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Analysis of Factors Influencing the Demand for Money in Indonesia for the Period 2010Q1-2024Q4

Mita Apriani[1], Ida Ayu Putri Suprapti[2]
[1]Economics Development Studies Study Program, University of Mataram
[2]Economics Development Studies Study Program, University of Mataram
E-mail: mitaprni22@gmail.com, putriunram@unram.ac.id

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Abstract
M2 money demand in Indonesia is influenced by crucial macroeconomic factors such as real GDP, inflation, BI Rate, and economic uncertainty, but their effects are not empirically consistent. This study aims to analyze the influence of these variables on M2 money demand for the 2010Q1-2024Q4 period. Using a quantitative approach with secondary quarterly time series data from BPS, BI, and FRED (60 observations), the analysis was conducted through the Error Correction Model (ECM) in EViews 10 including the ADF test, OLS, Engle-Granger cointegration, and classical assumption tests. The results show that real GDP has a significant positive effect in both the long term ($\beta = 2.153708; p = 0.0000$) and short term ($\gamma = 0.287925; p = 0.0361$), while inflation, interest rates, and the uncertainty index are insignificant. ECT = -0.151084 ($p = 0.0084$) indicates an adjustment of 15.11% per period. The study concludes that GDP is the main driver of M2 with implications for monetary policy focusing on economic growth.

INTRODUCTION

The demand for money is a crucial variable in the Indonesian economy because it is directly related to monetary stability and daily transaction activities. During the period 2010q1 to 2024q4, significant growth in real Gross Domestic Product (GDP) has driven increased purchasing power and the need for liquidity to support higher transaction volumes (Puri et al., 2017; Sartika et al., 2019).

Relatively controlled inflation in Indonesia during this period also influenced the dynamics of M2 money demand, where the increase in general prices of goods and services gradually increased the nominal demand for money in circulation even though purchasing power experienced mild pressure (Cahyani, 2018; Nurmetri, 2023).

The main problem in understanding the demand for M2 money in Indonesia lies in the inconsistent influence of conventional macroeconomic factors such as GDP, inflation, and interest rates, where GDP is often predominantly positive while inflation and interest rates show weak or opposite effects empirically (Purba et al., 2023; Hidayat et al., 2024).

Economic uncertainty further complicates these dynamics, as the World Uncertainty Index for Indonesia often fails to explain significant variations in money demand, despite theoretically increasing precautionary demand. This creates a gap in traditional models that rely solely on standard variables (Loindong et al., 2025; Kurniawan et al., 2022).

Previous research also revealed the inconsistency of the influence of interest rates as an opportunity cost, where an increase in the BI rate tends to encourage interest-bearing savings rather than strongly reducing M2, especially in the short term due to low financial inclusion (Polontalo et al., 2018; Alif, 2024).

This study aims to analyze the effect of real GDP, inflation, BI Rate, and the Economic Uncertainty Index on the demand for M2 money in Indonesia for the period 2010q1-2024q4 using the Error Correction Model (ECM). Its urgency lies in the need for the latest empirical evidence to support Bank Indonesia's monetary policy amidst post-pandemic global volatility. Meanwhile, the novelty of this study is the integration of the Economic Uncertainty Index as a new independent variable that enriches the conventional money demand function (Dalimunthe et al., 2025; Kurniawan et al., 2022).

RESEARCH METHODS

This study uses a quantitative approach with secondary quarterly time series data, which is suitable for testing causal relationships between macroeconomic variables such as M2 money demand, real GDP, inflation, the BI Rate, and the economic uncertainty index in Indonesia for the 2010Q1-2024Q4 period. This approach allows for the analysis of short- and long-term relationships through econometric models, as recommended for monetary economic studies that require statistical hypothesis testing (Sugiyono, 2021; Sudaryono, 2022).

The research design adopts a positivist paradigm with a focus on testing hypotheses formulated based on Keynesian and monetarist money demand theories, thus producing empirical findings that can be generalized to national monetary dynamics (Creswell & Creswell, 2023; Setiadi, 2013).

