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Impact of Inflation, Interest Rates, And Money Supply on Deposit Funds

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Abstract

Deposits are straightforward investment instruments that offer fixed interest over a specified period, serving as a profitable product for banks. They play a crucial role in supporting banking operations, particularly within the internal scope of the institution. This study aims to examine the causal relationships between deposit interest rates, inflation, and money supply on the total deposits held by banks. A Vector Error Correction Model (VECM) is employed to investigate these relationships in both the short and long term. The analysis reveals that inflation and money supply significantly influence the volume of deposits in the short term. Conversely, deposit interest rates do not exhibit a substantial short-term impact on the total funds deposited. In the long term, all independent variables—deposit interest rates, inflation, and money supply—demonstrate a considerable effect on the amount of deposited funds. These findings provide valuable insights for banks, enabling them to optimize their funding strategies through deposit products while addressing challenges posed by macroeconomic fluctuations.

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INTRODUCTION

Financial institutions, particularly banks, play a crucial role in driving economic activity by collecting and distributing community funds (Haqiqi et al., 2022). Banks compete intensely to attract and secure substantial customer deposits to fulfill this role effectively. To achieve this, they offer various innovative financial products designed to cater to the needs of diverse demographic groups (Saleh et al., 2023).

Bank products categorized as deposits include savings accounts, checking accounts, time deposits, and other forms of deposit-based investments. Among these, time deposits are considered a relatively stable source of funding for banks due to their fixed terms (Angrico & Susanti, 2023). Unlike savings or checking accounts, which allow withdrawals at any time and are more prone to fluctuations, time deposits provide stability and predictability for financial planning.

Banks benefit from the spread between the interest paid on deposits and the interest charged on loans, such as home loans (Wahyuni, 2023). The efficiency with which banks manage this interest margin directly impacts their profitability. Consequently, banks are incentivized to compete rigorously to enhance customer interest in deposit products as a means of increasing their deposit base and strengthening financial performance.

PT Bank Tabungan Negara (BTN) Tbk, a prominent bank in Indonesia, specializes in financing homeownership loans (KPR). Mortgages are typically issued in significant amounts and over extended durations. As a bank with this specialization, maintaining stable liquidity and funding is critical to sustaining its housing loan products. Therefore, ensuring the continuity of deposits as a primary funding source is essential, which can be achieved by offering competitive deposit interest rates (Wardani & Rokan, 2022).

However, bank deposit interest rates are subject to fluctuations driven by monetary policy, which is inherently tied to inflation and the money supply. These fluctuations may deter individuals from investing their funds in bank deposits, potentially impacting a bank's financial stability (Angrico & Susanti, 2023).

Understanding the influence of monetary policy variables—such as deposit interest rates, inflation, and the money supply—plays a vital role in strategic planning and effective fund management. This understanding enables banks to optimize their funding strategies and maintain financial stability amid changing economic conditions (Hanipah et al., 2023).

According to classical economic theory, customers are more likely to place their funds in deposits when deposit interest rates are high (Sembiring et al., 2020). In addition to interest rates, inflation is another key factor influencing the volume of deposits Inflation and interest rates are inversely correlated; when inflation rises, deposit interest rates typically decline, and vice versa (Shifa et al., 2022).

A decline in deposit interest rates may lead individuals to prioritize borrowing over saving due to increased spending on daily necessities during periods of high inflation (Silaban et al., 2021). High inflation can erode the real value of deposits, thereby reducing the attractiveness of saving in bank deposits (Yonatan & Riadi, 2022). Inflation is often driven by an increase in the money supply (Nugroho et al., 2024). Conversely, when the money supply increases, banks may raise deposit interest rates to encourage people to save more, thus reducing the amount of money circulating in the economy (El-Khodary, 2024).

In line with classical theory, when inflation and the money supply both rise, banks may automatically adjust by raising interest rates. Higher interest rates can attract more deposits, helping to absorb excess money in circulation and reduce aggregate demand through decreased consumption and investment. This process can alleviate inflationary pressures (Sumaryoto et al., 2021).

Research supports this theoretical relationship. For example, Ojeaga & Odejimi (2014), in their study of the Nigerian banking sector, found that interest rates significantly influence deposit volumes, although the money supply does not have a significant effect. Similarly, Simanullang et al. (2024) demonstrated that both deposit interest rates and inflation significantly impact the volume of deposits. However, contrasting findings exist. For instance, Putri (2017) reported that the money supply significantly affects deposits, differing from Ojeaga & Odejimi (2014). This variation highlights the nuanced interplay between monetary policy factors and customer deposit behavior across different contexts and banking systems.

