The Effect of Inflation, Financial Problem, and Financing to Deposit Ratio (FDR) On Islamic Bank Deposits: Error Correction Model Analysis

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Abstract

Islamic banks collect funds from the public and then send them for financing as an intermediary institution. In practice, the distribution of financing, which is the main characteristic of Islamic banks, is not as easy as the existing theory. This study will discuss the short-term and long-term effects of inflation, financing, and financing problems on deposit ratios in Indonesia’s Islamic banking deposits. This study uses an Error Correction Model with monthly time series data starting from 2019-2020. The results show that all variables significantly affect deposits in Islamic banking in Indonesia in the long run. Meanwhile, in the short term, the inflation and financing variables significantly affect Islamic banking deposits in Indonesia, and the Financing to Deposit Ratio has no significant effect.

Keywords: Non-Performing Financing, Inflation, Financing to Deposit Ratio, Islamic Banks

A. Introduction

In 1997 the economic crisis that occurred in Indonesia caused the national banking system to collapse. Several national private banks were liquidated at the end of 1997. This proves that the performance of these banks is not strong enough so that there are thoughts and actions to grow banking activities based on sharia principles. The idea of establishing an Islamic bank is growing until a formal and commercial Islamic banking institution is actually established.

The services provided by Islamic banking are a combination of business and moral aspects. Islamic banking aims to make a profit and is independent of the gambling factor (intentional speculation, maisyir), eliminating manipulatives (gharar), and usury.
Therefore, Islamic bank transactions are not completely free, but must be integrated by moral values with sharia-based economic activities (Ghufron 2005).

In 1992, Islamic banking activities in Indonesia had just begun. The juridical basis of Islamic banks in Indonesia has become stronger with the existence of Law Number 21 of 2008 which clearly regulates the institutional and operational aspects of Islamic banks. The passage of this law opens up great opportunities for Islamic banks to develop. This positive legal basis is used as the basis by Indonesian Islamic banks in expanding their products and operations.

One of the investment products offered by Islamic banks is time deposits. DSN Fatwa No: 3/DSN-MUI/IV/2000 explains that deposits with the mudharabah principle are deposits that are justified in sharia. Instead of current accounts and savings, the type of placement of funds that customers are more interested in is deposit products. The following picture shows the growth of third party fund accounts or what is commonly known as TPF in the Islamic banking industry in Indonesia.

![Figure 1. Composition of Sharia Banking Deposit Accounts (in Thousands)](source: OJK in 2019)

Based on this figure, it can be explained that the total TPF accounts in Islamic banking have grown over the last three years. The most accounts are in the form of deposits, namely in 2017 as many as 338 accounts, then in 2018 as many as 374, and in 2019 as many as 465 accounts. After deposits, the savings product that has developed is current accounts where in 2017 there were 259 accounts, in 2018 there were 288 accounts, and in 2019 there were 320. While in the form of savings in 2017 there were 25,240 accounts, in 2018 there were 28,406 accounts, and in 2019 there were 33,001 accounts.

The year 2010 was a momentum for global economic recovery after the financial crisis, so 2010 was a year filled with high optimism for the global and national economy. In addition, maintained economic stability also boosts the performance of financial institutions. Given that DPK has a vital position as a source of bank capital, Islamic banks must be able to ensure that the activities of these third party funds run well.
According to Na'fan (2014: 36) apart from relying on two sources, namely capital and credit, Islamic banking also relies on deposits which are the biggest foundation for the continuation of banking life. There is also according to Ika (2017) for newcomer investors, the recommended product is deposits. The reason is the competitive interest distributed, in addition to the level of security of the deposit itself. UU no. 21 of 2008 regarding Islamic banking, it is explained that deposits are funds that are invested in a mudharabah contract or otherwise as long as it is not contrary to sharia principles, where deposit funds are withdrawn only at a certain time according to the contract.

Saputri (2018: 5) argues that the sign of the rate of return which is the percentage level for the profit sharing of Islamic Bank deposits is influenced by several aspects, namely internal and external aspects. Saputri (2018: 5) argues that internal and external aspects affect the rate of return which is the percentage level of profit sharing deposited in Islamic banks. The internal aspects related to the performance of Islamic banks can be proxied by the Finance to Deposit Ratio (FDR) and Non-Performing Financing (NPF). In addition, external aspects can be affected by inflation.

