection, since all legislators are likely to desire committee chair positions. Using a difference-in-differences design to estimate the effect of joining a women's issues committee on sponsoring women's issues legislation, we also find that women sponsor much more women's related legislation after they join these committees than before. In fact, men and women not on women's issues committees sponsor bills about women's issues at similar rates; most if not all of the overall difference in men and women's focus on women's issues can be explained by the higher rate at which women serve on women's issues committees. Although women might self-select onto these committees—we cannot observe underlying legislator preferences for different committee assignments—we see no evidence that women exhibit a pre-existing interest in women's issues legislation before they are assigned to women's issues committees.

To further probe the possibility of self-selection, we also compare men and women who we estimate to possess no pre-existing experience related to women's issues. Specifically, we compare men and women who, in their first campaign for office, raise no money at all from donors in the sectors identified as being women's issues sectors. The logic is that women who raise no money from these sectors are unlikely to have worked in these sectors previously or to be connected to them socially or professionally. We find similar disparities in committee service even when we focus on this set of legislators.

In the final part of the paper, we try to separate self-selection from institutional incentives by looking at changes in legislative leadership. We show more speculative evidence that,

when a chamber has at least one woman in leadership, more women receive positions on top-flight committees. If women leaders are likely to provide more opportunities for women legislators, then these patterns suggest that institutional factors rather than self-selection drive the gender disparities that we observe. Although these results are more tentative, they are consistent with work in economics that documents how women executives help to advance the careers of other women within the firm (e.g., Matsa and Miller 2011).

Overall, the evidence suggests that women face a more challenging environment in the legislature than men. The existing literature emphasizes several psychological and structural reasons why women don't run for office—demonstrating, for example, that women are less politically ambitious (Fox and Lawless 2014), less likely to be recruited to office (Sanbonmatsu 2006), face more primary competition (Lawless and Pearson 2008), and are less likely to benefit from the incumbency advantage (Lawless and Fox 2010). Our findings offer an additional and complementary explanation: women may run at lower rates because they anticipate the adverse conditions they will face once elected as representatives.

2 New Data on Women in State Legislatures

To understand women's careers in state legislatures, we assemble a new dataset that contains information on the committee service and electoral performance of roughly 25,000 state legislators during the years 1986–2014. Information on the committee assignments—including committee chairs—of state legislators comes from a dataset we have constructed from primary sources for a series of papers (see Fouirnaies 2018; Fouirnaies and Hall 2017). We merge this information by legislator to election data from Klarner et al. (2013) and campaign finance data from Follow the Money using legislator names. We add to this information on which legislators hold which leadership positions, which was gathered from primary sources in Fouirnaies and Hall (2017). We also merge into this dataset information on the bills that legislators sponsor in 15 states for which we are able to gather the bill titles, summaries,

and sponsors from on-line sources. Together, the merged dataset allows us to analyze gender differences over the full range of legislator activity, spanning committee service, legislation, and fundraising.

2.1 Estimating Candidate Gender

We use standard, pre-existing statistical tools to guess candidates' gender based on their first names. These tools utilize administrative records on names and gender to determine which first names are most commonly used by men and women. This in turn allows us to predict which candidates are likely to be men or women. Table A.3 validates the procedure by comparing it to legislators' self-reported gender for the state of Wyoming. As the table shows, the vast majority of legislators are correctly classified.

2.2 Classifying Women's Issues Committees and Bills

We follow a long line of research that studies the legislative issues most commonly associated with women. In a review of the literature on women in the state legislatures, Swers (2001: 217) discusses how female state legislators exhibit greater commitment to "issues of traditional concern to women, including education, health, and welfare." We adopt the standard classifications used in this literature; in particular, we consider health, education, and welfare committees to be women's issues committees for our analyses below.[4]

Different state legislatures use different names for their committees, which presents a challenge for identifying which committees in which states are concerned with health, education, and welfare. We follow Fouirnaies and Hall (2017) in using a defined set of keywords to identify these committees in each state. Specifically, we count a committee as being concerned with health if we find any of the following word stems in the committee's official

[4]For another way to classify committees as women's committees, see Provins (2017). The paper finds that health, education, and welfare committees are all associated with women, in addition to several other committees that are perceived as being women-related.

name: 'health', 'hosp,' 'medic.' For education, the word stems are: 'educ,' 'school,' 'univer,' 'teach,' 'child.' For welfare, we use only the word 'welfare.'

For consistency, we then use the exact same word stems to define legislation related to these issues. Specifically, we search for these same word stems in the summaries of each bill in our dataset, and we count any bill as a women's issues bill if it contains any of the health, education, or welfare word stems.

3 The Gender Gap in Legislative Careers: Descriptive Facts

We begin by laying some basic descriptive groundwork about women in U.S. state legislatures. Like previous research has shown, our dataset indicates that women are underrepresented in state legislatures, and that their careers tend to focus on different issue areas than men (e.g., Thomas 1991; Swers and Larson 2005; Volden, Wiseman, and Wittmer 2016; Provins 2017).

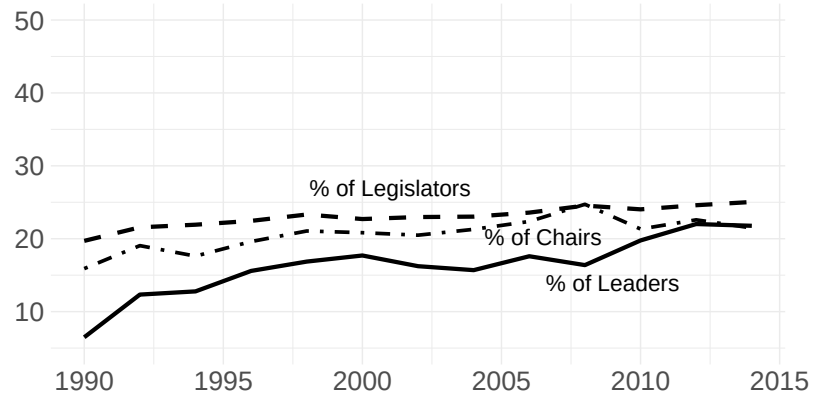
3.1 The Scarcity of Women Leaders in State Legislatures

Figure 1 presents three trend lines from our data: the percent of state legislators who are women, the percent of all state legislative committee chairs who are women, and the percent of all state legislative leaders—defined to include anyone with the titles Speaker, Leader, or President in either the majority or minority parties—who are women.

