Gender Inequality and Development/An Economic Analysis A case Study of Arab Gulf Countries

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Abstract:

The study aimed to illustrate the concepts of development and gender equality, by linking human dimension with gender empowerment and the three aspects of human dimension are longevity, knowledge, and income as main development indicators used by United Nations. The study attempts to examine the variation in gender empowerment through econometric models in some Arab gulf states and to see if this could be explained by socio-economic factors. The study attempts to analyze the relationship between socioeconomic factors and gender empowerment. The researcher tried to know and to identify the various benefits of gender equality to Arab Gulf States that may create various economic effects. The researcher used the analytical econometric methods, through the presentation of the previous studies and using some indicators from international institutions. The study results showed that an increase in women's socioeconomic status is related to a decrease in gender inequality, also, multiple regression analysis revealed that the variation in gender empowerment in the Arab Gulf Countries is better explained by four variables namely, female education, share of female seats in the parliament, adolescent fertility and female labor force participation. Female education does have a significant relationship with gender inequality, suggesting that the decline of gender inequalities has been most significant in countries characterized by higher levels of female education. Our findings suggest that a higher level of female education in a country's lower level is gender inequality.

Keywords: Economic development, gender equality, socioeconomic factors, Arabian Gulf States.

1. **Introduction**:

Over the last thirty years there have been fundamental changes in policies on and approaches to population, development and gender equality. These are best exemplified in the program of action of the

International Conference on Population and Development (ICPD) in Cairo, 1994 and the Platform for Action of the Fourth World Conference on Women (FWCW) in Beijing in 1995. The issue of gender and development has found great importance from researchers all over the world particularly after international conferences (ICPD & FWCW).

The World Development Report (WDR, 2016) on equity and development refers to gender inequality as the "archetypal inequality trap". The sharp differences between men and women in access to assets and as the opportunities in many developing countries restrict women's basic freedom to choose and have negative consequences for the well-being of their children, families and communities. These differences entrench inequality and are unfair. Gender equality does not necessarily mean equality of outcomes for males and females; it means equal access to the "opportunities that allow people to pursue a life of their own choosing and to avoid extreme deprivations in outcomes" - that is gender equality in rights and voice. Equality of rights refers to equality under the law, whether customary or statutory. Equality of resources refers to equality of opportunity, including equality of access to human capital investments and other productive resources and to markets.

Equality of right to vote increases the ability to influence and contribute to the political discourse and the development process.

The roots of the discourse namely gender and development lie in debates about women and development (WID) in the early 1970s.WID is associated with development projects aimed at women only, especially income -generation projects. Such projects have been criticized for playing down the importance of welfare and ignoring the complexities of gendered distributions of resources within households. These critiques were the starting points for discourse characterized as gender and development (GAD), which have gained momentum since the 1980s. Gender analysis is a widely used GAD framework and identifies differences between men and women in productive work and access to resources and decision making.

Since 2000, women have had a global commitment against which to measure progress in building answerability to women: the Millennium Declaration and its Millennium Development Goals. Achievement of the MDGs depends increasingly on women benefiting from development investments in education and health, being able to engage in the market on

an equal basis with men, and being able to participate in public decision-making at all levels (UNIFEM, 2018) Gender equality and women's empowerment (MDG3, "Promote gender equality and empower women") are central to achieving the other Millennium Development Goals (MDGs). Women's empowerment is not a stand-alone goal. It is the driver of efforts to eradicate extreme poverty and hunger, achieve universal primary education, reduce child and maternal mortality, and fight against major diseases like HIV/AIDS and malaria.

Women's empowerment is also a driver of sound environmental management and is, finally, essential for ensuring that development aid reaches the poorest through making women a part of national poverty reduction planning and resource allocation. (UNIFEM, 2008). Progress on gender equality is central to achieving many wider development goals. There is a close interrelationship between progress on MDGs 3 (gender equality) and 5 (maternal health) and many of the other MDGs Greater education and employment opportunities for women (MDG 3) will help alleviating poverty and hunger (MDG 1). More educated women, as well as those in employment, are more likely to use maternal health care and antenatal health care services, thus reducing child mortality rates (MDG 4). Progress on maternal health and improving access to family planning (MDG 5) will also have spillover benefits to the other MDGs.

Methodology and Data Base:

A bulk of gender and development research has been with respect to measuring and describing levels, trends, and differentials in developing countries, particularly in the Arab Countries. Much less effort has gone into analyzing the relation between gender empowerment and development, using econometric methods.

