



MACRO AND MICROECONOMIC INDICATORS ON BANKING CREDIT DISTRIBUTION IN INDONESIA

M. NadjibUsman

STIE Perbanas Surabaya, Indonesia

DOI: 10.5281/zenodo.1465714

Abstract

Changes in the level of people's business credit distribution are influenced by micro and macro-economic factors. This study aims to empirically examine the effect of loan to deposit ratio (LDR), capital adequacy ratio (CAR), non-performing loan (NPL), credit base interest rate (SBDK), BI rate and gross domestic product (GDP). The sample used is a national banking in Indonesia that distributes people's business loans. The research method uses multiple linear regression tests. The results of the study inform that non-performing loans, credit base rates and bank interest rates of Indonesia (BI rate) affect the distribution of bank credit. The study also informed that: loan to deposit ratio (LDR), capital adequacy ratio (CAR) and gross domestic product (GDP) had no effect on lending.

Key Words: Loan to deposit ratio, Capital adequacy ratio, Non-performing loans, Basic loan interest rates, Bank Indonesia rate and gross domestic gross

Introduction

The Indonesian government is building a real sector that directly influences the nation's development through increasing the productivity of its resources. The banking sector is one of the sectors in the financial sector that has an important role in economic growth and development in Indonesia. According to the Republic of Indonesia Law No. 10 of 1998 concerning the World Bank, that banking is a business entity that has the duty to collect funds obtained from the community in the form of deposits and channel the funds back to the people who need funds in various forms of credit and forms others, to improve the economy of the general public. According to Stefano, et al. (2017) states that credit distribution are the component that gets the most position. This happened because in the distribution of credit the Bank obtained a substantial source of income including interest, administrative fees, and other fines. Profits gained by banks will become operating income, so that business activities that at least generate profits will be increased continuously by the bank.

The existence of the distribution of People's Business Credit (KUR) by banks is currently an interesting topic of discussion in the community. KUR was originally a national program aimed at empowering Micro, Small, Medium Enterprises and Cooperatives (UMKMK), encouraging in creating new jobs and reducing poverty. Furthermore, the government wants to increase the growth of the real sector through empowering MSMEs. KUR loans target market segments and small and medium business actors. In terms of collateral, KUR received credit guarantee facilities from the Government through PT Askrido and PerumJamkrindo. The Executing Banks that distributed KUR were BRI, Bank Mandiri, Bank BNI, Bank BTN, Bank SyariahMandiri, and Bank Bukopin. KUR is provided by banks to UMKMK that are feasible but not bankable so that MSMEs have good business prospects and are capable of returning. MSMEs and cooperatives that are expected to be able to access KUR are those engaged in the productive business sector, among others agriculture, fisheries and maritime affairs, industry, forestry, and savings and loan financial services. Since KUR is intended for MSMEs which in fact do not have collateral as collateral for banks, the KUR interest rate is set to very high up to 22 percent. This high KUR interest is thought to be the cause of the decline in the power of KUR bank loans to national banks. 2014 the KUR interest was 22%, however in 2015 the KUR interest rate was reduced to 12%. The size of the interest rate in reality greatly affects the amount of this KUR type of loan distribution. In 2016 the government has tried to reduce the KUR interest rate to 9%. The impact is that when the KUR interest rate has decreased, the realization of KUR distribution to the community until the end of December 2016 reached Rp 94.4 trillion from the government's target of Rp 100 trillion with an NPL level of 0.37%.



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This phenomenon informs that the existence and government policy to reduce KUR interest does not need to be worried because the level of debt collection is very good. Currently the distribution of KUR is still dominated by Java, with Central Java 17.9% or Rp 16.9 trillion, East Java 15.5% or Rp 14.6 trillion, West Java 12.6% or Rp 11.9 trillion, while distribution outside Java, such as South Sulawesi, is 5.4% or Rp 5.1 trillion, South Sumatra is 4.6% or Rp 4.3 trillion. KUR distribution is based on the micro sector in 2016 amounting to Rp 65.6 trillion or 69.5% of the total budget. In this sector the debtor can do the contract 3 times with a contract of Rp. 25 million or a maximum of Rp. 75 million, while the retail sector, the ceiling set is Rp. 500 million for one contract. Bank capitals sources can be obtained from sources of own capital or loan capital from the wider community or other financial institutions (Ismail. 2016). Sources of funds that can be collected from the community will be managed by banks, one of which is channeling the funds back in the form of credit to the business sector or to other parties who are in need of the funds. The amount of funds that can be collected from the community can directly influence people's trust in the bank, so that the greater the amount of funds disbursed by the bank to the community and the greater the funds from the community in the bank, the higher the community's trust in saving their funds in the bank. Conversely, the fewer funds channeled to the public, the lower the public's trust in saving their funds in the bank. The search for funds will be relatively easy, if it is obtained from the community compared to obtaining from other parties, because the funds from the community are not limited in numbers (Ismail. 2016).

