

Interaction of Islamic Banking Sector with Indonesian Economic Growth for 2000-2010

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Abstract

This paper aims to analyze the dynamics interaction of islamic banking sector with Indonesian economic growth for 2000-2010. The methode of analyze used in this research is granger causality and Vector Error Correction Model (VECM). Besides that we use stationary test to chek wether the data have unit root or not. We use time series data of total islamic bank financing, fixed invesstment, trade and gross domestic product. We found that in the short run there is evidence of bidirectional relationship between financing of islamic bank, fixed investment, trade and economi growth. Where as in the long run there is relationship between islamic banking with economic growth on Indonesian economy. To improve the role of islamic banking on Indonesian economy, Bank Indonesia must push islamic banking to expand their activity on riil sector and rural area.

Keywords : Islamic Banking sector, Financial Intermediary, Economic Growth, Vector Error Correction Model

INTRODUCTION

Developing countries have some problems to get high economic growth. The most important problems is lack of capital to finance the project. This happen because many developing countries haven't a good financial sector. Financial sector have important role to support the economic development in developing countries. In this case the financial sector can focus to do the intermediary function on the economic system. According to Fry¹ financial system on the countries have two conditions, namely *financial deepening ande shallow finance*.

To understand why financial sector development, under certain conditions, may be positively related to economic growth, it is necessary to understand the critical function the

¹ Maxwell J. Fry, *Money, Interest, and Banking in Development Economic*, John Hopkins University Press. London, 1995.

sector provides to the economy. The financial sector is unique because of the risk and uncertainty faced by both savers and investors. Savers are often unable to select the investment project that best matches their personal risk appetite and without pooling their money, savers cannot take advantage of increasing returns to scale in investments².

Islamic banking is special institution in financial system. This institution can bridge the economic agent in economic activity. The special characteristics of islamic banking is syariah mechanism on the economic and financial transaction. The firs agent have over liquidity of money and the second agent need some money to finance the economic activity. The role of financial intermediary focus on how to increasedeposit fund on the bank and then alocate to economic activity by credit. This mechanism based on syariah concept. The concept of sharing in profits and losses derives from the Shariah precept that money can not generate money. Money is considered as a mere medium of exchange. It has no intrinsic value in itself. Money could only generate money if employed in a productive venture (www.dradamlwfirm.com). Based on the balansheet report, besides capital and equity, the main sources of funds for Islamic banks would be two forms of deposits - transaction depo, p.sits and investment deposits. Lending operation of islamic banking can be separated by mudarabah financing and musyarakah financing³.

Recently, many muslims countries try to develop islamic banking to finance development project on that countries. The characteristic of islamic banking operation is based on partnership and mutual benefits principle provides an alternative banking system with mutual benefits both for the public and the bank. This system will give priorities to aspects related to fairness in transaction and ethical investment by underlining the values of togetherness and partnership in production, and by avoiding any speculative activity in financial transaction. By providing various products and banking services supported by variative financial scheme, Islamic banking will be a credible alternative that can be benefited by all of Indonesian people without exception (www.bi.go.id).

A growing up of islamic banking system on economic have some advantages. The lack of capital in developing countries can be supported by islamic banking. Deposit fund (*dana*

² Joseph Stiglitz, The Role of the Financial System in Development, *Paper presented at the 4th Annual Bank Conference on Development in Latin America and the Caribbean*, June 29, 1998.

³ Mohsin S. Khan and Abbas Mirakhor, *The Financial System and Monetary Policy in an Islamic Economy*, JKAU: Islamic Econ., Vol. 1:39-57, 1989.

pihak ketiga) on the islamic banking can be allocated to various economic sector both small medium enterprise and corporate. With aqad based on shariah principle, people can applied request of credit from the islamic bank. The existence of islamic bank can be easily people to do bussines activity like buy product material, expand the production areal, and wider channelling the product distribution. As economic activity grow up annually, this is representing increasing output on the economy. Its means that economic growth can grow well.

Many studies explore how the financial system (and banking system) can affect the economic condition. In here a large body of empirical research supports the view that development of the financial system contributes to economic growth⁴. According Dornbusch and Reynoso⁵ a country can succeed to achieve the economic development target if financial sector can grow well. By the role of financial sector, economic activity will grow and expand both as spatial and sectoral. King and Levine⁶ have examined the interaction between financial deepening to economic growth for 1960-1989 on 80 countries. According that research, financial deepening on that countries have related with economic growth. On the other side Jalil and Ma⁷ have pointed that in Pakistan, deposit liability ratio and credit to private sector have signifikan effect to economic growth. Meanwhile in China, only deposit liability ratio have signifikan effect to economic growth.

Recently, research about islamic banking and economic growth initially by topics about interaction deposit fund, total asset, investment and economic growth. Elhiraika⁸ examines the practice, problems and potential of Islamic banking in Sudan. The analyze indicated a negative trend of financial development and intermediation since the full adoption of Islamic banking principles in 1990 on Sudan. There has been a decline, in either real or relative magnitudes or both, in all key indicators of banking performance. Poor banking performance was associated with an unprecedented decline in real economic activity, a highly unstable macroeconomic environment, and repressive monetary and credit policy. When such constraints are removed

⁴ R.G. Rajan and L. Zingales, *Saving Capitalism from Capitalist*, Crown Business, New York, 2003.

