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Non Performing Loan: Impact of Internal and External Factor (Evidence in Indonesia)

[1,]Moh Benny Alexandri , [2,]Teguh Iman Santoso
[1,]UniversitasPadjadjaran Indonesia
[2,]UniversitasPadjadjaran Indonesia

ABSTRACT : *Most banks in Indonesia as emerging market still rely on credit as the main income to finance their operations. But not all loans disbursed by banks are free of risk, some of them have a considerable risk and can threaten the health of the bank.NPL levels at Commercial Bank Indonesia over the past five years 1/1/2009-12/31/2013) shows a stable condition. But inversely proportional happen to the 26 Regional Development Banks (BPD), which NPL,since 2011 has continuously increased. It was reaching 3:49 % in June 2014 and was predicted to continue to rise. This study aims to study the influence of internal and external banks factors on the level of non-performing loans (NPL) in the Regional Development Bank (BPD) in Indonesia. This study is a quantitative research using panel data regression analysis with the study period from 2009 to 2013. The object of this study was 26 banks. Factors examined its effect on the NPL is a measure of a bank (SIZE), the capital adequacy ratio (CAR), the level of bank efficiency (ROA), the growth of gross domestic product (GDP), and the rate of inflation. Estimation model used is panel data models Random Effects Model (REM). The results of this study concluded that the level of efficiency of the bank (ROA) has a positive significant effect on NPL. The result of this study clearly warrant future studies.*

KEYWORDS: *Non-Performing Loan (NPL), Bank Size, CAR, ROA, GDP, Inflation.*

I. INTRODUCTION

The banking sector has a strategic role in the economy of a country.Both micro and macro, good or poor economy condition of a country, influenced by banking sector. The banking sector in the modern economic system, described as the heart pumps blood flow in the form of capital throughout the lifeblood of the economy, both the micro, small, medium, and large scale.

Today, most banks in Indonesia still rely on credit as the main income to finance theiroperations. But not all loans disbursed by banks are free of risk, some of them have a considerable risk and can threaten the health of the bank. The credit quality must be kept. One form of credit risk is the most haunting banking credit crunch , because if there is a lot of non-performing loans will be very detrimental to the bank itself .

The level of a credit crunch is usually proxies by the ratio of bank's non - performing loans (NPL), Non - performing loans is also one of the indicators in assessing the performance which function as an intermediary institution . The high level of NPL showed that a low bank health occurs because many non-performing loans in the bank's activities. NPL levels at Commercial Bank Indonesia over the past five years (2009-2013) shows a fairly stable condition. But inversely proportional to the Regional Development Bank (BPD), which NPL,since 2011 has continuously increased. It was reaching 3:49 % in June 2014 and was predicted to continue to rise.

This Study saw that the negative trend in the growth of NPLs of Regional Development Bank (BPD) as a phenomenon that needs to be studied and examined more closely .Therefore ,this study chose the Regional Development Bank (BPD) as unit of observation ,for period 1/1/2009 until 12/31/2013 .Prediction of the occurrence of non - performing loans (NPL) can be seen from several factors, which are including internal factors and external banks .Internal factors of banks can be seen in the summary of financial ratios such as bank size (SIZE) , Capital

Adequacy Ratio (CAR) , Operating Expenses to Operating Income (ROA) , while the bank external factors can be seen from the macro-economic conditions such as the growth of Gross Domestic Product (GDP) and the rate of inflation. The reminder of the study is organized as follows. Section II discusses the literature review. Section III outlines the methodology. Section IV contains the results/ findings. Section V contains discussion, Section VI concludes with some implications to research and practice, Section VII provides a conclusion to this study and finally section VIII future research.

