Factors Affecting Non-Performing Financing (NPF): Case Study of Indonesia and Pakistan 2014-2023

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Abstract. Indonesia and Pakistan are the countries with the largest Muslim population in the world with increasing Islamic bank customers every year, but they have different NPF fluctuations. This study purpose to compare the factors affecting NPF using the ARDL method. The results show that, in the long run inflation and interest rates have a positive impact on NPF in Indonesia, while GDP and exchange rates have a negative effect. In Pakistan, interest rates and exchange rates have a positive impact on NPF, while GDP and inflation have a negative effect. Islamic banks in Indonesia should be more selective in providing financing during periods of declining GDP, high inflation, high interest rates, and Rupiah appreciation. Conversely, Islamic banks in Pakistan should increase financing when GDP increases, inflation and interest rates are low, and the Rupee depreciates.

Keywords: NPF, Islamic Bank, ARDL, Indonesia, Pakistan.

1. Introduction

Indonesia and Pakistan are the countries with the largest Muslim populations in the world that have a significant role in the development of Islamic banking. The two countries are interconnected in the world of Islamic banking through the exchange of knowledge, best practices, and cooperation in developing financial products and services based on Islamic principles. [1] Based on data published by World Population Review, Indonesia has the largest Muslim population in the world, with more than 229 million people or around 12% of the total global Muslim population, while Pakistan is in second place with more than 200 million Muslims. In 2020, the number of customers increased to 21,432,000 customers or increased by 12.91% from the previous year. In 2021, the number of customers became 24,126,000 customers or grew by 12.63%. Then in 2022, there were 26,967,000 customers with a growth of 11.75%. The projection in 2023 is to reach 29,960,000 customers or an increase of 11.17% from 2022. In short, the average growth in the number of Islamic bank customers in Pakistan during 2019- 2023 ranged from 11-12.91% per year. This growth is in line with the trend of increasing Muslim population in Pakistan from year to year.

With a large Muslim population base, Indonesia and Pakistan have great potential to continue to develop and strengthen the Islamic banking sector as an important instrument in increasing financial inclusion and sustainable economic development. The growing Muslim population in both countries aligns with the rise in Islamic bank customers. This is because the large Muslim population in Indonesia and Pakistan creates significant potential for Islamic banking growth, as they tend to prefer financial products that follow Islamic principles, driving

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demand for Islamic banking services.[2] found that the large Muslim population is one of the main drivers of the development of Islamic banking in Indonesia.

The introduction of Islamic banking in the modern era began with the experiment of profit-sharing savings banks in Egypt in 1963, which became an early milestone in the development of a financial system in accordance with Islamic principles. Since then, Islamic countries around the world have seen significant growth in the Islamic banking sector. This phenomenon reflects the increasing demand from the public for financial services that are in accordance with religious values, as well as a commitment to expanding financial inclusion and building a sustainable economy.

However, along with this growth, there are also challenges in risk management and financial sustainability, especially in dealing with Non-Performing Financing (NPF). A high NPF level can be an indication of problems in financing risk management and can negatively impact economic stability and growth [3]. [4] wrote that high NPF is a major challenge faced by the banking sector, especially in developing countries such as Pakistan. A high NPF level can negatively impact a country's economic stability and growth.

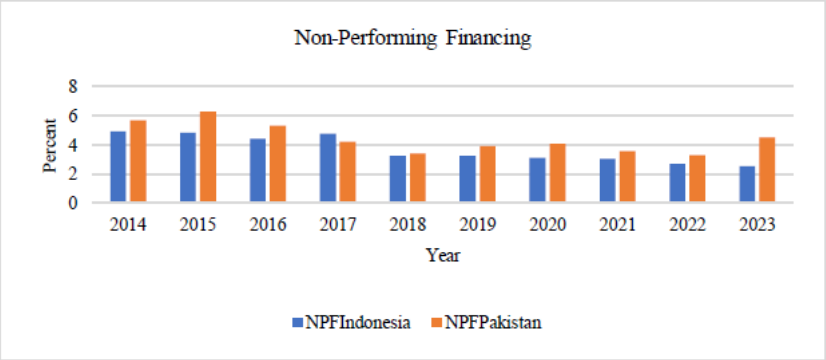


Figure 1. Non-Performing Financing Indonesia & Pakistan.