⁵ Rudigner Dornbusch and Alejandro Reynoso, Financial factors ini Economic Development, *American Economic Review*, Vol.79.no.2 : 204-209, 1989,

⁶ King Levine and Ross Levine, Finance and Growth : Schumpeter Might be Right, *Quartely Journal of Economics*, Vol.CVIII, Agustus : 716-737, 1993.

⁷ Abdul Jalil and Ying Ma, Financial development and economic Growth :Time series Evidence Form pakistan And China, *Journal Of Cooperation*, 29,2 :29-68, 2008.

⁸ Adam B. Elhiraika, Macroeconomic Instability, Financial Repression And Islamic Banking In Sudan, *IIUM Journal of Economics & Management* , no. 2 : 61-85, 1998.

only then the Islamic banking system may make a meaningful contribution to financial and economic growth in Sudan.

On the other side, Furqoni and Mulyani⁹ have concluded that in the long run there is bidirectional relationship between islamic bank and fixed investment in Malaysia. Besides that there is evidence to support demand following hypothesis of GDP and islamic bank. Where increase in GDP cause islamic banking to develop and not vice versa. Karim, *et.al*¹⁰, using a VAR model, demonstrates that monetary policy tightening in Malaysia reduces bank lending to all the sectors, but some sectors such as manufacturing, agricultural, and mining sectors are more affected.

In most other countries, including Indonesia, islami transactions and institutions make up a small part of the total and must compete with conventional financial institutions. There is even considerable Islamic banking in the United States. If the terms and conditions of Islamic transactions differ too much from those of conventional institutions they become hard to sustain. The terms and conditions of Islamic institutions therefore tend to converge with conventional ones¹¹.

In view of providing a wider banking services alternative to Indonesian economy, the development of Islamic banking in Indonesia is implemented under dual banking system in compliance with the Indonesian Banking Architecture (API). Islamic banking and conventional banking systems jointly and synergically support a wider public fund mobilization in the framework of fostering financing capability of national economic sectors (www.bi.go.id).

Islamic banking in Indonesia has some unusual characteristics. Like most microfinance institutions in Indonesia, Islamic institutions, micro or otherwise, are generally private, for-profit institutions based on the intermediation of depositor funds secured on a competitive market. In this they are different from microfinance institutions in almost every other country in the world. They typically have no explicit social goal other than profit maximization and

⁹ Havas Furcony and Ratna Mulyani, Islamic Banking and Economic Growth: empirical Evidence from Malaysia, *Journal of Economic and Development*, Vol.30, No.2 : 59-74, 2009.

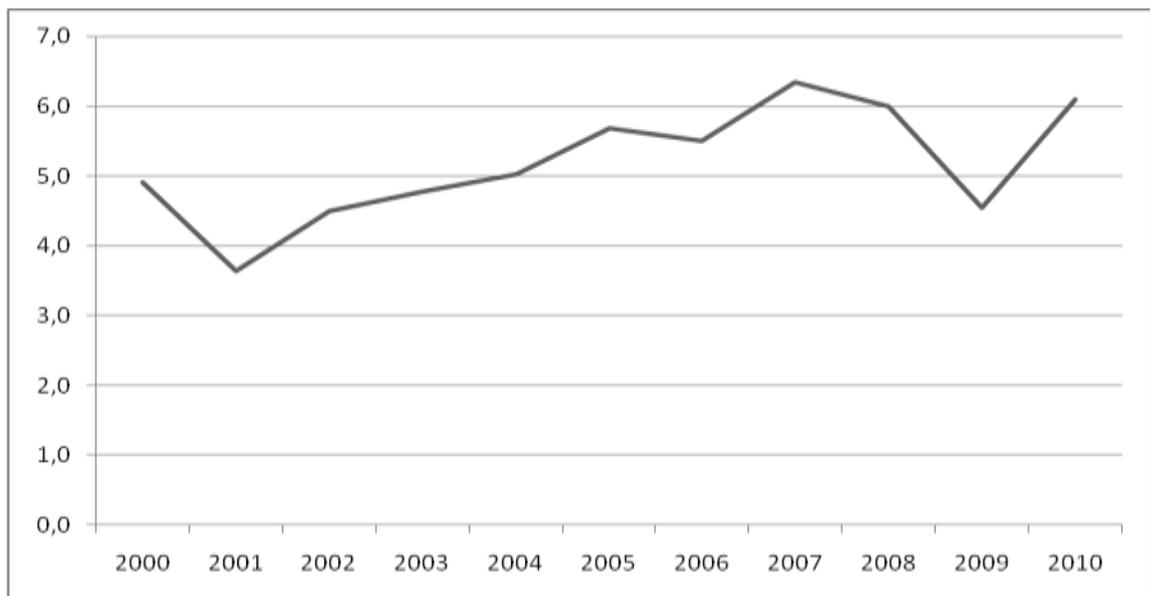
¹⁰ M. Abd. Karim; Mohd Harif A. and Adziz A. Monetary Policy and Sectoral Bank Lending in Malaysia, *Global Economic Review*, 35(3), 303-326, 2007.

