



THE EFFECT OF BI RATE, EXCHANGE RATE, INFLATION AND THIRD PARTY FUND (DPK) ON CREDIT DISTRIBUTION AND ITS IMPACT ON NON PERFORMING LOAN (NPL) IN BANK XYZ SEGMENT COMMERCIAL

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ABSTRACT

This study purpose to determine the effect of interest rates, exchange rates, inflation and third party funds on lending and the impact on non-performing loans (NPL) in the commercial segment XYZ bank. By using several theories and previous research. How is the direct and indirect influence of interest rates, exchange rates, inflation and third party funds on lending. This research uses time series data as much as 48 months / sample on the XYZ Bank company in the commercial segment. This study uses path analysis using eViews software. Research period for 2015 to 2018. The results of the study on the direct effect concluded that credit distribution has a positive and significant effect on the BI rate and third party funds with coefficients of 1.09 and 0.13 while the exchange rate has a negative and significant effect with a coefficient of 0.73 and influential but not significant inflation in lending. NPL has a positive and significant effect on the exchange rate with a coefficient of 0.26, but deposits and credit distribution have an effect but not significantly on the NPL. Indirect total influence namely the influence of the BI rate on NPL through credit distribution has a positive effect with a coefficient of 1.05, the effect of the exchange rate on NPL through credit distribution has a negative effect with a coefficient of 0.78, the effect of inflation on NPL through credit distribution has a negative coefficient of 0.40 and influence Deposits on NPL through credit distribution have a positive effect with a coefficient of 0.09.

KEYWORDS: *Economic Fundamentals, Bank Mandiri Medan Profitability.*

INTRODUCTION

Along with the level of development of the times, the development of the business world in Indonesia has entered the era of globalization which resulted in the increasingly open market in Indonesia to compete with foreign competitors through trade.

International trade is influenced by the specialization of conditions or resources by a country different from other countries in obtaining raw materials so that the creation of international business. International trade involves the influence of a country's condition on the country's fundamentals both in terms of exchange rates, inflation, interest rates and money supply in the community.

Credit distribution is one of the economic driving forces in a country because credit is a means of forming capital and accumulation of long-term funds aimed at increasing public participation in mobilizing funds to support national development financing.

The principle of every company in looking for profit then competition always occurs, so that many banks that are not resistant to competition and are under government supervision are then liquidated. Banks in conducting an assessment of the health of the banking system are required analysis of banking data processing, both in the aspects of capital, aspects of asset quality, aspects of management quality, aspects of liquidity, and aspects of profitability. Related to financial management, the profitability aspect is a very important measure which is a measure of the bank's ability to increase its profits.

Return on Assets (ROA) was chosen as a measure of bank profitability because banks dominate over changes in assets rather than investment or capital, therefore the authors focus on size in managing profitability by using Return on Assets (ROA). Return on Assets (ROA) which focuses on the company's ability to earn earnings in the company's operations is used to measure the company's effectiveness in generating profits by utilizing its assets. In this study the focus is on obtaining ROA only from the loans it provides and not from the overall total assets of the company.

Based on the financial ratios and policies of banks that want to review the health of their banks, the measures that must be considered so as not to get out of the research path are as follows:

1. Macroeconomics, namely the exchange rate, inflation, the BI rate
2. Credit Distribution, i.e. the size of the value of the credit channeled.
3. Collectibility, i.e. the size of the Non Performing Loan (NPL).
4. Fund Raising, namely DPK.

Purpose

The Purpose Of This Research Is To Influence Bi Rate, Exchange Rates, Inflation And Third Party Funds (Dpk) On Credit Distribution And Its Impact On Non-Performing Loans (Npl) In Bank Xyz Commercial Segment

Method

The research method used is a method with a quantitative research approach. While the type of research is descriptive and verification research. To test the research hypothesis, the Path Analysis method is used.

The path analysis model is used to analyze the pattern of relationships between variables in order to determine the direct and indirect effects of a set of independent (exogenous) variables on the dependent variable (endogenous) (Riduwan and Kuncoro, 2008: 2).

Research Type

The research method is basically a scientific way to get data with specific goals and uses (Sugiyono, 2011: 2). The research method used in this research is descriptive method and verification method. According to Sugiyama (2008: 36) descriptive method is research that seeks to collect data, critically analyze these data and conclude them based on facts during the current research period or now. This descriptive method is used to determine the condition of inflation, BI Rate, Non Performing Loans (NPL), DPK, Credit Distribution and NPL.

BACKGROUND

One of the benchmarks of national development is economic development in which the economic sector has always been the focus of the government in implementing both short and long term development. Now that the crisis has passed, improving the economic sector remains a top priority. Economic development cannot be separated from the development of various kinds of financial institutions. One of the financial institutions that seems to have the biggest role in economic development is the bank's financial institutions, which are commonly called banks.

