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Loan Deposits Ratio of Indonesia Bank: Speed Adjustment?

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Abstract

This paper aims to explore determinant of Loan Deposit Ratio and including to examined speed adjustment. This paper will use model panel data and research period of 2010 to 2019. This research found that Loan to Deposits ratio lag one, Net Interest Margin, Non-Performing Loan, Capital Adequacy Ratio, Risk Adjusted Return on Capital, Risk and Market Power as internal factor significant affect Loan to Deposits Ratio. Cement consumption and Fed Rate significant affect Loan to Deposits Ratio. The bank could adjust the LDR around 9.99 months to get back equilibrium.

Keywords: *We Loan Deposits Ratio, Net Interest Margin, Non-Performing Loan, Market Power, Speed Adjustment*

1. Introduction

Based on Data of Bank Indonesia, Credit distributed to all consumer amount of IDR 1,307.69 at the end year of 2008 and grew to IDR of 5,683.76 or average growth of 14.29 p.a. for period 2008 to 2018. Bank collected fund from the surplus unit starting IDR 1,753.29 at the end of year 2008 and grew to IDR 5,998.65 or average growth of 11,83% p.a. This data showed that credit growth is higher than funding growth. This Figure also indicates that Loan to deposits is below 100%. If we refer to rule issued by Central bank and Financial Supervisory Institution that a bank should provide reserve requirement as part of deposits putting in Central Bank. Bank also provide fund to treasury department for trading currency and government bond and others. Bank should distribute fund from deposits, saving and checking account less than 90%. It means the Loan to deposits ratio has fluctuation with maximum of 90% or nearly 85% (Manurung et.al 2020a).

Research on Loan to Deposits ratio is still limited especially in Indonesia. Manurung and Hutahayan (2020) investigated bank market power in Indonesia. Oyebowale (2019) discussed bank lending in Nigeia. Asmara and Supardi (2019) examined Determinant of Credit Distribution in Indonesian Bank. Rengasamy (2014) studied impact Loan to Deposits Ratio to Bank profitability. Chou and Buchdadi (2016) examined bank performance which is Loan to Deposits ratio as a determinant variable. Adzis et.al (2018) explored determinant of Bank Lending in Malaysia. Byusa and Nkusi (2012) discussed credit policy in Rwanda. DiSalvo and Johnston (2017) discussed currently banking trend increasing Loan to Deposits Ratio. Lee (1985) explored commercial loan rate. Based on that, why this paper wants to discuss Loan to Deposits Ratio.

Loan to Deposits Ratio could also be considered as bank performance, because this ratio become target the management and reported to central bank or Financial Supervisory Institution in Indonesia. This paper try to use Loan to Deposits Ratio lag-one, Net Interest margin – NIM(Mujeri and Younus, 2009), Non-performing Loan – NPL

(Nikolov and Popovska-Kamnar, 2016), Capital Adequacy Ratio – CAR (Kumar and Anjum, 2017), Risk Adjusted Return on Capital – RAROC (Naimy, 2012), Risk and Market Power (Manurung and Hutahayan, 2020) as internal bank factor affecting Loan to Deposits Ratio. Besides that, Exchange rate, Oil Price, Cement Consumption and Fed rate is used as external bank factor or macroeconomic variable (Sufian, 2011). Cement Consumption is included as external bank factor because cement consumption as proxy economic growth (Usman et.al, 2020). Cement consumption indicates growth of construction sector. In Indonesia economic growth, Growth of Construction sector become the highest contribution sector to economics.

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.

Loan to Deposits ratio lag-one is examined in this research to see impact to Loan to Deposits ratio back to target which is called speed adjustment. Speed adjustment stated a measurement how long the variable back to target (Drobetz and Wanzenrie, 2006; Flannery and Rangan, 2006). Research in Capital Structure always used speed adjustment to see how long the debt to equity ratio back to target Capital Structure.

This research wants to consider Risk of bank to become moderating variable in the equation model. Risk of bank is measured by standard of deviation of stock return. 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) examined risk as moderating variable on relationship board structures and corporate performance. Tasmin and Muazu (2017) used risk management as moderating variable to determine Enterprise Risk Management. Manurung et.al (2020b) used risk as moderating variable for determining non-performing loan in Indonesia bank.

