JURNAL RISET BISNIS DAN MANAJEMEN

https://journal.unpas.ac.id/index.php/jrbm/index

EXTERNAL AND INTERNAL BANKING FACTORS ON THE INTERMEDIATION FUNCTION OF STATE-OWNED BANKS

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Abstract

This research aims to analyze external and internal factors on the intermediation function of state-owned banks. The method used is Autoregressive Distributed Lag with time series data for 2008 - 2022 for two research models, namely Third-Party Fund Growth and Credit Growth. The research results show that external and internal factors influence the growth of third-party funds, namely that in the long-term inflation has a significant negative effect, BI rate and Economic Growth have a significant positive effect. In the short term, inflation and economic growth have an insignificant positive effect, BI-rate has an insignificant negative effect. In the model of external and internal factors that influence credit growth, it is known that in the long term, the growth of third-party funds, BI-Rate, and Economic Growth have a significant positive effect, CAR, NPL, and Inflation have a significant negative effect. In the short term, the growth of third-party funds, CAR, NPL, BI-rate, and Economic Growth have an insignificant negative effect, while inflation has a significant positive effect.

Keywords: bi-rate; capital adequacy ratio; third party funds; inflation; economic growth

Article Info

History of Article
Received: 23/10/2023
Revised: 1/7/2024
Accepted: 5/8/2024

Jurnal Riset Bisnis dan Manajemen
Volume 17, No. 2, August 2024,
Page 1-16
ISSN 1979-0600 (Print)
ISSN 2580-9539 (Online)

INTRODUCTION

After the 2021 COVID-19 pandemic, the Indonesian Government continues to strive to accelerate economic recovery, where in 2022 the Indonesian economy will be able to grow by 5.3%, this growth is an increase compared to the previous year of 3.7%. This growth was mainly due to the relaxation of social and business activities, after the previous 2 (two) years the Indonesian Government strictly implemented a policy of limiting activities to control the spread of COVID-19.

National banking performance remains optimal amidst the increasing threat of a global banking crisis following the collapse of several large banks in the United States and Europe. National banking performance is reflected in the bank's intermediation function which continues to grow and various other indicators that show banking is in a healthy condition. According to the Financial Services Authority (OJK), currently, there are 99 commercial banks registered with the OJK and 43 of them are listed on the Indonesia Stock Exchange (BEI). Banks carry out their business activities as an intermediation function that collects public funds and distributes them in the form of credit. Based on this function, banks carry out their business activities using other people's funds, so high public trust is needed so that people use banks in their various financial transactions.

Banking performance is influenced by internal and external factors. Internal factors focus on specific bank financial characteristics such as Capital Adequacy Ratio and Non-Performing Loans (Messai et al., 2015). Loan to Deposit Ratio is also a specific characteristic of bank finance (Siddiqua et al., 2017). Meanwhile, external factors are related to macroeconomics and can be assessed from several indicators such as the inflation rate, Gross Domestic Product growth rate, and foreign exchange (San and Heng, 2013). Monetary policy is an external factor (Dietrich and Wanzenried, 2011). Inflation, BI Rate, and Exchange Rate are also external factors that influence banking performance (Kusmayadi et al., 2018)

Apart from influencing banking performance, internal and external factors also influence the bank's intermediation function as a collector of public funds and channeling them in the form of credit. Internal factors that influence credit provision include Third Party Funds, Capital Adequacy Ratio, Loan Deposit Ratio, Return on Assets, Non-Performing Loans, and Operational Expenses to Income Operational (Nugraheni and Meiranto, 2013). External factors can be caused by causes such as changes in government policy in the real sector, increases in production prices, increased competition in the business aspect, increased loan interest rates, recession, inflation, and other monetary policies (Kuncoro and Suhardjono, 2011).

The growth of Third-Party Funds in the Indonesian banking industry is predicted to reach 7% - 9% year on year for 2023. TPF throughout 2022 will have a positive impact on national banking liquidity. Bank credit distribution also recorded quite good growth, which was supported by corporate demand and household consumption which remained strong. Bank credit grew positively in almost all types of credit and the majority of economic sectors. DPK growth at the end of 2022 was recorded at 9.0% YoY, while credit distribution was able to grow at 11.3% YoY. Bank deposit interest rates have increased, which shows that national banks are gradually responding to the increase in the central bank's benchmark interest rate (BI7DRR). In general, the banking industry still shows stability, which is reflected in an adequate capital adequacy ratio of 25.4% and a non-performing loan ratio of 2.6%.

National banking credit growth is supported by high aggregate supply, which is indicated by abundant liquidity. Abundant liquidity is indicated by the March 2023 liquid assets/non-core deposit (AL/NCD) ratio of 128.87 percent, higher than the regulatory threshold of 50 percent. Likewise liquid assets/TPF (AL/TPF) at the level of 28.91 percent, above the 10 percent threshold.

Inflation in June 2023 was recorded at 3.5 percent (year on year/yoy), a decrease compared to inflation in 2022 which reached 5.5%. Indonesia's success in controlling inflation cannot be separated from the role of the interest rate policy implemented by Bank Indonesia. Even though the interest rate set by Bank Indonesia is high enough to offset rising inflation, the high interest rate is considered quite conducive. In line with the program to accelerate national economic recovery, various policies continue to be implemented, which then have a positive impact on the relatively stable performance of the banking industry, both in terms of capital, liquidity, and financial intermediation.

Until March 2023, bank intermediation functions will slow down slightly. Credit growth of 9.9 percent is a slight decrease compared to 2022 which was above 10 percent. Likewise, the growth of TPF has slowed down. However, the liquidity position is still very abundant. As for the demand side, large consumption and public spending will support bank credit. Even though there is banking turmoil in the US, the domestic banking industry is in healthy condition. The intermediation function can continue to run normally so that it can encourage economic growth.

Various studies regarding external and internal factors that influence third-party funds, namely research conducted by Firmansyah et al. (2022), which analyzes the factors that influence the growth of third-party funds of Sharia Commercial Banks in Indonesia in 2016- 2020 using the multiple regression method shows that the factors that have a significant influence on TPF growth are internal factors, namely profit sharing, and FDR, while external factors do not affect BUS TPF growth. In addition, internal and external factors together show a significant influence on TPF growth (Firmansyah and Sam, 2022).

