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IMPACT OF EDUCATION INEQUALITY ON ECONOMIC GROWTH IN OIC COUNTRIES

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Abstract:

Macroeconomic theories affirm the crucial impact of education on economic growth. Education may significantly contribute to the sustainable economic growth by enhancing human capital. Inequalities in the distribution of education among individuals result in a reduction in the overall level of human capital and have a negative impact on economic growth. Thus, this study utilized data from Organization of Islamic Cooperation (OIC) countries between 2010 and 2020 to examine the impact of educational inequality on economic growth in these nations using the Fully Modified Ordinary Least Square (FMOLS) approach. The study's results indicate a negative correlation between education disparity and economic growth, supporting the main hypothesis of the study. To achieve economic growth and ensure its long-term viability, it is essential to prioritize women's education and narrow the gender gap.

Keywords: Gender Inequality, Education, Economic Growth, Organization of Islamic Cooperation (OIC) countries, Fully Modified Ordinary Least Square (FMOLS) method

1- INTRODUCTION

Macroeconomic theories validate the essential contribution of education to economic progress. Education contributes to sustainable economic growth by enhancing human capital, fostering innovation, and facilitating the transfer of information for the adoption of new technology. Education is a crucial component of human capital that influences productivity and economic growth in the economic literature. Inequalities in the distribution of education among individuals result in a reduction in the overall level of human capital and have a negative impact on economic growth. International organization data shows that women have limited access to education compared to men, despite the significant impact education has on employment, income, and health. Thus, this study will investigate the influence of educational disparity on economic development.

Economic growth is a consistent rise in Gross Domestic Product (GDP). The history of industrialized countries demonstrates that explaining economic growth rate solely via physical capital and working population is inadequate. Another component has significantly contributed to economic growth. This element is referred to as surplus or residual factor, which is the primary cause of the increased productivity of capital and labor. Several economists argue that the surplus or residual factor, which plays a significant role in the economic expansion of developed nations, is closely linked to improved education. Increased training for the labor force leads to improved quality and subsequently higher output levels (Sadeghi & emadzadeh, 2004). Education is a crucial component of human capital that influences productivity and economic growth, as highlighted in economic studies. Inequalities in the distribution of education among individuals result in a reduction in the average level of human capital, which is anticipated to have a detrimental impact on economic growth. International organizations data show that women have limited access to educational opportunities compared to men, despite the significant impact of education on employment, income, and health. Several empirical studies have demonstrated that women's education not only directly impacts economic growth but also has indirect consequences, such as reducing fertility rates and dependence ratios, lowering child mortality rates, and positively influencing children's schooling. Women's education impacts the subsequent generation (Nikpei Tabari and Elmi, 2016). Economists have come to believe that providing equitable educational opportunities for all by expanding educational facilities can lead to higher per capita income, economic growth, and improved income distribution. Education is a fundamental human right and a key pillar for societal growth. Effective planning in education can yield significant economic, social, and personal benefits. Extensive data supports a strong correlation between education and income. Higher

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education levels tend to result in greater work opportunities, leading to improved economic situations for individuals and society as a whole (Afghah et al, 2014).

Since the mid-twentieth century, the incorporation of human capital and education into economic analysis has led to the emergence of the education economy as a distinct concept in economics. Economic growth studies extensively analyze the processes involved in creating new technologies and developing human capital. Education is a key role in enhancing human capital, as indicated by both theoretical models and empirical research (Deniz and Dogruel, 2008).

Human capital has a crucial role in contemporary economic development. Economic growth relies not just on workforce size but also on its efficiency. Enhancements in human resources quality result in increased skills, experience, and capabilities in individuals. Simultaneously, advancements in knowledge and technology contribute to a more efficient and productive capital factor. The increase in efficiency and productivity in both elements of production is attributed to education and the advancement of technological knowledge (Taghavi and Mohammadi, 2006).

Gender inequality, often known as gender discrimination, refers to the unequal access to resources and opportunities between females and males due to cultural, social, and economic reasons. Inequality between men and women can exist in work, earnings, education, political influence, and access to economic resources. Statistics from international organizations show that women have limited access to resources and opportunities compared to men. Multiple studies have shown that gender disparity hinders economic progress. Therefore, the exclusion of women from opportunities impacts both women and society as a whole. We acknowledge the significance of the statement and want to investigate how educational disparity can impact economic growth within the Organization of Islamic Cooperation (OIC) countries.

