3-2008

The Global Impact of Quotas: On the Fast Track to Increased Female Legislative Representation

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Quotas have become an important mechanism through which women today are entering legislatures worldwide. This study shows that the introduction of quotas has helped overcome constraints on women’s representation posed by economic underdevelopment, cultural influences, and even electoral systems. This study also demonstrates that the introduction of quotas offers the most explanatory power for women’s representation today, together with electoral systems that allow for greater candidate turnover (i.e., party-list proportional representation systems). The majority of studies explaining women’s legislative representation prior to 2000 focused on electoral systems, cultural considerations, and the strength of leftist political parties. Since the mid-1990s, however, an increasing number of countries have introduced gender quotas, which this article incorporates into older models in cross-national multivariate analysis.

Keywords: women, political representation, legislatures, quotas, cross-national

Since the 1995 United Nations Fourth World Conference on Women in Beijing, the issue of women’s political representation has gained salience as increasing numbers of countries have sought to improve female representation. In its 2003 elections, Rwanda surpassed the Nordic countries, obtaining the highest proportion of female parliamentarians in the world. This brought new attention to quotas, which were being rapidly adopted in Latin America, Africa, Asia, and the Middle East. These measures aimed at attaining more equitable representation. Drude Dahlerup (2006) argues that the incremental model of increasing women’s representation in parliament that led to high rates of female representation in the Nordic countries in the 1970s has been replaced by the “fast-track” model one finds in many countries, where dramatic jumps in parliamentary representation are brought about by the introduction of gender quotas.
Given these changes in electoral mechanisms, this study reexamines the question of what accounts for female parliamentary representation. It shows that the introduction of quotas offers the most explanatory power for women’s representation today and that, together with proportional representation (PR) systems, these institutional factors are of paramount importance. The majority of studies seeking to explain women’s legislative representation have to date concentrated on Western Europe and North America, where explanations focusing on the difference between majoritarian and PR systems, the importance of district and party magnitude, and the ideological orientation of political parties have been well established. More extensive global, cross-national, and regional studies beyond Western countries have refined our understanding of which factors hinder and facilitate the presence of women in legislatures (Htun & Jones, 2002; Inglehart & Norris, 2003; Jones, 1998; Kenworthy & Malami, 1999; Matland, 1998; Paxton, 1997; Reynolds, 1999). Because most of these studies use pre-2000 data, they do not adequately account for the impact of the introduction of quotas adopted since the mid-1990s. As a consequence of the rapidity with which quotas are being adopted, the impact is greatly in flux. The patterns, however, are unmistakable.

Quotas and Female Representation

Around the world, quotas have become a part of the electoral landscape. In the decade prior to 1985, 4 countries introduced quotas. Between 1985 and 1994, 21 countries adopted quotas, whereas the former eastern bloc countries dropped them (25 countries in all if the former Soviet republics are counted). In the following decade between 1995 and 2005, more than 55 countries adopted quotas. As of 2006, more than 84 countries have some form of quota to improve the selection of female candidates running for office. Many other countries have discussions under way over whether to implement quotas.

The most common type of quota is the voluntary party quota (in 61 countries), which is adopted by parties of their own volition regardless of whether or not there is a compulsory party quota. Another type of quota is the compulsory party quota (in 28 countries), mandated by the constitution or by the legislature, requiring political parties to institute quotas for women. Reserved seats or women’s lists (in 12 countries) involve constitutional or legal provisions that are intended to determine from the outset the number of seats that will be competed for and held by women. Women may be elected to reserved seats either by a district-wide electoral college of men and women (Uganda) or by women in each district (Rwanda). In Tanzania, reserved seats are called special seats and are al-
located to preselected women on party lists after the election in proportion to the number of seats won by the party in parliament.\textsuperscript{2}

In general, compliance rates and quota requirements vary across voluntary party quotas, compulsory party quotas, and reserved seats (Reynolds, 1999). Reserved seats are typically set in the 20\% to 30\% range and the outcome is predetermined. The implementation of reserved seats does not depend on the proclivities of individual parties. Voluntary quotas are generally adopted because parties themselves are committed to gender equity or want to use quotas to demonstrate support for women’s political representation. Compulsory quotas reflect an attempt to legislate change but may often result in noncompliance because they are imposed on parties that may not be interested in advancing women’s political representation. Because quotas in these cases regulate the number of female candidates put up for election, parties may place women further down the party list or have them run for unwinnable seats in majoritarian systems, in which case the compulsory quota is rendered virtually meaningless.

The adoption of quotas reflects a growing consensus that women should have greater representation or even equal representation with men. Some women’s rights advocates argue that male-dominated legislatures represent a form of preferential treatment for men that will not change on its own; therefore, some measures need to be adopted lest societies wait an eternity for change. Others argue that qualified women could win positions but are held back from political representation because of cultural beliefs, societal practices, and lack of economic and institutional support. Some argue that the interests of women will not necessarily be represented if women are not present in decision-making bodies. Women may be seen as bringing to politics their own perspectives, experiences, and expertise and are more likely than men to introduce legislation regarding education, health, child care, and violence against women. Finally, some argue that quotas make people aware of gender imbalances in societal institutions. They find that this helps counter the illusion that all people have equal access if they are qualified, that institutions are gender neutral, and that fair representation is possible without particular interventions (Baldez, 2006, p. 103; Dahlerup, 2006; Krook, 2006, pp. 110–113; Nanivadekar, 2006, p. 119; Squires, 1996, p. 75).

Political leaders may pursue quotas because they want to appear “modern” and in tandem with changing international norms, because they do not want to appear regressive while neighboring countries make gains in female political representation, or because they want to play the gender card to drive a rift between themselves and their polit-
ical opponents, especially in countries with strong or growing Islamicist movements. Others may use quotas to curry favor with female parliamentarians as another patronage group and obtain political support through them.