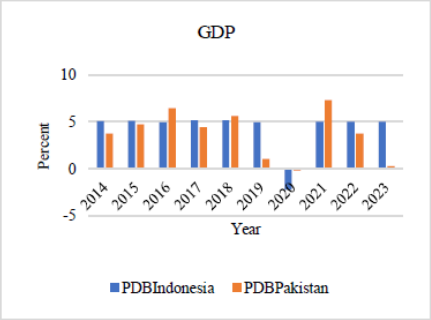


Figure 3. GDP Indonesia & Pakistan.

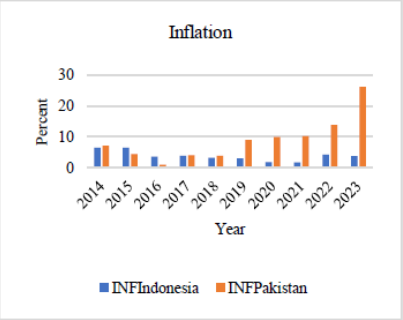
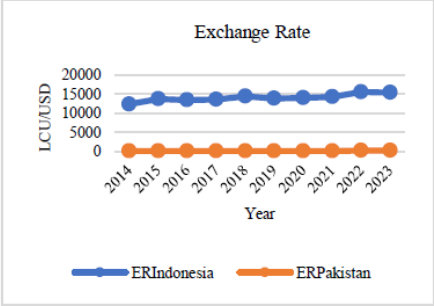


Figure 2. Inflation Indonesia & Pakistan.



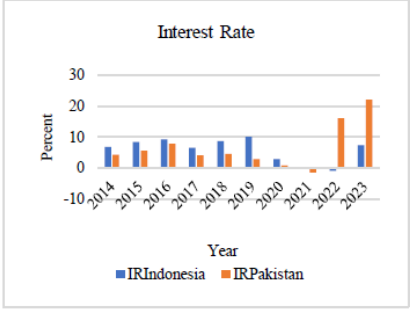


Figure 5. Exchange Rate Indonesia & Pakistan. **Figure 4.** Interest Rate Indonesia &Pakistan.

Based on Figures 1, 2, 3, 4, 5, it can be seen that the NPF, GDP, inflation, interest rates and exchange rates in Indonesia and Pakistan during 2014-2023 have different fluctuations. In Indonesia, the data shows a consistent relationship between macroeconomic variables and the NPF level. [5] stated that an increase in GDP tends to drive a decrease in NPF, while a decrease in GDP increases NPF. The results of his study also explain that GDP has a negative effect on NPF, meaning that the higher the GDP level, the lower the NPF level in Islamic banks in Indonesia. This indicates that increased economic activity increases the ability of customers to meet their obligations, thereby reducing the NPF level.

High inflation and rising interest rates also have an impact on increasing NPF, while the weakening of the Rupiah exchange rate also increases NPF [6]. This is clearly seen during the period 2014-2023, where the movement of GDP, inflation, interest rates, and exchange rates are in line with the NPF trend in Indonesia. Meanwhile, in Pakistan, the relationship between macroeconomic variables and NPF is not very clear. The COVID- 19 pandemic in 2020 had a negative impact on the Pakistani economy, reducing GDP, increasing inflation, and depressing the rupee exchange rate, which triggered a spike in non-performing financing in banks. Although the government implemented economic reforms and tight monetary policy in 2021-2023, challenges such as fluctuations in global commodity prices and political instability hampered recovery and increased NPF risks. Despite extreme fluctuations in GDP, inflation, interest rates, and exchange rates, the NPF level remained stable. The differences in the pattern of relationships between macroeconomic variables and NPF in Indonesia and Pakistan are interesting to study further, to provide insight into the stability of the banking sector in both countries. [7] in his research explained that there is a significant relationship between macroeconomic factors and the value of problematic financing in banks.

This study examines whether macroeconomic factors affect NPF differently in two countries with similar banking systems. Despite both having developed Islamic banking, macroeconomic conditions like GDP, inflation, interest rates, and exchange rates may impact NPF performance differently in Indonesia and Pakistan. The findings aim to offer new insights into Islamic banking dynamics in Indonesia and Pakistan.

2. Literature Review

2.1 Non-Performing Financing (NPF)

According to [8] NPF is financing that experiences a payment delay of more than 90 days or financing that falls into the category of substandard, doubtful, and stuck. Otoritas Jasa Keuangan also defines NPF as financing whose quality is classified as substandard, doubtful, or stuck, which indicates a problem in the customer's ability to meet their financial obligations.

