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## **How Development Matters**

### A Research Note on the Relationship between Development, Democracy and Women's Political Representation

**Jocelyn Viterna**  
Harvard University, USA

**Kathleen M. Fallon**  
McGill University, Canada

**Jason Beckfield**  
Harvard University, USA

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#### **Abstract**

Most studies find that the substantial cross-national variation in women's legislative representation is *not* explained by cross-national differences in socioeconomic development. By contrast, this note demonstrates that economic development *does* matter. Rather than looking for across-the-board general effects, we follow Matland (1998), and analyze developed and developing nations separately. We find that accepted explanations fit rich nations better than poor nations, and obscure the effects of democracy on women's representation in the developing world. We call for new theoretical models that better explain women's political representation within developing nations, and we suggest that democracy should be central to future models.

**Key words:** democracy • development • parliament • political representation  
• women

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#### **INTRODUCTION**

At the close of 2005, women held only 16 percent of all national parliamentary seats in the world (Inter-Parliamentary Union, 2006). Scholarly explanations for this gender inequality in political representation often prioritize political and cultural explanations over economic ones. For example, Paxton (1997) argues that national electoral systems, in addition to certain religious or regional

ideological traditions, are the critical determinants, while 'broad differences in women's position in the social structure are not an important explanation of women's political representation' (Paxton, 1997: 459). Likewise, Kenworthy and Malami (1999) reaffirm the importance of political and cultural factors, and find that the '(l)evel of economic development . . . does not appear to have a direct effect' on women's share of national legislatures (Kenworthy and Malami, 1999: 257). Simply reviewing the rankings of nations according to women's share of their parliaments adds intuitive strength to scholarly conclusions: wealthy countries like Japan and France rank relatively low in their levels of female representation (9% and 12.2% respectively), while poorer countries like Mozambique and Costa Rica rank relatively high (34.8% and 35.1% respectively) (Inter-Parliamentary Union, 2006). It is not surprising, then, when scholars state that women's legislative representation 'seems to be independent from the socioeconomic development of these societies' (del Campo, 2005: 1705).

In this research note, we argue that development *does* matter for women's legislative representation. We concur that level of economic development does not have a direct, linear, across-the-board effect on women's representation. However, we demonstrate that the factors that do affect women's representation vary significantly depending upon a nation's level of economic development. Specifically, we find that existing explanations of women's legislative representation, while useful for developed nations, work poorly within the context of developing nations. We call for new theoretical explanations of women's legislative representation in developing nations, and we suggest that democratic quality should be central to these new models.

#### MODELING THE EFFECTS OF ECONOMIC DEVELOPMENT ON WOMEN'S LEGISLATIVE REPRESENTATION

Some years ago, Richard Matland lamented that studies of variation in women's legislative representation typically only analyzed Western democracies and excluded less developed countries (Matland, 1998). A lack of data, and difficulty operationalizing democracy, accounted for this exclusion. To remedy this shortcoming, Matland tested existing models – those that explained women's legislative gains in developed nations – with a sample of 16 democratic, less developed countries. He found few significant results, and concluded that the 'factors driving variations in [women's] representation in the developed world are clearly understood . . . [while] these factors are much less clear in the developing world' (p. 119).

Yet at about the same time that Matland was calling for more analyses of developing countries, Paxton (1997) analyzed the determinants of women's representation in national legislatures across 108 countries, including nations from Africa, the Middle East, Asia, Latin America, and Eastern Europe, as well as Western nations (Paxton, 1997; see also Moore and Shackman, 1996; Oakes and Almquist, 1993). Shortly thereafter, Kenworthy and Malami (1999) refined

Paxton's model with additional variables and using data from 146 nations, both developed and developing. As new sources of data became increasingly available, incorporating developing nations into analyses of women's legislative representation quickly became the norm (see, for example, Kunovich and Paxton, 2005; McDonagh, 2002; Paxton and Kunovich, 2003). In general, this new wave of research sought to uncover patterns in women's national-level political representation that apply more or less universally across all cases in a global sample. However, no study has yet used these new sources of data in the same manner as Matland, by analyzing developed and developing nations separately. Theoretically, the results of a study looking for worldwide causes could differ substantially from those of a study looking for causes in a more specific sub-set of cases.

In this research note, we theorize that established explanations of women's legislative representation might differ if, following Matland, developed and developing nations are analyzed separately. We test this by re-analyzing data from an existing study, and we find that separate analyses of rich and poor nations are indeed critical for generating more accurate explanations of women's legislative gains in developing nations. We conclude with preliminary thoughts about what does explain women's political representation in developing countries, and we provide initial confirmation of one of these factors: democratization.

#### ESTABLISHED EXPLANATIONS OF VARIATION IN WOMEN'S LEGISLATIVE REPRESENTATION

Over the past decade, scholars analyzing quantitative data from large global samples have developed relatively consistent explanations of cross-national variation in women's legislative representation. These explanations typically center on three categories of variables: political, ideological or cultural, and socioeconomic.

##### Political Factors

Political variables are frequently found to influence women's legislative representation. Most centrally, many studies have found that nations that elect legislative candidates using some form of proportional representation generally elect more women than do nations with simple majoritarian systems, as party lists are more conducive to forwarding women as candidates (Kenworthy and Malami, 1999; Kunovich and Paxton, 2005; Matland, 2002; Paxton, 1997; Paxton and Kunovich, 2003). Nevertheless, at least two studies using both developed and developing nations found no effect of electoral system (Moore and Shackman, 1996; Oakes and Almquist, 1993), and one found a slight advantage for women in majoritarian systems (McDonagh, 2002).

