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## GENDER AND ENVIRONMENTAL SUSTAINABILITY: A CROSS-NATIONAL ANALYSIS ON POLITICAL REPRESENTATION OF WOMEN AND SUBSEQUENT STATE SUSTAINABILITY

Erin O'Sullivan

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GENDER AND ENVIRONMENTAL SUSTAINABILITY: A CROSS-NATIONAL ANALYSIS ON POLITICAL  
REPRESENTATION OF WOMEN AND SUBSEQUENT STATE SUSTAINABILITY

by

Erin O'Sullivan

AN UNDERGRADUATE THESIS

Presented to the Faculty of

The Environmental Studies Program at the University of Nebraska-Lincoln

In Partial Fulfillment of Requirements

For the Degree of Bachelor of Art

Major: Environmental Studies

With the Emphasis of Policy, Advocacy, and Social Justice

Under the Supervision of Dr. Ursula Kreitmair

Lincoln, Nebraska

May 2023

GENDER AND ENVIRONMENTAL SUSTAINABILITY: A CROSS-NATIONAL ANALYSIS ON POLITICAL  
REPRESENTATION OF WOMEN AND SUBSEQUENT STATE SUSTAINABILITY

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University of Nebraska, 2023

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The literature focusing on the relationship between gender and environmental sustainability is vast. Research has focused on how gender relates to pro-sustainable behavior but fails to analyze this beyond individual action. Research has also found positive correlations between women's representation at a state's political level and different factors of state sustainability. However, literature has fallen short on analyzing if there is a causal effect between these factors. This study aimed to fill this gap in the literature and analyzes how the ratio of women in parliament in a state affects the state's environmental sustainability. Although the results showed no statistically significant correlation of this causal relationship, the research can serve as a basis for future analysis. The findings and critiques emphasize the need to develop a consistently calculated dataset of state environmental sustainability that incorporates a multitude of sustainable indicators. By filling the identified gap in the literature and improving the datasets available, the ability to persuade legislators and provide accurate qualitative information can hopefully improve.

### Acknowledgments

This paper would not have been completed without the advice and support of so many. I want to thank Dr. Kreitmair, my advisor, and Dr. Kang, my reader, for always guiding me in the right direction and helping me when I felt overwhelmed. I would also like to thank Dr. Dave Gosselin for always reaching out and his encouragement throughout the entire process. Finally, I would like to thank my best friend, Carrigan Hurst, for being with me throughout my entire college career and never allowing me to go through anything alone.

## Table of Contents

<b>Title Page.....</b>	<b>1</b>
<b>Abstract.....</b>	<b>2</b>
<b>Acknowledgments .....</b>	<b>3</b>
<b>Introduction .....</b>	<b>5</b>
<b>Literature Review .....</b>	<b>7</b>
Factors Influencing Sustainability .....	7
Theories of Gender and the Environment .....	8
Political Status of Women and Sustainability .....	10
Theory and Hypothesis .....	11
<b>Data and Methodology .....</b>	<b>12</b>
Dependent Variable .....	12
Independent Variable .....	13
Controls.....	13
Model Specification .....	14
<b>Results.....</b>	<b>15</b>
<b>Discussion.....</b>	<b>16</b>
<b>Conclusion .....</b>	<b>18</b>
<b>References.....</b>	<b>21</b>
<b>Appendix .....</b>	<b>26</b>
Table 1. First OLS model.....	26
Table 2. Second OLS model.....	27
Table 3. Results of Variables in OLS models .....	28

## **Gender and its Effects on Environmental Sustainability**

Although climate change is one of the largest and most critical global issues, attempts at lessening the crisis's burden vary with other goals, such as economic benefits, placed above climate mitigation. For this reason, it is important to understand the contributing factors that make people pro-sustainability and take action against environmental degradation. This paper aims to identify the potential improvement of a state's environmental sustainability by increasing the representation of women in the state's government.

Sustainability pushes beyond the short-term political cycle or business quarters. The rewards of a sustainable lifestyle are neither immediate nor guaranteed. Understanding what and how the factors contribute to pro-sustainable attitudes is critical for learning how to expand these attitudes to those who do not see the point of sustainability. Those who are less likely to be sustainable could then have campaigns targeted directly at them. Environmental activism would increase efficiency and current populations can best prepare for the future. The more information available on different ways to increase sustainability will only be an asset in protecting current generations' futures.

