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The Role of Female Agency in Politics: A Global Study, 1850-2000

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Abstract

Over the last 200 years, an upward trend in democracy has been observed both cross-nationally and within nations. Previous studies attributed a major role to the developmental, historical, and more recently diffusional characteristics in explaining this democratization process. Although these predictors are robust predictors of democracy, they neglect the role of gender inequalities in democratic outcomes. In its attempt to overcome this shortcoming, this study introduces the concept of "female agency" to study the impact of gender inequalities on the democratization process. The results of both panel data and cross sectional data analysis show that women's unequal position, both in the private and in the public sphere, are meaningful sources of explanation for within and cross national differences in democracy. This implies that future studies in democratization should include a gendered and capability perspective to have a full understanding of the underlying mechanisms.
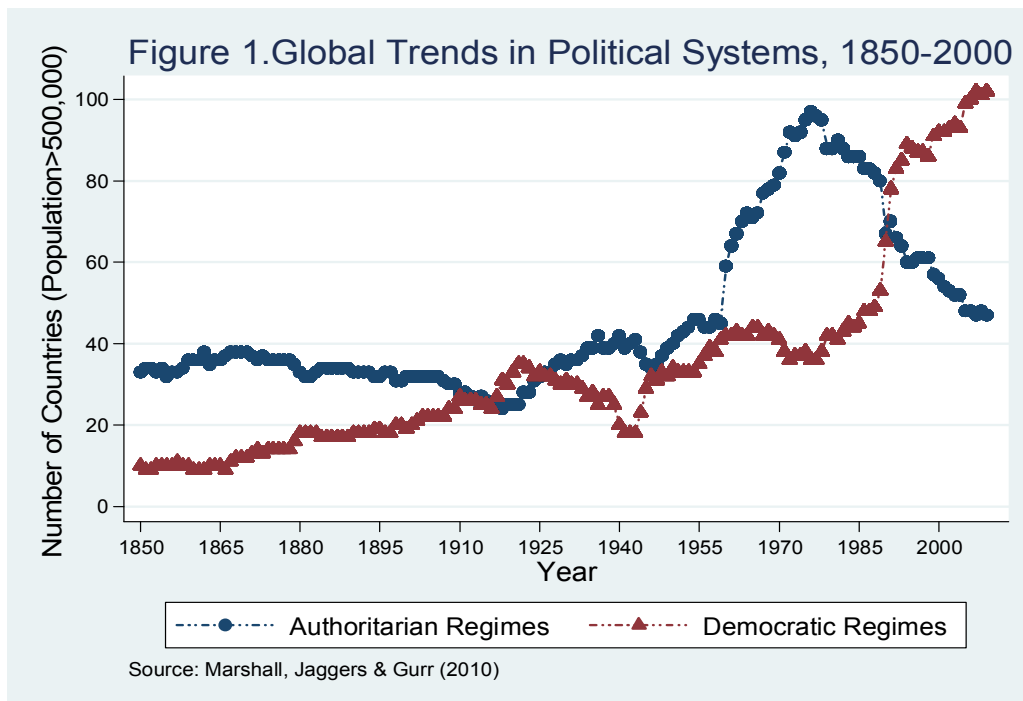
Key Words: female agency, women's empowerment, democracy, political outcomes

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1. Introduction

In the last 200 years, many countries experienced a democratic transition (see figure 1).[1] While this democratization process started in America and some European countries (e.g. UK) from the beginning of 19th century, a substantial number of countries in Europe and Asia became democratic only after the Second World War (e.g., Japan, West Germany). For some countries, the democratic experience was interrupted by a non-democratic transition (e.g., Spain). However starting in the 1970s, the number of democratic transitions was remarkably high and geographically dispersed around the world (i.e., Latin America, Eastern Europe, and Sub-Saharan Africa). This caught the attention of the scholars, policy makers and the public and prompted many attempts to understand what the determinants of this transition are (Wejnert, 2005).

Figure 1.Global Trends in Political Systems, 1850-2000

Source: Marshall, Jaggers & Gurr (2010)

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[1] This graph is made based on the Polity IV data. A world average score was taken based on the unweighted Polity IV index. Information on how the Polity IV index was measured can be found in the methodology part and appendix of the paper.

Democracy has various meanings and different ways of operationalization which are beyond the scope of this study (see Munck, 2003 for a review; Bollen, 2009 for a discussion on the issue). For this study, Bollen's (1990, 1993) and Doorenspleet's (2000) definition of democracy is adopted, in which democracy is a rule to the extent that there is meaningful and extensive competition, sufficiently inclusive suffrage in national elections, and a high level of civil and political liberties. Political and civil liberties are present to the degree that freedom of expression and the freedom to organize groups that can support or oppose the government exist. Democratic rule refers to the accountability of the elites to the general population, where this nearly always manifests itself in the presence of free and fair elections, held at reasonable intervals (Bollen, 2009). The advantage of this definition is that countries are not treated as either democratic or not; but rather, according to where they fall in the spectrum of these two aspects of a continuous concept.

Previous literature on democratization mainly focused on the developmental, diffusional and historical characteristics. The first strand of literature is mainly based on modernization theory and argues that as the socio-economic conditions of the countries improve (e.g., GDP, education, urbanization, etc.), they also become more democratic (e.g., Lipset, 1959; Inglehart, 1997; Murtin & Wacziarg, 2011). The second strand of literature focuses mostly on the diffusional characters. According to the proponents of this view, countries democratize in clusters within regions of the world and this transition happens in waves (Huntington, 1991). For instance, the third wave includes the democratic transition of Southern European countries in the 1970s, Latin American countries in the 1980s, and Soviet bloc countries in the 1990s (Wejnert, 2005). The last strand of literature argues that the historical conditions of a country (e.g., colonial heritage or religious culture) have an impact on the democratic outcomes of societies (e.g.,

Acemoglu et al., 2009; Lipset et al., 1993). Most of these variables are found to be robust predictors of democratization; however, they fail to explain why China is not democratic despite of its high educational attainment and economic development. Similarly in the case of former Soviet Union countries, while Armenia, Moldova, and Ukraine formed democratic political systems, this is not the case for Belarus or Azerbaijan which share the similar historical conditions until the collapse of the Soviet Union. When we look at Latin America, further examples of anomalies can be found. Cuba and Venezuela which rank high in economic development in Latin America have long histories of dictatorship and instability (Almond & Verba, 1989). These examples illustrate that socio-economic development or the diffusional predictors by themselves do not necessarily lead to democratic outcomes in any given context and thus, there is need of alternative explanations. The orthodox political science literature on democratization does not mention any gender aspect (Waylen, 1994), despite the fact that women significantly contributed to the democratization process in Latin America (Jaquette, 1989; Alvarez, 1990). Therefore, an analytical approach that incorporates a gender perspective and follows a bottom-up approach rather than a top-down approach is needed (Waylen, 1994). There are various reasons to incorporate such a gender perspective into the democratization literature.

