The Role of Islamic Leadership Principles and Ethics in the Context of Finance-Growth Nexus in GCC Countries

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Abstract

This paper investigates the role of Islamic leadership principles and ethics in the context of finance-growth link using balanced panel data from 6 Gulf Cooperation Council (GCC) countries between the 2002-2022 periods. The study uses a set of non-stationary panel data approaches to examine the long-run equilibrium relationships between the variables of interest. The outcomes reveal that there is a long-term relationship between the variables where financial development, and Islamic leadership principles and ethics brought a significant positive impact on GCC member's economy. This indicates that financial development, and Islamic leadership principles and ethics are important elements for promoting growth. Additionally, the results suggest that the effect of financial sector development on growth is contingent on the Islamic leadership principles and ethics in GCC countries. The interaction term as well as marginal effects calculated are positive then significant at all levels of Islamic leadership principles and ethics. This means that the Islamic leadership principles and ethics have enormous direct and indirect positive impacts on economic growth in GCC countries.

Keywords: Economic growth, financial development, GCC, Islamic leadership

Introduction

Viable economic growth is of crucial importance when conceptualising macroeconomic policies predominantly in developing countries because maintainable economic growth is critical in plummeting poverty, unemployment, and disparity or inequality (straubhaar, 2003). Recently, the financial institutions has appeared as an important instrument of economic growth and development. According to Levine (1997), financial sector and the complexity of its growth and development have been frequently underlined as one of the possible determinants of long-term economic development. Even though, financial development has been broadly acknowledged as a facilitator for economic growth, the influence of developing and emerging countries'

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financial structures on economic growth as well as the factors that regulate their efficiency as drivers of that growth has yet to be visibly clarified.

Thus, this study aimed to investigates the Role of Islamic Leadership Principles and Ethics in the Context of Finance-Growth Nexus in GCC Countries. The rest of this research work is organised as follows. The next section discusses the related literature. Part 4 reports the research methodologies used in the present study. Whereas part 5 presents the empirical results. Thus, section 6 presents the conclusion and policy implications.

Theory and Literature Review

The conceptualisation of connections between financial improvement and economic growth can be outlined back to advocates of economic growth and development theories, who noticed the connection from different perspectives. Scholars such as Bagehot (1873), Schumpeter (1911), Von Mises (1912), Gurley & Shaw (1955), together with Mckinnon (1973) as well as Shaw (1973) detected that the services brought by financial mediators can promote whole economic proficiency through capital allocation, invention and entrepreneurship which are indispensable components of economic development. In addition, the association between financial sector development and economic progress was primarily examined by Goldsmith (1969), although, readings on this aspect only gained momentum in the 1990s. King & Levine (1993a), with Levine & Zervos (1998), as well as Rajan and Zingales (2003), and Levine (1997 & 2005) in their analysis of the finance-growth relationship observed that a well-built financial structure had a significant positive impact on growth. They further affirmed that sophisticated financial systems promoted financial stability and scaffold the implementation of successful economic policies.

Moreover, leadership refers to the way an organisation or a country's power is exercised to run its economic and political backgrounds (Bush & Glover, 2003; Northouse, 2017; Zolcsak, 2015). Jones & Olken (2005) perceived that leaders play a vital role in influencing growth as their policymaking impacts economic outcomes. Therefore, the lack of good leadership would, negatively impact a country's productivity growth. Karikari (2010), kraipornsak (2018) & Samarasinghe (2018) proposed that quality of national leadership or good governance contributed significantly to economic growth.

Furthermore, leadership in Islam is the motivating process to followers in an attempt to accomplish a pure and collective idea (Al-talib, 1991; Chowdbury, 2002). Islamic leadership is largely based on the sources of shari'a (Al-Burney, 1985). Similarly, some of the significant characteristics of a leader's accountability according to Ali (2009) are necessary foundations like cohesiveness, well-being of the society, as well as good presentation of the society.

The above review reveals that the linkages between finance and growth, leadership and growth have been widely studied. Yet, there is a scarcity of studies relating to the influence of Islamic leadership principles and ethics in the framework of finance-growth connexion and this is particularly so in developing countries. Therefore, this study examines how Islamic leadership principles and ethics will make a difference in such a way that financial development affect output growth. The findings of this research are likely to reveal new acumens into the multifaceted linking between financial sector progress and economic growth. Accordingly, this study would contribute meaningfully by exploring critically the direct & indirect (moderating) impacts of Islamic leadership principles and ethics on economic growth and development in GCC countries. In light of this, more effect and comprehensive progression policy creativity can be imitative from the conclusions of the present study.