Many governments and political leaders, for their own reasons, responded positively to the 1995 Platform of Action that emerged out of the UN Beijing Conference. The Platform required governments to work toward gender parity in public administrative institutions and legislative bodies. It encouraged governments to establish targets and implement measures to integrate women into elected and nonelected public positions at levels comparable to those of men. Similarly, governments were to encourage nongovernmental organizations (NGOs), trade unions, political parties, and the private sector to promote the equal participation of men and women in decision-making positions. In support of the Beijing initiatives, the Inter-Parliamentary Union (IPU), the world organization of national parliaments, determined that it would promote affirmative action measures, but on an interim basis.

Pressures from international bodies were mediated by pressures from regional women’s rights networks and intergovernmental bodies. National women’s movements, through their regional networks, encouraged the Southern African Development Community (SADC) to employ measures to raise the representation of women in their respective countries (Tripp, 2005). In November 1997, SADC Heads of Government adopted the Declaration on Gender and Development, in which they committed themselves to achieving 30% representation of women in decision-making posts by 2005. In 2005, they set a 50% goal for 2015. These regional pressures, in part, help explain why southern African countries have higher rates of representation than those found elsewhere in Africa.

As quotas are adopted, political scientists have increasingly studied them. Wilma Rule (1987) was one of the first to write about quotas as solutions to institutional barriers to women’s representation. Rule argued that electoral system constraints can be overcome by affirmative action to promote women within the party, women’s political mobilization, enlargement of electoral districts, and the limitation of electoral terms to ensure greater turnover (p. 495). Since the publication of her work, several excellent studies explored why governments or political parties adopt quotas. Caul (2001) looked at quota adoption by 71 parties in 11 advanced industrialized countries from 1975 to 1995. She found that if women were in the highest decision-making body of the party, parties were more likely to adopt quotas. Matland and Studlar (1996) suggested that centralized and institutionalized party structures made it easier for parties to adopt quotas. They also claimed that newer parties tended to
be more open to quotas and to improving female representation as part of their attempt to find a niche in the party system.

Scholars have also closely scrutinized the impact of quotas for a small number of countries (e.g., Htun & Jones, 2002), but relatively few cross-national studies have examined the use of quotas in Soviet bloc countries before the 1980s or globally after 2000, when the impact of quotas was beginning to be felt more strongly. At a first cut, it appears that quotas explain high rates of female representation in Eastern Europe and the former Soviet Union until the late 1980s, when there was a drop in women’s legislative representation from 31% to 9% between 1980 and 1990. In the former Soviet republics, the plummet was even sharper, from an average of 50% in 1985 to 11% in 2000. The elimination of quotas explains the drop in women’s representation that occurred in these countries. The reverse process occurred in other parts of the world: The rates roughly doubled in Africa, Asia, the Middle East, and Latin America between 1990 and 2005 (see Table 1). The introduction of quotas helps explain much of that increase.

The only global, cross-national studies to date that test for the impact of quotas are those of Reynolds (1999) and Kunovich and Paxton (2005). Both found that countries with quotas did not have significantly higher rates of female representation than the world average. Because these studies use data from 1998 and from 1991 to 1996, respectively, they do not capture the adoption of quotas that have occurred since then.

Table 1. Percentage Representation of Women in Single or Lower House Legislatures (1960-2005)

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<tr>
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<tr>
<td>Americas</td>
<td>2.00</td>
<td>3.74</td>
<td>7.54</td>
<td>9.44</td>
<td>13.58</td>
<td>18.3</td>
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<tr>
<td>Pacific</td>
<td>2.50</td>
<td>1.86</td>
<td>1.31</td>
<td>3.41</td>
<td>6.08</td>
<td>12.0</td>
</tr>
<tr>
<td>Asia</td>
<td>3.96</td>
<td>4.65</td>
<td>6.82</td>
<td>7.48</td>
<td>10.18</td>
<td>16.1</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>2.00</td>
<td>2.06</td>
<td>3.39</td>
<td>3.52</td>
<td>4.38</td>
<td>8.7</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>0.94</td>
<td>2.21</td>
<td>6.46</td>
<td>7.78</td>
<td>10.34</td>
<td>16.1</td>
</tr>
<tr>
<td>Western Europe</td>
<td>3.25</td>
<td>3.21</td>
<td>7.16</td>
<td>10.61</td>
<td>18.58</td>
<td>17.0</td>
</tr>
<tr>
<td>Eastern Europe and Eurasia</td>
<td>23.11</td>
<td>25.37</td>
<td>31.10</td>
<td>9.10</td>
<td>11.44</td>
<td>15.1</td>
</tr>
<tr>
<td>Scandinavia</td>
<td>9.66</td>
<td>10.42</td>
<td>21.24</td>
<td>31.86</td>
<td>37.58</td>
<td>40.0</td>
</tr>
<tr>
<td>Overall</td>
<td>4.93</td>
<td>5.41</td>
<td>8.74</td>
<td>9.14</td>
<td>11.87</td>
<td>16.3</td>
</tr>
</tbody>
</table>

Recognized Determinants of Female Representation

Research on women’s political representation draws on a combination of cultural, socioeconomic, and institutional explanations with greater or less emphasis on one of these explanations. Many cross-national studies of women’s legislative representation produce contradictory outcomes as a result of the European focus of many of the studies, the measurements employed, and the different periods being examined. Research incorporating developing countries qualifies and expands some of the explanations from the earlier cross-national studies that were based on advanced industrialized countries or Europe. These studies do not give the same importance to many of the variables that explain female legislative representation rates in advanced industrial countries and Western democracies.

