

Determinants of Gross Domestic Product in Indonesia: Macroeconomic Indicators and Non-performing Loans and Banking Profitability

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ABSTRACT: *The purpose of this study is to analyze the effect of inflation, Bank Indonesia interest rates (BI-rate), non-performing loans (NPL), profitability (profits) on gross domestic product in Indonesia in 2012-2021. The analysis model in this study uses a multiple linear regression model. In order to test the hypothesis analysis, the writer uses multiple linear regression analysis tool using SPSS 25. The data used in this study is secondary data obtained from the Central Statistics Agency (BPS) and the Financial Services Authority (OJK). The results of the analysis show that: 1) The coefficient value of the inflation variable is negative, this means that if there is an increase in the inflation variable, the gross domestic product at current prices will decrease, based on the probability value of the significance of the inflation variable having a significant effect on the gross domestic product variable at current prices. 2) The coefficient value of the interest rate variable is positive, this means that if there is an increase in the interest rate variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the interest rate variable having no significant effect on the gross domestic product variable at current prices. 3) The coefficient value of the non-performing loan variable is positive, this means that if there is an increase in the non-performing loan variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the non-performing loan variable having a significant effect on the domestic product variable. gross at current prices. 4) The coefficient value of the profitability variable is positive, stating that if there is an increase in the profitability variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the profitability variable having a significant effect on the gross domestic product variable at current prices. 5) Taken together, inflation, interest rates, non-performing loans, profitability have a significant effect on gross domestic product at current prices.*

KEY WORD: *Inflation, Interest Rates, Non-Performing Loans, Profitability, Gross Domestic Product*

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I. INTRODUCTION

The well-achieved economic growth in Indonesia must be followed by strengthening the position of the national banking system as a fundamental in the Indonesian financial system. The banking industry in Indonesia is currently expanding with its presence in all regions in Indonesia. Financial intermediation provided by the banking sector supports the acceleration of the economy by converting deposits into productive investments (Levine, 2003). In Indonesia, banks are grouped into 4 sections, namely State-Owned Banks (4 banks), Regional Development Banks (BPD) (27 banks), national private banks (68 banks), and branch offices of banks domiciled abroad (8 banks) (OJK, 2021). The division is based on the different characteristics of each group of Banks. This is in line with research which states that the specific characteristics of the bank are factors originating from the internal conditions of the company or micro bank which can be seen from the balance sheet, bank profit and loss statement, level of capital, bank size, profitability or profit level, credit risk, productivity, and management burdens (Athanasoglou et al., 2008). Banks will have good performance if they take risks that are in accordance with their characteristics given a series of obstacles, and reduce the impact of risk (Gontarek, 2016).

The indicator used to assess the performance of banks or other businesses is profitability. This is related to the extent to which the bank can run its business efficiently. Bank profitability or profitability is the result of the acquisition of investment (investment) which is expressed as a percentage of the amount of investment. Profitability assessment is an assessment of the condition and ability of a bank's profitability to support its operational activities and capital (Rivai et al., 2013). The level of profitability is important for a bank which is an indicator to measure the financial performance of a bank. Profitability is a determining factor for the sustainability of a bank in running its business. Profitability is the main goal of all business ventures. Without

profitability the business will not survive in the long term, so measuring current and past profitability and projecting future profitability is very important (Hofstrand, 2009).

In 2021, the number of loans disbursed by banks in Indonesia amounted to Rp. 5,820 trillion, an increase of 131.89% compared to 2016 which was only Rp. 4,413 trillion. Meanwhile, in 2016 Indonesia's total Gross Domestic Product (GDP) was Rp9,434 trillion, experiencing a growth of 129.46% in 2021 to Rp11,118 trillion. Based on Figure 1, there is a positive trend movement between GDP and total credit, deposits, non-performing loans and banking profits in Indonesia. Or it can be said that the improvement in banking performance will be in line with the trend of economic development in 2020, there will be a slight contraction of GDP in Indonesia which has an impact on credit indicators and profits experienced by Indonesian banks. However, the NPL indicator which is the ratio of non-performing loans compared to total bank lending can still remain stable as a result of the implementation of policies provided by the regulator in the form of policies for implementing debtor credit quality, namely National Economic Stimulus as a Countercyclical Policy Impact of the Spread of Coronavirus Disease 2019 through POJK 11 /2020, regulation of the Bank Indonesia benchmark interest rate (BI-Rate) which is set periodically, and placement of government funds through the National Economic Recovery (PEN) program in banks in Indonesia.

II. LITERATURE REVIEW

The relationship between inflation and gross domestic product

Prices of goods or services that are considered high do not necessarily indicate inflation, because inflation occurs if the increase lasts for a long time and occurs in almost all goods and services. The increase in prices resulted in an increase in the demand for money because of the need for transactions (Mankiw, 2018:196). Stable inflation is important in sustainable economic growth. The importance of controlling inflation is the basis for the consideration that high and unstable inflation will have a negative impact on the socio-economic conditions of the community. Inflation in a country's economy. GDP is affected by the rate of inflation. Inflation is one of the important indicators in analyzing a country's economy, especially about its broad impact on aggregate macroeconomic variables: economic growth, external balance, competitiveness, interest rates, and even income distribution. Inflation also plays a very important role in influencing the mobilization of funds through formal financial institutions (Endri, 2008).

