Jurma : Jurnal Program Mahasiswa Kreatif
Universitas Ibn Khaldun Bogor, Indonesia
Vol. 8, No. 2, Desember 2024, pp. 386~395
ISSN: 2615-8019, DOI: 10.32832/pkm
http://pkm.uika-bogor.ac.id/index.php/pkm-p

Implications of Macro Economic Conditions for Banking Effectiveness in Indonesia

Nuri Rahayu Ningsih [1*], Budi Rusdianto [2], Kardina Siregar [3], Andria Zulfa [4], Dwita Sakuntala [5]
[1-4] Master of Economics Study Program, Universitas Pembangunan Panca Budi
Jl. Gatot Subroto No.km, Simpang Tj., Kec. Medan Sunggal, Kota Medan, Sumatera Utara 20122, Indonesia
[5] Universitas Prima Indonesia
Jl. Sampul No.3, Sei Putih Bar., Kec. Medan Petisah, Kota Medan, Sumatera Utara 20118, Indonesia

Article Info

Article history:

Received July 23, 2024
Revised August 12, 2024
Accepted September 19, 2024

Keywords:

CAR and NPL
Exchange
GDP
Inflation

ABSTRACT

This research aims to determine banking effectiveness. The variables in this research are Capital Adequacy Ratio (CAR), Non-Performing Loans (NPL), Economic Growth (GDP), Inflation, and Exchange Rates. The analytical method used in this research is the Vector Auto Regression (VAR) model with the Impulse Response Function (IRF) test, Forecast Error Variance Decomposition (FEVD), stationarity test, cointegration test, structural lag stability test, and optimal lag length test. The results of Vector Autoregressive research using a lag 2 basis show that there is a contribution from each variable to the variable itself and other variables. The results of the Vector Autoregression analysis also show that the past variable (t-1) contributes to the current variable, both the variable itself and other variables. From the analysis results, there is a reciprocal relationship between one variable and another variable. Response Function analysis shows that there is a response of other variables to changes in one variable in the short, medium, and long term, and it is known that the stability of the response of all variables is formed in 5 years or long term. Variance Analysis Decomposition shows the existence of variables that have the largest contribution to the variable itself in the short, medium, and long term, such as INF and KURS. Meanwhile, other variables that have the greatest influence on the variable itself and are supported by other variables in the short, medium, and long term are CAR and NPL which are most influenced by the EXCHANGE and GDP.

Corresponding Author:

Nuri Rahayu Ningsih
Universitas Pembangunan Panca Budi
Email: nrningsih13@gmail.com

INTRODUCTION

All countries in the world try to have a good economy. To achieve the goal of economic growth, macroeconomic variables must have the ability to handle every existing economic problem. To achieve this, supportive monetary, fiscal and macroprudential policies are needed. This policy is very important for the government to regulate the economy.

The financial crisis in Indonesia in mid-1997 damaged the banking sector. The weakening of the rupiah can cause financial, political, security, and even moral crises. Overall, the unstable economic situation

ISSN: 2615-8019

caused several important banking indicators in 1998 to be in a very bad condition, this included damage to bank trust, solvency, and profitability, which are important pillars of the Indonesian banking system.

Bank performance itself can be influenced by two factors, namely internal factors and external factors. Internal factors are the competitiveness of banks so that one bank and another bank have different characteristics. Meanwhile, external factors are general macro conditions such as movements in interest rates, inflation and exchange rates. External factors, namely macroeconomic conditions, have characteristics that fluctuate easily and are difficult to predict. When macroeconomic conditions are conducive, a good business climate will be created, thereby encouraging the growth of the banking sector. On the other hand, volatile external factors such as exchange rate instability and inflation will cause market risk and credit risk to emerge which will of course disrupt banking performance. Over the last seven years, the exchange rate has become the most unstable macroeconomic variable with a decline in value of 21%. Apart from that, Indonesia's economic growth (GDP) is also experiencing a downward trend in growth, reaching its lowest point in the last six years. Meanwhile, inflation, interest rates, and IHSG vary greatly every year. Therefore, it is necessary to conduct research to analyze the influence of macroeconomic variables in the form of inflation, interest rates, IHSG, exchange rates, and economic growth (GDP) on bank performance (Widodo, 2017).

Financial system stability provides stability to economic activity which ultimately has an impact on economic health. Several factors that influence the stability of the financial system, in theory, are capital flows, exchange rates, interest rates, inflation, non-performing loans ratio, and others. The ratio of non-performing loans (NPL) to total credit, commonly known as the NPL to total credit ratio, is the ratio between the number of loans classified as substandard, doubtful, and problematic, to total credit with an increase in the amount of credit at microfinance institutions (People's Credit Banks), then there are indications that it will also increase financial risk. Thus, it turns out that this increase is still not effective in resolving economic problems, especially its impact on financial system stability, so this research was conducted to determine the level of financial risk in Indonesia and the influence of credit from microfinance institutions, as well as the influence of several macroeconomic variables, namely inflation, interest rates, and exchange rates. on credit risk (NPL). Macroeconomic variables are taken because macroeconomic indicators can influence bank liquidity and thus become one of the determining factors for the level of bad loans (Viphindrartin, 2021).

