IJEC
International Journal of Economics
https://ejournal.ipinternasional.com/index.php/ijec
e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

Analysis of Factors Affecting Broad Money of Five ASEAN Countries

Intan Bara Tiku[1], Abd. Rahim[2], Sri Astuty[3], Diah Retno Dwi Hastuti[4], Muhammad Syafri[5]
[1,2,3,4,5]Faculty of Economics and Business, Universitas Negeri Makassar
Email: intanbaratiku@gmail.com[1], abd.rahim@unm.ac.id[2], sri.astuty@unm.ac.id[3], diah.retno@unm.ac.id[4], muhammadsyafri@unm.ac.id[5]
Correspondence email: intanbaratiku@gmail.com
Article history: received February 20, 2025; revised February 26, 2025; accepted March 10, 2025

Abstract

This study evaluates the factors that influence the broad money of five ASEAN countries. Global economic uncertainty due to financial crises, geopolitical conflicts and pandemics has affected the region's economic stability. Central banks have a role in controlling broad money through monetary policy, but its effectiveness is affected by other factors such as GDP, interest rates and inflation. Moreover, the relationship between GDP growth, inflation, and interest rates with broad money is a major concern, as the trend of broad money growth in the 5 ASEAN countries continues to increase every year. The balance between broad money and price stability is crucial to prevent economic stress that could lead to a recession. Therefore, this study focuses on an in-depth analysis of the factors that influence money supply to help the government make decisions. The research sample consists of 100 data with five ASEAN countries, namely Vietnam, Indonesia, Thailand, Philippines and Malaysia with a time series of 2004-2023. This methodology uses a mixed approach, namely quantitative with secondary data from the World Bank & IMF with LSDV analysis. It was found that the adjusted r square value was 97%, which means that GDP, interest rates, and inflation used were able to explain the money supply of 5 ASEAN countries by 97% and 3% was influenced by other factors outside this study. GDP was found to have no significant effect while interest rates have a significant negative effect and inflation has a significant positive effect on the broad money of 5 ASEAN countries. The government is expected to better analyze the policies and actions taken, such as managing monetary policy wisely, especially in maintaining the stability of inflation and interest rates so that the money supply can be well controlled.

Keywords: Financial Statistics, Monetary, Money, Money Data, Role of Money.

INTRODUCTION

A nation can only develop and flourish if its economy is strong and steady (Kunwar, 2020); (Zhang, 2024). The dynamics of the global economy, in which international relations play a pivotal role in directing economic growth, are therefore inseparable from the process of economic development inside any given country (Permana, 2024). History shows that the global economy, including Asia and South Asia, has experienced various economic crises and significant financial challenges, often due to the lack of control mechanisms and knowledge to cope with each region's macroeconomic fluctuations (Kunwar, 2020).

In recent decades, the world has experienced at least four significant global financial crises: the 1987 stock market crash (Black Monday), the 1997 Asian financial crisis, the credit crisis the culminated with the collapsed of Lehman Borthers in 2008 (Kumar et al., 2021) which had a worldwide impact (Pandey, 2024), the impact of the Russia-Ukraine conflict on the stability of the global order (Salsabila & Muttaqin, 2023) and the impact of the 2020 *Covid-19* pandemic on the economic downturn followed by the global financial crisis (Serhii, 2021). Then declared by WHO on March 11, 2020 as global pandemic that has an impact throughout the world (Banda & Edriss, 2023), such as the UK (Das, 2023), including ASEAN which has a significant impact on the financial system (Cigdem & Orhan, 2022); (Kenevongphachanh et al., 2024).

ASEAN, which was formed in 1967, currently consists of 11 countries that seek to promote regional integrity in the fields of economy and trade as well as intergovernmental cooperation (Ungson & Soorapanth, 2022); (Aloia & Gugler, 2024). Daboh & Duramany-lakkoh (2023) as stated by (Alharbi et al., 2024), governments may attain economic stability by managing the money supply, which in turn requires an efficient and stable financial system. In addition, studies conducted in South Africa have shown that the money supply

