

# The Dual Impact of Economic Growth and Trade Openness in Explaining the Gender-Gap in Employment: Case of Arab Countries

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## Abstract

*This study aims at investigating the dual impact of trade openness and economic growth on gender-gap in employment for selected Arab countries in the last three decades. The panel data were extracted from the World Bank Indicators (WBI). To account for potential heterogeneity and non-stationarity in some series, the method of Weighted estimation for Dynamic Least Squares (DOLS) is used. The main findings substantiate the importance of both demand side factors such as economic growth and trade openness on gender-gap in employment as well as the supply side factors like education and fertility rate. The main variable of concern which is the trade openness has revealed as expected a positive and highly significant impact on gender-gap in employment. The GDP growth shows negative and significant impact on the gender-gap in employment, which was in favor of more male employment. Other factors such as education were no more drivers for more female employment but it might be driver for more female unemployment. It shows a negative impact for only young females but it was insignificant for other groups. Finally, fertility rates and urbanization have shown as expected a negative and significant impact on gender-gap in employment which still band more female employment with lack of convenient and affordable child care services.*

**Keywords:** Trade Openness, Gender-Gap in Employment, Arab Countries.

## Introduction

Women empowerment basically is the women real participation in decision making process at individual, family, and society levels– author definition-. Beside the importance of social and political participation in enhancing women empowerment, the economic participation is the main driver for more women empowerment. Simply, the proceed of economic participation (income) will make them real contributors in decision making process at all levels. They decide what is good for them instead of following others directions. As I believe, in case of women, the economic participation is preceding and prerequisite for more social and political involvement. Many studies at micro and macro level have attempted to explain the cross-country variation in women participation in economic activity as well as the differences in gender-gap in economic activity. Beside the genuine importance of gender equality in general and in economic activity in specific for more women empowerment, it is confirmed that feminization of the labor force bears a positive relationship with economic growth (Klasen, 2018; Klasen and Manuel, 2018; Vásquez Rodríguez, 2018).

However, most studies in this field were at micro level (Kleven and Landais, 2017) and some at macro level which have attempted to explain the determinants of female labor force participation rate (Sherverick, 2014; Jaumotte, 2003; Chen et al, 2014) and the gender-gap in wages (Khitarishvili, 2013; Schober and winter, 2011). Other studies attempt at explaining the cross-country variation in gender-gap in economic activity by incorporating many relevant factors such as socioeconomic and demographic factors. Main findings have assured the importance of education, wage gap, urbanization, and social attitudes as the main explanatory factors for the gender-gap in economic activity. (Klasen and Manuel, 2018).

## The Importance of This Study

The importance of this study is driven mainly from the importance of economic participation as the first and main step for more women empowerment. In opposite to most of studies in this field which tried to identify the main determinants for women economic activity (Female Labor Force Participation) or the

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gender-gap in economic activity and ignoring the importance of trade openness as potential determinant, this study will be more precise in explaining the cross-country variation in gender-gap in employment (rather than the general economic participation) at macro level for the case of Arab countries for the period 1990-2020 and attempt to show the impact of trade openness as potential determinant for the gender-gap in employment beside other control variables.

Therefore, this study aims at providing aggregate level evidence on the role of trade openness in explaining the gender-gap in employment as a part of gender-gap in economic activity for Arab countries based on data availability. More precisely, does the cross-country variation in gender-gap in employment can be attributed to trade openness, other control variables will be considered such as gender-gap in education, economic growth, fertility rate, urbanization, and foreign direct investment.

#### *Figures and Facts on gender-gap in Employment: case of Arab countries*

Recent data as shown in table (1) reassure the fact of cross-country variations in gender-gap in employment at group level. The gender-gap in employment (female to male employment to population ratios, 15+) was the highest in Arab World compared to other groups of countries. It was 24.2% in Arab World while it is 63.5% (World) 70.8% (High income countries) 59.3% (middle income countries) 75.8% (low income countries). More obviously, the gap is huge in Arab world and MENA countries as compared to other group of countries. It is no wonder if noticed the very low economic growth and high unemployment rates among females in Arab World and MENA compared to other groups of countries.

