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Determinants of Non-performing Financing of Sharia Banks in Southern Sumatra, Indonesia

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Abstract: Non-performing Financing (NPF) is one of the indicators of bank soundness level. The less the NPF rates the better the banks are. Along with the bank rating, the trade-off increases public confidence in conducting investments in banks. Conversely, if the NPF rate is high then people will reconsider investing in the banks. In sharia banks in Southern Sumatra region, the NPF rates are identified quite high. It is higher than or above 5%. Inflation, Bank Indonesia (BI) Rate, and Exchange are considered as the independent variables while nonperforming financing as the dependent variable. Asset is as a moderating variable. The data are obtained from Financing Authority and Bank Indonesia. Moderation Regression (MRA) is a model of analysis applied in this current study. The results show that inflation has a negative and significant effect on NPF. While the asset as an independent variable and as a moderating variable significantly strengthens the effect. BI Rate has a negative and significant effect on NPF. Asset variable, it is significant as an independent variable and as a moderating variable. Asset variables can strengthen the effect of the BI Rate on NPF. Exchange rates have a positive and significant effect on NPF. The asset variable is significant both as an independent variable and as a moderating variable, but its moderation weakens the effect of the exchange rate on NPF.

Keywords: Non-Performing Financing, Inflation, BI Rate, Exchange Rate, Assets.

1. Introduction

Financing, distributed by Islamic/sharia banks, is one of the sources of bank revenues. Through the distribution of these funds, the banks will get profit-sharing or margin. So it is not wrong if some banks try as much as possible to increase the amount of financing. One of the steps implemented is to provide various services that make it easier for the public to make loans for various purposes. However, along with the increase in funding, there is a threat of problem financing. In banking terms, it is referred to as Non-Performing Financing (NPF).

NPF is the ratio between total financing disbursed and non-current categories to the total financing provided. Andres and Bonilla (2012) state that Non Performing Loans/Financing is the percentage of non-performed from the total loans. Simply, Shingjergji (2013) defines that financing/problem loans are loans or financing that does not provide income anymore and: 1) principal and interest payments are not provided; 2) making late payments for 90 days or more; 3) the due date has ended, and payment has not been completed. Loans are considered problematic when a person or entity that has obtained a loan (financing) from a troubled bank in financing payments.

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Funds distributed in the non-current category consisted of substandard, doubtful, and lousy financing. The value of NPF ratio of non-current financing that is tolerated by Bank Indonesia is at a maximum of 5 percent. If more than 5 percent, the bank must be more vigilant.

Based on Islamic financial reports that NPF in Islamic banking in the South Sumatra Region, especially South Sumatra, Bangka Belitung, Jambi, Bengkulu and Lampung Provinces is quite high (> 5%), especially in early 2015 until the end of 2016. NPF in the region exceeds the provisions in force by the Indonesian Bank Regulation. This identifies that Islamic banking in the Southern Sumatra region is very sensitive to economic conditions, both microeconomic and macroeconomic conditions. If there is even a slight economic shock, it will cause even greater NPF.

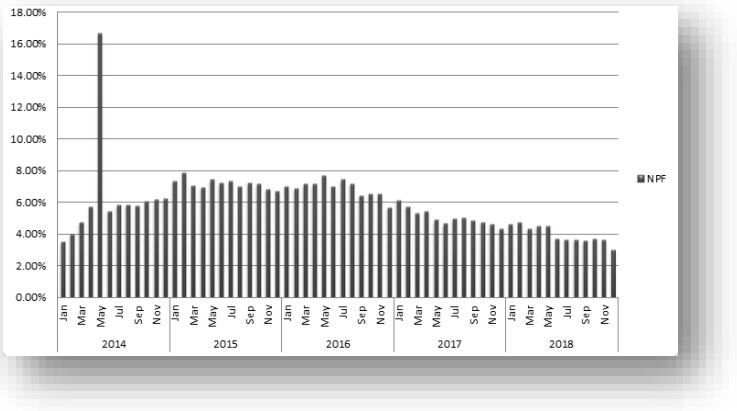

Figure 1. Development of NPF during the period of January 2014 to December 2018
Source: Sharia Banking Statistics, Financial Services Authority 2019