Previous research has studied the links between individuals' demographics and sustainable attitudes. Certain religions cultivate a shared view of life that results in its members being more likely to be pro-sustainable (Minton et al., 2015; Woodrum & Wolkomir, 1996). Accessibility to information on the topic of sustainability can be crucial for those without an interconnected view of the world. With more education, an individual will be better prepared to understand scientific jargon used within environmental sustainability. Education also gives individuals a higher chance of being introduced to the topic in general. A high income can have similar

effects as it allows for continued education as well as the ability to focus on problems outside of day-to-day survival (Kollumus & Agyeman, 2002; Minton et al., 2015). These factors, though, can be relative to the country or culture individuals are a part of. A common link across all, however, is gender and its linkage to pro-sustainable attitudes. With the consistent finding of gender having a significant influence on sustainability, their relationship has been further analyzed to determine the generalizability.

Climate change often has a large, disproportionate burden on marginalized and vulnerable communities. As climate change's effects accelerate, it is becoming clearer that taking an inclusive, holistic approach is needed to address the crisis. However, there is little literature regarding how the empowerment of marginalized communities may impact environmental sustainability. Researchers have made progress in studying how women empowerment, specifically increasing political power, is linked with states ratifying more international environmental treaties and lower climate footprints (Norgaard & York, 2005; McKinney & Fulkerson, 2015). Many of these links between representation of women and environmental sustainability have fell short of analyzing a causal relationship between the two factors. This thesis will aim to expand upon this body of research using ordinary least square regression analysis using data the environmental performance and women in parliament of 160 states.

This paper first discusses the definition of environmental sustainability and factors that contribute to having a pro-sustainable attitude. Past research will be used to explain gender's impact on individuals and how it relates to sustainability. From here, a theory of gendered behavior and attitudes is developed, adapted to sustainability, and used to hypothesize the

relationship of women in parliament and state sustainability. In the paper's fourth section, the methods to test the hypothesis are discussed. This is followed by the results of the analysis and a discussion on its implications. Lastly, the paper's limitations and possible future research are explored.

## **Literature Review**

### Factors Influencing Sustainability

First, an understanding of sustainability is needed before learning what inspires it. Sustainability has been examined in a multitude of disciplines. Although there are numerous definitions, sustainability will refer to environmental sustainability or the capacity to uphold characteristics of the physical environment (Sutton, 2004, p. 11). Individuals may want to continue the quality of the environment for their own personal usage and/or enjoyment. Others may push for sustainability so other living things can continue the usage of the physical environment. Environmental sustainability is not a small feat. There is no direct reward nor a guarantee that the individual practicing environmentally sustainable acts will experience the benefits themselves. Therefore, the factors that contribute to being pro-sustainable must have a significant influence on the individual.

Factors with a significant influence on the individual are those that contribute to their beliefs, accessibility of resources and information, and how they have been treated by those around them. Those with strong ties to the same religion often have similar belief systems. Individuals practicing a religion emphasizing interconnectedness between humans and the environment are the most likely to engage in pro-environmental behaviors (Minton et al., 2015;



Woodrum & Wolkomir, 1996). Besides values, those with higher education and higher income are more likely to be pro-sustainable. Higher education exposes the individual to complex topics and better prepares them to understand the jargon used in sustainability discussions. Education also increases the chances of an individual to formally learn about sustainability. A higher income provides individuals the ability to participate in more education and the ability to focus on sustainability instead of simply surviving day-to-day (Kollumus & Agyeman, 2002; Minton et al., 2015). In addition to income, accessibility to knowledge and behaviors is not equally shared by all. Demographics that deter individuals from having this accessibility, such as gender, should therefore be a deterrence in pro-sustainable behavior. Access to schooling, especially science education, is greatly impacted by gender and continues from elementary to higher education (Erwin & Maurutto, 1998). Even with lower education levels, however, women are more likely to be pro-sustainable (Kassinis, et al., 2016; Olsson & Gericke, 2017).