The results of Febriani’s research (2019) show that mudharabah deposits are significantly affected by the FDR variable. This research is reinforced by the results of Fadli’s research (2018) which also shows a significant effect of the FDR variable on mudharabah deposits. Different results are obtained from the results of the research of Rahmawaty and Tiffany (2015), Edhi (2013), Ady (2016) and also Isna and Sunaryo (2012) which explains if the FDR variable has no effect on the level for the results of Islamic bank mudharabah deposits.

Fadli’s research (2018) shows that the level of non-performing financing significantly affects the mudharabah deposits of Islamic commercial banks. This research is strengthened by the results of research by Ardana&Wulandari (2018) which shows that the original deposit of Indonesian Islamic Banks is significantly affected by the NPF variable. Juliana and Mulazid’s research (2017) also obtained the same result, namely that NPF had an impact on mudharabah deposits in Islamic banks. Meanwhile, research by Nofianti et al. (2015) explains that the rate of profit sharing for mudharabah deposits in Indonesian Islamic banks is not influenced by the level of non-performing financing (NPF).

Research Nofianti et al. (2015) shows that the level of profit sharing for deposits at Indonesian Islamic banks is not affected by the variable level of non-performing financing (NPF). Conflicting results from Juliana &Mulazid (2017) show that mudharabah deposits in Islamic banks are significantly affected by NPF. The results of this study are in line with Edhi (2013) and Gianni (2013) who explain that the level of mudharabah deposit yields is not influenced by NPF.

Jaya’s research (2015) explains that the level of profit sharing for mudharabah deposits is influenced by inflation. The research results are supported by the results of Febrianti’s research (2019). A different study was obtained from the results of research by Novianto (2014) which showed that mudharabah deposits were not affected by inflation. This is confirmed by the results of Ningsih’s research (2020) which shows that
mudharabah deposits at Islamic independent banks are not significantly affected by inflation.

Based on these questions, it shows that there are differences between the results of theoretical research and the results of previous studies. Furthermore, in order to strengthen the theory and the results of previous research, the authors are encouraged to carry out more in-depth research on the effect of inflation, financing problems and the Financing to Deposit Ratio (FDR) on Islamic banking deposits. Therefore, this study aims to examine the short-term and long-term effects of inflation, non-performing financing, and FDR on Islamic banking deposits in Indonesia.

B. Literature Review

The interest of management in the disclosure of accounting information that represents financial performance in the form of financial reporting influenced management's attitude toward the application of an accounting standard. Accounting information's theory-decision utility is reflected in the form of standards that must be followed by financial reporting components in order to be useful in the context of economic decision making. The fundamental objectives of financial reporting and the qualitative qualities of financial information are clearly stated in SFAC No. 8. (Pratiwi, 2010).

The Act - Law of the Republic of Indonesia Number 10 of 1998 on Amendment - Act No. 07 of 1992 concerning Banking, among other things, specifies the business activities of an Islamic bank. The provision of cash or equivalent, based on agreements between the Bank and another party requiring the financed party to repay the money or bill after a specific term in exchange or for the outcomes, is defined in Article 1 number (12) and (13) of Law 10 of 1998. (Yaya, et al. 2009)

Sharia is an agreement between the Bank and other parties based on Islamic law for the financing of a fund or business activities, or other activities in accordance with Sharia, such as financing based on the principle of profit sharing (modaraba), financing based on the principle of equity fund (Musharaka), the principle of buying and selling goods for profit (Murabaha), or financing of capital goods based on the principle of pure rental without option (Ijarah) (Ijarah was qi tina).