The gender empowerment models based on econometric principles are a new approach in the field of gender studies. The gender empowerment models may be more effective in predicting gender empowerment transformation than predicting using gender statistics only.

In the present study, cross -country, socio-economic data on the Arabian Peninsula countries were gathered, from Human Development Report 2010, to develop econometric models and to test the importance of socio-economic factors as a causal factor affecting gender empowerment in the Arabian Peninsula. Multiple regression analysis has been used to

explain the effects of socio-economic factors on gender empowerment. The estimation of the models, using Ordinary least Squares Method (OLS), has been undertaken across the 9 countries of the Arabian Peninsula.

- **Objectives**:

The main objective of the study is to link the human dimension with gender empowerment. Three aspects of the human dimension are longevity, knowledge and income. The longevity is reflected health status in a country. The knowledge is reflected through the educational attainment. Finally, income is manifested in the labor force participation and standard of living of the population of a country. Secondly, the study attempts to examine the variation in gender empowerment through econometric models in the Arabian Peninsula countries and to see if this could be explained by socioeconomic factors. Finally the study attempts to analyze the relationship between socioeconomic factors and gender empowerment.

2. **Literature review:**

A large number of studies relating to gender empowerment in the developed and developing countries have emerged during the past few decades. But very few studies have been attempted to address the issue of gender empowerment in the Arab World in general and in the Arabian Peninsula in particular, especially based on empirical analysis. Nevertheless, we present a review of some of the significant studies on the global level:

Jutting et al. (2008) used a cross -country gender, institutions and development database (GID-DB), to study the relationship between gender inequality and socio-economic factors. They concluded that inequalities in social institutions are particularly clearly pronounced in countries with low female literacy rates, The analysis suggests a negative correlation between gender inequality and female labor force participation.

Chaudhry, I. and Nosheen, F. (2019) have studied the determinants of women empowerment in Pakistan. The econometric analysis shows some new and diverse results for three different areas namely urban, rural and tribal areas. The results show that women empowerment is considerably influenced by education, access to media, socio-cultural norms of the community, women's Job and household participation rate.

Forsythe et al. (2013) estimated gender inequality models for Muslim and Latin American countries. The results for various linear and

curvilinear cross-national models of the relationship between gender inequality and independent variables revealed that the Muslim and Latin American variables (as dummy variables) are

positive and statistically significant at the .001 level, suggesting that all other things being equal, levels of gender inequality tended to be higher in Muslim and Latin American countries.

Derek, H.(2014) used the 209 countries in the World Bank, World Development Indicators (WDI) database and applied multiple regression analysis methods to study the impact of information and communication technologies(ICTs) on gender equality and economic development, the results showed that increases in the level of (ICTs) infrastructure tend to improve gender equality in education and employment. In addition, it showed that education among the general population is important for improving gender equality. The results provide evidence indicating that gender equality in education is an important contributor to gender equality in employment and economic development.

Binelli (2013) studied the relation between educational gender gap, equality, and growth in sixty-three of the World Countries, The results showed a positive impact of income inequality, measured with the Gini index, on the educational gender gap, defined as the ratio of male to female secondary schooling. The study proved that an increase in income inequality leads to underinvest in females with respect to male education.

Kalsen, S. (2019) using cross-country and panel regressions, investigated to what extent gender inequality in education and employment may reduce growth and development. He has found a considerable impact of gender inequality on economic growth.

The results suggest that gender inequality in education has a direct impact on economic growth by lowering the average quality of human capital. In addition, economic growth is indirectly affected by the impact of gender inequality on investment and population growth. Point estimates suggest that between 0.4-0.9% of the differences in growth rates between East Asia and Sub Saharan Africa, South Asia, and the Middle East can be accounted for by the larger gender gaps in education prevailing in the latter regions. Moreover, the analysis shows that gender inequality in education prevents progress in reducing fertility and child mortality rates, thereby compromising progress in well-being in developing countries.

Dollar and Gatti (2019) studied the relationship between gender inequality and income growth and concluded that gender inequality in education is bad for economic growth. The result suggests that secondary female education has an economically significant impact on growth. In countries with higher initial education, an increase of 1 percentage point in the share of adult women with secondary school education implies an increase in per capita income growth of 0.3 percentage points.