GDP comes from the number of consumer goods that are not capital goods. With the increasing number of consumer goods causing the economy to grow, and increasing the scale of the company's sales turnover, because society is consumptive. With the increase in sales turnover, the company's profits also increase. Inflation is a dilemma that haunts the economy of every country. Its ever-increasing development provides obstacles to economic growth in a better direction. Many studies discuss inflation, not only regional, national, but also international coverage. Inflation tends to occur in developing countries such as Indonesia with an agrarian economic structure. Domestic failures or shocks will cause price fluctuations in the domestic market and end up with inflation in the economy (Baasir, 2003).

The relationship of inflation to gross domestic product in this study is supported by several previous studies relating to the effect of inflation, interest rates, non-performing loans, and profitability on gross domestic product. Research conducted by (Hoang Tien, 2021) states that the negative impact on GDP growth is hyperinflation above the threshold and too low inflation beyond the threshold. Considering the impact of total inflation on GDP growth, the effect is negative. Research conducted by (Živkov et al., 2020) states that inflation has a negative effect on GDP growth rather than inflation uncertainty. This means that inflation has an indirect impact on GDP growth through inflation uncertainty. research conducted by (Van Dinh, 2020) states that fiscal policy and other policies to control and maintain inflation and encourage growth; setting priority goals for sustainable economic growth; does not pursue economic growth by maintaining the inflation rate in the long term but takes appropriate steps to stabilize inflation. research conducted by (Adaramola& Dada, 2020) recommends that more pragmatic efforts by monetary authorities are needed to target inflation vigorously to prevent its adverse effects by ensuring tolerable levels that will stimulate economic growth. Research conducted by (Kryeziu&Durguti, 2019) shows the results that the rate of inflation has a positive impact on economic growth.

H1: Inflation has a significant effect on gross domestic product in Indonesia in 2012-2021

The relationship between interest rates and gross domestic product

The classical theory states that interest is the price of loanable funds (investment funds) thus interest is the price that occurs in the market and investment. According to Keynes's theory, the interest rate is a monetary phenomenon. This means that the interest rate is determined by the supply and demand for money determined in the money market (Boediono, 2018). The interest rate is the price of funds that can be loaned, the amount of which is determined by the preferences and sources of loans of various economic actors in the market. Interest

rates are not only influenced by changes in the preferences of economic actors in terms of lending and lending but are influenced by changes in the purchasing power of money, market interest rates or the prevailing interest rates change from time to time. An increased interest rate will cause the amount of money in circulation to decrease because people prefer to save rather than rotate their money in productive sectors or keep it in cash at home. On the other hand, if the interest rate is too low, the amount of money circulating in the community will increase because people will prefer to circulate their money in sectors that are considered productive. High interest rates will encourage investors to invest their funds in banks instead of investing them in the production sector, so it can be concluded that low interest rates will be able to increase gross domestic product. This is because Gross Domestic Product (GDP) is an economic indicator to measure the total value of production, generated by all Persons and Companies (both local and foreign) in a country. GDP (Gross Domestic Product) is one indicator of the health level of a country's economic growth. GDP is also one of the main indexes of the National Accounts (SNA) system for measuring the cost of goods and services. GDP shows the condition of the national economy.

The relationship between interest rates and gross domestic product is supported by research conducted by (Tanaka, 2021) which states that the budget deficit, including the payment of interest on government bonds, is the same as an increase in savings from one period to the next. In the case of a balanced budget excluding interest payments, if the corresponding weak assumptions about the propensity to consume persist, the debt-to-GDP ratio cannot diverge infinity. When the propensity to consume is small, we need a budget deficit, not a budget surplus, to prevent the debt-to-GDP ratio from deviating indefinitely. research conducted by (Roux et al., 2018) states that interest rate reform has a positive impact on economic growth as measured by GDP through savings and investment. research conducted by (Tan et al., 2020) the main findings in this study indicate that interest rates have a negative impact on economic growth as measured by GDP. Research conducted (Chugunov et al., 2021) states that the effect of public spending on economic growth depends on the quality of institutions, composition of expenditures, and fiscal architecture, so increasing the portion of productive spending will have a positive impact on economic stimulation. In the long term, monetary policy must ensure a combination of inflation targeting conditions, use of adaptive tools to achieve intermediate and final targets, in economic growth as measured by gross domestic product. Research conducted (Us, 2018) states that to determine how the natural interest rate is affected by the GDP revision, the natural interest rate is also calculated using the old GDP series so that the implementation of monetary policy (interest rates) is in line with economic fundamentals (GDP). The inaccuracy of natural interest rate estimates due to its unobservable nature illustrates the monetary policy that will be taken.

H2: The Bank Indonesia interest rate (BI-rate) has a significant effect on gross domestic product in Indonesia in 2012-2021

Relationship between non-performing loans (NPL) and gross domestic product

The ability of banks to carry out their role in determining the economy depends on efficient and effective bank management which will have an impact on the economy of a country. Therefore, every bank must be healthy and profitable and avoid non-performing loans so that banks can develop and grow strong and are able to meet the needs of the community. Economic activity is closely related to developments in the financial sector. The financial sector in the economy can be realized in the form of institutions, systems/mechanisms, policies/regulations, and actors that are related to each other in supporting economic activities (Mukhlis, 2015). Bank is an important dimension in relation to monetary and banking economic aspects. Bank health shows how well the bank's financial performance in its operational activities. According to (Mishkin, 1993), bank financial management needs to pay attention to Liquidity Management (Liquidity Management), Asset Management (Asset Management), Liability Management (Liability Management), and Capital Adequacy Management (Managing Capital Adequacy). The ability of a bank in carrying out its functions can be seen from the performance of a bank which can be seen from the financial ratios of a bank. Assessment of the performance of a bank can be done by analyzing its financial statements (Kuncoro, 2011). The functioning of the intermediation function of a bank can be assessed from the ratios owned by a bank. By measuring the bank's performance through its financial ratios, it can be seen whether the bank's performance has been said to be good or not. One of the ratios used is the NPL (Non-Performing Loan) ratio. Therefore, there is an effect of bank performance as measured by NPL (Non-Performing Loan) on economic growth as measured by gross domestic product.

