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Financing Risk Analysis Using Autoregressive Distributed Lag (ARDL) Approach: Study on Islamic Commercial Banks in Indonesia

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Abstract. This study aims to determine the factors that influence financing risk by using an autoregressive distributed lag study approach at Islamic Commercial Banks in Indonesia. The variables used are the quality of earning assets and the financing to deposit ratio, inflation and the BI rate. The subject of this research is an Indonesian Sharia Merchant Bank registered with the OJK. for the sample used using a saturated sampling technique using the entire population as a sample. This study used analytical method used autoregressive distributed lag, and the data obtained is processed using the Eviews 10 tool. The results of this study indicate that in the short term the BI rate has a significant positive effect on the NPF. The long-term KAP variable has a positive and significant effect on NPF. Meanwhile, inflation and FDR have no effect on NPF in both the short and long term.

Keywords: BI Rate, Inflation, Financing to Deposit Ratio, KAP, and NPF.

1 Introduction

In carrying out its function as an intermediation institution, financing activities are the main activity of the bank and are the main source of income for the bank. The higher the amount of financing disbursed, the higher the risk that must be borne by the bank concerned. In this case, financial risk is measured using the NPF ratio (Hernawati & Puspasari, 2018).

Due to its uncertain and volatile nature NPF needs to be observed and observed with special attention. Due to the high NPF, the bank will have to provide larger reserves, which reduce the bank's capital reserves (Rafsanjani, 2018). The high level of NPF which has an impact on the formation of loss reserves (PPAP) becomes large, operating profit decreases, and the formation of additional capital becomes low. This results in a decrease in the profit-sharing of DPK customers, which has the potential to trigger a transfer of DPK customers to other banks or other more profitable investments (Kuswahariani et al., 2020).

Yulianto (2016), stated that with the increase in the NPF ratio of banks, the amount of deposits they can collect from customers will decrease. reduce public interest in saving or

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investing in Islamic banking because they think the bank cannot return the money they have deposited or only receive a small portion of the profits (Yulianto & Solikhah, 2016).

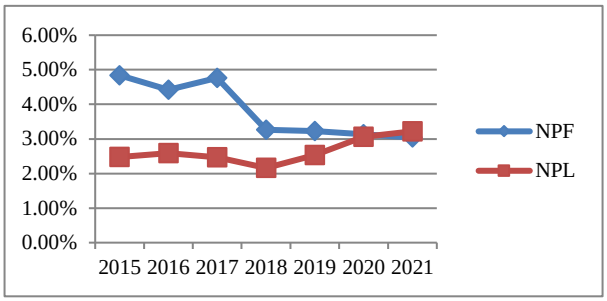

Figure 1. Comparison of NPL Levels of Conventional Commercial Banks and NPF of BUS in 2015-2021

From the picture above, it can be seen the non-performing financing level of BUS has fluctuated in value of non-performing loans over the last seven years. The highest NPF level was recorded in 2015 and began to decline in the following years. However, the graph above shows the Non-performing financing level of BUS from 2015 to 2020 is still higher than the NPL level of traditional commercial banks. Of particular concern is the NPF level of BUS, which is still higher than the NPL level of BUK. Robert Tampubolon (2004), states that weak or loose loan standards, poor loan portfolio risk management, and lack of attention to environmental conditions and economic changes are the main causes of non-performing financing which can then make a loan on a counterparty problematic (Tampubolon, 2004).

Problem financing occurs because banks are forced to take advantage of their excess liquidity and ability to finance their investments. Make the assessment of financing carried out less accurate. Thus the problem of problematic financing in banking can be caused by the bank itself which is too easy to provide loans to customers, or by the inability of customers to keep their promises. Where this can lead to high levels of bank NPF. Thus it can be known that the high value of banking NPF by factors derived from external and internal sources of the bank. Internal factors such as the Quality of Productive Assets (KAP) and FDR and BI Rate, Inflation as an external factors that will be studied to determine their effect on NPF.