Dreze and Sen (2018) in their study "Economic Development and Social Opportunity in India" argued that gender inequality does not decline automatically with the process of economic growth. Even when economic growth has a positive influence on the status of women, by expanding female employment opportunities or literacy rates, it is important to aim at more radical and rapid social change based on public action.

The study conducted by the UNFPA (2018) on Gender Inequality and Women's Empowerment in Ethiopia, using sample data and applying multivariate analysis techniques revealed that level of education and women's decision making power show the positive relationship in all of the empowerment indicators. As the level of education of women increases, their involvement in decision making also increases. Around 85 percent of women whose level of education is secondary or higher participate in deciding on large household purchases and on their husbands' income independently or jointly with their partner. Similarly deciding on own health care independently is more likely for women having secondary or more education than for those who are less educated. Women who were working and earning money were more likely to be involved in decision making than those who were not working.

Duman, A. (2019) in his study "Female Education Inequality in Turkey" concluded that the size, and composition of the family and education of the parents have a significant impact on the schooling decision for girls.

3. **Gender empowerment, Concepts, and Measurements**

The United Nations Development Program (UNDP) Human Development report for 1995 focused on gender disparities in development. The report constructed the gender-related development index (GDI) for 130 countries. The GDI owes its origin to its precursor human development index (HDI). The HDI comprises three main components, viz., per capita

income, educational attainment and life expectancy which is proxy for health attainment. The same indicators are used in the construction of the GDI as well, the implication being that it is deprivation in these three components that are important from the point of view of gender disparities.

❖ **Gender Empowerment**

The Gender Empowerment Measure (GEM) developed in the UNDPs, HDR (2015), seeks to determine the degree to which women and men participate actively in economic, professional and political activity and take part in decision making. The GEM uses variables constructed explicitly to measure the relative empowerment of men and women in political and economic spheres of activity. The GEM calculates inequality between women and men in three main dimensions. These are:

- Political participation and decision- making power and measured by women's and men's percentage shares of parliamentary seats.
- Economic participation and decision-making power, measured by women's and men's percentage shares of administrative and managerial positions and their percentage shares of professional and technical jobs.
- Power over economic resources measured by earned income for women and men.

The three indices for economic participation and decision-making, political participation and decision-making, and power over economic resources-are added together with equal weight to derive the final GEM value.

The 1995 HDR estimates GEM for 116 countries of the world and notes that only nine countries have GEM values above 0.60, while 24 countries have values below 0.25.

The report correctly states that many countries have much further to travel in extending broad economic and political opportunities to women than they have in building their capabilities.

❖ **Gender Inequality Index**

The new Gender Inequality Index (GII) reflects women's disadvantages in three dimensions-reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent fertility rates. Empowerment is measured by the share of parliamentary seats held by each gender and attainment at secondary and higher education by each gender; and economic activity is measured by the

labor market participation rate for each gender. The GII shows the loss in human development due to inequality between female and male achievements in the three GII dimensions. These are health, empowerment and labor market.

❖ **Calculation of gender inequality index (GII)**

Aggregation of the GII dimensions is first done separately for each gender group using geometric means. The gender-specific means are then aggregated using harmonic means which capture the inequality between women and men and adjust for the association between dimensions. Finally, the GII is expressed as the relative difference (loss) between the harmonic mean and the reference mean. The reference means is obtained assuming equality of genders in all three GII dimensions. According to the Human Development Report (2010), there are four ([1])
steps to calculate the gender inequality index, and these are as following:
Step. 1: calculating the aggregation formula for women and girls and men and boys by using the geometric mean as following:

$$G_M = \sqrt[3]{1 \cdot (PR_M \cdot SE_M)^{1/2} \cdot LFPR_M}.$$

$$G_F = \sqrt[3]{\left(\frac{1}{MMR} \cdot \frac{1}{AFR}\right)^{1/2} \cdot (PR_F \cdot SE_F)^{1/2} \cdot LFPR_F},$$

Where:
GF = geometric mean for women and girls.
GM = geometric mean for women and girls.
MMR = maternal mortality ratio.
AFR = adolescent fertility rate.
PR = parliamentary representation for females.
SE = secondary school education for females.
LFPR = labor force participation rate for female.
Step.2: Aggregating across gender groups, using a harmonic mean. The female and male indices are aggregated by the harmonic mean(HARM) to create the equally distributed gender index

$$HARM(G_F, G_M) = \left[\frac{(G_F)^{-1} + (G_M)^{-1}}{2}\right]^{-1}.$$

step.3: Calculating the geometric mean of the arithmetic means for each indicator of dimensions: health, empowerment and labor force participation

$$G_{\overline{F,M}} = \sqrt[3]{\overline{Health} \cdot \overline{Empowerment} \cdot \overline{LFPR}}$$