The relationship of non-performing loans in this study is supported by research conducted by (Setiyani et al., 2022). The results of this study state that non-performing loans have no significant effect on the level of working capital lending. The results of this study also indicate that working capital loans have a negative and significant effect on growth rates, so non-performing loans have an indirect effect on growth. This research is also supported by research conducted by (Anita, 2018) this study measures the effect of financial ratios, one of which is measured by NPL on economic growth as measured by GDP. The results of the study show that in four

different banks there are four NPL values in each bank that affect economic growth as measured by GDP. The results of the BCA bank regression analysis obtained a positive and significant effect of NPL on economic growth as measured by GDP. The results of the regression analysis of Bank Mandiri obtained a positive and significant effect of NPL on economic growth as measured by GDP. The results of the BNI bank regression analysis obtained a negative and significant effect of NPL on economic growth as measured by GDP. The results of the BRI bank regression analysis showed that the effect of NPL was negative and not significant on economic growth as measured by GDP.

H3: Non-performing loans (NPLs) have a significant effect on gross domestic product in Indonesia in 2012-2021

Profitability (profit) relationship with gross domestic product

Financial stability can promote growth through higher bank profitability because profitable banks can maintain earnings, increase their core capital, offer higher returns to shareholders, and more easily raise capital in the market (Flannery & Rangan, 2008). On the asset side, profitable banks may be more risk averse because they have more to lose if downside risks materialize (Keeley, 1990). Profitable banks also have strong incentives to screen loans (Coval & Thakor, 2005) and monitor borrowers (Holmstrom & Tirole, 1997). Some empirical evidence shows that greater profitability increases financial stability (Arena, 2008; Claeyns & Schoors, 2007). Profitability is commonly used in predicting bank distress (eg, CAMELS ratings), and that greater financial stability promotes economic growth. (Atkinson et al., 2013; Kupiec & Ramirez, 2013)

The view that financial stability promotes growth has been criticized. (Rancièrè et al., 2008) found that countries with occasional financial crises enjoyed higher growth than countries with stable financial systems. Thus, while financial liberalization can increase the frequency of crises, it also promotes financial development and contributes to growth. Thus, we cannot say with certainty that bank profitability is positive for economic growth by promoting financial stability

Competition in the banking sector, we see that low competition in the banking industry increases bank profits (Goddard et al., 2004), but creates financing barriers for companies (Beck et al., 2004). High competition, on the other hand, reduces credit constraints (Love & Pería, 2015; Ryan et al., 2014). If high bank profitability results from a lack of competition, it can reduce access to credit and suppress growth (Cetorelli & Gambera, 2001; Claessens & Laeven, 2005). Some researchers argue that low bank competition encourages access to credit. The information hypothesis (Petersen & Rajan, 1994) asserts that banks are more likely to extend credit if they are better able to gather information about borrowers. In a concentrated credit market, (Petersen & Rajan, 1995) further suggests that creditors are more likely to fund credit-constrained firms because they can internalize the benefits of lending to firms. (Boot & Thakor, 2000) asserts that increased competition increases small business lending. In line with this view, (Fungacova et al., 2017) provide empirical evidence that lower bank competition reduces the cost of credit for borrowing firms, thereby supporting access to credit.

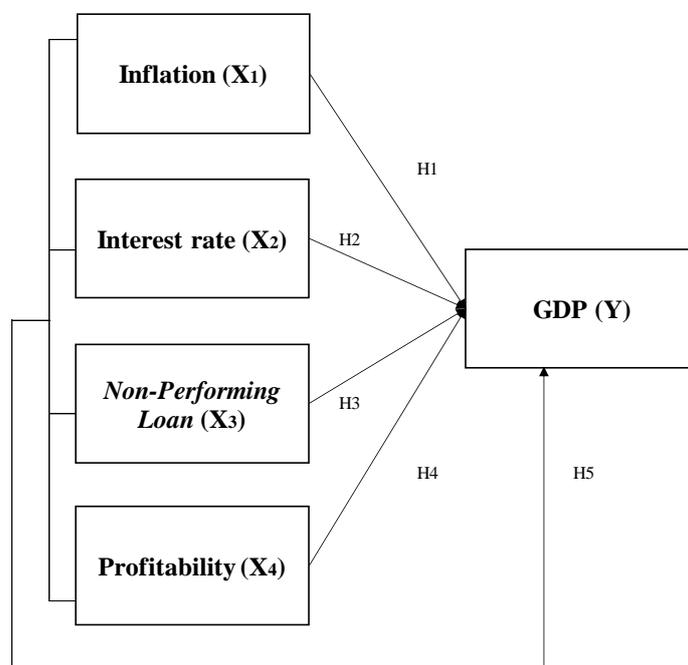
(Reinhart & Rogoff, 2014) reveal a regular pattern of high leverage in banks and rapid loan growth that creates asset bubbles and ultimately financial crises. Situations, therefore, can arise where the effect of bank profitability on economic growth is positive in the short term, but becomes negative over time. As a result, we assess the influence of the dynamics of bank profitability by making estimates that together include past and current profitability levels. Two main results emerged. First, the current level of bank profitability has a positive effect on economic growth. Second, the impact of past profitability on economic growth becomes negative when the dynamics of bank profitability.