Inflation is a macroeconomic factor that influences the efficiency of banking activities. Inflation reduces the value of money, which reduces the general rate of return. in capital A decrease investment has a negative impact on economic performance. The inflation rate is an indicator that is often used to measure the stability of prices of goods and services. Inflation is defined as a continuous increase in the general price level over a certain period (Viphindrartin, 2021).

REVIEW LITERATURE

Inflation

Inflation is a condition that indicates the weakening of people's purchasing power, which is followed by a decline in the real value of a country's currency. The causes of inflation are divided into three parts, namely:

- Demand-pull (demand-pull inflation) occurs when aggregate demand increases faster than the economy's productive potential.
- Cost-push (cost-push inflation) occurs when there is a depreciation of the exchange rate, an increase in commodity prices regulated by the government, and a disruption of distribution.
- Inflation expectations occur when the behavior of society and economic actors tends to be adaptive (forward-looking). Inflation can also affect bank profitability. When the inflation rate increases, Bank Indonesia makes a policy by increasing savings interest rates, so that people are interested in saving so that inflation is overcome and profitability increases (Septiasa, 2020).

Inflation will tend to be large. Inflation is the tendency for prices to rise generally and continuously. High inflation will result in people's purchasing power decreasing and interest rates increasing. The size of the inflation rate will affect interest rates and the company's financial performance, especially in terms of operational profit (Fauzi, 2023).

Keynes's theory explains that inflation can work because it is caused by groups of people who want to live more than the limits of economic capacity. This results in public spending more on consumption than saving in banks. So people will withdraw money that was previously deposited in the bank. Withdrawing money causes JUB to increase the number of people in the community, which in turn leads to inflation and inequality. As far as this gap exists, inflation is the same. Inflation is the tendency for prices to rise generally and continuously. An increase in the price of just one or two goods is not called inflation unless the increase extends to the prices of most other goods (Sipahutar, 2020).

Economic Growth (GDP)

Gross Domestic Product (GDP) is one of the most commonly used macroeconomic indicators to measure total economic activity, which can influence various factors in both the demand and supply of banking services. Macroeconomics is the part of economics that specializes in studying the operating mechanisms of the economy as a whole, aiming to understand economic events or phenomena and to improve economic policy (Sipahutar, 2020).

Economic growth is the development of activities in the economy which causes the goods and services produced in society to increase and the prosperity of society to increase. The problem of economic growth can be seen as a macroeconomic problem in the long term. The development of the ability to produce goods and services as a result of increases in production factors is generally not always followed by an increase in the production of goods and services of the same magnitude. The increase in production potential is often greater than the actual increase in production. Thus economic development is slower than its potential (Sukirno, 2018).

Economic growth is also defined as an increase in society's output caused by the increasing number of production factors used in the production process without any change in the technological methods themselves. Economic growth indicators not only measure the level of output growth in the economy but also indicate the extent to which economic activity that occurred in a certain period has generated income for society (Bawinti, 2018).

Gross Domestic Product is defined as the total value of all goods and services produced within a region within a certain period (usually per year). GDP differs from Gross National Product (GNP) because it includes the income of foreign factors of production employed in the country. So GDP only calculates the total production of a country without taking into account whether the production is carried out using domestic production factors or not. On the other hand, GNP pays attention to the origin of the production factors used (Saekhu, 2017).

Exchange Rates

The exchange rate is the amount or price of domestic currency from foreign (foreign) currency or the ratio between one unit of currency and the amount of another currency at a certain time. The continued high pressure on the exchange rate will result in high interest rates. The high level of uncertainty in many aspects, both social, political, and economic, has greatly influenced the behavior and expectations of foreign exchange market players regarding the tendency for the rupiah exchange rate to weaken. This is reflected in the movement of premiums or wards which are at quite high levels. These conditions are not conducive to attracting foreign investors to invest their capital in the country, resulting in quite high interest rates (Saleh, 2021).

The exchange rate, also known as the exchange rate, is the price of a currency or the value of a country's currency relative to the currency of another country. Several opinions regarding exchange rates explain that the price of one currency unit in terms of another currency unit is the meaning of the exchange rate. Based on this explanation, it can be seen that the concept of an exchange rate includes two currencies, where the balance point of these currencies lies on the supply and demand sides originating from the two currencies (Purba, 2022).

The influence of the exchange rate on macroeconomic conditions is related to the current price level, which influences customers' saving behavior and demand for financing in response to exchange rate fluctuations. Mankiw stated " If the real exchange rate is high, goods from abroad are relatively cheaper, and domestic goods are more expensive. If the real exchange rate is low, then goods from abroad are relatively more expensive and domestic goods are cheaper" (Saekhu, 2017).