A form of activities that can be carried out by the bank because of the bank's duty is to collect funds or deposit funds from those who have excess funds (surplus units) and then channel the funds back to those who need funds (deficit unit) is a loan to the bank. Changes in the level of channeling of public business loans were also influenced by the Bank Indonesia interest rate (BI Rate). Bank parties must have indicators in the process of channeling people's loans so as to minimize credit risk by analyzing several effects of the loan to deposit ratio (LDR), Capital Adequacy Ratio (CAR), Non-Performing Loans (NPL), BI Rate and gross domestic product (GDP) that has been examined by Stefano, et al. (2017). The Basic Loan Interest Rate (SBDK) can affect the amount of public business credit distribution through Al Daia, et al. (2011); Du, (2011) research. In the end this study aims to determine the effect of Loan to Deposit (LDR), Non-Performing Loans (NPL), Basic Loan Interest Rates (SBDK), BI rate and gross domestic product (GDP) on lending.

Literature review

Agency theory

According to Scott, (2012) agency theory is a relationship or contract between the principal and agent. Agency theory is assumed to be the interest of each individual so that it creates a conflict of interest between the principal and agent. Jensen and Meckling (1976) describe the agency relationship in agency theory that a company is a collection of contracts (nexus of contract) between owners of economic resources (principal) and managers (agents) who take care of the use and control of these resources. This agency relationship resulted in two problems, namely:

1. The occurrence of asymmetric information, where management generally has more information about the actual financial position and operating position of the entity from the owner; and
2. The occurrence of a conflict of interest due to an unequal goal, where management does not always act in accordance with the interests of the owner. In an effort to overcome or reduce agency problems this raises the agency costs that will be borne by both the principal and agent.

Jensen and Meckling in Scott, 2012 divide the agency costs into monitoring costs, bonding costs and residual loss. Monitoring cost is the cost that arises and is borne by the principal to monitor the agent's behavior, which is to measure, observe, and control the agent's behavior. Bonding cost is the cost borne by the agent to establish and comply with a mechanism that ensures that the agent will act for the principal's interests. Furthermore, residual loss is a sacrifice in the form of reduced principal prosperity as a result of different agent decisions and principal decisions. The principal theory agency is the party that gives the agent the mandate to act on behalf of the principal, whereas, the agent is the party given the mandate by the principal to run the company. The application of agency theory can be realized in a work contract that regulates the proportion of rights and obligations from each party while still taking into account the overall benefits. Employment contracts are a set



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of rules that govern the profit sharing mechanism, both in the form of profits, returns and risks that have been agreed by the principal and agent. Employment contracts are optimal if the contract implementation can achieve justice between the principal and the agent who shows the optimal implementation of obligations by the agent and the granting of incentives for satisfying special rewards from the principal to the agent.

Effect of Loan to Deposit Ratio (LDR) on Lending

LDR (Loan to Deposit Ratio) According to Kasmir (2014: 225) is the ratio used to measure the composition of the amount of credit given compared to the amount of public funds and own capital used. LDR is a ratio that measures the extent of a bank's ability to repay withdrawals made by depositors by relying on loans provided as a source of liquidity. The purpose of the loan to deposit ratio (LDR) is to find out and assess the health condition of banks in carrying out their operations or business activities in other words, loan to deposit ratio (LDR) is used as an indicator to determine the level of vulnerability of a bank. The relationship of loan to deposit ratio (LDR) to lending is that the higher the LDR ratio, the lower the liquidity capacity of the bank concerned, the greater the likelihood of a bank in a problematic condition (Kasmir. 2014). The high LDR ratio shows that banks lend all their funds, while the low LDR ratio shows banks with excess capacity of funds that are ready to be lent. This is also supported by research conducted by Bace et al. (2016) and Şahin, (2018) which states that the loan to deposit ratio (LDR) has no affects to credit distribution.