The Quality of Productive Assets or also known as credit quality owned by banks consists of current quality, in special attention, less smooth, doubtful, and bad. This quality belongs to the problematic type of KAP. This means that if the problematic KAP decreases, it will have an impact on reducing the NPL or NPF ratio (Martina, 2014). However, KAP data from 2016 to 2017 decreased from 4.27% to 4.21%, followed by an increase in NPF from 4.42% to 4.76%. Inequality also occurred from 2020 to 2021, namely an increase in the KAP value from 2.65% to 2.84%, which was also followed by the value of Non-performing financing which decreased the same year from 3.13% to 3.04%.

The bank's high FDR ratio shows that Islamic Commercial Banks disburse funds because they need to use liquidity. That is, the higher the Financing to Deposite Ratio value, the greater the possibility of NPF(Antonio, 2001). However, this theory is not under FDR's data in 2017 showing a figure of 79.61%, which means it is smaller than the ratio in 2016 of 85.99%, but the NPF ratio shows the opposite thing, namely in 2017 the NPF ratio was estimated at 4.76% greater than in 2016 with a figure of 4.42%. The value of FDR from 2018 to 2021 continued to decline which was also followed by a decrease in NPF.

Inflation can affect the decline in sales. Rudatin and Widarjono (2021), Inflation can reduce the purchasing power of consumers and thereby worsen economic conditions by increasing funding for the "poor"(Widarjono & Rudatin, 2021). This can reduce revenue

and affect the company's ability to pay financing installments. These improper financing payments can lead to non-performing financing and have an increasing impact ratio of NPF (Antonio, 2001). This is the same as the inflation ratio from 2015 to 2016 decreased from 3.35% to 3.02%, followed by the NPF ratio from 2015 to 2016 which also decreased from 4.84% to 4.42%. From 2016 to 2017, the inflation ratio increased from 3.02% to 3.61%, which was also and in the same year followed by an increase in the NPF ratio, from 4.42% to 4.76%. From 2020 to 2021, inflation increased from 1.68% to 1.87%, which was followed by In the same year there was a decrease in Non-performing financing from 3.13% to 3.04%.

As the base interest rate determined by Bank Indonesia, the BI Rate is used by all banks. when interest rates rise deposit & loan interest rates. So it will hypnotize bank liquidity. So using the emergence of this increase will trigger emergence of Non-Performing Financing (Nugrohowati & Bimo, 2019). However, the existing data is not following this theory, where the BI Rate from 2016 to 2018 has fluctuated. The BI Rate in 2016 was at 4.75%, then decreased in 2017 to 4.25%, and in 2018 it increased by 6.00%. This is inversely proportional to the BUS NPF ratio where from 2016 to 2017 the NPF ratio has increased from 4.42% to 4.76%, while in 2018 the NPF ratio has decreased by 3.26%. For BI Rate data for 2019 to 2021, it has decreased, namely, in 2019 it was estimated at 5.00%, 2020 it fell to 3.75% and in 2021 it was estimated at 3.50%, which was also followed by in the same year there was a decrease in NPF, namely 2019 it was estimated at 3.23%, in 2020 it was estimated at 3.13% and in 2021 it was 3.04%. Research on factors affecting factors affecting NPF has been carried out by several previous studies with results varying between studies (Priyadi et al., 2021; Khofidlotur & A'yun, 2020; Kuswahariani et al., 2020; Pradana, 2018; Supriani & Sudarsono, 2018; Aryani et al., 2016).

Priyadi et al (2021) stated that the FDR variable did not affect the NPF ratio. However, the research of Khofidlotur & Alvira (2020) and Kuswahariani et al (2020) stated that the FDR variable hurt the NPF ratio. Another study by Nugraha (2018), Supriani & Sudarsono (2018), and Aryani (2016) stated that FDR in their study was known to have a significant positive effect on the NPF ratio. Aryani (2016) in her research stated that the Quality of Productive Assets has a positive effect on Non-Performing Financing. Meanwhile, Evi Setianingsih (2020) stated that the Quality of Productive Assets has a negative and significant effect on Non-Performing Financing. Priyadi et al (2021) and Auliani & Syaichu (2016) stated that the Inflation variable has a significant negative influence on the NPF ratio. Meanwhile, Rindang & Syafrildha (2019) stated that inflation does not affect NPF. Rindang & Syafrildha (2019) and Supriani & Sudarsono (2018) stated that in their research, the BI Rate variable has a positive and significant influence on NPF. Meanwhile, Priyadi et al (2021) stated in their research that the BI Rate variable does not affect NPF.