The number of offices has a positive and significant effect on Bank Sulselbar's third-party funds for 2015-2022. The existence of an office becomes a transaction bridge between the public and the banking sector where the public's desire to collect their funds as TPF at the bank indicates that the level of public trust in the bank is getting better. Operational costs have a negative and insignificant effect on Bank Sulselbar's third-party funds for 2015-2022. Because it is included in operational expenses other than interest, it is not operational income. Gross Regional Domestic Product had a positive and insignificant effect on third-party funds of Bank Sulselbar in 2015-2022 because government policy does not have a significant impact on third-party funds of Bank Sulselbar. Funds are used by vendors who are related to other banks or are used for routine government expenditures at the end of the year (Nursamsu et al., 2022).

Credit distribution can be influenced by various internal and external factors. Internal factors that influence credit distribution are bank size, efficiency, third-party funds, ownership type, and liquidity (Loan-to-deposit ratio) variables at 39 Conventional Commercial Banks listed on the Indonesia Stock Exchange from 2015 to 2019. Only the BOPO variable does not affect credit distribution. The ownership type variable has a negative and significant influence on credit distribution, while the bank size, third-party funds, and liquidity variables have a positive and significant influence on credit distribution. The TPF variable has the most dominant influence on credit distribution, which indicates that the public has confidence in the credibility and existence of banking as a collector of public funds (Purnamasari, 2020).

With Error Correction Model analysis, third-party funds, and Capital Adequacy Ratio have a significant effect, while Inflation and the Exchange Rate do not have a significant effect on credit distribution at Bank Persero (Anggraini and Fathurrahman, 2018). With multiple regression analysis, Murabahah financing can be explained by third-party funds, profit margins, and gross domestic product of 99.61%. Simultaneously, third-party funds, profit margin, and gross domestic product have a significant effect on Murabahah financing. However, partially, the statistical results show that, first, third-party funds have a significant influence and are positively correlated with Murabahah financing. Second, profit margins do not have a significant influence on Murabahah financing. Third, gross domestic product has a significant influence and is positively correlated with Murabahah financing (Nuzula and Marpudin, 2022). Meanwhile, Non-Performing Loans, Net Interest Margin, BI Rate, inflation, and exchange rate did not affect banking credit distribution in Indonesia from 2009-2016. Based on the results of research on the tenth hypothesis, the influence of Gross Domestic Product on credit distribution (Karim et al., 2022).

Credit risk has a major impact on bank profitability because most of the bank's income and interest income comes from loans. Factors that influence credit risk can be classified into microeconomic and macroeconomic factors. These factors have an impact on the level of credit risk. A positive relationship is found between bank solvency and credit risk. Likewise, there is a positive correlation between credit risk and interest rates. In contrast, operating efficiency and gross domestic product growth rate reveal an inverse relationship with credit risk (Twum et al., 2021).

The long-term regression results of FLOMS, DLOS, and PMG show that management efficiency and capital ratio are internal factors that influence the credit risk of ASEAN Islamic banks. Economic growth, inflation, and interest rates are external factors that have also been found to influence Islamic bank credit risk (Othman et al., 2020). The increase in foreign currency loans in the banking sector has made a negative contribution to reducing risk assessment. The increase in credit provision burden has an impact on the formation of financial losses. Risk-Weighted Assets for credit risk in Albania increased by 16.8 billion, compared to the end of 2015, rising to 677.1 billion (Kola et al., 2019).

Studies using bad debt proxies for credit risk in the banking sectors of Pakistan, India, and Bangladesh have been found to align with theoretical arguments and literature as expected. In comparison, Pakistan's NPL is greater than India and Bangladesh, while India has the lowest non-performing loan ratio. Bank-specific factors (inefficiency, profitability, capital ratio, and leverage) have a significant contribution to credit risk. Significant impact of macroeconomic variables on non-performing loans. Credit risk is not only influenced by external factors but is also influenced by internal factors such as poor management and large operational expenses (Waqas et al., 2017).

METHOD

The research uses secondary data obtained from the publication of BRI Bank's financial reports https://bri.co.id/web/guest/report-detail-annually?typeId=1, BNI Bank https://www.bni.co.id/id-id/perseroan/besar-investor/report-presentasi,Bank Mandiri https://www.bankmandiri.co.id/en/web/ir/annual-reports, and Bank BTN https://www.btn.co.id/en/Investor%20Relation%20Home, as well as published data from the Central Statistics Agency https://bps.go.id/publication.html and Bank Indonesia https://www.bi.go.id/id/statistik/indikator/data-inflasi.aspx related to Economic Growth, Inflation, and BI-rate for 15 years, from 2008 to 2022.

This research will analyze the external and internal factors that influence the intermediation function of State-Owned Banks. External factors that influence the growth of third-party funds (TPF) are economic growth, inflation, and BI rate. Internal factors that influence Credit Growth are Third Party Funds, Capital Adequacy Ratio (CAR), and Non-Performing Loans (NPL), while external factors are economic growth (Growth), Inflation, and BI rate. The operational definition of each variable is in Table 1, as follows:

Table 1. Operational Definition of Variables

Code	Name of Variable	Description	Formula	Scale
X_1	Capital Adequacy Ratio (CAR)	The ratio shows the amount of all bank assets that contain elements of risk (credit, investments, securities, claims on other banks) that are financed from the bank's capital, in addition to obtaining funds from sources outside the bank (Dendawijaya, 2005; Kasmir, 2014).	$CAR = \frac{equity}{Risk\ Weighted\ Assets} x100\%$	Ratio
X_2	Non-Performing Loan (NPL)	Ratio to measure the bank's ability to cover the risk of failure to repay credit by debtors (Kasmir, 2014)	$NPL = \frac{Total\ NPL}{Total\ credit} x100\%$	Ratio
X_3	Inflation (INF)	Inflation is an increase in prices over time (Brigham and Houston, 2010)	$inflation = \frac{CPI_{x+1} - CPI_x}{CPI_x} x100\%$	Ratio
X_4	BI Rate	Reference interest rate by implementing the monetary policy stance determined by Bank Indonesia and announced to the public (Bank Indonesia, 2016)	$bi\ rate = \frac{vol1 \times rate1 + vol2 \times rate2 + vol3 \times rate3 + volN \times rateN}{Total\ Volume}$	Ratio
X_5	Economic growth (Growth)	The development of activities in the economy causes the goods and services produced in society to increase and the prosperity of society to increase, from one period to another a country's ability to produce goods and services will increase (Sukirno, 2001)	$Economic\ growth = \frac{gdp_t - gdp_{t-1}}{gdp_{t-1}} x100\%$	Ratio
Y_1	Growth of Third-Party Funds (TPF)	collecting or seeking funds by purchasing from the wider community in the form of current account savings,	$Growth\ of\ Third\ Party\ Funds = \frac{TPF_t - TPF_{t-1}}{TPF_{t-1}} x100\%$	Ratio
Y_2	Credit Growth (Credit)	A description of the level of development of the volume of credit distributed to third parties in a certain period (Firdaus and Maya, 2009; Widarjono, 2018)	$Credit\ Growth = \frac{credit_t - credit_{t-1}}{credit_{t-1}} x100\%$	Ratio

