Women's Representation in National Legislatures: Developed and Developing Countries

Richard E. Matland


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Women’s Representation in National Legislatures: Developed and Developing Countries

This note expands research on representation of women in national legislatures. Existing models are tested on newer data in advanced industrialized democracies, and these models are then applied to a sample of democracies in developing countries. There are striking differences across the two samples. While a proportional representation electoral system, women’s participation in the labor force, the cultural standing of women, and the country’s level of development all have positive effects on female representation in OECD democracies, none of these variables have a statistically significant and positive effect in less developed countries. These findings strongly suggest the existence of a threshold. Only after that threshold is passed do proportional representation, labor force participation, and cultural standing exert positive influences on the representation of women.

Women are poorly represented in national legislatures throughout the world. The Inter-Parliamentary Union (1997) reports that as of November 1997 only 12.1% of the representatives in the 179 existing national parliaments were women. Yet despite the general picture of significant under-representation, there are exceptions and considerable variation. Studies considering the causes of variations in representation levels for women in western democracies find fairly consistent results. Variations are explained by political factors, especially electoral institutions, by demographic and socioeconomic factors, and by cultural variables (Darcy, Welch, and Clark 1994; Norris 1985; Rule 1981, 1987, 1994). This note retests this earlier work on later data to see whether factors that were important in the early 1980s retain their significance. It then moves on to whether theories based on results from OECD (Organization of Economic Cooperation and Development) countries also hold in less developed countries (LDCs) with stable democracies. Earlier analyses concentrated exclusively on advanced industrialized democracies. This note provides a useful test of the robustness of these findings by testing the theories in less developed countries.
While scholars of comparative politics regularly urge the inclusion of a broader range of countries in comparative research, attaining this goal often runs into problems. One is lack of data. For many countries and legislatures, data for desired variables are not available. I deal with this difficulty by using indirect measures of some relevant concepts. A second obstacle is defining the sample of democratic countries that should be included in the study. Countries that meet one standard may fail a different standard. I use an adjusted index of democracy developed from measures in the POLITY II data set compiled by Ted Gurr (Gurr, Jaggers, and Moore 1990). I adjusted the original index, de-emphasizing its heavy weighting on chief executive powers and recruitment, and placing greater weight on the breadth of political participation (see Matland 1994 for a detailed description of the sample selection process). Using this adjusted democracy index, I identified the 24 advanced industrialized democracies and 16 democracies in LDCs shown in Tables 1 and 2.

The rest of the paper discusses the level of women’s representation across the countries in the sample, the relevant independent variables, the regression results for industrialized and less developed countries, and implications of the findings.

Representation Levels in National Legislatures

Tables 1 and 2 show women’s representation levels in 1980, 1990, and 1997 for the national legislatures of the 24 industrialized democracies and the 16 LDCs with democratic regimes. The difference of means between these two groups is statistically significant for all three time periods and indicates that the two samples differ in meaningful ways. Inspection of the data shows that the gap between the industrialized democracies and the democratic LDCs has widened over time. From 1980 to 1997, women have made gains averaging 10.9% across the industrialized democracies, while the average gain across the LDCs has been a much more modest 5.1%. Among the industrialized countries, the Scandinavian countries are all clustered at the top of the chart. The biggest gain over the 17-year time period was 24.9% for New Zealand; 8% of that gain (from 21.2% to 29.2%) occurred in October 1996 as New Zealand held its first election under a mixed electoral system. Among the LDCs all the gains are modest, with Argentina being a stunning exception. In Argentina, a constitutional amendment requiring the nomination of women to at least one-third of the viable seats has had a dramatic effect on women’s representation (Jones 1996).
### TABLE 1

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
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<td>27.8</td>
<td>38.1</td>
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<tr>
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<tr>
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<tr>
<td>Austria</td>
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<td>West Germany</td>
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<tr>
<td>Iceland</td>
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<td>+20.4</td>
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<td>Spain</td>
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<tr>
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<td>14.0</td>
<td>21.0</td>
<td>+10.5</td>
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<tr>
<td>Canada</td>
<td>5.0</td>
<td>13.3</td>
<td>20.6</td>
<td>+15.6</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>9.5</td>
<td>15.2</td>
<td>20.4</td>
<td>+10.9</td>
</tr>
</tbody>
</table>