One of the challenges faced today, both in democratic systems and in the development process, is the position of women. In China, despite rapid economic growth, the sex ratio at birth has worsened continuously since 1970, with acceleration in the 1990s from about 53 percent of boys among all (reported) births to about 57 percent of boys among all (reported) births. Within Asia, the sex ratio at birth in South Korea and Taiwan, both rich countries, is similar to that in China. The gap between girls and boys is closing for primary and secondary schooling, but for

tertiary education, the ratio of females to males has not improved overall, even though participation has risen for both boys and girls. In the labour market, even in developed countries, women who are equally qualified continue to earn less than men at all levels of qualification. Legal rights, particularly property rights, of women remain different from those of men in many countries, even as economies grow (Duflo, 2012, p. 15). Similar disparities also remain in the parliamentary positions held by women. Beside the fact that these gender inequalities mean women are deprived of their basic freedoms (Sen, 1999); they also have consequences for the whole society. They can lead to low human capital, bad governance and lower economic growth (the World Bank, 2001; Klasen, 2002). For this reason promoting gender equality and empowerment of women has been placed in the UN's Millennium Development Goals. The World Development Report highlights that women's agency is crucial for the long term development process (the World Bank, 2011). Although, the link between gender equality and the development outcomes has started to receive more attention in the development literature, these studies mainly focus on socio-economic outcomes[2]; and, less is known about the link between female agency and the democratization process.

Gender equality is crucial for the political institutions adopted by a society. Branisa, Klasen and Ziegler (2009) argue that 'When women have more power, governance is better…In societies with social institutions favouring gender inequality, political systems will be less responsive and less open to the citizens, so that voice and accountability will be reduced'. Fish (2002) examined why Muslim countries are 'democratic underachievers', paying particular attention to how indicators of gender inequality explained the low levels of democratization as measured by the Freedom House Index. Fish concluded that 'women's status is, on the whole,

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[2] There are some exceptions to this statement. The studies of Bernisa et al (2009) and Inglehart et al. (2004) do mention a possible link between gender inequality and democratic outcomes. But these studies mainly focus on the gender inequalities on the institutional level and are mainly based on recent cross-sectional data.

inferior in Muslim societies; and this factor appears to account for part of the link between Islam and authoritarianism' (p. 29). Tocqueville (1835) points out that expanded educational opportunities for females goes hand in hand with a social structure that is more participatory and hence more receptive to democracy. In his empirical study, Barro (1999) found that the gap between men and female schooling is an important determinant of democracy. However, apart from these few examples, the role of women in the democratization process has not received sufficient attention in previous studies. There is still lack of research on what the underlying mechanisms between gender equality and democratization are. There is also room for empirical improvements on the operationalization of female agency and democracy, the time and country coverage to explore the long term relationship on a global scale[3], and the method of analysis applied. Thus, the current study aims to contribute to the previous literature both theoretically and empirically by systematically studying the role of women in the democratization process. The main research question is *to what extent does female agency explain within-nation and cross-national differences in the democratization process?*

The paper has the following structure. First, the main concept of the paper, "female agency" is introduced and the operationalization of this concept is described. Second, a theoretical framework on how female agency can directly influence the democratization process is provided. Third, the interplay between female agency, development and historical indicators and what influence this interplay has on the democratization process is discussed. The fourth section provides a short description of previous predictors of democratization that are taken into account in the analysis. The fifth section introduces the methodology used to test the hypotheses,

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[3] Previous studies mainly focus on the time period from the 1990s onwards where multidimensional gender equality measures are available.

followed by the results section. The last part summarizes the major findings of the paper and discusses their implications.

2. Defining and Measuring Female Agency

Agency is a vague and slippery concept (Hitlin & Elder, 2007). There is a vast literature on this concept of which the usage and the meaning vary depending on the context it is used.[4] In this paper, agency, in simple terms, is defined as the individuals' capacity to make meaningful decisions (Sen, 1999). The term "agency" provides a perspective on the democratization process which not only consider this process on the macro level as a product of strategic elite agreements (e.g., Boix, 2003; O'Donnell & Schmitter, 1986; Acemoglu & Robinson, 2006) or as a result of structural changes (e.g., Doorenspleet, 2004; Inglehart, 1997, Murtin & Wacziarg, 2011); but also takes into account the influence of citizens and mass movements. This article pays particular attention to the female agency which is an angle that lacks in the orthodox political science literature (Wayner, 1994). Thus, female agency will be understood as women's ability to make meaningful choices and take actions related to themselves, their situation in the household, and their situation in the public sphere (World Bank, 2011). Thus, in this context the term agency can be used interchangeably with empowerment. By making use of this term, women are treated as active participants in the process of change (Malhorta, 2003).

Since the conceptualization of female agency differs in the literature, there is also discussion on how to measure female agency in a comparative perspective.[5] For this study, three measures are used as proxies of female agency, namely, the girl power index, the percentage of

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[4] The work by Hitlin & Elder (2007) provides an overview of different usages of the term "agency" by different disciplines.
[5] As with the conceptualization debate, reviewing all the discussions related to measurement of female agency is beyond the scope of this research. For a good review on the discussion, please see Luttrell et al. (2009); for a bibliography, see Esplen (2006)

female seats in the parliament, and the gender inequality index. The girl power index has been developed by van Zanden & De Moor (2009).[6] The girl power index is calculated by subtracting the spousal age gap from age at first marriage of women. The data comes from Carmichael (2011) which is based on various resources such as United Nations, World Bank, Demographic Healthy Surveys, Hajnal (1965), van Zanden & De Moor (2009) and national censuses. Age at first marriage of women and the spousal age gap are continuous variables. Age at first marriage of women is measured using the Singulate Mean Age at Marriage (SMAM) calculation developed by Hajnal (1965). SMAM is the average length of single life expressed in years among those who marry before the age of 50 (United Nations, 2008). The spousal age gap is simply calculated by subtracting female SMAM from male SMAM. This measure is useful for this study in two ways. First, the household and interfamilial relations are a central locus of women's disempowerment (Malhorta, 2003) and the girl power index is based on the position of women in the household. Second, the girl power index allows us to study the relation between female agency and democracy in a historical perspective. This measure can be used as an indicator of women's position in the society in a larger context historically since the girl power index has been tested against contemporary measures of gender equality (i.e., Gender Inequality Index, Global Gender Gap, and Gender Development Index) and it is highly correlated with all these measures of gender inequality (Carmichael et al., 2011).

