

THE FACTORS AFFECTING MUDHARABA FINANCING USING VECTOR ERROR CORRECTION MODEL (VECM) FROM 2010 TO 2015

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Abstract

Islamic Bank has financing functions that distribute financial to people or customers who need it. One of them is profit sharing based financing, that is called Mudharaba. The research analyses the effects and responses of TPF, NPF, PSP, to ward Mudharaba. The Data of the research were taken from financial report of Islamic Commercial Bank and Sharia Business Unit in Indonesia. The Data were collected from monthly financial report from Januari 2010 to December 2015. The method of the research used in the research is Vector Error Correction Model or estimation method -VECM.

The results TPF show that TPF is negative and significant to mudharaba, TPF is distributed to the other financing. The decrease of Mudharaba as a cause of high risk, it makes people prefer to choose the other types of financing rather than Mudharaba. NPF shows negative and significant, because the lower the NPF the better it is for financing in banking. PSP shows positive and significant, because the higher the sharing profit percentage the higher the profit get by the bank. Short-run of Third Party Fund shows that the result of lag 1 is negative and not significant, it is because Islamic Banks allocate TPF to potential financing that is more preferable. The result of lag 2 is positive and not significant because Islamic Banks minimize gap in financing allocation by determining percentage allocation of TPF. The result of long-run is quite different. TPF in the long-run is negative and significant to mudharaba. NPF and PSP variables show positive and significant. Because the increase of NPF is not as high as financing difference (Total financing - total NPF= true financing). The increase of PSP because PSP is increase, and in variance decomposition test which the independent variabel contribute the most the independent variabel.

Keywords: Mudharaba, Third Party Fund (TPF), Non Performing Financing (NPF), Profit Sharing Percentage, VECM

Introduction

Islamic financial system, mudharaba known as a an islamic bank niche product Mudharaba. For the fairness, uphold empathy for mudharib, and support economic growth. Mudaraba as the core of Islamic banking products is to channel funds from owners of capital to someone who does not have the capital. Mudharaba itself really helps people in developing their business world for those who do not have the capital. Mudharaba still count on having a greater risk than the Musyarakah, because it provides a financing for initial business.if the business runs well, if will gain higher profit. Therefore, mudharaba not popularized by the bankers due to the high risk.

Tabel 1.1

Financing Composition of Islamic Commercial Bank and Islamic Business Unit

Akad	2011	2012	2013	2014*	2015**
Akad mudharaba	10.229	12.023	13.625	14.345	14.207
Akad musyarakah	18.960	27.667	39.874	49.387	49.416

** Figures of December 2014, ** Figures January 2015,*

Source : Financial Services Authority, January 2015,

The Table above shows the increasing of mudharaba contract consistently on every year which less then twice compared to musyarakah, it can be said that Mudharaba financing is decrease eventhough it is not, although not much.

One source of funding in Islamic banking is a Third Party Funds. Ika (2005) argued that Third party funds constitute the largest source of funds received by the bank. (Karim, 2006) In collection funds from the community, Islamic bank offers a range of convenience and the type of savings that can be selected by the customer. These theories are the backbone of the operation of the bank. The funds will be disbursed by banks in the form of financing. Which one of them put in the contract for mudharaba. However, some of the biggest sources of funding in Islamic banking, deposits face a the challenges, both internal and external requirements, one of them is the Non Performing Financing NPF.

Based on the study presented by Loevyati (2011) argued that the Factors Affecting Against Mudharaba. This study examined the effect of variable third party funds (TPF), profit-sharing and inflation on financing in sharia banks in Indonesia. The data used in this study of the financial statements of sharia banks in Indonesia. Data taken from the monthly financial reports from January 2006 to December of 2009. This study uses multiple linear regression analysis. Loevyati (2011) found that of financing factors affecting Islamic banks is a Third Party Fund (TPF) and revenue sharing variable inflation based on research results was not significant.

Factors predominantly affects the amount of financing in Islamic banks, according to the author, among others, deposits (Deposits), non-performing financing (NPF) and the profit sharing ratio. Based on the above as well as the results of previous studies, the researchers looked at the role of Islamic banking

especially Islamic Banks and Islamic Banks in improving performance, particularly of financing. In connection with the above background, the authors are interested in doing research with the title "**THE FACTORS AFFECTING MUDHARABA FINANCING (2010-2015) (VECTOR ERROR CORRECTION MODEL)**" with independent variable, Third Party Fund (TPF), non-performing financing (NPF), and the profit sharing percentage.

Methodology

A. Research Object

This research is about That Affecting Mudharaba Payment on Islamic Banks and Sharia Business Unit (Third Party Fund (TPK), Non Performing Financing (NPF), Profit Sharing Ratio).

B. Type Data

This study uses a quantitative analysis with secondary data in the form of monthly data for six years, namely finance data based classes in Islamic Banks and Sharia Business Unit (BUS and UUS), TPF, NPF, and Profit Sharing Percentage happened in Indonesia during the period (2006-2009) (2011-2015).

C. Secondary Data

The data in this study were obtained from the Indonesian Banking Statistics (SPI) Bank Indonesia (www.bi.go.id), Islamic Banking Statistics Bank premises and the Financial Services Authority (FSA).

D. Data Collection Techniques

The data required are collected by non participant observation, that is to download (Download) from various sites relevant to suitability needs of data, record or copy data from a variety of data publication of financial reports and studies related scientific literature.