The presence of a Marxist-Leninist government, the timing of women's suffrage, and the role of political parties also affect women's levels of representation. Countries with Marxist-Leninist governments have an ideological

commitment to gender equality and tight, single-party control of government processes, and therefore place higher percentages of women in their (albeit largely powerless) legislatures (Kenworthy and Malami, 1999; Paxton, 1997). In addition, women gain more representation in nations where they have longer histories within the electoral process (Kenworthy and Malami, 1999), and when political parties have highly institutionalized organizational structures and more women members (Caul, 1999; Kunovich and Paxton, 2005). Some studies find that parties with leftist ideologies are more likely to forward successful women candidates (Kenworthy and Malami, 1999), but others suggest that party ideology no longer has a strong influence (Caul, 1999; Lovenduski and Norris, 1993; Matland and Studlar, 1996).

Interestingly, although scholars have often hypothesized that the degree of democracy in a nation may improve women's legislative representation by improving access to political power (and McDonagh's, 2002, analysis supports this hypothesis), Kenworthy and Malami (1999) find no relationship between level of democracy and women's representation. Moreover, Paxton (1997) and Kunovich and Paxton (2005) find that democracy has a negative effect on the percentage of female candidates.<sup>1</sup>

#### Cultural Factors

The prevailing gender attitudes in a nation also influence the percentage of women elected to its legislature. Early studies often operationalized culture by creating a series of binary variables for region and religion, such that the state of being 'Latin American' or 'predominately Catholic' was expected to influence attitudes toward women, and therefore differentially affect women's legislative representation (Kenworthy and Malami, 1999; Paxton, 1997). Other early proxies of culture included a binary variable measuring whether a country ratified *CEDAW* (the United Nations *Convention on the Elimination of All Forms of Discrimination Against Women*), and a binary variable capturing the legality of abortion. These results suggest that countries with predominately Catholic, Islamic, and 'other' religious traditions have significantly fewer women in parliament than primarily Protestant nations, and that non-Western regions (the Middle East and North Africa, sub-Saharan Africa, Asia and the Pacific, Latin America and the Caribbean, and Eastern Europe) have significantly lower levels of women's representation than Western nations. Neither ratification of *CEDAW* nor the legalization of abortion have consistently significant effects across studies (Kenworthy and Malami, 1999; Paxton, 1997; Paxton and Kunovich, 2003). Overall, early studies concluded that cultural factors are critical elements in understanding cross-national variation in women's legislative representation, but that better measures of culture are needed. More recent models have utilized measures from the World Values Survey, and these models only strengthen the argument that culture plays a central role in determining women's legislative representation (Inglehart and Norris, 2003; Inglehart et al., 2002; Norris and Inglehart, 2001;

Paxton and Kunovich, 2003).<sup>2</sup> However, due to data limitations, fewer nations are incorporated into these later analyses.

#### Socioeconomic Factors

Socioeconomic factors are often theorized to influence the 'supply' of women available for political positions: as women's labor force participation and educational levels increase relative to men's, and as economic development brings about a decline in traditional values and fertility rates, nations are expected to place more women in their parliaments because the pool of women who are viewed as qualified for politics is larger (Inglehart et al., 2002; Kenworthy and Malami, 1999; Kunovich and Paxton, 2005; Paxton, 1997; Paxton and Kunovich, 2003; Rule, 1981). However, only one socioeconomic factor – the percentage of women in professional occupations – has routinely demonstrated statistical significance across studies (Kenworthy and Malami, 1999; Kunovich and Paxton, 2005). As noted above, these results have consistently led scholars to the conclusion that women's legislative representation is independent from a country's socioeconomic development.

#### HOW DEVELOPING COUNTRIES MIGHT DIFFER

How might these results differ if, like Matland, we analyze developing nations separately from developed? Using a sample of 24 advanced industrialized democracies, Matland found that proportional representation electoral systems, in addition to several socioeconomic variables, were significant in promoting women's legislative representation.<sup>3</sup> By contrast, when using a sample of 16 lesser developed countries with democratic systems, Matland found few statistically significant results, even as he examined a number of additional independent variables.<sup>4</sup> He concluded that the lack of identifiable effects could be likely attributed to one of two causes: either the independent variables that are meaningful in rich countries mean something entirely different in poor countries or, what he deems more likely, rates of female representation are so low in developing nations that idiosyncratic factors unique to each country account for these small cross-national variations.

Today, the high levels of women's legislative representation in many developing countries suggest that something more than idiosyncratic factors is at work. Yet no study has followed up on Matland's other thesis: that the independent variables that are meaningful in rich countries may operate differently in poor countries. For example, Matland suggests that women's labor force participation, while empowering in his sample of developed countries, may not bring with it the same consciousness-raising qualities in developing countries, because women workers there are often confined to low-wage, low-skilled jobs.<sup>5</sup> Yet the opposite might also be found: high levels of poverty and unemployment could result in women's labor force participation being more empowering in developing

countries given the relative importance of the revenue that women bring to the household and the society. To determine if the factors that matter in developing countries differ from those in developed countries, or if the same factors matter differently, scholars must develop and test theories of women's representation that are based specifically on knowledge of gender and politics within a developing country context.

