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How do gender quotas affect public support for women as political leaders?

Peter Allen and David Cutts

Gender quotas have shown themselves to be an effective means of getting more women into political office – when they are adopted the descriptive representation of women is likely to increase (De Paola et al, 2010; Franceschet et al, 2012; Krook 2010; Tripp and Kang, 2008).[1] The downstream effects of these increases are widespread, with existing research showing that women in the electorate are more likely to participate in politics when women candidates stand for election, that political party elites are less biased against women, that political cultures become less sexist, and that negative stereotypes surrounding women in politics dissipate (Beaman et al 2009; Wolbrecht and Campbell 2007; Lawless and Fox 2010; Gilardi 2014; O'Brien and Rickne 2015).[2]

Although this expanding body of research has turned attention towards the impact of quotas in terms of political behaviour and descriptive representation, broader effects on attitudes towards women as political actors remain under-researched. Existing research is drawn predominantly from single-country case studies of India and Lesotho, a small nation in southern Africa. Outside of these mixed country-specific findings, understanding of how gender quotas impact broader attitudes to women as political leaders is limited. It is this gap in scholarly understanding of gender quotas that we address for the first time in this paper.

Using a cross-national dataset of forty-eight countries worldwide we examine the role of gender quotas in the generation of individual-level attitudes to women as political leaders. We make three tentative but distinct contributions to the literature. Firstly, having accounted for a range of individual and contextual influences, we find that gender quotas appear to increase overall levels of support for women's ability as political leaders in a country where they are present. Second, we demonstrate that this effect differs by sex. For women, the presence of gender quotas alone increases their support for women's political leadership, something we theorise as a 'vote of confidence' effect, whereby belief in the ability of women as a whole to perform well as political leaders is bolstered by elite implementation of quotas. Thirdly, we demonstrate that this quota effect is not dependent on the type of quota implemented and applies for quotas voluntarily adopted by individual political parties and those quotas that are implemented with legal force and apply to all parties within a country. Overall, we claim that the presence of quotas alone itself appears to help normalise the presence and association of women and politics, regardless of any policy-focused or compositional impacts they may have on political life.

Attitudes to Women in Politics

There is a large body of existing research that examines individual-level attitudes regarding societal gender roles and propensity to support feminist ideals.[3] Being a woman, higher levels of education, employment, higher occupational status, higher income, and being part of an ethnic minority have all been associated with enhancing

gender egalitarian attitudes, whereas those who are married (especially with children), older in age and/or religious are significantly less likely to express support for feminist ideas and women in politics (Banaszak and Plutzer, 1993a; Morgan and Buice, 2013). Other explanations stress the impact of left-leaning ideological tendencies, with some evidence that those who share general democratic values such as tolerance for minorities and outsiders are also more likely to advocate equality and rights for women (Inglehart and Norris, 2003). Dissatisfaction with traditional male dominated elites may also result in increased support for women in politics (Morgan and Buice, 2013).[4]

It has become increasingly apparent that individual attitudes to women are additionally influenced by the social and political context. Scholars have offered competing explanations of the influence of contextual effects on attitudes towards women in politics and broader support for feminism (Morgan and Buice, 2013). Status discontent theory suggests that female empowerment is perceived as a threat by men in social, economic, and political terms (Franceschet et al, 2012). In the face of female advancement, it is argued that men will seek to reinforce traditional gender norms and as a consequence are more likely to be reactionary in their attitudes to women in politics. Alternatively, socialization theory contends that female empowerment is not perceived as a threat by men but instead reflects the broader replacement of conservative traditional values with new social structures that promote egalitarianism (Morgan and Buice 2013). Increasing female power and status in all areas of society is seen to nurture greater approval of gender equality overall (Alexander 2012; Banaszak and Plutzer 1993b; Phillips 1995).

Finally, scholarship suggests that elite cues can shape mass attitudes on issues relating to gender equality through their conduct (Zaller 1992; Kittilson 2010). This includes, for

example, proposing and implementing certain policies, communicating to the public on issues of equality, or filling key political positions with individuals from traditionally underrepresented groups. Scholars have suggested that women and men may respond in different ways to such elite behaviour (Morgan and Buice, 2013). It is hypothesized that women are more likely to hold firm opinions on issues of gender equality based on their own life experiences and are thus less likely to fluctuate. Conversely, men's attitudes are thought to be weaker and more prone to influence from elite cues (Beaman et al, 2009). As a consequence, the adoption of quotas, or their subsequent impact on legislative or executive composition, could be expected to have an impact on public attitudes towards women in politics that differs by sex.

Do gender quotas change attitudes to women in politics?

Existing comparative research on the spread of gender quotas has described how countries, states, or regions have come to adopt the policy (Dahlerup and Friedenvall 2010; Krook 2013; O'Brien 2012; Sater, 2012). Beyond this, scholars have explored the effect of gender quotas on candidate selection, electoral performance, political engagement and the dynamics of internal party democracy.[5] Generally, however, studies addressing any possible link between the presence of gender quotas and attitudes to women in politics are limited, with existing evidence originating solely from single-country experimental case studies carried out in India and Lesotho (Beaman et al 2009; Clayton 2014a; 2014b).[6]

In India, following a 1993 constitutional amendment, gender quotas in the form of reserved seats for women (along with two other traditionally-marginalized groups) were randomly assigned to village councils across a series of elections. In addition to reserving a third of 'village council' (gram panchayat) seats for women, a third of all 'chief village councillor' seats in each district, the position of pradhan, were also reserved (Beaman et al, 2009). Academic studies have taken advantage of this natural experiment to assess quotas' impact (Bhavnani 2009; Chattopadhyay and Duflo 2004; Chauchard 2014). One group of scholars studied the West Bengal gram panchayat across three elections - 1998, 2003 and 2008 – not only to examine the impact of gender quotas on electoral outcomes for women but to address any impact on broader voter attitudes towards women as political leaders (Beaman et al, 2012; 2009). Following the implementation of a leadership quota in 1998 and 2003 (a woman holding the position of pradhan in a council), women were found to be more likely to stand for, and win, positions on that council in a subsequent election in 2008. Both women and men were more likely to rate women as more effective political leaders if they have been exposed to a woman as pradhan of their local council. Crucially, however, the authors found that rather than resulting in men being more explicitly supportive of women as political leaders, the positive effect is latent, revealed only by psychometric experiments run in the field.[7]

A similar experimental assignment of women-only constituency seats at the local level also occurred in 2005 in Lesotho, a nation in southern Africa where, as part of governmental restructuring, it was mandated that 30 per cent of all of new electoral districts (EDs) be reserved solely for women candidates, and these reserved EDs were assigned completely at random. Exploring whether or not living in the geographical area

of an ED that was reserved for women had an effect on the political engagement levels of women in the three years following their implementation, Amanda Clayton (2014b: p.25) reports that 'female citizens report strong negative reactions against female beneficiaries of Lesotho's affirmative action policy'. She found 'no evidence that women view their community councils as more open, accessible, and legitimate when they have a female representative and that the quota policy increases female constituents' political engagement' (Clayton, 2014b; p.25). As such, the existing evidence is inconclusive regarding the effects of gender quotas on attitudes towards women as political leaders.

