**Appendix A:**

In this appendix, we analyse the robustness of the final model to different error specifications. Firstly, Model 1 assumes cluster robust standard errors clustered at the party level. As noted by Angrist and Pischke (2009), such a “clustered covariance estimator allows for completely non-parametric residual correlation within clusters - including time series correlation.” Secondly, Model 2 assumes robust standard errors clustered at the country level. While clustering at this level could be more optimal due to accounting for some intra-country error dependence, the covariance matrix is estimated using only 28 clusters, a number much lower than the recommended 42 (Angrist and Pischke, 2009). Finally, following the recommendation (Heisig and Schaeffer, 2019) to include random slopes for variables involved in cross-level interactions, we provide results from a specification that accounts for random slopes for variables interacted with CEE (i.e., GAL-TAN, LEFT-RIGHT, and stance on European integration). Reassuringly, all specifications yield results very similar to the main model discussed in Table 1 of the main text.

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | (1) SE:  cluster  party | (2) SE:  cluster  country | (3):  random slopes |
|  |  |  |  |
| Women’s incumbency rate per party | 47.97\*\*\* | 47.97\*\*\* | 47.84\*\*\* |
|  | (4.637) | (6.248) | (4.173) |
| Men's incumbency rate per party | -17.11\*\*\* | -17.11\*\*\* | -16.71\*\*\* |
|  | (2.845) | (2.780) | (3.105) |
| EU position (non-CEE parties) | -0.0140 | -0.0140 | -0.0865 |
|  | (0.673) | (0.771) | (0.699) |
| Left-right scale (non-CEE parties) | -0.0474 | -0.0474 | -0.0153 |
|  | (0.709) | (0.814) | (0.694) |
| GAL-TAN scale (non-CEE parties) | -2.821\*\*\* | -2.821\*\*\* | -2.860\*\*\* |
|  | (0.684) | (0.665) | (0.777) |
| CEE × EU position | 4.254\*\* | 4.254\*\* | 4.351\*\* |
|  | (1.438) | (1.509) | (1.468) |
| CEE × Left-right scale | 0.460 | 0.460 | 0.343 |
|  | (1.164) | (1.201) | (1.099) |
| CEE × GAL-TAN scale | 3.021\* | 3.021\*\*\* | 3.023\* |
|  | (1.270) | (0.871) | (1.204) |
| Party size (№ of MEPs per party) | 0.385\* | 0.385\* | 0.420\*\* |
|  | (0.154) | (0.177) | (0.158) |
| Legislated gender quotas | -1.933 | -1.933 | -2.169 |
|  | (2.645) | (3.157) | (3.331) |
| Placement mandates | 0.807 | 0.807 | 1.356 |
|  | (3.647) | (2.187) | (5.155) |
| OLPR/STV | -16.95^ | -16.95\*\* | -17.00\* |
|  | (9.087) | (5.789) | (7.542) |
| log(GDP per capita) | -20.11^ | -20.11^ | -20.19\* |
|  | (10.58) | (11.34) | (10.09) |
| Traditional vs secular values | 5.681 | 5.681 | 5.268 |
|  | (4.318) | (4.272) | (4.763) |
| Survival vs self-expression values | 1.934 | 1.934 | 1.736 |
|  | (3.948) | (3.606) | (3.771) |
|  |  |  |  |
| Year Fixed Effects | YES | YES | YES |
|  |  |  |  |
| Observations | 450 | 450 | 450 |
| Number of groups | 197 | 197 | 197 |

Standard errors in parentheses

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ^ p<0.1

**Table A1: Comparison of Models with Three Different Standard Error Specifications.** Model 1 includes robust standard errors clustered at the party level. Model 2 includes robust standard errors clustered at the country level. Model 3 includes random slopes for variables that are interacted with CEE (i.e., GAL-TAN, LEFT-RIGHT, and stance on European integration).

References:

Angrist, J. D., & Pischke, J. S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton university press

Heisig, J. P., & Schaeffer, M. (2019). Why you should always include a random slope for the lower-level variable involved in a cross-level interaction. *European Sociological Review*, *35*(2), 258-279.

**Appendix B:**

In this appendix, we show that party size becomes significant at p<0.05 upon merely controlling for the incumbency rates. This result suggests that, *ceteris paribus*, larger parties tend to have a higher male incumbency ratio, which conflates the slope estimate. Descriptively, the univariate correlation between party size and female incumbency rate is not significant (r = -0.0029, p = 0.95); however, it is significant for the male incumbency rate (r = 0.10, p < 0.05).

|  |  |  |
| --- | --- | --- |
|  | (1) | (4) |
| VARIABLES | % of women | % of women |
|  |  |  |
| Women’s incumbency rate per party |  | 47.13\*\*\* |
|  |  | (4.200) |
| Women’s incumbency rate per party |  | -19.10\*\*\* |
|  |  | (3.092) |
| EU position (non-CEE parties) | 0.709 | 0.128 |
|  | (0.912) | (0.716) |
| Left-right scale (non-CEE parties) | 0.446 | 0.114 |
|  | (0.939) | (0.720) |
| GAL-TAN scale (non-CEE parties) | -4.087\*\*\* | -2.889\*\*\* |
|  | (0.976) | (0.775) |
| CEE × EU position | 4.495\* | 4.198\*\* |
|  | (1.866) | (1.488) |
| CEE × Left-right scale | -1.229 | 0.115 |
|  | (1.464) | (1.130) |
| CEE × GAL-TAN scale | 4.943\*\*\* | 3.313\*\* |
|  | (1.483) | (1.197) |
| Party size (№ of MEPs per party) | 0.322^ | 0.383\* |
|  | (0.190) | (0.157) |
| Legislated gender quotas | 0.782 | -1.159 |
|  | (3.364) | (3.194) |
| Placement mandates | 11.98\* | 8.699^ |
|  | (5.019) | (4.627) |
| OLPR/STV | -8.469 | -10.76 |
|  | (7.472) | (6.852) |
|  |  |  |
| Observations | 450 | 450 |
| Number of groups | 197 | 197 |

Standard errors in parentheses

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ^ p<0.1

**Table C1: Results of a models which do not (Model 1) and do (Model 2) control for incumbency rates. Upon controlling for incumbency rates party size becomes significant at p<0.05.**

**Appendix C:**

In this appendix, we examine whether the heterogeneous importance of party-level ideological variables, depending on the electoral formula, provides insight into the underlying mechanisms of voter preferences versus party gatekeepers.