The analytical method used in this research is the Autoregressive Distributed Lag (ARDL) model. The type of data in this research is time series data because the data is time series from 2008 - 2022. Time series data are often not stationary so the regression results show a high coefficient of determination values but the relationships between the variables in the model are not interconnected (Widarjono, 2018). In the ARDL regression analysis model, there is a data stationarity test, namely to find out whether the variables are stationary or not. The basic model of this research is shown in the following equation:

$$TPF_t = \beta_0 + \beta_1\ INF_t + \beta_2\ BI\ Rate_t + \beta_3\ Growth_t + \varepsilon_t \quad \text{.....(1)}$$

$$Credit_t = \beta_0 + \beta_1\ TPF_t + \beta_2\ CAR_t + \beta_3\ NPL_t + \beta_4\ INF_t + \beta_5\ BI\ Rate_t + \beta_6\ Growth_t + \varepsilon_t \quad \text{.....(2)}$$

The development of the basic regression model is shown from the condition that to carry out balance analysis in the short term and long term, the estimation process is carried out using the ARDL model which develops the basic regression equation model into an ARDL model in the following equation:

$$\Delta TPF_t = \delta_0 + \delta_1 INF_{t-1} + \delta_2 BI\ Rate_{t-1} + \delta_3\ Growth_{t-1} + \sum^n_{i=1}\theta_{1i}\Delta INF_{t-1} + \sum^n_{i=1}\theta_{1i}\Delta BI\ Rate_{t-1} + \sum^n_{i=1}\theta_{1i}\ \Delta Growth_{t-1} + \varepsilon_t \quad \text{.....(3)}$$

$$\Delta Credit_t = \delta_0 + \delta_1 TPF_{t-1} + \delta_2\ CAR_{t-1} + \delta_3\ NPL_{t-1} + \delta_4\ INF_{t-1} + \delta_5\ BI\ Rate_{t-1} + \delta_6\ Growth_{t-1} + \sum^n_{i=1}\theta_{1i}\ \Delta TPF_{t-1} + \sum^n_{i=1}\theta_{1i}\Delta CAR_{t-1} + \sum^n_{i=1}\theta_{1i}\ \Delta NPL_{t-1} + \sum^n_{i=1}\theta_{1i}\ \Delta INF_{t-1} + \sum^n_{i=1}\theta_{1i}\ \Delta BI\ Rate_{t-1} + \sum^n_{i=1}\theta_{1i}\ \Delta Growth_{t-1} + \varepsilon_t \quad \text{.....(4)}$$

RESULTS

Secondary data on external and internal factors that influence the intermediation function Banks of BUMN was processed using Eviews 12, resulting in the following table:

Table 2. Summary of ADF Test Results - Fisher Chi-square

Variable	Significant (Level)	Significant (1st Diff)	Results
Capital Adequacy Ratio (CAR)	0.4223	0.0004	Significant at 1st Difference
Non-Performing Loan (NPL)	0.0128	-	Significant at Level
Inflation (INF)	0.0000	-	Significant at Level
BI Rate	0.0145	-	Significant at Level
Economic Growth (Growth)	0.0691	0.0002	Significant at 1st Difference
Growth of Third-Party Funds (TPF)	0.3322	0.0000	Significant at 1st Difference
Credit Growth (Credit)	0.0762	0.0000	Significant at 1st Difference

Source: Data processing with Eviews Version 12.

Based on the stationarity test results, the Non-Performing Loan (NPL), Inflation (INF), and BI Rate variables are stationary at level level. Meanwhile, the variables Capital Adequacy Ratio (CAR), Economic Growth (Growth), Growth of Third-Party Funds (TPF), and Credit Growth (credit) are stationary at the 1st Difference level. Because there are different degrees of stationarity in the variables in the research, in this study the highest degree of stationarity was used for all observed variables, namely the 1st Difference degree.

Table 3. Optimum Lag Test Results of TPF Growth Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-419.0196	NA	136.7964	16.26998	16.42008	16.32753
1	-368.7443	90.88222	36.69274	14.95170	15.70218	15.23942
2	-337.0793	52.36904*	20.32344*	14.34920*	15.70006*	14.86709*

Source: Data processing with Eviews Version 12

Based on Table 3, the lag length is determined by looking at the Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Crition (AIC), Schwarz Information Crition (SC), and Hannan-Quin Crition (HQ) values. Determining the optimal lag using information criteria is obtained by selecting the criterion that has the smallest value or the most asterisks among the various lags proposed. Based on these criteria, it was found that lag 2 meets the optimum lag criteria, because it has the smallest value or the most asterisks, so the optimal lag recommended in the next test is lag 2.

Table 4. Pedroni Cointegration Test Results of TPF Growth Model

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-0.708239	0.7606	-0.614633	0.7306
Panel rho-Statistic	0.749565	0.7732	0.579353	0.7188
Panel PP-Statistic	0.218570	0.5865	-0.074630	0.4703
Panel ADF-Statistic	0.242045	0.5956	-0.065099	0.4740
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Statistic	Prob.		
Group rho-Statistic	1.484030	0.9311		
Group PP-Statistic	0.510567	0.6952		
Group ADF-Statistic	0.536917	0.7043		

Source: Data processing results with Eviews Version 12

The results of the cointegration test with Pedroni in Table 4 show that the statistical probability value for each parameter is greater than 5%. This means that the three variables, namely Inflation, and BI Rate. Economic Growth (Growth) does not have a co-integration or long-term relationship with TPF growth. This is reinforced by the ARDL test results as shown in the following table:

Table 5. Estimation Results of TPF Growth Model on Long-Term ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
INFLATION	-2.338782	0.294299	-7.946950	0.0000
BI_RATE	1.145692	0.447069	2.562676	0.0181
GROWTH	4.146341	0.375659	11.03751	0.0000

Source: Data processing with Eviews Version 12

Based on Table 5, in the long-term estimation of the TPF model, the equation formed is as follows:

TPF= -5.288990 – 2.338782 Inflation + 1.145692 BI Rate + 4.146341 Growth

From the long-term ARDL model estimation results, it is known that inflation has a significant negative effect on the growth of third-party funds in State-Owned Banks (Prob. 0.0000 < 0.05). BI Rate has a significant positive effect on the growth of third-party funds in State-Owned Banks (Prob. 0.0181 < 0.05). Economic growth has a significant positive effect on the growth of third-party funds in State-Owned Banks (Prob. 0.0000 < 0.05).