On the other side, the trade openness seems to be the highest in Arab World and MENA countries. Which is a puzzle; high trade openness is correlated with lowest female employment rates over around the world. However, high trade openness is esteemed from high Oil exports and it is known that oil industry is male-intensive employment.

**Table (1)** Facts on Gender-Gap in Employment and Unemployment vs Trade Openness and GDP Indicators: Group of Countries (2019)

<b>Selected Variables/ Group of Countries</b>	Em ploy men t to pop ratio , 15+ , total (%)	Em ploy men t to pop ratio , 15+ , fem ale (%)	Employment to pop ratio, 15+, male (%)	U ne m p, total ( % of total LF)	Unemp, female (% of FLF)	Unemp, male (% of male LF)	T ra d e ( % of GDP )	G D P pe r ca pita	GDP growth (annual %)
<b>World</b>	57.55	44.68	70.41	5.37	5.52	5.28	58.24	11072.85	2.34
<b>High income</b>	58.08	50.87	65.42	4.80	5.08	4.58	61.18	44360.24	1.59
<b>Middle income</b>	56.87	42.28	71.34	5.58	5.74	5.48	49.52	2699	3.66

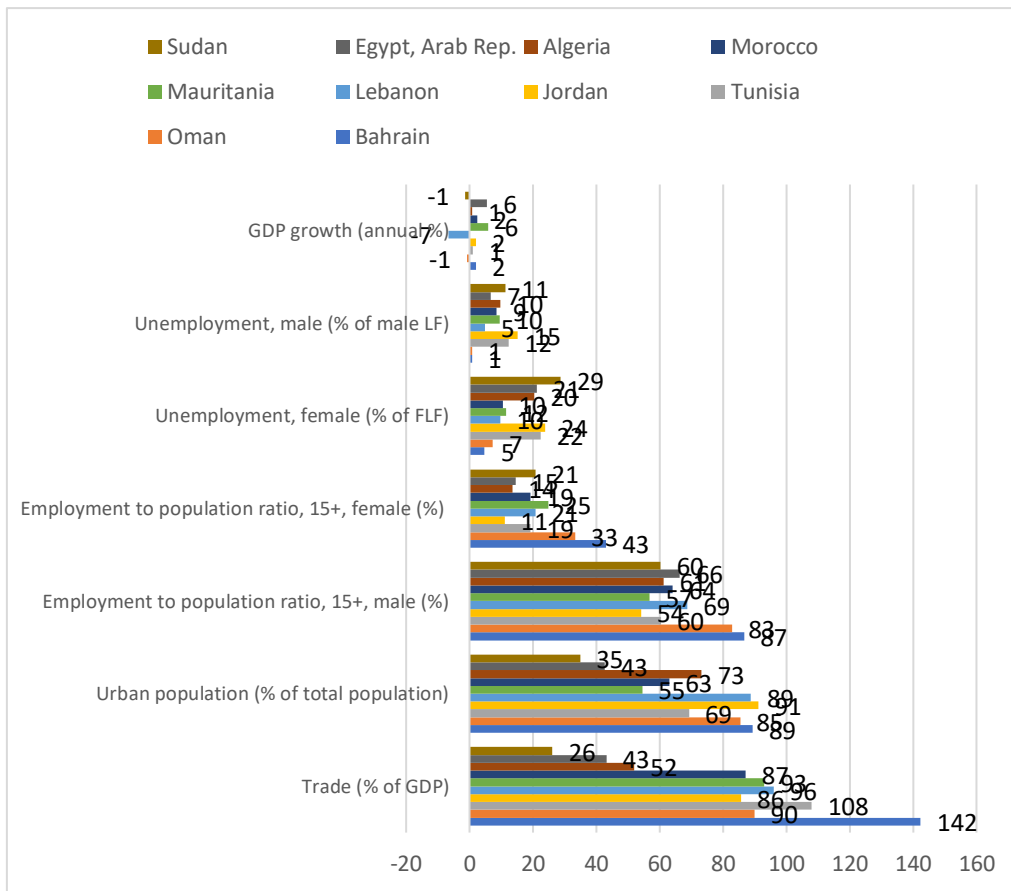
<b>Low income</b>	64.1 2	55.3 9	73.11	4. 61	4.61	4.62	0. 0 0	83 8.6 9	4.11
<b>Middle East &amp; North Africa (excluding high income)</b>	39.2 3	13.9 3	64.53	11 .2 1	19.78	9.12	6 5. 5 3	41 76. 45	-0.38
<b>Least developed countries: UN classification</b>	64.0 4	53.7 3	74.70	4. 34	4.74	4.03	5 1. 6 6	10 11. 65	4.34
<b>Arab World</b>	42.9 1	16.3 0	67.32	10 .2 1	19.87	7.74	8 5. 1 0	64 84. 12	1.52

Prepared by author, Source: The World Bank Group (2021). World Development Indicators.

