Supplemental Paper for "A Number Most Convenient? The Causes and Representational Consequences of Legislative Size"

1.0 U.S. State Analyses

1.1 Additional Information about the Data

Measure of the Electorate in U.S. States

Our measure of the electorate in U.S. states is what Stoll (2013) calls the "theoretical electorate": all individuals eligible to vote (on the basis of factors such as their sex, age, and race) at the time of a given election. This can be contrasted to what is often referred to as the electorate, the subset of the latter individuals who have actually registered to vote. In most other advanced industrial democracies, where eligible voters are automatically registered instead of being given the choice of doing so, the theoretical electorate is effectively equivalent to the electorate. Unfortunately, statistics on registered voters are not available for U.S. national, let alone state, elections prior to the mid-1960s. There are two major differences between our data on the theoretical electorate and that from Stoll. First, we modify Stoll's data to better account for state-level variation in women's enfranchisement prior to 1919, when women were granted the franchise nationally. Second, we adjust the data for the former Confederate states from 1910 to 1964 (inclusive) to reflect the near-total Jim Crow disenfranchisement of African Americans during this period: specifically, we remove 97% of the African American theoretical electorate (with the 97% based on the admittedly rough figure from Keyssar 2001, 199) from the total theoretical electorate. This does not take into account the substantial disenfranchisement of poor whites during much of this same period, or Jim Crow disenfranchisement of African Americans in non-Confederate Southern states and prior to 1910; however, data simply does not exist to enable us to quantify these other disenfranchisements across a large number of states and years. We also make some minor adjustments to Stoll's data to improve the interpolations from 1861-1869, and exclude free coloreds and slaves from the calculation of the theoretical electorate in 1860 for all states except the five northern states that granted African Americans the vote prior to 1870.

Measure of African American Share of State Representatives (Models 1 and 2)

In identifying the number of African American state representatives, official state data was privileged over other sources. Where possible, replacements to originally elected members were not counted, but the available data did not always allow for this distinction to be made. Our focus is upon the lower chambers of bicameral legislatures because black representation in the upper chambers has always, with the exception of Georgia during the Second Reconstruction, either mirrored or lagged behind it.

1.2 Alternative Model Specifications

In this section, we present alternative model specifications from those reported in the main paper.

Of special note, in the main paper, we employ White's (1980) heteroskedastic-consistent robust standard errors in the cross-sectional national models to address heteroskedasticity. These robust standard errors are also usually the most conservative. Panel-adjusted Newey-West (1987) standard errors (which are robust to autocorrelation and heteroscedasticity) are used in the time series cross-sectional US state models. We do not use state-clustered robust standard errors because Kezdi (2004)

has shown this estimator to be biased when the number of clusters (states) is less than fifty, and we have only fifty clusters (right at the threshold of bias). Nevertheless, as we show below, this robust estimator yields similar conclusions.

Racial/Ethnic Group	**African Americans**	**African Americans**	**African Americans**
	Model 1	Model 1	Model 1
Type of Alternative Specification	Logistic (success = African American representative; number of African American representatives serves as number of successes, used in conjunction with number of total "trials" (total number of seats/electoral contests) to derive number of "failures" (number of non-African American representatives); no robust SEs)	Fractional response model (quasi-binomial GLM with robust SEs; percentage expressed as a decimal)	Logged DV (with 0.1 added to values of 0)
Intercept	-33***	-63***	-56***
	(0.82)	(2.0)	(1.2)
Seat-to-persons Ratio	850***	1600***	1100***
	(38)	(210)	(59)
Electorate, % African American	0.059***	0.12***	0.096***
	(0.027)	(0.0056)	(0.0038)
Seat-to-persons Ratio X Electorate, % African American			
Year	0.016***	0.029***	0.027***
	(0.00042)	(0.0010)	(0.00062)
Single Member Districts Only	0.35***	0.40***	0.45***
	(0.036)	(0.072)	(0.057)
Subject to Voting Rights Act	0.81***	0.53***	1.1***
	(0.085)	(0.17)	(0.12)
% African American Federal Representatives			
N	3492	3492	3492

Table 1. Alternative versions of Models 1 and 12. Estimated coefficients and standard errors for the models comprising the United States subnational analysis with descriptive representation of a racial/ethnic group as the dependent variable. State fixed effects not shown, and Newey-West standard errors are reported unless otherwise noted. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

Racial/Ethnic Group, U.S. States	**African Americans**	**African Americans**	**African Americans**	**African Americans**	**African Americans**	**African Americans**
	Model 1	Model 1	Model 1	Model 1	Model 1	Model 2
Type of Alternative Specification	Seats-to-persons ratio calculated using total population	Control for % African American share of population (listed as electorate)	Time fixed effects included (not shown), state clustered robust SEs	Additionally controlling for black share of state's federal representatives	Robust state-clustered standard errors	Robust state-clustered standard errors
Intercept	-64***	-71***	-2.4***	-46***	-85***	-110***
	(4.4)	(4.7)	(0.69)	(4.9)	(13)	(17)
Seat-to-persons Ratio	8000***	2500***	1900***	1500***	3100***	3000***
	(780)	(210)	(604)	(180)	(920)	(730)
Electorate, % African American	0.45***	0.43***	0.25***	0.16***	0.26***	0.047
	(0.043)	(0.042)	(0.031)	(0.017)	(0.030)	(0.084)
Seat-to-persons Ratio X						470**
Electorate, % African American						(183)
Year	0.026***	0.030***		0.024***	0.043***	0.055***
	(0.0025)	(0.0027)		(0.0025)	(0.0066)	(0.0086)
Single Member Districts Only	2.5***	2.4***	0.56	0.97***	1.4***	1.7**
	(0.17)	(0.17)	(0.55)	(0.13)	(0.49)	(0.66)
Subject to Voting Rights Act	9.9***	9.7***	3.3**	3.1***	4.2***	6.7***
	(0.64)	(0.64)	(1.4)	(0.45)	(1.2)	(1.9)
% African American Federal				0.57***		
Representatives				(0.056)		
N	3492	3492	3492	3490	3492	3492