Several studies have made major contributions to the literature on bank profitability assessing potential variables that affect bank profitability (Chronopoulos et al., 2015; García-Herrero et al., 2009; Goddard et al., 2004; Lee & Hsieh, 2013), as well as literature that focuses on the dynamics of bank profitability during the business cycle (Albertazzi & Gambacorta, 2009; Bolt et al., 2012). The consequences of banking profitability and provide evidence on its impact on economic growth, the relationship between finance and growth. Research conducted by (Levine, 2005), has identified the beneficial (albeit non-monotonic) role of bank-supplied credit on growth (Arcand et al., 2015). Research conducted by (Klein & Weill, 2022) analyzes the impact of bank profitability on growth. The first major conclusion is that the current high level of bank profitability contributes positively to economic growth. Our second conclusion is that the level of bank profitability in the past has a negative effect on economic growth leading to no significance for the bank's overall profitability. Therefore, the positive impact of bank profitability on economic growth is short-lived or in the short term. Relevant implications for monetary authorities and policy makers who wish to promote economic growth. The findings from these empirical studies show that bank profitability positively affects economic growth, underscoring the importance of encouraging bank profitability.

H4: Banking profitability (profit) has a significant effect on gross domestic product in Indonesia in 2012-2021

Based on the formulation of hypotheses, the research model proposed by the authors is as shown in Figure 1.

Figure 1: Conceptual Framework



Source: Result of author's analysis, 2022

III. RESEARCH METHODOLOGY

This research is quantitative research. This type of research is associative and seeks to measure the influence between variables. Associative research is research that aims to determine the relationship between two or more variables. The variables adopted in this study include the independent variable inflation, BI benchmark interest rate and non-performing loans/NPLs, as well as profitability and the dependent variable gross domestic product at current prices in Indonesia in 2011-2021. The method used by the author to explain the basic framework for calculating the relationship between inflation (X1), interest rates (X2), non-performing loans (X3) and profitability (X4) to gross domestic product with the symbol (Y) is based on multiple regression analysis. simplifying the calculation, the related variable is gross domestic product with the symbol (Y). The independent variable is the method used by the author to explain the basic framework for calculating the relationship between inflation (X1), interest rates (X2), non-performing loans (X3) and profitability (X4). Thus, this study uses the help of the Multiple Linear Regression Method which explains the relationship between independent variables and related variables. Before performing multiple linear regression analysis, it is best to test the classical assumptions which include normality test, multicollinearity test, and heteroscedasticity test.

IV. RESULT AND DISCUSSION

Data Analysis

The analysis in this regression equation is used to test the effect of Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) on ADHB's Gross Domestic Product (Y). Completion of the model is done with the help of SPSS Program for Windows Release 25.0 and the full calculation can be seen in the Appendix. The results are as follows:

Table 1:

The results of the analysis of the Inflation Equation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) on ADHB Gross Domestic Product (Y).

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.659	.719		7.866	.000
Ln Inflation	-.171	.041	-.336	-4.204	.000
Ln Interest Rate	.076	.088	.074	.864	.393
Ln NPL	.266	.071	.210	3.774	.001
Ln Profitability	.834	.054	.701	15.323	.000

a. Dependent Variable: Ln GDP

Source: Secondary Data Processed, 2022.

From the results of the regression analysis above, the following equation can be arranged: $Y = 5.659 - 0.171 X1 + 0.076 X2 + 0.266 X3 + 0.834 X4$. The equation shows that Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) affect ADHB's Gross Domestic Product (Y) with the following explanation:

- 1) The constant value is 5,659, this shows that ADHB's Gross Domestic Product (Y) has a value of 5.659% with the assumption that Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) have constant values or fixed so that every change in the Inflation variable (X1), Interest Rate (X2), Non-Performing Loan (X3), Profitability (X4) will affect the ADHB Gross Domestic Product variable (Y).
- 2) The coefficient value of the Inflation variable (X1) is -0.171 which states that if there is an increase in the Inflation variable (X1) by 1%, the Gross Domestic Product of ADHB (Y) will decrease by 0.171%.
- 3) The coefficient value of the Interest Rate variable (X2) is 0.076 which states that if there is an increase in the Interest Rate variable (X2) by 1%, the Gross Domestic Product of ADHB (Y) will increase by 0.076%.
- 4) The coefficient value of the Non-Performing Loan (X3) variable is 0.266, which states that if there is an increase in the Non-Performing Loan (X3) variable by 1%, then ADHB's Gross Domestic Product (Y) will increase by 0.226%.
- 5) The coefficient value of the Profitability variable (X4) is 0.843 which states that if there is an increase in the Profitability variable (X4) by 1%, then the Gross Domestic Product of ADHB (Y) will increase by 0.843%.

To find out the close relationship between the independent variable and the dependent variable, it can be seen from the value of the correlation coefficient (R) and the analysis of the coefficient of determination is used to show the proportion of the dependent variable described by the independent variable. R² is able to provide information about the variation in the value of the dependent variable that can be explained by the regression model used. If R² is close to one, it means that there is a strong relationship, which can be seen in the following table:

Table 2:

Analysis of Correlation Coefficient and Coefficient of Determination.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.967 ^a	.936	.929	.06774

Source: Secondary Data Processed, 2022.

