

The Effect of Non-Performing Loans (NPL) to the Bank Profitability During the Covid-19 Pandemic (Case Study of Buku III Bank in Indonesia)

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Abstract: Bank is a financial institution that functions as a liaison between parties who have excess funds and those who need funds. In creating bank health, it is measured by profitability indicators to see the ability to increase profits, measure effectiveness and efficiency in management. Its profitability can be seen from the value of ROA (Return On Assets) and ROE (*Return On Equity*). The banking industry has problems in bad debtors which can be seen from the value of NPL (*Non-Performing Loan*) and this is exacerbated by special conditions that have occurred in recent years, namely the Covid-19 pandemic. So it is necessary to see how the effect of non-performing loans on bank profitability during the Covid-19 pandemic and this study conducted a case study on Buku III banks in Indonesia represented by 7 banks that reported financial data from 2019-2021, namely Bank HSBC Indonesia, Bank Tabungan Negara, Bank DBS Indonesia, Bank Permata, Bank Mega, Bank DKI, and Maybank Indonesia. The results show that the results of the analysis using SPSS version 25, partially non-performing loans represented with NPLs have no effect on the profitability of banks represented with ROA and ROE. Meanwhile, the same condition occurs in the results of the analysis test simultaneously or together with non-performing credit variables, namely NPLs, do not affect bank profitability, namely ROA and ROE.

Abstrak: Bank merupakan lembaga keuangan yang berfungsi sebagai penghubung anatar pihak yang memiliki kelebihan dana dan pihak yang membutuhkan dana. Dalam menciptakan kesehatan bank diukur dengan indikator profitabilitasnya guna melihat kemampuan meningkatkan laba, mengukur efektivitas dan efesiensi dalam manajemen. Profitabilitasnya bisa dilihat dari nilai ROA (*Return On Asset*) dan ROE (*Return On Equity*). Pada industri perbankan memiliki masalah dalam kreditur macet yang bisa dilihat dari nilai NPL (*Non-Performing Loan*) dan hal ini diperparah dengan adanya kondisi khusus yang terjadi dalam beberapa tahun terakhir yaitu pandemi Covid-19. Sehingga perlu untuk dilihat bagaimana pengaruh kredit bermasalah terhadap profitabilitas bank di masa pandemic Covid-19 dan penelitian ini melakukan studi kasus pada bank buku 3 di Indonesia yang diwakilkan oleh 7 bank yang melaporkan data keuangan dari tahun 2019-2021 yaitu Bank HSBC Indonesia, Bank Tabungan Negara, Bank DBS Indonesia, Bank Permata, Bank Mega, Bank DKI, dan Maybank Indonesia. Hasilnya menunjukkan bahwa hasil Analisa memakai SPSS versi 25, secara parsial kredit bermasalah yang diwakili dengan NPL tidak berpengaruh terhadap profitabilitas bank yang diwakili dengan ROA dan ROE. Sementara itu kondisi yang sama terjadi pada hasil uji analisis secara simultan atau bersama-sama variabel kredit bermasalah yaitu NPL tidak berpengaruh terhadap profitabilitas bank, yaitu ROA dan ROE.



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INTRODUCTION

The bank as a forum for financial institutions that has the function of connecting parties who have excess funds (*Surplus*) with parties who need funds (*deficit*) so that it can be said that the function of the bank as *Financial Intermediary*. Bank Indonesia (BI) has issued useful policies to create and maintain the health of the Bank. Therefore, maintaining a positive performance is a benchmark for bank health. One indicator to assess financial performance in banking by looking at profitability, namely the ability to increase profits and also measure the level of effectiveness and efficiency in management. The greater the profit generated, the better the bank's ability to generate dividends. So that in the end it will attract investors to invest their capital. (I Made Pratista Yuda, 2010)

Profitability is one of the benchmarks of banking performance that can be proxied ROA (Return On Assets) and ROE (*Return On Equity*). ROA reflects a bank's ability to generate profits using its assets. The increase in assets owned by the bank will generate greater profits as well. While ROE is an important profitability ratio for banks because it is used to measure the effectiveness of a company to generate profits by utilizing its total capital. (Rendi Wijaya, 2019).