Influence of Non-Performing Loans (NPLs) on Lending

The ratio used to measure the quality of bank performance in indicating the problem of failure of the debtor in repayment of loans or credit referred to as bad loans is the definition of Non Performing Loans (Ismail. 2016). Bank credit quality can be said to be bad if the NPL ratio gets higher, because due to the high NPL the bank's capital will decrease due to the bank having to provide a larger reserve of funds. The higher level of bad credit and the lower level of credit disbursement were provided by the bank. Conversely, the lower the level of bad credit or problematic, the higher the lending provided by the bank. This statement is supported by existing phenomena and from previous research conducted by Olusanya, et al. (2012); Stefano, et al. 2017 and Turan, (2016) which stated that NPL has a significant influence on lending.

Effect of Capital Adequacy Ratio (CAR) on Credit Distribution

Capital Adequacy Ratio (CAR) is the capital ratio which shows how much the bank's ability to provide funds for business development needs and that is an indicator that can be used in looking at the bank's ability to cover its asset losses as a result of bank losses caused by risky assets (Ismail. 2016). The higher capital adequacy ratio will give the higher the lending provided by the bank. On the contrary, the lower the capital adequacy, the lower the loan distribution provided by the bank. This statement is supported from existing phenomena and from previous research conducted by Şahin, (2018); Walia, et al. (2018); Firtescu, et al. (2015) stated that CAR has no significant influence on lending.

Influence of Basic Credit Interest Rates (SBDK) on Credit Distribution

The lowest interest rate used for the basis of the Bank in determining the interest rate charged to bank customers. The SBDK calculation in rupiah must be reported to Bank Indonesia and published (Khairul et al 2016). Types of credit that must be published consist of four, namely retail credit, corporate credit, and micro-credit, as well as consumption credit (mortgages and non-mortgages). Distribution of credit types is based on criteria set by the internal bank, the amount of which is calculated annually in the form of percentage (%). The higher the interest rate set by the bank, the lower the demand for credit which has an impact on low credit distribution. On the contrary, the lower the interest rate set by the bank, the higher the credit demand which has an impact on the high lending by the bank. This statement is supported by previous research conducted by Al Daia, et al. (2011) and Du, (2011) stating that the prime lending rate has a significant effect on lending.

Effect of BI Rate on Credit Distribution

The Bank Indonesia interest rate is the percent interest rate issued by Bank Indonesia which is used as the basis for determining interest on loans extended to banks in Indonesia (Ismail. 2016). Interest rates can affect the amount of credit disbursement that will be channeled to those who need funds. The higher the BI Rate set by Bank Indonesia, the lower the credit demand submitted by the community so that the lower credit distribution



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provided by the bank also impacts. On the contrary, the lower the BI Rate set by Bank Indonesia will be the higher the credit demand submitted by the community so that it also impacts the higher lending provided by the bank. This was also supported by previous research, Stefano, et al. (2017) and Vazakidis, et al. (2011) which stated that the BI Rate had a significant effect on lending.

The influence of GDP on Lending

Vazakidis, et al. (2011) and Crisi, (2018) in their study informed the relationship of gross domestic gross with credit distribution that gross domestic gross variable had a positive effect on the Distribution of Government Commercial Banks Banking in Indonesia. Simultaneously, the variable lending rates and GDP have a significant influence on the lending of government commercial banks in Indonesia

Research Framework

Based on a review of the theoretical basis of previous research and the application of credit disbursement by banks, there are factors that influence it. The variables that are thought to influence it. Variables that are thought to influence the level of credit distribution include: loan to deposit ratio, non-performing loan (NPL), capital adequacy ratio (CAR), base lending rates (SBDK), BI rate and gross domestic product (GDP) based a description of the framework of thought above, the researcher uses the research model as follows:

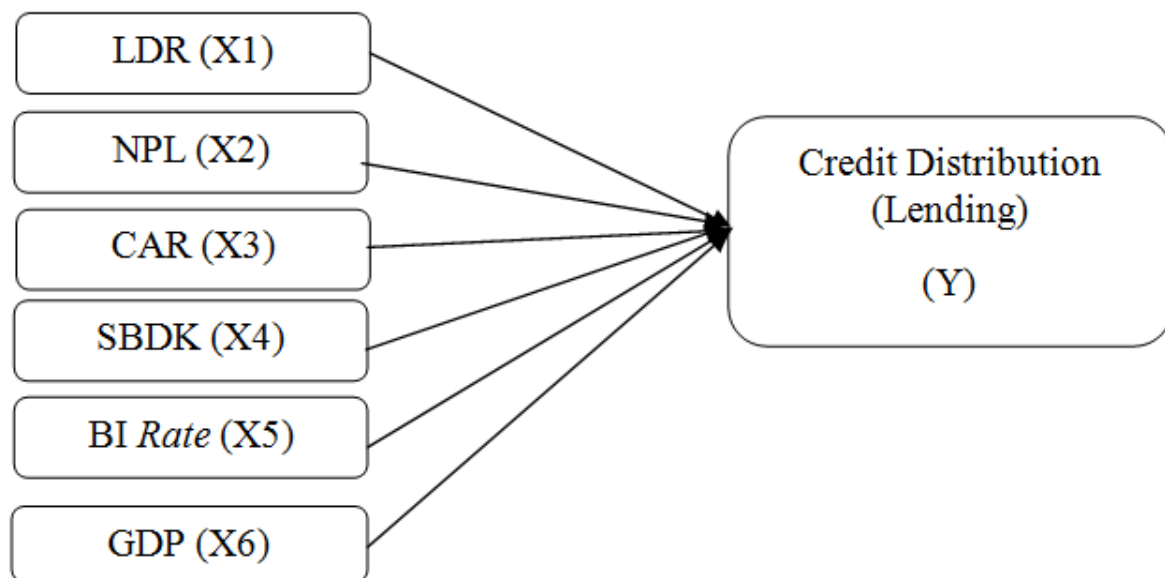


Figure 1. Research Framework

The research hypothesis can be formulated:

- H1: Loan to deposit ratio (LDR) influences lending
- H2: Non-Performing Loans (NPLs) affect lending
- H3: Capital Adequacy Ratio (CAR) influences credit distribution
- H4: Basic Credit Interest Rate (SBDK) affects credit distribution.
- H5: The Bank Indonesia Rate has an affect on lending
- H6: GDP affects credit distribution

Research method

Operational Definition and Variable Measurement

Operational definition of the use of variables observed in the preparation of this study, namely:

Dependent variable (variable Y) is Credit Distribution



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According to Ismail (2016: 93) explained that the distribution of credit from the owner of the funds to parties who need funds based on trust given by the owner of the funds to the users of the funds. Fund disbursement is carried out by the bank with the aim of the bank asking for compensation for the distribution of funds in the form of interest that must be paid to the borrower every month. That way, the bank will be able to finance every operational activity. The size of the credit given by the bank can be seen through the bank's annual financial statements in the summary section for financial data in the position in the column of the financial position report. To avoid abnormal distribution of samples, the existing sample data will be transformed into the form of natural logarithms (\ln), due to the difference in the amount of credit that is too large for each bank. So, the amount of credit channeled is calculated using the formula:

$$\text{Credit distribution (LnPK)} = \text{Total credit disbursed}$$

Independent Variables (Variable X)

Definition in the use of independent variables for this study, namely:

1. LDR (Loan to Deposits Ratio)

LDR (Loan to Deposit Ratio) is a ratio that measures a bank's ability to meet short-term obligations (can be called liquidity) by dividing the total credit to total Third Party Funds (TPF). Banking liquidity needs to be managed to meet the needs when customers take their funds and channel loans to borrowers (debtors). If the LDR is too high, it means that banks do not have sufficient liquidity to cover their obligations to customers. Conversely, if the LDR value is too low, it means that banks have adequate liquidity but may have lower income, because as is known the banking world earns income through channeled credit. LDR can be calculated by:

$$\text{LDR} = \left(\frac{\text{Total credit}}{\text{Total third party fund}} \right) \times 100\%$$

2. Non Performing Loan (NPL)

Non-Performing Loans (NPLs) or usually referred to as non-performing loans. Non-Performing Loans are one of the methods used to be able to assess the quality of performance in a bank. This means that the Non-Performing Loan is one of those used in indicating that there is a problem in the bank where if the problem does not immediately get a solution and is not immediately resolved it will have a dangerous impact on the bank. Bank Indonesia Regulation Number 15/2 / PBI / 2013 states that the ratio of non-performing loans or commonly referred to as NPL is stated not to exceed 5% of the problem of non-performing loans in transactions with banks. Acquisition of Non-performing Loan ratio can be found in the bank's annual financial statements in the position of the financial ratio column. In this study, NPL can be measured using a formula:

$$\text{NPL} = \left(\frac{\text{The amount of nonperforming loans}}{\text{Total amount of outstanding loans}} \right) \times 100\%$$

