

In Indonesia Commercial Banks Npl Really Matter?

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Abstract

The primary objective of this study is to investigate the impact of Non-Performing Loans (NPLs) on Indonesian commercial banks, using data from the period 2016-2020. The data were gathered from the annual reports of Indonesian commercial banks. Purposive sampling techniques were employed to analyze the data. In this study, NPL is the dependent variable, and GDP, Inflation, Exchange rate, Bank Size, ROA, CAR, and IRL are the independent variables. The results indicate that Bank Size and Interest rates have a positive and significant effect on NPL in Indonesian commercial banks, while GDP, Inflation, Exchange rate, ROA, and CAR do not have a significant impact on NPL. These findings suggest that bank size and interest rates have a significant influence on NPL, and therefore, Indonesian commercial banks should take this into account seriously.

Key words: NPL, ROA, CAR, GDP and Bank Size, Indonesia

Introduction

Indonesia is one of the fastest developing countries in Asia and ASEAN too. For that reason, they are secure and stable in financial standards because of their banking monetary policy and economic instability. On the way of developing economy need the embarrassment of banking financial

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activities operating in different financial ways. Toward-going financial activities is a huge sector that is affected directly or indirectly by many financial variables. In the banking sector of Indonesia, credit risk is one of the common problems. In the credit risk there is one common problem in these countries that is hitting in financial distress is non-performing loan. In the context of non-performing loans, there are several factors that affect non-performing problems. It is an important issue for regular authorities in order to maintain financial stability and enables to banks pursue responsible management way.

Banks also must pay attention to the quality of credit because bad credit can lead to non-performing loans and because banks assume that as a credit risk. Risks that may occur can cause huge losses for banks, and if banks are not able to manage their assets through lending to customers, it can trigger a rise in the level of non-performing loans. Possibly, the worst that happens is facing default or bank failure.

In recent decades the failure of banks all over the world resulted in many banks being closed by authorities (Brownbridge, 1998). Banking failure can affect the economy such as: banking failure led to a banking crisis that is detrimental to the banking sector and can reduce the flow of credit in the country ultimately affecting the efficiency and productivity of various industrial sectors. According to Brownbridge (1998), many empirical studies show that most of the bank's failures were caused by the increase in the number of non-performing loan problems. The size of NPLs can be affected by various macroeconomic factors and specific factors of the banks Khemraj and Pasha (2009) and Louzisetal (2012). Factors macroeconomic the level of GDP, inflation, and exchange rate, while bank-specific factors include bank size, quality of the bank, level of capital, and interest rate on loan. The result of these studies indicates those specific macroeconomic factors and certain banks' specific factors are considered determinants of NPLs in the future.

Cited to Bank Indonesia maintaining their optimism of the economic prospect, the Board of Governors still underlined several risk factors worthy of noting, whether internally or externally, which can obstruct economic growth and possibly create a disturbance in the macro-economic stability. Internally, the Board of Governors has noticed several potentially disturbing factors caused by a quite big liquidity excess in the money market, a banking non-performing loan (NPL) rate that is relatively high, a banking disbursed loan level that is quite high, and a plan for a raise of several administered prices whose amount and time of raise have not been determined. Externally, the still high and fluctuating prices of the world's oil have become a considerable factor.

Singh, S. K. et. al., (2021) stated that the ramifications of this research unveil that Return on Assets (ROA), Bank Size, Gross Domestic Product (GDP), and Inflation all have a substantial impact on Non-Performing Loans (NPL), while Capital Adequacy Ratio (CAR) does not significantly influence NPL within banks. To put it another way, the influence of GDP on NPL in this study is shown to be positive and substantial, whereas most studies portray a negative effect. This finding implies that when GDP growth is enhanced, there is a significant rise in the growth of Nepalese banks, despite no significant changes in income growth. Consequently, GDP growth demonstrates a positive and substantial impact on the NPL of commercial banks. Hence, bankers and policymakers ought to carefully weigh GDP growth when making NPL-related decisions.