Key Arguments and Hypotheses

The idea that exposure to women politicians will increase support for them reflects broader evidence from psychological studies that exposure to 'out-groups' increases empathy towards that group (Boisjoly et al, 2006). This question of how the physical presence of women, often referred to as their 'descriptive representation', in political institutions, regardless of the presence of quotas, affects societal beliefs regarding the ability of women to undertake political activity is under-researched. As Amy Alexander (2012, p.438) notes 'empirical investigations of the symbolic effects of women's descriptive representation do not thoroughly investigate this potential effect'. She (2012, p.438) presents a longtiduinal analysis of 25 countries to explore the effects of descriptive increases and finds that an increase in the percentage of women in parliament contributes to an increase in women's beliefs in women's ability to govern. She concludes that the

most accurate portrayal of this relationship is a virtuous cycle of mutually reinforcing changes in women's empowerment as political leaders (Alexander, 2012).

Alexander does not account for whether such changes in descriptive representation were organic or as a result of quotas. Given the notoriety of gender quotas around the world, we might expect that a quota itself will have an effect. The commitment of individual political parties, or an entire political system, to the principle of equality inherent in gender quotas could be seen to have a symbolic effect above and beyond any policy changes they bring about in the composition or outputs of the system itself. As Anne Phillips (2012, p.517) writes, making such efforts to increase descriptive representation of underrepresented groups might tell us 'more about what it means to be recognized as a full member of one's society than how one can effect policy change', similar to Jane Mansbridge who has noted that inclusion in political life for previously excluded groups can bolster a sense of those groups' 'ability to rule' (1999). Related, Nancy Fraser has discussed how claims for equality increasingly rest on claims for recognition as much as redistribution, where 'the goal…is a difference-friendly world' and the cost of social participation is not the eliding of differential characteristics on the terms of the existing dominant social groups (i.e. men, majority ethnic groups, the wealthy, and so on) (1998, pp.1-2). We can also consider the adoption of quotas as part of a broader process of normalizing the role of women in political life. Specifically, and in line with Normalization Process Theory (NPT), we can think of quota adoption as 'embedding' the role of women in the political culture of a given polity – whereby 'material practices become routinely embedded in social contexts as the result of people working, individually and collectively, to implement them (May and Finch 2009, p.540). Crucially,

NPT distinguishes between organic and deliberate agentically-derived processes of normalization in a way that resembles discussions among feminist political scientists differentiating 'incremental' from 'fast-track' approaches to gender equality (Dahlerup and Friedenvall 2005). Along these lines, we theorise a potential 'vote of confidence' effect – individuals may perceive the implementation of a gender quota as a vote of confidence in the ability of women as a whole to perform well as political leaders.[8] Based on these arguments from symbolic representation, we generate our first hypothesis:

> H_1 – *Individuals living in countries where gender quotas are present are significantly more likely to hold positive attitudes towards women's ability to act as political leaders*

It also seems reasonable to suggest that the impact of gender quotas on attitudes to women in politics may differ by sex: if a quota acts as an elite cue, it may hold different meanings for men and women, possibly dependent on the distinction previously made between attitudes towards the mechanism of the quota itself and the outcomes it results in. This functions simultaneously alongside any exposure effect discussed above.[9] Men may take particular issue with quotas, seeing them as limiting the potential political opportunities of men in order to provide women with an 'easier' route to candidacy (Morgan and Buice 2013). Again, with reference to Dahlerup and Friedenvall's classification of equality-promoting measures, this is especially true given the rapid 'fast-track' nature of quotas when compared to an organic 'incrementalist' approach (2005). Such rapid and enforced changes may result in men seeing quotas as zero-sum, pitting them versus women in a way that traditional systems of candidate selection do not.

Relatedly, men will not have any support they may have for quotas grounded in their own lived experience in the way that women might. Based on this, we state Hypothesis 2:

H_2 – The 'vote of confidence' effect will differ in magnitude dependent on sex, being greater for women than men

It is also likely that any effects might be particular to different types of quota, whereby people take issue with the specific way in which the quota itself is implemented. For example, many argue that by disrupting the current selection process, a quota acts as an illiberal limitation of the range of candidates presented to voters (Murray, 2014). Although an individual may broadly support the idea of women as political leaders, they may object to the use of a quota to get them there (Clayton, 2014b). Of interest is whether the force of implementation of the quota alters any broader impact it has on attitudes towards women as political leaders. Scholars suggest that quotas can be classified in four main ways: according to the source of their mandate (legal, constitutional, partisan); the strength of coercion behind their implementation; the stage at which they impact the electoral process, usually in terms of whether the focus is on inputs or outcomes (i.e. a quota focused on a minimum percentage of women across all electoral candidates or reserved seats within a legislature, respectively); and the ways in which they 'attempt to reform the dynamics of candidate selection' (Krook, 2013). We suggest that the stronger the mandate of the quota, the greater the potential for backlash against it will be, and generate hypothesis three:

H₃ - Those countries with a legally-mandated quota will witness a smaller positive symbolic effect on attitudes towards women as political leaders than countries where individual parties have voluntarily adopted quotas

Data

To examine the importance of quotas, whilst controlling for other contextual and individual factors, on attitudes to women in politics, we use data from the 2005-2009 World Values Survey (WVS) from forty-eight countries.[12] The analysis is restricted to countries that meet the criteria of being a 'democracy' as stipulated by the Freedom House Index.[13] Reflecting the hierarchical nature of the dataset, individuals nested in countries, we use a multilevel modelling approach. To assess attitudes towards women in politics we use the survey item which asked respondents whether men make better political leaders.[14] Figure 1 provides a descriptive breakdown by country of the overall percentage of respondents who strongly disagreed or disagreed that men made better political leaders than women.[15] It indicates substantial variation by country, providing *prima facie* justification for our empirical approach.

Insert Figure 1

Our main interest is in the contextual variable indicating the presence and mandate-type of gender quota. Our first set of analyses focuses on the presence of a quota or not. Here the quota variable is coded 0 for no quota, 1 for the existence of a quota. In order to

examine the source of the mandate, subsequent analyses differentiate between a voluntary party quota, and a legally mandated quota, either through electoral or constitutional law.[16] This allows for an assessment of the effect of different quota types on attitudes towards women as political leaders and to test H_3.

