

Non-Performing Loan Moderated by Risk: Speed Adjustment and Gender

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ABSTRACT

This Research aims to explore determinant of Non-Performing Loan using internal and external variable and it also investigate speed adjustment in Non-Performing Loan. This research used Model Panel Data to estimate and to test their relationship with period data of 2014 to 2018. This research has results that Non-Performing Loan Lag one, Loan Deposit Ratio, Capital Adequacy Ratio, Gender, Market Power were significant to affect current Non-Performing Loan. These Exchange rate and Fed Rate Variable variables of external factor are significant to affect current Non-Performing Loan. Non-Performing Loan Lag-one, Loan Deposit ratio, Gender, Fed Rate and Exchange rate variable was supported by Risk as moderating variable to affect current Non-Performing Loan

Keywords

Non-Performing Loan, Net Interest Margin, Risk, Market Power, Capital Adequacy Ratio, Gender, Moderating Variable, speed adjustment, Exchange Rate and Fed Rate

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Introduction

Non-Performing Loan (NPL) is a bank performance indicator that Central give attention to it. Every month, the bank should report number of Non-Performing Loan to central Bank which is expected at least below 2%. Management of bank review distribution of loan that it will make the NPL should below 2%. It means that target of NPL become at least 2%. If the bank has NPL more than 2%, Management of the bank should improve it go back to below 2%. How long the NPL go back to below 2% called it Speed adjustment. This research wants to investigate determinant of Non-Performing Loan and Speed adjustment of NPL. Hutahayan et.al (2020) studied Determinants of Non-Performing Loan Moderated by Asset.

Speed adjustment is an indicator to state that how long the variable target achieves the equilibrium number. It means that there is a target number for the variable, for example Debt to Equity Ratio. Speed adjustment firstly introduced by Ozkan (2001) and then followed by Flannery and Rangan (2006) and furthermore by Drobetza and Wanzenried (2006). Sitorus et.al (2014) examined speed adjustment for DER in Telecommunications industry. Nugroho et.al (2015) studied Speed of Adjustment Towards the Leverage Target Plantation Companies in Indonesia. Manurung and Kartika (2020) study speed adjustment for Loan Deposits Ratio in Indonesia Bank over period of 2010 to 2019. Simorangkir et.al (2020) studied speed adjustment of NPL, but it does not significant.

Womans enter as one of board director to become hot topic in last ten year. Ruigrok et.al (2007) studied foreign directors tend to be more independent, women directors are more likely to be affiliated to firm management through family ties and that foreign directors hold significantly lower numbers of directorships at other Swiss boards. Adams and Ferreira (2009) explored that woman in boardroom has impact on governance and performance.

Nguyen et.al (2015) studied that board gender diversity appears to have an effect on firm performance. Nadeem et.al (2017) explored that a significant positive relationship between women's representation on boards and corporate sustainability practices. Ahmed and Ali (2017) found existing woman in boardroom to liquid stock in market. Reddy and Jadhav (2019) examined role woman as member of boardrooms and put it in literature review. García-Sánchez et.al (2019) found that Female Director made impression company in sustainability reporting. Michellianouva et.al (2020) studied woman as boardroom affect bank health. This variable included in this research. Net Interest Margin (NIM) is an indicator to show how big the spread of interest- rate the bank taking to them. Flannery, M. J. (1981) explored Market Interest Rates and Commercial Bank Profitability. Demirgüç-Kunt and Huizinga (1999) examined Determinants of Commercial Bank Interest Margins and Profitability. Kannan et.al (2001) explored Determinants of Net Interest Margin under Regulatory Requirements. Mujeri and Younus (2009) explored Analysis of Interest Rate Spread in the Banking Sector in Bangladesh. Zhou and Wong (2008) examined the Determinants of Net Interest Margins of Commercial Banks in Mainland China. Manurung et.al (2020) studied Determinant of Net Interest Margin moderated by Risk. This Net Interest Margin variable includes in this research.

