Development, Democracy, and Women's Legislative Representation: Re-Visiting Existing Explanations of Gender Variation in the World's Parliaments

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Abstract

Previous studies have found that the substantial cross-national variation in women's legislative representation is *not* explained by cross-national differences in socioeconomic development. We re-visit an existing study and demonstrate that economic development *does* matter. Accepted explanations fit rich nations much 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.

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INTRODUCTION

At the close of 2005, women held only 16% of all national parliamentary seats in the world (IPU 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) (IPU 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 working paper, 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 on a nation's level of economic development. Specifically, we find that existing explanations of women's legislative representation, while useful for developed nations, work very 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

Several 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 (Matland 1998:110). To remedy this shortcoming, Matland tested existing models—those that explained women's legislative gains in developed nations—using a sample of sixteen 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."

Yet prior to Matland's call for greater inclusiveness 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 Oakes and Almquist 1993; Moore and Shackman 1996). Shortly thereafter, Kenworthy and Malami (1999) refined Paxton's model with additional variables and using data from 146 nations, both developed and less-developed. 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, McDonagh 2002; Paxton and Kunovich 2003; Kunovich and Paxton 2005). 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 wealthy and poor nations separately. Theoretically, the results of a study looking for worldwide trends could differ substantially from those of a study looking for trends in a more specific subset of cases.

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. Our results support our hypothesis. We conclude by discussing the theoretical and methodological implications of our findings for future studies of women's legislative representation.

We choose Kenworthy and Malami's study in part because it is an oft-cited, generalized 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, 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 from a number of papers that examine this same question with worldwide, cross-national data (see, for example, Oakes and Almquist 1993; Moore and Shackman 1996; Paxton 1997; Kunovich and Paxton 2005).

Explaining Variation in Women's Legislative Representation

Over the past decade, scholars analyzing quantitative data began to develop relatively consistent explanations of cross-national variation in women's legislative representation. These explanations typically center on three categories of variables: political, socioeconomic, and ideological or cultural. We review each below, focusing on the factors chosen by Kenworthy and Malami in their 1999 analysis.

Political Factors: Kenworthy and Malami examine four political variables in their analysis.[1] First, they find that nations who 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. This finding has significant support from other studies (Paxton 1997; Matland 2002; Paxton and Kunovich 2003; Kunovich and Paxton 2005). Nevertheless, at least two studies using both developed and developing

nations found no effect of electoral system (Oakes and Almquist 1993; Moore and Shackman 1996), and one found a slight advantage for women in majoritarian systems (McDonagh 2002).

Second, Kenworthy and Malami find that the timing of women's suffrage significantly affects women's representation. Women have better success in gaining representation in nations where they have longer histories within the electoral process.

The third political variable tested is democratic quality. Although scholars have hypothesized that the degree of democracy in a nation may improve women's legislative representation by improving access to political power (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.[2]

The final political variable in Kenworthy and Malami's analysis is the effect of a Marxist-Leninist government. Countries with Marxist-Leninist governments have been shown to include more women in parliament, given their ideological commitment to gender equality and the tight control of a single party on government processes (Paxton 1997). As expected, Kenworthy and Malami find a significant positive relationship between countries with a Marxist-Leninist government and percentage of women legislators.

Socioeconomic Factors: Socioeconomic factors are theorized to influence the "supply" of women available for political positions (Paxton 1997; Kunovich and Paxton 2005). Kenworthy and Malami theorize that nations with relatively high levels of women in the labor force, high levels of female education, and high percentages of women in professional occupations are more likely to place women in their parliaments because the pool of women who are viewed as qualified for politics is larger. Economic development is also expected to be favorable for the inclusion of women in positions of political power, given the decline in traditional values, fertility rates, and materialist political concerns attendant to economic development. Finally, Kenworthy and Malami hypothesize that the strength of the women's movement may improve women's political representation. However, only one of these socioeconomic factors, the percentage of women in professional occupations, was statistically significant. The lack of statistical significance of the other socioeconomic factors has been largely supported by other studies (Paxton 1997; Paxton and Kunovich 2003).

Cultural Factors: The prevailing gender attitudes in a nation may also influence the percentage of women elected to its legislature. Kenworthy and Malami operationalize culture by creating a series of binary variables for region and religion. In other words, the state of being "Latin American" or "predominately Catholic" is expected to influence attitudes toward women and therefore differentially affect women's legislative representation. Other proxies of culture include a binary variable measuring whether a country has 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. Kenworthy and Malami's 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. They also found that ratification of *CEDAW* significantly affects women's political representation, but that abortion laws do not. Overall, they argue that cultural factors are critical elements in understanding cross-national variation in women's legislative representation.