This study adopts Vector Error Correction Model (VECM) to examine the relationship between finance and variable Mudharaba TPF, NPF and PSP. The model was developed and applied in this study as follows:

$$P.MUDHAR_t = \sum_{j=1}^n P. MUDAR_{t-j} + \sum_{j=1}^n TPF_{t-j} + \sum_{j=1}^n NPF_{t-j} + \sum_{j=1}^n PSP_{t-j} + \varepsilon_{1t}$$

It aims to examine the long run and short run relationship between Mudharaba (MUDHAR) with three variables, namely Third Party Funds (TPF) Non Performing Finance (NPF), dan Profit Sharing percentage (PSP), To properly specify the VECM model, this research followed the standard procedure of time series analyses. By following these procedures:

This study follows the standard procedure time series analysis. By following this procedure:

1. Descriptive Statistics
2. Test Data stationer - Augmented Dickey Fuller Test

3. Optimal Lag Length Test
4. Stability Test VAR Model
5. Test cointegration
6. Analysis Kuualitas Granger - Julius Johansen Co-integration Test
7. Empirical Model VAR / VECM
8. Analysis of Impulse Response function
9. Analysis of Variance Decomposition.

E. Hypothesis Test and Data Analysis

1. Descriptive statistic.

Descriptive statistic supposed to figure out research data. Consist of descriptive analysis as follows:

- a. Examining the value of Mean (average)
- b. Examining the value of Maximum
- c. Examining the value of Minimum

2. Test the unit root.

The economic data of time series is generally stochastic (trending is not stationary / data that have roots units). If you have a unit root, then the value will tend to fluctuate around the average value, making it difficult to estimate a model. The unit root test is one of the concepts that lately more and more popular used for testing stationarity time series data. This test developed by *Dickey* and *Fuller*, using *Augmented Dickey Fuller Test (ADS)*. stationarity test that will be used is to test the ADF (Augmented Dickey Fuller Test) using a 5% significance level (Basuki, 2015).

3. Determining the length of lag.

VAR estimation is very sensitive to lag length used. Determination of the amount of lag (order) to be used in the VAR model can be determined based on the criteria of Akaike Information Criterion (AIC), *Schwarz Information Criterion (SC)* or *Quinnon Hannan (HQ)*. Besides testing the optimal lag length is quite useful to eliminate the problem of autocorrelation in the VAR system, so with the use of optimal lag is expected to no longer appear autocorrelation problem. (Basuki, 2015)

4. stability test VAR.

VAR stability needs to be tested first before doing further analysis. VAR estimation which will be combined with the error correction model is unstable, then the *Impulse Response Function* and *Variance Decomposition* become invalid (Basuki, 2015).

5. Test cointegration.

As stated by *Engle-Granger*, the presence of non-stationary variables most likely cause is most likely a long-term relationship among the variables in the

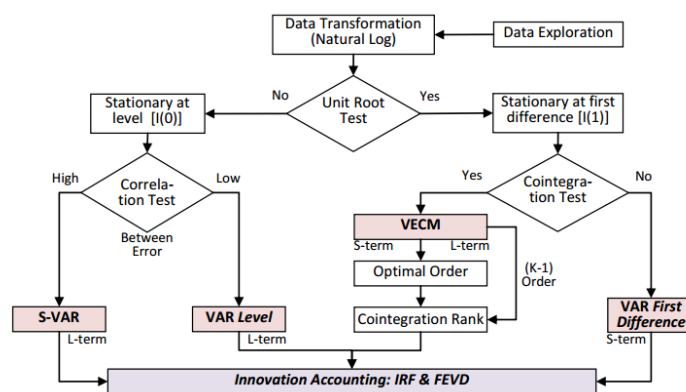
system. Cointegration test is performed to determine the existence of the relationship between variables, especially in the long term. If there is cointegration in variables used in the model, then certainly the long-term relationship among variables. The method can be used to test the existence of cointegration is the method of *Johansen Cointegration*.

6. Pair Wise Granger causality test.

Causality test is performed to determine whether Seatu endogenous variables can be treated as an exogenous variable. It happened because of the affects of both variables. If two variables y and z , then if y affects z or y or z affecting apply both or no relationship between the two variables. Variable y affects variable z means how much the value of z in the current period can be described by the z value in the previous period and the value of y in the previous period (Basuki, 2015).

7. Empirical Model VAR / VECM

Having known the existence of cointegration, the test process is then performed using methods of *error correction*. If there are different opinions about variables degree of integration testing, the is done together (jointly) between the long-term equation by equation tricorrection error. Once it is known that in the variables occurred cointegration. The degree of integration of cointegrated variables called Lee and Granger as *multicointegration*. But if encountered by the phenomenon cointegration, then the test is continued using variables *first difference*. VECM is a form of VAR restricted due to the existence of the form data that is not stationary but cointegrated. VECM often referred to as the design for the series nonstationary VAR that has cointegration relationship. VECM specification is restricted long-term relationship endogenous variables that converge into cointegration relationship, but it still allows the existence of short-term dynamics.



Source: (Basuki, 2015)

8. Analysis of Impulse Response Function

IRF (Impluse Response Function) analysis is a method used to determine the response of an endogenous variable to shock specific variables. IRF also be used to see the shaking of one variable affects another and how long they occur. Through IRF, an independent response about one standard deviation can be reviewed. IRF explores the impact of interference by one standard error (*standard error*) as an

innovation in an endogenous variable against another endogenous variable. An innovation in one variable, it will directly impact the variable in question, then proceed to all other endogenous variables through the dynamic structure of the VAR (Basuki, 2015).

9. Analysis of Variance Decomposition.

Forecast Error Variance Decomposition (FEVD) or decomposition of forecast error variance reduces innovation at a variable to components of other variables in the VAR. The information presented in FEVD is the proportion of movement sequentially caused by its own shocks and other variables (Basuki, 2015). The Independent variable contributes the most dependent variable.

Research Result

This part will explain the findings from the research and some explanations through the data that has been analyzed and will reveal all things according to the research.