¹¹ Thomas A. Timberg, Risk Management: Islamic Financial Policies Islamic Banking and Its Potential Impact, papers, <http://www.ruralfinance.org/fileadmin/templates/rflc/>, 2012.

conformity with Islam, though in some cases a social element is present, as we will see. Social impacts are thus the result of the market impacts of the Islamic institutions¹².

Initially, Islamic financial institutions in Indonesia wa started by the Bank Muamalat Indonesia which has been functioning since 1992. Next period at 1998 PT. Bank Syariah Mandiri have operated islamic banking system on the national economy. PT. Bank Mega Syariah have operated at 2001 and PT. Bank Bukopin Syariah and PT. BRI Syariah have operated shariah system on the banking operation at 2009. The existence of these bank can be easily the people to save and borrow the money from the financial system. People have some alternative to invest their money on different financial instrument. Besides that people have some alternative too financing the development projects. The prohibition of interest rate is main characteristics on the islamic banking.

Progress of Indonesian economic for 2000-2010 have pointed by liberalization and globalization, regional autonomy, fiscal decentralization, privatization, and taxes. External shock from USA, Europe area and others developed countries cause pressure to Indonesian economic. This happen because, indonesian economic have integrated with global market by trade and investment activity. From internal condition, Indonesian economy have some problems like unemployment, poverty, income disparity and corruption. Meanwhile for 2000-2010, Indonesian economy still growth average by 5,2%. This means that economic activity was resulting output increase by 5,2% annually.



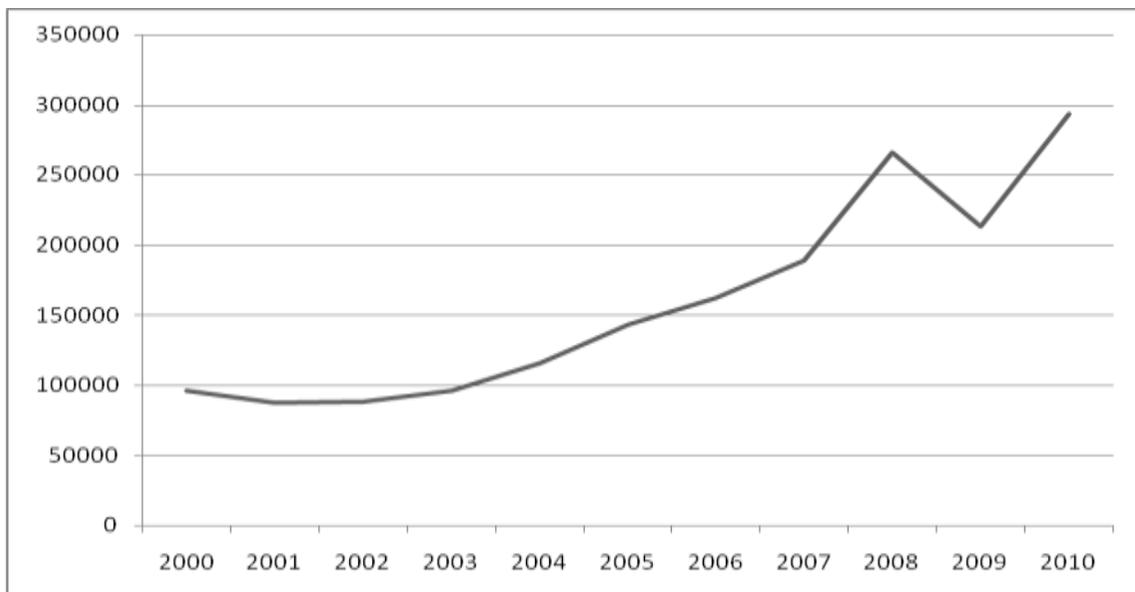
¹² Thomas A. Timberg, Risk Management, 2012.

Sources : Asian Development Bank, 2011

Figure 1 : Indonesian Economic Growth for 2000-2010 (%)

Indonesian economic growth for 2000-2010 have business cycle pattern. Up and down economic condition have affected economic performen in Indonesia. For 2000-2010 decreasing economi growth happend at 2001 and 2009. Decreasing for that period caused by external condition, namely debt crisis in USA and Europe. These economic crisis from abroad have contagion effect to Indonesian economic. External crisis can influence national economy by movement on stock market index, exchange rate volatility and flow of foreign direct investment. Besides that, the existence of economic integration on the Asia, US and Europe Area will accelerate depedently of economic activity on the world. Anything economic condition on one countries will effect to other countries. This is can happen because there is economic integration in multiareas.

Besides economic growth, the progress of Indonesian economy can be drawn by development on investment and trade activity.