As the graph shows, the percentage of state legislators who are women has grown from about 20% in 1990 to roughly 25% in 2015.[5] But, as the second two lines show, fewer women are committee chairs and leaders than would be expected based on their numbers in the legislature. In 1990, while 20% of state legislators were women, fewer than 5% of legislative

[5]These numbers closely track those reported by the Center for American Women and Politics (CAWP), who report that the number is 24.8% for 2017. See `http://www.cawp.rutgers.edu/women-state-legislature-2017`.

Figure 1 – Fraction of Committee Chairs and Leadership Positions Held by Women Over Time, State Legislatures, 1990–2014.



leaders were women. These percentages have converged in more recent years, but even today, roughly 4 percentage points still separate them.

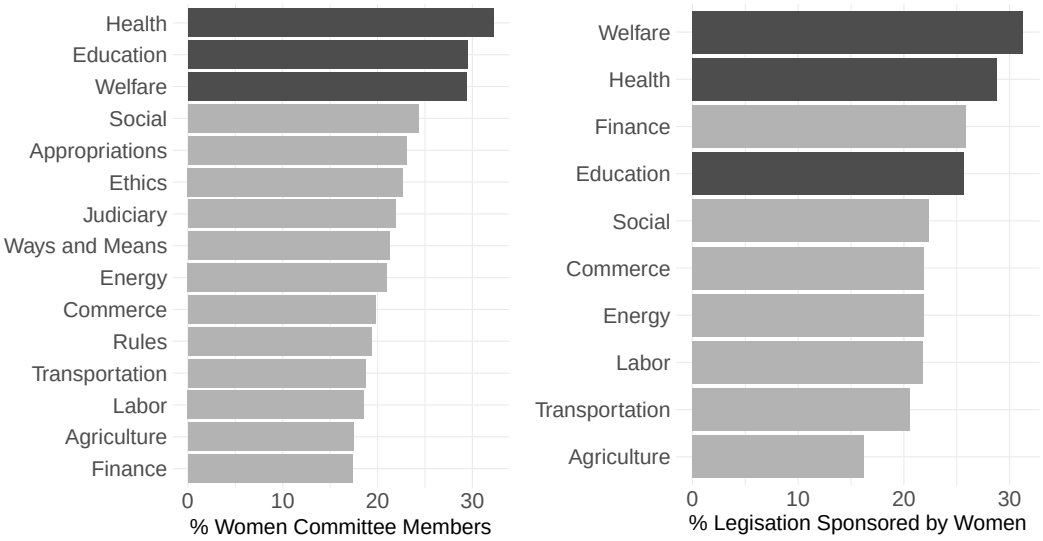
3.2 Women Focus More On Women's Issues

Figure 2 presents the percentage of women legislators in our data who serve on a variety of different committees, in the left panel, and who sponsor bills in a variety of different issue areas, in the right panel. The bars are highlighted in black for the issue areas we defined above to be women's issues—education, health, and welfare. There are fewer bars in the right panel because we cannot identify certain issue areas in the bill summary text (e.g., it is not clear what search terms to use to define ethics legislation; ethics committees are found using the word "ethics" but it is not clear that we can classify bills with only that word.)[6] The specific word stems used for each search are shown in the Appendix.

As the left panel of the figure shows, women's issues committees have a higher proportion of women members than other committees do. Roughly 23.5% of the legislators in our dataset are women, yet more than 30% of health committee members are women, and nearly 30% of education and welfare committee members are women. Conversely, women

[6]Specifically, we do not attempt to classify bills for the following committees: appropriations, ethics, rules, judiciary, and ways and means.

Figure 2 – Gender Composition of State Legislature Committees and Bill Sponsorship, 1990–2014. Committees and bill subjects in black are those the literature identifies as women-related.



Note: The left panel uses data on committee assignments from all state legislatures, while the right panel on bill sponsorship only uses data from the 15 states for which we have legislation data. Additional details are in the data section.

are underrepresented on many other committees. Fewer than 20% of the members of rules, transportation, labor, agriculture, and finance committees are women.

As the right panel of the figure shows, the bills that women sponsor also focus, by and large, on women's issues. Again, roughly 23.5% of legislators in our dataset are women, but more than 30% of bills categorized as concerning welfare are sponsored by women legislators, and roughly 28% of bills categorized as health-related are sponsored by women. Women also sponsor education bills at an unusually high rate. Women pursue other policy areas at lower rates—for example, only roughly 17% of agriculture bills are sponsored by women.

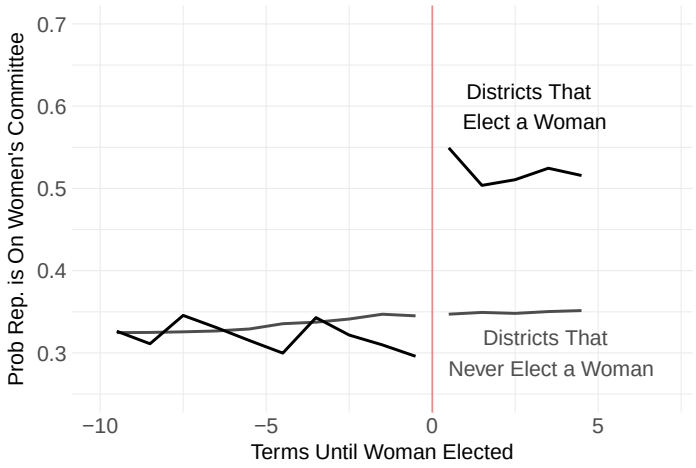
These are purely descriptive facts about women in U.S. state legislators. As we explained in the introduction, the differences between men and women in committee membership and policy focus could reflect district selection, self-selection, or institutional incentives. We now turn to formal analyses that seek to explain these observed patterns by distinguishing between these possible mechanisms.

4 The Gender Gap in Legislative Careers: Formal Evidence

The simplest approach to investigate whether the legislative careers of men and women follow different paths would be to compare the share of men and women who serve on a particular committee or who attain a certain leadership position. While comparisons like that are informative, they may conflate the fact that women tend to run and win office in a different set of districts, with different voter preferences, than men. Suppose, for example, that women are more likely to run in urban districts while men are more likely to run in rural districts, and that voters in rural districts care more about agriculture than those in urban districts. If we observe that women are less likely to serve on the agriculture committee, this could potentially reflect that women are elected in districts where agriculture is not a salient issue. Poggione (2004) summarizes how this type of selection issue may affect analyses of womens' legislative behavior, writing, "If systematic differences in men and women's constituencies explain the relationship between gender and legislators' preferences, rather than gender itself, then the impact of gender may have been overestimated in previous research."