2. Theoretical Review

Bank is an intermediary financial institution that manage by some professional to get profit and transformation for its operation. Bank is a heavy regulated institution in Indonesia or overseas and their government has big tension to the financial institution especially bank. As a bank, they collected fund or money using deposits or saving or check account from the surplus unit or household and distribute to deficit units or company, and the bank get margin as a return back to them. Bank has four tasks to transform which is value, time, risk and liquidity (Manurung, 2017). Bank needs the high capital to operate it business 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. Then, the capital of bank could be arranged as follows:

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

E_1 is capital bank on year – 1 and grow from on year – 0 by profit (π_1) then it grow again by profit on year – 2 (π_2), so total Capital become E_2 as mention in equation (1).

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 , and α are constant (Jiang, 2010, Manurung et.al, 2020; Manurung and Hutahayan, 2020) as follows:

$$\pi = (1 - T)[(r + m) * L - r * \{(1 - \alpha) * D + E\} + fb] \quad (2)$$

T = tax; L = Loan; D = Deposits; E = equity; r = cost of capital
 m = expected margin; α = reserve of requirement; fb = fee-based income

If Equation 2 is arranged to be equation of Loan to Deposits Ratios, the equation will be as

$$\frac{\pi}{(1-T)} = (r + m) * L - r * TA + r * \alpha * D + fb \quad (3)$$

$$L = \frac{\pi}{(r+m)*(1-T)} + \frac{1}{(r+m)} [r * TA + r\alpha D + fb] \quad (4)$$

$$\frac{L}{D} = \frac{\pi}{D*(r+m)*(1-T)} + \frac{1}{(r+m)} [r * \frac{TA}{D} + r * \alpha + \frac{fb}{D}] \quad (5)$$

Based equation (5) Load to Deposits Ratio is function of profit to deposits, leverage of bank and fee based to deposits, cost of capital, net interest margin. But it could be added by macroeconomics variable with divide cost of capital to some variable of macroeconomics.

3. Research Design

Model

Based on the previous explanation, this research wants to explore determinants of Loan to Deposits Ratio including speed adjustment and there is risk variable putting as moderating variable. The Figure 1 will explain at below.

The Model in mathematics is as follows:

$$\begin{aligned} \text{LDR}_{i,t} = & b_0 + b_1 \text{LDR}_{i,t-1} + b_2 \text{NIM}_{i,t} + b_3 \text{NPL}_{i,t} + b_4 \text{CAR}_{i,t} \\ & + b_5 \text{RAROC}_{i,t} + b_6 \text{RISK}_{i,t} + b_7 \text{MP}_{i,t} + b_8 \text{EX}_{i,t} \\ & + b_9 \text{CMNT}_{i,t} + b_{10} \text{OILP}_t + b_{11} \text{FED}_t + b_{11} \text{D1}_t \\ & + b_{12} (\text{LDR}(-1)*\text{RISK})_{i,t} + b_{13} (\text{NIM}*\text{RISK})_{i,t} \\ & + b_{14} (\text{NPL}*\text{RISK})_{i,t} + b_{15} (\text{CAR}*\text{RISK})_{i,t} \\ & + b_{16} (\text{RAROC}*\text{RISK})_{i,t} + b_{17} (\text{MP}*\text{RISK})_t \\ & + b_{18} (\text{EX}*\text{RISK})_t + b_{19} (\text{CMNT}*\text{RISK})_t + b_{20} (\text{OILP}*\text{RISK})_t \\ & + b_{21} (\text{FED}*\text{RISK})_t + b_{22} \text{D1} + \varepsilon_{i,t} \end{aligned} \quad (6)$$

LDR = Loan to Deposits Ratio
 NIM = Net Interest Margin
 NPL = Non-Performing Loan
 CAR = Capital Adequacy Ratio
 RAROC = Risk Adjusted Return on Capital
 MP = Market Power
 RISK = total risk of bank
 EX = Exchange Rate
 OILP = Oil Price
 CMNT = Cement Consumption
 FED = Fed Rate