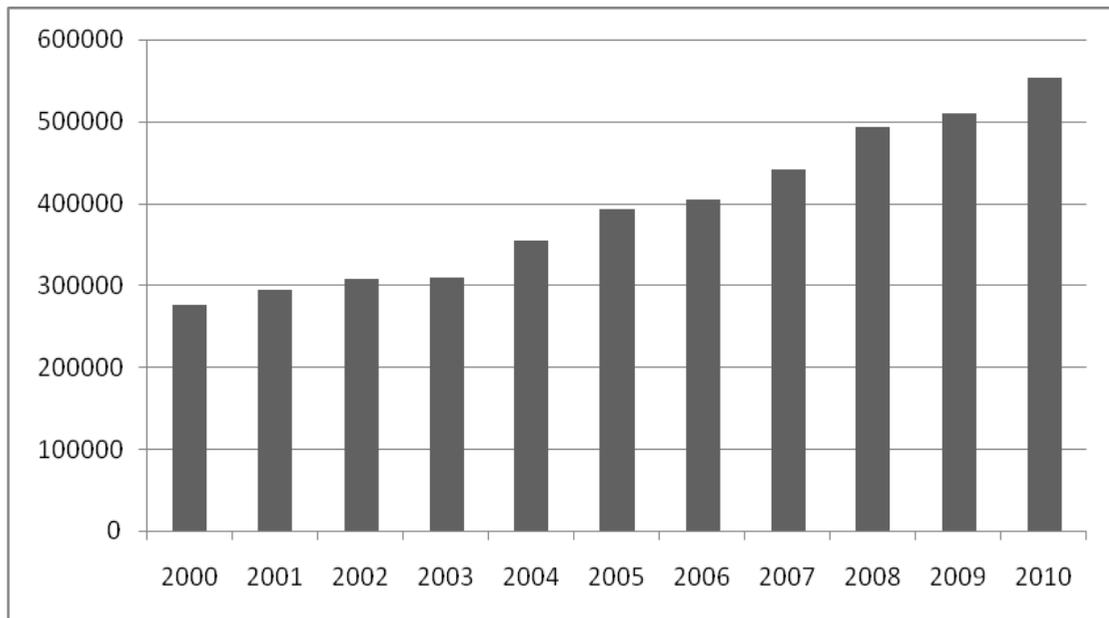


Sources : Asian Development Bank, 2011

Figure 2 : Value of International Trade In Indonesia for 2000-2010 (Million US\$)

For 2000-2008, progress of international trade (export+import) on Indonesia show increasing value. But for 2008-2009 there is negative condition on Indonesia international trade. Increasing value of international trade have implication to the growing of domestic

activity and economic openness. The Indonesian participation on bilateral and multilateral economic cooperation can open international market to Indonesian commodity (product).



Sources : Asian Development Bank, 2011

Figure 3 : Value of Fixed Investment In Indonesia for 2000-2010 (Billion Rp)

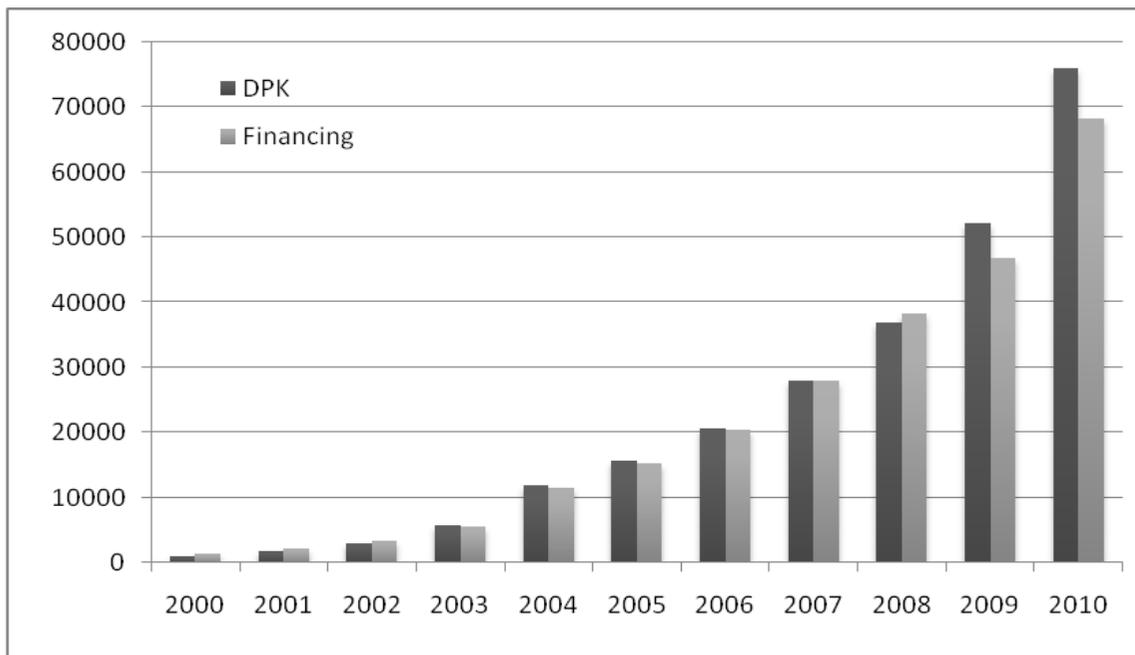
Progress on investment activity in Indonesia economy show that for 2000-2010 there is increasing value. At 2000, value of fixed investment (gross fixed capital formation) Rp. 275,881 billions. At 2010 the value increase to Rp. 553,412 billions. Its means that, economic capacity need much capital that can be supported by domestic or foreign financing. Based on that figures increasing in fixed investment not parallel with progresion in economic growth, and international trade value.

