

# Delivering Women's Representation: The Comparative Effectiveness of Political Institutions†

Geoff Allen\*

Heather Stoll\*

University of California, Santa Barbara

## Abstract:

Scholars of political representation, women's and minority politics, and comparative political institutions have all argued that a number of different political institutions should facilitate the descriptive representation of minorities and traditionally underrepresented groups such as women. Recent work on women's representation has narrowed the focus of study onto the impacts of electoral systems and quotas, finding both substantively important to the level of descriptive representation for women. While these institutions are undeniably important, the narrowed focus has come at the expense of two institutions long tied to representational outcomes: legislature size and executive regime type. We argue that researchers cannot entirely ignore the impact of legislature size or executive regime type, and should consider re-evaluating the role of these institutions in women's representation. We conduct a quantitative, cross-national, and hence broadly generalizable empirical study that compares the relative effects of these various institutional mechanisms that are believed to facilitate a group's descriptive representation. We do so by studying women's descriptive representation in recent elections in all minimally democratic countries. We find that quota systems (especially mandatory quotas) have the largest substantive effect by far, dwarfing the effect of the variable that has received the most attention to date: that of the electoral system. We also find evidence that legislative size likely impacts women's descriptive representation, particularly in states with restrictive electoral systems. Presidentialism, meanwhile, plays a substantively important role in limiting women's representation.

Many theorists of representation have argued that increasing the presence of marginalized groups in national legislatures will have a positive influence on the representation of those groups. Hannah Pitkin famously (1967) labeled this concept descriptive representation in her classic work, while more contemporarily, Anne Phillips (1995) discusses it in the context of what she calls a politics of presence. Focusing upon women, a group that historically has been politically if not numerically marginalized, numerous studies in recent years have empirically linked the increased presence of women to policy outcomes generally seen as important to women. For example, Caul Kittilson (2006) finds in her study of OECD countries that increasing the descriptive representation of women in national parliaments significantly influences the adoption of family leave policies, while Bolzendahl and Brooks (2007) find it positively associated with general welfare state spending, policy they argue women pursue at a higher rate than men because of its differential impact on their lives. Even in procedural democracies, where policy-

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\* Geoff Allen is a Ph.D. candidate in the Department of Political Science at the University of California, Santa Barbara ([geoff\\_allen@umail.ucsb.edu](mailto:geoff_allen@umail.ucsb.edu)). Heather Stoll is an Associate Professor in the Department of Political Science, University of California, Santa Barbara ([hstoll@polsci.ucsb.edu](mailto:hstoll@polsci.ucsb.edu)).

making is often far from fully democratic, scholars have found evidence that increasing the presence of women increases debates about women's issues, even if the effect on policy outcomes is modest (Devlin and Elgie 2008).

Taking these findings into account, much recent work has focused on investigating just how states can go about increasing the descriptive representation of women. In general, political institutional variables have been found to have a larger impact than social factors (Krook and O'Brien 2012). Much of the early institutional work focused on the role of the electoral system (Norris 1985; Matland 1993; Rule and Zimmerman 1994; Paxton et. al. 2005). These studies almost universally found that proportional representation systems led to an increased presence of women in parliament. Legislative quotas, reserved electoral districts, and voluntary party list reservations have also all received heavy attention. Perhaps unsurprisingly, these institutions are found to have a substantively strong impact on women's representation (Paxton and Hughes 2015; Dahlerup and Friedenvall 2006). However, scholars have noted that this impact is often less than what is stipulated (Paxton et. al. 2010).

One political institution that has largely been ignored in these studies is the regime type. Another is the size of the legislature. Both of these omissions are curious: the former because of its general prominence in institutional analyses (e.g., Powell 2000, Lijphart 2012), and the latter because of the attention that was paid to it in early works on representational outcomes (e.g., Rae 1967; Dahl and Tufte 1973; Taagepera and Shugart 1989; Lijphart 1994). To our knowledge, only two studies, both over twenty years old, test the possibility that legislative size may have an impact on women's parliamentary representation. Both studies note small but significant impacts of this institutional variable on the number of women in parliament (Darcy and Choike 1989; Oakes and Almquist 1993). What makes this omission even more curious is that one of the major schools of thought on women's representation, the concept of critical mass, relies on a logic of cohort size that is intimately tied to the size of the legislature, indicating that questions of size and scope are already at play in the broader theoretical discussion (Dahlerup 1988; Childs and Krook 2008). With respect to the regime type, we are aware of no studies that explicitly link the system of government (i.e., presidentialism versus parliamentarism) to women's descriptive representation in national legislatures (**We may want to change this in light of Schwindt-Bayer and Mishler**). In light of these longstanding theoretical arguments about the role of legislative size on representational outcomes, as well as the limited work linking legislative size and women's representation, we argue that studies attempting to understand how institutions can increase the descriptive representation of women in parliaments should re-integrate legislative size as a variable of interest.