1. Descriptive statistic.

Descriptive statistics represents the entire population or sample in the study. It explains data central tendency and dispersion measurement. Eviews 7 is used as the econometrics tool to analyze the data. Eventually, this study finds the following descriptive statistics:

Table 5. 1 Descriptive Statistic

	MUDHAR	TPF	NPF	PSP
Mean	11626.69	141730.8	5110.639	16.86792
Median	12024.50	148121.5	3650.000	16.03000
Maximum	15729.00	231175.0	10081.00	77.09000
Minimum	6556.000	52811.00	1054.000	11.64000
Std. Dev	2635.768	56812.56	2845.552	7.607271
Skewness	-0.259474	-0.099962	0.660011	7.013423
Observation	66	66	66	66

Resource: Data Processing, Appendix 1

2. The unit root test– Augmented Dickey Fuller test.

The econometric analysis used in the research are VAR / VECM model. The first test is stationary test to find the appropriate econometric model. The unit root test was used to know the Akaike Information Criterion (AIC) and Schwarz Criterion (SC) through the level of Augmented-Dickey-Fuller Test (ADF-test) and the coefficient is 5 %. If the t value is higher than critical value, the data are at stationary level and it can be analyzed by using VAR method. If the t-coefficient is

lower than critical value, so the data are not at stationary level. ADF-test is used to know the stationary data and the length of lag of the five variables in the research on the first level of difference. The data are analyzed by using Eviews 7 Program, and the result of the unit root test can be shown on the following table.

Table 5. 2 Unit Root Test - Augmented Dickey Fuller (ADF-test)

Test	ADF					
Variable	Level	Prob	Note	First Difference	Prob	Note
	t-statistic			t-statistic		
MUDAR	-1.755300	0.3994	Non stationary	-5.715107	0.0000	Stationary
TPF	-0.178075	0.9357	Non Stationary	-8.312013	0.0000	Stationary
NPF	-0.173689	0.9361	Non Stationary	-3.955665	0.0029	Stationary
PSP	-7.331311	0.0000	Stationary	-14.13662	0.0001	Stationary

Resource: Data Processing, Appendix 2

The result of table 5.2 shows that the values of Mudharaba (MUDHAR), Third-Party Funds (TPF), Non Performing Financing (NPF), dan Profit Sharing Percentage (PSP) are stasionary at First difference. The level of PSP is stasionary and still stationary at the First difference. So, the variable should be changed into First difference. The value can be defined as the following equation:

$$DMUDHAR_t = A_0 + A1DTPF_{t-2} + A_2DNPF_{t-2} + A_3DPSP_{t-2} + e_t$$

In which D is at first difference

DMUDHAR : the first difference of Mudharabah

DTPF : the first difference of Third-party Funds

DNPF : the first difference of Non Performing Financing

DPSP : the first difference of Porfit Sharing Percentage

3. Determining the length of lag.

Before continuing the next step to estimate VAR model, it is important to determine the length of lag. Optimal lag of endogenous variable is independent variable which is used in this model. Determining the length of lag is pivotal to overcome the autocorrelation problem in VAR model which is used to analyze the stability of VAR. So, the application of optimal lag in this model will eliminate the problem appeared in autocorrelation. Optimal value of the length of lag was counted by using available information criteria. The candidate of lag in the length of lag chosen is based on criteria of *likelihood Ratio* (LR) Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz information Criterion (SC) and Hannan-Quin Criterion (HQ). The determination of optimal lag in the research was based on sequential modified LR criterion of statistic test.

Table 5.3 Lag Length Criteria

	LogL	LR	FPE	AIC	SC	HQ
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0	- 4648.28 6	NA	2.41E+55	138.8742	139.0058 *	138.9263
1	- 4615.67 6	60.35287	1.47E+55	138.3784	139.0365	138.6388 *
2	- 4596.71 0	32.83680 *	1.35E+55 *	138.2899 *	139.4745	138.7586
3	- 4581.82 1	24.00040	1.42E+55	138.3230	140.0341	139.0001
4	- 4569.11 9	18.95793	1.60E+55	138.4215	140.6591	139.3069
*indicates lag order selected by criterion LR : sequential modified LR test statistic (each test at 5 percent level) FPE : Final Prediction error AIC : Akaike information criterion SC : Schwarz information criterion HQ : Hannan – Quinn information criterion						

Resource: Data Processing, Appendix 4

The table shows the result of the automatic length of lag which is determined by Eviews 7. It indicates the value of information of Schwarz Criteria (SC) equal at lag 1, it is 139.0058. The value of LR is 32.83680, Final Prediction error (FPE), and the equal of AIC at lag 2 are 1.35E+55, and 138.2899. Eviews 7 automatically determines lag 2 as the exact length of lag VECM estimation. Therefore, optimal length of lag is used in causality test.

4. VAR Stability Test

Before analyzing for further step, the stability of the result of VAR equation that has previously been determined needs to be tested by using VAR stability condition check. It is roots of characteristic polynomial check to all variables multiplied by the sum of lag from each VAR elements. The stability of VAR needs to be tested because if the estimation result of VAR is unstable, the IRF and FEVD analysis are not valid. Based on previously test that was done by the researcher, VAR system is stable if modulus of all roots have less than 1 (one). If the root value and the sum of Modulus less than 1 (<1), it means that the variables are sufficient to be tested in VAR model. The following table shows the result of Polynomial test.

Table 5.4 Roots of Characteristic Polynomial

Roots	Modulus
0.033766 - 0.614513i	0.615440
0.033766 + 0.614513i	0.615440

0.568849	0.568849
-0.553470	0.553470
0.337546	0.337546
-0.186376 - 0.253520i	0.314656
-0.186376 + 0.253520i	0.314656
-0.090889	0.090889
No root lies outside the unit circle.	

Resource: Data processing, Appendix 5

Based on table 5.4 above, it shows that VAR system is stable if Modulus of the roots is less than 1 (<1). It means that the variables can be tested in VAR model. Thus, it can be said that the variables meet the requirements of stability control. It is stated that there is no roots over the unit circle in stability control. The research is categorized as stable if it can be used to analyze IRF.