According to Law No. 7 of 1992, as amended by Law No. 10 of 1998, Sharia-compliant financing entails providing cash or its equivalent and is based on agreements between the parties financed to reimburse the bills after a set length of time through reward or profit-sharing. One of the bank's key responsibilities is to provide financing, which entails providing opportunities for the provision of funds to meet the demands of deficit parties. Character, collateral, capital, capacity, condition, and return, payback, and risk should be used to lead the examination of bank lending regulation. Credit assessment must meet several criteria, including credit safety, which means that the loan can be trusted to be paid back, suitability, which means that the credit will be used for purposes that are in the public interest, or at the very least do not violate existing rules,
and beneficial (profitable), which means that the credit will be beneficial to both banks and customers. (Ahmad & Ahmad, 2003)

**Non-performing Financing (NPF)**

NPL is defined by Yuda&Meiranto (2010) as the presentation of non-performing loans that meet the criteria of being substandard, doubtful, or losing a percentage of total loans granted by banks. Suhardjono (2003) defined credit/financing issues as a circumstance in which a customer is unable to pay some or all of the bank's obligations as stipulated in the credit agreement. NPL is a word used by traditional banks, whereas NPF is used by Islamic banks. According to Bank Indonesia (PBI No. 15/2/PBI/2013), a good quality of finance is defined as when the amount of financing problems (non-performing financing) does not exceed 5% of the total financing supplied (Nikensari et al, 2012).

**Financing to Deposit Ratio (FDR)**

The financing to deposit ratio (FDR) is the proportion of the bank's financing to the amount of third-party funds (DPK) it receives. The FDR is calculated as the ratio of the amount of finance provided to the amount of public funds collected, which includes demand, savings, and time deposits. FDR indicates how far a bank's ability to refund depositor withdrawals by depending on loans as a source of liquidity (Budiawan, 2008). FDR should be between 78 and 92 percent, according to Bank Indonesia (PBI No. 15/41/DKMP dated October 1, 2013). The higher this percentage, the lesser the bank's liquidity capacity. This is due to the fact that the amount needed to fund the loan grows.

**Inflation**

Umiyati and Ana (2017) state that inflation is a process the general and continuous increase in prices is related to market mechanisms which can be caused by various factors, among others, increased public consumption, excess liquidity in the market that triggers consumption, as well as due to non-smooth distribution of goods. It can be concluded that inflation is a continuous process of decreasing currency values. Inflation is a process of an event, not a high or low-price level. That is, the price level that is considered high does not necessarily indicate inflation. The term inflation is also used to mean an increase in the money supply which is sometimes seen as a cause of rising prices.

**Sharia Banking Deposit**

Time deposits or time deposits are deposits which can only be withdrawn at a certain time according to the agreement between the depositor and the bank concerned. The maturity periods of these deposits are generally: 1 month, 3 months, 6 months, 12 months and 24 months (Daiamat, 1993: 102). In short, mudharabah or investment is the surrender of money capital to people who trade so that they get a percentage of the profits. As a form of contract, mudharabah is a profit-sharing contract when the owner of the funds/capital (investor), commonly called shahibulmaal, provides 100% of capital to the entrepreneur as manager, commonly called mudharib, to carry out productive
activities on the condition that the profits generated will be shared between them according to a pre-determined agreement in the contract (Ascarya, 2011: 61). Saving or depositing money in a bank is an action that is recommended in Islam, because saving means a Muslim prepares himself for future implementation as well as to face things that are not desirable (Surah al-Hasyr [59]: 18). Profit sharing is a form (acquisition of business activities) from investment contracts from time to time, uncertain and not fixed in Islamic banks. In the Islamic banking system profit sharing is a mechanism carried out by Islamic banks (mudharib) in an effort to obtain results and distribute them back to the owners of funds (shahibulmaal) in accordance with a mutually agreed contract at the beginning of the contract (akad) between the customer and the Islamic Bank (Rivai, 2010: 80). Saving or depositing money in a bank is an action that is recommended in Islam, because saving means a Muslim prepares himself for future implementation as well as to face things that are not desirable (Surah al-Hasyr [59]: 18). Profit sharing is a form (acquisition of business activities) from investment contracts from time to time, uncertain and not fixed in Islamic banks. In the Islamic banking system profit sharing is a mechanism carried out by Islamic banks (mudharib) in an effort to obtain results and distribute them back to the owners of funds (shahibulmaal) in accordance with a mutually agreed contract at the beginning of the contract (akad) between the customer and the Islamic Bank (Rivai, 2010: 80).

