

## **DOES ISLAMICITY AFFECT ECONOMIC GROWTH? EVIDENCE FROM OIC, HIGH, MIDDLE, AND LOW-INCOME COUNTRIES**

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### **Abstract**

Islam is a way of life which not only affects the social and personal aspects of human life but also plays a significant part in the political and economic decisions of the people. Empirical studies on the chief determining factors of economic growth have neglected the effect of Islamicity on economic growth. This study expands upon the recent literature on economic growth and Islamicity. By using the Islamicity indices data for the first time, this study provides a brand-new viewpoint on Islamicity and the economic growth nexus in the world, focusing on sub-divisions of high, middle, and low-income countries and the Organization of Islamic Countries (OIC). The data spans from 2010 to 2017 while using a dynamic model. By applying the panel techniques, we provide empirical evidence indicating that the Islamicity effect becomes weaker as the economy grows regardless of whether a country is an OIC member.

**Keywords:** Islamicity, Economic Growth, OIC, Panel Technique

**JEL Classification:** O47; P52; C50

### **1. Introduction and Background**

Islam is a religion which is an all-encompassing way of life that governs a Muslim's entire being. It is essential to highlight that

for the purposes of this article, Islam is defined in this general context, which covers the cultural, social, political, legal, and economic notions which are derived from this faith rather than just its manifestation. The Holy Quran has several sections that promote trade, commerce, and market-oriented production. Furthermore, Islam permits profit and property ownership as long as the profit is earned without abusing others and, the property is used in "a pious, socially beneficial, and prudent" way. Islam does not appear to be a barrier to economic development.<sup>1</sup>

The Islamicity Index reflects the reason behind West's better performance in comparison to the OIC countries. One of the chief reasons is the advanced quality of institutions in the western world compared to the Muslim world. It compels Muslims to reflect on the foundation of Islamic values which have been adopted by the Western world and have helped them surpass Muslims in many aspects of the economy. The OIC member countries can improve their performance if they adopt Islamic values in a true sense and reform their institutions such as the role of law, political stability, regulation quality, control of corruption, and so forth.

Muslims make up for more than a billion of the globe's populaces and manifest a central portion of the population in many countries. Furthermore, most Muslims reside in the Organization of Islamic Countries (OIC) economies. OIC economies are endeavoring to enhance their gross domestic product (GDP) growth and unlock their economic landscape through different modes. As these countries are predominantly Muslim states, the road map for further growth is centric on a comprehensive Islamic economy work plan. Supporters of Islam-based Economic Systems assert that the purported system is centrally unique from other systems as it is centred on ethical and religious pillars that are missing in other arrangements.

Weber clarified that the Protestant Reformation was pertinent to the ascension of Capitalism by the influence of religious doctrine.<sup>2</sup> In line with this, Iannaccone<sup>3</sup> and Anderson<sup>4</sup> proposed that a set of religious faiths influence behavioral conduct and economic functioning. Moreover, Lal<sup>5</sup> and Kuran<sup>6</sup> suggested for institutions acting as intermediaries to act as channels by which religious doctrines influence economic performance at the macro level.

On the economic landscapes in Muslim countries, it is pertinent to note that the Islamic principles about the significance of the economic perspectives have been taken from the verses of the Holy Quran, several *Hadith* (documented sayings of the Prophet *Hadrat Muhammad Rasulullah Khatam un Nabiyyin Sallallahu 'alaihi wa 'ala Alihi wa Ashabihi wa Sallam, Sunnah* (traditions and practices of the Islamic Prophet (*Hadrat Muhammad Rasulullah*

*Khatam un Nabiyyin Sallallahu 'alaihi wa 'ala Alihi wa Ashabihi wa Sallam*) that establish a perfect structure for Muslims to pursue), the *Shari'ah* (Muslim laws and their interpretation), and the *Ijma'* (views of the religious authorities).

The Holy Quran is clear when it comes to honesty and fairness in commerce and trade. It is mentioned in the Holy Quran, "*And measure full when you measure. And weigh with an even balance. This is better and its end is good*"<sup>7</sup>. The indication we get from this verse is that Muslims should be honest in their business dealing. The inference which can be drawn in the context of OIC member countries is; being honest and fair in commercial dealing which would then be reflected in the quality of institutions and controlling corruption. Similarly, it is also mentioned in the Holy Quran

*"Woe to those that deal in fraud, those who, when they have to receive by measure from men, exact full measure, but, when they have to give by measure or weight to men, give less than due. Do they not think that they will be called to account?"*<sup>8</sup>.

This verse also indicates that Muslims should not engage in fraudulent activities and must stay fair in dealing with others. Finally, Muslims must keep their promises as mentioned in the Holy Quran; "*O you who believe! Fulfil [your] obligations*"<sup>9</sup>.