Based on the previous research background, the problem in this study is whether the macroeconomic factors (GDP, inflation, and exchange rate) and bank-specific factors (Bank Size, ROA, CAR, and NLIR) affect the Non-Performing Loan (NPL). The main aim of this study is to determine the influence of macro-economic factors (level of GDP, inflation rate, and the exchange rate) and the bank-specific factors (Size of the bank and the bank management quality, level of capital, the interest rate on loan,) to the NPL of Indonesian Banking. This research helps the management of the

bank to provide information about the factors affecting the banking NPLs' impact on credit risk in the Indonesian banking sector. This research is contributing to the researchers who are interested in research regarding NPL in the Banking of Indonesia.

Literature Review

The main objectives of this study are to examine the determinants of Non-Performing Loans (NPL) in Indonesian commercial banks. To understand the theoretical framework, this chapter's attention is on reviews of previous studies that examine issues that have an impact on banks' NPL and its determinants. The theoretical link and previous empirical findings of macroeconomic and bank-specific factors are influencing the risk in the banking sector of Indonesia.

This research tends to be distinct to the different kinds of determinants that can influence in banking credit risk: macroeconomic factors affecting systematic credit risk, and bank-specific factors affecting unsystematic credit risk. Studies that use both kinds of determinants are the exception and include Salas and Saurina (2002) who combine macroeconomic and microeconomic variables to explain aggregate NPLs of Spanish Banks for the period 1985–1997. They focus on the NPLs' determinants for commercial and savings banks and find that bank-specific determinants can serve as early warning indicators for future changes in NPLs.

Zribi and Boujelbène (2011) also consider both macroeconomic and microeconomic variables that are likely to control credit risk. They provide an analysis for Tunisia, estimating a panel model that includes ten commercial banks over the period 1995–2008. They conclude that the main determinants of bank credit risk in Tunisia are ownership structure, the prudential regulation of capital and profitability, and bank macroeconomic indicators (rapid growth of GDP, inflation, exchange rate, and interest rate). Banks do transactions with other people's money as a way of balancing the relationship between saver and the borrower. Banks should provide

liquidity demand of depositors through checking accounts and to extend credit to their borrowers through lines of credit (Cebenoyan and Strahan 2004). Modern economies are often known as “credit-based” economies, where money plays an important role as a means of exchange.

Extension of credit is one of the tasks of financial intermediaries and supports the development and performance of financial intermediaries. Credit corresponds to the size of the bank’s assets portfolio (Kitua 1996; Richard, Chijoriga et al. 2008). Banks face several risks which include credit risk, interest rate risk, liquidity risk, market risk, foreign risk, and political risk. Banking, therefore, is a business that always must face risk and deal with it (Campbell 2007).

A bank’s asset portfolio adds up to a large proportion of the credit risk which is often measured as NPL to total loans as it accounts for 10-15 times the equity of a bank (Kitua 1996; Richard, Chijoriga et al. 2008). Internal variables as potential determinants of risk are measured as unsystematic risk (Ahmad and Ariff 2007) and changes in external variables in the financial markets, regulation, and economic conditions affect systematic bank risk (Ahmad and Ariff 2007). Both variables provide evidence of significant relationships between the internal variables and external factors of a bank. Analyzing several research, we figured out that macro and bank-specific factors are the cause of NPL sensitivity and it’s bringing the result directly and indirectly in banking factors determinants.