Luxembourg 13.6 13.3 20.0 +6.4
United Kingdom 3.0 6.3 18.2 +15.2
Australia 2.4 6.8 15.5 +13.1
Portugal 6.8 7.6 13.0 +6.2
Belgium 7.5 8.5 12.0 +4.5
Ireland 4.1 7.8 12.0 +7.9
United States 3.7 6.2 11.7 +8.0
Italy 8.4 12.9 11.1 +2.7
France 4.3 6.9 10.9 +6.6
Israel 6.7 6.7 7.5 +0.8
Greece 3.3 5.3 6.3 +3.0
Japan 1.8 2.3 4.6 +2.8

*The German total from 1997 is for unified Germany, the 1980 and 1990 totals are for the Federal Republic of Germany.*


### Independent Variables

Independent variables found to be significant in previous research in advanced industrialized democracies fall into three categories: political/electoral institutions, cultural variables, and socioeconomic variables.
TABLE 2
Female Representation in the National Legislatures
of Less Developed Countries in 1980, 1990, and 1997

<table>
<thead>
<tr>
<th></th>
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<tbody>
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<td>Argentina</td>
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<tr>
<td>El Salvador</td>
<td>7.4</td>
<td>11.7</td>
<td>15.5</td>
<td>+ 8.1</td>
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<tr>
<td>Jamaica</td>
<td>10.0</td>
<td>5.0</td>
<td>11.7</td>
<td>+ 1.7</td>
</tr>
<tr>
<td>Colombia</td>
<td>5.0</td>
<td>8.5</td>
<td>11.0</td>
<td>+ 6.0</td>
</tr>
<tr>
<td>Peru</td>
<td>7.2</td>
<td>6.7</td>
<td>10.0</td>
<td>+ 2.8</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>4.6</strong></td>
<td><strong>6.3</strong></td>
<td><strong>9.7</strong></td>
<td><strong>+ 5.1</strong></td>
</tr>
<tr>
<td>Botswana</td>
<td>5.4</td>
<td>5.0</td>
<td>8.5</td>
<td>+ 3.1</td>
</tr>
<tr>
<td>Malaysia</td>
<td>4.5</td>
<td>6.1</td>
<td>7.8</td>
<td>+ 3.3</td>
</tr>
<tr>
<td>Mauritius</td>
<td>4.3</td>
<td>7.1</td>
<td>7.6</td>
<td>+ 3.3</td>
</tr>
<tr>
<td>India</td>
<td>3.3</td>
<td>5.0</td>
<td>7.2</td>
<td>+ 3.9</td>
</tr>
<tr>
<td>Uruguay</td>
<td>n.a.</td>
<td>6.1</td>
<td>7.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>Brazil</td>
<td>1.0</td>
<td>5.6</td>
<td>6.2</td>
<td>+ 5.2</td>
</tr>
<tr>
<td>Venezuela</td>
<td>3.0</td>
<td>10.0</td>
<td>5.9</td>
<td>+ 2.9</td>
</tr>
<tr>
<td>Malta</td>
<td>3.1</td>
<td>2.9</td>
<td>5.8</td>
<td>+ 2.7</td>
</tr>
<tr>
<td>Cyprus</td>
<td>0.0</td>
<td>1.8</td>
<td>5.4</td>
<td>+ 5.4</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>2.8</td>
<td>0.0</td>
<td>1.8</td>
<td>− 1.0</td>
</tr>
</tbody>
</table>


**Political Variables**

The existence of a proportional representation (PR) electoral system has been found to have a positive and statistically significant effect on the percentage of MPs who are women (Norris 1985; Rule 1981, 1987, 1994). The most important reason that women fare better under PR systems relates to party strategy in putting together a slate of candidates. In single-member district systems, parties only nominate a single candidate, while in PR systems a party nominates several candidates. Because of the zero sum nature of nominating decisions in single-member districts, female candidates must compete against existing interests within the party that are represented by men. In PR systems, the party is much more conscious of balancing its ticket to attract support from different constituencies. A woman candidate can
be seen as a benefit to the ticket by attracting voters, without having the significant costs to intra-party peace of requiring powerful intra-party interests represented by men to step aside. This lower opportunity cost also makes it more likely that parties will react quickly to another party’s conscious promotion of women (Matland and Studlar 1996).