Research Method

This segment discusses the empirical model, data, as well as the research methodology employed to achieve the goal of this research.

Empirical Model

A growth model premised on the Solow (1956) growth framework which was developed to analyse the influence of Islamic leadership principles and ethics on the finance-growth linkages in GCC countries. The model incorporated the Cobb-Douglas production' function:

$$Y_{it} = K_{it}^{\alpha}(A_{it}L_{it})^{1-\alpha} \tag{1}$$

where, Y_{it} denotes the real yield or output in the nation i at a given time t. K_{it} refers to the physical capital, L_{it} is the labour with A_{it} being the labour-augmenting factor indicating technological progress and economic efficiency. The proportion of return on capital according to neoclassical economic growth theory is deemed as diminishing; where $\alpha < 1$. Equally, labour and the factor of labour-augmented are expected to expand as per the functions as follows:

$$L_{it} = L_{i0}e^{n_i t} \tag{2}$$

$$A_{it} = A_{i0}e^{g_i t}Z_{it}^{\theta_i} \tag{3}$$

wherein n indicates the exogenous of labour growth rate, and g refers to the exogenous of technology growth rate. Therefore, L_{it} and A_{it} grows at rate of n and g, respectively. According to the objectives of this research, θZ_{it} represents the vector of explanatory variables, which are financial development (FD), and Islamic

leadership principles and ethics (IL), with θ denoting a vector of coefficients of these explanatory variables.

$$Z_{it} = (\text{FD}_{it}, \text{IL}_{it},) \tag{4}$$

wherein Z_{it} stands as a vector of the two explanatory variables employed in this study, namely, Financial Sector Development(FD_{it}), as well as Islamic Leadership Principles and Ethics (IL_{it}).

Given $y_{it} = \text{Y}_{it}/\text{L}_{it}$ and $k_{it} = \text{K}_{it}/\text{L}_{it}$ represent output per labour as well as capital per labour correspondingly, the output per labour function is evolve as:

$$y_{it} = A_{it}(k_{it})^{\alpha} \tag{5}$$

As capital per labour is anticipated to be constant at the steady-state level, it will be better defined as follows:

$$k^* = \left(\frac{s}{n + g + \delta}\right)^{\frac{1}{1-\alpha}} \tag{6}$$

wherein δ signifies the percentage of depreciation of the stock of physical capital. However, when Equation (6) substitutes into Equation (5) and applying its natural logarithm, the resulting growth model will be obtained:

$$\ln y_{it} = \ln A_0 + \theta_i \ln Z_{it} + \frac{\alpha}{1-\alpha}\ln s_{it} - \frac{\alpha}{1-\alpha}\ln(n+g+\delta)_{it} \tag{7}$$

Equation (7) describes the steady-state output per worker as a function of savings and population growth, and as a vector of the study's 2 explanatory variables, namely, Islamic leadership principles and ethics, and financial development.

According to Mankiw et al. (1992), $\ln A_0 = \beta_0 + \varepsilon_{it}$ because A_0 reflects not only progress in technology, but it encompasses resource endowments, climate changes, etc. which vary across countries, therefore, the growth model of this research can be re-arranged as:

$$\ln \text{GDP}_{it} = \beta_0 + \beta_1 \ln k_{it} + \beta_2 \ln(n+g+\delta)_{it} + \theta_3 \ln \text{FD}_{it} + \theta_4 \ln \text{IL}_{it} + \varepsilon_{it} \tag{8}$$

where ln indicates the natural logarithm, GDP is a per capita' real GDP which symbolises economic growth, $(n+g+\delta)_{it}$ is the population growth, while savings ($\ln s$) is measured by investment – capital stock (k_{it}), recommended in Mankiw et al. (1992). The data of real Gross Fixed Capital' Formation (GFCF) was used to denote capital stock data. Still, to build the financial system development variable, four (4) indicators of financial sector development (that is the proportion of M2 & M3,

domestic or home credit to the private sector, as well as the domestic or home credit provided by the banking sector to GDP) was joint using the Principal Component Analysis style (PCA). Similarly, we constructed the Islamic Leadership Principles and Ethics variable using PCA based on several indicators related to leadership such as political stability, control of corruption, effectiveness of government, and the voice and accountability as recommended in Tan et al. (2010).