In practice, inflation, deposit rates, and the money supply are interrelated and exhibit a causal relationship. This interconnection makes studying these variables particularly intriguing. However, few studies have thoroughly explained how changes in inflation, money supply, and deposit interest rates influence individuals' perceptions and preferences toward bank deposits. Existing research often neglects to differentiate between the long-term and short-term effects of these variables on customer behavior regarding deposit placements.

This study aims to address this gap by analyzing the causal relationships between variables affecting the volume of deposit funds. To model these relationships, the Vector Autoregressive (VAR) and Vector Error Correction Model (VECM) approaches are employed. The VAR model captures the overall causality among variables, while the VECM approach highlights long-term relationships within the VAR framework (El-Khodary, 2024). Additionally, a cointegration test within VAR analysis determines whether the relationships are long-term or short-term, allowing for the application of the VECM method (Wahyudi & Palupi, 2023). The VECM approach incorporates error correction terms (ECTs) and ensures stationarity after the first differentiation (Farida et al., 2023).

Several studies have utilized these methodologies to explore causality in various contexts. For example, Spulbăr (2023) used the VAR model to analyze the complex relationship between Bitcoin and Ethereum. The study found that Bitcoin yields significantly influence Ethereum yields, indicating that Bitcoin price movements affect Ethereum prices. Similarly, Utonga and Ndoweka (2023) investigated the impact of financial development on inflation in Tanzania using the VECM approach. Their findings revealed that financial development reduces inflation in the long term, while no causality was observed in the short term between economic growth and inflation. Another study by (Farida et al., 2024) applied the VECM technique to analyze the causality of the Farmer Exchange Rate in Indonesia. The results indicated that inflation, interest rates, and the rupiah exchange rate are key long-term determinants of the Farmer Exchange Rate. In the short term, the primary influencing factors were GDP and the rupiah exchange rate. Tran et al. (2022) implemented the VECM approach to examine the causal relationship between foreign direct investment (FDI), economic growth, and CO2 emissions in Vietnam. The study showed a long-term relationship between CO2 emissions, GDP, and FDI, although no significant influence was observed in the short term.

Lastly, A'yun (2022) employed the VAR method to explore the relationship between macroeconomic variables in Indonesia. The findings revealed a positive correlation between the Jakarta Islamic Index and the BI rate, while inflation and the rupiah exchange rate (against the US dollar) exhibited a negative correlation.

Based on the above background, this study aims to analyze the relationship between deposit interest rates, inflation, and the amount of money supply to deposit funds using the VECM approach, with a case study on PT Bank Tabungan Negara (BTN) Tbk. The results of this study are expected to provide deeper insights into the management of deposit funds in BTN, as well as how the bank can respond better to macroeconomic conditions. The results of this research can also be generalized to other banks to help banks optimize funding strategies and face challenges arising from economic changes.

RESEARCH METHODS

This study utilizes secondary data, specifically monthly time series data spanning from January 2021 to March 2024. The data for inflation and the money supply were obtained from the official website of the Central Statistics Agency (Badan Pusat Statistik, 2024a, 2024b). Deposit interest rate data were sourced from the official website of Bank Indonesia (Bank Indonesia, 2024), while data on the amount of deposit funds were collected from the official website of Bank Tabungan Negara (Persero) Tbk (BTN, 2024).

This study uses the VECM method with the research stages to be used in this study, as shown in Figure 1.