**Institutional Factors**

Scholars focusing on advanced industrial countries identify the electoral system as a critical factor in determining female political representation, if not the most important factor (Lovenduski & Norris, 1993; Norris, 1985). Cross-national global studies also indicate that electoral systems are important determinants of women’s representation (Kenworthy & Malami, 1999; Paxton, 1997; Reynolds, 1999). But many find that electoral systems matter in different ways for different kinds of countries (Matland, 1998; Moore & Shackman, 1996; Oakes & Almquist, 1993). PR systems are generally said to produce a higher representation of women than plurality or majority systems. This is because district magnitude, or the number of seats per district, tends to be higher in PR systems (Htun & Jones, 2002; Matland & Studlar, 1996; Vengroff, Zsolt, & Fugiero, 2003). With higher district magnitude, parties have greater chances of winning several seats in a district, therefore making them more likely to consider a variety of interests, including the representation of women in selecting candidates (Ballington & Matland, 2004; Matland & Studlar, 1996). More precisely, it is party magnitude (the number of seats a party expects to win in a district) that matters. Individual country studies have also shown party magnitude to be important in countries such as Costa Rica (Matland & Taylor, 1997), Norway (Matland, 1993), Namibia (Bauer, 2004), and Argentina (Jones, 1996). If, as in a majoritarian system, there is only one party nominee per district, this constrains the party and works against newcomers that might be women.

Given the role of parties as gatekeepers for candidate selection, the emphasis on the selection process of candidates within parties has be-
come a new area of focus (Caul, 2001; Matland & Taylor, 1997; Norris, 1993). Kunovich and Paxton (2005) conclude that women’s inclusion as party elites results in larger numbers of women running for office only in PR systems, but it does not result in larger numbers of female legislators. In non-PR systems, however, female party elites can help female candidates get elected and increases in female party bureau members in such systems lead to increases in the ratio of elected female candidates. Competition between parties to appear pro-women is also a factor. If one party nominates many women and places them high on the party list, other parties feel compelled to do the same lest they lose the votes of women. But party behavior is mediated by the electoral system, which can provide incentives to respond or not to respond to pressures for equal representation (Matland & Studlar, 1996). Other institutional factors include the use of open or closed party lists, especially in the Latin American context, placement mandates for women (Htun & Jones, 2002), and term limits, thus opening up seats for newcomers such as women (Krook, 2004).

The strength of Left parties is also believed to improve female representation because leftist parties may be more open to gender equality and more likely to select female candidates (Beckwith, 1992; Caul, 2001; Norris, 1985; Reynolds, 1999; Rule, 1987). Nonleftist parties, however, are increasingly nominating female candidates, especially in Scandinavia (Lovenduski & Norris, 1993; Matland & Studlar, 1996). In addition, scholars believe that history of women’s access to the electoral system matters, be it ability to vote (Kenworthy & Malami, 1999) or ability to run for office (Reynolds, 1999). The more the electorate is accustomed to seeing women compete for political power, the more likely women should be elected.

Level of democracy is also theorized to have an impact on women’s access to national legislatures because previously excluded populations may have more of a chance of breaking into the political system in a democracy than in an autocracy. In several worldwide studies, however, the relationship between level of democracy and women’s representation was found to be insignificant or weak (Kenworthy & Malami, 1999; Paxton & Kunovich, 2003). Other analyses include proxies for the quality of democracy, such as number of competitive multiparty elections and voter turnout. These analyses uncover a positive effect on women’s representation (Lindberg, 2004; Reynolds, 1999).

**Socioeconomic Factors**

There is inconclusive evidence on the relationship between women’s socioeconomic status and women’s political representation. So-
cioeconomic factors, such as labor force participation (Matland, 1998) and socioeconomic status of women (Krook, 2004; Reynolds, 1999), are identified as influencing women’s political participation. Paxton (1997), however, suggests that education, numbers of women in the workforce, and other factors that influence the supply of potential female candidates are not as important as institutional factors that block women’s access to political power. Paxton’s finding is supported by Kenworthy and Malami’s (1999) study, which also observes that women’s share of the labor force and education are not strongly correlated with the representation of women in national legislatures. Women’s share in professional occupations, according to Kenworthy and Malami, is positively linked to women’s representation.

**Cultural and Religious Factors**

Although the link between voters’ attitudes toward women as politicians and the number of women elected to parliament should be fairly direct, finding a cross-national, global measure of attitudes has not been easy. Earlier research relied on religion and region as proxies for societal attitudes (Kenworthy & Malami, 1999; Paxton, 1997; Reynolds, 1999). Broadly, there are indications that attitudes, if indeed that is what religious and regional variables are capturing, do have an impact; cultural “unobservables” in Scandinavia appear to encourage the election of women, whereas unobservables in predominantly Muslim and Catholic countries appear to hinder the election of women.

Inglehart and Norris (2003) make a compelling case that wealthier postindustrial societies are more likely to favor gender equality than are agrarian or industrial societies, although broadly cross-national studies of women’s representation have not yet tested this claim along these lines. Their study, based on World Values Survey data from more than 70 countries, shows that in postindustrial societies, well-educated, less religious, and single respondents are more likely to support gender equality. With the availability of the World Values Study data, scholars are moving from focusing on the strength of leftist parties, religion, and region to aggregated attitudes toward gender equality. Norris’s (1985) study of 24 European liberal democracies and Paxton and Kunovich’s (2003) study of women in 46 legislatures find that an egalitarian ideological orientation of the country is important to female representation. Other studies use women’s rights policies, such as ratification of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), abortion policy, and mean age of marriage for women as substitute measures of attitudes to women’s rights (Kenworthy & Malami, 1999; Kunovich & Paxton, 2005).
Finally, scholars also hypothesize that women’s movements may help women enter into politics by providing a support base for female candidates (Ballington & Matland, 2004, p. 3). Initial statistical tests do not find that women’s movements effect women’s representation, although better data are needed (Kenworthy & Malami, 1999).

