Journal of Islamic Monetary Economics and Finance, Vol. 6, No.3 (2020), pp. 597-620
p-ISSN: 2460-6146, e-ISSN: 2460-6618

ISLAMIC FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN NIGERIA: A BOUNDS TESTING APPROACH

Tasiu Tijjani Sabiu[1] and Muhamad Abduh[2]

[1] Universiti Brunei Darussalam, Brunei Darussalam, 17h0346@ubd.edu.bn
[2] Universiti Brunei Darussalam, Brunei Darussalam, muhamad.abduh@ubd.edu.bn

ABSTRACT

Using a bounds testing approach to the cointegration and error correction method developed within the autoregressive distributed lag (ARDL) framework, this paper analyses the short- and long-run dynamic relationships between Islamic financial development and economic growth in Nigeria. Quarterly time-series data (2012:1 to 2019:3) are employed for the variables, together with non-interest bank financing to the private sector and real gross domestic product as indicators of Islamic financial development and economic growth respectively. The results indicate a significant short- and long-run relationship between Islamic financial development and economic growth. The relationship, however, is neither Schumpeter's supply-leading nor Robinson's demand-following type; rather, it appears to be bi-directional. In addition, empirical evidence is found that underscores the important role of Islamic bank financing in the economic performance of Nigeria. The paper recommends that improvement of the Islamic financial system in Nigeria may foster economic development and enhance welfare and poverty alleviation in the long run.

Keywords: Economic growth, Islamic banking, ARDL.
JEL Classification: C22; E44; G21.

Article history:
Received : September 28, 2019
Revised : December 15, 2019
Accepted : July 6, 2020
Available online : August 25, 2020

https://doi.org/10.21098/jimf.v6i3.1191

I. INTRODUCTION

1.1. Background

Islamic finance is flourishing, and gaining ground, acceptability and momentum across the world. The global Islamic financial system has recorded significant growth and expansion in the last four decades. Total industry assets across 56 countries, including Nigeria, reached US$ 2.4 trillion in 2017, and are projected to reach US$ 3.8 trillion by 2023 (Reuters, 2018). Islamic banking is the largest segment of the Islamic financial industry; the total assets of more than 500 Islamic banks, including the Islamic banking window, reached $ 1.72 trillion in 2017 (Research & Market, 2019). The importance of Islamic finance has been realised, especially during the 2008 world economic recession, which is because of its resilience to economic and financial shock (Abduh, Omar & Duasa, 2011; Abedifar, Hasan, & Tarazi, 2016; Hasan & Dridi, 2010; Tabash & Dhankar, 2014c). Islamic banks and their investment depositors share risk, and as such are less likely to collapse (Zaher & Hassan, 2001). The banks promote macroeconomic and financial stability during crisis periods by injecting more financing into the real sector for investment (Hasan & Dridi, 2010). The formidable development of Islamic finance, coupled with its relative stability during recent crises, have attracted interest in sharia-compliant financial institutions from policy makers and finance specialists globally (Tabash & Dhankar, 2014a). In addition, researchers and academics are drawn to uncovering the reality of this emerging financial segment of the global economy.

The Nigerian Islamic financial system has experienced significant transformation and expansion over the years. Currently, the country has the fastest growth in Islamic finance assets (Reuters, 2018), and continues to experience rapid expansion in Islamic banking assets, financing and deposits (IFSB, 2018). Expansion of financial services drives economic growth (Levine, 2005). More than fifty percent of Nigerians are Muslim (Central Intelligence Agency, 2016; Miller, 2009); an important factor that encourages Islamic banking development, leading to its impact on economic growth in a country, is the presence of a sizeable Muslim population (Lebdaoui & Wild, 2016).

Nigeria was chosen as the case study for the following reasons: first, it is home to the largest Muslim population in Sub-Saharan Africa, at over 80 million. Second, given the market prospects of non-interest finance in Nigeria, it has the potential to become the hub of Islamic finance and an Islamic banking role model in the African continent. Third, based on global Islamic finance reports, the Nigerian Islamic financial system had witnessed dramatic and immerse growth, and is ranked among the most vibrant emerging Islamic financial systems in the world. Finally, it was chosen because of the availability of data on non-interest bank financing to the private sector.

Empirical studies investigating the relationship between Islamic financial development and economic growth started with the work of Furqani and Mulyany (2009) in respect of Malaysia. Since then, studies which have attempted to investigate this relationship have been largely concentrated on the Middle East, South East Asia and the Indian sub-continent. In this regard, time series and panel studies investigating the interaction between finance and economic growth have been conducted. Empirically, many studies have examined this relationship

in the conventional context. However, the Islamic finance and growth nexus has received little attention in comparison to its conventional counterpart. More importantly, the future of Islamic finance is in Africa, given the sizeable Muslim population. However, there has been little literature on the connection between Islamic finance and economic growth in Sub-Saharan Africa. In particular, empirical studies on the relationship Islamic financial development and economic growth in Nigeria are rare. Imam and Abubakar (2015) made the first attempt to study the causality connection in Nigeria using quarterly time-series data from the period 2012Q1 to 2015Q4. Although their study established short-run causality running from Islamic financial development to economic growth, the findings are based on limited observations. Second, the causality connection is limited to short-run analysis. This raises the need to re-consider the study using a larger dataset, employing several techniques for checking robustness, and incorporating feasible macroeconomic control variables.

Section II of the paper presents the literature review on the relationship between both the Islamic and conventional finance-growth nexus, while the following section discusses the data sources and econometric methodology of the study. Section IV presents and discusses the findings of the study, while the final section comprises the conclusion and recommendations.

1.2. Objectives

The paper provides empirical evidence on the relationship between Islamic banking development and Nigerian economic growth. Specifically, using the autoregressive distributed lag (ARDL) bounds testing approach and variance decompositions (VDCs), it explores the relationship between economic growth and Islamic financial development during the period 2012Q1-2019Q3. To highlight the current development and the attendant changes in the real economy and Islamic financial industry, the paper deploys the most recent available data to achieve its objectives. In addition, it investigates both short- and long-run relationships in the Nigerian economy, whilst also probing the strength of the causal relationship between Nigerian economic prosperity and Islamic financial development in the country.

II. LITERATURE REVIEW

2.1. Background Theory

The theoretical connection between financial development and economic growth has been well documented; work can be traced back to the studies of Schumpeter (1911), Gurley and Shaw (1960), McKinnon (1973) and Shaw (1973). Based on their theoretical proposals, banking sector activities play an important role in promoting economic growth through savings mobilisation, improvements in resource allocation, and the triggering of technological innovation. The financial system performs five basic functions that can facilitate economic growth, namely (i) gathering information on prospective investment and capital allocation; (ii) mobilising financial resources in the form of savings; (iii) monitoring firms and exercising corporate control after capital allocation; (iv) facilitating the exchange of goods and services; and (v) risk diversification and management (See Levine,

2005). In performing these roles, financial intermediaries alleviate transaction and information costs; enhance the allocation of financial resources; attract more savings to the financial sector; rationalise investment decisions; facilitate innovation; and eventually endanger long run economic growth.

During the global financial crises , Islamic banks, unlike their conventional counterparts, were little affected. This raises doubt over the ability of conventional financial development to stimulate sustainable economic growth. Attention was directed towards ethical and moral finance. Islamic banks are interest-free financial institutions that perform banking business in accordance with Islamic law. Islamic finance has built-in checking and balance mechanisms to ensure total abstinence from interest-based financing, excessive speculation (*gharar*) and gambling; its corporate governance also protects Islamic financial institutions from crisis (Abd. Majid & Kassim, 2015) . The theoretical models upon which Islamic financial intermediation are built are superior to their conventional counterparts in promoting equity, efficiency and stability (Khan & Mirakhor, 1987).