Recent models have utilized the World Value Survey's measures of public opinion towards women, and argue that these variables are enhanced depictions of cultural influences on women's legislative representation because they better capture the meaning that people ascribe to gender. For example, they measure the public's acceptance of women in leadership roles, and the public's agreement that women have a right to education. These new proxies for culture are significant in statistical models, and only strengthen the argument that culture plays a central role in determining rates of women's legislative representation (Inglehart and Norris 2003; Norris and Inglehart 2001; Paxton and Kunovich 2003).[3] However, due to data limitations, fewer nations are incorporated into these later analyses.

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 of region, religion, and *CEDAW* ratification (see Kenworthy and Malami 1999:254-255, Table 3; for a smaller subset 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.

DATA AND METHODS

Our analysis takes Kenworthy and Malami's (1999) study as a point of departure. The 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 (1999:244-250) 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 (*electoral system, leftist government, degree of democracy, timing of women's suffrage, Marxist-Leninist regime*), socioeconomic factors (*women's educational attainment, women's labor force participation, women in professional occupations, economic development, strength of the women's movement*) and cultural factors (*predominant religious tradition, ratification of CEDAW, legalization of abortion, 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 twenty-country subset of wealthy, stable democracies, defined by Kenworthy and Malami as having GDP per capita in 1994 of over $15,000, and a continuous democracy since 1950.[4]

Degree of 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. *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 by number of female students enrolled in secondary education as a proportion of total students in 1980. Data come from the United Nations (UN) (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, *women in professional occupations* in 1990, is also included for the twenty wealthy, stable democracies, given that women candidates are often drawn from professional occupations (data from the UN [1995]). *Economic development* is measured as GDP per capita in 1994 U.S. dollars, converted using purchasing power parities (data from the UNDP [1997]). The variable is logged to reduce skew.

Following Ramirez, Soysal, and Shanahan (1997), *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. These data come from Ramirez et al. (1997), and are logged to reduce skew.

Cultural Factors: *Predominant religious tradition* is measured with three indicator variables: one each for Catholic, Islamic, and other religious traditions, a category that includes indigenous African religions, Buddhism, Eastern Orthodoxy, Hinduism, Judaism, and countries with no dominant religion. The reference category is Protestant. *Ratification of CEDAW* is a binary variable where 1 denotes ratification and 0 denotes non-ratification. *Legalization of 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, 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 Ordinary Least Squares 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.[5] In addition, because our sample of poor countries is relatively small (n=85), and because it encompasses nearly the entire population of poor countries rather than a random sample, we estimated bootstrapped standard errors, where the regression is re-estimated on each of 1,000 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. This suggests that, if our sample size were larger, these two variables might have become significant as well.

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: Replication of Kenworthy and Malami (1999), Table 3

	Model 1 Complete Sample of 146 Countries	Model 2 Complete Sample of 146 Countries	Model 3 Twenty Wealthy, Stable Democracies
Electoral system	2.10	2.23	5.73
(0=single-member districts; 1=mixed;	.21	.22	.47
2=party lists in multimember districts)	3.35**	3.71**	4.54**
Timing of women's suffrage	-.07	-.08	-.14
(1893-1900)	-.16	-.19	-.26
	-2.09**	-2.51**	-2.59**
Leftist government			.12
(share of seats in national legislative			.22
body held by left parties)			2.12**
Degree of democracy	.35		
(Freedom House measure of political	.09		
rights; 1-7)	.98		
Marxist-Leninist regime	17.55	15.31	
(1=Cuba, Laos, North Korea,	2.14	1.86	
Vietnam)	5.26**	5.25**	
Women's educational attainment	.04		
(share of secondary-school enrollment)	.04		
	.53		

Table 1: Replication of Kenworthy and Malami (1999), continued

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			.20
force)			2.02**
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; Protestant is the	-.42	-.47	-.97
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=Other religious traditions)	-.60	-.68	
	-2.80**	-3.31**	
Ratification of CEDAW by 1988	3.13	3.29	
	.38	.40	
	1.55*	1.70**	
Legalization of abortion	-.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**

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).

The first table 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).[6] 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 following backward stepwise deletion; 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 twenty countries (*leftist government* and *women in 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 wealthy 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 twenty wealthy nations with a sample of eighty-five poor countries, where "poor" is defined as having a 1994 GDP per capita below the threshold of $5,000.[7] The first column in Table 2 simply replicates Kenworthy and Malami's final model for 20 wealthy countries in Table 1. The second column looks at these same 20 countries, but removes the two variables for which there is limited data for poor nations: *leftist government* and *women in professional occupations*. These models demonstrate that Kenworthy and Malami's findings from the full set of cases also hold true when

analyzing only the subset of twenty 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 using the same set of variables, the R^2 for the subset of twenty wealthy countries increases to .87.[8] 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.