Loan to Deposits Ratio (LDR) is a measurement intermediary of a bank. Practitioners and Regulator expected this ratio nearly to 85%, because Central bank ask bank to provide reserve requirement and bank also provide funding for currency trading. Chou and Buchdadi (2016) discussed Loan for Rural Bank in Indonesia. Makri et.al investigated impact LDR to Non-Performing Loan. Rengsamay (2014) explore LDR in Malaysia Bank. Prasanjaya and Ramantha (2013) studied loan Deposit Ratio to affect Bank Performance. Manurung and Kartika (2020) explored Loan

Deposits Ratio Moderated by Risk in Indonesia. This variable includes in this research.

Capital Adequacy Ratio is a ratio that shows the capability of a bank in term to provide risk. Raharjo et.al (2014) examined CAR for State Owned Bank in Indonesia. Abusharba et.al (2013) examined CAR affecting Islamic Bank performance in Indonesia. Garcia (2019) investigated Effect Macroeconomics to Bank Capital. Nguyen (2020) and Thoa and Anh (2017) discussed CAR of Bank in Vietnam. Usman et.al (2019) investigated CAR of Bank in Indonesia. This CAR Variable include in this research.

External factors could also affect Non-Performing Loan, for example if Federal Reserve USA changes the FED Rate, it will change the interest rate policy in some countries. Many Countries use Fed Rate as Policy rate. This Fed Rate will be used as an independent variable which affect CAR of bank. Anthanasoglou et.al (2006) investigated Bank-specific, industry-specific and macroeconomic determinants of bank profitability. Molyneux and Thornton (1992) studied FED Rate affecting Bank Performance. Altunbas et.al (2014) explore monetary policy to affect bank performance. Lichtner et.al (2018) investigated Fed Rate Risk to bank performance. Kohlscheen (2018) studied macroeconomics variables such as FED Rate affecting Bank Performance.

Another macroeconomic variable could affect Non-Performing Loan which is Exchange Rate. This variable showed that how good economic a country compared to other country. Rachid (2020) studied Exchange Rate to Non-Performing Loan in MENA Area. Mohamadi et.al (2016) studied impact Exchange rate on Non-Performing Loan in Banking System of Iran. Mondal (2016) explore impact macroeconomic variables to Non-Performing Loan in Bangladesh. Haniifah (2015) studied Impact Exchange Rate to Non-Performing Loan in Ugandan. Bhattarai (2014) studied exchange rate affect Non-Performing Loan in Nepali. Janvisloo and Muhammad (2013) studied Non-Performing Loan and macroeconomic variable in Malaysian Banking.

Risk of Bank could be categorized by business of the bank which is credit, market risk, liquidity risk, operational and technology. Currently, bank always use value at risk to measure risk that bank could provide by for facing risk in the future. In this paper, risk is used as independent variable together other independent variable. Risk is measured by standard of deviation stock return or price market. Fama (1970) stated that all information in the company reflected in the market price in stock exchange. The moderating variable could be stated to strong or to weak relationship between dependent variable and independent variable (Manurung, 2019, Sharma 1981). Shatnawi et.al (2019) studied risk as moderating variable on relationship board structures and corporate performance. Tasmin and Muazu (2017) investigated risk management as moderating variable to determine Enterprise Risk Management. Manurung et.al (2020) explored risk as moderating variable for determining non-performing loan in Indonesia bank.

Literature Review

Bank is an intermediary financial institution in a country that manage by some professionals have huge experience working in bank to get profit for its operation. Bank is a

heavy regulated of institutions and the government has big tension to the bank. Bank collected fund or money from the surplus unit or household and distribute to deficit units or company, and the bank get margin as a return to them. Bank has four tasks to transform which is transformation of value, time, risk and liquidity (Manurung, 2017). Bank needs the huge capital to operate it as requirement the banking regulator or central bank of a nation. The Capital of Bank will grow as much as profit that bank be gotten it and issued shares to existing shareholder and/or public. Then, the capital of bank could be arranged as follows:

$$\left. \begin{aligned} E_1 &= E_0 + \pi_1 \\ E_2 &= E_1 + \pi_2 = E_0 + \{\pi_1 + \pi_2\} \\ E_n &= E_0 + \{\pi_1 + \pi_2 + \dots + \pi_n\} \end{aligned} \right\} (1)$$

E_0 is seed capital of company when company start to establish. E_1 is capital bank on year - 1 and grow from on year - 0 by profit (π_1) then it grows again by profit on year - 2 (π_2), so total Capital become E_2 as mention in equation (1). Then it continues increasing by profit to the end of the company.