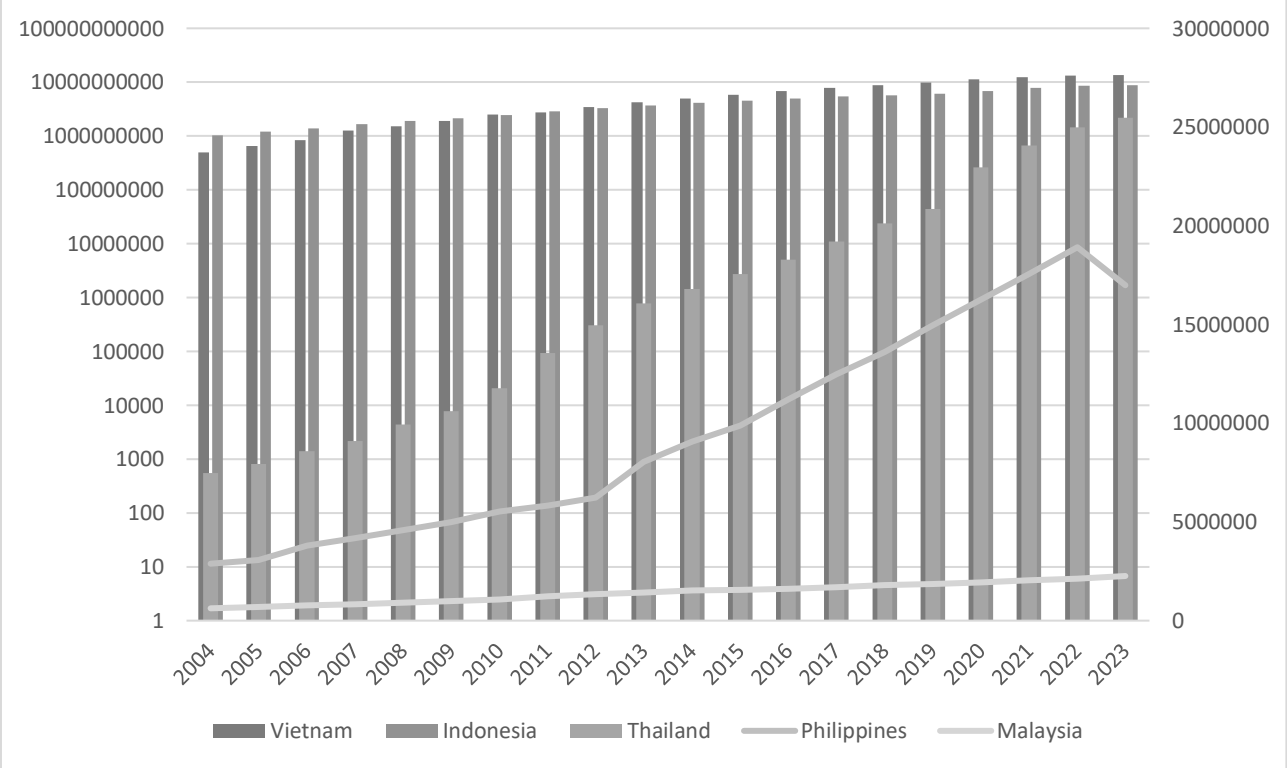
e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

is the single most important factor influencing price stability, indicating that monetary authorities should exercise more control (Buthelezi, 2023). Because it affects the value of money used at the service level, a steady money supply helps the nation react to challenging periods like the COVID-19 epidemic (Suid, 2021). This variable is both intriguing and sensitive to changes in the economy (Suoyai et al., 2018); (Permana, 2024).

Zhukov (2023) in his research in Russia, explained that the effectiveness of monetary stimulation methods with large-scale growth in the money supply (M2) is highly questionable. Excessive increases to the money supply have the potential to impact the economy in the long term by driving up prices beyond what is acceptable. Conversely, a recession will take place and society's well-being will worsen if the money supply growth rate is too low (Anwar et al., 2023). Hence, there is a need for an assessment of the money supply that helps policymakers in their analysis to reduce or increase the money supply that ultimately affects the economy (Kunwar, 2020) as well as as focus on baking policy (Jathurika, 2022).

The outlook for the world economy in 2022 is a mix of opportunities and challenges. Rising prices of basic commodities, fluctuations in global financial and monetary markets are complicating the economic recovery. Therefore, money supply reduction and interest rate will be the main trends in 2022 (Nguyen et al., 2022).

Figure 1 Broad Money Data



Source: Data processed with Ms. Excel, 2025

Based on Figure 1 above, it can be seen that the growth trend of broad money in five ASEAN countries; Vietnam, Indonesia, Thailand, Philippines and Malaysia continue to increase every year. According to Nguyen et al., (2022) the increase in broad money needs to be watched closely, because the growth of the broad money must be stable so as not to trigger an economic downturn, in line with Suoyai et al., (2018) who argued that changes in broad money are the main determinants of other economic indices. This is the difficulty faced by monetary policy management in the current period, especially at the Central Bank of Vietnam.

It is crucial to maintain solutions and policies to support economic recovery. To stabilize financial markets and assure economic stability, nations in these situations use tools like monetary policy (Cigdem & Orhan, 2022). Although other factors may affect the money supply, central banks do have the power to affect it. Therefore, economic considerations impact it rather than policymakers (Serhii, 2021). The fact that the growth of broad money in ASEAN-5 countries continues to increase raises the question of what influences the growth of broad money in the Southeast Asian region.

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

According to Dinh (2019); Suid (2021) the belance between broad money velocity and GDP growth is considered a long-term solution to minimize the pressure on the money supply that causes an increase in the price of goods and services. Meanwhile, GDP growth for ASEAN-5 countries shows a fluctuating trend. Another factor that is suspected to influence the money supply is interest rateOne potential long-term strategy for reducing inflationary pressures on the money supply is to strike a balance between broad money velocity and GDP growth. At the same time, the trajectory of GDP growth for the ASEAN-5 nations is not constant. It is also believed that interest rates have an effect on the money supply. After the global financial crisis, the world economy experienced a major recession (Czudaj, 2020). Historically one of the main mechanisms used by central banks to implement monetary policy is to influence interest rates (Dinh, 2019); (Mumtaz & Smith, 2020), to regulate and guide the economy (Alalade et al., 2023). So central banks must carefully consider adequate monetary policy in a timely manner to avoid negative impacts or shocks to the economy (Dinh, 2019). In general, interest rates affect the amount of money in circulation at banks, where an increase in interest rates tends to reduce the amount of money in circulation, while a decrease in interest rates encourages an increase (Wijaya et al., 2021).

