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The Role of Stock Markets in Promoting Economic Growth in Malaysia: Islamic vis-à-vis Conventional

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Abstract: The purpose of this study is to evaluate the dynamic effects of both Islamic and conventional stock markets development on the economic growth, particularly in Malaysia. The model estimation used to explain the relationship is the autoregressive distributed lag model with the variable of FTSE BM Emas Shariah Index to represent Islamic securities and FTSE BM Composite Index to represent the conventional. The data coverage is from Q1:2000 to Q4:2011. The result shows that there is no evidence of co-integration between the conventional markets and economic growth while there is a co-integration found between Islamic markets and economic growth. Moreover, the relationship between the development of the Islamic stock markets and economic growth occurs to be bidirectional.

Keywords: Stock markets, Islamic stock markets, economic growth, ARDL, Malaysia.

Introduction

The importance of financial development towards economic growth has received much attention in the literature of development economics. This is due to the fact that the development of finance tends to leave the real sector. As such, the economy in general does not receive much benefit as a result of the advancement in finance. The period of the global financial crisis 2008-2009 was one of the examples in which the financial development expanded aggressively but did not significantly accelerate economic growth.

In fact, some researches on this field have found at least three types of causal relationships between financial development and economic growth, namely: (i) supply-leading, (ii) demand-following, and (iii) bidirectional between financial development and economic growth. The supply-leading relationship is the creation of financial institutions and instruments in advance of demand for them in an effort to stimulate economic growth. This strategy seeks to make allocations of capital more efficient and to provide incentives for growth through the financial system (Patrick, 1966:175).

The demand-following relationship, on the other hand, appears as a consequence of the development of the real sector. This implies a continuous widening of markets and a growing product differentiation which makes necessary more efficient risk diversifications as well as better control of transaction cost (Hermes and Lensink, 1996:17). Whilst, the last one, bidirectional, is the combination of both supply-leading relationship and demand-following which supports the economic development.

Because of the importance of the relation between financial development and economic growth, this paper attempts to investigate such relationship in the Malaysia case. The rest of the paper is organized as follows: section two provides a literature review followed by section three

with a brief overview of the Malaysian securities markets. Data and empirical framework are elaborated in section four and section five provides empirical results and analysis. And the last two sections will be the conclusion in section six and the limitations and suggestions in section seven.

Literature Review

Referring to the importance of financial development in an economy, some studies related such issues to have been conducted extensively. For instance, the study done by King and Levine (1993) had elaborated the issue by using data from 80 countries over the period of 29 years (1960-1989). They identified four indicators of the financial sector developments. The first one is the "financial depth" which is the ratio of liquid liabilities of the financial system to GDP.

The second one is the ratio of deposits of domestic banks to deposits of domestic banks and central bank domestic assets. This is to measure the relative importance of the specific financial institutions. Meanwhile, the third and fourth financial development indicators are to measure the distribution of domestic assets. Those are the proportion of credit allocated to private enterprises by the financial system and, the ratio of claims on the non-financial private sectors to GDP. The conclusion is consistent with supply-leading theory which claims that the financial development promotes economic growth. That same conclusion was also found by DeGregorio and Guidotti (1995) and Calderón and Liu (2002).

However, Demetriades and Hussein (1996) reviewed the previous studies regarding financial development and economic growth and conducted the same research involving many countries without classifying them into appropriate groups. Their research employed 16 countries from all around the world which had the following criteria; (i) they were not highly developed countries in 1960, (ii) they had at least 27 continuous annual observations on the variables of interest and, (iii) they had population of more than 1 million in 1990. In fact, the countries involved are those with experiences in relation to both economic and financial developments. They found that all of the countries displayed some evidences of a reverse causation (relationship) between financial development and economic growth. As such, they faced a bi-directional between financial development and economic growth.

Nonetheless, similar research conducted by Deidda and Fattouh (2002) and Rioja and Valev (2002) revealed that there was no significant relationship between financial depth and economic growth in the countries with low income per capita. The significant one only appeared in the high income countries. Next, with regards to the role of Islamic financial development in economic growth, researches from Furqani and Mulyany (2009), Abduh and Chowdury (2012), Abduh *et.al* (2012), and Abduh and Omar (2012) were among the limited articles that can be referred. Furqani and Mulyany (2009) examined the relationship between total deposits and total financing of the Malaysian Islamic banking and economic growth.

