

ONLINE SUPPLEMENT to article in

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The International Women's Movement and Women's Political Representation, 1893–2003

Pamela Paxton
Ohio State University

Melanie M. Hughes
Ohio State University

Jennifer L. Green
Luther College

APPENDIX A: SENSITIVITY ANALYSES

This appendix addresses the sensitivity of the results presented in Table 2 to changes in the specification of the model or measurement of our variables. To test robustness, we considered alternate measures of many of our variables and models with and without prior milestone included. Most of these alterations produced no significant changes to our central findings. In this appendix, we demonstrate that by changing the measurement of our primary theoretical variable (the international women's movement), by altering our control measures (such as WINGOs, colonialism, and

industrialization), or by excluding prior milestone, we produce largely robust results.

The three indicators of the international women's movement, (a) cumulative foundings of WINGOs, (b) the cumulative count of international conferences, UN treaties, and UN groups related to women, and (c) the cumulative count of countries ratifying the ILO 1919 maternity protection convention, capture different features of the movement. And each indicator grows in a different nonlinear pattern over time. WINGO foundings steadily increase until 1970 and grow exponentially thereafter with a slight slowing in the latest years of data. In contrast, the cumulative UN/conference count increases in a series of three periods—growth before 1920, a leveling off between

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1920 and 1950, and then steady increases until 1995. Finally, maternity protection ratification shows linear and sharp growth until the 1930s, stalls for about twenty years, and then grows again afterward first in a convex, and then in a concave, pattern.

To represent these differences, Table A.1 assesses the sensitivity of results to alternative measures of the international women's movement for the attainment of a first female MP. Models A, B, and C analyze attainment of first female MP using each of the three components of the international women's movement variable separately. Model D assesses robustness to an alternate measure of the international women's movement variable entirely: where the percentage of sovereign countries attending key international conferences related to women is substituted for ratification of the maternity protection convention. That is, Model D's measure of the institutionalization of the international women's movement represents the factor score estimate of the latent variable (institutionalization of the international women's movement) with three indicators: cumulative foundings of WINGOs, the cumulative count of international conferences, UN treaties, etc., and the percentage of sovereign countries attending key international conferences related to women.

Table A.1 demonstrates that the individual components of the international women's movement variable each significantly increases the rate at which states elect or appoint a first female member of parliament. Differences in the scale of these components mask their very similar effect sizes. Indeed, considering a one-standard deviation change in each of the components leads to similar effects on the log odds of achieving a first

female MP, ranging from .77 to .86. Further, Model D of Table A.1 demonstrates that our findings are not sensitive to an alternative measurement of the institutionalization of the international women's movement. Indeed, for all variables in the model except for prior milestone (which here is suffrage), the magnitude and significance levels of the coefficients remain generally intact.

It is also important to demonstrate robustness to the measurement of WINGOs. Following Schofer (2003), data on country WINGO memberships were coded 13 years between 1910 and 2003 (UIA 1910–2003). We then interpolated between existing data points to construct a yearly measure. Because data were sometimes unavailable in the first year of independence, we could not be certain whether WINGO memberships were established before or after official sovereignty. Therefore, we extrapolate back to independence dates using three different strategies. The results reported in Table 2 of the main text use the slope of the first six years of data to extrapolate back to the year of sovereignty. But we also set the number of WINGOs in year of sovereignty to "0" and interpolate between sovereignty and the first year of data. We also test a third measure, which averages the first and second estimates. In the end, however, only 8.5 percent of sampled countries are affected by these alternative extrapolation techniques, and in auxiliary analyses not a single estimate markedly changed in effect size or significance level. We also substituted INGO memberships for WINGOs in auxiliary models. But the effects of INGOs proved to be both smaller in size and less often significant than WINGOs, and including INGOs did not alter our central findings in any way.

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We also considered alternate measures of several of our domestic influence variables. Because GDP per capita is available with good coverage after 1945 (Maddison 2004), we substituted this measure for energy consumption in 10, 20, and 30 percent models. These changes produced robust results. We also considered alternate ways of coding colonialism. Generally, we code colonial dummies to reflect the European power with greatest influence with a former colony at the time of independence. But for cases such as Bangladesh, the Dominican Republic, and the Sudan, which were colonized by a European power but achieved independence from a neighboring country (Pakistan, Haiti, and Egypt, respectively), we first assign these cases to their former colonial power, and second, we place them in the “Other” category. Models proved robust to these changes in the coding of colonialism.

A final set of robustness tests consider the sensitivity of our results to inclusion of prior milestone. Specifically, we compare the results presented in Table 2 of the main text to models excluding the squared term for prior milestone attainment and also to models excluding both the linear and the squared components altogether. Removing the squared term does affect the process

results for first MP and for 30 percent women in parliament. For MP, excluding the squared term raises the linear term to marginal significance, while for 30 percent, excluding the squared term means that process is no longer significant. Yet specifying process as linear or curvilinear does not produce any significant differences in any other variables.