Other variables such as inflation according to Anindita et al., (2024) dan Keynes et al., (2023) inflation is one of the macroeconomic indicators that play an important role in determining economic stability Le Ha & Finch, (2022) found that an increase in inflation trends makes policies related to money supply less effective. Inflation also has a significant influence on funds originating from the public, such as deposits in commercial banks. Therefore, when inflation increases, monetary authorities will usually issue policies by adjusting interest rates to cope with inflation (Rahman, 2023). So that in the end it will have an impact on the money supply in the community. From this explanation, the researcher is interested in examining more deeply and compiling a study entitled "Analysis of Factors Affecting the Broad Money of Five ASEAN Countries".

Literature Review

Money Supply

Changes in the money supply may have a major influence on a number of macroeconomic indicators, and it is a key factor in determining the economy's overall success (George et al., 2018). In the economic literature, according to (Fisher, 1930) money supply is often classified into several categories: M1: Includes currency (notes and coins) and demand deposits (current account balances) held by the general public; M2: Includes M1 plus time deposits and deposit balances at banks; M3: The broadest definition, covering M2 plus all time deposits and savings balances in banks and non-bank financial institutions, including those denominated in foreign currencies.

A key tenet of Irving Fisher's classic theory of monetary quantity is that the sum of the money supply multiplied by the velocity of money turnover is equal to the sum of the price level multiplied by the number of transactions. Changing the money supply may impact inflation and overall price levels, as seen by the equation MV=PT. Fisher underlined that stability in the money supply is one of the key elements in maintaining economic equilibrium (Fisher, 1930).

Gross Domestic Product

In developing countries, often referred to as the third world, the concept of gross domestic product is the most important concept compared to other concepts of national income. A nation's GDP is the monetary worth of all final products and services produced inside its borders over a certain period (Raul, 2022). The value of all the products and services produced within a nation over a certain time period is called its gross domestic product (GDP). However, while economic growth is important, there are some challenges that need to be addressed. Too rapid growth without proper management can lead to inflation, greater income inequality, or environmental damage due to overexploitation of natural resources. Therefore, inclusive and sustainable economic growth is necessary to ensure that the fruits of economic growth are enjoyed by all.

Irving Fisher's quantity theory of money, which he developed using the equation MV=PQ or MV=PQ, offers a methodical analysis of the correlation between GDP and M. In this context, the letters M, V, P, and Q represent the total money supply, money circulation velocity, price level, and real production, respectively. A measure of the total prosperity of an economy, the gross domestic product (GDP) is computed as PQ. Assuming V is static in the near term, we can see that a shift in M directly affects PQ. So, a rise in the money supply (M)

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

may boost GDP in two ways: by driving up prices (P) or by increasing real production (Q). An increase in the money supply may enhance aggregate demand and real production in cases when the economy is not functioning at full capacity, such when unemployment is present. The impact of a rise in M is mostly seen in price rises when the economy is operating at full capacity.

Conversely, if GDP increases due to real output growth or inflation, the money supply (M) must be adjusted to support transactions in the economy. If the money supply does not increase as GDP increases, then the velocity of money circulation (V) must increase to maintain equilibrium, which means money will circulate faster. If this velocity is not flexible enough, a shortage of money supply may hamper economic activity. Hence, there is a mutual interaction between GDP and money supply; an increase in GDP requires an adjustment in money supply to support transaction volume, while changes in money supply can affect GDP through price and real output mechanisms. The importance of stability in money supply management is key to promoting sustainable economic growth without generating uncontrolled inflation.

Interest Rate

According to Rahman (2023) The rate at which a lender charges interest on borrowed funds is known as the interest rate. Percentages of interest rates over one year are the most common way to represent them and (Mishkin, 2019) interest rates are defined as the fee charged for borrowing money or the return earned by the lender.

Interest rates significantly affect the money supply (M) via money demand and economic choices, according to the quantity theory of money, which is stated as MV=PQ. Borrowing money gets more expensive when interest rates rise, therefore businesses and people cut down on their credit use. As a result, this can reduce the money supply as fewer transactions are financed through loans. Conversely, a fall in interest rates makes borrowing costs lower, encouraging an increase in credit and investment, which in turn increases the money supply in the economy. In addition, interest rates also affect the velocity of money circulation (V).

At high interest rates, people tend to save less cash and prefer to invest in financial instruments that offer higher returns. This accelerates the circulation of money. Conversely, low interest rates may make people prefer to keep money in cash, which slows down the velocity of money circulation. This effect suggests that changes in interest rates affect not only M directly but also V indirectly, thus impacting other variables in the MV=PQ equation, such as the price level (P) and real output (Q). In the long run, the classical view argues that the impact of interest rates on M will affect P, while real output (Q) remains constant if the assumption of full employment is met.