### Theories of Gender and the Environment

Feminist ideology largely agrees that society is set up in a way that causes women to be less powerful than men. Theorists have described the formation process of the state to be gendered, the state to be patriarchal and capitalist, and how gender is used as a form of social regulation in state policy (Howell, 1997; Plumwood, 1986). Ecofeminism emerged in the 1970s and links the patriarchal domination over women with the domination and destruction of nature. The factors and systems that devalue the environment are viewed as inherently gendered. Evidence used to connect the domination of the environment and woman includes religious imagery, symbolic and literary representations, language feminizing nature, and

empirical research suggesting the consequences of environmental degradation disproportionately affect women (Warren, 2000).

The more powerful male population disproportionately benefits from the systems and structures that discriminate against women and degrade the environment. Any change in this system is a threat to the current order and hierarchical status of males. Researchers have built off loss aversion theory and ecofeminism to suggest that this will cause men to perceive higher psychological costs to climate change protection than women (Bush & Clayton, 2022; Knobloch et al., 2019). This theory is supported by numerous studies finding a gender gap in concern for climate change and pro-sustainable behaviors (Davidson & Freudenburg, 1996; Szagun & Pavlov, 1995; Zelezny et al., 2000).

Whether it is before the child is born or at birth, the moment the child's sex is known stereotypes are forced onto them. These stereotypes and perceptions are based upon a binary view of gender with male meaning boy and female meaning girl (Schwarz & Fulton, 2017, p. 21). Gender socialization research focuses on how parents' perceptions, such as the previously mentioned ones, and outside familial factors result in a child's perception of gender roles (Carter, 2014). Through socialization, or learning from things around you, children's perception of gender and sex-role stereotypes are internalized by preschool (Drabman et al., 1981). This continues into adulthood and is used to explain why research finds women are perceived as more altruistic while men are perceived as more achievement focused (Zarbatany, 1985; Rigdon & Levine, 2009). However, there is little evidence to suggest that women perform more altruistic acts. Nevertheless, women are more likely to perform altruistic acts when the act comes at a higher price to perform (Rigdon & Levine, 2009, p. 13). Gender socialization theory

is used to explain many of the findings of gender differences. It is also the common explanation for the widely accepted finding that companies adopt more sustainable practices and policies as the number of women on company boards increases (Carter et al., 2003; Kassinis et al., 2016; Shoham et al., 2017). Although not directly comparable to a political structure, these findings support the idea that gender not only plays a role in shaping beliefs but actions as well.

#### Political Status of Women and Sustainability

Norgaard and York (2005) were some of the first to apply the established gender gap in environmental concerns and pro-sustainable attitudes to outcomes in government. They examined the correlation between representation of women in national Parliament and international environmental treaty ratification. Their study found a strong association of the two variables with countries being more likely to ratify an environmental treaty when there is a higher proportion of women in parliament. However, Norgaard and York (2005) noted that this finding does not correlate with the actual sustainability of the countries as many of the countries with the most treaties ratified also have the largest amount of pollution.

Nugent and Shandra (2009) research built off Norgaard and York's (2005) study and analyzed how protected land area of a state is impacted by women's empowerment, represented by health, labor/economic status, education, and political status. The results do not support the ecofeminist claim of a common source of overall oppression of women and environmental degradation. The results do, however, strongly support the ecofeminist claim that improving the political status of women within a state will positively affect the state's efforts of environmental protection (Nugent & Shandra, 2009, p. 218). Their study changed how many approached the topic of how women and sustainability are linked as they found only

women's political status to impact protected land area and none of the other three components that represent women's empowerment. Multiple studies have since focused on women's political status and found that its increase correlates with lower CO2 emissions (Ergas & York, 2012), existence of stricter climate change policies (Mavisakalyan & Tarverdei, 2019), and lower climate footprints (McKinney & Fulkerson, 2015).