Where:

$$\overline{Health} = \left(\sqrt{\frac{1}{MMR} \cdot \frac{1}{AFR}} + 1\right)/2,$$

$$\overline{LFPR} = \frac{LFPR_F + LFPR_M}{2}. \qquad \overline{Empowerment} = \left(\sqrt{PR_F \cdot SE_F} + \sqrt{PR_M \cdot SE_M}\right)/2 \text{ and}$$

Step.4: Calculating the gender inequality index:

GII =

The value of GII ranged between one (perfect inequality) and zero (perfect equality), That is to say, $0 \leq GII \leq 1$

$$I - \frac{Harm\,(G_F, G_M)}{G_{\overline{F,M}}}.$$

4. **Arab Gulf States : Socioeconomic Background**

The Arabian Peninsula is a peninsula in Southwest Asia, at the junction of Africa and Asia, consisting mainly of desert. The area is an important part of the Middle East and plays a critically important geopolitical role, because of its vast reserves of oil and natural gas. The coasts of the peninsula are, on the west the red sea and the Gulf of Aqaba, on the southeast the Arabian Sea and on the northeast, the Gulf of Oman, the Strait of Hormuz, and the Persian Gulf.

Geographically, the Arab Gulf States includes Kuwait and Saudi Arabia. The following countries are politically considered part of the Arab Gulf States: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates (UAE) and Yemen. With the exception of Yemen, these countries (called the Arab Gulf States) are among the wealthiest in the World.

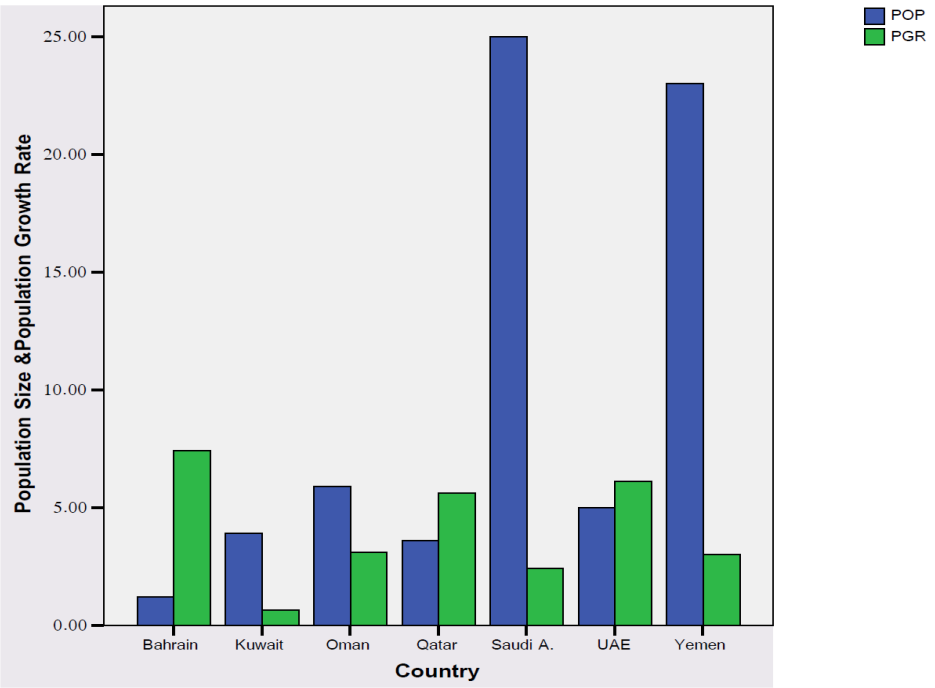
Six of the seven states of today's Arab Gulf States are monarchies: Saudi Arabia, Kuwait, Bahrain, Qatar, the United Arab Emirates (UAE) and Oman. The seventh, the Republic of Yemen, was formed only in 1990 out of the merger of North and South Yemen. These six countries of the list above, excluding Yemen form the Gulf Cooperation Council (GCC), mainly known as the Arab States of the Persian Gulf. The Kingdom of Saudi Arabia covers the greater part of the peninsula. The majority of the

population of the Arab Gulf States lives in Saudi Arabia and in Yemen. The peninsula contains the world's largest reserves of oil. The UAE and Saudi Arabia are economically the wealthiest in the region. Qatar, a small peninsula in the Persian Gulf on the larger peninsula. Kuwait, on the border with Iraq, is an important country strategically, forming one of the main staging grounds for coalition forces mounting the invasion of Iraq in 2003.

