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# The Effect of Percapita Income, Inflation, and 1-Month Time Deposit Interest Rate on the Number of 1-Month Time Deposit at PT State Savings Bank (BTN) in Indonesia Year 2001-2022

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ABSTRACT

This study aims to investigate the impact of Per Capita Income, Inflation Rate, and 1-Month Time Deposit Interest Rate on the Number of 1-Month Time Deposit at PT. Bank Tabungan Negara (BTN) in Indonesia during the period 2001-2022. The data used in this study is secondary and obtained from published financial statements, including official sources such as the websites of Bank Indonesia, Bank Tabungan Negara, and the Central Statistics Agency. The data collection time span covers the period from 2001 to 2022. This study requires three independent variables, namely Per Capita Income,Inflation Rate,and 1-Month Time Deposit Interest Rate, and also a dependent variable,namely the Number of 1-Month Time Deposit Deposits. The results showed that together,Per Capita Income, Inflation Rate, and 1-Month Time Deposit Interest Rate have a Tabungan Negara (BTN) in Indonesia. This can be inferred from a statistical F probability value that is lower than the significance level of a (0.05), which is 0.0000000<a (0.05).More specifically,individual Per Capita Income has been proven to have a significant influence on the Number of 1-Month Time Deposit Deposits at PT. Bank Tabungan Negara (BTN) in Indonesia. However, individually, the Inflation Rate and 1-Month Time Deposit Interest Rate are not proven to have a significant influence on the Number of 1-Month Time Deposit at PT.Bank Tabungan Negara (BTN) in Indonesia.The ability of the three independent variables to explain the dependent variable is measured by an adjusted R-Square value of 0.878021. This indicates that the contribution of the three independent variables to the dependent variable is about 87.8%, while the remaining 12.2% is influenced by other factors not studied in this study.

Keywords: Per Capita Income, Inflation, Deposit Rate, 1 Month Time Deposit

## 1. Introduction

In the context of the Indonesian economy, there are various options for placing financial surpluses, one of which is through various financial institutions. These institutions play a role in consumption, storage,and investment activities. In this context, there are two main categories of financial institutions, namely bank financial institutions and different financial institutions. which is also known as a financing institution. Other financial institutions or financing institutions tend to have a more limited focus, whether it's in channeling or raising funds. Nonetheless, there are several financing institutions that can perform both of these functions. On the other hand, a bank financial institution is an entity that provides very comprehensive financial services. In addition to providing loan services and providing channels of funds, the role of banks also involves efforts to collect funds from the public in the format of deposits. In addition, the bank also provides a number of additional banking services to customers. (Cashmere, 2014:5).

Individuals who have remaining funds deposit their money in banking institutions in exchange for interest. Furthermore, the funds collected in the bank are given to other individuals who need funds,especially to investors who lack capital. As a result, the investor is required to pay installments along with interest to the bank as part of this transaction. From this process, it can be concluded that on the one hand there is a group of people with excess funds deposited in banks, while on the other hand there are individuals who need funds for various purposes. As a result, banks charge interest to investors as compensation, and vice versa, pay interest to the public in their operations

Based on the provisions in Law Number 20 of 1968, Bank Tabungan Negara (BTN) has a more detailed role, directed to improve the economic condition of the community and contribute to the development of the national economy. This process is realized through efforts to raise funds from various individuals, especially in the form of savings. The same principle applies to the time deposit program, which is also

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part of the strategy of raising funds from the public in the form of deposits. Time deposits, or often referred to as time deposits, are a popular choice among the public when compared to current and savings deposits at Bank Tabungan Negara (BTN). The most dominant and important source of funds for banks is funds collected from third parties, derived from the public. This amount often reaches around 80% to 90% of all funds managed by banks. Banks obtain these funds through various deposit products such as current accounts, savings, and time deposits.

Bank Tabungan Negara (BTN) has been mandated bythe government to address housing financing, especially for the lower middle-class group. Over time, Bank Tabungan Negara has become a financial entity that plays an active role in running government programs to meet people's housing needs. This bank not only presents banking products that are useful for individuals who want to own a house with limited resources through the Public Housing Credit (KPR), but also provides savings products in the form of deposits that are profitable for those who plan to invest funds safely and with minimal risk. The development of funds in the form of current accounts and deposits from Bank Tabungan Negara (BTN) was triggered by intensive marketing efforts carried out by this bank. This venture involves partnerships with various entities, including government agencies, local governments, State-Owned Enterprises (SOEs), Regional-Owned Enterprises (BUMD), private companies, universities, hospitals, and various other parties involved in managing operational funds. Significant growth in the lower middle segment creates substantial market opportunities for Bank Tabungan Negara's Home Ownership Credit (KPR) business, while contributing to fund collection through deposits. This fact is also reinforced by the average annual income of the lower middle class, which ranges from Rp 55 million to Rp 275million, according to the 2012 Annual Report.

