

# The Effect of Economic Condition and Banking Policy on Non-Performing Financing and Profitability: Evidence from Islamic Rural Banks in Indonesia

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## ABSTRACT

Islamic rural bank is a type of banks in Indonesia with a high level of non-performing financing. It is an important issue because will ultimately affect profit as the main goal. This study aims to examine the factors that affect non-performing financing (NPF) at Islamic rural banks in Indonesia, those are economic conditions consisting of gross domestic product (GDP), Bank Indonesia-rate (BI-rate), and inflation, and banking. The policy consists of financial to deposit ratio (FDR) and capital adequacy ratio (CAR), and their impact on profitability. The population of this study is all Islamic rural banks in Indonesia with a sample of banks operating during 2014-2018. Panel data is analyzed using the PLS-SEM tool. The result shows that inflation as well as FDR, have a positive effect on NPF, while GDP, BI-rate, and CAR have no effect on NPF. Results also indicate that NPF has a negative effect on profitability. These results can be a consideration for bank management to control financial and pay attention to rising inflation, to overcome non-performing financing, because these two factors can be signals in control and managing to develop the profit.

**Keywords:** *Non-Performing Financing, BI-rate, Inflation, Profitability.*

## 1. INTRODUCTION

Determinants of finance are very important in assessing the performance of a bank that is a bad loan that can be considered as an important indicator of the financial stability and the source of concern in the banking system in developed countries and in developing countries Alandejani & Asutay [1]. The good management of banking can identification from the collection and distribution of funds efficiently to support growth and their rapidly developing n finance bank Bitar et al. [5]. However, the effectiveness of the banking system may be hampered if the reporting of financing and the level of financing risks that are not managed by either can lead to accumulation of problematic financing which can lead to an unstable financial system Turner [26].

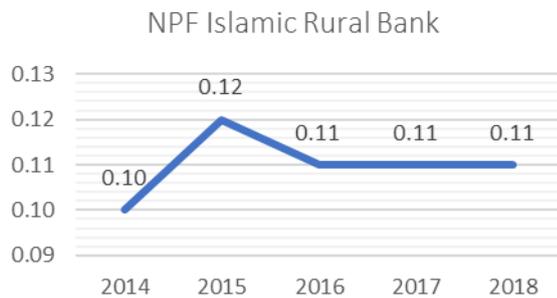
According to Damanhur et al. [7] The risk of non-performing financing as reflected in the *Non-Performing Financing* (NPF) ratio increases, so that the level of income reflected in the *Return On Asser* (ROA) will decrease because banks have to cover these costs. Islamic banks must pay attention to economic conditions and other policies so that the NPF level can be reduced and the income can be maximized.

The form of Islamic banking in Indonesia consists of Sharia Commercial Banks (BUS), Sharia Business Units (UUS) and Islamic Rural Banks (BPRS). The activities of commercial banks, business units and BPRS have the same function in the Indonesian economy, namely as intermediary institutions. One of the sharia financial institutions that are experiencing rapid development is the BPRS. According to OJK [18], BPRS is a sharia bank which in its operational activities does not provide payment traffic services. The rapid development of the rural bank can be seen in various aspects.

Based on Sharia banking statistics, the growth of BPRS third party funds (DPK) ownership has increased significantly. Based on OJK statistical data (2018), the amount of DPK BPRS in 2016 amounted to Rp. 5.823964 trillion, then in 2017 there was an increase to Rp. 6.987280 trillion and in 2018 amounting to Rp. 8.134938 trillion. Banks that have a large number of assets will also have greater opportunities to channel their financing Pramudita & Subekti [20].

Distribution of BPRS financing has increased from year to year. In 2016 amounting to Rp. 6.662556 trillion, then increased in 2017 to Rp. 7.763951 trillion

and in 2018 amounting to Rp. 9.084467 trillion (OJK, 2018). If financing high will make banks sharia face the risk of congestion financing which is reflected in the NPF value becomes higher Bitar et al. [6]. The risk of the NPF can be seen in the figure below:



**Figure 1** NPF in Islamic Rural Bank 2014-2018

Based on the picture above, it is known that the level of NPF at the BPRS in 2015-2018 is still above the limit set by the OJK, is 5%. In 2018 the NPF BPRS level reached 9.30% although it decreased from the previous year, this figure was still far from the maximum limit stipulated by the OJK, while the NPF BUS and UUS levels in 2015-2018 tended to be still below the maximum standard limit set.