Building on earlier cross-national explanations of female legislative representation, we aim to account for the recent and widespread adoption of quotas. In our study, we hypothesize the following:

*Hypothesis 1:* All else being equal, countries with quotas have higher rates of female legislative representation than countries without quotas.

Given the introduction of quotas in many countries, especially after 1995, we expect that this will result in findings that differ significantly from earlier studies that emphasized other institutional, cultural, and socioeconomic factors in explaining women’s political representation in legislatures.

*Hypothesis 2:* Countries with reserved seat quotas have higher rates of female representation than those that rely on voluntary party quotas or compulsory party quotas.

Reserved seats determine the outcome of seats from the outset rather than the percentage of female candidates who might be elected as found in mandatory party quota systems or in voluntary party adoption of quotas. Voluntary party quotas are generally not adopted by all parties in a country; therefore, the overall percentage of women elected is not as certain as in the reserved seat system. Moreover, compliance with mandatory quotas is generally uneven.

**Research Design**

Our study seeks to improve on existing research on women’s representation in several ways. Our original data set of 153 countries is larger than prior samples, yet we also split our sample into different groups to test the robustness of our primary and secondary findings. Our analysis is more up to date, taking into account women’s representation as of 2006. As discussed, we believe that earlier studies do not account for institutional changes that have occurred since the mid-1990s and especially after 2000.
Our dependent variable is the logit transformation of the proportion of women in lower house or unicameral national legislatures as of April 31, 2006 (IPU, 2006a, 2006b). Untransformed, the average percentage of women in parliament in our study is 15.9%. We use the logit transformation because the proportion of women in parliament is bounded between 0 and 1, violating an assumption of ordinary least squares (OLS) regression. This has not been adequately addressed by previous work on women’s representation in national legislatures and may have resulted in different outcomes.

Our primary explanatory factor is gender quotas, which we code using information from the Global Database of Quotas (International Institute for Democracy and Electoral Assistance, 2006). Countries receive a value of 1 if there are compulsory party quotas, reserved lists, women-only lists, or voluntary party quotas in effect for the most recent election (77 countries in our sample of 153) and 0 if there are no such quotas. Later, we test for the relationship between specific kinds of quotas and female representation. We count countries as having voluntary party quotas only if a major party has a quota because the effect of quotas in minor parties is expected to be minimal. Therefore, we code countries as having compulsory party quotas if either the largest or second largest winning party in the most recent election had quota regulations. For compulsory party quotas, we do not distinguish between different kinds of placement mandates in closed-list systems (i.e., the location of women on party lists) or whether there are legal sanctions for noncompliance, although future studies may look into this. Countries where quotas were later revoked or abandoned (e.g., Denmark, Egypt, Ghana, Venezuela, former Soviet Union) are not coded as having quotas. We anticipate that the coefficient for the quota variable will be positive and statistically significant.

As discussed, cross-national studies indicate that electoral systems have a significant impact on women’s representation in national legislatures. We measure electoral system type with a dummy variable, where a country receives a 1 if it has a PR party list system for its lower house or unicameral legislature and 0 if it does not (Reynolds, Reilly, & Ellis, 2004). In our sample, 63 countries use a PR list system and 90 countries use either a first-past-the-post or a mixed electoral system. We will discuss the impact of using alternative measures of electoral systems later in the article.

Prior research points to a link between the strength of Left-leaning parties and women’s representation. Data on leftist party strength are difficult to obtain for our sample of 153 countries. Later, we discuss a model with a smaller sample size that incorporates a dummy variable for whether the largest government party is Left leaning, based on Beck, Clarke, Groff, Keefer, and Walsh (2001).
We account for history of women’s access to elected posts by counting the number of years women have had the right to run for office (ranging from 1 to 218, with a mean of 57 years; IPU, 2006c). Kenworthy and Malami (1999) look at the year women gained the right to vote, but in our bivariate analyses, the $p$ value was stronger for the number of years women had the right to run for office. Neither, however, is statistically significant at the .10 level in bivariate regressions. Nevertheless, we include the latter in the full model. Our last institutional variable is type of democracy, which we measure using the 2001 Freedom House Index. For ease of interpretation, we transform the Freedom House Index such that the most democratic countries receive a 3 (71 countries), “partly free” countries receive a 2 (52 countries), and the least democratic countries receive a 1 (30 countries). Recent research finds a negative relationship between degree of democracy and women’s representation in national parliaments (Kunovitch & Paxton, 2005).

We use girls’ enrollment share at the secondary school level to stand in for factors that affect the pool of female candidates (World Bank, 2005). This figure is the number of girls enrolled in secondary school as a percentage of the total number of secondary school students ($M = 46.94$, Min = 22.10, Max = 56.48). We expect a positive relationship between girls’ enrollment and women’s representation. Labor force participation and female share of professional employment is set aside because these figures tend to underestimate women’s participation in the informal economy in developing countries.

Logged gross domestic product (GDP) per capita as reported in 2001 is the basis of our measurement for level of economic development. In most of our initial models, level of economic development, coded as such, did not come out as significant. In the models we present, we use a dichotomous variable constructed from logged GDP per capita to test Inglehart and Norris’s (2003) hypothesis about postindustrial societies and gender inequality. In our study, we assign 56 countries a value of 1 for being postindustrial (logged GDP per capita larger than or equal to 8); 97 countries are coded 0 (logged GDP per capita less than 8).