The covenants of the OIC encourage economic pursuits to promote the intra-OIC relationships in the socio-economic landscape. However, studies have revealed that most member countries are marginalized in a number of areas.<sup>10</sup> Whether or not the Muslim countries are underachievers compared to the non-Muslim countries is obscure. Thus, this study proposes a rational and thoughtful Islamic economic system that shall be of paramount significance not only to academicians, but also to market participants and policymakers.

Few studies have been conducted on the impact of the Islamic Economic System on the OIC countries. The current study lessens the deficit in the extant literature by exploring the impact of Islamicity on economic growth through employment of the Generalized Method of Moments (GMM) method on annual data taken from the World Bank and Islamicity index website for countries in the years 2010–2017. This study on OIC and non-OIC countries reveals that at the highest 75<sup>th</sup> quantile, i.e. higher economic growth, the association between Islamicity and economic growth across OIC and non-OIC nations becomes weak regardless of whether the country belongs to OIC or non-OIC member nation.

The remainder of this paper is organized as follows: The Second Section presents the literature review; Section Three covers the data and methodology; the Fourth Section presents and discusses the empirical results and finally, the Fifth Section concludes the paper and suggests policy implications based on our conclusion.

## **2. Literature review**

Rehman and Askari brought out the concept of the Islamicity index which encompasses the economy, legislation and governance, human rights and politics, along with international relations.<sup>11</sup> They revealed that Islamic nations are not as Islamic, at least in financial aspects, as one may anticipate. Moreover, the study pointed out that most self-proclaimed Islamic nations have not embraced economic arrangements that are in congruity with Islamic lessons. Through the findings, the study cautiously conjectured that the nonexistence of economic development might be due to incompetent institutions, improper economic policies, and exploitation. Iqbal and Mirakhor highlighted the dimension of Islamic finance applicable to economic development.<sup>12</sup> They aimed to improve comprehension of the viewpoint of Islamic finance on economic development and related allied arenas. Meanwhile, through theoretical, practical, and empirical research, Askari, Iqbal, and Mirakhor discovered the various areas and sub-areas of Islamic banking, finance, and economics.<sup>13</sup> The key focus is on prime progress in the Islamic financial industry and pertinent additions made to innovations in tools, regulatory and supervisory matters, risk management, insurance, and asset management. Their study offered a detailed examination of institutional, operational, and instrumental aspects of the aforementioned areas. Moreover, Ng, Ibrahim, and Mirakhor made an attempt to report the framework for progress of social capital in Islamic finance, mainly the stock market. This study highlights the significance of trust and ethics in developing an upright, fitting, and competent financial system.<sup>14</sup> Further, Akin, Iqbal, and Mirakhor gauged the economic status concerning their financial structure's openness to risk-sharing finance, the concept that shapes the center establishment of Islamic finance<sup>15</sup>. The study reported that the OIC countries are far from fulfilling the fundamental conditions of establishing risk-sharing finance. Thereby, a scarcity of efficient institutions, coherent rules and regulations, proper monitoring and enforcement, and robust governance in OIC economies is revealed. Thus, a structure for the holistic development of Islamic finance is urgently required.

Further, Ghazal and Zulhibri gauged the Islamic economic performance and social progress centered on *Maqāṣid al-Sharī'ah* standard to form an Islamic Inclusive Growth Index (I-IGI) for Muslim-based economies.<sup>16</sup> The outcome from the stipulated index

revealed that the said economies of Muslim countries, notwithstanding having success in terms of inclusiveness, agree with *Maqāsid al-Sharī'ah* doctrines. Contrariwise, the underprivileged Muslim economies in Sub-Saharan Africa, which reveals poor ranking on the purported index, generally accomplished well in *Sharī'ah* compliance area. Ibrahim highlighted the significance of inculcating the concept, principle, dimension, and values of Islamic work ethics (IWE) routinely, which shall lessen the deficit between the principles of IWE and the actual gains of economic development in Islamic economies.<sup>17</sup> Meanwhile, Dieye suggested and examined the notion that the Islamic economic model set in the Holy Quran and practiced by the Prophet (*Hadrat Muhammad Rasulullah Khatam un Nabiyyin Sallallahu 'alaihi wa 'ala Alihi wa Ashabihi wa Sallam*) shall be a pragmatic model for Muslim and non-Muslim economies.<sup>18</sup> Moreover, using the path analysis model with data from 123 countries, Muchdie examined the impact of Islamicity on global competitiveness with human development as a moderator factor. His study revealed that Islamicity had a favorable and significant direct impact on global competitiveness.<sup>19</sup> Moreover, Muchdie investigated the linkage and impact of Islamicity on happiness, with human development and global competitiveness as moderating variables. The study displayed a robust relationship among the stipulated variables by using a path analysis model on the data of 123 countries.<sup>20</sup>

Meanwhile, Askari proposed a set of indices that provides a yardstick for gauging the level to which an economy adopts the codes and conventions stated in Islam.<sup>21</sup> The study gauged the performance of Muslim countries through the Islamicity indices, which rest on the Holy Quran. The study also recommended the adoption of the purported indices for the Muslim countries, which shall turn in the required reforms and make reform and effective institutions.