At this time the lending trend is very tight and difficult it is indicated due to macro and micro economic factors. Now researchers want to examine several macro factors in the form of the effect of exchange rates, inflation, the BI rate and a lot of money circulating in the community. Specifically, researchers will conduct research at Bank Mandiri by also taking into account the level of NPL (non-performance loan) and LDR (loan to deposit ratio).

The current assumption is that if the interest rate / BI Rate increases, the public's desire to save is high because it is given high interest with clarity of profit compared to investing in the stock market or in the industry in the real sector. But this is contrary to the people who want to borrow funds from the Bank because it will incur interest on deposit interest. Against the increase in interest rates whether there is an influence of public interest in lending funds or vice versa.

The assumption of inflation is that there will be an increase in prices. In relation to shares, a sharp increase in the exchange rate of the dollar against the rupiah will negatively impact issuers that have debt in dollars while the issuer's products are sold locally. Meanwhile, export-oriented issuers will receive a

positive impact from the increase in the dollar exchange rate. This means that the issuer's share prices that are negatively affected will experience a decline on the Stock Exchange.

LITERATURE

All people must be biased to manage their lives, both in daily life or in the economic sector, in economics, management is often referred to as the science of managing activities in the economy. James A.F Stoner in Irham Fahmi (2012: 2) explains that management is a process of planning, organizing, leadership and controlling the efforts of organizational members and the use of all organizational resources to achieve the stated goals.

Management is a process or framework that involves the guidance or direction of a group of people towards organizational goals or tangible goals (George R. Terry and Leslie W. Rue in Irham Fahmi (2012: 2).

Credit

Banks in carrying out their business activities, credit is the main activity of banks. This is because the most important bank profits come from credit. The definition of credit according to the Banking Act Number 10 of 1998 is the provision of money or bills that can be likened to it, based on an agreement or agreement to borrow and borrow between banks with other parties that require the borrower to repay his debt after a certain period of time with the provision of interest (Kasmir, 2011 : 102). Credit provides benefits for banks and borrowers. The advantage for banks is to be able to benefit from loan interest paid by the borrower. As for the borrower (debtor), the provision of credit can develop their business.

Inflation

Inflation for the general public, is something that is encountered in everyday life. The level of inflation causes turmoil from time to time even though the level of decline or increase varies. According to Hossain (2010: 142), in the monetary science literature, inflation already has a definite meaning. Basically what is called inflation (inflation) is a variety of conditions of continuous increase in the overall price level. Inflation in such a definition is not the same as a short-term 'moment' fluctuation of the general price level.

Third Party Funds (DPK)

Sources of funds from other institutions are additional if banks experience difficulties in finding the first and second sources of funds above. These funds are often referred to as party II funds. Searching for this funding source is relatively more expensive and is only temporary. Then the funds obtained from this source are used to finance or pay for certain transactions. Obtaining funds from this source can be obtained from:

- a) Liquidity credit from Bank Indonesia.
- b) Interbank loans (Call money).
- c) Loans from foreign banks.
- d) Money Market Securities (SPBU).

The higher the interest rate, the desire to invest too. The smaller, because the rate of return and use of funds is also greater. (Nopirin, 1995).

BI Rate

The BI Rate is a reference rate for monetary policy and is set at a monthly Board of Governors' Meeting. BI Rate is a policy interest rate that reflects the stance or monetary policy stance determined by Bank Indonesia and announced to the public. The BI Rate is announced by the Board of Governors of Bank Indonesia at each monthly Board of Governors' Meeting and implemented in monetary operations conducted by Bank Indonesia through liquidity management on the money market to achieve the operational objectives of monetary policy. Taking into account other factors in the economy, Bank Indonesia will generally raise the BI Rate if inflation in the future is estimated to exceed the target set, whereas Bank Indonesia will lower the BI Rate if inflation in the future is estimated to be below the target set (www.bi.go.id).

Exchange rate

According to Triyono (2008), the exchange rate (exchange rate) is the exchange between two different currencies, which is a comparison of the value or price between the two currencies. Foreign exchange rates are very dependent on market conditions. In a free market the exchange rate will change following changes in demand and supply.

Meanwhile, according to Hady (2010) foreign exchange (foreign exchange) or foreign exchange (forex) is defined as a foreign currency and payment instrument used to conduct or finance international financial economic transactions and has an official exchange rate record at the central bank. Can be concluded the exchange rate or foreign exchange (foreign exchange) is the exchange rate of a country's currency against another country's currency used in international financial transactions.

Credit Distribution

Basically the reason for the community to obtain bank credit facilities is to buy goods, open new businesses, develop businesses both horizontally and vertically, rehabilitate, modernize or to meet the needs of emergency working capital.

The purpose of credit activities carried out by banks is inseparable from the bank's mission, namely profitability and safety. According to Kasmir (2008) the objectives of granting credit are:

1. Looking for Profit
2. Assist Customer Business
3. Helping the Government

Some of the benefits obtained by the government from providing credit are

- a). Tax receipts from profits received by customers and banks.
- b). Open employment opportunities because with the expansion of business it requires a lot of labor.
- c). Increasing the number of goods and services circulating in the community.