The total population of the Arab Gulf States in 2010 estimated as 65 million. The size of the population is different between the countries. The highest size of the population is in Saudi Arabia followed by Yemen (25 million and 23 million respectively). The population in Kuwait, Qatar, Oman, UAE ranged between 3 and 5 million. The smallest size of the population is in Bahrain, which is approximately one and half million.

Except for Kuwait, populations in the Gulf economies are growing much faster than the world average, with high natural increases and continuing inflows of migrant workers (Figure 3). Rates of natural increase have been high since the oil boom in the 1970s. Hence GCC economy populations are very young, with two thirds under 25 years and a half under 15 years. This creates significant potential for exporters of youth-related goods and services and will drive growing urban infrastructure demand and growing demand for convenience foods as household formation increases.

Figure (1): Population Size and Population Growth Rate In the Arabian Peninsula (2010)

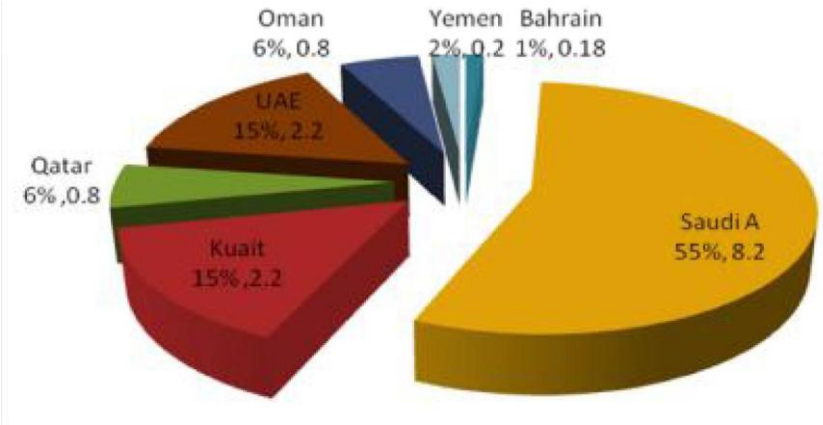


Source: Depicted from Appendix Table No. 1

The Gulf economies' size, income levels and growth performance vary considerably depending on their oil production, human resources, economic openness and success in diversification. According to the Arab Human Development Report, 2010, the GDP per capita in Qatar, UAE, Kuwait and Bahrain were, 60, 44, 30, 17 thousand US$. While this figure for Saudi Arabia and Oman registered as 14.5 thousand US$ per each. For Yemen the GDP per capita was the lowest in the Gulf countries (1.3 thousand US$). (Appendix 1)

All Gulf economies are highly reliant on oil. Consequently, oil prices strongly influence economic activity, export income, domestic demand and government expenditure. The 2010 Arab Human Development Report revealed that oil production in Saudi Arabia was 8.2 million barrels per day. While in Kuwait and UAE was 2.2 million barrels per day, per each. The oil production for Oman and Qatar were 0.8 million barrel per day per each. (See Figure 4):

Figure (2): Oil production in the Arabian Peninsula (million barrel/day) 2010



Source: Depicted from Appendix Table (1)

Access to medical services and medical care is very high in all of the Arabian Gulf countries except Yemen. The percentage of the population with access to health services was only 50% in Yemen, 100% in the UAE, 100% Bahrain, 97% in Saudi Arabia, 96% in Oman and 100% in Qatar (Arab Human Development Report, 2010)

Education tends to reduce gender inequality as it tends to broaden one's views, increase one's flexibility of accepting new customs and norms. Female education is especially important in societies where gender biases dictate solely domestic roles for women. Lack of schooling in such cases tends to perpetuate gender disparities.