5. Test cointegration

The next test is Cointegration test. It aims to determine whether variable group on certain level is stationary or not. The requirements of integration process for stationary variables are at the same degree, that is 1. Cointegration test in this research uses *Johansen Trace Statistic Test*. Long-run information can be obtained after the researcher determined the cointegration rank. In cointegration rank, it is clear that the equation system can describe all systems. If all variables have been integrated, the variables have long-run correlation and it means that the test can be continued by using VECM model. If the variables are not co-integrated, they would be tested in First Difference VAR (FDVAR). To determine the criteria for cointegration test, it used probability test. If the coefficient of probability (α) is more than 5% ($\alpha > 0.05$), then the cointegration is rejected the hypothesis can be accepted if the sum of cointegration can be counted in the in equation system. So, this test is to know the variables to be tested whether there is long-run influence in the variables or not. If the variables can be obtained in cointegration test, the next step is to test the variables using VECM model. VECM model cannot be done if the variables are not proven cointegration.

Table 5.5 Co-integration test Johansen Juselius Test

Model	Hypothesized	Trace Statistic	Prob.	Max - Eigen Statistic	Prob.	Variable	Result
Lag length = 2	None *	116.6183	0.0000	40.86228	0.0000	MUDHA R	Trace statistic showed there are 4 co-integration and Max Eigen statistic showed there are 2 co-integration vectors
	At most 1 *	47.54120	0.0002	18.62235	0.0123	TPF	
	At most 2 *	22.25874	0.0041	5.478156	0.0548	NPF	
	At most 3 *	8.249504	0.0041	1.357428	0.0041	PSP	

Source: Data Processing, Appendix 5

Based on table 5.5, it can be seen the result of cointegration test. MacKinnon-Haug-Mihelis p-value $0.000 < \alpha = 0.05$, it is to determine whether H_0 is rejected or H_a is, or the significant model. The statistic test shows the 4 co-integration and Max Eigen statistic shows 2 vectors of cointegration among variables are 0.05. In other words, there is co-integration among MUDHAR, TPF, NPF and PSP. Based on cointegration test of Johansen Juselius, it indicates that 4 co-integration test among MUDHAR, TPF, NPF and PSP variables have long- run co-integration. The next method is VECM test for long-run and short-run.

6. Granger Causality Test

The next step is Granger Causality Test. The test is used to know whether there is correlation between the two variables or not. In other words, it is used to know whether there is a significant causal correlation or not. Because each variable can be endogenous and exogenous. *Bivariate* causality test in the research uses *Pairwise Granger Causality Test* and the coefficient is 5%. The result of causality test can be seen from probability value. If the probability value is less than 5%, H_0 is rejected. *Granger* Causality test is used to test the causal correlation between the two variables. The strong prediction of previous information shows causal correlation for long run. If H_0 is rejected, it means that there is causal correlation between the two variables.

Table 5. 6 Result Analysis Granger Quality

Dependent Variable	Independent Variable	Probability
MUDHAR	TPF	0.0361*
	NPF	0.3377
	PSP	0.0617
TPF	MUDHAR	0.0115*
	NPF	0.0651
	PSP	0.1079
NPF	TPF	0.4419
	MUDHAR	0.6420
	PSP	0.0006*
BHS	TPF	0.8998
	NPF	0.6554
	MUDHAR	0.9650
α 5%		

Resource: Data Processing, Appendix 6

Based on the result using Granger Causality test on table 5.6, there is a significant value between the dependent variable of MUDHAR and independent variables of TPF, NPF and PSP, that is TPF. TPF variable is statistically significant in influencing MUDHAR (0.0361), so H_0 is rejected. If NPF and PSP are not significant, NPF and PSP are not influencing MUDHAR variable. So, MUDHAR variable H_0 cannot be rejected. It can be concluded that there is one way Causality between TPF variable for MUDHAR variable.

MUDHAR variable is statistically significant in influencing TPF variable (0.0115), so Ho is rejected. If NPF and PSP variables are not significant, NPF and PSP variables are not influencing TPF variable. It can be said that TPF variable Ho cannot be rejected. It can be concluded that there is one way causality between MUDHAR variable for TPF variable.

PSP variable is statistically significant in influencing NPF variable (0.0006), so Ho is rejected. If TPF and MUDHAR variables are not significant, TPF and MUDHAR variables are not influencing PSP variable. It can be said that PSP accepts Ho. It can be concluded that there is one way causality of PSP variable for NPF variable.

TPF, NPF and MUDHAR variables are not statistically significant to influence PSP variable, so it can be said that PSP Ho cannot be rejected. It can be concluded that there is no one way causality among TPF, NPF and MUDHAR variables for PSP variable.

7. Empirical Model VAR / VECM

The next step is VECM test. It is to know the correlation between dependent variable and independent variable in the long-run and short-run. VECM model is used to determine long-run and short-run correlation among DMUDHAR, DTPF, DNPF and DBHS. The research uses lag 2. The result of DMUDHAR, DTPF, DNPF and DBHS are obtained based on the criteria of the length of lag as dependent variable. DTPF, DNPF and DBHS are decided as independent variable. Tabel 5.7 below shows the long-run and short-run correlation among mudharaba (MUDHAR) as dependent variable and the other variables. The results are as follows:

Table 5.7 VECM Estimate Long-Run

Long-Term		
Variable	Coefficient	T-Statistic
TPF(-1)	-0.037724	-13.6543***
NPF(-1)	-0.073858	-1.43662
PSP(-1)	83.26761	6.59648***

Resource: Data Processing, Appendix 7

The result in table 5.7 shows all independent variables that influence MUDHAR, they are mudharaba (DMUDHAR), third party funds (DTPF), non performing finance (DNPF) and Profit-sharing Percentage (DPSP). The level of significance is a >5 percent, each of them is -13.6543, -1.43662 and 6.59648.