From the description above, you can see that it is some problems are strengthened by the inequality of theory and variable data, as well as differences in the results of previous research. So the author is interested in conducting further research on financing risks as measured using the NPF ratio in Islamic commercial banks using the autoregressive distribution lag (ARDL) approach, especially in Islamic Commercial Banks.

2 Literature Review

2.1 Risks of Islamic Bank Financing

Financing risk in Islamic banks is the risk arising from the failure of the counterparty to fulfill its obligations. Financing risks can be associated with various functional activities of banks, such as financing, treasury, and investment, as well as trade financing recorded in the trading book (Rivai, 2008). Financing risk according to Adiwarman Karim is a risk caused by a default by the recipient in fulfilling its obligations (Karim, 2014).

2.2 Non Performing Financing

NPF begins with the occurrence of default, which is a situation where the debtor is unwilling and unable to keep the promises that have been made in the credit agreement. The cause of the debtor's default can be reasonable or due to the debtor's bad faith. Insolvency can also be caused by the bank because making the terms of the credit agreement very burdensome for the debtor (Umam, 2016).

2.3 Inflation

According to Ebert and Griffin, inflation is a state in which the quantity of goods in circulation is less than the amount requested, which will result in widespread price increases in the overall economic system. A significant increase in inflation will affect consumers' purchasing power in the form of a decrease in purchasing power (Murhadi, 2013).

2.4 BI Rate

The higher the BI rate set by Bank Indonesia, the higher the level of liquidity. if the flow of money is too large, then Bank Indonesia will increase interest rates and vice versa. if the flow of money is too small, Bank Indonesia will lower interest rates. As interest rates rise, interest rates on deposits and loans increase. Thus, it will affect the liquidity of the bank (Iskha, 2014).

2.5 FDR

Financing to Deposit Ratio as one of the liquidity ratios used to see the ability of customers to pay off withdrawals made by depositors by relying on loans. (Auliani & Syaichu, 2016). Or FDR is defined as a percentage comparison between the financing provided and third-party funds raised by Islamic banks (Sholihin, 2013)

2.6 Quality of Productive Assets (KAP)

KAP is a crucial issue for banks, this is because KAP shows the amount of return on assets that have been distributed. Kap is directly related to assets owned by Islamic banks, so an assessment of the quality of productive assets is needed to anticipate possible defaults made by customers (Aryani et al., 2016).

3 Research Method

This study applies a quantitative research type, with an autoregressive distributed lag (ARDL) approach, as an analytical method used to analyze the relationship of inflation variables, BI rate, FDR, and KAP to the NPF variable. In the ARDL method, the data that can be used is stationary data either at the level or first difference. The advantage of using this model is that it can estimate the short-term and long-term effects of variables simultaneously (Sukmana & Setianto, 2018).

The data used is secondary data that is time series. For secondary data, the monthly NPF data of Islamic Commercial Banks, BI Rate, Inflation, FDR, and KAP variable data are used for the period January 2015 to November 2021. This data is taken from the official websites of Bank Indonesia, OJK, and BPS.

Data analysis of this study includes descriptive statistics, stationarity tests (using the Augmented Dickey-Fuller test), cointegration tests, optimum Lag tests, classical Assumption Tests, short- and long-term model estimates, and stability tests, and hypothesis tests.

4 Results and discussion

4.1 Descriptive Analysis

This test is data processing that aims to describe or provide insight into the object under study through sample or population data. In descriptive testing, there is a test of the average value (mean), standard deviation, maximum and minimum. Descriptive statistical testing in this study was carried out on independent variable data, Testing is carried out to find out the mean value, standard deviation, maximum, and minimum of each variable whether it has been distributed normally or not. The spread of data is considered good if the mean value > the standard deviation.