The paper posited that the relationship between Islamic financial development and economic growth followed the view of "demand-following" which meant that economic growth caused Islamic banking institutions to change and develop. Meanwhile, Abduh and Chowdury (2012) and Abduh and Omar (2012) use similar variables for the Bangladesh and Indonesian case and identify that the relationship in both countries are bi-directional. Therefore, the government policies in supporting the development of Islamic finance in Bangladesh as well as in Indonesia are strongly needed in order to support the economic development.

However, most of the researches done in the field used financial development variables from indirect finance; and thus, empirical investigations of the link between direct finance and growth have been relatively limited particularly when it comes to the Islamic stock markets (Filer et al, 1999). Meanwhile, in the conventional stock markets, Filler et al. (1999) used: (1) market capitalization over GDP, (2) turnover velocity, and (3) the change in the number of

domestic shares listed, in order to measure the development of the stock markets and found the causal-relationship between the variables and the economic growth.

The study further suggested that the links were stronger in the low income countries especially to the role of equity markets in attracting foreign capital while an active equity market was an important engine of economic growth of the developing countries. Other, Beck and Levine (2004) investigated the impact of the stock markets and banking to economic growth by using a panel data set for the period 1976–1998. The results strongly rejected the notion that the overall financial development was not important or harmful for economic growth. Therefore, they argued that the stock markets and banking development positively influence economic growth.

Particular to the role of the Islamic securities markets to economic growth, the study of Yusof and Majid (2008) was probably the only one in the field. It examined the role of Islamic equity markets on international equity flows i.e. foreign direct investment (FDI) and foreign portfolio investment (FPI). The study indicated that the securities markets in Malaysia, both conventional and Islamic, were significant markets to attract FPI to the economy. Additionally, it also implied that to a certain extent, the government's effort in promoting Malaysia as the international hub for the Islamic capital market has been successful.

Lastly, referring to those limited number of studies in relation to the relation between Islamic financial markets and economic growth, some variables can be employed in the paper to analyze the impact of the Islamic securities to economic growth. Particularly, this paper aims to investigate the dynamic relationship and impacts of the performance of Islamic and conventional securities markets to economic growth.

Malaysian Securities Markets: An Overview

The capital markets in Malaysia consist of both conventional and Islamic markets for the medium and long term investment. Actually, the development of the Islamic capital markets in Malaysia cannot be separated from the contribution of all stakeholders of capital markets. Apart from Bank Negara Malaysia, there are some statutory bodies established by the Malaysian government to regulate and support the capital markets, including the Islamic capital markets. Amongst all, the bodies are Securities Commision (SC), Kuala Lumpur Stock Exchange and Rating Agency Malaysia.

Table 1: Phases in Malaysian Capital Market based on its Master plan

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Strengthen domestic capacity, and develop strategic and nascent sectors									
			Further strengthen key sectors and gradually liberalize market access						
					Further expansion and strengthening of market processes and infrastructure towards becoming a fully-developed capital market, and enhancing international positioning in areas of comparative and competitive advantage.				
Phase 1			Phase 2			Phase 3			

Source: Malaysian Capital Market Master plan, Securities Commission Malaysia (www.sc.com.my).

In February 2001, SC comes out with the Malaysia Capital Market Masterplan (CMP) which was a significant milestone in the history of the Malaysian capital markets. The distinct phases in CMP can be divided into three: (i) strengthening domestic capacity, (ii) strengthening key sectors and liberalizing market access; and (iii) further expanding and strengthening of the market process (Table 1).

In particular, six objectives have been identified as the CMP's main strategic initiatives and specific recommendations. Those are: (1) to be the most preferred fundraising centre for Malaysian companies, (2) to promote an effective investment management industry and a more conducive environment for investors, (3) to enhance the competitive position and efficiency of market institutions, (4) to develop a strong and competitive environment for intermediation services, (5) to ensure a stronger and a more facilitative regulatory regime, and (6) to establish Malaysia as an international Islamic capital market centre.