Moreover, to date, there has been no broadly generalizable, cross-national empirical study that compares the relative effects of these various institutional variables believed to facilitate women's descriptive representation in national legislatures. In this paper, we provide such an empirical test. We do so by studying women's descriptive representation in recent elections in all minimally democratic countries, as well as by conducting an analysis of women's representation in the United States at the state level. We find that quota systems (especially mandatory quotas) have the largest substantive effect by far, dwarfing the effect of the variable that has received the most attention to date: that of the electoral system. However, we also find that both legislative size and the regime type have some effect. Particularly where electoral systems are relatively restrictive, legislative size plays a substantively important role in the

election of women. Presidential systems also play a substantively important role, although one that deters instead of facilitates women's representation.

### Literature and Hypotheses

The representation of women in national legislatures varies widely from country to country and over time. In seeking explanations for this variation, usually with an eye to offering policy prescriptions for facilitating women's representation, scholars and policy-makers alike have considered a variety of explanatory factors, from the social (such as labor force participation) to the cultural (such as religious norms about women's public roles) to the institutional (such as the electoral system in use). Perhaps not surprisingly to political scientists, political institutions of various stripes have been found to generally be the most consequential. In this paper, we consider four political institutional variables, broadly conceived.

The first of these variables is the most studied political institutional variable by far and away: the electoral system. Numerous studies have linked this variable to the representation of women and other minority groups. Specifically, proportional representation electoral systems, as opposed to their majoritarian counterparts, have long been believed to facilitate the representation of women, in keeping with their association with consensus democracy and its ethos of inclusion (e.g., Norris 1985; Rule and Zimmerman 1994; Lijphart 2012). Even when considering simply what many have viewed to be the defining feature of electoral system type, the district magnitude, the electoral system has been shown to matter (Matland 1993): less restrictive electoral systems with larger district magnitudes are associated with a greater representation of women in national legislatures. Our first and relatively straightforward hypothesis, drawn from this vast literature and viewed by many scholars practically as an article of faith, is accordingly as follows:

*H1: Less restrictive electoral systems facilitate the representation of women in national legislatures.*

However, in approximately the last two decades, scholars have begun to pay attention to how other political institutions besides the electoral system might facilitate women's representation. The most prominent of these alternative political institutional variables are quota systems and their close counterparts, reserved seat systems---the second broad type of political institutional variable we consider here. Gender quotas have seen increased use across the world since the end of the Cold War, part of the explanation for the growing scholarly interest in this variable. While traditional work focused on the so-called Scandinavian model, which noted the necessity of a slow and steady pace of electoral, cultural and societal changes, scholars have increasingly argued that quotas represent a fast-track to increasing women's representation in a number of different settings (Dahlerup and Friedenvall 2005). The efficacy of constitutional quotas, reserved districts and party quotas in producing relatively quick increases in women's representation is hard to ignore.<sup>1</sup> Tripp and Kang (2008), for example, find that in relation to electoral system restrictiveness, political culture and the strength of leftist parties (traditionally

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<sup>1</sup> See, for example, Jones (2009) on their effectiveness---especially if well-designed---in Latin America.

seen as more favorable to women's interests), gender quotas have the single largest positive impact on women's representation.

While the vast majority of scholarly work notes the positive impact of gender quotas on increasing women's representation, a number of scholars note that they rarely produce a rate of women's representation equal to the legal requirement. For example, Dahlerup (2005) argues that their efficacy is largely dependent upon the way in which they are implemented. Where parties are given leeway to fulfill the quota requirement, women are often placed at the bottom of the list, or run in districts that the party knows it cannot win. This argument is corroborated empirically by Paxton et. al. (2010), who find that the increase in women in parliament as a result of quotas is significantly less than the legal requirements laid down by states (45). Even Jones (2009), who largely finds a positive impact of quotas, cautions that this positive impact is strongly tied to the design of the institution, as well as potential sanctioning mechanisms.