In our final dataset, we have 154 parties operating in countries with a CLPR system and 296 parties in countries which we classified as OLPR (including 15 parties operating under STV and 281 parties under OLPR). This quantity of observations provides sufficient grounds for testing the electoral formula interaction. Nevertheless, when we introduce the electoral formula interaction into the final model specification with socioeconomic controls and year fixed effects, we do not find significant results. Specifically, the interaction between the open ballot and stance on European integration is insignificant at p=0.24, the interaction between the open ballot and LEFT-RIGHT scale is insignificant at p=0.98, and the interaction between the open ballot and GAL-TAN scale is insignificant at p=0.98. Thus, this avenue does not appear to yield promising results for further understanding whether party selection or voter preferences are responsible for the association between party ideology and female representation.

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | % of women |
|  |  |
| Women’s incumbency rate per party | 47.21\*\*\* |
|  | (4.177) |
| Women’s incumbency rate per party | -16.57\*\*\* |
|  | (3.166) |
| EU position (non-CEE parties) | -0.181 |
|  | (1.093) |
| Left-right scale (non-CEE parties) | -0.254 |
|  | (1.040) |
| GAL-TAN scale (non-CEE parties) | -1.986^ |
|  | (1.181) |
| OLPR/STV × EU position | 1.573 |
|  | (1.325) |
| OLPR/STV × Left-right scale | -0.0329 |
|  | (1.217) |
| OLPR/STV × GAL-TAN scale | 0.0424 |
|  | (1.349) |
| Party size (№ of MEPs per party) | 0.170 |
|  | (0.198) |
| OLPR/STV × Party size | 0.684\* |
|  | (0.346) |
| Legislated gender quotas | -1.747 |
|  | (3.344) |
| Placement mandates | -0.361 |
|  | (5.246) |
| OLPR/STV | -26.56\* |
|  | (12.13) |
| log(GDP per capita) | -18.84^ |
|  | (10.12) |
| Traditional vs secular values | 6.791 |
|  | (4.761) |
| Survival vs self-expression values | 2.176 |
|  | (3.774) |
| Year Fixed Effects | YES |
|  |  |
| Observations | 450 |
| Number of groups | 197 |

Standard errors in parentheses

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ^ p<0.1

**Table C1: Results of a model that includes interaction of ideological variables and electoral formula.**

**Appendix D:**

List of variables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Definition | Data source | Min | Max |
| Dependent variable | | | | |
| Women MEPs | Percentage of seats in the EP per national political party held by MEPs identifying as women (2004, 2009, 2014, 2019) | European Parliament | 0% | 100% |
| Independent variables – party level | | | | |
| Party’s ideological stance  (socio-economic dimension) | Position of the national political parties in terms of its overall ideological stance (left-right) | Chapel Hill Expert Survey | 0  = extreme left | 10  = extreme right |
| Party’s views on social and cultural values  (GAL-TAN) | Libertarian parties favour expanded personal freedoms, e.g. abortion rights, same-sex marriage; traditional parties favour order, tradition, and stability | Chapel Hill Expert Survey | 0 =  libertarian | 10 = traditional |
| Party’s position on European integration | Overall orientation of the national political parties’ leadership towards European integration | Chapel Hill Expert Survey | 1  = strongly opposed | 7  = strongly in favour |
| Party size | Number of MEPs per party | European Parliament |  |  |
| Independent variables – national level | | | | |
| Electoral formula | National ballot structure in elections to the European Parliament | Comprehensive European Parliament Electoral Data (COMEPELDA) (Däubler et al, 2022)); European Parliament Research Service | 1 = open list or single transferable vote / 2 = closed list | |
| Country-level quotas | Member States’ legislative gender quotas (required percentage of women on electoral lists) | European Parliament Research Service | 1 = quotas / 0= no quotas | |
| Central and Eastern Europe | Indicates whether a Member State belongs to Central and Eastern Europe region |  | 0 = not in Central and Eastern Europe | 1 = Central and Eastern European country |
| Control variables | | | | |
| Women’s incumbency rate | The proportion of women incumbents among total number of party MEPs | Own calculations |  |  |
| Men’s incumbency rate | The proportion of male incumbents among total number of party MEPs | Own calculations |  |  |
| GDP per capita | Gross domestic product of a country divided by its total population | Eurostat | 3870 (Bulgaria 2004) | 83590 (Luxembourg 2019) |
| Traditional vs. secular-rational values scale | Measures how important a role religious doctrine plays in societies, with secular values indicating a largely reduced role for organised religion | Inglehart-Welzel Cultural Maps 2022 and 2023, World Values Survey | - 1.27 = most traditional (Malta 2004) | 1.47 = most secular (Sweden 2009) |
| Survival vs. self-expression values scale | Measures how autonomous individuals in a society are from kinship obligations in their life planning, with self-expression values emphasising a high degree of individual autonomy | Inglehart-Welzel Cultural Maps 2022 and 2023, World Values Survey | -1.50 = most survivalist (Romania 2004) | 3.11 = most self-expressionist (Sweden 2019) |