The theory of Islamic banking is governed by Sharia as its main guiding principle, in which charging predetermined rates of return in the form of interest is prohibited. Islamic teachings, which have guided all the theoretical work on Islamic banking operations, condemn interest and encourage hard work through legitimate trade and investment. Although Islamic banks and their conventional counterparts offer similar financial intermediation services, given the unique features of the former, they have better ability in promoting economic growth in Muslim countries, as well as in other developing economies (Imam & Kpodar, 2016). Therefore, Islamic finance has emerged as an alternative in providing viable financial services (Abdu, Jibril, Abdullahi & Rabiu, 2018).

Islamic banking possesses inherent features that can contribute to economic growth. Profit and loss sharing in Islamic financing clearly promote stronger connections between the financial sector and the real economy. Precisely, the movement of money in Islamic banking intermediation is always linked with the flow of goods and services. Islamic banking plays at least four key functions: it stimulates financing; encourages savings; supports ethical and morally inclined projects; and promotes financial stability (Imam & Kpodar, 2016).

Kouten and Nedra (2012) postulate that the role of Islamic finance, unlike its counterparts, stimulates economic growth through its unique financial intermediation that alleviates ex-ante and ex-post information asymmetric problems. In this regard, they argue that participatory financial intermediation mitigates the asymmetric information problem, enabling more savings, and increasing the allocation of financial resources to productive investment at minimal cost, thus promoting capital accumulation. Kouten and Nedra further contend that risk-sharing principles motivate the undertaking of new and profitable projects; promote better risk evaluation; re-distribute risk rather than transfer it; and highlight technological innovation, thereby stimulating economic growth. Therefore, Islamic banking is the panacea for achieving sustainable economic growth.

2.2. Previous Studies

The relationship between financial development and economic growth has been comprehensively treated in the conventional literature, from both theoretical and empirical perspectives. Although the finance-growth nexus has been a longstanding and widely debated subject, financial development has been found to have a greater commendatory impact on economic growth. Exploration of the link between finance and growth began in the 19th century, starting with the work of Bagehot (1873), who postulated that finance was a major player in stimulating economic development and growth. This was later supported by theoretical work of Schumpeter (1911), who showed that the financial sector influences economic growth through the allocation of financial resources to the most productive investment. Since then, both theoretical and empirical works regarding the connection between financial development and economic growth have been widely conducted. In this regard, several studies have analysed the effect of financial development on economic growth using a range of time series, cross-country and panel level econometric techniques.

To examine finance-growth nexus causality, King and Levine (1993) established four measures of financial development, namely financial depth; the ratio of commercial bank to central bank domestic credit allocation; credit allocation to private firms divided by GDP; and claims on the non-financial private sector to GDP. The rationale behind this form of measurement was the weakness associated with individual measures, and the belief that multiple indictors would give deeper insight into financial development. The indicators were regressed with real capita GDP and its sources on 80 countries for the period 1960 to 1989. Their findings established that financial development engendered economic growth, which is consistent with the Schumpeterian view.

In addition, Beck, Levine & Loayza (2000) investigated the relationship between financial development and economic growth in a sample of 77 countries over the period 1960-1995.The findings of their study reveal that the financial sector has a significant positive effect on multi-factor productivity growth and eventually on overall GDP growth. This conclusion is supported by the work of Arestis, Demetriades, and Luintel (2000), Christopoulos and Tsionas (2004), Neusser and Kugler (1998) and Rousseau and Wachtel (2000).

In a panel study of 40 countries, using the GMM technique Beck and Levine (2004) investigated the connection between stock markets and banks and economic growth over the period 1976-1998.The study concluded that overall financial development is important, and that it matters for economic growth. They further contend that both stock market and banking development has a positive impact on economic growth. Arestis, Demetriades, and Luintel (2001) argue that although both banks and stock markets stimulate economic growth, the effect of the former is more powerful. Seminal empirical work on the area of study includes that of McKinnon (1973), Shaw (1973), King and Levine (1993), Levine, Loayza, and Beck (2000), Beck et al., (2000), Beck and Levine (2004) and Shen and Lee (2006). The endogenous growth literature places emphasis on the significance of financial development in achieving long-run economic prosperity through its impact on capital accumulation and technological innovation (Abu-Bader & Abu-Qarn, 2008). Interestingly, the literature on the finance-growth nexus is by and large in favour of Schumpeter's line of reasoning.

Unlike the Schumpeterian postulation on finance-led growth, Robinson (1952) argues that the causal effect on growth is not affected by finance and that there is close affinity between economic growth and financial development, since the higher the economic growth, the higher the demand for different sets of financial products and services. In the same vein, Lucas (1988) and Kuznets (1955) both contend that financial development arises out of the expansion of the real economic sector and they downplay the role of finance on growth. Interestingly, Patrick (1966) proposes a bi-directional causal relationship between financial development and economic growth through the hypothesis channel of supply-leading and demand-following.

The seminal work of Demetriades and Hussein (1996) revisited studies on the finance-growth nexus which were based on several countries, but lacked proper categorisation of them into appropriate groups. Their findings reveal substantial evidence of bi-directional casualty for developing economies, together with reverse causation in respect of developed ones. Conclusively, they submit that there is limited evidence to support the strength of finance as the leading sector in the path towards economic development. In contrast, Deidda and Fattouh (2002) established that the link between financial depth and economic growth was only significant in higher income economies, with no significant relationship in countries with lower per capita income.

The relationship connecting Islamic financial development with economic growth can be categorised into three groups of literature, based on their empirical findings. Starting with the finance-led growth nexus, this group found unidirectional causality running from economic growth to Islamic financial sector development (Abdul Manap, Abduh, & Omar, 2012; Boukhatem & Moussa, 2018; Abd. Majid & Kassim, 2015; Abedifar et. al., 2016; Gheeraert & Weill, 2015; Daly & Frikha, 2016; Jobarteh & Ergec, 2017; Kassim, 2016; Kalim, Mushtaq, & Arshed; 2016; Lawal & Imam, 2016; Imam & Kpodar, 2016; Yusof & Bahlous, 2013; Tabash & Dhankar., 2014b;Wahab, Mufti, Murad, & Arif-ui-Haq, 2016; Zirek, Boz, & Hassan, 2016). This signifies that economic growth depends on Islamic financial sector development. Hence, their findings validate the supply-leading hypothesis

The second group in support of the financial sector-led growth nexus highlights the unidirectional causality running from Islamic financial development to economic growth (Furqani & Mulyany, 2009; Hakkim & Uddin, 2016; Hachicha & Amar, 2015; Yüksel & Canöz, 2017).These studies establish that expansion in Islamic financial services is determined by economic growth. Hence, their findings validate the demand-following hypothesis.

The third category supports bi-directional causality, in which Islamic financial development leads to economic growth, and consequently economic growth leads to further development of the financial sector (Abduh & Omar, 2012; Abduh, Brahim, & Omar, 2012; Abduh & Chowdhury, 2012; Al-oqool, Okab, & Bashayreh, 2014; Farahani & Dastan, 2013; Tabash & Dhankar, 2014a; Farahani & Sadr, 2012).This implies interdependency between Islamic financial development and economic growth. Hence, the findings of these studies are neither Schumpeterian nor Robesonian. However, work on the Islamic finance and growth nexus is rare in comparison with its conventional counterpart, and in general there are few studies on the Islamic financial framework.