Functionally, then, we should expect the impact of various quota designs to be positive, but that the level of impact should not necessarily be as high as the formal quota amount. What remains generally understudied in the literature is the implementation end, despite how important the actual implementation has been shown to be. Accordingly, in this paper, we distinguish between three types of quota systems: formal, legal quotas applied nationally; reserved legislative seats for women; and voluntary party-based quotas. If Dahlerup (2005) and others are correct, we should expect to see the strongest impact on women's representation from reserved districts, where parties are able to exercise less agency in fulfilling their legal obligations. We should expect to see a lesser impact from both formal, national quotas and an even smaller impact from voluntary, party-based quotas. Our second hypothesis, which is broken into two sub-hypotheses, is accordingly as follows:

*H2a: Quota systems facilitate the representation of women in national legislatures.*

*H2b: Of the three major types of quota systems, reserved seats should have the largest impact; formal, national quotas the second largest impact; and voluntary, party-based quotas the smallest impact.*

Another generally well-studied political institution, although one largely absent from the women's descriptive representational literature, is the type of political regime. This is the third political institutional variable we consider. Most broadly, democracies are classified as adopting either a presidential or a parliamentary system of government, although more nuanced classificatory schemes also exist (e.g., Shugart and Carey 1992; Lijphart 2012). The regime type has been linked to numerous political outcomes, ranging from party system size to party organization to the stability of democracy itself (e.g., Linz and Valenzuela 1994; Samuels and Shugart 2010; Hicken and Stoll 2011). From the perspective of its potential to affect representational outcomes, this institutional variable has been prominently mapped onto the proportional-majoritarian continuum by a number of studies (e.g., Powell 2000; Lijphart 2012). However, while there is scholarly work linking the system of government to some representational outcomes, such as the representation of the working class and general left-right ideological representation (e.g., Lipset and Marks 2000), there is little work linking the regime type to women's descriptive representation. To our knowledge, the only study that considers the regime type as an explanatory factor---that of Krook and O'Brien (2012)--- looks at

women's representation in cabinets, not legislatures. Again, in light of Schwandt-Bayer and Mishler, we may want to reframe. Moreover, the dependent variable in this study is not strictly women's descriptive representation, but rather ministerial power, which combines a consideration of women's numeric presence with the prestige of their appointments.

We accordingly draw upon the general representational literature to hypothesize that the winner-take-all nature of presidential elections will create an environment less conducive to women's descriptive representation than the environment created by a parliamentary regime for a number of reasons. These reasons range from the usually reductive shadow presidential elections cast over the legislative party system (e.g., Golder 2006; Hicken and Stoll 2011, 2013) to the higher-stakes, more competitive nature of presidential elections (e.g., Cox 1997; see also footnote 7). Our third hypothesis is therefore:

*H3: Parliamentary systems facilitate the representation of women in national legislatures relative to presidential ones.*

A final political institutional variable has received even less attention in the women's representational literature: the size of a democratic legislature, especially relative to the population. This variable made some appearances in early political science studies of electoral systems and representation. Perhaps most prominently, Dahl and Tufte (1973) argued that legislative size was an important variable in understanding how democracy functioned. The first major contribution of their work was the elucidation of a relationship between population size and legislative size, while their second major contribution was to argue that there is a tradeoff between representation and effectiveness (governability) that comes with size. This argument sparked a number of studies in the 1980s and 1990s that attempted to link legislative size to general representational outcomes.<sup>2</sup>

Arend Lijphart has provided perhaps the most recent deep, theoretical discussion about the relationship between legislative size and general representational outcomes. In his 1994 work, *Electoral Systems and Party Systems*, Lijphart used legislature size as the fourth major dimension of electoral systems, claiming that "if electoral systems are defined as methods of translating votes into seats, the total number of seats available for this translation appears to be an integral and legitimate part of the systems of translation" (Lijphart 1994, 12). In particular, he argued that "there can be no doubt that assembly size can have a strong influence on proportionality" (Ibid.). While the results of his study were somewhat inconclusive, he was able to find statistically significant relationships between a change in legislative size and both disproportionality and party system size.<sup>3</sup>

Of other studies that have made use of the size of the legislature as a variable, most have focused on linking it to policy (as opposed to representational) outcomes, particularly government size and government spending (e.g., Gilligan and Matsusaka 2006; Fiorino and Ricciuti 2007; and Pettersson and Lidbom 2012). We are aware of only two studies that

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<sup>2</sup> For example, a decade after Dahl and Tufte's study, Taagepera and Shugart (1989) formalized the "Cube Root Rule" relationship between population and legislative size. Building upon this work, Blais and Carty (1990) found that the log of legislative size has a small, yet statistically significant negative impact on voter turnout across countries.