Table 1, continued. Alternative versions of Models 1 and 2, continued. Estimated coefficients and standard errors for the models comprising the United States subnational analysis with descriptive representation of a racial/ethnic group as the dependent variable. State fixed effects not shown, and Newey-West standard errors are reported unless otherwise noted. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

Racial/Ethnic Group, U.S. States	Latinos	Latinos	Asians	Asians	Asians	Asians	Native Americans	Native Americans
	Model 3	Model 4	Model 5	Model 5	Model 6	Model 6	Model 7	Model 8
	Regional Dummies	Regional Dummies	Regional Dummies	Exclude Hawaii	Regional Dummies	Exclude Hawaii	Regional Dummies	Regional Dummies
Intercept	-5.8***	-6.1***	-3.7***	-1.2	-4.1***	-1.7**	-0.95	-1.2
	(1.8)	(1.6)	(0.73)	(0.99)	(0.82)	(0.73)	(0.61)	(0.64)
Seat-to-persons Ratio	14,000*	4500	11,000***	1600	14,000***	17,000***	-1500	1400
	(7100)	(5400)	(2400)	(1700)	(3900)	(5500)	(1900)	(1700)
Single Member Districts Only	0.044	-0.080	0.70	0.32	0.70	0.17	0.25	0.18
	(0.71)	(0.81)	(0.51)	(0.49)	(0.51)	(0.34)	(0.37)	(0.36)
Subject to Voting Rights Act	-0.19	0.17	-0.59	-0.23	-0.50	0.21	-0.30	-0.18
	(1.0)	(0.88)	(0.65)	(0.36)	(0.56)	(0.20)	(0.45)	(0.39)
Electorate, % Latino	0.79***	0.70***						
	(0.13)	(0.057)						
Seat-to-persons Ratio X		4400						
Electorate, % Latino		(3000)						
Electorate, % Asian			0.88***	0.46**	0.97***	0.69***		
			(0.015)	(0.21)	(0.11)	(0.20)		
Seat-to-persons Ratio X					-1600	-8500***		
Electorate, % Asian					(2000)	(2600)		
Electorate, % Native American							0.63***	0.76***
							(0.082)	(0.18)
Seat-to-persons Ratio X								-1800
Electorate, % Native American								(1700)
Midwest	2.3**	2.9**	0.83		0.96		-0.16	0.051
	(1.0)	(1.2)	(0.59)		(0.61)		(0.40)	(0.41)
South	2.1**	2.7**	1.2*		1.3**		0.64	0.64
	(0.98)	(1.1)	(0.66)		(0.67)		(0.58)	(0.52)
Northeast	0.38	0.62	-1.2*		-1.1		0.46	0.44
	(1.1)	(1.3)	(0.68)		(0.72)		(0.42)	(0.39)
N	50	50	50	49	50	49	50	50

Table 2. Alternative versions of Models 3-8. For the models with regional dummies, "West" is the omitted baseline category. White's heteroskedastic-consistent standard errors are reported. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

Dependent Variable	**Women, U.S. States**	**Women, U.S. States**
	Model 9	Model 9
	Logged DV	Seat-to-person ratio calculated using total population instead of theoretical electorate
Intercept	3.3***	28***
	(0.097)	(2.4)
Seat-to-persons Ratio	840	32,000*
	(510)	(16,000)
Only Single-member	-0.022	0.12
Districts Used	(0.10)	(2.4)
Federal Rep., % Women	0.00049	0.011
	(0.0016)	(0.038)
Northeast	-0.18	-4.1
	(0.12)	(0.14)
South	-0.44***	-9.3***
	(0.11)	(2.4)
Midwest	-0.29***	-7.1***
	(0.084)	(2.1)
N	47	47
R2	0.34	0.35
Root MSE	0.30	6.4

Table 3. Alternative versions of Model 9. For the regional dummies, "West" is the omitted baseline category. White's heteroskedastic-consistent standard errors are reported. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