With regards to positioning Malaysia as an international Islamic capital market centre, currently the Malaysian government has established its market infrastructure and has lead the other relatively nascent Islamic capital markets. Based on the CMP's strategies, the initial focus will be given to the development of a wider range of competitive products and services related to Islamic securities. To do this, efforts will be concentrated to enhance liquidity, comprehensive accounting, rating method, tax and regulatory framework for the Islamic capital market so that it can create a sustainable market for the effective mobilization of Islamic funds.

The Malaysia International Islamic Financial Centre (MIFC) was established in August 2006 and is aimed to make Malaysia as the Islamic finance hub through Sukuk origination, Islamic fund and wealth management, international Islamic banking, international takaful operator, and human capital development. In the 2009 Budget announcement, the Malaysian government had announced more incentives to attract foreign investors with a tax-exemption for three years for fees and profits earned by institutions undertaking activities related to Sukuk issued in Malaysia and distributed outside the country. The other incentive that has been mentioned in the 2009 Budget is a tax-reduction from 20% to 10% on dividends received by foreign institutional investors in REITs.

Materials and Methods

Data

This study uses quarterly time series data for the variable of FTSE Bursa Malaysia Emas Shariah Index [ln(isl)] to represent Islamic securities and financial sector and FTSE Bursa Malaysia Composite Index [ln(conv)] to represent conventional financial sector. Gross domestic product (GDP) is a variable to represent the income level of a particular country within a certain time range. The study about finance-growth nexus always uses GDP as the principal variable reflecting economic growth. Hence, real GDP [ln(gdp)] is used in this study to represent real economic sector. The time series data is from Q1:2000 to Q4:2011 and is gathered from Bloomberg and International Financial Statistics (IFS) of International Monetary Funds (IMF).

Methodology

The ARDL models are formed by an autoregressive part and a regression with distributed lags over a set of other variables. In other word, an ARDL model regresses a dependent variable over its own past values, besides present and past values of a number of exogenous variables (Fabozzi et al., 2006). The ARDL method does not involve pre-testing variables, which is particularly problematic in the unit-root-co-integration literatures where the power of the unit root tests is typically very low and there is a switch in the distribution function of the

test statistics leading to uncertainty (Narayan, 2004). In other words, the ARDL approach tests the existence of a relationship among variables in levels. It is applicable regardless the underlying regressors are stationary in level or I(0), stationary in first difference or I(1), or stationary in both I(0) or I(1).

Without having prior information about the direction of the long-run relationship among the variables, the ARDL approach to co-integration involves estimating the conditional error correction (EC) version of the ARDL and its model in this study is divided into four models:

$$\Delta \ln gdp_t = \alpha_0 + \sum_{i=1}^{p} \Psi_i \Delta \ln gdp_{t-i} + \sum_{i=0}^{p} \Phi_i \Delta \ln isl_{t-i} + \delta_1 \ln gdp_{t-i} + \delta_2 \ln isl_{t-i} + \nu_t \quad (1)$$

$$\Delta \ln isl_t = \alpha_0 + \sum_{i=1}^{p} \omega_i \Delta \ln isl_{t-i} + \sum_{i=0}^{q} \phi_i \Delta \ln gdp_{t-i} + \delta_1 \ln isl_{t-i} + \delta_2 \ln gdp_{t-i} + \nu_t \quad (2)$$

$$\Delta \ln gdp_t = \alpha_0 + \sum_{i=1}^{p} \Psi_i \Delta \ln gdp_{t-i} + \sum_{i=0}^{p} \Phi_i \Delta \ln conv_{t-i} + \delta_1 \ln gdp_{t-i} + \delta_2 \ln conv_{t-i} + \nu_t \quad (3)$$

$$\Delta \ln conv_t = \alpha_0 + \sum_{i=1}^{p} \omega_i \Delta \ln conv_{t-i} + \sum_{i=0}^{q} \phi_i \Delta \ln gdp_{t-i} + \delta_1 \ln conv_{t-i} + \delta_2 \ln gdp_{t-i} + \nu_t \quad (4)$$

Where,

lngdp	:	natural logarithm of real gdp
lnisl	:	natural logarithm of Islamic securities index
lnconv	:	natural logarithm of conventional securities index

The F-statistic is the underlying statistic for testing the existence of the long-run relationship. When the long-run relationship (cointegration) exists, F-statistic test indicates which variable should be normalized. This F-statistic is in a generalized Dickey-Fuller regression, which is used to test the significance of lagged levels of the variables in a conditional unrestricted equilibrium correction model (Pesaran et al., 2001).