The main research instruments are secondary data sourced from the Central Statistics Agency (BPS), Bank Indonesia (BI), and the Federal Reserve Bank of St. Louis (FRED), including the variables lnM2t, lnPDBt, INFt, SBt, and IKEt processed using EViews 10 software for model estimation. Analysis techniques include the Augmented Dickey-Fuller (ADF) stationarity test, long-run Ordinary Least Squares (OLS) estimation, the Engle-Granger cointegration test, and the Domowitz-Elbadawi Error Correction Model (ECM) to capture adjustment dynamics, as well as classical assumption tests such as Jarque-Bera normality, Breusch-Godfrey autocorrelation, VIF multicollinearity, and Breusch-Pagan-Godfrey heteroscedasticity (Barkah et al., 2025; Emzir, 2021).

This technique ensures the validity of the model in addressing the non-stationarity of time series data and spurious regression, with a negative and significant ECT coefficient indicating the speed of adjustment towards long-term equilibrium (Sugiyono, 2021; Amala, 2025).

The study population consists of all quarterly time series data of Indonesian macroeconomic variables from 2010Q1-2024Q4, covering 60 observations per variable to represent the recovery phase from the post-global crisis to the most recent shock. The sample was drawn using census (saturated sampling) from official sources without probabilistic sampling, as the national aggregate data is comprehensive and covers important structural periods such as the stabilization of BI's monetary policy (Sudaryono, 2022; Creswell & Creswell, 2023).

This approach is optimal for time series econometric analysis that requires a long time span to detect cyclical patterns and trends, as applied in similar money demand studies (Setiadi, 2013; Barkah et al., 2025).

The procedure begins with secondary data collection from BPS, BI, and FRED, followed by an ADF stationarity test to confirm I(0) or I(1) order integration, then a long-run OLS estimation to form the Error Correction Term (ECTt-1), a cointegration test based on residual stationarity, a short-run ECM estimation, and validation through classical assumption tests and partial-simultaneous hypothesis testing. All stages are carried out iteratively in EViews 10 to ensure the model is free from statistical bias and ready for interpretation (Emzir, 2021; Sugiyono, 2021).

This process follows the logical flow of econometric quantitative design, from descriptive to inferential, to produce robust monetary policy recommendations (Creswell & Creswell, 2023; Amala, 2025).

RESULTS

To achieve the research objectives, the analysis procedure is carried out in several stages, namely: (1) conducting a stationarity test using Augmented Dickey-Fuller (ADF) to ensure that the variables do not contain unit roots; (2) estimating long-term relationships using the Ordinary Least Squares (OLS) method. Long-term equation (Long Run Equation):

$$lnM2t=\beta0+\beta1lnPDBt+\beta2INFt+\beta3SBt+\beta4IKEt+\varepsilon t$$

Information :
lnM2t: Natural logarithm of money demand (M2)
lnPDB: Natural logarithm of real Gross Domestic Product
INFt: Inflation rate
SBt : Interest rate
IKet: Economic Uncertainty Index
β0 : Constant
β1,β2,β3,β4: Long-run coefficients
εt : Error term
(3) conducting a cointegration test based on the stationarity of residuals from OLS results;

$$ECTt-1 = lnM2t-1 - (\beta0 + \beta1\ lnPDBt-1 + \beta2\ INFt-1 + \beta3\ SBt-1 + \beta4\ IKETt-1)$$

Information :
ECTt−1 : Error Correction Term of the previous period
(4) estimate the ECM to obtain short-term dynamics and adjustment mechanisms towards long-term equilibrium. Short-term equation model:

$$\Delta lnM2t = \gamma0 + \gamma1\ \Delta lnPDBt + \gamma2\ \Delta INFt + \gamma3\ \Delta SBt + \gamma4\ \Delta IKETt + \lambda ECTt-1 + ut$$