The high NPF in BPRS must be a serious concern for the bank in carrying out financing policies and the government as the maker of monetary and fiscal policies in striving for good bank performance in order to support the increase in the economy Sukmana [25]. Always be careful in making policies so that bank performance can be better and profits can be increased Dimitrios et al. [8]. According to Kumar et al. [10], Islamic banks must also pay attention to the level of demand and supply (*spread*) between distribution and collection so that profits can be stable.

Understanding how important it is to keep NPF levels under control, a number of studies have tested the factors that influence NPF levels. According to Baele et al. [2; Beck et al. [4] Both micro and macroeconomic conditions affect the level of problematic financing at Islamic banks, this will become a reference for Islamic banks in channeling financing to customers. Meanwhile, according to Sanwari & Zakaria [23] stated that the quality of financing and the capital adequacy ratio affect the level of financing risk in Islamic banking. In another study conducted by Nursechafia & Abduh [17] that some macroeconomic variables effect of financing risk in Islamic rural bank includes economic growth, inflation, and the amount of money in circulation and all the factors that need to be considered by the bank. Meanwhile, according to Bitar et al. [6] said that the high level of capital adequacy does not affect bank performance in reducing risk and increasing profitability.

Adapting the suggestions from Damanhur et al. [7], this study involves the GDP, *BI Rate*, Inflation, FDR and CAR as determinants of NPF and adds ROA as an indicator of the profitability of a financial institution. Based on the description above and several previous studies, there is a problem regarding the high NPF in BPRS, as well as several different findings regarding the factors that affect the NPF level in Islamic banks, more specifically this study uses panel data as processed data. This research was conducted for the following reasons: (1) BPRS is a sharia financial institution which is experiencing rapid growth (2) The NPF level in BPRS is very worrying and (3) no one has examined the determinants of NPF in BPRS using panel data.

**Related Work**

According to the description above, the researcher uses seven variables consisting of economic and bank policy

**1.1.1. Gross Domestic Product (GDP)**

GDP is used as the best assessment indicator to measure the level of production. However, a change in the nature of production from a form of growth in an underground economy to a form of technological innovation could affect the ability of GDP to provide an accurate picture of economic growth Iriani & Yuliadi [9]

**1.1.2. BI-Rate**

In general, Bank Indonesia will raise the *BI Rate* if economic conditions are estimated to exceed the set target, on the other hand, Bank Indonesia will lower the *BI Rate* if future economic conditions are estimated to be below the predetermined target Misman et al. [14].

**1.1.3. Inflation**

Based on the quantity *theory of money*, the amount of money available in the economy determines the value of money and the growth in the amount of money is the main cause of inflation Nursechafia & Abduh [17].

**1.1.4. Financial to Deposit Rasio FDR)**

FDR is the volume of loans and deposits allocated to measure the efficiency of the assets and the management of the respective portfolio of liabilities. FDR is used as an indicator of banking liquidity Paolucci [19] and Nurhidayat & Syarief [16]

**1.1.5. Capital Adequacy Ratio (CAR)**

High bank profitability is certainly influenced by the low level of risk of loss. To overcome this, there must be a measure or indicator to guarantee the customer the risk of loss. For this reason, it is important to determine the minimum standard of capital adequacy ratio Bitar et al. [5].

### 1.1.6. Non Performing Financing

Ratio that shows a bank's ability to manage financing or non-performing loans distributed by banks, NPF is used as a measure of financing risk E. Laryea et al. [11]

### 1.1.7. Profitability

Profitability is a measure of the company's ability to generate profits with the assets used by Psaila et al. [22]. Meanwhile, according to Batten & Vinh [3] profitability is the ability of company management to manage assets to generate profits.

## 1.2. Our Contribution

This study presents research that examines the causes of non-performing financing in rural banks and their impact on profitability. This research is expected to provide policy strategies for banks in overcoming non-performing financing.

## 1.3. Paper Structure

This research is organized as follows. Section 1 introduces an introduction to this research, which includes the variables used and the research contribution. Section 2 presents a framework based on the research hypothesis. Section 3 is research methods, Section 4 discloses the results and Section 5 concludes and provides directions for further research.