We include five other contextual variables. To directly assess the elite cue argument, we include a measure which takes account of the number of women in high prestige executive posts. [17] To address the impact of any possible historical legacy of female leadership, we also include a variable to capture whether a country previously had a woman political leader - Prime Minister or President.[18] The share of seats held by women in the legislature reflects both the political opportunities available for women in the country as well as elite behaviour through the selection of women candidates to stand for election.[19] Moreover, it is also possible to capture elements of status discontent theory given that one could hypothesise a negative association between the number women in the legislature and support for women as political leaders, especially among male respondents. We also include the percentage of women in the labour force as a proxy measure of women's economic empowerment.[20] Finally, scholarly research suggests that the more economically developed a country, the greater the likelihood that the environment is supportive of feminist values and therefore more likely to be egalitarian with greater opportunities for women (Ingelhart and Norris, 2003). To test for this effect, we include the GDP per capita index (adjusted for purchase power parity).[21]

We also include individual level variables that may influence attitudes towards women as political leaders. These take account of an individuals' socio-economic status and wider socialization experiences: age, education, ethnicity, employment/occupational status, household status and church attendance. Reflecting the theoretical arguments outlined earlier in the paper, we include a a left-right measure, an importance of democracy variable, a confidence in the political system variable measuring general trust in government and political institutions, and a political interest variable.

Model Specification

The hierarchical nature of the sample suggests that simultaneous modelling of individual and country variation through multilevel modelling is the most appropriate specification. Our model has individuals at level-1 nested within countries at level-2. The model has two parts: a fixed part which contains estimates of the average relationship between the dependent variable and the predictor variables across countries and individuals; and a random part which estimates the size of the between-country variation relative to the within-country, between-individual variation (Goldstein, 2003).

Our key aim is to measure the effect of gender quotas on attitudes to women as political leaders. The dependent variable is measured on a four point ordinal scale from strongly agree to strongly disagree. We specify a generalized multilevel ordinal model with cumulative probabilities linked with responses as dependent. For the ith individual from the jth country the probability of a response denoting support for women as political leaders higher than that represented by s is specified as $\gamma_{ij}^{(s)}$ – where $0 < \gamma_{ij}^{(1)} < \gamma_{ij}^{(2)} < \gamma_{ij}^{(3)}$

$< \gamma_{ij}^{(4)} = 1$ (Fielding and Yang, 2005). Here the probabilities for *s* are cumulated upwards while those of the ordered responses for support of women leaders are cumulated downwards. A link transformation (inverse distribution function of a continuous variable) of a set of cumulative probabilities on the 0, 1 scale is then used. On this link scale, a set of cut-points for each individual is obtained from the individual's probability distribution over the support for women leaders and vice versa (Fielding, Yang and Goldstein, 2003). Here the link transformation $\gamma_{ij}^{(s)}$ (*s* = 1, 2, 3, 4) relates to sequential points on the real line $(\alpha_{ij}^{(1)}, \alpha_{ij}^{(2)}, \alpha_{ij}^{(3)}, + \infty)$ with $\alpha_{ij}^{(s)}$ representing the thresholds of attitudes to women leaders. It is possible to illustrate the generalized multilevel ordinal proportional odds model with fixed predictor variables/covariates in equation 1 (Fielding, Yang and Goldstein, 2003; Yang, 2001).

$$\text{Log} it \ (\gamma_{ij}^{(s)}) = \alpha^{(s)} + X_{ij} \beta + Z_{ij} u_{0j} \qquad s = 1, 2 \ldots t\text{-}1 \ (1)$$

For the *j*th country, there is a single random effect u_{0j}, which is assumed to be $N(0, \sigma_{u0}^{2})$ distributed. In the equation, the Z variables are a subset of X variables and β is a vector of fixed effects coefficients which relate to the covariates included in X_{ij}. In accordance with the proportional odds procedure, for all *s* the random and fixed effects function on cumulative odds by constant multiplicative factors. All the multilevel models presented here are fitted using MLwiN 2.26, with the estimates for the model derived using a Markov Chain Monte Carlo method with diffuse priors (MCMC) estimation procedure.[22] In keeping with the descriptive evidence above, we expect to find variation in attitudes towards women as political leaders at the country level. The null models indicate the

level of clustering (Intra-Class Correlation Coefficient (ICC)) for the dependent variable across the whole sample.[23] These are presented in Table 1. There is significant country level clustering (between-country variance) in support for women leaders, justifying our modelling strategy.

Insert Table 1

Table 2 presents the findings of three multilevel ordered logistic models of support for women as political leaders using MCMC estimation for the whole sample (n=60,197). In column 1, the model includes the gender quota variable (binary measure) and the individual-level explanatory variables. Column 2 also contains the five additional contextual variables along with individual-level explanations. Including these assesses whether the existence of a quota has a significant effect on support for women as political leaders after controlling for individual and contextual factors (H_1). The model in column 3 additionally specifies a cross-level interaction between sex (female) and gender quotas to determine whether women in countries where gender quotas were present were more likely to support women leaders (H_2). Table 3 follows the same format. Column one in Table 3 includes the same individual variables and a gender quota contextual variable. However, the latter is differentiated by the source of the mandate – whether the quota was implemented on a voluntary basis or legally mandated. Column 2 also includes the other five contextual variables allowing us to directly test H_3. Column 3 includes cross level interactions between sex (female) and these different quota variables. All specifications use the same individual-level and contextual variables. At the bottom of each column, we

report the between-country variance, the ICC and two model fit statistics to assess goodness of fit. In sequential models the proportion of total variance (ICC) in support for women leaders at the country level is reduced, as is the Deviance Information Criterion (DIC), suggesting a significant improvement in model fit compared to the null model.[24]

Individual and Contextual Influences on Support for Women as Political Leaders

In Table 2 and Table 3 we report the multilevel ordered logistic models of support for women as political leaders for the whole sample of respondents using the specifications outlined above. Women are significantly more likely to express support for women as political leaders than men. For women, the odds of being strongly supportive versus the other combined categories are around two times greater than men, where all the other variables in the model are held constant. Those with higher levels of education and holding a professional occupation are more supportive of women as political leaders. We also observe empirical support for female empowerment effects at the country level: countries with greater numbers of women in the workplace and in paid employment are significantly more likely to be home to individuals who are more positive in their attitudes toward women in politics. On the other hand, both young people and the older age cohort were less likely to indicate their support and, as expected given previous scholarly evidence, those who are self-employed, retired, unemployed, and religious respondents are also less supportive. Those in the sample who work from home, 98 per cent of whom are women, also demonstrate lower levels of support for women leaders.