The percentage of seats held by women in parliament is interesting for this study since it reflects a direct measure of the extent to which women can be influential by actually participating in politics. This data is collected from Women in Parliament, 1945-2003:Cross-National Dataset provided by Paxton et al. (2008). The data covers 204 independent countries. Until 1998, the percentage of seats held by women for the world on average was below 10 per

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[6] As a background paper on Girl Power Index, see van Zanden & de Moor (2009)

cent of the total number of seats. This means that it is relatively low in order to understand the impact of women's participation in politics on the democratization process. Therefore, the data employed on women in the parliament was limited to the current time period. To capture more dimensions of gender equality, the Gender Inequality Index is used. The index gives an indication of the inequality between men and women, measured along health, empowerment and labour market participation dimensions. This index varies from 0 to 1 where 0 means no inequality between men and women and 1 means total inequality. The index was rescaled, so that higher score on the index implies higher gender equality. The data is only available between 1995 and 2011 (5 year intervals) and comes from United Nations Development Programme (2011). Both women's seats in parliament and the gender inequality index are used as explanatory variables in cross-sectional data.

3. Female Agency and Democratization

Previous literature offered few plausible explanations on how and why female empowerment would contribute to the democratization process in a society (Barnisa et al., 2009). One argument is related to the characteristics of women. Women are argued to be more risk-averse and tend to follow the rules. Moreover, women's socialization is more community-oriented and thus, women often represent not only their needs but also the needs of other social groups (Dollar et al., 2001; Swamy et al., 2001). For instance, in countries where female representation was higher, the corruption in government was significantly less (Dollar et al., 2001). Therefore, societies in which women have more agency and are more involved in the decision making process through their economic and political power, will have a political system that is more rule oriented, responsive and accountable compared to a society where women's

participation is oppressed (Barnisa et al., 2009). For instance, Inglehart et al. (2004) found that the link between the percentage of seats held by women in parliament and democracy measured by Freedom House Index was substantial.

Another view argues that women's movements played a major role in increasing the quality of political systems, especially in the Latin American context (Waylen, 1993). Women's movements in Argentina and Chile challenged the authoritarian regime by involving grass roots politics in three forms. The first group of movements was centred on human right issues in which women constitute the majority of their members pressing for social change. A famous example would be Mothers of the Plaza de Mayo who marched every Thursday for their disappeared children. In Chile, the Agrupacion de Familiares de Detenidos-Desaparacidos was mainly composed of women who were actively involved in campaigning against human right abuses. The second form of political movements became important in the 1980s and was based on women's demand for improvement of the economic and social conditions in Peru, Brazil and Chile. The third type of women's organization worked against gender inequality. All these movements played an important role in transitional politics of Latin America since they were an important form of opposition to the authoritarian regimes (Waylen, 1994). These movements were generally composed of middle class women. However, women have not been so influential in every transition. For instance women were less influential in the transition to democracy in Eastern Europe. This implies that there is variation in the extent that women have an impact on politics. One of the causes for this variation can be due to the gender inequalities in the private sphere, namely the household.

Women's role in the household as caregivers as a result of a gendered socialization process is found to be one of the reasons why women are less likely to participate in politics and

less visible in the public sphere compared to men.[7] The position of women in the household is not only important for the public visibility of women, but also has direct implications for the political structures. Scholars of democratization have highlighted the importance of attitudes and values of a nation's residents in transitions to democracy, particularly democratic consolidation (Huntington, 1993; Inglehart, 2000; Meyer et al., 1998; Rizzo et al., 2002; Tessler, 2002). In the transmission of values that work in favour of democratic systems, the family as the main carrier of the socialization process plays a crucial role and that is why women's position in the household could have implications for the democratic system of a society. The study of Inglehart et al. (2004) shows that the support for gender equality is highly correlated with democracy. To the extent that women have the power to be involved in decision making processes in the household and have an equal position to men, would promote democratic values in a society which are expected to be reflected in the political structures of the societies. Furthermore, having an equal position compared to men in the household would lead to a more gender equal society. There would be less inequality between genders in various socio-economic outcomes and women would also be more active in the public space, thus would be active participants in politics. Overall, based on the reasons described above, a direct relationship between the level of female agency and democracy in a given society is expected and the hypothesis is that *as the level of female agency increases in a society, the level of democracy found in these societies will be higher (H1).*

3. Interplay between Female Agency, Development and Historical Characteristics

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[7] There is a vast literature that has found that the condition of women in the household is one of the main reasons for the gender gap in politics. See for instance Verba et al. (1997), Christy (1987), Coffé & Bolzendahl (2010)

The vast majority of research has been devoted to studying the link between economic development and democracy. Lipset (1959) argues that developed countries are better suited for democracies than underdeveloped ones because per capita income causes the creation and the consolidation of democracy. The reason is that economic development increases the desire of citizens for democracy. Huntington (1991) states that "economic growth raises expectations, exacerbates inequality, and creates stresses and strains in the social fabric that stimulate political mobilization and demands for political participation" (p. 69). The study of Welzel & Inglehart (2008) provides a similar argument that development increases people's resources, giving rise to self-expression values, which give high priority to freedom of choice. Since democratic institutions provide the broadest latitude for free choice, people with self-expression values tend to seek democracy. The major effect of modernization on democratization process is that it increases ordinary people's capabilities and willingness to struggle for democratic institutions (Welzel & Inglehart, 2008). Economic development also brings unforeseen cultural changes that transform gender roles, brings more egalitarian gender role attitudes both in private and public sphere. Societies that favour gender equality both in the public and private sphere are also more likely to be democratic (Inglehart et al., 2004). However, the link between economic development and gender equality may not be straightforward. For instance, gender inequality is substantial in Malaysia compared to other Muslim majority countries although it has relatively high economic development. China is another case which experienced high economic development in the last few decades, but gender inequality is still an issue. Thus, we test the hypothesis *in countries where economic development is higher; the effect of female agency on democracy will be stronger (H2).*

