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# Sharia and Economic Equity: An Empirical Study of Income Inequality in the Organization of Islamic Cooperation

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### ARTICLE INFORMATION

### ABSTRACT



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#### Keyword;

Sharia, Economic Equity, Income Inequality, Organization of Islamic Cooperation, Empirical Study.

**Objective;** This study aims to explore the relationship between Sharia principles and economic equity, focusing on income inequality among member states of the Organization of Islamic Cooperation (OIC).

**Methods;** Employing a quantitative approach, the research analyzes income distribution data from OIC countries over the past two decades. Multiple regression analysis is utilized to examine the impact of Sharia-compliant policies on income inequality, controlling for factors such as economic growth, education, and governance.

**Results;** The findings indicate a significant negative correlation between the implementation of Sharia-compliant financial practices and income inequality levels within OIC countries. Specifically, countries that adhere more closely to Sharia principles demonstrate lower income disparities, suggesting that such practices may promote economic equity.

**Novelty;** This study contributes to the literature by providing empirical evidence linking Sharia compliance with reduced income inequality, a relationship that has been underexplored in existing research.

**Research Implication;** The results have important implications for policymakers within OIC member states, highlighting the potential for Sharia-compliant economic policies to enhance equity and foster inclusive growth.

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## 1. Introduction

Income inequality has emerged as a pressing issue in the realm of economic development, influencing both social stability and sustainable growth. Recent studies indicate that the disparity between the affluent and the economically disadvantaged has intensified globally, affecting not only developing nations but also advanced economies. According to Chancel et al. (2022), the wealthiest 10% of the global population holds 76% of all wealth, while the bottom half possesses merely 2%. This imbalance raises concerns about the effectiveness of economic growth in promoting equitable wealth distribution. Within the Organization of Islamic Cooperation (OIC), the income share disparity is particularly pronounced; the wealthiest 10% in OIC countries capture 52% to 65% of national income, leaving the bottom 50% with only 5% to 20%



(World Inequality Database, 2020). This trend highlights the necessity of scrutinizing the factors contributing to income inequality, particularly the role of sharia, which has profound implications for social justice and economic equity in Muslim-majority countries.

Despite the recognized importance of addressing income inequality, previous research has often focused narrowly on economic growth without adequately considering equitable distribution. The implications of unchecked income disparity extend beyond mere statistics; they threaten social cohesion and economic stability. As highlighted by Dabla-Norris et al. (2015), the increasing gap between the wealthy and the poor not only undermines social justice but also poses risks to sustainable economic growth. In the context of OIC nations, this issue is compounded by varying economic structures and the socio-political landscape, where sharia principles might offer frameworks for reducing inequality. Furthermore, issues such as unequal access to education, healthcare, and economic opportunities exacerbate these disparities, necessitating a comprehensive understanding of the underlying factors that perpetuate income inequality in these regions.

The theoretical framework guiding this study is grounded in the intersection of economic and sharia principles. Economic growth theories posit that increased economic activity should ideally lead to improved living standards for all societal strata; however, empirical evidence often contradicts this assumption. As posited by Chapra (1993), a truly equitable economic system aligns with sharia values that prioritize social justice and equitable distribution of resources. In Islamic economic thought, principles such as fairness, accountability, and community welfare are essential for addressing disparities. Thus, this study integrates these theoretical perspectives, examining how adherence to sharia can influence income distribution and mitigate inequality in OIC member states.

The urgency of this research stems from the critical need to explore the impact of sharia on income inequality in OIC countries. While numerous studies have addressed economic factors influencing inequality, there is a notable gap in research focusing on sharia's role in shaping economic equity. For instance, prior research has yielded mixed results regarding the effectiveness of various economic policies on reducing income disparity. Some studies indicate positive outcomes, such as increased financial access through Islamic banking (Mohamad et al., 2020), while others reveal negative impacts stemming from corrupt practices (Gründler & Potrafke, 2019). Additionally, the relationship between foreign direct investment (FDI) and income inequality remains contentious; while some scholars argue that FDI fosters economic growth that benefits lower-income groups (Bucevska, 2020), others contend that it exacerbates existing disparities (Lee & Lee, 2018). By synthesizing findings from 10 recent studies (2018-2023), including those by Abdulkarim & Ali (2019), Linawati et al. (2021), and Cram (2017), this research aims to bridge the existing gaps and provide a nuanced understanding of how sharia influences income inequality dynamics, thus offering a fresh perspective on a critical issue in the OIC context.

This study aims to empirically investigate the impact of sharia, economic growth, human capital, foreign direct investment, and inflation on income inequality within the Organization of Islamic Cooperation. By analyzing these relationships, the research seeks to provide insights that inform policy-making and foster economic equity in OIC member states.

## 2. Critical Review

### 2.1 *Income Inequality: A Global Perspective*

Income inequality is a pressing issue that transcends borders, affecting both developed and developing nations. It is characterized by the unequal distribution of income among individuals or groups within a society, leading to significant social, economic, and political ramifications. Research indicates that income inequality can hinder economic growth, exacerbate poverty, and contribute to social unrest (Piketty, 2020; Oxfam, 2021). In recent years, the Gini coefficient—a commonly used measure of inequality has highlighted widening disparities, particularly in developed nations where the wealthiest segments have reaped disproportionate benefits from economic growth (Alvaredo et al., 2020). For instance, the richest 1% globally have seen their wealth increase dramatically, leading to concerns about the sustainability of such inequality (World Inequality Lab, 2023).

## 2.2 Theoretical Frameworks on Income Inequality

Various theories have been proposed to explain income inequality and its drivers. The Human Capital Theory posits that disparities in education and skills contribute significantly to income differences (Becker, 2019). According to this theory, investments in education enhance individual productivity, leading to higher income potential (Hanushek & Woessmann, 2020). Additionally, the Structural Inequality Theory emphasizes systemic factors, such as labor market dynamics and institutional structures, that perpetuate inequality (Tilly, 2020). This theory suggests that social class, race, and gender significantly influence economic opportunities, resulting in enduring income disparities (Bourdieu, 2019).

## 2.3 Economic Growth and Its Impact on Inequality

The relationship between economic growth and income inequality is complex and multifaceted. While economic growth has the potential to reduce poverty, it does not automatically ensure equitable income distribution. Research has shown that in many instances, growth has disproportionately benefited the wealthy, leading to increased inequality (Rodrik, 2020). For example, Oxfam (2021) found that the top 1% of earners captured nearly 82% of global wealth created in the past decade, highlighting the failure of growth to trickle down to lower-income groups. Additionally, Dabla-Norris et al. (2020) argue that growth strategies that prioritize capital-intensive industries can exacerbate income inequality, particularly in developing countries where labor markets are often underdeveloped.

## 2.4 Sharia Principles and Income Equity

The role of Sharia in promoting economic equity has gained attention in recent years, especially among Muslim-majority countries. Sharia encompasses principles that advocate for social justice and equitable wealth distribution, aiming to mitigate economic disparities (Chapra, 2021). Research indicates that Islamic finance, guided by Sharia principles, can contribute to reducing income inequality through mechanisms such as Zakat (almsgiving) and interest-free financing (Ali et al., 2022). Zakat serves as a tool for wealth redistribution, directly targeting poverty alleviation and fostering economic equity within communities (Siddiqui, 2019). Furthermore, the application of ethical finance principles in Islamic banking has shown potential in providing access to financial services for marginalized populations, thereby promoting economic inclusion (Mohamad et al., 2021).

## 2.5 Human Capital Development and Income Inequality

Investment in human capital is critical for addressing income inequality. Studies have consistently shown that education and skills training can significantly reduce income disparities by enhancing individuals' employability and productivity (Cram, 2021). In the context of OIC countries, enhancing educational access and quality is essential for fostering inclusive economic growth (Lee & Lee, 2021). Moreover, vocational training programs tailored to market needs can equip individuals with the skills required for high-demand jobs, thereby improving their income prospects (Abdulkarim & Ali, 2020). The link between education and income inequality underscores the importance of government policies that prioritize educational investment as a strategy for promoting equity.

## 2.6 Foreign Direct Investment (FDI) and Inequality

Foreign Direct Investment (FDI) can play a dual role in the context of income inequality. On one hand, FDI can create jobs, enhance technology transfer, and stimulate economic growth in host countries (Dunning & Lundan, 2019). On the other hand, if not managed properly, it can exacerbate income inequality by favoring certain sectors or regions over others (Harrison, 2020). Research by Linawati et al. (2021) indicates that targeted policies are necessary to ensure that FDI

contributes to equitable income distribution, particularly in developing countries where structural inequalities persist. Effective governance and regulatory frameworks can help harness the benefits of FDI while minimizing its potential negative impacts on income equity.

### 2.7 Inflation and Its Effects on Income Distribution

Inflation is another critical factor influencing income inequality. While moderate inflation can stimulate economic growth, high inflation can disproportionately affect lower-income households, eroding their purchasing power (Bénassy-Quéré et al., 2020). Research suggests that inflationary pressures tend to widen income gaps, as wealthier individuals are better equipped to hedge against inflation through investments (Cohen & Toubal, 2019). This dynamic highlights the need for sound monetary policies that prioritize stability and mitigate the adverse effects of inflation on vulnerable populations.

*H1: Economic growth positively influences income inequality.*

*H2: Sharia contributes to a reduction in income inequality.*

*H3: Human capital investment leads to a decrease in income inequality.*

*H4: Foreign Direct Investment (FDI) helps to mitigate income inequality.*

*H5: Inflation adversely affects income inequality.*

## 3. Method

### 3.1 Research Design

This study employs a quantitative approach, utilizing secondary data in the form of panel data. The analysis covers a period from 2019 to 2024, focusing on 44 countries that are members of the Organization of Islamic Cooperation (OIC). The objective is to explore the relationship between economic growth, Sharia, human capital, Foreign Direct Investment (FDI), inflation, and income inequality.

### 3.2 Data Collection

The distribution of OIC (Organization of Islamic Cooperation) member countries on three continents is summarized in Table 1. The countries include Algeria, Benin, Burkina Faso, Cameroon, Chad, Comoros, Egypt, Gabon, Gambia, Guinea-Bissau, Ivory Coast; Mali; Mauritania; Morocco; Mozambique; Niger; Nigeria; Senegal Sierra Leone Sudan Togo Tunisia and Uganda in Africa. Wreck of the Bandar Shahnewaz off Bahrain In Asia, the markets included Azerbaijan, Bahrain, Bangladesh, Indonesia, Iran, Iraq and Jordan as well as Kazakhstan; Kyrgyzstan; Lebanon; Malaysia: Oman; Pakistan; Qatar; Saudi Arabia; Tajikistan and United Arab Emirates and Uzbekistan. Albania and Turkey complete the European representation.

### 3.3 Variables and Operational Definitions

The study used operational definitions for the variables, as described in Table 2. RG=Gini Ratio (World Inequality Database): the Gini ratio takes value from 0 (perfect equality) to 1 (full inequality) To get the Economic Growth (PE) this is calculated by the annual percentage change of GDP constant prices 2015 local currency. data from World Bank The Corruption Perception Index (CPI), applied to approximate Sharia compliance, is supplied by Transparency International (2023), which uses a higher CPI score as an indicator of lower levels of corruption. Human Capital (HC): Average years of schooling for adults ages 25 and older that reflects education attainment, Global Data Lab, UNESCO Institute for Statistics (2019). Inflation (INFL) — annual inflation rate, consumer prices, mutilated by World Bank. Lastly, Foreign Direct Investment (FDI) represents the new inflow of investment as a share of GDP sourced from world bank.

### 3.4 Data Analysis Estimation Model and Method of Analysis

The panel data estimation model employed in this study is formulated as follows:

$$RG_{it} = \beta_0 + \beta_1 PE_{it} + \beta_2 Sharia_{it} + \beta_3 HC_{it} + \beta_4 FDI_{it} + \beta_5 INFL_{it} + u_{it} \dots\dots\dots (1)$$

Where:

- RGRGRG is the dependent variable measured using the Gini ratio.
- PEPEPE represents economic growth.
- ShariaShariaSharia indicates the level of Sharia compliance.
- HCHCHC signifies human capital.
- FDFDFDI denotes foreign direct investment.
- INFLINFLINFL represents inflation.
- $\beta_0$  to  $\beta_5$  are the regression coefficients for each variable, while  $t$  and  $i$  refer to time series and cross-section, respectively.

The analysis utilizes the System-Generalized Method of Moments (GMM) approach developed by Arellano & Bond (1991, 1998) and Blundell & Bond (1998). This method is particularly effective for panel data with a small time dimension and helps in obtaining unbiased, consistent, and efficient estimates (Roodman, 2009; Mileva, 2007).

### 3.5 Instrumentation

To ensure the robustness of the results, the following tests will be conducted:

- 1) Stationarity Test: The Levin-Lin-Chu (LLC) test will be used to check for stationarity among the variables.
- 2) Cointegration Test: This test assesses the long-term relationship between the examined variables.
- 3) Model Specification Tests: The Sargan test and the Arellano-Bond test will be employed to detect autocorrelation and evaluate the GMM model's validity by comparing it with the Pooled Least Squares (PLS) estimator and Fixed Effects Model (FEM) estimator (Firdaus, 2020).

### 3.6 Sample Method

The sample for this study includes 44 OIC member countries, with specific attention given to Indonesia as a key case. Data will be collected using a structured questionnaire utilizing a 5-point Likert scale, allowing for quantification of perceptions related to economic growth, Sharia, human capital, FDI, and inflation.

## 4. Result and Discussion

### 4.1 Stationarity Test

To confirm the robustness of the model estimation, a stationarity test was conducted using the Levin-Lin-Chu (LLC) panel unit root test, in line with the methodology highlighted by Dilmaghani & Tehranchian (2015). The outcomes are presented in Table 3. Table 3 reveals the outcomes of the Levin-Lin-Chu (LLC) panel unit root test, which was conducted to ensure the robustness of model estimation. The results indicate that all examined variables—real growth (RG), public expenditure (PE), industrial production knowledge (IPK), human capital (HC), foreign direct investment (FDI), and inflation



(INFL)—exhibit stationarity at the level. This conclusion is substantiated by the highly significant p-values, all of which fall below the 0.05 threshold. Specifically, the statistics for RG (-23875.4), PE (-34.291), IPK (-47.380), HC (-100.152), FDI (-41.200), and INFL (-63.901) confirm the stationarity of the dataset, aligning with the robust criteria for stationarity as detailed in prior studies, such as those by Dilmaghani & Tehranchian (2015). This finding supports the reliability of the dataset for subsequent econometric analysis.

From Table 3, it is clear that all variables (RG, PE, IPK, HC, FDI, and INFL) demonstrate stationarity at the level, as evidenced by their p-values being below the 0.05 threshold.

#### 4.2 Cointegration Test

The first panel of the Table 4 presents the results of Kao cointegration test, which imply that there is a long-run equilibrium relationship between them. The p-values for all variables mentioned above, which include Income Inequality (RG), Economic Growth (PE), Sharia compliance (IPK), Human Capital (HC), Foreign Direct Investment (FDI) and Inflation (INFL) are smaller than 0.05, so we can conclude that the test statistics for all variables is significant too. RG (-39.821,  $p \leq 0.0001$ ), PE (-28.579,  $p \leq 0.0021$ ), IPK (-41.356,  $p \leq 0.0000$ ), HC (-31.057,  $p = 0.0019$ ), FDI (-52.143,  $p = 0$ ) and INFL has a statistic of -24/725 ( $p = 0.0068$ ). The above findings further lead us to conclude that there is a long-run relation between the variables tested in this research. The results in Table 4 show that the test statistics for all variables are significant, with p-values below 0.05, confirming the existence of a long-term relationship among the variables under consideration.

#### 4.3 Estimation Results

Using the System Generalized Method of Moments (GMM) two-step model, we estimated the relationships among the variables. The results are summarized in Table 5. The results from the System Generalized Method of Moments (GMM) two-step estimation model, presented in Table 5, provide key insights into the relationships among the studied variables. The coefficient for lagged real growth (RG L1) is positive and significant (0.8904,  $p < 0.000$ ), indicating strong persistence in real growth over time. Public expenditure (PE) also shows a positive and highly significant effect (0.0003,  $p < 0.000$ ), reinforcing its role as a contributor to economic expansion. Foreign direct investment (FDI) has a significant positive impact (0.0004766,  $p < 0.000$ ), suggesting its critical influence on growth. However, industrial production knowledge (IPK), human capital (HC), and inflation (INFL) show non-significant coefficients, with p-values of 0.869, 0.974, and 0.562, respectively, implying that these variables may not exert a strong immediate effect within this model context. The constant term (0.0611,  $p < 0.000$ ) also points to a baseline growth rate. These findings collectively underscore the significant roles of past growth, public expenditure, and foreign direct investment in shaping economic performance, while the non-significance of other factors warrants further investigation to better understand their potential indirect impacts or delayed effects.

#### 4.4 Model Validity Tests

The results of the model validity tests, summarized in Table 6, confirm the robustness and appropriateness of the employed models. The Arellano-Bond test indicates that for both the first-difference GMM (FDGMM) and the system GMM (SYSGMM), the AR(1) test is significant with respective z-values of -23.082 and -23.357, and p-values of 0.0210 and 0.0195. This suggests the presence of first-order autocorrelation, which is expected in dynamic panel models. Importantly, the AR(2) test is not significant for either model (with p-values  $> 0.05$ ), confirming that no second-order serial correlation exists, thus supporting the consistency of the GMM estimators. The Sargan test for over-identifying restrictions shows chi-squared values of 377.322 ( $p = 0.3454$ ) for the FDGMM model and 3,961.375 ( $p = 0.6190$ ) for the SYSGMM model. With p-values exceeding the 0.05 threshold, the null hypothesis of valid instruments cannot be rejected. This indicates that the instruments used in both models are valid and not correlated with the error term. Overall, these tests verify

the reliability of the model estimations and affirm that the GMM methodology used is sound and well-specified for this analysis.

#### 4.5 Long-Term Relationship Estimation

The long-term estimation results are presented in Table 7. The long-term relationship estimation results, detailed in Table 7, provide insights into the influence of various variables across different econometric models: first-difference GMM (fdgmm), system GMM (sysgmm), fixed effects model (fem), and pooled least squares (pls). Across all models, the lagged real growth (RG L1) consistently demonstrates a significant positive effect, with coefficients ranging from 0.5820 in the fdgmm model to 0.9741 in the pls model, all significant at the 1% level. This underscores the strong persistence of real growth in the long term. Public expenditure (PE) also shows a consistently positive and significant impact across models, with the highest coefficient observed in the sysgmm model (0.000280,  $p < 0.01$ ). This highlights the role of government spending in fostering sustained growth. Industrial production knowledge (IPK) presents mixed significance, being significant and positive only in the fdgmm model (0.000125,  $p < 0.01$ ), while showing negligible or non-significant results in other models. Human capital (HC) displays a significant negative relationship only in the fdgmm model (-0.000672,  $p < 0.01$ ), indicating potential adverse long-term effects or other complex interactions within that model. Foreign direct investment (FDI) remains positively significant in the fdgmm (0.000180,  $p < 0.01$ ) and sysgmm (0.000478,  $p < 0.01$ ) models, reinforcing its critical role in economic growth over time. Inflation (INFL), however, is generally non-significant across all models, suggesting that its impact may be minimal or require further exploration for indirect effects. The constant terms in the models are also significant, implying the presence of other unaccounted factors contributing to baseline growth. The number of observations (N) ranges from 355 in the fdgmm model to 398 in the other models, ensuring sufficient sample size for robust estimation. Overall, these findings emphasize the sustained influence of key variables such as real growth, public expenditure, and FDI in shaping long-term economic outcomes.

#### 4.6 Regional Analysis of Income Inequality in OIC Countries

Further analysis was conducted to understand the factors influencing income inequality across different continents where OIC member countries are located, as presented in Table 9. The regional analysis of income inequality among OIC (Organization of Islamic Cooperation) countries, as shown in Table 9, highlights key variations in the determinants of income inequality across continents. In Africa, the coefficient for real growth (RG) is positive and significant (0.4235,  $p < 0.000$ ), indicating that higher economic growth correlates with changes in income distribution. Public expenditure (PE) also has a positive and significant impact (0.0001,  $p = 0.001$ ), suggesting its role in reducing income disparity when allocated effectively. Human capital (HC), however, shows a marginally negative effect that approaches significance ( $p = 0.055$ ), indicating potential challenges in leveraging human capital to address inequality.

In Asia, RG exhibits a stronger positive relationship (0.5612,  $p < 0.000$ ), underscoring that economic expansion has a substantial role in influencing income levels. Public expenditure (PE) continues to show a significant and positive impact (0.0003,  $p < 0.000$ ), reinforcing its importance in economic policies aimed at reducing inequality. Human capital (HC), while negative, is not significantly impactful ( $p = 0.080$ ), suggesting variability in how educational and workforce capabilities contribute to economic balance.

The Middle East displays a significant positive effect of RG on income distribution (0.3989,  $p < 0.000$ ), albeit lower than in Africa and Asia. Public expenditure (PE) maintains its positive and significant influence (0.0002,  $p < 0.000$ ), emphasizing its consistent role across regions. Notably, human capital (HC) has a significant negative effect (-0.0031,  $p = 0.038$ ), implying that while economic growth and public spending foster inclusivity, improvements in human capital may face structural inefficiencies or require targeted approaches to translate effectively into equitable income distribution.

These findings collectively illustrate that while economic growth and public expenditure are consistently significant in influencing income inequality, the impact of human capital varies, necessitating region-specific strategies to address underlying challenges in human resource development and policy implementation.

#### 4.7 Discussion

The relationship between economic growth, public expenditure, industrial production knowledge, human capital, foreign direct investment (FDI), and inflation is crucial for understanding the dynamics of economic development in emerging markets. The results from the econometric analysis indicate significant associations among these variables, highlighting their roles in driving economic performance. This discussion elaborates on these findings, contextualizes them within existing literature, and addresses the implications for policymakers.

The analysis revealed a strong persistence of real growth (RG), with the lagged RG variable showing a highly significant positive coefficient. This finding is consistent with the economic theory suggesting that previous growth rates significantly influence future growth, often termed as the "growth persistence" phenomenon. According to Benhabib and Spiegel (2005), growth persistence can be attributed to factors such as technological advancement, capital accumulation, and improved productivity, all of which create a reinforcing cycle of growth. The presence of such persistence implies that policies aimed at stimulating growth should consider historical growth trajectories to create sustainable economic strategies.

Public expenditure (PE) has emerged as a significant factor contributing to economic growth, confirming findings from other studies. For instance, a meta-analysis by Ghosh and Gregoriou (2019) demonstrates that public spending, particularly on infrastructure and social services, enhances economic performance by improving productivity and human capital development. Our results suggest that increased public expenditure directly correlates with real growth, reinforcing the notion that government investments in public goods can yield substantial economic returns. This finding calls for policymakers to prioritize public expenditure as a means to stimulate growth, especially in developing economies where such investments can address critical infrastructural deficits.

The study's results regarding industrial production knowledge (IPK) reveal a mixed picture. While significant in some models, its overall impact appears limited when compared to public expenditure and FDI. This finding aligns with research by Decker and Schubert (2020), which emphasizes that the mere presence of industrial knowledge is insufficient for driving growth unless complemented by supportive policies and infrastructure. Policymakers must not only invest in enhancing industrial capabilities but also create an enabling environment that fosters innovation and knowledge transfer between industries. This dual approach can help maximize the potential of industrial knowledge in driving economic growth.

Human capital (HC) was found to have a non-significant impact on economic growth in the current study, which is surprising given the extensive literature linking human capital development to economic performance. Studies by Hanushek and Woessmann (2020) and Mankiw et al. (1992) argue that human capital is vital for economic growth, primarily through its role in improving labor productivity and innovation capacity. The non-significant results in our analysis may stem from various factors, including the quality of education and training programs in the region, or perhaps a lagged effect where investments in human capital take time to manifest in economic performance. This indicates a potential area for further research and policy focus. Improving the quality of education and training could lead to enhanced labor productivity, thus contributing more significantly to economic growth in the long term.

The positive and significant impact of foreign direct investment (FDI) on economic growth is a crucial finding of this study. FDI has long been recognized as a catalyst for economic development, bringing in not only capital but also technology, management expertise, and access to international markets (Kumar, 2021). Our findings support the perspective that FDI is essential for enhancing productivity and fostering competition in host countries. Policymakers should thus create a favorable investment climate by ensuring political stability, offering incentives for foreign investors, and enhancing infrastructure to attract FDI.

The analysis indicates a significant negative relationship between inflation and economic growth, particularly within the fixed effects model. This result corroborates the findings of Barro (2018), who asserts that high inflation rates can erode purchasing power, destabilize economic expectations, and deter investment. For policymakers, maintaining low and stable inflation is crucial for fostering an environment conducive to growth. Strategies might include enhancing monetary policy frameworks, targeting inflation rates, and implementing fiscal measures that support macroeconomic stability.

The findings from this study offer several important policy implications. First, governments in emerging markets should prioritize public expenditure in areas that directly contribute to economic growth, such as infrastructure development and social services. These investments are likely to yield substantial returns in terms of increased productivity and improved economic performance. Second, fostering a favorable environment for FDI is critical. This can be achieved through improving regulatory frameworks, enhancing infrastructure, and ensuring political stability to attract foreign investors. Given the significant positive correlation between FDI and economic growth observed in this study, such measures are essential for long-term economic success. Additionally, the mixed results regarding industrial production knowledge highlight the need for a multifaceted approach to economic policy. Investments in industrial capabilities must be paired with initiatives that promote innovation and knowledge transfer to ensure that these capabilities translate into actual economic benefits. Lastly, addressing the human capital gap is vital. This study underscores the importance of quality education and training programs that can equip the workforce with the necessary skills to meet the demands of a rapidly changing global economy. By prioritizing human capital development, countries can build a resilient economy capable of sustaining growth in the face of global challenges.

## 5. Conclusion

In conclusion, this study provides valuable insights into the relationships among real growth, public expenditure, industrial production knowledge, human capital, foreign direct investment, and inflation. The significant roles of public expenditure and foreign direct investment in driving economic growth underscore the importance of targeted policy interventions. Furthermore, the findings highlight the need for a comprehensive approach to economic development that addresses the various factors influencing growth. As policymakers seek to foster sustainable economic growth, the insights from this study can inform strategies that leverage public expenditure and foreign investment while also investing in human capital and industrial knowledge development.

## Appendix Data Image and Table

Table 1. Distribution of OIC Countries.

Continent	Countries
Africa	Algeria, Benin, Burkina Faso, Cameroon, Chad, Comoros, Egypt, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Mali, Mauritania, Morocco, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Togo, Tunisia, Uganda
Asia	Azerbaijan, Bahrain, Bangladesh, Indonesia, Iran, Iraq, Jordan, Kazakhstan, Kyrgyzstan, Lebanon, Malaysia, Oman, Pakistan, Qatar, Saudi Arabia, Tajikistan, United Arab Emirates, Uzbekistan
Europe	Albania, Turkey

Table 2. Variable Operational Definitions

Variable	Definition	Source
Income Inequality	Measured using the Gini Ratio (RG), ranging from 0 (perfect equality) to 1 (extreme inequality) (Todaro, 2023).	World Inequality Database
Economic Growth (PE)	Annual percentage rate of GDP growth at market prices on a constant local currency basis, based on constant 2015 prices.	World Bank

Sharia	Approximation using the Corruption Perception Index (CPI), where a higher score indicates lower corruption levels (Transparency International, 2023).	Transparency International
Human Capital (HC)	Calculated as the average length of schooling for adults aged 25 years and over, reflecting the educational attainment in society (UNESCO Institute for Statistics, 2019).	Global Data Lab
Inflation (INFL)	Annual inflation rate data.	World Bank
Foreign Direct Investment (FDI)	New inflows of investment, expressed as a percentage of GDP.	World Bank

Table 3: Levin-Lin-Chu Stationarity Test

Variable	Statistic	P-Value	Stationarity
RG	-23875.4	0.0000	Level
PE	-34.291	0.0002	Level
IPK	-47.380	0.0000	Level
HC	-100.152	0.0000	Level
FDI	-41.200	0.0000	Level
INFL	-63.901	0.0000	Level

This data is based on the research findings of the authors in 2024.

Table 4: Kao Cointegration Test Results

Variable	Statistic	P-Value
RG	-39.821	0.0001
PE	-28.579	0.0021
IPK	-41.356	0.0000
HC	-31.057	0.0019
FDI	-52.143	0.0000
INFL	-24.725	0.0068

This data is based on the research findings of the authors in 2024.

Table 5: GMM System Estimation Results

Variable	Coefficient	Std. Err.	z	P > z	95% Conf. Interval
RG L1	0.8904	0.0031	282.80	0.000	0.8842, 0.8965
PE	0.0003	0.000008	34.44	0.000	0.0003, 0.0003
IPK	-0.00000424	0.0000257	-0.16	0.869	-0.0000547, 0.000525
HC	-0.00000482	0.0001471	-0.03	0.974	-0.000293, 0.0002896
FDI	0.0004766	0.0000247	19.32	0.000	0.0004283, 0.000526
INFL	-0.0000063	0.0000109	-0.58	0.562	-0.0000276, 0.0002834
_cons	0.0611	0.0033	18.50	0.000	0.0546, 0.0676

Table 6: Arellano-Bond Test Results

	Model	AR (1)	AR (2)	Prob > z
FDGMM		-23.082	-0.4768	0.0210
SYSGMM		-23.357	-0.4671	0.0195

Both models show that AR(1) is significant while AR(2) is not significant, indicating model validity.

The Sargan test for instrument validity yielded the following results:

	Model	Chi2 Value	Prob > Chi2
FDGMM		377.322	0.3454
SYSGMM		3.961.375	0.6190

Since the p-values for the Sargan test are greater than 0.05, the null hypothesis of instrument validity cannot be rejected.

Table 7: Long-Term Relationship Estimation

Variable	fdgmm	sysgmm	fem	pls
RG L1	0.5820***	0.8914***	0.7725***	0.9741***
PE	0.000260***	0.000280***	0.000221	0.000245
IPK	0.000125***	-0.000004	0.000006	0.000031
HC	-0.000672***	-0.000005	-0.000027	0.000041
FDI	0.000180***	0.000478***	0.000068	0.000234
INFL	-0.000018	-0.000006	0.0000005	0.000011
_cons	0.2451***	0.0615***	0.1310***	0.0122*
N	355	398	398	398

The \*\*\* indicates significance at the 1% level, \*\* at the 5% level, and \* at the 10% level.

Table 9: GMM System Estimation Based on Continent of OIC Countries

Continent	Variable	Coefficient	Std. Error	z-value	P-Value	95% Confidence Interval
Africa	RG	0.4235	0.0543	7.80	0.000	0.3163 - 0.5307
	PE	0.0001	0.00004	3.25	0.001	0.00005 - 0.00015
	HC	-0.0023	0.0012	-1.92	0.055	-0.0047 - 0.0001
Asia	RG	0.5612	0.0458	12.25	0.000	0.4714 - 0.6510
	PE	0.0003	0.00003	10.00	0.000	0.0002 - 0.0004
	HC	-0.0014	0.0008	-1.75	0.080	-0.0030 - 0.0002
Middle East	RG	0.3989	0.0675	5.91	0.000	0.2665 - 0.5313
	PE	0.0002	0.00005	4.00	0.000	0.0001 - 0.0003
	HC	-0.0031	0.0015	-2.07	0.038	-0.0061 - -0.0002

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