2.2 Inflation

Inflation is defined as a general and sustained increase in the prices of goods and services over a period of time. This increase in prices can be triggered by a variety of factors, including demand-pull inflation or cost-push inflation. Inflation is one of the macroeconomic indicators that can affect banking performance, including the NPF level. This decrease in purchasing power can ultimately increase NPF because more debtors have difficulty repaying their loans [9]. [10] explains that when inflation occurs, the price of goods and services tends to increase, which results in a decrease in people's purchasing power. This decrease in purchasing power can reduce the ability of debtors to meet their obligations to the bank, thereby increasing the NPF ratio.

2.3 Interest Rate

Interest rate is the cost that must be paid by the borrower to obtain funds from the lender. [11] explained that interest rate fluctuations can affect the NPF of Islamic banks. When interest rates increase, the burden of interest payments on existing loans also increases, which can cause difficulties for debtors in repaying their loans, thereby increasing the NPF of Islamic banks. Based on the theory and research results, it can be concluded that interest rates are an important factor that must be considered by Islamic banks in managing financing risks.

2.4 Exchange Rate

[12] stated that the exchange rate is the relative price of two currencies determined by the foreign exchange market. The exchange rate is the price of a currency relative to another currency, for example the price of 1 US dollar against 1 rupiah. The Purchasing Power Parity (PPP) theory explains that the exchange rate between two currencies will adjust so that the same amount of money has the same purchasing power in both countries, where in the long run, the exchange rate will move towards purchasing power parity, reflecting the difference in inflation rates between countries [13]. [14] explained that the fluctuating movement of the rupiah exchange rate has the potential to cause uncertainty for business actors who have obtained financing from Islamic banks in the form of foreign currencies, such as the United States dollar.

2.5 Empirical Findings

Previous studies are referenced to identify macroeconomic factors affecting NPF in Indonesia and Pakistan from 2014-2023. [15] used ARDL, finding GDP had a long- term effect on NPL in Malaysia, while inflation and lending rates impacted in the short term. [16] found CAR and ROA positively affected long-term NPF, while PLS and inflation had a negative impact. [17] found GDP, inflation, unemployment, and interest rates positively affected NPL in the Western

Balkans. [18] showed inflation and BI7DRR had a positive effect on NPF in Bank Syariah Indonesia. [19] found exchange rates and margins had a significant negative impact, while BI Rate had a positive effect. [20] showed that inflation and interest rates did not affect NPF in the short or long term, but exchange rates had a significant long-term effect. the hypothesis in this study is as follows:

1. GDP is estimated to have a negative and significant effect on NPF in the long run.
2. Inflation is estimated to have a positive and significant effect on NPF in the long run.
3. Interest rates are estimated to have a positive and significant effect on NPF in the long run.
4. Exchange rates are estimated to have a negative and significant effect on NPF in the long run.

3. Research methodology

3.1 Data Types and Sources

Types of data used in secondary data research. Secondary data obtained from IFSB, Trading Economics, and various other sources relevant to this research. The data used is time series data observe changes in data over a period of years, starting from 2014 to 2023.

Table 1. Data Sources Used in Research

Variable	Description	Unit	Symbol	Source
Non-Performing Financing (NPF)	Financing that is classified as substandard, doubtful and loss financing	%	NPF	Islamic Financial Services Board (IFSB)
Gross Domestic Product (GDP)	Economic Growth of Indonesia and Pakistan	%	PDB	World Bank dan Trading Economics
Inflation	Annual consumer price index growth	%	INF	World Bank dan Trading Economics
Interest rate	Real Interest Rate set by the Bank	%	IR	World Bank dan Trading Economics
Exchange rate	Dollar Exchange Rate against Domestic Currency	LCU/USD	ER	World Bank dan Trading Economics