NPF can have a negative impact not only on the banking system but also have an impact on the economy of a country and the world. Candera and Herudiansyah (2018) state that NPF greatly disturbed the sustainability of banking activities. Not only internal company, but it can also disrupt a country's economy and can even have a global impact. Shingjergji (2013) explains that NPFs are hazardous not only for the economy of a country but also for the financial system in the world. Furthermore, Shingjergji (2013) also says that in the last decade it had a greater emphasis and almost all of the world experienced high and uncontrolled growth so that this could lead to a potential failure of the overall banking system. Andraeny (2011) also states that the high level of NPF will negatively affect the bank.

With the existence of NPF, banking revenue will decrease. Furthermore, Dendawijaya (in Andraeny, 2011) explained that the implications for banks as a result of the emergence of non-performing loans would result in loss of opportunity to earn income (credit) from loans, meaning to reduce profitability and adversely affect bank profitability. Also, Mutamimah and Chasanah (2012) also argue that credit risk is a significant contributor to the deteriorating condition of banks because the value of the resulting losses is tremendous to reduce bank capital quickly.

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Karim, Chan, and Hassan (2010) state that an increase in non-performing loans would reduce cost-efficiency. Conversely, low-cost efficiency will also increase lousy credit. The increase in NPF will affect the increase in the amount of Allowance for Earning Asset Losses (PPAP) that must be formed by Islamic banks by the provisions of Bank Indonesia. If this continues, it will reduce the capital of Islamic banks so that it will affect the ability of banks to distribute financing. This opinion is similar to the opinion of Yuwono and Meiranto (2012) that if a Non-Performing Loan shows a high value, the operational performance at the bank will be disrupted, so the bank must reduce its lending.

Based on the research results, there are several macro factors that influence NPF, including the BI inflation rate, and the exchange rate (Setiawan and Bagaskara, 2016; Barus and Erick, 2016; Auliani and Syichu, 2016; Iriani and Yuliadi, 2015; Sukmana, 2015; Shingjergji, 2013; Shingjergji and Shingjergji, 2013; and Nasih, 2013). However, several researchers such as Andres and Bonilla (2012), Firdaus (2015), and Alexandri and Santoso (2015) also found that macro variables, especially inflation, had an effect and were not significant on NPF.

Because of the gaps among previous findings regarding the influence of macroeconomic variables on NPF, the researcher is interested in conducting research, especially in Islamic/sharia Banking in Southern Sumatra, Indonesia. In contrast to previous studies, this time, the researchers included assets as a moderating variable. It also observes the role of assets in moderating the influence of macroeconomic variables on NPF.

2. Literature Review

Hosen and Muhari (2019) found that bank size, Financing to Deposit Ratio (FDR), Operational Efficiency Ratio (OER), Return On Equity (ROE), the expense to assets (EA), Gross Domestic Product (GDP), and inflation as a whole Statistics affect the Non-Performing Loan. Wood and Skinner (2018) find that Return on Assets, Capital Adequacy Ratio, and the loan to deposit ratio has a significant and significant effect on Non Performing Loans. Meanwhile, macro variables that influence the Non-Performing Loans are GDP growth, unemployment, and interest rates.

Fajar and Umanto (2017) found that Gross Domestic Product (GDP) and inflation hurt Non-Performing Loans while the BI rate, solvency ratio, and size have an effect and are not significant on Non-Performing Loans. Koju, Abbas, and Wang (2017) find that inflation is a macro variable that is very influential on Non-Performing Loans. He further stated that high and middle-income countries would have a negative effect. While low-income countries will have a positive effect. Overall Non-Performing Loans in the Asian banking system depend on several macroeconomic variables, including unemployment rates, inflation rates, official exchange rates, remittances received, and GDP per capita. Therefore, he suggested that the State must carefully consider when formulating credit policies to minimize credit risk in the banking system.