II. LITERATURE REVIEW

Several previous studies before, including research was conducted by Ranjan and Dahl (2003) which indicates that SIZE has negative effect on NPL . Das and Ghosh (2007) showed that the variables CAR and GDP has negative effect on the NPL .Vatansever&Hepsen (2013) showed that the variable ROA positive effect on the NPL , and Wikutama Arya (2010) showed that the inflation variable positive effect on the NPL . By knowing the factors that can affect the NPL, the preventive measures can be taken so a high level of NPLs conditions can be prevented.Current credit can turn into non-performing loans (substandard, doubtful, and loss) . To reduce the possibility of a “credit crunch” , then there should be a system of " self-knowledge " systematically in the form of a list of events or symptoms that can lead to credit becomes problematic . These symptoms occur due to the following factors : (Dendawijaya , 2003)

[1]. Internal factors of banks that provide loans, such as on purpose of mark-up, the practice of corruption, lack of tight credit monitoring, and so on . The existence of these factors affect the rate of at least a ratio of bank health as capital adequacy ratio (CAR) , the level of bank efficiency is reflected in the ROA and the total assets held by banks as reflected in the SIZE ratio and other bank’s health ratio.

[2]. Factors of bank customers or“an error in the selection of borrowers” ,such as the character , ability , sources of financing , guarantees and financial condition of borrowers as well as errors in the marketing strategy of product/ service and so on

[3]. External factors such as the bank's macro-economic situation which is reflected in the rate of Gross Domestic Product (GDP) and also the rate of inflation, exchange rate volatility, unemployment and so on.

III. METHODOLOGY AND DATA

Research Model : The research model is based on the relevant literature reviewed in theprevious section. The research model depicts the relations between SIZE, CAR and ROA as factors of internal bank and growth of GDP and inflation as factor of external bank, and Non-Performing Loan(NPL).

Other factors (variables) were excluded because of the lack of theirinformation in the Indonesia emerging market (examples: cash flow,liquidity, etc.) or to avoid the multicolinearity.

Research Variables and Measurement : Data analysis methods used in this study is panel data regression analysis with Random Effect Model approach . After the regression analysis ,it tested the hypothesis . Testing methods for the proposed hypothesis is tested simultaneously (F test statistics) and partial test (t test statistics) and the coefficient of determination (R^2) (Ghozali , 2006) . The study consisting five independent variables namely SIZE (X_1) , CAR (X_2) , ROA (X_3) , the growth of GDP (X_4) and the rate of inflation (X_5) and one dependent variable is NPL (Y) . Data analysis methods used in this study is panel data regression analysis. Use of this analysis is intended to determine the presence or absence of a relationship between the independent variables as predictor variables (denoted as X) to the dependent variable (denoted as a Y).

IV. RESEARCH HYPOTHESES

a. Impact of Size on NPL : Referring to research Ranjan and Dahl (2003) that the bank's relationship with the GDP measure is negative.

H1 : SIZE has negative effect on the NPL

b. Impact of CAR on NPL : The level of capital adequacy or solvency ratio of a bank to NPL has relationships. Capital serves as a buffer to absorb losses arising from various risks. Banks that have a high level of solvency ratios, will be able to meet the financing of bank assets are risky, so in this case, it can reduce the urge banks to take more risks, which resulted in a decrease in the level of NPL. Several studies show different results regarding the relationship CAR with NPL. In studies conducted by Das and Ghosh (2007) in India mentioned that capital adequacy has a negative relationship to the NPL. So the higher the solvency ratio of NPL levels will be low, because banks with high CAR has a high capability in financing risks that banks depat prevent NPL. It is different research indicated Vatansever&Hepsen (2013) in Turkey, showed the relationship between CAR and NPL is unidirectional or positive. That is because the capital adequacy of banks owned only be used to cover credit risks that occur, the greater the capital reserves of the NPL occur in the bank too high. Based on Das and Ghosh (2007) and Vatansever&Hepsen (2013) it can be taken as the following hypothesis:

H_2: CAR has effect on the NPL

c. Influence ROA on NPL : ROA ratio is one indicator that is often used to measure the efficiency of the bank's operations. Research conducted by Vatanseve & Hepsen (2013) on the banking industry in Turkey said that the level of banking efficiency has positive effect on the NPL. According to the their study, a bank with an efficiency rate lower costs will increase non-performing loans, due to inefficient banks which have bad management in managing their credit risk and it leads to increase non-performing loans or NPL. According to Bank Indonesia regulation, if the ratio close to 100%, it means that the performance of the bank showed a very low level of efficiency.