To achieve a high economic growth annually, many strategics of development can be done by government together with provate sector. Investment activity parallel with providing public infrastructure and deregulation policy can trigger domestic economic progress. Public sector and coporate sector respons the goverment policy by increasing product capacity booth on domestic market and abroad market. This condition can accumulate higher economic activity on the regional and national economic.

Increasing economic activity must be supported by financial sector. In this case, the role of islamic banking in financial and monetary sectors very important. The islamic banking in Indonesia have positive position to serve financing activity was held by economic agent. Progression of islamic banking Indonesia for 2000-2010 showing the expansion. At 2000,

islamic banking unit amount 3 (units), and for 2010 the islamic banking unit amount 23 (units). Total offices of islamic banking in Indonesia for 2000 amount 146 units and for 2010 amount 1763 units. The total assets of islamic banking in Indonesia for 2000 amount as Rp 1,79 billions and for 2010 amount as Rp. 97,51 billions. Growing up of islamic banking on national economic system will to easily financial intermediation can function well.

In the context of macro economic management, an extensive use of various Islamic financial products and instrument will help attaching financial sector and real sector and create harmonization between the two sectors. In addition to support financial and business the widely use of islamic product and instrument will also reduce speculative transactions in thus the economy supports the stability of overall financial system. At the end, the Islamic banking will significantly contribute to the achievement of mid-long term price stability (www.bi.go.id).



Sources : Bank Indonesia, 2011

Figure 3 : Value of Fund Deposit and Financing of Islamic Banking in Indonesia for 2000-2010 (Billion Rp)

Growing up of economic activity on Indonesian economic paralle with positive progression of islamic banking. For 2000-2010 deposit fund that was collected by islamic banking in Indonesia amount Rp. 1,03 billions at 2000 and amount Rp. 76,036 billions. The total financing at 2000 amount as 1.27 trillion Rp and for 2010 the total financing amount as

68.18 trillion Rp (Bank Indonesia). Bank Indonesia have strategic role to support progression of islamic banking in Indonesia. In that case, the enactment of Act no. 21 of 2008 issued on July 16, 2008 has provided a more adequate legal base to the development of Islamic banking in Indonesia ,and consequently will accelerate the growth of the industry. With an impressive development progress reaching an annual average asset growth of more than 65% in the last five years, it is expected that Islamic banking industry will have a more significant role in supporting national economy (www.bi.go.id).

Based on that explanation, we interesting to analyzize the role of islamic banking on the economi condition in Indonesia for 2000-2010. These periode representing the dinamicly of external environment of Indonesia economy. Besides that Indonesia with the world's largest population of Muslims has potentially in islamic banking expansion. A growing up of islamic banking institution in Indonesia can improve finance sector to support economic activity in national economy.

METHODE

Types and Sources of Data

Data used in this research is time series data for 2000-2010. These periode show the dynamically Indonesian economic stability. These data was collected by documentation method. This data is needed because this study analyzed the phenomenon of the aggregate economy. The data are, the value of gross fixed capital formation (fixed investment), value of international trade, economic growth, and financing of islamic banking. While the data sources such as the Asian Development Bank (2011) and Bank Indonesia (2011).

Data Analyzize

To provide empirical evidence of the interaction between islamic banking and economic growth, we use granger causality method and. Besides that we applied the cointegration test to examine the long run relationship between the variables observed. Granger causality is used to analyzize the exitence of causality between islamic banking and economic growth. In the Granger-sense x is a cause of y if it is useful in forecasting y₁. In this framework "useful" means that x is able to increase the accuracy of the prediction of y with respect to a forecast,

considering only past values of y ¹³. Besides that Granger causality tests are conducted to determine whether the current and lagged values of one variable affect another. The equation and formulation models of granger causality test as below :

Economic growth (G) and Finance (FN)

$$G_t = \sum_{i=1}^n \alpha_i G_{t-i} + \sum_{i=1}^n \beta_i FN_{t-i} + \ell_{1t},$$

$$FN_t = \sum_{i=1}^n \gamma_i FN_{t-i} + \sum_{i=1}^n \lambda_i G_{t-i} + \ell_{2t}$$

Fixed Investment (LGFCF) and Finance (FN)

$$LGFCF_t = \sum_{i=1}^n \alpha_i LGFCF_{t-i} + \sum_{i=1}^n \beta_i FN_{t-i} + \ell_{1t},$$

$$FN_t = \sum_{i=1}^n \gamma_i FN_{t-i} + \sum_{i=1}^n \lambda_i LGFCF_{t-i} + \ell_{2t}$$

International Trade (TRADE) and Finance (FN)

$$TRADE_t = \sum_{i=1}^n \alpha_i TRADE_{t-i} + \sum_{i=1}^n \beta_i FN_{t-i} + \ell_{1t},$$

$$FN_t = \sum_{i=1}^n \gamma_i FN_{t-i} + \sum_{i=1}^n \lambda_i TRADE_{t-i} + \ell_{2t}$$

The characteristics of granger causality test are :

- Unidirectional Granger-causality from X to Y. In this case the X variable increase the prediction of the Y variable but not vice versa
- Unidirectional Granger-causality from Y to X. In this case Y variable increases the prediction of X variable but not vice versa
- Bidirectional (or feedback) causality
- Independence between X and Y. In this case there is no Grangercausality in any direction

One implication of Granger representation theorem is that if two variables, say X_t and Y_t are co-integrated and each is individually 1(1), then either X_t must Granger-cause Y_t or Y_t must Granger-cause X_t .