Table 1. Descriptive Analysis Test Results

Variable	N	Mean	Std. Devices	Min	Max
NPF	83	4,217952	0,915607	2,640000	6,170000
Inflasi	83	3,381566	1,550983	1,320000	7,260000
BI Rate	83	5,246988	1,317966	3,500000	7,750000
FDR	83	81,71699	5,054534	72,07000	92,56000
KAP	83	4,178434	1,157959	2,080000	6,140000

4.2 Stationaryity Test

This test uses the method the ADF (Augmented Dickey-Fuller) test using levels of 1%, 5%, and 10%. If the probability value of ADF is less than the critical value, then data is declared stationary. This test performed at the level and first difference (Winarno, 2011).

Table 2. Unit Root Test Results Level First Difference Augmented Dickey-Fuller Test

Variable	ADF Statistik	Prob	*Critical Value*			Information
			1%	5%	10%	
NPF (Y)	-4,135598	0,0015	-3,515536	-2,898623	-2,586605	Stationary
Inflasi (X_1)	-7,227409	0,0000	-3,513344	-2,897678	-2,586103	Stationary
BI Rate(X_2)	-6,534199	0,0000	-3,513344	-2,897678	-2,586103	Stationary
FDR (X_3)	-11,36503	0,0001	-3,513344	-2,897678	-2,586103	Stationary
KAP (X_4)	-4,982416	0,0001	-3,515536	-2,898623	-2,586605	Stationary

The test above shows the results that the stationary level occurs at the first difference level for all variables. It can be concluded that the values of all research variables do not contain unit roots or are stationary at the first difference level and further tests can be carried out.

4.3 Bound Testing Cointegration

Table 4. Bound Test Cointegration Test Results

Test Statistic	Nilai	K
F- Statistic	19,15642	4
Significance	**I (0) *Bound***	**I (I) *Bound***
10%	2,45	3,52
5%	2,86	4,01
2.5%	3,25	4,49
1%	3,74	5,06

This test is conducted to see whether there is a long-term relationship between the variables used (Chilin et al., 2019). Where will be compared the value of F-statistics obtained with the critical value. If the value of F-statistics is less than the critical value, both at level I(0)

and I(1). Then it can be concluded that there is no cointegration on the variables used. Meanwhile, if the F-statistic value obtained is greater than the critical value at both levels I(0) and I(1), then there is a cointegration relationship in the long run. (Ekananda, 2018).

The results show that the statistical F value (19.15642) is greater than I(0) and I(I). This shows that the estimation results of the ARDL model can use a reference level of significance up to α = 1 %, and these results also show that there is a long-term relationship between variables.

4.4 Optimum Lag Test

The test is length to be used for subsequent analysis. Lag in the ARDL model serves to show the influence of time-lapse on observation. Akaike Information Criteria Results in the following table show that the optimum lag in this study is (3,1,2,0,0) for each variable used.

Table 5. Akaike Information Criterion (AIC) Test Results

Model	LogL	AIC*	BIC	HQ	Adj. R-sq	Specification
1075	33,685281	-0,581674	-0,249318	-0,448626	0,632396	ARDL(3, 1, 2, 0, 0)
1074	34,538777	-0,577917	-0,215347	-0,432774	0,634904	ARDL(3, 1, 2, 0, 1)
1200	32,481722	-0,576454	-0,274312	-0,455501	0,626450	ARDL(3, 0, 2, 0, 0)
2325	31,398435	-0,574319	-0,302391	-0,465461	0,621495	ARDL(1, 1, 2, 0, 0)
2450	30,227755	-0,569942	-0,328229	-0,473180	0,615533	ARDL(1, 0, 2, 0, 0)

4.5 Classic Assumption Test

Normality Test

This test is used for see if data has been distributed normally. The signification test of the influence of exogenous variables on endogenous variables will be valid if the residual obtained is normally distributed (Ghozali, 2012).