Inflation

Inflation is defined as the process of persistent price increases and a decline in purchasing power (Höflmayr, 2022). A smaller amount of money can now purchase fewer products and services due to this phenomena reducing the buying power of money. The two most common ways to measure inflation are by looking at price indices, such as the CPI and the PPI. Inflation may have widely varying effects. Since people and companies want to spend money rather than keep it, a moderate or low inflation rate may stimulate investment and spending, which in turn boosts the economy. But excessive and unchecked inflation may erode buying power, damage savings, and sow economic instability.

Raising interest rates is one kind of monetary policy that central banks employ to control inflation by decreasing the money supply. Keeping prices stable and inflation under control would help the economy function smoothly.Money supply (M) is directly related to price level (P), according to the quantity theory of money (MV=PQ), assuming that both real output (Q) and the velocity of money circulation (V) stay constant in the near run. A continuous increase in prices, or inflation, occurs when the money supply grows without corresponding increases in actual production. In this context, if M increases while Q remains fixed or grows more slowly, then P will rise to balance the equation, resulting in inflation.

To counteract inflation driven by cost-push or built-in inflation expectations, the central bank might use contractionary monetary policy measures, such interest rate hikes, to decrease M and curb inflationary pressures. Money supply, price level, and real production are all interrelated, but the speed of money circulation (V) isn't always constant because of psychological and institutional variables including shifts in public

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

confidence and economic expectations. As a result, although the theory does a good job of explaining inflation over the long term, the intricate dynamics of the economy make it difficult to forecast the link in the near term.

METHOD

This research falls into the category of quantitative research because it involves the calculation of numbers or numbers that can be measured objectively using standardized tools. The quantitative research writing technique starts from a broader description of the problem, as well as the data used as a starting point of thought that directs researchers to a more specific problem, while according to the level of explanation, this research is classified as descriptive research. The population in this study is all data on the level of GDP, interest rates, inflation and broad money of ASEAN countries. The sample in this study is the GDP, interest rates, inflation rates and broad money of ASEAN-5 for the period 2004-2023. Data obtained from the World Bank and IMF. The determination of the sample in this study was carried out using one of the Non-Probability Sampling techniques, namely purposive sampling. This research only takes part of the population.

The proposed criteria are: 1) included in ASEAN member countries and are developing countries; 2) availability of data on inflation rates, interest rates, GDP, and broad money for the period 2004-2023; 3) including the five countries with the highest broad money. Econometric tools are needed to perform quantitative analysis. In this study using the Least Square Dummy Variable analysis tool (Rahim et al., 2023); (Hastuti et al., 2021), considering that one of the frameworks of this study is to see the differences in each country intercept. Ordinary Least Square is one part of the least squares method and is often just called least squares. This method is often used by scientists or researchers in the process of calculating a simple regression equation. The best linear unbiased estimator of the regression model derived using the ordinary least squares approach, often known as OLS regression, may give blue estimated regression coefficients when using regression. This is achieved by adhering to a few fundamental assumptions.

Dummy variables are variables with a nominal scale, such as variables of gender, skin color, religion, ethnicity, and so on. In regression analysis, this dummy variable uses code number 1 for observations that fall into one category and code number 0 for observations that fall into other categories. Regression models with dummy variables have characteristics, namely:

a. Values of 1 and 0 for two categories such as (D =1 for Indonesia, D = 0 for Malaysia), or D = 0 for Indonesia, D = 1 for Malaysia can also be determined.
b. The group, category or classification that is assigned a value of zero is often referred to as the base or control category.
c. The given coefficient or dummy variable D can be called the differential intercept coefficient because it states how much the value for the intercept of the category that takes value one differs from the intercept coefficient of the base category.

Based on this, the Least Square Dummy Variable function can be used:

$$\boldsymbol{BMASEAN\_5_{i,t} = \beta_0 + \beta_1\, GDP_{i,t} + \beta_2\, IR_{i,t} + \beta_3 Inf_{i,t} + DVie_{i,t} + DInd_{i,t} + DTha_{i,t} + DFil_{i,t} + DMly_{i,t} + e_{i,t}} \quad \textbf{(3)}$$

In the form of a log equation, the equation in this model uses a double log function to obtain elasticity which can be seen from the coefficient of each variable:

$$\boldsymbol{LogBMASEAN\_5_{i,t} = \beta_0 + \beta_1\, GDP_{i,t} + \beta_2\, IR_{i,t} + \beta_3 Inf_{i,t} + DVie_{i,t} + DInd_{i,t} + DTha_{i,t} + DFil_{i,t} + DMly_{i,t} + e_{i,t}} \quad \textbf{(4)}$$

Description:

$BM_{ASEAN-5}$ = broad money ASEAN-5 (Vietnam, Indonesia, Thailand, Philippines and Malaysia in billion USD)

β_0 = constant

$\boldsymbol{\beta_1\beta_2\beta_3}$ = estimated parameter

GDP = gross domestic product (%)

IJEC
International Journal of Economics
https://ejournal.ipinternasional.com/index.php/ijec
e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

IR = interest rate (%)

INF = inflation (%)