Thus, the long-term estimate of the TPF growth model is significant. The short-term estimates of the TPF growth model are as follows:

Table 6. Estimation Results of TPF Growth Model on Short-Term ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Short Run Equation				
COINTEQ01	-0.977350	0.574657	-1.700754	0.1038
D(TPF(-1))	0.196915	0.437430	0.450164	0.6572
D(INFLATION)	0.418185	1.104395	0.378656	0.7087
D(INFLATION(-1))	0.456427	0.575266	0.793419	0.4364
D(BI_RATE)	-2.539752	0.826525	-3.072807	0.0058
D(BI_RATE(-1))	-2.301670	1.757947	-1.309294	0.2046
D(GROWTH)	1.264065	1.659296	0.761808	0.4546
D(GROWTH(-1))	1.613719	1.224757	1.317583	0.2018
C	-5.288990	3.137190	-1.685901	0.1066

Source: Data processing with Eviews Version 12

Based on Table 6, in the short term, the error-correction coefficient (CointEq01) on ARDL's short-term model shows how large the error will be corrected in each period. To meet the requirements, the value must be negative and significant. The estimation results of the model above show a CointEq01 value of -0.977350 with a probability of 0.1038 (Prob. 0.1038 > 0.05). This shows that every 97.74% of errors or disequilibrium that occur in the data are not corrected in each period.

The growth of third-party funds as the dependent variable has a positive and insignificant effect at lag 1 (Prob. 0.6572 > 0.05). This model indicates that in determining the growth of third-party funds you will look at the growth of third-party funds in the first period of the previous year. This is done because state-owned banks are optimistic that third-party funds will grow every year.

Inflation (Prob. 0.4364 > 0.05) and economic growth (Prob. 0.2018 > 0.05) in the short term have a positive and insignificant effect at lag 1, this shows that inflation and economic growth encourage state-owned banks to stabilize the growth of third-party funds. Meanwhile, the BI rate at lag 0 has a significant negative effect (Prob. 0.0058 < 0.05), but at lag 1 the negative effect is not significant (Prob. 0.2046 > 0.05). This shows that state-owned banks need time to respond to changes in deposit interest rates.

Table 7. Optimum Lag Test Results of Credit Growth Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-724.6603	NA	3927.170	28.14078	28.40345	28.24148
1	-620.9274	175.5480	486.7586	26.03567	28.13701*	26.84127*
2	-555.8110	92.66569*	289.6371*	25.41581*	29.35582	26.92631

Source: Data processing with Eviews Version 12

Based on Table 7, the lag length is determined by looking at the Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Crition (AIC), Schwarz Information Crition (SC), and Hannan-Quin Crition (HQ). Determining the optimal lag using information criteria is obtained by selecting the criterion that has the smallest value or the most asterisks among the various lags proposed. Based on these criteria, it was found that lag 2 meets the optimum lag criteria, because it has the smallest value or the most asterisks, so the optimal lag recommended in the next test is lag 2.

Table 8. Pedroni Cointegration Test Results of Credit Model

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-0.840953	0.7998	-0.686101	0.7537
Panel rho-Statistic	2.485181	0.9935	2.406643	0.9920
Panel PP-Statistic	-0.751573	0.2262	-1.036028	0.1501
Panel ADF-Statistic	-1.919235	0.0275	-1.451186	0.0734
	Statistic	Prob.		
Group rho-Statistic	3.301984	0.9995		
Group PP-Statistic	-4.120494	0.0000		
Group ADF-Statistic	-2.267159	0.0117		

Source: Data processing with Eviews Version 12

The results of the cointegration test with Pedroni in Table 8 show that the statistical probability values for Panel ADF, Group PP, and Group ADF have a probability of less than 5%. This means that the six variables, namely TPF, CAR, NPL, Inflation, BI-Rate, and Growth have a co-integration relationship or long-term relationship with credit growth. This is reinforced by the ARDL test results as shown in the following table:

Table 9. Credit Model Estimation Results on Long-Term ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
		Long Run Equation		
TPF	0.835918	8.12E-05	10300.24	0.0000
CAR	-0.407466	0.049601	-8.214820	0.0000
NPL	-1.532389	0.095645	-16.02157	0.0000
INFLATION	-2.505237	0.195544	-12.81166	0.0000
BI_RATE	4.064527	0.072674	55.92832	0.0000
GROWTH	0.450099	0.202232	2.225658	0.0366

Source: Data processing with Eviews Version 12.

From the long-term estimation results using the ARDL model in Table 9, it can be seen that the TPF Growth variable has a significant positive effect (Prob. 0.0000 < 0.05) on BUMN Bank Credit Growth with a coefficient value of 0.836, which means that in the long-term estimate, growth increases TPF is predicted to affect increasing Credit Growth by 0.836 points. Capital Adequacy Ratio (CAR) has a significant negative effect (Prob. 0.0000 < 0.05) on BUMN Bank Credit Growth with a coefficient value of -0.408, which means that in the long-term estimation, a decrease in the CAR ratio of BUMN Banks is predicted to reduce growth. Credit of 0.408 points. Non-performing loans (NPL) have a significant negative effect (Prob. 0.0000 < 0.05) on BUMN Bank Credit Growth with a coefficient value of -1.532, which means that in the long-term estimation, a decrease in the NPL of BUMN Banks is predicted to reduce growth. Credit of 1,532 points. Inflation has a significant negative effect (Prob. 0.0000 < 0.05) on BUMN Bank Credit Growth with a coefficient value of -2.505, which means that in long-term estimates, high inflation is predicted to reduce Credit Growth by 2.505 points. The BI rate has a significant positive effect (Prob. 0.0000 < 0.05) on BUMN Bank Credit Growth with a coefficient value of 4,065, which means that in long-term estimates, an increase in the BI rate is predicted to increase Credit Growth by 4.065 points. Growth has a significant positive effect (Prob. 0.0000 < 0.05) on BUMN Bank Credit Growth with a coefficient value of 0.450, which means that in the long-term estimation, an increase in Growth is predicted to increase Credit Growth by 0.450 points.