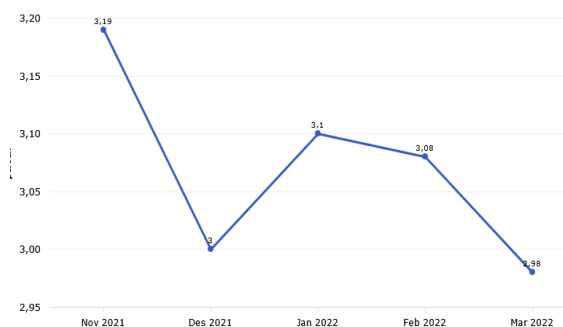
The banking industry has its own risks, especially credit risks arising from the failure of debtors / other parties in paying obligations to the bank, resulting in bad loans. The measurement of bad loans can be proxied with *Non-Performing Loans* (NPL). NPL are a benchmark because the purpose of the ratio is to assess banks in facing the risk of credit failure provided to customers. Credit risk is the main problem faced by banks due to customers who are unable or fail in terms of repaying loans and interest on loans made on time. (Didin Rasyidin Wahyu, 2020)

Several studies on the effect of NPL on profitability have been conducted by Febriyono (2015) and Ahmad, *et al.* (2012) found that NPL negatively affects profitability, and Puspitasari (2009) found that NPL negatively affects ROA. From these findings, it can be concluded that increasing NPLs will reduce the profitability or ROA of banks. Watopa, Murni and Saerang (2017) where the

results of their research explain that the risk of non-performing loans or high NPLs has a significant effect on profitability. Taufik (2017) found that non-performing loans did not have a significant negative impact on profitability.

The results of some of these studies show inconsistent results so further research needs to be done. The existence of a pandemic that occurred globally, namely the Covid-19 virus outbreak, motivated researchers to discuss the risks of loans in banks. Covid-19 affects the banking world because it can be exposed to the level of risk due to excessive borrowing, and is also referred to as external factors beyond the debtor's ability to control or pay off bank credit.

**Non-performing loans/NPL ratio
(November 2021-March 2022)**



**Figure 1. Non-performing loans/NPL ratio
(Source: Bank Indonesia, 2022)**

Based on the chart above, the ratio of non-performing loans has fluctuated, since November 2021 reaching 3.19%, and decreasing to 3% in December 2021, but rising again in January 2022 to 3.10% and in February 2022 there was a decrease of 0.2%, according to BI the NPL rate fell to 2.98% in March 2022, from 3.08% in the previous month. This decline continues the trend that began to occur since February, indicating that risks in the banking industry are increasingly under control. The increase in non-performing loans can be caused by the inability of the public to repay loans during the Covid-19 pandemic. The increase in non-

performing loans will jeopardize performance in the banking industry.

The Government issued Government Regulation in Lieu of Law (Perppu) No.1/2020 concerning state financial policy and financial system stability to handle the COVID-19 pandemic and in order to deal with threats that endanger the national economy and/or financial system stability. One of the policies in the regulation is the relaxation of credit restructuring provisions carried out by the Financial Services Authority (OJK). The restructuring aims to reduce the bank's bad loan ratio, while reducing the cost of reserves that need to be formed. Based on the COVID-19 case study, researchers will conduct an analysis to prove whether the impact on the NPL level affects the profitability of buku III banks in Indonesia.

METHODS

The population used is all Buku III banks listed on the Indonesia stock exchange from 2019 to 2021 and for the sample are Buku III banks that publish financial statements from 2019, 2020 and 2021 where research variables can be obtained from these financial statements. So the results are seven samples of Buku III banks, namely, Bank HSBC Indonesia, Bank Tabungan Negara, Bank DBS Indonesia, Bank Permata, Bank Mega, Bank DKI, and Maybank Indonesia.

Operational Variable

No	Variable	Instruments
X1	NPL	$NPL = (\text{Non-performing loans} / (\text{total loans granted}) \times 100\%$
X2	ROE	$ROE = \text{profit} / (\text{total equity}) \times 100\%$
X3	ROA	$ROA = (\text{Profit before tax} / (\text{total assets}) \times 100\%$

The analysis technique used simple regression, the use of this simple regression to see the influence between the two variables

studied (Sugiyono, 2015). Simple regression is used to see how much the value of the dependent variable would be if the value of the independent variable was changed, with the equation:

$$Y = \alpha + bX + e$$

Where :

Y : Profitability

α : Constant or when price $X = 0$

b : Regression Coefficient

X : Bad Credit

e : error item

In addition, it also uses the correlation coefficient (r) test which is used to determine the relationship between the influence of variable X on variable Y. The value of the correlation coefficient is between -1 to 1, where if the value of $-1 < r < 1$ then $r = 1/-1$ means there is an influence and $r = 0$ means no effect.