D_{Vie} = 1 if the object is Vietnam, and 0 for others

D_{Indo} = 1 if the object is Indonesia, and 0 for other

D_{Tha} = 1 if the object is Thailand, and 0 for other

D_{Phi} = 1 if the object is Philippines, and 0 for other

D_{Mal} = as a control variable

i = unit

t = period

$e_{i,t}$ = eror term for the i-th unit

Hypothesis testing makes use of a variety of methods to investigate the effect of independent factors on the dependent variable in a regression model. One method to show that the independent factors affected the dependent variable in a statistically significant way is the f test. Assuming $F_{statistic} > F_{table}$, we may dismiss H_0 and embrace H_1. Consequently, the independent variables have an impact on the dependent variable simultaneously. In the event that the Fstatistic falls below the F_{table}, we will accept H_0 and reject H_1. It follows that the dependent variable is unaffected by any of the independent variables at the 5% level of significance. My working theory is that this formula may be used to get the $F_{statistic}$:

$$\mathbf{F = \frac{R^2(k-1)}{(1-R^2)(n-k)}} \quad \text{..... (1)}$$

Description:

R^2 = Coefficient of determination

n = Total population

k = Total sample

The hypothesis test contains both the f test and the t test, which are used to find out whether the dependent variable is significantly affected by each independent variable separately. The tstatistic and ttable are compared at a significance level of 1%, 5% & 10% to carry out this test. The null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected if the $t_{statistic}$ is less than the t_{table}. This indicates that the independent factors do not significantly affect the dependent variable. If, on the other hand, $t_{statistic} > t_{table}$, we may reject H_0 and accept H_1, indicating that the independent factors significantly impact the dependent variable.

$$\mathbf{t = \frac{\beta i}{se\ (\beta i)}} \quad \text{..... (2)}$$

Description:

βi = Regression coefficient

se (βi) = Standard error of regression coefficient

To demonstrate the impact of the independent variable on the dependent variable, you need the coefficient of determination. To predict the strength of the relationship between the independent and dependent variables, one uses the R-squared or coefficient of determination. You can find the value of R2 between zero and one, with the interval being 0 < R2 < 1. An increased coefficient of determination suggests that the independent variable explains a greater amount of the variance in the dependent variable. The greater the number of independent variables that impact the dependent variable, the higher the R2 value will be. Adjusted R^2 is used to complement the weaknesses of R^2 because adjusted R^2 already considers the number of sample data funds the number of variables use. Adjusted R^2 is formulated as follows:

IJEC
International Journal of Economics
https://ejournal.ipinternasional.com/index.php/ijec
e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

$$Adjusted\ R^2 = 1 - (1-R^2)\frac{n-1}{n-k} \quad \text{.....(3)}$$

Keterangan:
R^2 = Coefficient of determination
k = Total of independent variables
n = Total of samples

RESEARCH RESULTS AND DISCUSSION

Analysis in the study of factors affecting broad money in five ASEAN countries, namely using Least Square Dummy Variables. Panel data, specifically a mix of time series covering 2004–2023, and cross-sectional data from five ASEAN nations (Vietnam, Indonesia, Thailand, Philippines, and Malaysia), are used to establish the model. One well-known assumption test is the multicollinearity test, which looks for evidence of interdependence between independent variables in a study's regression model. It is possible to identify the existence of multicollinearity symptoms by examining the VIF (Variance Inflation Factor) and Tolerance values. If the VIF value is less than 10, then the model is said to meet the free multicollinearity assumption. Table 1 shows that all three of these variables GDP, interest rate, and inflation—have VIF values lower than 10. Therefore, multicollinearity is not present. On top of that, we ran an autocorrelation test to see whether the confounding errors in period t and period t-1 in our linear regression model were related. It is common for time series data to exhibit autocorrelation. If a model does not have issues with autocorrelation, it is deemed excellent. According to the data in Table 1, the Probability Chi-Square (2) value is higher than α, namely 0.57 > 5%. As a result, autocorrelation is not an issue for the model.

Table 1 Least Square Dummy Variable Estimation Results

Variabel Bebas	TH	β	Stand. Eror	t_{hitung}	t_{tabel}	Prob.	VIF
GDP	+	0.0045^{ns}	0.007746	0.585064	1.984	0.5599	1.451910
Interest Rate	-	-0.0319***	0.009727	-3.281870	1.984	0.0015	3.445077
Inflation	-	0.0192*	0.010491	1.838832	1.984	0.0692	1.385452
Vietnam Dummy	+	0.4819***	0.012157	39.64312		0.0000	2.385591
Indonesia Dummy	+	0.4726***	0.012158	38.87235		0.0000	2.386046
Thailand Dummy	+	0.1447***	0.010603	13.65367		0.0000	1.814551
Philippines Dummy	+	0.1351***	0.010520	12.84842		0.0000	1.786391
Konstanta							7.2175
Adjusted R-Squared							0.9709
Fhitung							473.319
Ftabel							2.70
Prob. F_{hitung}							0.0000
Prob. Chi-Square (2)							0.57
n							100

Source: Eviews 10 data processing results
*** = Significant at 1% (0.01) eror level, or 99% confidence level
* = Significant at 10% (0.1) eror level, or 90% confidence level
ns = not significant
ES = expectation sign

IJEC
International Journal of Economics
https://ejournal.ipinternasional.com/index.php/ijec
e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

Variance Inflation Factor (VIF) value of the GDP, interest rate, and inflation variables are each below 10. Thus it can be said that there is no multicollinearity. Meanwhile, Prob. Chi-Square (2) is greater than α, namely 0.57 > 5%. Thus it can be said that the model does not experience autocorrelation problems.