### Theory and Hypothesis

In creating the hypothesis, it is assumed that gender equality and the ratio of women in governmental positions are correlated. Gender equality would increase the opportunities for women to work outside the home, become better educated, and, ultimately, increase their political power. It is also assumed that those in government affect the priorities and overall decisions on various policy areas. In addition to this, government employees work together to promote their individual interests and motivations. By studying the change over time within countries, it can help account for fluctuating legislator preferences. Regarding these priorities, based off the literature, women will focus on altruistic acts that come at a high price. Therefore, women are more likely to tackle and put greater importance on environmental sustainability (Rigdon & Levine, 2009, p. 13).

I propose that changing the gender ratio in government will have both a direct and indirect effect on policy and sustainability. Having more women in office would increase the ability women have to collectively influence policy. More women increase the number of votes for sustainability as they are more likely than their male counterparts to hold pro-sustainability views in global north countries. The more women in office, the more attention those in office will have to pay to issues prioritized by women. Therefore, men would also have more exposure

to these sustainability concerns, thereby increasing their knowledge on these topics. Although this will not lead to all men altering their issue positions, it might lead to some. This would increase votes for sustainability policies as well.

In addition to exposure and knowledge, men may start to incorporate these ideas into their agenda in order to win elections. Men may start to see other candidates' higher approval ratings when the candidate increased importance on women's priorities such as sustainability. Increasing sustainability into new policy and voting for pro-sustainable policy could be seen to be in the individuals' best interest to win re-election. Based on my assumptions and the theory developed, I hypothesize that

As the representation of women in parliament increases, the state's environmental sustainability will increase.

The variables are not expected to perfectly coincide with one another. Rather, as the gender ratio becomes closer to 1:1, the greater the sustainability policy and ratings.

## **Data and Methodology**

### **Dependent Variable**

The dependent variable will be measured using the Environmental Performance Index (EPI) to represent each state's environmental sustainability. Environmental health and ecosystem vitality are two separate categories that comprise the EPI for a country. Within these broad categories, there are 11 issue categories that are comprised of 32 performance indicators. The EPI score of each country is between zero and 100 with a higher number corresponding with greater sustainability (Wendling, et al., 2020). Using a wide variety of

indicators allows for an accurate representation of environmental sustainability regardless of which components countries prioritize. This study will use the EPI of each country from 2004-2022 with a one-year gap between the data.

#### Independent Variable

The independent variable is used to represent the gender equality of a state and will be measured by the proportion of seats held by women in national parliaments. This data is taken from The World Bank's data set. The data is provided by the Inter-Parliamentary Union (IPU) and is updated every year. The higher the number, the higher the representation of women in the parliament is. It will cover 120 countries and have a two-year lag from the EPI. This time lag is included as the analysis must account for the time it takes for a new parliament to have an impact. It takes time to draft legislation, pass legislation, and for the legislation to go into effect. From there, it still takes time for a newly passed law to have an impact on the state.

#### Controls

There are other factors that could possibly be to blame for the results in the analysis of the two variables. To help limit this possibility control variables will be used. Demographic controls will be used specifically for age. The percentage of the population that is young and elderly can affect what the country cares about. Especially with the lack of sustainability affecting more of the future generations, a country with a large elderly population may not label sustainability as a top priority (Reinhart, 2018). World Bank data on the percentage of the population 65 and above will be used to account for the effects of age. A higher number reflects a larger percentage of the population who is 65 years or older. To help isolate gender

equality from the overall political and social freedom of a state, civil liberties and political rights data from Freedom House will be used (Norgaard & York, 2005). Higher numbers reflect a state with more civil and political rights as identified by Freedom House.

Economic controls will also be taken into account. Gross Domestic Product (GDP) of each state can help account for countries that are limited in sustainability by economic factors (Franzen & Vogl, 2013, p. 1002). The export rate of goods and services and a country's FDI as a percentage of its GDP show how globalized the country is. The more the country interacts with the world, the more likely it may have norms similar to global norms such as gender equality (Clayton & Zetterberg, 2018, p. 923).