## 2. BACKGROUND

### 2.1. The Effect of Gross Domestic Product (GDP) on Non Performing Financing (NPF)

In relation to non-performing loans, in a recession (seen from the decline in GDP) where there is a decrease in sales and company income, it will affect the company's ability to repay its loans. This will lead to an increase in outstanding *non-performing financing* Psaila et al. [22] Meanwhile, when GDP increased in theory an increase in economic transactions, the business to be high and *non-performing financing* down Nasution & Wiliasih [15]. With the increased of growth economy, public finances will also increase so that the level of problematic financing in the banking sector will decrease. Thus, the relationship between economic growth and NPF is negative Iriani & Yuliadi [9]; Nursechafia & Abduh [17].

**H<sub>1</sub>: GDP has a negative effect on NPF**

### 2.2 Effect of BI Rate on Non Performing Financing (NPF)

With the increase in the *BI Rate*, the deposit and credit interest rates at conventional banks will also increase. When viewed from the financing side, when the *BI Rate* rises, the profit-sharing ratio of Islamic

banks will be able to compete with increasing conventional bank loan interest rates, therefore Islamic bank financing products will be increasingly competitive. Because the margin or profit sharing ratio of Islamic banks which is determined by the business capacity or profit /loss of the debtor cannot just increase, the margin will be more competitive with conventional bank credit interest rates Prao & Eugène [21]

**H<sub>2</sub>: BI Rate has a positive effect on NPF**

### 2.3. The Effect of Inflation on Non-Performing Financing (NPF)

Inflation will affect economic activities both at macro and micro levels, including investment. Inflation also causes a decrease in people's purchasing power which results in a decrease in sales. The decline in sales that occurs can reduce the company's *return*. The decline in *return* that occurs will affect the ability to pay financing installments. Installment payments that are increasingly inaccurate cause the quality of payments to get worse and even default, which can increase the *Non-Performing Financing* ratio Messai & Jouini [13]. This is supported by research conducted by Bitar et al. [5] and Dimitrios et al. [8] which states that inflation affects the level of installment payments to Islamic banks.

**H<sub>3</sub>: Inflation has a positive effect on NPF**

### 2.4. The Effect of Financing to Deposit Ratio (FDR) on Non-Performing Financing (NPF)

In ensuring the smooth running of bank financing, it is necessary to pay attention to the FDR level as an indicator of bank liquidity that ensures bank health. The higher the level of liquidity, the higher the bank's ability to channel financing, the higher the financing, the higher the level of financing risk Paolucci [19]. This is in line with research conducted by E. A. Laryea et al. [12] and Sukmana [25].

**H<sub>4</sub>: FDR has a positive effect on NPF**

### 2.5. The Effect Adequacy Capital Ratio (CAR) of the Non-Performing Financing (NPF)

The higher the capital adequacy ratio, it will be able to function to accommodate the risk of losses faced by banks due to an increase in problem financing. According to Sanwari & Zakaria [23] states that the CAR affects the level of financing risk in Islamic banking. It shows that the higher the level of the capital adequacy ratio, the

smaller the risk of *non-performing financing*. This is supported by research conducted by Bitar et al. [6].

**H 5 : CAR has a negative effect on NPF**

**2.6 Effect of Non Performing Financing (NPF) on Return on Assets (ROA)**

The high financing risk experienced by the Bank cannot be separated from its relation to the level of bank profitability. When NPF increases, the level of profitability which is reflected in the level of *Return on Assets* (ROA) will decrease because banks must allocate their funds to cover Earning Asset Allowance (PPAP) Damanhur et al. [7]. This is in line with research conducted by E. A. Laryea et al. [12] and E. Laryea et al. [11], which explains that when the *NPF* at a bank is high, it will increase costs such as the cost of reserves for earning assets and other assets that have the potential to cause losses to the bank.

**H 6 : NPF has a negative effect on ROA**

**3. METHOD**

The population of this study is all Islamic rural banks in Indonesia, amounting to 164. The sample selected with criteria is still in operation until the study takes place and reports annual financial data to the Financial Services Authority or Otoritas Jasa Keuangan (OJK) during 2014-2018, totaling 110 banks. All data is secondary data obtained from OJK and the Central Bureau of Statistics or Badan Pusat Statistik (BPS) websites. Panel data is analyzed using Partial Least Square-Structure Model (PLS-SEM) tool Suhartanto [24].