2-THEORETICAL FOUNDATION

2-1-Education and Growth

Theoretical literature indicates that education is a crucial component of human capital. The correlation between education and growth is vital for the development process. Education can enhance growth through three primary methods:

Education enhances the quality of labor and physical capital by applying knowledge. Education generates externalities that impact other sectors of society, countering the decreasing benefits of capital. Education plays a crucial role in research and development and in attracting foreign direct investment (Andersson, 2010, P. 5). Adam Smith introduced the human capital theory in his book "The Wealth of Nations." Following Smith, economists such as Ricardo, Malthus, Stuart Mill, and Marshall have all highlighted the significance of investing in human capital and education. In the 1960s, Theodore Schultz introduced the concept of "human capital" to emphasize the value of human abilities. He highlighted that human capital, like other forms of capital, may be improved and invested in through education, experience, or training. Human capital theory posits that labor varies in quality and may be enhanced through investments. Investing in education is a prime example of investing in human capital, yielding returns in the form of wages or other compensations (Kaur & Letic, 2012). Denison (1962), Becker (1964), and Nelson and Phelps (1966) emphasized the significance of human capital and education in economic progress. Becker theorized that countries have varying growth rates due to their distinct levels of human capital. Nelson and Phelps (1966) stated that highly educated workforces are more adept at adopting new technologies compared to less educated workforces, leading to greater technological advancements and economic growth in the country. It was assumed that higher levels of education among the people would lead to increased productivity (Jamshidnezhad, 2005). According to Lucas (1988), education enhances workers' productivity by providing valuable knowledge and skills. Education is a crucial component of human capital and contributes to the production function with a positive coefficient. Some argue that the economic benefits of educating girls surpass those of teaching boys (Schultz, 2001). Female educational advancement not only directly impacts society but also creates positive externalities that stimulate economic development. Therefore, it is crucial to prioritize women's education. Numerous research validate the indirect impacts of women's education. Some of them are listed below. Smith and Haddad (2000) conducted a study across 63 nations and discovered that higher levels of female education lead to a reduction in malnutrition. Between 1970 and 1995, an increase in female education led to a 43% reduction in malnutrition. Countries with greater female secondary-school participation exhibit reduced infant mortality rates and decreased prevalence of HIV and AIDS (Tembon and Fort, 2008). Children in India whose mothers are literate study over two hours more each day compared to children with illiterate mothers (Behrman et al, 1997). UNESCO research indicated that in Bangladesh, educated women are three times more likely to engage in political gatherings (Tembon and Fort, 2008).

2-2-Gender Inequality in Education and Economic Growth

Economic growth is influenced by the accumulation of

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economic assets and their returns, with gender equality playing a crucial role in enhancing human capital, improving labor productivity, and boosting physical capital. Studies by Schultz, Denison, Solow, Romer, Lucas, and Barro have highlighted the correlation between women's education and economic growth, emphasizing the importance of investments in education and healthcare.

Decreased educational attainment in both males and females leads to reduced human capital, negatively impacting economic growth. Women have limited access to educational opportunities, but economists view education as a crucial factor in empowering women. Female education not only directly impacts economic growth but also indirectly, such as reducing fertility levels, decreasing child mortality, and fostering future generations' education. Promoting female education and reducing gender inequities in education impact both women and society as a whole.

The non-tradable nature of skills, like education, means that representative features like a society's average years of education are insufficient to adequately describe the human capital of countries. It is important to analyze the distribution of education, including both the average amount in society and its absolute and relative distribution. The Gini coefficient of education, developed by Thomas, Wong, and Fan (2001), can be used to measure educational disparity.

Education is a key element of human capital due to its ability to enhance labor productivity and provide external advantages that extend beyond the individual to benefit society as a whole. Expanding educational possibilities at all levels can enhance a country's economic growth through various means, such as enhancing workforce productivity, generating substantial employment opportunities and income for teachers, school staff, construction workers, establishing a group of well-educated individuals to fill roles left by foreign experts or positions in the public service sector, and delivering educational programs to enhance literacy and fundamental abilities while encouraging a fresh mindset across different societal groups.

2-3-Measuring Education

In the educational inequality literature, in order to compare different groups according to the level of education, criteria such as the average number of years of study, the rate of probation, the dropout rate or the percentage of people studying in an age group are used .