<https://databank.worldbank.org/source/world-development-indicators>

For a selected non-oil Arab countries, figure (1) and table (2) below assure the fact of cross-country variations in gender-gaps in employment and unemployment, also huge variations in trade openness and economic growth. It is a clear the descriptive correlation at least in the direction between gender-gap in employment and some relevant variables. However, these facts do not show clear potential relationship between trade openness and gender-gap in employment. Moreover, it needs further analysis to show the real impact of trade openness on gender-gap in employment taking into consideration other relevant variables such as gender-gap in education, urbanization, economic growth, and gender-gap in unemployment rates.

Figure (1): Gender-Gap in Employment VS Relevant Variables: Selected Non-Oil Arab Countries (2019)



Prepared by author, Source: The World Bank Group (2021). World Development Indicators.

<https://databank.worldbank.org/source/world-development-indicators>

Table (2) Facts on Gender Gap in Employment vs Trade Openness and other Control Variables: Selected Arab Countries (2019)

Selected Variables/ selected Arab Countries	Employment to population ratio, 15+, male (%)	Employment to population ratio, 15+, female (%)	Unemp, male (% of male LF)	Unemp, female (% of FLF)	GDP growth (annual %)	Trade (% of GDP)	Urban population (% of total population)
Bahrain	86.69	43.15	0.75	4.76	1.99	142.36	89.394
Libya	55.25	25.8	15.35	24.13	2.54	117.47	80.393
Oman	82.92	33.32	0.83	7.37	-0.83	90.00	85.443
Tunisia	60.38	19.31	12.39	22.41	1.04	107.91	69.254
Jordan	54.12	11.12	15.29	23.81	1.96	85.69	91.203
Lebanon	68.66	20.85	4.84	9.77	-6.70	96.04	88.758
Iraq	66.83	8	10	30.59	4.45	72.46	70.678
Mauritania	56.81	24.86	9.5	11.52	5.93	93.04	54.507
Morocco	64.16	19.33	8.54	10.47	2.48	87.14	62.994
Algeria	61.21	13.53	9.67	20.44	0.80	52.03	73.189

<b>Egypt</b>	66.38	14.52	6.73	21.33	5.56	43.24	42.73
<b>Sudan</b>	60.31	20.9	11.44	28.82	-1.33	26.20	34.936

Prepared by author, Source: The World Bank Group (2021). World Development Indicators.

<https://databank.worldbank.org/source/world-development-indicators>

## Literature Review

This section displays some relevant studies that explain the gender-gap in economic activity in general and gender-gap in employment.

In general, part of these studies at micro level have analyzed the overtime convergence of labor force participation rates and earnings for both men and women over the path of development (Kleven and Landais, 2017; Olivetti and Petrongolo, 2016; Gaddis and Klasen, 2014). They summarize the main drivers for the overtime convergence in gender-gap economic activities and earnings by the following: they emphasizes the importance of structural changes such as the evolution of industrial structure and the growth of service sector as being female-oriented in employment. Also the importance of demographic transition such as low fertility rate, convergence in educational attainment and the striking changes in the values or norms surrounding the role of women.

The study of EIGE (2017) about the economic benefits of gender equality in the European Union investigate the socio-economic impacts of increased gender equality and found that encouraging more women participation in the labor market and improving their attainment in education would have a significant positive effect on GDP per capita and employment of women.

Vásconez Rodríguez (2018) investigates the relationship between the feminization of the labor market and economic growth in five Latin American countries and confirms that feminization of the labor force bears a positive relationship with economic growth.

Cuberes and Teignier (2011) argued that gender discrimination measured by restrictions on women access to managerial positions, participating in labor force and to access formal employment have showed a significant negative economic effect on resource allocation, aggregate productivity and on income per capita.

