

## The Effect of FDR, NPF and Liquidity Ratio on Profitability of Islamic Banks in Indonesia

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### Abstract

*This article discusses the phenomena of liquidity, non-performing loans and finance to deposit and their effect on profitability in Islamic banks. By using a sample of the financial statements of Mandiri Syariah, BRI Syariah, BNI Syariah, and Muammalat in the period January 2018 – December 2021 which were analyzed with multiple linear regression, it was concluded that NPL/NPF had a negative and significant effect on bank profitability, while Liquidity Ratio and FDR had an effect on positive and significant on bank profitability.*

### Keywords

liquidity; profitability; Islamic Bank; finance



### I. Introduction

Liquidity is one of the indicators to measure the soundness of a bank. Liquidity can be defined as a bank's capability to pay or fulfill withdrawals made by depositors or savings customers, as well as to meet the needs of credit customers (Taswan, 2011). Company liquidity is shown by the size of current assets, which are assets that are easy to be converted into cash which includes cash, securities, receivables and inventories, (Agus Sartono in Angelia, 2020). Thus, a bank can be said to be liquid if the bank is able to pay all its debts, especially current accounts, savings and deposits when withdrawn by depositors, and is also able to fulfill every loan application from prospective debtors that is eligible to be financed.

Along with liquidity, banks are also faced with a dilemma, namely the necessity to be able to provide an optimal level of profit while maintaining public trust (Agustiningrum, 2013; Jeanne & Svensson, 2007). One of the variables that can be an indicator of the effectiveness of a bank's performance is the Financing to Deposit Ratio (FDR). According to Wulandari (2017) FDR is a ratio used to assess the level of bank liquidity, aiming to determine the bank's capability to meet financing requests using the total assets owned by the bank. . The increase in FDR provides an overview of the increasing ability of the distribution of financing carried out by banks, so that it can affect the profits obtained by banks. There is a fundamental difference between conventional banks and Islamic banks in the context of terms of credit with credit profit margins charged to customers. For conventional banks, delays in repayment and credit payments can become income, while in Islamic banks additional debt/credit that arises due to delays payment is usury, and usury is prohibited. Almunawwaroh and Marlina (2018), Yusuf (2017), Yunita (2014), and Simatupang and Franzlay (2016) state that the increase in FDR is in line with the increase in bank profitability. However, this is different from the findings of Pravasanti (2018), Hakim and Rafsanjani (2016), and Syawal Harianto (2017) which state that the Finance to Deposit Ratio partially has a negative and insignificant effect on profitability, this is due to the high financing ratio in banks. sharia lowers the level of liquidity which at the same time high levels of financing are not followed by optimal returns due to the business model of Islamic banks themselves.

Non-Performing Financing (NPF)/Non-Performing Loan (NPL) is a ratio that shows the condition of bank financing that is less liquid, bad, and dubious (Kartika, Jubaedah, Astuti, 2019). If the financing carried out by the bank experiences congestion, the level of profit sharing or profit generated by the bank tends to be low. The higher the NPL/NPF ratio, the lower the level of profit that can be provided by the bank, on the contrary, the lower the ratio, the higher the level of profit that can be issued (Hilman, 2016; Yulianto and Solikhah, 2016). The NPF scale will affect profitability, because it can reduce the level of profit in the current year (Kharisma, 2012).

Based on the phenomenon raised in the paragraph above, this article will further elaborate on the relationship between Finance Deposit Ratio, Non-Performing Finance and Liquidity Ratio on Profitability of Islamic Banks in Indonesia.

### 1.1 Related Works

At this time, economic development cannot be separated from the banking sector, because banking plays an important role in the stability of economic growth. In order to maintain public trust, banks are also required to maintain their financial performance. The financial performance of a bank is assessed by various indicators. One of them is the bank's financial statements. This study uses Net Profit Margin (NPM) in measuring its profitability. Although there are various indicators of profitability assessment that are often used by banks.