Non-Performing Loans

The main function of a bank is to collect deposits from customers and lend those deposits to the borrower (Warue 2013). In the process of lending, it is difficult for a bank to predict whether a loan will be paid in full or not. This process creates default risk in lending. Banks use diversification and other credit risk management techniques, such as screening borrowers for minimization of loan default rates; consequently, they can minimize levels of NPL. To examine banking credit risk that is taken from the non-

performing loans (NPLs). It is one of the vital indicators which play the biggest role in measuring credit risk in banking. Non-performing loans occur when borrowers experience repayment difficulties for some or all their obligations to creditors as agreed upon in earlier agreements. Non-performing loans are measured based on the assessment of the quality of credit. According to SK DIR. BI 30/267 / KEP / DIR / 1998, the credit quality assessment was classified into five groups:

1. Fluent, if it meets the criteria for installment payments of principal and/or interest on time, has a mutation of active accounts, a part of the loan secured by cash collateral (cash collateral).
2. In special attention, if it meets the criteria are overdue installments of principal and/or interest has not exceeded 90 days, sometimes it happens overdrafts, mutations are relatively active accounts, a rare breach of contract agreed upon, and supported by new loans.
3. Substandard, if it meets the criteria are overdue installments of principal and interest has exceeded 90 days, frequent overdraft, accounts mutation frequency is relatively low, a breach of the contract agreed more than 90 days, there is an indication of the financial problems faced weak borrowers and loan documentation.
4. Doubtful, if it meets the criteria are overdue installments of principal and/or interest has exceeded 180 days, the overdraft is permanent, the event of default of more than 180 days, occurred capitalization of interest, and weak legal documentation for the credit agreement and binding guarantees.
5. Loss, if it meets the criteria are overdue installments of principal and/or interest, has exceeded 270 days, closed with an operating loss of new loans, and in terms of legal and market conditions no guarantee can be availed on the fair value.

Non-performing loans can be calculated by using this formula.

$$\text{Non-performing loan} = \frac{\text{Non-performing loan}}{\text{Total credit}} \dots\dots\dots (1)$$

According to Bank Indonesia regulation, there are three groups of collectability classified as non-performing loans that have substandard, doubtful, and loss. Bank Indonesia has set the NPL limit at 5%. Non-performing loans that have a value of more than 5% showed deterioration of the credit quality of a bank.

Determinants of Non-performing Loans

Factors that can affect the NPL consist of macroeconomic factors and bank-specific factors (Jimenez and Saurina 2007). Macroeconomic factors are sources of risk affecting the banking sector performance expressed as the ratio of nonperforming loans to total loans (Festić and Beko 2008).

The literature on determinants of NPL identifies two sets of factors to explain the evolution of NPL over time. One group focuses on external events such as the overall macroeconomic conditions which are likely to affect borrowers' capacity to repay their loans, while the second group which looks more at the variability of NPL across banks, attributes the level of NPL to bank-level factors.

Macroeconomic Variables

The financial crisis in different time periods have identified the cost that the economy has to bear as a result of banking crises (Agnello, Furceri, et al. 2011; Agnello and Sousa 2012). Research on determinants of credit risk which is often measured by NPL has shown that the macro-economic factors are the main drivers which influence risk in all sorts of investments (Crouhy, Galai, et al. 2000; Saunders, Cornett, et al. 2006). The degree of investment credit risk is highly influenced by changes in economic policies, political changes, and the goals of leading political parties (Belkin, Suchower, et al. 1998; Saunders, Cornett, et al. 2006). Changes in monetary and tax policies, economic legislation changes, as well as import restrictions and export stimulation, signify that economic policy changes also influence the range of investment credit risk (Saunders, Cornett, et al. 2006). Macroeconomic factors include the growth in domestic product,

inflation rate, employment rate, stock index, and exchange rate movements in the economy (Aver 2008).

Hypothesis

Based on the formulation of the problem, the theoretical basis, and previous studies, the hypothesis in this study are:

- H1:** The level of GDP growth has a negative effect on NPL.
- H2:** The inflation rate has a positive effect on NPL.
- H3:** The exchange rate has a negative effect on NPL
- H4:** The size of the Bank has a negative effect on NPL.
- H5:** The quality of the bank's management (ROA) has a negative effect on NPL.
- H6:** The levels of capital (CAR) have a negative effect on NPL.
- H7:** The interest rate on loans has a positive effect on NPL.