Thus, the long-term estimate of the Credit Growth model is significant. The short-term estimates of the Credit Growth model are shown in the following table:

Table 10. Credit Model Estimation Results on Short-Term ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
COINTEQ01	-0.721620	0.311373	-2.317539	0.0302
D (CREDIT (-1))	0.455435	0.087983	5.176423	0.0000
D(TPF)	-0.297888	0.263018	-1.132579	0.2696
D(CAR)	-0.101447	0.475490	-0.213353	0.8330
D(NPL)	-0.340517	2.464561	-0.138165	0.8914
D(INFLATION)	1.684758	0.618188	2.725318	0.0124
D(BI_RATE)	-0.719510	0.795033	-0.905007	0.3753
D(GROWTH)	-0.069863	1.728909	-0.040408	0.9681

Source: Data processing with Eviews Version 12

From the short-term estimation results using the ARDL model in Table 10, it can be seen that the TPF Growth variable has an insignificant negative effect (Prob. 0.2696 > 0.05) on BUMN Bank Credit Growth. This means that in the short-term estimates. It is predicted that the decline in deposit growth will not affect the credit growth of state-owned banks. Capital Adequacy Ratio (CAR) has an insignificant negative effect (Prob. 0.8330 > 0.05) on BUMN Bank Credit Growth. This means that in the short-term estimation, a decrease in the CAR ratio of BUMN Banks is predicted not to affect the Credit Growth of BUMN Banks. Non-performing loans (NPL) have an insignificant negative effect (Prob. 0.8914 > 0.05) on BUMN Bank Credit Growth. This means that in short-term estimates, the predicted decline in NPL of BUMN Banks will not affect the Credit Growth of BUMN Banks. Inflation has a significant positive effect (Prob. 0.0124 < 0.05) on BUMN Bank Credit Growth with a coefficient value of 1.685, which means that in short-term estimates, high inflation is predicted to increase Credit Growth by 1.685 points. BI-rate has an insignificant negative effect (Prob. 0.3753 > 0.05) on BUMN Bank Credit Growth. This means that in short-term estimates, the decline in the BI rate is predicted not to affect BUMN Bank Credit Growth. Growth has an insignificant negative effect (Prob. 0.9681 > 0.05) on BUMN Bank Credit Growth. This means that in short-term estimates, the predicted decline in growth will not affect the credit growth of state-owned banks.

DISCUSSION

Inflation can be interpreted as a symptom of a general and continuous increase in the prices of goods. Inflation reflects economic stability. An increase in the price of goods causes inflation to increase, and people tend to reduce saving and investment. Therefore, it will reduce the funds collected by the bank. So banking assets in real terms will decline, which will affect the ability of banking operations to distribute financing.

Based on Figure 1, The inflation rate in 2008 was in the moderate category, while during 2009 - 2022 the inflation rate was in the light category because the inflation rate was below 10%. The average inflation rate during 2008 - 2022 is relatively light and does not disturb the economic situation because prices only experience a general increase. Price increases during mild inflation are below 10% per year, so both long-term and short-term people have savings that will be deposited in banks, and the rate of inflation that occurs does not dampen people's interest in saving their funds in state-owned banks, especially corporate customers.

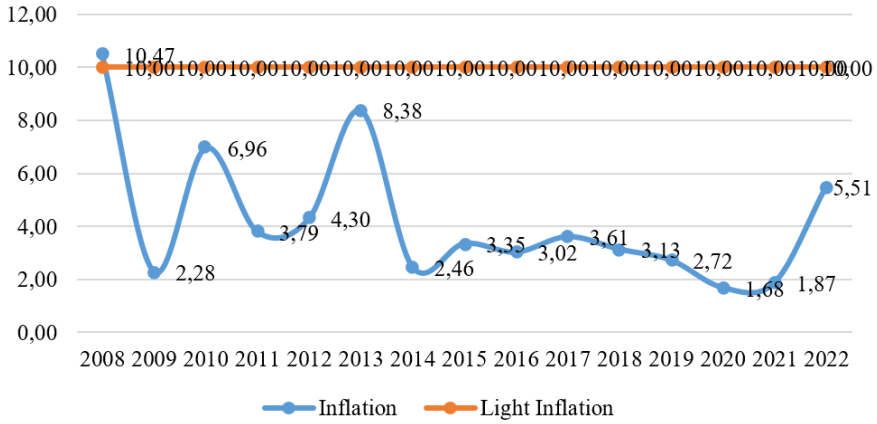

Figure 1. Percentage of Inflation Rate 2008 – 2022

In this research, the results of the long-term estimation of the inflation variable have a significant negative effect on the growth of third-party funds in State-Owned Banks. The results of this study are in line with the research (Muhammadinah, 2020) which states that inflation has a significant negative effect on the growth of third-party funds. Changes in the money supply will cause equally rapid changes in prices (inflation), if inflation increases, this will result in a decrease in the real value of savings. When the real value of savings decreases, society will suffer losses (Dimand, 2019).

Meanwhile, the short-term estimation results show that the inflation variable has an insignificant positive effect on the growth of third-party funds in State-Owned Banks. The results of this research are in line with the results of previous research that in the short term inflation has no significant effect on the growth of third-party funds (Haron and Azmi, 2008; Novianto and Hadiwidjojo, 2013; Riani, 2012) which states that inflation has an insignificant on the growth of third-party funds. In economies with low and stable inflation, the effect of inflation on third-party fund growth is insignificant.

The BI Rate is a reference interest rate for monetary policy and interest rate settings which are expected to be able to maintain the nation's economic stability.