There is a clear association between individual beliefs in the importance of democracy and positive attitudes towards women in politics. Support for democracy may reflect wider support for egalitarianism and therefore equal levels of political representation. Those who are strongly dissatisfied with the political system are notably more likely to favour greater gender equality and be strongly supportive of women leaders. This finding is consistent with existing research in this area (Morgan and Buice, 2013).

Turning to the four models where contextual variables are included,[25] existing research suggests that exposure to women in legislative office has the capacity to garner mass positive attitudes to women as political leaders. This is confirmed here. We find clear evidence that support for gender equality among those individuals living in countries is higher where there are greater numbers of women in the legislature. However, there is no evidence that women serving in high prestige executive posts promote greater support for women as political leaders.[26] One might expect that those politicians in high prestige executive positions generally have broader public platforms, are more visible, and may illustrate *de facto* competence and expertise to a wider public, therefore generating high levels of exposure. However, we found no evidence that the exposure effect of women appointed to high prestige executive positions has a strong positive effect on shaping attitudes to women as political leaders. Similarly, support for women leaders was not significantly greater in countries that had experienced a woman holding the top executive post (Prime Minister or President) than those countries that had not. Across all the models, GDP and the level of women in paid employment are the only other contextual variables that are significant in the hypothesized direction when controlling for all other

factors. GDP, broadly measuring societal conditions and economic development, has a strong effect across all the models. Put simply, having controlled for other individual-level and contextual variables, those living in more prosperous countries far more or supportive of women as political leaders than those in less economically developed countries.

Insert Table 2 and Table 3

Do gender quotas increase support for women as political leaders?

We find evidence that gender quotas increase support for women as political leaders, even once their effects and other predictors of their presence are controlled for. In Table 2, across all models, we find a significant positive effect with those living in countries with a quota being between 2.77 (without contextual controls, column 1) and 1.99 times (with controls, column 2) more likely to support women as political leaders than those where no quota is present. We calculate predicted probabilities for Model 2b where all other variables are set at their mean values. Respondents in countries with quotas, all other things being equal, are around 7% more likely to be strongly supportive of women leaders than those living in a country with no quota. It is clear that for individuals living in countries with gender quotas, the presence of a quota alone improves assessments of the viability of women as political leaders. We argue that this is demonstrative of gender quotas acting having a 'vote of confidence' effect for women in politics, providing support for H_1.

But to our surprise there is little evidence that the quota type makes a difference. We hypothesized that legally mandated quotas would reduce the positive effect of quotas on attitude towards women as political leaders relative to those that had been voluntarily implemented. Table 3 shows the three models where the quota variable is categorised by mandate. After including controls, our findings suggest that there is no significant difference between the effects of these types of quota, and we reject H_3. What seems to matter is the fact of the presence of the quota itself, not whether it was legally, constitutionally or voluntarily applied.

Our expectation was that men would be less likely to have their attitudes towards women as political leaders positively affected by a quota's presence than women (H_2). As noted, women were significantly more likely to be supportive of women as political leaders than men. To test whether women are more likely than men to regard the implementation of quotas as a symbolic 'vote of confidence', we include a cross level interaction between sex (female) and gender quota. This is shown in Table 2 (column 3) and is repeated in Table 3 (column 3) where sex is interacted with the types of quota (legally mandated). Our findings provide some evidence that the impact of gender quotas differ by sex. For women, the presence of a gender quota alone has a positive effect on attitudes towards women as political leaders. We argue that this is demonstrative of gender quotas providing a 'vote of confidence' effect in women overall and more specifically in the competence and ability of women to perform well in public office and as political leaders. But when we examine this relationship by the source of mandate, we find that their impact does not vary by sex. For women, it is the presence of a gender quota that

enhances support for women in politics; it does not appear to matter whether the quota itself is voluntary or legally mandated.

Conclusion

In this paper we have presented the first ever cross-country assessment of the impact of gender quotas on attitudes towards women as political leaders. Using data from forty-eight countries worldwide, we have provided initial evidence that support for women in politics is increased by the presence of a gender quota. Additionally, we provide evidence that the impact of gender quotas differs by sex. Our findings suggest that amongst women the presence of a quota is associated with increased levels of support for women as political leaders. It is the presence of a quota that is important for women, not the type of quota. Finally, we demonstrate that the type of quota, measured by the source of its mandate, does not impact on the overall positive effect that quotas have on attitudes towards women as political leaders, but one that in hindsight is supported by the fact that quota introduction is elite-driven.

However, we are keen to highlight the preliminary nature of our conclusions, which are such owing to the limitations of available comparative data. We have utilized cross-sectional data to explore our research questions. An ideal solution that would allow for optimum exploration of similar research questions to our own would take the form of a longitudinal panel. Unfortunately, no such cross-national panel data currently exists. One of the possible advantages of panel data would be to address any possible endogeneity

concerns relating to quota adoption as being elite driven rather than emanating from wider public concerns. However, even this would not resolve the issue of direction of cause unless public sentiment towards quota adoption and the role of social and political movements were not addressed over a sustained period prior to the implementation of the quota (see Clayton, 2014b, p.11 for a discussion of these methodological issues). Experimental data using before and after designs would suffer from the same issues.

We briefly wish to address why the pattern we hypothesise is more plausible than its opposite – the possibility that quotas come about in countries that are broadly more sympathetic to women as political leaders or women in politics in a wider sense. First, existing research on how the 'strongest', legally-mandated quotas are adopted in the cases included in our sample, detailed below, suggests that legally-mandated quotas generally came about as a result of elite support for them, not as a result of mass popular appeal that subsequently forced elites to react. In France, Spain, Brazil, Argentina, and Mexico, scholars have found that the quota policy was elite-driven and not provoked by overwhelming public feeling (Baldez 2004; Franceschet and Piscopo 2008; Krook 2010; Miguel 2012; Verge 2012). Similarly, research on Rwanda which saw a gender quota implemented post-civil war, emphasizes the role of political elites and feminist interest groups in achieving quota implementation (Bauer and Burnet, 2013, p.107). Evidence from Morocco and Serbia highlights the role of international influence in the adoption of a quota (Mresevic 2004; Sater 2012).

Second, generally speaking, voluntary quotas are adopted by left-wing parties following internal debates. Again, these are not policies formed in reaction to overwhelming public support for them. For instance, 16 of the 18 countries in our sample who have voluntary quota polices were indeed adopted by 'left-wing' parties. Only in Sweden and Finland do parties that occupy the centre ground adopt such policies.[10] Consequently, we are confident that the adoption of legally-mandated quotas across the cases we include in our analysis was not simply a result of mass public demand. This is not to say that this is never the case, as evidence suggests that it is in some cases (Krook, 2009). Simply, evidence from the countries in our sample that have adopted legally-mandated quotas suggests that adoption in these cases was not the result of pre-existing public demand.