#### Model Specification

The independent variable will have a two-year time lag, 2002-2020 instead of 2004-2022. This will help account for the creation and beginning of the implementation of legislation by the new members. The control variables discussed above will also include a two-year time lag. The GDP of a country will help determine future years' main goals as well as the budget for the government. Current populations allowed to vote will determine current legislatures. New legislatures, however, still need time to influence policy. The impact of this will not have an immediate effect on the country and thus a time lag is implemented. Two fixed effects regressions are used with one having the years used as dummy variables. This test was chosen as it measures the change within each state while comparing the change to other states. The second test with the years as dummy variables allows for a comparison of the impact of each year on the relationship between gender representation and state sustainability.

## Results

Two fixed effects regressions were used to analyze the data. Their results can be seen in table 1 and 2 with a summary of the results in table 3. Fixed effects models leverage the panel data structure and account for country-specific effects by essentially including a dummy variable for each country. Both F-values, testing whether a fixed effects model is better than a pooled OLS model, are highly significant. This confirms the choice to use fixed effects models.

In model one, whose results are seen in table 1, without year dummies, gender, GDPpc, and civil liberties coefficients are not significant. The coefficient for gender is  $-.021991$  meaning that as the gender representation in a state's parliament increases by one unit, the EPI of the state will decrease by  $.021991$  units. This goes against the hypothesis and suggests that as gender representation increases, the sustainability of the state decreases. The coefficient for GDPpc is  $-.0000376$  which indicates that as the GDPpc of a state increases by one unit, the EPI of the state will decrease by  $.0000376$  units. The coefficient for civil liberties is  $-.1515677$  and indicates that as the civil liberty of a state increases by one unit, the EPI of the state will decrease by  $.1515677$  units. However, these results had p-values larger than  $.05$  and therefore a conclusion cannot be adequately drawn. The statistically significant independent variables are political liberties, with a p-value of  $.040$ , and the percentage of the population 65 years of age and above, with a p-value of  $.000$ . The results indicate that an increase in political liberties and an increase in the percentage of the population 65 years of age and above results in a decrease in the EPI.

In model two, whose results are seen in table 2, all independent variables, except GDPpc, in the second OLS model have p-values higher than  $.05$ , suggesting all are statistically



insignificant in their effects on the EPI of a state. As representation of women in parliament, the gender variable, increases by one unit, the EPI increases by .000263 units. As the percentage of the population 65 and above, civil liberties, and political liberties individually rise by one unit, the EPI decreases by .2698477, .4805116, and .2977387, respectively. The only year that does not have a statistically significant effect on the EPI of states is the year 2020 with a p-value of .481.

### **Discussion**

To test the hypothesis that gender representation in a state's government will directly affect the state's environmental sustainability, two regression analyses were performed. Using past research, possible confounding variables were controlled to help ensure an accurate representation of the relationship between the dependent and independent variables. The results of the regression analyses indicate that there is no statistically significant effect of gender representation on the state's environmental sustainability.

The findings of my research do not support the hypothesis and instead indicate strong support for the null hypothesis. The variables that were statistically significant were the percentage of the population 65 years of age and older and political freedoms of a state in the first fixed effects model and GDP per capita in the second fixed effects model. All of these control variables have inverse relationships with the state's sustainability indicated by their negative coefficient. Previous literature aligns only with the relationships found between state sustainability and the age variable but not for political liberties nor GDP per capita. The age variable is used to account for the evidence that supports younger individuals having stronger

pro-sustainable attitudes (Reinhart, 2018). The relationship found in the first fixed effects model is significant at the 99.99+% level and implies states with older populations will be less environmentally sustainable. GDP can hinder sustainable change in countries with low-income levels and therefore should have a direct relationship with sustainability and not the inverse relationship both models suggest. Political and civil liberties are used as controls to help isolate gender equality's effect on sustainability rather than the social and political freedoms of the state in general (Norgaard & York, 2005). The coefficients of these controls in both models are negative, but literature largely agrees civil and political liberties have a positive relationship with environmental sustainability (Drosdowski, 2006; Payne, 1995). In the first fixed effects model, the results indicate that as the ratio of women in parliament increases, the less sustainable the country becomes. The second fixed effects model, however, suggests a positive relationship between the dependent and independent variable and would better match with past research.