D1 = Dummy variable, 1 = periode 2008 – 2009, 0 = others

$b_0, b_1, b_2, \dots, b_{18}$ = coefficient of model

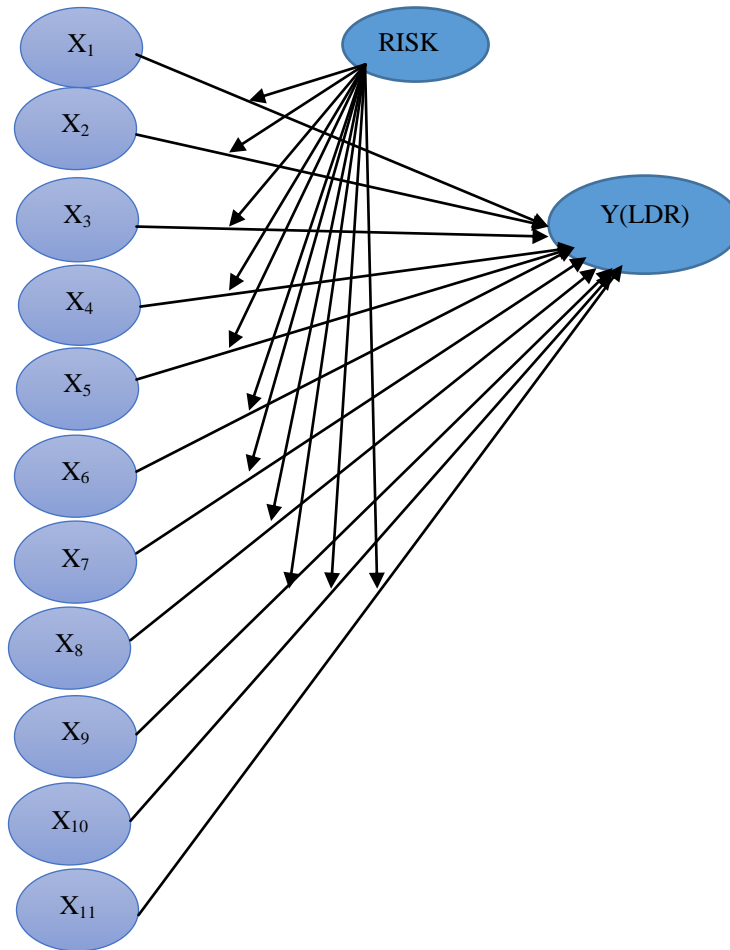


Figure 1. Research Model of Determinants of LDR

Estimation Model Using Panel Data

Model Panel Data

This research use Model data Panel to estimate relationship some independent variable to determine Loan to Deposits Ratio as dependent variable and Net Interest Margin, Non-Performing Loan (NPL), Capital Adequacy Ratio (CAR), Market Power (MP), Risk Adjusted Return on Capital (RAROC), Risk, Oil Price, Exchange Rate (EX), Fed Rate and Cement Consumption as proxy Economic Growth (EG) which is all as independent variable. This research also uses Oil Price, Exchange Rate and Economic Growth as macroeconomic or external variable to become independent variable. Risk 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:

$$Y_{i,t} = \beta_1 + \beta_2 X_{2i,t} + \beta_3 X_{3i,t} + \mu_{i,t} \quad (7)$$

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

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.

$$Y_{i,t} = \beta_{1i} + \beta_2 X_{1i,t} + \beta_3 X_{2i,t} + \mu_{i,t} \quad (8)$$

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

c. Random Effect Model (REM)

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

$$Y_{i,t} = \beta_{1i} + \beta_2 X_{1i,t} + \beta_3 X_{2i,t} + \mu_{i,t} \quad (9)$$

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

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

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 publish by the company as mandatory requirement from government and Indonesia Stocks Exchange. Sampling used purposive sampling that bank has complete annual report for 2008 to 2018 and listed in Indonesia stock exchange. There are 25 companies as unit analysis in this research. Data is annually data that collected for period of 2008 to 2018 which is Loan to Deposits Ratio, Net Interest Margin, Non-Performing Loan, Capital Adequacy Ratio (CAR), Market Power, Risk and Risk Adjusted Return on Capital (RAROC) as independent variables. Then, this research also uses Oil Price, Exchange Rate, Fed Rate and Cement Consumption as proxy of Economic Growth which is all as external variable. These economic data were collected from Bank Indonesia. Risk is measured using Standard of Deviation of stock return (Manurung et.al, 2020b) Oil price and cement Consumption are transformed to logarithm natural, while model run by Eviews Program.