There are other categories of indicators through which it is better to compare the quality of education provided by comparing students' performance in joint exams. These tests, which measure the cognitive abilities of the target community, can be held jointly at the level of students in one country, such as the national test for entering the university, or can be held as international tests between students in several countries. For example, Salehi Esfahani, Hossein and Asad (2014) have used the Thames data to examine the differences in the educational achievements of students in Middle Eastern countries or Ferreira and Gino (2011) calculated inequality in educational attainment for the 57 countries participating in the Pisa test.

Different criteria are used in studies to measure different aspects of education. Percentage of age group studying, average years of community education, or a review of the quality of education provided, either by examining allocated resources (such as educational budget, teacher education level, or educational facilities) or by examining educational output.

The ratio of active student's age group to the total population is one of the first criteria used to study human development (Mankiw et al., 1992). This ratio is usually considered for primary and secondary education. The enrollment ratio is a flow variable and therefore does not show the accumulated education achievement. As a result, the use of this variable in growth models is usually inappropriate. Also, since this variable does not indicate the reserve of human capital, using this criterion in the study of educational inequality is problematic.

According to Psacharopoulos and Arriaga a (1986), if the goal is to provide an indicator of human development, the best way is to measure the stock of educational attainment, which can be defined as the average number of years of education in society. Barro and Lee (1993) also compiled comprehensive data to calculate educational attainment for different countries and used this index in growth regressions.

It should not be overlooked that by comparing the enrollment percentage or average years of study between different countries, we have ignored the difference in the quality of the education system of countries. In this regard, Card and Krueger (1992) have pointed out that in order to define an indicator for human development, mere quantity (for example) of the education provided is not enough and its quality must be taken into account.

3-THE THEORETICAL FRAMEWORK

The Knowles et al. (2002) framework is utilized in this study to account for the inequality in the distribution of years of schooling on the economic growth in the Organization of Islamic Cooperation (OIC) countries. Mankiw, Romer, and Weis (1992) endogenous growth model. The theoretical framework is defined as follows, starting with an extension of the whole Cobb-Douglass production:

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$$Y_{it} = K_{it}^{\alpha} GEI_{it}^{\beta i} X_{it}^{\lambda} \left(A_{it} L_{it}\right)^{1-\alpha-\beta i-\lambda} \quad (1)$$

Equation (1) demonstrates constant returns to scale and adheres to the law of diminishing return, assuming that the marginal product of each factor is positive. The labor-augmenting assumption posits that technological progress results in a corresponding increase in output per worker. In this context, Y represents the level of real output, K signifies the stock of physical capital, GEI denotes the educational inequality between girls and boys, X represents control variables including government expenditure, A signifies the technological level, and L signifies the labor force. Country i and time period t are denoted by the subscripts i and t, respectively .

The following quantities are obtained per effective unit of labor when equation (1) is divided by AL :

$$y_{it} = k_{it}^{\alpha} gei_{it}^{\beta i} x_{it}^{\lambda} \quad (2)$$

In accordance with MRW, technology and labor force are assumed to be determined by

$$L_{it} = L_{i0} e^{nt} \quad (3)$$

$$A_{it} = A_{i0} e^{gt} \quad (4)$$

The variables "n" and "g" denote the growth rates of the labor force and technology, respectively, under the assumption that they remain constant across nations. Following some mathematical manipulation, the regression equation becomes as follows:

$$LGDPP_{i,t} = \beta_1 LGEI_{i,t} + \beta_2 LI_{i,t} + \beta_3 LG_{i,t} + \beta_4 LExport_{i,t} + \beta_5 LImport_{i,t} + \varepsilon_{it} \quad (5)$$

It goes without saying that we anticipate negative coefficients of educational inequality on economic development in Organization of Islamic Cooperation (OIC) countries from 2010 to 2020. The abbreviations and definitions of research variables are presented in Table 1.