Exchange rates are one of the macroeconomic things faced by companies. The exchange rate or rate in general is a number or price of a country's currency that has been measured or expressed in the currency of another country. When exchanging currency, three types of terms are often heard, namely, selling rate, buying rate, and middle rate. Selling exchange rate exchanges foreign currency with the seller. The purchasing exchange rate is the exchange of foreign currency with the buyer. The middle rate is the rate that is between the selling rate and the buying rate. The middle rate is calculated by adding the buying rate and selling rate and then dividing by two (Efriyenty, 2020).

Foreign currency is expressed in exchange rate units. Foreign exchange is a commodity that is traded in the foreign exchange market. Where the demand and supply of foreign exchange is influenced by various factors. Therefore, the types of exchange rates carried out on the foreign exchange market are:

- Spot exchange rate almost everyone has done spot transactions, namely buying commodities and immediately taking them home after paying for them, as the saying goes, there is money and there are goods. The spot rate is the price of a foreign exchange buying and selling transaction where funds are transferred immediately after the contract is made or a maximum of two working days after the contract is made.
- The forward exchange rate is the price of a foreign exchange buying and selling transaction where funds are transferred more than two working days (for example 1 week, 30 days, 90 days, 180 days, and so on)

ISSN: 2615-8019

after the contract is made. Types of forward transactions such as commodity order transactions, where commodity prices are determined now but the flow of money and commodities occurs at a later date (Nindhita, 2016).

Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio (CAR) or capital adequacy ratio, in the world of banking this ratio is very important because it is an obligation for every bank that has carried out its operations to maintain the Capital Adequacy Ratio (CAR) so that the bank can develop well, accommodate the risk of losses, and be able to compete with other banks. The ratio used to measure the level of bank health is based on capital to risk-weighted assets (RWA). The Capital Adequacy Ratio (CAR) in the form of a composite rating will be used as a basis for determining the assessment of the bank's health level as good, fair, poor or not good according to the minimum Capital Adequacy Ratio (CAR) limit determined by Bank Indonesia. Banks that are said to be in good condition are expected to maintain bank health in the form of increased capital and banks that are not doing well or are not good are expected to immediately make improvements both internally and externally to the bank to achieve capital adequacy to bear better solvency risks (Achmad, 2020).

Capital Adequacy Ratio (CAR) Capital is an important factor for banks in developing their business (Siamat, 2001: 99). Capital for banks, like companies in general, apart from functioning as the main source of financing for their operational activities, also acts as a buffer against possible losses. Basically, the capital owned by a bank must be sufficient to cover all business risks faced by the bank. The capital adequacy ratio is a ratio that aims to ensure that the bank can absorb losses arising from the activities it carries out (Ni Kadek Nita Diantini, 2018).

Capital Adequacy Ratio (CAR) or Capital is the right or share owned by the company owner which is shown in the capital (share capital), surplus and retained profits. Or the excess value of assets owned by the company overall its debts (Munawir, 2012).

Capital Adequacy Ratio (CAR) is a capital adequacy ratio that functions to accommodate the risk of loss that may be faced by the bank. The higher the CAR, the better the bank's ability to bear the risk of any risky credit/productive assets. If the CAR value is high, the bank can finance operational activities and make a large contribution to profitability (Lina, 2015).

CAR is a ratio that shows the extent to which all risky bank assets (loans, investments, securities, claims on other banks) are financed by the bank's own capital funds apart from obtaining money from other sources, such as public funds. CAR measures a bank's capital adequacy to maintain assets that involve or generate risk, such as bank loans (Endang, 2024).

Non-Performing Loans (NPL)

Non Performing Loans (NPL) or non-performing loans are one of the key indicators for assessing the performance of bank functions. One of the functions of a bank is as an intermediary or liaison institution between parties who have excess funds and parties who need funds. NPL is the ability of bank management to manage problem loans provided by the bank (SE Bank Indonesia No.3/30/DPNP). The NPL ratio shows the high number of bad loans at the bank, the bigger the NPL shows the higher the credit risk. banks have to face so that the bigger banks face problematic conditions. NPL has a positive effect because if a bank's NPL condition is high, it will increase the cost of providing reserves for productive assets and other costs, thereby potentially causing bank losses (Lina, 2015).

Non Performing Loan (NPL) often called non-performing loans can be defined as loans that are experiencing difficulty in repayment due to deliberate factors and/or external factors beyond the debtor's control. From these several definitions, it can be concluded that a Non-Performing Loan is a situation where a credit loan is not paid on time or the payments are not smooth enough (Enas, 2019).