A time deposit is a type of deposit in which funds are kept for a certain predetermined period of time. Deposit locking periods vary, generally covering various periods, such as 1 month, 3 months, 6 months, 12months, 18 months, and even up to 24 months. (Cashmere, 2014:75).

In principle, people will choose banks that offer benefits and convenience, therefore State Savings Banks need to consider preferences and needs that evolve over time. There are several factors that have an impact on the amount of funds held in time deposits, namely Per Capita Income, Inflation rate, and interest rate. Gross Domestic Product (GDP)is the aggregate value added of all business units within a country or the total value of final goods and services produced by all economic entities. On the other hand, Per Capita Income refers to the average income of each individual within a country, calculated by dividing the national income of a country by its population. Per Capita Income is often used as a measure to assess the level of prosperity and development of a country. The greater the Per Capita Income, the higher the level of welfare that exists in the country. (Kuncoro,2013:35).

Time deposit for 1 month indicates that the customer can earn profits and can only withdraw funds after the 1-month period ends. A comparison between a one-month period and a longer period, such as 12 months, shows a significant difference in terms of liquidity. One-month periods have a higher level of liquidity compared to longer periods. Deposits with a period of 1 month are generally in demand by individuals who dabble or are just starting to save in the form of deposits. The advantage of time deposits for 1 month is that if at any time customers need funds urgently or unexpectedly, they can immediately withdraw the funds without having to wait for a longer period of time.

According to Keynes's theory, the determining factor of the amount of savings made by households does not depend on high or low interest rates, but is related to how much income the household receives. The greater the amount of income earned by a household, the greater the savings they will make. In this context, Keynes's view emphasizes that the amount of household income is the main element that affects the amount of savings made, and not the interest rate (Sukirno, 2004: 80). Based on this principle, the higher the income level of the people, the more likely they are to make deposits. The implication is, conceptually, there is a positive correlation between Per Capita Income and the amount of deposits associated with time deposits in State Savings Banks.

According to classical theory, deposits are considered in response to interest rates, which means fluctuations in interest rates in the economy will have an impact on the volume of deposits. In this context, people's preference for saving is influenced by interest rates. When interest rates increase, people tend to be more likely to make deposits, or they may reduce their spending to increase the amount of deposits. (Nopirin,2014:70). Thus, according to the classical view, the interest rate is interpreted as a reward received by individuals as an incentive to save their money or as a reward for delays in consumption. As a result, the higher the interest rate for time deposits for 1 month, the stronger the urge for people to put their funds in the form of deposit deposits.

## 2. Theoritical Basis

According to the provisions contained in Law Number 7 of 1992 concerning banking which underwent several changes through Law Number 10 of 1998, the definition of Bank can be explained as follows (Andrianto et al, 2019): A bank is a business institution that involves various aspects related to the bank's own operations.This includes the organizational structure of the institution, the business activities carried out, and the methods and procedures used in carrying out its business activities. A bank can be interpreted as a business institution that collects funds from the public in the form of deposits, then allocates them back to the community in the form of credit or other forms. This is done with a view to improving the welfare and standard of living of the community as a whole. This definition is in accordance with the provisions stipulated in Law Number 7 of 1992 concerning banking, which has been amended through Law Number 10 of 1998.

As stated by Kasmir as described in the source (Andrianto et al, 2019), the source of bank funds refers to the efforts made by banks to collect funds from the public. In order to support its operations, banks have the ability to obtain funds through their own capital, which can be obtained through the issuance or sale of shares. According to the definition contained in Law Number 10 of 1998, a deposit is a form of deposit in which withdrawal is only allowed at certain times in accordance with the agreement between the customer and the bank. In Dendawijaya's view, as quoted in (Andrianto et al, 2019), deposits refer to deposits placed by third parties at banks with withdrawal time limits in accordance with the agreement between the third party and the bank concerned. Each type of deposit has its own unique characteristics, providing an opportunity for depositors to choose according to their preferences. In the current era, banks offer various types of deposits, including time deposits, certificates of deposit, and deposits on call, each with its own advantages, as explained by Kasmir as quoted in (Andrianto et al, 2019).