Information :
ΔlnM2t : Change in the natural logarithm of money demand (M2) in period ttt
γ0 : Short-term model constant
γ1 : Coefficient of the short-term influence of changes in real Gross Domestic Product on the demand for money (M2)
ΔlnPDBt : Change in the natural logarithm of real Gross Domestic Product in period ttt
γ2 : Coefficient of short-term influence of changes in inflation on money demand (M2)
ΔINFt : Change in inflation rate in period ttt
γ3 : Coefficient of the short-term influence of changes in interest rates on the demand for money (M2)
ΔSBt: Change in interest rate in period ttt
γ4: Coefficient of the short-term influence of changes in the economic uncertainty index on the demand for money (M2)
ΔIKEt: Change in the economic uncertainty index in the period ttt
λ : Error Correction Term (ECT) coefficient which shows the speed of adjustment towards long-term equilibrium

ECTt−1 : Error Correction Term lagged by one period, derived from the residuals of the long-run equation

In addition, this study also conducted classical assumption tests including normality, multicollinearity, heteroscedasticity, and autocorrelation tests to ensure the validity of the OLS model used.(Barkah et al., 2025)The results of the analysis obtained are presented as follows:

Unit Root Test Results

Table 1. Augmented Dickey-Fuller (ADF) Test Results

Variables	Unit Root Test					
	Level			1st difference		
	ADF	Prob	Conclusion	ADF	Prob	Conclusion
M2	-4.403249	0.0008	Stationary	-10.43808	0.0000	Stationary
GDP	-1.202505	0.6679	Non-Stationary	-12.90651	0.0000	Stationary
INFLATION	-7.615324	0.0000	Stationary	-9.138475	0.0000	Stationary
INTEREST RATE	-2.424297	0.1397	Non-Stationary	-3.825993	0.0046	Stationary
ECONOMIC UNCERTAINTY INDEX	-6.534675	0.0000	Stationary	-9.016490	0.0000	Stationary

Based on the results of the stationarity test using the Augmented Dickey-Fuller (ADF) method as presented in Table 1, it was found that the money demand variable (M2) has a probability value smaller than the 5 percent significance level at the level level, so it can be concluded that M2 is stationary without the need for differentiation. The Gross Domestic Product (GDP) variable at the level level shows a probability value greater than 5 percent, which indicates that the variable is not stationary. However, after the first differentiation, GDP becomes stationary with a significant probability value. The inflation variable shows stationary properties both at the level level and after the first differentiation, which indicates the absence of a unit root in the variable. Meanwhile, the interest rate variable at the level level is not stationary, but becomes stationary after the first differentiation. The economic uncertainty index variable also shows stationary properties at the level level and remains stationary at the first differentiation. Overall, the results of the ADF test indicate that the variables in this study are integrated at different orders, namely I(0) and I(1).

Cointegration Test Results

Table 2. Cointegration Test Results

Date: 01/23/26 Time: 23:56

Sample (adjusted): 2010Q3 2024Q4
Included observations: 58 after adjustments
Trend assumption: Linear deterministic trend
Series: LNY LNX1 X2 X3 X4
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistics	0.05 Critical Value	Prob.**
None *	0.545495	106.5982	69.81889	0.0000
At most 1 *	0.328051	60.86255	47.85613	0.0019
At most 2 *	0.296739	37.80330	29.79707	0.0049
At most 3*	0.166543	17.38570	15.49471	0.0257
At most 4*	0.110931	6.819690	3.841466	0.0090

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistics	0.05 Critical Value	Prob.**
None *	0.545495	45.73566	33.87687	0.0013
At most 1	0.328051	23.05925	27.58434	0.1710
At most 2	0.296739	20.41759	21.13162	0.0627
At most 3	0.166543	10.56601	14.26460	0.1773
At most 4*	0.110931	6.819690	3.841466	0.0090

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

The Trace test results show that the Trace Statistic value for the null hypothesis "no cointegration" (None) of 106.5982 is greater than the critical value at a significance level of 5 percent, and is supported by a probability value of 0.0000. Overall, the Trace test indicates that there are five cointegration vectors at a significance level of 5 percent. Meanwhile, based on the Maximum Eigenvalue test, the maximum eigenstatistic value for the null hypothesis "no cointegration" is also greater than the critical value of 5 percent with a significant probability, thus confirming the presence of at least one cointegration vector in the system.