Rule (1987) found one other political variable, the proportion of seats held by right-wing parties, also affected female representation. Right-wing parties are expected to support more conservative and traditional values that discourage women’s participation in politics. Rule’s analysis of early 1980s data supports this assertion.

Socioeconomic Factors

Participation in the labor force has consistently been found to have a significant, positive effect on women’s level of political activity (Anderson 1975; Togeby 1994; Welch 1977). Increased levels of activism and political consciousness could easily result in demands for greater representation of women. Rule (1987) and Norris (1985) both found women labor force participation rates had a positive effect on women’s representation, although only Rule found this effect to be statistically significant.

Political activism, besides being positively related to work force participation, also increases with level of education. In addition, because members of the national legislature are disproportionately well educated (Putnam 1976), increasing levels of university education among women should expand the pool of possible women candidates (Darcy, Welch, and Clark 1994). Therefore, I expect a positive relationship between the proportion of women with some university education and women’s representation in national parliaments. Both Rule (1987) and Norris (1985) found such a relationship, but only Rule found the effect to be statistically significant.\(^3\)

Cultural Variables

While many researchers emphasize the importance of political culture, developing good measures of cultural differences is quite difficult. Norris used data from the 1977 Eurobarometer to develop a measure of political egalitarianism. She found political egalitarianism positively affected the proportion of women in a parliament. Since the present data set includes several non-European countries, Eurobarometer measures cannot be used. Instead, a cultural measure of women’s standing in society was developed by factor analysis of
three measures that compare women's standing with that of men. The measures used were the ratio of women's literacy to men's literacy, the ratio of women's labor force participation to men's labor force participation, and the ratio of university educated women to university educated men. I assume that when women approach men in levels of literacy, work force participation, and university education, these are all indications that women's social standing is approaching that of men. The more equal women's social standing, the more likely that women are seen as men's equals in the political sphere, and the greater the probability they are represented in equal numbers. The measure is constructed so that the more positive the number, the greater the equality between men and women.

To this set of previously identified variables I add one additional variable, level of development. Tables 1 and 2 show there are clear differences between industrialized democracies and LDCs with a democratic regime. Previous studies looking at OECD countries have not tested the level of development. Significant variation exists, nevertheless, across these countries in development level, and this may help explain variations in representation. As countries become more developed, women are increasingly integrated into all spheres of public life; this should include representation in the national legislature (Christy 1987). Several processes that accompany development should increase women's political resources and decrease existing barriers to political activity. Development leads to weakening of traditional values, decreased fertility rates, increased urbanization, greater educational and labor force participation for women, and attitudinal changes in perceptions of the appropriate roles for women. Confirmatory factor analysis is used to create a measure of development based on three variables: the literacy level in the country, an energy use measure (barrels of oil equivalent), and a 1990 estimate of GDP adjusted for purchasing power equivalence. Note that this developmental factor is distinct from the cultural factor. The development factor looks at the absolute level of development, while the cultural factor looks at women's position relative to men's. The correlation between the two measures is .58, indicating the two are related, but that they do vary independently.

Results for Industrialized Democracies

I use the initial regression to test variables found statistically significant in previous studies, plus level of development. This regression equation includes an electoral system variable (this equals
Women's Representation

1 if a country has a PR system, 0 if the system is majoritarian, percent of parliamentary seats held by right-wing parties, the cultural factor score described above, the development factor score described above, women's labor force participation rate, and the percent of women with some college education. Except for the cultural and development factors, I use the same measures as used previously. The equation presented below reports unstandardized regression coefficients and their standard errors.