More generally, it is plausible that even in cases where quotas are elite driven this does not preclude elites holding attitudes which are both correlated with public concerns as well as the likelihood of quota adoption. This is a possible objection to our claims that quotas act as an elite cue. However, it is important to reiterate that we do not make any causal claims or suggest that quota adoption is completely orthogonal to public sentiment. Given the lack of any country-level data over time to address this issue, all that can be done is to document existing case study evidence from countries included in our sample and statistically examine national and sub-group averages of attitudes before and after quota adoption. In both cases there is robust qualitative evidence that, among the countries included in our analysis, quotas generally come about as a result of elite support for them, not as a result of mass popular appeal. Additional puzzles also persist –

what are the mechanisms by which norms around the idea that women should be involved with politics at the same level and rate as men diffuse? This remains unclear.

In many ways, our findings are intuitive. Popular support for the ability of women to perform well in positions of political leadership is buoyed by the elite 'vote of confidence' that quotas provide. These findings present new evidence of the effect of quotas, suggesting that they may help to normalise the presence and involvement of women in politics regardless of their eventual policy or compositional effects. Additionally, the public discourse surrounding a quota's implementation may have a consciousness-raising effect, provoking public discussion on the issue. For supporters of quotas, our findings suggest that they are beneficial, resulting in the general public feeling more positive about women's ability to hold positions of political power, with this being especially true of women. Advocates could interpret this as a double-positive and a signal that perseverance with quotas is critical. Regardless of any negativity that may surround them, quotas have a positive effect on levels of support for women in politics.

In this paper we have broken new ground in charting the impact of quotas on cross-national levels of public support for women as political leaders, but we are keen to note the limitations of our work and highlight future directions of study. Research that focuses specifically on attitudes towards gender quotas may provide a more nuanced understanding of the evidence we present here. For example, the 'vote of confidence' effect we have put forward in this paper could be operationalised experimentally. Building on recent work by Murray (2014), shifting the focus of quotas from increasing

the numbers of women in politics to instead limiting the numbers of men may uncover

the deeper roots of these attitudes, allowing for an effective untangling of quotas

themselves and the narratives that often surround them.

Notes

[1] Others suggests that this effect is contingent on the type of quota adopted (Schwindt-Bayer, 2009). Clayton (2014b) finds that women additionally won seats outside of those reserved by a quota mechanism, suggesting a contagion effect. Like Krook 2013, we acknowledge that gender quotas are perhaps more accurately referred to as 'sex quotas' given the nature of the distinction they typify. However, we follow the existing literature and term them 'gender quotas'.

[2] However, these effects are contested. For examples, see Broockman 2014; Dolan 2006.

[3] For clarity, we refer to 'attitudes towards women in politics' and 'gender attitudes' as distinct things; the former focused on politics, the latter constituting broader attitudes regarding gender roles in society and feminist tendencies.

[4] The broader idea that women may 'do politics' differently to men is also explored in Dahlerup 1998.

[5] On candidate selection and electoral performance, see Bhavnani 2009; Cutts et al, 2008.

[6] Morgan and Buice's 2013 study of Latin American attitudes to women in politics find no impact of gender quota laws as a main effect or when interacted with women's share of legislative seats. However, the quota variable is not discussed in any depth or included as a contextual variable in the models presented in the main paper, precluding understanding of any non-significant effect it might have had.

[7] Beaman et al (2009) adopt Implicit Association Tests (IATs) to test this relationship. The authors found that men in villages with female pradhans were more likely to pair female names and leadership roles.

[8] This could also be described as an effect of symbolic representation of sorts in the mode of Pitkin 1967, although it is more akin to the abstract idea of citizenship and efficacy put forward by Phillips in the quote above. There is existing evidence of role model effects (Alexander 2012; Beaman et al 2012), although these differ from the mechanism we are hypothesising here because they relate to individuals in office as opposed to the presence of a quota alone.

[9] An alternative argument would be that if women politicians are simply better at representing women's interests, as suggested by a range of literature (Chatopadhyay and Duflo 2004; Lovenduski and Norris, 1993), women might simply be more satisfied where there are more women and thus express greater support for them as political leaders based on their effectiveness. Unfortunately, we cannot measure this specific mechanism with the available data, but this could be explored in future research.

[10] See the appendix for the full list of political parties from countries included in our sample that have adopted voluntary quotas.

[12] The data is drawn from Wave 5 of the World Values Survey 2005-2009. All data can be downloaded from http://www.worldvaluessurvey.org/WVSDocumentationWV5.jsp. Sampling information is available for all countries included in our analysis at this address.

[13] We used Freedom House data from the year in which the survey was carried out. Hong Kong and Taiwan are excluded from our analysis owing to difficulties encountered in obtaining reliable aggregate data. The following countries were considered to be undemocratic according to Freedom House and therefore were omitted from the analysis: Egypt, Iran, Iraq, Thailand, China, Rwanda, Russia and Vietnam.

[14] The survey question asked, "On the whole, men make better political leaders than women do"; do you strongly agree, agree, disagree or strongly disagree.

[15] Across the 48 countries, 60% strongly disagreed or disagreed than men made better political leaders.

[16] This quota variable is coded as follows: 0 = No quota; 1 = Voluntary Quota; 2 = Legally mandated quota. For data on quota adoption, see http://eaces.liuc.it/18242979201001/182429792010070102.pdf, www.quotaproject.org, and Krook (2006). The year of first adoption of any type of quota is recorded, and this variable is only coded positively if the quota was in place prior to the year in which the survey was undertaken. Further details on the party family and electoral success of parties adopting voluntary quotas at the most recent election prior to WVS data collection taking place are included in the Appendix.

[17] The variable high prestige executive posts is derived from the four main offices of the state – Prime Minister, Chancellor, Foreign Secretary/Minster and Home Secretary or Internal Minister (Krook and O'Brien 2012). We operationalize this as a count where 0 = No Women in these prestige executive posts and 4 = All women in these prestige executive posts. This was calculated using CIA data on Chiefs of State and Cabinet Members of Foreign Governments (https://www.cia.gov/library/publications/world-leaders-1/AN.html).

[18] All the information is collated from http://www.infoplease.com/ipa/A0801534.html and http://www.guide2womenleaders.com/ and focuses solely those women in executive

offices and not royalty. The variable is a measure of the number of years of female executive leadership in a country since 1950.

[19] The percentage of women in the lower house/primary legislature was taken from www.ipu.org. This figure is for the month(s) in which the fieldwork took place.