ECM Estimation Results

Table 3. Long-Term Estimation Results

Dependent Variable: LNY
Method: Least Squares
Date: 01/23/26 Time: 22:55
Sample: 2010Q1 2024Q4
Included observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-16.14918	0.724211	-22.29902	0.0000
LNX1	2.153708	0.047862	44.99784	0.0000
X2	0.001991	0.009418	0.211444	0.8333
X3	-0.013459	0.007071	-1.903402	0.0622
X4	-0.046415	0.057763	-0.803536	0.4251

R-squared	0.982063	Mean dependent var	15.41754
Adjusted R-squared	0.980759	SD dependent var	0.422388
SE of regression	0.058591	Akaike info criterion	-2.756829
Sum squared residual	0.188807	Schwarz criterion	-2.582300
Log likelihood	87.70486	Hannan-Quinn criter.	-2.688561
F-statistic	752.8313	Durbin-Watson stat	0.853952
Prob(F-statistic)	0.000000		

Long-run regression equation (ECM):
M2 = -16.14918 + 2.153708GDP + 0.001991INF – 0.013459SB – 0.046415 + e

The results of the long-term relationship estimation using the Error Correction Model (ECM) method show that the Gross Domestic Product (GDP) variable proxied by LNX1 has a positive and significant effect on money demand (M2) at a significance level of 5 percent, with a coefficient of 2.153708 and a probability value of 0.0000. The inflation variable (X2) has a coefficient of 0.001991 which indicates a positive and statistically insignificant effect, with a probability value of 0.8333. The interest rate variable (X3) shows a coefficient of -0.013459, which indicates a negative and significant effect at the 10 percent level, with a probability value of 0.0622. Meanwhile, the economic uncertainty index variable (X4) has a coefficient of -0.046415 which indicates a negative and statistically insignificant effect, with a probability value of 0.4251. The coefficient of determination (R-squared) of 0.982063 and the adjusted R-squared of 0.980759 indicate that long-term variations in money demand can be largely explained by the independent variables in the model. Furthermore, the F-statistic of 752.8313 with a probability of 0.000000 indicates that the independent variables simultaneously have a significant effect on the dependent variable. The Durbin-Watson value of 0.853592 is presented as supporting statistical information.

Table 4. Short-Term Estimation Results

Dependent Variable: DLNY
Method: Least Squares

Date: 01/23/26 Time: 23:29
Sample (adjusted): 2010Q2 2024Q4
Included observations: 59 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.021685	0.003285	6.600831	0.0000
DLNX1	0.287925	0.133921	2.149959	0.0361
DX2	-0.000249	0.002401	-0.103631	0.9179
DX3	0.002720	0.007569	0.359311	0.7208
DX4	-0.002542	0.016939	-0.150067	0.8813
ECT	-0.151084	0.055170	-2.738509	0.0084

R-squared	0.152415	Mean dependent var	0.024929
Adjusted R-squared	0.072454	SD dependent var	0.023039
SE of regression	0.022189	Akaike info criterion	-4.682325
Sum squared residual	0.026094	Schwarz criterion	-4.471050
Log likelihood	144.1286	Hannan-Quinn criter.	-4.599852
F-statistic	1.906119	Durbin-Watson stat	2.328212
Prob(F-statistic)	0.108814		

The short-term regression equation (ECM) is:
DM2 = 0.021685 + 0.287925DPDB – 0.000249DINF + 0.00249DSB – 0.002542DECONOMIC UNCERTAINTY INDEX – 0.151084ECTt-1 + e