To address this issue, we will compare the difference in committee service for men and women legislators who are elected from the same district at different times. Before moving to the formal estimates in this vein, we examine the effect of electing a woman legislator on observed committee assignments graphically. To simplify things, we group the committees the literature has identified as focused on women's issues—education, health, and welfare—into a single dummy variable indicating that a legislator serves on at least one such committee. We then plot the average of this variable for incumbents in two sets of districts: those that at some point elect a woman, and those that do not. Figure 3 plots the resulting trends. When a district switches from having a man incumbent to a woman incumbent, we observe a sharp jump in the average number of women-related committee positions. Women clearly

Figure 3 – Average Number of Women's Issues Committee Positions Held by Districts' Legislators, Before and After Districts Elect Women. Compares changes in incumbent committee positions related to women's issues for the set of districts who elect a woman to changes in these committee positions for a comparable set of "control" districts who have never elected a woman. There is a sharp jump upwards in women-related committee positions after a district elects a woman representative.



serve on women-related committees at higher rates than men, and this phenomenon is not the result of women serving in different districts than men.

4.1 Difference-in-Differences Design Using the Election of Women Legislators

We now formally implement a difference-in-differences design, using OLS, in which we compare the change in committee assignments a district's incumbent receives after the district elects a woman, instead of a man, to the change in committee assignments for incumbents in other districts that don't switch over the same time period. Specifically, we estimate equations of the form

$$On\ Committee\, j_{isct} = \beta\, Woman\ Legislator_{isct} + \gamma_i + \delta_{sct} + \epsilon_{isct}, \tag{1}$$

Table 1 – Women Representatives and Committee Service in State Legislatures: Difference-in-Differences Design. Accounting for differences in the districts that men and women serve, women are substantially more likely to serve on women's issues committees, and less likely to serve on top-flight committees.

	Committee Assignments					
	Women's Issues			Top-Flight		
	(1)	(2)	(3)	(4)	(5)	(6)
Woman Legislator	0.14	0.14	0.13	-0.03	-0.03	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
# Observations	87,103	87,099	87,099	87,103	87,099	87,099
Baseline Mean	0.31	0.31	0.31	0.25	0.25	0.25
District FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	No	No	Yes	No	No
State-Chamber-Year FEs	No	Yes	Yes	No	Yes	Yes
Party FEs	No	No	Yes	No	No	Yes
Seniority FEs	No	No	Yes	No	No	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is a dummy variable indicating if the district elects a woman to the legislature. In the first three columns, the dependent variable is an indicator for whether the legislator serves on at least one women's issues committee. Women's issue committees are defined to be: health, education, and welfare committees. In the final three columns, the dependent variable is an indicator for whether the legislator serves on at least one top-flight committee. Top-flight committees are defined to be finance and rules. Baseline Mean is the mean of the outcome variable for men legislators.

where $On\ Committee_{isct}$, our main outcome variable, is an indicator for whether district i in state s's incumbent serves on committee c at time t. The main quantity of interest is β, the coefficient on the "treatment" variable, $Woman\ Legislator_{it}$, which takes the value 1 if district i in state s in chamber c's incumbent is a woman at time t. Finally, γ_i represents district fixed effects, while δ_{sct} represents some form of time fixed effects—we often use state-by-chamber-by-year fixed effects, so that the difference-in-differences design only compares changes within a given legislative chamber over time.

Table 1 presents the results. In the first three columns, we investigate the effect of electing a woman legislator on the probability that the district's representative serves on any women's issues committee. As we can see, electing a woman legislator leads to a large

increase in the probability of serving on women's issues committees. In columns 1, 2, and 3 we estimate a series of difference-in-differences designs, adding district fixed effects as well as year fixed effects (in column 2), state-by-chamber-by-year fixed effects (in column 3), and party and seniority fixed effects (in column 4). The different sets of fixed effects reflect different parallel trends assumptions for the difference-in-differences; with year fixed effects, we use the entire dataset to construct counterfactual trends; with chamber-by-year fixed effects, we compare changes in committee service for districts that elect a woman to changes in districts represented by a man in the same legislative chamber (e.g., women-represented districts in Arizona's senate are compared only to men-represented districts in Arizona's senate.) When we add party and seniority fixed effects, we sharpen these comparisons further, using only districts whose representatives are in the same party and have the same level of seniority.

Across all specifications, we see a very similar and large increase. Women legislators serve on women's issues committees at much higher rates than men, even accounting for the constituency preferences of the different districts they are elected from.

The final three columns re-estimate the same regressions where the outcome variable is serving on a top-flight committee—defined to be finance or rules committees. We chose this definition based on the amount of campaign contributions given to members of different committees; donors appear to value members of the finance and rules committees at a much higher rate than other committees in state legislatures. Table A.2 in the Appendix shows this formally (for full transparency, we also present effects for each individual committee separately in the next section). As we see in the table, women legislators are significantly less likely to serve on these top-flight committees. In sum, women serve on women's issues committees at higher rates but on top-flight committees at lower rates.

The key threat to this approach is the possibility that districts tend to elect women legislators when their underlying preferences are changing. The time fixed effects that we include attempt to account for this possible trending by comparing the change in districts that elect

women to changes in other districts that do not elect women over the same period. The key assumption—parallel trends—is that these control districts provide a good counterfactual for the change over time in districts that elect women. Because the different kinds of time fixed effects employ different parallel trends assumptions, the fact that the estimates are similar across the columns is reassuring. We also test for parallel trends in the Appendix by including district linear time trends, and by including two leads of the treatment variable. Both tests for parallel trends strongly support the validity of the design.

Table 2 breaks down the results further by estimating them separately for a variety of committees and committee types. The second column in the table presents the estimate for β, the difference-in-differences effect of electing a woman legislator on the probability the district's incumbent serves on the given committee. To simplify the presentation, all estimates come from the same specification as presented in columns 4 and 8 of Table 1, the difference-in-differences including district fixed effects, state-by-chamber-by-year fixed effects, and party and seniority fixed effects.

The first two rows repeat the finding from before, that women serve on top committees at lower rates but serve on women's issues committees at higher rates. To serve on the women's issues committees at such high rates, of course, women must *not* serve on a variety of other committees. Which specific committees are these? As the table shows, women are much less likely to serve on agriculture, commerce, energy, finance, labor, transportation, and ways and means—a wide swath of committees.