[20] The labour force participation rate is the proportion of the population aged 15+ that is economically active for the year in which the survey was carried out. For Andorra, this was unavailable, and a proxy measure was used: % of female employment in the non-agricultural sector obtained from the World Bank.

[21] GDP per capita is from the World Bank for the year prior to that in which the first fieldwork for the survey was undertaken in each specific country. It is available at http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?page=1

[22] The starting values are obtained using second-order PQL, then 5,000 runs to derive the desired proposal distribution, followed by 50,000 simulated random draws to obtain the final estimates. We use the Metropolis-Hastings algorithm and the default diffuse gamma priors for variance parameters.

[23] The Intra-Class Correlation Coefficient (ICC) is calculated as follows. For the underlying latent variable, the level one residual is $\Pi^2/3$ while the total residual variance is $\Pi^2/3+ \sigma_u^2$. The proportion of total variance attributed to variation between countries is $\sigma_u^2 /(\sigma_u^2 +\Pi^2/3)$.

[24] The DIC statistic accounts for the number of parameters in the model. If the difference between models is 2 or less, then this suggests no difference while a difference of 10 or more indicates an improvement in model fit.

[25] We found little evidence of multicollinearity. The correlations are as follows: Quota and Percentage Women in legislature = 0.27; Quota and Prestige executive posts = 0.31; Quota and Previous woman leader = -0.17; Prestige executive posts and Previous woman leader = -0.05. All the VIF and Tolerance statistics were within the established criteria.

[26] We find little evidence of any severe multicollinearity between the two variables: the correlation is 0.44 and VIF and Tolerance statistics were well within the established criteria.

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Figure 1: Percentage of respondents who strongly disagreed or disagreed that Men made better political leaders than Women
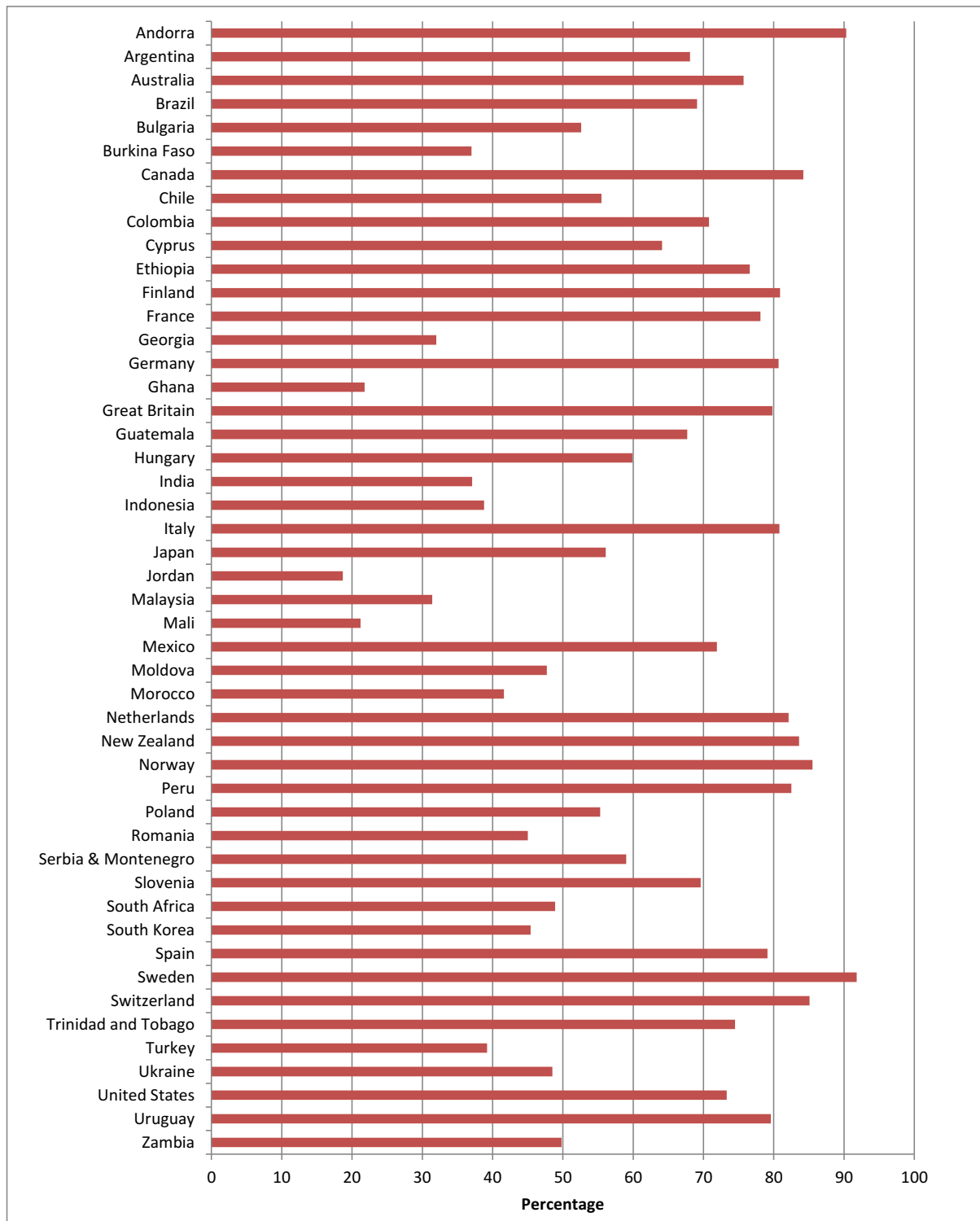
Tables

Table 1: Multilevel Ordinal Variance Components Model of Overall Support for Women as Political Leaders (MCMC: 5,000 burn in; 50,000 runs)

Variables	Model 1 Overall β SE
Cut-Point 3	2.29* 0.16
Cut-Point 2	0.54* 0.16
Cut-Point 1	-1.68* 0.16
Random Part	
Between Country Variance	0.94* 0.21
ICC	0.22
Deviance (MCMC)	142228
DIC	142278
N	60197

*Significant = < 0.05 level

Table 2: Multilevel Ordinal Logistic Models of Overall Support for Women as Political Leaders (MCMC: 5,000 burn in; 50,000 runs): Presence of Quota