1.3 Estimated Marginal Effects

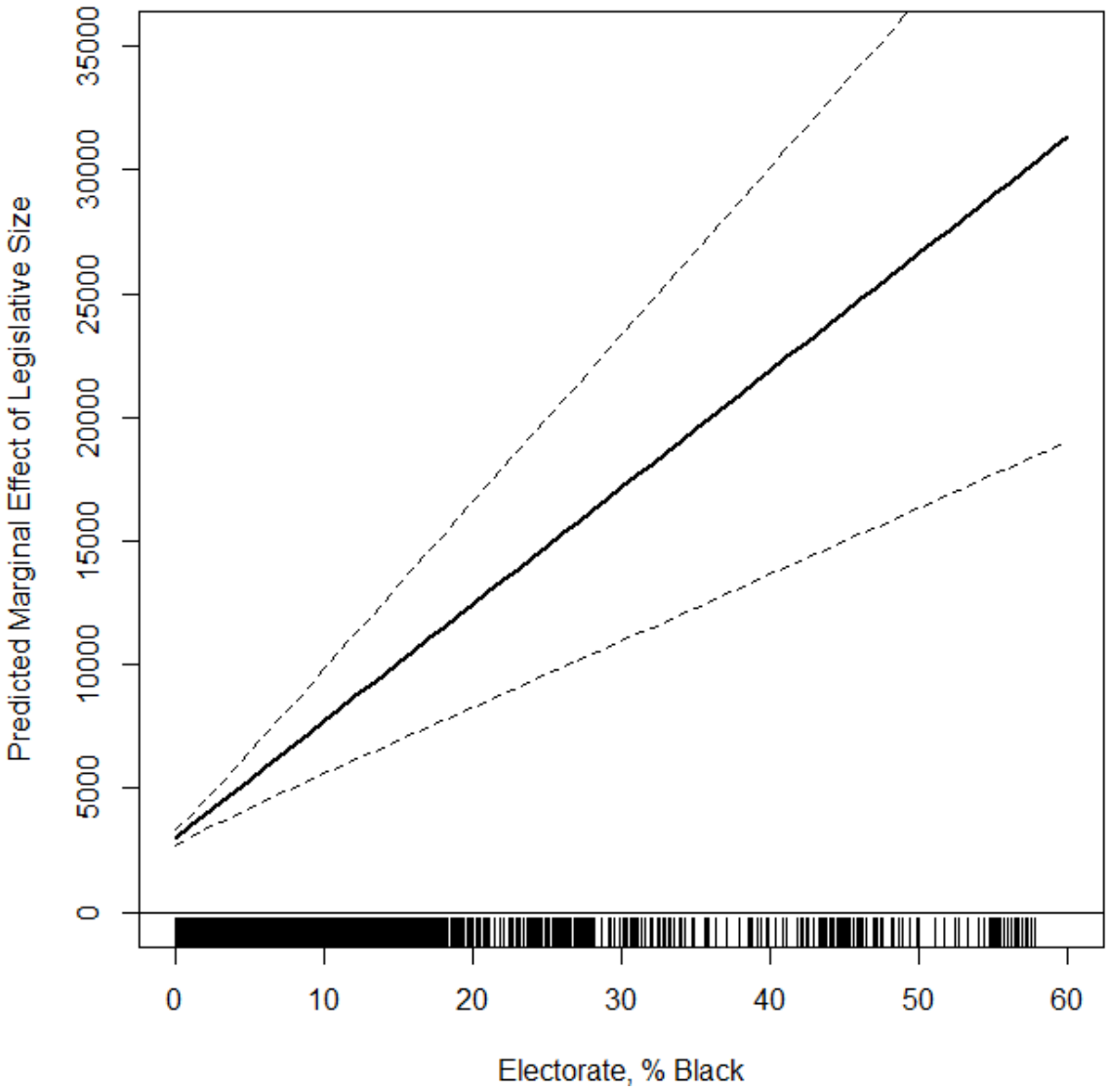

Figure 1. The estimated marginal effects of relative legislative size on African American descriptive representation in U.S. state legislatures (Model 2), calculated over the observed range of data of the African American share of the theoretical electorate. Two-sided 95% confidence intervals shown as dashed lines.