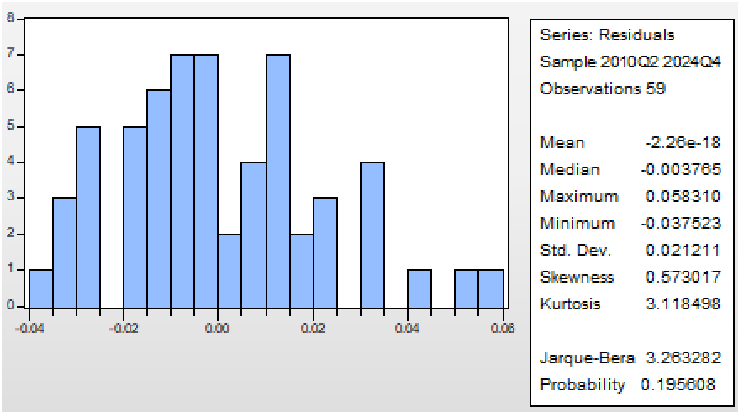
Based on the results of the short-term Error Correction Model (ECM) estimation using the Engle and Granger approach, it is obtained that the variable change in Gross Domestic Product (DLNX1) has a coefficient of 0.287925 with a probability value of 0.0361, so it has a positive and significant effect at the 5 percent level on changes in money demand (DLNY). This shows that in the short term, an increase in GDP is followed by an increase in money demand. The variable change in inflation (DX2) has a coefficient of -0.000249 with a probability value of 0.9179, so it has a negative and insignificant effect on changes in money demand in the short term. Furthermore, the variable change in interest rates (DX3) shows a coefficient of 0.002720 with a probability value of 0.7208, so it has a positive and insignificant effect. The variable change in the economic uncertainty index (DX4) has a coefficient of -0.002542 with a probability value of 0.8813, which indicates a negative and insignificant effect on money demand in the short term.

Meanwhile, the Error Correction Term (ECT) variable has a coefficient of -0.151084 with a probability value of 0.0084, thus having a negative and significant effect at the 5 percent level. The negative and significant ECT coefficient indicates the existence of an adjustment mechanism from short-term imbalances to long-term equilibrium. This coefficient value indicates that approximately 15.11 percent of deviations from long-term equilibrium will be adjusted in one period. Overall, the R-squared value of 0.152415 and the Adjusted R-squared of 0.072454 indicate the relatively limited explanatory power of the short-term model. The F-statistic value of 1.906119 with a probability of 0.108814 indicates that the independent variables are simultaneously insignificant in explaining changes in money demand in the short term. The Durbin–Watson value of 2.328212 is presented as supporting statistical information regarding residual autocorrelation.

Classical Assumption Test Results

1. Normality Test

Table 5. Normality Test Results



Based on the normality test results in Table 6, the Jarque-Bera test probability value is 0.195608, which is greater than the 0.05 significance level. This indicates that the residual data is normally distributed. Thus, the classical assumption of normality is met, making the regression model suitable for further analysis.

2. Autocorrelation Test

Table 6. Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.170132	Prob. F(1,52)	0.1467
Obs*R-squared	2.363624	Chi-Square Prob.(1)	0.1242

Based on the results of the autocorrelation test using the Breusch-Godfrey Serial Correlation LM Test method, the probability value obtained isThe probability value of obs*R-Squared is 0.1242 (> 0.05), so it can be concluded that the autocorrelation test is fulfilled.

3. Multicollinearity Test

Table 7. Multicollinearity Test Results

Variance Inflation Factors
Date: 01/24/26 Time: 00:08
Sample: 2010Q1 2024Q4
Included observations: 59

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.08E-05	1.293321	NA
DLNX1	0.017935	1.519996	1.220215
DX2	5.77E-06	1.031964	1.031956
DX3	5.73E-05	1.011303	1.010810
DX4	0.000287	1.038298	1.038138

ECT	0.003044	1.152168	1.151912

Based on the multicollinearity test results in Table 8, the Centered VIF value for the GDP variable is 1.220215, inflation is 1.031956, interest rates are 1.010810, and the economic uncertainty index is 1.038138. All VIF values are less than 10, so it can be concluded that the regression model does not experience multicollinearity problems. Thus, the relationship between the independent variables in the model does not cause significant interference with the estimation of the regression coefficients.

4. Heteroscedasticity Test

Table 8. Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.737931	Prob. F(5,53)	0.5984
Obs*R-squared	3.840026	Chi-Square Prob.(5)	0.5727
Scaled explained SS	3.282313	Chi-Square Prob.(5)	0.6566

Based on the results of the heteroscedasticity test using the Breusch-Pagan-Godfrey method, the Chi-Square probability value was 0.5727, which is greater than the 0.05 significance level. This indicates that the regression model does not experience heteroscedasticity problems.