This study used the Jarque-Bera (JB) method for normality testing. The results of the normality test carried out resulted in a JB number of 4.143893 with a probability of 0.125940. The test results showed that the JB probability is more than =5%. Then the research data obtained were normally distributed.

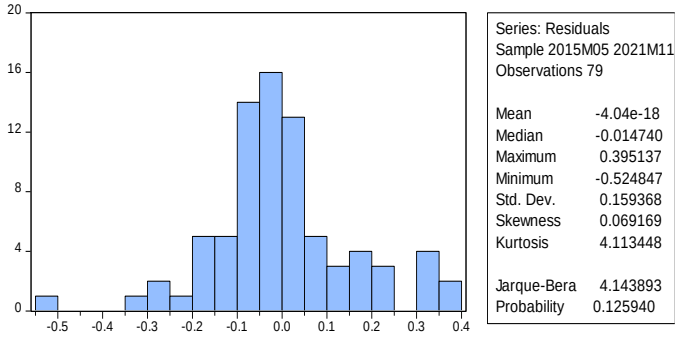

Figure 2. Normality Test Results

Autocorrelation Test

The test to see the correlation between one observation error variable and another observation. The Breusch-Godfrey Serial Correlation LM Test model is the test chosen in this study. The decision rule in the autocorrelation test is the Chi-Square probability above = 0.05, so it is said that there is no autocorrelation problem (Ekananda, 2018).

Table 6. Autocorrelation Test Results

F-statistic	0,248347	Prob. F(2,66)	0,7808
Obs*R-squared	0,590087	Prob. Chi-Square(2)	0,7445

Based on the test results, the profitability value of Chi-Square has a value of 0.7445 greater than α = 5%. This indicates that there are no autocorrelation problems in the research model.

Heteroskedasticity Test

The heteroskedasticity test used the Heteroskedasticity Test: Glejser by making comparisons the Probability of Obs*R-Square and the critical value (Ekananda, 2018).

Table 7. Heteroskedasticity Test Results

Heteroskedasticity Test: Glejser			
F-statistic	0,638864	Prob. F(10,68)	0,7755
Obs*R-squared	6,784668	Prob. Chi-Square(10)	0,7456
Scaled explained SS	7,450831	Prob. Chi-Square(10)	0,6823

The results of heteroskedasticity testing with the Glejser method showed that the probability of Obs*R-square (0.7456) was greater than 0.05. This shows that the ARDL model is homochemedasticity or there is a similarity of variants of residuality for all observations.

Multicolinearity Test

Multicollinearity test by looking the VIP in the regression model. If the VIF is greater than 10, then the variable has a multicollinearity problem (i.e. high multicollinearity) with other free variables (Ekananda, 2018).

Table 8. Multicollinearity Test Results

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
D(INF(-1))	0.011668	1.052111	1.019141
D(BIR)	0.039628	1.089744	1.025964
D(FDR)	0.001158	1.119131	1.084272
D(KAP)	0.018946	1.120452	1.091465
C	0.001729	1.140934	NA

The test results show that the inflation factor value is below 10, so the variables used do not have multicollinearity problems.

4.6 ARDL Model Results

This model have are two model, namely the long-term model and the short-term model.

Table 9. Short-Term ARDL Model Estimation Results

ECM Regression Case 3: Unrestricted Constant and No Trend					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Information
C	-0,015796	0,018715	-0,844048	0,4016	Insignificant
D(NPF(-1), 2)	-0,112214	0,092229	-1,216689	0,2279	Insignificant
D(NPF(-2), 2)	-0,166107	0,076777	-2,163501	0,0340	Significant**
D(INF, 2)	-0,044557	0,044892	-0,992526	0,3245	Insignificant
D(BIR, 2)	-0,031022	0,094596	-0,327939	0,7440	Insignificant
D(BIR(-1), 2)	0,250896	0,093487	2,683762	0,0091	Significant***
CointEq(-1)*	-0,944961	0,093834	-10,07057	0,0000	Significant

The error-correction (CointEq (-1)) value in the ARDL short-term model shows how much error will be corrected in each period. To meet the requirements, the error-correction (CointEq(-1)) value must be negative and significant. From the test results in table 4.9, the estimation results of the model above show a CointEq value (-1) of -0.944961 with a probability of 0.0000. This shows that every 94.5% of errors or disequilibrium that occur in the data will be corrected in each period (one month).