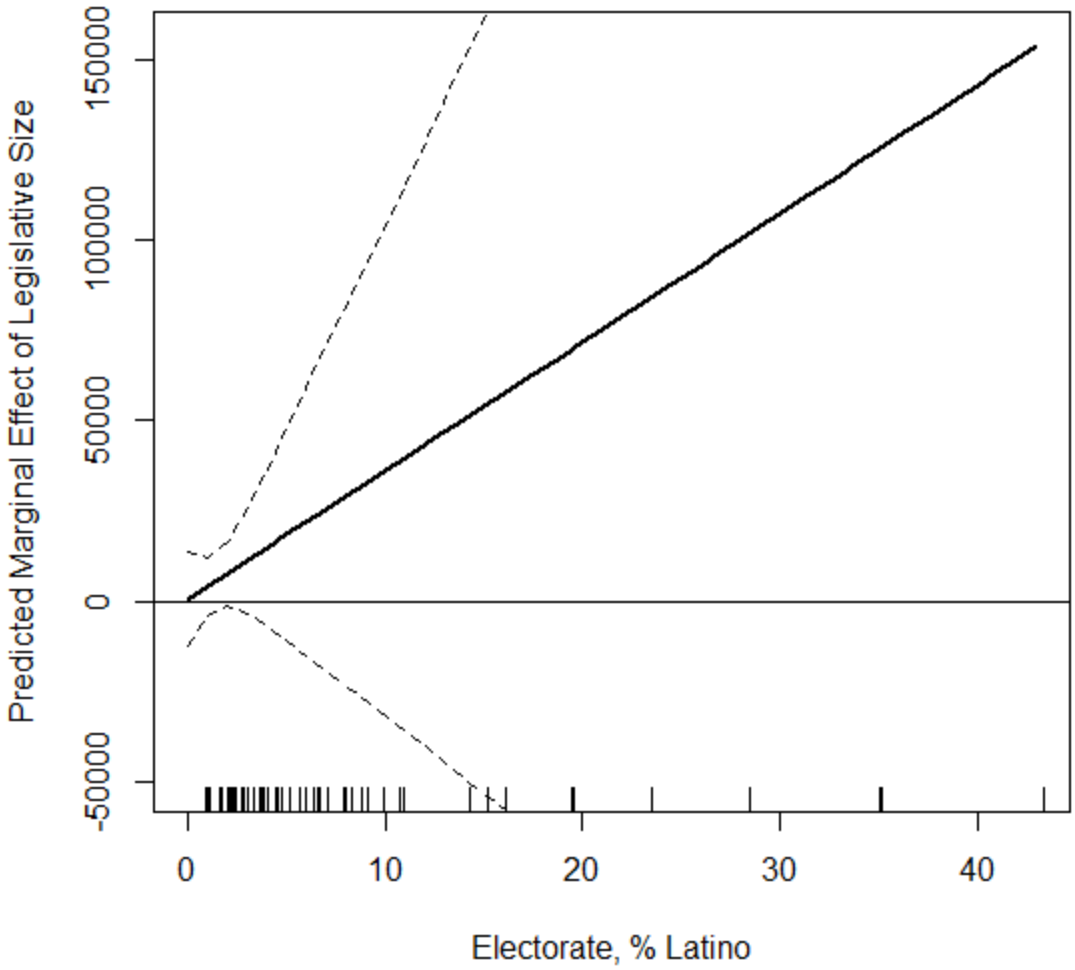

Figure 2. Predicted marginal effects of the seats per person ratio, conditional on the Latino share of the electorate (Model 4). 95% confidence intervals band the estimated marginal effects.

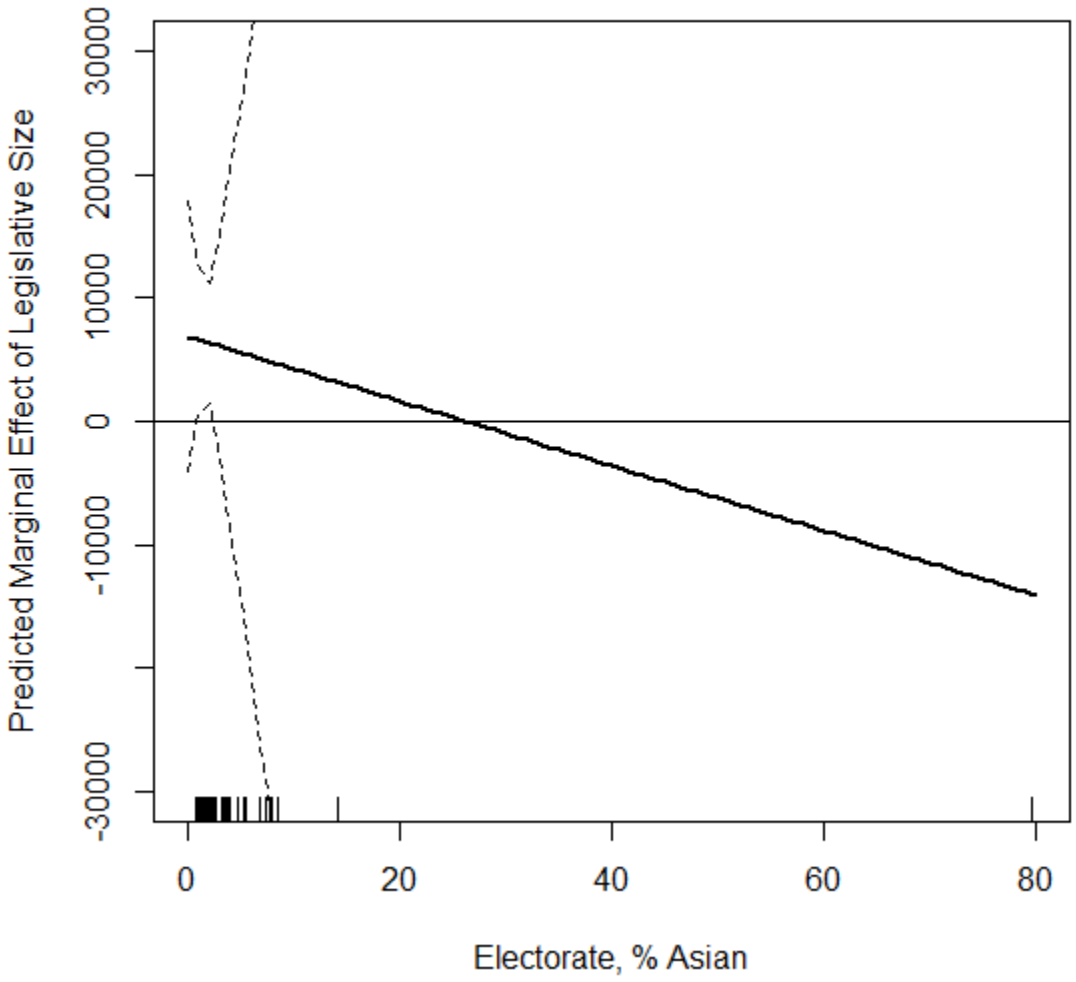

Figure 3. Predicted marginal effects of the seats per person ratio, conditional on the Asian share of the electorate (Model 6). 95% confidence intervals band the estimated marginal effects.