**4. RESULT AND DISCUSSION**

**Fit model**

**Table 1.** Model of fit

	Value	P-values	criteria	Status
APC	0.340	0.013	P < 0,05	Fit
ARS	0.573	0.001	P < 0,05	Fit
AARS	0.491	0.001	P < 0,05	Fit
AVIF	3.983	-	Value < 5, ideally 3,3	Fit
AFVI	2.254	-	Value < 5, ideally 3,3	Fit
GoF	0.757	-	Medium > 0.25, large > 0.36	Fit
SPR	0.787	-	Acceptable if > 0.7, ideally 1	Fit
RSCR	0.941	-	Acceptable if > 0.9, ideally 1	Fit
SSR	1.000	-	Acceptable if > 0.7	Fit
NLBCDR	1.000	-	Acceptable if > 0.7	Fit

The fit model is obtained through testing on Warppls 7.0, whose function is to evaluate whether the fit model is appropriate or supported by research data. Evaluation of the measurement model in the fit model was carried out using the APC, ARS and AARS significance value criteria (*P-values*). The fit model characteristic is 0.013;0.001 and 0.001 < 0.05. Based on these criteria, the fit model of the BPRS has been fulfilled. Also with other indicators, namely AVIF, AFVIF, GoF, SPR, RSCR, SSR, and NLBCDR, each of which has met the requirements of the measurement criteria.

**Table 2.** Outer model

Variabel	Indicator	Loading	P-Value	Value	Weight	VIF	Signifcn
<b>GDP (X<sub>1</sub>)</b>	X <sub>1</sub> .Y <sub>1</sub>	-0.233	<0.001	Valid	1	0	Sig.
<b>BI Rate (X<sub>2</sub>)</b>	X <sub>2</sub> .Y <sub>1</sub>	0.140	<0.001	Valid	1	0	Sig.
<b>Inflasi (X<sub>3</sub>)</b>	X <sub>3</sub> .Y <sub>1</sub>	-0.176	<0.001	Valid	1	0	Sig.
<b>FDR (X<sub>4</sub>)</b>	X <sub>4</sub> .Y <sub>1</sub>	-0.212	<0.001	Valid	1	0	Sig.
<b>CAR (X<sub>5</sub>)</b>	X <sub>5</sub> .Y <sub>1</sub>	0.569	<0.001	Valid	1	0	Sig.
<b>NPF (Y<sub>1</sub>)</b>	Y <sub>1</sub> .Y <sub>2</sub>	-0.766	<0.001	Valid	1	0	Sig.

Based on the Table above, it can be seen that the measurement results of the variables GDP, BI Rate, Inflation, FDR, CAR, NPF, and ROA. The results of the weight indicator for all measurement variables show a significant value. This shows that this indicator is a significant measure of the variables used in the study. Then, looking at the VIF value for other indicators used in this study (<2.5), it can be concluded that there is no multicollinearity.

**Table 3.** Inner model

	GDP	BI Rate	INF	FDR	CAR	NPF	ROA
<b>R- Squared</b>						0.430	0.715
<b>Adj R-Squared</b>						0.280	0.703
<b>Composite Reliab.</b>	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<b>Cronbach' Alpha</b>	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<b>Avg. Var. Extrac.</b>	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<b>Full Collin.VIF</b>	1.463	2.466	1.858	1.516	1.668	3.285	3.518
<b>Q-Squared</b>						0.530	0.698