The first normalized equation in Long-Run Estimation :

$$MUDHAR = -0,037724 TPF (-1) - 1,43662 NPF (-1) - 0,002787 PSP (-1)$$

It can be seen long-run estimation and long-run correlation among variables in the equation of VECM model. Mudharaba variable shows significantly positive value to PSP. Variables of NPF and TPF have significantly negative value.

Table 5.8 VECM Estimate Short-run

Short-Run		
Variable	Coefficient	T-Statistic
CointEq1	-0.249471	-3.30135***
D(MUDHAR(-1))	0.492246	3.95757***
D(MUDHAR(-2))	0.092281	0.68284
D(TPF(-1))	-0.007608	-0.76935
D(TPF(-2))	0.009705	0.98153
D(NPF(-1))	0.038636	0.49847
D(NPF(-2))	0.149953	1.77629*
D(PSP(-1))	12.54282	2.67759***
D(PSP(-2))	6.939737	2.02732**
C	23.45327	0.42930
R-squared	0.279334	
Adj. R-squared	0.169401	
***, **, * . 1%, 5%, 10%		

Resource: Data processing, Appendix 7

The table shows the estimation result of VECM model, there are short-run of Mudharaba, third party funds (TPF), non performing finance (NPF) and Profit-sharing Percentage (PSP). This analysis is to indicate the short-run influence in short-run, there are 3 variables which have coefficient 5%. There are significantly results of Mudharaba and Profit sharing percentage variables in short-run. But, it can be found not significantly results for third party funds (TPF) and non performing finance (NPF) . It means that long-run and short-run results of the variables have influence to mudharaba variable. In Mudharaba, 1 lag is significant and positive level on profit sharing percentage are 1 lag and 2 lag significantly positive to mudharaba.

The Second normalized VECM Short-Run Estimation:

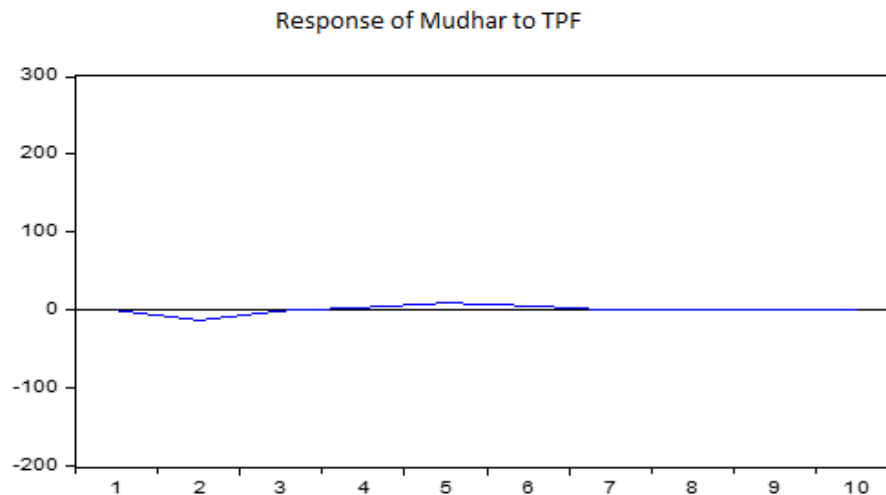
$$DMUDHAR = 23.45327 + 0.492246D(MUDHAR(-1)) + 0.092281D(MUDHAR(-2)) - 0.007608D(TPF(-1)) + 0.009705D(TPF(-2)) + 0.038636D(NPF(-1)) + 0.149953D(NPF(-2)) + 12.54282D(PSP(-1)) + 6.939737D(PSP(-2)) - 0.249471CointEq1$$

8. Analysis of Impulse Response function

Impulse response function analysis will defines the effect of shock on a variable toward the other variables. This analysis is not only analyzed the short-run but also found out the response for further horizon as long-run information. This analysis can determine long-run dynamic response of each variable whether it is found certain shock of an error standard in each equation or not. *Impulse respon*

function analysis is also to know how long the effect happened. Horizontal axis is period in year, and Vertical axis is response value in percentage.

Picture 5.1 Response of MUDHAR to TPF

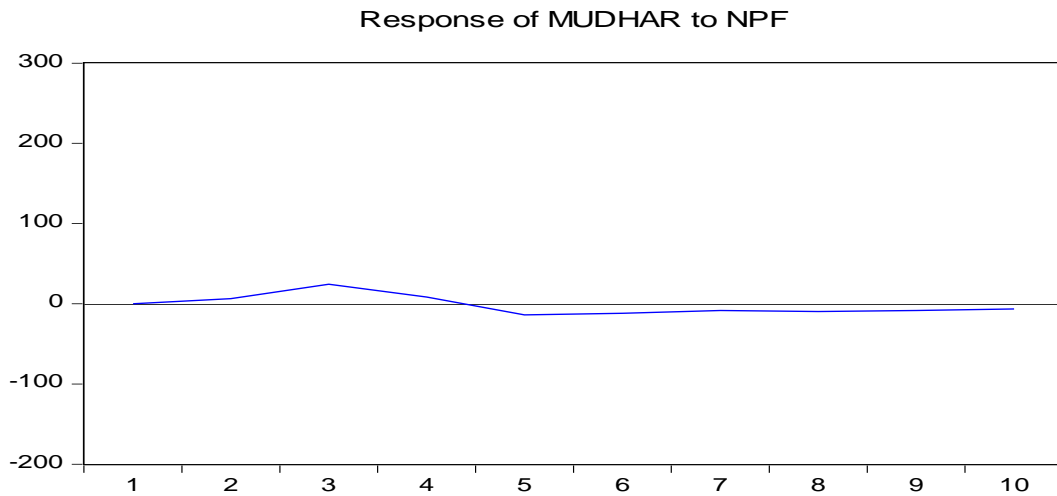


Resource: Appendix 8

The graph shows that mudharaba response can be seen because of Third Party Fund. The overall graph shows there is slightly very little movement. On the first period, Mudharaba experiences negative response to Third Party Fund and then, it decreases. In the second and the third period, Mudharaba experiences a bit increase. On the seventh period until the tenth period, Mudharaba is tend to stable on zero.