Table (1): definition and abbreviations of research variables

Symbol	variable	Description	resource
$GDPP$	GDP per capita	Consistent increases in GDP are indicative of economic growth. This statistic is created by dividing the gross domestic product by the median population. The aggregate value contributed to the economy by all domestic producers is added, any relevant taxes and subsidies that are not included in the product values are subtracted, and the product values are combined together to determine the gross domestic product (GDP).	World bank
GEI	Gender Educational Inequality	Inequality in the distribution of years of education was estimated based on the data of household surveys, which used Atkinson's inequality index.	United nation data
G	Public expenditure of the government	This type of expenditure includes all the government's current expenses for purchasing goods and services and most of the expenses related to national defense and security, but it does not include the government's military expenses.	World bank
$Export$	export of goods and services	All products and services produced in domestic markets with the intention of being marketed to the rest of the world are represented by exports. Actually, it is the export of products or services that are made in one nation and offered for sale in another.	World bank
$Import$	import of goods and services	The value of all commodities and services that are produced in other countries and are obtained by local markets is represented by imports. Actually, it is the import of products or services that are produced in one nation and brought into another by trade.	World bank
$I_{i,t}$	formation of gross fixed capital (gross domestic investment)	This type of investment includes land improvement (building walls, soil improvement, etc.), buying factories, machinery and equipment, building roads, offices, hospitals, commercial and industrial buildings.	World bank

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3-1-Unit root tests in panel data

In order to incorporate unit root tests into panel data, the following autoregressive model is assumed:

$$y_{it} = \alpha_i + \theta_i y_{it-1} + \beta_i x_{it} + \gamma_i t + u_{it} \qquad i = 1. \ldots . n \quad t = 1. \ldots . T \qquad (6)$$

In the unit root test, if $|\theta_i| = 1$, y_{it} has a unit root and is non-stationary, and if $|\theta_i| < 1$, y_{it} is stationary. A multitude of unit root tests exist, which can be broadly classified into two categories: those proposed by Levin, Lin Wecho (2002), Brightong (1994), and Hadri (2000) for common unit root, and those developed by Im Sons Shin (2003) and Fisher ADF for cross-sectional unit root. Additionally, Fisher PP (1932) is divided, as we shall elaborate.

3-2-Cointegration

An aspect worthy of consideration with respect to co-integration analysis is the observation that two non-stationary variables, Xt and Yt, exhibit identical stochastic trends. Consequently, these variables track one another over time, notwithstanding the non-stationarity of their linear combination. Indeed, long-term relationships between variables can be identified through the use of co-integration analysis; in this instance, the residuals derived from the model's estimation will exhibit stationarity (Abassinejad and Teshkini, 2012).

It appears crucial to analyze the co-integration relationship among variables in panel data, such as time series. Indeed, the validity and force of the panel co-integration tests surpass those of the co-integration tests conducted on an individual section basis. It is possible to utilize these assays despite the limited time period and sample size (Baltaji, 2005).

Pedroni (2004), Kao (1999), and Fisher tests all conduct the cointegration test on panel data utilizing Johansen's method (Madala and Wu, 1999), which will be elaborated upon in the following section.

The co-integration test in panel data operates under the following assumption: the absence of co-integration between the variables at all phases is deemed non-co-integration under the null hypothesis, while the existence of co-integration between the variables is indicated under the alternative hypothesis:

$$\begin{cases} H_0: \rho = 1 \\ H_1: \rho < 1 \end{cases} \qquad (7)$$

3-3- FMOLS

The estimates generated by the FMOLS method for tiny samples are dependable. An analysis of the long-term relationship between variables in composite data can be conducted using a variety of techniques. This approach is among the most well-known and possesses the subsequent characteristics:

The aforementioned is compatible with this method. When estimating significant variables using the ordinary least squares (OLS) method, the estimator exhibits consistency, meaning that the estimated value derived from a sample approaches the true value of the population at a rate of √N. However, when estimating insignificant variables that are interdependent through a co-accumulation relationship, the estimator demonstrates inconsistency; that is, the estimated value derived from the sample approaches the true value of the population at a faster rate of N.

It follows a normally distributed asymptotically.

Statistical inferences are feasible due to the modified criteria provided by deviation (Manzaf and Nosrati, 2017).

Indeed, this approach incorporates two overarching adjustments into the ordinary least squares (OLS) method: endogeneity correction and skewness correction.