C. Research Methodology

This research is a quantitative descriptive research, where this research will discuss the data collected and represented in the form of numbers. Secondary data is the type of data used in this study. For this research, the data used is time series data, which is taken from the monthly financial statements of Islamic Commercial Banks (BUS) 2019-2020.

The dependent variable used in this study is the level of Islamic Banking Deposits (DPS). Meanwhile, the inflation rate, NPF (non-performing financing) and Financing to Deposit Ratio (FDR) are independent variables in this study. The error correction model is also known as ECM (error correction model) will be used to analyze this research. The temporary equation model used in this study is as follows.

\[
\ln(DPS_t) = \beta_0 + \beta_1 \ln(NPF_t) + \beta_2 \ln(FDR_t) + \beta_3 \ln(\text{Inflation}_t) + \epsilon_t
\]
Error Correction Model (ECM) is a data analysis technique used in this study. To use this model, it is necessary to meet several prerequisites, namely: 1) Data is non-stationary at the level level. 2) Data is stationary at first difference, and 3) There is a cointegration relationship between variables.

Furthermore, several tests were carried out to determine whether the data used met these prerequisites or not. Some of the tests are: 1) Unit roots test for stationarity test 2) To find out whether the data is stationary at the degree of integration of one or at the first difference, an integration test is carried out, 3) To find out whether there is a long-term relationship between the variables, it is carried out cointegration test with residual based test.

D. Results And Discussion

In this study, the testing procedures used to test the stationarity of the data are: Augmented Dickey Fuller (ADF) test using 5% significance level. The following are the results of the stationary test in this study.

Table 1. Stationary Test

Intermediate ADF test results D (UNTITLED)

<table>
<thead>
<tr>
<th>Series</th>
<th>Prob.</th>
<th>lag</th>
<th>Max Lag</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(INFLATION)</td>
<td>0.0064</td>
<td>3</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>D(NPF)</td>
<td>0.0083</td>
<td>0</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>D(FDR)</td>
<td>0.0001</td>
<td>0</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>D(DPS)</td>
<td>0.0031</td>
<td>0</td>
<td>4</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 1 explains that the inflation rate, NPF, FDR to DPS are stationary at the first difference level because the probability value of these variables is less than the alpha value (5%).
The cointegration test is carried out after the unit root test and the degree of integration are carried out first. To test whether the resulting regression residual has a long-term relationship between the dependent variable and the dependent variable, a cointegration test is carried out. Based on Cointegration Test Augmented Dickey-Fuller (ADF), it is known that the variables in this study are cointegrated, this is indicated by a probability value that is smaller than alpha value and negative coefficient value. The existence of cointegration of variables indicates that there is a relationship or balance in the long run. In the short term there is an opportunity for imbalance. Therefore, further testing is needed with an error correction model (Error Correction Model).

Table 3. Long-Term ECM Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistics</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFLATION</td>
<td>345.8826</td>
<td>197.9761</td>
<td>1.747092</td>
<td>0.0960</td>
</tr>
<tr>
<td>NPF</td>
<td>-129.4462</td>
<td>58.33956</td>
<td>-2.218841</td>
<td>0.0382</td>
</tr>
<tr>
<td>FDR</td>
<td>-58.39767</td>
<td>31.11403</td>
<td>-1.876892</td>
<td>0.0752</td>
</tr>
<tr>
<td>C</td>
<td>5384752</td>
<td>2402.486</td>
<td>2.241325</td>
<td>0.0365</td>
</tr>
</tbody>
</table>

R-squared 0.459077 F-statistics 5.657956
Adjusted R-squared 0.377939 Prob(F-statistic) 0.005652

To see whether or not there is an influence of the independent variable on the dependent variable, it can be known by comparing the probability value of each variable with a significance level of 5%. If the probability value < 0.05, it can be concluded that there is an effect and vice versa. Table 3 shows that the level of Islamic Banking Deposits (DPS) in the long term is influenced by the NPF variable because the NPF prob value is 0.0382 <0.05. While other variables, namely the inflation rate and FDR do not affect Islamic Banking Deposits (DPS). Meanwhile, in the short term, the estimated value of ECM can be seen in the following table.