Moreover, as the interest of the present research is to estimate the moderating effects of Islamic leadership principles and ethics on the influence of financial system development on economic growth in GCC countries, the model is extended by incorporating interaction term, $\ln(\text{FD} \times \text{IL})_{it}$ into the growth model as shown below:

$$\ln\text{GDP}_{it} = \beta_0 + \beta_1 \ln k_{it} + \beta_2 \ln(n + g + \delta)_{it} + \theta_3 \ln\text{FD}_{it} + \theta_4 \ln\text{IL}_{it} + \gamma_1 \ln(\text{FD} \times \text{IL})_{it} + \varepsilon_{it} \quad (9)$$

Based on the Equation (9) presented above, if γ_1 is statistically' significant, this indicates that the marginal' effect of financial development on economic growth is facilitated by Islamic leadership principles and ethics (IL). The marginal effects of financial system development on economic growth can be computed by applying the partial derivatives of financial development, namely $\partial \ln\text{GDP}_{it}/\partial \ln\text{FD}_{it} = \theta_3 + \gamma_1 \ln\text{IL}_{it}$.

Sample and Data

The datasets engaged in this research consist of a balanced yearly panel data of 6 GCC countries for the 2002 to 2022 period. The list of GCC countries under investigation is presented in the Appendix. All the data employed in this research work are obtained from two major databases provided by the World Bank, i.e. the World Development' Indicators (WDI) and the World Governance' Indicators (WGI). After Mankiw et al. (1992), the present study measures n as the working-age population growth rate and concerning our dataset we assume that $g + \delta = 0.08$ where it is constant across countries and time.1

Following Tang & Tan (2014), Ang & McKibbin (2007), and Stock & Watson (2002), we borrow the approach of principal component analysis' (PCA) to construct a particular financial development index with (4) four different indicators of financial development, namely the ratio of M2 & M3 to GDP, the proportion of domestic' credit to private sector to GDP, and the domestic or home credit provided by the' banking sector to GDP. Similarly, we also construct the Islamic leadership principles and ethics variable using PCA based on several leadership-related indicators such as (i) political' stability, (ii) control' of corruption, (iii) government' effectiveness, and (iv)

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[1] In tandem with calculation in Mankiw' et al. (1992), we compute g & δ based on the growth' rate of per' capita GDP & the capital-output ratio, respectively with our dataset. The average' growth rate' of per capita GDP is approximately 0.03 and the capital-output ratio is approximately 0.05. Therefore, $g + \delta = 0.08$ is determined.

the voice' and accountability indicators proposed in Tan et al. (2010). All the data are transformed into natural logarithm for 'standardisation.

Econometric Methods

In the present research work, a set of panel data approaches is employed to estimate the growth models. Given the time series structure of our panel data is almost 20 years, we believe the non-stationary panel data methods are more appropriate. Our econometric analysis involves (3) three steps. Initially, we start by testing the existence of a unit root in each variable to conclude its order of integration. For this purpose, Im, Pesaran and Shin (2003) as well as Choi (2001) panel unit root tests was used. Second, if the variables are integrated' at the similar order, then the heterogeneous panel cointegration tests proposed by Pedroni (1999, 2004) will be engaged to look at the presence of a long-run connexion between per capita real GDP and its explanatory variables. In order to the Pedroni's test for cointegration, the following panel regression is estimated:

$$W_{it} = \alpha_i + \delta_i t + \varphi_{1i} H_{1it} + \varphi_{2i} x_{2it} + \cdots\cdots, + \varphi_{Mi} H_{Mit} + e_{it} \qquad (10)$$

where W_{it} represents the $NT \times 1$ dimension of dependent variables whereas H_{Mit} is the $NT \times M$ dimension of explanatory variables where N, T, and M represent cross-sectional, time series and the amount of explanatory variables in the regression' model, respectively. e_{it} is the residual as well as to test for the presence of cointegration, Pedroni (1999, 2004) suggested to examine the stationarity of the estimated residuals via the following model:

$$e_{it} = \vartheta_i e_{it-1} + \mu_{it} \qquad (11)$$

In an effort to check for the presence of panel cointegration; Pedroni (1999, 2004) developed (7) seven statistical tests where these tests can be categorised into two dimensions, namely the within-dimension tests (that is panel v-statistic; panel ρ-statistic; panel PP'-statistic, and panel' ADF-statistics' which are based on pooling of the residuals and the between-dimension tests (that is Group' ρ-statistic, Group PP-statistic', and Group 'ADF-statistic) which permits for heterogeneity across countries.

