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**ISLAMIC BANKING-GROWTH NEXUS IN MALAYSIA**

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*Abstract*

The growth of the Islamic finance in Malaysia has increased enormously and consistent with the Malaysia determination to become a regional hub of Islamic finance. This paper will empirically observe the nexus between the Islamic banking performance and economic growth in Malaysia. The objectives of this study are to investigate the co-integration and short-run relationships between Islamic bank performance and economic growth. The data was collected using quarterly data from the Monthly Bulletin Statistics of Bank Negara Malaysia (BNM) and Department of Statistic Malaysia from 2007 to 2015. The autoregressive distribution lag (ARDL) method is utilized in this study. The findings show the financial development of the Islamic bank has a positive influence on the growth in Malaysia in the short run and long run. Based on the results, total Islamic financing and investment have a positive association with economic growth. This paper also provides clear evidence that the improvement in Islamic banking development in Malaysia may encourage economic growth.

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## 1. Introduction

Currently, the Islamic financial industry is growing worldwide. Even though, the global economy facing an instable year affected by a series of occasions ranging from unpredicted political changes and geopolitical conflicts, volatility in energy prices, uncertainties of global interest rates and exchange rate depreciations in a number of countries. These unpredictable issues had negatively influence business confidence and create investor sentiment in year 2016 and had an intense impact on the performance of the financial markets. However, according to IFSI Stability Report (2017), the Islamic Financial industries have an increase total worth across its three main sectors (banking, capital markets and takāful) estimated at USD1.89 trillion in 2016. Meanwhile, the global Islamic banking assets are approximately USD1.5 trillion at the end of 2016.

Based on the Malaysia experience, the growth of the Islamic finance industry since 2005 has increased enormously and it is consistent with the ambition to make Malaysia a regional Islamic financial hub (10th Malaysian Plan). The increasing number of local and foreign financiers in this industry, in conjunction with the accumulative demand from local and international customers, has further improved the opportunity for Malaysia to achieve this target. As stated by the Malaysia Islamic Financial Report (2015), Malaysia is the global leading market for Islamic financial assets that consists of Islamic banks, Islamic insurance (takaful), and Islamic capital market, with a value of US\$423.39 billion, which represents 25.6 % of global Islamic financial assets. In terms of Islamic banking assets, Malaysia with assets valued at US\$8.60 billion, is the third biggest providers to international Islamic banking.

## 2. Problem Statement

There are very limited studies done in measuring the impact of Islamic banks towards economic growth (Furqani & Mulyany, 2009; Goaid & Sassi, 2010; Abduh & Omar, 2012; Manap et al., 2012). Previous studies indicated Islamic financial development had positive correlation with growth and investment (Furqani, & Mulyany, 2009; Goaid & Sassi, 2010). Additionally, Manap et al., (2012) showed there is a Granger causality between financing and economic growth in Islamic banks by utilizing Toda and Yamamoto Wald Test. Moreover, Abduh and Omar, (2012) found there was a 'bidirectional' association between Islamic financing and growth in Indonesia revealing the expansion in Islamic banking stimulates growth.

Studies on the role of financial intermediaries as indicator that promote economic growth have been carried out by many researchers (Schumpeter, 1911; Shaw, 1973; McKinnon, 1973 and King & Levine, 1993). Recent studies from Beck et al. (2000), Levine et al. (2000), Abu-Bader and Abu-Qarn (2008) and Barakat and Waller (2010) on the nexus between financial intermediaries and economic growth have found a significant positive relationship between finance and growth. According to King and Levine (1993) an efficient distribution of funds from financial intermediaries to the prospective capitalists with productive investment, especially through innovation production, can accelerate economic growth. Moreover, financial reform can improve the efficiency of the financial institutions and boost savings as well as investment, thus, result in long run economic performance (Abu-Bader & Abu-Qarn, 2008).