Table 2: Comparison of Rich vs. Poor Countries

	Twenty Wealthy, Stable Democracies	Twenty Wealthy, Stable Democracies	Eighty-Five Poor Countries (GDP p.c. < $5,000)
Electoral system	5.73	7.58	2.34
(0=single-member districts; 1=mixed;	.47	.62	.29
2=party lists in multimember districts)	4.54**	6.24**	2.77**
Timing of women's suffrage	-.14	-.17	-.02
(1893-1900)	-.26	-.31	-.06
	-2.59**	-2.75**	-.58
Leftist government	.12		
(share of seats in national legislative	.22		
body held by left parties)	2.12**		
Women in professional occupations	.22		
(female share of professional labor	.20		
force)	2.02**		
Catholic	-10.12	-9.85	.96
	-.97	-.94	.15
	-4.85**	-4.20**	.58
Middle East and North Africa	-20.90	-20.17	-4.46
	-2.00	-1.93	-.71
	-4.85**	-4.07**	-1.83**
Asia and the Pacific	-11.89	-16.00	1.87
	-1.14	-1.53	.30
	-2.64**	-3.31**	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).

By contrast, when analyzing the same variables for the subset of eighty-five poor 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 Middle East and North Africa, yet the coefficients for

these two variables are much reduced. To assess the statistical significance of the differences between rich and poor nations, we conducted a Chow test for group difference for both model specifications shown in Table 2. Differences between rich and poor countries are statistically significant.[9] 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 poor nations, which do not appear to follow the same patterns, are added to the model.[10]

Table 3: Explaining Women's Political Representation in Poor 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**
Timing of women's suffrage	-.02			
(1893-1900)	-.06			
	-.68			
Degree of democracy	1.026			.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		

Table 3: Explaining Women's Political Representation in Poor Countries, continued

Catholic			-3.32	-1.30
			-.52	-.21
			-1.23	-.87
Islamic			-5.35	-1.79
			-.85	-.28
			-2.21**	-1.16
Other religion			-1.77	
(1=other religious traditions)			-.28	
			-.77	
Ratification of CEDAW by 1988			2.89	3.50
			.46	.55
			1.10	1.61*
Legalization of abortion			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 Caribbean			2.53	
			.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).

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 using our subset of eighty-five 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.

Looking first at the political model, we find that level of democracy is significant. This suggests that the finding that democracy has no effect on women's representation in the full sample is likely due to the lack of variation of democratic freedoms among rich nations. When developing nations are analyzed separately, level of democracy is significantly and positively associated with higher levels of women's parliamentary representation. The effect of democracy remains significant and positive in the full model. To assess whether the association between democracy and women's political representation is an artifact of the 1998 data, we also updated the data on these two critical variables with 2005 data from the same sources originally employed by Kenworthy and Malami (2005). Using current data, the association between democracy and women's legislative representation remains statistically significant.[11] It appears that pooling rich and poor countries together in the same analysis masks the significant effects of democratization on women's political representation.

Looking next at the socioeconomic model, women's labor force participation, which was not significant in the Kenworthy and Malami study of both rich and poor 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, discussed below), this substantively meaningful variable regains its significance at the .05 level.

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. 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. Finally, although regional variables are all significant when poor nations are grouped with rich nations, when poor nations are compared only to each other, only Eastern Europe remains statistically significant.

Table 4: Sensitivity of Results to Threshold for Classification as "Poor"

	GDP < $7,500	GDP < $10,000	GDP < $12,500	GDP < $15,000
Electoral system	2.30	2.08	1.89	1.89
(0=single-member districts; 1=mixed;	.30	.26	.24	.24
2=party lists in multimember districts)	3.72**	3.23**	3.01**	2.97**
Degree of democracy	.62	.69	.57	.51
(Freedom House measure of political	.20	.21	.18	.16
rights; 1-7)	1.85**	1.93**	1.64*	1.50*

Table 4: Sensitivity of Results to Threshold for Classification as "Poor", continued