4. Analysis and Discussion

This section is divided into two analysis which is descriptive statistics and determinant of Loan to Deposits Ratio (LDR) including speed adjustment. The analysis starts from descriptive statistics and follow determinant of LDR.

Descriptive Statistics

This sub section will discuss descriptive statistics of Loan to Deposits Ratio, Net Interest Margin, Non-Performing Loan, Capital Adequacy Ratio, Risk Adjusted Return on Capital (RAROC), Market Power, Risk, Oil Price, Exchange Rate, Fed Rate and Cement Consumption as proxy Economic Growth. Table 1 shows all descriptive data.

Table 1: Descriptive Statistics of Research Variables

	LDR	NIM	NPL	CAR	MP	Risk	RAROC	EX	OILP	Cement	FED Rate
Minimum	0.84%	1.12%	0.00%	8.0%	0.03%	3.99%	-161.40%	8,996.00	37.04	38,087.74	0.5%
Maximum	145.26%	16.64%	20.51%	46.8%	15.85%	541.44%	95.93%	14,390.00	98.56	69,565.13	4.8%
Median	84.03%	5.18%	1.55%	17.0%	1.06%	43.70%	27.81%	12,171.00	60.42	58,005.04	0.5%
Average	81.59%	5.69%	1.94%	18.1%	2.85%	59.31%	20.66%	11,460.68	64.29	53,200.31	1.3%
STDEV	14.75%	2.44%	1.96%	5.8%	4.07%	60.02%	43.80%	1.20	1.42	1.25	1.7%
Skewness	-0.57	1.38	4.51	1.82	174.73%	497.77%	-1.38	0.79	0.88	0.55	1.85
Kurtosis	4.67	2.43	34.96	5.66	196.11%	3156.15%	2.62	0.17	0.20	0.28	1.87
Jarque Berra	47.049	90.711	12634.998	233.690	152.306	10482.914	89.415	120.940	125.138	98.623	171.989
Sources: Processing By Researcher											

A bank could be known by distributing fund through credit to their customer, why bank is called as intermediary financial institution. Loan to Deposits ratio is an indicator to state the bank as intermediary financial institution. This ratio has minimum of 0.84%; maximum of 145.26%; average of 81.59% and standard of deviation of 14.75%. This figure indicates that fluctuation of loan to deposits ratio is on average. It also stated that bank is very high in number of banks.

Net Interest Margin is a measurement for a bank to see how bank get margin from distributing fund. Net Interest margin has minimum of 1.12%, maximum of 16.64%, average of 5.69% and standard of deviation of 2,44%. This figure indicates that the fluctuation of Net interest margin is nearly low.

Non-Performing Loan is a bank financial ratio that stated how bank to manage all credit returning to them. This ratio expected is not more than 2% and Central Bank issued a rule to govern it. Non-Performing Loan (NPL) has minimum of 0%, maximum of 20.51%, average of 1,94% and standard of deviation of 1,96%. This figure indicates that the fluctuation of Non-Performing Loan is nearly low.

Capital adequacy ratio (CAR) is a measurement of bank capital to see how good the bank provide solvency. CAR has Minimum of 8%, Maximum of 46.8%, average of 18.1% and standard of deviation of 5.8%. This figure indicates that fluctuation of CAR among bank is still low.

Market Power is a measurement to see how bank to dominate market. This ratio is measured by credit bank divide total credit the country. Market power has minimum of 0.03%, maximum of 15.85%, average of 2.85% and standard of deviation of 4.07%. This figure indicates that there is a bank to dominate market, but all bank is mostly similar and

very much number of banks. Central bank should ask them to merge for small number of banks in Indonesia.

Bank as intermediary institution has task to transform liquidity, time, value or size and risk. Risk is very considered by management to operate it. Total risk is used in this research that it was calculated by standard deviation by stock return. Risk has minimum of 3.99%, maximum of 541.44%, average of 59.31%, and standard of deviation of 60.02%. This figure stated that fluctuation of risk is faced very high.