3.2 Methodology

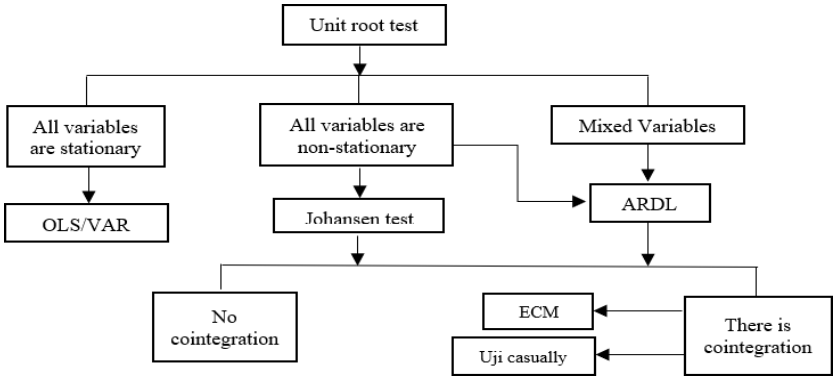


Figure 6. Research Outline.

Based on Figure 3.1, it shows that this study is suitable for adopting the ARDL model in order to test the existence of a cointegration relationship between the variables studied. This is based on the results of the unit root test which shows that all variables, both dependent variables (NPF) and independent variables (GDP, inflation, interest rates, exchange rates), are not stationary at the level or level (I(0)), but are integrated at the same degree, namely at the first difference level (I(1)). The selection of the ARDL method is considered appropriate in this context, considering that this approach allows it to be applied to data that has variables with a homogeneous integration order, namely I(1) or first difference [21]. The ARDL model is also able to detect the existence of a cointegration relationship between these variables. Therefore, the selection of the ARDL method in this study is based on the characteristics of the data that has been collected.

3.3 Indonesian Research Model

$$\Delta NPFIt = \alpha_0 + \sum_{i=1}^{o} \beta\, 1\Delta NPFI_{t-i} + \sum_{i=1}^{p} \beta\, 2\Delta PDBI_{t-i} + \sum_{i=1}^{q} \beta\, 3\Delta LNINFI_{t-i} + \sum_{i=1}^{r} \beta\, 4\Delta IRI_{t-i} + \sum_{i=1}^{s} \beta\, 5\Delta ERI_{t-i} + \lambda 1\Delta PDBI_{t-p} + \lambda 2\Delta LNINFI_{t-p} + \lambda 3\Delta IRI_{t-p} + \lambda 4\Delta ERI_{t-p} + \varepsilon_t \quad (1)$$

In which:

NPFI : Non-Performing Financing Indonesian period t
PDBI : Gross Domestic Product Indonesian of period t
LNINFI : Inflation Indonesian period t
IRI : Interest Rate Indonesian period t
ERI : Exchange Rate Indonesian period t
α_0 : Intercept
Δ : Difference in data changes between the current period and the previous period
t – i : The lag time to be used
t – p : Previous lag time

$\beta_{1,2,3,4,5}$: Long-term relationship equation
$\lambda_{1,2,3,4}$: Short-term relationship equation
p, q, r, s : Optimal lag
ε_t : Error or mistake in period t

3.4 Pakistan Research Model

$$\Delta NPFPt = \alpha_0 + \sum_{i=1}^{o} \beta\, 1\Delta NPFP_{t-i} + \sum_{i=1}^{p} \beta\, 2\Delta PDBP_{t-i} + \sum_{i=1}^{q} \beta\, 3\Delta LNINFP_{t-i} + \sum_{i=1}^{r} \beta\, 4\Delta IRP_{t-i} + \sum_{i=1}^{s} \beta\, 5\Delta ERP_{t-i} + \lambda 1\Delta PDBP_{t-p} + \lambda 2\Delta LNINFP_{t-p} + \lambda 3\Delta IRP_{t-p} + \lambda 4\Delta ERP_{t-p} + \varepsilon_t \quad (2)$$

In which:
NPFP : Non-Performing Financing Pakistan period t PDBP : Gross Domestic Product Pakistan of period t LNINFP : Inflation Pakistan period t
IRP : Interest Rate Pakistan period t
ERP : Exchange Rate Pakistan period t
α_0 : Intercept
Δ : Difference in data changes between the current period and the previous period
t – i : The lag time to be used
t – p : Previous lag time
$\beta_{1,2,3,4,5}$: Long-term relationship equation
$\lambda_{1,2,3,4}$: Short-term relationship equation
p, q, r, s : Optimal lag
ε_t : Error or mistake in period t

4. Result

4.1 Stationary Test

Stationarity test with Augmented Dickey-Fuller (ADF) is important in time series analysis to determine whether a variable is stationary or not. If the test probability value is greater than alpha (1%, 5%, or 10%), the variable has a unit root and is not stationary. Conversely, if the probability is smaller than alpha, the variable does not have a unit root and is declared stationary.