A religion is coded as dominant if 70% or more of the population prescribes to that religion, following Reynolds (1999). Dummy variables consist of those for Protestant (12 countries), Catholic (34 countries), Muslim (30 countries), and other (15 countries) dominant religions. The Other religion includes countries with predominantly Buddhist, Eastern Orthodox, Greek Orthodox, Hindu, or Jewish populations. The Other religions are grouped into a single category to preserve degrees of freedom in our regressions and are predominant in a small number of countries.
Following Kenworthy and Malami (1999), Protestantism is the baseline religion, as prior research suggests that the coefficients of the Muslim, Catholic, and Other dummy variables will be negative. We also employ eight world region dummies (Africa, Americas, Asia, Eastern Europe and the former Soviet Union, Middle East, Pacific, Scandinavia, and Western Europe). Western Europe is the baseline region in our analysis. We expect the coefficients to be positive for Scandinavia and negative for the Middle East.

For 52 countries, we explore the relationship between women’s representation and attitudes toward gender equality using data from the World Values Survey (World Values Survey Association, 2006). These countries span the major world regions (4 in Africa, 12 in the Americas, 10 in Asia and the Pacific, 20 in Europe, and 6 in the Middle East). Following Paxton and Kunovich (2003), we calculate the weighted average of individual responses to the statement (D059) “On the whole, men make better political leaders than women do.” The higher the country’s score, the more respondents reacted favorably to this statement. This score ranges from 1.64 (Sweden) to 3.46 (Jordan), with a mean of 2.41. We expect this variable to be negatively related with women’s representation. The more people think that men make better political leaders, the lower women’s representation should be. Although we do not find problems of multicollinearity in our regressions, heteroscedasticity is an issue, which we address using Huber-White robust standard errors.

Results

Table 2 presents results for our full sample of countries. Model A includes institutional, socioeconomic, and cultural factors drawn from the aforementioned literature; it represents much of the current stock of knowledge. It indicates that electoral systems are an important determinant of women’s representation. In line with Reynolds (1999), the coefficients of the Muslim and Other religion variables are significant and negative. Level of democracy, number of years women could run for office, level of economic development, and girls’ secondary school enrollment are not significantly correlated with women’s representation, nor is the prevalence of adherence to Catholicism.

The second column in Table 2 (Model B) adds quotas and allows us to assess its importance given other factors. Gender quotas have a significant ($p < .01$) and positive impact on women’s representation. Quotas, holding other factors constant, have a strong relationship with wom-
en’s representation. Whether a country has a PR list electoral system has a positive and statistically significant relationship with women’s representation. The number of years since women could run for office is positively correlated with women’s representation. Catholicism as a dominant religion becomes significant in this model and, like Islam, correlates negatively with female representation. The coefficient for democracy is nonsignificant and negative, which supports earlier findings by Paxton (1997), Reynolds (1999), Kenworthy and Malami (1999), and Kunovich and Paxton (2005). Girls’ educational enrollment in secondary schools is not statistically related to women’s presence in national legislatures, as in the first model’s estimation. The second model explains 39% of the vari-

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<tr>
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<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>Quotas</td>
<td>0.598*** (0.125)</td>
<td>0.696*** (0.121)</td>
<td>0.622*** (0.115)</td>
</tr>
<tr>
<td>Proportional representation list</td>
<td>0.498*** (0.110)</td>
<td>0.430*** (0.113)</td>
<td></td>
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<tr>
<td>Democracy</td>
<td>0.011 (0.131)</td>
<td>-0.071 (0.121)</td>
<td>-0.136 (0.100)</td>
</tr>
<tr>
<td>Number of years women could run for office</td>
<td>0.005 (0.003)</td>
<td>0.007** (0.003)</td>
<td>0.004 (0.003)</td>
</tr>
<tr>
<td>Postindustrial</td>
<td>0.228 (0.171)</td>
<td>0.226 (0.159)</td>
<td>0.361** (0.162)</td>
</tr>
<tr>
<td>Girls’ education</td>
<td>0.018 (0.016)</td>
<td>0.017 (0.016)</td>
<td>0.027* (0.015)</td>
</tr>
<tr>
<td>Catholic</td>
<td>-0.155 (0.133)</td>
<td>-0.394*** (0.126)</td>
<td>-0.345*** (0.133)</td>
</tr>
<tr>
<td>Muslim</td>
<td>-0.465** (0.224)</td>
<td>-0.570*** (0.204)</td>
<td>-0.204 (0.233)</td>
</tr>
<tr>
<td>Other</td>
<td>-0.414** (0.183)</td>
<td>-0.452** (0.205)</td>
<td>-0.244 (0.250)</td>
</tr>
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<td>Region</td>
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<tr>
<td>Africa</td>
<td>0.119 (0.279)</td>
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</tr>
<tr>
<td>Middle East</td>
<td>-1.152*** (0.339)</td>
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<td>Asia</td>
<td>-0.073 (0.257)</td>
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<tr>
<td>Eastern Europe and former Soviet Union</td>
<td>-0.212 (0.189)</td>
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</tr>
<tr>
<td>Scandinavia</td>
<td>0.450** (0.219)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Americas</td>
<td>-0.009 (0.185)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific</td>
<td>-0.727 (0.538)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-3.218*** (0.822)</td>
<td>-3.336*** (0.827)</td>
<td>-3.460*** (0.918)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.27</td>
<td>.39</td>
<td>.52</td>
</tr>
<tr>
<td>Observations</td>
<td>153</td>
<td>153</td>
<td>153</td>
</tr>
</tbody>
</table>
ance in the percentage of women in parliament; adding quotas significantly improves Model A.