III. Methodology

3.1. Data

In this paper, the time series data for the non-interest bank financing [LNNIBFP] and real GDP [LNRGDP] variables are used as indicators for Islamic financial development and economic growth respectively. The study also includes gross fixed capital formation (LNGFCF) and trade openness (LNTRADE) as control variables. The frequency of the time series data employed is quarterly, spanning Q1:2012 to Q3:2019, and they were obtained from different sources. The period was considered based on data availability. Data on real GDP were obtained from the Central Bank of Nigeria, while those on Islamic bank financing were sourced from both the Central Bank of Nigeria and the Islamic Financial Services Board. Data on gross fixed capital formation and trade openness were sourced from the Nigerian Bureau of Statistics. Four variables are employed, real GDP, NIBFP, GFCF and TRADE, all of which are expressed in logarithmic form.

3.2. Model Development

The function relationship of the time series model to study the general relationship between Islamic financial development and economic growth is given by:

$$RGDP=(NIBFP,GFCF,TRADE) \tag{1}$$

where:
RGDP = Real GDP growth at time *t*.
NIBFP = Non-interest bank financing to the private sector.
GFCF = Net new investment in fixed capital during an accounting period.
Trade = Trade openness (total exports plus total imports).
The econometric form of the functional model is given by:

$$RGDP_t = \varpi_0 + \varpi_1 NIBFP_t + \varpi_2 GFCF_t + \varpi_3 TRADE_t + \varepsilon_t \tag{2}$$

where NIBFP, GDP, TRADE and GFCF are defined as above. ω_0 is a constant term, while ω_1, ω_2 and ω_3 are the parameter estimate of the models. t denotes time series data, while ε is the residual term.

The selection of the dependent variable (RGDP) and the independent variable (NIBFP) was based on the notion that Islamic banking financial intermediation, unlike its conventional counterpart, is tied to the real economy. The choice of gross fixed capital formation as a control variable is in line with the argument by Hachicha and Amar (2015) that the transmission channel through which Islamic finance affects growth is via investment, and hence the need for its incorporation as an instrumental variable. Employing trade openness as a control variable conforms with Islamic finance-growth nexus studies, for example, Boukhatem and Moussa (2018), Farahani and Dastan (2013) and Yusuf and Bahlous (2013). It is also consistent with the conventional finance-growth nexus literature, for instance Hassan, Sanchez, and Yu (2011) and King and Levine (1993). In line with the work of Abduh and Omar (2012), Farahani and Dastan (2013) and Tabash and Dhankar

(2014a), this study explored the dynamic interaction between Islamic bank financing and economic growth in Nigeria. Therefore, the econometric model was further divided into two equations.

3.3. Unit Root Test

To avoid spurious regression in time series data, testing for stationarity of the variables using unit root tests is unavoidable. Therefore, before conducting the cointegration test, the order of integration of the left- and right-hand side variables must be determined. The unit root tests performed in this study were the augmented Dickey-Fuller test (1979) and the Phillips- Perron test (1988) in order to examine the statistical properties of the time series variables. Both stationary tests test the null hypothesis of the unit root against its alternate hypothesis of stationarity. Therefore, augmented Dickey-Fuller (ADF) involves estimating the regression equations below using the ordinary least method, either with both intercept and trend, as in equation (3); with only the intercept, as shown in equation (4); or without including the intercept or linear trend in equation (5).

$$\Delta y_t = \varpi_0 + \varpi_1 + \delta y_{t-1} + \sum_{i=2}^{p} \Omega_i \quad \Delta y_{t-1+I} + \varepsilon_t \tag{3}$$

$$\Delta y_t = \varpi_0 + \delta y_{t-1} + \sum_{i=2}^{p} \Theta_i \, \Delta y_{t-1+I} + \varepsilon_t \tag{4}$$

$$\Delta y_t = \delta y_{t-1} + \sum_{i=2}^{p} \Phi_i \, \Delta y_{t-1+I} + \varepsilon_t \tag{5}$$

where

y_t = *time series data*; Δ= *first difference operator*; t= *trend;* ε_t = *stochastic term;* , ω_0= *intercept;* $\Delta y_{t-1}=(y_{t-1}-y_{t-2})=\Delta y_{t-2}=(y_{t-2}-y_{t-3})$;$i$=1,2,3.....$N$.

The Phillips-Perron test is established based on the first order autoregressive of the augmented Dickey-Fuller test (ADF). The main distinction is that the PP test applies a non-parametric approach to correcting the t-statistics of the attribute of the first order autoregressive process to tackle serial correlation in the error term.

3.4. ARDL Bounds Testing Approach

After conducting the unit root test, the next step was to the existence of short- and long-run dynamic relationships between Islamic financial development and economic growth using the ARDL bounds testing technique. The ARDL model was proposed by Pesaran (1997) and later extended by Pesaran, Shin & Smith (1999) and Pesaran, Shin & Smith (2001). The model is applicable regardless of whether the underlying regressors are purely I(0), purely I(1), or mixed. Narayan (2004) contends that the estimates obtained from the ARDL bounds testing approach to cointegration are unbiased and efficient, given the fact that the test: (i) can be applied to studies that have a small sample, such as this study; (ii) estimates the

long- and short-run components of the model simultaneously, removing problems associated with omitted variables and autocorrelation; and (iii) can distinguish between dependent and independent variables. Therefore, the ARDL approach to cointegration involves estimating the conditional error correction of ARDL. The ARDL framework pertaining to the variables for equation (2) is re-written as follows:

$$\Delta \ln RGDP_t = a_0 + \sum_{i=0}^{n} a_{1_i} \Delta \ln RGDP_{t-i} + \sum_{i=0}^{n} a_{2i} \Delta \ln NIBFP_{t-i} + \sum_{i=0}^{n} a_{3_i} \Delta \ln GFCF_{t-i} + \sum_{i=0}^{n} a_{4_i} \Delta \ln TRADE_{t-i} + a_5 \ln RGDP_{t-i} + a_6 \ln NIBFP_{t-i} + a_7 \ln GFCF_{t-i} + a_8 \ln TRADE_{t-i} + \varepsilon_t \quad (6)$$

$$\Delta \ln NIBFP_t = a_o + \sum_{i=1}^{n} a_{1_i} \Delta \ln NIBFP_{t-i} + \sum_{i=0}^{n} a_{2_i} \Delta \ln RGDP_{t-i} + \sum_{i=0}^{n} a_{3i} \Delta \ln GFCF_{t-i} + \sum_{i=0}^{n} a_{4_i} \Delta \ln TRADE_{t-i} + a_5 \ln NIBFP_{t-i} + a_6 \ln RGDP_{t-i} + a_7 \ln GFCF_{t-i} + a_8 \ln TRADE_{t-i} + \varepsilon_t \quad (7)$$

where
LNRGDP = Natural logarithm of real GDP.
LNINBFP = Natural logarithm of Islamic bank financing.
LNGFCF = Natural logarithm of gross fixed capital formation.
LNTRADE = Natural logarithm of trade openness.

The joint F-statistics or Wald test is the underlying statistics for testing the presence of long-run co-integration. The null hypothesis of no co-integration among the variables in equations (6) and (7) is given by H0: = α5 =α6 =α7 =α8 = 0, which is tested against the alternative hypothesis H1: ≠ α5≠ α6≠ α7≠ α8 ≠0. The decision rule is that if the computed F-statistics test is greater than the upper critical bounds value, then the null hypothesis will be rejected, thus implying evidence of cointegration. On the other hand, if the F-statistics is below the lower bounds value, then we fail to reject the null hypothesis of no co-integration. However, if the calculated F-statistics falls within the bound, then the cointegration test results become inconclusive.