Radivojjevic and Jovovic (2017) find that GDP and inflation rates; bank-specific, ROA, CAP, and Non-Performing Loan levels. Mazreku, Morina, Misiri, Spiteri, and Grima (2018)

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found that the level of Non-Performing Loans was significantly and negatively influenced by GDP growth and inflation while unemployment has a positive effect on Non-Performing Loans.

Koju, Koju, and Wang (2017) found that the ratio of the expo to stove, inefficiency, and size of assets had a positive relationship with Non-Performing Loans. While the level of GDP growth, capital adequacy, and inflation rates are negatively related to Non-Performing Loans, he further explained that the leading cause of the high Non Performing Loans in Nepal was due to low economic growth. For a stable financial and economic system, efficient management and effective financial policies are needed.

San (2016) found that macro variables consisting of direct investment and unemployment foreign were negatively and significantly affected (at alpha 0.1) on Non-Performing Loans. Meanwhile, inflation variables, remittances amount, GDP, EURO exchange rates affect and are not significant on Non Performing Loans. He further added that to reduce the value of Non-Performing Loans, banks must have much ability to lend, especially to private entities. However, banks must still pay attention to risk factors, while the government must encourage economic growth and strengthen and facilitate the legal system.

Firdaus (2015) found that GDP had a positive effect on Non-Performing Loans, while other macro variables such as inflation and the exchange rate had a negative and not significant effect on Non-Performing Loans. Adib, Ortani, and Zouari (2014) found that GDP, Inflation, and interest rates affect Non-Performing Loans. Firmansyah (2014) found that inflation hurts Non-Performing Loans. While bank liquidity has a positive effect on Non-Performing Loans. Liquidity also does not mediate bank size, efficiency, GDP, and inflation with Non Performing Loans.

Skarica (2013) found that Gross Domestic Product, Unemployment, and inflation significantly affect Non-Performing Loans. When these three independent variables are in trouble, it will cause an economic slowdown. This is the leading cause due to high non-performing loans.

Klein (2013) states that Non-Performing Loans respond to conditions of GDP growth, unemployment, and inflation. He also stated that there was reliable feedback from the banking system on the real economy so that the presence of a high Non-Performing Loan value can affect the rate of economic recovery.

Saba, Kouser, and Azzem (2012) find that Non-Performing Loans are influenced by real per capita GDP, inflation, and total loans. However, the coefficient value is not too high. So the bank must control and change the increasing policy regarding the independent variable in order to have a low Non-Performing Loan.

3. Methodology

This research was conducted in Islamic Banking in 5 provinces, namely Bangka Belitung, Bengkulu, Jambi, Lampung, and South Sumatra. The data used are monthly data from January 2014 to December 2018. The variables used are Non-Performing Financing (NPF) as the dependent variable, data obtained from Islamic Banking Statistics published by the Financial

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Services Authority, Asset variables as moderator variables, data obtained from Islamic Banking Statistics published by the Financial Services Authority. Inflation, BI Rate, and Exchange rates as the dependent variable, data obtained from Bank Indonesia reports.

Analysis of the data used is Moderating Regression Analysis with the following analysis models:

$$NPF = a + \beta_1 Inf + \beta_2 Aset + \beta_3 Inf * Aset \quad \text{.....} \quad (1)$$

$$NPF = a + \beta_1 BIR + \beta_2 Aset + \beta_3 BIR * Aset \quad \text{.....} \quad (2)$$

$$NPF = a + \beta_1 Kurs + \beta_2 Aset + \beta_3 Kurs * Aset \quad \text{.....} \quad (3)$$

The variables above can be defined as follows.

Non-Performing Financing (NPF) can be defined as loans or financing that does not provide income anymore (Shingjergji, 2013). The intended financing is bad, low financing, and doubtful financing.

Inflation (Inf), can be defined as a continuous or continuous increase in the general price level and a continuous or continuous decline in the value of money (Labonte, 2011).