It means that Mudharaba response do not affect to Third Party Fund because there are the other funds or the other model that is offered by the bank and it is more potential comparing to Third Party Fund. Actually, funds of Third Party Fund is pivotal and it has important role in Islamic Banks to determine customers of the Bank and to develop Indonesian economy. The response of Mudharaba does not affect to Third Party Fund, it means that people have not responded to Mudharaba contract yet.

Picture 5.2 Response of MUDHAR to NPF

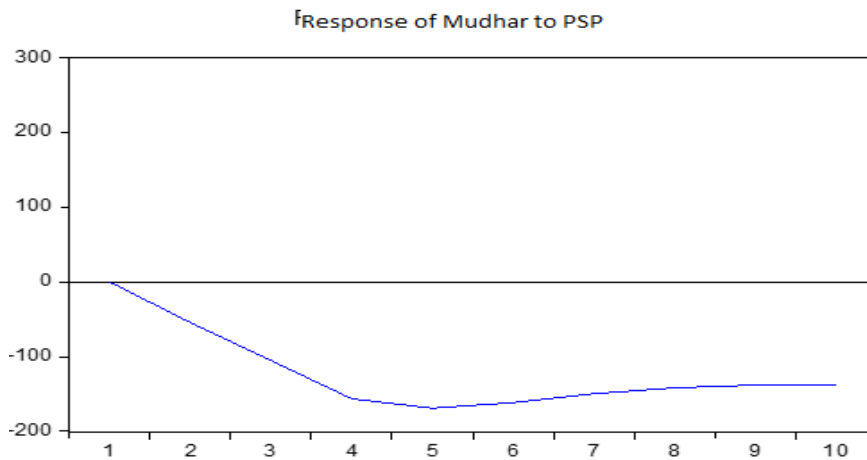


Resource: Appendix 8

The above graph shows that Mudharaba response can be seen as a result of the alteration of Non performing financing. It also shows that there is negative response from the first period to the fourth period, but there is decline to negative point in the fifth period. It means that negative response of alteration in NPF will give good effect. If NPF is decreased, it will reduce any highly risks of Bank.

In the first and second period, response of Mudharaba to NPF shows positive, it happened because Mudharaba financing is categorized as much more circulating than its non performing financing (the difference between total financing and non performing financing). It indicates that NPF ratio is below 3 percent and not more than 5 percent, based on the regulation of Bank Indonesia on NPF. However, there is a decrease on negative range in the fourth period to the tenth period. The decreased during the sixth period until the tenth period happened because of the influence of real sector/economic inertia that affected to Small Medium Enterprises. They dominated Mudharaba financing in Islamic Bank, as happened in the end of 2016. Based on statistic data of Islamic Bank per October 2016 shows that Islamic financing is Rp 237.02 billion or raised around 14.08 percent comparing to October 2015 around Rp 207.76 billion. Non Performing Financing (NPF) ratio is still high around 4.39 percent per October 2016. The ratio in 2016 is raised around 4,31 percent comparing to NPF in the previous month. The greatest contributor of NPF is from commerce sector around Rp 2.4 billion. Comparing to October 2015, there is an increase to 17.48% from total NPF in last years' commerce sector around Rp 2.09 billion. The NPF ratio in commerce sector is still high around 8.36 percent in October 2016 or it is increased comparing to previous year around 8.24 percent.

Picture 5.3 Response of MUDHAR to PSP



Resource: Appendix 8

It can be seen from the graph that there is Mudharaba response that resulted from the alteration in Profit Sharing Percentage. The response of Profit Sharing Percentage shows negative value. The first period to the fourth period shows continuously decrease response. The fifth period shows a bit raise but it is still on negative points. It indicates there is decrease of Profit Sharing Percentage in Mudharaba contract, the higher Mudharaba level the more Mudharaba financing. The graph shows that Mudharaba response to Profit Sharing Percentage is decrease. It means that there is a decline trends of Profit Sharing Percentage on Mudharaba financing.

The movement of PSP based on IRF analysis is giving enough different view on the theoretical analysis commonly on the first period of Mudharaba response to the the PSP movement is still on the static phase 0 but the transition of the first period until the fourth period shows the significant negative inclination.

9. Analysis of Variance Decomposition.

Variance decomposition is used to detect Causal relationship among variables, it is to measure the contribution or composition of influence of each independent variable to dependent variable. It explains the level of variable which is described by the shock at all variables in VAR system. Variance decomposition measures error percentage variation of final prediction error which is described by the other variables in short-run dynamic and interaction. Variance decomposition does not provide information about how variables deal with the shock or innovation in other variables. The research explores various decompositions based on VAR specification.