Having established long-run co-integration, equations (8) and (9) are estimated using the following ARDL long-run model (p1, q1, q2, q3):

$$\Delta \ln RGDP_t = \varpi_0 + \sum_{i=0}^{p} \varpi_{1_i} \Delta \ln RGDP_{t-i} + \sum_{i=1}^{q_1} \varpi_{2i} \Delta \ln NIBFP_{t-i} + \sum_{i=1}^{q_2} \varpi_{3_i} \Delta \ln GFCF_{t-i} + \sum_{i=1}^{q_3} \varpi_{4_i} \Delta \ln TRADE_{t-i} + \mu_t \quad (8)$$

$$\Delta \ln NIBFP_t = \varpi_o + \sum_{i=0}^{p} \varpi_{1_i} \Delta \ln NIBFP_{t-i} + \sum_{i=1}^{q_1} \varpi_{2_i} \Delta \ln RGDP_{t-i} + \sum_{i=1}^{q_2} \varpi_{3i} \Delta \ln GFCF_{t-i} + \sum_{i=0}^{q_3} \varpi_{4_i} \Delta \ln TRADE_{t-i} + \mu_t \quad (9)$$

Having found a long-run relationship, the error correction version of the ARDL framework for short-run elasticity with reference to equations (10) and (11) can be obtained by constructing an ECM as follows:

$$\Delta \ln RGDP_t = \phi_o + \sum_{i=1}^{n} \phi_1 \Delta \ln RGDP_{t-i} + \sum_{i=0}^{n} \phi_2 \Delta \ln NIBF_{t-i} + \sum_{i=0}^{n} \phi_3 \Delta \ln GFCF_{t-i} + \sum_{i=0}^{n} \phi_4 \Delta \ln TRADE_{t-i} + \phi_5 ECT_{t-1} + \mu_t \quad (10)$$

$$\Delta \ln NIBFP_t = \phi_o + \sum_{i=1}^{n} \phi_1 \Delta \ln NIBFP_{t-i} + \sum_{i=0}^{n} \phi_2 \Delta \ln RGDP_{t-i} + \sum_{i=0}^{n} \phi_3 \Delta \ln GFCF_{t-i} + \sum_{i=0}^{n} \phi_4 \Delta \ln TRADE_{t-i} + \phi_5 ECT_{t-1} + \mu_t \quad (11)$$

IV. Results and Analysis

4.1 Results

Even though the ARDL framework does not need pre-testing of the variables, conducting the stationarity test could show whether the ARDL model should be used. The unit root test using the augmented Dickey-Fuller and Phillips-Perron tests was conducted based on a model with constant and trend. The unit root test results shown in Table I indicate that LNRGDP and LNNIBFP are stationary at level for both the ADF and PP tests. The control variables, i.e. LNGFCF and LNTRADE, are stationary at first difference using both tests. Therefore, each of the unit root test results for ADF and PP respectively reveal a combination of variables integrated of orders I (1) and I (0). This warrants employment of the ARDL approach to cointegration. Therefore, the ARDL bounds testing approach to cointegration can procede.

Table 1.
Unit Root Test

Series	ADF		PP	
	Level	First Difference	Level	First Difference
LNRGDP	-7.119242***	-10.17267***	-4.762282***	-5.608350 ***
LNNIBFP	-4.441513 ***	-7.398705***	-17.69213 ***	-5.175771***
LNGFCF	-0.830850	-8.672114***	-2.123351	-8.944349***
LNTRADE	-1.432444	-4.016371***	-1.311967	-5.648269***

Note that: * significant at 10%; ** significant at 5%; *** significant at 1%. Lag length=2, based on the SIC.

Before proceeding to the test of cointegration, we determined the optimal lag lengths based on the Akaike information criterion (AIC) and Schwarz information criterion (SIC). Table 2 shows that the "*" notations are situated on the second lag. Therefore, the appropriate optimal lag length considered to be 2, based on the SIC.

Table 2.
VAR Lag Order Selection Criteria

	Equation 6		Equation 7	
Number of Lags	**AIC Criterion**	**SIC Criterion**	**AIC Criterion**	**SIC Criterion**
0	-0.484182	-0.295589	-0.484182	-0.295589
1	-4.750444	-3.807482	-4.750444	-3.807482
2	-7.264716*	-5.567384*	-7.264716*	-5.567384*

The results from the cointegration test in Table 3 indicate the presence of a long-run relationship in equations (6) and (7) using ARDL bounds testing. The results obtained from the F-statistics for equations (6) and (7) are 40.80297 and 740.8197 respectively. Therefore, the calculated F-statistics for these equations are higher than the upper critical value at 1 percent (5.23) using an unrestricted intercept and restricted trend. Specifically, when real GDP (LNRGDP) is employed as an endogenous variable, the computed F-statistics are higher than the critical value at the 1% level of significance. Similarly, utilising Islamic financial development (LNNIBFP) as the endogenous variable, the computed F-statistics are also higher than the critical value at the 1% level of significance. Overall, there exists long-run cointegration between the variables in both models, which have the tendency to move together in the long run.

Table 3.
F-Cointegration Test Results and Bound Critical Values

				Bound Critical Values	
Equation	**Lag**	**F-Statistic**	**Sig. level (%)**	**Lower Bounds**	**Upper Bounds**
6	3	40.80297	10%	2.97	3.74
			5%	3.38	4.23
			1%	4.3	5.23
7	3	740.8197	10%	2.97	3.74
			5%	3.38	4.23
			1%	4.3	5.23

Based on the findings of the ARDL model in Table 4, a positive and significant relationship between Islamic financial development and economic growth is indicated. The non-interest bank financing variable is found to be significant in equation (8) and its sign is positive, which is consistent with the theoretical criterion. The positive nexus shows that the more developed the Islamic financial system is, the better the growth of the economy recorded. Similarly, real GDP is also found to be significant and positive in equation (9). Therefore, it can be argued that Islamic banks' contribution to the Nigerian economy is very positive and vice versa . As such, the nexus between Islamic financial development and economic growth appears to be bi-directional in Nigeria.

Table 4.
Long-run ARDL Model Estimates

	Dependent Variable	
	LNRGDP	**LNNIBFP**
Coefficient of LNRGDP	-	7.661 (4.746) ***
Coefficient of LNNIBFP	0.078 (4.816) ***	-
Coefficient of LNGFCF	0.114 (4.214) ***	-0.908 (-3.05s6)***
Coefficient of LNTRADE	-0.029 (-1.494)	0.033 (0.159)
Adjusted R^2	0.882937	0.990748
D-W=	1.319167	1.476941

Note: Significant at *10%, **5% and ***1% levels

Having established the long-run association between Islamic financial development and economic growth, we now proceed to investigate short-run causality. It is important to be mindful of the fact that the reported cointegration results among the variables indicate a long- run association. However, although they signal the presence of causation, they do not indicate the direction of the causality among the variables. Pairwise Granger causality was employed in testing short-run causality among the variables. The results shown in Table 5 reveal evidence of bi-directional causality in the short run. LNNIBFP Granger-causes LNRGDP, and concurrently LNRGDP Granger-causes LNNIBFP. These findings are in line with those of Farahani and Dastan (2013) for nine Islamic countries, Abduh and Chowdhury (2012) for Bangladesh, and those of Tabash and Dhankar (2014a) in case of Qatar. Regarding the control variables, we found that both gross fixed capital formation and trade openness Granger-cause economic growth. However, in the other equation with LNNIBFP as the dependent variable, only gross fixed capital formation Granger-causes Islamic financial development. Although trade openness being positive confirms a priori expectations, its impact on Islamic financial development is insignificant in the short run. Overall, Islamic financial development in the short run engenders economic growth and at the same time expansion in the real economy transforms the operation of the Islamic financial system further. In brief, short-run causality is illustrated by the F-statistics of the Wald test, while long-run causality is indicated by the t-statistics of the error correction term.