We also suggest a third possibility: that some causal factors are not found significant in current studies because there is too little variation on these factors among developed nations. Specifically, most researchers have concluded that democracy does not have an effect on women's legislative representation when a global sample is used, but we believe this lack of statistical significance could be more indicative of a lack of variation for democracy among wealthy nations rather than a lack of democracy's import. Where variation exists, many qualitative studies suggest we should see an effect, although it is not clear what that effect might be. Some qualitative studies find that democratization can help women by opening new formal paths to participation, while others demonstrate that democratization can bring reductions in women's political participation, and specifically their parliamentary representation (see Viterna and Fallon, 2008, for a summary).

#### DATA AND METHODS

To test our hypothesis that the factors influencing women's political representation differ significantly between developed and developing nations, we re-visit data from Kenworthy and Malami's (1999) study, 'Gender Inequality in Political Representation: A Worldwide Comparative Analysis'. Instead of adopting the current convention of assuming across-the-board effects, we analyze their data separately for rich and poor nations. We choose Kenworthy and Malami's study in part because it is an oft-cited, comprehensive model of women's legislative representation (later studies tend to focus more specifically on the effects of one or another new variable or new measure), in part because they have graciously made their data public (Kenworthy and Malami, 2005), and in part because it is a highly sophisticated paper both theoretically and methodologically, and thus provides an excellent base for our analysis. However, we note that a similar separation of countries could be analyzed for a number of papers that examine this same question with worldwide, cross-national data (see, for example, Kunovich and Paxton, 2005; Moore and Shackman, 1996; Oakes and Almquist, 1993; Paxton, 1997).

The Kenworthy and Malami dataset is an extensive compilation of information from various sources for 146 countries around the world that have directly elected national legislatures and have available data on the variables of interest. We refer the reader to Kenworthy and Malami (1999: 244–50) for a detailed discussion of the data, but we recapitulate the key details here.

The dependent variable is the *percentage of national parliamentary seats held by women*. In bicameral polities, information from the lower house is used.

The original source is the Inter-Parliamentary Union (IPU, 1998), and data are for the year 1998.

The independent variables can be grouped into political factors (the electoral system, timing of women's suffrage, leftist government, degree of democracy, Marxist-Leninist regime), socioeconomic factors (women's educational attainment, women's labor force participation, women in professional occupations, strength of the women's movement, economic development) and cultural factors (predominant religious tradition, ratification of CEDAW, legalization of abortion, and geographic region).

#### Political Factors

*Electoral system* is measured as a three-level ordinal variable, coded 0 for systems with single-member districts, 1 for mixed systems, and 2 for systems where voters choose from party lists in multimember districts, based on information from the IPU (1998). *Leftist government* is indicated by the share of parliamentary seats held by left parties. Data for this variable are available only for the 20-country subset of wealthy, stable democracies, defined by Kenworthy and Malami as having GDP per capita in 1994 of over \$15,000, and continuous democracy since 1950.<sup>6</sup>

*Democracy* is measured by the familiar ordinal scale developed by Freedom House (1997). The scale varies from 1 to 7, where higher values represent a greater degree of political freedom. The *timing of women's suffrage* is measured as the year when women gained the right to vote in national elections. *Marxist-Leninist regime* is measured with a binary variable, coded 1 for Cuba, Laos, North Korea, and Vietnam.

#### Socioeconomic Factors

*Women's educational attainment* is measured as female students enrolled in secondary education, as a proportion of total students, in 1980. Data come from the United Nations (1993, 1995). *Women's labor force participation* is measured as female participation in the paid labor force as a percentage of the total in 1994. Data again come from the UN (1995). A modification of this measure, the *female share of employees in professional, technical, and related occupations* in 1990, is also included for the 20 wealthy, stable democracies, given that women candidates are often drawn from professional occupations (UN, 1995). (Data for this measure were not available for developing nations.) Finally, *economic development* is measured as GDP per capita in 1994 US dollars, converted using purchasing power parities (UN, 1997). The variable is logged to reduce skew.

Following Ramirez et al. (1997), the *strength of the women's movement* is defined as the number of national women's political organizations whose mission is expressed by themes of emancipation, political participation, democracy,

or socialism in 1990. Data come from Ramirez et al. (1997), and are logged to reduce skew.<sup>7</sup>

### Cultural Factors

*Religion* is measured with three indicator variables: one each for Catholic, Islamic, and other religious traditions. The 'other' category includes indigenous African religions, Buddhism, Eastern Orthodoxy, Hinduism, Judaism, and countries with no dominant religion. The reference category is Protestant. *Ratification of the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)* is a binary variable where 1 = ratification and 0 = non-ratification. *Legal access to abortion* is also binary, where 1 indicates abortion is legal, and 0 indicates that it is illegal.

A measure of *geographic region* is included to capture remaining cultural differences among countries, and to control for the possibility of spatially correlated errors. As with the *religion* covariate, a set of indicator variables is used with advanced industrial nations (United States, Canada, Australia, New Zealand, and Western Europe minus Scandinavia) as the reference category. The other categories are sub-Saharan Africa, the Middle East and North Africa, Asia and the Pacific, Latin America and the Caribbean, Eastern Europe, and Scandinavia. When our analysis focuses on poor countries, we shift the reference group to Asia and the Pacific.

Like Kenworthy and Malami (1999), we use OLS regression to examine these determinants of women's political representation. Because we have a clear directional hypothesis for each independent variable, we use one-tailed tests of statistical significance. We conducted the usual array of diagnostic tests, and found no problems with multicollinearity, heteroscedasticity, outliers, influential observations, or specification errors.<sup>8</sup> In addition, because our sample of developing countries is relatively small ( $n = 85$ ), and because it encompasses nearly the entire population of developing countries rather than a random sample, we estimated bootstrapped standard errors, where the regression is re-estimated on each of 1000 random samples drawn (with replacement) from the original sample. The bootstrapped results were substantively identical, except that the coefficients for Middle East and North Africa, and Islamic reached significance.