To determine which variables remain significant when controlling for “unobservable” regional differences, we introduce world regions as dummy variables in the third model (Model C). Model C yields some unexpected findings. The effect of gender quotas and the effect of electoral systems are still significant. Level of democracy remains negative and statistically nonsignificant. When we control for world regions, the religion dummies become nonsignificant, except for adherence to Catholicism. Thus, when quotas and regions are taken into account, predominantly Muslim countries are not necessarily associated with significantly lower rates of female representation. The postindustrial dummy becomes significant, and Scandinavia emerges as the region most supportive of women’s legislative representation. Introducing regional controls improves the model to explain 52% of the variance.

To facilitate the interpretation of these results, we construct a baseline level of women’s representation in parliament for countries with mean values of democracy, number of years women could stand for office, and girls’ secondary enrollment to gauge the effects of the variables in the third model. It also permits us to assess how much more of the variance in women’s representation can be explained by quotas. At the baseline level, there is no quota and the PR party list electoral system is not used. The baseline region is Western Europe and the dominant religion is Protestantism. At this baseline level, the predicted percentage of women in parliament is 9.3%. When we change the original profile such that a PR list system is used, women’s representation changes from 9.3% to 13.7%. In comparison, if the only modification we make to the baseline is the addition of quotas (keeping the electoral system non-PR), women’s representation increases from 9.3% to 16.1%. We repeat this exercise to assess the differences in representation between non-Middle Eastern countries and countries in the Middle East (a decrease from 9.3% to 3.2%) and between non-Scandinavian and Scandinavian countries (an increase from 9.3% to 13.9%). These findings suggest that, on average, the impact of having quotas on women’s representation is greater than the impact of having a PR list electoral system on women’s representation.

In a first set of reduced, alternative models, we examine the relationships between different kinds of quotas and women’s representation. We find that voluntary party quotas are significantly correlated with women’s representation. This matches our expectation that voluntary party quotas are more likely to be enforced or followed. When we consider only compulsory party quotas, we do not find evidence of a sta-
tistically significant relationship with women’s representation. This fits with our earlier intuition that compulsory party quotas reflect less commitment on the part of parties to encourage women’s representation than do quotas that are voluntarily adopted. Our measure of reserved seats or women’s-only lists quotas is statistically correlated with higher levels of women’s representation in national legislatures. In fact, reserved seat quotas appear to have the greatest impact on women’s representation among the three quota types, lending support to our second hypothesis.

From this reduced model, we construct a baseline where quotas and the PR list system is not used, and where the mean level of democracy exists. At this baseline level, the predicted level of female representation is 8.0%. The impact of reserved lists is the greatest, with a prediction that 21.5% of parliament will be women. If the baseline is modified such that voluntary party quotas are used, female representation increases from a baseline of 8.0% to 11.3%. When PR list and reserved list quotas are used together, the predicted level of female representation is 31.2%.

Next, we split our sample by regime type to assess whether the impact of quotas is consistent across democracies and non-democracies, as Matland (1998) suggests that factors influencing women’s representation in advanced industrialized democracies do not work in the same way in less developed countries. The first three columns in Table 3 present our results for a reduced model. In the first column, we provide results for all countries in our sample. In the second column, we limit our sample to only full democracies, or those rated as “free” by the Freedom House Index in 2001. The effect of quotas diminishes but is still strong and significant. Electoral systems, as measured by our PR list dummy variable, matter for explaining women’s representation, in line with existing research findings. The number of years women could run for office also is statistically significant and positive. This marks a departure from our previous models and suggests that there are qualitative differences between democracies and other regime types. Girls’ education is also significant; the more gender balanced secondary education is, the more likely women will be elected to parliament in democracies. When we run our models for a sample of semidemocracies and authoritarian regimes (“partly free” and “not free” according to the Freedom House Index), we find further evidence to support Matland’s argument that there are different dynamics occurring across regime types. Notably, the effect of women’s history of access to office and girls’ education relative to boys is nonsignificant. In this reduced model, only quotas and electoral system appear to correlate with women’s representation.
Following Paxton and Kunovich’s (2003) research, we examine the impact of attitudes toward gender equality on women’s representation, taking quotas into account. The expectation is that attitudes will have a negative relationship with women’s representation. Our results for 52 countries, presented in the fourth column of Table 3, suggest that attitudes have a significant and negative effect. The more a country’s respondents believe that men make better politicians, the less women are likely to enter into office. Again, quotas are significantly and positively related to women’s representation, even when taking attitudes into account. The electoral system dummy becomes nonsignificant; this does not represent conclusive findings, however, as our sample size is fairly small. In the last column of Table 3, we add religion and region dummies that were significant in previous models. Interestingly, the relationship between countries being predominantly Catholic and women’s representation does not seem to be significant. The effect of attitudes also becomes nonsignificant, suggesting perhaps that the existence of quotas can overcome societal attitudes. Again, these results are suggestive but not conclusive.

To explore the robustness of our primary finding concerning the importance of quotas and secondary findings concerning the relevance of other explanatory factors, we perform a series of additional tests. We employ alternative measures of electoral systems, such as mean district magnitude, and find the effect of quotas to be strong and positive. We tested models with additional variables to see whether the effect of quotas stood strong and whether there were other important factors. We do not report the full results here, but we explored whether domestic women’s movements correlate with women’s representation, using number of women’s NGOs at the 1995 UN Conference on Women in Beijing per 1 million people as our measure (United nations, n.d.). Our variable for women’s movements did not come up as statistically significant in a range of tests, although better measures may produce different results. The relationship between women’s movements and women’s representation may also be indirect; women’s movements may affect the adoption or implementation of gender quotas, for instance, but not necessarily the election of female candidates.