Non Performing Loans (NPL)

Every bank in carrying out its business activities as a financial institution that gives credit to debtors will surely face a risk. Siamat (2005: 279) states that, business risk or business risk bank is a level of

uncertainty about the expected revenue to be received. Revenues in this case are bank profits. The higher the uncertainty of income obtained by a bank, the more likely the risk faced and the higher the risk premium or interest desired. Credit risk or often also called a default risk is a risk due to failure or inability of customers to return the loan amount obtained from the bank according to the interest in accordance with a predetermined or scheduled period.

Non Performing Loans (NPL) is a comparison between non-performing loans and total loans (Bank Indonesia Circular Letter Number 3/30 / DPNP dated December 14, 2001). Siamat (2005: 358) states that non-performing loans or problem loans can be interpreted as loans that have difficulty in repayment due to deliberate factors and / or due to external factors beyond the debtor's control ability. Kasmir (2011: 128) states that the granting of a credit facility carries a risk of being stalled. As a result, credit cannot be billed, causing losses that must be borne by a bank.

Influence of Inflation on the BI Rate

The BI Rate is a policy interest rate that reflects the stance or monetary policy stance set by Bank Indonesia and announced to the public. The BI Rate is implemented in monetary operations carried out by Bank Indonesia through liquidity management on the money market to achieve the operational targets of monetary policy. The operational objectives of monetary policy are reflected in developments in the Interbank Money Market (PUAB) interest rates. The movement in the PUAB interest rate is expected to be followed by developments in deposit rates and in turn bank lending rates. Bank Indonesia will generally raise the BI Rate if future inflation is estimated to exceed the target set, whereas Bank Indonesia will lower the BI Rate if future inflation is estimated to be below the target set. (Bank Indonesia, 2013)

Effect of BI Rate on LDR

BI Rate is a signal of monetary policy response. According to Siamat (2005: 139), the BI Rate is an interest rate with a one-month tenor announced by Bank Indonesia periodically for a certain period that serves as a signal of monetary policy stance. The BI Rate is used as a reference in monetary operations to direct the weighted average 1-month SBI interest rate resulting from the OMO auction to be around the BI Rate. Furthermore, the 1-month SBI interest rate is expected to affect the Interbank Money Market (PUAB) interest rates, deposit and credit rates, as well as longer-term interest rates.

The increase in the BI Rate will cause an increase in deposit and credit interest rates, so that it will change the composition of deposits and credit. Thus it will affect the Loan to Deposit Ratio (LDR) (Bank Indonesia, 2010).

Effect of LDR on NPL

Liquidity is a financial ratio to measure the operational ability of banks in meeting their short-term obligations when billed (Wiagustini, 2010: 76). Indicators of liquidity and decline in the banking intermediary function can be seen from the Loan to Deposit Ratio (LDR) is a comparison between the total loans granted with the total Third Party Funds (DPK) that can be collected by banks (Riyadi, 2006: 165).

Credit distribution is the main activity of the bank, therefore the activity of collecting credit funds from the public will determine the size of the bank's profits as well as the risks to be taken by the bank. Therefore, the size of this ratio greatly affects the existence of non-performing loans or Non-Performing Loans. The LDR ratio is also an indicator of the amount of credit extended by banks, the higher the LDR ratio, the likelihood that the amount of credit to be extended will increase. This also shows that when the amount of credit given and the LDR ratio are high, the possibility of profits earned by banks through interest income will also be high. On the other hand, the greater the amount of credit given will pose a high enough risk of lending. With a time limit on returning a credit loan, the loan will be problematic.

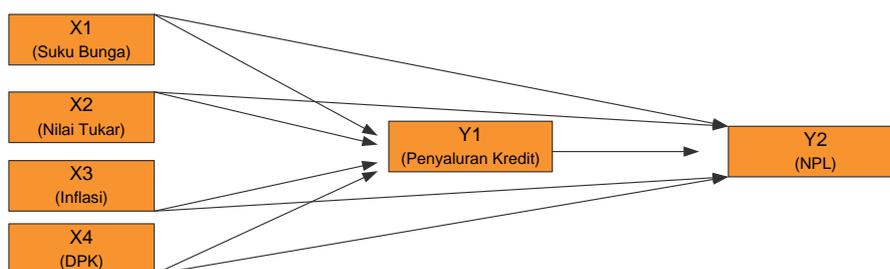
Effect of LDR on ROA

Loan to Deposit Ratio (LDR) is a ratio that shows the ability of banks to provide funds to debtors with capital owned by banks and funds obtained from third parties. Public trust in banks must be fully guarded by banks so that third party funds entrusted by the public increase. Funds collected from the public are in the form of savings or time deposits and also owned capital if the nominal gets bigger, there will be a big opportunity to be channeled back in the form of large credit as well. Credit balance given to the customer if it gets bigger is very profitable for the bank, so the interest earned will increase. The increase in interest will have a positive impact on bank profits so that it will raise ROA automatically.