Stasionarity Test

¹³ Pasquale Foresty, Testing for Granger Causality between Stock Prices and Economic Growth, Paper, MPRA Paper No. 2962, Online at <http://mpra.ub.uni-muenchen.de/2962/>, 2006.

Statistically, there are several ways to test the null hypothesis of the existence of unit roots (said to be stationary when the variables have unit roots), such as the Dickey Fuller test (DF) and Augmented Dickey Fuller developed into (ADF), Cointegration Regression Durbin Watson test (CRDW) Z test by Phillips. Nevertheless DF and ADF test is a popular test in the analysis of time series data stasionaritas. In this study the unit root test conducted by the ADF test, this is because the regression equation added regresor differenced terms so as to minimize the risk of autocorrelation in the residuals of his time estimates in determining the stationary or not¹⁴. Therefore, in this study focuses more on the ADF test because this test is the development of the DF test.

ADF is a regress test using each series own lagged terms with big differences. Many econometric programs satisfy ADF test statistics. If calculated t-value of variable is greater than ADF critical t-value then H₀ is rejected and thus the data is stationary. In addition, computer programs give the McKinnon critical values simultaneously that helps us to understand whether series are stationary or not at a 1%, 5%, 10% levels. It can be decided by comparing these values with ADF test statistics whether series are stationary or not. If ADF test statistic is greater than McKinnon critical values absolutely, the series are stationary at that level. For instance, if ADF test statistic were greater than McKinnon critical value for 5% levels but less than McKinnon critical value for 1% level, then series is stationary at 5% levels but non-stationary at 1% level. In such a situation, it is necessary to take all results at 5% levels¹⁵

The ADF was established in order to obtain autoregressive equation model as follows:

$$DX_t = a_0 + a_1T + a_2 X_{t-1} + b_1DX_{t-1} + b_2DX_{t-2} \dots \dots \dots b_{r-1}DX_{t-i} + Ut$$

or

$$DX_t = a_0 + a_1T + a_2 X_{t-1} + b_i \sum_{i=1}^m DX_{t-i} + Ut$$

Where $DX_t = X_t - X_{t-1}$, i = order difference equation, T = time trend, X_t is the variable that was observed in period t . In this case the value of the ADF to test the hypothesis $a_2 = 0$ is indicated by the ratio of regression coefficient t on X_{t-1} equation.

¹⁴ R.L. Thomas, *Modern Econometrics : an Introduction*, New York: Addison Wesley, 1997.

¹⁵ C. Brooks, *Introductory Econometrics For Finance* , Cambridge University Press, 2002.

The test criterion is that if the t value of the parameter a_1 equation is greater than the ADF table at a certain degree of confidence, then H_0 is that states are not stationary data (containing the unit root) is rejected and instead accept the alternative hypothesis that states the data stationary (does not contain unit root). Meanwhile, when the value of t statistic values on regression coefficients X_{t-1} (t-test) is more smaller than the ADF table, then the hypothesis H_0 is that states are not stationary data is received and otherwise reject the alternative hypothesis that states the data stationary.

If the observed data are not all stationary, then the next step is to test the degree of integration. This test is to determine at what degree the observed data are not stationary line will become stationary. A variable is said to integrate the degree d or I (d), ie, if the data is necessary differentiation of d times to become stationary.

This test is basically the same as the unit root test in the previous section. Only X_t to be replaced with DX_t , so that:

$$D(DX_t) = a_0 + a_1T + a_2DX_{t-1} + b_i \sum_{i=1}^m D(DX_{t-i}) + Ut$$

Where $D(DX_t) = DX_t - DX_{t-1}$

For testing the same as the unit root test as described previously. Most important in this test is to what degree these variables are not stationary become stationary after in-difference. If after the one-time-difference or X_t be a stationary DX_t X_t is the variable degree of integration on one or I (1). If DX_t not still not so in-difference stationary once again so that X_t becomes $D(DX_t)$ and the results are so variable X_t is stationary on the degree of integration of two or I (2).

Cointegration test

Cointegration concept is basically the existence of long-term equilibrium relationship between economic variables which are referred to the economic system will experience konvergenitas any time. Individual variables used in the model could be everything is not a stationary but overall these variables cointegrated. To know the presence of long-term relationships between economic variables, then there are some conditions that must be met, namely¹⁶.

¹⁶ R.L. Thomas, *Modern Econometrics*, 1997.