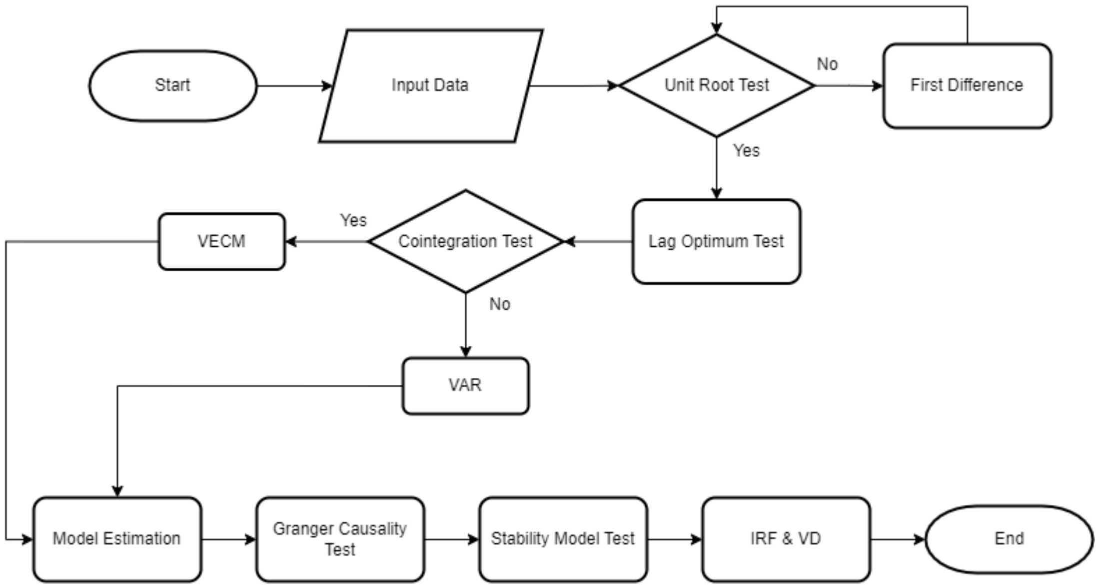
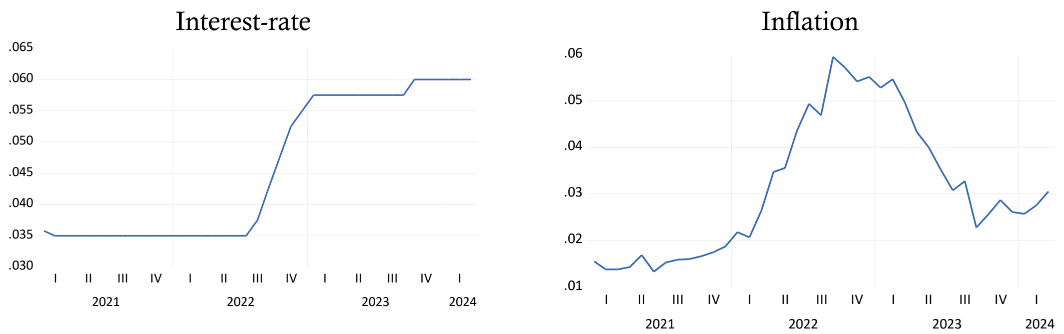


Figure 1. Research Stages Using the VECM Model

A key limitation of this study lies in the selection of variables. The amount of deposit funds serves as the endogenous variable, influenced by exogenous variables such as inflation, deposit interest rates, and the money supply. This limitation emphasizes the scope of the analysis, which focuses on understanding how the specified exogenous variables impact the endogenous variable within the defined time frame.



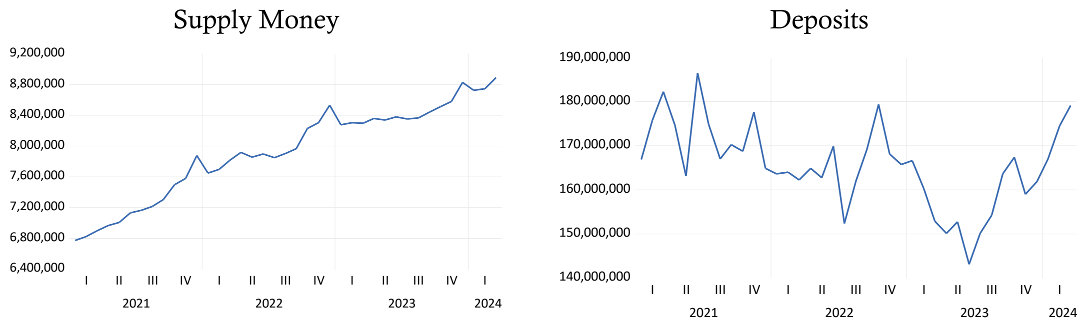


Figure 2. Graph of Research Data on Each Variable
Source: Data Perocessed, 2024

The Vector Autoregressive (VAR) method was first conceptualized by C.A. Sims in 1972 as an evolution of Granger's (1969) work. Granger proposed that a causal relationship exists between variables, where variable x influences to predict future values of y (Marlina & Suriadi, 2023). The VAR method builds upon this idea by employing a theory-minimizing approach to better understand economic phenomena (Kusumaningrum & Palupi, 2022).