Table 2. Dickey Fuller Indonesia Test Results

Augmented Dickey Fuller Test		
Variable	Level I(0)	first Difference I(1)
NPFI	0,8740	0,0000
PDBI	0,0880	0,0000
LNINFI	0,6526	0,0002
IRI	0,4971	0,0158
ERI	0,0445	0,0000

Based on the results in Table 3 all variables in the Indonesian research model were found to be stationary at the first difference level I(1). This can be proven by comparing the ADF value which is smaller than the alpha value.

Table 3. Dickey Fuller Pakistan Test Results

Augmented Dickey Fuller Test		
Variable	Level I(0)	first Difference I(1)
NPFP	0,3196	0,0000
PDBP	0,7196	0,0044
LNINFP	0,8416	0,0000
IRP	0,9924	0,0002
ERP	0,0000	0,0000

Based on the results in Table 4 there are variables that are stationary at the level level and are also found to be stationary at the first difference I(1) level. This can be seen from the ADF value which is smaller than the alpha value. If the data is not stationary at the level I(0), then a variable test is needed at the first difference I(1) level. One of the requirements for using the ARDL method is that the variable must not be stationary at the second difference I(2) level.

4.2 Optimum Lag Test

The optimum lag test results obtained automatically in the Indonesian estimation model are (3,3,3,4,4) while the Pakistan estimation model is (4,4,3,1,3). [22] explains that the optimum lag test functions to see the effect of time intervals on research observations. So it can be interpreted that:

Table 4. Lag Test Indonesia and Pakistan

Country	Optimum Lag	Period
Indonesia	3,3,3,4,4	The influence of GDP, inflation, interest rates and exchange rates on NPF in Indonesia can be seen in the next 3 or 4 quarters which is equivalent to the tenor or loan duration of 9 to 12 months.
Pakistan	4,4,3,1,3	The influence of GDP, inflation, interest rates and exchange rates on NPF is seen in the next 3 or 4 quarters which is equivalent to the tenor or loan duration of 9 to 12 months.

4.3 Cointegration Test

The purpose of the cointegration test in the ARDL model is to detect long-term relationships between variables [21]. This test uses the Bound Test, which compares the F-statistic with the critical value. If the F-statistic is greater than the upper critical value, there is a cointegration relationship, and if it is smaller than the lower critical value, there is no cointegration relationship [23].

Table 5. Results of Indonesian Cointegration Test

	Value	K
F-statistics	5,366	4
Critical Value Bound Test		
Significance	I(0)	I(1)
10%	2,45	3,52
5%	2,86	4,01
2.50%	3,25	4,49
1%	3,74	5,06

Based on the bound test results in Table 6 it is obtained that the F-statistic value of 5.366 is greater than the upper bounds value at alpha 1%, 2.5%, 5%, and 10%. So it can be concluded that there is cointegration or a long-term relationship in the variables used.

Table 6. Pakistan Cointegration Test Results

	Value	K
F-statistics	5.520	4
Critical Value Bound Test		
Significance	I(0)	I(1)
10%	2,45	3,52
5%	2,86	4,01
2.50%	3,25	4,49
1%	3,74	5,06

Based on the bound test results in Table 7 it is obtained that the F-statistic value of 5.520 is greater than the upper bounds value at alpha 1%, 2.5%, 5%, and 10%. So it can be concluded that there is cointegration or a long-term relationship in the variables used.

4.4 Normality Test

In this model, the test performed is the Jarque-Bera test. If the probability value exceeds the specified significance level, the null hypothesis is accepted and shows that the residuals are normally distributed.

Table 7. Results of the Indonesian Normality Test

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
Residual	36	0,95266	1,726	1,142	0,12681

Based on the results of Table 8 it can be concluded that the Indonesian estimation model has normally distributed data and meets the normality assumption because the probability value of 0,12681 is greater than alpha 0,05.

Table 8. Results of Pakistan Normality Test

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
Residual	36	0,96268	1,361	0,644	0,25965

Based on the results of Table 9 it can be concluded that the Pakistan estimation model has normally distributed data and meets the normality assumption because the probability value of 0.25965 is greater than alpha 0,05.