The study of Mukherjee and Mukhopadhyay (2013) analyzed the data for 61 developing countries of Asia, Africa, and Latin America in 2010 and surprisingly documented that gender inequality in labor force participation has a positive impact on economic growth.

The work of Hakura, D. et al (2016) found that both income and gender inequalities in Sub-Saharan Africa are negatively associated with per capita GDP growth mainly in lower income countries.

For Arab Region, the study of Al-Shammari and Al Rakhis (2017) reported that no statistical evidence on empirical influence of gender inequality in education and labor market on the economic growth for the period 1990-2014. While in the context of the Jordanian economy, a study (Bataineh & Athamneh, 2016) showed that the contribution of females to the national economy was higher than males during the period (1970-2012). Unlike other sectors, the study found the productivity of females was about three times for males in service sector, which in turn participates in two third of the national income of the country.

Regarding the role of trade liberalization on gender-gap in economic activity and in employment rates, the work of (Wang, F. et all, 2019) on gendered effects of trade liberalization has confirmed that lowering output tariffs enhance both men and women employment in manufacturing industries with higher impact on female employment which in turn reducing the gender-gap in employment. While tariffs reduction on local inputs -in contrast- have showed the opposite. However, the study of (Audi, M. and Al, A. 2016) on

gender-gap and trade liberalization for five SAARC countries has revealed that trade liberalization enhance both men and women participation rates but doesn't reduce the gender-gap in participation rates. Asma and Behrman (2010) analyzed the effects of trade openness on gender-gaps in economic activity rates for the case of Pakistan over six decades and found that increased international trade have reduced significantly the gender-gap in labor force participation.

Simone, N. (2016) work has assessed the potential relationship between increased trade openness (resulting from trade liberalization) and the gender-gap in employment opportunities and earnings in Camerom. The study confirmed that trade openness hasn't increased job opportunities for women but narrowing the gender-gap in wages. Because trade openness doesn't expand the export sectors in which most of women are working.

The work of Pieters, J. (2018) about trade liberalization and gender inequality has presented different pros and cons upon answering its main question " Can free-trade policies help to reduce gender inequalities in employment and wages? ". Yes, trade can increase women's employment opportunities and wages if trade polices benefit female-intensive industries, also if promote competition which in turn reduce discrimination.

## Methodology: Data and model

### *Data*

To explain the cross-country variation in gender-gap in employment, this study will use panel data extracted from the World Bank indicators (WBI, 2021; the World Bank Group) for 22 Arab countries with complete data over the period 1990-2019 ( 682 observations).

### *Model*

To assess the potential relationship between the trade openness and different socioeconomic and demographic factors on gender-gap in employment, the study will employ the following model:

$$Y_{ii} = F (X_i). \quad i = 1 \dots 6. \quad ii: 1 \dots 3.$$

Where:

Y: gender-gap in employment. For the purpose of this study, the study proposed three measures for the gender-gap in employment:

Y1; the female to male employment ratios from total population (15+).

Y2: the female to male employment ratios from young population (15-24 years).

Y3; the ratio of female employment to total population employment ratio (15+).

Hence, any positive impact of each of proposed explanatory variables means reduction in gender-gap and vice versa.

X1: Trade openness measured by the ratio of trade to GDP.

X2: GDP annual real growth rate.

X3: Gender-gap in education measured by the ratio of female to male gross school enrollment in tertiary level.

X4: Fertility rate measured by the total births per women.

X5: Urbanization ratio measured by the percentage of urban population to total population.

X6: Foreign direct investment (FDI) measured by net inflows as percentage of GDP.

### *Empirical results*

Based on Kao Residual Cointegration Test and Augmented Dickey-Fuller Test (unit root test), the null hypothesis of no cointegration is rejected. Since the variables are cointegrated and some are non-stationary, the best model is Panel Dynamic Least Squares (DOLS). Moreover, Endogeneity issue might occur in dynamic model caused by using lagged dependent variable as one of predictors. Therefore, weighted estimation is used as panel method to account for the unobserved heterogeneity. Regarding the model statistical fitness, the four estimated models have revealed very high  $R^2$  and very low standard error of regressions.