Gross Domestic Product (GDP), also known as Gross Domestic Product (GDP) in English, is a measure of the total value of all goods and services produced within the borders of a country, using factors of production owned by citizens as well as companies operating within that country, also including factors of production from individuals or companie in other countries (Sukirno, 2004:35). The significant difference between Gross Domestic Product (GDP) and Gross National Product (GNP) lies in the way the income of factors of production originating from abroad and working within the country is calculated. GDP measures the total value of production within the borders of a country without considering the origin of its factors of production, both domestic and Income is often used as an indicator to measure the level of welfare and progress of a country. The higher the Per Capita Income, the greater the level of prosperity possessed by the country. (Kuncoro, 2013:35).

Inflation is a situation in which the prices of products as a whole tend to increase. If the inflation rate increases, and the deposit rate in banks is fixed, then the impact will be a decrease in the real interest rate of banks. This situation will affect the way people store money, where they may tend to reduce their deposits in banks and prefer to make purchases of goods and services or invest their funds in other forms. Thus, an increase in the inflation rate without being offset by an increase in the price level can result in a decrease in the number of public deposits in banking institutions, in accordance with Boediono's view as explained in (Rapii et al, 2022). The Quantity Theory proposed by Milton Friedman in (Aristianti, 2015) explains that inflation occurs due to the supply of money that is greater than the demand for money. Inflation that occurs will cause an increase in the price of goods and services.

According to Kasmir as explained in (Himmati and Sari, 2021), the concept of bank interest can be interpreted as an award given by banks within the framework of traditional principles to customers who buy or sell their products. Interest in the context of banking can also be interpreted as a fee paid by customers who have deposits to the bank, as well as a fee charged to the customer by the bank as a result of lending.

Gross Domestic Product (GDP) per capita is calculated for the purpose of representing the level of income or economic activity. This has a correlation with people's ability to make deposits. In Keynes's view, the ratio of consumption to income, called the average propensity to consume, will decline as income increases.

In the financial sphere, high and uncontrolled inflation rates can disrupt banks' efforts to raise funds from the public. This is due to a decrease in real interest rates as a result of high inflation, which in turn can reduce people's motivation to make deposits. Therefore, the growth of funds obtained by banks from the public will decrease, as explained by Pohan in (2008).

The interest rate can be thought of as income obtained from the process of saving. When interest rates are high, households will tend to keep more funds, as this will result in a larger income than their savings. In the case of low interest rates, there is a tendency for individuals to be less interested in making deposits, as they consider that spending for consumption is more profitable than keeping money in a bank. Therefore, at low interest rates, people tend to be more inclined to increase their consumption expenditure, as outlined by Nopirin in his work (2014).

## 3. Research Framework and Hypothesis Formulation

In practice, a hypothesis is an initial answer that arises from the results of a discussion about a research subject that then needs to be tested to ensure its correctness. Based on the problems that have been described and the literature that has been studied, there are three hypotheses proposed: Within the framework of this study, several things are assumed. First, it is assumed that there is a positive and significant impact of Per Capita Income on the Total 1-Month Time Deposit Deposit at the State Savings Bank during the period 2001-2022. Second, it is assumed that there is a negative and significant impact of the Inflation Rate on the Total 1-Month Time Deposit at the State Savings Bank in the same period. Third, it is assumed that there is a positive and significant impact of the 1-Month Time Deposit Interest Rate on the Total 1-Month Time 2001 to 2022 and is obtained from various secondary sources such as financial statements, the official website of Bank Indonesia, Bank Tabungan Negara, and the Central Statistics Agency.