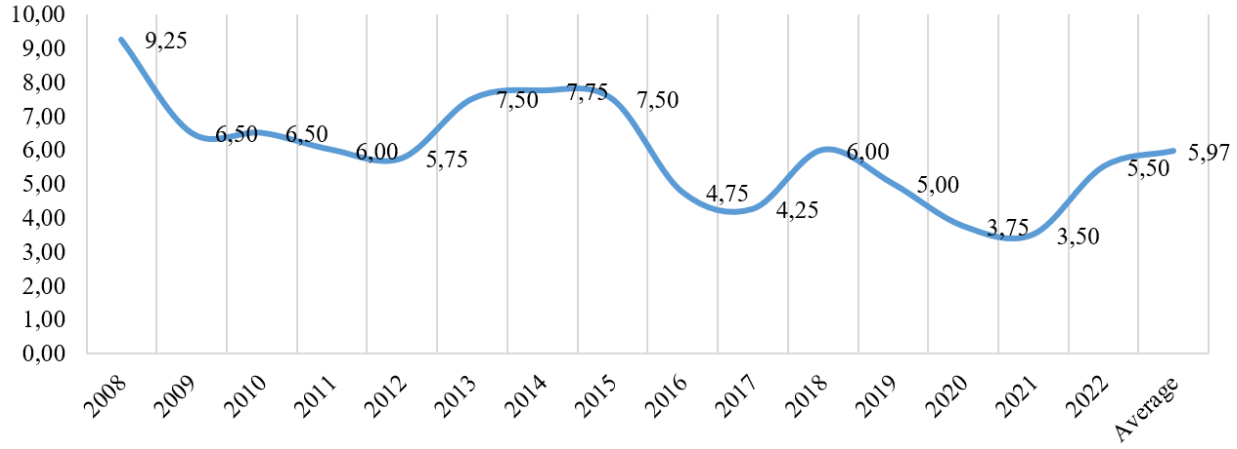

Figure 2. BI Rate Percentage for 2008 - 2022

Based on Figure 2, during 2008-2022 the BI rate fluctuated with an average value of 5.97%. The increasing BI Rate might attract the attention of new customers to use bank savings services. This happens because the bank promises a higher interest return. On the other hand, when the BI Rate falls, perhaps people will flock to bank credit products because of the lower interest charges.

In the long term, the results of this research show that the BI rate has a significant positive effect on the growth of third-party funds in State-Owned Banks. The results of this study are in line with the research (Anik and Prastiwi, 2018; Muhammadinah, 2020; Zakki and Permatasari, 2020) which states that the BI rate has a significant positive effect on the growth of third-party funds.

However, in the short term, the negative effect is not significant on the growth of third-party funds in State-Owned Banks. This means that when there is an increase or decrease in the BI Rate it will not affect the size of the number on the growth of third-party funds. The results of this research are in line with the results of the research (Arrohmah and Soelistyo, 2010) which states that the long-term BI Rate has no significant effect on the growth of third-party funds.

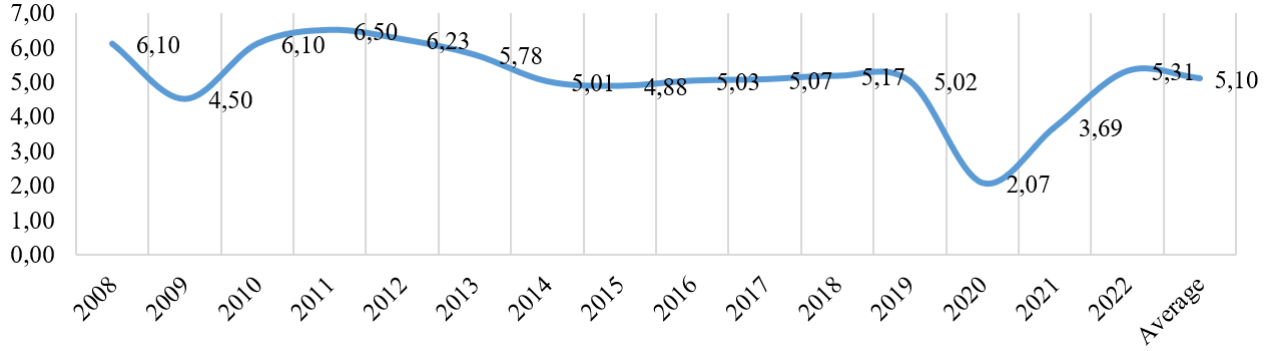

Figure 3. Indonesia's Economic Growth 2008 - 2022

Based on Figure 3, Economic Growth is an indicator of successful development in an economy. The average economic growth from 2008 to 2022 is 5.10%.

The indicator used to measure economic growth is GDP. The increase in GDP is reflected in the increase in people's income. Increasing income will influence people's ability to save so increasing income will influence the growth of third-party funds. The results of this research are that the variable Economic Growth in the Long Term has a significant positive effect on the growth of third-party funds. The results of this study are in line with the research (Ahmadi and Herianingrum, 2020; Muttaqiena, 2013; Saekhu, 2017) which states that economic growth has a significant positive effect on the growth of third-party funds. An increase in people's income has an impact on their ability to meet their needs and have excess funds to deposit in the bank. but in the short term, economic growth has a positive and insignificant on the growth of third-party funds.

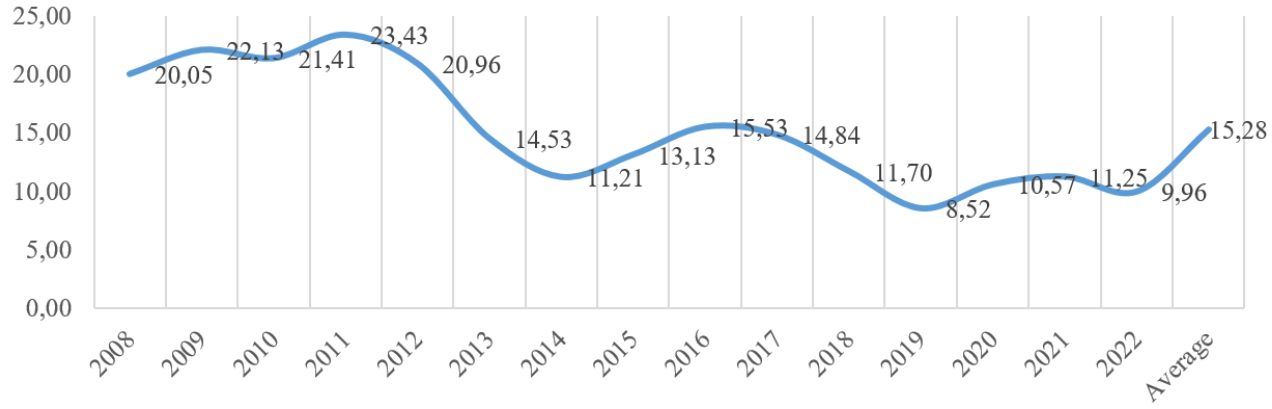

Figure 4. Growth of Third-Party Funds in State-Owned Banks 2008-2022

Based on Figure 4, Growth in Third Party Funds (TPF) is the total sum of current accounts, savings, and deposits, which is the percentage growth in third-party funds from the previous time. The average growth in third-party funds collected during 2008 – 2022 was 15.28%.