Several previous studies have tried to unravel the variables that affect bank profitability, including; (Rahim and Irpa, 2008), Utomo (2008), and Agustiningrum (2013) found that NPL has a significant negative effect on Return on Assets (bank profitability) because if it is Non Performing. Ramadanti and Meiranto (2015) who argue that the liquidity ratio has a positive influence on profitability, although Utomo (2008) states otherwise. Meanwhile, research conducted by Almunawaroh and Merliana (2018), Yusuf (2017), Yunita (2014), and Simatupang and Franzlay (2016) states that FDR has a significant influence on bank profitability. The results of this diverse research are the reasons for this research to be written, this article is intended to answer whether the variables NPL, FDR, and liquidity ratio have a significant influence on the profitability of Islamic banks? Can the same financial ratios be used to measure the performance of Islamic banks?

### Hypothesis

To help answer the questions in this research, the researcher compiled several hypotheses to be tested, the following are the hypotheses;

H1: Non-performing loans have a significant effect on bank profitability

H2: Liquidity Ratio has a significant effect on bank profitability

H3: Finance to Deposit Ratio has a significant effect on bank profitability

### 1.2 Understanding Operational Variables

#### a. Dependent Variable

The dependent variable is the variable that is bound by the independent variable. The dependent variable in this study is the Net Profit Margin.

Net Profit Margin is a ratio to measure a bank's capability to provide Net Income and its main.

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Operating Income}} \times 100\%$$

operating activities. To calculate NPM, the formula is as follows:

Independent Variable

Independent variables are variables that explain or affect the dependent variable. The independent variables in this study are Finance to Deposit Ratio, Non Performing Financing (NPF), and Asset to Loan Ratios.

### **b. Finance to Deposit Ratio**

Financing Deposit Ratio (FDR) is a ratio that describes the health of the bank in providing financing (Suwiknyo, 2010:148). FDR (Financing Deposit Ratio) is a comparison between the financing provided by the bank and the third party funds (DPK) that the bank has successfully mobilized. The FDR states how far the bank's ability to repay the withdrawal of funds made by depositors by relying on the credit provided as a source of liquidity. This ratio is to determine the bank's ability to repay obligations to customers who have invested funds with financing that has been given to their debtors. The higher the ratio, the higher the level of liquidity. Liquidity is a ratio to measure the ability of a company, both external and internal, to pay short-term obligations or debts that are due (Kasmir in Mauris, 2021). Systematically, FDR is measured using the following formula

$$\text{Finance to Deposit Ratio: } \frac{\text{Total Financing}}{\text{Third Funding/ Customers Funds}} \times 100\%$$

### **c. Non-Performing Loans (NPL)**

Non-Performing Loan (NPL) is one of the ratios that shows the credit ratio loss that occurs in a bank. Bad loans are loans that are not liquid (substandard), and doubtful. The NPL variable in this study was measured using the formula as follows;

$$\text{Non Performing Loan: } \frac{\text{Doubtful Financing}}{\text{Total Financing}} \times 100\%$$

### **d. Assets to Loan Ratio**

Assets to Loan Ratio are a ratio that describes the amount of credit distributed compared to the total assets owned by the bank. The higher the level of the ratio, the lower the level of bank liquidity. Formula to find Assets to Loan Ratio as follows:

$$\text{Assets to Loan Ratio} = \frac{\text{Total Loans}}{\text{Total Assets}} \times 100\%$$

## **II. Research Methods**

The research method that the researchers use in this article is a quantitative descriptive analysis technique using multiple linear regression analysis in the SPSS 16 program. Meanwhile, the sample used is 73 samples, from a total of 4 national Islamic banks, namely Mandiri Syariah, BRI Syariah, BNI Syariah, and Muamalat in the financial reporting period January 2018 to December 2019. Sampling used purposive sampling, with the criteria; 1. Publication of monthly financial statements, 2. is a company listed on the stock exchange.