Effect of NPL on ROA

Calculation of profitability based on profit before tax and total assets will certainly cause profitability to decrease along with the high non-performing loans owned by the Bank. Non-performing loans will procedurally hamper the cash flow process, if the borrower's funds should have entered the bank then in reality the borrower does not deposit it, then the funds should be managed again. The increase in NPLs or problem loans will reduce the funds that should go to the bank and be managed again by the bank, so that the bank's financial activities are disrupted, credit processes and other asset activities are disrupted, so that if profits are biased, the profits will decline, automatically affecting ROA negatively. The greater the bad credit or NPL, the smaller the ROA obtained.

Paradigma Research



METODE

Types and Nature of Research

The form or type of this research is quantitative research. Quantitative research attaches importance to the variables as research objects and these variables must be defined in the form of the operational of each variable and understanding from the outside. Quantitative research requires the existence of a hypothesis and testing which will then determine the next steps, such as determining the technical analysis and statistical formulas that will be used. While the nature of this research is explanatory. Explanatory research is to test hypotheses that state a causal relationship between two or more variables.

Research Location and Time

This research was conducted at PT Bank XYZ Commercial segment. The data used in this study begins in 2015 until 2018 or 48 months and research will begin in 2019 after going through the colloquium stage.

Data collection technique

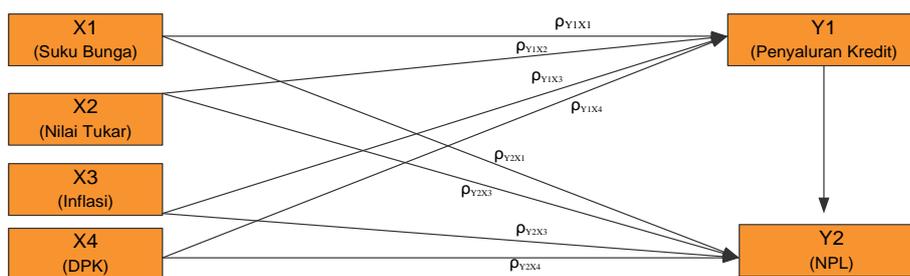
Data collection technique is a method / documentation study conducted by collecting data derived from documents in the form of monthly reports on the achievement / distribution of credit, funds and collectibility reports from 2015-2018 PT Bank XYZ Commercial segment and macroeconomic data virtually through the site Bank Indonesia's official website, <http://www.bi.go.id>.

Operasionalisasi Variabel

This study has 5 (five) variables, which are as follows:

No.	Variabel Research	Definisi Operasional	Indikator	Skala Ukur
1	Dependent: BI Rate (X1)	The price the borrower must pay for the use of money for a certain period of time	Interest rate of 1 year	Rasio
2	Dependent: Nilai Tukar (X2)	Payment instrument used to conduct or finance international financial economic transactions	The average exchange rate at the end of the month is USD / IDR	Rasio
3	Dependent: Inflasi (X3)	An increase in prices prevailing in an economy	Bank Indonesia's monthly inflation rate	Rasio
4	Dependent: Dana Pihak Ketiga (X4)	Deposits that can be withdrawn at any time (demand deposits and savings) or time deposits (deposits).	XYZ Bank's total monthly funds	Rasio
5	Independent: Penyaluran Kredit (Y1)	Transfer of immovable or passive cash status to active money.	XYZ Bank monthly credit limit usage	Rasio
6	Independent: NPL (Y2)	The amount of credit is substandard, doubtful and bad. (BI 12/11 / DPNP / 2010)	Total non-performing loans divided by total loans	Rasio

Metode Analisis Data/ Analisis Jalur



Persamaan Model :

$$Y1 = \rho_{Y1X1}X1 + \rho_{Y1X2} X2 + \rho_{Y1X3} X3 + \rho_{Y1X4} X4 + \epsilon1$$

$$Y2 = \rho_{Y2X1}X1 + \rho_{Y2X2}X2 + \rho_{Y2X3}X3 + \rho_{Y2X4}X4 + \rho_{Y2Y1}Y1 + \epsilon2$$

Statistics / Conformity Testing

Uji Akar Unit/ Unit Root Test

To find out whether the time series data used in this study has a unit root problem (non-stationary data), a root test is used through the Augmented Dickey-Fuller Test (ADF-test). If a time series data is not stationary at zero order I (0) or level level, then the stationarity of the data can be searched through various orders so that the stationary level is obtained on the nth order (first difference or I (1), or second difference or I (2), and so on).

Kointegrasi Test

This test was developed based on the perception of data models that are not stationary individually but a linear combination between two or more time series data can be stationary. To find out, the Engle Granger method was tested using the Augmented Dicky Fuller Test approach. Testing with this road is better known as the Cointegration Test. If the variables in the cointegrated model can be interpreted the combination of two or more in the regression is stationary.