Once the presence' of cointegration' is confirmed, we estimate the long-run elasticities between per capita real GDP as well as its explanatory variables using the panel Fully Modified OLS (FMOLS) estimator introduced in Pedroni (2000) which is extended from Phillips and Hansen (1990). The panel FMOLS estimator is used in this study because Chen, McCoskey and Kao (1999) as well as Phillips and Hansen (1990) found that the results provided by this estimator is more robust and account for the endogeneity as well as autocorrelation that are usually present among the explanatory variables (Narayan and Sun, 2007). Following Pedroni (2000), the panel FMOLS' estimator is given as:

$$\hat{\beta}_{NT}^* - \beta' = \left(\sum_{i=1}^{N} \hat{L}_{22i'}^{-2} \sum_{t=i}^{T} (x_{it} - \bar{x}_i)^{2'} \right)^{-1} \sum_{i=1}^{N} \hat{L}_{11i}^{-1'} \hat{L}_{22i'}^{-1} \left(\sum_{t=1}^{T} {'}(x_{it} - \bar{x}_i) \, \mu_{it}^{*'} \right.$$

$$\left. - T\hat{\gamma}_{i'} \right) \qquad\qquad (12)$$

where $\mu_{it}^* = \mu_{it} - \frac{\hat{L}_{21i}}{\hat{L}_{22i}} \Delta x_{it}$ and $\hat{\gamma}_i = \hat{\Gamma}_{21i} + \hat{\Omega}_{21i}^0 - \frac{\hat{L}_{21i}}{\hat{L}_{22i}} \left(\hat{L}_{22i} + \hat{\Omega}_{22i}^0 \right)$.

The term Ω_i^0 and Γ_i are the covariance and sum of auto-covariance for the estimated model respectively while the t-statistic of this panel FMOLS estimator follows the standard normal distribution.

Results and Discussion

This part provides interesting outcomes based on the non-stationary panel data methods. The summary of various descriptive statistics is as presented in Table 1. The mean value, which is a measure of central tendency, represents the average value that a variable assumes, over time and across countries. GDP_{it} seemed to have the highest mean value, while $(n + g + \delta)_{it}$ had the lowest mean value. Similarly, GDP_{it} possessed the high standard deviation, while $(n + g + \delta)_{it}$ had the lowest standard deviation. Standard' deviation' measures the 'variability of the data and deviation of the actual values from the mean value. Essentially, standard deviation is far less than the mean value in the cases of GDP_{it}, and $(n + g + \delta)_{it}$ while the reverse is the case for FD_{it}, k_{it} and IL_{it}, wherein they are greater than the mean value. Given these variations, applying natural logarithm on the variables may help to limit such deviations. Finally, it was observed that the data was consistent as the mean was within the range of the maximum and minimum values.

Table 1:   Summary of Descriptive Statistics

Variables	Mean	Std. Dev	Min	Max
k_{it}	1005.206	1477.012	10.110	12561. 03
$(n + g + \delta)_{it}$	0.101	0.008	0.022	0.102
GDP_{it}	2443.017	2003.449	361.220	31004.39
FD_{it}	2.131	4.403	0.001	45. 311
IL_{it}	2.007	3.010	0.002	20.150

Moreover, prior to the conduct of panel regression analysis, and it is essential to check' the stationarity' of the 'variables. If any of the variables in the regression is non-stationary' and not 'cointegrated, 'then the regression analysis would likely to

produce spurious results. Therefore, the panel' unit root' tests are conducted in this regard. Consequently, three-unit root tests are used in this study, namely; Im-'Pesaran-Shin' (IPS), ADF-Choi and PP-Choi panel unit' root tests, respectively. The outcomes of these panel unit' root tests at both' the level' and first difference' of the variables are presented' in Table' 2.