The VAR technique is widely used to predict long- and medium-term economic growth, explore causal relationships, and analyze the dynamic effects of models applied to time series data (Novianda, 2024). The VAR method has several stages: Stationary test, Determination of optimal lag, VAR stability test, Cointegration test, and estimation of the VAR/VECM model. The VAR method generally uses the following equation (Farida et al., 2024):

$$Y_t = A_0 + A_1Y_{t-1} + A_2Y_{t-2} + \cdots + A_pY_{t-p} + V_t \text{ ....(1)}$$

where Y_t is a vector of model change in VAR, A_0 is a vector of constants or intercepts, $A_1, A_2, \ldots, A_p$ is in the form of a coefficient matrix and V_t is a residual vector.

The Vector Error Correction Technique (VECM) is an analytical method for determining the short-term and long-term relationships between variables generated by persistent shocks. When all variables are assumed to be stationary, VECM can be used (Y. Sari et al., 2023). The variables in the VECM analysis are the variables that have been cointegrated or the first derivative variable in the VAR analysis that is distinguished by the error correlation term. The general equation of VECM is as follows (Farhan Dzul Fiqar & Herlina, 2024).

$$\Delta Y_t = AY_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta Y_{t-i} + \varepsilon_t \text{ .... (2)}$$

where Δ is a differencing operator, where $\Delta Y_t = Y_t - Y_{t-1}$ = Endogenous variable vector with lag-1; ε_t = residual vector; c = constant vector; A = cointegration coefficient matrix $(k \times r)$; Γ_i = coefficient matrix of the i-th endogenous variable; p indicates the lag of the endogenous variable with the rank $r \leq k$; r is a cointegration rank; and k is a vector size.

RESULTS AND DISCUSSION

The unit root test is the first step in VAR analysis and is used to determine the statistical significance of each variable. The Augmented Dickey-Fuller (ADF) method, also known as the unit root test, performed the stationary test on the data with a 5% or 0.05 value using the intercept model (Marlina & Suriadi, 2023). If the level of data is not stationary, the first difference test is carried out. Still, if data is not stationary at the first difference level, the second difference test is continued. The ADF test can be seen in Table 1 below.

Table 1. Results of the ADF Unit Root Test

Variable	MacKinnon's Critical Values		
	Level	1^{st} Difference	2^{nd} Difference
Inflation	0.1121	0.5398	0.0000
Interest-rate	0.6294	0.2118	0.0000
Supply Money	0.7052	0.0000	0.0000
Deposits	0.0732	0.0000	0.0000

Source: Data Processed, 2024

The results of the unit root test, as presented in Table 1, indicate that none of the variables are stationary at the threshold of *p*-value > 0.05. Consequently, a first-difference test was conducted. Some variables remained non-stationary after the first difference, necessitating further testing at the second difference. At the second difference, all variables achieved a *p*-value < 0.05, indicating stationarity. With the data confirmed as stationary, the next step involved determining the optimal lag.

Determining the optimal lag in the VAR model is essential for minimizing autocorrelation between variables, preventing its reoccurrence (Fatoni et al., 2023). Accurate lag selection is critical: if the lag length is too short, the model's ability to capture relationships may be constrained, while an excessively long lag can reduce the model's efficiency and estimation accuracy (Juliansyah et al., 2022).

The available information criteria are used to estimate the best lag value, which includes Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC), and Hannan-Quin Criterion (HQIC). The results of the optimum lag test are shown in Table 2.

Table 2. Optimum Lag Test

Lag	LR	FPE	AIC	SC	HQIC
0	NA	$3.94e^{+}13$	42.66	42.84*	42.72*
1	32.01	$3.38e^{+}13$	42.49	43.39	42.81
2	26.53*	$3.13e^{+}13$*	42.37*	43.99	42.93
3	12.41	$4.97e^{+}13$	42.72	45.05	43.52

Source: Data Processed, 2024

The results of the optimal lag test indicate that lag 2 is the most suitable, as evidenced by the presence of an asterisk (*) marking the minimum values for LR, FPE, and AIC criteria. This optimal lag value will be used to evaluate the stability of the data using the VAR method. The VAR system is considered stable if the inverse root values of the characteristic polynomial have modulus values smaller than one.