Koefisien Determinasi Test (R2)

The coefficient of determination test is carried out with the intention to see how much influence the changes in the independent variables used in the model are able to explain their influence on the dependent variable. This test looks at the coefficient of determination (R2) obtained from the estimated equation.

Uji t-statistik (Uji Parsial)

T-statistic testing is used to test the partial effect of the independent variables on the dependent variable. This test is done by comparing the calculated t value with the t table value.

In this study the t test was conducted for the direct influence variable (model 1) and the indirect effect (model 2).

Hypothesis for regression results for variables that are positively correlated:

H_0 : $\beta_i = 0$; independent variable has no significant effect with respect to the dependent variable

H_a : $\beta_i > 0$; independent variable has a significant effect with respect to the dependent variable

Hypothesis for regression results for negatively correlated variables:

H_0 : $\beta_i = 0$; independent variable has no significant effect with respect to the dependent variable

H : $\beta_i > 0$; independent variable has a significant effect with respect to the dependent variable

If it turns out that after counting $|t| > t\text{-table}$, then the value of t is in the rejection area, so the null hypothesis ($\beta_i = 0$) is rejected at the confidence level $(1-\alpha) \times 100\%$. This means that there is a significant influence between each independent variable on the dependent variable.

Classic assumption test

The results of using the regression analysis model can be done with the consideration that there are no violations of the classical assumptions, the classical assumptions must meet the following standards:

1. Normalitas test
2. Heteroskedastisitas test
3. Autokorelasi test
4. Multikolinieritas test

RESEARCH RESULT

Data Yang Digunakan dan diolah menggunakan eviews

BANK	YEAR	RATE	EXCHANGE RATE (Rp./USD)	INFLASI	DPK (Rp. Juta)	DISTRIBUTION LOAN (Rp. Juta)	NPL
		X1	X2	X3	X4	Y1	Y2
XYZ	31-Jan-15	7.75%	12,665	6.96%	25,830	140,198	1.03%
XYZ	28-Feb-15	7.50%	12,920	6.29%	25,234	142,207	1.08%
XYZ	31-Mar-15	7.50%	13,070	3.38%	27,155	145,028	0.94%
XYZ	30-Apr-15	7.50%	12,960	6.79%	27,546	145,107	1.06%
XYZ	31-May-15	7.50%	13,223	7.15%	28,016	146,329	1.20%
XYZ	30-Jun-15	7.50%	13,330	7.26%	31,633	148,845	1.61%
XYZ	31-Jul-15	7.50%	13,525	7.26%	56,340	147,106	2.18%
XYZ	31-Aug-15	7.50%	14,045	7.18%	54,738	148,026	2.17%
XYZ	30-Sep-15	7.50%	14,645	6.83%	57,813	149,595	2.54%
XYZ	31-Oct-15	7.50%	13,675	6.25%	54,878	148,184	2.70%
XYZ	30-Nov-15	7.50%	13,830	4.89%	56,417	150,378	2.73%
XYZ	31-Dec-15	7.50%	13,785	3.35%	63,630	158,211	2.69%
XYZ	31-Jan-16	7.25%	13,770	4.14%	56,821	154,920	3.45%
XYZ	29-Feb-16	7.00%	13,367	4.42%	55,979	153,021	3.68%
XYZ	31-Mar-16	6.75%	13,255	4.45%	57,671	153,857	3.31%
XYZ	30-Apr-16	6.75%	13,180	3.60%	57,231	152,864	4.42%
XYZ	31-May-16	6.75%	13,655	3.33%	58,542	154,193	5.14%
XYZ	30-Jun-16	6.50%	13,210	3.45%	61,316	158,744	6.68%
XYZ	31-Jul-16	6.50%	13,097	3.21%	56,346	156,234	6.51%
XYZ	31-Aug-16	5.25%	13,265	2.79%	58,524	156,937	6.21%
XYZ	30-Sep-16	5.00%	13,047	3.07%	60,973	162,756	6.33%
XYZ	31-Oct-16	4.75%	13,047	3.31%	59,300	161,258	6.73%
XYZ	30-Nov-16	4.75%	13,550	3.58%	65,086	162,893	7.17%
XYZ	31-Dec-16	4.75%	13,470	3.02%	66,353	165,157	9.32%
XYZ	31-Jan-17	4.75%	13,347	3.49%	57,214	155,462	9.95%
XYZ	28-Feb-17	4.75%	13,331	3.83%	56,479	152,850	10.01%
XYZ	31-Mar-17	4.75%	13,323	3.61%	56,855	152,693	10.55%
XYZ	30-Apr-17	4.75%	13,327	4.17%	54,983	152,888	10.32%
XYZ	31-May-17	4.75%	13,321	4.33%	56,407	152,924	10.11%
XYZ	30-Jun-17	4.75%	13,365	4.37%	59,762	157,302	10.77%
XYZ	31-Jul-17	4.75%	13,324	3.88%	56,632	155,239	10.55%
XYZ	31-Aug-17	4.50%	13,342	3.82%	58,507	153,733	10.31%
XYZ	30-Sep-17	4.25%	13,470	3.72%	64,091	157,582	10.16%
XYZ	31-Oct-17	4.25%	13,560	3.58%	62,484	153,116	10.01%
XYZ	30-Nov-17	4.25%	13,524	3.30%	62,364	152,626	9.85%
XYZ	31-Dec-17	4.25%	13,565	3.61%	68,146	155,820	10.01%
XYZ	31-Jan-18	4.25%	13,413	3.25%	59,573	145,224	10.43%
XYZ	28-Feb-18	4.25%	13,707	3.18%	58,577	141,585	10.24%
XYZ	31-Mar-18	4.25%	13,756	3.40%	58,476	141,677	10.48%
XYZ	30-Apr-18	4.25%	13,877	3.41%	58,681	141,456	10.61%
XYZ	31-May-18	4.75%	13,951	3.23%	57,901	138,922	10.68%
XYZ	30-Jun-18	5.25%	14,404	3.12%	59,246	143,418	10.55%
XYZ	31-Jul-18	5.25%	14,413	3.18%	59,905	141,183	10.82%
XYZ	31-Aug-18	5.50%	14,711	3.20%	59,915	140,895	10.85%
XYZ	30-Sep-18	5.75%	14,929	2.88%	60,469	141,911	10.86%
XYZ	31-Oct-18	5.75%	15,227	3.16%	61,021	153,346	10.84%
XYZ	30-Nov-18	6.00%	14,339	3.23%	61,035	140,502	10.60%
XYZ	31-Dec-18	6.00%	14,481	3.13%	60,192	158,113	10.53%