We also examine whether there is a relationship between the strength of Left-leaning parties and women’s representation for a sample of 143 countries. We do not fully report the results here, but strength of Left-leaning parties is statistically significant only when we omit quotas and regional controls. This finding supports Caul’s (1999) suggestion that the leftist party explanation is becoming less relevant as other kinds of parties adopt quotas.
Table 3. The Effect of Quotas on Women in Single or Lower House Legislatures: Alternative Measures and Models

<table>
<thead>
<tr>
<th></th>
<th>All Countries</th>
<th>Democracies</th>
<th>Semidemocracies and Autocracies</th>
<th>Attitudes to Gender Equality</th>
<th>Attitudes to Gender Equality, Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quota</td>
<td>0.601***</td>
<td>0.386**</td>
<td>0.753***</td>
<td>0.383*</td>
<td>0.464**</td>
</tr>
<tr>
<td>Proportional representation</td>
<td>0.480***</td>
<td>0.484***</td>
<td>0.384**</td>
<td>0.113</td>
<td>0.249</td>
</tr>
<tr>
<td>list</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of years women</td>
<td>0.006*</td>
<td>0.004*</td>
<td>0.006</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>could run in elections</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postindustrial</td>
<td>0.262*</td>
<td>0.305**</td>
<td>0.009</td>
<td>0.004</td>
<td>0.370*</td>
</tr>
<tr>
<td>Girls’ education</td>
<td>0.013</td>
<td>0.054**</td>
<td>-0.002</td>
<td>-0.016</td>
<td></td>
</tr>
<tr>
<td>Attitudes to gender equality</td>
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<td></td>
<td>-0.733***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominant religion</td>
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<td></td>
</tr>
<tr>
<td>Catholic</td>
<td></td>
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<td></td>
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<td>-0.209</td>
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<tr>
<td>Muslim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.192)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.022***</td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.224)</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Europe and former</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.803***</td>
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<td>Soviet Union</td>
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<td></td>
<td></td>
<td>(0.275)</td>
</tr>
<tr>
<td>Scandinavia</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Europe</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-3.443***</td>
<td>-5.225***</td>
<td>-2.834***</td>
<td>-0.622</td>
<td>-0.637***</td>
</tr>
<tr>
<td></td>
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<td>0.42</td>
<td>0.22</td>
<td>0.37</td>
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<tr>
<td>Number of observations</td>
<td>153</td>
<td>71</td>
<td>82</td>
<td>52</td>
<td>52</td>
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</table>

Huber-White standard errors are in parentheses.

* $p < .10$, two-tailed. ** $p < .05$, two-tailed. *** $p < .01$, two-tailed.
Discussion

Electoral Institutions

In our empirical analysis, it is clear quotas and, in particular, reserved seats and voluntary party quotas are a significant factor in explaining the presence of women in national legislatures around the world. In most of our models, quotas have a greater impact than do other institutional factors on levels of female legislative representation. Thus, from a global perspective, the combination of quotas and electoral systems explains much of the variance in women’s representation in legislatures. This is a significant finding because it affects the way we understand some of the other factors that have previously been identified in explaining female representation. It gives greater salience to an institutional factor—quotas—that has become a new and important mechanism with which to challenge the persistence of low rates of female representation in legislatures.

Democracy

The relationship between democracy and women’s political representation produces varied results in cross-national analysis. Some find an inverse relationship between women’s representation and democracy (Kunovich & Paxton, 2005; Paxton, 1997), whereas others such as Kenworthy and Malami (1999) do not find a correlation. Our study suggests that there is no strong link between level of democracy and women’s representation. We believe that the use of quotas increases the rates of female representation in many nondemocratic regimes, making regime type unimportant for explaining the numbers of women in parliament. We have suggested that quotas in such countries often serve symbolic purposes for the state or signal a modernist stance of the establishment or ruling party in the face of a populist Islamicist challenge. In other cases, quotas may be used to obtain women’s votes, to create new patronage networks, or to cultivate national legitimacy on a world stage.

Years Since Women Could Run for Office

Studies of Western countries and a few global studies (Kenworthy & Malami, 1999) suggest that the longer the time since suffrage and the year women were able to run for office, the greater the rates of female representation. Others, by contrast, find years since the introduction of suffrage to have little effect (Moore & Shackman, 1996). We did not find a
significant relationship between the time women have had to run for office and women’s representation except in established democracies.

There are at least three groups of countries that have different dynamics when it comes to women’s suffrage, the right to run for office, and rates of female representation. One group, based in Europe and North and South America, granted women the right to participate politically prior to World War II, and the earlier women gained these rights, the more women were able to run for office later on. Large numbers of countries gained independence after World War II and simultaneously granted both men and women suffrage and the right to run for office. This groups contrasts with the third, most recently independent states.

Many of these most recently independent countries introduced quotas to increase rates of female representation, making the years since the introduction of women’s suffrage even less relevant. The most recently formed states incorporated more egalitarian rules for political representation. For example, states that emerged from civil conflicts or liberation wars (e.g., Mozambique, Rwanda, Uganda, South Africa) did not have incumbent men resisting the encroachments of women into their seats. Quotas, therefore, were easier to introduce in many of these countries, resulting in higher rates of female representation. Thus, there are a variety of patterns with respect to rates of female representation and years since women’s suffrage or right to run for office was obtained.

**Religion**

When we introduce quotas, attitudinal measures, and regional dummies, the effect of religion on women’s representation changes. When region is considered, the significance of Islam diminishes, which is an important and perhaps unexpected finding. This is because Muslim countries outside of the Middle East have higher rates of representation than within the Middle East. Catholicism is the most geographically diffuse religious denomination in terms of its worldwide reach and is not particularly affected by region. Islam, in contrast, is more concentrated in certain parts of the world. Although the Middle East has lower than average rates of female representation, predominantly Islamic countries outside of the Middle East do not have low rates, bringing into question the impact of Islam as a religion on women’s representation.