<sup>3</sup> However, more recently, Lijphart (1999) has argued that for legislatures of over 100 members, size becomes relatively unimportant as a variable of interest.

specifically seek to link legislative size to women's representation: Darcy and Choike (1989) and Oakes and Almquist (1993). Both studies find small but significant impacts of this institutional variable on the number of women legislators (Darcy and Choike 1989; Oakes and Almquist 1993). However, we note that Oakes and Almquist employ a difficult-to-understand operationalization of legislative size relative to the electorate, which is not easily comparable to the measures used in other studies, and that Darcy and Choike's findings are derived from a formal model that lacks an empirical component.

Hence, all in all, while some studies have explored the effect of legislative size on representation in general, few have explored its effect upon women's representation.<sup>4</sup> Accordingly, we argue it is time to bring this institution into the study of women's descriptive representation in national legislatures. Our argument is that larger legislatures, all else being equal, will lead to better descriptive representational outcomes for women. Specifically, we argue that larger legislatures relative to their populations (electorates) will deliver better descriptive representational outcomes for women. Underlying these arguments is the same logic underlying most of the early political science literature that drew a representational linkage between the size of a country's population and the size of its legislature. Our fourth hypothesis is therefore:

*H4a: Larger legislatures, especially legislatures that are larger relative to their populations, facilitate the representation of women in national legislatures.*

There are several possible mechanisms linking legislative size to women's descriptive representation that suggest even more refined hypotheses, however. First and most simply, in proportional representation electoral systems, the larger the legislature, the more proportional the votes-to-seats translation can be, as per Lijphart's (1994) argument noted above---and hence the better women's representation should be. Take, for example, two otherwise identical legislatures employing proportional representation electoral systems, but where one legislature is twice as large as the other. The larger of these legislatures will generally deliver more proportional outcomes and hence, for all of the reasons for which the literature has argued proportional electoral systems facilitate women's representation, should provide better women's representation.

Second and less simply, in restrictive electoral systems where there are necessarily large numbers of electoral districts, larger legislatures relative to the population must have smaller districts where each legislator represents fewer people. This environment should produce lower stakes elections, which require less campaign infrastructure and financing. This, in turn, should help to facilitate the representation of marginalized, underrepresented groups such as women. For example, a major study of women's political underrepresentation in the United States finds women's reluctance to put themselves forward as candidates to be rooted in factors such as a dislike of routine campaign activities and the perception that competitive political environments

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<sup>4</sup> As early as 1967, Douglas Rae was bemoaning the treatment of this political institution in empirical political science, calling it a "generally neglected variable" (114-125) in the study of electoral systems. The more recent electoral systems literature certainly bears this out: with the exception of Lijphart (1994), studies of electoral systems almost invariably zero in upon the district structure and electoral formulae (e.g., Cox 1997; Clark and Golder 2006; Stoll 2013).

(which require greater levels of campaign activities such as fundraising) are biased against them (Fox and Lawless 2005). This suggests that lower stakes, smaller scale elections, with reduced levels of campaign activities and a more local focus, should encourage women to step forward as candidates.