Human capital also plays a crucial role in the improvement of political institutions because high levels of education create a class of people with clear interests in high quality political institutions. Increased education thus leads to democracy and enhances the stability of such institutions (Glaeser, Ponzetto & Shleifer, 2007). Tocqueville (1835) points out that expanded educational opportunities were a significant factor for maintaining democracy. Education, as is the case with economic development, can also influence the gender role attitudes and thus the position of women in society. If education promotes more egalitarian gender role attitudes and brings more gender equality to a society, the hypothesis is that *in countries where education is higher, the effect of female agency on democracy will be stronger (H3).*

Next to human capital, religion is found to be a predictor of the democratization process. Modern democracy first developed in Christian countries. In 1988, 39 out of 46 democratic countries were either predominantly Catholic or Protestant, whereas democracy was especially scarce among countries that were pre-dominantly Muslim, Buddhist or Confucian (Paxton, 1988). For this study, it is particularly important to study the link between Islam, gender equality, and democracy since a longstanding debate exists on the compatibility of Islam with democracy and gender equality (Spierings et al. 2009; Ciftci 2010). This view has become especially popular in the scientific literature since Samuel Huntington's controversial 'clash of civilizations' thesis (Huntington, 1993). However, recent studies showed that positive attitudes towards democracy are not significantly different in Islamic societies than in Western well established democracies (Ciftci, 2010), but the differences in democratic outcomes between Muslim majority countries and Western well established democracies is the result of lack of support for gender equality (Rizzo et al., 2007; Norris & Inglehart, 2002; Norris & Inglehart,

2003). Thus, the hypothesis is that *the effect of female agency on democracy would be lower in Muslim majority countries (H4).*

4. Other Contextual Controls

Next to the indicators discussed above, based on the previous literature, additional contextual and regional characteristics are taken into account in the analysis to reduce the omitted variable error bias. Historical factors might have an impact on the differences in the democratization process of the countries (Acemoglu et al., 2009). Colonial heritage is one of the predictors of democracy as whether countries inherit tendencies for more or less political freedom from their previous rulers might have a long run impact on the democratic outcomes in a society (Barro, 1999). For example, Lipset et al. (1993, p.168) argue that British rule provided a crucial learning experience for subsequent democracy. The initial level of democracy, which has been used as a common control variable in the previous literature (e.g., Acemoglu et al., 2009; Glaeser et al. 2007), is also taken into account. This is because the starting point of the countries might influence their long-term development. Additionally, we look at democratic diffusion as a regional phenomenon since countries might adjust to more democratic institutions if the countries around them become more democratic. Lipset (1959) described this as the snowballing effect. As a last factor, the historical events experienced in the last 150 years (e.g., oil crisis) may play a role in the level of democracy. A clear example would be the increasing level of democracy observed around the world after the Second World War.[8]

5. Methodology

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[8] For more information on the historical events, see methodology and appendix sections.

a. Database

To test the hypotheses, data on different measures of democracy and its determinants has been collected from various sources. Since the information on the variables is gathered from different datasets, the number of countries and the time period covered in the dataset vary for each variable. An overview of the sources and information on the data availability of each variable can be found in Table A in the appendix.[9] Although some of the variables such as Polity IV and GDP per capita are available from 1850 onwards, for the other variables, the data becomes available or the coverage of the data becomes significantly better after 1950.

b. Measurement of Democracy

Three indicators of democracy have been analysed in this study. The first variable, the Polity IV index measures the quality of democratic institutions in a country. The data on the Polity IV index is provided by Marshall, Jaggers & Gurr (2010) and covers all the independent states that have a total population of 500,000 or more in the most recent year. The Polity IV index is based on three criteria; competitiveness of political participation, the competitiveness of executive recruitment, and constraints on the chief executive. The scale ranges from -10 (hereditary monarchy) to +10 (consolidated democracy). For the ease of interpretation, the Polity IV index has been standardized to range between 0 and 1 in which a higher score means a higher level of democracy. Many studies in previous literature employed categorical measures of democracy (see Bollen, 2009; Collier & Addock, 1999 for a review). However, a continuous measure of democracy is preferable over a categorical specification since in a categorical measure of democracy, part of the variation within and between countries is lost. The Polity IV

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[9] This table also provides the summary on the content of the variables which is explained below.

index is highly correlated with other democracy indices such as those of Bollen (1980), Arat (1991), Vanhanen (1990), and Gasiorowski (1993) where the correlations range between .85 and .93. This indicates that the Polity IV index is an accurate measure of democracy (Jagger & Gurr, 1995).

Next to the Polity IV, the extension of the franchise is included as a dependent variable. This will be used as an indication of the political rights in a country and is measured based on the percentage of the population that has the right to vote. The reason is that the definition of democracy does not only focus on political rule but also on political rights which is not covered sufficiently in the Polity IV index even though it correlates highly with democracy measures that focus more on the political rights aspect such as the Freedom House Index. For instance, Switzerland has scored a perfect +10 in the Polity dataset since 1848, even though women – roughly half the population – were not granted the right to vote until 1971, 123 years later (Moon et al. 2006). Paxton et al. (2003) provide a continuous measure on suffrage ranking from 0 to 100 in which higher scores on the index means more universal suffrage. This dataset covers the period from 1950 to the present.

As a final dependent variable, the Freedom House Index is used. The Freedom House Index covers 190 countries and is available from 1972 onwards on an annual basis (Freedom House, 2011). This measure is created by combining two measures of political and civil liberties. Political rights assess the right to vote, election meaningfulness, multiple political parties, opposition power, and government independence from foreign or military control. Civil liberties include the freedoms of speech, assembly, and religion and freedom from terrorism or blatant inequality (Burkhart & Lewis- Beck, 1994). Both of these aspects were coded on a 7 point scale. The sum of the two liberties is dived by two to create the Freedom House Index which was

rescaled so that a higher score on the index indicates higher liberty. The Polity IV index and the Freedom House Index are highly correlated with each other and both are used as indicators of democracy in political science and economics literature. However, we employ these two measures separately because while the Polity IV index refers to the institutional arrangements in democracy, the Freedom Index is related to the civil and political liberties that individuals can enjoy in democracies.

c. *Measurement of Development, Diffusion and Historical Characteristics*

To measure economic development, the Gross Domestic Product (GDP) per capita is used which comes from Maddison (2008) data and the log of GDP per capita is taken. Human capital is measured by average years of schooling among the adult population over the age of 25 and is based on the Barro & Lee (2010) dataset. A dummy variable has been created to group countries that have the majority of the population as Muslim and countries that have populations affiliated to the other religious denominations. This variable, called Muslim, is created based on the information collected from La Porta et al. (1999). They provide information on the percentage of the population of each country that belonged to the three most widely spread religions in the world in 1980. The information from La Porta et al. (1999) has been checked against Barro's (2008) data on religious adherence, supplemented by the World Christian Encyclopedia (WCE).

