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Effect of Non-Performing Loans to Profitability of Banks in Indonesia

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Abstract: The study was conducted to determine the effect of Non Performance Loans (NPLs) to the profitability of banks. This study used data of banks which are listed in the Indonesia Stock Exchange. As research variables are Average Inflation Rate (AIR), Gross Domestic Product (GDP), Non Performance Loans (NPLs), Net Interest Margin (NIM), Return on Equity (ROE) and Return on Assets (ROA). Analysis was done using Lisrel software. The results of this study showed that AIR and GDP were not significant to the NPL. NPL has significant effect to NIM, but has not significant effect to ROE and ROA. NIM has significant effect to ROE and ROA, and ROE has significant effect to ROA.

Keywords: Average Inflation Rate, Gross Domestic Product, Non Performance Loans, Net Interest Margin, Return on Equity, Return on Assets

INTRODUCTION

The main profit of the bank is come from the interest income of customers loans, In lending to customer bank must doing carefully so that all the loans will not become non-performance loan (Dash, 2010). Banks need the interest income from loans to customers who are given an ongoing basis so that banks can operate properly, while customers will be able to pay interest on its loans if it makes a sufficient profit, Non-Performance Loan (NPL) will lead banks have to provide reserves to cover such losses. The more banks lend, the likelihood of increasing NPL.

Bank lending is influenced by a country's macro-economy, namely inflation and economic growth. Factors which may lower the company's earnings customers is inflation, due to with rising inflation, the company expense will increase because of increasing cost, in addition to the interest rise and poses a risk to not be able to repay the loan to the bank (Bofondi and Ropele, 2011).

Economic growth as measured by growth of GDP (Gross Domestic Product) would generate higher demand for banking products and provides opportunity for banks to gain higher revenue (Sufian and Habibullah, 2010). GDP increases because the production of most goods increases overtime, and the price

of most goods increases overtime (Daferighe & Aje, 2009). Banks credit has a high positive impact on the nation's GDP meaning the higher the volume of Commercial banks credit made available, the higher the corresponding GDP, increase of customers loan can increase Non-performing loans (NPL). (Ugbede, Otache and Umar, 2012).

Bank profits can be measured by ROA (Return on Assets) and ROE (Return On Equity) (Ramadan *et. al.*, 2011), bank profit is an indication of how the bank can use the equity asset well by providing loans to customers. With increasing in Non Performance Loans (NPL), the interest income from loans will be decreased and resulted in a decreasing in net interest margin (NIM), which eventually will affect the profitability of banks. In other words the NPL will affect the profitability of banks, namely ROA and ROE. NIM defined as the difference between interest expenses and interest income received from customers. Naceur and Omran (2011) found that NPL has a significant and negative influence on the NIM of banks and profitability (ROA and ROE).

Non performance loans can be caused by bank officials who conduct feasibility analysis for a loan from the customer does not perform properly or it could be due to external factors such as inflation and the domestic gross product (Woo, 2000).

RESEARCH MODEL

The following research model provide a clearer picture of the conducted research:

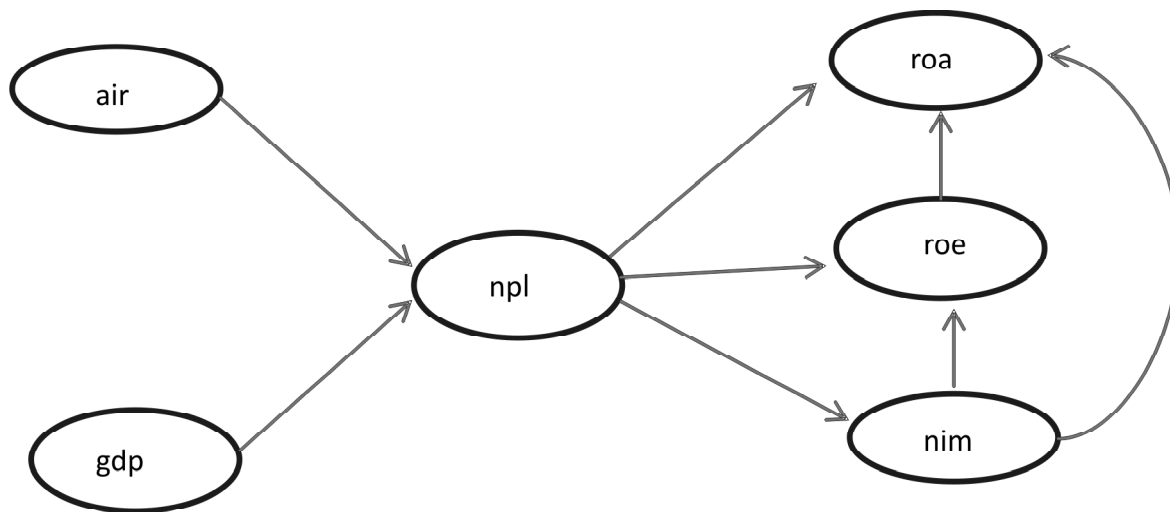


Figure 1: Research Model

RESEARCH METHODOLOGY

In this study, the data used are the data from listed banks in the Indonesia Stock Exchange. Latent variable of this research are the average inflation rate (AIR), gross domestic product (GDP), net interest margin (NIM), return on assets (ROA), return on equity (ROE) and the non-performance loan (NPL).

Hypothesis

- H1: AIR has a positive and significant impact on NPL
- H2: GDP has a positive and significant impact on NPL
- H3: NPL has a negative and significant impact on NIM
- H4: NPL has a negative and significant impact on ROE
- H5: NPL has a negative and significant impact on ROA
- H6: NIM has a positive and significant impact on ROE
- H7: NIM has a positive and significant impact on ROA
- H8: ROE has a positive and significant impact on ROA

RESULTS AND DISCUSSION

The results of standardized solutions and t-value as in figure 2 and figure 3 below:

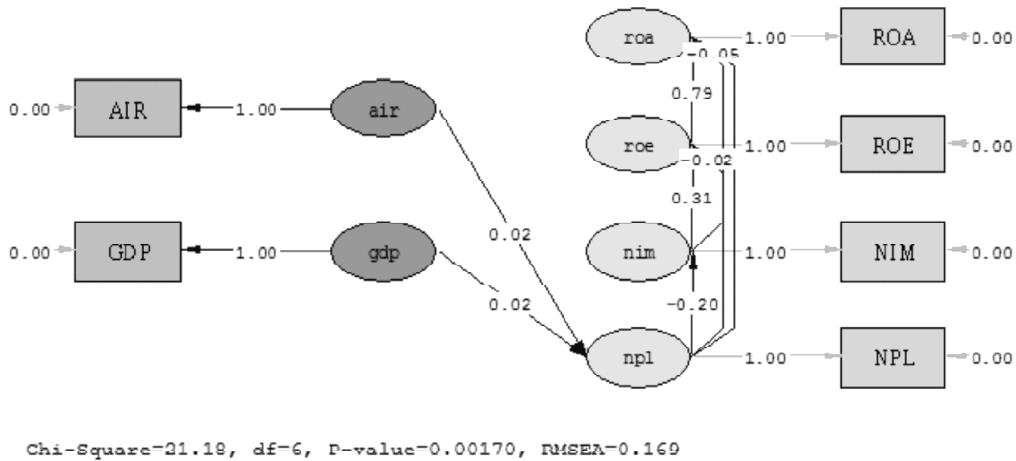


Figure 2: Structural Model - Standardized Solution

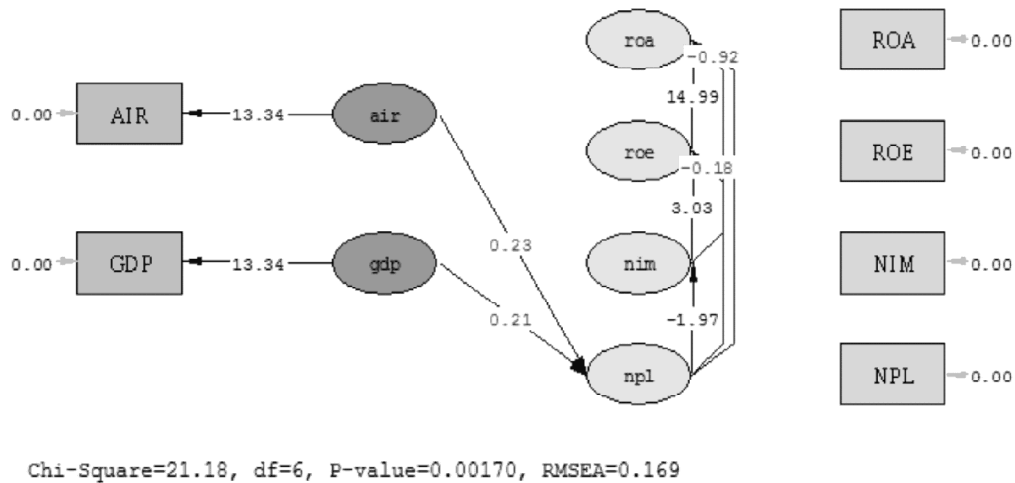


Figure 3: Structural Model T-Value

Measurement of the goodness of fit statistic shown in Table 1 below:

Table 1
Structural Model

No	Indicator	Standard Indicator	Goodness of fit
1	Minimum Fit function Chi-square = 24.18 (P=0,00048) NCP = 15.18 (4.76 – 33.17)	P > 0,05 Small value and interval narrow	Not fit Fit
2	RMSEA = 0,072	RSMEA ≤ 0.08	Fit
3	ECVI = 0.58 Saturated ECVI = 0.47 Independence ECVI = 1.45	Small value and near the ECVI saturated	Fit
4	AIC = 51.18 Saturated AIC = 42.00 Independence AIC = 149.66	Value small and near the AIC saturated	Fit
5	NFI = 0.79 NNFI = 0.55 CFI = 0.82 IFI = 0.84	0.95 ≤ P ≤ 1.00 0.90 ≥ P ≤ 1.00 0.90 ≤ P ≤ 1.00 0.90 ≤ P ≤ 1.00	Marginal fit Marginal Fit Fit Fit
6	RFI = 0.48 GFI = 0,93 AGFI = 0.74P GFI = 0.26	0.90 ≤ P ≤ 1.00 0.90 ≥ P ≤ 1.00 0.90 ≥ P ≤ 1.00 > 0.50	Not fit Fit Marginal fit Not fit

Source: Processed Data Results

From Table 1 it can be concluded that the model for research is good and fit. The results of the structural model (standardized solutions and the t-value), known as hypothesis testing was shown in Table 2 below

From Table 2 it can be seen that the first hypothesis is rejected, average Inflation Rate (AIR) has no impact on Non-Performance Loan (NPL), as well as the second hypothesis is rejected either, Gross Domestic Product (GDP) has no impact on Non-Performance Loan (NPL). AIR and GDP are external variables of bank, while the variable Net Interest Margin (NIM), Return on Equity (ROE) and Return on Assets (ROA) are the bank's internal variables.

Hypothesis 3 is received, Non Performance Loans (NPLs) have an impact on Net Interest Margin (NIM) with a negative sign, with increasing NPL the level of NIM will decrease, this is because the Non Performance Loans (NPLs) resulted in reduced bank interest receipts from customers.

Hypothesis 4 and 5 are rejected, Non Performance Loan (NPL) has no impact on return on equity, as well as Non-Performance Loan (NPL) has no impact to Return on Assets. There are because banks in general in addition to the income from interest also get income from other service revenues.

Hypothesis 6 and 7 are received, Net Interest Margin (NIM) has an impact on Return on Equity (ROE), as well as Net Interest Margin (NIM) affect the Return on Assets (ROA). As Net Interest Margin

Table 2
Hypothesis Testing Results

<i>Hiphotesis</i>	<i>Path</i>	<i>Standarized Solution</i>	<i>t-value</i>	<i>Significant</i>	<i>Conclusion</i>
1	Avarage Inflation Rate → Non Performance Loan.	0.02	0.23	Not Significant	Data do not support hypothesis 1
2	Gross Domestic Product → Non Performance Loan	0.02	0.21	Not Significant	Data do not support hypothesis 2
3	Non Performance Loan → Net Interest Margin.	-0.20	-1.97	Significant	Data support hypothesis 3
4	Non Performance Loan → Return on Equity	-0.02	-0.18	Not Significant	Data do not support hypothesis 4
5	Non Performance Loan → Return on Asset	-0.05	-0.92	Not Significant	Data do not support hypothesis 5
6	Net Interest Margin → Return on Equity	0.31	3.03	Significant	Data support hypothesis 6
7	Net Interest Margin → Return on Asset	0.21	3.88	Significant	Data support hypothesis 7
8	Return on Equity → Return on Asset.	0.79	14.99	Significant	Data support hypothesis 8

Source: Processed Data Results

is defined as the difference between interest expenses and interest income received from customers, so the change in NIM will affect in ROE and ROA.

Hypothesis 8 is received, Return on Equity (ROE) impact on the Return on Assets (ROA), the change in the amount of equity will affect the changes in the number of assets.

CONCLUSION

This research showed that the factor of inflation and Gross Domestic Product (GDP) has not affect Non-Performance Loan (NPL) banks in Indonesia.

Non Performing Loan (NPL) has effect on NIM but has no effect on ROE and ROA.

Net Interest Margin (NIM) affects the ROE and ROA, so interest income of the bank loan is essential to maintain the viability of the bank.

Return on Equity (ROE) has effect on ROA, so increasing or decreasing of ROE will affect directly to the ROA.

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