Hypothesis Testing

Based on the results of the Error Correction Model (ECM) estimation, hypothesis testing shows that in the long term, Gross Domestic Product (GDP) has a positive and significant effect on the demand for money (M2) in Indonesia with a coefficient of 2.153708 and a probability value of 0.0000, so that the first hypothesis is accepted, while inflation has a positive and insignificant effect with a coefficient of 0.001981 and a probability of 0.8333, so that the second hypothesis is rejected. The interest rate variable has a negative and significant effect at a significance level of 10 percent on the demand for money (M2), indicated by a coefficient of −0.013459 with a probability of 0.0622, so that the third hypothesis is accepted, while the economic uncertainty index shows a negative and insignificant effect with a coefficient of −0.046415 and a probability of 0.4251, so that the fourth hypothesis is rejected in the long term. Meanwhile, in the short term, only GDP is proven to have a positive and significant effect on the demand for money (M2) with a coefficient of 0.287025 and a probability of 0.0361, thus, the first hypothesis is accepted. Meanwhile, the inflation variable has a coefficient of -0.000249 with a probability value of 0.9179, which indicates a negative and insignificant effect on the demand for money in the short term, so the second hypothesis is rejected. The interest rate variable has a coefficient of 0.002720 with a probability value of 0.7208, which also indicates a positive and insignificant effect, so the third hypothesis is rejected. Furthermore, the economic uncertainty index variable has a coefficient of -0.002542 with a probability value of 0.8813, which means it has a negative and insignificant effect in the short term, so the fourth hypothesis is rejected. In addition, the Error Correction Term (ECT) value of -0.151084 with a probability value of 0.0084 indicates an adjustment process from short-term imbalance to long-term equilibrium.

Discussion

The Effect of Gross Domestic Product on the Demand for Money

The results of the long-term regression analysis indicate that real Gross Domestic Product has a positive and significant effect on the demand for money (M2). The long-term regression coefficient for GDP is 2.153708 with a probability of 0.0000. This probability value is much smaller than 0.05 (5%). Meanwhile, in the short term, based on the Engle and Granger approach, GDP also shows a positive and significant effect on changes in M2 money demand. This is reflected in the GDP change coefficient of 0.287925 with a probability value of 0.0361, which is smaller than 5%. This finding is consistent with Keynes's Theory of Money Demand (or the transaction and precautionary money demand model) and the Quantity Theory of Money. According to Keynes's Theory, real income (as reflected by real GDP) is the main factor in determining the demand for money. When real GDP (national income) increases, economic activity, production of goods and services, and transactions in society also increase. This increase in transactions directly increases the public demand for money for transaction purposes, which in turn will drive an increase in the total demand for money (M2) in the economy. Adequate M2 (economic liquidity) is essential to support the level of economic activity as measured by GDP.(Putri et al., 2024). This result is also in line with research conducted by(Kusumawati, 2017)which found a positive and significant relationship between real GDP and the demand for money (M2) in Indonesia, both in the short and long term. For example, some studies found that real GDP has a one- or two-way causal relationship with M2 and influences the size of real M2. Other studies found a positive relationship, indicating that an increase in people's real income will increase the demand for money, thus increasing the demand for money.(Nature & Life, 2020).

The Effect of Inflation on the Demand for Money

The results of the study indicate that inflation has a positive and insignificant effect on the demand for money (M2) in the long term, with a coefficient of 0.001991 and a probability value of 0.8333. Meanwhile, in the short term, inflation has a negative and insignificant effect on the demand for money (M2), as indicated by a coefficient of -0.000249 with a probability value of 0.9179.Theoretically, according to the Quantity Theory of Money, inflation has a positive relationship with growth in M2 money demand, because rising prices will increase nominal money demand. This study shows that inflation is not the dominant factor influencing M2.This condition can be explained by the effectiveness of Bank Indonesia's monetary policy in controlling inflation, so that inflation movements during the research period were relatively stable and did not have a significant impact on the demand for money.(Ningsih & Tanjung, 2025).This inflation stability means that price changes are not large enough to affect M2, so inflation is not a dominant factor driving money demand (M2) in Indonesia. In other words, although inflation can theoretically influence money demand (M2), in practice, this influence is weakened because monetary policy implemented by monetary authorities is able to maintain price stability. This finding aligns with research conducted by(Mariska et al., 2025) which states that inflation in Indonesia does not always have a strong influence on M2 due to price controls and the use of effective monetary instruments..