3. Car Adequacy Ratio (CAR)

Capital adequacy ratio (CAR) is a capital ratio that shows how much the ability of the company in showing the ability of the bank in providing funds for the needs of business development and to accommodate the likelihood of the ratio of losses due to operations in banks (Ismail. 2016). According to Bank Indonesia Regulation Number 10/15 / PBI / 2008 article 2, paragraph 1, it is stated that banks are required to provide a minimum capital of 8% of risk-weighted assets (RWA). PBI (2008) explains that capital adequacy ratio is a ratio that shows how many the total assets on the bank that contains the risk of participating to be financed from their own capital in addition to obtaining funds from sources outside the bank. In this study, CAR can be measured using the formula, namely:

$$\text{CAR} = \left(\frac{\text{Bank's available capital expressed}}{\text{Bank's risk - weighted credit exposures.}} \right) \times 100\%$$



4. Basic Credit Interest Rates (SBDK)

The Basic Loan Interest Rate (SBDK) is the sum of the prime lending rate with a risk premium. Risk premium is the bank's assessment of the prospect of repayment of credit by a debtor that considers the debtor's financial condition, loan period, and business prospects financed. The lowest interest rate used for the basis of the Bank in determining the loan interest rates charged to bank customers (Ismail, 2016). The calculation of prime lending rate in rupiah must be reported to Bank Indonesia and published. Types of credit that must be published consist of four types, namely retail credit, corporate credit, and micro credit, as well as consumption credit (mortgages and non-mortgages). Distribution of credit types is based on criteria set by the internal bank, the amount of which is calculated annually in the form of percentage (%). Then the measurement of prime lending rates in 2012 to 2017 can be calculated by the formula, namely:

$$\text{Prime Lending Rate} = \text{Retail credit} + \text{Corporation credit} + \text{Micro credit} + \text{Credit consumption}$$

5. Bank Indonesia Interest Rate (BI Rate)

The BI Rate is the interest rate issued by Bank Indonesia which will be benchmarked in determining the size of interest and credit interest received and distributed by each bank in the territory of Indonesia (Ismail, 2016). The BI Rate used for this period is using the BI Rate issued by Bank Indonesia on a monthly basis, so if you want to find the sensitivity of the BI Rate, this sensitivity must be tested using the Stock Return as an independent variable. The BI Rate sensitivity that has been obtained from each BI Rate banking on Stock Returns then incorporates beta (β) from the sensitivity test as a coefficient of influence on macroeconomic variables on bank credit distribution in multiple regression equations. It is known that each value of the BI Rate in each banks.

6. Gross Domestic Product

Economic growth is defined as an increase in the ability of an economy in producing goods and services. Gross domestic product (GDP) is the total market value of final goods and services produced in an economy during a certain period of time is usually one year. According to Stefano, et al. (2017), GDP is the market value of all final goods and services produced in a country for a certain period.

Data Analysis Technique

The use of data in this study is with secondary data obtained through bank financial reports that have been published in the Indonesia Stock Exchange. This financial report is obtained through the website www.idx.co.id. Through this website researchers can download the bank's annual financial statements that use financial statement data in 2012 to 2017.

The use of data analysis techniques used in the research is to do a quantitative analysis that has been expressed through the numbers using the calculation method, namely the statistical method that has been assisted by using a statistical data processing program, SPSS version 23.0. In testing this research the chosen method is by using normality test, multiple linear regression data analysis and hypothesis testing.

1. Normality test

Normality test aims to test that in the regression model whether the disturbing variable or residual has a normal distribution (Imam, 2012: 160). It is proven that the t test and F test assume that the residual value will have an invalid statistical test result for a small sample number. In detecting this test, the Kolmogorov-Smirnov Test One-sample test was used. In the Kolmogorov-Smirnov One-sample Test can be said to be normal if there is normality, where the residual value will be normally distributed if there is normality, where the residual value will be normally distributed and independent (H_0) and vice versa if the data tested is not normally distributed (H_1) then the statistical test results will be degraded.