The fact that the influence of Islam drops out of the model when region is introduced and Catholicism drops out when egalitarian attitudes are introduced suggests that there are societal dynamics and attitudes to-
ward gender equality other than religion that affect women’s representation in parliaments around the world. Countries in the Middle East, for example, have been less inclined to promote women’s representation than Muslim countries in Asia and Africa. Thus, it is not Islam per se that has a negative impact on women’s representation. The attempt to isolate particular cultural traits as measures of culture (e.g., prevalence of a certain religion, female genital cutting, or polygamy) is not a reliable way of explaining women’s representation.

Inglehart and Norris (2003) argue that with the expansion of secularist trends that accompany modernization, openness to improving women’s status increases. However, there are improvements in the status of women with respect to political representation without secularization. Quotas, for example, are being introduced because cultural influences are seen as obstacles to women’s political participation and leadership. Thus, we are seeing the introduction of quotas in places where secularism has not necessarily taken root and where religion continues to play a dominant role in society (e.g., Indonesia, Pakistan, Sudan, Morocco, Mauritania, and Tunisia). According to Inglehart and Norris (p. 67), countries where there are predominantly Muslim populations and also countries that have higher rates of religiosity generally tend to have lower rates of support for gender equality than countries with other predominant religions or more secular countries. At this time, religiosity is not incompatible with women’s advancement in political representation with the adoption of quotas.

Level of Economic Development

Although religion itself may not be a statistically important measure, our economic standing variable is statistically significant in some of our models. Nevertheless, quotas play a more important role than do economic measures. Some of the poorest countries in the world have some of the highest levels of female representation. Mozambique, Burundi, and Tanzania are among the 15 poorest countries in the world, yet they have among the highest levels of female representation. This too may well represent a change from the past, when quotas were used less frequently in developing countries.

Conclusions

Our study shows that the best predictors of women’s legislative representation are a combination of institutional factors, including the use of quotas and electoral system. Quotas emerge as a most consistently
predominant explanatory factor for female legislative representation. The use of reserved seats, in particular, has the most favorable results in terms of outcomes for female legislators, although they are more often used in authoritarian and semiauthoritarian contexts. That reserved seats can dramatically change the number of women in parliament is clear. However, it remains to be demonstrated whether female parliamentarians can have a significant impact in these authoritarian and semiauthoritarian regimes.

The study of quotas and female representation in legislatures results in some surprising findings in light of previous work in this area. Although in the past, party list PR electoral systems were seen as one of the most important determinants of female representation, the introduction of quotas in large numbers since the mid-1990s now suggests that even though that electoral system is very important in some parts of the world, these new institutional measures are even more important in raising female rates of representation globally.

The irrelevance of democracy to increasing the numbers of women in national legislatures suggests that countries are sometimes adopting quotas and raising rates of female representation sometimes for purposes that may have little to do with the expansion of political and civil rights to disenfranchised parts of the population. Levels of economic development, however, do matter in determining female representation, but quotas matter much more, according to our study.

Earlier studies have shown that those countries that granted women suffrage and the right to run for office the earliest had the highest rates of representation. Our study does not find such a relationship globally because countries in various parts of the world have had different trajectories with respect to female political participation, depending on whether women gained independence prior to World War II, immediately after it.

Religiosity and countries with predominantly Islamic populations have been said to be at odds with improving women’s status in previous studies. Yet when quotas and region are factored into existing models, Islam no longer appears to act as a constraint on women’s representation. Numerous predominantly Muslim countries, such as Tunisia, Senegal, and Indonesia, have adopted quotas, raising rates of female representation in these countries. Similarly, Catholicism loses significance as an explanatory factor when societal attitudes toward egalitarianism are considered.

Longitudinal studies are needed to better understand trends in female representation. We are confident, however, that they will show the importance of quotas after the mid-1990s as a key explanatory factor for female representation. And although quotas clearly have influenced trends
in female legislative representation, future studies will need to determine the extent to which the use of quotas enhances the actual capacity of women to assert themselves in institutions that have largely been the domain of men. Nevertheless, it is clear that quotas have become an important mechanism through which women today are entering into public office worldwide, and quotas have helped overcome constraints traditionally posed by economic underdevelopment, authoritarianism, cultural influences, and even the electoral system.

Notes
1. The 25 countries are Belarus, Bulgaria, Lithuania, Republic of Moldova, Croatia, Latvia, Poland, the F.Y.R. of Macedonia, Estonia, Tajikistan, Uzbekistan, Czech Republic, Bosnia and Herzegovina, Slovakia, Turkmenistan, Slovenia, Kazakhstan, Russian Federation, Georgia, Hungary, Serbia and Montenegro, Albania, Armenia, Ukraine, and Kyrgyzstan.
2. At the time of writing, two governments use a system where a selected authority appoints or nominates women to the national parliament. We set aside this kind of affirmative action.
3. The logit transformation is natural log(Rep2006/1-Rep2006). See Reuveny and Li (2003). We assign countries with no women in parliament with having 1% of women in parliament. Otherwise, they would be excluded from the data set.
4. Where parties run as part of coalitions, we report gender quotas for parties if their coalition is the top one or two coalitions. Information on whether the political party is a “major” or “minor” party is from IPU (2006). In some countries, political parties may receive some funds if a female party member is elected. Systematic data collection has yet to be conducted on this; therefore, we do not count this as a quota, although it is a form of affirmative action for women.
5. World Bank (2006). We use the natural log of GDP per capita for scaling purposes. If data are not available for 2001, we use figures from 2000.
7. We do not present the results for models that test for interactive effects. Our tests indicate that quotas are not significantly more or less important across regimes types and electoral systems.

References


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