4.5 Autocorrelation Test

Autocorrelation problems often arise in time series data. This test checks the correlation between

the error term in period t and the previous one. This study uses the Breusch- Godfrey LM test to detect autocorrelation.

Table 9. Results of the Indonesian Autocorrelation Test

Breusch-Godfrey LM test for autocorrelation			
Lags (p)	Chi2	Df	Prob > Chi2
1	3,000	1	0,0833

Table 10. Pakistan Autocorrelation Test Results

Breusch-Godfrey LM test for autocorrelation			
Lags (p)	Chi2	Df	Prob > Chi2
1	1,083	1	0,2979

Based on Table 10, the Indonesian estimation model is free from autocorrelation, with an Obs*R*-square Prob. Chi-square value of 0.0833, which is greater than 0.05. Similarly, Table 11 shows that the Pakistan estimation model is also free from autocorrelation, with an Obs*R*-square Prob. Chi-square value of 0.2979, exceeding the critical value of 0.05.

4.6 Heteroscedasticity Test

The heteroscedasticity test is conducted to see whether there are residuals from the model that have constant variance or not. The heteroscedasticity test approach used in this study is the Breusch-Pagan test.

Table 11. Results of Heteroscedasticity Test in Indonesia

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Chi2 (1)	0,016
Prob > Chi2	0,6930

Based on Table 12 it can be concluded that the Indonesian estimation model is free from heteroscedasticity problems and meets the heteroscedasticity assumption because the probability value of 0,6930 is greater than the alpha value of 0,05.

Table 12. Results of Pakistan Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Chi2 (1)	2,79
Prob > Chi2	0,0947

Based on Table 13 it can be concluded that the Pakistan estimation model is free from heteroscedasticity problems and meets the heteroscedasticity assumptions because the probability value of 0,0947 is greater than the alpha value of 0,05.

4.7 Linearity Test

The linearity test aims to determine whether the model specifications are correct or not. In this case, the approach used in the linearity test is the Ramsey RESET test.

Table 13. Results of Indonesian Linearity Test

Ramsey RESET test using powers of the fitted values of D.npl	
F(3,11)	2,36
Prob>F	0,1277

Based on the results of Table 14, it can be concluded that the Indonesian estimation model is linear because the probability value of 0,1277 greater than the alpha value of 0,05.

Table 14. Pakistan Linearity Test Results

Ramsey RESET test using powers of the fitted values of D.npl	
F (3,13)	0,67
Prob>F	0,5873

Based on the results of Table 4.12, it can be concluded that the Pakistan estimation model is linear because the probability value of 0,5873 is greater than the alpha value of 0,05.

4.8 Long Term ARDL Estimation Results

The following are the ARDL estimation results of the dependent variable is NPF and the independent variables are GDP, Inflation, Interest rates and Exchange rates.

Table 15. Results of Indonesia's Long-Term ARDL Estimation

Variable	Coefficient	Standard Error	T	P-value
PDB	-0,126	0,064	-1,95	0,072 *
LNINF	2,963	0,832	3,56	0,003 ***
IR	0,439	0,175	-2,50	0,026 **
ER	-0,0008	0,0001	-4,45	0,001***

Description: 1% (***), 5% (**), 10% (*)

Table 16. Pakistan's Long-Term ARDL Estimation Results

Variable	Coefficient	Standard Error	T	P-value
PDB	-0,806	0,155	-5,17	0,000 ***
LNINF	-3,574	0,427	-8,35	0,000 ***
IR	0,304	0,069	4,35	0,000 ***
ER	0,0002	0,000	3,15	0,006 ***

Description: 1% (***), 5% (**), 10% (*)

The effect of GDP on NPF in the long term

Indonesia's GDP has a negative and significant effect on NPF, with a 1% increase in GDP reducing NPF by 0.126%. In Pakistan, a 1% GDP increase reduces NPF by 0.806%. Both GDP variables between Indonesia and Pakistan have the same effect, namely significant negative, this shows that GDP will affect NPF in the next 3 or 4 quarters. GDP is a key indicator of economic growth, reflecting economic performance, including the banking sector [24]. Studies by [25] and [26] show that higher GDP reduces NPF, as it indicates a healthy economy, boosting income and purchasing power, which improves loan repayment ability [27]. Islamic banks in Indonesia and Pakistan can use GDP as a guide for lending decisions, offering loans with a 9-12 month tenor when GDP is high, as the negative relationship between GDP and NPF is significant over 3-4 quarters.