Table 5.9 The result of Variance Decomposition

Period	S.E	MUHDAR	TPF	NPF	PSP
1	212.8454	100.0000	0.000000	0.000000	0.000000
2	353.2791	97.49455	0.122656	0.032191	2.350603
3	465.0474	93.16016	0.070947	0.290779	6.478116

4	558.4813	87.37243	0.053989	0.223507	12.35007
5	629.5199	82.76821	0.065541	0.224643	16.94161
6	684.4988	79.81727	0.063318	0.219573	19.89984
7	731.4863	78.12404	0.055519	0.205745	21.61470
8	774.8032	77.14307	0.049494	0.198628	22.60881
9	816.4295	76.54379	0.044601	0.189320	23.22229
10	857.0754	76.10249	0.040472	0.177381	23.67966

Resource: Data Processing, Appendix 9

Table 5.9 explains the result of decomposition variance of MUDHAR. In the first period is 100% influenced by the variable mudhar itself. After that, the influence of MUDHAR variable reduces into 76.1% at the tenth month. The table describes that MUDHAR variable in 1 period is 0% influenced by TPF, but TPF affects MUDHAR about 0,04% at the tenth month. The other explanation affects NPF variable about 0% at the first period 1 to MUDHAR, The influence of NPF to MUDHAR is about 0.17% at tenth month. Besides, PSP variable affects MUDHAR variable around 0% in the first period and PSP affects MUDHAR about 23.67% at the tenth month. In this case, PSP proves significantly affects MUDHAR.

B. Discussion

1. The estimation of VECM in long-run

Tabel 5.10

Contract	2013	2014	2015
Mudharaba	13.625	14.345	14.820
Musyarakah	39.874	49.387	60.713
Murabahah	110.565	115.602	122.111

Source: Statistics Islamic Banking

By comparing the three kinds of contracts, the statistic data of Islamic bank show that the role of Mudharaba contract is lower than musyarakah and murabahah contract.

The finding is in accordance with Islamic Business Economist. He states that Bank customers consider profit level in investing on Islamic banks. If the profit sharing is low, the bank customers will probably allocate their funds to conventional banks (Basari, 2013).

In Glossary of Indonesian Bank, Non Performing Financing (NPF) is financing related to non-current account. It consists of a financing that might be of high risk; financing of certain group, doubtful and circulating asset but it can be in arrears in return.

According to (Sudarsono, 2007:123), Non Performing Financing or NPF in Islamic Banking is some credits that are included to performing loan, it based an Indonesia Bank requirements about qualified productive asset which is related to not performing loans, doubtful loans, and bad credits

It is because people tend to have financing through Islamic Bank. NPF happened because economic agents are unable of returning the agreed asset as stated in the contract.

Non performing financing variable is negative and significantly affecting MUDHAR. The result of the research defines that the increase of Non performing financing (NPF) will affect to the decrease of MUDHAR around 0.073858 percent (Table 5.7). The finding is in accordance with the research of Adzimatunur, et.al (2016). The finding of the research concluded that NPF has negatively significant correlation to financing, both in the long run and short-run. In short-run, NPF is well-defined the movement of Islamic Banks in short run. NPF is problematic financing. The increasing demand on NPF will affect on financing, the fund cannot be circulated well. This condition influences the Bank to serve more expense to the abolishment. It can be the a cause that Bank should provide or distribute alternative fund to anticipate the risk of NPF, and it is also useful for internal maintenance of Islamic Bank. High ratio in NPF reflects the level of controlling financing and credit/bank policy by bank, the less the NPF ratio the higher financing that distribution by the bank. The higher of NPF shows the low of bank capacity in collecting credit. The less the loan return to the bank, the less fund of the bank to be distributed to people/customers. As a result, bank will reduce the fund that will be distributed to people/customers.

PSP variable has positive and significantly affect on MUDHAR. The result of the research defines that the increasing of PSP will affect to the increasing of MUDHAR. The increase is about 83.26761 percent (Table 5.7). The finding is in accordance to the research of Adzimatunur, et. al (2016) and loevyati (2011) and Agustina Kurniawan and Zulfikar (2014). Those researches show that PSP has positively affect to MUDHAR. Profit sharing percentage is a kind of return that is obtained by the bank from handling financing. The higher the profit sharing percentage, the more profit for the Bank. Besides, the increase of data about Mudhar financing in Islamic Bank will also increase customer interests or common people to PSP system.

2. Estimation of VECM in short-run

The result of VECM in short-run indicates that third party fund on lag 1 has negative effect. The coefficient 5% is 0.007608, it means that 1 percent increase on the previous month will decrease mudharaba about 0.007608 percentage points in recent years (Table 5.8). 1 percent increase on the two first month will affect Mudharaba about 0.009705 percentage points (Table 5.8) on short-run in recently years. The finding is appropriate and consistent with the findings Kurniawan and Zulfikar (2014). They found that TPF is negative. It shown in the research that third party fund is negative and not significant on lag 1. It means that the movement of third party fund is tend to be increased but the trends of mudharaba contract is decreased.

The result of Lag 1 shows negative influence but it is not significant. It is because Islamic Bank allocates TPF as potential financing and it becomes people interest. Based on the data of Islamic Bank, people are more interested in

Murabahah and Musyarkah financing comparing to Mudharaba financing. In certain period (lag 2), TPF affects positively and not significant to Mudharaba. It happened because Islamic Bank can minimize the gap in financing allocation by determining percentage of TPF allocation. So, each of financing can be optimally useful. The function of TPF as the main asset in Islamic Bank can be handled well. The result of the analysis is in accordance with the previous research results of [Loevyati \(2011\)](#). The results show that if third party fund increases and it is followed by the increasing of trends in financing, it happened because third party fund is the source of fund in financing.