As discussed throughout the main results, excluding prior milestone attainment entirely and therefore modeling each outcome as an independent event does occasionally alter our findings. For instance, in the MP analysis, Marxist-Leninist ideology and sovereignty between 1893 and 1944 are significant in models without time from suffrage attainment included. Further, for the 20 percent threshold, PR systems have a significant positive effect if events are modeled independently. In models predicting 30 percent women in parliament, the international women’s movement variable is significant when attainment of 20 percent is removed. In each of these cases, removing the process component generates results that are more in line with our theoretical expectations, for example that PR would speed women’s progress toward 20 percent women in parliament.

ADDITIONAL REFERENCES

Maddison, Angus. 2005. *Historical Statistics for the World Economy: 1-2003 AD*. Groningen Growth and Development Centre. University of Groningen. <http://www.ggdc.net/maddison/>

Union of International Associations. Various Years. *Yearbook of International Organizations*. Brussels, Belgium: UIA.

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Appendix A1. Sensitivity Analyses for Attainment of First Female MP to Alternative Measurement of the International Women's Movement

| | Model A | Model B | Model C | Model D |
|---|---------------------|---------------------|---------------------|---------------------|
| Intercept | -1.85 *** (0.43) | -2.70 *** (0.65) | -1.82 *** (0.44) | -2.33 *** (0.48) |
| <i>Global Influences</i> | | | | |
| WINGO Foundings | 0.01 * (0.00) | | | |
| Conferences, Groups, and Treaties | | 0.11 * (0.05) | | |
| Maternity Protection Convention | | | 0.04 * (0.02) | |
| Inst of Intl Women's Movement Alternative Measure | | | | 0.15 ** (0.05) |
| 1893-1944 | 0.40 (0.38) | 0.41 (0.37) | 0.43 (0.38) | 0.47 (0.38) |
| 1945-69 | 2.75 *** (0.57) | 2.80 *** (0.58) | 2.72 *** (0.59) | 2.50 *** (0.58) |
| 1970-on | 4.06 *** (0.78) | 4.22 *** (0.77) | 4.15 *** (0.78) | 3.57 *** (0.81) |
| <i>Domestic Influences</i> | | | | |
| <i>Cultural</i> | | | | |
| British Colony | -1.58 *** (0.46) | -1.70 *** (0.46) | -1.74 *** (0.46) | -1.65 *** (0.46) |
| Portuguese Colony | -1.58 * (0.76) | -1.87 * (0.77) | -1.85 * (0.77) | -1.62 * (0.76) |
| Spanish Colony | -0.88 * (0.42) | -0.90 * (0.42) | -0.96 * (0.42) | -0.99 * (0.42) |
| Belgian Colony | -3.12 *** (0.83) | -3.32 *** (0.84) | -3.37 *** (0.84) | -3.32 *** (0.84) |
| French Colony | -1.79 *** (0.53) | -1.92 *** (0.54) | -1.93 *** (0.53) | -1.86 *** (0.53) |
| Other Colony | -0.59 (0.67) | -0.66 (0.66) | -0.71 (0.65) | -0.61 (0.67) |
| Muslim | -3.44 *** (0.48) | -3.46 *** (0.48) | -3.44 *** (0.48) | -3.50 *** (0.48) |
| Catholic | -1.72 *** (0.46) | -1.75 *** (0.47) | -1.73 *** (0.47) | -1.69 *** (0.47) |
| Orthodox | -2.19 *** (0.63) | -2.23 *** (0.63) | -2.23 *** (0.63) | -2.23 *** (0.64) |
| Other Religion | -2.45 *** (0.43) | -2.50 *** (0.43) | -2.52 *** (0.43) | -2.51 *** (0.43) |
| <i>Structural</i> | | | | |
| Industrialization | -0.54 * (0.23) | -0.47 * (0.22) | -0.44 * (0.21) | -0.55 * (0.23) |

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Appendix A1 (cont.). Sensitivity Analyses for Attainment of First Female MP to Alternative Measurement of the

| | Model A | Model B | Model C | Model D |
|-------------------------------|-------------------|-------------------|------------------|------------------|
| <i>Political</i> | | | | |
| Democracy | 0.03 (0.02) | 0.02 (0.02) | 0.03 (0.02) | 0.03 (0.02) |
| Marxist-Leninist | 0.63 (0.59) | 0.57 (0.60) | 0.55 (0.59) | 0.68 (0.59) |
| <i>Links to World Society</i> | | | | |
| WINGO Memberships | 0.20 ** (0.07) | 0.20 ** (0.07) | 0.18 * (0.07) | 0.18 * (0.07) |
| <i>Prior Achievement</i> | | | | |
| Previous Milestone | 0.09 * (0.04) | 0.07 ^ (0.04) | 0.06 (0.04) | 0.07 ^ (0.04) |
| Previous Milestone Squared | -0.002 (0.00) | -0.001 (0.00) | -0.001 (0.00) | -0.002 (0.00) |
| N, country years | 2360 | 2360 | 2360 | 2360 |
| N, countries | 146 | 146 | 146 | 146 |
| Log Likelihood | -396.081 | -396.372 | -396.229 | -394.444 |
| df | 2339 | 2339 | 2339 | 2339 |

*** p ≤ .001, **p ≤ .01, *p ≤ .05, ^p ≤ .10 one-tailed test