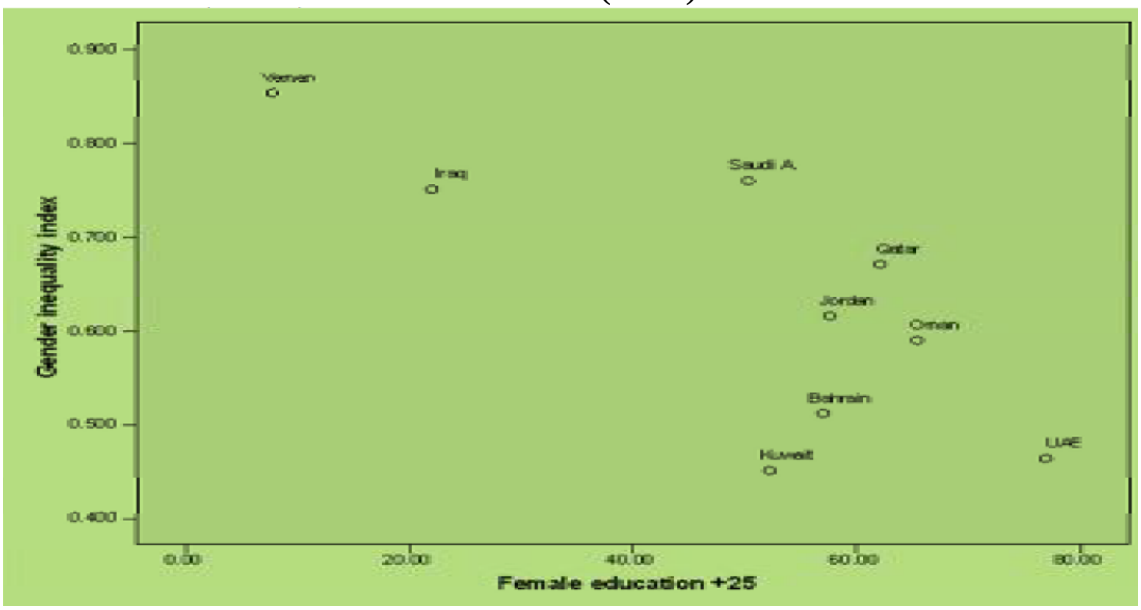
The United Nations Human Development Report (HDR), 2010, showed that female education (measured by % of females with at least secondary school) is the highest in the UAE, Oman and Qatar (76% and 65%, 62%, respectively). Followed by Bahrain, Kuwait and Saudi Arabia (57%, 52%, and 50% respectively.).This figure for Yemen was 8% approximately.

The Arabian Peninsula fared poorly on gender gaps, with most of the region's countries ranking in the bottom quarter. Kuwait and the United Arab Emirates and Bahrain were the peninsula's best-placed nations, they ranked 43, 45 and 55 out of the 177 countries listed in the HDR, 2010, with respect to the gender inequality index. Qatar at 94th, followed by Saudi Arabia on 128th, Oman at 122nd, while Yemen finished last at 138th.

The Gender Inequality Index (GII) assesses disparities between genders in terms of economic opportunities, educational attainment, health and political empowerment. Though overall rankings for Arabian Peninsula countries were low, the HDR for the Year 2010 highlighted the progress that has been made. Kuwait gains the GII value of 0.451 and The United Arab Emirate (UAE) gained the GII value of 0.462.

It observed that the labor force participation rate; educational attainment and political empowerment for women in these two countries have been improved comparing with the rest countries in the Arabian Peninsula. (See Appendix 1& figure 5).

Figure (3): Gender inequality index by female education in the Arabian Peninsula (2010)



Source: Depicted from Appendix Table No l

5. Econometric Analysis of Gender Empowerment in the Arabian Peninsula

5-1. The Model:

The classical least square model has been used for the analysis of determinants of gender inequality index (GII). The multiple regression models are given below:

$Yi = \beta 0 + \beta 1 + X1i + \beta 2 + X2i + \ldots\ldots\ldots + \beta k\ Xki + \varepsilon i$

Where:

Y = denoted the dependent variable.

Xi,s = explanatory variables(predictors).

K = the number of the predictors.

i. = denotes the ith observation.

εi = is the size of disturbances or residuals.

5-2. Description of the variables:

Cross-country data has been collected for the nine countries of the Arabian Peninsula, from human development report, for the year 2010. The dependent variable, gender inequality index (GII), represent gender empowerment. The independent variables represent, a set of socioeconomic variables, reflect the three dimensions of gender inequality index, and these are, health, empowerment and labor force participation. .the list of the variables used for the regression analysis is given in table No. 1.