4.2 Women Serve as Committee Chairs and Leaders Less Often

Next, we investigate whether women serve as committee chairs and in leadership at different rates than men, accounting for district characteristics with the same difference-in-differences design. Table 3 presents difference-in-differences estimates of the effect of electing a woman on the probability of (a) serving as a chair for any committee; (b) serving as a chair of a

Table 2 – Women Representatives and Committee Service in State Legislatures: Difference-in-Differences design. A woman representative is substantially more likely to serve on committees whose jurisdictions relate to issues the literature identifies as womens' issues (highlighted in grey), relative to a hypothetical man elected from the same district at the same time.

Committee	Change in Probability of Committee Assignment After Electing a Woman
Top Committees	**-0.024 (0.006)**
Women's Issues	**0.134 (0.008)**
Agriculture	-0.010 (0.005)
Appropriations	0.017 (0.005)
Commerce	-0.028 (0.006)
Education	0.078 (0.007)
Energy	-0.003 (0.007)
Ethics	0.003 (0.002)
Finance	-0.024 (0.005)
Health	0.092 (0.006)
Judiciary	-0.006 (0.006)
Labor	-0.018 (0.004)
Rules	-0.005 (0.004)
Social	0.078 (0.006)
Transportation	-0.037 (0.006)
Ways and Means	-0.010 (0.004)
Welfare	0.014 (0.003)

Numbers in second column are difference-in-differences estimates from equation 1. Robust standard errors clustered by district in parentheses. The first row presents an estimate pooling over the top committees, which are defined to be finance and rules. The second row presents an estimate pooling over the women's issues committees, which are defined to be education, health, and welfare.

Table 3 – Women Legislators and Committee Chair and Leadership Positions. Overall, women hold committee chair positions at roughly the same rate as men; however, they are more likely to be the chair of women's issues committees and less likely to be the chair of top-flight committees. They are also less likely to be in leadership.

	Chair of Committee			
	All	Women's	Top-Flight	In Leadership
	(1)	(2)	(3)	(4)
Woman Legislator	-0.01	0.02	-0.01	-0.01
	(0.01)	(0.00)	(0.00)	(0.00)
Observations	87099	87099	87099	87099
Baseline Mean	0.25	0.03	0.06	0.06
Legislator Fixed Effects	Yes	Yes	Yes	Yes
State-Chamber-Year FEs	Yes	Yes	Yes	Yes
Seniority Fixed Effects	Yes	Yes	Yes	Yes
Party Fixed Effects	Yes	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is a dummy variable indicating if the district elects a woman to the legislature. The dependent variable in the first column is an indicator for whether the legislator is a chair of any committee; in the second column, it is whether the legislator is a chair of any women's-issues committee, defined to include education, health, and welfare; in the third column, it is whether the legislator is the chair of any top-flight committee, defined to include finance and rules. In the fourth column, it is whether the legislator is a member of leadership, defined to include leaders, president pro tems, and speakers of both the majority and minority parties.

women's issues committee; (c) serving as a chair of a top-flight committee; and (d) serving in the legislature's leadership.

While the difference between men and women in chair positions is not large when considering all committee types (column 1), columns 2 and 3 show large differences in the types of committees that each group chairs. As column 2 shows, women are much more likely than men to serve as the chair of women's issues committees, accounting for district differences; while a man has a 3% chance of chairing such a committee, a woman has a 5% chance—a 67% increase relative to a man. In column 3, we see that women are substantially less likely than men to chair top-flight committees. The 1 percentage-point difference constitutes a 17% decrease in the probability of chairing a top-flight committee as a woman.

We see the same pattern in column 4 when we look at leadership positions. Defining leadership to include legislators who serve as leader, president pro tem, or speaker in either the majority or minority party, we see a woman is again 1 percentage-point less likely than a man to be in leadership, a 17% difference—again, accounting for district differences.

4.3 Women Sponsor More Women-Related Legislation

The gender differences in committee service that we have documented are important in part because committees are a crucial component of the policymaking process. In this section, we confirm that, much as women are overrepresented on women's issues committees, they also sponsor a disproportionate amount of legislation concerning women's issues.

To perform these analyses, we use the data on bill topics, which we classify using keywords from the text of bill summaries, as we explained above in Section 2.2. We focus on bills in three areas: women's issues, which, as a reminder, are health, education, and welfare; symbolic issues, which we define based on the keywords from Volden, Wiseman, and Wittmer (2016);[7] and fiscal issues, for which we search for the word stems tax, fiscal, fund, receipt, expenditure, pay, appropriat, authoriz, compensat, fee, salary, paid, deduct. These latter two categories are intended to reflect other basic non-women's issues policy areas that state legislators spend considerable time on.

As before, we account for district selection by using a difference-in-differences design as in Equation 1 above. Table 4 presents the results. In the first column, we see that, accounting for district preferences, women legislators sponsor more bills than men do. The effect is meaningful in magnitude; if we estimate it in levels, which are more interpretable but also noisier, we see that it corresponds to an increase of 1.5 bills, on average, from a baseline mean of roughly 9 bills. This is roughly a 15% increase, as the logged estimate itself suggests.

[7]Specifically, the word stems we search for are: "expressing support", "urging", "promoting", "condol", "commemorat", "honor", "memoria", "congratul", "recogni", "public holiday", "designa", "rename", "for the private relief of", "for the relief of", "medal", "mint coin", "posthumous", "public holiday", "encourag", "provide for correction", "to name", "redisgnat", "to remove any doubt", "to rename", "retention of the name".

Table 4 – Gender Differences in Legislative Content. Women Legislators sponsor more bills on women's issues and fewer bills on fiscal policy.

	Log (# Bills + 1)		
	Women's	Symbolic	Fiscal
	(1)	(2)	(3)
Woman Legislator	0.10	-0.02	-0.13
	(0.02)	(0.01)	(0.02)
# Observations	14,144	14,144	14,144
District FEs	Yes	Yes	Yes
State-Chamber-Year FEs	Yes	Yes	Yes
Seniority FEs	Yes	Yes	Yes
Party FEs	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is a dummy variable indicating if the district elects a woman to the legislature.

As we explained in the Data section, the number of observations is smaller for these analyses because we only have data on bill sponsorship for 15 states.

In the second column, we see that women and men engage in symbolic bill writing at the same rate. On the other hand, in the third column, we see that women sponsor significantly fewer bills related to fiscal issues. Again, this decrease is meaningfully large, corresponding to an estimate in levels of 1.15 bills—about an 11% decrease.