Table 2:   Results of Panel Unit Root Tests

Variables	IPS test		ADF-Choi Z-test		PP-Choi Z-test	
	Constant	Constant and trend	Constant	Constant and trend	Constant	Constant and trend
Level:						
$\ln\text{GDP}_{it}$	−0.207	−1.012	3.131	3.700	4.234	0.210
$\ln k_{it}$	−1.021	−2.310	1.416	0.202	−0.110	−1.321**
$\ln(n + g + \delta)_{it}$	−1.011	−1.233	2.215	3.321	2.216	1.004
$\ln\text{FD}_{it}$	−1.132	−1.242	2.110	2.141	0.200	2.026
$\ln\text{IL}_{it}$	−1.400	−2.312	−0.304	−0.022	−1.123	−1.151**
First difference:						
$\Delta\ln\text{GDP}_{it}$	−2.231***	−2.013***	−5.321***	−5.366***	−11.013***	−11.546***
$\Delta\ln k_{it}$	−2.512***	−3.221***	−9.113***	−6.054***	−13.133***	−11.321***
$\Delta\ln(n + g + \delta)_{it}$	−2.007***	−3.176***	−7.312***	−5.221***	−12.581***	−12.133***
$\Delta\ln\text{FD}_{it}$	−2.312***	−3.237***	−8.243***	−4.731***	−14.110***	−14.145***
$\Delta\ln\text{IL}_{it}$	−1.248***	−4.050***	−10.187***	11.423***	−19.431***	−16.300***

Note: The asterisks, *** and ** denotes' statistical significance' at the 1 and 5 per cent levels,' respectively. 'The optimal lag order for ADF-Choi and IPS tests are selected by Modified' Akaike' Information' Criterion' (MAIC), while bandwidth for Choi test is based on 'Newey-West' using 'Bartlett Kernel. The critical values for IPS test refer to Im et al. (2003).

Table 2 illustrates the outcomes of the IPS, 'ADF-Choi and 'PP-Choi panel' unit root' tests. The results' show that all the variables are non-stationary at level, particularly the results of IPS and ADF-Choi test for the model of intercept and trend. However, the results at the 'first difference' show that all the IPS, ADF-Choi and PP-Choi tests steadily reject the 'null hypothesis' of a unit root irrespective of whether a model with intercept or with intercept and trend is used. Given majority of the results in Table 2 showed that all' the variables were non-stationary' at the level but became stationary after' first 'difference, we concluded that the variables were integrated' at order' one, I(1).

Having established the integration' order of the 'variables, the next' task is to test' for the existence' of cointegration or long-term relationship' among' the variables using the

residuals-based' test' for panel' cointegration proposed by Pedroni (1999, 2004). The panel cointegration results are reported in Table

Table 3. 'Results of 'Pedroni's Panel 'Cointegration Analysis

Tests	Statistics	*p*-values
Panel' v-statistic	4.315***	0.007
Panel 'rho-statistic	5.567	1.000
Panel 'PP-statistic'	– 0.213	0.021
Panel 'ADF-statistic'	– 3.310***	0.003
Group' rho'-statistic	7.032	1.000
Group 'PP-statistic	– 9.320***	0.001
Group ADF-'statistic	– 5.312***	0.000

Note: *** denote statistical significance at the 1 per cent level. Deterministic intercept and trend are involved in the test. The lag length and bandwidth are chosen by AIC while the Bartlett kernel is based on Nerwey-west.

The outcomes of the 'Pedroni's panel cointegration 'test in 'Table 3 show that (4) four out of the (7) seven statistics were 'significant at 'the one per 'cent level, hence 'rejecting the null' hypothesis of no 'cointegration. In fact, $\ln \text{GDP}_{it}$, $\ln \text{FD}_{it}$, $\ln \text{IL}_{it}$, $\ln k_{it}$ and $\ln(n + g + \delta)_{it}$ in GCC' countries were 'cointegrated, indicating the 'existence of long-run' relationships between them. Alike, results were also obtained in other 'studies on developing countries (Christopoulos and Tsionas, 2004; Law and Habibullah, 2006; Ahmed, 2010; Asghar and Hussain, 2014). Subsequent to the confirmation of cointegration between' the 'variables, 'the next step was to 'estimate the magnitude, sign and statistical significance of such relationships.