Both of these arguments imply that there might be an interactive relationship between legislative size, the restrictiveness of the electoral system, and women's descriptive representation in national legislatures. That is, the first mechanism implies that legislative size might have a greater effect for less restrictive electoral systems, while the second mechanisms implies that it might have a greater effect for more restrictive electoral systems. However, theory does not offer much guidance about the relative magnitude of these differential electoral system effects. We must therefore turn to empirics to determine which effect will predominate, or if the two effects will be largely equal, cancelling each other out and mitigating against finding a conditional effect. Our final hypothesis is thus as follows:

*H4b: The effect of legislative size is conditional upon the restrictiveness of the electoral system. Specifically, it could be larger either for less restrictive electoral systems, or for more restrictive ones.*

## Methods and Data

### *Women's Representation in State Legislatures in the US, 2006*

The first test of our core hypothesis looks at the impact of legislature size in a cross-sectional analysis of women's representation in state legislatures in the United States. This is something of a first-cut test: all elections in the United States occur in strongly restrictive electoral setting, and according to Taagepera and Shugart (1989), we should expect to see legislature size have a more robust impact in this setting. At the very least, such a test allows us to see if, in a relatively uncluttered institutional environment (e.g. no quotas, reserved districts, or other institutional attempts to provide descriptive representation), legislature size has an impact on women's representation.

Our dependent variable is the percentage of state representatives who are women.<sup>5</sup> Data on the number of seats in the only or lower legislative chamber is taken from Dubin (2007), while data on the number of women representatives in that chamber is taken from the Center for the Advancement of Women in Politics at Rutgers University.

Our key independent variable is the relative (to the electorate) size of the lower or only chamber of the state legislature. A natural measure of this concept is to divide the state's theoretical electorate, which is the part of the population that is enfranchised at the time of the election (based on an individual's age, sex, and race), by the total number of seats in the lower or only legislative chamber.<sup>6</sup> We have called the resulting statistic the persons-to-seat ratio. For

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<sup>5</sup> An alternative operationalization, which is more appropriate for use in a regression model because it is unbounded on the real line, is to take the natural log of this percentage, after adding (following convention) 0.5 to cases with a value of 0.0. Because similar results are obtained when using this alternative measure, we report results using the more easily interpretable simple percentage in what follows.

<sup>6</sup> Using the resident population instead of the theoretical electorate as the numerator yields even stronger (more statistically and substantively significant) results. However, given our focus upon descriptive representation and

example, a ten seat legislature in a state with 100 people has a persons-to-seat ratio of ten, which means that every legislator (assuming districts that are equal in population) has a constituency of ten persons. It is important to use the legislature's relative size, instead of its absolute size, because it is only the relative size that captures how large any one legislator's constituency is, and hence taps into the theoretical insight that there may be a relationship between how many people a legislator represents and representational outcomes. However, in all of the models that follow, we instead use the reciprocal of this measure, the seats-to-person ratio, due to the sheer magnitude of the numbers involved in the persons-to-seat ratio.<sup>7</sup> Returning to the prior example (the ten seat legislature in a state with 100 people), there is one seat for every ten persons, yielding a seat-to-persons ratio of 0.10. Data on the theoretical electorate, compiled from census data, is taken from Stoll (2013).

We include several other control variables. The first is the percentage of a state's federal representatives (i.e., the state's House delegation) who are women. We include this variable to account for the possibility of a coattails effect running from federal to state elections. The second is a set of dummy variables for region. This enables us to account for unmeasured regional characteristics, particularly related to political history and culture that might shape women's representation. Following standard practice, we divide the country into four regions: the west, south, mid-west, and north-east, with the west serving as the omitted (baseline) region.

The cases are a cross-section of state legislative sessions of the only or lower chamber. Specifically, we take either the state legislative session that resulted from the 2006 election or the closest preceding election, if there was not an election in 2006.<sup>8</sup> Because we are missing data on three cases, there are a total of 47 cases that are used to estimate our women's representation model.

### *Women in Parliament in Minimally Democratic States*

As before, our dependent variable is the percentage of women in the only or lower legislative chamber, although now our unit of analysis is the national legislature. Data on the number of women legislators and the number of seats in the lower house is taken from the Inter-Parliamentary Union, which provides data on the number of women represented in parliaments around the world reliably from 1997 to the present.

Our key independent variable of legislative size remains operationalized as the seat-to-persons ratio. To calculate this variable, we take data on the size of each country's electorate from International IDEA's Voter Turnout Database,<sup>9</sup> and data on the number of seats from the Inter-Parliamentary Union.

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representational outcomes more generally, we believe that focusing upon the persons who are actually eligible to vote (and hence usually eligible to hold office) is the most defensible choice.

<sup>7</sup> For example, the largest person-to-seat ratio is found in California in 2006: 329,000. By way of contrast, our other variables measure at most in the thousands. We note that logging this variable to reduce the magnitude and hence the influence of these large numbers yields similar results to the measure that we have chosen to adopt, the seats-to-person ratio.