In sum, the differences in women legislators' committee service in the legislature corresponds to differences in the types of legislation that they author. Women write bills on women's issues at higher rates and write bills on fiscal issues at lower rates, even after accounting for differences in the types of districts men and women serve. We now turn to studying whether these differences stem from self-selection, institutional factors, or both.

5 Decomposing Self-Selection and Institutional Factors

Thus far, we have used our data to document substantial differences in the career paths of men and women in state legislatures, accounting for differences in the types of districts that

men and women legislators serve. That women are markedly less likely than men to obtain positions as chairs of the most valuable committees suggests to us that these differences are not entirely driven by self-selection. In this section, we pursue several additional analyses that suggest that institutional factors—especially the committee-assignment process—are, at least in part, responsible for the differences we have observed.

5.1 Women's Issue Focus Driven by Committee Assignments, Not Fixed Characteristics

We start by exploring the relationship between committee service and bill sponsorship for women legislators. If women sponsor more women's issues legislation than men because of self-selection, then women legislators may seek to sponsor such legislation whether or not they are on women's issues committees. If, on the other hand, institutional factors induce women to focus on women's issues, then we might expect women to sponsor more women's issues bills only after they are assigned to women's issues committees.

Table 5 tests these competing hypotheses by performing an individual-level difference-in-differences design comparing changes in women's legislative focus when they switch onto or off of women's issues committees to changes for other women not on these committees. This is the same approach used to answer other questions about committee membership effects in Romer and Snyder (1994), Berry and Fowler (2015), Grimmer and Powell (2016), and Fouirnaies and Hall (2017). Specifically, we estimate equations of the form

$$\log(\#\ Bills\ on\ Women's\ Issues_{isct} + 1) = \beta\, On\ Women's\ Committee_{isct} + \gamma_i + \delta_t, \qquad (2)$$

where the outcome variable is the log of the number of bill's on women's issues that legislator i introduces at time t in chamber c in state s. The variable $On\ Women's\ Committee_{isct}$ is an indicator variable for whether legislator i is on at least one women's issues committee at time t, and γ_i and δ_t stand in for individual legislator and time fixed effects, respectively.

Table 5 – Effect of Women Joining women's issues Committees on Bill Sponsorship. Women sponsor more bills concerning women's issues after joining women's committees, suggesting that institutional factors influence what issues women legislators focus on.

	Log # Bills on Women's Issues			
	(1)	(2)	(3)	(4)
On Women's Committee	0.14	0.12	0.11	0.11
	(0.04)	(0.04)	(0.04)	(0.04)
Observations	3271	3271	3271	3271
Legislator Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	No	No	No
State-Chamber-Year FEs	No	Yes	Yes	Yes
Seniority Fixed Effects	No	No	Yes	Yes
Party Fixed Effects	No	No	Yes	Yes
Legislator Time Trends	No	No	No	Yes

Robust standard errors clustered by district in parentheses. Regressions include only women legislators. On Women's Committee is a dummy variable indicating if the legislator is a member of the education, health, or welfare committees. The dependent variable is the log (plus one) of the number of bills a legislator sponsors that are classified as women's issues bills.

Table 5 presents the results, using a variety of specifications of fixed effects as in previous analyses. Across all specifications, we see that joining a women's issues committee leads a woman legislator to sponsor substantially more women's issues bills.

This effect suggests that being on a women's issues committee changes what kind of legislation women focus on. Indeed, women legislators *not* serving on any women's issues committee sponsors, on average, roughly 7.5 bills concerning women's issues in a legislative term—slight fewer than men not serving on these committee sponsor (8.3 bills on average). When a woman joins a women's issues committee, she introduces roughly 1 more bill per term concerning women's issues, a roughly 12% increase (to report this interpretable estimate, we re-estimate the regression in levels instead of logs); if we estimate the design for men legislators, we find a very similar increase. As such, men and women legislators sponsor similar amounts of women's issues legislation when they are not serving on women's issues

committees and when they are serving on such committees. The disparity in the amount of focus women place on women's issues legislation therefore seems to come from the fact that they are disproportionately placed on women's issues committees, rather than from a pre-existing tendency to focus on these policy areas.

5.2 Investigating Self-Selection Using the Fundraising Data

We can also attempt to separate self-selection from institutional factors by comparing men and women legislators who do not appear to have pre-existing backgrounds or interests in women's issues. Unfortunately, it is not possible to assemble detailed biographical data on the roughly 25,000 legislators in our sample; however, we can use the campaign finance data to proxy for these backgrounds and interests. Candidates who have worked in the education or health sectors, or who are interested enough in these issues to have formed professional and social networks with people interested in these issues, are very likely to receive campaign contributions from people in these sectors. We can therefore re-estimate the difference-in-differences design from equation 1 focusing only on men and women who raise no money from these sectors. If we find that these women legislators still serve on the health and education committees at higher rates than these men, it could suggest that institutional factors play an important role in women's careers in the legislature.

Table 6 pursues this strategy. The first two columns compare the difference-in-differences estimator on the probability of serving on the health committee for all legislators (column 1) vs. only those who raise no money from the health sector (column 2). As we see, the estimate is almost identical in both columns, suggesting there is little or no self selection onto the health committee.

The final two columns perform this same exercise for the education committee. Here, we see that the estimate falls by about half when we subset to candidates who raise no money from the education sector. This suggests that there is some self selection into the education

Table 6 – Women Legislators' Service on Women's Issues Committees. Women are more likely than men to serve on women's issue committees. This is true even when we compare men and women with no pre-existing ties to these issue areas, as proxied for using contributions from donors in those sectors.

	On Health Committee		On Education Committee	
	All Data	No $ From Sector	All Data	No $ From Sector
	(1)	(2)	(3)	(4)
Woman Legislator	0.09	0.08	0.08	0.04
	(0.01)	(0.02)	(0.01)	(0.03)
# Observations	56,748	10,337	56,748	8,983
District FEs	Yes	Yes	Yes	Yes
State-Chamber-Year FEs	Yes	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is a dummy variable indicating if the district elects a woman to the legislature. In the first two columns, the dependent variable is an indicator for whether the legislator serves on the health committee. In the final two columns, the dependent variable is an indicator for whether the legislator serves on the education committee.

committee, but still a substantial institutional effect (roughly 50%, if we believed that there is no interest in education among candidates who raise no money from the education sector.)

Taken together, the results suggest that a substantial part of service on both the health and education committees—and especially on the education committee—is not driven by self-selection.