Furthermore, Muchdie examined the impact of Islamicity on happiness, with human development as a moderator factor. The study covered the cross-sectional data on Islamicity, human development, and happiness indices from 124 economies and used a path analysis model. The study highlighted the significant role of Islamicity in human development and happiness.<sup>22</sup>

Mirakhor and Askari highlighted a meta-structure for an economy projected in Islam through Islam.<sup>23</sup> Further, they stated that the model was put into practice by Prophet Muhammad (*Hadrat Muhammad Rasulullah Khatam un Nabiyyin Sallallahu 'alaihi wa 'ala Alihi wa Ashabihi wa Sallam*) in Medina, and thus, the Muslim countries have a flawless course of plan to establish efficient institutions to attain prosperity.

Rahayu and Septiarini investigated the probability of the existence of differences in Islamic banking in ASEAN countries from 2011 to 2016 through purposive sampling. The Islamic banks in Indonesia, Malaysia, Brunei Darussalam, and Thailand were employed, and the analysis of different tests was performed through ANOVA and the Kruskal Wallis test. For this study, secondary data was acquired from financial reports from 2011 to 2016. In terms of Profit-Sharing Ratio (PSR), Zakat performance ratio (ZPR), Equitable Distribution Ratio (EDR), Islamic Investment vs Non-Islamic Investment (IIR), and Islamic Income vs Non-Islamic Income (IsIR), the results reveal that the Islamic banks have different Islamicity performance indexes.<sup>24</sup>

Asnawi, Wicaksono and Setyaningsih examine the development and application of Maqāṣid al-Sharī'ah principles and economics principles to calculate the economic Islamicity Index and the geographical function of mapping Islamic economic health in the Indonesian archipelago. The economic Islamicity Index findings are established utilizing the embedded mix method by establishing multi-Stage weighted index results. The economic Islamicity Index's empirical findings indicate that Indonesia's Islamic economic performance is significant to DKI Jakarta province and Java Island.

Meanwhile, in every Indonesian province, geographical global demonstrates a considerable spatial autocorrelation linkage with Islamic economic performance.<sup>25</sup> Hussain et al. identifies the links between natural resources, Islamicity, and financial deepening which aid states in establishing strategies and regulations for resources to enhance economic advancement. The research investigates financial advancement in six Asian economies (Pakistan, Indonesia, Philippines, Qatar, Bahrain, and Thailand) using an innovative Adaptive Neuro-Fuzzy Inference System (ANFIS). This analysis reveals that as natural resources dwindle, financial development rises in all studied economies. Natural resources as predictors against financial development, when utilised as a criterion, are similar in the economies considered. Regarding the Islamicity Index, Pakistan, Indonesia, and Thailand exhibit comparable findings, as do the Philippines, Qatar, and Bahrain. Financial development rises in Pakistan, Indonesia, and Thailand as the Islamicity index falls, whereas it rises in the Philippines, Qatar, and Bahrain as the Islamicity index rises. The upshot is that resource-rich countries have a negative link with economic progress. It indicates that nations with extensive natural resources boost their exports rather than utilize them in manufacturing.<sup>26</sup>

Indrianasari et al. investigates the Islamicity Performance Index and Profitability Determinants in the BPR Syariah East Java Province. This study covers explanatory research for investigation.

Multivariate analysis employing the Autoregressive and Distributed Lag (ADL) methodology was applied as the analytical method utilizing panel data samples from 15 institutions. The study reveals that profitability is unaffected by the Profit-Sharing Ratio variable. This indicates that the Profit-Sharing Ratio does not influence the rate of increase or reduction. The Zakat Performance Ratio has a variable influence on the increase or decline in profitability, although it takes time or a one-year lag.<sup>27</sup> Dian, et al. investigate and explain how firm characteristics, corporate governance, and capital structure affect the Islamicity Disclosure Index. This descriptive study uses hypothesis testing to explain the causal link between the research variables. The data analysis method is known as Generalized Structured Component Analysis (GSCA). The study reports that Firm Characteristics and Capital Structure are two variables that have a favorable and significant effect on the Islamicity Disclosure Index. Corporate governance characteristics influence the Islamicity Disclosure Index positively but not significantly in statistical terms.<sup>28</sup> Lisa examines the impact of macroeconomic factors, namely, the exchange rate, inflation, and the BI rate on deposit and Islamicity performance index, as well as the impact of third-party funds on the Islamicity performance index. Through third-party funds, the study investigates the impact of the macroeconomic performance index Islamicity. Path analysis was employed as analysis approach. The study reports that the macroeconomic path, which includes the exchange rate and the BI rate, has a considerable impact on third-party funds and the Islamicity performance index; however, inflation has little impact on third-party funds and the Islamicity performance index. The impact of third-party funds on the performance index is significant.<sup>29</sup>