For the historical and regional characteristics, variables that measure the colonial heritage, initial level of democratic institutions, historical events and spatial characteristics in the region related to democracy have been added to the analysis. Colonial heritage is a categorical variable collected from Perrson & Tabellini (2006) which specifically focuses on British and

Spanish colonial history. The first one, British colony, is a dummy variable equal to 1 if a country is a former British colony, 0 otherwise. Spanish colony is also a dummy variable equal to 1 if a country is a former Spanish colony and 0 otherwise. To capture the level of regional democracy, the measure from Perrson & Tabellini (2006) has been used, and is called spatial democracy. They calculated this variable for each country and year based on the regional context of the country. They make use of the Polity scores of the neighbouring countries and consider "alternative sets of weights corresponding to closeness in terms of geography, history or culture" (p18-19).[10] For the initial level of democracy, the Polity score of the countries in the year of independence of the countries has been used, which also comes from Persson & Tabellini (2006) dataset. Historical event is a dummy variable created based on important events that took place in the 20th century, and is from Wejnert (2005). A value of 1 was assigned to the following periods: 1) 1918-1922, end and after World War I, 2) 1933-1939, Great Depression, 3) 1945-1950, after World War II and the UN declaration of Human rights, 4) 1955-1960, UN decolonization act, 5) 1962-1967, collapse of many democracies in Africa, 6) 1975-1985, the effect of world oil crisis, 7) 1989-91, collapse of Soviet Union.

Table2 –Summary Statistics of the Dependent and Independent Variables
(standard deviations reported in parenthesis)

Variable Name	Range	Mean	Number of Countries	Number of Observations
Dependent Variables				
Polity IV index	0-1	.49 (.35)	162	12940
Suffrage	0-1	.77 (.39)	190	7065
Freedom House Index	0-1	.71 (.27)	185	1171
Independent Variables				
Girl Power Index	4.9-37.35	19.49 (4.75)	184	991
Female Seats in the Parliament	0-48.8	7.86 (8.12)	195	6901

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[10] More information on the measure can be found at: http://www.nber.org/papers/w12175

Gender Inequality Index	.4-.88	.42 (.20)	148	632
(Log) GDP per capita	5.33 – 10.67	7.82 (1.00)	166	12198
Average years of education	0-13.27	5.04 (3.18)	144	8583
Muslim	0/1	.19	257	33508
Spanish Colonial Heritage	0/1	.15	179	25267
British Colonial Heritage	0/1	.31	179	25267
Spatial Democracy	-.242-.221	-.02 (.09)	179	25071
Initial Level of Democracy	0-1	.38 (.30)	158	11254
Historical Events	0-1	.30	257	31582

d. *Analytical Strategy*

In order to test the hypotheses, both panel data and cross sectional data have been employed. Prior to analysis, all the continuous variables were centred at their group mean to have a meaningful interpretation of the interaction effects. Three models are used to test the hypotheses. The first model includes the economic development, an interaction term between the girl power index and economic development, and the control variables. The second model tests the interaction term between the girl power index with education whereas the last model is used to test the fourth hypotheses related to the interaction term with religion. The reason to include these predictors separately is that the number of observations is limited which is mainly caused by the girl power index data. Therefore, not to over-specify the model, the hypotheses are tested separately. This strategy was applied to the both analyses of panel and the cross sectional data.

Prior to panel data analysis, a time trend was included. The time variable was centred around 1950, when about half of the countries existed as sovereign states, rather than in 1850 when only 16 sovereign states existed. Hence, the intercept in the growth model represents the average score of democracy in the world in 1950. This is the same strategy as followed by Wejnert (2005). This makes the interpretation of the results easier. The existence of a unit root, an issue that often arises in panel data, has to be considered before testing the effect of independent variables on the dependent variables. Unit root refers to the problem of whether the

variables follow a stationary trend over time or not. If some of the variables are stationary while the other variables included in the regression are not, this would make it difficult to draw meaningful conclusions about the relationship between the two variables. For this reason, cointegration between dependent and independent variables used in the panel data analysis has been tested following the procedure offered by Engle and Granger (1987) by regressing each independent variable on the dependent variable and carrying out a unit root test on the residuals. The notion of cointegration (which means that there is a long term relationship between dependent and independent variables) makes regressions involving variables that have a unit root problem potentially meaningful (Wooldridge, 2006). The results for the Engle and Granger cointegration test are in Table B in the appendix.[11] Based on the results of the cointegration test, the variables are included as level variables rather than taking differences. In the analysis, standard errors that are robust against heterogeneity have been used since the results of the Breush-Pagan test for heteroskedasticity (F (polity) $(9, 320) = 1.71$, p=.08; F (freedomhouseindex) $(9, 20) = 2.79$, p=.03; F (suffrage) $(9, 368) = 11.69$, p=.00) shows that there is a heteroskedasticity problem.

Endogeneity can be an issue when the causal relation between two variables is examined. This problem arises when the explanatory variables are correlated with the error term in the regression, which makes it hard to explore the causal relation between the independent variables of interest and the dependent variable. The independent variables have been tested to see whether they are endogenous, and whether there is a difference between applying ordinary least square (OLS) and instrumental variable estimation techniques by applying the Durbin-Wu-Hausman test. The results of this test can be found in Table C in the appendix. The test results show that

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[11] Since the number of observations in Girl Power Index is very limited over time, the results for cointegration test of Girl Power index is based on interpolated data. s

the girl power index is endogenous in the panel data estimation. Therefore, the two-stage least squares (2SLS) estimation method, which provides the appropriate tools to deal with an endogeneity problem, has been applied to test the panel data.