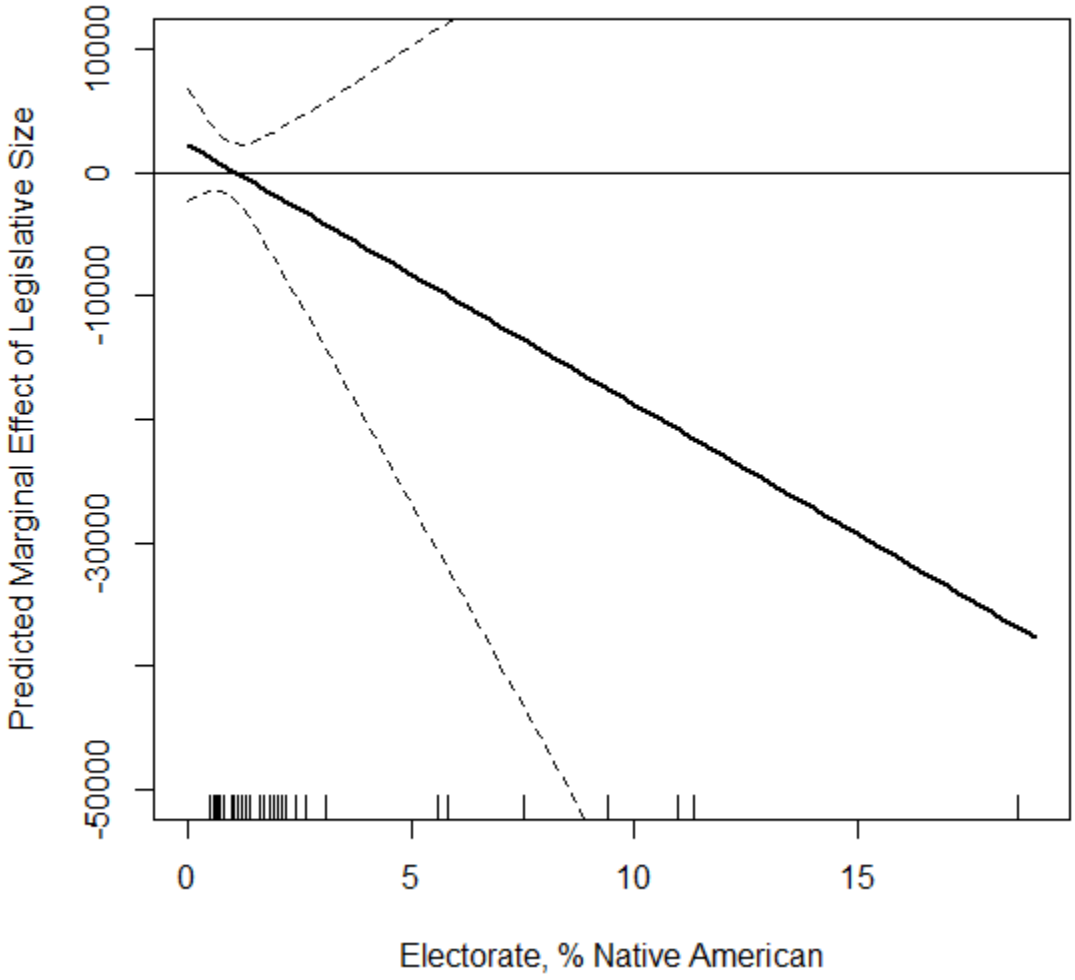

Figure 4. Predicted marginal effects of the seats per person ratio, conditional on the Native American share of the electorate (Model 8). 95% confidence intervals band the estimated marginal effects.

2.0 Cross-national Analysis

2.1 Key Independent Variable: Seats-per-persons Ratio

To calculate the denominator of this variable, 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 in the International IDEA's Voter Turnout Database. Second, there were large discrepancies between the registered electorate and the VAP in a number of states in this database. 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. Moreover, because of our focus upon descriptive representation and representational outcomes more generally, we believe that focusing upon the electorate --- the persons who are actually eligible to vote (and hence usually eligible to hold office) --- is a better choice than focusing upon the population at large. Nevertheless, we note that using these alternative measures yield similar results.

2.2 Control Variables and Hypotheses

Here we provide more information about the independent variables serving as controls in our models.

We begin with electoral system restrictiveness, by far and away the most studied political institutional variable. 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 greater representation of women in national legislatures.

Electoral system restrictiveness is operationalized as is conventional in the quantitative literature: as the logged average lower or only tier district magnitude (e.g., Cox 1997, Clark and Golder 2006). Relative to a simple majoritarian-proportional dichotomy, such an operationalization allows us to draw more fine-grained distinctions between electoral systems. For example, the logged average district magnitude distinguishes between a less restrictive large-average district magnitude proportional representation system (such as the Netherlands) and a more restrictive small-average district magnitude proportional representation system (such as Ireland), whereas the dichotomy would code both cases as proportional.[1]

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[1] One drawback to this conventional operationalization, though, is that mixed member proportional systems, which have a districted lower tier with an average magnitude of 1, are grouped together with single member district plurality systems, which also have a lower tier with an average magnitude of 1, despite the former being conventionally viewed as some of the most proportional electoral systems in existence and the latter being viewed as the most restrictive. We stick with the conventional approach both for consistency with the literature and in light of our arguments about the effect of districted, small magnitude electoral systems (which includes mixed member proportional systems) on women's representation. Perhaps reflecting these arguments, if we nevertheless exclude mixed member

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 took the position that only a slow and steady pace of concomitant electoral, cultural and societal changes would bring about increased women's representation, scholars have increasingly argued that quotas represent a fast-track mechanism for increasing women's representation in a number of different social 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.[2] Tripp and Kang (2008), for example, find that compared to electoral system restrictiveness, political culture, and the strength of leftist parties (traditionally 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 stipulate. 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 to the existence of 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.

Operationally, we therefore break down quota systems into three separate variables. The first is mandatory quotas, which mandate that a minimum number of female legislators must be present on party lists (Htun 2004). This variable is dichotomous; states that have adopted a mandatory quota system have been coded `1,' while all other states have been coded `0.' The second is voluntary quotas, which are distinct from mandatory quotas in that parties adopt them without any formal requirement from the state. The variable is also dichotomous, with a `1' signifying the presence of voluntary quotas in at least one mainstream party, and a `0' indicating the presence of no voluntary quotas. The third is reserved seats, which are distinct from list-based quotas in that they functionally reserve seats in parliament for

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proportional systems from the analysis so that only the most bona fide restrictive electoral systems are coded with an average magnitude of 1, we find similar results to those obtained using the conventional measurement strategy. Hence, in conclusion: mixed member proportional systems seem to behave similarly to single member district plurality systems in our models.