The Effect of Interest Rates on the Demand for Money

The results of the study indicate that interest rates have a negative effect on the demand for money (M2) with a coefficient of -0.013459 in the long run with a p-value of 0.0622. Meanwhile, in the short run through the ECM model, the effect of interest rates on M2 is insignificant with a coefficient of 0.002721 (p-value of 0.7208). In theory, according to Keynes's liquidity preference theory, there is a negative relationship between interest rates and speculative demand for money. When interest rates increase, people are more likely to shift funds to interest-bearing financial assets rather than holding cash, so that the demand for money tends to decrease.(Hesniati et al., 2022). The findings of this study are also in line with the results of studies(Nurmasari & Arifin, 2018)which found that interest rate increases in Indonesia can suppress the demand for money (M2), although the effect is relatively smaller compared to other macroeconomic variables such as GDP. Thus, the results of this study reinforce the view that interest rates play a role as a monetary instrument capable of influencing economic liquidity, but their effectiveness in Indonesia tends to be limited in the short term. This is due to the dominant use of cash and low financial inclusion, so that monetary policy transmission through the interest rate channel is not fully effective.(Saraswati et al., 2020).According to other previous research, partially in the short term only interest rates influence changes in the demand for money.(Polontalo et al., 2018).

The Effect of the Economic Uncertainty Index on the Demand for Money

Based on the Error Correction Model (ECM) estimation results, the economic uncertainty index shows a negative and insignificant coefficient on the demand for money (M2) in Indonesia, both in the long and short term. In the long-term estimation, the economic uncertainty index has a coefficient of -0.046415 with a probability of 0.4251, while in the short term the coefficient is -0.002542 with a probability of 0.8813, which indicates that increasing economic uncertainty tends to reduce the demand for money (M2), but this effect is not yet statistically strong enough. This finding is in line with the modern money demand theory framework that views economic uncertainty as a fundamental factor influencing the behavior of money holders through precautionary demand mechanisms and liquidity preferences, where increasing uncertainty encourages economic actors to adopt a wait-and-see attitude, delaying consumption and investment, so that transaction activity weakens and aggregate money demand tends to decline.(Lim & Gan, 2015)However, the insignificant effect of the economic uncertainty index in this study indicates that the response of money demand to uncertainty in Indonesia tends to be indirect and may have been mediated by accommodative monetary policies, such as interest rate adjustments and liquidity provision, so that the effect of uncertainty on money demand is not fully reflected statistically in the observation period.(Lim & Gan, 2015)Thus, although theoretically economic uncertainty is closely related to the demand for money, empirical results show that this influence is not yet dominant in determining the demand for money (M2) in Indonesia.

CONCLUSION

This study found that real Gross Domestic Product (GDP) has a positive and significant effect on M2 money demand in both the long run (coefficient 2.153708; p=0.0000) and short run (coefficient 0.287925; p=0.0361), while inflation, BI Rate, and economic uncertainty index are not statistically significant in both time horizons. The Error Correction Term (ECT) coefficient of -0.151084 (p=0.0084) confirms the existence of an adjustment of 15.11 percent per period towards long-term equilibrium, with the long-term model explaining 98.2 percent of the variation in M2. This finding strengthens the dominance of GDP as the main driver of money demand in Indonesia for the 2010Q1-2024Q4 period.

However, limitations of this study include the use of national aggregate data that ignores regional variations, a sample period that does not yet cover the impact of monetary policy post-2024, and the absence of additional variables such as the increasingly relevant exchange rate or payment digitalization. Suggestions for future research include expanding the sample to 2026Q4, integrating provincial panel models, and testing ARDL as an alternative to ECM for greater robustness. Practically, these results recommend that Bank Indonesia prioritize GDP growth stability in monetary policy design to anticipate fluctuations in M2 liquidity, while monitoring global uncertainty to optimize policy transmission.

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