Risk Adjusted Return on Capital is a measurement bank performance that has considered risk. RAROC has minimum of -161.40%, maximum of 95.93%, average of 20.66%, standard of deviation of 43.8%. The fluctuation of RAROC is very high, because bank size is very high.

Exchange rate has minimum of IDR 8,996, maximum of IDR 14,390, average of IDR 11,461 and standard of deviation of 1.2. This figure stated that fluctuation of exchange rate is low. It means to hard to get capital gain in exchange rate trading.

Indonesia is a member of oil producer and Oil price has impact to the Government budget. Oil Price has minimum of US\$ 37.04, maximum of US\$ 98.56, average of US\$ 64.29 and standard of deviation of 1.42. This figure stated that fluctuation of oil price is still low.

As mentioned previously, Cement Consumption is used to proxy the economic growth. Indonesia as a developing country could be seen by Cement Consumption for economic growth. Cement Consumption has minimum of 38,087 ton per year, maximum of 69,565 ton per year, average of 53,200 ton and standard of deviation of 1.25. This figure indicates that fluctuation of cement consumption is low.

Fed Rate is a policy rate that it is announced by central bank of USA to stimulate the economics. All countries in the world use this rate as policy rate. Mostly Countries always increase their interest rate, if FED increase the rate. Fed Rate has minimum of 0.5%, maximum of 4,8%, average of 1.3% and standard of deviation of 1.7%. This figure stated that fluctuation of interest rate is still at low and FED will hold it to strong the economics.

Analysis and Discussion

This sub section will discuss determinant of Loan to Deposits Ratio. Data Panel of Fixed Estimation Model used in this research, because data does not select by random which is selected by purposive sampling. The results is as follows:

$$\begin{aligned}
 LDR_{i,t} = & - 3.793 + 0.179 LDR_{i,t-1} + 1.314 NIM_{i,t} - 1.552 NPL_{i,t} + 0.454 CAR_{i,t} \\
 & \quad (0.023) \quad (0.005) \quad (0.009) \quad (0.023) \\
 & + 0.063 RAROC_{i,t} + 3.094 Risk_{i,t} + 2.265 MP_{i,t} - 0.029 EX_t + 0.405 CMNT_{i,t} \\
 & \quad (0.015) \quad (0.043) \quad (0.0003) \quad (0.828) \quad (0.0005) \\
 & + 0.0254 OILP_{i,t} + 2.298 FED_{i,t} - 0.037 D1 + 0.099 (LDR(-1)*RISK)_{i,t} \\
 & \quad (0.514) \quad (0.141) \quad (0.596) \quad (0.403) \\
 & + 0.215 (NIM*RISK)_{i,t} + 0.762 (NPL*RISK)_{i,t} - 0.985 (CAR*RISK)_{i,t} \\
 & \quad (0.561) \quad (0.116) \quad (0.0004) \\
 & - 0.093 (MP*RISK)_{i,t} - 0.062 (RAROC*RISK)_{i,t} + 0.074 (EX*Risk)_{i,t} \\
 & \quad (0.856) \quad (0.067) \quad (0.776) \\
 & - 2.253 (FED*RISK)_{i,t} - 0.320 (CMNT*RISK)_{i,t} - 0.048 (OILP*RISK)_{i,t} + \varepsilon_{i,t} \quad (10) \\
 & \quad (0.022) \quad (0.093) \quad (558)
 \end{aligned}$$

$R^2 = 86.98\%$, $F = 29.49$, p-value in brackets

Equation (10) has R^2 of 86.98% which is called coefficient of determination. It means that fluctuation of Loan to Deposits Ratio is explained by all independent variable only 86,98% and the rest by others variable. This model also fitted because the F_{test} is higher than F_{table} at level significant of 5%.

Ozkan (2001) and Mahakud and Mukherjee (2011), Getzmann et.al (2014) included lag-one to model for measuring speed adjustment. Speed adjustment is calculated by $1 - 0.178$ (coefficient of model). Speed Adjustment is 0.822 or 9.99 months. It means, LDR will go back to target for 9.99 months. Loan to Deposits Ratio lag-one significantly positive affect Loan to Deposits Ratio at level of Significant of 5%. LDR will increase 0.179 unit if LDR lag-one increase by one unit. This finding also indicates LDR will directly adjust to the year the LDR far away from target.