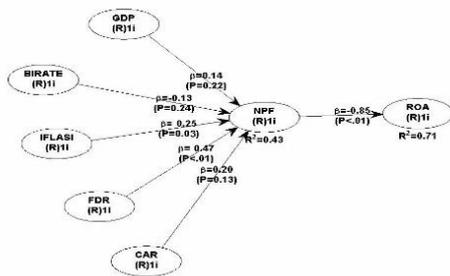
Based on the table above, it is known that the coefficient of determination described using R (squared) which shows the percentage of the variance of the endogenous / criterion constructs can be explained by the construct which is hypothesized to affect the exogenous / predictor. R-value (squared) 0.75; 0.50; and 0.25 for each endogenous latent variable in the structural model can be interpreted as substantial, moderate, and weak. The R (Squared) construct of problem financing with an NPF proxy of 0.430 shows that the variance of problem financing can be explained by 43% by the variance of GDP, BI rate, inflation, CAR, and FDR. This shows the

strength of GDP, BI rate, inflation, CAR, and FDR in explaining variance in problem financing. R (squared) of the profitability construct with a ROA proxy of 0.715 indicates that the variance of profitability can be explained by 71.5% by the NPF variance.

**Table 4.** Hypothesis testing

INDEPENDENT	DEPENDEN	PATH COEF	P- VALUE	RESULT
GDP (X <sub>1</sub> )	NPF (Y <sub>1</sub> )	0,144	0,223	No Significant
BI Rate (X <sub>2</sub> )	NPF (Y <sub>1</sub> )	-0,132	0,242	Not Significant
Inflasi (X <sub>3</sub> )	NPF (Y <sub>1</sub> )	0,250	0,003	Significant
FDR (X <sub>4</sub> )	NPF (Y <sub>1</sub> )	0,466	0,001	Significant
CAR (X <sub>5</sub> )	NPF (Y <sub>1</sub> )	0,204	0,133	No Significant
NPF (Y <sub>1</sub> )	ROA (Y <sub>2</sub> )	-0,846	-0,001	Significant

Furthermore, the complete path analysis results are also presented in the form of an image as shown in the following figure:



**Figure 2.** Model of analyze

- Hypothesis 1a states that Gross Domestic Product (GDP) has a negative effect on Non-Performing Financing (NPF). The test results show the path coefficient or path coefficient of 0.144 (p = 0.223). This means that H1a is rejected, or in other words, GDP (X<sub>1</sub>) has no effect on NPF (Y<sub>1</sub>).
- Hypothesis 2a states that the BI Rate has a positive effect on Non-Performing Financing (NPF). The test results show the path coefficients or path coefficients of -0.132 (p = 0.242). This means that H1a is rejected, or in other words, the BI Rate (X<sub>2</sub>) has no effect on NPF (Y<sub>1</sub>).
- Hypothesis 1a states that inflation has a positive effect on Non-Performing Financing (NPF). The test results show the path coefficients or path coefficients of 0.250 (p = 0.003). This means that H3a is accepted, or in other words, inflation (X<sub>3</sub>) affects NPF (Y<sub>1</sub>). The positive coefficient value shows that inflation has a positive and significant effect on NPF.
- Hypothesis 4a states that the Financing to Deposit Ratio (FDR) has a positive effect on Non-Performing Financing (NPF). The test results showed the path coefficients or path coefficients of 0.466 (p = 0.003). Because the coefficient is

positive, the hypothesis is accepted, in other words, FDR (X<sub>4</sub>) has a positive and significant effect on NPF (Y<sub>1</sub>).

- Hypothesis 5a states that the Capital Adequacy Ratio (CAR) affects Non-Performing Financing (NPF). The test results show the path coefficient or path coefficient of 0.204 (p = 0.133). This means that H5a is rejected or in other words, CAR (X<sub>5</sub>) has no effect on NPF (Y<sub>1</sub>).
- Hypothesis 6a states that Non Performing Financing (NPF) has a negative effect on Return on Assets (ROA). The test results show the path coefficients or path coefficients of -0.846 (p <0.001). This means that H6a is accepted, or in other words, NPF (Y<sub>1</sub>) affects ROA (Y<sub>2</sub>). This negative coefficient value shows that NPF has a negative and significant effect on ROA.

### 5. CONCLUSION

Inflation has a significant effect on NPF, it suggests that BPRS always anticipates soaring fluctuations in inflation so as to ensure that the NPF level can be controlled. This inflation is closely related to the purchasing power of the consumer community. Besides, the target customers of BPRS are micro business, so this has a significant effect on customers in obtaining profits so that it will affect the ability of customers to pay financing installments at the bank.

Besides that, the bank's steps in ensuring the availability of financing funds are by analyzing the trend, whether the financing distribution ratio is in accordance with the target in the current year.

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