Benhabib and Spiegel (2000) discovered that financial intermediaries encourage economic growth by increasing the total factor productivity. This is matched with the findings of Beck et al. (2000) which indicate that the productivity as a proxy of economic growth positively influence the financial sector development. Yusifzada and Mammadova (2015) further investigated the contribution of financial development, especially through four aspects of the financial system namely, financial depth, access, efficiency and stability. Their findings showed that financial depth does not affect economic growth. Conversely, the financial access, efficiency and stability have positive significant relationship with economic development.

From the Islamic finance perspective, there are still very limited studies done that measuring the role of Islamic banks to economic performance (Furqani & Mulyany, 2009; Goaid & Sassi, 2010; Abduh & Omar, 2012; Manap et al., 2012). The expansion of the banking industry is favourable to economic development due to the banks' effort to increase savings, managing resources efficiently and inspire innovation. As mentioned by Furqani and Mulyany (2009), they discovered that in the short run, capital accumulation as a proxy of fixed investment granger cause Islamic bank development between 1997-2005. Meanwhile, there is a bidirectional effect between economic growth and financial development in the long-run. This result is consistent with "demand following" hypothesis where upsurge in growth causes Islamic banking to foster and vice versa. Moreover, improvement in Islamic financial infrastructure can encourage the economic development as well as the country's economic welfare in the long run. Duasa (2014) supported the findings of Furqani and Mulyany (2009) which showed that there is a strong bi-directional correlation between financial development and economic growth in Malaysia supported by 'supply-leading' or 'demand-following' views.

Goaid and Sassi (2010) investigated the impact of the amount of credit issued to the private sector as a proxy of Islamic financial development to the economic progress in 16 MENA region countries. However, contrary to other studies, the empirical results showed that there is insignificant relationship between banking and economic development. This reinforces the idea that banks don't spur economic growth in the MENA region due to financial instability and repression.

Meanwhile, a study by Khoutem and Nedra (2012) investigates from microeconomic perspective, on how Islamic banks' product can enhance economic growth, especially by promoting, a profit and loss sharing (PLS) instruments namely mudarabah and musyarakah contract. This study is line with the findings of Sapuan et al. (2015). Based on the profits and loss principle, Islamic banks can reduce the asymmetric information and transaction costs and encourages risk sharing. With less asymmetric information problem, saving and investment process can be optimized. Due to this, the Islamic banking seems as an effective and competitive institution to promote growth.

### **3. Research Questions**

In view of the statement above, the research question of this study are twofold: first, what is the cointegration between total Islamic financing as a proxy of Islamic banking development and investment in relation to economic growth? and second, what are the short-run relationship and the speed of adjustment among total Islamic financing, investment and economic growth?

#### 4. Purpose of the Study

In line with the above research questions, the objectives of this study are twofold: first, to find the co-integration between total Islamic financing as a proxy of Islamic banking development and investment in relation to economic growth, and second, to examine the short-run relationship and the speed of adjustment among total Islamic financing, investment and economic growth.

#### 5. Research Methods

##### 5.1. Model Specification

The model can be written as follows:

$$\ln GDP_t = \beta_0 + \beta_1 \ln FINC_t + \beta_2 \ln CF_t + \varepsilon_t \quad (1)$$

Where  $\ln GDP$  is the natural logarithm of real GDP as a proxy of economic growth;  $\ln FINC$  is the natural logarithm of Islamic banks' total financing as a proxy for Islamic banking development;  $\ln CF$  is the gross capital formation as a proxy of investment;  $\beta_0$  is the intercept;  $\beta_i$  is the coefficient of independent variables and  $\varepsilon$  is the error term,

##### 5.2. Data and methodology

This study will employ quarterly data from 2007 to 2015. The data was obtained from the Monthly Bulletin Statistics of Bank Negara Malaysia (BNM) and Department of Statistic Malaysia. The ARDL bound testing approach is used to investigate the co-integration of the variables. The ARDL method has several fortes as compared to other types of co-integration approach (Johansen & Juselius, 1990) as listed in Table 1.