Non Performing Loan (NPL) is a ratio that can measure a bank's ability to deal with credit risk, such as failure to repay credit by debtor customers. So the higher the NPL level obtained by a bank, the higher the credit risk borne by the bank (Siti, 2022)

Non Performing Loan is problematic credit that is a situation where the customer is unable to pay part or all of his obligations to the bank as promised." Problematic credit according to Bank Indonesia regulations is credit that is classified as Substandard (KL), doubtful (D), and Loss (M). Meanwhile, the assessment or classification of credit into a certain level of credit collectibility is based on quantitative and qualitative criteria. Quantitative collectibility assessment criteria are based on the condition of credit payments by customers as reflected in the bank's bookkeeping records, which includes the accuracy of payments of principal, interest, and other obligations. The assessment of these payments can be seen based on historical data (past performance) from each loan account. Next, the historical data is compared with the standard collectibility assessment system, so that the collectibility of a loan account can be determined. Meanwhile, the qualitative collectibility assessment criteria are based on the debtor's business prospects and the financial condition of the debtor's business. In determining the "judgment" of the debtor's business, what is assessed is the debtor's ability

to repay the loan from the proceeds of his business (as a first way out) according to the agreement (Priatna, 2017).

Hypothesis
H1: Inflation has a significant effect on Banking Effectiveness in Indonesia
H2: Economic growth has a significant effect on Banking Effectiveness in Indonesia
H3: KURS has a significant effect on Banking Effectiveness in Indonesia
H4: Capital Adequacy Ratio (CAR) has a significant effect on Banking Effectiveness in Indonesia
H5: Non-Performing Loans (NPL) have a significant effect on Banking Effectiveness in Indonesia

RESEARCH METHODOLOGY

Types of Data Sources

The data that will be used in this research is secondary data, namely data obtained indirectly from the source, such as data obtained from citing books, journals, and other sources that are related and have relevance to the research theme. Data used from 2005-2022. The type of secondary data used in this research comes from World Bank.

Analysis Method

This method uses VAR (VectorAutoregression) along with Eviews for analysis. According to Manurung (2009), if the simultaneity between several variables is true then it can be said that the variables cannot be differentiated between endogenous and exogenous variables. Testing the simultaneous relationship and degree of integration between variables in the long term using the VAR method. Based on the opinion above, the author uses VAR for reasons of ease in answering and proving empirically and the more complex reciprocal relationships in the long term, economic variables are used as endogenous variables. The equation model used to analyze the VAR method(VectorAutoregression) is:

$$INF_t=\beta_{10}INF_{t-\pi}+\beta_{12}GDP_{t-\pi}+\beta_{13}EXCHANGE\ RATE_{t-\pi}+\beta_{14}NPLs_{t-\pi}+\beta_{15}CAR_{t-\pi}+\beta+\varepsilon_{t1}$$

$$GDP_t=\beta_{10}INF_{t-\pi}+\beta_{12}GDP_{t-\pi}+\beta_{13}EXCHANGE\ RATE_{t-\pi}+\beta_{14}NPLs_{t-\pi}+\beta_{15}CAR_{t-\pi}+\beta+\varepsilon_{t1}$$

$$EXCHANGE\ RATE_t=\beta_{10}INF_{t-\pi}+\beta_{12}GDP_{t-\pi}+\beta_{13}EXCHANGE\ RATE_{t-\pi}+\beta_{14}NPLs_{t-\pi}+\beta_{15}CAR_{t-\pi}+\beta+\varepsilon_{t1}$$

$$NPLs_t=\beta_{10}INF_{t-\pi}+\beta_{12}GDP_{t-\pi}+\beta_{13}EXCHANGE\ RATE_{t-\pi}+\beta_{14}NPLs_{t-\pi}+\beta_{15}CAR_{t-\pi}+\beta+\varepsilon_{t1}$$

$$CAR_t=\beta_{10}INF_{t-\pi}+\beta_{12}GDP_{t-\pi}+\beta_{13}EXCHANGE\ RATE_{t-\pi}+\beta_{14}NPLs_{t-\pi}+\beta_{15}CAR_{t-\pi}+\beta+\varepsilon_{t1}$$

where:

INF	= Inflation
CAR	= Capital Adequacy Ratio
NPL	= Non Performing Loans
GDP	= Economic Growth
Exchange rate	= Exchange rate
p	= long lag

Impulse Response Function (IRF) Model

According to Ariefianto (2012), IRF investigates the impact of a shock on a variable on the system (all variables) over a certain time. IRF analysis aims to determine whether each transmit variable is cointegrated in the short and long-term periods. According to Manurung (2005), IRF is a measure of the direction of movement of each transmit variable due to changes in other transmit variables.

Forecast Error Variance Decomposition (FEVD) Model

Forecast Error Variance Decomposition(FEVD) is carried out to determine the relative importance of various shocks to the variable itself and other variables. According to Manurung (2005), FEVD analysis aims to determine the influence or contribution between transmitting variables. FEVD value is always 100 percent, a higher FEVD value explains the higher contribution of variance of one transmit variable to other transmit variables.

ISSN: 2615-8019

Unit Root Test

Data stationary testing is carried out using unit root testing with testsDickey-Fuller (ADF), If the value of the DF and ADF statistics (the t-statistic value of the autoregressive coefficient, it can be seen whether the time series data used has a unit root (non-stationary) or is free of a unit root (stationary). If the DF value is > the critical value Mckinnon's table means that H0 is rejected or in other words stationary. The estimation results show that all variables are stationary at the first difference stage, which is indicated by the statistical ADF value which is greater than the critical value and is also supported by the significant ADF probability value.