The following regression is considered by Kao in order to validate the FMOLS method:

$$y_{it} = \alpha_i + x'_{it} + u_{it} \qquad (8)$$

The formula (23), where u_it is a constant and co-accumulated perturbation of degree zero, α_i is the width from the origin, and β is a K×1 vector of parameter coefficients. Equation (23), which depicts a system of co-integrated regressions, has the properties that x_{it} and y_{it}, respectively, are a K×1, 1×1, and co-integrate vector of the first order for each section.

$$x_{it} \sim \mathrm{I}(\mathbf{1})$$

$$y_{it} \sim \mathrm{I}(\mathbf{1})$$

$$u_{it} \sim \mathrm{I}(\mathbf{0})$$

$$x_{it} = x_{it-1} + \varepsilon_{it} \quad . \quad \Delta x_{it} = \varepsilon_{it} \qquad (9)$$

$$y_{it} = y_{it-1} + u_{it} \qquad (10)$$

$\hat{\beta}_{FMOLS}$ is estimated as formula (11):

$$\hat{\beta}_{FMOLS} = \left[\sum_{i=1}^{N}\sum_{t=1}^{T}(x_{it} - \bar{x_\iota})(x_{it} - \bar{x_\iota})'\right]^{-1}\left[\sum_{i=1}^{N}\left(\sum_{t=1}^{T}(x_{it} - \bar{x_\iota})\,\hat{y}_{it}^{+} - T\hat{\Delta}_{\varepsilon u}^{+}\right)\right] \qquad (11)$$

4- FINDINGS

4-1- Unit root test

Ascertain the long-term relationship between educational inequality and economic growth in the member countries of the Organization of Islamic Cooperation (OIC) from 2010 to 2020 through the estimation of the model using cointegration tests on panel data. An asymmetrical panel was utilized to generate the estimates, which increases the reliability

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of the results of the IPS, ADF-Fisher, and PP-Fisher tests compared to the LLC and PP-Fisher tests for detecting unit root in the variables. Table 2 contains a summary of the outcomes of these evaluations.

Table 2 result of unit root test

hypothesis	Null hypothesis: existence of a common unit root	Null hypothesis: the existence of cross-sectional unit root		
Test type / Variable	Levin, Lin And Chu (LLC)	Im, Pesaran and Shin W-stat	ADF - Fisher Chi-square	PP - Fisher Chi-square
LGDPP	-5.2567 *(0.0000)	-1.7583 0.00393)(**	138.64 (0.0581)	223.55 (0.0000) *
D(LGDPP)	-9.8678 (0.0000) *	-3.3798 (0.0004) *	169.16 (0.0006) *	291.51 (0.0000) *
LGEI	-5.4684 (0.0000) *	0.9933 (0.8397) *	101.39 (0.7948)	213.64 (0.0000) *
D(LGEI)	-5.1724 (0.0000) *	-6.0218 (0.0000) *	236.56 (0.0000) *	678.24 (0.0000)*
LI	-6.3601 (0.0000) *	-1.7182 (0.0429) **	148.91 (0.0156)**	168.59 (0.0007)*
LG	-5.4398 (0.0000) *	0.0488 (0.5195)	110.13 (0.3215)	224.74 (0.0000)*
D(LG)	-8.5959 (0.0000) *	-3.4970 (0.0002) *	160.39 (0.0002)*	362.15 (0.0000) *
Lexport	-5.5095 (0.0000) *	-2.2621 (0.0118)**	148.19 (0.0062) *	201.24 (0.0000)*
Limport	-5.6437 (0.0000)*	-2.0899 (0.0183)**	152.79 (0.0030)	218.99 (0.0000)*

* Significance at 1% level ** Significance at 5% level, Source: research calculations

Table 2 illustrates which variables are stationary at the level, namely LI, LExport, and LImport, while the remaining variables lack stationarity. Consequently, it can be asserted that the variables at hand are accumulated of the first order, denoted as I(1).

4-2-Model Estimation

Finding an appropriate and effective model is necessary in light of the benefits of the Fully Modified Least Squares (FMOLS) method discussed in the previous chapter, such as the removal of serial correlation, super-consistency, and asymptotic efficiency, as well as the modifications including skew correction and endogeneity correction. The use of this technique to estimation requires that the variables being studied have a co-integrated connection. A phenomenon known as co-integration occurs when a linear combination of non-stationary variables produces a stationary series, even when each variable is stationary on its own to the first order (Gujarati, 2018). The cointegration tests of Pedroni (2001) and Kao (1999) were used to achieve this goal. The test incorporates a Generalized Dickey-Fuller statistic in conjunction with a null hypothesis that the variables do not exhibit a co-integration relationship. The results of the tests, which are displayed in Tables (3) and (4), refute the null hypothesis and provide confirmation that co-integration and a long-term relationship exist between the variables.

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Table 3-The results of the Pedroni cointegration test in the studied countries

Pedroni's test considering the intercept					Pedroni's test considering the intercept and trend			
Intragroup panel statistics					Intragroup panel statistics			
	pedroni		Pedroni (weighted statistic)		pedroni		Pedroni (weighted statistic)	
test	statistic	prob	statistic	prob	statistic	prob	statistic	prob
Panel v-Statistic	-2.161	0.984	-4.0237	1.000	-0.160	0.563	-4.5160	1.0000
Panel rho-Statistic	5.7465	1.000	6.5078	1.000	8.1933	1.000	8.7224	1.0000
Panel PP-Statistic	-4.799	0.000	-7.7309	0.000	-11.34	0.000	-9.7223	0.0000
Panel ADF-Statistic	-4.292	0.000	-5.2856	0.000	1.4766	0.9301	2.3923	0.9916
Intergroup statistics (individual statistics)					Intergroup statistics (individual statistics)			
test	statistic		prob		statistic		prob	
Group rho-Statistic	9.3065		1.0000		11.048		1.0000	
Group PP-Statistic	-14.329		0.0000		-22.621		0.0000	
Group ADF-Statistic	-7.5769		0.0000		2.3751		0.9912	
Null hypothesis: absence of co-integration relationship (long term)								
Result: There is a co-integrated relationship between the variables with the intercept								

Source: calculations using Eviews 10 software

Table 4-The results of the Kao cointegration test in the studied countries

variables	Statistical value (ADF)	Probability	null hypothesis	result
LGDPP, LGEI, LI, LG, Lexport, Limport	-4.7724	0.0000	Absence of co-integrated relationship	The existence of a co-integrated relationship

Source: calculations using Eviews 10 software

The fully modified least squares (FMOLS) approach is used to estimate the final model based on the results shown in tables (3) and (4), which indicate that the variables under study have a long-term connection. Table 5 presents the estimation findings in detail.

Table (5) results of model estimation using FMOLS method

Explanatory Variables	Dependent variable: economic growth (LGDPP)			
	Coefficient	standard deviation	t statistic	)Prob(
LGEI	-0.0401	0.0049	-8.0955	0.0000
LI	0.3157	0.0081	38.685	0.0000
LG	0.2327	0.0079	29.217	0.0000
Lexport	0.3879	0.0066	58.640	0.0000
Limport	-0.3435	0.0085	-40.044	0.0000
R^2	0.995			
$\bar{R}^2$	0.994			

Source: calculations using Eviews 10 software

4-3-Result Analysis

4-3-1-Main Hypothesis Of The Research

1) Main hypothesis: *"There is a negative relationship between inequality in education and economic growth in OIC counters*."

Educational inequality has a statistically significant negative effect on the log GDP per capita in the studied countries, as indicated by the FMOLS method. An

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increase of one percent in educational inequality leads to a decrease of 0.04 percent in economic growth with 99% certainty. Education is a crucial kind of capital that influences productivity and economic growth. Unequal distribution of education can lower the average human capital level, resulting in decreased economic growth.

4-3-2-The influence of other explanatory variables

- Log gross capital formation (LI): The estimated coefficient for gross capital formation is positive and significant, so that with an increase of one percent in gross capital formation, the economic growth increased by 0.3157%. This indicates that capital plays an important role in increasing economic growth and development of countries, because it has the ability to move the production sector in an optimal combination with labor force and technology, and with the prosperity of trade and increase aggregate demand in the economy provided grounds for improving living standards and economic growth (Tobin, 1965).

- Log General Government Expenditure (LG): The coefficient for general government expenditure is positive and significant; it shows that an increase of one percent in General Government Expenditure will increase the economic growth by 0.2327%. Increasing public investment in physical and socioeconomic infrastructure promotes economic expansion. Government expenditure on health and education, for instance, raises worker productivity and accelerates the rise of the nation's production. Similarly, investing in infrastructure—roads, communications, energy, etc.—lowers production costs, boosts company profitability, and attracts private sector capital, all of which contribute to economic growth (Korai, 2009; Sharma, 2008; Abdullah , 2000 and Al-Youssef, 2000).

- Log export of goods and services (Lexport): The coefficient estimated for the export of goods and services according to the FMOLS method in the studied countries is positive and significant with a confidence of 99%, so that with an increase of one percent on export of goods and services, the economic growth increased by 0.3879%. Export earnings play an important role in achieving economic growth in low-income and high-income countries. Exports are vital for the economic development of countries. Exporting is likely to lead to increased knowledge and higher levels of human capital, which can lead to improved economic growth in countries (Lowe and Beamish 2001). Kaldor (1968) believes that growth in industrial production is possible only through foreign demand with a high growth rate. That is, through export. The higher the growth rate in the manufacturing industry that determines exports, the faster the transfer of labor from sectors where economic productivity is low to the industrial sector will be faster, which will lead to increased productivity and economic growth. This finding is consistent with the results of the study by Kilavz and Altai-Topko (2012).

- Log import of goods and services (Limport) has a negative and significant effect; its coefficient shows that a 1% increase in import of goods and services will decrease economic growth by 0.3435%. This means that when a country imports goods, it buys them from foreign producers, as a result of which imports cause money to leave this country and reduce economic growth. This finding is consistent with the results of Kartisari's study (2017). This finding supports the GDP theory but contradicts some empirical evidence from import growth that import competing products may induce innovation and ultimately lead to economic growth.

4-4-Collinear test results

Collinearity basically means the presence of a complete or incomplete linear relationship between all or some of the explanatory variables in the model. In the general sense, this term includes complete collinearity and incomplete collinearity. Collinearity only includes the linear relationship between the explanatory variables and will not consider the non-linear relationship between them, the signs of its existence can be the uncertainty of the regression coefficients, high coefficient of determination (R^2), large standard deviation and the result of increasing the confidence interval, the non-significant t-ratio and the high correlation coefficient and close to one pointed out. If there is high collinearity between the explanatory variables, the model cannot make a correct estimate of the parameters. Variance Increasing Factor (VIF) can be used to check collinearity. If the value of this statistic

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is greater than 5 or 10 for an explanatory variable, it means the existence of collinearity between the variables of the model(Gujarati, 2018). The results of this test are presented in table (4-6).

Table 4-6-Collinearity test results

variable	VIF
LEI	1.0322
LI	1.8600
LG	1.4144
Lexport	3.0128
Limport	3.6700

Source: calculations using Eviews 10 software

5- CONCLUSION

The study reveals an inverse relationship between inequality in education and economic growth in the Organization of Islamic Cooperation (OIC) countries. Inequality in education distribution leads to a decrease in average human capital, which is directly related to lower economic growth rates. Previous studies have shown that gender gaps in education negatively affect economic growth, affecting not only individuals but also society as a whole. Investment is a driving engine of economic growth, as increased investment leads to increased production, income, welfare, employment, and decreased unemployment rates. Government expenditure, such as road construction and electricity access, also directly impacts economic growth by reducing production costs and promoting private sector investment. Trade is considered an engine of economic growth and development, and countries can contribute to their economic cycles by exporting goods and services that they have an advantage. Excessive import of goods and services weakens domestic industries, leading to decreased production and economic growth. In conclusion, the study highlights the importance of addressing inequality in education, government expenditure, export of goods and services, and import of goods and services in OIC countries to promote economic growth and development.

6- SUGGESTION

In the end, according to the results of this study, suggestions for the OIC countries, especially Iraq, are presented as follows:

- Showing that gender inequalities in education has negative effect on economic growth. Therefore, reducing the gender gaps is necessary for enhancing economic growth.
- Considering the positive effect of government public spending on economic growth, firstly, governments should ensure that their spending is properly managed, in a way that increases the production capacity of the country and accelerates economic growth. . Secondly, the government should increase its investment in the transportation and communication sector, because this will reduce the cost of doing business and also increase the profitability of companies. Thirdly, the government should increase its' expenditure on education and health sectors in a properly managed.
- Considering the positive effect of the export of goods and services on economic growth, the countries under study should apply policies to encourage producers to produce the goods with high quality and competitive goods, including awarding prizes and export subsidies, in order to improve growth.
- Considering the negative impact of the import of goods and services on the economic growth of countries, by applying tariff and non-tariff policies, including customs tariffs and import quotas, it is necessary to prevent the import of goods and services that are similar to domestic ones. And as a result, by increasing the demand for goods, the economic growth can be improved by the residents of a country.

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