## Data Analysis

### a. Multiple Regression Analysis

Multiple regression analysis is the regression of a dependent variable on more than one explanatory variable (Saefuddin, Notodiputro et al, 2009). Multiple regression analysis can be applied if the number of independent variables is at least two. In this study, there are two independent variables, namely; 1) Financing to Deposit Ratio, 2) Non-Performing Loan, 3)

### b. Asset to Loan Ratio

The regression models tested in this study are as follows;

$$Y = a + \beta^1 X_1 + \beta^2 X^2 + \beta^3 X^3 + e$$

Where is:

- Y : Dependent Variable (Net Profit Margin)
- a : Constanta
- $\beta^1$  : Regression Coefficient
- X1 : Independent Variable (Non Performing Loan)
- $\beta^2$  : Regression Coefficient
- X<sup>2</sup> : Independent Variable (Likuiditas)
- B<sup>3</sup> : Regression Coefficient
- X<sup>3</sup> : Independent Variable (Likuiditas)
- e : standar error

## III. Discussion

### 3.1 Descriptive Statistics Test Results

This descriptive statistic describes the data on each variable consisting of the minimum, maximum, average and standard deviation values. This descriptive statistical test aims to see the quality of research data indicated by the numbers or values contained in the mean and standard deviation, if the mean has a range that is not too far from the standard variance, the data becomes better. The dependent variable (Y) in this study is Net Profit Margin, while the independent variables (X) used in this study are Non Performing Financing (X1), Liquidity Ratio (X2) and Finance to Deposit Ratio. The results of testing these variables are descriptive as shown in the table:

**Descriptive Statistics**

	Mean	Std. Deviation	N
NPM	27.0685	7.87988	73
NPL	3.9726	1.15437	73
LiquidityRatio	48.6164	8.09429	73
FDR	1.0300E2	18.04547	73

The standard deviation measures how wide the spread of the data value is from the mean or mean value. If the standard variance of a variable is getting higher, then the data in that variable is more spread out from its mean value, thus meaning that the data is heterogeneous. And vice versa, if the standard deviation of a variable is getting lower, then the data in that variable is getting closer to its mean value.

1. The NPM variable has a standard deviation of  $7.8798 < \text{mean } 27,068$ . This indicates that the variable is homogeneous.
2. The NPL variable has a standard deviation of  $1.15437 < \text{mean } 3.9726$ . This indicates that the variable is homogeneous.
3. Liquidity Ratio variable has a standard deviation of  $.09429 < \text{mean } 4.6164$ . This indicates that the variable is homogeneous.
4. Variable FDR. Has a standard deviation of  $18.0457 > \text{mean } 1.03$ . This indicates that the variable is heterogeneous.

### 3.2 Data Normality Test

The normality test aims to test whether in the regression model, the dependent variable and the independent variable have a normal distribution or not. A good regression model is one that has a normal/near-normal data distribution. This normality test can be done through graphical analysis and statistical analysis (Ghozali, 2009:147-151).

Detection of data normality can be done through statistical analysis, one of which can be seen through the Kolmogorov Smirnov statistical test. The data is called normal if the Kolmogorov-Smirnov test value is lower or equal to the critical value of the Chi-Square table and the probability is  $> 0.05$ , then the model is declared normal (Widarjono, 2009:54). From the table below, it can be seen that the significance value is  $0.246 > 0.05$ , it can be said that the data in this research sample is normally distributed.

**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		73
Normal Parameters <sup>a</sup>	Mean	.0000000
	Std. Deviation	5.14255237
Most Extreme Differences	Absolute	.120
	Positive	.120
	Negative	-.108
Kolmogorov-Smirnov Z		1.023
Asymp. Sig. (2-tailed)		.246

a. Test distribution is Normal.

### 3.3 Multicollinearity Test

Multicollinearity test results show that the tolerance values for the NPL, Liquidity Ratio and FDR variables have VIF values  $> 1$  and  $< 10$ , which means that the research data is free from multicollinearity.

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	17.433	7.570		2.303	.024		
	NPL	-3.169	.667	-.464	-4.748	.000	.646	1.548
	LiquidityRatio	.168	.080	.173	2.096	.040	.907	1.103
	FDR	.136	.041	.312	3.293	.002	.687	1.456

a. Dependent Variable: NPM

### 3.4 F test

From the results of statistical calculations F (simultaneous test) can be seen in the table, the value of sig. of 0.000. So it can be concluded that the value of sig. < 0.05 (0.000 < 0.05), which means that the independent variables, namely Non Performing Financing (NPF), Financing Deposit Ratio (FDR) together (simultaneously) have an effect on the dependent variable, namely Net Profit Margin.