Johansen Cointegration Test

The test aims to see whether there is a long-term relationship from the analysis model. Thus, if the variables used are cointegrated, then regression at the level level will not produce a biased regression. Apart from that, the cointegration test used to see whether the residual is stationary or not. This test will be estimated using ADF.

RESULTS AND DISCUSSION

Unit Root Test Results

The following is Table 1 namely the unit root test with augmented dickey fuller (ADF):

Table 1 Unit Root Test with Augmented Dickey Fuller (ADF)

Variable	*Augmented Dickey Fuller*	
	t-statistic	**Stationarity**
INF	0.0000***	I(1)
GDP	0.0020***	I(1)
EXCHANGE RATE	0.0035***	I(2)
CAR	0.0040***	I(1)
NPLs	0.0100***	I(2)

Source: Eviws Output (2024)

Note: ***,**, and * are significant at the 1%, 5%, and 10% levels respectively.

Cointegration Test Results

Based on Table 2 above, the results of the cointegration test using the Johansen method are obtained, namely the trace statistic and max-eigen-statistic values at r = 0 are smaller than the critical value. This means there is no cointegration. Based on the results above, it can be seen that among the five variables in this study, there is cointegration. Thus, the results of the cointegration test identify that the variables INF, GDP and NPL have a relationship between balance stability and similar movements in the long term.

Table 2 Cointegration Test

Hypothesized No. of CE(s)	Eigenvalues	Trace Statistics	0.05 Critical Value	Prob.**
None *	0.999809	212.0534	69.81889	0.0000
At most 1*	0.958414	75.07584	47.85613	0.0000
At most 2	0.512440	24.19603	29.79707	0.1923
At most 3	0.359688	12.70255	15.49471	0.1262
At most 4*	0.293978	5.569751	3.841466	0.0183

Hypothesized No. of CE(s)	Eigenvalues	Max-Eigen Statistics	0.05 Critical Value	Prob.**
None *	0.999809	136.9775	33.87687	0.0000
At most 1*	0.958414	50.87981	27.58434	0.0000
At most 2	0.512440	11.49348	21.13162	0.5981
At most 3	0.359688	7.132798	14.26460	0.4736
At most 4*	0.293978	5.569751	3.841466	0.0183

Source: Eviews 2024 Output

Impulse Response Function (IRF) Model

The decomposition results for INF in the short term (1 year), estimate an error variance of 1.41% explained by GDP itself. Another variable that has the greatest influence on GDP as a policy variable besides GDP itself is INF at 2.52%. Meanwhile, NPL and CAR did not respond at all. In the medium term (5 years) the estimated GDP variance error is 1.21% explained by GDP itself. The other variable that has the greatest influence on GDP as a policy variable apart from GDP itself is INF of 0.35%, while the variable that has the least influence on GDP is NPL of 0.22%. In the long term (10 years), the GDP variance error estimate is 1.29% explained by GDP itself. Another variable that has the biggest influence on GDP as a policy variable besides GDP itself is INF at 1.27%

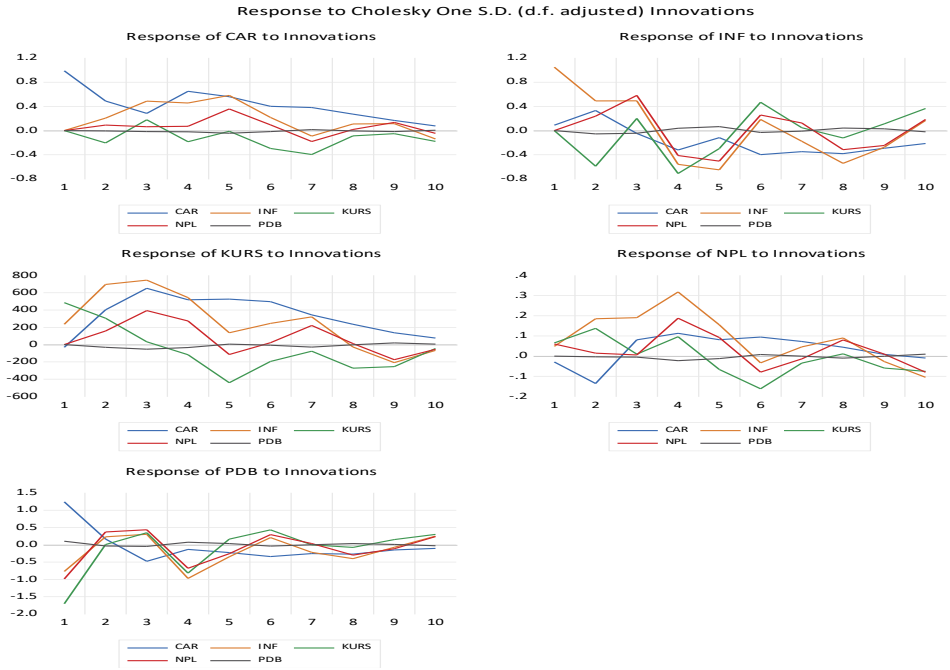

Figure 1 Impulse Response Function Test Results

The following is Table 3, namely the impulse response function (IRF) test):