Based on the estimation results in Table 1, the Least Square Dummy Variable equation can be written as follows: $\boldsymbol{LogBMASEAN\_5_{i,t} = 7.2175 + 0.0045GDP_{i,t} - 0.0319IR_{i,t} + 0.0192Inf_{i,t} + 0.4819Vie_{i,t} + DInd_{i,t} + DTha_{i,t} + DFil_{i,t} + DMly_{i,t} + e_{i,t}}$ **.....(4)**

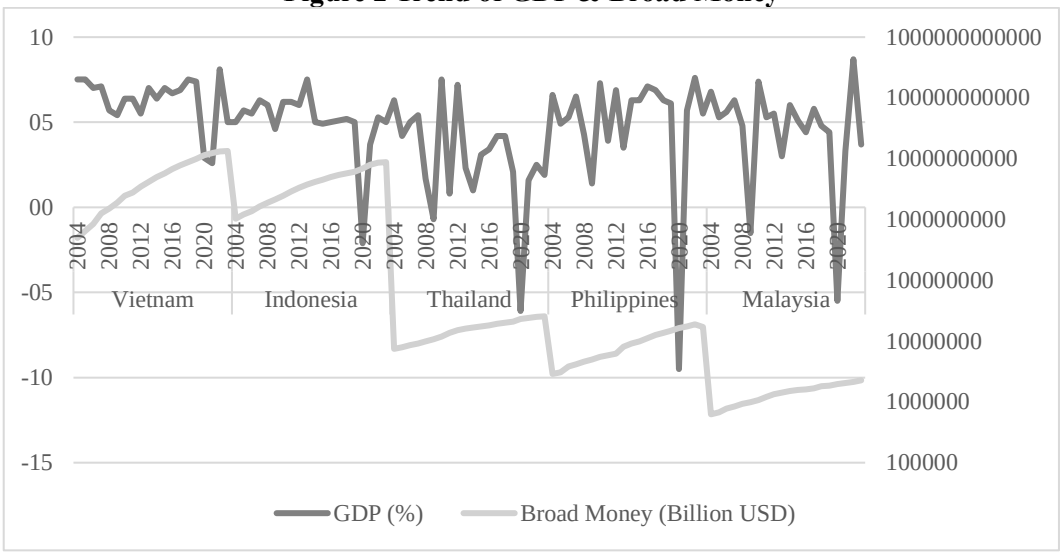
Based on the estimation results in Table 1, a constant of 7.2175 billion dollars is obtained with an individual coefficient for Vietnam of 0.4819 billion dollars. So that when the independent variables in each model no increase or decrease (constant) then the broad money will increase by 6.7356 billion dollars. With a probability of 0.00 < 1%, this means that the Vietnam dummy has a significant effect on the broad money. Meanwhile, the results of the analysis of the individual coefficient of Indonesia is 0.4726 billion dollars. So that when the independent variables in each model no increase or decrease (constant) then the broad money will increase by 6.7449 billion dollars. With a probability of 0.00 < 1%, this means that the Indonesian dummy has a significant effect on the broad money. The individual coefficient of Thailand is 0.1447 billion dollars. So that when the independent variables in each model have no increase or decrease (constant), the broad money will increase by 7.0728. With a probability of 0.00 < 1%, this means that the Thai dummy has a significant effect on the broad money and finally the results of the analysis above the individual coefficient of the Philippines is 0.1351. So that when the independent variables in each model there is no increase or decrease (constant) then the broad money will increase by 7.0824 billion dollars.

Also, the probability value of $F_{statistic}$ is 0.00 < 1%. These findings form the basis of the f-simultaneous test. Thus, the acceptance of Hı demonstrates that the broad money in ASEAN-5 nations is significantly impacted by GDP, interest rates, and inflation all at once. In addition to the f test, the hypothesis test also includes the t test (partial), based on the test results in Table 1, the results can be interpreted that the interest rate with a prob value of 0.0015 < 1% with a coefficient of -0.0319 is an independent variable that has a significant negative effect and the inflation variable with a prob value of 0.0692 < 10% with a coefficient of 0.0192 is an independent variable that has a significant positive effect. The independent factors that do not impact the broad money in ASEAN-5 are the GDP variable with a prob value of 0.5599 > 10%.

An indicator of model precision, the coefficient of determination measures the extent to which an independent variable affects a dependent variable; this impact may take values between 0 and 1, or 1% and 100%. By examining the corrected R square, the results of the coefficient of determination test are shown in Table 1. Table 1 shows that the study's model was very accurate (Adjusted R Square = 0.97) in its assessment of the variables that affect the broad money of the ASEAN-5 countries; this indicates that these variables account for 97% of the variation in the broad money of the ASEAN-5 countries, while other factors account for the remaining 3%.