The next step is the cointegration test, which determines whether the variables exhibit a long-term relationship. The hypothesis H_0 is accepted if the trace statistic value exceeds the 5% critical threshold, indicating a cointegration relationship. Johansen's Cointegration Test was applied in this study to assess these relationships. The findings of the cointegration test are summarized in Table 3.

Table 3. Cointegration Test Results

Unlimited Cointegration Rating Test (Trace)				
Hypothesized number of CE (s)	Eigen-value	Track Statistics	Critical Score (0.05)	Probability
None *	0.627497	86.13187	47.85613	0.0000
At most 1*	0.525711	52.55649	29.79707	0.0000
At most 2*	0.412476	27.19455	15.49471	0.0000
At most 3*	0.235093	9.112039	3.841465	0.0000
Unlimited Cointegration Rating Test (Maximum Egenium Value)				

Hypothesized number of CE (s)	Eigen-value	Statistics Max-Eigen	Critical Score (0.05)	Probability
None *	0.627479	33.57538	27.58434	0.0075
At most 1*	0.525711	25.36193	21.13162	0.0119
At most 2*	0.412476	18.08252	14.26460	0.0119
At most 3*	0.235093	9.112039	3.841465	0.0025

The cointegration test results indicate a long-term association between variables when the probability value (*p*-value) is less than 0.05. In such cases, the VECM model can be applied. The long-term and short-term relationships between variables are estimated using the VECM approach based on the optimal lag determined in the previous test.

A variable significantly impacts other variables if its *t*-statistical value (*t*-count) exceeds the critical *t*-table value. Since the data used in this study were confirmed to be stationary at the second-difference level, the VECM estimation results are presented in Table 4.

Table 4. Estimated VECM

Short-term			Long-term			T-table 5%
Variable	Coefficient	t-count	Variable	Coefficient	t-count	
Deposits (-1)	-0.637254	-2.26290*	Deposits (-1)	1.000000	-	
Deposits (-2)	-0.424670	-2.33582*	Interest-rate (-1)	7.45E+09	3.56164*	
Inflation (-1)	-1.33E+09	-3.59474*	Inflation (-1)	-3.54E+09	-3.56480*	
Inflation (-2)	-4.66E+08	-1.25417	Supply Money (-1)	78.96074	3.10977*	
Interest-rate (-1)	7.11E+08	0.27994	C	-3984917.	-	2.030108
Interest-rate (-2)	4.48E+08	0.23318				
Supply Money (-1)	19.39300	4.83050*				
Supply Money (-2)	6.424517	2.34616*				
CointEq1	-0.440479	-1.89956				

Source: Data Processed, 2024

Table 4 demonstrates that the amount of money in circulation, inflation, and deposit interest rates serve as independent variables influencing the amount of deposit funds, which is the dependent variable. In the short term, the deposit interest rate variable does not have a discernible effect on the quantity of deposit funds at lag 1 or lag 2. This finding suggests that sudden changes in interest rates may not immediately influence the public's decision to increase or decrease their savings in banks. Such a delay could occur because individuals require time to adjust to unexpected changes in interest rates.

However, the deposit interest rate variable exhibits a significant long-term impact on deposit funds. An increase in the deposit interest rate leads to a 7.45% rise in the total amount of deposit funds over the long term. This suggests that higher deposit interest rates encourage individuals to increase their savings, particularly for long-term deposit products offering more attractive returns than other types of savings.

The mechanism of deposits as a safe and low-risk investment instrument helps explain this transition in response to changes in interest rates. Deposits often gain popularity during periods of economic uncertainty, such as recessions, when the stock market may experience downturns. During such times, deposits provide a stable and secure option for wealth accumulation, making them an appealing alternative to riskier monetary instruments.

This finding is consistent with the research by Menza (2019) in Ethiopia, which shows that a 1% increase in deposit interest rates can result in a 42% increase in the total amount of deposits.

Inflation at lag 1 significantly impacts the amount of deposit funds in the short term. A 1% increase in inflation in the previous year leads to a 1.33% decline in deposits this year. This effect suggests that elevated inflation erodes purchasing power, limiting the public's ability to save. Rising prices for goods and services compel individuals to prioritize consumption and meeting essential needs over depositing money in banks.