So it can be concluded that the lower the efficiency of the bank (reflected by an increase in the ratio of ROA), the greater the level of NPL.

H3: ROA has positive effect on the NPL

d. **Impact of GDP on NPL :** One of the best indicators in assessing the economic development of a country is GDP (Mankiw, 2009). Many studies have been conducted to examine the effect of GDP on the condition of NPL.

When economic conditions improve, which is indicated by the increase in the growth rate of GDP, the level of NPL is expected to fall due to the improvement of the debtor's ability to pay their obligations.Various previous studies have shown the effect of GDP on NPL. Research conducted by Das and Ghosh (2007) showed that the increase of economic growth will increase the ability of the debtor's payment, soit will reduce the level of non-performing loans. However, the decline in economic growth will lead to increased levels of non-performing loans. So that a given relationship between GDP and NPL are opposite or negative and has a significant influence.

H4: GDP has negative effect on the NPL

e. Impact of Inflation on NPL : Inflation is a condition that indicates the weakening purchasing power, followed by further decline in the real value (intrinsic) the currency of a country (Khalwaty, 2000). With the weakening of purchasing power, it will make the ability of borrowers to repay loans and a decline in the value of the currency will make higher credit score. Impact given by inflation will lead to economic instability that increases credit risk. Research conducted Wikutama Arya (2010) showed that the relationship between inflation and NPL is unidirectional or positive, which means that the higher of the inflation rate, the NPL rate will be higher.

H5: Inflation has positive effect on NPL

V. DATA AND SAMPLING

The data used in this study is derived from secondary data from financial statements which issued annually by Bank Indonesia and some Regional Banks (BPD).Statistical macro-economic conditions data of Indonesian is published by the Central Statistics Agency (BPS) from 1/1/2009 to 12/31/2013. Unit of analysis in this study is the Regional Development Bank (BPD) in Indonesia, which amounted to 26 banks.

VI. RESULT

SIZE variable has negative sign of the coefficient estimates in accordance with the sign of the initial hypothesis. Results of partial significance test (t test statistics) indicate that the variable SIZE does not have a significant impact on banks NPL variable BPD. These results indicate that the size of the banks (SIZE) not including the deciding factor in changes in the level of NPLs, although the larger banks have quality resources and a better ability in the selection and diversification of credit, but the level of NPLs can be comparable to total loans where large banks tend to have high levels of lending (LDR) high.
This could be an explanation why SIZE variable does not affect the banks NPL variable BPD.

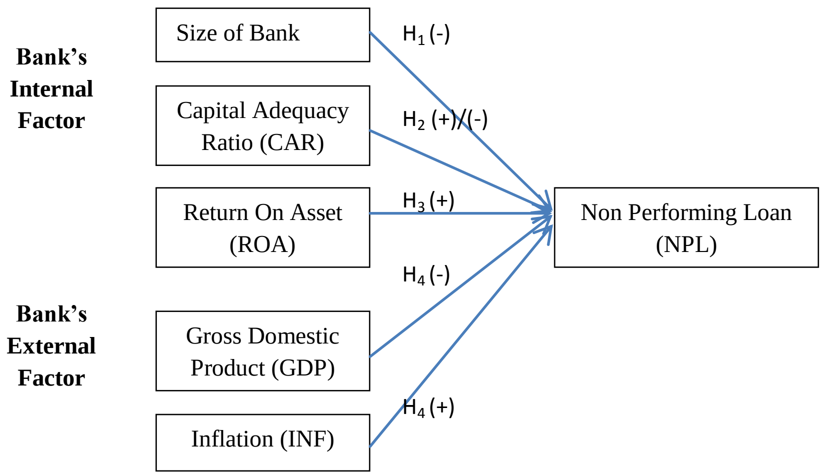
CAR variable has positive sign of the coefficient estimates and the results of the partial significance test (t test statistics) showed no significant effect of the variable with CAR and NPL.

CAR variable coefficient is positive due to the bank's capital reserves held allocated to cover credit risk that occurs, so that the high capital reserves followed by high NPL.

CAR variable coefficients showed significant results in this study because many banks are expected to focus on the provision of credit amidst increasing BPD's NPL.