**Regression for 24 Advanced Industrialized Democracies**

Dependent Variable: Female Percent of Parliament

Female Percent of Parliament = \(-14.42 + 15.63*** (X1) + .36** (X2)
(8.92) (3.13) (.14)
+ 4.41* (X3) + 1.20 (X4) - .24 (X5) + .02 (X6)
(2.12) (1.38) (.15) (.08)

*** = significant at .01 level (2-tailed test).
** = significant at .05 level (2-tailed test).
* = significant at .10 level (2-tailed test).

Adjusted R\(^2\) = .75
Standard Error = 5.17
F = 12.29; Sig. F = .0000

X1 = Electoral System
X2 = Women's Labor Force Participation Rate
X3 = Women's Comparative Standing, Culturally [Factor Variable]
X4 = Level of Development [Factor Variable]
X5 = Percent of Adult Women with University Education
X6 = Proportion of Seats Held by Right-Wing Parties

For most variables the regression analysis provides a clear picture. The electoral system has a powerful, statistically significant, effect. The model predicts that for industrialized democracies, changing from a majoritarian to a PR system will result in a 15.6% jump in the female proportion of the national legislature. Women's labor force participation rates and the cultural factor also show noticeable positive effects on women's representation. It is just as clear that the proportion of seats held by right-wing parties is unrelated to levels of female representation. The last two variables considered produce some uncertainty. The variable measuring proportion of women with university education is close to being statistically significant (t = -1.60, p = .13), despite the small number of cases. On the other hand, the result is fairly perplexing.
It is in the opposite direction of previous findings and seems to suggest that as the number of college educated women increases, representation decreases! Further inspection of the data reveals this result is largely caused by extreme values for two cases, and disappears when these cases are removed. Given the variable is not statistically significant, and what results there are depend on extreme cases, it seems reasonable to assert that the proportion of university women in the population is not directly related to female representation in either a positive or negative manner.

The regression also shows that the direct effect of development is not significant. When we consider the indirect effects via development’s influences on women’s labor force participation and on the cultural standing of women, however, level of development does influence women’s representation. In addition, when development is included in the model without the cultural factor, it has a strong statistically significant effect. Women’s cultural standing is obviously influenced by the level of development, and the two of them in combination deserve to be included in the model. Although all these countries are considered industrialized democracies, those countries with higher levels of development have greater proportions of women in their national legislatures.

This replication reconfirmed the effect of three previously identified factors: proportional representation, women’s labor force participation rates, and cultural standing. One additional factor, level of development, is significant in differentiating this sample of OECD countries. The next step is to apply this model to the developing democracies.

**Modeling Women’s Representation in Democracies in Less Developed Countries**

Women’s participation in politics in LDCs has been studied rarely, and when it has, it has been largely through single-country studies. An important exception is Nelson and Chowdhury’s (1994) *Women and Politics Worldwide*. They consider much more than representation in national legislatures, but they do discuss factors affecting women’s participation in formal political arenas. In drawing conclusions from the 43 countries included in their study, they suggest that political socialization to women’s proper role in politics is important, but they also argue that political parties and women’s organizations engaged in interest articulation determine the degree to which women participate in political life.
The variables considered for the OECD democracies includes several that should affect women’s representation in LDCs with democratic regimes. The development variable, the cultural variable, and women’s labor force participation rate all tap important elements that can affect perceptions of women’s proper role in society. While measuring how individual political parties react to a demand for greater access for women is not possible, it is possible to test whether the electoral system variable, which was seen as crucial because it changed how parties looked at nominating and electing women in OECD countries, acts in the same manner in LDCs. Results from running the model developed in the first part of the paper on 16 LDCs are presented below.\(^\text{12}\)

*Regression for 16 Lesser Developed Countries with Democratic Systems*

**Dependent Variable: Female Percent of Parliament**

\[
\text{Female Percent of Parliament} = 8.59^{**} + 1.56 (X1) - 0.08 (X2) \\
\quad (3.38) \quad (1.83) \quad (0.07) \\
+ 2.50^{**} (X3) - 2.54^{**} (X4) \\
\quad (1.06) \quad (0.93)
\]

Adjusted $R^2 = .37$

Standard Error = 2.60

$F = 3.21$; Sig. $F = .06$

** significant at the .05 level.

$X1 =$ Election System Dummy  
$X2 =$ Women’s Labor Force Participation Rates 
$X3 =$ Women’s Comparative Standing, Culturally [Factor Variable]  
$X4 =$ Level of Development [Factor Variable]