Table 3 Recommendations for Banking Effectiveness

Period	Short Term (Period 1)	Medium Term (Period 5)	Long Term (10 Periods)
INF itself	INF 1.04%	INF 0.60%	INF 0.16%
Biggest 1	CAR 0.98%	CAR 0.56%	CAR 0.07%
Biggest 2	GDP 0.10%	GDP 0.03%	GDP 0.01%

Based on Table 4.3, it is known that policies for banking effectiveness in the short, medium, and long term are carried out through inflation itself. Then other variables that can be used as recommendations for controlling banking effectiveness in the short, medium and long term are carried out through controlling CAR and NPL.

Analysis of Transmission Mechanisms Through Inflation Channels on Banking Effectiveness

From the results of the Forecast Error Variance Decomposition (FEVD) analysis, it is known that several interactions occur between macro policies and banking effectiveness. The interaction of macro policy variables can be seen from Forecat Error Variance Decomposition, which describes policy variables that are more effective on macroeconomic variables. For further clarity, the following are the results of the interaction of macro policy on banking effectiveness in Indonesia.

ISSN: 2615-8019

Forecast Error Variance Decomposition (FEVD) Model

The following is Table 4.4 of the forecast error variance decomposition test results:

Table 4: Banking Effectiveness

Variable	Banking Effectiveness					Period
	INF	GDP	EXCHANGE RATE	CAR	NPLs	
INF	99.28%	0.00%	0.00%	0.71%	0.00%	Short
	53.09%	0.24%	22.45%	5.42%	18.78%	Intermediate
	46.00%	0.24%	22.54%	13.08%	18.12%	Long
GDP	9.82%	0.18%	48.20%	25.65%	16.12%	Short
	19.48%	0.23%	40.31%	20.22%	19.74%	Intermediate
	20.39%	0.24%	38.76%	20.68%	19.91%	Long
EXCHANGE RATE	18.99%	0.00%	80.66%	0.33%	0.00%	Short
	42.03%	0.14%	16.04%	33.77%	7.99%	Intermediate
	37.89%	0.14&	16.89%	36.85%	8.20%	Long
CAR	0.00%	0.00%	0.00%	100.00%	0.00%	Short
	26.56%	0.06%	3.45%	65.25%	4.64%	Intermediate
	23.31%	0.08%	9.87%	61.52%	5.19%	Long
NPLs	21.08%	0.00%	38.94%	7.59%	32.36%	Short
	60.32%	0.20%	11.21%	13.74%	14.50%	Intermediate
	52.14%	0.22%	17.36%	14.49%	15.78%	Long

Analysis of the Interaction of Inflation on Banking Effectiveness

Based on table 4, it can be seen that in the short, medium and long term, inflation (99.28%), (53.09%) and (46.00%) are more effective or can be used as recommendations for making policies to control inflation itself.

The research results are in accordance with Tetty's research showing that the inflation rate does not have a significant negative effect on bank profitability. Increasing inflation can increase income and operational costs, and vice versa. In this way, the increase in income that the bank can enjoy is lower than the costs incurred so that profitability decreases(Sipahutar, 2020).

The research results are in accordance with Saekhu's research showing that if inflation rises, there will be an increase in the nominal prices of goods and services. This causes people's purchasing power to decrease. Income that was originally allocated as savings will be used in part or in full for consumption purposes. Due to reduced aggregate savings funds, banks will have difficulty obtaining third party funds. If inflation falls, the nominal price of goods and services will decrease. This causes people's purchasing power to tend to increase. Income that was originally allocated as consumption can be set aside as savings. Due to the increase in aggregate savings funds, it will be easier for banks to obtain third party funds (Saekhu, 2017).

Analysis of the Interaction of Economic Growth on Banking Effectiveness

Based on table 4, it can be seen from all variables, namely GDP in the 1 year period (short term) against inflation shocks because banking effectiveness through inflation is very small. Meanwhile, in the medium term, KURS (40.31%) and capital adequacy ratio (20.22%) are more effective or can be used as recommendations for making economic growth policies. In the long term, KURS (38.76%) capital adequacy ratio (20.68%) is more effective or can be used as a recommendation for making economic growth policies.

The research results are in accordance with Tetty's research that the economic growth (GDP) of a country is closely related to the welfare and prosperity that can be felt by the population of that country. The level of income as measured by GDP will influence a person's savings pattern, the greater the GDP, the bank profitability will also increase (Sipahutar, 2020).