Next is the hypothesis test. Hypothesis testing is carried out by establishing hypothesis no (H_0) and alternative hypothesis (H_a). The hypothesis proposed in this study is the effect of non-performing loans on bank profitability during the pandemic in 2019-2021. From this it can be concluded that H_0 = non-performing loans have an effect on profitability and H_a = non-performing loans have no effect on profitability. To determine whether the H_0 hypothesis is rejected or accepted using a comparison between r calculate with r table according to the conditions below:

- 1) r calculate < r table then H_0 is accepted and H_a is rejected
- 2) r calculate > r table then H_a is accepted and H_0 is rejected

From the calculation of the correlation, it can be obtained the result of the relationship between variabel X, namely non-performing loans on variable Y, namely Bank profitability (Sugiono, 2015)

1. f-test or simultaneous
F test is done to find out simultaneously or together whether variable X has an effect on variable Y. The hypothesis is that if f counts < f table then variable X simultaneously has no effect on variable Y and if f counts > f table then variable X simultaneously affects variable Y
2. t - or partial test

The t test is used to determine how far the influence of variable X on variable Y individually. The hypothesis:

- $H_0 : b = 0$ there is no effect of Bad Loans (X) on Profitability (Y).
- $H_a : b \neq 0$ there is an effect of Bad Loans on Profitability (Y).

Based on regression analysis using the t test, decisions will be made with the following decision-making performance:

- H_0 is rejected if $t \text{ sig} > 0.05$
- H_a is accepted if $t \text{ sig} \leq 0.05$.

RESULTS AND DISCUSSION

This study used a simple linear regression data analysis technique. The use of this technique is used to see the magnitude of the effect of non-performing loans on bank profitability, namely ROA and ROE. Before the data analysis was carried out, here were the data of Buku III banks that published financial statements from 2019, 2020 and 2021, namely, Bank HSBC Indonesia, Bank Tabungan Negara, Bank DBS Indonesia, Bank Permata, Bank Mega, Bank DKI, and Maybank Indonesia.

Tabel 1. Data on the value of ROA, ROE and NPL 7 Banks for 2019-2021

Financial Ratio		Bank HSBC		
		2019	2020	2021
ROA		2.72 %	1.56 %	1.18 %
ROE		13.78 %	7.04 %	7.31 %
NPL	GROS	2.52 %	3.45 %	4.64 %
	NET	1.22 %	0.94 %	0.79 %
Financial Ratio		BTN		
		2019	2020	2021
ROA		0.13 %	0.69 %	0.81 %
ROE		1.00 %	10.02 %	13.64 %
NPL	GROS	4.78 %	4.37 %	3.70 %
	NET	2.96 %	2.06 %	1.20 %
Financial Ratio		Bank DBS Indonesia		
		2019	2020	2021
ROA		(0.28) %	(0.20) %	0.95 %
ROE		(2.77) %	(3.42) %	6.95 %
NPL	GROS		4.55 %	3.30 %
	NET	1.04 %	1.32 %	0.77 %
		Permata Bank		

Financial Ratio		2019	2020	2021
ROA		1.3 %	1.0 %	0.7 %
ROE		7.2 %	3.1 %	2.9 %
NPL	GROS	2.8 %	2.9 %	3.2 %
	NET	1.3 %	1.0 %	0.7 %
Financial Ratio		Mega Bank		
		2019	2020	2021
ROA		2.90 %	3.64 %	4.22 %
ROE		14.85 %	19.42 %	23.49 %
NPL	GROS	2.46 %	1.39 %	1.12 %
	NET	1.57 %	1.65 %	0.81 %
Financial Ratio		Bank DKI		
		2019	2020	2021
ROA		2.31 %	1.56 %	1.58 %
ROE		10.68 %	6.84 %	7.96 %
NPL	GROS	2.52 %	2.98 %	3.02 %
	NET	1.75 %	0.42 %	0.38 %
Financial Ratio		Maybank Indonesia		
		2019	2020	2021
ROA		1.45 %	1.04 %	1.32 %
ROE		7.73 %	5.13 %	6.29 %
NPL	GROS	3.33 %	4.00 %	3.69 %
	NET	1.92 %	2.49 %	2.56 %

Based on the data above, for three years, the financial ratios of banks that entered the Buku III category consecutively in 2019, 2020, and 2021 during the Covid-19 pandemic can be seen that in 2019 the condition of financial ratios, namely ROA, ROE was in fairly good condition. This happened because during that period the COVID-19 pandemic only occurred at the end of the year. It can also be seen that the NPL ratio of Buku III banks in 2019 is indeed higher than in 2020 and 2021, this is because in that year the percentage of credit disbursement was higher.