Askari, Mohammadkhan, and Mydin explored the Islamicity of Muslim countries through four indices to gauge conditions on four dimensions—economic, legal and governance, human and political rights, and international relations and the overall situation as the fifth index. They studied 150 economies, including 38 Muslim economies, from 2000 to 2016. European economies covering Canada, New Zealand, and Australia unvaryingly take the highest position in all five indices. Meanwhile, the average scores of Muslim economies in the index went from bad to worse during the stipulated period. The study recommended a set of reforms for Muslim countries.<sup>30</sup> In addition, Sidek, Said, and Hasan manifested the expansion of Islamic development management covering good governance, sustainable development, the progress of *waqf* and *takaful*, the advancement of value-based activities, progress in *fiqh* and legal framework, and the expansion of Islamic principles in other related areas.<sup>31</sup> Lastly, Askari and Khan designed five Islamicity indices to gauge rule conformity: economic, legal, and governance, human and political rights, international relations, and overall Islamicity. They revealed that

multiple Western developed economies are the most outstanding performers, whereas the Muslim economies are well short of average performance.<sup>32</sup>

### **3. Methodology**

#### **3.1. Data and variable**

The present study uses annual data from the World Bank<sup>33</sup> and Islamicity index websites<sup>34</sup> for all countries from 2010 to 2017. Economic growth is considered a dependent variable, while others are considered independent variables for correct model specification.

#### **3.2. Islamicity index**

Scholars, such as Jaffe<sup>35</sup> studied religion and growth nexus. The Islamicity indices measure how the country is adhering to Islamic teachings. To construct the Islamicity indices, the Islamic teachings are divided into four dimensions: Economic Islamicity, legal and governance, human and political rights, and international relations. Economic Islamicity includes economic opportunity and freedom, equal access to education and health care, job creation and equal access to employment, property rights and sanctity of contracts, prevention of corruption, provision of poverty, provision of aid and basic human need, taxation and social welfare, supportive financial system, adherence to Islamic finance, economic prosperity, and economic justice. Meanwhile, legal and governance contains legal integrity, management index, government governance, and perceptions about the government. Similarly, human and political rights comprises of human development, civil and political rights, women's rights, global democracy, and perceptions of well-being. Finally, international relations includes globalization and military/wars.

#### **3.3. Control variables**

Economic policies impact a country's growth by affecting macroeconomic variables, such as government expenditure, foreign direct investment (FDI), population growth, gross capital formation, education, and financial development. These macro-variables are considered in the equations to check the influence of macroeconomic fundamentals. Government expenditure (GE) has been used in empirical studies to determine its effect on economic growth.<sup>36</sup> FDI is one of the crucial drivers of economic growth. Much empirical literature justifies the role of FDI in economic growth as it accumulates physical and human capital to be transferred to the receiving country. The transfer of technology to the receiving countries in the form of FDI requires capable factors with extra

efficiency, which impacts economic growth.<sup>37</sup>

Two variables, namely, population growth rate (POP) and the gross secondary enrollment rate (EDU), have been used to capture the impact of human capital on economic growth. A large body of literature favors human capital as an instrument to increase economic growth.<sup>38</sup> In his famous study, Solow revealed that the higher the investment rate, the higher the savings per labor productivity.<sup>39</sup> Bakare mentioned that capital formation must consider the proportion of current income saved and invested in augmenting future income and output.<sup>40</sup> Moreover, several economic theories posit that capital formation plays a vital role in economic growth models.<sup>41</sup> Capital formation is measured in this study as gross fixed capital formation (GCF). Our model also includes domestic credit to the private sector as a proxy (DC) for financial development. This is because financial markets are the key to economic growth as they diversify economic resources from unproductive sectors to productive uses. In his seminal work, Schumpeter pointed out that the financial sector is a crucial factor for growth as it allocates savings, encourages innovation, and provides a fund for productive investment.<sup>42</sup> Table A1 presents the data sources, the description of variables, and descriptive statistics.