In this research found that Net Interest Margin significant positively affect Loan to Deposits Ratio at level of Significant of 1%. It means that NIM has impact positive to Loan to Deposits Ratio. Loan to Deposits Ratio will increase, if the bank increase Net Interest Margin, because the client has problem to pay the loan as interest high. This finding does not support the theory and previous research.

In term of Non-Performing Loan, this research found that Non-Performing Loan significant negatively affect Loan to Deposits Ratio at level of Significant of 1%. Loan to Deposits Ratio will drop when Non-Performing Loan has increasing. The management will decrease to distributed loan when the Non-Performing Loan become higher from previous year. This finding research does not support the theory and previous research.

Capital Adequacy Ratio should be negative impact to Loan to Deposits Ratio. This research found that Capital Adequacy Ratio is significantly positive to affect Loan to Deposits Ratio at level of Significant of 5%. This finding research does not support the previous research and theory. This research stated that Loan Capital Ratio will decrease when capital adequacy ratio has increasing.

Risk Adjusted Return on Capital (RAROC) has positive impact to Loan to Deposits Ratio. If RAROC increased, Management bank should push to increase the Loan to provide increasing RAROC. Risk Adjusted Return on Capital is significant positive to affect Loan to Deposits Ratio at level of Significant of 5%. This research supported the theory and previous research.

As mentioned previously, bank mostly operates risk and face it to get profit. Every bank face vary risk to operate going concern. Risk is significantly positive to affect Loan to Deposits Ratio at level of Significant of 5%. This finding research support theory and previous research.

Market power is an indicator for bank to see how could bank dominate market. Market Power is measured by credit distributed bank divide total credit of their country. Market Power is significantly positive to affect Loan to Deposits Ratio at level of Significant of 1%.

Cement Consumption is an indicator to proxy economic growth. Increasing in Cement Consumption reflected economic growth. If Cement consumption increase, it will be impact to Loan to increase. This research found that Cement Consumption significantly positive affect Loan to Deposits Ratio at level of Significant of 1%. This finding research support previous study or research and theory.

This research found that FED Rate is significantly positive to affect Loan to Deposits Ratio at level of Significant of 15%. Loan to Deposits Ratio will increase when Fed Rate increases. Bank will increase loan to distribute, because the management of bank will think to get high margin for increasing interest.

Manurung (2019) and Sharma (1981) stated that moderating variable could strong or weak the relationship independent variable to dependent variable. Mostly total asset is used for moderating variable for industry of financial (Hasan et.al, 2020, Manurung and

Hutahayan, 2020). This research used risk as moderating variable. This research found that Non-Performing Loan, Capital Adequacy Ratio, Risk Adjusted Return on Capital, Consumption Cement and FED Rate are significant to affect Loan to Deposits Ratio through Risk as moderating variable. Base on this finding research and indicator of the coefficient of determination, risk as moderating variable is better than the other variable.

This research found that Exchange Rate, Oil Price and Dummy for period did not significant affect Loan Deposits Ratio. This research also found that Loan to Deposits Ratio lag-one, Net Interest Margin, Market Power, Exchange Rate and Oil Price did not affect Loan to Deposits Ratio moderated by Risk.

5. Conclusion

As mentioned previously, this research wants to explore determinant of loan to deposits ratio using internal bank factor which is financial ratio and external bank factor which macroeconomic variable. This research found as follows; First, Loan to Deposits ratio has average of 81.59% and standard of deviation of 14.75%. This figure indicates that fluctuation of loan to deposits ratio, is on average. Second, Internal bank factor which is Loan to Deposits Ratio lag-one, Net Interest margin, Non-Performing Loan, Capital adequacy Ratio, Risk, Market Power, Risk adjusted Return on Capital are significant to affect Loan to Deposits Ratio. Third, External bank Factor such as Cement Consumption are significant to affect Loan to Deposits Ratio. Fourth, this research found that Non-Performing Loan, Capital Adequacy Ratio, Risk Adjusted Return on Capital, Consumption Cement and FED Rate are significant to affect Loan to Deposits Ratio through Risk as moderating variable. Fifth, this research found that risk is better as moderating variable comparing to others variable.

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