Based on the results of the data obtained correlation coefficient value of 0.967. This means that there is a relationship between the variables of Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) on the ADHB Gross Domestic Product (Y) variable with a very high or very strong relationship level because it is in the interval coefficient 0800-1000. The coefficient of determination (R²) of 0.936 means that 93.60% of the variation of the ADHB Gross Domestic Product (Y) variable in Indonesia in 2012-2021 can be explained by the variables of Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4), while the other 6.40% is explained by other variables that are not included in the variables studied.

The F-Test / Simultaneous Test analysis shows whether all the independent/independent variables included in the model have a joint effect on the dependent/dependent variable. This test is to determine the effect of the variables Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) on ADHB Gross Domestic Product (Y) in Indonesia in 2012-2021 simultaneously. The results of the F test are as follows:

Table 3:
F Test Analysis Results (Simultaneous Test).

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.612	4	.653	142.307	.000 ^b
	Residual	.179	39	.005		
	Total	2.791	43			

Source: Processed Secondary Data, 2022.

The table above shows that at the 5% significant level (α) in the ANOVA table, it shows a significance value of 0.000 for all variables or obtained Fcount of 142,307 and it is known that Ftable is 2.606 (df N1 = 4 (number of independent variables, and df N2 = 40 (n-k) -1 / 44-3-1 = 40)), then Fcount > ttable, thus it can be concluded that together Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) has a significant effect on ADHB's Gross Domestic Product (Y) in Indonesia in 2012-2021. Thus, it can be concluded that together with inflation (X1), interest rates (X2), non-performing loans (X3), profitability (X4) has a significant effect on ADHB's Gross Domestic Product (Y) in Indonesia in 2012-2021.

This partial test is used to determine the effect of the variables Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) on ADHB Gross Domestic Product (Y) in Indonesia in 2012-2021 individually. The t-test shows how far the influence of one explanatory/independent variable individually in explaining the variation of the dependent variable. The results of the partial test test are as follows:

Table 4:
t test (Partial Test).

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.659	.719		7.866	.000
Ln Inflation	-.171	.041	-.336	-4.204	.000
Ln Interest Rate	.076	.088	.074	.864	.393
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Ln Profitability	.834	.054	.701	15.323	.000

a. Dependent Variable: Ln GDP

Source: Processed Secondary Data, 2022.

Based on the table, the influence of the variables Inflation (X1), Interest Rates (X2), Non-Performing Loans (X3), Profitability (X4) on ADHB Gross Domestic Product (Y) in Indonesia in 2012-2021 individually with the explanation as following:

- 1) At the level of significant 0.05, the significance probability value for the inflation variable (X1) is $0.000 < 0.05$ or the tcount for the inflation variable (X1) is 4.204 and it is known that the ttable is 1.68385 (one-way test, in column 4 with df 40 (n-k-1 / 44-3-1 = 40)), then tcount > ttable which means statistically the inflation variable (X1) has a significant effect on the ADHB Gross Domestic Product variable (Y).
- 2) At the level of significant 0.05, the significance probability value for the Interest Rate variable (X2) is $0.393 > 0.05$ or the tcount for the Interest Rate variable (X2) is 0.864 and it is known that the ttable is 1.68385 (one-way test, in column 4 with df 40 (n-k-1 / 44-3-1 = 40)), then tcount < ttable which means statistically the Interest Rate variable (X2) has no significant effect on the ADHB Gross Domestic Product variable (Y).
- 3) At the level of significant 0.05, the significance probability value for the Non-Performing Loan (X3) variable is $0.001 < 0.05$ or the tcount for the Non-Performing Loan (X3) variable is 3.774 and it is

known that the t -table is 1.68385 (one-way test), in column 4 with df 40 ($n-k-1 / 44-3-1 = 40$), then $t_{count} > t_{table}$ which means statistically the Non-Performing Loan variable (X3) has a significant effect on the ADHB Gross Domestic Product variable (Y)

- 4) At the level of significant 0.05, the significance probability value for the Profitability variable (X4) is $0.000 < 0.05$ or t is obtained for the Profitability variable (X4), which is 15.323 and it is known that the t -table is 1.68385 (one-way test, in column 4 with df 40 ($n-k-1 / 44-3-1 = 40$), then $t_{count} > t_{table}$ which means that statistically the Profitability variable (X4) has a significant effect on the ADHB Gross Domestic Product variable (Y).

Discussion

The coefficient value of the inflation variable is negative, this means that if there is an increase in the inflation variable, the gross domestic product at current prices will decrease, based on the probability value of the significance of the inflation variable having a significant effect on the gross domestic product variable at current prices in Indonesia in 2012-2021.

Inflation has a negative and significant effect; this means that GDP growth is due to global economic uncertainty and high inflation. The development of GDP was also due to the Covid-19 pandemic that hit Indonesia which resulted in a drastic decline in public interest in buying in Indonesia. All these factors can influence and relate to one another. All of these factors can affect the socio-economic conditions of the community and the government. Therefore, efforts to overcome inflation must be carried out in a comprehensive and integrated manner. Inflation is an important economic indicator; the rate of growth is always strived to be low and stable so as not to cause macroeconomic diseases which will later have an impact on instability in the economy. Inflation has both positive and negative impacts on the economy. The negative and significant influence of inflation on GDP in Indonesia is due to unexpected economic problems that occurred in Indonesia, especially for example inflation that occurred in 2020, namely inflation that increased due to the Covid-19 pandemic that hit Indonesia which had an impact on rising fuel prices and necessities, decreasing public buying interest and the increasing number of unemployed in Indonesia. The higher the inflation rate in Indonesia, the more it will affect the rate of economic growth as measured by GDP. If we look at the numbers, the inflation rate that occurred in Indonesia is still in the normal range and can still provide opportunities for the Indonesian state to improve its economy.