Table 4. Short-Term ECM Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistics</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-50.16108</td>
<td>32.19188</td>
<td>-1.558190</td>
<td>0.1366</td>
</tr>
<tr>
<td>D(FDR)</td>
<td>-3.600352</td>
<td>22.55010</td>
<td>-0.159660</td>
<td>0.8749</td>
</tr>
<tr>
<td>D(INFLATION)</td>
<td>321.6302</td>
<td>153.0860</td>
<td>2.10976</td>
<td>0.0500</td>
</tr>
<tr>
<td>D(NPF)</td>
<td>-669.4248</td>
<td>147.3742</td>
<td>-4.542348</td>
<td>0.0003</td>
</tr>
<tr>
<td>ECT-1</td>
<td>0.027227</td>
<td>0.216779</td>
<td>0.125599</td>
<td>0.9014</td>
</tr>
</tbody>
</table>

R-squared 0.686475 F-statistics 9.852934
Adjusted R-squared 0.616803 Prob(F-statistic) 0.000210
Table 4 shows the results, namely in the short term inflation and NPF affect the level of Islamic Banking Deposits (DPS). On the other hand, the FDR variable does not affect Sharia Banking Deposits (DPS) with an imbalance value of 63.66 percent. Together, the variables of Inflation, NPF, and FDR significantly affect Islamic Banking Deposits (DPS) both in the short and long term as indicated by the probability value of F statistic <0.05.

Based on the data analysis that has been carried out, it can be seen if the FDR is good in short term or long term does not affect Sharia Banking Deposits (DPS) in sharia banking in Indonesia. The results of this study are supported by Juniarty, et al (2017) which in their research explains that FDR does not affect the mudharabah deposits of Islamic banks in Indonesia.

Research attempted by Indrajati and Prasetyaningrum (2016) also stated that from the results of observations of 7 Islamic Commercial Banks in Indonesia, it is known that the value of the FDR t variable is -0.195 with a significant level of 0.846 greater than 0.05. Thus, it can be concluded that FDR has a negative effect and does not have a significant effect on the level of mudharabah deposits. In addition, the FDR regression coefficient of 0.000 shows that each change in the FDR variable is one unit, it will change the mudharabah deposit rate of 0.000 with the assumption that the independent variable is constant. In other words, the increase in FDR has no effect on the level of mudharabah deposits (profit sharing) for Islamic banks in Indonesia.

Meanwhile, in the long term NPF affects Sharia Banking Deposits (DPS). These results are supported by research conducted by Juliana and Mulazid (2017) against 9 (nine) Islamic banks in Indonesia, namely, Bank Syariah Mandiri, BCA Syariah, Bank Panin Syariah, Bank Muamalat Indonesia, BNI Syariah, Bank BJB Syariah, Bank Mega Syariah, BRI Syariah and Bank Bukopin Syariah. Through panel data analysis, the probability level of NPF is 0.0028 < from the significance level used, which is 0.05 (5%), so it can be concluded that the NPF affects the mudharabah deposits of Islamic banks in Indonesia.

On the other hand, in the long term inflation will not affect Sharia Banking Deposits (DPS). The results of a similar study were found by Farizi (2016), through regression analysis it is known that the inflation rate partially does not affect the value of the Shariah Bank Rakyat Indonesia (BRI) mudharabah deposits. Akris (2018), Muliawati et al (2015) in their research also suggest that inflation does not affect the mudharabah deposits of Islamic banks in Indonesia. Sharia bank customers already have separate allocations for both consumption and investment so that the inflation rate does not affect their deposit funds in Islamic banks. To date,

E. Conclusion

The purpose of this study was to examine the effect of short-term and long-term aspects of inflation, financing problems, and the Financing to Deposit Ratio (FDR) on Islamic banking deposits in Indonesia. The results of the study show that in the short
term non-performing financing (NPF) and inflation have an effect on Sharia Banking Deposits (DPS), while FDR has no effect. In the long term, only the NPF variable has a significant effect on Islamic Banking Deposits, on the other hand, the inflation and FDR variables have no effect. The recommendation of this research is that in an increasingly competitive banking world, improving the performance of Islamic banking is very important to attract customers to invest in the form of deposits.

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