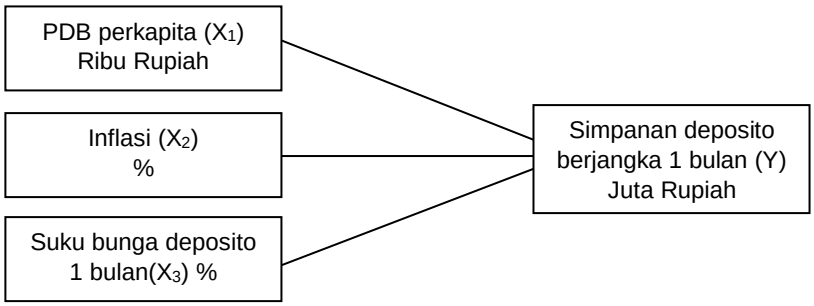


Figure 1. Research Model

## 4. Result and Discussion

In order to conduct regression analysis, this study will link independent variables, namely Per Capita Income, Inflation Rate, and 1-Month Time Deposit Interest Rate, with the dependent variable, namely the number of 1-month time deposit deposits at the State Savings Bank. The aim is to understand how these three factors affected the amount of 1-month time deposit deposits in the time span of 2001 to 2022. Regression methods will be used to measure the causal relationship between independent variables and dependent variables, hoping to provide deeper insight into the factors affecting deposits in the bank. The necessary data will be analyzed using statistical tools to produce informative and significant results., secondary data obtained from official sources such as PT. Bank Tabungan Negara, Bank Indonesia, and Central Bureau of Statistics. This data covers the period from 2001 to 2022. The data is then analyzed using Eviews computer statistics software.

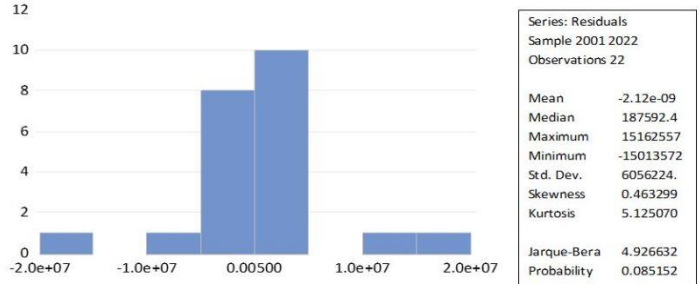


Figure 2. Normality Test of Residuals

The normality test is performed using the histogram normality test method. The results of the normality test using the Jarque-Bera method, as shown in Figure 1, conclude that the residual distribution has normal characteristics. This can be indicated from the Jarque-Bera probability value greater than 0.05, which is 0.085152. At the multicollinearity examination stage, an analysis of the normalized Variance Inflation Factor (VIF)value of each independent variable is carried out against the dependent variable.

Table 1. Multicollinearity Test Results

| Variabel | Coefficient Variance | Uncentered VIF | Centered VIF |
|---|---|---|---|
| C | 8.73E+13 | 44.90214 | NA |
| PDB perkapita | 12122.75 | 9.680864 | 2.401716 |
| Inflasi | | 6.192304 | 1.711455 |
| Suku Bunga Deposito 1 bulan | 6.03E+11 | 13.49580 | 1.543874 |

Source: Eviews,2023

The purpose of this analysis is to determine whether there are indications of multicollinearity in the regression model. If the value of VIF does not exceed the number 10, then it can be considered that the model does not suffer from significant multicollinearity problems. Based on the results listed in Table 1 above, it can be seen that the normalized VIF values for the variables Per Capita Income, Inflation Rate, and 1-Month Time Deposit Interest Rate are 2.401716, 1.711455, and 1.543874, respectively. All of these VIF values fall below the 10 limit, indicating that in this regression model, there are no strong signs of multicollinearity between the independent variables used.

Table 2. Heterokedasticity Test Results

| | | | |
|---|---|---|---|
| F-statistic | 1.42321 | Prob. F(3,18) | 0.2683 |
| Obs*R-squared | 4.220597 | Prob. Chi-Square(3) | 0.2386 |
| Scaled explainedSS | 5.643264 | Prob. Chi-Square(3) | 0.1303 |

Source: Eviews, 2023.

This test aims to evaluate the possible variance non-uniformity of residuals between different observations within the framework of the regression model. The test method applied is the Harvey test. The decision taken in heterokedasticity testing is based on the Obs* R-squared probability value, which is the Chi-Square Probability value. If this value exceeds 0.05, it can be concluded that there is no heterokedasticity. Conversely, if the significance value is less than 0.05, then there is an indication of heterokedasticity. Based on the information contained in Table 2 above, it can be concluded that the probability value of Obs* R-squared, that is, the value of Chi-Square Probability, is 0.2386, which is greater than 0.05. Therefore, from these results it can be concluded that there is not enough evidence to support the existence of heterokedasticity in this regression model.

Table 3. Autocorrelation Test Results

| | | | |
|---|---|---|---|
| F-statistic | 0.932681 | Prob. F(2,14) | 0.4139 |
| Obs*R-squared | 2.297068 | Prob. Chi-Square (2) | 0.3171 |

Source: Results of Research Data Processing, 2023.