BI Rate (BIR), can be defined as policy interest rates that reflect the monetary policy stance set by Bank Indonesia and announced to the public (Bank Indonesia)

Exchange Rate (Exchange Rate), can be defined as the amount of one currency needed to buy one unit of another currency (Brealey, Myers, and Macus, 2014)

Assets can be defined as assets owned by banks which consist of productive assets (Financial Services Authority, Indonesia).

4. Results

The results of the Moderated Regression Analysis can be seen in the following table.

Table 2. MRA results using SPSS

Model	Model 1		Model 2		Model 3	
	Understand. Coefficients B	*t value / sig.*	*Understand. Coefficients B*	*t value / sig.*	*Understand. Coefficients B*	*t value / sig.*
Constant	32,207		52,670		-21,116	
Inflation	-20,707	-4,684** (0,000)				
AsSet	-4,756	-5,880** (0,000)				
Interacti	2,	4,				

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on (Inf * Asset)	821	674** (0 ,000)				
BI Rate			-25,995	-2,987** (0, 004)		
Asset			-7,412	-3,458** (0, 001)		
Interaction (Inf * Asset)			3, 472	2,982** (0, 004)		
Kurs					3, 157	3, 577** (0 ,001)
Asset					4 3,376	3, 474** (0 ,001)
Interaction (Kurs * Asset)					-0,166	-6,177** (0 ,000)

Source: results of analysis by the author using SPSS. ** significant at alpha 0.05 and * significant at alpha 0.10.

The table above can be explained as follows:

Model 1 shows that the asset variable has a negative and significant effect on Non-Performing Financing. Interaction variables (inflation * assets) also have a positive and significant effect on Non-Performing Financing. From this analysis, it means that the asset variable is a moderating variable as well as an independent variable. The asset variable acts as a semi-moderation, which reinforces the effect of inflation on Non-Performing Financing.

Model 1, can create an equation model like the following.

$$NPL = a + \beta_1 Inf + \beta_2 Aset + \beta_3 Inf * Aset$$
$$NPL = 32{,}207 - 20{,}707 Inf - 4{,}726 Aset + 2{,}821 Inf * Aset$$

Model 2 shows that the variable assets have a negative and significant effect on Non-Performing Financing. Interaction variables (Inflation * Assets) have a positive and significant effect on Non-Performing Financing. This means that the asset variable is a semi-moderation variable, which can strengthen the effect of the BI Rate on Non-Performing Financing.

Model 2 can also be arranged in the form of the following equation model.

$$NPL = a + \beta_1 BIR + \beta_2 Aset + \beta_3 BIR * Aset$$
$$NPL = 52{,}670 - 25{,}995 BIR - 7{,}412 Aset + 3{,}472 BIR * Aset$$

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Model 3 shows that asset variables have a positive and significant effect on Non-Performing Financing. Interaction variables (Exchange * Assets) have a negative and significant effect on Non-Performing Financing. The analysis means the asset variable is a semi-moderation that can weaken the influence of the exchange rate on Non-Performing Financing.

The analysis can be arranged in the form of an equation like the following.

$$NPL = a + \beta_1 Kurs + \beta_2 Aset + \beta_3 Kurs * Aset$$

$$NPL = -21{,}116 + 3{,}157 Kurs + 43{,}376 Aset - 0{,}166 Kurs * Aset$$

5. Discussion

Non Performing Financing is an indicator of bank soundness level. If the NPF value is above the value determined by Bank Indonesia (> 5%), then it identifies that the bank must be careful in channeling its financing. Because if the NPF value is not controlled, it will significantly affect the bank rate and even growth of the national economy.

The analysis found that inflation had a negative and significant effect on NPF. This means that when inflation is high, inclusive prices increase in the value of the currency, the public will try to reduce spending and will fulfill their obligations. Also, assets have adverse and significant independent effects. When banking assets are high, Non-Performing Financing will decrease. At the same time, assets can moderate and strengthen the effect of inflation on NPF because if banking assets are high and inflation is also high, then Non-Performing Financing will be low.