The main relationship this study focuses on was not statistically significant and had conflicting relationships in the models. The first fixed effects model contradicts the hypothesis while the second fixed effects model aligns with it. Considering the second model uses each year as a dummy variable, the conflicting results may suggest that there is further outside influence on the dependent variable and independent variable's relationship. When the years were used as dummy variables, the only year that was not statistically significant to the analysis was 2020, with a p-value of .481 compared to a p-value of .000 for all other years analyzed. Although this study does not dig deeper into why, a link to the COVID-19 pandemic is possible as the pandemic had impacted numerous facets of societies around the world. Accounting for

some of the effects each year had resulted in the second OLS model being a better fit for the study. The second fixed effects model's r-squared within value indicates 68.68% of the variation within countries is explained by the independent variables compared to only 1.21% in the first model.

### **Conclusion**

The Carbon Dioxide Theory of Climate Change was formulated in 1956 (Plass, 1956). Decades have passed, but the importance of sustainability has only grown. With the exponential rise of the global population, the strain placed upon natural resources has risen with it. Even with the implications known, many individuals still are not concerned with climate change nor adopting pro-sustainable attitudes and behaviors. Understanding why this is and who is most likely to be sustainable will increase the ability for sustainable activists to have an impact on those they interact with, including politicians. Learning the role of a group in sustainability can also help increase the intersectionality of different causes. If a positive correlation between women in government and sustainability can be found, how to best influence legislation can be rethought. Encouraging women to enter politics may be more effective than trying to lobby with those currently in legislation. To determine if a relationship exists, the change in the ratio of women in parliament was analyzed against their country's change in sustainability score.

Although the results given were largely statistically insignificant, the research can serve as a base for future research on gender equality and sustainability. The control variables used incorporated many outside possible influences on the sustainability of a country. With more

time, a more robust set of statistically significant controls could help to isolate the relationship between the dependent and independent variables. Analyzing how gender representation in government impacts state sustainability can also be focused on groupings of countries, such as those in similar regions or who have similar amounts of natural resources, to better account for norms or priorities. The analysis conducted for the study highlighted how the year 2020 was an outlier. Although research on the impacts of COVID-19 is continuously being published, how the pandemic impacted sustainability of states and the role of representation of women should be analyzed.

Currently, the main literature on gender representation and sustainability focuses on the sustainability of businesses. Applying these findings to state governments, more women in parliament should result in higher sustainability. Literature connecting gender and sustainability typically fails to connect how gendered attitudes of sustainability do or do not impact sustainability further than individual action. Going forward, however, future research could focus on how gender quotas in politics, regardless of success rates, affect the sustainability scores of countries. Clayton & Zetterberg's (2018) findings on gender quotas and governmental spending provide a relationship that can be expanded using the theories developed here.

The primary constraint of this research is the limited number of datasets dedicated to environmental sustainability that incorporate a multitude of indicators into a country's score. Datasets that are available, such as the EPI used in this research, are further limited by how many years are available and/or by how many years' scores were calculated using the same method. The EPI has changed their methods of analysis multiple times to improve the accuracy of the data. Although the EPI is still accepted in analysis over time regardless of the calculation

changing, it does not provide for the most accurate portrayal of each county's sustainability.

Future research should focus on building a sustainability dataset that better allows for analysis over long periods of time.

Continuing to build an environmental sustainability dataset is extremely important. It is easy to argue climate change using emotions and personal stories by those who are already affected. Unfortunately, some individuals need to see how they or their interests will be impacted in order to care. Finding relationships between environmental sustainability and other factors increases the ways in which sustainability can be marketed. If an individual does not care about sustainability but does about one of these other factors, such as gender equality, activists can promote gender equality or one of the other factors knowing it is linked to improving sustainability. The impact of activists around the world would dramatically increase, and with it, a higher chance of limiting the effects of climate change.