In sum, Kenworthy and Malami produce a final model that highlights political and cultural factors as the key determinants of gender inequality in political representation. This model includes the type of electoral system, the timing of suffrage, the presence of a Marxist-Leninist regime, and the cultural factors region, religion and *CEDAW* ratification (see Kenworthy and Malami, 1999: 254–5, Table 3. For a smaller sub-set of nations, their model also includes 'leftist government' and 'proportion of women in professional occupations'). Economic factors, and level of democratization, do little to increase the explanatory power of their model and therefore are excluded from the final equation. Overall, the Kenworthy and Malami model explains an impressive two-thirds of the variation in women's cross-national legislative representation.

## RESULTS

We present the key results of our analysis in four tables. For each independent variable, we report the unstandardized coefficient, the relevant standardized coefficient (fully standardized for continuous variables;  $y$ -standardized for binary variables), and the  $t$ -statistic. For each model, we also report the  $R^2$ , which assesses overall fit.

Table 1 shows our replication of Kenworthy and Malami's analysis of an inclusive sample of 146 countries (Models 1 and 2), and a limited sample of 20 countries with GDP per capita over \$15,000 and continuous democracy since 1950 (Model 3).<sup>9</sup> Following Kenworthy and Malami, Model 1 includes all variables; Model 2 includes only variables with absolute  $t$ -values equal to or greater than 1.00; and Model 3 includes only the best performing variables from Model 2, plus the two variables that were only available for the limited sub-sample of 20 countries (*leftist government* and *female share of professional occupations*). Of note in Model 3, non-Western regions and religions are seldom represented in the limited sample of wealthy nations, and the region Scandinavia is no longer significant and therefore was dropped.

Kenworthy and Malami's final model, replicated in Table 1, finds four political factors that positively affect women's legislative representation: a proportional representation electoral system, early suffrage, left party government, and the presence of a Marxist-Leninist regime. They find no significant effect of democratic quality. Of the five socioeconomic factors analyzed, only one, the proportion of women in professional jobs, significantly affects women's legislative representation. Unfortunately, data for leftist government and women in professional jobs are only available for developed nations. Finally, the cultural factors region, religion, and ratification were all significant when holding political and economic factors constant.

Table 2 compares results from Kenworthy and Malami's final model for the 20 developed nations with a sample of 85 developing countries, where 'developing' is defined as having a 1994 GDP per capita below the threshold of \$5000.<sup>10</sup> Beginning with the first two columns, we find that Kenworthy and Malami's findings from the full set of cases also hold true when analyzing only the subset of 20 wealthy, stable democracies. Moreover, the model's explanatory power actually increases with the smaller sample: the  $R^2$  for the full set of nations is .63, and the  $R^2$  for the subset of 20 wealthy countries is .87. It appears that Kenworthy and Malami's final model provides an excellent explanation of the processes by which women are elected to legislatures in developed nations.

By contrast, when analyzing the same variables for the subset of 85 developing countries, the explanatory power of Kenworthy and Malami's model decreases dramatically ( $R^2 = .16$ ). The only two variables that remain significant are the presence of a proportional representation electoral system and the regional effects of the Middle East and North Africa, yet the coefficients for these two variables are much reduced. To assess the statistical significance of the differences

Table 1 Replication of Kenworthy and Malami (1999), Table 3, Models A, B, and E

	Complete sample of 146 countries	Complete sample of 146 countries	20 wealthy, stable democracies
Electoral system	2.10	2.23	5.73
(0 = single-member districts; 1 = mixed;	.21	.28	.47
2 = party lists in multimember districts)	3.35**	3.71**	4.54**
Date of women's suffrage	-.07	-.08 <sup>v</sup>	-.14
(1893-1990)	-.16	-.19	-.26
	-2.09**	-2.51**	-2.59**
Left party government			.12
(share of seats in national legislative			.22
body held by leftist parties)			2.12**
Democracy	.35		
(Freedom House measure of political	.09		
rights; 1-7)	.98		
Marxist-Leninist regime	17.55	15.31	
(1 = Cuba, Laos, North Korea, Vietnam)	2.14	1.86	
	5.26**	5.25**	
Women's educational attainment	.04		
(share of secondary school enrollment)	.04		
	.53		
Women's labor force participation	.07	.07	
(share of paid labor force)	.08	.08	
	1.04	1.14	
Women in professional occupations			.22
(female share of professional labor force)			.20
			2.02**

Table 1 (Continued)

	Complete sample of 146 countries	Complete sample of 146 countries	20 wealthy, stable democracies
Strength of the women's movement	.61		
(log of the number of national	.05		
organizations; see Ramirez et al., 1997)	.65		
Economic development	.65		
(log of GDP per capita)	.08		
	.78		
Catholic	-3.45	-3.84	-10.12
(1 = Catholicism;	-.42	-.47	-.97
Protestant is the reference group)	-2.13**	-2.41**	-4.85**
Islamic	-5.02	-7.04	
(1 = Islam)	-.61	-.86	
	-2.19**	-3.59**	
Other religion	-4.89	-5.57	
(1 = indigenous African, Buddhism,	-.60	-.68	
Eastern Orthodoxy, Hinduism, Judaism,	-2.80**	-3.31**	
and countries with no dominant religion)			
Ratification of UN Convention on the	3.13	3.29	
Elimination of All Forms of Discrimination	.38	.40	
against Women by 1988	1.55*	1.70**	
Abortion rights	-.44		
(1 = legal abortion)	-.05		
	-.31		
Sub-Saharan Africa	-.20	-2.78	
	-.02	-.34	
	-.07	-1.31*	
Middle East and North Africa	-4.26	-5.46	-20.90
	-.52	-.66	-2.00
	-1.51*	-2.10**	-4.85**