### 3.4. Model

We propose Mankiw et al.'s extensive augmented growth model as follows:<sup>43</sup>

$$y_{it} = \gamma + \beta_i y_{it-1} + \sum_{p=1}^n \theta_{pi} X_{it}^p + \delta_{1i} Islamicity_{it} + K^{\beta_1} L^{\beta_2} + v_t + \mu_i + \epsilon_{it} \quad (1)$$

where  $y_{it}$  is the economic output for nation  $i$  and period  $t$ , and  $X$  represents control variables. To control for the model misspecification, using theoretical and empirical literature, we add as many regressors to separate the influence of Islamicity from other variables, including  $K$  (gross capital formation),  $L$  (population), education (human capital),  $GE$ , and financial development. Islamicity is an Islamicity index variable.  $v_t$  is time-specific effect that are considered to control for period effect on all countries in the sample.  $\epsilon_{it}$  is an error term, and  $\beta_i y_{it-1}$  is the lag-dependent variable. Additionally, dependent variable is added as an independent variable i.e. lag to avoid long run memory of the dependent variable. Meanwhile,  $\mu_i$  is a country-specific effect, and  $\gamma$  is constant. The corresponding panel econometric model of equation (1) is

$$y_{it} = \gamma + \beta_i y_{it-1} + \delta_1 \text{Islamicity}_{it} + \theta_1 X_{it} + \alpha_1 \ln(\text{gcf}_{it}) + \alpha_2 \ln(\text{pop}_{it}) + \mu_i + \nu_t + \varepsilon_{it} \quad (2)$$

Where  $y$  is the economic growth, *Islamicity* is Islamicity index, and  $X$  is a set of control variables, *gcf* is proxy for capital (K) and *pop* is the proxy for labor (L), which are the main variables for growth model. Moreover,  $\gamma$  is the constant term,  $\mu_i$  denote nation's effect,  $\nu_t$  is considered to remove year differences,  $\varepsilon_{it}$  is the residual, and  $\ln$  means nature logarithm function. Equation (2) is the extension of equation (1) which estimates the relationship between Islamicity and economic growth. Following Mankiw et al. the study estimates the influence of Islamicity on economic performance.<sup>44</sup> This neoclassical augmented growth model is selected for two reasons. First, the model considers human capital, which is considered to be crucial for the development of an economy as it increases labor productivity level. Second, the current study sees how Islamicity influences economic growth. Therefore, other macroeconomic fundamentals are also used in the equations. Considering our focal variable, that is, *Islamicity*, and the heterogeneity of the coefficients and related control variables, we develop the below equation (3) which consists of dependent variable i.e., economic growth, lag of dependent variable, Islamicity, and additional control variables:

$$y_{it} = \gamma + \beta_0 y_{it-1} + \beta_2 \text{Islamicity}_{it} + \beta_1 X_{it} + \nu_i + \mu_t + \varepsilon_{it} \quad (3)$$

Where  $y_{it}$  denotes economic growth,  $i$  is for nations, and  $t$  is for the period,  $\beta_0 y_{it-1}$  is the economic growth i.e. lag of dependent variable indicating the first condition, *Islamicity* <sub>$it$</sub>  is Islamicity index,  $X_{it}$  is for additional variables,  $\nu_i$  remove nation differences while  $\mu_t$  reduces period difference and  $\varepsilon_{it}$  is the error term.

The above equation (1) has been assessed using the GMM model and other panel techniques such as fixed and random effects. Contrary to the traditional co-integration and OLS model. The main advantage of GMM is that it controls the association between Xs' and error term and lag variable and  $\nu_i$ .  $\beta_2$  is the coefficient of the main focal variable i.e. Islamicity nexus with economic development? Thus, we get the following equation (4) from the above equation (3), that is:

$$\begin{aligned}
& y_{it} \\
&= \sum_{k=1}^p \nu_k y_{it-k} \\
&+ \beta_1 X_{it} + \beta_2 \text{Islamicity}_{it} + \epsilon_{it}
\end{aligned} \tag{4}$$

$$t = p + 1, \dots, T = 1, 2, 3, \dots, N$$

$$\epsilon_{it} = \nu_i + \mu_t + \epsilon_{it}$$

Where  $\beta_1$  is parameter of Xs' and  $p$  represents maximum lag.

There is no change in other variables. The GMM estimator i.e.  $\delta$  is computed by using dynamic model having the following form:

$$\delta = \left[ \left( \sum_i W_i^* X_i \right) M_N \left( \sum_i X_i W_i^* \right) \right]^{-1} \left( \sum_i W_i^* X_i \right) M_N \left( \sum_i X_i^* y_i^* \right) \tag{5}$$

Where  $M_N =$

$$\left( \sum_i X_i^* \lambda_i y_i \right)^{-1} \tag{6}$$

$W_i$  and  $y_i$  are transformations of  $W_i$  and  $y_i$  respectively,  $X_i$  is used as a matrix for instrumental variables, and  $\lambda_i$  is the nation weighting matrix. The estimator used pooled cross-country and time series properties while using additional information provided by the variations in the level of economic growth and its intrinsic drivers. Moreover, the GMM estimation technique is used to estimate the above equations. We have also used other panel techniques, namely, panel quantile regression.

#### 4. Empirical Results and Discussion

##### 4.1. Descriptive statistics

Table 1 provides a summary of descriptive statistics. As shown in Table 1, there is substantial variation between OIC and non-OIC countries in terms of education, domestic credit, and Islamicity. The highest enrollment rate is in non-OIC countries compared to OIC countries. Similarly, credit extension to the private sector is lower in OIC countries than in non-OIC countries. Finally, Islamicity score is higher in non-OIC countries than in OIC countries.