Table (1): Variables Used for the multiple regression analysis

Variables	Abbreviation
Dependent variable	
Gender Inequality Index	GII
Independent variables	
Maternal Mortality Ratio	MMR
Adolescent fertility rate (number of births per 1,000 women ages 15-19.)	AFR
Seats in the Parliament (female) %	SPF
Female Education Secondary above 25+ (%)	FED
Male Education Secondary above 25+ (%)	MED
Female Labor Force Participation (%)	FLF
Male Labor Force Participation (%)	MLF
Contraceptive Prevalence Rate (%)	CPR
Antenatal Coverage (%)	ANC
Births Attended by Skilled Personnel	BSP
Human development (high human development index =1, low)	(DUM)
human development =0	

5-3. Correlation Matrix:

Zero-order correlation coefficients were calculated to study the strength of the associations between the socioeconomic variables (see table No2) gender inequality index (GII), and each of the independent variables had the anticipated sign. Variables like female education (FED), Male education (MED), and female labor force participation (FLP) male labor force participation (MLP), Antenatal coverage (ANC), births attended by skilled personnel (BSP) are negatively correlated with gender inequality index (GII). The variables female education (FED) and female labor force participation (FLP) are significantly correlated with gender inequality index (GII), indicating higher the education level and labor force participation rate for females, the lower is gender inequality index (GII).

Health variables like adolescent fertility rate (AFR) and maternal mortality rate (MMR) are significantly and positively correlated with gender inequality index (GII), the dummy variable representing the differences between high human development countries and low human development countries. The dummy variable (DUV) negatively correlated with the gender inequality index (GII), indicating that countries with higher human development index, having a lower gender inequality index (example of Kuwait & UAE).

Table (2): Correlation Matrix

	GII	MMR	AFR	SPF	FED	MED	FLP	MLP	CPR	ACN	BSC	HDI
GII	1.00											
MMR	0.711*	1.00										
AFR	0.721*	0.90**	1.00									
SPF	-0.29	0.127	0.29	1.00								
FED	-0.763*	-0.90**	-0.89**	0.09	1.00							
MED	-0.607	-0.90**	-0.69*	0.31	0.85*	1.00						
FLP	-0.675*	-0.643	-0.643	-0.19	0.64	0.20	1.00					
MLP	-0.606	.0724*	-0.72*	-.009	0.76*	0.42	0.90**	1.00				
CPR	0.035	-.0351	-.035	-0.14	0.08	0.03	-0.13	-0.02	1.00			
ANC	-0.658	-.090**	-0.71*	0.09	0.81*	0.71*	0.44	0.48	0.39	1.0		
BSP	-0.692*	-.0877**	-0.64	0.26	0.82*	0.71*	0.45	0.51	0.35	0.97**	1.00	
HDI	-0.558	-.0780*	-0.79*	-0.18	0.72*	0.46	0.67*	0.76*	0.04	0.59	0.57	1.00

Source: Authors estimation using data from Appendix Table (1).

** Significant at 1% level.

* Significant at 5% level.

5-4. Regression Analysis Results:

According to the results of the correlation analysis between the gender inequality index and a number of socioeconomic variables, a

multiple regression analysis, has been conducted to identify the factors affect gender inequality

Three sets (models) of multiple regressions were carried out using a backward approach of analysis. The first model studied the effect of female education (FED), female labor force participation (FLP), the adolescent fertility rate (AFR) and female seats in the parliament (SPF) on gender inequality index.

The second model examined the effect of two variables, namely, female seats in the parliament and adolescent fertility rate on the gender inequality index (GII). The final model examined only the effect of one variable, namely female education on the gender inequality index.

The first regression model revealed that the variation in gender empowerment, measured by gender inequality index (GII) in the Arabian peninsula countries is better explained by four variables namely, female education (FED), female seats in the parliament and adolescent fertility rate (AFR), and female labor force Participation (FLP). 94% of the variation in gender empowerment is explained by these variables (Table3).

The second regression equation shows that the variables adolescent fertility and percentage of female seats in the parliament significantly affect gender empowerment. Indicating that higher is the adolescent fertility rate in a country, higher is gender inequality, and higher is share of female representatives in the parliament, lower is gender inequality.

The final regression equation shows that female education does have a significant relationship with gender inequality, suggesting that the decline of gender inequalities has been most significant in countries characterized by higher levels of female education. Our findings suggest that a higher level of female education in a country lower level is gender inequality (see Table 3).