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

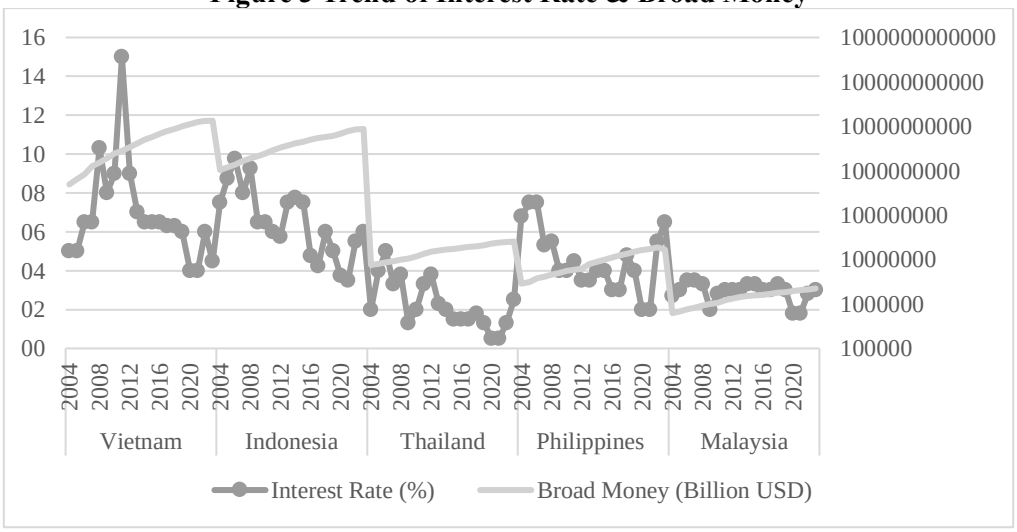
Figure 2 Trend of GDP & Broad Money



Source: Data processed with Ms. Excel, 2025

This study found that Gross Domestic Product has no significant effect on broad money of five ASEAN countries. Contrary to the findings of Abakpa & Panotani (2018) and Ifionu & Akinpelumi (2015) which state that GDP has an effect on broad money. However, this result is in line with the study of Harahap & Hafizh (2020). With an average GDP in the period 2004-2023 in five ASEAN countries 4.7%, with the percentage of each country, namely Vietnam by 6.9%, Indonesia by 5.1%, Thailand by 2.9%, the Philippines by 4.9% and Malaysia by 4.5% while the average broad money in the same period reached 1,992,828,494 billion dollars, the average GDP figure is not able to explain changes in broad money in the five ASEAN countries. Thus, this study shows that although a high GDP is expected to support stable economic growth, especially regarding broad money, the policy is not always effective. This could be due to various other factors at play, such as monetary policy implemented by the central bank, interest rates, as well as external factors such as capital inflows and outflows. Lowest percentage in 2009 with a value of 1.8% due to the collapse of Lehman Brothers in September 2008 which then became a global crisis, then in 2013 to 2014 which was influenced by fluctuations in global commodity prices and decreased demand in the international market and in 2020 with a percentage of -4.1% due to the Covid-19 pandemic.

Figure 3 Trend of Interest Rate & Broad Money

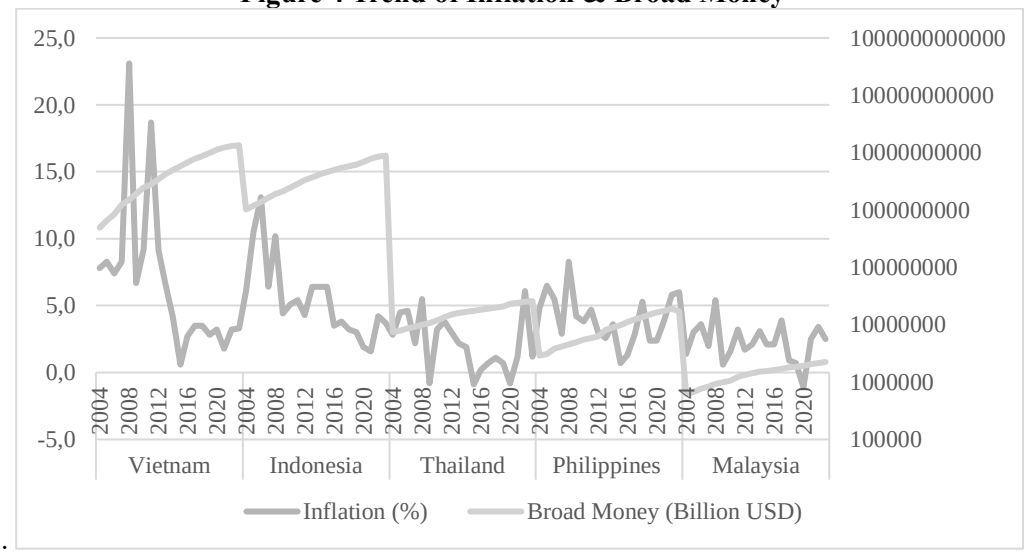


Source: Data processed with Ms. Excel, 2025

IJEC
International Journal of Economics
https://ejournal.ipinternasional.com/index.php/ijec
e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