<b>OIC COUNTRIES</b>					
Variable	Obs	Mean	Std. Dev.	Min	Max
gdp	311	4.2456	9.4882	-62.0759	123.1396
rank	320	105.1583	33.4641	39	153
ge	289	2.31E + 10	3.49E + 10	2.68E + 08	1.97E + 11
fdi	294	3.40E + 09	4.82E + 09	-2.17E+9	2.92E + 10
pop	320	2.3879	1.6716	-3.10723	11.2206
gcf	289	4.69E + 10	7.28E + 10	3.10E + 08	3.40E + 11
edu	210	68.4980	28.2736	13.3735	116.6471
dc	276	38.1512	27.9079	3.94270	125.1471
<b>NON-OIC COUNTRIES</b>					
Variable	Obs	Mean	Std. Dev.	Min	Max
gdp	869	3.5417	3.2334	-9.7729	25.5572
rank	872	64.8792	41.8593	1	151
ge	848	1.04E + 11	3.01E + 11	1.84E + 08	2.66E + 12
fdi	851	1.78E + 10	5.11E + 10	-3.11E+10	5.06E + 11
pop	871	1.1054	1.1241	-2.2584	3.5703
gcf	849	1.54E + 11	5.44E + 11	0	5.34E + 12
edu	584	90.2104	25.9025	23.9293	163.9305
dc	807	65.8060	49.38	3.7239	253.262

**Table 1: Descriptive statistics****4.2. Correlation**

Table 2 provides correlations among the different indicative factors and GDP. The low correlation between indicative factors and GDP has been observed in the case of OIC countries (vs. non-OIC economies). In both groups of countries, education and credit extension to the private sector are strongly negatively correlated with the Islamicity index. Meanwhile, Non-bank Deposit is statistically significant and positively correlated with non-bank credit (0.81). The Islamicity index and GDP exhibit little pairwise correlation in the case of OIC countries relative to non-OIC countries.

OIC COUNTRIES								
	gdp	rank	ge	fdi	Pop	gcf	edu	dc
gdp	1							
rank	-0.0192	1						
ge	0.0489	-0.329*	1					
fdi	0.0674	-0.369*	0.6813*	1				
pop	0.0287	-0.199*	-0.121*	-0.184*	1			
gcf	0.0641	-0.285*	0.8717*	0.7637*	-0.215*	1		
edu	-0.0232	-0.650*	0.4117*	0.2882*	-0.0765	0.3576*	1	
dc	-0.0678	-0.708*	0.2297*	0.2511*	0.099	0.2094*	0.4994*	1
NON-OIC COUNTRIES								

	gdp	rank	Ge	fdi	Pop	gcf	edu	d c
G dp	1							
ra nk	0.27 42*	1						
G e	-0.0 82*	-0.23 85*	1					
Fd i	0.00 25	-0.24 99*	0.718 1*	1				
Po p	0.35 01*	0.554 6*	-0.14 92*	-0.10 56*	1			
G cf	0.03 24	-0.11 92*	0.877 0*	0.710 5*	-0.11 52*	1		
Ed u	-0.3 69*	-0.79 19*	0.168 7*	0.213 8*	-0.63 18*	0.10 98*	1	
D c	-0.2 77*	-0.64 62*	0.415 2*	0.396 0*	-0.34 92*	0.34 94*	0.51 49*	1

**Table 2: Correlation**

Significant at 5% level

### 4.3. Discussion

Table 3 reports the impact of Islamicity on economic growth using the GMM method. Model (1) displays the overall results: OIC and non-OIC countries. Model (2) depicts high-income countries, model (3) denotes middle-income nations, and model (4) consists of low-income nations. Lastly, model (5) expresses the impact of Islamicity on economic growth in OIC nations. Islamicity across all models (i.e., models (1), (2), (3), (4), and (5) is statistically significant and negatively correlated with economic growth. All models confirm a negative impact, regardless of whether the countries belong to high-income, low-income, middle-income, or OIC nations when it comes to the GMM estimation method. The results also show no significant difference between OIC and non-OIC countries in terms of the impact of Islamicity on economic growth. There are many factors behind these results, but one of the major factors is that most OIC member

countries are developing countries with low-quality institutions such as the role of law, political stability, regulation qualities, and control of corruption. All these institutions are not doing well, which makes it the same when it comes to the impact of Islamicity on economic growth.

If OIC member countries succeed in improving these institutions, then it would become possible for these economies to grow and bring more prosperity to the nations.

For quantile regression, results in Table 4 show no impact of Islamicity on highest-income and lowest-income countries at the first 25<sup>th</sup> quantile (high-income countries). This result implies that being more Islamic adds no value to the richest and poorest countries. Similarly, Table 5 shows that in the case of middle-income percentiles, the 50<sup>th</sup> quantile, Islamicity has no effect on high- and low-income countries. Meanwhile, in Table 6, the results depict that at the 75<sup>th</sup> quantile, Islamicity has no impact on economic growth regardless of whether the country belongs to low high, middle, or OIC nations.

	(1)	(2)	(3)	(4)	(5)
	Overall	High	Middle	Low	OIC
Rank	-0.0223 <sup>***</sup>	-0.0377 <sup>**</sup>	-0.0260 <sup>***</sup>	-0.0395 <sup>**</sup>	-0.0344 <sup>***</sup>
	(-4.33)	(-2.66)	(-3.30)	(-3.15)	(-3.34)
Lge	-2.012 <sup>***</sup>	-3.498 <sup>***</sup>	-2.020 <sup>***</sup>	-0.759	-1.160
	(-7.36)	(-5.39)	(-4.74)	(-1.59)	(-1.49)
Lfdi	0.371 <sup>***</sup>	0.373 <sup>*</sup>	0.248	0.208	0.631 <sup>*</sup>
	(3.38)	(2.20)	(1.38)	(1.20)	(2.45)
pop	0.495 <sup>***</sup>	0.549 <sup>**</sup>	0.295 <sup>*</sup>	0.516	0.462 <sup>*</sup>
	(3.76)	(3.01)	(2.08)	(0.52)	(2.01)
lgcf	1.791 <sup>***</sup>	3.199 <sup>***</sup>	1.957 <sup>***</sup>	1.281 <sup>*</sup>	0.978
				*	

	(6.61)	(5.00)	(4.52)	(2.58)	(1.18)
edu	-0.0271***	0.00542	-0.0400***	0.0200	-0.0236
	(-3.76)	(0.39)	(-3.83)	(0.84)	(-1.94)
dc	-0.0196***	-0.0213***	-0.0105	-0.0624**	-0.0458***
	(-6.08)	(-4.40)	(-1.85)	(-2.61)	(-4.35)
cons	4.326**	2.715	4.536*	-6.761	0.260
	(2.61)	(0.88)	(2.12)	(-0.74)	(0.05)
N	693	220	353	120	178

**Table 3: Impact on Islamicity on economic growth (using GMM)**

Values in parentheses are t values and significance level of p value is 1% i.e. \*\*\*, 5% i.e. \*\* and 1% i.e. \*

	(1)	(2)	(3)	(4)	(5)
	Overall	High	Middle	Low	OIC
Rank	-0.0163**	-0.0288	-0.0243**	-0.0346**	-0.0299**
	(-3.16)	(-1.59)	(-3.14)	(-3.04)	(-3.02)
Lge	-1.993***	-2.920***	-1.781***	-0.451	-0.714
	(-7.94)	(-5.03)	(-4.73)	(-1.13)	(-1.29)
Lfdi	0.267*	0.439**	-0.113	0.23	0.561*

				9	
	(2.46)	(2.86)	(-0.51)	(1.37 )	(2.60)
Pop	0.190*	0.333	0.0943	-0.5 63	-0.0440
	(1.99)	(1.84)	(0.74)	(-1.1 3)	(-0.38)
Lgcf	1.903***	2.751***	2.042***	1.12 8***	0.840
	(7.85)	(4.23)	(5.56)	(3.38 )	(1.41)
Edu	-0.0392***	-0.0182	-0.0558***	0.00 202	-0.0519 ***
	(-5.51)	(-1.19)	(-4.66)	(0.06 )	(-3.98)
Dc	-0.0131***	-0.0201***	-0.00066 5	-0.0 757** *	-0.0228 **
	(-4.15)	(-4.11)	(-0.17)	(-3.5 1)	(-3.18)
Cons	2.676	-1.090	4.261	-8.7 36	-4.535
	(1.65)	(-0.24)	(1.91)	(-1.5 7)	(-1.26)
N	693	220	353	120	178

**Table 4: Impact on Islamicity on economic growth (using 25<sup>th</sup> quantile)**

Values in parentheses are t values and significance level of p value is 1% i.e. \*\*\*, 5% i.e. \*\* and 1% i.e. \*