Prices of goods or services that are considered high do not necessarily indicate inflation, because inflation occurs if the increase lasts for a long time and occurs in almost all goods and services. The increase in prices resulted in an increase in the demand for money because of the need for transactions (Mankiw, 2018:196). Stable inflation is important in sustainable economic growth. The importance of controlling inflation is the basis for the consideration that high and unstable inflation will have a negative impact on the socio-economic conditions of the community. Inflation in a country's economy. GDP is affected by the rate of inflation. Inflation is one of the important indicators in analyzing a country's economy, especially about its broad impact on aggregate macroeconomic variables: economic growth, external balance, competitiveness, interest rates, and even income distribution. Inflation also plays a very important role in influencing the mobilization of funds through formal financial institutions (Endri, 2008).

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The relationship of inflation to gross domestic product in this study is supported by several previous studies relating to the effect of inflation, interest rates, non-performing loans and profitability on gross domestic product. Research conducted by (Hoang Tien, 2021) states that the negative impact on GDP growth is hyperinflation above the threshold and too low inflation beyond the threshold. Considering the impact of total inflation on GDP growth, the effect is negative. Research conducted by (Živkov et al., 2020) states that inflation has a negative effect on GDP growth rather than inflation uncertainty. This means that inflation has an indirect impact on GDP growth through inflation uncertainty. research conducted by (Van Dinh, 2020) states that fiscal policy and other policies to control and maintain inflation and encourage growth; setting priority goals for sustainable economic growth; does not pursue economic growth by maintaining the inflation rate in the long term but takes appropriate steps to stabilize inflation. research conducted by (Adaramola& Dada, 2020) recommends that more pragmatic efforts by monetary authorities are needed to target inflation vigorously to prevent its adverse effects by ensuring tolerable levels that will stimulate economic growth. Research conducted

by (Kryeziu&Durguti, 2019) shows the results that the rate of inflation has a positive impact on economic growth.

The coefficient value of the interest rate variable is positive, this means that if there is an increase in the interest rate variable, the gross domestic product at current prices will increase, based on the significance probability value of the interest rate variable, it has no significant effect on the gross domestic product variable at current prices in Indonesia. years 2012-2021.

Interest rates have a positive and insignificant effect on gross domestic product at current prices in Indonesia. this means that the interest rate is a factor that affects economic growth as measured by GDP, but the higher the interest rate does not always make the economic growth measured by GDP in a country always fast. It was found that there was an insignificant positive effect of interest rates on economic growth as measured by GDP, indicating that the increase in interest rates imposed by Bank Indonesia had an impact on increasing gross domestic product. Where high interest rates cause people to tend not to invest their funds and use them to shop and expand their business. This is because the unfavorable condition of the Indonesian economy, triggered by the global financial crisis and the COVID-19 situation, has caused the investment climate to still not work optimally due to uncertainty.

The classical theory states that interest is the price of loanable funds (investment funds) thus interest is the price that occurs in the market and investment. According to Keynes's theory, the interest rate is a monetary phenomenon. This means that the interest rate is determined by the supply and demand for money determined in the money market (Boediono, 2018). The interest rate is the price of funds that can be loaned, the amount of which is determined by the preferences and sources of loans of various economic actors in the market. Interest rates are not only influenced by changes in the preferences of economic actors in terms of lending and lending but are influenced by changes in the purchasing power of money, market interest rates or the prevailing interest rates change from time to time. An increased interest rate will cause the amount of money in circulation to decrease because people prefer to save rather than rotate their money in productive sectors or keep it in cash at home. On the other hand, if the interest rate is too low, the amount of money circulating in the community will increase because people will prefer to circulate their money in sectors that are considered productive. High interest rates will encourage investors to invest their funds in banks instead of investing them in the production sector, so it can be concluded that low interest rates will be able to increase gross domestic product. This is because Gross Domestic Product (GDP) is an economic indicator to measure the total value of production. generated by all Persons and Companies (both local and foreign) in a country. GDP (Gross Domestic Product) is one indicator of the health level of a country's economic growth. GDP is also one of the main indexes of the National Accounts (SNA) system for measuring the cost of goods and services. GDP shows the condition of the national economy.

The relationship between interest rates and gross domestic product is supported by research conducted by (Tanaka, 2021) which states that the budget deficit, including the payment of interest on government bonds, is the same as an increase in savings from one period to the next. In the case of a balanced budget excluding interest payments, if the corresponding weak assumptions about the propensity to consume persist, the debt-to-GDP ratio cannot diverge infinity. When the propensity to consume is small, we need a budget deficit, not a budget surplus, to prevent the debt-to-GDP ratio from deviating indefinitely. research conducted by (Roux et al., 2018) states that interest rate reform has a positive impact on economic growth as measured by GDP through savings and investment. research conducted by (Tan et al., 2020) the main findings in this study indicate that interest rates have a negative impact on economic growth as measured by GDP. Research conducted (Chugunov et al., 2021) states that the effect of public spending on economic growth depends on the quality of institutions, composition of expenditures, and fiscal architecture, so increasing the portion of productive spending will have a positive impact on economic stimulation. In the long term, monetary policy must ensure a combination of inflation targeting conditions, use of adaptive tools to achieve intermediate and final targets, in economic growth as measured by gross domestic product. Research conducted (Us, 2018) states that to determine how the natural interest rate is affected by the GDP revision, the natural interest rate is also calculated using the old GDP series so that the implementation of monetary policy (interest rates) is in line with economic fundamentals (GDP). The inaccuracy of natural interest rate estimates due to its unobservable nature illustrates the monetary policy that will be taken.