The growth of third-party funds in the long term has a significant positive effect on credit growth at state-owned banks. The results of this research are in line with the results of the research (Anggraini and Fathurrahman, 2018; Fathony and Julianti, 2020; Hermuningsih et al., 2020; Nurhayati et al., 2020; Pinto et al., 2020; Purnamasari, 2020) which states that the growth of third-party funds has a significant positive effect on credit growth. This shows that the growth of deposits is a determinant of credit growth for state-owned banks. Efforts to get around the slowdown in credit growth by issuing bonds are widely carried out by banks, even though the instruments issued have longer maturities, they still have a small portion, so they still place TPF as the main source of funding for credit. In the long term, slowing deposit growth is a factor that triggers banks to experience liquidity pressure.

The growth of third-party funds in the short term has an insignificant negative effect on the growth of state-owned bank credit. The results of this research are in line with the research results (Mukhlis, 2011; Widyawati and Wahyudi, 2016) which states that the growth of third-party funds has an insignificant negative effect on credit growth. This happened because, during the economic recovery period after the COVID-19 pandemic, state-owned banks in disbursing credit began to rely on funding sources from instruments other than third-party funds, as a result of slowing deposit growth. So, bonds or rights issues are issued with attractive interest rates.

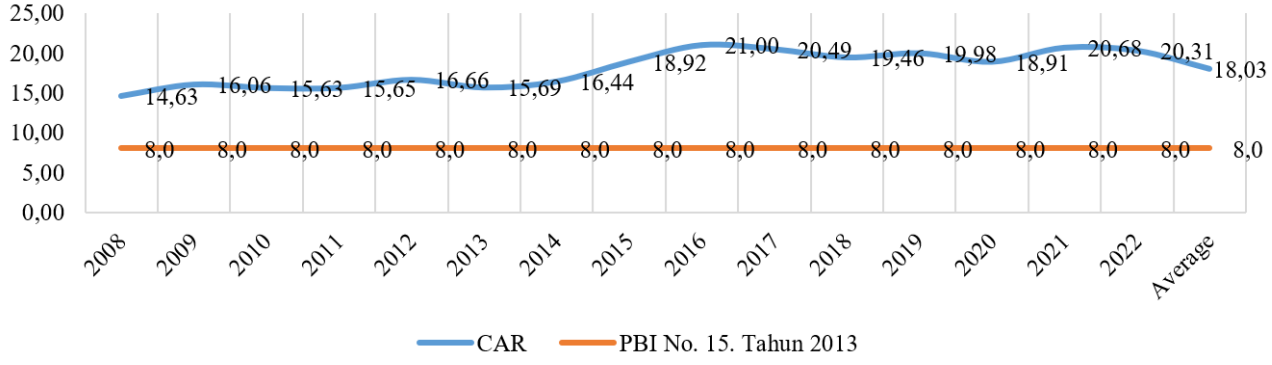

Figure 5. Capital Adequacy Ratio of State-Owned Banks 2008-2022

Based on Figure 5, the banking capital adequacy ratio (CAR) is getting stronger as can be seen from the CAR from 2008-2022 above Bank Indonesia regulations. The average CAR for BUMN banks is 18.03%, which is an optimal figure so that it can maintain bank profitability

The research results show that in the long term, CAR has a significant negative effect on State-Owned Bank Credit Growth. The results of this research are in line with the research results (Anggraini and Fathurrahman, 2018; Musfirah Khairiyah et al., 2022; Pratama, 2010; Putri and Sutrisno, 2018; Syukriyah et al., 2020) which states that CAR has a significant negative effect on Credit Growth. This is the trigger that causes the Capital Adequacy Ratio to have a negative effect on credit distribution because the capital owned by the bank does not only focus on the credit provided but also on other assets. When a bank expands credit, it should be noted that this credit has risks. The greater the credit disbursed, the greater the credit risk faced, the RWA (Risk Weighted Assets) value will also increase, so the bank's CAR value will decrease (small). A high CAR also indicates that there are idle financial resources (capital). In this case, it shows that the capital allocated to credit is still small because this capital is used to maintain minimum capital requirements and anticipate the risk of losses to the bank.

In the short term, CAR has an insignificant negative effect on BUMN Bank Credit Growth. The results of this research are in line with the research results (Amrozi and Sulistyorini, 2020; Febrianto and Muid, 2013; Ismawanto et al., 2020) which states that CAR has an insignificant negative effect on State-Owned Enterprise Bank Credit Growth. This is because during the post-COVID-19 pandemic economic election period, state-owned banks preferred to strengthen their capital structure to maintain adequate levels of capital and did not allocate fully to credit distribution which still had large risks.

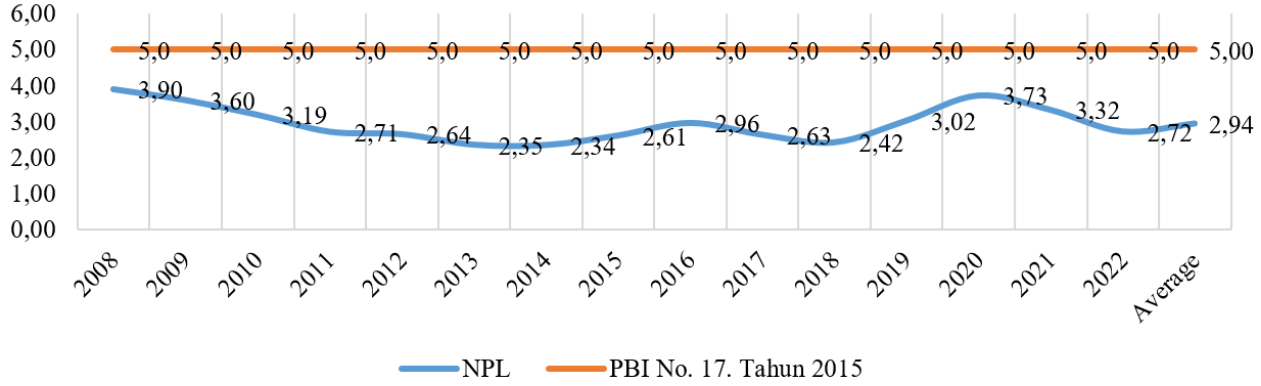

Figure 6. NPL of State-Owned Banks 2008 - 2022

Based on Figure 6, Non-Performing Loans (NPL) for state-owned banks during 2008-2022 averaged 2.94%, this value is still below Bank Indonesia regulations (2.94 < 5%). State-owned banks consider this to be reasonable and not worrying.