Marxist-Leninist regime	14.62	14.67	14.80	14.64
(1=Cuba, Laos, North Korea, Vietnam)	2.42	2.31	2.36	2.31
	5.00**	4.60**	4.68**	4.56**
Women's educational attainment	.07	.06	.07	.07
(share of secondary-school enrollment)	.12	.11	.11	.11
	1.29*	1.12	1.20	1.22
Women's labor force participation	.09	.12	.12	.11
(share of paid labor force)	.15	.19	.20	.18
	1.46*	1.85**	1.95**	1.80**
Catholic	.05	1.05	1.29	1.55
	.01	.17	.21	.25
	.04	.81	1.04	1.25
Islamic	-1.40	-1.15	-1.01	-.70
	-.23	-.18	-.16	-.11
	-.94	-.73	-.65	-.44
Ratification of CEDAW by 1988	1.19	1.19	1.26	1.29
	.20	.19	.20	.20
	.63	.58	.62	.62
Legalization of abortion	.98	.59	-.02	.15
(1=legal abortion)	.16	.09	-.003	.02
	.60	.33	-.01	.09
Middle East and North Africa	-1.42	-.98	-.86	-1.74
	-.24	-.15	-.14	-.28
	-.74	-.47	-.42	-.90
Eastern Europe	-3.54	-3.62	-3.11	-3.10
	-.59	-.57	-.50	-.49
	-1.76**	-1.66*	-1.53*	-1.50*
R-squared	.46	.41	.40	.38
N	105	114	119	123

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).

In Table 4, we test our final model from Table 3 against different cutoffs for "poor" 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 "poor" only changed the significance in three variables. First, women's educational attainment was significant only at the $7,500 level, but not at any other threshold. Second, women's labor force participation is significant for all thresholds except $5,000. Third, while abortion rights do matter for countries with GDP at the $5000 level, they are not significant when using higher thresholds.

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. Rich countries often 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 poor nations are significantly distinct from the factors that shape variation in women's political representation in rich 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 that, because these models are so robust for rich nations, we do not know more about the factors promoting female legislators in poor nations: the statistical relationships between the hypothesized causal factors are so strong for rich nations that these relationships maintain their overall statistical significance even when poor nations, which fit the model much less well, are incorporated into the sample.

Third, existing models do a very poor job of identifying the factors that promote women's political representation in less-developed 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 rich and poor 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 other variables 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, when controlling for the four Marxist-Leninist regimes, democratic freedoms are significantly associated with increases in women's political representation in

developing nations. This finding should place democratic quality at the center of new theories of women's political representation in poor nations.

New theories of women's representation in poor nations must also re-examine static definitions of culture or ideology. When looking at cultural variables across a worldwide sample, region, religion, and CEDAW ratification are significant, while abortion rights are not. These variables also remain significant when looking at a subset of only rich nations. By contrast, when limiting the analysis to poor nations, regional and religious variables are not significant with the exception of Eastern Europe. We also find that abortion rights, which were not significant with a worldwide model, were significant for the poorest of poor 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" (Norris and Inglehart 2001; Paxton and Kunovich 2003). Norris and Inglehart (2001) further demonstrate that these measures of gender attitudes strongly correlate with level of economic development, although a number of outliers exist. We suggest these measures will provide an important starting place for future analyses of how culture may affect women's legislative representation differently given different nations' levels of economic development, especially if combined with qualitative analyses of what accounts for the measurable variations in attitudes toward women. However, these data are still limited for many countries.

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 paper demonstrates a need for new theorizing about the processes by which women in developing nations gain positions of political power.

NOTES

[1] A fifth variable, leftist government, is not discussed here because Kenworthy and Malami did not have data on this variable for developing nations.
[2] 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 2005:533). However, Paxton (1997) controlled for these nations and still found a negative relationship.
[3] 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 (2003:96) and Norris and Inglehart (2001:132) for additional details.
[4] The twenty 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.
[5] 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 2000), 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.
[6] Models 1, 2, and 3 in our Table 1 correspond to Models A, B, and E in Kenworthy and Malami's Table 3.
[7] Kenworthy and Malami experimented with different threshold levels (between $5,000 and $15,000) for less-developed countries when testing the impact of electoral system structures on women's legislative representation (1999:253). We chose the smallest threshold to represent least-developed countries. The eighty-five poor countries are Albania, Angola, Azerbaijan, Bangladesh, Belarus, Benin, Bolivia, Bulgaria, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote 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.
[8] The R^2 (also known as the coefficient of determination) is a common measure for the goodness of fit of a model. We report the R^2 for our models at the bottom of each table. The R^2 measures how much variability, or variance, in the data set is captured by the variables in the model. If the hypothesized variables explain a relatively high level of the variability in the data, then the model is considered a good fit. Thus, the higher the R^2 value, the more confident we can be that the variables in the model are really accounting for cross-national differences in women's legislative representation.

[9] 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 added in), the test statistic is 5.10, which surpasses the critical value of 2.65.

[10] Kenworthy and Malami conclude that region is a central factor to understanding variation in women's legislative representation, yet several regional variables were dropped in Table 2 to accommodate the small sample of twenty wealthy nations. We therefore also tested the sample of eighty-five 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.

[11] Details are available from the authors upon request. 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. This implies that the timing of democratization may affect women's political representation in developing nations, a possibility we are exploring in other work.

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