Table 1 (Continued)

	Complete sample of 146 countries	Complete sample of 146 countries	20 wealthy, stable democracies
Asia and the Pacific	-3.82	-5.38	-11.89
	-.46	-.65	-1.14
	-1.51*	-2.52**	-2.64**
Latin America and the Caribbean	-2.36	-3.63	
	-.29	-.44	
	-1.03	-2.08**	
Eastern Europe	-5.03	-6.85	
	-.61	-.83	
	-1.94**	-3.27**	
Scandinavia	10.86	10.09	
	1.32	1.23	
	3.56**	3.43**	
R-squared	.64	.63	.92

Notes: For each covariate, we report 1) unstandardized coefficient, 2) fully- or y-standardized coefficient, and 3) t-statistic.

\* $p < .10$ ; \*\* $p < .05$  (one-tailed tests).

between developed and developing nations, we conducted a Chow test for group difference for both model specifications shown in Table 2. Differences between developed and developing countries are statistically significant.<sup>11</sup> Women's suffrage, religion, and other regional variables are no longer significant. These findings suggest that the statistical relationships between the model variables and the factors affecting women's election in developed nations are so strong that they remain significant even when developing nations, which do not appear to follow the same patterns, are added to the model.<sup>12</sup>

Given that Kenworthy and Malami's final model actually provides a poor explanation of women's political representation in developing nations, what factors might improve its fit? In Table 3, we re-analyze Kenworthy and Malami's original variables in four separate models and using our subset of 85 nations. The first three models analyze political factors, economic factors, and cultural factors in turn, while the fourth model incorporates all significant variables from the first three models, plus variables that were not significant if their *t*-values were equal to or greater than 1.00.

Table 2 Comparison of developed vs developing countries

	20 wealthy, stable democracies	20 wealthy, stable democracies	85 poor countries (GDP p.c.< \$5000)
Electoral system (0 = single-member districts; 1 = mixed; 2 = party lists in multimember districts)	5.73 .47 4.54**	7.58 .62 6.24**	2.34 .29 2.77**
Date of women's suffrage (1893-1990)	-.14 -.26 -2.59**	-.17 -.31 -2.75**	-.02 -.06 -.58
Left party government (share of seats in national legislative body held by leftist parties)	.12 .22 2.12**		
Women in professional occupations (female share of professional labor force)	.22 .20 2.02**		
Catholic	-10.12 -.97 -4.85**	-9.85 -.94 -4.20**	.96 .15 .58
Middle East and North Africa	-20.90 -2.00 -4.85**	-20.17 -1.93 -4.07**	-4.46 -.71 -1.83**
Asia and the Pacific	-11.89 -1.14 -2.64**	-16.00 -1.53 -3.31**	1.87 .30 1.08
R-squared	.92	.87	.16

Notes: For each covariate, we report 1) unstandardized coefficient, 2) fully or y-standardized coefficient, and (3) t-statistic.

\* $p < .10$ ; \*\* $p < .05$  (one-tailed tests).

Looking first at the political model, we find that when developing nations are analyzed separately, level of democracy is significantly and positively associated with higher levels of women's parliamentary representation. This effect remains significant and positive in the full model, where the effect of democracy is twice as large for the sample of 85 developing countries as it is for the full sample of 146 countries. This suggests that pooling rich and poor countries together in

**Table 3** Explaining women's political representation in developing countries

	Political model	Socioeconomic model	Cultural model	Full model
Electoral system	2.21			2.85
(0 = single-member districts; 1 = mixed;	.27			.35
2 = party lists in multimember districts)	3.21**			4.14**
Date of women's suffrage	-.02			
(1893-1990)	-.06			
	-.68			
Democracy	1.03			.61
(Freedom House measure of political	.30			.18
rights; 1-7)	3.31**			1.69**
Marxist-Leninist regime	18.25			13.01
(1 = Cuba, Laos, North Korea, Vietnam)	2.89			2.06
	6.82**			4.33**
Women's educational attainment		.10		.06
(share of secondary school enrollment)		.17		.11
		1.25		1.07
Women's labor force participation		.11		.04
(share of paid labor force)		.18		.07
		1.63*		.65
Strength of the women's movement		.92		
(log of the number of national		.07		
organizations; see Ramirez et al., 1997)		.64		
Economic development		.77		
(log of GDP per capita)		.08		
		.58		
Catholic			-3.32	-1.30
			-.52	-.21
			-1.23	-.87

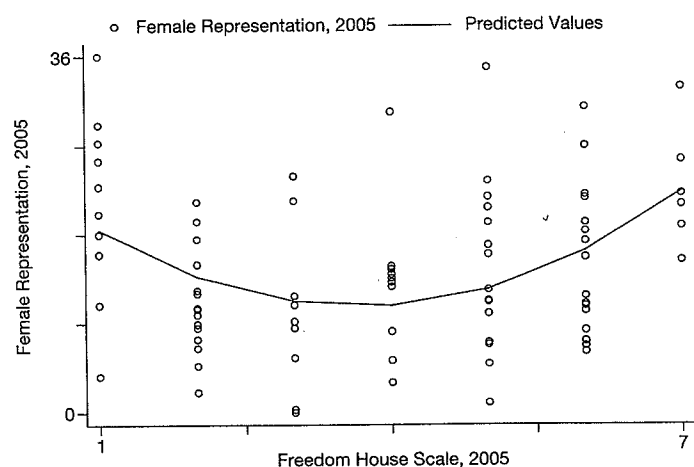
**Table 3** (Continued)