- a. Existing time series data on the degree of a stationary, I (1).
- b. There is a linear combination between time series data, namely the degree of 0 (I (0)).

So that if two things are met in the model, it can be said to have occurred cointegration between economic variables are observed. While to know the occurrence of cointegration in a model can be done by testing the stasionarity residuals obtained from OLS estimation of static regression models. Stasionarity test against a static regression residuals can be done by using the approach of Dickey-Fuller (DF test) and Augmented Dickey-Fuller (ADF test). Residuals are stationary gives the sense that among the variables that have estimated the long-term relationships¹⁷. In conclusion, if disturbance terms in regression model of the variable on the other variables are stationary then two or more series that are non-stationary must be co integrated. In the other words, if $Y_t \sim I(1)$ and $X_t \sim I(1)$ then $U_t \sim I(0)$. So X_t and Y_t are co integrated.

As illustration, two series making stationary by taking first differences has co integration relationship as :

$$Y_t = \beta X_t + U_t$$

In addition, if U_t disturbance term is stationary (I (0)) then it means that two variables are co integrated. Then the hypothesis will be as

$H_0 : = 0$ (there is no co integration between the series)

$H_1 : 0$ (there is co integration between the series)

If variables statistical value is greater than critical value, the null hypothesis should be rejected.

This means there is a co-integration between series moving together in the long term.

RESULT

Test of Unit Root

Result of this test can be shown below :

Table 1 : Unit Root Test

| Variables | ADF Test | |
|-----------|-----------------------|------------------------|
| | Level | First Differnce |
| G | -1.674239 (0.1451) | -2.996410 (0.0302)* |
| FN | 4.319261 | 2.966324 |

¹⁷ R.L. Thomas, *Modern Econometrics*, 1997.

| | | |
|-------|----------|------------|
| | (0.0050) | (0.0251)* |
| LGFCF | 0.260128 | -3.705428 |
| | (0.8035) | (0.0139)* |
| TRADE | 0.106543 | -3.024398 |
| | (0.9203) | (0.0566)** |

Notes : G is economic growth, FN is financing, LGFCF is log of gross fixed capital formation, Trade is international trade

*, **, significant 5%, 10% level respectively. Figures in parentheses are the p-value

Sources : Data estimation

Based on the above table shows that the only variable at the level, only FN variable has stationary (unit roots) at the degree level (I(0)). While the other variable is not stationary at the zero degrees. Based on the degree of integration of test results showed that after differentiation in-one times (I (1)), then all variables are stationary. These stationary can be significant at different level from 5% until 10%. Therefore we can conclude that all variables are integrated of degree one (I (1)). Since the variables are integrated of order 1, i.e. $I(1)$, we can test whether they are cointegrated or not.

Johansen Cointegration Test

To examine if there is a long-term relationship between islamic banking and economic growth, co-integration test should be made. To test it, maximum *eigen* and *trace* statistics are used. While determining long-term relationship between variables with Johansen cointegration test, established VAR numbers of lag is very important. While determining number of lag, Akaike Information Criteria (AIC), Schwarz Criteria (SW), Hannan Quinn Criteria can be used. In this study, Schwarz Criteria is used. Moreover, in all VAR models, stability test was used and auto correlation tests to residuals were made. Models are generally stable and residuals are not auto correlated (Vuranok,2009). Johansen co-integration test results are in table below :

Table 2 : Johansen Cointegration Test

| Variables | Trace statistics | Critical Values (5%) | Max Eigenvalue | Critical Values (5%) |
|---------------------|------------------|----------------------|----------------|----------------------|
| <u>G</u> | | | | |
| Ho : r = 0 | 16.45501* | 15.49471 | 15.18882* | 14.26460 |
| Ho : r ≤ 1 | 1.266188 | 3.841466 | 1.266188 | 3.841466 |
| <u>LGFCF</u> | | | | |
| Ho : r = 0 | 21.86684* | 15.49471 | 21.59592* | 14.26460 |
| Ho : r ≤ 1 | 0.270924 | 3.841466 | 0.270924 | 3.841466 |

| | | | | |
|--------------|-----------|----------|-----------|----------|
| TRADE | 16.99511* | 15.49471 | 12.28518 | 14.26460 |
| Ho : r = 0 | 4.709930* | 3.841466 | 4.709930* | 3.841466 |
| Ho : r ≤ 1 | | | | |

Notes : G is economic growth, FN is financing, LGFCF is log of gross fixed capital formation, Trade is international trade
*, significant 5% level respectively

Sources : Data estimation

The result show that null hypotheses of non cointegration are rejected by 5% level for G, LGFCF and Trade. Its mean that at least one cointegration vector exists in each of the variables. The economic growth (G), fixed investment (LGFCF) and international trade (Trade) cointegration equations suggest that in the long run islamic bank financing contribute to increase economic growth, investment and international trade in Indonesia. Since there is cointegration between islamic bank financing and economic growth in the long run on Indonesian economy, we could process a granger causality test to analyzize the interaction between islamic bank financing and economic growth.