The effect of inflation on NPF in the long term

Inflation in Indonesia positively affects NPF, where a 1% rise in inflation increases NPF by 2.963%. In contrast, Pakistan's inflation has a negative effect, with a 1% rise decreasing NPF by 3.574%. Both inflation variables between Indonesia and Pakistan have different and significant effects, this shows that inflation will affect NPF in the next 3 to 4 quarters. Inflation is the rate of price increase in an economy. [28] and [10] suggest that inflation positively impacts NPF by reducing purchasing power, making it harder to repay loans. However, [29] argue that inflation can have a negative effect if banks adjust interest rates to offset credit risk. In Indonesia, higher inflation raises NPF, so Islamic banks should avoid lending during inflation spikes. In Pakistan, inflation negatively impacts NPF, allowing banks to lend during high inflation. The impact of inflation on NPF in both countries is significant over 3-4 quarters, aligning with a loan tenor of 9-12 months.

The effect of interest rates on NPF in the long term

Interest rates in both Indonesia and Pakistan positively affect NPF, where a 1% increase raises NPF by 0.439% in Indonesia and 0.304% in Pakistan. Both interest rate variables between Indonesia and Pakistan have the same effect, namely significant positive, this shows that inflation will affect NPF in the next 3 to 4 quarters. Interest rates represent the cost of borrowing. [30] found that rising interest rates increase NPF, as higher borrowing costs strain debtors, raising the risk of default. When rates drop, borrowing becomes cheaper, reducing NPF risk. [31] reached similar conclusions, noting the positive relationship between interest rates and NPF. Islamic banks should lend when rates are low and exercise caution when rates are high, as the impact on NPF tends to be significant over 3-4 quarters, matching a 9-12 month loan tenor.

The effect of exchange rates on NPF in the long term

Indonesia's exchange rate negatively affects NPF, with a 1-unit depreciation reducing NPF by 0.0008%, while in Pakistan, a 1-unit depreciation increases NPF by 0.0002%. Both exchange rate variables between Indonesia and Pakistan have different and significant effects, this shows

that the exchange rate will affect NPF in the next 3 to 4 quarters. The exchange rate reflects how much domestic currency is needed for foreign currency. [32] found that a weaker local currency benefits exporters, reducing NPF as they can meet debt obligations better. Conversely, [33] noted that a weaker currency increases costs for import-dependent companies, raising NPF. In Pakistan, a weaker exchange rate raises import and production costs, reducing purchasing power and increasing NPF [33]. Islamic banks should consider exchange rates in lending decisions: in Indonesia, lend when the Rupiah depreciates and be cautious when it appreciates; in Pakistan, avoid lending when the Rupee depreciates and lend when it appreciates. These effects are significant over 3-4 quarters, matching a 9-12 month loan tenor.

5. Conclusion and Recommendations

Based on the results and previous discussions, it shows some differences in the influence of factors in Indonesia and Pakistan in the long term or in the next 3 to 4 quarters which are equivalent to the tenor or duration of the loan of 9 to 12 months, namely where inflation and exchange rates while the other two factors have the same influence, namely GDP and interest rates. The difference in the influence of inflation and exchange rates between Indonesia and Pakistan can be explained by different economic structures and monetary policies. In Indonesia, controlled inflation is often considered a sign of strong demand and healthy economic growth, thus having a positive impact. Conversely in Pakistan, inflation reflects price instability and economic uncertainty, which reduces consumer purchasing power and investment, thus having a negative impact. The effect of the exchange rate on NPF in Indonesia is positive because companies engaged in exports can benefit from the weakening of the local currency because their products become more competitive in the international market. Pakistan has an economy that is more dependent on imports, a weakening Pakistani exchange rate can increase import costs and reduce consumer purchasing power and their ability to repay loans, thereby increasing NPF.

In the long term, Islamic banks in Indonesia should be more selective or careful in providing loans or financing to customers. Especially when economic conditions show a decline in GDP, high inflation rates, high interest rates, and an appreciating Rupiah exchange rate. For Islamic banks in Pakistan, in the long term, Islamic banks in Pakistan Indonesia should increase their provision of loans or financing to customers. When economic conditions show an increase in GDP, low inflation, low interest rates and the Rupee exchange rate is depreciating.

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