This study also shows that interest rates has a significant negative effect on broad money of five ASEAN country. This result is in line with the findings of He, (2017) showing that interest rate affects the broad money in this region. With an average interest rate in the period 2004-2023 in five ASEAN countries of 4.6%, with the percentage of each country, namely Vietnam by 6.9%, Indonesia by 6.5%, Thailand by 2.3%, the Philippines by 4.5% and Malaysia by 2.9% while the average broad money in the same period reached 1,992,828,494 billion dollars. The interest rate itself is the rate paid by the borrower for the use of money borrowed from the lender. If interest rates increase, the interest rate paid by borrowers also increases, this tends to make people reduce loans. This has an impact on decreasing the broad money. Therefore, interest rates have a negative influence on the amount of money in circulation. The highest percentage of interest rates occurred in 2011 in Vietnam with 15%, while in Indonesia it was only 6%, the Philippines at 4.5%, Thailand at 3.3% and Malaysia at 3%. This is because in 2011, Vietnam experienced very high inflation reaching 18.7% at the end of the year caused by a surge in food prices and loose monetary policy in the previous year, 2008-2010. To control inflation, the Central Bank of Vietnam raised interest rates by 15%. Meanwhile, four other countries namely: Indonesia, Thailand, the Philippines and Malaysia have more stable economic conditions, lower inflation and more prudent monetary policies, so interest rates in these four countries are much lower than Vietnam.

Figure 4 Trend of Inflation & Broad Money



Source: Data processed with Ms. Excel, 2025

On the other hand, it was found that inflation has a significant positive effect on the broad money of five country, these results are in line with the study of Parulian & Fuji (2024) showing that inflation affects the broad money in Indonesia. Inflation, which reflects a sustained increase in the price of goods and services, tends to weaken the effectiveness of the broad money and has the potential to cause economic instability. With the average inflation in the period 2004-2023 in five ASEAN countries, namely 4.1%, with the percentage of each country, namely Vietnam by 6.7%, Indonesia by 5.5%, Thailand by 2.1%, Philippines by 3.9% and Malaysia by 2.2% while the average broad money in the same period reached 1,992,828,494 billion dollars. The impact of inflation on broad money of five ASEAN countries was found to have a significant positive effect on broad money. Inflation itself is a tendency for the prices of goods and services to rise in general and persistently. An increase in inflation will increase the money supply which can contribute to economic instability. The highest percentage of inflation occurred in 2008 in Vietnam with 23.1%, followed by Indonesia with only 8.1%, the Philippines with 7.6%, Indonesia with 5.3% and Thailand with 2.5%. This is because in that year there was a global financial crisis in 2007-2008, which started in the United States due to the collapse of the subprime mortgage housing market which caused turmoil in the world financial sector. That year also saw the highest increase in oil prices. Specifically, Vietnam experienced rapid credit expansion after joining the WTO in 2007. The Vietnamese government was too aggressive in providing credit to businesses which led to economic overheating. On the other hand, Vietnam's currency depreciated, making imported goods more

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

expensive and adding to inflationary pressures. This was also exacerbated by the policy response of Vietnam's central bank which was not quick enough to raise interest rates, when finally interest rates were raised the impact was only felt a few years later.

CONCLUSIONS

Based on the results of the study, it can be concluded that interest rates have a significant negative effect and inflation has a significant positive effect on money supply. On the other hand, it was found that GDP does not have a significant influence on broad money in five ASEAN countries.

Given the limitations in this study, suggestions for future improvement and development include two main aspects: first, for future researchers, it is recommended to consider additional variables such as exchange rates and foreign direct investment (FDI), extend the observation period, and use a more diverse research approach to obtain a more comprehensive analysis; Second, for the government, the suggested economic policies are tailored to the characteristics of each ASEAN country, namely Vietnam needs to implement a tight monetary policy to control credit expansion and diversify economic sectors, Indonesia is advised to encourage industrial downstreaming and strengthen food and energy price stability, Thailand needs to increase domestic consumption and technology-based investment, the Philippines should strengthen financial system stability and manufacturing industry competitiveness, while Malaysia can expand the digital financial sector, maintain monetary policy flexibility, and increase fiscal and monetary transparency to attract investors.

REFERENCES

Abakpa, A., & Panotani, P. A. (2018). Analysis of the Determinants of Money Supply in Nigeria (1981-2015). *International Journal of Scientific Research*, *3*(2), 21–38.

Alalade, S., Ogbebor, P., & Ademola, O. (2023). Interest Rates , Money Supply , Institutional Quality, and Investment Growth in Nigeria : Empirical Investigation from Autoregressive Distributed Lag Model. *International Journal of Economics, Business and Management Research*, *7*(11), 285–306. https://doi.org/10.51505/IJEBMR.2023.71118

Alharbi, A., Sbeiti, W., & Ahmad, M. (2024). Money Supply , Banking and Economic Growth : A Cross Country Analysis. *International Journal of Economics and Financial Issues*, *14*(2), 234–242. https://doi.org/10.32479/ijefi.15749

Aloia, F. D., & Gugler, P. (2024). Impact of Covid - 19 on the Economic Growth of ASEAN Countries : Convergence or Divergence ? *International Journal of Global Business and Competitiveness*, *19*(2), 83–95. https://doi.org/10.1007/s42943-024-00098-2

Anindita, R. T., Putra, A. R., Rohimallah, H. M., & Desmawan, D. (2024). Analysis of the Effect of Inflation and Investment on Unemployment in Yogyakarta in 2019-2023. *International Journal of Education, Social Studies, And Management (IJESSM)*, *4*(2), 300–309. http://lpppipublishing.com/index.php/ijessm

Anwar, A. I., