

DO INSTITUTIONS MATTER WHEN IT COMES TO ELECTING MORE WOMEN IN
PARLIAMENTS?

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By

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ABSTRACT

Economic, political development and the social standing of women in society have been the widely recognized determinants of women's political representation in parliaments. However the governance institutions like rule of law, control of corruption or the quality of government and its effectiveness, have seldom been studied as the institutions that predetermine economic and political development and women social standing. In order to promote women's political representation we need to consider the importance of governance institutions as predetermining the level of development and the social standing of women in society which will ultimately determine the percentages of women elected. Using the World Bank's governance indicators I find that governance institutions help set the pace of economic and political development, sometimes speeding it up or slowing it down and that through this dynamic governance institutions and policy facilitate or hinder the percentages of women that can be elected in parliaments on any given year. I argue that the better the quality of the institutions in place in terms of the laws, policies in place and their enforcement, the more likely that the status of women in societies improves, and that the higher their status, the more likely more women will be elected in parliaments. I confirm these findings for the year 2011 by looking at governance institutions, human development policies like healthcare, and political quotas for women in parliaments and the public administration.

Para Hugo y Aura

Por la paciencia, dedicación y amor de siempre
Ana Maria Diaz

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1. INTRODUCTION

Several provisions were mandated following the Beijing UN Fourth World Conference on Women in 1995 to promote economic and political rights. Despite these provisions only 20.4% of parliamentary seats globally were held by women in 2011 (Inter-Parliamentary Union 2012), well short of the 30% target set by the UN.

According to the UNDP 1995 Human Development Report, the need to reach this 30% comes from the recognition that women represent roughly half of every country's population and contribute to more than half of the social and economic development in their countries with their domestic reproductive work and their work in the labor markets, yet historically they have had no say in the allocation of societal resources^a. The UN suggests that this failure to link the "care work" and the "paid economy" has resulted in inefficient policies for women and has raised questions not only of economic efficiency but of justice for women.

Furthermore, Ranaboldo and Solana (2008) find that due to the aforementioned division of labor, fewer women than men work on the formal sectors of the economy, and when they do, they get lower-paying jobs. This in addition to their unpaid work limits women's access to use and control of resources slowing down their election in office, firstly by limiting the amount of time they can devote to politics, and secondly from lacking the resources to finance a campaign. The two authors suggest that without resources, women's political activism remains informal at the communal level and far from the formal political institutions like the systems of representation, governmental agencies and the public administration where decisions about the allocation of resources take place.

The importance of more women in public offices resides in the Inter-Parliamentary Union's (2004) finding that when women enter formal political institutions, they prioritize different legislative and political agendas than men. For instance the top 6 agendas advanced by women are related to social issues, family, children youth and the elderly, women's affairs and equality, education, the environment and employment, labor and vocational trainings. The UNDP 1995 Human Development Report estimates that there are more illiterate women in the world than men, but also that only 5% of women worldwide own land. This suggests that through the agendas women prioritize in parliaments, they can better represent their needs and curb current inequalities between men and women in areas like education, land property, credit and labor laws. It also suggests that if women remain underrepresented in governance structures and legislative bodies, their interests, needs and political agendas that may further equality may not be prioritized by their male counterparts perpetuating the current inequality and economic inefficiency this situation entails.

Additionally as the Universal Declaration of Democracy 1997 states that "the achievement of democracy presupposes a genuine partnership between men and women in the conduct of the affairs of society in which they work in equality and complementarity, drawing mutual enrichment from their differences"^b, the current under-representation of women in politics in a great number of countries in the world presupposes grave concerns for the legitimacy of the world's democracies for half of the population is not represented

Although today the debate in the US centers around whether women lack political ambition, suggesting that the gender gap in politics is a "gender gap in political ambition" or that women self-select into professions other than business, law and social sciences, which are the most

common careers for which candidates get chosen (Lawless and Fox 2012), there is still evidence that women make different choices than men because they have different perceived roles and responsibilities in their homes and expectations from their societies, restricting their career potential, especially when it comes to a career in politics^c. Whether one believes or not in gender income and political gaps, there are gaps that are very real. One of them is that of the amount of work women do at home compared to that of their male counterparts (Lawless and Fox 2012). Recently Peña and Pachón (2011) have also found that women view the time spent on childcare and housework as an impediment for communal and political activism in Latin America.

In addition to the limited resources women have to enter politics, Palmer and Simon (2008) suggest that women face extra barriers in the form of cultural and gender stereotypes, no access to the hierarchy of political offices and parties which are usually male-dominated, and in many societies, no access to the minimums required to enter the candidates' pool or "pipeline". Mainly, some level of education and economic resources. According to the authors, without them, the first entry level to politics, the "pipeline", is closed to women.

Matland (1998) , Viterna, Fallon and Beckfield (2008) confirm this finding suggesting that education and entering the labor force are only two of the determinants of women's political representation in parliaments.

Besides the cultural aspects, gender stereotypes also play an important role for women who want to enter politics. As Palmer and Simon 2008 put it, culturally women are expected to nurture and serve their families. These activities can consume all of women's time and the common societal perception is also that to perform them well is a full time and a life time job^d. Women themselves also perceive that joining the labor force or advancing their careers at higher

levels implies a trade-off in which they either give up getting married or having a family^e, or they do both working the now famous “second shift” (Lawless and Fox 2012). Both aforementioned instances illustrate the recent ‘Why Women can’t have it All’ debate^f where women have to trade their careers to become mothers or give up altogether their desire to be mothers prioritizing their careers only.

Additionally, authors like Lawless and Fox 2012 prompt explanations to the gender gap in politics proposing evidence that women are less ambitious than men. This may be the case in the US but by no means has this evidence being proved in alternative countries to make a generalization out of this result.

Although this study recognizes the importance of the previously identified obstacles to women’s representation like ambition and culture, its focus is to identify if governmental institutions can help ease the obstacles for women to enter the “pipeline” or pool of candidates where eventually congresswomen, governors and presidential candidates are selected.

I will be looking at the minimum requisites that precede a candidacy particularly from the institutional point of view, exploring the question about whether institutions in the form of economic and political institutions, as well as policy, can make a difference in women’s election to national parliaments.

This focus on the area of research is supported by the possibility of policy and political reform formulation, focusing on the areas where governments can make a difference by providing the appropriate institutions to enhance women’s political representation and competitiveness in electoral outcomes, while they can also guarantee the enforcement of those proposed institutions.

Furthermore, particular attention is given to institutions in the form of governance and policy because it is through those institutions that governments can level the playing fields between men and women in the medium and long terms, a desirable societal outcome in terms of economic and political development, whether women decide to participate in the political contests or not.

2. LITERATURE REVIEW

Seminal studies in the literature of women's election in parliaments like those of Matland (1998), and Viterna, Fallon and Beckfield (2008), advocate for a common set of conditions which must precede the election of women in parliaments. They look at economic development, the political institutions in place, as well as women's education and their participation in social, economic and political life.

Other studies like those of Norris and Inglehart (2001) attempt to further explain women's political representation adding the impact of cultural and religious values as key determinants of whether women will be elected in their societies or not. What most of these authors confirm is the Inter-parliamentary Union suggestion that women's political participation is inextricably linked to the achievement of civil, economic, social and political rights⁸, so the majority of these studies focus on explaining whether differences between men and women in their economic, political and social standing, translate into differences in the political representation sphere, and whether these can explain women's current under-representation in national parliaments. Most recent studies like those of Chen (2010) and Krook (2009) add to the previous literature

highlighting the role of political institutions measuring the impact of the type of electoral system countries have in conjunction with the implementation of political quotas for women.

In this section I will briefly review the aforementioned established determinants of women's election in parliaments, by going through the seminal studies on the matter and the most recent ones.

2.1 Economic Development

Matland (1998) suggests that cross-national differences in economic development make a difference in the percentages of women elected in parliaments. Using a measure of economic development based on GDP, level of literacy and energy consumption per capita, Matland confirms that as countries develop, women are increasingly integrated in all aspects of public life and this should also include political representation^h. Duflo (2012) confirms this result for developing countries where she finds that economic rights like access to property, land and inheritance protect women from hardships, increase their life expectancy and their prospects of getting an education. Duflo also finds that as education increases, fertility decreases freeing women's time to join the labor force and as this process takes place, the status of women at home increases. Also as women have assets or produce an income, they become more valuable and respected in their societies in addition to the fact that for women being economically productive also enhances the possibility of them receiving more education.

2.2 Political Development

Established studies that explore political institutions focus on the type of electoral system the country has (Norris and Inglehart 2010) or whether the countries have a political gender quota or not (Chen 2010, Matland 1998). What these studies try to explain is whether the political

institutions determine certain levels of political development that in turn, has a role in the percentage of women that are elected in parliaments.

Norris and Inglehart (2001) find that more women are elected under proportional party-list systems than under majoritarian, mixed and other electoral systems. This finding is consistent throughout the literature illustrating that proportional representation is friendlier to women candidates. This type of electoral system diminishes the risk perceived by political parties of including female candidates in their lists (Kunovich and Paxton 2005, Matland 2002, Paxton 1997, and Kunovich 2003), while open lists allow risk-averse parties some “risk diversification” whereby if parties do not fear as much to include women in their lists and lose seats in strategic offices or regions, they are then more likely to include women candidates in their lists.

Chen (2010) compares the effect of gender political quotas in groups of countries with roughly the same proportion of women legislators before the introduction of the quota. She finds that the average level of women legislators for the group of countries with quotas is about 1.52 times as large as that of the countries that did not adopt themⁱ.

2.3 Women Social Standing

Most seminal studies account for the status of women in society either by including variables representing cultural factors or by introducing variables that show how women fare with respect to men in education or the labor force. What these authors try to account for is the prevailing attitude towards women in their societies as a key predictor of number of women elected in national legislatures.

For instance Viterna, Fallon and Beckfield (2008) account for cultural factors using religion, region and the number of years since women's political quotas were implemented as predictors of whether women will be elected in parliaments or not.

Matland (1998), and Stockemer and Byrne (2011) on the other hand look at the social standing of women including their level of education and their participation in the labor force, while Kenworthy and Malami (1999) look at their access to leadership in ministerial positions.

Stockemer and Byrne (2011) argue that to achieve political power women need to make themselves visible in the professional world where they can gain the status that can later facilitate their access to political power. Arceneaux (2001) also finds a second effect on culture from women's participation in the labor force. She finds that as women enter the labor markets they influence societies' values and culture. For example in countries with less professional women, she finds that less women get nominated and elected for office, perpetuating the entrenchment of traditional values and gender roles.

Norris (1997) complements this finding by suggesting that participation in the labor force is a key determinant to increase the pool of women with the experience to compete with men in politics. Matland (1998) supports this argument by suggesting that the skills developed by women in the labor market are necessary to increase their level of political activism. Kenworthy and Malami (1999) take this argument further by suggesting that the type of jobs women take also matter for a career in politics. They provide evidence that women candidates are usually chosen from specific professions like journalism, law and education. Lawless and Fox (2012) expand the group of professions by including business and social sciences as the key professions where potential men and women candidates are more likely to come from.

Finally, Kenworthy and Malami (1999) find that the time in which women acquired the right to vote is important too. Countries with a longer history of women voting have higher percentages of women in parliaments. A similar effect is observed by Chen (2010) regarding quotas where the longer that women have had access to voting, the greater the likelihood that more women are elected in national parliaments.

2.4 Institutions

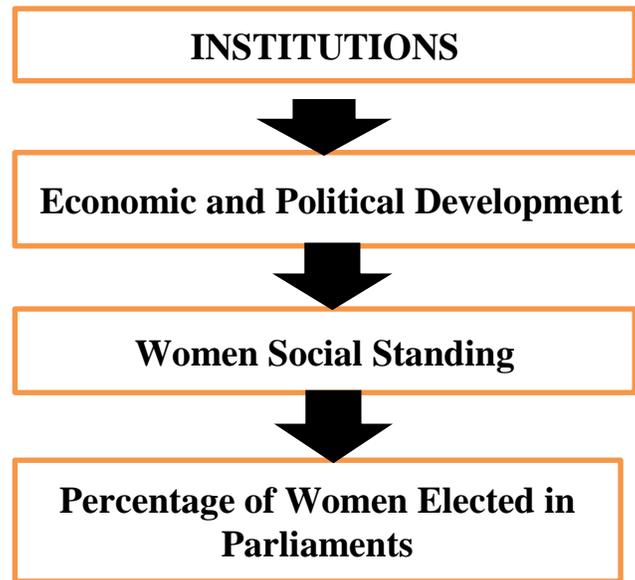
Despite the contribution of the aforementioned studies at finding the determinants for the percentages of women in parliaments, none of them accounts for the governance institutions that precede economic and political development, that in turn define the social standing of women in society. According to North (1991), institutions are relevant when studying economic and political development because institutions set the rules of the game in society, and the constraints that shape human interaction, structuring political, social and economic incentives. As he defines them, institutions can be formal, like constitutions, statute and Common Laws, regulations and property rights, and also informal constraints coming from culture like sanctions, customs, traditions and codes of conduct. In North's view culture can materialize in constraints that in conjunction with formal institutions can affect the enforcement and effectiveness of formal institutions.

3. CONCEPTUAL FRAMEWORK

This paper seeks to improve existing models of the determinants of the percentages of women in parliaments by accounting for the institutions that precede economic and political development and that define women's social standing in today's societies. It intends to explain

the association of institutions with the main determinants of women election in parliaments, namely, economic and political development and women's social standing.

Figure 1: Conceptual Model



The model I will be using in this study is illustrated in Figure 1 where institutions prompt a level of economic and political development as suggested by North (1991) that in turn defines the social standing of women in society, which ultimately is associated with the percentages of women elected in parliaments.

To examine the association of these variables with the percentage of women elected I propose two specifications: specification (1) that uses the three key determinants of institutions, economic and political development and women social standing in their aggregate form, and specification (2) where the aforementioned determinants are disaggregated into their components to observe their individual correlation with the percentage of women elected in 2011.

For specification (1) with the indexes of Institutions, Economic and Political Development and Women Social Standing, the main hypothesis examines whether institutions, in their index form,

are related to the percentage of women elected in 2011. Its secondary hypotheses examine the association of the indexes of Economic and Political Development and Women Social Standing in the year 2010, on the percentage of women elected in 2011.

For Specification (2) the main hypotheses to be tested are the individual variables of the governance institutions. Mainly, whether voice and accountability, rule of law, regulatory quality, political stability, government effectiveness and control of corruption relate to the percentage of women elected in 2011. In this same specification additional hypotheses are tested for the policy institution variables observing the association of public expenditure on healthcare and women's political quotas, on the percentage of women elected in 2011. Finally for this specification, I propose two additional hypotheses that measure the association of women in ministerial positions and women in the labor force, on the percentage of women elected in 2011.

The testing of these hypotheses can help answer the question of whether or not a diversity of institutions in the forms of governance and policy, are associated with the election of women in parliaments.

The determinants of the specifications are described below in more detail.

3.1 Institutions

The seminal works I referenced in the previous sections suggest that the percentages of women in parliaments are determined by economic and political development, and women social standing. However none of the existing studies question what preceded those current levels of political and economic development, or how women got their current rights or lack thereof that determined their social standing. For this reason it is paramount to examine the relation of institutions with economic and political development at setting the social standing of women in

society and at determining the pace of economic and political development. Institutions can sometimes speed up or slow down development through this mechanism facilitate or hinder the percentages of women that are elected in parliaments on any given year.

Following North (1991) I stress the importance of formal and informal institutions. As he points out, both hinder or facilitate economic and political exchange under uncertainty, affecting over time societies' current and future choices by constraining or enabling certain behaviors from individuals. Since institutions provide the framework in which human interactions take place and that countries perform differentially in political and economic terms depending on the institutions they have, it is relevant to investigate the political, economic development and status for women that such institutions enable or restrain.

To accomplish this I explore the importance of institutions in the form of the six governance indicators created by the World Bank, namely rule of law, voice and accountability, political stability, government effectiveness, regulatory quality and control of corruption, which according to Hausmann, Klinger and Wagner, 2008, also allow a measure of institutional quality.

3.2 Economic and Political Development

In addition to institutions, the model I propose accounts for political and economic development as resulting from special laws that enhance women's participation in public spheres of society, like quotas, and efforts of political reform that help shape the political system. According to Tripp and Kang (2008) the rationale of political quotas for women is that affirmative action is the only available way to "fast-track" and provide equitable representation for women. Their argument is that institutions are not "gender-neutral" because not only women are more likely than men to introduce legislation on childcare, health, education, and violence

against women, but electoral systems alone present constraints to the election of more women perpetuating current male dominated legislatures and the status quo. Sen (1999) further corroborates this claim by referring to it as a “structural disadvantage” where the lack of access to the institutions does not allow the excluded to influence those institutions and where the inequities in the governance processes translate into inequity in the opportunities. I classify the quota variable and the time of its implementation as an economic and political development outcome because it requires a deliberate effort on the part of governments to recognize Sen’s finding in order to advance women’s rights that enhance women social standing, and this recognition reflects the level of development of societies. For Sen, as societies develop, the more likely they are to include women in all spheres of social life.

In addition to quotas, political development is also reflected in the type of electoral systems countries have. In the model I propose electoral systems are classified as proportional, majoritarian and mixed, and are used as control variables given that although they are a result of the economic and political development of the country, they are unlikely to change in the short term through policy or without drastic political reform.

Secondly, following Sen (1999) the model proposed also includes aspects of economic development like GDP per capita and measures of human development from deliberate governmental policy, like expenditures on healthcare. As evidenced by Henry and Miller (2008), macroeconomic policy choices account for differences in economic growth^j, suggesting that policy and institutions complement each other. For the purpose of this paper such policies will be reflected in government’s expenditures on healthcare as percentages of their GDP’s, while economic growth is measured as GDP per capita.

Lastly, some authors like Duflo (2011) presuppose that economic rights must precede political rights, while authors like Sen suggest that there is no order in the acquisition of economic opportunities and political freedoms, all are ends in themselves and means for development. For the purpose of this paper I treat economic and political development in the same variable, as I recognize that both interact and operate simultaneously generating the observed differential levels amongst countries in economic growth, political advancement and human development.

3.3 Women Social Standing

As Sen (1999) suggests, the status of individuals in societies can determine their opportunities, choices and capabilities. In this paper women's social standing is understood as Sen's capabilities that result from "individual freedoms" and the social arrangements that enable them, that can in turn be further used to improve those social arrangements^k. Sen further defines capabilities as the ability to avoid deprivations, escape morbidity, premature mortality, obtaining education and enjoying political participation^l.

For this study I translate Sen's capabilities concept as women's participation in the labor force, women's life expectancy, women's opportunities to attain ministerial positions and the time when they acquired the right to vote.

These 4 variables are not only the result of the economic and political development of countries but they have also shown a consistent positive association with the percentage of women elected. The mechanism through which women social standing operates is that as economic development increases, traditional values weaken. This leads to decreased fertility rates, increased

urbanization, greater education and labor force participation for women with a consequential change in the perception of societies of the role of women^m.

The variables proposed in this component suggest measures for the level of integration of women in society through different forms of participation whose existence or lack thereof, define their social standing. For instance, as women in their societies have more access to healthcare and education, the lower the fertility rate they will experience and the higher their life expectancy. Additionally, the greater the economic development of a country, the greater the number of women participating in the labor force (Matland 1998). Also as the percentages of women in ministerial positions increases and the longer women acquired the right to vote, the greater the percentage of women elected as observed by Kenworthy and Malami (1999)

4. EMPIRICAL STRATEGY

To investigate this study's proposed question and test its suggested hypotheses, I estimate an OLS model for the dependent variable, women elected in 2011. The model includes one year lags for the values of the covariates institutions, economic and political development and women social standing, in their aggregated and disaggregate forms, using country-level data of the years 2010 and 2011. The estimation choice intends to account for the dynamic nature of the governance and policy institutions variables that can carry their effects into different periods of time. So using lagged versions of the 2010 policy and governance institutions covariates, as well as for the economic and political development and women social standing variables, the regression model allows recent policies and approved laws be brought into the prediction of the percentage of women elected in 2011.

Equations with lagged variables take the general form:

$$Y_t = \alpha + \beta_0 X_t + \beta_1 X_{t-1} + e_t$$

Where

Y_t is the value of the dependent variable in period t

X_t is the vector of the values of the independent variables in period t

X_{t-1} is the vector of the values of the independent variables in period $t-1$, the lagged one period

e_t = are independently and identically distributed over the whole sample with variance σ_e^2

For the purpose of this study I estimate the model with two equations. Equation (1) for the aggregate version, equation (2) as the disaggregate version:

$$\begin{aligned} \text{WomenElected}_t & \\ &= \beta_1 \text{Institutions}_{t-1} + \beta_2 \text{Economic and Political Development}_{t-1} \\ &+ \beta_3 \text{Women Social Standing}_{t-1} + \varepsilon_t \end{aligned} \quad (1)$$

The above aggregate version shows that percentage of women elected in 2011 is related to the values taken by its explanatory variables in the previous year, making the percentage of women elected in 2011 a function of the values of the covariates in 2010.

$$\begin{aligned} \text{WomenElected}_t & \\ &= \beta_1 \text{Voiceaccount}_{t-1} + \beta_2 \text{Ruleoflaw}_{t-1} + \beta_3 \text{Regulatquality}_{t-1} \\ &+ \beta_4 \text{Politicalstab}_{t-1} + \beta_5 \text{Governeffect}_{t-1} + \beta_6 \text{Controlcorrupt}_{t-1} \\ &+ \beta_7 \log \text{GDPperCapita}_{t-1} + \beta_8 \text{PubHealthExp}_{t-1} + \beta_9 \text{Quota}_{t-1} \\ &+ \beta_{10} \text{Timesincequota}_{t-1} + \beta_{11} \text{ElectoralSyst}_{t-1} \\ &+ \beta_{11} \text{Fertilrate}_{t-1} + \beta_{12} \text{Wominpos}_{t-1} + \beta_{13} \text{Womlabperc}_{t-1} \\ &+ \beta_{14} \text{Womlifexpect}_{t-1} + \beta_{15} \text{Timesincevote}_{t-1} + \varepsilon_t \end{aligned} \quad (2)$$

The above equation shows specification (1) in its disaggregate version.

For specification (1) the main hypothesis to be tested is whether the coefficient of Institutions in 2010, β_1 , is zero. As secondary results I test whether the coefficients β_2 and β_3 of economic and political development and women social standing in the year 2010, are zero too, and that they have no relationship with the percentage of women elected in 2011.

For the second specification in equation (2) I test whether the coefficients β_1 , β_2 , β_3 , β_4 , β_5 , and β_6 of the individual 2010 governance institutions covariates, voice and accountability, rule of law, regulatory quality, political stability, government effectiveness and control of corruption, are all zero and have no relationship with the percentage of women elected in 2011. For this same specification I also test whether the economic and political development component's coefficients, β_8 and β_9 , representing the policy institutions variables public expenditure on healthcare and women's political, are also zero and unrelated to the percentage of women elected in 2011.

And finally in that same specification I test in the women social standing component if the coefficients of the 2010 covariates women in ministerial positions and women in the labor force are both zero, implying no relationship between their coefficients β_{12} and β_{13} and the percentage of women elected in 2011.

Potential multicollinearity problems are addressed in specification (1) with a series of indexes that I constructed serving the double purpose of first, assessing if there are variables in the specifications measuring the same underlying concept more than once, and second, avoiding multicollinearity amongst the variables chosen for specification (2). Using the principal factor

method I construct three indexes for the variables defining institutions, economic and political development and women social standing. Each index is created after standardizing their individual variables to ensure that each variable is measured in the same units.

I report a Cronbach's Alpha and an item-test correlation, that show how correlated each item is to overall index, and if the item belongs in the index.

5. DATA DESCRIPTION

The data used for this analysis was obtained with 2 years of country-level data from the World Bank's Development Indicatorsⁿ and World Governance Index^o; the IDEAS' "Quota Project" Global Database of Quotas for Women^p, and the Inter-parliamentary Union archive of statistical data on Women in National Parliaments. The data on women political quotas was complemented with updated information from Mona Lena Krook^q, particularly for the variable time of the quota that measures the year in which quotas were implemented given that some of these years were missing for some countries in the Quota Project database.

The data was collected for the years 2010 and 2011 for 173 countries worldwide dropping countries with incomplete information in any of the 16 variables proposed in this paper's model. The two-year country level data provides information on institutions as defined by 6 categories of the Worldwide Governance Indicators. These are defined as 6 dimensions of governance: voice and accountability, rule of law, regulatory quality, political stability, government effectiveness and control of corruption. Each indicator is measured on a scale between -2.5 and 2.5, where -2.5 is the lowest value for the index and 2.5 the highest. As shown in Table 1, for the

first specification in this paper the governance indicators are aggregated into an index version of Institutions, followed by a disaggregate version of its indicators.

Table 1: Variable Descriptions	
Index of Institutions	Index constructed with the 6 categories of governance indicators: voice and accountability, rule of law, regulatory quality, political stability, government effectiveness, and control of corruption
Voice and Accountability	Perception of citizens of freedom to voice their opinions and participate in politics (index scale -2.5 to 2.5)
Rule of Law	Perception of agents abiding by the rules of society, property rights and likelihood of crime and violence (index scale -2.5 to 2.5)
Regulatory Quality	Perception of the ability of government to implement policies and regulations that promote private sector development (index scale -2.5 to 2.5)
Political Stability	Perception of the likelihood that the government will be destabilized by unconstitutional means including violence or terrorism (index scale -2.5 to 2.5)
Government Effectiveness	Perceptions of the quality of public administration, policy and services, the credibility in the implementation and the independence from political pressures (index -2.5 to 2.5)
Control of Corruption	Perception to which public power is exercised for private capture of the state by private interests and elites (index scale -2.5 to 2.5)
Index of Economic and Political Development	Index constructed with standardized versions of GDP per capita constant, public expenditure in healthcare and time since political quota implementation
Constant GDP per capita	Natural logarithm of the Gross Domestic Product (constant 2000 in US\$ hundred thousands)
Public Expenditure on Healthcare	Public spending on healthcare, total (% of GDP)
Quota	1 if country has political quota for women in parliaments, 0 otherwise
Time since Quota	Number of years since the political quota for women was implemented (years)
Type of Electoral System	4 types of electoral systems, proportional, majority, mixed, other, taking the value of 1 correspondingly, 0 otherwise
Index of Women Social Standing	Index constructed with standardized versions of fertility rate, percentage of women in ministerial positions, women's life expectancy, percentage of women in the labor force and time since vote
Fertility Rate	Total fertility rate (births per woman)
Women in Ministerial Positions	Proportion of women in ministerial level positions (in percent)
Women's Life Expectancy	Life expectancy at birth, female (years)
Women's participation in Labor force	Proportion of females in the labor force (percent of total labor force)
Time since Vote	Number of years since women can vote
Women Elected in 2011	Natural Logarithm of seats held by women in national parliaments (in percent)

For the first specification of this paper the economic and political development covariates are aggregated into an Index of Economic and Political Development, which I also use in a disaggregate version. Throughout the specifications both are used as measures of countries' institutional development. Economic development is measured with the Log of the GDP per capita, measured in constant US\$ hundred thousands from the year 2000, and also with public expenditure on healthcare, as the percentage of GDP governments spend on healthcare in 2010.

The development of political institutions on the other is measured by 3 variables: the presence of quotas for women's political participation, the type of electoral system and the time in which women could vote for the first time. The type of electoral system can take one of the following 4 types: proportional, majority, mixed and other. Quotas take the value of 1 or 0^r while the time of vote is measured by the number of years since women can vote.

Since one of the objectives of my analysis is to examine the relationship of institutions with women's election in parliaments in the year 2011, I complement the aforementioned measures with the variables in 2010 resulting from the development of economic and political institutions. These are accounted for in the women social standing component and measured by women's life expectancy, the fertility rate, the percentages of women in ministerial positions and in the labor force, and the since women can vote.

The fertility rate is measured by the number of births per woman. Women in ministerial positions and in the labor force are measured as percentages while women's life expectancy is measured by the number of years females are expected to live at their time of birth.

For this component of the model, an index of women social standing is also generated to test the joint significance of this group of variables on the percentage of women elected in 2011.

6. DESCRIPTIVE STATISTICS

Using the principal factor method I generated indexes for institutions, economic and political development and women social standing. The latter two indexes described in this section were generated after standardizing the components of each one of them to make sure that the variables aggregated in each component contribute evenly to the indexes created and that their units match.

Table 2 reports the descriptive statistics for the individual indexes and the disaggregated variables used to construct them.

Table 2: Descriptive Statistics				
Variable	Mean Value	Standard Deviation	Min Max	Cronbach's Alpha
INSTITUTIONS				
Index of Institutions				0.9634
Voice and Accountability	0.1134	0.9887	-2.16 , 1.63	
Rule of Law	0.0973	0.9843	-1.94, 1.97	
Regulatory Quality	0.0286	0.9642	-2.25 , 1.93	
Political Stability	0.1388	0.9383	-2.73, 1.44	
Government Effectiveness	0.033	0.9824	-1.74, 2.25	
Control of Corruption	0.073	1.005	-1.69 , 2.42	
ECONOMIC AND POLITICAL DEVELOPMENT				
Index of Economic and Political Development				0.5504
GDP per Capita (constant US\$2000)	7268	10408	105.5 , 52223	
Public Expenditure Healthcare (% of GDP)	4.03	2.248	0.24 , 11.25	
Time since Quota	6.24	8.668	0 , 46	
WOMEN SOCIAL STANDING				
Index of Women Social Standing				0.6281
Women Elected 2011 (% of seats)	18.29	11.22	0 , 56.3	
Fertility Rate (births per female)	2.837	1.413	1.14 , 7.06	
Women in Ministerial Positions (%)	17.09	12.2	0,63.2	
Women Participation in Labor Force	40.83	9.156	12.35 , 53.66	
Women Life Expectancy (years)	71.35	10.771	46.60 , 86.41	
Time since Vote (years)	58.55	24.87	0 , 118	

The distribution of the Institutions Index is symmetrical with a range of values between -1.74 on the left tail and 2.17 on the right tail. Its index is compounded of the 6 World Bank indicators of governance described on Table 1. For this index the Cronbach's Alpha is 0.9634, suggesting that the 6 indicators measure the same underlying concept^s and their item-test correlation shows that the six indicators correlate highly with the overall index^t. For the Economic and Political Development Index I aggregate 3 standardized items: GDP per capita, public health expenditure and time since the political quota for women was implemented; while for the Women Social Standing Index I aggregated 5 standardized variables: fertility rate, women in ministerial positions, percentage of women in the labor force, life expectancy and the time since vote. Both indexes report low Cronbach's Alphas of 0.5504 0.6281 respectively prompting a sensitivity check whereby the model proposed in this analysis is better specified in its disaggregate form^u.

Table 2 also shows the descriptive statistics for the variables that measure economic and political development. GDP per capita shows a mean value of US\$ 7268 with great outlier values of US\$105.5 and US\$ 52.223 at the extremes of the distribution, while the average public expenditure on healthcare was 4.03% of GDP in 2010, with countries spending as little as 0.24 of their GDP on healthcare, and others to 11.2% of their GDP on this item.

The time since quota variable showing the number of years since countries adopted the quota for women's political representation, shows an average of 6.24 years and a standard deviation of 8.7 years approximately. Its distribution reflects the outlier values of countries like Ghana that adopted political quotas for women 46 years ago, followed by the Nordic countries of Denmark,

Iceland and Norway and European countries like the Netherlands that implemented their quotas between 20 and 30 years ago. The bulk of countries located between 7.5 and 15 years, are the countries of Latin America and the newly created countries in Europe like Macedonia former Yugoslavia and Georgia, who adopted their quotas in the mid 90's after the UN's Beijing's World Conference on Women in 1995^v

Finally the descriptive statistics for the variables that define the standing of women in their societies are as follows: the percentage of women elected shows an average percent value of almost 18,3% worldwide in the year 2011. The extreme values for this variable come at the higher end from African countries like Rwanda that shows the highest percentage of women elected at 56%, followed by countries like South Africa at 45% and the Nordic and European countries like Netherlands who maintain the percentage of women elected in their legislatures at around 40%. The extreme values of 0 of no women elected can be observed in Muslim countries like Saudi Arabia and Qatar.

The variable women in ministerial positions almost mimics the mean values and range of women elected. For instance the percentage of women in ministerial positions is almost 17.09% and the highest percentage of women in such positions is almost 7 percentage points above the number of women elected.

It is also interesting to note that the mean of women's participation in the labor force clusters around the 40.8% value with outliers of 12% coming from countries like Qatar, Syria and Saudi Arabia in which women do not participate in many societal activities that require leaving their homes, like working.

As for the women's life expectancy, the lowest number of years can be found in African countries like Lesotho, Guinea-Bissau and the Democratic Republic of Congo at around 46 years of age.

For the time since vote variable, the lowest number of years at 0, are for countries like Brunei, the Congo and Kuwait, while the highest number of years in which women can vote, is for Australia that granted women the right to vote 108 years ago, followed by Finland at 105.

Finally for the fertility rate variable the average number of children is 2.84. The minimum number of children is 1.14 and the maximum, 7.06. The higher the number of children, the more likely women have to spend more time at home, the least likely they are to work outside their homes, and the more likely that their contribution to society is invisible since they will not be remunerated for their work. Additionally higher fertility rates are associated with lower levels of education and lower levels of participation in the labor force, two key determinants of women social standing in their societies.

7. RESULTS

In this section the empirical results related to the relevant policy variables of interest are first shown for equation (1), with a discussion of the relationships of the indexes of institutions, economic and political development and women social standing, with the percentage of women elected in 2011. Secondary specifications illustrate the association of institutions with economic and political development and women elected in 2011, while additional specifications relate the economic and political development with women social standing and the percentage of women elected in 2011. A last specification illustrates the association between women social standing

and the percentage of women elected in 2011. The second part of this section presents the disaggregate version of the aforementioned results for equation (2).

7.1 Main Results for Equation (1)

Table 2 shows the results of the main specifications outlined in equation (1), where the main determinants of the percentage of women elected in 2011 are estimated as indexes of institutions, economic and political development, and women social standing.

Table 3: OLS Results Dependent Variables: Economic and Political Development, Women Social Standing and Percentage of Women Elected in 2011

	1	2	3	4	5	6
Independent Variables	Economic and Political Development	Women social Standing	Women Elected 2011	Women Elected 2011	Women Elected 2011	Women Elected 2011
Institutions	0.313*** (0.05)			.2032*** (0.04)		0.0627 (0.039)
Economic and Political Development		0.225*** (0.054)			0.36*** (0.036)	0.031*** (0.039)
Women Social Standing			.226*** (0.0414)			0.1423*** (0.039)
R-squared	0.1027	0.0480	0.0826	0.0742	0.2165	0.2615
Number of observations	173	173	173	173	173	173

Standard errors in parentheses

+ p<.10, * p<.05, ** p<.01, *** p<.001

7.2 Main Results Institutions

The results of outcomes (1) and (4) indicate that institutions have a statistically significant effect on the percentage of women elected in 2011, confirming North (1991), whose theory suggests a positive impact of institutions on political and economic development. Also institutions in specification (4) confirm one of the hypotheses of this paper, in which institutions would also have a positive correlation with the percentage of women elected in the year 2011. The direction and magnitude of both coefficients of institutions confirm their positive correlation with economic and political development, as well as with the percentage of women elected in 2011. As the Institutions Index changes by one unit in specifications (1) and (4) the percentage of women elected in 2011 changes by 0.31 and 0.20 units respectively.

It is important to note that for the full index model, outcome (6), the positive correlation of institutions on the individual indexes is not maintained when the institutions index is regressed with the women social standing and economic and political development indexes.

This specification shows that *ceteris paribus*, the effect of institutions on the percentage of women elected in 2011 is not related at any relevant statistical level with the percentage of women elected in 2011. This is what my conceptual model predicts whereby the effect of institutions on the percentage of women elected is captured firstly by the Economic and Political Development index, and subsequently by the Women Social Standing Index.

7.3 Secondary Results Other Variables of Interest

The secondary results in this section help test the individual linkages of my conceptual model of Diagram 1, starting with the Economic and Political Development index, followed by the Women Social Standing Index that jointly determine the percentages of women elected in 2011.

7.4 Economic and Political Development

The two coefficients of the Index of Economic and Political Development show consistent statistically significant results for outcomes (2), (5) and (6). For instance when the Index of Women Social Standing and the percentage of women elected in 2011 are regressed individually on this index, the index shows a positive association with both. For the Women Social Standing Index it confirms the linkage in the conceptual model between economic and political development and women social standing (Diagram 1), while in the second instance it parses out the variation between economic development and the percentage of women elected in parliaments in 2011.

In the full model, outcome (6), the Economic and Political Development Index confirms the theory's positive association of economic development with the percentage of women elected in parliaments.

7.5 Women Social Standing

The coefficients of the Women Social Standing Index also show consistent statistically significant results for outcomes (3) and (6). Outcome (3) confirms the linkage in the conceptual model between women social standing and the percentage of women elected, while outcome (6) shows the variation between women social standing and the percentage of women elected in parliaments in 2011. The positive association of the latter also confirms the prediction of the conceptual model proposed in this paper.

7.6 Main Results for Equation (2)

In the previous section I outlined the tentative results of equation (1), the general specification in its aggregate version. Due to the low Cronbach's Alphas reported for 2 of its three indexes, namely that of the economic and political development index at 0.5504 and that of the women social standing index at 0.6281, a second specification is proposed with equation (2) that shows the disaggregate versions of the indexes in equation (1).

The results for equation (2) are reported in Table 3.

Table 4: OLS Results Dependent Variables: Economic and Political Development, Women Social Standing and Percentage of Women Elected in 2011

	1	2	3	4	5	6
	Economic and Political Development	Women Social Standing	Women Elected 2011	Women Elected 2011	Women Elected 2011	Women Elected 2011
Institutions						
Voice and Accountability	0.434*** (0.085)			0.042 (0.086)		0.282*** (0.067)
Rule of Law	-0.766*** (0.208)			-0.877*** (0.165)		-0.451*** (0.146)
Regulatory Quality	0.548*** (0.122)			0.086 (0.132)		-0.093 (0.106)
Political Stability	-0.0082 (0.08)			0.088 (0.084)		0.055 (0.071)
Government Effectiveness	0.207 (0.189)			0.484** (0.158)		0.55*** (0.128)
Control of Corruption	0.0161 (0.1565)			.433*** (0.117)		0.199* (0.097)
Economic and Political Development						

GDP per Capita	0.08*			0.036	0.0577
	(0.045)			(0.027)	(0.0379)
Public Expenditure on Healthcare	.145***			.105***	0.05**
	(0.032)			(0.019)	(0.018)
Quota	0.276*			0.199**	0.324***
	(0.133)			(0.072)	(0.085)
Time since Quota	0.015**			0.010**	0.00093
	(0.0053)			(0.0046)	(0.0047)
Type of Electoral System					
Proportional	0.257**			0.388**	0.352***
	0.124			(0.067)	(0.076)
Mixed	0.264			0.199	0.147
	(0.138)			(0.1010)	(0.092)
Other	-0.277			0.094	-0,004
	(0.345)			(0.250)	(0.214)

Women Social Standing

Women's Life Expectancy	-0.011				-0.011
	(0.0066)				(0.007)
Women Participation in the Labor Force	0.1334				0.008*
	(0,0596)				(0.0047)
Fertility Rate	-.100**				-0.077
	(0.049)				(0.044)
Women in Ministerial Positions	.054***				0.021***
	(0.0022)				(0.0027)
Time since Vote	0.005**				0.0043*
	(0.0022)				(0.00188)

R-squared	0.2553	0.1296	0.3027	0.1563	0.2734	0.4761
Number of observations	173	173	173	173	173	173

Standard errors in parentheses

+ p<.10, * p<.05, ** p<.01, *** p<.001

7.7 Main Results Institutions

The coefficients of institutions in their single versions show consistent statistical relevance across all specifications, with the exception of political stability that shows no statistical significance in any specification. For outcomes (1), (4) and (6) when the Economic and Political Development Index and the percentage of women elected in 2001 are individually regressed on the 6 governance indicators, all behave like theory predicts. Each indicator, voice and accountability, regulatory quality, control of corruption and government effectiveness, show a positive association with economic development and with the percentage of women elected. Rule of law as expected is negatively correlated to both in all specifications.

7.8 Secondary Results for Economic and Political Development

As this paper intends to examine the relationship between institutions and the percentage of women elected, I review from this component the two policy variables that best reflect the economic and political development of countries: public expenditure on healthcare and implementation of political quotas for women.

In outcomes (2), (5) and (6) when the Index of Women Social Standing and the percentage of women elected in 2001 are individually regressed on public expenditure on healthcare and political quotas for women, both covariates are statistically significant and behave as theory predicts by displaying a positive association with the Index of Women Social Standing as well as with the percentage of women elected in 2011. As outcome (6) illustrates, one can expect a 1% increase in public expenditure as a percentage of GDP, to have a positive association of 0.05 percentage points on the percentage of women elected, while having a quota in place can

potentially translate on a 0.0211 percentage point increase in the percentage of women elected in 2011.

Finally, these results for the individual covariates confirm again the linkage in the conceptual model of Diagram 1, where the level of economic and political development determines women social standing, while they also have a positive association with the dependent variable of interest, percentage of women elected in 2011.

7.9 Secondary Results for Women Social Standing

For this component the covariates of interest are the percentage of women in ministerial positions and the percentage of women in the labor force. The results for these covariates in the women social standing component show statistical relevance and consistency throughout most specifications. When the percentage of women elected in 2011 is regressed individually on the percentage of women in ministerial positions, its coefficients result statistically significant and positively correlated with the percentage of women elected in 2011. In both outcomes (3) and (6) both coefficients suggest positive percentage point changes of 0.0280 and 0.0211 from 1% changes in the percentages of women in ministerial positions.

The other variable of interest in this component, the coefficient of the percentage of women in the labor force, shows no statistical significance when regressed with the Women Social Standing Index, outcome (3). However, when regressed in the full model, with the percentage of women elected in 2011, outcome (6), it turns up statistical significant at all relevant levels and suggests a positive association with the percentage of women elected in that year indicating a positive association of 0.0211 percentage points from a 1% increase in the percentage of women

in the labor force. This confirms the evidence suggested by the literature reviewed for this paper as well as the conceptual model here proposed.

7.10 Other Control Variables

One of the surprising results in all specifications was the consistent lack of statistical significance of the GDP per capita coefficients across all specifications with the exception of outcome (2), when the Women Social Standing Index is regressed on GDP per capita.

Its lack of significance is counterintuitive since pretty much the most important studies reviewed in this paper, Matland, 1998, Viterna, Fallon, and Beckfield, 2008, amongst others, have all found evidence of its relevance explaining the percentage of women in parliaments. Potential explanations for this counterintuitive result will be provided in the discussion section.

On the other hand the rest of the control variables time since quota, type of electoral system, fertility rate and time since vote, all behave as predicted by theory. For example the time since quota and time since vote covariates turn up statistically significant outcomes (2) and (5), confirming their positive association with the percentage of women elected in 2011. The only exception of the covariate time since quota not being statistically relevant is in the full model. This result is discussed in the following section.

An additional control variable highly established in the literature reviewed for this paper and for which I also find confirmation in this study, is that of the type of electoral system.

Since Maurice Duverger's seminal study of the political role of women in 1955, Matland, 1998, Norris and Inglehart 2001, Kenworthy and Malami, 1999, amongst others have all found evidence of the importance of the type of electoral system showing that proportional systems of representation are friendlier to women candidates. My results also confirm this finding obtaining

statistically significant results at the 5% level for this variable, when the omitted category is that of majoritarian systems, which I find negatively associated with the percentage of women elected in 2011, as predicted.

Finally, for the fertility rate control variable the results are as predicted by the theory. In every specification where the variable is included, namely outcomes (3) and (6), both coefficients are statistically significant and correlate negatively to the percentage of women elected in 2011. The magnitudes of the coefficients suggest that for every additional child, the percentage of women elected in 2011 is negatively associated by 0.100 and 0.077 percentage points respectively. As Duflo (2012) confirms for developing countries, the greater the number of children women have, the least likely they are to join the labor force. I suggest that it is potentially through this mechanism that the percentages of women elected in 2011, are negatively affected by the fertility rates prevailing in the countries.

8. DISCUSSION

The results obtained for the variables of interest of this study confirm the predictions of the conceptual model here proposed. The negative values of -0.77, -0.88 and -0.45 that the rule of law indicator takes when included in the outcome of economic and political development as well as with the percentage of women elected in 2011 (Table 3), confirms Collier's (2004) finding that civil war slows down economic and political development. The negative association observed in my results can have 2 possible explanations according to Collier. One is that lack of security impedes investment damaging economic growth. As economic growth is impaired by civil conflict, more civil conflict ensues from the failures in economic development. Secondly, in

the presence of rule of law problems, other institutions like government effectiveness or governmental quality are impaired by it. Collier finds that 95% of the world's production of illegal drugs takes place in territories outside the control of governments, implying that conflict and violence are more likely to occur in those areas with no institutions or presence of the states' authorities. This can not only slow down economic development but political development too. As Collier's theory suggests, additional disruptions from rule of law can spill over other institutions like the ones suggested by my model like government effectiveness or voice and accountability. As governments cannot guarantee a minimum presence and functioning, democratic processes like elections may be interrupted decreasing the chances of political election of all candidates, including women.

The significant results obtained for voice and accountability and regulatory quality confirm both Sen's (1999) and North's (1991) predictions in outcomes (1) and (6) when the dependent variables are economic and political development and the percentage of women. The positive correlation of 0.434 and 0.282 percentage points of the indicator voice and accountability with one unit changes economic and political development and 1% changes in the percentage of women elected in 2011, may confirm Sen in two ways. First voice and accountability capture the level of democratic freedoms and political participation suggested by Sen as necessary for economic and political development. Following Sen, these personal freedoms and democratic systems are more likely to promote economic and political development. Matland (1998) also confirms that as countries develop, women are increasingly integrated in all aspects of public life and for him this includes political representation. This is illustrated in my model with the positive coefficient of 0.282 of the percentage of women elected in 2011.

The positive association of regulatory quality and government effectiveness also seems to confirm North (1991) and Hausmann (2008) by suggesting that regulations and their enforcement have a positive influence on economic development. This is reflected by the size and direction of the regulatory quality coefficient (0.55) in outcome (1) of economic and political development, and further confirmed by the size and direction of 0.48 and 0.55 of government effectiveness coefficients in outcomes (4) and (6) when the dependent variable is women elected in 2011. Both indicators seem to confirm what is observed in countries like Argentina, where it is not only important the existence on paper of laws approving women's political quotas, but also their enforcement and compliance. According to The Quota Project (2013) in Argentina political parties can be subject to fines and penalties for not complying with the 30% of women quotas required on the parties' electoral lists. In the year 2011 the percentage of women elected in Argentina was 37.4%, almost as high as the percentages observed in developed countries like Denmark, 39.1%, and Iceland, 39.7% (Inter-Parliamentary Union, 2013). The quality of the regulation and the government's effectiveness may well be what differentiates Argentina's quota law from those of Brazil, Colombia and Mexico who passed the quota law but have no provisions in it to enforce it. The lack of enforcement shown in the absence of fines might reflect the lower percentages of women in the parliaments observed in those countries in 2011, where Brazil elected only 8.6% women in their parliaments and Colombia and Mexico only 12.1% and 26.2% respectively (Inter-Parliamentary Union, 2013).

Finally, the counterintuitive statistical insignificance in all outcomes of the political instability indicator may be explained by the results obtained in the rule of law coefficients. More specifically, the significant rule of law coefficients may be capturing part of the effect of political

instability, rendering the latter coefficients zero in all specifications where the rule of law indicator is included.

Another apparent counterintuitive result comes from the GDP per capita covariate, only relevant with a small coefficient in outcome (2) of women social standing. This positive association of 0.08 may suggest that GDP per capita works through the women social standing component and as its effect is captured in this component the GDP per capita effect is translated into other variables of women social standing like life expectancy, and lower fertility rates.

The results of the conceptual model's measures of economic and political development, public expenditure on healthcare and quota, also confirm Duflo's (2012) and Krook's (2009) predictions. The first policy institution suggests like in Duflo's model that as women become more valuable in their societies, more social services like healthcare are provided to them and that that in turn increases their social standing in their homes and societies. The consistent positive direction and size of the public health expenditure coefficients 0.145, 0.105 and 0.05 in every outcome where it is included, confirms 2 results predicted in the conceptual model. One, that as Matland (1998) finds, investment in human development are positively correlated with the percentage of women elected, and secondly it illustrates the positive association of human development investment in the social standing of women, which in turn correlates positively with the percentage of women elected in 2011 (outcomes 5 and 6)

Additionally, feminist theorist Krook (2009) and Pande and Ford (2012) find in their models that women social standing is positively associated with the percentage of women elected. Krook finds that a policy like political quotas for women is important for the social representation and status of women in society and Pande and Ford (2012) complement this claim in the World

Bank's World Development Report on Gender of 2012 by suggesting that the adoption of quotas by countries is correlated with the attitudes about women within countries, where they find a positive correlation in the perception that voters have of women, as the percentage of women in parliaments increases. Confirmation of these claims is also found in my conceptual model that displays positive significant consistent coefficients in the 3 outcomes where the policy institution of quota implementation for women is included. The size and direction of the coefficients at 0.199 and 0.324 in outcomes (5) and (6), support the Chen's (2010) and Matland's (1998) models that show that when quotas are approved, the percentage of women elected increases. For 2011 I confirm the same results as the Inter-Parliamentary Union's report "Women in Parliament 2011" that finds that of the 59 countries that had elections in that year, the 17 countries that had political quotas for women did better than their counterparts that held elections in that year and had no quotas. The difference was of 27.4% of seats for women in the countries with the quota versus 15.7% in countries without a quota, confirming that the most expedite way of increasing the percentages of women from one year to another is by implementing political quotas for women.

A similar policy institution supported by the same rational as the political quota implementation is that of the quotas for women in ministerial positions. Confirming Lawless and Fox (2010) and Viterna et al (2008), I find a positive association of the percentage of women in ministerial positions with the percentages of women elected in 2011 in every outcome where the covariate is included. Both outcomes confirm Pande and Ford (2012) who find that women are motivated to run for office when they see other women filling leadership positions. This shows the

“aspirational” effect whereby women may want to follow the steps of the women they see in power, but also the “informational” effect of learning that those positions are opened to them.

The most important control variables in the conceptual model also find confirmation with the outcomes I obtained, namely time since quota, type of electoral system, women’s participation in the labor force and the fertility rate.

For the type of electoral system, I confirm the conceptual model’s prediction of a positive correlation of proportional electoral systems in every outcome where the variable is included. The size and positive sign of its coefficients suggest the proportional system’s positive correlation with the percentages of women elected in 2011. One way to explain these results is as suggested by Matland (1996), who suggests 2 mechanisms by which this variable operates. One is that in proportional systems the risk perceived by party bosses of including women in the electoral lists, is perceived lower, as the risk of including women is balanced with the parties’ stronger established male candidates. Secondly, there is the “macrocontagion” effect whereby political parties respond to the general political pressure from competing parties that include women in their lists. Smaller parties with nothing to lose include women to differentiate themselves in the political arena and larger parties follow them because as rational agents that want to win elections and they fear the potential backlash of voters, especially female voters.

The percentage of women in the labor force shows a positive association with the percentage of women elected in 2011 as predicted by my conceptual model. The explanation for this result can be found in Stockemer and Byrne 2011 where the presence of more women in the labor force is positively associated with the percentage of women elected, either via the increase in the pool of women candidates, or alternatively, via the increase in political activism experienced by

working women from joining unions and professional associations as suggested by Matland (1998).

Other control variables like the time since quota also find confirmation in my conceptual model. This control turns up significant and positively correlated with the percentage of women elected in 2011 in every outcome where I include it. The explanation provided by Chen (2010), is that the longer the quota has been in place, the more likely the percentage of women elected shows a positive association with it. This is certainly the case for the percentage of women elected in 2011 in this study, where one can confirm that the longer the quotas have been implemented, the higher the percentages of women elected in 2011 in those countries. For instance European Nordic countries like Denmark, Sweden, Iceland and Norway that implemented their quotas in the mid 70's have all passed the 40% threshold of women elected in their parliaments (Inter-Parliamentary Union, 2011) and have all passed the 40% threshold of women elected in their parliaments. This evidence may confirm two findings from the theory, one that as women enter politics they break social gender roles stereotypes (Arceneaux 2011) and that as more women get elected, voters learn that women can perform as well as their male counterparts also reducing the voters discrimination observed against women^w (Pande and Ford, 2012)

Finally the fertility rate control shows the predicted negative association with the percentage of women elected in 2011. My model's coefficients confirm in all outcomes where this variable is included, that the greater the number of children, the lower the percentages of women elected. One explanation to this result is as Pachón and Peña (2011) suggest that the more children women have, the more likely women have to spend more time at home and the least likely they are to work outside their homes. This has the double effect of placing women in the "care

economy' where their work is not remunerated, or in the informal sector where wages are lower than in the formal economy. Duflo (2012) also finds that higher fertility rates are associated with lower levels of education and lower levels of participation in the labor force, two key determinants of women social standing, and ultimately of the percentage of women elected.

9. LIMITATIONS

Although this study partially identifies some of the most important determinants of the percentage of women elected in the year 2011, and it identifies several institutions of governance, political reform and public policy that can influence the outcomes of how many women are elected in the year 2011, its limited data of only two years does not allow to account for the full effect of medium and long-term institutional variables.

For instance governance institutions like regulatory quality turn up in some specifications as statistically insignificant in the short-term, but their coefficients may have a greater influence on the percentage of women elected if we used a panel data set that accounted for the trends and accumulated effects of those variables over the years. It is impossible to think that the quality of institutions does not matter in the short and long term, particularly when it comes to the enforcement of laws like in the case of this study, quotas, or human development in the form of healthcare expenditures.

Also, the assumption that the indicators of governance, or for the same matter, the indexes created to account for economic and political development and women social standing, can change one unit from one year to another, is unrealistic, but is part of the limitations of 2 year data set. For instance changes of one unit in the governance indicators, like the ones proposed in

this analysis, are unlikely to happen in the short term. Ongoing regulatory quality or rule of law problems can take years to be dealt with or the political and institutional reforms put in place today may take years to show their effects. Most of the institutional effects are lagged several periods that transcend the lag order of one used here.

To put this into context the difference one unit in the governance index makes I provide the cases of Austria and Botswana. Austria currently has an index of institutions of 1.79. Such a high index implies controlled corruption, no war, law and order, in addition to political stability and government effectiveness. An approximate one unit difference in the index on the negative side would be Botswana with 0.77 score. A one unit increase would imply the amount of changes in rule of law, accountability, political stability and government effectiveness needed in Botswana to reach the level of government efficiency, political participation, freedom of speech and regulatory quality of Austria.

The same observation can be raised for the specifications where policies like healthcare are used as the institutions. Such policies effects can better be assessed in the medium to long term, and as in the case of the aforementioned governance institutions their effects may be biased upwards, if governments increased dramatically their expenditures on healthcare in the last year, or downwards, if economic downturns forced cuts in the budgets of those policies in the previous and current years. Furthermore the effects of investments on healthcare may have delayed effects on the populations and cannot be translated into health benefits or losses from year to another.

Another shortcoming of the data set and in the model specifications was to not account for education as an additional measure of human development. For Sen (1999) and Duflo (2012), it is the joint effect of education and healthcare that determine the level of economic development.

Additionally, the models I proposed try to identify the minimum requirements to enter the pool of potential candidates that run for office and as Lawless and Fox (2012) find, education is a key factor. For the US these authors find that candidates are mostly selected from business, law and the social sciences, and also that some of the women selected by parties to run as candidates come from the public administration. This may entail not only basic levels of education, but likely tertiary levels of education.

Although following Sen (1999), and Duflo (2012), I tried to account for this shortcoming by using an indirect measure of education and introducing a fertility variable in the models whereby lower fertility rates can be interpreted as higher levels of education, it is my conclusion that the models could improve if a direct measure of education was used.

As education as a percentage of GDP is only available in the data of the World Bank and UNDP for a few countries and for a few years, recently some authors like Stockemer and Byrne (2012) have proposed to use the ratio of men to women's education since they consider the expenditure of education as a percentage of GDP, a flawed measure. In the future it may be worthwhile to adjust the models I proposed in this paper with such a measure, regressing the new models with panel data.

Finally as a last limitation, my study does not differentiate amongst the different types of quotas that there exist. Not all quotas are the same, and in this aspect, the quality of the institutions in place makes a difference. For instance in most of Latin America the type quotas adopted were legislated, but with the exception of Argentina, very little enforcement has taken place. In the absence of fines, political parties can voluntarily decide whether they want to fulfill the 30% quota requirement or not. Also, seldom in Latin American public administrations

comply with the 30% quotas required for women in ministries and courts. This is definitely an area for policy intervention where Argentina and Ireland are setting the way to follow. For example in Argentina political parties that do not comply with the 30% quota are fined and in Ireland the lists of parties that do not comply with the 30% quota can be withdrawn from the political contest. Also in Ireland, political parties that decide to ignore women's political quotas are not awarded public funding for their parties.

As for further areas of research, it would be interesting to undertake studies on women's political ambition worldwide like the one that Lawless and Fox did for US in 2012. Until the debate about women's ambition in politics is not clarified, policy-makers will keep looking for reform and solutions in the wrong places.

10. POLICY RECOMMENDATIONS

As this paper has found, as women increase the number of children they have or have a family, they self-select into lower paying occupations that allow them more time flexibility, or they simply opt for unpaid work at home. This result is confirmed in developing countries (Ranaboldo and Solana 2008) and in developed countries like the US (Lawless and Fox 2012)). This invisibility from the economy impairs doubly their possibility of a career in politics because it doesn't allow women to accumulate sufficient assets for a potential campaign, and it renders them invisible to potential political recruiters. For this reason an innovative labor policy like the one implemented in Colombia at the Government Accountability Office could offer a solution. In this organization women with children under 18 years of age are allowed to leave at 3pm every day. By arriving to work earlier, all female employees comply with the 40 hour working week,

but they adjust their schedules to spend more time with their families^x. A flexible labor policy like this one put in place in the public administration can set the example for the private sector. It also retain the women who are already laboring there, but also turn them into visible political candidates to be recruited.

11. CONCLUSION

Overall, the results of this study provide evidence that institutions correlate positively with the percentage of women elected in 2011. The effect of institutions can be translated directly, as was evidenced with some of the governance indexes, or indirectly through policies that affect economic and political development as well as women social standing, two additional determinants of the percentage of women that are elected on a given year.

Proof that governance matters is shown in indicators like rule of law, government effectiveness and control of corruption, which reflect that in the short horizon like the one proposed in this 2-year study, lack of security influences negatively the percentage of women elected by affecting democratic processes, while government effectiveness at applying policy like that of quotas, and control of corruption, which may increase transparency on the execution of governmental budgets, can both increase the quality of institutions and later translate into positive effects on the percentage of women elected.

Additionally, the results in this study also confirm that policies directed at improving human development like those of government expenditures on healthcare, can a positive impact in the percentage of women elected via the economic and political development component suggested in this study, prompting human development as a key determinant of future economic and

political development. To complement the finding that human development also matters, education measurements must be included in the models.

This study also asserts again the importance of institutions in the form of policies like quotas, showing that they fast-track the number of women elected on a given year, providing more support to the seminal studies of the determinants of women political representation referenced in this paper. Quotas remain important and have proved to make a difference in the percentages of women elected as soon as they are introduced, countering the argument that women lack ambition. Since quotas have been implemented, the World Bank's Development Report on Gender Equality calls the attention to the fact that no country has had problems finding candidates to fulfill the quotas.

Finally, this study also finds that current models explaining the variations in women political representation present a fairly clear identification of its determinants, namely economic and political development, political institutions and variables that define the status of women in society. However in order to advance the current literature, future studies could expand on the role of governance institutions operationalizing them with different variables, and regressing those models with panel data sets in order to account for the path dependence of governance institutions.

Lastly, studies on women's political ambition and on women's decision-making in other countries beside the US can contribute to the current debate of whether women really lack ambition or if women in effect self-select as recent studies contend. Studies of this kind could put an end to this debate and identify if the findings for the US are generalized around the world or if there are other underlying reasons affecting women's decisions to running for office.

To conclude, the importance of women in parliaments continues to be the same as ever. Women in leadership positions influence policy outcomes and gender differences reflect different prioritizations and approaches to economic and social policy which can add diversity and different political agendas in societies.

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NOTES

^a According to the UN's Division for the Advancement of Women (DAW)^a, 3.5 billion women contribute to more than half of social and economic development in their countries

^b Inter-Parliamentary Union (Cairo, 16 September 1997) accessed February 24, 2013, <http://www.ipu.org/cnl-e/161-dem.htm>

^c Chen L.J., "Do Gender Quotas Influence Women's Representation and Policies?", *The European Journal of Comparative Economics*, Vol. 7, n. 1, pp. 13-60

^d Palmer B. and Simon D., "Breaking the Political Glass Ceiling". Routledge 2006, pp

^e *Ibid*, pp 3

^f Slaughter A., "Why Women can't still have it All", *The Atlantic*, June 13 2012 accessed online on Oct 26 2012, <http://www.theatlantic.com/magazine/archive/2012/07/why-women-still-cant-have-it-all/309020/>

^g Inter-Parliamentary Union –Geneva 2000, "Participation of Women in Political Life, an Assessment of Developments in National Parliaments, Political Parties, Governments and the Inter-parliamentary Union, 5 years after the Fourth World Conference on Women". Series "Reports and Documents" No 35, pp46

^h Matland R.E., "Women's Representation in National Legislatures: Developed and Developing Countries". *Legislative Studies Quarterly*, Vol. 23, No. 1, February 1998, pp 109-125.

ⁱ Chen L., "Do Gender Quotas Influence Women's Representation and Policies?" *The European Journal of Comparative Economics*, Vol. 7, n. 1, pp. 20, 13-60

^j Peter Blair Henry & Conrad Miller, 2009. "Institutions versus Policies: A Tale of Two Islands," American Economic Review, American Economic Association, vol. 99(2), pages 261-67, May.

^k Sen A., Development as Freedom, pp32

^l Sen A., Development as Freedom, pp36

^m Ibid pp 114

ⁿ <http://data.worldbank.org/data-catalog/world-development-indicators>

^o <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>

^p <http://www.quotaproject.org/>

^q Krook, Mona L., "Quotas for Women in Politics : Gender and Candidate Selection Reform Worldwide. Oxford ; New York : Oxford University Press, 2009

^r It is to be noted that this study does not differentiate amongst the different existing types of quotas, legal, constitutional or voluntary quotas, since the performance of the quota is better measured in combination with the type of electoral system which we also account for here.

^s The Cronbach's Alphas obtained for each were ranked with the following criteria: $> .9$ – Excellent, $> .8$ – Good, $> .7$ – Acceptable, $> .6$ – Questionable, $> .5$ – Poor, and $< .5$ – Unacceptable^s, where the higher the Cronbach's Alpha the better because the correlation between the observed value and the true value is high.

^t The indicators take values between 0.873 for voice accountability the lowest, and 0.977, for rule of law, the most highly correlated.

^u For the Economic and Political Development Index the item-test correlation shows GDP per capita and public health expenditure correlating at around 0.780 each to the overall index, while the time since quota correlates only 0.61. For the Women Social Standing Index the item-test correlation shows the variable percentage of women in the labor force correlating only 0.49 to the overall index while the rest of the variables' coefficients are between 0.71 and 0.75.

^v <http://www.un.org/womenwatch/daw/beijing/>

^w In the Goldberg Paradigm experiment, the study uses hypothetical vignettes of tape-recorded leader speeches to measure explicit statistical discrimination. The study shows that in villages where women have not been elected, men rate women candidates .055 standard deviations below their male counterparts.

^x <http://m.eltiempo.com/justicia/un-revolucionario-paso-en-pro-de-mams-trabajadoras/8785499>