These findings are consistent with those conducted by Koju, Koju, and Wang (2017), Setiawan and Putri (2013), Mazreku, Morina, Misiri, Spiteri, and Grima (2018), Ramadan (2017), Shingjergji and Shingjergji (2017) 2013), Shingjergji (2013), Firmansyah (2014), Koju, Abbas, and Wang (2018), Dimitrios, and Helen, and Mike (2016). In contrast to these findings, Lee and Rosenkranz (2019) found that inflation had a positive and significant effect on non-performing financing; Radivojeviv and Jononic (2017); Firdaus (2015) and Skarica (2013) found that inflation had a negative and not significant effect on non-performing financing; and Wood and Skinner (2018), Purnamasari and Musdholifah (2016), San (2016), Bonilla (2012), Anjom and Karim (2016), Fajar (2017) find that inflation has a positive and no significant effect on non-performing financing.

The BI rate has a negative and significant effect on Non-Performing Financing, which shows that when the BI Rate is low, the Non-Performing Financing will be high. The BI Rate is the reference interest rate set by Bank Indonesia. When the benchmark interest rate is low, conventional banks will respond to the decision by lowering loan interest rates. Because conventional bank loan interest rates are low, people will be more interested in making loans and fulfilling their obligations to conventional banks. Conversely, if the BI Rate is high, conventional banks will respond by raising interest rates. On the other hand, the profit-sharing system applied by Islamic banks will not be too responsive to the Bank Indonesia decree. So that people will be interested in Islamic banks and fulfill their obligations. Assets independently have a negative and significant effect on NPF. Also, assets can moderate and strengthen the effect of the BI Rate on

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Non-Performing Financing. This means that when the BI Rate is high, and assets are also high, the NPF will be low.

These findings are relevant to the findings studied by Wood and Skinner (2018), and Shingjergji and Shingjergji (2013). But it is not consistent with the findings of Ramadan (2017), Messai and Jouni (2013) who found that the BI Rate had a positive and significant effect on non-performing financing; and Shingjergji (2013), and Fajar (2017) who found that the BI Rate had a positive and not significant effect on non-performing financing.

The exchange rate has a positive and significant effect on Non-Performing Financing, which shows that when the exchange rate is high (the rupiah exchange rate rises, the dollar decreases), people will choose to invest by selling rupiah or traveling abroad rather than having to pay their obligations. The asset has a positive effect independently. Also, assets can moderate but can weaken the effect of exchange rates on Non-Performing Financing. In this condition, it means that if the exchange rate is high and assets are also high, then the Non-Performing Financing will decrease.

This finding is consistent with research found by Lee and Rosenkranz (2019). In contrast to these findings, Radivojeviv and Jononic (2017) found that the exchange rate (exchange rate) had a negative and significant effect on non-performing financing. Firdaus (2015) and Koju, Abbas, and Wang (2018) the exchange rate (exchange rate) had a negative and not significant effect on non-performing financing. Purnamasari and Musdholifah (2016), and Anjom and Karim (2016) exchange rates (exchange rates) have a positive and insignificant effect on non-performing financing.

6. Conclusion

This study discusses the influence of macroeconomic variables consisting of inflation, the BI Rate, and the Exchange Rate on NPF in Islamic/Sharia Banking in the Southern Sumatra Region with assets as a moderating variable. The analysis found that inflation and the BI Rate individually had a negative and significant effect on NPF. Meanwhile, the exchange rate has a positive and significant effect on NPF. The asset can moderate and strengthen the effect of inflation and the BI Rate individually on Non-Performing Financing. On the effect of exchange rates on Non-Performing Financing, assets can moderate but weaken.

To prevent the increasing number of NPF, Islamic banking must consider several things when providing financing. Macroeconomic variables such as inflation, the BI Rate, and the exchange rate can be used as a tool in predicting problematic financing. Inflation and the BI Rate have a negative impact, and the exchange rate has a positive impact on NPF, meaning that banks must have a strategy so that when inflation and the low BI rate is problematic financing is not too high. This can be done by allocating financing to the real sector. Also, in distributing bank loans, procedures for screening good creditors and secure collateral should be applied. In addition to banks, the government must also issue policies that support the creation of national economic stability, growth, and enthusiasm.

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