In the long term, inflation reduces deposit funds by 3.54% per year. This persistent effect indicates that prolonged inflation negatively impacts banks' ability to accumulate funds. The transmission mechanism of inflation's influence on deposits can be explained through several processes. First, high inflation reduces the real return on deposits, prompting consumers to seek higher-yielding investment alternatives. Second, rather than increasing savings, individuals tend to reallocate resources to maintain their purchasing power during periods of inflation. This finding aligns with the study by Sembiring et al. (2020), which observed that low inflation increases deposit fund accumulation, while high inflation decreases it.

The money supply variable also significantly affects deposit funds at lags 1 and 2 in the short term. A rise in the money supply from the previous year increases deposits by 19.39%. This result highlights the simultaneous relationship between increased economic liquidity and higher deposit levels in banks. As the money supply grows, the banking sector experiences enhanced liquidity, allowing individuals to allocate more cash to deposits.

In the long term, the money supply has an even greater impact, increasing deposit growth by 78.9% annually. This result underscores the substantial effect of a consistent rise in the money supply on deposit accumulation. The transmission mechanism can be attributed to increased income, which drives higher savings. When the money supply expands, individuals have greater disposable income, and deposits emerge as a reliable and attractive savings option. This finding is consistent with research by Qiftiyah and Yustini (2023), which noted that a 5% increase in the money supply raises Islamic bank deposits by 0.3769.

The Granger Causality test is employed to evaluate the independent effect of one variable on another. Various methods can be used to test causality, including the Granger Causality approach and the Causality Error Correction Model. This study adopts the Granger Causality method, with a maximum of two lags and a significance level of 5% (p-value < 0.05). This test aligns with the results of the optimum lag length determination. The results of the Granger Causality test are presented in Table 5.

Table 5. Granger Causality Test Results

Null Hypothesis	F-statistics	Probability
Interest rate does not Granger cause Deposit	0.401129	0.8183
The deposit does not Granger cause an Interest rate	1.196179	0.5499
Inflation does not Granger cause Deposits	3.708103	0.1566
Deposit does not Granger cause Inflation	14.98824	0.0006*
Supply Money does not Granger cause Deposit	1.403262	0.4958
Deposit does not Granger cause Supply Money	6.914183	0.0315*
Inflation does not Granger cause Interest	1.843068	0.3979
The interest rate does not Granger cause Inflation	11.48692	0.0032*
Supply Money does not Granger cause interest	1.680529	0.7116
The interest rate does not Granger cause Supply Money	6.502910	0.0387*
Supply Money does not Granger cause Inflation	6.049888	0.0486*
Inflation does not Granger cause a Supply of Money	11.63712	0.0030*

Source: Data Processed, 2024

Table 5 demonstrates a one-way relationship between the variables of deposit interest rates, inflation, and money supply at a 5% significance level. The causal relationship between these variables is unidirectional. An increase in deposit interest rates generates heightened interest in placing funds in bank deposits. Banks utilize this mechanism to attract customers as a form of resistance to inflation (Sinay, 2014). Conversely, rising inflation leads to increased consumption due to the continual rise in general price levels, thereby reducing savings (Sari & Wulandari, 2022; A'yun, 2022).

At a 5% significance level, the deposit funds variable is significantly influenced by the money supply and inflation variables. This finding confirms a unidirectional causal relationship. Deposits directly contribute to an increase in third-party funds, which serve as one of the primary revenue streams for banks. Subsequently, the distribution of credit and loans enhances the amount of money circulating within the community (Handayani et al., 2023; Muhtar & Karim, 2024).

The money supply and inflation exhibit a bidirectional causal relationship at the 5% significance level. This outcome underscores the interdependent nature of these variables. A sharp increase in the money supply can lead to inflation, adversely impacting the economy (Nugroho et al., 2024). Alternatively, fluctuations in currency exchange rates that cause sustained changes in the value of money can drive inflation, influencing the cost of goods and services. Elevated inflation levels encourage increased consumption, thereby reducing the amount of money circulating within the economy (Anggraeni, 2022).

For the VECM model to be considered stable, the unit root must have a modulus value of one or less. The model stability tests confirm that the VECM model is stable, as the unit root values are either equal to or less than one. The stability of the model is illustrated in Figure 3 below.