The coefficient value of the non-performing loan variable is positive, this means that if there is an increase in the non-performing loan variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the non-performing loan variable having a significant effect on the gross domestic product variable. basic prices valid in Indonesia in 2012-2021.

Non-performing loans have a positive and significant impact on gross domestic product at current prices in Indonesia in 2012-2021. This is the impact of the slowdown in credit growth during the study period. The NPL ratio increased because of credit slowdown, especially productive loans. Most of the credit in

Indonesia is still consumptive credit. This consumptive credit has an impact on economic growth with GDP as a measure even though at the same time NPL also increases.

The ability of banks to carry out their role in determining the economy depends on efficient and effective bank management which will have an impact on the economy of a country. Therefore, every bank must be healthy and profitable and avoid non-performing loans so that banks can develop and grow strong and are able to meet the needs of the community. Economic activity is closely related to developments in the financial sector. The financial sector in the economy can be realized in the form of institutions, systems/mechanisms, policies/regulations, and actors that are related to each other in supporting economic activities (Mukhlis, 2015). Bank is an important dimension in relation to monetary and banking economic aspects. Bank health shows how well the bank's financial performance in its operational activities. According to (Mishkin, 1993), bank financial management needs to pay attention to Liquidity Management (Liquidity Management), Asset Management (Asset Management), Liability Management (Liability Management), and Capital Adequacy Management (Managing Capital Adequacy). The ability of a bank in carrying out its functions can be seen from the performance of a bank which can be seen from the financial ratios of a bank. Assessment of the performance of a bank can be done by analyzing its financial statements (Kuncoro, 2011). The functioning of the intermediation function of a bank can be assessed from the ratios owned by a bank. By measuring the bank's performance through its financial ratios, it can be seen whether the bank's performance has been said to be good or not. One of the ratios used is the NPL (Non-Performing Loan) ratio. Therefore, there is an effect of bank performance as measured by NPL (Non-Performing Loan) on economic growth as measured by gross domestic product.

The relationship of non-performing loans in this study is supported by research conducted by (Setiyani et al., 2022). The results of this study state that non-performing loans have no significant effect on the level of working capital lending. The results of this study also indicate that working capital loans have a negative and significant effect on growth rates, so non-performing loans have an indirect effect on growth. This research is also supported by research conducted by (Anita, 2018) this study measures the effect of financial ratios, one of which is measured by NPL on economic growth as measured by GDP. The results of the study show that in four different banks there are four NPL values in each bank that affect economic growth as measured by GDP. The results of the BCA bank regression analysis obtained a positive and significant effect of NPL on economic growth as measured by GDP. The results of the regression analysis of Bank Mandiri obtained a positive and significant effect of NPL on economic growth as measured by GDP. The results of the BNI bank regression analysis obtained a negative and significant effect of NPL on economic growth as measured by GDP. The results of the BRI bank regression analysis showed that the effect of NPL was negative and not significant on economic growth as measured by GDP.

The coefficient value of the profitability variable is positive, indicating that if there is an increase in the profitability variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the profitability variable having a significant effect on the gross domestic product variable at current prices in Indonesia in 2012-2021.

The substitution effect occurs because the law of diminishing marginal utility, which applies to the consumption of goods and services, also applies to the use of money. The more money a person receives, the less value added the person can get for the money he receives. The more money a person receives, the greater the desire for that person to exchange his money for goods or services that can provide greater added value. This condition is called the substitution effect. The substitution effect serves as a link between the monetary sector and the real sector. Increasing the money supply in the market will increase public consumption of goods and services. When the amount of money held becomes more and more, people will exchange it into other forms that provide added value, for example by buying goods and services, so that the consumption of goods and services will increase. An increase in demand will encourage an increase in production, and eventually the real sector will run faster. Increased activity in the real sector will increase economic growth as measured by gross domestic product.

Financial stability can promote growth through higher bank profitability because profitable banks can maintain earnings, increase their core capital, offer higher returns to shareholders, and more easily raise capital in the market (Flannery & Rangan, 2008). On the asset side, profitable banks may be more risk averse because they have more to lose if downside risks materialize (Keeley, 1990). Profitable banks also have strong incentives to screen loans (Coval & Thakor, 2005) and monitor borrowers (Holmstrom & Tirole, 1997). Some empirical evidence shows that greater profitability increases financial stability (Arena, 2008; Claeys & Schoors, 2007). Profitability is commonly used in predicting bank distress (eg, CAMELS ratings), and that greater financial stability promotes economic growth. (Atkinson et al., 2013; Kupiec & Ramirez, 2013)

The view that financial stability promotes growth has been criticized. (Ranci re et al., 2008) found that countries with occasional financial crises enjoyed higher growth than countries with stable financial systems. Thus, while financial liberalization can increase the frequency of crises, it also promotes financial development

and contributes to growth. Thus, we cannot say with certainty that bank profitability is positive for economic growth by promoting financial stability

Competition in the banking sector, we see that low competition in the banking industry increases bank profits (Goddard et al., 2004), but creates financing barriers for companies (Beck et al., 2004). High competition, on the other hand, reduces credit constraints (Love & Pería, 2015; Ryan et al., 2014). If high bank profitability results from a lack of competition, it can reduce access to credit and suppress growth (Cetorelli & Gambera, 2001; Claessens & Laeven, 2005). Some researchers argue that low bank competition encourages access to credit. The information hypothesis (Petersen & Rajan, 1994) asserts that banks are more likely to extend credit if they are better able to gather information about borrowers. In a concentrated credit market, (Petersen & Rajan, 1995) further suggests that creditors are more likely to fund credit-constrained firms because they can internalize the benefits of lending to firms. (Boot & Thakor, 2000) asserts that increased competition increases small business lending. In line with this view, (Fungacova et al., 2017) provide empirical evidence that lower bank competition reduces the cost of credit for borrowing firms, thereby supporting access to credit.