If social institutions prevent women from working outside of the house, increasing the female education rate will not have a sizeable effect on female participation in the labor market. If men do not accept that women exercise authority, higher education of girls will not increase the number of women managers (Jutting et al., 2008). And consequently do not have any impact on gender empowerment.

Table (3): Regression results of determinants of Gender empowerment

	Predictors	B coefficients	t-ratio	Sig.
Model 1	Constant	0.209	-	-
	AFR	0.010	3.648	0.022
	FED	0.008	2.503	0.067
	FLP	-0.004	-2.045	0.110
	SPF	-0.015	-4.475	0.011
		R2 = 0.940 R2 = 0.881 F = 15.752		Sig. = 0.010
Model 2	Constant	0.526	-	-
	؛FSP	-0.009	-2.728	0.034
	AFR	0.005	4.735	0.003
	R2 = 0.803 R2 = 0.737 F = 12.200	Sig. = 0.008		
Model 3	Constant	0.893		
	FED	-.0.06	-.3.256	0.014
		R2 =0.803 R2 =0.737 F=12.200		sig. 0.014

Source: Authors estimations, using SPSS software.

** Significant at 1% level.

* Significant at 5% level.

Conclusions:

In this study, treating gender inequality, measured by gender inequality index (GII), as an endogenous variable, and a number of socioeconomic variables as exogenous variables, econometric models have been estimated.

The results of the study support the theory that an increase in women's socioeconomic status is related to a decrease in gender inequality. These results are largely in accordance with previous findings and theories.

Multiple regression analysis revealed that the variation in gender empowerment in the Arabian Peninsula Countries is better explained by four variables namely, female education, share of female seats in the parliament, adolescent fertility and female labor force participation. 94% of the variation in gender empowerment is explained by these variables.

The regression results also show that the variables adolescent fertility and share of female seats in the parliament significantly affect gender empowerment. Higher is the adolescent fertility rate in a country, higher is gender inequality, and higher are female representatives in the parliament, lower is gender inequality. Female education does have a significant relationship with gender inequality, suggesting that the decline of gender inequalities has been most significant in countries characterized by higher levels of female education. Our findings suggest that a higher level of female education in a country's lower level is gender inequality.

If social institutions prevent women from working outside of the house, increasing the female education rate will not have a sizeable effect on female participation in the labor market. If men do not accept that women exercise authority, higher education of girls will not increase the number of women managers. (Jutting et al, 2008). and consequently female education does not have any impact on gender empowerment.

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Appendix Table (1a): Socioeconomic Indicators of Arabian Peninsula

Country	POP	PGR	GDPP	OPR	MED	FED	MLP	FLP	MMR	AFR	CPR	ANC	BSP	SPF	GII
Bahrain	1.2	7.5	16.9	0.2	74	57	86	33	32	17	62	99	99	14	0.51
Qatar	3.6	5.6	59.9	0.8	54	62	93	49	12	16	43	99	100	0	0.67
Saudi A	25	2.4	14.5	8.2	60	50	82	22	18	26	80	94	94	0	0.76
UAE	5.0	6.0	44.5	2.2	77	76	92	42	37	16	28	90	100	22	0.46
Kuwait	3.9	0.6	29.9	2.2	44	52	84	54	4	13	50	99	100	14	0.45
Oman	3.1	3.1	14.5	0.8	82	65	79	26	64	10	24	100	98	9	0.59
Yemen	23	3.0	1.3	0.3	24	7.6	74	20	430	68	27	47	36	0.7	0.85
Iraq	31	3.0	3.1	2.4	42	22	71	14	300	85	50	84	89	25	0.75
Jordan	5.9	2.2	3.9	-	74	57	78	24	62	24	57	99	99	8.5	0.61

Source: (1) United Nations, Human Development Report, 2010 (2) Arab Human Development Report, 2010.

Appendix Table (1b): Definition of the socioeconomic indicators

Indicator	Abbreviation
Population (million)	POP
Population growth rate (%)	PGR
Gross domestic product per capita	GDPP
Oil production (million barrel per day)	OPR
Male education (at least secondary school %)	MED
Female education (at least secondary school %)	FED
Male labor force participation (%)	MLP
Female labor force participation (%)	FLP
Maternal mortality ratio	MMR
Adolescent fertility rate (Per 1000 women (15-19)	AFR
Contraceptive prevalence rate (%)	CPR
Antenatal coverage of at least one visit (%)	ANC
Births attended by skilled health personnel (%)	BSP
Seats in parliament (female)-%	SPF
Gender inequality index	GII