A total of 3 Models are estimated by the panel FMOLS' 'estimator, where 'Table 4 illustrated' the estimated' coefficients' of the 'Models. We find that the estimated coefficients of $\ln k_{it}$ and $\ln(n + g + \delta)_{it}$ are 'consistent with 'the economic growth 'theory and some existing' 'empirical studies' (e.g. Abdullah et al., 2008; Law and Habibullah, 2006; Mankiw et al., 1992). Moreover, the empirical results based on Model 2 reveal that financial' 'development has a 'positive impact on economic growth in GCC countries. This is contradicted with the findings of Sassi and Goaied (2013), but corroborated with Becsi and Wang (1997), Levine (2005), Kumar (2014), and Tang et al. (2020) who found that a well-'functioning 'domestic financial sector contributes greatly to an 'increase in 'savings and investments, which eventually 'trigger 'economic 'growth. Specifically, a 1 per cent increases in financial development would improve GDP by approximately 0.022 per cent, holding other factors constant.

Equally, the Islamic leadership principles and ethics also' play an 'important 'role in stimulating 'economic 'growth. Based' on the results' in 'Table 4, it is apparent that the Islamic leadership principles and ethics is an 'important 'determinant of output 'growth in GCC countries. 'This is signified by the fact that a one per cent increase in the Islamic leadership principles and ethics concomitantly enhanced GDP by approximately 0.036 per cent, implying that countries with good leadership were more likely to enjoy better economic growth. This is consanguineous with Samarasinghe (2018), who averred that when leaders are less corrupt and more accountable, a more stable political environment ensues and this in turn, spurs economic growth. The result is also similar with that of Daud et al. (2014), and Bangash (2000) who found that 'Islamic 'leadership components exert 'crucial influence 'on society's performance.

Next, we extend the analysis to 'examine the 'role of Islamic 'leadership principles and ethics in enabling the positive impact of financial sector development to flow through into output growth. It should be well-known that Model 3 contains an interaction term that mediates financial development and Islamic leadership principles and ethics i.e. $\ln(\text{FD} \times \text{IL})_{it}$. Wooldridge (2016) documented that, when an interaction term is significant statistically, the interpretation for individual variables, such as financial development, Islamic leadership principles and ethics in this study, are rendered less' meaningful' since 'their effects' on output 'growth are reliant on the value of their 'counterparts '(see also 'Brambor et al., 2006).

Accordingly, the results' in' Model 3 indicate that the 'coefficient of the 'interaction 'term among 'financial development and Islamic leadership principles and ethics, $\ln(\text{FD} \times \text{IL})_{it}$ was 'positive and 'significant at the 1 'per cent level. 'This result confirms that the Islamic leadership principles and ethics is crucial in improving the contribution of finance to growth in GCC economies. This finding' is in 'accord with 'that of Porta et al. (1997), who stressed that effective national leadership plays a vital role in stewarding economic growth via effective pro-growth initiatives and informed policy formulation and implementation.

Table 4:   Results of panel FMOLS estimation

Variables	Model 1	Model 2	Model 3
$\ln k_{it}$	0.188*** (0.000)	0.112*** (0.000)	0.107*** (0.000)
$\ln(n + g + \delta)_{it}$	−0.200*** (0.000)	−0.341*** (0.000)	−0.344*** (0.000)
$\ln\text{FD}_{it}$	–	0.022*** (0.000)	0.057*** (0.000)
$\ln\text{IL}_{it}$	–	0.036*** (0.000)	0.032*** (0.000)

$\ln(\text{FD} \times \text{IL})_{it}$	–	–	0.020*** (0.000)
Marginal effects: $\partial \ln\text{GDP}/\partial \ln\text{FD}$			
Minimum	–	–	–0.039*** [2.473]
Mean	–	–	0.056*** [34.112]
Maximum	–	–	0.103*** [19.138]

Note: The asterisk *** denote the 'statistical significance' at the 1 per' cent level. Figures in the 'parenthesis (.) are the p-values, 'whereas [.] indicates the t-statistics' for marginal' effects calculated' based on the' procedure 'suggested in Brambor et al. (2006).

After evaluating the presence of these facilitative mechanisms, we then calculated the 'marginal 'effects of 'financial sector development' on output growth at the minimum, mean as well as maximum levels of Islamic leadership principles and ethics. To assess the implication of the 'marginal effects, we' utilised a procedure as proposed by Brambor, Clark and Golder (2006)' to 're-calculate the 'new standard' errors' for the t-statistic.[1] The 'marginal 'effects as well as the t-test ''are presented in 'Table 4.