	Political model	Socioeconomic model	Cultural model	Full model
Islamic			-5.35	-1.79
			-.85	-.28
			-2.21**	-1.16
Other religion			-1.77	
(1 = indigenous African, Buddhism,			-.28	
Eastern Orthodoxy, Hinduism, Judaism,			-.77	
and countries with no dominant religion)				
Ratification of UN Convention on the			2.89	3.50
Elimination of All Forms of			.46	.55
Discrimination against Women by 1988			1.10	1.61*
Abortion rights			7.06	4.37
(1 = legal abortion)			1.12	.69
			3.17**	2.09**
Sub-Saharan Africa			-.12	
			-.02	
			-.07	
Middle East and North Africa			-3.23	-2.63
			-.51	-.42
			-1.14	-1.17
Latin America and the			2.53	
Caribbean			.40	
			.96	
Eastern Europe			-7.75	-7.34
			-1.23	-1.16
			-2.86**	-3.02**
R-squared	.43	.11	.27	.54

Notes: For each covariate, we report 1) unstandardized coefficient, 2) fully or y-standardized coefficient, and 3) t-statistic.

\* $p < .10$ ; \*\* $p < .05$  (one-tailed tests).



**Figure 1** The curvilinear relationship between democracy and female representation

Note: Predicted values are from the regression of female representation in 2005 on democracy (Freedom House measure) in 2005. In this model, the linear democracy coefficient is  $-7.89$  ( $SE = 2.18$ ), the squared democracy coefficient is  $1.07$  ( $SE = .28$ ), and the constant is  $25.27$  ( $SE = 3.69$ ). There are 84 observations, and the coefficient of determination is  $.16$ . These results are substantively identical when the controls shown in Tables 3 and 4 are added to the model.

the same analysis masks the significant effects of democratization on women's political representation, likely because there is very little variation in level of democracy among developed nations.

To assess whether the association between democracy and women's political representation is an artifact of the 1998 data, we updated the data on these two critical variables with 2005 data from the same sources originally employed by Kenworthy and Malami. Using current data, the association between democracy and women's legislative representation remains statistically significant.<sup>13</sup> Interestingly, there is evidence that the relationship between democracy and women's political representation may be curvilinear in the later period, with the lowest levels of women's representation occurring at the middle levels of democratic freedoms (Figure 1). This implies that the timing of democratization may affect women's political representation in developing nations, a possibility we are exploring in other work.

Looking next at the socioeconomic model, women's labor force participation, which was not significant in the Kenworthy and Malami study of both developed and developing countries, has a positive, significant effect at the .10 level on women's political representation among only poor countries. However, this rather weak effect falls out in the full model, likely because of the small sample size and the number of control variables used. When more cases are added in later models

**Table 4** Sensitivity of results to threshold for classification as 'developing'

	GDP < \$7500	GDP < \$10,000	GDP < \$12,500	GDP < \$15,000
Electoral system (0 = single-member districts; 1 = mixed; 2 = party lists in multimember districts)	2.30 .30 3.72**	2.08 .26 3.23**	1.89 .24 3.01**	1.89 .24 2.97**
Democracy (Freedom House measure of political rights; 1-7)	.62 .20 1.85**	.69 .21 1.93**	.57 .18 1.64*	.51 .16 1.50*
Marxist-Leninist regime (1 = Cuba, Laos, North Korea, Vietnam)	14.62 2.42 5.00**	14.67 2.31 4.60**	14.80 2.36 4.68**	14.64 2.31 4.56**
Women's educational attainment (share of secondary school enrollment)	.07 .12 1.29*	.06 .11 1.12	.07 .11 1.20	.07 .11 1.22
Women's labor force participation (share of paid labor force)	.09 .15 1.46*	.12 .19 1.85**	.12 .20 1.95**	.11 .18 1.80**
Catholic	.05 .01 .04	1.05 .17 .81	1.29 .21 1.04	1.55 .25 1.25
Islamic	-1.40 -.23 -.94	-1.15 -.18 -.73	-1.01 -.16 -.65	-.70 -.11 -.44
Ratification of UN Convention on the Elimination of All Forms of Discrimination against Women by 1988	1.19 .20 .63	1.19 .19 .58	1.26 .20 .62	1.29 .20 .62
Abortion rights (1=legal abortion)	.98 .16 .60	.59 -.09 .33	-.02 -.003 -.01	.15 .02 .09
Middle East and North Africa	-1.42 -.24 -.74	-.98 -.15 -.47	-.86 -.14 -.42	-1.74 -.28 -.90
Eastern Europe	-3.54 -.59 -1.76**	-3.62 -.57 -1.66*	-3.11 -.50 -1.53*	-3.10 -.49 -1.50*
R-squared	.46	.41	.40	.38
N	105	114	119	123

(Table 4, discussed below), this substantively meaningful variable regains its significance at the .05 level. This suggests that women's entry into the labor market is perhaps more empowering for women in developing nations than in developed due to the relative importance of women's income to poor families and national economies. Although the reasons for this difference require additional investigation, this finding confirms Matland's hypothesis that the same independent variables may operate differently in different economic contexts.