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2566.557	3	855.519	31.002	.000 <sup>a</sup>
	Residual	1904.101	69	27.596		
	Total	4470.658	72			

a. Predictors: (Constant), FDR, LiquidityRatio, NPL

b. Dependent Variable: NPM

### 3.5 Partial Test

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	17.433	7.570		2.303	.024		
	NPL	-3.169	.667	-.464	-4.748	.000	.646	1.548
	LiquidityRatio	.168	.080	.173	2.096	.040	.907	1.103
	FDR	.136	.041	.312	3.293	.002	.687	1.456

a. Dependent Variable: NPM

Based on the results of the T test, the results are as shown in the table above, which gives rise to the following regression formula;

$$Y = 17.43 - 3.169X_1 + 0.168X_2 + 0.136X_3 + e$$

### 3.6 Non Performing Loan/ Non Performing Financing

Partially NPL/NPF has a significant effect and shows a negative effect on bank profitability (Net profit margin), this is indicated by the value of sig 0.000 < 0.005. The coefficient on beta of -3,169 indicates the direction of its negative influence on net profit margin, this is in line with research conducted by Rahim and Irpa (2008) which stated that NPL has a negative impact on profitability. If the NPL is lower, then it is an indication that the level of risk for the distribution or distribution of bank credit is low enough so that the bank will get a return (Rahim and Irpa, 2008).

In line with that, Utomo (2008) who conducted research on PT. Bank Mandiri in the same period stated the same thing, that NPL had a significant negative effect on Return on Assets (bank profitability) because if the Non-Perforfming Loan experienced an increase, the profit or profit generated by the bank would be less. This is also linear with the findings of Agustiningrum (2013) which states the same thing, but Pratiwi and Wiagustini (2015) find different things, according to him, NPL has a positive, although not significant, effect on bank profitability. The NPL that occurs in most banks on the Indonesia Stock Exchange is less than 5%, meaning that the credit risk for these banks is low, therefore Non-Performing Loans have no significant effect on profitability.

### 3.7 Liquidity Ratio

Partially, the liquidity ratio has a significant effect and shows a positive effect on bank profitability (Net profit margin), this is indicated by the value of sig  $0.040 < 0.005$ . The coefficient on beta of 0.168 indicates the direction of its positive influence on the net profit margin, this is in line with research conducted by Ramadanti and Meiranto (2015) but different from the findings of Utomo (2008) which states otherwise.

### 3.8 Finance to Deposit Ratio

Partially the Deposit Ratio has a significant effect and shows a positive effect on bank profitability (Net profit margin), this is indicated by the value of sig  $0.040 < 0.005$ . The coefficient on beta of 0.136 indicates the direction of its positive influence on net profit margin, this is in line with research conducted by Almunawaroh and Merliana (2018), Yusuf (2017), Yunita (2014), and Simatupang and Franzlay (2016) which states that The higher the FDR, the higher the level of profitability, because the more effective the bank is in disbursing financing.

### 3.9 Coefficient of Determination Test

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.758 <sup>a</sup>	.574	.556	5.25316	.574	31.002	3	69	.000	2.164

a. Predictors: (Constant), FDR, LiquidityRatio, NPL

b. Dependent Variable: NPM

From the R Square model test, a value of 0.574 was obtained. This shows that the effect of the Non Performing Financing, Liquidity Ratio, and Financing Deposit Ratio variables on the net profit margin is 57.4% while the remaining 42.6% (100% - 57.4%) is influenced by other variables not included in this study, such as CAR, Net Working Capital, Inflation, and Economic Growth, and others.

## IV. Conclusion

Based on multiple linear regression testing on the effect of the variables Finance Deposit Ratio, Non-Performing Finance and Liquidity Ratio on Profitability of Islamic Banks in Indonesia, the following results were found;

1. Finance Deposit Ratio has a significant and positive effect on net profit margin
2. Non-Performing Finance has a significant and negative effect on net profit
3. Liquidity Ratio has a significant and positive effect on net profit margin
4. Finance Deposit Ratio, Non Performing Finance and Liquidity Ratio simultaneously have a significant effect on the net profit margin.

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