Bank could increase their capital through profit ($\pi_1, \pi_2, \dots, \pi_n$) and issue shares to other people or public (Svitek, 2001), and also issue long term debt is known Subordinate Debts (Kleff dan Weber, 2008). Profit of the bank could be calculated with assumptions that r, i, ρ are constant as follows:

$$\pi = (1 - T)(r * L - i * D - \rho L) \quad (2)$$

T = tax

L = Loan

D = Deposits

r = rate of Loan

i = rate of deposits

ρ = rate of Non-Performing Loan

If $L = (1 - \alpha) * D + E$, which is α as reserve requirement by central bank that it provide by bank (Jiang, 2010). Then, equation (2) could be rewrite as follows:

$$\pi = (1 - T) * [r * \{(1 - \alpha) * D + E\} - i * D - \rho \{(1 - \alpha) * D + E\}] \quad (3)$$

$$\frac{\pi}{E} = (1 - T) * [(r + \rho) + \{(1 - \alpha) * (r - i) * \frac{D}{E}\}] \quad (4)$$

(π / E) is known as Return on Equity (RoE). If we want to make equation (4) to become (π / A) , is known as return on asset (RoA), Equation (3) could be rewrite as follows:

$$\frac{\pi}{A} = (1 - T) * [(r + \rho) + \{(1 - \alpha) * (r - i) * \frac{D}{A}\}] \quad (5)$$

If $E = A - D$, so Equation (4) could be rewritten as follows:

$$\frac{\pi}{A} = (1 - T) * [(r + \rho) + \{\alpha * (\rho - r) - i\} * \frac{D}{A}] \quad (6)$$

Equation (4) dan (6) are first indicator to see bank of financial performance for practitioners, academician and Regulator. If we want to maximize for each RoA and RoE, then we could derive first order for equation (4) with (D/E) and equation (6) with (D/A).

Then, this research discusses Non-Performing Loan (NPL) in bank, so Equation (3) could be arranged as follows:

$$\rho = \frac{r * E + \{(1 - \alpha) * r - i\} * D - \pi}{E - (1 - \alpha) * D} \quad (7)$$

Equation (7) has a requirement that $\rho \geq 0$ which is $r > i > \rho$.

This Equation said that supervisory financial institution could be determined the rate of Non-Performing Loan as maximum rate to make flexibility this ratio in a bank. Bank has soundness if the NPL has ratio at least 2%. Bank Central always call the bank if he got report the NPL more than 2%. Bank Central will ask them to improve the NPL below at 2%. The bank will improve it to adjust NPL at below 2% and take times. Speed Adjustment is time to adjust NPL to below target which is 2%. Ozkan (2001) and Flannery and Ragan (1985) stated that speed adjustment is calculated by $(1-\lambda)$. λ is coefficient of model which is slope of coefficient of lag-one. Speed adjustment is in data period that it used in the research.

Methodology and Data

Model

Based on the previous explanation, this research wants to explore internal and external factor to determine Non-performing Loan of bank and there is risk variable putting as moderating variable. The Figure 1 will explain as follows:

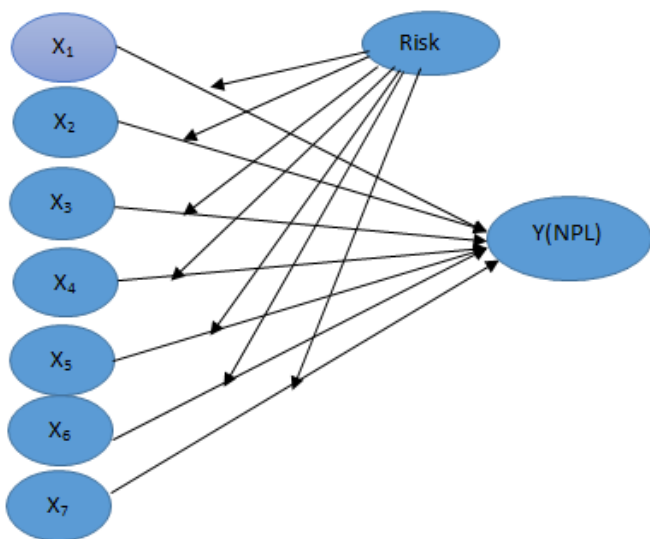


Figure 1. Research Model of Determinant of NPL

The Model in mathematics is as follows:

$$NPL_{i,t} = b_0 + \lambda NPL_{i,t-1} + b_1 NIM_{i,t} + b_2 LDR_{i,t} + b_3 CAR_{i,t} + b_4 MP_{i,t} + b_5 Risk_{i,t} + b_6 EX_t + b_7 FED_t + b_8 (NPL(-1)*Risk)_{i,t} + b_9 (LDR*Risk)_{i,t} + b_{10} (CAR*Risk)_{i,t} + b_{11} (MP*Risk)_{i,t} + b_{12} (EX_t*Risk_{i,t}) + b_{13} (FED_t*Risk_{i,t}) + \epsilon_{i,t} \quad (8)$$

NPL = Non-Performing Loan

NIM = Net Interest Margin

LDR = Loan to Deposits Ratio

CAR = Capital Adequacy Ratio

MP = Market Power

Risk = Risk Faced by bank

EX = Exchange Rate

Fed = FED Rate

$b_0, b_1, b_2, \dots, b_8$ and λ = coefficient of model

Estimation Model Using Panel Data

Model Panel Data

This research use Model data Panel to estimate relationship some independent variable to determine Non Performing Loan (NPL) as dependent variable and Net Interest Margin, Capital Adequacy Ratio (CAR), Market Power (MP), Loan to Deposits Ratio (LDR), Total Asset (TAS), Oil Price and Fed Rate as independent. This research also uses Oil Price and Fed Rate as external variable. Total Asset is used as moderating variable. Model Data Panel is appropriate for data small which short time series and small company as sample. Besides that, model data panel also show time and the cross-section as sample. Gujarati (2003), Wooldridge (2002), Greene (2008), Biorn (2017) and Sul (2019) stated model data panel is as follows:

a. Pooled Data Model

Pooled Data Model is model that data combine all together and the model is as follows:

$$Y_{i,t} = \beta_1 + \beta_2 X_{2i,t} + \beta_3 X_{3i,t} + \mu_{i,t} \quad (9)$$

$$i = 1, 2, \dots, k; \quad t = 1, 2, \dots, n$$

X's are non-stochastic and $E(\mu_{it}) \sim N(0, \sigma^2)$

b. Fixed Effect Model

FEM is a model that μ_i and X's are assumed correlated.

$$Y_{i,t} = \beta_{1i} + \beta_2 X_{1i,t} + \beta_3 X_{2i,t} + \mu_{i,t} \quad (10)$$

$$i = 1, 2, \dots, k; \quad t = 1, 2, \dots, n$$

c. Random Effect Model (REM)

REM is a model that ϵ_i and X's are assumed uncorrelated.

$$Y_{i,t} = \beta_{1i} + \beta_2 X_{1i,t} + \beta_3 X_{2i,t} + \mu_{i,t} \quad (11)$$

$$\beta_{1i} = \beta_1 + \epsilon_i$$

$$i = 1, 2, \dots, k; \quad t = 1, 2, \dots, n$$

μ_i is a random error with a mean value of zero and variance of σ_ϵ^2 .

Judge (1982), Wooldridge (2002), Biorn (2017) and Sul (2019) stated that how we choose FEM or REM as follows:

1. When T (number of time series data) is large and N (the number of cross-sectional units) is small, FEM may be preferable.