[2] See, for example, Jones (2009) on their effectiveness---especially if well-designed---in Latin America.

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.

The next political institutional variable we consider is regime type, also known as the system of government. Most broadly, scholars classify democracies 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 the organizational structure of political parties 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 incorporated into the proportional-majoritarian "vision" of democracy continuum by a number of studies (e.g., Powell 2000; Lijphart 2012).

However, while there is scholarly work linking the system of government to a few specific representational outcomes, such as the representation of the working class (e.g., Lipset and Marks 2000), there is little work linking it to women's representation. To our knowledge, there are only two studies that consider the regime type as an explanatory factor. One of these studies---that of Krook and O'Brien (2012)--- looks at women's representation in cabinets, however, not legislatures, which means that the dependent variable is somewhat different from ours here. Moreover, the dependent variable in their study is not strictly women's descriptive representation, but rather ministerial power, which combines women's numeric presence with the prestige of their appointments. The other study---that of Schwindt-Bayer and Mishler (2005)---does link the presidential—parliamentary dichotomy to women's descriptive representation in legislatures, but does so as part of a complicated structural equation model relating descriptive representation to other dimensions of representation (such as symbolic representation) and without any discussion of the mechanism underlying the relationship.

We argue here that it accordingly seems timely to consider if and how a democratic state's regime type shapes women's descriptive representation, given the effective dearth of literature tackling this topic to date. Drawing upon the general representational literature, we hypothesize that regime type should matter. Specifically, we 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. One such reason is the usually reductive shadow that presidential elections cast over the legislative party system (e.g., Golder 2006; Hicken and Stoll 2011, 2013), turning the dynamics of legislative elections in presidential regimes in a more majoritarian direction, which is well-known to be less favorable to women's representation (see our arguments above about electoral system restrictiveness). Another perhaps more compelling reason is the higher-stakes, more competitive, and hence more "masculine" nature of presidential elections and hence the democratic system itself, which is again less favorable to women's representation (e.g., Cox 1997; Lawless and Fox 2005).[3] The more presidential the system (i.e., the stronger the presidency), the greater this effect should be.

[3] We offer this characterization based on a preliminary exploration of the empirical support for the first of these mechanisms. For presidential regimes, we additionally looked at the temporal proximity of the presidential election to the legislative one in question. We first identified only those presidential regimes with maximally concurrent presidential and legislative elections (where the elections were held on the same day), and then identified a broader set of presidential regimes where the presidential election was reasonably concurrent, which we defined as either preceding the legislative election by no more than one year or following it by no more than six months. In the resulting models, the coefficient on the dummy variable for concurrent presidential elections, defined in either of these ways, is negatively signed but

To test our hypotheses about this variable, we construct several measures. First and most basically, we construct a dummy variable for countries that have some kind of presidential regime with a directly elected president: either a mixed (semi-presidential or president-parliamentary) or true presidential system of government, in contrast to countries that lack a presidential regime so defined. Our data updates that originally compiled by Hicken and Stoll (2008, 2011, 2013), using the coding rules laid out by Shugart and Carey (1992).[4] This is the measure that we employ in the main paper. Second, we also construct several alternative, more fine-grained measures, the results for which we report here. One approach is to break this presidential regime variable down into mixed and true presidential regimes, creating a dummy variable for each type, again enabling a contrast with non-presidential regimes. This allows us to conduct a first-cut test of our hypothesis that regimes with stronger presidents (in true presidential regimes, relative to mixed presidential regimes) will be less favorable to women's representation. Another approach is to employ an updated version of Hicken and Stoll's (2008, 2011, 2013) additive index of presidential powers. For this measure, regimes without a directly elected president receive a value of 0; for regimes with a directly elected president, the legislative and non-legislative powers of a president are coded based on the constitution in effect at the time of the election and added together, and then incremented by 1. For our observed cases, the value of this variable ranges from 0 to 22. In addition to being a more nuanced measure of presidential power, relative to the simple dummy variables, the other way this measure differs is that it codes as presidential those countries with directly elected but exceedingly weak presidents, which are coded as non-presidential by the dummy variable regime type schemas (e.g., Austria).

Finally, we control for region in order to account for unmeasured regional characteristics (from religious to socio-economic to cultural factors) that might shape women's representation. We use a ten-category schema from Bormann and Golder (2013): industrialized (OECD) countries; sub-Saharan Africa; South Asia; East Asia; South East Asia; Pacific Islands/Oceania; Middle East/North Africa; Latin America; Caribbean and non-Iberic America; and Eastern Europe/post-Soviet states. We use the OECD countries as the omitted baseline category and include dummy variables for each of the other nine regions.

2.3 Alternative Models

In this section, we report alternative model specifications from those reported in the main paper. We also first report the full Model 10, which includes the results for the regional dummy variables.

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statistically insignificant, and it is of a smaller magnitude (about 1.5 percentage points) than a model simply employing a dummy variable for all presidential regimes. Hence, the temporal proximity of presidential elections to legislative ones does not seem to be doing all, or even most, of the work. In future work, we will explore this mechanism further.

[4] Our data differs on the margin from that of Bormann and Golder (2013 --- their "regime" variable), who in turn updated data from Cheibub, Gandhi and Vreeland (2010). The major difference is in the treatment of indirectly elected presidents: we do not code these regimes as presidential, but they do. For example, Bormann and Golder code Micronesia as semi-presidential at the time of the 2011 election, but we code it as parliamentary because the president was indirectly elected by the assembly instead of directly elected by the electorate. See Hicken and Stoll (2008, 2011, 2013) for more on measures of regime type and presidential powers. However, we note that constructing dummies for either presidential or both presidential and semi-presidential regimes using the Bormann and Golder data yields results that are even more supportive of our hypotheses. This again lends support to the second mechanism (about the competitive and masculine nature of presidentialism), given that there is no electoral shadow to be cast with an indirectly elected president (as posited by the first mechanism).