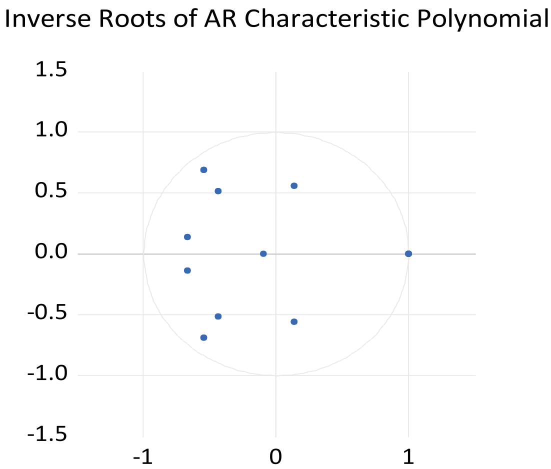


Figure 3. Stability Test

The Impulse Response Function (IRF) is employed to analyze the dynamic effects of changes in one dependent variable on other independent variables within the system. The response of deposit funds to fluctuations in other variables is evaluated through the Impulse Response Test. The reaction of deposit funds is recorded monthly along the X-axis, while the magnitude of the response—expressed as a percentage resulting from a one-standard-deviation shock in other variables—is plotted on the Y-axis.

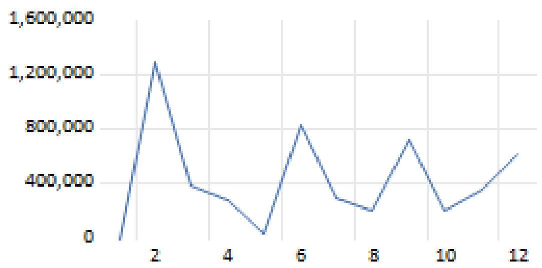


Figure 4. Respond Deposit to Inflation

Based on Figure 4**,** the response of deposit funds to inflation shocks initially shows a sharp increase, rising to approximately 1.2 million in the first month. However, this is followed by a rapid decline to below 400,000 in the second month. Over the subsequent months, the response fluctuates, peaking again at around 800,000 in the fifth month before falling and continuing to vary. Overall, the response demonstrates an initial rise, followed by a decline with alternating increases and decreases, gradually stabilizing at a lower level by the 12th month.

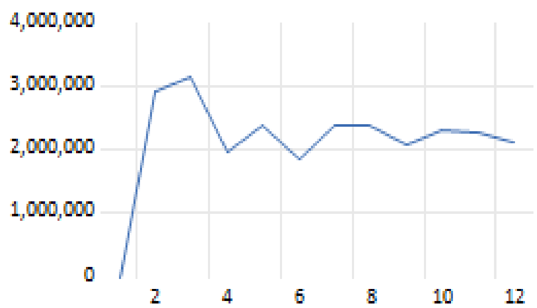


Figure 5. Respond Deposit to Interest Rate

Based on Figure 5**,** in response to an interest rate shock, deposit funds experienced a sharp increase, reaching approximately 3 million in the first month. Following this peak, the response stabilized, fluctuating between 2 million and 3 million in subsequent months. While slight variations were observed throughout the period, the response remained relatively stable and consistent. This indicates that interest rate shocks had a sustained impact on deposit funds over the 12-month period, with minor fluctuations following the initial surge.

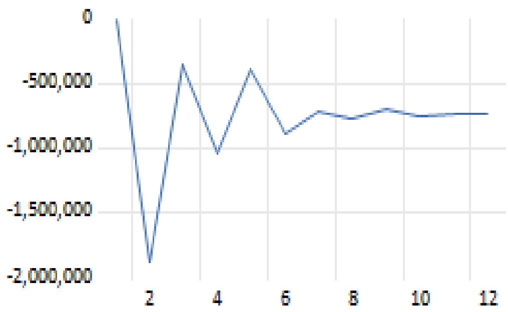


Figure 6. Respond Deposit to Supply Money

Based on Figure 6**,** in the event of a shock to the money supply, the response of deposit funds during the first two months showed a significant decline, dropping to more than -2,000,000. Subsequently, it fluctuated between -500,000 and -1,000,000 until the sixth month. Thereafter, the response stabilized, remaining close to -1,000,000 from the seventh to the twelfth month.