2. When N is large and T is small, if we strongly believe that the individual, or cross-sectional, units in our sample are not random drawings from a larger sample, FEM is appropriate. If the cross-sectional units in the sample are regarded as random drawings, the REM is appropriate.

3. When individual error component ϵ_i and one or more regressors are correlated, FEM is an unbiased estimator.

4. REM estimators are more efficient than FEM Estimators, when N is large and T is small and if the assumptions underlying REM hold.

Data

Data for this research was collected from company website and newspaper which is published by the company as mandatory requirement from government and Indonesia Stocks Exchange. Data is annually data that collected for period of 2014 to 2018 which is Non-Performing Loan, Net Interest Margin, Capital Adequacy Ratio (CAR), Market Power, Loan to Deposits Ratio and Risk. Then, this research also uses Exchange Rate and Fed Rate as external variable which is known by macroeconomic variables. These macroeconomic data were collected from Bank Indonesia. Exchange Rate are transformed to logarithm natural, while model run by Eviews Program.

Discussion and Analysis Data

In this sub-section will discuss research results which divide into 2 groups. First explanation will discuss descriptive statistics. Then, the explanation will discuss to causality.

Descriptive Statistics

In this sub-section, it will discuss causality of Non-Performing Loan with other variables. Table 1 show the descriptive statistics for the research variable in this paper. Non-Performing Loan has minimum value of 0.08%, maximum of 8,9%, Average of 2% and Standard of Deviation of 1,45%. Central Bank of Indonesia ask all bank to maintain value of NPL below 2% from the credit distribution.

Table 1: Descriptive Statistics Banking Indicator

	NPL	NIM	LDR	CAR	MP	Risk	Gender	EX	Fed Rate
Minimum	0.08%	1.12%	50.61%	8.02%	0.04%	8.12%	0%	12388	0.50%
Maximum	8.90%	12.00%	145.26%	42.64%	15.85%	142.62%	63%	14390	1.25%
Average	2.00%	5.06%	85.41%	19.29%	2.83%	43.76%	19%	13485.89	0.65%
STDEV	1.45%	2.13%	12.74%	5.16%	4.21%	23.38%	17%	1.056415	0.34%
Skewnes	1.394647	117.25%	0.183399	1.285808	1.896252	1.508129	0.46	-0.8265	2.236
Kurtosis	3.47849	190.66%	4.025904	4.313067	2.462889	2.598106	-0.75	1.644897	5.000

Suorces: Researcher Process

Net Interest Margin (NIM) is a measurement to show bank spread to get profit from Loan distribution. Mostly this spread is around of 5% after Indonesia’s crises and around 4% before crises era (Manurung et.al, 2020). Net Interest Margin (NIM) has minimum of 1.12%, maximum 12%, average 5.06% and standard of deviation of 2.13%. This figure stated that variation of NIM is small.

Loan Deposits Ratio (LDR) has minimum of 50,61%, Maximum of 145.26%, Average of 85.41% and Standard of deviations of 12,74%. This data showed that this ratio has varying value, because there is maximum more than 100% out of deposits. So, Financial Supervisory institutions should take car for some bank that bank has ratio of LDR more than 100%.

Capital Adequacy ratio is a measurement of bank to provide capital for its operation (Saunders and Cornett, 2014). Capital Adequacy Ratio has minimum of 8.02%, maximum of 42.64%, average of 19,2% and standard of deviations of 5.16%. These Figures have small varying, why standard of

deviation is very small. Central Bank asked bank to maintain this figure at minimum of 8%.

Market Power is an indicator to see how good bank could dominate market in lending. Market power has minimum Of 0.04%, maximum of 15.85%, Average of 2,83% and standard of Deviations of 4.21%. These figures also showed that it is varying very small and it is likely to figure of car. Number of banks is more than 100 banks, that it is one factor to make the small figure for market power and also the standard of deviations.

Risk is a variable that bank should transform it to operate bank (Manurung, 2018). Risk has minimum of 8.12%, maximum of 142.62%, average of 43.76% and standard of deviations of 1.056. The bank faced high risk to operate the bank. This data showed it as expected about bank.