The results are surprising. The coefficients for development level and women’s labor force participation are negative. The electoral system variable, which had such a substantial effect in the developed countries, has a coefficient ten times smaller and is not significant. Only one variable appears to work as expected: women’s cultural standing. This finding, however, is not robust. While cultural standing and level of development use different components, they are, nevertheless, correlated at a fairly high level for such a small sample (.64). There is some danger that they have split the variances between them with all the positive factors loading on the cultural variable and all the negative factors loading on the development variable. This suspicion
is borne out by further analysis. When development is dropped from the equation, the cultural variable plummets to less than half its previous size and is no longer significant \( (b = .85, \text{ s.e. of } b = 1.09) \). If the cultural variable is dropped from the equation, development also drops to half its former size and is no longer significant \( (b = -1.30, \text{ s.e. of } b = .90) \). In both cases, when only one of the variables is in the equation, none of the variables is statistically significant and the F-test shows that the model as a whole does not come close to explaining enough variance to be statistically significant.

The initial evaluation must be that factors influencing women’s representation in advanced industrialized democracies do not work in the same fashion in LDCs with democratic regimes. On reflection, there are two reasons why these results are not surprising. First, the results may accurately reflect that female representation is still so low in LDCs that representation may largely be determined by idiosyncratic conditions within that country and not by broad forces influencing all LDCs. Despite substantial variation on the independent variables, the dependent variable falls in a very narrow band. Only two countries in 1990 (Costa Rica and El Salvador) are above 10%, and over half the sample is clustered between 5.0% and 6.7%. These legislatures may not have enough women in them to exhibit any consistent identifiable patterns across countries.

A second reason for the lack of identifiable effects is that the independent variables may mean something entirely different in this new context. For example, in industrialized countries women who previously worked in the home and have now moved into paid work outside the home are the primary cause of the increase in women’s labor force participation (Togeby 1994). Moving into the paid labor force, often into low paying or public sector unionized jobs, has a consciousness raising effect on women’s political participation and their propensity to articulate political demands. While women’s labor force participation rates are quite high in many LDCs, this is largely due to women’s presence in subsistence-level primary sector work. This work is quite unlikely to have the same empowering and consciousness raising effect. Labor force participation does not mean the same thing in these two worlds, and therefore it is not surprising that the effects are different.

The inability to find other variables that differentiate among these countries intensifies the suspicion that idiosyncratic factors unique to each country are at the heart of variations across these countries. Several plausible variables were tested, and none exhibited a strong enough influence on representation to meet even weak tests of significance.
Women’s Representation

Among the variables tested were percent of seats won by left-wing (and right-wing) parties, level of urbanization, labor force participation adjusted by subtracting primary sector jobs, party magnitude, number of years since women gained the vote or were first elected, and percent of population that is Catholic. While some variables show effects in the expected direction, all effects were quite weak.

While the regression failed to show any meaningful statistically significant results, it still provides important information. The failure of the electoral system variable to have an effect is especially interesting. That ticket balancing occurs in PR systems both makes logical sense and is shown to work to women’s favor in the industrial democracies. The failure of the same mechanism to work in women’s favor in LDCs suggests either demands for representation are not being forward by women—perhaps because they are politically inactive—or, within the parties, the perceived costs of nominating women are so great that parties prefer to run virtually all-male slates rather than risk the wrath of the voters by nominating women. Detailed studies of individual countries are needed to investigate these dynamics.

The non-effect for the electoral system variable is an important example of a more general point. Comparative institutional analysis concentrates on examining how different institutional arrangements can provide an advantage or disadvantage to specific interests. These institutional effects, however, can occur only if the inputs (demands) exist to take advantage of the institutional arrangements. Otherwise, the institutional arrangement may not affect outcomes. An unspoken behavioral component is almost always part of any institutional argument. Here it is that if forces interested in women’s representation are effectively organized, they will be more successful in achieving representation when a PR electoral system is used rather than a majoritarian system.