The findings revealed that the 'marginal 'effects were significant at the 1 per cent 'level at the 'mean, minimum and 'maximum levels' respectively. However, positive effects were only discerned at the 'mean and 'maximum 'levels, as the effect was negative at the minimum level. Essentially, a 1 per cent increase in Islamic leadership principles and ethics at the mean' level, stimulated financial 'development to increase output growth by approximately 0.056 per cent. Conversely, the Islamic leadership principles and ethics attained 0.103 per cent at the maximum level. This 'result indicates that a minor 'increase in 'the Islamic leadership principles and ethics does not substantially enhance the impact of 'financial 'development on 'economic 'growth in 'GCC countries. In other words, only countries with an average or high-quality Islamic leadership principles and ethics were likely to experience accelerated financial development which in turn contributed to output growth.

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[1] The new' standard' errors employed to' investigate the 'impact of the marginal effects of Islamic leadership principles and ethics can be calculated using $\hat{\sigma}_{\partial\text{GDP}}/\partial X = \left[var(\hat{\beta}_1) + \ln\text{QL}_{it}^2 var(\hat{\beta}_4) + 2(\ln\text{QL}_{it})cov(\hat{\beta}_1\hat{\beta}_4)\right]^{0.5}$ and $\hat{\sigma}_{\partial\text{GDP}}/\partial X = \left[var(\hat{\beta}_1) + \ln\text{ICT}_{it}^2 var(\hat{\beta}_4) + 2(\ln\text{ICT}_{it})cov(\hat{\beta}_1\hat{\beta}_4)\right]^{0.5}$

Conclusion and Policy Implications

This research has achieved its objectives of investigating the role of Islamic leadership principles and ethics in the context of finance-growth nexus in GCC countries over the period 2002 to 2022. The findings of the study show that there is a strong positive impact of financial development, and Islamic leadership principles and ethics on economic growth in the examined' countries. The results also reveal that countries with a better Islamic leadership principles and ethics could effectively enhance the process of financial 'development to accelerate' long-'term economic 'growth, meaning that finances as well as Islamic leadership principles and ethics are 'important 'growth 'catalysts 'for 'the GCC economies.

The estimated results also imply that the impact of finance on growth is directly contingent upon the excellence of the Islamic leadership principles and ethics. The marginal effect computed is significant at two levels of Islamic leadership principles and ethics. Since it was established that the effects of financial development on growth was negative at the minimum level of the Islamic leadership principles and ethics, it can be inferred that only substantial increases in the quality of Islamic leadership principles and ethics significantly and robustly impacted financial development's overall effect on output growth in GCC economies. Finally, it can be surmised that the findings linked to the interaction term indicate that Islamic leadership principles and ethics have significant direct and indirect positive impacts on economic growth in GCC countries, and that financial development is more robust and capable of propelling economic growth when the Islamic leadership principles and ethics improved concomitantly.

Since it has been conclusively established that financial 'development is vital for economic 'growth in 'GCC 'countries, policymakers should set up an efficient and functional financial architecture that can mobilise savings' and 'channelling 'them 'into productive investments. 'In addition, 'policies and reforms capable of unleashing the latent potential of financial institutions as catalysts for economic growth should be fast-tracked. These include further liberalisation of the financial sector that would enable the emergence of subsidiary capital markets to complement the existing predominantly bank-centred financial architecture in 'developing 'countries.

Since the 'study 'also unequivocally demonstrated that Islamic leadership principles and ethics plays' a fundamental role in accelerating economic 'growth, policymakers' should 'endeavour to enhance' the 'quality of 'national 'leadership to 'support and 'accelerate economic 'growth. Hence measures aimed at enshrining the best practices of good governance should be accorded due emphasis. This would include the creation of a 'Competent, 'Accountable and 'Transparent' (CAT) administrative framework that is both corruption and red tape free while simultaneously being one that upholds the rule of law. The Islamic leadership can also burnish its progressive's credentials to attract financial sector investments by championing participatory and inclusive democracy, valorising the freedom

of expression, promoting civil society engagement, and guaranteeing the free flow of information.

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Appendix: List of GCC Countries under Review

Sr. no.	Country
1	Bahrain
2	Kuwait
3	Oman
4	Qatar
5	Saudi Arabia
6	United Arab Emirate