	(1)	(2)	(3)	(4)	(5)
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	Overall	High	Middle	Low	OIC
Ran k	-0.0140* **	-0.0097 9	-0.0167* *	-0.0209	-0.0227**
	(-3.77)	(-0.65)	(-2.81)	(-1.44)	(-2.67)
Lge	-1.853** *	-1.828** *	-2.056** *	-0.640	-1.202**
	(-9.43)	(-3.55)	(-7.59)	(-1.40)	(-3.07)
Lfdi	0.248***	0.202*	0.207	0.191	0.494*
	(3.52)	(2.00)	(1.51)	(0.95)	(2.29)
Pop	0.294**	0.232	0.277	0.309	0.0586
	(3.12)	(1.59)	(1.81)	(0.67)	(0.30)
Lgcf	1.666***	1.621**	1.922***	0.928*	1.054*
	(8.57)	(2.77)	(7.29)	(2.26)	(2.48)
Edu	-0.0314* **	-0.0024 9	-0.0209* *	0.0108	-0.0362***
	(-5.16)	(-0.27)	(-2.50)	(0.49)	(-3.63)
Dc	-0.0129* **	-0.0096 2**	-0.0075 1	-0.0514* *	-0.0334***
	(-5.66)	(-3.03)	(-1.37)	(-2.92)	(-3.49)
_co ns	6.007***	3.795	4.597**	-2.368	2.421
	(4.98)	(1.19)	(2.86)	(-0.45)	(0.78)
N	693	220	353	120	178

**Table 5: Impact on Islamicity on economic growth (50<sup>th</sup> quantile)**

Values in parentheses are t values and significance level of p value is 1% i.e. \*\*\*, 5% i.e. \*\* and 1% i.e. \*

	(1)	(2)	(3)	(4)	(5)
	Overall	High	Middle	Low	OIC
Rank	-0.0075 6	-0.0100	-0.0147	-0.0228	-0.0050 9
	(-1.46)	(-0.73)	(-1.60)	(-1.97)	(-0.40)
Lge	-1.937** *	-2.257** *	-2.310** *	-1.144** *	-1.969**
	(-10.90)	(-4.42)	(-4.39)	(-5.06)	(-3.28)
Lfdi	0.277***	0.176	0.266	0.320	0.496*
	(3.78)	(1.60)	(1.43)	(1.97)	(2.17)
Pop	0.553***	0.611**	0.255	0.777	0.879**
	(5.03)	(3.27)	(1.65)	(1.88)	(2.99)
Lgcf	1.659***	2.017***	2.285***	1.082***	1.372*
	(9.28)	(3.67)	(4.30)	(5.39)	(2.25)
Edu	-0.0139	-0.0107	-0.0231	0.0276	0.00359
	(-1.68)	(-1.31)	(-1.81)	(1.12)	(0.23)
Dc	-0.0145* **	-0.0124* **	-0.0106* *	-0.0541* *	-0.0197
	(-7.62)	(-4.13)	(-2.77)	(-3.15)	(-1.74)
_cons	6.636***	7.327**	2.162	2.038	7.214*
	(5.00)	(3.15)	(0.89)	(0.37)	(2.14)
N	693	220	353	120	178

**Table 6: Impact on Islamicity on economic growth (75<sup>th</sup> quantile)**

Values in parentheses are t values and significance level of p value is 1% i.e. \*\*\*, 5% i.e. \*\* and 1% i.e. \*\*\*

## 5. Conclusion

Studies on the impact of Islamicity on economies, especially OIC member countries, are scant. Using advanced panel techniques, namely, GMM and panel quantile regression techniques, this present study finds a weak association between Islamicity and economic growth across OIC and non-OIC nations at the highest 75<sup>th</sup> quantile. In other words, at the highest 75<sup>th</sup> quantile, the impact of Islamicity becomes weaker as the country's economy grows, regardless of whether it is an OIC member nation or a non-OIC member nation. Our study corroborates the findings of previous studies that religious practices have an unfavorable implication on economic outcomes.<sup>45</sup> The factors responsible for holding these countries back must be gauged from the economic perspective. Moreover, the same set of components revealed by other studies may exist, which clarifies economic slowness in numerous different economies.

It is crucial to perform valid economic assessments in Islamic nations. In line, it is important to popularize the initiative, track changes in each of the indices' dimensions, and publish an annual report based on the most recent indices on the state of Muslim economies. The annual report should highlight areas where there has been improvement and where there has been a deficiency. Identifying this set of factors requires further investigation. The policy implication of this study is the urgent call to bring multiple economic reforms that shall encourage an environment for economic growth in the OIC economies.

## 6. Appendix

<b>Variable Definition</b>		<b>Source</b>
<b>Dependent variable</b>		
GDP	Annual percentage growth rate of GDP	WDI
<b>Islamicity index</b>		
Rank	0 to 1, close to 1 indicate more while close to 0 shows less Islamicity	<a href="http://islamicity-index.org">http://islamicity-index.org</a>
<b>Human and physical capital variables</b>		

EDU	Gross secondary enrollment rate	WDI
POP	Population growth rate	WDI
GCF	Gross fixed capital formation	WDI
<b>Macroeconomic variables</b>		
GE	General government final consumption expenditure	WDI
FDI	Foreign direct investment	WDI
DC	Domestic Credit to Private credit as a share of GDP	WDI

**Table A1: Data sources, definitions, and descriptive statistics**

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