**Table 01.** Advantages of ARDL Approach

Advantages of ARDL	
1.	the ARDL method able to produce a robust result when applied on a small sample data.
2.	the bound test can be utilized irrespective of whether the underlying regressors in the model are I(0), I(1) or mutually co integrated.
3.	the ARDL approach is able to investigate the existence of the short run as well as the long run relationships between the endogenous variable and the exogenous variables concurrently.
4.	the cointegration relationship can be evaluated using the ordinary least square (OLS) method once the order of lags in the ARDL model is determined.

The bound testing technique can be examined through three stages as shown in Table 2.

**Table 02.** Stages in ARDL Procedures

Stages	Explanation
Stage 1: Analyse the F-test to find the presence of a cointegration (long run relationship)	The model is shown in the equation below: $\Delta \ln GDP_t = \alpha_i + \sum_{j=1}^n \gamma_j \Delta \ln GDP_{t-j} + \sum_{m=1}^{k_2} \varphi_i \Delta \ln FINC_{t-j} + \sum_{m=1}^{k_2} \theta_i \Delta \ln CF_{t-j} + \beta_1 \ln GDP_{t-1} + \beta_2 \ln FINC_{t-1} + \beta_3 \ln CF_{t-1} + \varepsilon_t \quad (2)$ $H_0: \beta_1 = \beta_2 = \beta_3 = 0 \text{ (No long-run relationship)}$

	<p><math>H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq 0</math> (A long -run relationship)</p> <p><math>t = 1, 2, \dots, n</math>; <math>\Sigma</math> = the error correction dynamics; <math>\varepsilon_t</math> = white noise error term</p> <p>The F test can be described in three rules. The null hypothesis of no cointegration is rejected when the value of the test statistic exceeds the upper critical bounds value, while it is accepted if the F-statistic is lower than the lower bounds value. If the F value is between upper bound and lower bound, the cointegration test is inconclusive.</p>
<p>Stage 2: Evaluate the long run relationship between the dependant variable and the independent variables based on ARDL approach.</p>	<p>The equation is estimates as below:</p> $\ln GDP_t = \alpha_i + \sum_{j=1}^n \beta_1 \ln GDP_{t-j} + \sum_{m=1}^{k1} \beta_2 \ln FINC_{t-j} + \sum_{p=1}^{k2} \beta_3 \ln CF_{t-j} + \mu_t \quad (3)$
<p>Stage 3: Examine the short run relationship by developing an error correction model</p>	<p>The short run relationship by developing an error correction model as specified in the equation below:</p> $\Delta \ln GDP_t = \delta_0 + \sum_{j=1}^n \gamma_i \Delta \ln GDP_{t-j} + \sum_{m=1}^{k1} \varphi_i \Delta \ln FINC_{t-j} + \sum_{p=1}^{k2} \theta_i \Delta \ln CF_{t-j} + \phi ECM_{t-1} + \varepsilon_t \quad (4)$ <p><math>\delta_i, \gamma_i, \varphi_i</math> and <math>\theta_i</math> = coefficients for short run  <math>\phi</math> = the speed of adjustment</p>

## 6. Findings

The unit root test are shown in Table 3. The ADF unit root test showed that the t-test for all variables is insignificant at level, thus its accept the hypothesis of non-stationary at 1% and 5% significant level in the model of intercept with trend. This revealed that all variables are non-stationary at level. Nonetheless, when the ADF test was conducted at the first difference of each variable, the results showed that all variables are stationary at 1% or 5% significant level. Thus, we concluded that all variables are integrated at order one.

**Table 03.** Results of the Unit Root Tests

Variables	ADF at I(0)	ADF at I(1)
lnGDP	-3.1134	-5.9845***
lnFINC	-1.9733	-3.6491**
lnCF	-2.7136	-8.1309***

Note: \*\*\* and \*\* denote significance level at 1% and 5% levels respectively

**Table 04.** Bounds Test Results

F-statistics	Critical value of the F-statistics with intercept and no trend					
	1%		5%		10%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
8.8063***	6.183	7.873	4.267	5.473	3.437	4.470

Source: Critical value bounds are taken from Narayan (2005), case III: unrestricted intercept and no trend.