Table 5.
Pairwise Granger Causality Tests

Null Hypothesis	F-statistic	Probability
LNNIBFP does not Granger-cause LNRGDP	5.99589	0.0077
LNRGDP does not Granger-cause LNNIBFP	2.54005	0.0999
LNGFCF does not Granger-cause LNRGDP	13.7271	0.0001
LNTRADE does not Granger-cause LNRGDP	2.63585	0.0923
LNGFCF does not Granger-cause LNNIBFP	13.7098	0.0001
LNTRADE does not Granger-cause LNNIBFP	1.73793	0.1973

Note: Significant at *10%, **5% and ***1% levels

The next step was to establish long-run causality using ECM-based causality. The intensity and statistical significance of (ϕs) in each ECT equation signifies a long-run causal relationship and measures the propensity of each variable to return to equilibrium after shock in the short run. The overall ECM coefficient for equations (10) and (11) is significant and inversely correlated, which indicates proof of long-run causality in both ECM equations in at least one direction. Traditionally, the coefficient of the error-correction term falls between 0 and -1. Loayza and Ranciere (2005) further argue that it should be between 0 and -2, but must not be lower than -2. The results in Table 6 show that in equation (10), non-interest bank financing (LNNIBFP) has a significant effect on GDP at the 1% level of significance. In addition, in equation (11) real GDP is found to have a significant effect on non-interest bank financing (LNNIBFP). This shows evidence of long-run bidirectional causality between Islamic financial development and economic growth in Nigeria. Our findings are also in line with Abduh and Chowdhury (2012) in relation to Bangladesh, Abduh and Omar (2012) to Indonesia, Farahani and Dastan (2013) for nine Islamic countries, and Farahani and Sadr (2012) for Indonesia and Iran.

The results for equation 10 further indicate that in the long run gross fixed capital formation has a positive impact on economic growth at the 5% level of significance. Although trade openness is found to have an effect on economic growth at 10 % in the short run, it exhibits a negative insignificant relationship with Nigerian economic growth in the long run. This counterintuitive sign of trade openness can be largely explained by ineffective trade liberalisation policies and poor institutional environments in Sub-Saharan African countries (Gries, Manfred, & Meierrieks, 2009). The long-run causality in equation 11 further reveals that trade openness has a positive effect on Islamic financial development but is not significant. This result is analogous to the short-run analysis. Overall, it indicates that trade liberalisation policy in the short- and long run will, as expected, contribute to Nigeria's Islamic financial development. Although gross fixed capital formation has a short-run positive effect on Islamic financial development, a negative significant effect is found in the long run. Imam and Kopdar (2010) contend that income per capita has a strong positive effect on Islamic banking development. In developing economies, such income is obviously low. Therefore, the negative effect of gross fixed capital formation on Islamic financial development is ascribable to lower per capita income, resulting to lower savings and investment.

Table 6.
Error Correction Model and Diagnostic Test

		ΔLNRGDP	ΔLNNIBFP
ECT_{t-1}		-1.941 (-15.97) ***	-0.778 (-68.045) ***
Coefficient of ΔLNRGDP		-	2.86 (12.073) ***
Coefficient of ΔLNIBFP		0.187 (15.470) ***	-
Coefficient of ΔLNGFCF		0.148 (2.985) ***	-0.620 (-3.535) ***
Coefficient of ΔTRADE		-0.049 (-1.536)	0.1193 (0.3470)
Diagnostic Tests	F-serial LM	1.113365	0.534244
	F-ARCH test	0.354144	0.626631
	JB normal	0.374154	0.459051
	F-Reset test	2.170068	1.694285
	D.W	1.319167	1.476941
	F- Statistics	50.81051	688.0415
	P-value	0.000000	0.000000
	Adjusted R^2	0.934347	0.994932

Note: Significant at *10%, **5% and ***1 % levels

4.2. Robustness Tests

Several diagnostic tests to the ECM were conducted in order verify the competency and robustness of the model. The results in Table 6 for equations 10 and 11 show no evidence of autocorrelation in the disturbances. In addition, the ARCH test reveals no conditional heteroskedasticity problem, while the RESET test shows that the functional relationship of the model is correctly specified. Both models pass the Jarque-Bera normality test, indicating that the errors are normally distributed.

Finally, the stability of the regression coefficients was tested using the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ) for the two ARDL models. It was found that the CUSUM and CUSUMSQ test values were stable for both equations 10 and 11, as the regressed line remains within the critical bounds, at the 5 percent level of significance. This signifies that the variance coefficients of the error correction model for both models are constant and stable over time. Hence, the estimated ARDL models appear to be satisfactory and robust in estimating the short- and long-run connection between Islamic financial development and economic growth in Nigeria.