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2. Multiple Linear Regression Analysis

The test in this study uses several independent variables whose examiners use more than two independent variables, namely loan to deposit ratio (LDR), non performing loans (NPLs), capital adequacy ratio (CAR), basic rate of credit (SBDK), BI Rate and Gross domestic product to lending. Therefore, the researcher uses multiple linear regression analysis using the ordinary least square (OLS) equation with the use of the following basic models:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7\beta + e$$

Information:

Y = Credit distribution

X1 = Loan to deposit ratio (LDR)

X2 = Non performing loan (NPL)

X3 = Capital adequacy ratio (CAR)

X4 = Credit base interest rate (SBDK)

X5 = BI Rate

X6 = Gross domestic product (GDP)

e = residual variables

In order to know whether the regression model really can show a significant and representative relationship, the regression model must be able to meet the classical assumption regression test. The value of the constant can be reflected through the magnitude of the regression coefficient and b_0 in each of the independent variables shown using b_1 , b_2 , b_3 , b_4 , b_5 and b_6 . The purpose of doing regression analysis is to find out how much there is a relationship between the independent variables and the dependent variable.

3. Hypothesis Tes

The use of hypothesis testing is done by using multiple regression hypothesis test using F test analysis, analysis of the coefficient of determination, and partial test analysis in its testing of independent variables.

a. F Test Analysis

Test F or usually called the significance test that explains that the regression model can be used to predict, but on the contrary if the model is not significant then the regression model cannot be used to predict (Imam, 2012: 98). To be able to conclude in the test with the regression model it is explained that if the model matches the category of fit or not, it must compare through the value of F which is calculated with the value of F table using the degree of freedom.

b. Determination Coefficient Analysis

The coefficient of determination or R^2 is used to measure how much the ability of the model to explain the independent variables (Imam, 2012: 97). The value on the coefficient of determination is between zero and one ($0 < R^2 < 1$). R^2 values that are small in value mean the ability in independent variables to explain the relationship or influence with the dependent variable is very limited. The value in the determination coefficient that approaches one means that the independent variable can provide a lot of information needed to predict the dependent variable.

c. Partial t- Test Analysis

Partial testing or commonly referred to as t-test has a purpose to determine the effect on each independent variable in explaining the relationship or influence on the dependent variable (Imam, 2012: 178).



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Results and discussion

The results of normality testing on 109 data are shown in Table 1 below:

Tabel 1. Normality (One-Sample Kolmogorov-Smirnov) Test

	Unstandardized Residual
N	109
Kolmogorov-Smirnov Z	1.306
Asymp. Sig. (2-tailed)	.066
a. Test distribution is Normal.	
b. Calculated from data.	

Table 1 informs the Kolmogorov-Smirnov test with the results of the test is the data has been normally distributed with a significance value > 0.05 that is equal to 0.66.

Hypothesis Testing

a. Simultaneous Test (Test F)

F test is used to show whether the regression model used is fit or not fit from the equation of the regression model of the LDR, NPL, CAR, SBDK, BI_Rate and GDP variables

Table 2. F-Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.584	6	4.097	92.694	.000 ^a
	Residual	4.509	102	.044		
	Total	29.093	108			

a. Predictors: (Constant) X₁_LDR, X₂_NPL, X₃_CAR, X₄_SBDK, X₅_BIRate, X₆_GDP

b. Dependent Variable: Y_LN_CR

Table 2 informs that the F test obtained the calculated F value of 92,694 with a significant level of 0,000. Because the probability is less than 0.05 or 5%, the regression model can be said to be fit. The result of the t test informs that the NPL variable, the base lending rate (SBDK) and the Bank Indonesia interest rate (BI Rate) partially affect lending. The results of the t test also inform that the LDR, CAR and GDP variables have no effect on lending.

Tabel 3. Uji coefficient Determinant

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.919 ^a	.845	.836	.21024

The results of the study in Table 3 also inform that the adjusted R Square value of 83.6% means that the ability of the independent variable to explain its effect on the dependent variable is 83.6%. This result is very good. The remaining 16.4% is explained by other variables outside the model.

b. Partial Test (t-test)

T test is used to show how far the influence of an explanatory or independent variable individually in explaining the variance of the independent variable. This t test is to determine the level of significance of the influence of each independent variable on the dependent variable assuming that the other independent variables do not change.



Table 4. t-Test

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	2.973	.106			28.003	.000
X ₁ _LDR	-.001	.001	-.025		-.602	.548
X ₂ _NPL	.662	.202	.436		-4.142	.003
X ₃ _CAR	-.001	.002	-.033		-.810	.420
X ₄ _SBDK	1.342	.111	1.264		12.100	.000
X ₅ _BI Rate	-.590	.159	-.392		-3.703	.000
X ₆ _GDP	.006	.039	.008		.144	.886

Based on Table 3 can be arranged multiple linear regression equation as follows:

$$\text{Credit distribution} = 2.973 - 0.001 \text{ LDR} + 0.002 \text{ NPL} - 0.001 \text{ CAR} + 1.342 \text{ SBDK} - 0.590 \text{ BI RATE} + 0.006 \text{ GDP} + e$$

The result of the t test informs that the NPL variable, the base lending rate (SBDK) and the Bank Indonesia interest rate (BI RATE) partially affect lending. The results of the t test also inform that the LDR, CAR and GDP variables have no effect on lending.