Uji Akar Unit/ Unit Root Test

Stationarity is one of the important prerequisites in the econometrics model for time series data. Stationary data is data that shows the mean, variance and autocovariance (in the lag variation) remain the same at any time the data is formed or used, meaning

that with stationary data the time series model can be said to be more stable.

Variabel	Tingkat Stasioneritas			
	Level		First Difference	
	Prob.	Keterangan	Prob.	Keterangan
lnX1	0.4962	tidak Stasioner	0.0002	Stasioner
lnX2	0.2726	tidak Stasioner	0.0000	Stasioner
lnX3	0.1218	tidak Stasioner	0.0000	Stasioner
lnX4	0.0007	Stasioner	0.0444	Stasioner
lnY1	0.2580	tidak Stasioner	0.0000	Stasioner
lnY2	0.5259	tidak Stasioner	0.0000	Stasioner

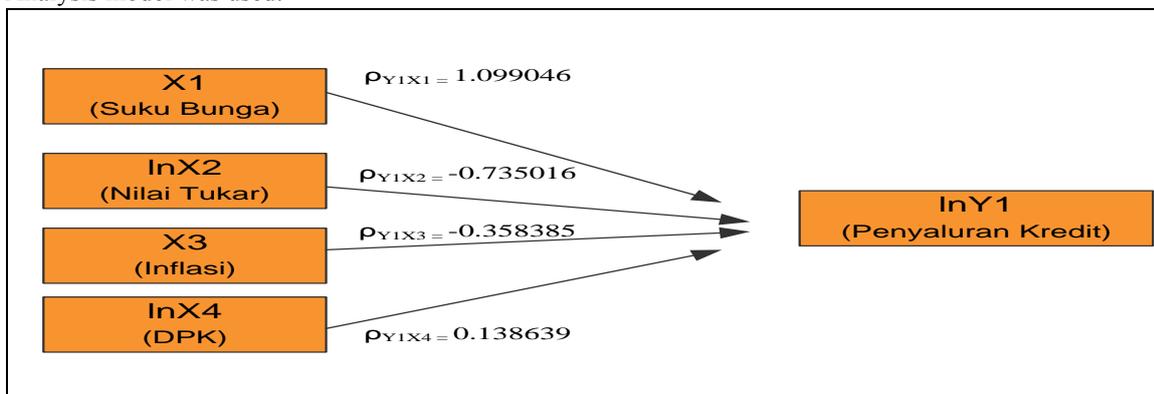
Regresi Model/ Analisis Jalur

To find out the relationship between exogenous variables, namely interest rates, exchange rates, inflation, deposits against endogenous variables, namely lending and NPLs at Bank XYZ, the Path Analysis model was used.

a. Direct Effect/ pengaruh secara langsung

Model 1

$$\ln Y_1 = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \mu$$



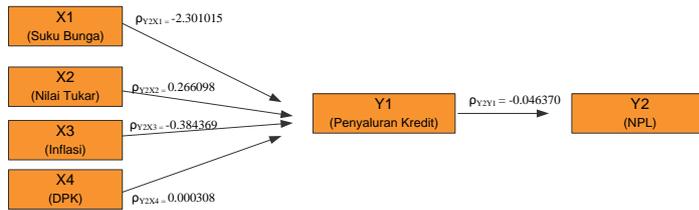
Persamaan	Degree of freedom (df)	α (nilai t-table)		
		1%	5%	10%
Model 1	n-k = 48-4 = 44	2.6923	2.0154	1.6802