Exchange rate is a macroeconomic indicator to show how good economic a country compared to other country. Exchange Rate has minimum of IDR. 12,388 per USD\$ 1, maximum of IDR 14,390 per US\$1, average of IDR 13,486 per USD\$1, and standard of deviations of 1.208 during the period. 12%, maximum of 142.62%, average of 43.76% and standard of deviations of 1.056. This figure stated that Exchange has small fluctuation over the period. It also stated that economic could be stable over the period 2014 to 2018.

Fed Rate is an indicator in macroeconomic and it became a policy rate for emerging market. All government staff in emerging market always consider this policy rate. Fed Rate has minimum of 0.5%, maximum of 1.25%, average of 0.65% and standard of deviations of 0.34%. These figures showed that Government of USA maintain small interest to push economic growth.

Causal analysis

This sub-section will discuss relationship independent variable on current Non-Performing Loan moderated by Risk. The Relationship will be estimated using Model Panel Data. This relationship used Fixed Effect Model because data was not selected by randomly (Gujarati and Porter, 2009 and Greene, 2008). Mostly research used level of significant from 1% to 10%. Level of significant of 1% is considered the highly precise of tolerance error. In this research, level of significant of 20% is used to test hypothesis, because some businessman give tolerance loss more than 20% to make their business going concern (Dumicic et.al 2014; Lippert and Forman, 2006; Kim and Ji, 2015). The model panel data is calculated using tool of Eviews Program as follows:

$$\begin{aligned}
 NPL_{i,t} = & 2.291 + 0.251 NPL(-1)_{i,t} + 0.065 NIM_{i,t} + 0.031 \\
 LDR_{i,t} - & 0.095 CAR_{i,t} - 0.217 MP_{i,t} \\
 & (0.0289) \quad (0.633) \quad (0.068) \\
 & (0.007) \quad (0.0152) \\
 & - 2.743 Risk_{i,t} + 0.027 GNDR_{i,t} - 0.236 EX_t + 2.166 \\
 FED_t - & 0.532 (NPL(-1)*Risk)_{i,t} \\
 & (0.152) \quad (0.009) \quad (0.009) \quad (0.003) \\
 & (0.003) \\
 & +- 0.202 (NIM_{i,t}*Risk_{i,t}) + 0.041 (LDR_{i,t}*Risk_{i,t}) - \\
 & 0.013 (CAR_{i,t}*Risk_{i,t}) \\
 & (0.240) \quad (0.097) \\
 & (0.788)
 \end{aligned}$$

$$\begin{aligned}
 & - 0.015 (MP_{i,t} * Risk_{i,t}) - 0.032 (GNDR_t * Risk_{i,t}) - \\
 & 2.874 (FED_t * Risk_{i,t}) \\
 & (0.792) \qquad \qquad \qquad (0.046) \\
 & (0.094) \\
 & + \qquad \qquad \qquad 0.92 \qquad \qquad \qquad (Ex_t * Risk_{i,t}) \\
 & (12) \\
 & (0.151)
 \end{aligned}$$

$$R^2 = 98.66\%$$

$$F = 103.928$$

P=value in the brackets.

Equation (12) has good of fit model using F-testing which is F-testing greater than F-Table at level of significant of 5%. The variation of All independent variable could explain variation of Non-Performing Loan as dependent variable by 98.66% and the rest by others variable.

In this research, topic of speed adjustment become a topic discussion about Non-Performing Loan. Ozkan (2001), Flannery and Rangan (2006), Drobotza and Wanzenried (2006). Sitorus et.al (2014), Nugroho et.al (2015) and Manurung and Kartika (2020) studied about speed adjustment. Non-Performing Loan lag-One significantly positive affected Current Non-Performing Loan at level of Significant of 5%. This Research supported previous research and theory of NPL. Coefficient of Speed adjustment in the model is 0.251 that it stated the time of NPL back to equilibrium within 9 months. It means that period of NPL back to equilibrium less than one year. Management of bank should realize that all of action in the bank will charge 9 months to back equilibrium of NPL. This period nearly similar to results of Simorangkir (2020) research.