Model Analysis

To determine the influence of macro-economic factors (GDP, inflation, and exchange rate,) and bank-specific factors (rate of the loan, the size of the bank, and the bank's management, capital, and loan loss provision) of the NPL, it will be used as a multiple regression analysis model estimation method with the following equation:

$$(NPL)_{i,t} = \beta_0 + \beta_1(GDP)_t + \beta_2(INF)_t + \beta_3(EX)_t + \beta_4(Bank\ Size)_{i,t} + \beta_5(ROA)_{i,t} + \beta_6(CAR)_{i,t} + \beta_7(IRL)_{i,t} + \epsilon_{i,t}$$

Where,

$\beta_1(GDP)_t$ = real GDP growth in period t .

$\beta_2(INF)_t$ = Inflation rate in period t .

$\beta_3(EX)_t$ = Exchange rate in period t .

$\beta_4(Bank\ Size)_{i,t}$ = The size of the bank i and period t .

$\beta_5(ROA)_{i,t}$ = ROA on bank i and period t .

$\beta_6(CAR)_{i,t}$ = Capital of bank i and period t .

$\beta_7(IRL)_{i,t}$ = The interest rate on a loan of the bank i in period t .

$\epsilon_{i,t}$ = Composite error term

$$\beta_i = 1, 2, 3, \dots, 7$$

Research Method

For completing this study, methodology plays a vital role because it does not only describe the assumptions and the path on how this study is achieved but also represents the variety of research strategies and methods that are used regarding this study. It also specifies the research techniques and ways to find the research output.

Data Type and Source

This research used secondary data. The data used in this study is classified as four different macro factors of dependent variables that are affecting non-performing loans in two different countries' banking. All data are collected from the annual report of each bank within the period of 2016-2020 which is a commercial listed bank under the state Bank Indonesia.

For fulfilling this research, some procedures to obtain the data and a clear understanding of this research:

1. Topic-related scientific research and scientific literature and collecting both countries' banking articles and websites of related banks articles with the research topic and problematic and also finding the alternative solution to obtain the objectives of the research.
2. Targeted qualitative data main source achieved throughout the annual report of each countries bank's annual report of Indonesian banks.
 - a. variable.

Descriptive Variables of Indonesian Banking.

In the description of the research results, will be presented the results of the data analysis is based on observations of several variables used in the model of multiple linear regression analysis which includes the number of observations (N), the lowest value (minimum), the highest value (maximum), the average value (mean) and standard deviation of the variables used. The dependent variable in this study is non-performing

loans (NPL), and the independent variable in this study is the level of gross domestic product (GDP), inflation (INF), the lending rate (NLIR), the size of the bank (bank size), Bank size, quality of bank (ROA), Level of Capital CAR). A statistical description of the variables used in the study is presented in Table 1.

Table 1: Descriptive Statistics of the Variables

Indonesian Banks	N	Minimum	Maximum	Mean	Std. Deviation
NPL	634	.03	17.56	2.0827	1.51884
GDP	633	4.63	7.16	5.9611	.71384
INFLASI	635	2.78	17.11	6.6885	3.70032
Ex. RTAE	635	9.06	11.52	9.3805	.74243
BANKSIZE	634	17.46	34.09	26.9054	4.48252
ROA	635	.02	15.04	2.6047	1.64648
CAR	635	.15	107.93	21.5826	12.34042
NLIR	635	8.16	30.71	17.7432	5.41337

Based on Table 1, the value of the lowest NPL amounted of the Indonesian bank is 0.03 % The highest value for Indonesian banks at 17.56 % NPL and as well 8.60% it shows that there are banks that are included in the category of bad credit. The average NPLs of banks in Indonesia amounted to 2.28 % and 1.80%, which means that most of the loans extended by banks in Indonesia.