The research results are in accordance with Saekhu's research. If GDP increases, this reflects increasing domestic production activities. In these conditions, society as owners of production factors in aggregate will obtain greater income; both due to increased income and due to expansion of income recipients. As a result, more funds can be allocated for savings. This will make it easier for banks to capture public funds so that third party funds will increase (Saekhu, 2017).

Analysis of the Effect of KURS on Banking Effectiveness

Based on table 4, it can be seen that in the short term KURS (80.66%) and INF (18.99%) are more effective as recommendations for making banking effectiveness policies. However, in the medium and long term the exchange rate variables (42.03%) and (37.89%) and the medium and long term capital adequacy ratio (33.77%) and (36.85%) are more effective or can be used as recommendations for making exchange rate policies.

The research results are in accordance with Saekhu's research if the exchange rate variable is positive, which means every increase in inflation will increase Sharia Bank Third Party Funds. If the exchange rate rises, the goods or services produced by that country will become more expensive when calculated in the other country's currency. As a result, demand for goods or services is expected to decline and it is possible that substitutes will be used which will ultimately reduce demand even more. Producers will respond to decreasing demand by reducing supply so that a new balance is achieved. Reducing supply is carried out by reducing production. If production decreases, the community as recipients of compensation for production factors and companies as producers will experience a decrease in income. As a result, the funds available to invest and save will decrease. This results in banks having difficulty in collecting third party funds (Saekhu, 2017).

Analysis of the Interaction of Capital Adequacy Ratio on Banking Effectiveness

Based on table 4, it can be seen that in the short term, medium term and long term the capital adequacy ratio (100.00%) (63.25%) and (61.52%) are more effective or can be used as recommendations for making capital adequacy ratio policies. In the medium and long term capital adequacy ratio variables (26.56%) and (23.31%) are more effective or can be used as recommendations for making capital adequacy ratio control policies.

The research results are in accordance with Soeharjoto's research that a high CAR indicates adequate banking capital. As for the impact, the ability of banks to be able to bear the risks of the financing they provide is greater, so that it will provide opportunities for banks to be able to increase their loans, which will result in increasing banking performance (Soeharjoto, 2019).

Analysis of Non-Performing Loans on Banking Effectiveness

Based on table 4, it can be seen that in the short term the exchange rate variable (38.94%) then in the medium and long term inflation (60.32%) and (52.41%) are more effective or can be used as recommendations for making non-performing loan policies. In the short-term and medium-term non-performing loan variables (32.36%) and (14.50%) are more effective or can be used as recommendations for making non-performing loan control policies.

These results are in accordance with the prediction that NPLs have a positive effect on bank bankruptcy. According to the initial theory which states that the higher this ratio, the worse the quality of bank credit will be, causing the number of problem loans to increase because the level of soundness decreases. So the possibility of a bank being in trouble is greater (Lina, 2015).

The research results are following Ari's research that the worsening economic development of a country will increase bad banking credit. On the other hand, when the economy improves, the NPL level of banking credit decreases (Ginting, 2016).

CONCLUSION

1. Vector Autoregression analysis using a lag 2 basis shows that there is a contribution from each variable to the variable itself and other variables. The results of the Vector Autoregression analysis also show that the past variable (t-1) contributes to the current variable, both the variable itself and other variables. From the results of the analysis, there is a reciprocal relationship between one variable and other variables.
2. Response Function analysis shows the response of other variables to changes in one variable in the short, medium, and long term, and it is known that the stability of the response of all variables is formed in the 5 years or medium and long term.
3. Variance Decomposition Analysis shows that there are variables that have the largest contribution to the variable itself in the short, medium, and long term, such as INF and KURS. Meanwhile, other variables that have the greatest influence on the variables themselves, both in the short, medium, and long term, are CAR and NPL, which are most influenced by GDP and EXCHANGE.

ISSN: 2615-8019

REFERENCES

[1] Anggoro, G. T. (2021). Analisis Pengaruh Capital Adequacy Ratio (CAR), Beban Operasional Pendapatan Operasional (BOPO), Pertumbuhan Ekonomi, Inflasi, BI Rate, Dan Jibor Terhadap Return On Asset (ROA), Cash Ratio (CR), Dan Non Performing Loan (NPL) Pada 10 Bank Domestik Indonesia, 1-20.

[2] Arsiah, S.D.H. (2022). Pengaruh Non Performing Loan (NPL), Loan To Deposit Ratio (LDR) Dan Return On Asset (ROA) Terhadap Penyaluran Kredit Pada Bank Umum Swasta Nasional Devisa Periode 2016-2021. Poltekba Accounting Students' Final Assignment Journal, 1-9.

[3] Bawinti, I.G.M. (2018). Pengaruh Pengeluaran Pemerintah Dan Investasi Swasta Terhadap Pertumbuhan Ekonomi Di Kabupaten Kepulauan Talaud. Efficiency Scientific Periodical Journal, 1-11.

[4] Efriyenty, D. (2020). Pengaruh Inflasi Dan Kurs Terhadap Harga Saham Di Industri Dasar Dan Kimia. Journal of Accounting Research , 570-576.