NPF in lag 2 had a significant negative effect on the NPF the following month. This means that any increase of 1% in Non-performing financing in the previous month will reduce the NPF of the current month by 0.166107% a significance level of 5%.

The Inflation Variable has no significant effect with a negative coefficient on the NPF of BUS. The ARDL model shows that when there is an increase in the inflation rate by 1% it will not significantly reduce the NPF ratio to 0.044557% in short term.

Furthermore, the BI Rate variable has a positive significant effect in the short term in lag 1, while in lag 0 it has no significant effect. This means that at lag 1 every 1% increase in the BI Rate will significantly increase the NPF ratio by 0.250896% at a significance level of 1%.

Table 10. Long-Term ARDL Model Estimation Results

Levels Equation
Case 3: Unrestricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Information
D(INF)	-0,122655	0,078474	-1,563000	0,1227	Insignificant
D(BIR)	-0,131282	0,140714	-0,932965	0,3541	Insignificant
D(FDR)	-0,003280	0,018134	-0,180899	0,8570	Insignificant
D(KAP)	0,669712	0,154087	4,346325	0,0000	Significant*

From the results of long-term estimates using ARDL in the table above, the KAP variable has a significant effect on NPF, while the BI Rate, Inflation, and FDR variables do not have a significant effect on NPF.

a. The inflation variable has no significant effect on the NPF level of BUS. This means that the ARDL model shows that when there is an increase in the inflation rate of 1% it will not significantly reduce the NPF by 0.122655% in the long term.
b. The BI Rate variable has no significant effect on the NPF level of BUS. The ARDL model shows that when there is an increase in the BI Rate by 1% insignificantly, it will reduce NPF by 0.131282% in the long run.
c. The Variable Financing to Deposite Ratio has no significant effect with a negative coefficient on the NPF level of Islamic Commercial Banks. The ARDL model shows that when there is an increase in FDR by 1% it will not significantly reduce NPF by 0.003280% in the long run.
d. The Variable KAP has a significant positive effect on the NPF level of Islamic Commercial Banks. The ARDL model suggests that when there is an increase in KAP by 1% it will significantly increase NPF by 0.669712% in the long run.

4.7 CUSUM Test

These model tests were performed to see if the ARDL model estimates were in a stable state. The ARDL model is said to be in a stable state when the CUSUM line is between the 5% significant line (Priyadi et al., 2021).

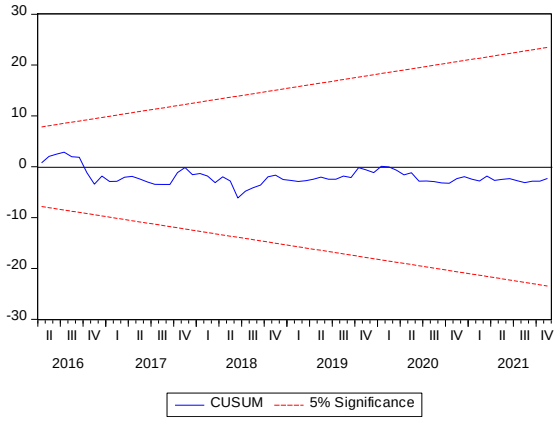

Figure 3. CUSUM Test Results

4.8 Hypothesis Test

Test F

This test is to find out whether together all the independent variables have a significant effect on the dependent variable.

Table 11. F Test Results

F-Statistic	Prob (F-statistic)
14,11920	0,000000

The output of the F-test the F-statistical value of 14.11920 uses a probability of 0.000000 which is smaller based on 0.05 (0.000000<0.05). The results show that the BI Rate, Inflation, FDR, & KAP variables have a significant effect on NPF together with a significant effect.

T-Test

This test is to see whether or not there is a significant effect of each independent variable on the dependent variable.