5.3 Investigating Self-Selection Using School-Board Incumbents in California

In the previous subsection, we used the campaign finance data to attempt to proxy for legislator backgrounds and interests before becoming state legislators, in an effort to account for possible self-selection onto women's issues committees. Now, we replicate this analysis using special data from California. Specifically, we match school-board incumbents to the California state legislative data using an exact match on last name plus the first three letters

of the first name. We find 49 state legislators who were previously school-board members. As we might expect, on average former school-board members do appear on the education committee more than other legislators in California. While California legislators who were not previously on a school board have an 18% probability of serving on the education committee, those with school-board experience have roughly a 31% probability ($p < .0001$). This bolsters the idea that self-selection will be strongest among state legislators with school-board experience, and weaker among other legislators without this background.

We can use this information to re-run the tests from Table 6, using the set of California state legislators who were not previously schoolboard members as our set of legislators less likely to self select onto education committees. For brevity's sake, we do not present a table—for all 1,385 observations in our California data, we estimate that electing a woman leads to a 7 percentage-point increase in the probability the district's representative serves on the education committee; when we subset to the 1,276 observations that include incumbents who did not previously serve on a school board, the estimate is 8 percentage points (both of these estimates are imprecise, with standard errors of 0.06, because of zooming in on only California data). Since not many state legislators in California turn out to have been on school boards, it is perhaps not surprising the estimates are so similar for the two samples; the larger takeaway may be, instead, that self selection onto the education committee may not be so obvious a hypothesis as people have thought. Despite stereotypes, relatively few women state legislators, in California at least, actually come from school boards.

6 Equal Productivity, Unequal Fundraising

Next, we examine the possibility that differences in human capital might drive the observed disparities between men and women serving on top-flight committees. Research in labor economics suggests that differences in background training and skills accounts for a large share of the gender earnings gap among college-educated women (e.g., Black et al. 2008;

Bertrand, Goldin, and Katz 2010). For example, women in MBA programs take fewer finance courses and have lower GPAs than men, on average, which contributes substantially to their lower earnings in the workplace.

We think this explanation is unlikely in the context of the legislative labor market given evidence from the existing literature suggesting that women legislators are, in some cases, more competent than their male counterparts (Anzia and Berry 2011; Besley et al. 2017). To test for this possibility, we examine how productive women lawmakers are compared to men. Using the same difference-in-differences approach as in previous sections, we demonstrate that women sponsor and pass the same number of bills as men, and they are present for roll-call votes at the same rate. In fact, there are almost no discernible gender differences in legislative productivity.

However, we do find that women are less successful at fundraising than men. While they raise just as much money from sectors associated with women's issues (education and health-care), overall they face a fundraising penalty once in office. Donors from the financial sector appear to contribute substantially to this gap. Even though women are equally productive as lawmakers, they secure less funding than their male colleagues.

These findings suggest that the underrepresentation of women on top-flight committees may have real consequences for their careers within the legislature. Given the potential donor contribution boost associated with serving on prestigious committees, it is unlikely that women are voluntarily opting out of these positions. Rather, it seems more likely that institutional factors drive them to serve on women's issues committees, creating a fundraising penalty as a result.

Table 7 – Gender Differences in Legislative Productivity and Fundraising. Women legislators are no more or less productive than men, but raise less money than men when running for reelection, on average

	Productivity			Fundraising		
	Log # Sponsored (1)	Log # Passed (2)	Pct Votes (0-100) (3)	Log All (4)	Log Women's (5)	Log Finance (6)
Woman Legislator	-0.01	-0.01	-0.10	-0.10	0.07	-0.24
	(0.02)	(0.03)	(0.48)	(0.02)	(0.05)	(0.06)
# Observations	14,718	13,087	9,699	38,473	38,473	38,473
District FEs	Yes	Yes	Yes	Yes	Yes	Yes
State-Chamber-Year FEs	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is a dummy variable indicating if the district elects a woman to the legislature. The outcome variable in column 1 is the log of the total number of bills sponsored, plus one. In column 2, it is the log of the total number of bills passed plus one. In column 3, it is the percent of roll-call votes that the legislator is present for. In column 4, it is the log of the total amount of money raised. In column 5, it is the log of the total amount of money raised from donors in sectors related to women's issues (education and health). In column 6, it is the log of the total amount of money raised from donors in the financial sector.

7 Women Leaders and Women's Committee Assignments

As we have seen, women legislators disproportionately are underrepresented on the committees that are most valuable to donors, and, partly as a consequence of this, raise less money than men. In this section, we explore one particularly important institutional factor that might affect women's opportunities and choices inside the legislature: whether the the legislature's leadership, who make committee assignments and shape legislators' careers in many important ways, contains any women. If we think that the disparities we laid out above result from institutional incentives and not just from self-selection, and if we think that women leaders are more likely to address these issues, then we should see these disparities decrease when women gain leadership positions.

To investigate this hypothesis, we re-estimate equation 1 with the addition of an interaction term, the product of *Woman Legislator* and a new variable, $Woman\ Leader_{sct}$, which

takes the value 1 if chamber c in state s has at least one woman in a leadership position at time t, and 0 otherwise. We define leadership to include the following titles, which are used in various state legislatures: leader, president pro tem, and speaker. We include leaders of both the majority and minority parties since minority-party leadership often influences the committee assignments received by members of the minority party.

Table 8 presents the results. The first row simply shows how underrepresented women legislators are on top-flight committees when leadership is all men, taking account of district preferences as in Table 2. As the second-row interaction terms in the first four columns show, we find consistent evidence that women legislators are less underrepresented on top-flight committees when women are present in leadership.[8] Our preferred estimate containing the most rigorous set of fixed effects, in column 4, suggests that having at least one woman in leadership predicts that the underrepresentation of women on top-flight committees falls by 67%.

In Table A.5, we re-estimate the specification from column 4 for each individual committee, and we report the interaction coefficient that reflects how different the effect is when there is a woman in leadership. As the table shows, results at the individual-committee level are mostly imprecise, and it is difficult to discern any clear patterns. Rules is the most positive estimate; finance and health are the next largest. If we re-estimate the effect for women's committees, we see an increase in the effect when a woman is in leadership, though the magnitude of the interaction term coefficient is substantially smaller than for the top committees. This suggests that the shifting of women onto top committees is not driven by a reallocation away from women's committees. Consistent with this possibility, women legislators appear to serve on more committees when there is a woman in leadership, on average, though this estimate is quite noisy.