[5] Fauzi, A.M (2020). Analisis Capital Adequacy Ratio (CAR) Dan Penilaian Tingkat Kesehatan Bank Pada PT Bank Syariah XXX. Scientific Journal of Business Management and Innovation, Sam Ratulangi University, 114-127

[6] Fauzi, M. S. (2023). Pengaruh Kondisi Makro Ekonomi Terhadap Perubahan Laba Operasional Bank Umum Syariah Di Inonesia. Journal of Technology and Business Economics, 1-20.

[7] Ginting, A. M. (2016). Pengaruh Makro Ekonomi Terhadap Non Performing Loan (NPL) Perbankan. Journal of Economics & Public Policy, 169-170.

[8] Hidayati, L.N.M. (2015). Pengaruh Kecukupan Modal (CAR), Pengelolaan Kredit (NPL)Dan Likuiditas Bank (LDR) Terhadap Probabilitas Kebangkrutan Bank. Journal of Management Science, 38-50.

[9] Imamah, K.A.M. (2018). Pengaruh Capital Adequacy Ratio (CAR) Terhadap Return On Assets (ROA) Perbanakan Syariah. Wadiah Journal, 138-151.

[10] Lestari, DD (2023). Pengaruh Inflasi, Pendapatan Per Kapita Capital Adequacy Ratio, Dan Financing To Deposit Ratio Terhadap Non-Performing Financing Dengan Laju Pertumbuhan Ekonomi Sebagai Variabel Intervening. 1-180.

[11] Munawir. (2012). Analisis Laporan Keuangan, 19.

[12] Ni Kadek Nita Diantini, I.G. (2018). Pengaruh Capital Adequacy Ratio (CAR), Efisiensi Operasional (BOPO), Risiko Bisnis, Dan Loan To Deposit Ratio (LDR) Terhadap Kinerja Keuangan. 88-101.

[13] Nindhita, K. I. (2016). Analisis Variabel Ekonomi Makro Yang Mempengaruhi Kurs Rupiah Terhadap Mata Uang Negara ASEAN, 1-19.

[14] Purba, A.R.K. (2022). Pengaruh Faktor Makro Ekonomi Terhadap Tingkat Kredit Bank Serta Implikasinya Pada Kesehatan Perbankan. Contemporary Studies In Economic, Finance, And Banking, 493-506.

[15] Priatna, H. (2017). Non Performing Loan Sebagai Resiko Bank Atas Pemberian Kredit. Accounting Scientific Journal, 22-33.

[16] Rajinirwanta, AA (nd). Pengaruh Capital Adequacy Ratio (CAR), Non Performing Loan (NPL), Return On Assets (ROA), Rasio Biaya Operasional Terhadap Pendapatan Operasional (BOPO), Dan Net Interest Margin (NIM)Terhadap Peranan Intermediasi Perbankan Dilihat Dari Loan To Deposit Ratio. 1-8.

[17] Riska Rosalina, EM (2019). Pengaruh Non Performing Loan (NPL) Terhadap Penyaluran Kredit. Bussnies Journal, 14-24.

[18] Ruchiyat, E.S.I. (2024). Pengaruh Karakterisik Bank Terhadap Capital Adequacy Ratio. Management Scientific Journal, 77-87.

[19] Saekhu. (2017). Dampak Indikator Makro Ekonomi Terhadap Dana Pihak Ketiga Perbankan Syariah . Economica: Economica Journal of Islamic Economics, 103-130.

[20] Saleh, AM (2021). Analisis Pengaruh Kondisi Makro Ekonomi Terhadap Perubahan Laba Operasional Bank Umum Syariah Tahun 2017-2020, 1-44.

[21] Septiasa, M.V.M.Z. (2020). Analisis Pengaruh Spesifik Bank Dan Makro Ekonomi Terhadap Profitabilitas Bank. Journal of Management and Banking, 1-17.

[22] Sipahutar, T.T. (2020). Analisis Dampak Makro Ekonomi Terhadap Keuntungan Pada Sektor Perbankan di BEI. Prime Accounting, 1-10.

[23] Soeharjoto, DH (2019). Pengaruh Makro Ekonomi Dan Funfamental Perusahaan Terhadap Kinerja Perbankan Syariah Di Indonesia. Journal of finance, accounting, and management, 1-8.

[24] Sukirno, S. (2018). Pertumbuhan Ekonomi, 1-5.

[25] Viphindrartin, S. (2021). Dampak Makro Ekonomi Terhadap Stabilitas Keuangan Di Indonesia. Jaya Negara Management Journal, 1-9.

[26] Viphindrartin, S. (2021). Dampak Ekonomi Terhadap Stabilitas Keuangan Di Indonesia. Jaya Negara Management Journal, 1-9.

[27] Widodo, CH (2017). Analisis Pengaruh Variabel Makro Ekonomi Terhadap Kinerja Perbankan Di Indonesia, 1-15.