Equation 10

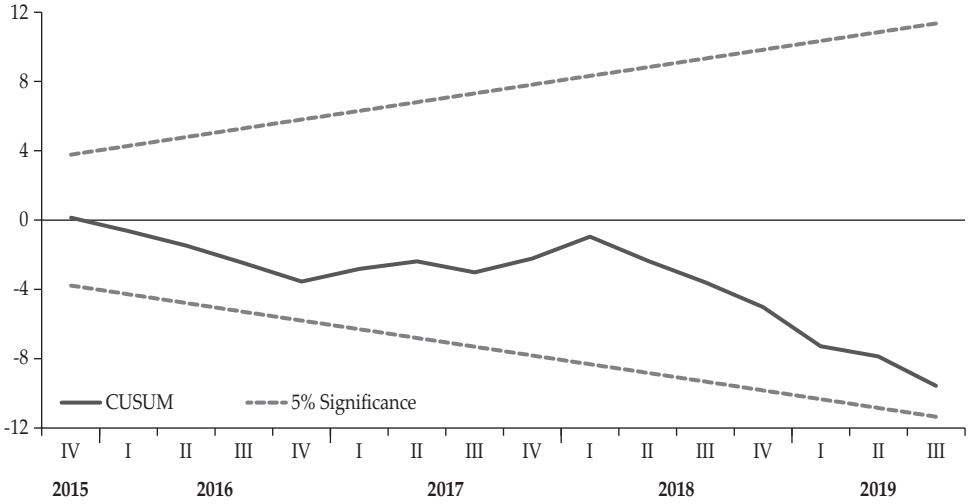

Figure 1.
CUSUM Test for Stability

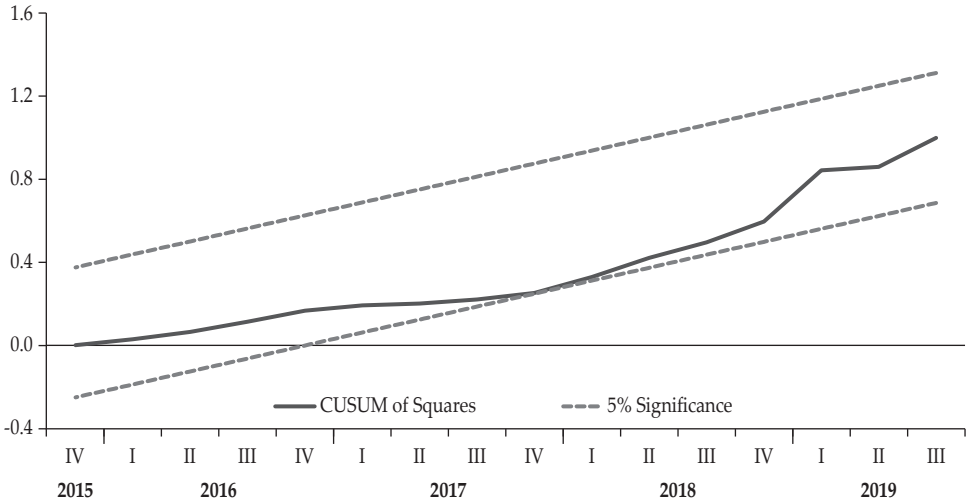

Figure 2.
CUSUM of Squares Test for Stability

Equation 11

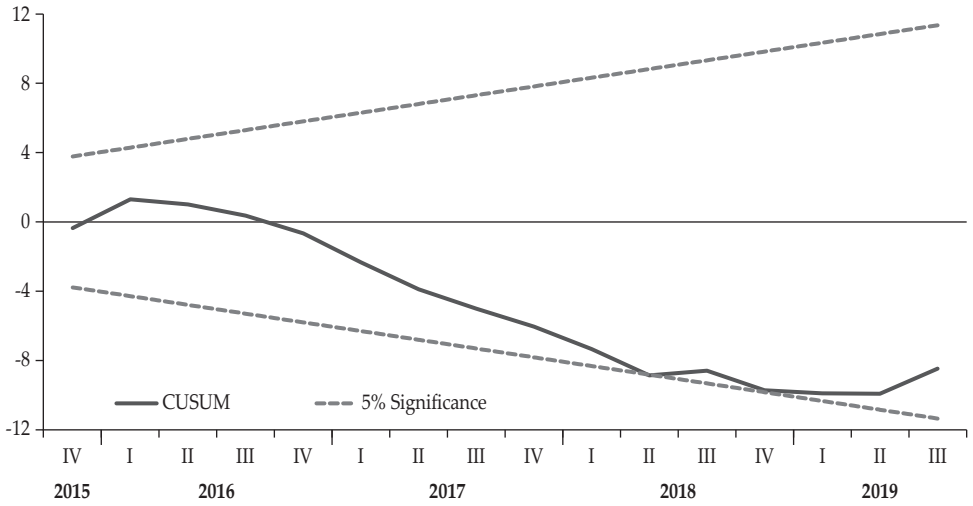

Figure 3.
CUSUM Test for Stability

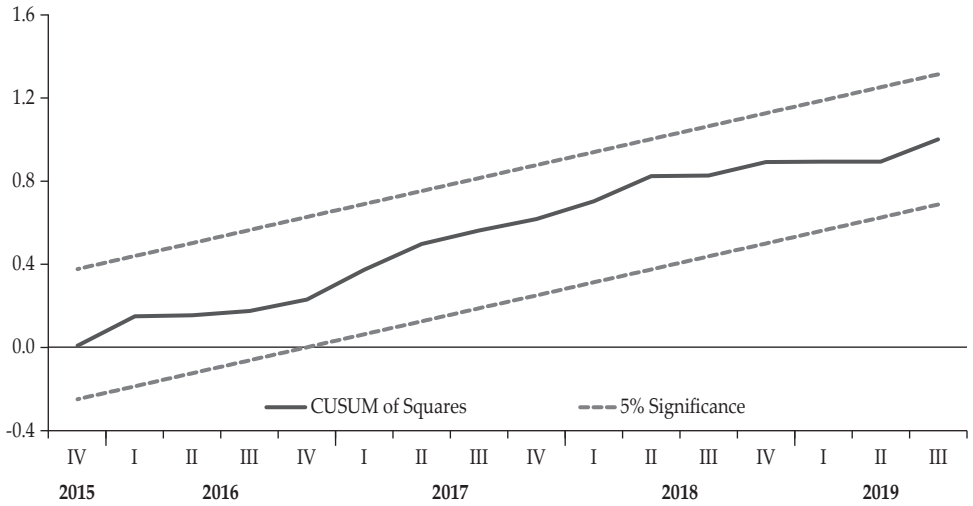

Figure 4.
CUSUM of Squares Test for Stability

4.3 Robustness of the Results

In order check the robustness of the findings, short-run analysis was extended using the VAR approach employing variance decomposition. This was done to explore the strength of the causal relationship between Islamic financial development and economic growth using variance decomposition.

4.3.1 Variance Decomposition

Variance decomposition (VDC) was employed to obtain deeper insight regarding the causal relationship between variables in the system. These out-of-sample causality tests evaluate the dynamic interactions and the relative strengths of the causality among the variables beyond the sample period. Precisely, the tool measures how much of a variable's fluctuation or forecast error variance is ascribable to its own innovations, as well as to innovations in other variables. Technically, VDC determines the relative importance of Islamic financial development in accounting for the variation in economic growth (Audu & Omar, 2012; Farahani & Sadr, 2012; Abd. Majid, & Kassim, 2015). Therefore, interpretation of the VDC results was made in line with the innovation accounting procedure of Sims (1980).

Table 7.
Variance Decomposition

	Explained by innovations in:			
	LNRGDP	**LNNIBFP**	**LNGFCF**	**LNTRADE**
Horizon (Quarterly)	**EQUATION10: NON-INTEREST BANK FINANCING (I.V)**			
Variance Decomposition of Real GDP				
1	100.0000	0.000000	0.000000	0.000000
2	89.04383	0.142205	10.80762	0.006339
3	69.42392	0.565968	24.18189	5.828223
4	66.81270	0.863874	24.34965	7.973776
5	72.61924	0.810389	18.80114	7.769235
6	70.43552	1.354727	18.57196	9.637798
7	67.46933	1.148405	22.97619	8.406073
8	64.82909	1.120121	25.81174	8.239043
9	66.37755	1.162614	23.49701	8.962821
10	64.69416	1.668527	22.23143	11.40589

Table 8.
Variance Decomposition

	Explained by innovations in:			
	LNNBFP	**LNRGDP**	**LNGFCF**	**LNTRADE**
Horizon (Quarterly)	**EQUATION 11: REAL GDP (I.V)**			
Variance Decomposition of NIBFP				
1	100.0000	0.000000	0.000000	0.000000
2	95.10355	1.405692	2.239844	1.250910
3	79.79921	6.976262	5.943057	7.281469
4	74.96501	7.539846	6.866495	10.62865
5	67.01885	8.936299	13.30467	10.74018
6	64.36611	9.429245	15.98658	10.21807
7	58.46520	8.967921	23.07542	9.491467
8	53.52259	8.162285	28.95015	9.364968
9	47.02749	7.112479	36.37555	9.484487
10	42.28276	6.297504	40.63796	10.78178

The variance decomposition results shown in Tables 7 and 8 provide detailed information on the dynamic strength of the causal relationship between Islamic financial development and economic growth in conjunction with other control variables. It was found that innovations in Islamic bank financing (LNNIBFP) accounted for a significant proportion of the fluctuations in Nigerian economic growth (LNRGDP) and vice versa . Moreover, after a 2.5 year horizon , while the percentage of non-interest bank financing forecast error variance ascribable to variation in growth is 6.29 percent, the percentage of income forecast error variance ascribable to such variation in the Islamic financial deepening is 1.67 percent.

V. Conclusion and Recommendations

5.1. Conclusion

This study has examined the relationship between Islamic financial development and economic growth in the short- and long-run. Specifically, the connection between non-interest bank financing and GDP has been empirically investigated. Utilising ADF and PP tests, the unit root results of each confirm the combination of variables integrated of 1(0) and 1(1). Use of the ARDL bounds test approach to cointegration established a long-run association between the variables. This means that Islamic bank financing and economic growth are significantly and positively correlated, implying their co-movement in the long run. Hence, Islamic banking in Nigeria plays a growth-supporting role by contributing to economic growth through channeling financial resources from the surplus unit to the deficit unit of the economy.