In sum, women do appear to gain access to top-flight committees—finance and rules—at a higher rate when a woman is in leadership, but these results are speculative. That

[8]These results are also robust to the inclusion of a control for the number of women present in the legislature.

Table 8 – Women Membership on Top Committees With and Without Women Leadership. More women serve on top committees when the legislative leadership includes women.

	On Top Committee			
	(1)	(2)	(3)	(4)
Woman Legislator	-0.04	-0.04	-0.03	-0.03
	(0.01)	(0.01)	(0.01)	(0.01)
Woman Leg × Woman Leader	0.02	0.02	0.02	0.02
	(0.01)	(0.01)	(0.01)	(0.01)
# Observations	87103	87099	87099	87099
District FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	No	No	No
State-Chamber-Year FEs	No	Yes	Yes	Yes
Seniority FEs	No	No	Yes	Yes
Party FEs	No	No	Yes	Yes
District Trends	No	No	No	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is an indicator variable for whether the district elects a woman to the legislature. Woman Leader is an indicator variable for whether a woman occupies a leadership position in either the majority or minority parties. The main effect for this variable is absorbed by fixed effects in all specifications other than column 1, where we include it but do not report the coefficient for brevity's sake. The outcome variable in all columns is a dummy variable indicating if the legislator serves on a top committee, defined to be the finance and rules committees.

said, they are consistent with existing research demonstrating that women managers can effectively reduce workplace gender bias. For example, when women become managers, the gender wage gap decreases in their firms (Cohen and Huffman 2007), and when women serve on corporate boards more women are promoted to top management positions (Matsa and Miller 2011).

A variety of mechanisms have been proposed to explain these findings. Women in leadership roles might help other women gain access to male-dominated professional networks and same-sex mentors (Athey, Avery, and Zemsky 2000), and female managers may be less likely to discriminate against women for career interruptions due to childbearing and family care obligations (Miller 2011). Women are also more likely to agree with the idea that employers

should make "special efforts to hire and promote qualified women"— and this is especially true of women managers (*The General Social Survey* 1996).

At the same time, anecdotal evidence suggests that men in leadership may exclude women from informal networking activities in order to avoid the appearance of impropriety. Mike Pence has famously stated that he refuses to dine alone with women, and a survey of Capitol Hill staffers in 2015 found that "several female aides reported that they have been barred from staffing their male bosses at evening events, driving alone with their congressman or senator, or even sitting down one-on-one in his office for fear that others would get the wrong impression."[9] Sexual harassment scandals have roiled a number of state legislatures in recent years; the state of California, for example, recently released records on 18 allegations of sexual harassment in its state legislatures.[10] Collectively, there are a variety of formal and informal channels through which more women leaders in the legislature might help the careers of their fellow women.

8 Conclusion

This paper has offered comprehensive new data on U.S. state legislators, which we have used to provide a detailed account of the differences in the political careers of men and women. Consistent with existing literature, we started by showing descriptive evidence that women are underrepresented in state legislatures, are underrepresented in leadership inside the legislature, and disproportionately focus their political careers on women's issues. Understanding what these differences mean requires understanding whether they are driven by differences in the types of districts from which men and women are elected, by differences in the motivations and backgrounds of men and women, or whether they indeed reflect institutional factors that distort legislators' choices. We have pursued a number of empirical

[9] https://www.theatlantic.com/science/archive/2017/03/pences-gender-segregated-dinners/521286/

[10] http://www.latimes.com/politics/la-pol-ca-legislature-sexual-harassment-records-released-20180202-story.html

strategies to try to separate out these three factors. A series of difference-in-differences designs, validated in a variety of ways, allowed us to remove possible differences in the districts that elect men or women to office.

Using this approach, we found consistent evidence that the gender gap in political careers reflects more than self-selection. Accounting for district type, women are more likely to serve on women's issues committees, less likely to serve on top-flight committees, to chair top-flight committees, or to serve in leadership. Women sponsor more legislation about women's issues, but this disparity only appears after a woman joins a women's issues committee; before being assigned to a women's issues committee, women legislators sponsor women's issues legislation at a rate no higher than men. In addition, the tendency for women to join women's issues committees remains large even when we focus on women who have received no campaign contributions from donors in women's issues sectors (education and health). Finally, though these results are more tentative, women appear to gain more top-flight committee assignments when at least one woman is a member of the legislative leadership.

These results may help to explain the well-known fact that women seek political office in the U.S. at lower rates than men. Women may be reluctant to enter politics if they perceive that the legislature will be a more challenging environment for them.

While our results help to shed light on the challenges women face in state legislatures, they do not explain precisely why these challenges exist. Women may receive fewer opportunities to serve on top-flight committees and to serve in leadership because of explicit biases by senior men, or because of implicit biases, or because of self-censoring, or for any combination of these reasons and others. It is our hope that the large-scale evidence we have laid out in this paper will help to motivate future investigations into these precise mechanisms.

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Online Appendix

Intended for online publication only.

A.1 Information on Dataset Coverage

Table A.1 – # Legislator-Term Observations by State.

State	Women	Men	Years	State	Women	Men	Years
AK	174	573	1986–2014	AL	100	953	1986–2014
AR	297	1416	1986–2014	AZ	409	816	1988–2014
CA	353	1096	1986–2014	CO	408	764	1986–2014
CT	679	1896	1988–2014	DE	168	598	1986–2014
FL	464	1581	1986–2014	GA	581	2534	1988–2014
HI	237	678	1986–2014	IA	373	1446	1986–2014
ID	384	1071	1988–2014	IL	559	1677	1986–2014
IN	308	1493	1986–2014	KS	574	1380	1988–2014
KY	230	1495	1986–2014	LA	89	661	1987–2011
MA	634	2126	1988–2014	MD	346	749	1994–2014
ME	744	1804	1988–2014	MI	420	1467	1986–2014
MN	698	1858	1986–2014	MO	562	2039	1986–2014
MS	148	978	1987–2011	MT	447	1349	1986–2014
NC	487	1782	1988–2014	ND	252	1168	1986–2014
NE	78	276	1986–2014	NH	1819	3996	1988–2014
NJ	243	1083	1987–2013	NM	335	896	1988–2014
NV	218	496	1988–2014	NY	572	2303	1988–2014
OH	356	1337	1986–2014	OK	192	1612	1986–2014
OR	280	796	1986–2014	PA	463	2882	1986–2014
RI	409	1415	1988–2014	SC	280	1685	1988–2014
SD	276	1143	1988–2014	TN	274	1407	1986–2014
TX	443	1975	1986–2014	UT	224	1030	1986–2014
VA	251	1325	1987–2013	VT	831	1617	1988–2014
WA	594	1184	1986–2014	WI	412	1275	1986–2014
WV	303	1366	1986–2014	WY	234	883	1986–2014

A.2 Ranking Committees Based on Campaign Contributions

To identify "top-flight" committees, we examine campaign contributions to members of different committees. Contributions are only made to individual legislators, not committees. Because members serve on more than one committee, simply totaling contributions by committee would double- (or more than double-) count many donations. To address this, we regress total contributions to each legislator in each term on dummies for all the committee types in our data. We do not include an intercept term so that each coefficient reflects the average amount of money contributed to each committee. Table A.2 presents the results.

As we can see, finance and rules are far and away the most valuable committee. Being a member of the finance committee predicts an increase of almost $75,000 for a member; the premium for the rules committee is very similar in magnitude. The next largest premium is for commerce, but it is roughly $20,000 smaller. As such, we classify only finance and rules as top-flight committees.

Table A.2 – Identifying Top Committees Based on Contributions.

	Average Donations
	(1)
Energy	32,786
	(2,386)
Transportation	52,621
	(2,776)
Health	45,826
	(2,975)
Finance	74,514
	(3,007)
Agriculture	18,145
	(2,950)
Education	47,045
	(2,359)
Ethics	29,736
	(5,447)
Labor	12,617
	(3,703)
Commerce	56,414
	(2,848)
Social	15,492
	(3,111)
Ways and Means	18,110
	(3,903)
Rules	74,574
	(3,014)
Appropriation	36,893
	(2,621)
Judiciary	35,927
	(2,625)
Observations	51861

A.3 Classifying Committees and Bills

We use the following search terms to classify committees. We use the same search terms to classify bills into these categories.

```
qui foreach v in cmt chair vice {
     gen `v'_energy = regexm(`v' ,"energ|oil|gas|resourc|renew|coal|util|environ")
     gen `v'_trans = regexm(`v',"transp|highw|road|train|airp|harbo|waterw")
     gen `v'_health = regexm(`v',"health|hosp|medic")
     gen `v'_fin = regexm(`v',"financi|bank|insuran")
     gen `v'_ag = regexm(`v',"agri|rural|ranch|farm|cattl|fish")
     gen `v'_educ = regexm(`v',"educ|school|univer|teach|child")
     gen `v'_ethics = regexm(`v',"ethic")
     gen `v'_labor = regexm(`v',"labor")
     gen `v'_commerce = regexm(`v',"busi|commerce|trade|indus")
     gen `v'_social = regexm(`v',"social|human|age|elder|retir")
     gen `v'_welfare = regexm(`v', "welfare")
     gen `v'_waysandmeans = regexm(`v',"way") & regexm(`v',"mean")
     gen `v'_rules = regexm(`v',"rule|commitee on")
     gen `v'_approp = regexm(`v',"appr")
     gen `v'_judiciary = regexm(`v',"jud|crim")
}
```

A.4 Validating Gender Estimates

We evaluate our gender classifier by comparing it to legislators' self-reported gender, taking advantage of the fact that Wyoming provides the self-reported gender of each of its legislators. Table A.3 presents the cross-tabulation of legislators in Wyoming. The vast majority of legislators are correctly classified; only 1 woman is incorrectly classified as a man, and only 11 men are mistakenly classified as women. On the other hand, 263 men are correctly classified, as are 66 women.

Table A.3 – Validating Gender Classifications.

	Classification Procedure	
	Man	Woman
Confirmed Man	263	11
Confirmed Woman	1	66

A.5 Further Tests for Difference-in-Differences Design

Table A.4 tests the parallel trends for the difference-in-differences design for Table 2 in two ways. In the first column, we add district-specific linear time trends to relax the parallel trends assumption, finding a similar estimate to the main table. In the second column, we add two leads of the treatment variable (electing a woman legislator), to look for evidence of pre-trending. We find none. The second two columns repeat this exercise for the second outcome variable—membership on top-flight committees—and again finds strong evidence for the validity of the parallel trends assumption.

Table A.4 – Testing Parallel Trends.

	Women's Issues		Top-Flight	
	(1)	(2)	(3)	(4)
Woman Legislator	0.13	0.13	-0.02	-0.03
	(0.01)	(0.01)	(0.01)	(0.01)
Woman Legislator, $t+1$		-0.00		-0.01
		(0.01)		(0.01)
Woman Legislator, $t+2$		-0.02		-0.00
		(0.01)		(0.01)
Observations	87099	35093	87099	35093
Legislator Fixed Effects	Yes	Yes	Yes	Yes
State-Chamber-Year FEs	Yes	Yes	Yes	Yes
Seniority Fixed Effects	Yes	Yes	Yes	Yes
Party Fixed Effects	Yes	Yes	Yes	Yes
District Time Trends	Yes	No	Yes	Yes

Robust standard errors clustered by district in parentheses. Woman Legislator is a dummy variable indicating if the district elects a woman to the legislature.

A.6 Women Leadership and Women's Committee Assignments

In this section, we re-estimate the regression from Table 8 for women's membership on each committee, separately.

Table A.5 – Women Representatives and Committee Service in State Legislatures: Difference-in-Differences design. A woman representative is substantially more likely to serve on committees whose jurisdictions relate to issues the literature identifies as womens' issues (highlighted in grey), relative to a hypothetical man elected from the same district at the same time.

Committee	Change in Probability of Committee Assignment After Electing a Woman
Top Committees	**0.020 (0.008)**
Women's Issues	**0.012 (0.009)**
Agriculture	0.004 (0.007)
Appropriations	-0.002 (0.007)
Commerce	-0.003 (0.008)
Education	0.006 (0.009)
Energy	-0.004 (0.009)
Ethics	0.004 (0.004)
Finance	0.008 (0.006)
Health	0.008 (0.008)
Judiciary	0.005 (0.008)
Labor	-0.002 (0.006)
Rules	0.012 (0.006)
Social	0.002 (0.008)
Transportation	-0.005 (0.007)
Ways and Means	-0.001 (0.005)
Welfare	-0.002 (0.003)

Numbers in second column are difference-in-differences estimates from equation 1. Robust standard errors clustered by state-chamber in parentheses. The first row presents an estimate pooling over the top committees, which are defined to be agriculture, appropriations, finance, rules, and ways and means. The second row presents an estimate pooling over the women's issues committees, which are defined to be education, health, and welfare.