For the cross-sectional data, the average of the time period between 1995 and 2005 is taken. In this model, the freedom house index is included as a measure of liberties instead of suffrage, since for the recent time period, for most countries, the percentage of the population that have the right to vote is very close to 100 per cent. For the cross sectional data, two alternative measures of female agency, namely the female seats in the parliament and the gender inequality index, are included in the model. With the cross sectional model, a simpler model is tested, meaning additional controls included in the panel data were not included in the cross sectional data, since the number of observations is smaller compared to the model with panel dataset. Thus this model only includes variables that are relevant for the testing of the hypotheses. The same models have been tested with panel data. In order to test the models, ordinary least squares (OLS) regression techniques were applied since in this data we did not encounter endogeneity issues.

6. Results

Table 1 below shows the test results for panel dataset where the Polity IV index is the dependent variable. The results show that in all the models, there is a significant positive relationship between female agency and democracy. A one unit increase in the girl power index, ceterus paribus, leads to .03 (Model 1), .09 (Model 2) and .05 (Model 3) points increase in the Polity IV index. Although this effect does not seem to be large on a 0-1 scale, the difference on the Polity score is quite large when the cross national differences in the girl power index are

considered. For instance, holding all the other variables at 0 value in model 1, the difference between Bangladesh and Japan on the Polity IV index is expected to be .52 in 1965 since Bangladesh has the lowest (4.9) and Japan has the highest score (22.2) on the girl power index. This difference is substantial. Therefore, we find support for the first hypothesis, which stated that as the level of female agency increases in a society, the level of democracy found in these societies would be higher. This result is also supported where suffrage is the dependent variable; however, the relationship between the girl power index and political rights seems to be weaker. The results where suffrage is the dependent variable can be found in the appendix Table D.

The results of Model 1 show that countries that have higher economic development are also more democratic. Contrary to what is expected from the second hypotheses, higher economic development does not lead to a stronger relationship between female agency and democracy. The results of Model 2 show that Muslim majority countries score .32 less on the Polity Index compared to countries with other religious denominations. However, this negative effect of Islam also influences the relationship between the girl power index and democracy where in Muslim majority countries; the effect of girl power index on democracy is much less. These results support the fourth hypothesis which argued that the effect of female agency on democracy would be lower in Muslim majority countries. An interesting finding is that the main effect of education on democracy is not significant in Model 3; however, education does influence the relationship between female agency and democracy. In countries where education is higher, the effect of female agency on democracy is also stronger. This is in line with what is expected from the third hypotheses. These findings were partially supported in the model where suffrage is the dependent variable. In this model, education does not seem to moderate the relationship between female agency and political rights, however, the findings are related to

religion and economic development are consistent. Additionally, there are some controls included in the analysis. Among them, the initial level of democracy is a robust predictor of democracy in all the models whereas the other predictors do not appear to be a significant predictor of democracy. One exception to this statement is that, countries that have a Spanish colonial history also have a smaller share of the population that have the right to vote (see Table D in the appendix).

Table 1. Results for the Panel Data Analysis (2SLS estimation)

	Dependent Variable: Polity IV		
	Model1	*Model2*	*Model3*
Constant	.46*** (.07)	.54*** (.09)	.73 (.09)
Year	.001^ (.00)	.003*** (.00)	-.004** (.00)
Girl Power Index	.03 ^(.02)	.09*** (.02)	.05** (.02)
(Log) GDP per capita	.10* (.05)		
Girl Power*GDP	-.002 (.00)		
Education			.02 (.02)
GirlPower * Education			.004* (00)
Muslim		-.32** (.11)	
Girl Power* Muslim		-.09*** (.02)	
Spanish Colonial Heritage	-.08 (.07)	-.01 (.08)	-.04 (.07)
British Colonial Heritage	.04 (.05)	.05 (.06)	.07 (.06)
Initial Level of Democracy	.31*** (.07)	.21** (.09)	.19** (.07)
Spatial Democracy	.48* (.24)	.22 (.20)	.37* (.19)
Historic Event	-.01 (.02)	-.02 (.03)	-.04^ (.03)
R2	.39	.24	.37
Number of Observations	504	518	384
Number of Groups	116	118	109

Notes: Table entries are unstandardized regression coefficients with robust standard errors in parentheses. ^<.10 *p<.05 **p<.01 ***p<.001 (one-tailed tests). Region dummies were also

included in the analysis. All the regressions in the analysis and family systems from Todd (1985) are used as instruments for girl power index.

When we turn to the results of the cross sectional data, the relationship between female agency and democracy is much stronger. All the predictors of female agency have a positive effect on democracy. A one unit increase in girl power index, ceterus paribus, leads to .01 (Model 1), .01 (Model 2), and .03 (Model 3) points increase in the Polity IV score which is less compared to the results we get from the panel data estimations. The effects of percentage of women in the parliament and gender inequality index (GII) on democracy are higher. A one point increase in the GII leads to .66 (Model 1), .37 (Model 2) and .66 (Model 3) on the Polity IV index whereas a one point increase in the percentage of women in the parliament leads to .50 (Model 1), .72 (Model 2), and .66 (Model 3) on the Polity IV index.

In line with what we found in the panel data estimation, economic development is a positive determinant of democracy. In this model, economic development also moderates the relationship between female agency indicators and democracy. In countries in which economic development is higher, the effect of all the female agency predictors on democracy is stronger. In contrast to what we found in the panel data estimations, the direct effect of education on democracy is also significant in the cross-sectional data. In line with the panel data estimations and what is expected from the theory, the effects of female agency indicators on democracy are stronger when the level of education is higher. Lastly, for all the indicators of female agency, the effect of female agency on democracy is less in Muslim majority countries compared to the countries with other religious denominations. The results we get are almost the same when the dependent variable is the Freedom House Index, for which the results can be found in Table E, in the appendix. This implies that higher female agency also leads to higher civil and political liberties in a society.