The effects of the cultural variables (shown in the third model of Table 3) also change markedly when poor countries are analyzed separately from wealthy nations. Religion, a critical explanatory factor in Kenworthy and Malami's

analysis, is significantly less central to the election of women in developing nations. The effects of the Catholic and Islamic variables are much smaller for the sample of developing countries than for the full sample (dropping from  $-.42$  to  $-.21$ , and from  $-.61$  to  $-.28$ , respectively). Only the Islamic variable is significant in the cultural model, and its significance disappears in the full model. Likewise, abortion rights, while not significant for wealthy and poor nations together, gain significance when poor countries are analyzed separately, with the effect increasing dramatically from  $-.05$  for the full sample to  $.69$  for only poor countries. Finally, although regional variables are all significant when poor nations are grouped with rich nations, when poor nations are compared to each other only, only Eastern Europe remains statistically significant, and this significance is much larger than in the full model.

In Table 4, we test our final model from Table 3 against different cutoffs for 'developing' countries. Our findings remain largely consistent across the various thresholds. Of note, the significance of level of democracy for women's legislative representation is consistent at each threshold. Likewise, the lack of significance of religious and regional variations (with the continued exception of Eastern Europe) is also constant across thresholds. Varying the threshold of 'developing' only changed the significance in three variables. First, women's educational attainment was significant only at the \$7500 level, but not at any other threshold. Second, women's labor force participation is significant for all thresholds except \$5000. Third, while abortion rights do matter for countries with GDP per capita lower than \$5000, they are not significant when using higher thresholds. We speculate on the causes of this variation below.

#### CONCLUSIONS: NEW DIRECTIONS FOR AN OLD QUESTION

The results of this analysis suggest four conclusions about the effects of development on women's legislative representation. First, economic development in and of itself does not promote gains in women's legislative representation. Many rich countries have worse records of electing women than do poor countries. However, a nation's level of development *does matter* in that the factors that shape variation in women's political representation in developing nations are significantly distinct from the factors that shape variation in women's political representation in developed nations. Past studies that assume across-the-board effects of these factors should be re-visited.

Second, current models that seek to explain variation in women's legislative representation worldwide provide strikingly accurate explanations for wealthy nations. In fact, it is likely because these models are so robust for developed nations that we do not know more about the factors promoting female legislators in developing nations: the statistical relationships between the hypothesized causal factors are so strong for developed nations that these relationships maintain their overall statistical significance even when developing nations, which fit the model much less well, are incorporated into the sample.

Third, existing models do a rather poor job of identifying the factors that promote women's political representation in developing nations. In our re-analysis of Kenworthy and Malami's data, only the effect of a proportional representation electoral system remains significant across separate samples of both rich and poor nations. The other variables thought to promote women's legislative representation worldwide, when analyzed for the subsets of developed and developing nations individually, only appear to promote women's representation in wealthy nations. Although our results only speak directly to the Kenworthy and Malami model, given the consistent use of these variables across many studies of women's legislative representation, we suggest that other studies would have similar findings if they were to analyze developed and developing nations separately.

Fourth, if current models really tell us very little about the factors that promote women's legislative representation in developing nations, then we need new theoretical models that uncover and examine what these factors might be. Why do poor nations like Guyana and Mozambique have some of the highest levels of female representation in the world, while other poor nations like Papua New Guinea and Haiti have some of the lowest? Our findings suggest several initial directions for building these new theoretical models.

Most centrally, we find that the lack of variation in democratic quality in developed nations masks the important effects of democracy on women's legislative representation. When controlling for the four Marxist-Leninist regimes, democratic freedoms are significantly associated with increases in women's political representation in developing nations. Moreover, when using 2005 data, we find a curvilinear relationship between democracy and women's representation. These findings suggest that future studies should examine the timing and circumstances of the democratization process as it effects women's political representation in developing nations.

In addition, new theories of women's representation in developing nations must re-examine established definitions of culture or ideology. When looking at cultural variables across a worldwide sample, region, religion, and ratification are significant, while abortion rights are not. These variables also remain significant when looking at a subset of only developed nations. By contrast, when limiting the analysis to developing nations, regional and religious variables are not significant with the exception of Eastern Europe, where the effect increases. We also find that abortion rights, which were not significant with a worldwide model, are very significant for the poorest of poor nations, but lose significance as the threshold increases. We speculate that the addition of the higher-income nations in Latin America, where women often draw political power by promoting their status as mothers, may account for this change. The framing of Latin American women's politics through a motherhood lens may make it more likely for women to gain political representation than access to abortions (Viterna and Fallon, 2008), although the first may perhaps lead to the second over time.

Clearly, new ways of operationalizing cultural ideologies are needed to capture the variable pathways to representation across poor countries and over time, and these new variables should be grounded in the qualitative literature on gender and politics within developing nations. As mentioned above, more recent analyses have used the World Values Survey to develop measures of gender ideologies that may serve as better proxies for 'culture' (Inglehart and Norris, 2001; Paxton and Kunovich, 2003). We suggest these measures may provide an important starting place for future analyses, especially if combined with qualitative analyses of what accounts for these measurable variations in attitudes toward women.

Finally, we find limited support for a significant and positive relationship between women's labor force participation and women's legislative representation in developing nations.

By demonstrating that accepted models of variation in women's cross-national representation do a poor job of identifying the factors that matter within developing nations, this article demonstrates a need for new theorizing about the processes by which women in developing nations gain positions of political power.