Granger Causality Test

The result of granger causality test can shown below :

Table 3 : Unit Root Test of Residual

| Null Hypothesis: | Obs | F-Statistic | Probability |
|---------------------------------|-----|-------------|-------------|
| FN does not Granger Cause G | 9 | 0.18138 | 0.84062 |
| G does not Granger Cause FN | | 0.41540 | 0.68562 |
| FN does not Granger Cause LGFCF | | 1.39792 | 0.34645 |
| LGFCF does not Granger Cause FN | | 0.74748 | 0.52990 |
| FN does not Granger Cause TRADE | | 1.79059 | 0.27839 |
| TRADE does not Granger Cause FN | | 6.76687 | 0.05204 |

Note: for F-statistics, probabilities are greater than 1% levels 5%, or 10% level null hypotheses are rejected at that level.

Sources : Data Estimation

According to results except the causality between TRADE → FN, shows us the null hypothesis is rejected. Its happen because probability of the F statistics are greater than 1%, 5%

and 10%. Besides that causality between $\text{TRADE} \rightarrow \text{FN}$ show us the null hypothesis is not rejected. It means that the indicator international trade (TRADE), which represents economic openness, cannot causes islamic bank financing on the Indonesian economy. Therefore, there is not a short-term relationship between international trade and islamic bank financing. Interraction between $\text{FN} \rightarrow \text{TRADE}$ show us the null hypothesis is rejected. It means that the variable FN, which represents islamic bank financing, can causes TRADE on the Indonesia economy. The other results show that there are bidirectional interaction between variables islamic bank financing with economic condition variables.

Discussion

Based on the results, show that the role of islamic bank on Indonesia economy very important. Existence of islamic bank can support economic activity by providing the financial service to economic agent. Both in the short run and in the long run, specifically the islamic bank has important role to the Indonesian economy. According to Ebrahim and Joo¹⁸ the role of islamic bank can foster the growth of the economy of Muslim nations by developing financial markets, institutions and instruments. A well-developed capital market, with efficient institutions offering diverse financial facilities, can reduce the overall cost of capital.

Much of people are muslims religion and need sharia banking institution in their economic activity. The potential for Islamic-banking services has even attracted the attention of conventional banking giants in Indonesia such as Bank Mandiri, Bank BRI and Bank BNI. Up to 2010 year, total offices of islamic banking in Indonesia amount of 1763 units. These offices can provide financial services both in urban and rural area. Since many people save the money to the islamic bank, it will increas capacity of islamic bank to support economic activity by financing the business project (*i.e* ; small medium enterprises, corporate business, cooperation and personal/informal economic activity). Increasing of islamic banking role on the economy can increase gross fixed capital formation and international trade activity (export and import). Finally the accumulation of these economic activity (investment and trade) can support Indonesian economic growth.

¹⁸ M. Shahid Ebrahim and Tan Kai Joo, Islamic banking in Brunei Darussalam, *International Journal of Social Economics*, Vol. 28, No.4 : 314-337, 2001.

The result of this research is parallel with empirical finding by Jalil and Ma¹⁹, Furqoni and Mulyani²⁰. These research has stressed that in many muslims countries islamic bank can support economic growth. The condition in Indonesia, has similarly characteristic with other muslim countries on the world namely ; developing countries, big population, and low human resources. These condition can cause welfare live in muslim countries below living standar. The existence of islamic bank in Indonesian financial system can strengthen the domestic financial sector on the economy. Finally this progress can improve financial intermediary to provide financial institution in Indonesia economy.

CONCLUSSION

This research aims to analyze the interaction between islamic banking and economic growth in Indonesia for 2000-2010. The results generally show that in the long run there is positive and significant correlate between islamic banking financing with economic growth, fixed investment and trade. It means that islamic bank can facilitate economic agents to do their economic activity. In this regard islamic banking can accomodate the savers and barrowers with financial intermediary function. In this condition, the role of Bank Indonesia to control and direct islamic banking in order to expand their activity on the economic sector. Bank Indonesia hoped that the existence of islamic banking in Indonesia financial system can wider the banking role to financing the economic development. This results also indicate that the improvement of islamic banking on their infrastructure can help government to increase the capital capacity which needed in development. By doing so, government can believe that in the long run islamic banking can foster people to achieve economic welfare.

Based on this results, there are some suggestions to improve th role of islamic banking on Indonesian economy. First, Bank Indonesia must create a policy to push islamic banking activity on riil sector. This sector (include SMEs and informal sector) is need capital to expand the economic activity. Market potential on islamic banking must give benefit to economic activity by providing much financing to riil sector. Second, Bank Indonesia must direct on progression of islamic banking to rural area. This could be done by arrangement in new operating bank of banking office must located at rural district (Kecamatan). This policy very important because there is economic disparity (gap) between urban area and rural area. The

¹⁹ Abdul Jalil and Ying Ma, Financial development, 2008.

²⁰ Havas Furqony and Ratna Mulyani, Islamic Banking, 2009.

existence of islamic banking on rural district can help people to interact with financial system on their economic activity. Rural people can have chance to get financial services by sharia mechanism to do business action. By this condition, we believe that islamic banking can give optimal contribution to Indonesian development.

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