(Reinhart & Rogoff, 2014) reveal a regular pattern of high leverage in banks and rapid loan growth that creates asset bubbles and ultimately financial crises. Situations, therefore, can arise where the effect of bank profitability on economic growth is positive in the short term, but becomes negative over time. As a result, we assess the influence of the dynamics of bank profitability by making estimates that together include past and current profitability levels. Two main results emerged. First, the current level of bank profitability has a positive effect on economic growth. Second, the impact of past profitability on economic growth becomes negative when the dynamics of bank profitability.

Several studies have made major contributions to the literature on bank profitability assessing potential variables that affect bank profitability (Chronopoulos et al., 2015; García-Herrero et al., 2009; Goddard et al., 2004; Lee & Hsieh, 2013), as well as literature that focuses on the dynamics of bank profitability during the business cycle (Albertazzi & Gambacorta, 2009; Bolt et al., 2012). The consequences of banking profitability and provide evidence on its impact on economic growth, the relationship between finance and growth. Research conducted by (Levine, 2005), has identified the beneficial (albeit non-monotonic) role of bank-supplied credit on growth (Arcand et al., 2015). Research conducted by (Klein & Weill, 2022) analyzes the impact of bank profitability on growth. The first major conclusion is that the current high level of bank profitability contributes positively to economic growth. Our second conclusion is that the level of bank profitability in the past has a negative effect on economic growth leading to no significance for the bank's overall profitability. Therefore, the positive impact of bank profitability on economic growth is short-lived or in the short term. Relevant implications for monetary authorities and policy makers who wish to promote economic growth. The findings from these empirical studies show that bank profitability positively affects economic growth, underscoring the importance of encouraging bank profitability.

V. CONCLUSION, LIMITATION AND FUTURE RESEARCH

The conclusions that can be drawn from the analysis and discussion process carried out are as follows: The coefficient value of the inflation variable is negative, this means that if there is an increase in the inflation variable, the gross domestic product at current prices will decrease, based on the probability value of the significance of the inflation variable having a significant effect on variable gross domestic product at current prices in Indonesia in 2012-2021. The coefficient value of the interest rate variable is positive, this means that if there is an increase in the interest rate variable, the gross domestic product at current prices will increase, based on the significance probability value of the interest rate variable, it has no significant effect on the gross domestic product variable at current prices in Indonesia. years 2012-2021. The coefficient value of the non-performing loan variable is positive, this means that if there is an increase in the non-performing loan variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the non-performing loan variable having a significant effect on the gross domestic product variable. basic prices valid in Indonesia in 2012-2021. The coefficient value of the profitability variable is positive, indicating that if there is an increase in the profitability variable, the gross domestic product at current prices will increase, based on the probability value of the significance of the profitability variable having a significant effect on the gross domestic product variable at current prices in Indonesia in 2012-2021. Together, the variables of inflation, interest rates, non-performing loans, profitability have a significant effect on gross domestic product at current prices in Indonesia in 2012-2021. Thus, it can be concluded that together inflation, interest rates, non-performing performing loan, profitability has a significant effect on gross domestic product at current prices in Indonesia in 2012-2021.

Suggestions that can be given by researchers in this study based on the discussions and conclusions that have been made are as follows: Policy makers should be able to design appropriate measures how to reduce or even cancel the negative effects of inflation on gross domestic product. this can be done by increasing production output, facilitating the entry of imported goods, stabilizing people's incomes, setting maximum

prices, and supervising the distribution of goods. Interest rates have an influence on gross domestic product, in maintaining interest rate stability policy makers to be able to have a good impact on the economy, policy makers want to increase the availability of liquidity by offering repo of Government Securities (SBN) to banks is considered not to have an equal impact. Because only certain banks have SBN, then policy makers can make retail payment efficiency through the expansion of the Bank Indonesia National Clearing System (SKNBI) service which is expected to increase the velocity of money circulation. In addition, the money supply and domestic demand may continue to grow. The development of the Commercial Securities (SBK) market as an alternative source of funding by corporations is expected to have a positive impact on banking liquidity, which can be used as a measure if interest rates are high. Non-performing loans in this study influence gross domestic product on the basis of current prices. To suppress non-performing loans, what can be done is to ensure that the loans provided are targeted loans that are actually used for non-consumption production, if there is an inability that has the potential to increase NPL, policy makers should be able to carry out NPL management strategies by growing selectively and actively restructuring debtors. In general, the contribution of banks to gross domestic product in Indonesia makes a good contribution, this is indicated by the influence of banking profitability (profit) which has a positive and significant impact on gross domestic product. this should be a consideration for the banking sector in making decisions, especially related to the health of the bank by achieving optimal profitability / profit, so that it can contribute more to gross domestic product in Indonesia. As a consideration for further research, the next researcher is expected to be able to add research variables related to this research and always carry out the fulfillment of research gaps related to the development of the time span of research data. This is in view of the rapid development of the national banking system and the highly volatile macroeconomic developments.

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