Dependent Variable: LNY1
Method: Least Squares

Variable	Coefficient	t-Statistic	Ket.
C	17.36050	13.34793	Signifikan pada α = 1%
LNX1	1.099046	1.926321	Signifikan pada α = 10%
LNX2	-0.735016	-4.960601	Signifikan pada α = 1%
LNX3	-0.358385	-0.667062	Tidak Signifikan
LNX4	0.138639	4.810397	Signifikan pada α = 1%
R-squared	0.470883		
Adjusted R-squared	0.421663		
F-statistic	9.566876		
Prob(F-statistic)	0.000013		

Model 2

$$\ln Y_2 = \beta_0 + \beta_1(\ln X_1) + \beta_2(\ln X_2) + \beta_3(X_3) + \beta_4(\ln X_4) + \beta_5(\ln Y_1) + \mu$$



Persamaan	Degree of freedom (df)	α		
		1%	5%	10%
Model 2	n-k = 48-5 = 43	2.6951	2.0167	1.6811

Dependent Variable: LNY2
Method: Least Squares

Variable	Coefficient	t-Statistic	Ket.
C	-1.762814	-1.772571	Signifikan pada $\alpha = 10\%$
LNX1	-2.301015	-11.47703	Signifikan pada $\alpha = 1\%$
LNX2	0.266098	4.248027	Signifikan pada $\alpha = 1\%$
LNX3	-0.384369	-2.111059	Signifikan pada $\alpha = 5\%$
LNX4	0.000308	0.025530	Tidak Signifikan
LN Y1	-0.046370	-0.901872	Tidak Signifikan
R-squared		0.912102	
Adjusted R-squared		0.901638	
F-statistic		87.16545	
Prob(F-statistic)		0.000000	

b. Indirect Effect/ Pengaruh Secara Tidak Langsung

- a. X1 → Y1 → Y2 = 1.052676
- b. X2 → Y1 → Y2 = -0.781386
- c. X3 → Y1 → Y2 = -0.404755
- d. X4 → Y1 → Y2 = 0.092269

Pengujian Statistik Uji Kointegrasi

This test was developed based on the perception of data models that are not stationary individually but a

linear combination between two or more time series data can be stationary.

Result Kointegrasi Test

Residual	t-statistic	Tingkat Stasioneritas	Keterangan
Model 1	6.390080	Level	Stasioner
Model 2	6.265412	Level	Stasioner

In Model 1, show the value of | t-statistics | ie 6.390080 is greater than the MacKinnon critical value at the 99% confidence level (4.234972), so H0 is rejected. This shows that the residuals of Model 1 are stationary or cointegrated.

In Model 2, show the value of | t-statistics | namely 6.265412 is greater than MacKinnon critical value at a 99% confidence level (4.234972), so H0 is rejected. This shows that the residuals of Model 1 are stationary or cointegrated.

Koefisien Determinasi (R2)

The coefficient of determination test is carried out with the intention to see how much influence the changes in the independent variables used in the model are able to explain their influence on the dependent variable. From the estimation results of Model 1, the coefficient of determination (R2) of 0.47 is obtained. This means that 47% of credit distribution can be explained by the independent variables in the model, namely the BI Rate, the exchange rate, inflation and DPK. While the remaining 53% is explained by other variables not included in the model.

From the estimation results of Model 2, the coefficient of determination (R²) of 0.91 is obtained. This means that 91% of NPL can be explained by the independent variables in the model, namely the BI Rate, the exchange rate, inflation, deposits and lending. While the remaining 9% is explained by other variables not included in the model. From the results of regression models 1 and 2 also obtained adjusted R² values of 0.47 and 0.91. This means that after adjusting for the large number of coefficients in the equations in models 1 and 2, about 47% and 91% changes in the dependent variable in models 1 and 2, namely lending and NPL, can be

explained by the independent variables. While the remaining 53% and 9% are explained by other factors not included in the model.

Uji t-statistik (Uji Parsial)

T-statistic testing is used to test the partial effect of the independent variables on the dependent variable.
 - | t-stat | > t-table then H₀ is rejected, meaning that there is a significant influence between the independent variable on the dependent variable.
 - | t-stat | < t-table then H₀ is not rejected, meaning that there is no significant influence between the independent variables on the dependent variable

Persamaan	Degree of freedom (df)	α		
		1%	5%	10%
Model 1	n-k = 48-4 = 44	2.6923	2.0154	1.6802
Model 2	n-k = 48-5 = 43	2.6951	2.0167	1.6811

Hasil Uji t-statistik Model 1

Variabel	t-statistik	H ₀	Keterangan
X1	1.926321	Ditolak	Signifikan pada α = 10%
X2	-4.960601	Ditolak	Signifikan pada α = 1%
X3	-0.667062	Diterima	Tidak Signifikan
X4	4.810397	Ditolak	Signifikan pada α = 1%
C	13.34793	Ditolak	Signifikan pada α = 1%

Source : Output EViews (telah diolah kembali)
 Therefore, the independent variable in Model 1, namely: BI Rate, Exchange Rate, Deposits each has a significant effect on lending, while the

independent variable, inflation, has no significant effect.