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#### NOTES

- 1 Kunovich and Paxton argue that this negative finding results from the inclusion of countries such as Cuba, North Korea, and Vietnam in their analysis, as these nations have relatively high proportions of women in their legislatures and low levels of democratic freedoms (Kunovich and Paxton, 2005). However, Paxton (1997) controlled for these nations and still found a negative relationship.
- 2 The World Values Survey measures public opinion regarding acceptance of women in leadership roles, acceptance of providing education to girls and women, the rights of women to work, and sex preferences for children. See Paxton and Kunovich (2003) and Norris and Inglehart (2001) for additional details.
- 3 Matland included one variable measuring women's labor force participation, and another variable that measured women's standing relative to men. This second variable, which Matland labels a 'cultural' variable, comprises three measures that are considered socioeconomic variables in most of the literature reviewed here: the ratio of women's literacy to men's, the ratio of women's labor force participation to men's, and the ratio of university educated women to university educated men.
- 4 Additional variables included the percent of seats won by left-wing parties, level of urbanization, different types of labor force participation, party magnitude, number of years since women gained the vote or were first elected, and percent of population that is Catholic.
- 5 Recall that this variable is not significant in most studies with larger sample sizes and different additional independent variables.
- 6 The 20 countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States.
- 7 Paxton (1997) also examined a measure of the strength of the women's movement (which she considers an ideological variable), and like Kenworthy and Malami, she does not find this variable significant. However, given the difficulty of operationalizing this variable, we do not feel the effects of women's mobilizations can be effectively evaluated at this time.
- 8 Specifically, for our preferred 'full model' shown in Table 3: the mean variance inflation factor is 1.85 (well below the conventional threshold of 3), the results are substantively identical when the heteroscedasticity-consistent covariance matrix estimator HC3 is used (see Long and Ervin, 1999), residual plots show that no residuals are more than 3 standard deviations from the regression line, a Bonferroni test for outliers identifies no statistically significant outliers, and a Ramsey 'reset' test for omitted variables fails to reach significance at the .10 level.
- 9 Models 1, 2, and 3 in our Table 1 correspond to Models A, B, and E in Kenworthy and Malami's Table 3.
- 10 Kenworthy and Malami experimented with different threshold levels (between \$5000 and \$15,000) for less developed countries when testing the impact of electoral system structures on women's legislative representation (p. 253). We chose the smallest threshold to represent least developed countries. The 85 poor countries are Albania, Angola, Azerbaijan, Bangladesh, Belarus, Benin, Bolivia, Bulgaria, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Croatia, Cuba, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Estonia, Ethiopia, Gabon, Gambia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Laos, Latvia, Lebanon, Lesotho, Lithuania, Macedonia, Madagascar, Malawi, Maldives, Mali, Mauritania, Moldova, Mongolia, Morocco, Mozambique, Namibia, Nepal, Nicaragua, Niger, North Korea, Pakistan, Papua New Guinea, Paraguay, Peru, Philippines, Romania, Russia, Senegal, Sierra Leone, South Africa, Sri Lanka, Suriname, Swaziland, Tajikistan, Tanzania, Togo, Uganda, Ukraine, Vietnam, Western Samoa, Yemen, Zambia and Zimbabwe.
- 11 For the rich country model, the test statistic is 6.78; this surpasses the critical value of 2.94. For the poor country model (with region dummies), the test statistic is 5.10, which surpasses the critical value of 2.65.
- 12 Kenworthy and Malami conclude that region and religion are central factors to understanding variation in women's legislative representation, yet several regional and religious variables were dropped in Table 2 to accommodate the small sample of 20 wealthy nations. We therefore also tested the sample of 85 poor nations in a model that included the non-Western regions and religions previously dropped. This inclusion increased the model's explanatory power very slightly ( $R^2 = .18$ ), but Middle East and North Africa was no longer significant.
- 13 Details are available from the authors upon request.

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**Jocelyn Viterna** is Assistant Professor of Sociology and Social Studies at Harvard University. Her research explores the evolving relationship between the state and civil society in countries undergoing transitions to democracy, and her current project investigates the gendered causes and consequences of guerrilla participation in El Salvador in the 1980s. Address: Department of Sociology, Harvard University, Sixth floor, William James Hall, 33 Kirkland Street, Cambridge, MA 02138, USA. [email: [jviterna@wjh.harvard.edu](mailto:jviterna@wjh.harvard.edu)]

**Kathleen M. Fallon** is Assistant Professor of Sociology at McGill University. Her current research focuses on the impact of democratization on women, with particular emphasis on sub-Saharan Africa. She recently published a book on this topic with the Johns Hopkins University Press, *Democracy and the Rise of Women's Movements in Sub-Saharan Africa*. Her research is funded by a Standard Research Grant from the Social Sciences and Humanities Research Council of Canada, and a grant from the Fonds Québécois de la Recherche sur la Société et la Culture. Address: Department of Sociology, McGill University, Stephen Leacock Building, 855 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2T7. [email: [kathleen.fallon@mcgill.ca](mailto:kathleen.fallon@mcgill.ca)]

**Jason Beckfield** is Assistant Professor of Sociology at Harvard University. His dissertation, 'The Consequences of Regional Political and Economic Integration for Inequality and the Welfare State in Western Europe', recently received the Dissertation Award from the American Sociological Association. His other research examines the structure of the world polity, the evolution of a world city system, and the welfare state. Address: Department of Sociology, Harvard University, Sixth floor, William James Hall, 33 Kirkland Street, Cambridge, MA 02138, USA. [email: [jbeckfie@wjh.harvard.edu](mailto:jbeckfie@wjh.harvard.edu)]