This is done to maintain the level of bad loans that do not exceed the maximum limit of Bank Indonesia. Due to the presence of prudence in lending, both directly and indirectly will reduce the urge banks to take more risks. It becomes an explanation of why the data processing show that the variable CAR does not significantly effecton BPD's NPL variable. ROA variable has negative sign of the coefficient estimates in accordance with the initial hypothesis of the study. The results of partial significance test (t test statistics) indicates that the variable ROA significant influence on the NPL, it mean ROA variable that reflects the level of efficiency of banks proved influential in changing the level of NPLs banks BPD. The level of bank efficiency can reflect the level of quality management and the effectiveness of the services that run products are applied by the bank. Inefficiency banks often caused by poor quality of management so that the supervision and control of the use is not done properly. The low quality of management also resulted in poor credit management process that contributes to the high level of NPL.GDP variable has negative sign of the coefficient estimates in accordance with the sign of the initial hypothesis. Results of partial significance test (t test statistic) shows that GDP variable has no significant effect on banks NPL variable BPD. This was due to the level of lending is done by BPD dominated for the construction and property sector that has a low portion in the calculation of GDP. The portion of the calculation of GDP in Indonesia is dominated by the agricultural sector, such as agriculture, plantation, forestry and fisheries. So that the low portion of the construction and property sector in GDP calculations are not so influential on the NPL. This is the reason why the GDP growth rate has no significant effect on the NPL of banks BPD. Variable INF has a positive sign of the coefficient estimates in accordance with the sign of the initial hypothesis. Results of partial significance test (t test statistics) indicates that the variable INF does not have a significant impact on banks NPL variable BPD. It is in because of when inflation increases,the central bank (Bank Indonesia) usually responds through monetary policy instrument to give moral appeal (moral persuasion) to bank credit providers to be cautious in issuing credit in order to prevent the enlargement potential NPL level.

This could be an explanation of why the data processing show that the INF variable (inflation) has no effect on the NPL banks BPD.



Based on the literature study and previous studies, structured hypothesis for each independent variable for later testing based on existing data. Following each of these hypotheses:

- H_1: SIZE has a negative effect on the NPL
- H_2: CAR has an influence on the NPL
- H_3: ROA has a positive influence on the NPL
- H_4: GDP has a negative effect on the NPL
- H_5: Inflation has a positive influence on the NPL

VII. IMPLICATION AND AREAS FOR FUTURE RESEARCH

After testing the significance of the model, obtained influence of each independent variable on the dependent variable. Furthermore, the comparison of the results of the regression that has been carried out with the initial hypothesis has been formulated which subsequently interpreted real conditions of research.
Comparison of the results of the regression with the initial hypothesis are summarized in Table 1 below:

Table 1. Comparison of Regression Result with the Initial Hypothesis

Variables	Regression Coefficient	Significant		Coefficient		
		P-Value	Significant/No	Initial Hypothesis	Regression Results	Suitability
SIZE	-0.665281	0.30932	No	Negative	Negative	Yes
CAR	0.057154	0.05507	No	Neutral	Positive	Yes
ROA	0.074657	0.00155*	Significant	Positive	Positive	Yes
GDP	-0.105654	0.55855	No	Negative	Negative	Yes
INF	0.08619	0.12289	No	Positive	Positive	Yes

VIII. CONCLUSION

The results of this study indicate several factors that affect the NPL. From the five variables used in the research model (SIZE, CAR, ROA, GDP and inflation), it is evident that the variable ROA has a positive and significant impact on the NPL.
SIZE and GDP has a negative but insignificant effect on the NPL. CAR and inflation showed no significant positive effect on the NPL.

ROA variables that proved significant effect on the NPL, level of bank efficiency can reflect the level of quality management and the effectiveness of the services that run products are applied by the bank.

Inefficiency banks often caused by poor quality of management so that the supervision and control of the use is not done properly. The low quality of management also resulted in poor credit management process that contributes to the high level of NPL.

This study has several limitations. First, the sample used in this study is limited to the period 1/1/2009-12/31/2013. Second, the factors used in this study are limited to five variables: SIZE, CAR and ROA as internal factors and GDP and Inflation as external factors.

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