The value of the lowest GDP growth for Indonesia is 4.63% which means the decline in Indonesia's economic performance is in line with the weakening of purchasing power. The highest GDP value amounting to 7.16% indicates that Indonesia's economic growth has increased driven by increased domestic consumption. The average GDP is 5.86%, which indicates that the average economic growth in Indonesia is low. The lowest inflation rate in Indonesia is 2.78% it's indicates that the prices of goods and services tend to decrease prices. The highest inflation rate in Indonesia is 17.11% indicating that the increase and decrease of unstable fuel prices

which affect the price of goods and services rises high enough. The lowest value of bank size is 17.46 and the highest bank value amounted to 34.22. The average size of the bank amounted to 26.920. The greater the total assets of the banks show that the larger the assets used in the activity of the bank's operations. One of the operational activities of the bank is to give credit to the public.

Analysis of Model

Here are the results of the analysis and hypothesis testing regression models conducted to determine the effect of macroeconomic factors as measured by GDP inflation and exchange rate as well as bank-specific factors that are measured by (Bank Size, ROA, CAR, and NLIR). Data processing performed is using the IBM SPSS Statistics 22 program and the results of the regression analysis presented in Table 2

Table 2: Regression Coefficient of the Variables

Variables	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	.600	1.330		.452	.652		
GDP	-.174	.092	-.082	-1.880	.061*	.774	1.292
Inflation	-.002	.019	-.004	-.091	.928	.712	1.404
Ex. Rate	-.100	.088	-.049	-1.131	.258	.783	1.278
BankSize	.099	.015	.292	6.701	.000**	.772	1.296
ROA	-.002	.038	-.002	-.054	.957	.868	1.151
CAR	-.005	.005	-.039	-.993	.321	.941	1.063
NLIR	.051	.012	.182	4.174	.000**	.769	1.300
R² = 0.087		Adjusted R² = 0.076			Durbin- Watson = 1.936		

Finding and Discussion

This research shows that in the regression and coefficient table no2. The variable GDP has negative and significant effect on NPL at 10 % of Indonesian commercial banking. The result is consistent with (Fakhrunnas, F. et. at. 2022) they found that macroeconomic conditions in the form of

GDP growth is the main cause of NPLs among Greek banks. The weakening macro conditions will reduce the ability of economic agents to meet their debt obligations, and vice versa. Similarly, Makri et., al. (2014) found the similar result. It shows that the growth in GDP is indicative of an increase in both individual and corporate income. As a result, when GDP rises, the purchasing power of consumers increases, and the need for credit decreases, thus potentially reducing the incidence of non-performing loans.

Based on the research conducted by Karadima and Louri (2020), the size of banks in Indonesia has a positive and significant impact on non-performing loans (NPL). This finding is consistent with their results, which showed that the influence of bank size on NPL can be ambiguous, potentially leading to either positive or negative outcomes. The study revealed that when bank size is larger in Indonesia, the likelihood of experiencing higher levels of NPL also increases due to the greater number of debtors and investment sectors.

On the other hand, the inflation variable exhibits a negative relationship with NPL in Indonesian banks, but it is not statistically significant. The exchange rate also shows a negative impact, yet it is not statistically significant, effectively indicating that the exchange rate has little influence on NPL. The Return on Assets (ROA) variable has a negative effect on NPL, but it is not statistically significant, suggesting that these factors have no further impact on banks. The Capital Adequacy Ratio (CAR) variable displays a negative relationship with NPL, but it is also not statistically significant, implying that CAR plays a more prominent role in the movement of NPL. Moreover, the Interest rate on loans variable demonstrates a positive but statistically significant effect on NPL, signifying that interest rates on loans play a critical role in increasing NPL.

Conclusion and Suggestions

After this research, some recommendations can be suggested

1. This research can help by providing information about the factors affecting the banking NPLs' impact in Indonesia's banking sector. Throughout this research CEOs, shareholders, and financial investors who want to invest in the banking sector can make clear to analyze the impact on the banking market.
2. This study can help policymakers, practitioners, and researchers to understand better the determinants of NPL in the banking management of Indonesia's banking sector.

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