Hasil Uji t-statistik Model 2

Variabel	t-statistik	H ₀	Keterangan
X1	-11.47703	Rejected	Signifikan pada α = 1%
X2	4.248027	Rejected	Signifikan pada α = 1%
X3	-2.111059	Rejected	Signifikan pada α = 5%
X4	0.025530	accepted	Tidak Signifikan
Y1	-0.901872	accepted	Tidak Signifikan
C	-1.772571	accepted	Signifikan pada α = 10%

Source : Output EViews (telah diolah kembali)
 Thus the independent variables in Model 2, namely: BI Rate, Exchange Rate, inflation, each have a significant effect on NPL, while the independent variable, namely DPK and lending, does not have a significant effect on NPL.

these explanatory variables, and vice versa in models 1 and 2.

Uji Asumsi Klasik

Uji Normalitas

Prob value. JB counts in models 1 and 2 amounted to 0.8499 and 0.5120 ie> 0.05 so it can be concluded that the residuals are normally distributed which means the classical assumptions about normalcy have been fulfilled.

Uji Multikolinearitas

Based on the results of the t-statistic test, it turns out that almost all independent variables used in both Model 1 and Model 2 are significant in influencing the dependent variable. So it can be concluded that multicollinearity is not a problem in this research model.

In accordance with the multicol test in eviews where the correlation coefficient value is smaller than 0.80, there is no multicoll between

Uji Heteroskedastisitas

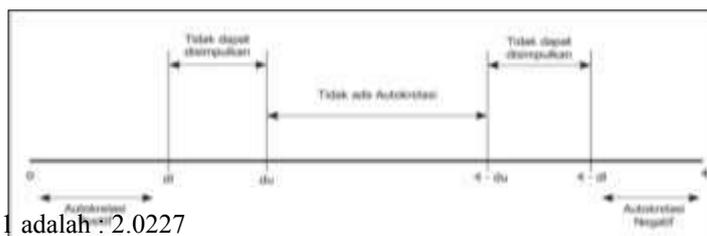
One of the assumptions that must be met for the estimated parameter in the regression model to be BLUE is that var (ui) must be equal to σ² (constant), or in other words, all residuals or errors have the same variant. Such conditions are called homoscedastic.

Based on the White-Test test using EViews version 6, the Chi-Square Probability of Obs * R-squared for Model 1 was found to be 0.2121 or greater than α = 5%. So it can be concluded that Model 1 does not contain heteroscedasticity. In Model 2, the Chi-Square Probability of Obs * R-squared is 0.1581 or greater than α = 5%. Thus Model 2 also does not contain heteroscedasticity.

Uji Autokorelasi

Autocorrelation is a correlation between members of a series of observations ordered by time. Autocoreation causes the residual variance to be

obtained lower than it should be, resulting in R2 being higher than it should be.
The test conducted is the Durbin-Watson Test as follows:



Nilai DW-stat in Model 1 adalah : 2.0227

Nilai DW-stat in Model 2 adalah : 1.8579

Uji Durbin-Watson

Ket.	n	k	$\alpha = 5\%$			
			dL	dU	4-dL	4-dU
Model 1	48	4	1.3619	1.7206	2.6381	2.2794
Model 2	48	5	1.3167	1.7725	2.6833	2.2275

Source : Damodar Gujarati, Basic Econometrics.

Simbol 'k' = banyaknya variabel bebas (penjelas), tidak termasuk variabel terikat

Simbol 'n' = banyaknya observasi

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Based on the analysis of the conclusions obtained as follows:

1. Partially the BI rate and DPK have a significant effect on lending, while the exchange rate and inflation have an insignificant effect on lending at the commercial segment Bank XYZ.
2. Partially the exchange rate and third party funds have a significant influence on NPL while the BI rate, inflation and lending have insignificant effect on NPL in the commercial segment Bank XYZ.

RECOMMENDATIONS Based on the analysis description, obtained suggestions or input as follows:

3. With the increase in the BI rate set by the regulator, it is hoped that the Bank will remain aggressive in its expansion, based on this research, lending will also increase.
4. Banks can take the strategy of increasing the number of deposits will have an impact on increasing lending.
5. Banks are expected to have a strategy to maintain an increase in NPLs by taking into account the increase in the exchange rate / exchange rate and DPK.
6. Banks can continue to extend credit even though NPLs, BI rates and inflation have increased due to their insignificant influence.
7. The role of Bank Indonesia to maintain the stability of the BI rate, exchange rate and inflation is expected to increase supervision in intervening so that companies can benefit and can project future income and banks can channel loans with low NPLs.
8. The government is expected to maintain the stability of economic fundamentals in the form of the BI rate, the exchange rate and inflation to

increase investors in doing business in the commercial segment.

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