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Table2. The Results for the Cross-Sectional Data Analysis (OLS estimation)

	Dependent Variable: Polity IV		
Panel A.	*Female Agency Indicator :Girl Power*		
	Model 1	*Model 2*	*Model3*
Girl Power	.01^ (.00)	.01^ (.006)	.03*** (.00)
Log GDP	.08** (.02)		
GirlPower*LogGDP	.01** (.00)		
Education		.05*** (.01)	
GirlPower*Education		.01*** (.00)	
Muslim			-.43*** (.00)
GirlPower*Muslim			-.04*** (.01)
R2	.22	.29	.47
N	148	148	149
Panel B.	*Gender Inequality Index (GII)*		
GII	.66** (.26)	.37*(.23)	.66*** (.09)
Log GDP	.02 (.04)		
GII*LogGDP	.21* (.10)		
Education		.03** (.01)	
GII*Education		.13*** (.04)	
Muslim			-.44*** (.07)
GII*Muslim			-.78** (.32)
R2	.28	.32	.48
N	138	139	139
Panel C.	*% Women in the Parliament*		
%Women ParlimenT (WP)	.50^ (.34)	.72**(.33)	.66** (.27)
Log GDP	.04 (.03)		
WP*LogGDP	.49** (.19)		
Education		.03*** (.01)	
WP*Education		.04 (.08)	
Muslim			-.31*** (.07)
WP*Muslim			-.91^(.69)
R2	.26	.24	.34
N	153	152	153

*Notes: Table entries are unstandardized regression coefficients with robust standard errors in parentheses. ^<.10 *p<.05 **p<.01 ***p<.001 (one-tailed tests)*

7. Conclusion

Over the past two decades, women have started to gain greater prominence in the development agenda both as a result of the contributions of policy makers and academic researchers. Despite the fact that women achieving equality to men is important in its own terms, several researchers have pointed out that gender equality leads to the improvement of the socio-economic conditions of societies. However, the link between women's empowerment and political outcomes is less clear. This study aimed to contribute to the previous literature by bringing a gender perspective to the study of the democratization process. By employing quantitative techniques on a long time-span data set, the relationship between female agency and democratization has been studied. Three important findings emerge from the study.

First, both in the long run and in the current time period, women's empowerment contributes to the democratic outcomes. Countries that are characterized by higher female agency have higher democratic rule, and higher political and civil liberties. This implies that gender equality is an important component of a well-functioning democracy. Thus, gender inequality appears as a meaningful source of explanation of the democratization process on a global scale and explaining the persistent cross national disparities in the level of democracy. Second, the socio-cultural conditions of the countries influence the relationship between female agency and democracy. Muslim majority countries, in line with previous findings, are less likely to be democratic compared to Western industrialized countries. However as Norris & Inglehart (2003) argued, gender equality appears as the driver of these differences. Education is an important factor that plays a role in women's contribution to the democratic outcomes. Female agency should be strengthened by higher levels of education to promote higher levels of democracy. Third, economic development did not necessarily contribute to the relationship

between women's empowerment and democracy historically, although after 1995 economic development does make the relationship between women's empowerment and democracy stronger. This finding has implications for the link between economic development and gender equality as well. It may be the result of the fact that economic development does not necessarily lead to higher female agency. For instance, there are many developed countries with low levels of female representation, such as the 11.3% female legislators in Japan or 17% in the United States. In contrast, there are also countries with low levels of development and higher female representation, such as 39.2% women in the Parliament in Mozambique (Pande & Ford, 2011). Overall, these findings show that, in the democratization literature, there is a need to include a gender perspective, both to understand the roots of the cross national disparities in democratic outcomes and to have a better overview of the relationship between the indicators of development and democracy.

One of the challenges faced in this study was limited historical data on female agency. Female agency is a multidimensional concept and in order to capture all these different dimensions regarding gender inequality, there is need for additional data. However, it is problematic to find historically relevant measures to capture female agency. For instance, women's participation in the public life, especially in politics is quite limited before the 1950s. However, women were still active in politics through informal forms of political participation (i.e., in women's organizations). Thus, one of the challenges that remains for future study is to explore and find meaningful ways to study women in politics historically, and more challengingly, on a comparative scale.

Appendix:

Table A. Description of the Sources and the Variables

Variable	Description	Source	Scope & Time Period
Dependent Variables			
Quality of Democratic Institutions	The quality of democratic institutions is measured by the Polity IV index. The Polity IV dataset covers all the independent states that have a total population of 500,000 or more in the most recent year. The Polity IV index is based on three criteria; competitiveness of political participation, the competitiveness of executive recruitment, and constraints on chief executive. The scale ranges from -10 (hereditary monarchy) to +10 (consolidated democracy). For the ease of interpretation, the Polity IV index has been standardized to range between 0 and 1 in which a higher score means a higher level of democratic institutions.	Marshall et al. (2010)	187 countries, 1800 to present
Suffrage	Suffrage is measured based on the percentage of the population that has given the right to vote. Paxton et al. (2003) provide a continuous measure on suffrage ranking from 0 to 100 in which higher scores on the index means more universal suffrage. This dataset covers the period from 1950 to present time.	Paxton et al. (2003) and	185 countries, 1950 to present
Freedom House Index	Data on political and civil liberties categories contain numerical ratings between 1 and 7 for each country or territory, with 1 representing the most free and 7 the least free. The sum of political and civil liberties is divided by two to create the Freedom Index. This variable has been standardized to range between 0 and 1 in which a higher score means higher levels of freedom	Freedom House Index (2011)	190 countries, 1972 to present
Independent Variables			
Female Agency in the Household	Female agency in the household is measured by the girl power index which is a continuous variable and is calculated by simply detracting the spousal age gap between partners from the female age at first marriage. Age at first marriage of women and spousal age gap are continuous variables. Age at first marriage of women is measured by Singulate Mean Age at Marriage (SMAM) developed by Hajnal (1965). SMAM is the average length of single life expressed in years among those who marry before age 50 (United Nations, 2008). The spousal age gap is calculated by subtracting female SMAM from male SMAM.	Carmichael (2011)	184 countries, 1540 to 2008, however the data available before 1950 is very limited
Percentage of Women in the Parliament	This variable is continuous and measures the percentage of female seats in the parliament.	Paxton et al. (2008)	204 countries, 1945 to 2007