In the long term, NPL has a significant negative effect on the growth of bank credit for state-owned banks. The results of this research are in line with the research results (Anwar et al., 2023; Khotimah and Atiningsih, 2018; Rosalina and Lestari, 2019; Sari et al., 2021; Sulistiyani et al., 2019) which states that NPLs have a significant negative effect on credit growth at state-owned banks. In the long term, banks' behavior regarding an increase in NPLs is different. Banks tend not to respond to increases in NPLs in the long term because they are not used as a reference for bank decisions in disbursing credit. The emergence of foreign banks in the national banking system will increase the level of competition for banks in distributing credit. Therefore, if they reduce the amount of credit offered by only considering the NPL level, banks will miss the opportunity to get more debtors, and this opportunity will be taken by their competitors.

NPL in the short term has an insignificant negative effect on the growth of BUMN Bank Credit. The results of this research are in line with the research results (Amrozi and Sulistyorini, 2020; Clinton Kwan Ng, Bornok Situmorang, 2020; Riadi, 2018) which states that NPLs have an insignificant negative effect on credit growth at state-owned banks. An insignificant influence indicates that the high NPL is still within reasonable limits, does not exceed the limit determined by Bank Indonesia, and can be controlled by bank management so that an increase in NPL does not affect credit distribution.

Inflation in the long term has a significant negative effect on credit growth at state-owned banks. The research results are in line with the research results (Dewi et al., 2020; Jufriadi and Imaduddin, 2022; Sharma and Gounder, 2012) which states that inflation has a significant negative effect on credit growth at state-owned banks. In the long term, increasing inflation causes people to withdraw funds stored in banks. This causes bank income to decrease and the credit to be disbursed also decreases.

The effect of inflation on state-owned bank credit growth in the short term shows a significant positive effect. The results of this research are in line with the research results (Marsela and Suci, 2022; Pinto et al., 2020; Putra, 2018) which states that inflation has a significant positive effect on credit growth. The inflation rate during 2009-2022 is in the mild category because the inflation rate is below 10% and the increase in inflation is still under control, so people continue to apply for credit with the calculation that they will be able to pay and repay it.

In the long term, the BI-Rate has a significant positive effect on credit growth at state-owned banks. The results of this research are in line with the research results (Bagaskara et al., 2020; Ramandhana et al., 2018; Rizki Saputra et al., 2019; Rulyasri et al., 2017; Siagian, 2021) which states that the BI rate has a positive effect on growth Credit. When Bank Indonesia determines the BI Rate, it will affect the financial markets in Indonesia. When there is an increase, banks automatically have to increase interest rates on savings or deposits which has an impact on increasing credit interest rates as well. Because, when the interest rate on deposits or deposits increases, it means that the bank requires additional costs to collect third-party funds, so that to cover these costs, the bank must increase the loan interest rate or credit interest rate which will then be paid by its creditors.

In the short term, BI-Rate has an insignificant negative effect on credit growth at State-Owned Banks. The results of this research are in line with the results of the research (Darmawan, 2018) which states that the BI rate does not affect credit. This is different from the theory, that the negative effects of high credit distribution should not be a problem for business people, provided that consumer purchases remain high.

Long-term economic growth has a significant positive effect on the growth of state-owned bank credit. The results of this research are in line with the results of the research (Berger et al., 2021; Çepni et al., 2020; Ramírez Guerra, 2017; Suriani and Seftarita, 2022) which states that Economic Growth has a significant positive effect on Credit growth at State-Owned Banks. The increase in Indonesia's economic growth will increase credit disbursed by state-owned banks. The conducive condition of the Indonesian economy is demonstrated by the increasing number of economic activities from the banking sector.

Economic growth in the short term has an insignificant negative effect on the growth of state-owned bank credit. This is because Indonesia is currently undergoing economic recovery after the COVID-19 pandemic, so it is still focused on improving people's purchasing power to support Indonesia's economic growth.

CONCLUSION

In the long term, inflation has a significant negative effect, while the BI rate and economic growth have a significant positive effect on the growth of third-party funds. Inflation has an impact on reducing purchasing power and people's confidence in the value of money, while the BI rate and economic growth have an impact on increasing returns on savings and people's income, thus encouraging more people to save money in banks.

In the short term, inflation and economic growth have an insignificant positive effect, while the BI rate has an insignificant negative effect on the growth of third-party funds. Although inflation and economic growth show a positive influence on the growth of third-party funds, this influence is not strong enough to be significant. Other factors may be more dominant in influencing deposit growth besides the BI rate, or people have fairly stable saving behavior and are not too influenced by changes in inflation, economic growth, or interest rates.

In the long term, the growth of third-party funds, the BI rate, and economic growth have a significant positive effect, CAR, NPL, inflation have a significant negative effect on credit distribution. Growth in third-party funds, the BI rate, and economic growth encourage credit distribution because they increase bank liquidity, profit potential, and demand for credit. On the other hand, high CAR, high NPL, and high inflation tend to reduce credit distribution, increasing the risks and costs for banks in providing loans.

In the short term, growth in third-party funds, CAR, BI rate, NPL, and economic growth have an insignificant negative effect, while inflation has a significant positive effect on credit distribution. In the context of credit distribution, inflation tends to encourage or facilitate further credit distribution in the economy.

Based on this, Bank Indonesia maintains inflation at a level of 5%, as a prerequisite for sustainable economic growth which has an impact on improving people's welfare by increasing the growth of Third-Party Funds. Apart from inflation, the BI-Rate level of 6% encourages the public, corporations, and MSMEs to save funds so that the growth of third-party funds increases. By maintaining inflation and the BI rate, the growth of third-party funds will have an impact on banking credit growth which will impact Indonesia's estimated economic growth of 7%. So CAR is used to meet minimum capital and anticipate the risk of loss.

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