2.4 Notable Findings Regarding Control Variables

Quota systems: all three types of quota systems are predicted to increase the share of women in the national legislature, as indicated by the positive signs on all of the coefficients. However, only one of the three types of quota systems (mandatory quotas) is consistently statistically significant. There is also some support for the hypothesis that voluntary quotas will have less of an effect than mandatory quotas, given the estimated statistical and substantive significance of the coefficients on these two variables. Specifically, a country possessing a mandatory quota system is predicted to increase women's share of seats in the lower legislative chamber by about 6 percentage points, while having a voluntary party-based quota system is predicted to yield an increase of between 3 and 4 percentage points, *ceteris paribus*. Contrary to the hypothesis, however, the existence of reserved seats generally has the smallest substantive impact (between 2-3 percentage points) instead of the largest. This finding is somewhat surprising, but may be an artifact of the fact that only four states in the sample actually have reserved seats for women, and that three of these four states are borderline democracies (Bangladesh, Burundi, and Pakistan). One other finding of note is that the predicted independent effects of mandatory quota systems (< 10 percentage points) are, on average, indeed modest relative to what is usually legally stipulated, as a number of scholars have argued. This suggests that how quota systems are implemented really does matter, as these scholars have argued. It also suggests that caution in predicting the effect of mandatory quotas is warranted: the practical impact will often be less than what policymakers hope for and write into the statutes, even though this political institutional variable generally has the largest (realistic) substantive impact of all of the political institutions studied.

Presidentialism: as hypothesized, a presidential system of government is found to have a negative effect on women's descriptive representation in legislatures across all of the measures employed. The most basic measure of presidentialism in Model 10 falls short of conventional levels of significance using a two-sided test, but only narrowly so; it does attain conventional levels of significance using the more appropriate one-sided test. While less substantively significant than the effect of mandatory quotas, the substantive impact of switching from a non-presidential to a presidential regime is still non-trivial: about 3 percentage points, on average and holding all else constant. This is on par with the predicted substantive impact of at least one political party instituting voluntary quotas. When we look at more nuanced measures of regime type, we find even stronger support for the hypothesis. When employing separate dummy variables for true and mixed presidential regimes, we see that true presidential regimes have a statistically significant negative effect on women's representation, and a substantively larger one (about 5-6 percentage points) relative to mixed presidential regimes, where the effect is small (1-2 percentage points) and statistically insignificant. Similarly, when we look at presidential power as an alternative measure still, we see that more powerful presidencies are predicted to have a much larger negative effect on women's representation than both weaker ones and non-presidential regimes, even though the effect narrowly falls short of conventional levels of statistical significance using a two-sided test (but again, attains statistically significant levels using a one-sided test): for example, the maximal impact on women's representation of switching from a pure parliamentary regime to the most powerful presidential regime like Chile's is predicted to be a decrease of about six percentage points, ceteris paribus.

Dependent Variable, Cross-National	Women's Representation	Women's Representation	Women's Representation	Women's Representation
	Model 10, showing regional dummies	Logged percent women as DV	Using voting age population to calculate seats-per-persons ratio	Using turnout to calculate seats-per-persons ratio
Intercept	24***	2.9***	24***	23***
	(3.3)	(0.15)	(3.6)	(3.2)
Log Average District	1.6**	0.076*	1.5*	1.6**
Magnitude	(0.73)	(0.042)	(0.75)	(0.73)
Quota	5.9***	0.33***	5.8***	5.8***
	(2.1)	(0.11)	(2.1)	(2.1)
Voluntary Party	3.1	0.25**	3.0	3.2
Quota	(2.6)	(0.12)	(2.7)	(2.5)
Reserved Seats	2.7	0.30	2.4	2.3
	(4.5)	(0.28)	(4.5)	(4.6)
Presidential	-3.3	-0.23*	-3.3	-3.2
	(2.1)	(0.12)	(2.1)	(2.2)
Mixed				
True Presidential				
Presidential Powers				
Seat-to-person	4400	710***	740	4800
Ratio	(3700)	(180)	(1600)	(4100)
Seat-to-person Ratio	-2500**	-210***	-1200	-3100*
***Log Magnitude**	(1200)	(53)	(1000)	(1700)
Sub-Saharan Africa	-9.3** (3.5)	-0.43** (0.19)	-9.3** (3.7)	-8.3** (3.4)
South Asia	-14*** (3.9)	-0.75*** (0.23)	-14*** (4.0)	-13*** (3.9)
East Asia	-7.7 (8.2)	-0.44 (0.57)	-7.9 (8.2)	-7.6 (8.3)
South-East Asia	-4.9 (3.3)	-0.062 (0.16)	-5.1 (3.2)	-4.8 (3.1)
Pacific Island	-25*** (5.3)	-2.4*** (0.35)	-22*** (4.2)	-29*** (7.4)
Middle East-N. Africa	-15*** (2.9)	-0.60*** (0.14)	-15*** (2.9)	-15*** (2.9)
Latin America	-7.4** (3.2)	-0.24 (0.15)	-7.5** (3.3)	-7.3** (3.2)
Caribbean	-12*** (4.1)	-0.50** (0.19)	-12*** (4.3)	-12*** (4.1)
Eastern Europe	-9.4*** (3.1)	-0.32* (0.16)	-9.4*** (3.1)	-9.4*** (3.1)
N	114	114	114	108
R2	0.51	0.58	0.50	0.48
Root MSE	8.4	0.48	8.4	8.5