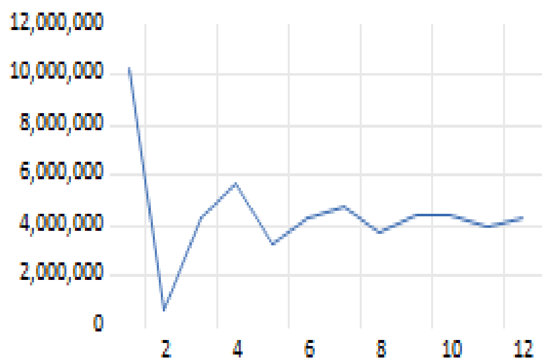


Figure 7. Respond Deposit to Deposit

Based on Figure 7, in the event of a shock to deposit funds, the response was immediately evident, with a sharp increase of approximately 10 million in the first month. However, this initial surge quickly subsided, with the response dropping to around 3 million in the second month. Subsequently, the response stabilized, fluctuating between 3 million and 6 million over the following months. This pattern suggests that while the impact of the shock diminished over time, some degree of variation persisted.

The variance decomposition highlights the changes in each variable's contributions over time. Variance decomposition analysis, also referred to as variance prediction error decomposition, illustrates the significance of each variable within the VECM system in response to shocks or changes. Additionally, it enables the prediction of the proportion of variation contributed by each variable due to changes in specific variables within the VECM system (Farida et al., 2024). The results of the variance decomposition are presented in Table 6 below.

Table 6. Deposit Decomposition Variance

Variance Decomposition of Deposits					
Period	SE.	D(Deposits,2)	D(Inflation,2)	D(Interest-rate,2)	D(Supply Money,2)
1	11219995	100.0000	0.000000	0.000000	0.000000
2	14359929	84.75615	0.762343	1.277042	13.20447
3	15484511	84.81076	0.679193	1.674162	12.83589
4	15739795	84.67855	1.015185	1.676311	12.62995
5	16168104	83.30548	1.916042	2.187274	12.59120
6	16970484	75.64334	1.744561	2.114520	20.49757
7	17352463	76.52763	1.684966	2.089943	19.69746
8	17773502	75.19968	1.688948	2.025228	21.08614
9	17972045	74.06344	1.808615	2.024981	22.10296
10	18232334	72.86132	1.767579	1.970573	23.40053
11	18542476	73.29678	1.764672	1.914059	23.02449
12	18791484	72.20548	1.772665	1.940074	24.08178

Source: Data Processed, 2024

The results of the Variance Decomposition (VD) analysis, as shown in Table 6, illustrate the percentage of changes in deposit funds over the subsequent twelve periods that can be attributed to shocks from inflation, interest rates, and the money supply. Starting from the second period, the money supply emerges as the primary factor influencing the variation in deposit levels. It accounts for 13.20% of the total contribution in the second period and 12.59% in the fifth period. From the sixth period onward, the contribution of the money supply gradually increases, peaking at 24.08% in the twelfth period and 23.04% in the eleventh period.

The contribution of inflation is relatively small but shows a steady increase over time. Inflation's impact on deposit variations rises from 0.7% in the first two periods to 1.91% in the third period, stabilizing at 1.77% in later periods. The contribution of interest rates, while modest, follows a similar trend of gradual increase. Interest rates contribute approximately 1.27% in the second period, increasing slightly to 2.18% in the first half and stabilizing at around 1.94% in the second half.

As more variables begin to influence the model, the variance attributable to deposit funds itself diminishes. In the first period, deposits account for 100% of their variance. However, this contribution declines to 83.30% by the fifth period and further to 72.20% by the twelfth period.

The analysis demonstrates that over time, the money supply becomes a more significant factor in explaining variations in deposit levels, with inflation and interest rates providing moderate contributions.

CONCLUSION

Based on the results of the analysis examining the relationship between deposit interest rates, inflation, and the money supply on the amount of deposit funds using the VECM model, it can be concluded that, in the short term, the variables significantly affecting the amount of deposit funds are the money supply and inflation. Meanwhile, the deposit interest rate variable does not significantly influence the amount of deposit funds in the short term. However, in the long term, all independent variables—deposit interest rates, inflation, and the money supply—significantly contribute to the amount of deposit funds.

This study is expected to provide valuable information for customers considering deposit placements and for banks seeking to attract customer interest in deposit products. Banks should pay particular attention to deposit interest rate variables as a response to changes in inflation to maintain the attractiveness of deposits. Additionally, strategies must be implemented to mitigate the negative impact of inflation on deposit funds.

The limitation of this study lies in its focus on only three independent variables: deposit interest rates, inflation, and the money supply. Future research is encouraged to include additional independent variables that may be relevant to the growth of bank deposits, particularly deposit funds, as well as other factors influencing economic growth in the banking sector. Further studies could also benefit from incorporating updated and more effective analytical models to enhance the robustness of the findings.

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