

Research Article

Women's Representation: A Comparison between Europe and the Americas

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Prior research on women's representation conducted in various parts of the world has indicated that the type of electoral system, quotas, the timing of women's suffrage, women's participation in the workforce and a country's development all have an influence. In this study all of these characteristics are first investigated for the national parliaments of Europe. In a second step, the robustness of the model is tested by applying it to the Americas. This analysis reveals that the model generated for Europe does not provide a good fit for explaining the extent of women's representation in North, Central and South America. Consequently, it is still impossible to generalise about the state of women's representation.

Introduction

Studies considering the causes of variation in representation levels for women in Western and non-Western states have produced inconsistent results. Differences are explained by a variety of indicators including institutional variables such as the electoral system type; district magnitude; quotas; socio-economic factors such as gross domestic product (GDP) per capita, the percentage of women in the workforce and the year women gained the right to vote; and cultural indicators such as religion (Ballington, 2004; Darcy, Welch and Clark, 1994; Inglehart and Norris, 2001 and 2003; Kenworthy and Malami, 1999; Matland, 1998; Paxton, 1997; Rule and Zimmermann, 1994; Schwandt-Bayer and Mishler, 2005). However, no scholar has tested the results of his or her study with out-of-sample data. This might explain why various studies with different samples have reached diverse findings. This article therefore fills a gap by testing a model relating to women's representation in Europe on data from the Americas. When conducting research on women's representation it is important to see whether the factors considered salient for explaining women's representation in one region of the world retain their significance in another geographical setting.

Despite many differences in the cultural, economic and social realms, and regardless of a greater social heterogeneity in Latin America, the two continents are similar in terms of the current state and trajectory of women's representation. As of May 2007, women comprise 19.8 per cent of the national deputies in Europe and 20 per cent in Latin America. The political representation of women has also increased at a similar pace in both geographical areas from less than 15 per cent in the 1990s to



20 per cent in 2007 (Inter Parliamentary Union (IPU), 2007). This article will gauge whether these similar patterns in women's representation can be attributed to the same factors. If this is the case, then the model computed with data from Europe should also apply to the Americas. In contrast, if the variables that predict female representation in Europe do not explain female representation in the Americas, they will almost certainly fail to do so in other regions of the world, which in addition to being politically, culturally and economically different, do not share parallel developments in women's representation. The remaining sections of this article will discuss the potentially relevant independent variables, the regression results for Europe and their application to the Americas.

Hypotheses

Among the factors potentially associated with women's representation, five major variables are considered in this study: a country's electoral system type, quotas, the years women have had the right to vote, participation of women in the workforce and development.

H 1: Women's representation will be higher under a more proportional electoral system than under a formula that is more plurality based.

With the exception of some studies (for example Inglehart and Norris, 2003), most multiple cross-national investigations have shown that women's representation is higher under proportional representation (PR) than under plurality systems (Champman, 1993; Matland and Studler, 1996; Rule and Zimmermann, 1994; Sawyer, 1997; Schwandt-Bayer and Mishler, 2005). Two main reasons are cited in the literature for why women should perform better under PR. First, parties attempt to diversify their slates to appeal to different constituencies and consequently see the inclusion of women on the electoral list as beneficial. Second, the costs of slating women decrease with a higher district magnitude (Matland and Brown, 1992; Reynolds, Reilly and Ellis, 2005, p. 145). On the voters' side, similar dynamics should also apply. Voters may hesitate to cast their ballot for a woman if she is the only candidate. However, electors might be more inclined to support a woman as one of several candidates. Therefore, women should be more successful under a more proportional than under a less proportional system.

H 2: Countries which either have legally imposed quotas or in which several parties have implemented quota clauses are likely to have more female deputies than countries where there are no quota clauses.

The second institutional factor, quotas, is seen as an efficient method of increasing women's representation (Squires and Wickham-Jones, 2001; Tripp, 2003). In Europe and the Americas, all countries with high female representation in parliament have some kind of quota provision. In Europe, Belgium has legally binding quota rules that guarantee at least 30 per cent parliamentary representation to women. In addition, a considerable number of European parties (15) have enacted party clauses of 30 per cent or higher (International Institute for Democracy and Electoral Assistance (IDEA) and University of Stockholm, 2007). By reason of the relatively widespread use of quotas, they are expected to play a major role in determining women's representation in both parts of the world.

H 3: The longer the time span during which women have been able to vote, the higher their representation will be in parliament.

A socio-economic factor that may have an effect on women's representation in national parliaments is the length of time during which women have possessed active and passive voting rights. In the European context, the time of suffrage extension has varied markedly. For instance, whereas women in Finland gained the right to vote in 1906, women in Portugal and Spain could not vote until 1981 (IPU, 2005). According to Matland (1998) and Kenworthy and Malami (1999), voting rights stand for the political empowerment of women. The theory states that the earlier women gained equal political rights, the earlier they could get involved in politics. In the long run, this involvement should lead to women's political empowerment and to more female deputies.

H 4: As women are more professionally active, their political representation will increase.

A second socio-economic factor that may play a role in determining women's representation is their economic activity rate. If women do not have access to professional opportunities, they will not have the human and financial capital to run for office and it will be less likely for them to be selected by parties as possible representatives (Darcy, Welch and Clark, 1994; Paxton and Kunovich, 2003). Not only does an increase in the percentage of professional successful women enhance the pool of possible candidates, it will also put pressure on political parties to nominate more women. Women who are professionally active and successful might also seek to empower themselves or other women politically. Thus, increased levels of women in the workforce should translate into demands for a more equal representation between the genders (Matland, 1998; Welch, 1977).

H 5: The higher the development of a country, the higher the representation of women in that country.

According to Matland (1998), development leads to a weakening of traditional values, decreased fertility rates, increased urbanisation and greater educational and labour force participation for women and attitudinal changes in the perception of appropriate roles for women. In advanced industrialised nations secular trends toward post-materialist values seem to challenge traditional sex roles and facilitate the entry of more women into positions of power. Therefore, highly developed nations are more likely than less developed ones to embrace a more liberal and egalitarian culture. This adoption of liberal values will lead publics to be more receptive to women's issues and may result in higher demands for an increase in women's political participation (Inglehart and Norris, 2001; Paxton and Kunovich, 2003). The current applicability of this hypothesis will be evaluated in this analysis.

Data and method

This article uses regression analysis to test the correlations between the independent variables (the electoral system type, quotas, the years women have had the right to vote, women's economic activity rate and country development level) and the dependent variable (the proportion of women in the lower house of the national

parliament). First, through OLS linear multivariate regression, a model is computed with national-level data from 30 European countries.¹ Second, the robustness and validity of this computed model is tested out of sample with data from 30 North, Central and South American countries.² The predicted values of women's representation for each American country are calculated by applying the model computed with data from Europe to the appropriate American data. Third, these computed values are contrasted to the real values and the new total sum of squares is calculated. Finally, the new R squared is calculated. For the model to have validity the difference in R squared between the two samples should not differ considerably.

The dependent variable for this study is the percentage of female legislators in the lower house of the national parliaments in April 2007, which was collected from the IPU (2007) database. For the first independent variable, the electoral system type, three categories exist in Europe – proportional systems, semi-proportional systems (mixed systems and single transferable vote (STV) systems) and plurality systems. The fact that there are three system types necessitates the creation of two dummy variables. First, proportional systems are coded one. Majoritarian and semi-proportional systems are coded zero. Second, all semi-proportional systems are coded one and the two remaining systems are coded zero. Data on electoral systems were retrieved from the database Electoral System Design provided by the International Institute for Democracy and Electoral Assistance (IDEA) (2007).

Concerning the second variable, quotas, all countries that either have legally imposed quotas, or in which the majority of parties – calculated by the share of seats – have implemented party clauses of 30 per cent or more, are differentiated from countries in which quota rules are non-existent. The majority principle is selected because if more than half of the seats are distributed to parties that guarantee one-third representation to women, other parties face high pressure to include women in similar numbers on their list. The party clause of 30 per cent is chosen because the United Nations considers a 30 per cent membership in political institutions the critical mass that enables women to exert meaningful influence on politics (United Nations Development Programme (UNDP), 1995, p. 41). In the regression all countries with quotas are coded one, while all other countries are coded zero. Data on quotas were gathered from the Global Database of Quotas for Women established by the International Institute for Democracy and Electoral Assistance (IDEA) and the University of Stockholm (2007).

While the first socio-economic variable, the years women have had the right to vote, is calculated by the author based on the IPU publication, *Women in Politics 1945–2005* (2005), the third factor – women's participation in the workforce – is gauged by the female economic activity rate. The female economic activity rate measures the ratio of female to male economic performance. A percentage of 100 points to an equal contribution of both sexes to the GDP of a country. Lower scores are indicative of a lower input by women to the economic performance of a country, whereas higher percentages reveal the contrary. The data were retrieved from the Human Development Index, which was established by the United Nations Development Programme (2006a).

The final variable, development, is measured by the Human Development Index, which was established by the United Nations Development Programme (2006b).

Table 1: OLS regression – national parliaments of Europe

	B	SE	Sig.
D_PR	8.151	4.330	0.073
D_SemiPR	2.159	4.975	0.668
D_Quotas	7.848	3.606	0.040
Years of women's suffrage	0.142	0.070	0.055
Female economic act. rate	0.234	0.166	0.172
HDI	78.015	30.330	0.017
Constant	-83.590	30.200	0.011

$R^2 = 0.697$, $n = 30$.

The Human Development Index is a composite index measuring average achievement in three basic dimensions of human development – a long and healthy life, knowledge and a decent standard of living. Country scores range from zero to one. High scores indicate a high degree of development whereas low scores point to the contrary.

Results

This regression model shows a highly predictive value and explains women's representation in Europe fairly well. It accounts for nearly 70 per cent of the variance in women's representation. Two factors, the Human Development Index and quotas, are statistically significant. Two additional factors, the years of women's suffrage and the electoral system type, are strong, but not significant. The only factor that appears to be irrelevant is the female professional activity rate (see Table 1).

The model applied to the Americas

The straightforward model computed for the national parliaments of Europe does not provide a good fit for explaining women's representation in the Americas. Table 2 reveals that the predicted values of women's representation differ considerably from the real value. The model predicts an average female representation of 5.8 per cent in the 30 American countries selected for that study, whereas their real representation is nearly 19 per cent, which is three times as high as the predicted value.

When applied to the relevant data for the elections in the Americas, the model explains only 29.1 per cent of the variance in women's representation (the new R squared of .291 is computed by dividing the estimated sum of squares of the initial model, 2,194.35, by the newly computed total sum of squares, 7,541.7). The new R squared is more than twice as low as the R squared of the initial model, and consequently has less explanatory power. The discrepancy between predicted and

Table 2: Real and expected values of women's representation in the Americas

Country	Expected value (%)	Real value (%)
Argentina	15.8	35
Bahamas	8.6	12.2
Barbados	12.6	13.3
Belize	-5.4	6.7
Bolivia	3.5	16.9
Brazil	13.2	8.8
Canada	16.6	20.8
Chile	11.8	15
Columbia	11.3	8.4
Costa Rica	10.7	38.6
Cuba	5.3	36
Dominican R.	-3	19.7
Ecuador	12.6	25
El Salvador	5.4	16.7
Guatemala	-4.9	8.2
Guyana	1.6	29
Haiti	-23.4	4.1
Honduras	-1.2	23.4
Jamaica	-1.4	11.7
Mexico	7.7	22.6
Nicaragua	-3.9	18.5
Panama	11.2	16.7
Paraguay	8.2	10
Peru	8.6	29.2
St Lucia	1.7	18.2
Suriname	4.4	25.5
Trinidad	2.5	19.4
Uruguay	18.1	11.1
USA	15.4	16.3
Venezuela	10	18.4
Average	5.8	18.5

real values and the decrease in the model fit makes it very problematic to conclude that the same factors considered salient in explaining women's representation in Europe also have explanatory power in the Americas.

In fact, a model computed for the 30 American countries with the same five independent variables reveals that, except for quotas, all three other important variables lose explanatory power. The same factors that explain 70 per cent of the variance in Europe only account for 42 per cent of the variance in the new model on North, Central and South America (see Table 3).

Table 3: OLS regression – national parliaments of the Americas*

	B	SE	Sig.
D_PR	0.658	3.082	0.833
D_Quotas	16.806	5.626	0.006
Years of women's suffrage	8.346E-02	0.156	0.605
Female economic act. rate	-169	0.126	0.194
HDI	28.263	16.998	0.109
Constant	1.018	16.143	0.950

$R^2 = 0.424$, $n = 30$.

**In the Americas there are no semi-proportional systems; that is why the model about the Americas only distinguishes between PR and plurality systems (IDEA, 2007a).*

This study demonstrates the difficulties in generalising about the state of women's representation. In the Americas additional and/or different variables from the five indicators presented in the model on Europe must influence women's representation. Specific factors such as the influence of indigenous cultures, the impact of clientelistic parties, or incumbency might be essential to explain further the state of women's representation in the Americas. Future research could highlight these variables. Especially, it would be important to analyse why the factors (the Human Development Index, the years women have had the right to vote and the electoral system type) that are salient in explaining women's representation in Europe appear to be irrelevant for the Americas.

Conclusion

This comparative study offers a two-dimensional evaluation of women's representation. Through regression analysis a model was created that evaluates women's representation in Europe. Yet the same model does not adequately explain the percentage of female legislators in North, Central and South America. Of the four independent variables that bear salience in Europe – the Human Development Index, quotas, the years women have had the right to vote and the electoral system type – only quotas are also important in the Americas.

This study reveals the advantages of testing a model with out-of-sample data. As this evaluation reveals, a study of only one sample might prove spurious when compared to other samples. Only when the results of one study are confirmed with different data does a model gain robustness. This has not been the case with this study. Consequently, it is difficult to generalise about variables that might affect women's representation across regions. If no model can be computed that explains and/or predicts women's representation in various areas of the world, then different factors might apply to diverse geographical settings. Whether this is true or not can only be established by more multidimensional analyses on gender representation. Moreover, an engagement of this kind of research would shed further light on the contradictory findings in gender studies.

Notes

- 1 The 27 member states of the European Union and Croatia, Norway and Switzerland.
- 2 Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Columbia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St Lucia, Suriname, Trinidad and Tobago, Uruguay, USA, Venezuela.

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