The conclusion of the test results is carried out with the provision that if the significance level is less than 5% (0.05) then H0 is rejected and Ha is accepted. Meanwhile, if the significance level is more than 5% (0.05) then H0 is accepted and Ha is rejected.

Table 12. Test Results t

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
D(NPF(-1))	-0,057175	0,081499	-0,701545	0,4854
D(NPF(-2))	-0,053892	0,081969	-0,657471	0,5131
D(NPF(-3))	0,166107	0,085323	1,946801	0,0557
D(INF)	-0,044557	0,058027	-0,767868	0,4452
D(INF(-1))	-0,071347	0,055754	-1,279683	0,2050
D(BIR)	-0,031022	0,108052	-0,287101	0,7749
D(BIR(-1))	0,157862	0,108099	1,460340	0,1488
D(BIR(-2))	-0,250896	0,106483	-2,356199	0,0214
D(FDR)	-0,003100	0,017159	-0,180653	0,8572
D(KAP)	0,632852	0,081514	7,763694	0,0000
C	-0,015796	0,021997	-0,718111	0,4751

a. Effect of Inflation on NPF of Islamic Commercial Banks
The results of the t-test of the effect of Inflation on NPF in the table above, a t-statistic value of -0.767868 for lag 0 and -1.279683 for lag 1 with probability values of 0.4452 and 0.2050 respectively. Shows that inflation has no significant effect with a negative coefficient.

b. Effect of BI Rate on NPF of Islamic Commercial Banks
The t-test of the effect of BI Rate on NPF in the table above, a t-statistic value of -0.287101 for lag 0 and 1.460340 for lag 1 was obtained with probability values of 0.7749 and 0.1488 (more than 0.05), respectively. This shows that for lags of 0 and 1, the BI Rate variable has no significant effect with negative coefficients. Meanwhile, in lag 2, the BI Rate variable has a t-statistic value of -2.356199 with a probability value of 0.0214 (less than 0.05). This shows that the lag of 2 variables has a negative and significant effect.

c. Effect of Financing to Deposite Ratio on NPF of Islamic Commercial Banks
The T-test of the effect of FDR on NPF in the table above, a t-statistical value of -0.180653 was obtained with a probability value of 0.8572. This means that the probability value is greater than 0.05 (0.8572 > 0.05). This shows that the FDR variable has no significant effect with a negative coefficient.

d. Effect of Quality of Productive Assets on NPF of Islamic Commercial Banks
The t-test of the influence of KAP on NPF in the table above, a t-statistic score of 7.763694 was obtained with a probability value of 0.0000. This means that the probability value is less than 0.05 (0.0000<0.05). This shows that KAP has a positive and significant effect.

Coefficient of Determination

Table 13. Coefficient of Determination Test Results

R-squared	Adjusted R-squared
0,674940	0,627137

The results known that the adjusted value of R2 is 0.627137. This means that 62.71% of the dependent variables, namely Non-Performing Financing, can be explained by four independent variables, namely Inflation, BI Rate, Financing to Deposit Ratio, and Quality of Productive Assets. While the rest (100%- 62.71 = 37.29%) other variables not included in the explaining regression model.

4.9 Discussion of short and long run results

Effect of Inflation on NPF of BUS

The results of the ARDL test show that inflation has a negative coefficient value and has no significant effect in the short and long term on the NPF of BUS in Indonesia, meaning that if the inflation rate increases by 1% it will not significantly affect the non-performing financing ratio.

Inflation basically describes the growth of price levels and services in general. In terms of business actors, the increase in inflation will have an impact on increasing production costs due to the increasing prices of goods and services. So business actors need more capital, one of which can be obtained through Islamic bank financing. In the short and long term, inflation has no significant effect with a negative coefficient due to the low, slow and unstable inflation rate in Indonesia. The negative coefficient is a signal that inflation has the potential to hinder financing disbursements and also the risks of financing activities in the long term if inflation becomes more serious. High inflation will also cause a decline in people's real income and be followed by a decrease in the standard of living which will complicate decision-making in terms of consumption, investment, and producing to reduce demand for financing. In addition, the application for financing prospective customers will not be easily granted by the bank, because the bank always pays attention to and observes

the origin of the debtor clearly before agreeing to the agreement. This will have an impact on reducing financing risks to banks.