Furthermore, the study found short- and long-run bi-directional causality between Islamic financial development and economic growth in Nigeria, which is neither supply leading nor demand following. This signifies that expansion in non-interest bank financing triggers growth, and at the same time this growth drives further Islamic finance development in the country. It is concluded that the past and present transformation of non-interest bank financing has had a remarkable impact on changes to income in Nigeria. Nevertheless, Islamic finance can only contribute to economic growth effectively if the economy is prospering. Therefore, strong economic growth helps to stimulate Islamic financial development, which in turn supports the nation's policy objective of improving income to maximise welfare.

In addition, the short- and long-run causality implies that Islamic banks in Nigeria play a growth-promoting role by channeling funds to the most productive areas of investment, resulting in increases in GDP and vice versa . Therefore, we assert that the current policies designed by policymakers in developing a vibrant and comprehensive Islamic financial system for Nigeria are strongly linked to economic growth is effective . This demonstrates the efficacy of non-interest banking in Nigeria in promoting real sector economic activities. Therefore, improvement of the Islamic financial system in the country may foster economic development and be significant in enhancing welfare and poverty alleviation in the long run.

5.2. Recommendations

The findings of the study have several policy implications . First, it is expedient for the Nigerian government to promote the development of non-interest banking because of its significant contribution to the economy; this can be achieved by establishing a target ratio of non-interest banking assets to total banking assets realisable in a given year. This is the same strategy adopted by some Islamic countries. The government should also support the establishment of local Islamic banks, Islamic banking windows and Islamic rural banks, in addition to encouraging existing banks to open more branches. In order to stimulate more innovation in the Nigerian Islamic banking industry, there is a need to attract foreign Islamic banks into the country.

Second, given the paucity of skilled manpower in Islamic finance and banking in Nigeria, efforts should be geared towards increasing the number of well-trained workers to meet the demand for human capital in the Islamic financial industry. Besides trained Islamic bankers, there is need for competent sharia advisers and experts. In this regard, academic institutions and other relevant Islamic finance training agencies in the country should bridge this gap by providing the desired manpower. Finally, the creation of an operational enabling environment through legal reforms in favour of Islamic finance could spur long-run development of the industry.

5.3. Suggestion for Further Research

With the dual banking system in Nigeria, future studies should makes comparisons between the two approaches to ascertain the consistency of the results.

REFERENCES

Abd. Majid, M. S., & H. Kassim, S. (2015). Assessing the Contribution of Islamic Finance to Economic Growth: Empirical Evidence from Malaysia. *Journal of Islamic Accounting and Business Research*, *6*(2), 292-310.

Abduh, M., & Chowdhury, N. T. (2012). Does Islamic Banking Matter for Economic Growth in Bangladesh. *Journal of Islamic Economics, Banking and Finance*, *8*(3), 104-113.

Abduh, M., & Azmi Omar, M. (2012). Islamic Banking and Economic Growth: the Indonesian Experience. *International Journal of Islamic and Middle Eastern Finance and Management*, *5*(1), 35-47.

Abduh, M., Omar, M. A., & Duasa, J. (2011). The Impact of Crisis and Macroeconomic Variables towards Islamic Banking Deposits. *American Journal of Applied Sciences*, *8*(12), 1413-1418.

Abduh, M., Brahim, S., & Omar, M. A. (2012). A Study on Finance-Growth Nexus in Dual Financial System Countries: Evidence from Bahrain. *World Applied Sciences Journal*, *20*(8), 1166-1174.

Abdul Manap, T. A., Abduh, M., & Omar, M. A. (2012). Islamic Banking Growth Nexus: Evidence from Toda-Yamamoto and Bootstrap Granger Causality Test. *Journal of Islamic Finance*, *176*(813), 1-8.

Abdu, M., Jibir, A., Abdullahi, S., & Rabi'u, A. A. (2018). Can Islamic Banking and Finance Spur Financial Inclusion? Evidence from Sub-Saharan Africa. *CBN Journal of Applied Statistics*, *9*(1), 77-104.

Abedifar, P., Hasan, I., & Tarazi, A. (2016). Finance-Growth Nexus and Dual-Banking Systems: Relative Importance of Islamic Banks. *Journal of Economic Behavior & Organization*, *132*, 198-215.

Abu-Bader, S., & Abu-Qarn, A. S. (2008). Financial Development and Economic Growth: Empirical Evidence from Six MENA Countries. *Review of Development Economics*, *12*(4), 803-817.

Al-Oqool, M. A., Okab, R., & Bashayreh, M. (2014). Financial Islamic Banking Development and Economic Growth: A Case Study of Jordan. *International Journal of Economics and Finance*, *6*(3), 72-79

Arestis, P., Demetriades, P. O., & Luintel, K. B. (2001). Financial Development and Economic Growth: the Role of Stock Markets. *Journal of Money, Credit and Banking*, 16 -41.

Bagehot, W. (1873). *Lombard Street: A Description of the Money Market*. London: HS King.

Beck, T., & Levine, R. (2004). Stock Markets, Banks, and Growth: Panel Evidence. *Journal of Banking & Finance*, *28*(3), 423-442.

Beck, T., Levine, R., & Loayza, N. (2000). Finance and the Sources of Growth. *Journal of Financial Economics*, *58*(1-2), 261-300.

Boukhatem, J., & Moussa, F. B. (2018). The Effect of Islamic Banks on GDP Growth: Some Evidence from Selected MENA Countries. *Borsa Istanbul Review*, *18*(3), 231-247.

Central Intelligence Agency. (2019). The World Factbook. Retrieved August 31, 2019, from https://www.cia.gov/library/publications/the-worldfactbook/geos/ni.html.

Christopoulos, D. K., & Tsionas, E. G. (2004). Financial Development and Economic Growth: Evidence from Panel Unit Root and Cointegration Tests. *Journal of Development Economics*, *73*(1), 55-74.

Daly, S., & Frikha, M. (2016). Banks and Economic Growth in Developing Countries: What about Islamic Banks?. *Cogent Economics & Finance*, *4*(1), 1168728.

Deidda, L., & Fattouh, B. (2002). Non-linearity between Finance and Growth. *Economics Letters*, *74*(3), 339-345.

Demetriades, P. O., & Hussein, K. A. (1996). Does Financial Development Cause Economic Growth? Time-series Evidence from 16 countries. *Journal of Development Economics*, *51*(2), 387-411.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association*, *74*(366a), 427-431.

Farahani, Y.G., & Dastan, M. (2013). Analysis of Islamic Banks' Financing and Economic Growth: a Panel Cointegration Approach. *International Journal of Islamic and Middle Eastern Finance and Management*: *6*(2), 156-172.

Farahani, Y. G., & Sadr, S. M. H. (2012). Analysis of Islamic Bank's Financing and Economic Growth: Case Study Iran and Indonesia. *Journal of Economic Cooperation & Development*, *33*(4), 1-24.

Furqani, H., & Mulyany, R. (2009). Islamic Banking and Economic Growth: Empirical Evidence from Malaysia. *Journal of Economic Cooperation and Development*, *30*(2), 59-74.

Gheeraert, L., & Weill, L. (2015). Does Islamic Banking Development Favor Macroeconomic Efficiency? Evidence on the Islamic Finance-Growth Nexus. *Economic Modelling*, *47*, 32-39.

Gries, T., Kraft, M., & Meierrieks, D. (2009). Linkages between Financial Deepening, Trade Openness, and Economic Development: Causality Evidence from Sub-Saharan Africa. *World Development*, *37*(12), 1849-1860.

Gurley, J.G. and Shaw, E.S. (1960), *Money in a Theory of Finance*, Washington, DC: Brookings Institution.

Hachicha, N. & Ben Amar, A. (2015). Does Islamic Bank Financing Contribute to Economic Growth? The Malaysian Case. *International Journal of Islamic and Middle Eastern Finance and Management*, *8*(3), 349-368.