The average NPL in 2019, 2020, and 2021 are still below dangerous NPLs, namely NPL conditions below 2.5%, which means that the financial condition calculated when the ratio is in good enough condition and this affects the level of banking health.

The results of simple linear regression analysis are assisted by the SPSS Version 25 application and the following data:

1. Simple Linear Regression Analysis of ROA

Table 2. Results of Simple Linear Regression analysis to ROA

Coefficients ^a					
Unstandardized Coefficients		Std. Coeff	t	Sig.	
B	Std. Error	Beta			
Cons	174.696	56.987	3.066	.006	
NPL	-.212	-.370	-.130	-.571	.574

a. Dependent Variable: ROA

The simple linear regression equation model Return On Assets (ROA) is as follows:

$$Y = \alpha + bX + e$$

Based on the results of the analysis using SPSS version 25 above, the results:

Y=ROA

$\alpha = 174.696$

$bX = -0.212$

e= error

so that it can be interpreted $Y = 174.696 - 0.212x$

From the formulation of the results above can be explained as follows:

- A constant value of 174.696 indicates that if variable X or non-performing credits are 0, then variable Y, namely ROA, is 174,696
- The value of the variable coefficient Y is -0.212, meaning that if there is an increase in non-performing loans worth Rp 1, the ROA will experience an ROA of -0.212.

So it is concluded based on the results of the analysis above that variable X, namely non-performing loans, has a negative and insignificant effect on bank profitability or ROA (Y1)

2. Simple Linear Regression Analysis of ROE

Table 3. Results of Simple Linear Regression analysis to ROE

Coefficients ^a			
Unstandardized Coefficients		Standardized Coefficients	t
B	Std. Error	Beta	Sig.

Cons	915.337	323.955	2.826	.011
NPL	-.800	2.106	-.087	-.380

a. Dependent Variable: ROE

The simple linear regression equation model Return On Equity (ROE) is as follows:

$$Y = \alpha + bX + e$$

Based on the results of the analysis using SPSS version 25 above, the results:

Y=ROE

$\alpha = 915.337$

$bX = -0.800$

e= error

so that it can be interpreted $Y = 915.337 - 0.800x$

From the formulation of the results above can be explained as follows:

- A constant value of 915.337 indicates that if variable X or non-performing credits are 0, then variable Y, namely ROE, is 915,337
- The value of the variable coefficient Y is -0.800, meaning that if there is an increase in non-performing loans worth Rp 1, the ROE will experience an ROE of -0.800.

So it is concluded based on the results of the analysis above that variable X, namely non-performing loans, has a negative and insignificant effect on bank profitability or ROE (Y2)

3. Correlation Coefficient

This correlation coefficient (r) is used to see the closeness of influence between the independent variable X and the relationship of the dependent variable (Y). The results of the coefficient data range between -1 and 1 and if the value is closer to one, the value of the coefficient absolute and its relationship with the variable is getting better and stronger And if the smaller or closer to zero, then from the absolute value of the correlation coefficient, the relationship between the variables is weaker and these positive and negative signs indicate the direction of the relationship.

Coefficient of Return On Asset

Table 4. Results of the Coefficient of ROA analysis

Correlations			
		ROA	NPL
ROA	Pearson	1	-.130
	Correlation		
	Sig. (2-tailed)		.574
	N	21	21
NPL	Pearson	-.130	1
	Correlation		
	Sig. (2-tailed)	.574	
	N	21	21

Based on the processed SPSS Version 25 above, it can be interpreted that the correlation value is -0.130, therefore the result is that there is a relationship between variable X (non-performing credits) and variable Y (ROA) which is categorized as very strong.

Coefficient to Return On Equity

Table 5. Hasil analisis Koefisien terhadap ROE

Correlations			
		NPL	ROE
NPL	Pearson	1	-.087
	Correlation		
	Sig. (2-tailed)		.708
	N	21	21
ROE	Pearson	-.087	1
	Correlation		
	Sig. (2-tailed)	.708	
	N	21	21

Based on the processed SPSS Version 25 above, it can be interpreted that the correlation value is -0.87, therefore the result is that there is a relationship between variable X (non-performing credits) and variable Y (ROE) which is categorized as very strong.