Gender Inequality Index	This index gives an indication of the inequality between men and women, measured along health, empowerment and labour market participation dimensions. This index varies from 0 to 1 where 0 means no inequality between men and women and 1 means total inequality. The index was rescaled, so that higher score on the index implies higher gender equality.	United Nations Development Programme (2011)	195 countries, 1995 to 2011 (available in 5 year intervals)
Economic Development	To measure economic development, the Gross Domestic Product (GDP) per capita is used. The log of GDP is taken in the analysis.	Maddison (2008)	166 countries, yearly observation available after 1820
Human Capital	Human capital is measured by average years of schooling among the adult population age over 25. The variable is available in five years intervals. The data has been interpolated to get annual observations. More information on the data can be found at http://www.barrolee.com/.	Barro & Lee (2011)	144 countries, from 1950 to 2010.
Religion	Religion is a categorical variable. The data provided by La Porta et al. (1999) provide information on the percentage of the population of each country that belonged to the three most widely spread religions in the world in 1980. Based on this information a dummy variable was created in which countries with Muslim majority population were coded as 1 and the rest of the countries as 0. The information from La Porta et al. (1999) has been checked against Barro's (2008) data on religious adherence, supplemented by the World Christian Encyclopedia (WCE) that has information on the years 1900 and 1970.	La Porta et al. (1999)	257 countries, time invariant
Colonial Origin	This data exclusively focuses on British and Spanish colonial history. Based on these criteria, the colonial history is controlled with two dummy variables. The first one British colony is a dummy variable equal to 1 if a country is a former British colony, 0 otherwise. Spanish colony is also a dummy variable equal to 1 if a country is a former Spanish colony and 0 otherwise.	Perrson & Tabellini (2006) based on Wacziarg (1996)	179 countries, time invariant
Initial Level of Democratic Institution	The initial level of democratic institutions is based on Polity 2 data which is a continuous variable and ranges between 0 and 1. It refers to the Polity 2 score of the countries in their first year of independence. However, this information is missing for some countries.	Perrson & Tabellini (2006)	158 countries, time invariant
Spatial Democracy	To calculate spatial democracy, Perrson & Tabellini (2006) consider "alternative sets of weights corresponding to closeness in terms of geography, history or culture" (p18-19). More information on the measure can be found at: http://www.nber.org/papers/w12175.	Perrson & Tabellini (2006)	179 countries, 1850 to 2000
Historic Event	This is a dummy variable created based on important events that took place in the 20th century. A value of 1 was assigned to the following periods: 1) 1918-1922, end	Wejnert (2005)	time invariant

and after World War 1, 2) 1933-1939, Great Depression, 3) 1945-1950, after World War 2 and UN declaration of Human rights, 4) 1955-1960, UN decolonization act, 5) 1962-1967, collapse of many democracies in Africa, 6) 1975-1985, the effect of world oil crisis, 7) 1989-91, collapse of Soviet Union.

Table B- Results for Engle& Granger (1987) Cointegration Test

	Polity IV	**Suffrage**
Girl Power Index	435.93*** (302)	667.51***(300)
(Log) GDP per capita	420.72*** (302)	594.58*** (298)
Average years of education	316.69** (254)	518.68*** (272)
Spatial Democracy	436.04***(300)	519.81***(340)

Notes: *<.01, ** p<0.05, *** p<0.001. Unit root tests have been applied on the residuals of each regression. The null hypothesis of each test is that all panels contain unit roots. Chi-Square Statistics are reported.

Table C- the Results of Durbin-Wu-Hausman test

	Polity IV	**Suffrage**	**Freedom House Index**
Girl Power Index	-2.27	-2.35	0.53
(Log) GDPper capita	0.26	1.90	0.70
Average years of education	-0.52	2.02	-.04
Spatial Democracy	0.81	0.65	0.34
Women Parliment	0.14	0.62	0.87
Gender Inequality Index	-0.92	0.28	-1.29

Notes: t- statistics are reported to test the null hypothesis: both instrumental variable and least square estimations are consistent. In the model where Polity index and suffrage are the dependent variables, girl power index is endogenous at the p value of .05. The results for women in the parliament and gender inequality index are obtained based on cross-sectional data.

Table D- Results for Panel Data: Dependent Variable Suffrage

	Dependent Variable: Suffrage		
	Model1	Model2	Model3
Constant	.93*** (.11)	.92*** (.13)	.88*** (.11)
Year	-.00 (.00)	-.00 (.00)	.00 (.00)
Girl Power Index	.04* (.02)	.04^ (.02)	.01 (.02)
(Log) GDPper capita	-.05 (.06)		.05** (.02)
GirlPower*GDP	-.006 (.005)		.66*** (.11)
Education			.01 (.02)
GirlPower * Education			.00 (00)
Muslim		-.29** (.11)	
Girl Power* Muslim		-.04* (.02)	
Spanish Colonial Heritage	-.16* (.08)	-.14 ^(.09)	-.14 ^ (.09)
British Colonial Heritage	-.07 (.05)	-.05 (.06)	-.05 (.07)
Initial Level of Democracy	.15* (.07)	.09 (.09)	.09 (.09)
Spatial Democracy	.23 (.27)	.33^ (.22)	.31^ (.21)
Historic Event	-.00 (.04)	-.00 (.03)	.01 (.03)
R2	.10	.24	.13
Number of Observations	394	415	399
Number of Groups	114	121	114

*Notes: Table entries are unstandardized regression coefficients with robust standard errors in parentheses. ^<.10 *p<.05 **p<.01 ***p<.001 (one-tailed tests). Region dummies were also included in the analysis. All the regressions in the analysis and family systems from Todd (1985) are used as instruments for girl power index.*

Table E-Results for Cross Sectional Data with Freedom House Index is the Dependent Variable

	Dependent Variable: Freedom House Index		
Panel A.	**Female Agency Indicator :Girl Power**		
	Model 1	Model 2	Model3
Girl Power	.01^ (.00)	.01* (.006)	.04*** (.00)
Log GDP	.11*** (.02)		
GirlPower*LogGDP	.01** (.00)		
Education		.05*** (.01)	
GirlPower*Education		.01*** (.00)	
Muslim			-.40*** (.03)
GirlPower*Muslim			-.05*** (.01)
R2	.37	.39	.52
N	162	162	163
Panel B.	Gender Inequality Index (GII)		
GII	.29^ (.21)	.44**(.18)	.90*** (.09)
Log GDP	.11*** (.03)		
GII*LogGDP	.25** (.08)		
Education		.04*** (.01)	
GII*Education		.13*** (.04)	
Muslim			-.37*** (.04)
GII*Muslim			-1.06*** (.20)
R2	.45	.45	.53
N	144	144	144
Panel C.	% Women in the Parliament		
%Women ParlimenT (WP)	.37^ (.28)	.64**(.27)	.98** (.25)
Log GDP	.07** (.03)		
WP*LogGDP	.47** (.15)		
Education		.03*** (.01)	
WP*Education		.09^ (.06)	
Muslim			-.21*** (.04)
WP*Muslim			-1.74^(.53)
R2	.38	.32	.33
N	171	171	172

Notes: Table entries are unstandardized regression coefficients with robust standard errors in parentheses. ^<.10 *p<.05 **p<.01 ***p<.001 (one-tailed tests)

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