Variables	Model 2a β	Model 2a SE	Model 2b β	Model 2b SE	Model 2c β	Model 2c SE
Political Variables						
Confidence in Political System	-0.20*	0.02	-0.20*	0.02	-0.20*	0.02
Importance of Democracy	0.06*	0.00	0.06*	0.00	0.06*	0.00
Left-Right Scale	-0.05*	0.00	-0.05*	0.00	-0.05*	0.00
Political Interest	0.03	0.02	0.03	0.02	0.03	0.02
Employment: Base: FT/PT Work						
Work in the Home	-0.21*	0.03	-0.21*	0.03	-0.21*	0.03
Self Employed	-0.08*	0.03	-0.08*	0.03	-0.08*	0.03
Student	0.06	0.04	0.06	0.04	0.06	0.04
Retired	-0.09*	0.03	-0.09*	0.03	-0.09*	0.03
Unemployed	-0.07*	0.03	-0.07*	0.03	-0.07*	0.03
Other Employment	0.09	0.06	0.09	0.06	0.09	0.06
Missing Employment	0.27*	0.08	0.27*	0.08	0.27*	0.09
Education: No Qualifications						
Degree	0.73*	0.04	0.72*	0.05	0.73*	0.05
Below Degree (University)	0.61*	0.05	0.60*	0.05	0.60*	0.05
Post-Secondary Education	0.46*	0.04	0.46*	0.04	0.46*	0.04
Secondary Education	0.41*	0.04	0.41*	0.04	0.41*	0.04
Primary Education	0.15*	0.04	0.15*	0.04	0.15*	0.04
Missing Education	0.36*	0.11	0.35*	0.10	0.35*	0.11
Age: Middle Age 30-44						
Young Age <25	-0.07*	0.02	-0.07*	0.02	-0.07*	0.02
Mid/Older Age 45-59	-0.02	0.02	-0.02	0.02	-0.02	0.02
Old Age 60 plus	-0.21*	0.03	-0.21*	0.03	-0.21*	0.03
Other Controls						
Female	0.74*	0.02	0.74*	0.02	0.70*	0.03
Professional	0.08*	0.03	0.08*	0.03	0.08*	0.03
Church Attendance	-0.11*	0.02	-0.10*	0.02	-0.10*	0.02
Married	-0.02	0.02	-0.02	0.02	-0.02	0.02
Country Level Variables						
Quota	1.02*	0.31	0.69*	0.15	0.64*	0.15
Prior Woman Leader	-		0.01	0.03	0.01	0.03
Women in High Prestige Cabinet Posts	-		0.03	0.12	0.05	0.13
Women in Legislature	-		0.03*	0.01	0.03*	0.01
GDP Per Capita	-		0.29*	0.08	0.28*	0.09
Female Employment	-		0.03*	0.01	0.03*	0.01
Cross-Level Interactions						
Female*Quota	-		-		0.07*	0.03
Cut-Point 3	1.01*	0.27	-0.70*	0.25	-0.54*	0.26
Cut-Point 2	-0.80*	0.27	-2.51*	0.25	-2.35*	0.26
Cut-Point 1	-3.12*	0.27	-4.83*	0.25	-4.67*	0.26
Random Part						
Between Country Variance	0.73*	0.17	0.32*	0.07	0.31*	0.07
ICC	0.18		0.09		0.09	
Deviance (MCMC)	138611		138611		138607	

DIC	138685	138684	138682
N	60197	60197	60197

*Significant =<0.05

Table 3: Multilevel Ordinal Logistic Models of Overall Support for Women as Political Leaders (MCMC: 5,000 burn in; 50,000 runs): Quota – Source of Mandate

Variables	Model 3a β	SE	Model 3b β	SE	Model 3c β	SE
Political Variables						
Confidence in Political System	-0.20*	0.02	-0.20*	0.02	-0.20*	0.02
Importance of Democracy	0.06*	0.00	0.06*	0.00	0.06*	0.00
Left-Right Scale	-0.05*	0.00	-0.05*	0.00	-0.05*	0.00
Political Interest	0.03	0.02	0.03	0.02	0.03	0.02
Employment*: Base: FT/PT Work*						
Work in the Home	-0.21*	0.03	-0.21*	0.03	-0.21*	0.03
Self Employed	-0.08*	0.03	-0.08*	0.03	-0.08*	0.03
Student	0.05	0.03	0.05	0.04	0.05	0.03
Retired	-0.09*	0.03	-0.09*	0.03	-0.09*	0.03
Unemployed	-0.07*	0.03	-0.07*	0.03	-0.07*	0.03
Other Employment	0.09	0.06	0.09	0.06	0.09	0.06
Missing Employment	0.27*	0.09	0.26*	0.08	0.26*	0.08
Education*: No Qualifications*						
Degree	0.73*	0.04	0.73*	0.05	0.72*	0.05
Below Degree (University)	0.61*	0.05	0.60*	0.05	0.59*	0.05
Post-Secondary Education	0.47*	0.04	0.46*	0.04	0.45*	0.04
Secondary Education	0.41*	0.04	0.41*	0.04	0.40*	0.04
Primary Education	0.15*	0.04	0.15*	0.04	0.14*	0.04
Missing Education	0.36*	0.10	0.35*	0.11	0.35*	0.10
Age*: Middle Age 30-44*						
Young Age <25	-0.07*	0.02	-0.07*	0.02	-0.07*	0.02
Mid/Older Age 45-59	-0.02	0.02	-0.02	0.02	-0.02	0.02
Old Age 60 plus	-0.21*	0.03	-0.21*	0.03	-0.21*	0.03
Other Controls						
Female	0.74*	0.02	0.74*	0.02	0.75*	0.03
Professional	0.08*	0.03	0.08*	0.03	0.08*	0.03
Church Attendance	-0.11*	0.02	-0.10*	0.02	-0.11*	0.02
Married	-0.02	0.02	-0.02	0.02	-0.02	0.02
Country Level Variables						
Quota*: Voluntary*						
No Quota	-0.84*	0.26	-0.50*	0.19	-0.41*	0.20
Legally Mandated Quota	0.07	0.30	0.37	0.20	0.47	0.29
Prior Woman Leader	-		0.01	0.02	0.01	0.02
Women in High Prestige Cabinet Posts	-		-0.00	0.12	-0.01	0.13
Women in Legislature	-		0.03*	0.01	0.03*	0.01
GDP Per Capita	-		0.34*	0.09	0.35*	0.09
Female Employment	-		0.02*	0.00	0.02*	0.01
Cross-Level Interactions						
Female*No Quota	-		-		0.05	0.04
Female*Legally Mandated Quota	-		-		-0.05	0.04
Cut-Point 3	1.94*	0.20	0.37	0.21	0.26	0.24
Cut-Point 2	0.13	0.20	-1.44*	0.21	-1.55*	0.24
Cut-Point 1	-2.20*	0.20	-3.77*	0.21	-3.89*	0.24
Random Part						

Between Country Variance	0.72* 0.16	0.29* 0.07	0.29* 0.07
ICC	0.18	0.08	0.08
Deviance (MCMC)	138611	138611	138607
DIC	138685	138685	138682
N	60197	60197	60197