Effect of BI Rate on NPF of BUS

The results of the ARDL test show The BI Rate has a positive and significant effect in the short term on the NPF of Islamic Commercial Banks in Indonesia at lag 1 with a significance level of 1%. This shows that when the BI Rate increases by 1%, it will significantly increase the NPF by 0.250896%. Meanwhile, the BI Rate in the long term shows results that have no significant effect with negative coefficients. This means that in the short term NPF requires an interval of time to respond to BI Rate activities.

Interest rates and non-performing financing show a positive and significant relationship because banks in Indonesia still use a system that combines conventional and sharia banks or the so-called dual banking system. increase if the BI rate increases, which can affect financing to banks, causing an increase in non-smooth financing. The customer's inability to fulfill his obligations is due to the high-interest expense he bears. Although Islamic banks do not recognize the interest system in carrying out their operations, The increase in the BI Rate is indirectly used as a benchmark by Islamic banks. In addition, Islamic and conventional banks cannot avoid competition in the banking industry as fellow business institutions. The level of competition between the two bank systems makes the policies taken by one of the parties will affect the other's banking. In this case, when make the BI Rate rise, customers will switch to applying for financing from Islamic banks because of the high-interest rates in conventional banks. This will cause financing in Islamic banks to be higher and affect the NPF ratio which is getting bigger. Vice versa, when the BI Rate decreases, conventional banks will also lower their interest rates. So that the profit-sharing margin in Islamic Banks will also be competitive and will reduce non-performing financing at The Islamic Bank itself.

Effect of Financing to Deposite Ratio on NPF of BUS

The test results of the ARDL method show that FDR has no significant effect with a negative coefficient in the long term on the NPF of BUS. Meanwhile, in the short term, the FDR variable has no lag. This means that when the FDR increases by 1%, it will not have a significant long-term effect on the NPF of 0.003280%.

FDR describes the extent to which banks are able to repay depositors' withdrawals by relying on the financing provided as a source of liquidity. This means that the greater the liquidity disbursed, the higher the financing risk that will be obtained.

However, where the FDR does not have a significant effect with a negative coefficient, it proves that when there is an increase in FDR or the greater the liquidity distributed, it will not have an effect on increasing financing risk, but will reduce the Bank's NPF level. This is because FDR's ratio has an influence on bank profitability as an opportunity obtained based on the profit share of the total financing disbursed. With the increase in financing, Islamic banking so that financing risks do not arise will pay more attention to the principle of prudence.

Effect of KAP on NPF of BUS

Earning Asset Quality has a positive and significant impact on non-performing BUS financing in Indonesia in the long term with = 1%. This shows that when there is an increase in KAP by 1% it will increase the NPF significantly by 0.669712%. Meanwhile, in the short term, KAP did not experience any lag.

The higher the value of productive asset quality indicates the greater the allowance for the elimination of productive assets (PPAP) that must be provided. To anticipate the occurrence of default risk from financing, reserves in the form of PPAP are needed. Thus, the Quality of Productive Assets influences the NPF ratio of Sharia Commercial Banks This means that the higher the KAP value, the more likely it is that NPF will occur.

5 Conclusion

Managing financing risks in Islamic banking is important because it is one of the measures of financial performance. This study tries to test the influence of internal and external factors on NPF in Islamic Commercial Banks. Internal variables were studied by KAP and FDR. External variables of BI Rate and Inflation. The findings show that the BI Rate and KAP have a positive effect on NPF. Meanwhile, Inflation and FDR do not affect NPF. The results of this study show that in the short term, the external variable, namely the BI Rate, dominates the BUS NPF level. Meanwhile, in the long run, internal variables, namely the quality of productive assets, dominate. This is because Islamic Commercial Banks operate on a national banking scale. Therefore, BUS management's ability to understand business and risk management can affect their ability to monitor and control potential financing problems.

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