Having found a long-run relationship (cointegration), equation (1) to (4) are estimated by using the following ARDL (p, q) model:

$$\ln gdp_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \ln gdp_{t-i} + \sum_{i=0}^{q} \alpha_2 \ln isl_{t-i} + \omega_t \quad (5)$$

$$\ln isl_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \ln isl_{t-i} + \sum_{i=0}^{q} \alpha_2 \Delta \ln gdp_{t-i} + \omega_t \quad (6)$$

$$\ln gdp_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \ln gdp_{t-i} + \sum_{i=0}^{q} \alpha_2 \ln conv_{t-i} + \omega_t \quad (7)$$

$$\ln conv_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \ln conv_{t-i} + \sum_{i=0}^{q} \alpha_2 \Delta \ln gdp_{t-i} + \omega_t \quad (8)$$

The orders of the lags in the ARDL model are decided based on Akaike information criterion (AIC) and Scwharz Bayesian criterion (SBC), before the selected model is estimated with ordinary least squares (OLS). After that, the lags are reconfirmed by checking the lag-length criteria and the correlogram of residuals from unrestricted VAR. Lag length which

minimizes AIC-SBC values is selected. Narayan (2004) argued that the estimates obtained from the ARDL approach to co-integration are unbiased and efficient given the fact that: (i) it can be applied to studies that have a small sample, such as this study; (ii) it estimates the long-run and short-run components of the model simultaneously as well as removing problems associated with the omitted variables and autocorrelation; (iii) the ARDL method can distinguish between dependent and independent variables.

Results

Table 2 shows that all data (Islamic securities, conventional securities as well as economic growth) are not stationary in their level. However, they are stationary in the first difference. Before testing the long-run relationship between Islamic and conventional securities development with economic growth, a simple Granger causality test is performed among those variables and the result is reported in Table 3.

Table 2: Unit Root TesT

Variable	ADF		P-P	
	I (0)	I (1)	I (0)	I (1)
Islamic securities [ln(*isl*)]	-0.771	-5.081***	-1.142	-5.043***
Conventional securities [ln(*conv*)]	-0.429	-4.823***	-0.799	-4.752***
Economic growth [ln(*gdp*)]	-0.500	-4.298***	-0.339	-8.906***

Note: *** significant at 1% level; ** Significant at 5% level; * Significant at 10% level.

From the result of the simple Granger causality test, we found an indication of "bidirectional" view between Islamic and conventional securities markets development with economic growth.

Table 3: Granger Causality Test

Null Hypothesis	F-Statistic
LNGDP does not Granger Cause LNISL	5.994***
LNISL does not Granger Cause LNGDP	2.472*
LNGDP does not Granger Cause LNCNV	6.013***
LNCNV does not Granger Cause LNGDP	3.336**

Note: *** significant at 1% level; ** significant at 5% level; * significant at 10% level.

The next step is estimating the long-run relationship in equation (1), (2), (3) and (4). The combination of the smallest value of AIC-SBC is used to determine the optimal number of lags to be included in the model. The lag length chosen for equation (1) is 4, equation (2) is 1, equation (3) is 4, and equation (4) is 2. The calculated F-statistic of Wald-test and the bound critical values suggested by Narayan (2004) are displayed in Table 4. The calculated F-statistic for equations (1), (2), (3), and (4) are 3.33, 6.84, 2.18, and 7.15 respectively. F statistic for equation (1) is higher than lower bound critical value at 10 percent (3.303) using restricted intercept and no trend.