Table 4. Alternative versions of Model 10. For the regional dummies, "OECD" is the omitted baseline category. White's heteroskedastic-consistent standard errors are reported. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

Dependent Variable, Cross-National	Women's Representation	Women's Representation	Women's Representation	Women's Representation
	Exclude MMP electoral systems	Presidentialism = concurrent on same day	Presidentialism = concurrent within 6 months following or 1 year preceding	Presidentialism = Bormann and Golder coding, semi-presidential and presidential regimes
Intercept	23***	23***	23***	24***
	(3.8)	(3.2)	(3.2)	(3.2)
Log Average District	1.7**	1.6**	1.7**	1.8**
Magnitude	(0.78)	(0.75)	(0.76)	(0.71)
Quota	6.1***	6.0***	6.2***	6.4***
	(2.3)	(2.3)	(2.2)	(2.1)
Voluntary Party	3.9	3.4	3.4	3.1
Quota	(2.9)	(2.5)	(2.5)	(2.5)
Reserved Seats	2.4	4.0	3.0	3.0
	(4.4)	(4.9)	(4.9)	(4.9)
Presidential	-3.7*	-1.4	-1.8	-4.0*
	(2.2)	(2.2)	(2.1)	(2.0)
Mixed				
True Presidential				
Presidential Powers				
Seat-to-person	4500	4400	4400	4500
Ratio	(3800)	(3800)	(3800)	(3680)
Seat-to-person Ratio	-2500*	-2400*	-2400*	-2700**
***Log Magnitude**	(1300)	(1300)	(1300)	(1300)
Sub-Saharan Africa	-8.3** (3.8)	-10*** (3.6)	-9.6** (3.7)	-8.9** (3.4)
South Asia	-13*** (4.3)	-15*** (4.2)	-14*** (4.3)	-14*** (3.8)
East Asia	-6.9 (8.5)	-10 (8.2)	-9.1 (8.5)	-7.5 (8.2)
South-East Asia	-6.0* (3.4)	-5.5* (3.0)	-5.1* (3.0)	-4.3 (3.4)
Pacific Island	-24*** (5.8)	-24*** (5.4)	-24*** (5.4)	-25*** (5.2)
Middle East-N. Africa	-15*** (3.0)	-14*** (2.9)	-15*** (3.0)	-16*** (2.9)
Latin America	-7.4** (3.4)	-8.6*** (2.9)	-8.4*** (3.2)	-7.3** (3.1)
Caribbean	-11** (4.6)	-11*** (4.1)	-11*** (4.1)	-12*** (4.0)
Eastern Europe	-8.4** (3.3)	-10*** (2.9)	-10*** (2.9)	-9.5*** (2.9)
N	107	114	114	114
R2	0.51	0.49	0.50	0.51
Root MSE	8.5	8.5	8.5	8.3

Table 4, cont. Alternative versions of Model 10. For the regional dummies, "OECD" is the omitted baseline category. White's heteroskedastic-consistent standard errors are reported. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

Dependent Variable, Cross-National	Women's Representation	Women's Representation	Women's Representation
	Presidentialism = Bormann and Golder coding, presidential regimes only	Break presidential regimes down into true and mixed systems	Presidential powers index
Intercept	23***	23***	24***
	(3.2)	(3.3)	(3.3)
Log Average District	1.7**	1.5**	1.5*
Magnitude	(0.73)	(0.75)	(0.80)
Quota	5.5**	3.4**	6.4***
	(2.3)	(2.3)	(2.3)
Voluntary Party	3.6	3.6	3.0
Quota	(2.5)	(2.5)	(2.6)
Reserved Seats	4.5	2.2	5.9*
	(4.7)	(4.9)	(3.0)
Presidential	-6.4***		
	(1.9)		
Mixed		-1.5	
		(2.6)	
True Presidential		-5.5**	
		(2.3)	
Presidential Powers			-0.28
			(0.17)
Seat-to-person	4400	4500	4500
Ratio	(3800)	(3800)	(3800)
Seat-to-person Ratio	-2600**	-2500**	-2600**
***Log Magnitude**	(1300)	(1300)	(1300)
Sub-Saharan Africa	-7.8** (3.2)	-8.4** (3.4)	-8.4** (3.7)
South Asia	-13*** (3.6)	-13*** (4.2)	-15*** (3.6)
East Asia	-8.6 (7.7)	-7.9 (7.9)	-7.9 (8.6)
South-East Asia	-3.3 (3.5)	-3.7 (3.5)	-4.5 (4.4)
Pacific Island	-24*** (5.2)	-24*** (5.3)	-25*** (5.3)
Middle East-N. Africa	-15*** (2.8)	-15*** (2.8)	-15*** (3.0)
Latin America	-3.8 (3.3)	-5.5* (3.2)	-5.6 (3.8)
Caribbean	-11*** (4.0)	-12*** (4.1)	-12*** (4.2)
Eastern Europe	-11*** (2.9)	-9.7*** (3.1)	-8.9*** (3.0)
N	114	114	103
R2	0.53	0.52	0.50
Root MSE	8.2	8.3	8.5

Table 4, cont. Alternative versions of Model 10. For the regional dummies, "OECD" is the omitted baseline category. White's heteroskedastic-consistent standard errors are reported. Significance codes are for two-sided tests, all calculated prior to rounding to two significant digits: 0.01, ***; 0.05, **; 0.10, *.

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