*Significant =<0.05

Appendix

Country	Year of Survey	Year of First Quota	Names of Parties with Voluntary Quota at Previous Election (Party Family)	Year of Previous Election	Combined Vote Share at Prior Lower House Election
Australia	2005	1994	Labor Party (SOC)	2004	47.3
Canada	2006	1992	New Democratic Party (SOC), Liberal Party (LIB)	2006	47.7
Chile	2006	1996	Party for Democracy (COM), Socialist Party of Chile (SOC) Christian Democratic Party (CHR).	2005	46.2
Cyprus	2008	1995	Movement of Social Democrats (SOC), Democratic Rally of Cyprus (NAT)	2006	39.2
Germany	2006	1986	Social Democratic Party (SOC), The Left Party (COM), Alliance90/Greens (SOC), Christian Democratic Union (CHR)	2005	76.4
Great Britain	2005	1993	Labour Party (SOC)	2005	35.2
Guatemala	2005	2002	*National Unity for Hope Party (UNE), Guatemalan Revolutionary Unity (URNG)$*	2003	22.1
Hungary	2009	1993	Hungarian Socialist Party (SOC)	2006	40.3
Italy	2005	1989	Democrats of the Left (COM), The Sunflower (ECO) – including Italian Democractic Socialists # and Green Federation, Democracy is Freedom – the Daisy (LIB) including Italian People's Party, Communist Refoundation#	2001	33.32
Netherlands	2006	1987	Labour Party (SOC), Green Left (ECO)	2003	32.4
Norway	2007	1975	Socialist Left Party (COM), Norwegian Labour Party (SOC), Centre Party (AGR), Christian People's Party (CHR)	2005	54.8
South Africa	2006	2006	African National Congress (SOC)	2004	69.7
South Korea	2005	1995	Grand National Party (CON), Democratic Labour Party (SOC)	2004	48.8
Sweden	2006	1978	Social Democratic Party (SOC), Left Party (COM), Green Party (ECO), Liberal Party (LIB), Christian Democratic Party (CHR)	2002	75.4
Switzerland	2007	1995	Social Democratic Party (SOC)	2003	23.3
Thailand	2007	2005	*Democrat Party (DP)$*	2006	N/A election boycotted, received 30.3% in 2007 rerun
Turkey	2007	1999	The Republican People's Party (SOC), Peace and Democracy Party (SOC)	2002	19.4
Uruguay	2006	1980	Socialist Party of Uruguay (SOC)	2004	51.7 (part of slate)

Information on Political Parties that have adopted Voluntary Quotas - Party Family data and codes taken from the MARPOR Comparative Manifesto Project, https://manifesto-project.wzb.eu/; ECO=Ecological/Green, CHR=Christian/Confessional, COM=Socialist, CON=Conservative, LIB=Liberal, NAT=Nationalist, SOC=Social Democratic. # Date of quota adoption unclear. $ No party family data available from MARPOR. Further data collected from Krook (2009) and www.quotaproject.org.

Variable Coding Details: Individual Level

Variable (Individual Level)	Range	Coding
Sex (Female)	0, 1	Whether the respondent is a women (1) or man (0)
Married	0, 1	Whether the respondent is married (1) or not (0)
Attends church once a week or more	0, 1	Whether the respondent attends church once a week or more (1) or not (0)
Professional Occupation		Whether the respondent works in a professional occupation (accountant, lawyer, teacher etc.) (1) or not (0)
Employment – Base category = Full Time/Part Time work	0, 1	Whether the respondent is in full or part time work (1) or not (0)
Self Employed	0, 1	Whether the respondent is self-employed (1) or not (0)
Retired	0, 1	Whether the respondent is retired (1) or not (0)
Work in the Home	0, 1	Whether the respondent works in the home (1) or not (0)
Student	0, 1	Whether the respondent is a student (1) or not (0)
Unemployed	0, 1	Whether the respondent is unemployed (1) or not (0)
Other Employment	0, 1	Whether the respondent is in other employment (1) or not (0)
Missing Employment	0, 1	Whether the respondent is categorised as missing on the employment variable (1) or not (0)
Education – Base category =	0, 1	Whether the respondent has no qualifications (1) or

No qualifications		not (0)
Primary Education	0, 1	Whether the respondent has primary qualifications (1) or not (0)
Secondary Education	0, 1	Whether the respondent has secondary qualifications (1) or not (0)
Post-Secondary Education	0, 1	Whether the respondent has post-secondary qualifications (1) or not (0)
Below Degree	0, 1	Whether the respondent has educational qualifications at below degree level (1) or not (0)
Degree	0, 1	Whether the respondent has a degree qualification (1) or not (0)
Missing Education	0, 1	Whether the respondent is categorised as missing on the education variable (1) or not (0)
Age – Base category = Middle age 30-44	0, 1	Whether the respondent is aged between 30 and 44 years old (1) or not (0)
Young age 18-29	0, 1	Whether the respondent is aged 18 to 29 (1) or not (0)
Middle/Older Age 45-59	0, 1	Whether the respondent is aged 45-59 (1) or not (0)
Old age 60 plus	0, 1	Whether the respondent is aged 60 plus (1) or not (0)
Left-Right	1-10	Respondents' self-position on a political scale 1 = Left; 10 = Right
Political Interest	0, 1	Whether the respondent is very/somewhat interested in politics (1) or not (0)
Confidence in Political System	0, 1	Whether the respondent has confidence in the political system (government/parliament and political parties (1) or not (0)
Importance of Democracy	1-10	Whether the respondent believes democracy is important 0 =not at all important; 10= absolutely important

Variable Coding Details: Country Level

Variable (Country Level)	Range	Coding
Quota*	0, 1	Country in which the respondent lives where gender quotas are present = 1; absence = 0
Quota Categorical Variable	1-3	Country in which the respondent lives where there are No quotas= 1; Voluntary quotas = 2; Legally mandated quotas = 3
Prior Woman Leader	0-15	Total Years a woman has been leader in the country in which the respondent lives
Women in High Prestige Cabinet Posts	0-2	Number of women in high prestige cabinet posts in the country where the respondent lives – 0 = None; 1 = One; Two = Two or more
Women in Legislature	0-100	Percentage women in the legislature in the

		country the respondent lives
GDP Per Capita (raw data)	-.76 to 3.98	GDP per capita – variable is standardized.
Female Employment	0-100	Percentage Female Labour Force Participation in the country the respondent lives

*There are 30 countries which have adopted gender quotas out of the 56 in the sample. Of those 30 countries, 19 are voluntary and 11 are legally mandated.