<sup>8</sup> Because data was not available with consistency prior to 1985, and because changes in a state's legislative size after 1985 are few, we chose to use a cross-sectional analysis rather than a time series cross-sectional one.

<sup>9</sup> We chose to use the (registered) electorate rather than measures that might be deemed more conventional, such as the voting age population (VAP) or actual turnout, for two reasons. First, actual turnout numbers were more frequently missing than data on the size of the electorate. Second, there were large discrepancies between the

We also control for alternative institutional mechanisms that might either facilitate or impede women's representation. These features of the electoral system include its restrictiveness; the existence of mandatory quotas; the existence of voluntary quotas; and the existence of reserved seats. Each is discussed in turn.

Beginning with electoral system restrictiveness, restrictive (i.e., majoritarian) electoral systems have long been viewed by the representational literature as unfavorable to women's representation relative to less restrictive (i.e., proportional) electoral systems (e.g., Rule and Zimmerman 1994). We accordingly operationalize electoral system restrictiveness as is conventional in the quantitative literature using the logged average district magnitude (e.g., Cox 1997, Clark and Golder 2006). The greater the logged average district magnitude, the greater we expect women's share of legislative seats to be.

Mandatory quotas can be expected to have a strong substantive impact on the descriptive representation of women in legislatures, as they mandate that a minimum number of female legislators must be present on party lists (Htun 2004). While the details differ from system to system, generally speaking these mandatory party-based quotas are expected to have a positive impact on the number of women in the legislature. Data on mandatory quotas was found in the database of the Quota Project, which collects cross national data on quota systems for gender representation found worldwide. This variable is dichotomous; states that have adopted a mandatory quota system have been coded '1,' while all other states have been coded '0.'

Voluntary quotas are distinct from mandatory quotas in that parties adopt them without any formal requirement from the state. There is less reason to believe that these institutions should have a strong substantive impact on women's representation, as the details of the list quota are more open to party-based interpretation, though studies have shown a statistically significant impact, particularly in Europe (e.g., Tripp and Kang 2008). This data was again taken from the Quota Project. This variable is also dichotomous, with a '1' signifying the presence of voluntary quotas in at least one mainstream party, and a '0' indicating no presence of voluntary quotas.

Reserved seats are distinct from list-based quotas in that they functionally reserve seats in parliament for women. These systems are relatively rare for women, and are generally thought to be less democratic than list quotas, though they are the norm for minority representation (Bird 2014). Again, this variable is dichotomous, with a coding of '1' indicating the presence of reserved seats and a coding of '0' indicating no presence. Data was again drawn from the Quota Project.

Finally, we control for region in order to account for unmeasured regional characteristics (especially religious and cultural ones) that might shape women's representation. We initially used a ten-category regional schema. However, in the name of simplicity, the model presented here only includes dummy variables for the two regions that were statistically significant in the original specification: the OECD countries and Oceania, which consists of the small island states

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registered electorate and the VAP in a number of states. We believe this is due to the method of calculating the VAP, which often is demographic in nature and relies on those actually living in the state. In some countries, particularly developing states and post-communist states, diaspora populations living abroad are enfranchised, but seem to be missing from the VAP; in others, large numbers of non-citizen residents are counted in the VAP even though they are not enfranchised. As such, it seems more appropriate to use data on the registered electorate.

traditionally associated with the Pacific region, but which excludes the two OECD members of Australia and New Zealand.<sup>1011</sup>

Our cases are legislative sessions following the election closest to 2010 in all minimally democratic countries, as identified by Bormann and Golder (2013). There are 117 such legislative sessions, although after deleting three cases with missing data, we are left with 114 observations.

## Discussion of Results

*Women's Representation in State Legislatures in the US, 2006*

[Insert Table 1 about here]

*Women in Parliament in Minimally Democratic States*

[Insert Table 2 about here]

## Conclusion

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<sup>10</sup> We note that Tripp and Kang (2008) obtain similar results to ours---that a state being in the "Pacific" region is predicted to have a very negative impact upon women's representation---despite defining the region slightly differently (they include Australia and New Zealand).

<sup>11</sup> Fraenkel (2006) notes both supply-side and institutional problems that are largely responsible for the Pacific island states' difficulties in representing women in parliament.

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