In the autocorrelation testing stage, an evaluation is carried out on the possibility of a relationship between observation data in a data series arranged in time order. The Breusch-Godfrey Serial Correlation LM Test is used to identify potential autocorrelation problems in regression models. If the Obs* R-squared probability value, also known as the Chi-Square Probability value, is less than 0.05, it can be concluded that there is an indication of autocorrelation in the model being analyzed. In this case, Table 3 provides information that the probability value of Obs* R-squared or Chi-Square Probability is 0.3171, which is greater than 0.05. Therefore, based on these results, it can be concluded that there is insufficient evidence to support the existence of autocorrelation in the regression model used.

Table 4.Multiple Linear Regression Analysis Results

| **variabel** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
|---|---|---|---|---|
| C | -5409181 | 9345392 | -0.578807 | 0.5699 |
| PDB perkapita | 872.7473 | 110.1033 | 7.926620 | 0.0000 |
| Inflation | -115518.0 | 481240.0 | -0.240042 | 0.8130 |
| Time Deposit Interest Rate l month | 74633.64 | 776353.5 | 0.096134 | 0.9245 |
| F-statistic | | | | |
| R-squared | | | | |
| Adjusted R-squared | | | | |

Source: Results of Research Data Processing, 2023.

By referring to Table 5 above, we can determine the regression equation that applies to each region as follows:

$$Y=-5{,}409{,}181+872.7473X_1-115{,}518X_2+74{,}633.64X_3$$

From the data listed in Table 5 above, we can interpret that the value of the constant is -5409181. This indicates that when all variables, namely GDP per capita, inflation, and interest rates on 1-month term deposits, have a value of zero, then the amount of 1-month time deposit deposits at State Savings Banks in Indonesia will reach -5409181 million rupiah. From the results of the regression equation, the GDP per capita variable has a coefficient of 872.7473. This means that if GDP per capita increases by 1 thousand rupiah, the amount of 1-month time deposit deposits at the State Savings Bank will increase by 872.7473million rupiah. This means that every increase in GDP per capita will have an impact on increasing the number of 1-month time deposit deposits at Bank Tabungan Negara in Indonesia between 2001-2022.Since the significance value is 0.0000 (less than 0.05), it can be concluded that GDP per capita has a significant influence on the amount of deposit deposits.

From the information listed in Table 4, it can be observed that the Adjusted R-Square value is 0.878021. This figure indicates that about 87.8% of the variation in the dependent variable (the amount of deposits of 1-month term deposits) can be explained by the impact of the independent variables (GDP per capita, inflation, and interest rates on 1-month term deposits). In addition, about 12.2% of the variation in the dependent variable was influenced by other factors not included in this regression model.

## 5. Conclusions and Suggestions

Based on the formulation of the problem that has been posed, the following conclusions can be drawn:

1. Deposit at Bank Tabungan Negara Indonesia in the period 2001-2022. That is, the higher the Per Capita Income, the more the amount of 1-month time deposit increases.
2. Inflation (X2) does not have a significant effect on the amount of 1-month (Y) time deposits at Bank Tabungan Negara Indonesia in the same period.

3. The 1-Month Time Deposit Interest Rate (X3)also does not significantly affect the Number of 1-Month (Y) Time Deposit at Bank Tabungan Negara Indonesia during the period 2001-2022.

Based on the problems posed, researchers provide several suggestions as follows:

1. The importance of efforts to strengthen and maintain per capita Gross Domestic Product growth as an important indicator in exploring the financial sector in Indonesia is an urgent concern.Therefore, policy measures need to be promoted to promote stable and sustainable growth of Gross Domestic Product per capita. This action is also expected to have a positive impact on increasing deposit deposits. Deposits have an innumerable role in providing funds to support the various development initiatives required.
2. It is necessary to conduct effective socialization to introduce deposit financial instruments to the public. In addition, efforts are needed to improve public financial literacy related to time deposit financial instruments. This will help people better understand and become familiar with the instrument, as well as encourage participation in saving through deposits. Banks should also play a role in increasing public understanding of these instruments.
3. The importance of maintaining interest rates on 1-month time deposits so that they remain attractive to the public. Policies that can keep interest rates competitive and profitable for customers will encourage public interest in continuing to save at the State Savings Bank.

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