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## Appendix

Table 1. Fixed Effects Model One

```

. xestata: xtreg epi l.gender l.gdppc l.pop65 l.civil l.political, fe vce(cluster country2)

Fixed-effects (within) regression              Number of obs   =    1,600
Group variable: country2                     Number of groups =    160

R-sq:                                         Obs per group:
  within = 0.0021                             min =          10
  between = 0.4570                            avg =         10.0
  overall = 0.2569                             max =          10

corr(u_i, Xb) = -0.7721                       F(5, 159)       =    7.53
                                                Prob > F        =    0.0000

(Std. Err. adjusted for 160 clusters in country2)

```

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
e						
gender						
l1.	-.0219991	.0438364	-0.50	0.616	-.1085758	.0645776
gdppc						
l1.	-.0000376	.0000278	-1.35	0.178	-.0000924	.0000172
pop65						
l1.	-.6382752	.1789072	-3.57	0.000	-.9916162	-.2849343
civil						
l1.	-.1515677	.6460488	-0.24	0.814	-1.423562	1.120426
political						
l1.	-1.06671	.5159052	-2.07	0.040	-2.085621	-.0477991
_cons	61.76293	1.961052	31.82	0.000	57.92936	65.5965
sigma_u	16.296097					
sigma_e	10.333756					
rho	-.71320874	(fraction of variance due to u_i)				

Table 2. Fixed Effects Model Two

```

. estat:xtreg epi l.gender l.gdpp: l.pcp65 l.civil l.political i.year, fe vce(cluster country2)

```

Fixed-effects (within) regression  
Group variable: country2

Number of obs = 1,600  
Number of groups = 160

R-sq:  
within = 0.6868  
between = 0.5021  
overall = 0.1062

Obs per group:  
min = 10  
avg = 10.0  
max = 10

corr(u\_i, Xb) = -0.2069

F(14,159) = 131.32  
Prob > F = 0.0000

(Std. Err. adjusted for 160 clusters in country2)

e	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
e					
gender					
l1.	.000263	.0332653	0.01	0.994	-.0654357 .0659618
gdpp:					
l1.	-.0000646	.0000284	-2.27	0.024	-.0001206 -.8.49e-06
pcp65					
l1.	-.2698477	.166068	-1.62	0.106	-.5978314 .058136
civil					
l1.	-.4805116	.3982415	-1.21	0.229	-1.267037 .3060139
political					
l1.	-.2977387	.3138129	-0.95	0.344	-.9175179 .3220406
year					
2006	11.13516	.6298638	17.68	0.000	9.891177 12.37913
2008	5.979917	.65395	9.14	0.000	4.688368 7.271466
2010	-3.689931	.7021591	-5.26	0.000	-5.076693 -2.30317
2012	-8.705095	.9479568	-9.18	0.000	-10.57731 -6.832884
2014	3.22847	.399982	8.06	0.000	2.434507 4.014433
2016	20.13561	.7007369	28.73	0.000	18.75166 21.51956
2018	8.565104	.689354	12.42	0.000	7.203632 9.926575
2020	-.508506	.7204083	-0.71	0.481	-1.93131 .9142978
2022	-4.419096	.9907715	-4.46	0.000	-6.375865 -2.462326
_cons	53.97014	1.854881	29.10	0.000	50.30676 57.63352
sigma_u	14.965346				
sigma_e	5.836958				
rho	-.86796329	(fraction of variance due to u_i)			

Table 3. Results of Variables in Fixed Effects Models

	(1) EPI	(2) EPI
L.Gender	-0.0220 [0.0438]	0.000263 [0.0333]
L.GDPpc	-0.0000376 [0.0000278]	-0.0000646** [0.0000284]
L.pop 65+	-0.638*** [0.179]	-0.270 [0.166]
L.civil	-0.152 [0.644]	-0.481 [0.398]
L.political	-1.067** [0.516]	-0.298 [0.314]
Year=2004		0 [.]
Year=2006		11.14*** [0.630]
Year=2008		5.980*** [0.654]
Year=2010		-3.690*** [0.702]
Year=2012		-8.705*** [0.948]
Year=2014		3.224*** [0.400]
Year=2016		20.14*** [0.701]
Year=2018		8.565*** [0.689]
Year=2020		-0.509 [0.720]
Year=2022		-4.419*** [0.991]
Constant	61.76*** [1.941]	53.97*** [1.855]
Observations	1600	1600
F	7.525	131.3
p	0.00000229	1.17e-79

Standard errors in brackets

\* p&lt;0.10, \*\* p&lt;0.05, \*\*\* p&lt;0.01