The number of parameters (variables) = 3. \*\*\* represent the significant value at 1%.

Table 4 shows the result of the bounds test. The value of Wald F-test is beyond the critical bound as suggested by Narayan (2005) which are quoted in small samples at 1% significant level. The result shows the null hypothesis of no co-integration is rejected, indicating there is a long-run relationship between the explanatory variables and the economic growth.

The results in Table 5 represent the long-run relationship for all the variables. The findings showed that total Islamic financing and investment have a positive long-run relationship with economic growth at 1% significant level. It explains that an increase in 1% of total Islamic financing and investment will lead to 7.68 % and 40.71 % increase in real GDP, respectively. The results are in line with the findings from Furqan and Mulyany (2009), Abduh and Omar (2012) and Manap et al. (2012) where the total financing and investment have a positive relationship with real GDP.

**Table 05.** Long run Relationship of Growth Determinants using ARDL Approach (2,1,0)

Regressor	Coefficient	t-test
lnFINC	0.0768	2.5066**
lnCF	0.4071	5.7149***
Constant	13.6877	31.7447***

Dependent variable: lnGDP. Note: \*\*\* and \*\* denote significance at 1% and 5% levels respectively  
 ARDL (2,1,0) selected based on Schwarz Bayesian Criterion

Table 6: Error Correction Representation of ARDL Model

Dependent variable is $\Delta \ln \text{GDP}$		
Regressor	Coefficient	t-test
$\Delta \ln \text{GDP} (-1)$	0.4163	3.1351***
$\Delta \ln \text{FINC}$	0.5324	2.1950**
$\Delta \ln \text{CF}$	0.3405	6.5841***
$\Delta \text{Constant}$	11.4492	5.1113***
$\text{Ecm}_{t-1}$	-0.8365	-5.7673***
<u>Goodness of fit:</u>		
$R^2$	0.7607	
Adjusted $R^2$	0.7128	
F-statistics	19.8624***	
<u>Diagnostic test:</u>		
Breusch-Godfrey LM Test	7.3807	
Ramsey Reset test	6.5710	
JargueBera Normality Test	1.2339	
ARCH Test	0.0506	
CUSUM& CUSUMSQ	Stable	

Note: \*\*\*, \*\* and \* denote significance at 1%, 5% and 10% levels respectively

Based on the results in Table 6, we discovered that investment and real GDP at lag one has a positive relationship with economic growth in short run and is significant at 1%. Total Islamic financing also gives a positive relationship to the economic growth at 5% significant level.

Table 6 shown the long run coefficients that represent the error correction terms for this model. The error correction model ( $\text{ecm}_{t-1}$ ) is -0.8365, this infers that a deviancy from long run growth has corrected by about 83.65%. This shows a speed of adjustment to equilibrium for this model is very fast. Meanwhile, the diagnostic tests verified that there is no evidence of autocorrelation in the disturbance of

the error term shown by LM test. The White test showed the error is homoscedastic and independent of the regressors. Additionally, the Ramsey test specified that the model is correctly specified. The CUSUM and CUSUMSQ test are stable representing the consistency of the parameter in this model.

## 7. Conclusion

As a conclusion for this study, we can conclude that financial development of the Islamic bank has positively and significantly influence growth in Malaysia in the short-run and long-run. Based on the results, total Islamic financing and investment effect growth positively. Hence, it indicated that the expansion of Islamic financial transactions and financing activities in Malaysia may enhance economic growth in the long run. There is show by the continued expansion of Islamic financial institutions can position Islamic finance to be well-anchored to serve the real economy.

Despite a global competitive and challenging financial environment, the Islamic banking industry, especially in Malaysia, has continued to expand its potential as a sustainable tool of financial intermediation as compared to conventional financial system. The Islamic banking system's is on the close association with financial transactions and economic activity of this country. There is an evidence that the Islamic financial market has positioned itself to be sound and secure to serve the real economy. Therefore, Islamic banking development is a strong indicator to boost the economic growth.

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