Discussion

This study aims to determine the effect of LDR, NPL, CAR, SBDK, BI_Rate and GDP on lending banks that have listed on the Indonesia Stock Exchange (BEI) from 2012 to 2017. The sample of banking companies used in this study amounted to 109 banks. Through the results of the linear regression test, it shows the fit model, while the influence of each of the outcome variables is shown in the following discussion:

1. Loan to Deposit Ratio (LDR) against Credit Distribution.

Loan to deposit ratio is a ratio that shows the bank's ability to repay funds withdrawn by depositors by relying on credit that has been given as a source of liquidity. Or in other words, LDR is the ratio of the ratio of the total amount of credit given by the bank to the funds collected by the bank. The amount of credit disbursed by banks is strongly influenced by funds collected by banks, which in turn can affect the size of the LDR ratio.

In the statistical test t shows that the LDR has no effect on lending. Which is that agency theory does not support the variable Loan to Deposit Ratio. The implication of the results of the statement gives an understanding that between bank deposit funds and indirect loan disbursement does not have a significant relationship. This shows that the ability of loans channeled by banks is also lower to meet short-term obligations. High and low banking liquidity, cannot encourage management to increase the amount of lending. The impact of this is the bank must expand (innovate) other businesses that have a small level of risk in improving bank performance, both innovation in storage and distribution activities. The results of this study have the same relevance to the research conducted by Bace et al. (2016); Şahin, (2018) and Raju (2018) which suggests that the Loan to Deposit Ratio has no effect on lending.

2. Non-Performing Loans (NPLs) for Credit Distribution

Non-Performing Loans (NPLs) are the percentage of non-performing loans in a bank, the health size required for NPLs is less than 5% (www.bi.go.id). Where it shows when the NPL is high, the volume of loans disbursed also decreases, or in other words high NPLs. Shows the decreasing health of banks, and will also have an impact on reducing the level of lending.

Result of t statistic testing has shown that NPL has an effect on lending, which means that agency theory supports the variable Non Performing Loans (Turan, 2016; Vatansever, et al. 2017; Vouldis, et al. 2018; Raju, 2018). The activity of lending depends on the low level of NPL, if the NPL is high, credit activity decreases.

This means that when the high number of NPLs, banking companies will face financial difficulties so the amount of funds that can be used for distribution is reduced. The effect of bad credit on lending activities is also



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due to the lack of banks in filtering customers who have potential in bad credit. Other causes that affect the occurrence of bad credit are:

- 1) Weaknesses in credit analysis, this can be caused by various things such as weak policies and national standards for credit analysis procedures, lack of employee ability to analyze credit and lack of information received by banks.
- 2) Banks are too expansive, to pursue the target of bank credit disbursement, ignore aspects of good analysis or reduce the level of prudence.
- 3) Customer history, customer history is the only basis for credit decisions, thus ignoring credit analysis.
- 4) As long as there is collateral, the bank only sees collateral as a basis for crediting decisions, so that the other analytical factors are ignored.
- 5) Credit realization that is not timely, decisions and disbursement of loans that are too long, causes customers not to allocate funds according to their needs.
- 6) Credit ceiling that does not match the customer's needs. A credit ceiling that is too small causes the customer to not be able to use his funds optimally, so that it might hamper his business. While the credit ceiling that is too large causes customers to not fulfill their obligations.

Conversely, if the NPL is low, then the bank customer concerned has a good ability to repay the debt, so that the bank has the amount of funds redistributed in the form of lending. This is consistent with research conducted by Olusanya, et al. (2012) and Stefano, et al. (2017) which states that NPLs affect credit distribution. Furthermore, the low NPL has benefits for investors, namely, the distribution of relatively smooth deposits. This is due to the cash flow in the banking concerned also experiencing smoothness.

3. Capital Adequacy Ratio (CAR) to Lending

Capital adequacy ratio (CAR) is a capital adequacy ratio that serves to accommodate the risk of losses that may be faced by banks. The higher CAR informed bank's ability to bear the risk of any productive credit or assets will be better. CAR is an indicator of a bank's ability to cover its assets as a result of bank losses caused by risky assets. The statistical test shows that CAR has no effect on lending. This shows that agency theory does not support the variable Capital Adequacy Ratio, which means that the capital resources contained by the Bank have a large influence on the activities of credit distribution provided by banks to customers. This indicates that the increase or decrease in CAR during the study period will not affect lending.

The impact of the greater level of CAR is the higher the ability of bank capital to safeguard the possibility of loss of business activities, but in this case it does not necessarily significantly affect the increase in the amount of lending to state banks. In addition, a high CAR can also reduce the bank's ability to expand its business such as lending because the larger capital reserves are used to cover the decline in assets as a result of bank losses caused by risky assets. Meanwhile, According to Şahin, (2018); Walia, et al. (2018) and Firtescu, et al. (2015) the capital adequacy ratio does not affect the lending possible because banks prefer to strengthen their capital structure rather than allocate it to credit that has a high risk lending activities. This is in line with research conducted by Adnan, et al (2016) and ZulchaMintachusSania (2016) which shows that CAR does not have an influence on lending.

4 Basic Credit Interest Rates (SBDK) against Credit Distribution

Interest rates on loans can be interpreted as remuneration provided by banks based on conventional principles to customers who buy or sell their products. Interest can also be interpreted as the price that must be paid by the customer to the bank (the customer who gets the loan). The loan interest is the interest given to borrowers or the price that must be paid by the borrowing customer to the bank. (Kasmir, 2014). The statistical test t shows that there is an influence on lending. This shows that agency theory supports the variable credit interest rates in this study. These results provide information that the higher or lower interest rates, credit distribution will affect the amount of credit disbursement by the bank (Crisi, 2018; Vazakidis, et al. 2011)). The impact of high and low interest rates on loans will not make people reluctant to make loan requests to banks. This relates to the needs of the community which has a direct relationship with the activity of credit demand. Even high credit interest rates do not discourage people from making credit requests. The reason for the community in making credit requests is always associated with the primary needs of the community itself. Primary needs are a major requirement needed by the community to provide for their own lives. The results of this study have in common with research conducted by Al Daia, et al. (2011); Du, (2011); Stefano, et al. (2017) and Vazakidis, et al. (2011) which states that credit interest rates have no effect on the amount of credit disbursement, which means that the size of the loan interest rate does not affect the amount of loan disbursement provided by the bank to customers. Credit



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disbursement continues to run in accordance with customer demand in meeting integrated needs by the many requests for funds through credit activities.

5 Bank Indonesia Interest Rate (BI Rate) against Credit Distribution

Bank Indonesia interest rate is the value of the interest sensitivity determined by Bank Indonesia as the central bank. In the statistical test t shows that there is an influence on lending. This shows that agency theory supports the Bank Indonesia interest rate variable in this study. This result provides information that Bank Indonesia's policy to control credit interest rates through the determination of interest rates determined by Bank Indonesia will encourage banks to channel credit. This relates to the needs of banks that have a direct relationship with the credit demand activities of their customers. The results of this study are consistent with previous studies conducted by Stefano, et al. (2017) that Indonesian bank interest rates (BI Rate) on lending to influential credit distribution.

6 Gross Domestic Product against Lending

Gross domestic product in this study uses GDP sensitivity value. The results of the study inform that GDP has no effect on lending. This is due to Indonesia's economic growth which has increased from 2012 - 2017 increasing people's consumption of basic needs. The size of bank lending will not be affected by GDP, because people will still need and consecrate these basic needs. Another reason is that government policies that strengthen the development of the real sector spur communities to work to generate income to finance their needs in order to reduce dependence on credit (Stefano, et al. 2017; Vazakidis, et al. 2011).

Conclusions and suggestions

This study aims to empirically examine the effect of loan to deposit ratio, capital adequacy ratio, non-performing loan, credit base interest rate, BI rate and gross domestic product. The results of the study inform that non-performing loans, credit base rates and bank interest rates of Indonesia affect the distribution of bank credit. The study also informed that: loan to deposit ratio, capital adequacy ratio and gross domestic product had no effect on lending. Further research is expected to add other variables to be researched and to strengthen this research or it is recommended to change this variable by using variables such as net interest margin and market risk. Subsequent research can also use other banking samples, such as commercial banks, foreign banks.

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