Conclusions

These results provide two very distinct pictures. Factors driving variations in representation in the developed world are clearly understood. These factors are much less clear in the developing world. In the developed world, the effects of economic, cultural, and political factors identified in previous research were confirmed. Perhaps most striking is the enormous effect a proportional representation electoral system has on representation. In the developing world, however, none of the variables found significant among advanced industrialized democracies, nor several other plausible variables, were found to have an effect.
Based on these results there appears to be a threshold; a minimum development level is needed to create the foundation for other variables to have an effect. Below that level, the variables that assist women in gaining representation in more developed countries simply have no effect. It appears that in most LDCs, the forces aligned against female political activity are so great as to permit only token representation. As development increases, however, more women start to acquire the resources needed to become politically relevant, resources such as education, salaried labor force experience, and training in the professions that dominate politics (such as law). This leads to the formation of a critical mass. When the number of women with the necessary resources becomes substantial, the opportunity for effective interest articulation exists. Development is a crucial part of this process.

The second part of the story is that different political systems provide different levels of success after the critical mass is reached. While having the resources is an essential condition, clearly the political system plays a significant role. For a variety of reasons, the electoral opportunity structure in proportional representation systems provides greater access to women than majoritarian systems. When development levels are low, these structures are either not used, or additional barriers block their effective use. As development occurs, however, women are more likely to see significant increases in their representation in polities that use a proportional representation electoral system.

Considerable work remains to be done. For developing countries, case studies, especially of countries where representation has reached moderately high levels, would be valuable tools in uncovering relevant variables that affect representation across LDCs. Studying the strength and actions of women's organizations involved in interest articulation in these countries would be especially useful, to see if they hold the key to variations in representation. For advanced industrialized countries, individual country studies may help us discover how political variables interact with environmental factors to increase representation. As time passes, existing countries will develop, and changes in representation will occur. The number of new democracies has shown a promising upward trend. As new data become available, they will provide opportunities to retest and expand upon these findings.

Richard E. Matland is Associate Professor of Political Science, University of Houston, Houston, Texas 77204-3474.
NOTES

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1. If the national legislature is bicameral, the representation number is for the lower house.

2. While current data on the dependent variable (female percent of national parliament) is readily available, current data for the independent variables is more difficult to procure. Especially for measures based on national economic and demographic statistics, there tends to be a lag of several years. To assure data exist for all variables at the same time, the regressions presented are based on 1990 data, i.e., whenever possible data for both the independent and dependent variable were collected for 1990, or as close to 1990 as possible.

3. There is one additional economic variable that could be tested. Rule (1987) found the unemployment level had a negative effect on female representation. She argued that in countries with higher levels of unemployment people would be less willing to turn to women as political leaders. I find the assertion of a connection between unemployment and women's representation implausible. No other study has found this connection, and Rule herself in a later study (1994) finds no effect for unemployment. When tested using these data, the effect of unemployment was in the wrong direction (positive) and not statistically significant. Unemployment is therefore not included in the model.

4. Using confirmatory factor analysis, one factor was extracted with an eigenvalue of 1.66. The loadings were .73 for the comparative literacy factor, .82 for the comparative labor force participation factor, and .67 for the comparative university education ratios. Even though the cultural variable is built partially using the women's labor force participation rate, which is included as an independent variable, the two measures are clearly distinct. They measure different concepts that vary independently. For example, Israel's women's labor force participation rate of 47.7% is well below the industrialized country's mean of 58.9%. Israel is also low, however, on men's labor force participation so that the ratio of female to male labor force participation is .70, almost equivalent to the advanced industrialized countries' mean of .71. The cultural measure does correlate with women's labor force participation at the .76 level, which is higher than desirable. The greatest problem with multicollinearity, however, is inflated standard errors that may lead to a false negative. In this case both variables turn out to be statistically significant. For those who are especially suspicious of the dangers of multicollinearity, I built a two-factor model of culture using just literacy and college education ratios; this variable correlates with women's labor force participation at the .52 level. The results of those regressions are available from the author, but they are extremely close to those shown in the regression used in the paper.