4. Coefficient of Determination

To find the coefficient of determination that serves to measure how much influence the value of an independent variable can be explained by changes in the dependent variable. Here are the calculated values of the coefficient of determination of ROA and ROE:

Table 6. Results of Coefficient of Determination on ROA

Model Summary			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.130 ^a	.017	-.035	117.549
a. Predictors: (Constant), NPL			

Based on the calculation of SPSS Version 25 above, it can be interpreted that the value of the coefficient of determination is 1.7%. Which means that variable X, namely non-performing loans, affects ROA by 1.7% while 98.3% is influenced by other variables that are not studied.

Table 7. Results of Coefficient of Determination on ROE

Model Summary			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.087 ^a	.008	-.045	668.227
a. Predictors: (Constant), NPL			

Based on the calculation of SPSS Version 25 above, it can be interpreted that the value of the coefficient of determination is 0.8%. Which means that variable X, namely non-performing loans, affects ROE by 0.8%, while 99.2% is influenced by other variables that are not studied.

5. Test F

The F test is used to see if the independent variable has a significant effect on the dependent variable. Test Results on the effect of non-performing credit variables on ROA and ROE profitability

Test F against ROA

Table 8. F Test Results on ROA

ANOVA ^a					
	Sum of Squares	df	Mean Square	F	Sig.
Reg	4511.379	1	4511.379	.326	.574 ^b
Res	262535.574	19	13817.662		
Total	267046.952	20			
a. Dependent Variable: ROA					
b. Predictors: (Constant), NPL					

The significance level using a 0.05 % then obtained f table 4.381. Based on the annova table above, it is obtained that f count is 0.326, it can be concluded that f calculate < f table with the value of H0 accepted and Ha rejected, which means that credit problems do not have a joint effect on ROA.

Test F against ROE

Table 9. F Test Results on ROE

ANOVA ^a					
	Sum of Squares	df	Mean Square	F	Sig.
Reg	64457.036	1	64457.036	.144	.708 ^b
Res	8484028.107	19	446527.795		
Total	8548485.143	20			

a. Dependent Variable: ROE

b. Predictors: (Constant), NPL

The significance level using a 0.05 % then obtained f table 4.381. Based on the annova table above, it is obtained that f count is 0.144, it can be concluded that f calculate < f table with the value of H0 is accepted and Ha is rejected, which means that credit problems do not have a joint effect on ROE.

6. T-test

The t test is used to determine whether non-performing loans affect ROA and ROE and the table is as follows:

Table 10. Results of the t Test against ROA

Coefficients ^a					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Cons	174.696	56.987		3.066	.006
NPL	-.212	-.370	-.130	-.571	.574

a. Dependent Variable: ROA

By using a α level of 5% so that the 2-way t test can be obtained the value of $\alpha/2$ is 0.025 and df of this study is 19, namely t

table is 2.093 and from the results of the analysis above, it can be seen that the value of t calculate ROA is -0.571 and t calculate < t table so that H0 1 is accepted and Ha 1 is rejected. So partially non-performing loans have no effect on ROA.

Table 11. Results of t Test against ROE

Coefficients ^a					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Cons	915.337	323.955		2.826	.011
NPL	-.800	2.106	-.087	-.380	.708

a. Dependent Variable: ROE

By using a α level of 5% so that the 2-way t test can be obtained the value of $\alpha/2$ is 0.025 and df of this study is 19, namely t table is 2.093 and from the results of the analysis above, it can be seen that the value of t calculate ROE is -0.380 and t calculate < t table so that H0 2 is accepted and Ha 2 is rejected. So partially non-performing loans have no effect on ROE.

CONCLUSION

Based on the results of SPSS Analysis version 25, it can be concluded that partially non-performing loans represented by NPLs do not affect the profitability of banks represented by ROA and ROE. Meanwhile, the same condition occurs in the results of the analysis test simultaneously or together with non-performing loan variables, namely NPL have no effect on bank profitability, that is ROA and ROE. This happened because in the analyzed years 2019, 2020 and 2021 the net NPL value of the banks studied was below 0.3%, which indicates that the ratio of non-performing loans of banks studied during the pandemic has very little credit risk, it can be seen from the average total NPL from 2019-2021 is 1.37%.

SUGGESTION

Based on the results of the study, it is expected to help banks reference the condition of non-performing loans measured using NPLs that

when NPLs are above 3%, this will be an alarm for banks to improve credit quality so that banks can grow and develop.

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