Hakim, B., & Uddin, M. A. (2016). *Does Islamic Bank Financing Lead to Economic Growth: An Empirical Analysis for Malaysia*. University Library of Munich, Germany.

Hasan, M. M., & Dridi, J. (2010). The Effects of the Global Crisis on Islamic and Conventional Banks: A Comparative Study. *IMF Working Papers*, 1-46.

IFSB. (2018). Islamic Financial Services Industry Stability Report 2018.

Imam, P., & Kpodar, K. (2010). Islamic Banking: How has it Diffused?. *IMF Working Papers*, 1-29.

Imam, P., & Kpodar, K. (2016). Islamic banking: Good for Growth? *Economic Modelling*, *59*, 387-401.

Jobarteh, M., & Ergec, E. H. (2017). Islamic Finance Development and Economic Growth: Empirical Evidence from Turkey. *Turkish Journal of Islamic Economics*, *4*(1), 31-47.

Kalim, R., Mushtaq, A., & Arshed, N. (2016). Islamic Banking and Economic Growth: A Case of Pakistan. *Islamic Banking and Finance Review*, *03*(July), 29–43. https://doi.org/10.32350/ibfr.2016.03.03

Kassim, S. (2016). Islamic Finance and Economic Growth: The Malaysian Experience. *Global Finance Journal*, *30*, 66-76.

Khan, M. S., & Mirakhor, A. (1987). *Theoretical Studies in Islamic Banking and Finance*, The Institute for Research and Islamic Studies, Houston, 245.

Khoutem, B. J., & Nedra, B. A. (2012). Islamic Participative Financial Intermediation and Economic Growth. *Journal of Islamic Economics, Banking and Finance, 8*(3),

King, R. G., & Levine, R. (1993). Finance and Growth: Schumpeter Might be Right. *The Quarterly Journal of Economics*, *108*(3), 717-737.

Kuznets, S. (1955). Economic Growth and Income Inequality. *The American Economic Review*, *45*(1), 1-28.

Lawal, I. M., & Imam, U. B. (2016). Islamic Finance and Economic Growth: Empirical Evidence from Nigeria. *Journal of Economics and Sustainable Development*, *7*(16),

Lebdaoui, H., & Wild, J. (2016). Islamic Banking Presence and Economic Growth in Southeast Asia. *International Journal of Islamic and Middle Eastern Finance and Management*, *9*(4), 551-569.

Levine, R. (2005). Finance and Growth: Theory and Evidence. *Handbook of Economic Growth*, *1*, 865-934.

Levine, R., Loayza, N. & Beck, T. (2000). Financial Intermediation and Growth: Causality and Causes. *Journal of Monetary Economics*, *46*, 31-77.

Loayza, N., & Ranciere, R. (2005). *Financial Development, Financial Fragility, and Growth* (No. 5-170). International Monetary Fund.

Lucas Jr, R. E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*, *22*(1), 3-42.

McKinnon, R. I. (1973). *Money and Capital in Economic Development*. Washington, DC: Brookings Institution.

Miller, T. (2009). *Mapping the Global Muslim population: a Report on the Size and Distribution of the World's Muslim Population*. Washington, DC: Pew Research Center

Mohd. Yusof, R., & Bahlous, M. (2013). Islamic Banking and Economic Growth in GCC & East Asia Countries: A Panel Cointegration Analysis. *Journal of Islamic Accounting and Business Research*, *4*(2), 151-172.

Narayan, P. (2004). *Reformulating Critical Values for the Bounds F-statistics Approach to Cointegration: an Application to the Tourism Demand Model for Fiji* (Vol. 2, No. 04). Australia: Monash University .

Neusser, K., & Kugler, M. (1998). Manufacturing Growth and Financial Development: Evidence from OECD countries. *Review of Economics and Statistics*, *80*(4), 638-646.

Sarwer, M.S., Ramzan, M., & Waqar Ahmad, M. (2013). Does Islamic Banking System Contributes to Economy Development. *Global Journal of Management and Business Research*, *13*(2), 60-68.

Patrick, H. T. (1966). Financial Development and Economic Growth in Underdeveloped Countries. *Economic Development and Cultural Change*, *14*(2), 174-189.

Pesaran, M. H. (1997). The Role of Economic Theory in Modelling the Long Run. *The Economic Journal*, *107*(440), 178-191.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association*, *94*(446), 621-634.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. *Journal of Applied Econometrics*, *16*(3), 289-326.

Phillips, P. C., & Perron, P. (1988). Testing for a Unit Root in Time Series Regression. *Biometrika*, 75(2), 335-346.

Research & Market (2019) *Global Islamic Finance Market - Growth, Trends, and Forecast (ID:4758280)* Retrieved September 23, 2019, from https://www.researchandmarkets.com/research/bq7pb4/global_islamic?w=12

Reuters, T. (2018). Islamic Finance Development Report 2018 Building Momentum. Retrieved from https://repository.salaamgateway.com/images/iep/galleries/documents/20181125124744259232831

Robinson, J. (1952). The Generalization of the General Theory, in: The Rate of Interest and Other Essays (Macmillan, London).

Rousseau, P. L., & Wachtel, P. (2000). Equity Markets and Growth: Cross-country Evidence on Timing and Outcomes, 1980–1995. *Journal of Banking & Finance*, *24*(12), 1933-1957.

Schumpeter, J. (1911). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and Business Cycle*. Cambridge, Mass.: Harvard University Press.

Shaw, E. (1973). *Financial Deepening in Economic Development*, Oxford University Press: Oxford

Shen, C. H., & Lee, C. C. (2006). Same Financial Development Yet Different Economic Growth - Why?. *Journal of Money, Credit, and Banking*, *38*(7), 1907-1944.

Sims, C. A. (1980). Macroeconomics and Reality. *Econometrica: Journal of the Econometric Society*, 1 -48.

Tabash, M. I., & Dhankar, R. S. (2014a). Islamic banking and economic growth: An empirical evidence from Qatar. *Journal of Applied Economics and Business*, *2*(1), 51-67.

Tabash, M. I., & Dhankar, R. S. (2014b). The flow of Islamic finance and economic growth: An empirical evidence of Middle East. *Journal of Finance and Accounting*, *2*(1), 11-19.

Tabash, M. I., & Dhankar, R. S. (2014c). Islamic finance and economic growth: An empirical evidence from United Arab Emirates (UAE). *Journal of Emerging Issues in Economics, Finance and Banking*, *3*(2), 1069-1085.

Tunay, K. B. (2016). Islami Bankacilik ile Ekonomik Büyüme Arasinda Nedensellik Iliskileri [Causality Relations Between Islamic Banking and Economic Growth]. *Yonetim ve Ekonomi*, *23*(2), 485.

Wahab, M., Mufti, O., & Murad, M. S. (2016). The Study of Co-integration and Causal Link between Islamic Bank Financing and Economic Growth. *Abasyn University Journal of Social Sciences*, *9*, 134-146.

Yüksel, S., & Canöz, İ. (2017). Does Islamic Banking Contribute to Economic Growth and Industrial Development in Turkey. *Ikonomika*, *2*(1), 93-102.

Zaher, T. S., & Kabir Hassan, M. (2001). A Comparative Literature Survey of Islamic Finance and Banking. *Financial Markets, Institutions & Instruments*, *10*(4), 155-199.

Zirek, D., Boz, F. C., & Hassan, M. K. (2016). The Islamic Banking and Economic Growth Nexus: A panel VAR Analysis for Organization of Islamic Cooperation (OIC) Countries. *Journal of Economic Cooperation and Development*, *37*(1), 69-100.

This page is intentionally left blank