5. The variables all load on one factor, with an eigenvalue of 2.27. The loadings are .85 for literacy, .83 for energy consumption, and .93 for GDP. Data on literacy come from UNESCO's Statistical Yearbook, while estimates of energy use and GDP are based on the C.I.A. World Factbook (1992, 1993).
6. There are four countries that do not fit neatly into the proportional/majoritarian dichotomy. Ireland and Malta have single transferable vote (STV) systems, while Japan has a single nontransferable vote (SNTV) system. In Germany, half the representatives are elected via a PR system based on the Länder, and half are elected from single-member districts. STV has a number of characteristics of a proportional representation system, and clearly looks more like a PR system than a majoritarian system, therefore Ireland and Malta are coded as .7. In Japan, voters have only a single vote and it may not be transferred, this means that candidates from the same party are effectively in competition with each other. SNTV tends to act more like a majoritarian system, although not entirely. Therefore Japan is coded as .3. Germany, which has half of its seats elected under each system, is coded .5. This coding is consistent with the descriptions of these systems provided by the Inter-Parliamentary Union (1993) in Electoral Systems: A Worldwide Comparative Study. This is the source for determining each country’s electoral system.

7. To determine the percentage of seats held by right-wing parties, parliamentary election results were compiled from the yearly reports in the European Journal of Political Research (Mackie 1988, 1989, 1991, 1992). To determine which parties should be labeled as right wing, work done by Laver and Hunt (1992), Huber and Inglehart (1995), and Wagschal (1996) was consulted. Laver and Hunt and Huber and Inglehart present expert estimations of left/right placement of parties within individual countries, while Wagschal uses the Laver and Hunt results on the four most important policy fields to establish a parties’ position on a left/right scale. Wagschal also shows that there is a high correlation between placements based on expert opinions and those based on reading of party platforms and manifestos (Klingemann, Hofferbert, and Budge 1994).


9. The average proportion of the adult female population with some college education, for the 24 industrialized democracies, is 10.6%. Half of the values lie between 4.8% and 10%. There are, however, two outliers above 20%. They are Israel at 20.9% and the United States at 43.2%. Both are below average on representation, yet no one seriously suggests this is because of their high proportion of university-educated women. When both countries are dropped and the regression rerun, the variable has a positive effect, although it is not statistically significant.

10. At this point, the data analysis starts running up against the limitations of the data set. It is possible to model indirect effects via either path analysis or structural equation modeling. Running path analyses, and then using the unstandardized coefficients to estimate the direct and indirect effects, reveals that the indirect effects are more than twice as large as the direct effects. The problem is that path analysis assumes error terms are uncorrelated across variables and equations. This is an extremely dubious assertion in this case. The normal solution to this problem is to run a nonrecursive structural equations model. Accurate estimation of such a model, however, would require far more cases than are available. The upshot is limited confidence in the only estimates that can be made. While I am not able to come up with an exact estimate, it
is clear there are significant indirect effects of development on representation, and when combined with the direct effects, development level should be included in the model.

11. Two other variables were tested. Turnover per election and party magnitude (a variant of district magnitude). Neither variable showed anything approaching a statistically significant effect. This is somewhat surprising since both variables have been identified in individual country studies as being important (Anderson and Thorson 1984; Darcy and Beckwith 1991; Darcy, Welch, and Clark 1994; Jones 1997; Matland 1993, 1995; Matland and Taylor 1997). It would appear that these variables can be significant, but they do not have a generalized effect across all politics. Only under certain contingencies do these variables have a significant affect on women's representation.

12. Factors unique to democratic regimes in LDCs were used to measure cultural standing and development levels across the LDCs. In the case of the cultural standing of women, the variables used for developing countries exclusively emphasize education. For the less developed countries the proportion of eligible girls to eligible boys in secondary education was included, along with comparative literacy rates and comparative levels of university education. This factor has an eigenvalue of 2.27 and factor loadings of .93 for literacy, .84 for secondary education, and .84 for university education. For development, the same measures were used as had been used for the advanced industrialized democracies, i.e. energy use, total literacy, and Gross Domestic Product in 1990. This factor produced a single factor with an eigenvalue of 2.06 and loadings of .88 on energy use, .87 on GDP, and .73 for literacy.

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Women's Representation