Non performing financing variable is positive and not significantly affect to Mudharaba. The result of the research shows that the increase 1 percent in previous month in non performing financing will also increase mudharaba about 0.038636 percentage points in recent year (Table 5.8). 1 percent increase in previous two month on non performing financing will increase mudharaba about 0.149953 percentage points (Table 5.8) on short-run in recent year. The result is different from the results of [Loevyati \(2011\)](#). In their research, they define that NPF is negative. The result in short-run is different result in the long-run. at lag 1 and 2 NPF positive and not significant to mudharaba. This happens because the increase in the NPF is not greater than the difference in financing (total financing-financing total NPF = pure) data from Islamic Banking NPF levels (Commercial Bank Syariah / Sharia) Based Financing Group in Indonesia

**Table 5.11: Islamic Banking NPF levels
(Commercial Bank Syariah / Sharia) Based
Financing Group in Indonesia**

Year	Amount of Financing	Amount of NPF
2009	46.886	1.882
2010	68.181	2.061
2011	102.655	2.588
2012	147.505	3.269
2013	184.120	4.828

Source: Statistics Islamic Banking, January 2015

Table 5.12: Pure Financing

Year	Financing Difference
2009	45.004
2010	66.120
2011	100.067
2012	144.236
2013	179.292

The data show that the increase of NPF is also followed by the increase of genuine financing. It indicates that Islamic Bank enables to minimize NPF, by maintaining on Banking and also maintaining customers or candidate customers.

Islamic Bank can be survived in profitability although level of NPF is continually increase.

Profit sharing percentage variable shows positively and significantly affect to mudharaba. The result of the research defines that 1 percent increase in previous month on profit sharing percentage will increase mudharaba about 12.54282 percentage points in recent year. 2 percent increase in previous two month will increase mudharaba about 6.939737 percentage points in recent year in short-run. The finding is in accordance with the research of [Adzimatunur, et. al \(2016\)](#), and [Loevyati \(2011\)](#), and [Kurniawan and Zulfikar \(2014\)](#). The results of the show that lag 1 and 2 in short-run shows positive. It happened because profit sharing percentage affects mudharaba financing. The higher the profit sharing percentage the bigger volume of financing profit-sharing based will circulate.

3. Forecasting Variance Decomposition.

The summarized result of Forecasting Variance Decomposition that shows dependent variable is Mudharaba. It shows that profit sharing percentage variable is the most shocking variable to affect the other variables. The second variable is NPF, and the last variable is TPF. The result shows that PSP brings about 23.67% impact on mudharaba shock and non performing financing affects 0.17%. The impact of TPF, is about 0.04%. The most influence variable on Variance Decomposition is profit sharing percentage. The effect is about 23.67%. If the influence of profit sharing percentage is changed, it will affect Mudharaba which has the biggest shock. So, it is suggested to bank owners to manage profit-sharing percentage well, because it has a significant influence on the quantity of Mudharaba. Most people know that profit sharing percentage is one of main factors which determine the quantity of financing profit-sharing based. It is pivotal that profit sharing percentage is a kind of financing with profit-sharing based on mudharaba financing. It tends to have high risk comparing to the other kinds of financing because it has uncertain return from Islamic Bank.

Conclusion

The result of the research is the influence of independent variables ((Third Party Fund (TPF), Non Performing Financing (NPF), Profit Sharing Percentage (PSP)) on Islamic Commercial Bank to dependent variable (Mudharaba) from 2010 to 2015. The conclusions are:

1. There are some results related to the independent variables in long-run. Third Party Fund is negative and significant to mudharaba and Non Performing Financing is negative and significant. The last variable is Profit Sharing Percentage, it is positive and significant.
2. The development of variables that the movement was measured each month in short-run at Third Party Fund indicates that the movement of lag 1 is negative and not significant and the movement of lag 2 is positive and not significant. The result in short-run is quite different from the result in the long-run to Mudharaba, that is negative and significant. Non Performing Financing and Profit Sharing Percentage variables are positive and significant, but the result of NPF in the long-run is negative and significant.

3. Final prediction error in Variance Decomposition test, independent variable has high shock to ISSI at Profit Sharing Percentage. This condition affected to the shocks that are shown by final prediction error in Variance Decomposition and the response of impulse in the previous periods. It is suggested that the government should have self-awareness for the stability of Profit Sharing Percentage.

Recommendation

As stated in the previous conclusion, suggestion and recommendation are given to the next research. The suggestions and recommendation are as follows :

1. It should requires some policies or programs related to Third Party Fund. Government and Banks in Indonesia can make mudharaba contract more interesting to people. The increase of Third Party Fund will influence the increase of mudharaba contract. So, there should be investigation there is some problems related to Mudharaba.
2. It requires deeper analysis related to Non Performing Financing. The role of Non Performing Financing is pivotal in Islamic Bank. So, the banks should be more cautious in choosing the customers. If the banks are inconsiderate in choosing customers for NPF, will be worse the condition of Islamic Banks in Indonesia.
3. Banks should organize the policy about the standard of Profit Sharing Percentage in Mudharaba contract, both maximum and minimum standard for better work of Banks in the future. The role of Bank is very important in making appropriate decision. It should consider fairness in determining profit and loss for customers. So, hopefully, banks are more selective in choosing the customers and making decision.
4. Develop some innovations on banking products to interest people in order to stay committed to sharia maqosit principle.
5. Banks should do direct-recheck to the customers, whether there is fairness in running Mudharaba contract or not. They should consider more in observing mutual profit for both customers and banks, in handling study case, and in doing direct field trip. Thus, everything will be running well.
6. The improvement quality of inter human resources in Islamic banks is important, both the quality of soft skill and hard skill for better and optimal service at Islamic financing create good human resource in Islamic banking. Handling training and developing human resource skills especially in Islamic Bank cooperates with Islamic institutions or economic pratitioners
7. Applying appropriate policies and program to universities that have concentration on economic programs or islamic economy it educates at least 5 or more villages as objects of education of Islamic banking which apply appropriate policies and program.
8. It requires optimal roles of academic world (colleges and universities) in improving the quality of young generation, better generation that have adequate knowledge about Islamic Banks.
9. People participation should increase in joining education program related to Islamic Banks, both Financial Literation and Inclusive Finance.

10. Driving Optimal movement on Islamic economy as one of government programs that support people participation to contribute in Islamic Banks (financing) is pivotal.

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