Loan to Deposit Ratio (LDR) is a measurement to state how the company distribute loan to bank customer. This ratio is sometimes called as ratio for bank intermediary function. LDR has positive impact to NPL and statistically significant affect current NPL at level of significant of 10%. Increasing in LDR should increase Bank NPL. This result support the previous research and theory of LDR.

Capital Adequacy Ratio is a measurement how big the bank provide capital to operate bank. People asked this ratio should be higher to make trust of bank customer. The commitment of owner should be stated by this number of CAR. CAR has negative impact to NPL and statistically significant affect current NPL at level of significant of 1%. This result supported the previous research and theory of CAR.

Market power is a measurement of how the bank to dominate the market for lending. Market power has negative impact to NPL and statistically significant affect current NPL at level of significant of 5%. Increasing of Market power will decrease the Non-Performing Loan by 0.217 unit. This result supported the previous research and theory.

Risk in bank is a measurement of how big the bank faced the risk in all operations. Risk has negative impact to NPL and statistically significant affect current NPL at level of significant of 20%. This result supported the previous research and theory.

Gender enter to board becoming hot topic of discussion. Gender could retain the aggressiveness of board of men in the company. As team, boardroom become more carefully to take decision. It will affect bank performance. Ruigrok

et.al (2007), Adams and Ferreira (2009), Nguyen et.al (2015), Nadeem et.al (2017), Ahmed and Ali (2017), Reddy and Jadhav (2019), García-Sánchez et.al (2019), and Michellianouva et.al (2020) studied about Woman enter to boardroom to push good bank performance. This Research found that Gender has positive impact to Non-Performing Loan and statistically significant affect current NPL at level of significant of 1%. This research supported the theory and previous research.

This research uses two macroeconomic variable which is Exchange rate and Fed Rate to affect Non-Performing Loan. The two variables are used as external company variable, because these two variables could be stated to have big impact Indonesia's Economic. Exchange Rate Negative impact to NPL and statistically significant affect current NPL at level of significant of 1%. This result supported previous research and theory.

FED Rate is a rate issued by Federal Reserve of United State of American. Fed Rate becomes a policy interest-rate for all countries in the world. Fed Rate has positive impact to NPL and statistically significant affect current NPL at level of significant of 1%. Increasing of Fed Rate affect to increase the Non-performing Loan. This result supported the previous research and theory.

Net Interest Margin (NIM) is a ratio the bank to get return for distributing loan to bank customer. NIM also become a variable to study in this research. NIM does not have significantly impact to Non-Performing Loan.

In this paper, a variable entered to model which is called moderating variable. This variable could strength or weak the relationship independent variables and dependent variables. Risk is chosen as moderating variable in this research. Risk is better moderating variable compared to asset variable. Risk has significantly to strength or weakness relationship NPL Lag One, LDR, Gender, Exchange rate and Fed Rate with current NPL. Insteadly, Risk as moderating variable does not support to strength or weakness relationship between NIM, CAR, and Market Power.

Conclusion

Based on the previous explanation, this research has some conclusions which is first,

Non-Performing Loan has average of 2% and Standards of Deviation of 1.45%. This ratio also showed that all bank fulfils bank central requirements. Second, Speed adjustment of NPL has period within 9 months back to value of equilibriums of 2%.

Third, this study also used internal factor to affect current Non-Performing Loan which is Non-Performing Loan Lag-one, Loan Deposit Ratio, Capital Adequacy Ratio, Gender, Market Power, and Risk. Mostly variables except Net Interest Margin have significant to affect current Non-Performing Loan.

Fourth, this study also used external factor to affect current Non-Performing Loan which is Exchange Rate Price and Fed Rate. These two variables of external factor are significant to affect current Non-Performing Loan.

Fifth, this research also investigated risk variable as moderating variable to affect current Non-Performing Loan. Non-Performing Loan Lag-One, Loan Deposit Ratio,

Gender, Exchange Rate and Fed Rate variable was supported by Risk as moderating variable to affect current Non-Performing Loan.

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