Based on results in table (3), the trade openness as the main predictor of interest has reported as expected positive and very significant impact on gender-gap in employment (at least on Y1 and Y3). This means that higher trade openness is correlated positively with lower gender-gap in employment as measured by female to male employment ratio either in total or with people between 15-24 years. This result is consistent with the evolution of service sector as the dominant sector in most Arab countries that lead the female employment.

Also, fertility rate has showed the expected impact; high fertility rates are correlated negatively and significant (at least for first and third models) with low female employment ratios which in turn increased the gender-gap in employment. The female's employment within ages 15-24 are not affected by the fertility rates as they have no childcare responsibilities.

GDP growth rate and education have revealed unexpected results. Gender-gap in education showed insignificant impact in first and third model while showed unexpectedly negative and high significant impact on gender-gap in employment especially for young female within ages 15-24 years. However, this result could be explained by the fact that most young females (ages 15-24) with tertiary education are being unemployed after graduation. Moreover, GDP growth rate has revealed significant and negative impact on female employment in first and third models. Females are less benefited from higher GDP growth rates. Higher growth rates are correlated with higher males employment ratios compared to females ones.

For urbanization, it is reported negative and very significant impact on female employment ratio which in turn increasing the gender-gap in employment. In urban areas, the childcare nurseries are expensive and mostly no family help is available compared to rural areas. Therefore, home responsibilities with no family help alternatives are the most important barriers facing urban women.

Finally, foreign direct investment has showed very small and insignificant impact on gender-gap in employment. This could be explained by the fact that most of the foreign direct investment is directed to sectors and industries with male-intensive employment.

**Table (3)**

Method: Panel Dynamic Least Squares (DOLS) Panel method: weighted estimation. Long-run variance weights (Bartlett kernel, Newey-West fixed bandwidth)			
<b>Explanatory variables</b>	<b>Dependent variable:</b> Y1; the female to male employment ratios from total population (15+). Y2: the female to male employment ratios from young population (15-24 yrs). Y3; the female employment ratio to total population employment ratios (15+).		
	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>



	Coefficients	Coefficients	Coefficients
Trade openness	0.00173**	0.00112*	0.00227***
GDP Growth rate	-0.00589***	0.00214	-0.00734***
Gender-gap in education	0.06686	-0.11593***	0.09232
Fertility rate	-0.11004***	-0.03277	-0.13841***
Urbanization ratio	-0.01655***	-0.00718***	-0.02083***
FDI	0.00013	0.00154	0.00014
<b>Relevant statistics</b>			
R-squared	0.995236	0.999451	0.996724
Adjusted R-squared	0.967675	0.996271	0.977773
S.E. of regression	0.010463	0.009462	0.012741
Long-run variance	6.96E-06	5.51E-06	1.01E-05
Mean dependent var	0.266454	0.312081	0.409956
S.D. dependent var	0.058197	0.154952	0.085457
Sum squared resid	0.001533	0.001253	0.002273

## Conclusion

Based on the results, this study argue that gender-gap in employment can be reduced which in turn enhance women empowerment by focusing on demand side factors. The trade openness as the main factor of interest has reported as expected a positive impact on the three measures of gender-gap in employment (Y1, Y2, and Y3). Its coefficient was very small but highly significant. Also, it seems that GDP growth is male-oriented in employment. This is why showing negative and highly significant impact on gender-gap in employment. Female employment ratio is growing in fewer rates than the male employment ratio as a result of economic growth. This is why gender-gap in employment is responding negatively to GDP growth rate.

On other side, the supply side factors have showed less impact on gender-gap in employment. As example the gender-gap in education is no more a determinant for more female employment or economic activity in general. It shows unexpectedly positive but insignificant impact on gender-gap in employment. It could be explained by the higher correlation between female education and female unemployment rates. However, fertility rates which reflect home responsibilities still have negative and significant impact as expected on gender-gap in employment. It is a result of the low child enrollment ratio in child care facilities. The main reason is the lack of convenient and affordable child care services in most of Arab countries.

Finally, Arab women are not involved or benefitted at all from foreign direct investment. It shows very small and totally insignificant impact on female employment. This implies that policies concerning foreign direct investment should be revised to benefit both male and female employment. The study argue that the invisible hand of FDI in most Arab countries is the tax exemptions and low pay work force.

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