Meanwhile, for equations (2) and (4), the calculated F-statistic is higher than upper bound critical value at 1 percent using restricted intercept and trend. Unfortunately, F statistic for equations (3) is lower than all values provided in Narayan's table and hence, it shows that there is no evidence of long-run relationship between conventional securities markets development in Malaysia and its economic performance.

Table 4: F-statistic of cointegration relationship and bound critical value

Equation	Lag	F-statistic	Sig. level	Bound Critical Values*			
				Restricted intercept and no trend		Restricted intercept and trend	
				I(0)	I(1)	I(0)	I(1)
(5)	4	3.33	1%	6.027	6.760	8.170	9.285
			5%	4.090	4.663	5.395	6.350
			10%	3.303	3.797	4.290	5.080
(6)	1	6.84	1%	6.027	6.760	8.170	9.285
			5%	4.090	4.663	5.395	6.350
			10%	3.303	3.797	4.290	5.080
(7)	4	2.18	1%	6.027	6.760	8.170	9.285
			5%	4.090	4.663	5.395	6.350
			10%	3.303	3.797	4.290	5.080
(8)	2	7.15	1%	6.027	6.760	8.170	9.285
			5%	4.090	4.663	5.395	6.350
			10%	3.303	3.797	4.290	5.080

Note: * based on Narayan (2004), the number of regressor, k = 1.

On the other hand, F-statistic values for equations (1), (2), and (4) are showing that the null hypothesis of no cointegration between Islamic securities markets development and economic growth is rejected and therefore, there is evidence of cointegration in the long-run between Islamic securities markets development and economic performance of Malaysia. As can be observed in Table 4, the relationship between Islamic securities markets development and economic growth in Malaysia is following the bidirectional view which mentions that the development in Islamic securities markets stimulates growth and, at the same time, growth propels Islamic securities markets development in Malaysia. The support received from the government in the expansion of the real sector can significantly influence the development of Islamic securities markets.

Discussions

Although three decades had been traversed from the inception of Islamic finance, study about the role of Islamic finance towards economic growth is still rare. This study takes this opportunity to narrow the literature gap by investigating the causal relationship between Islamic financial development, particularly Islamic securities, and economic growth, in the case of Malaysia. The findings suggest that in the long-run, Islamic securities markets development is significantly correlated with economic growth. In this regard, the role of Islamic securities markets has been assumed to contribute to the growth of the Malaysian economy.

In other words, Islamic finance has effectively played its main role as a financial system that facilitates the transmission of funds from surplus households to deficit households. The relationship between Islamic securities markets development and growth in Malaysia is found to be bi-directional. This suggests that the development in Islamic securities markets stimulates growth and, at the same time, growth propels Islamic securities markets development in Malaysia.

Policy recommendation for the stakeholders, particularly government, is that the development of the Islamic financial securities has to be put in a greater attention. The significant role of Islamic financial securities found in this paper reveals that the screening criteria have been effective to select the securities which promote economic growth. The excluding securities on the Islamic financial market due to high leverage (too much conventional bank debt) could possibly be the reason of not significant contribution to the

economic growth. Conversely, securities in the Islamic financial market have been using more of their own capital (equity) to run their business.

Conclusions

Even though the study on the financial development and economic growth nexus area is largely done by many researchers, the study on the relationship between securities markets development and economic growth is not many. Moreover, the literatures are so much lacking when it goes to the study on Islamic securities markets development and economic growth nexus. This study is done to see the relationship between the securities markets development and economic growth in Malaysia for both markets, Islamic and conventional. Interestingly, this study has found evidence that there is a bi-directional relationship between Islamic securities markets development and economic growth in the long run while there is no evidence for conventional markets.

This study has at least two limitations. First, this study is only for Malaysian experience and second, it adopts direct method of relationship without involving other variables in the equations. Thus, the following are some directions for future research: (i) combining some countries which have implemented Islamic financial system for a reasonable time frame so that adequate number of data can be collected, (ii) use different method of analysis in order to find the robustness of the results, and (iii) comparative analysis towards countries with fully Islamic financial system and dual-banking system to find the consistency of the results.

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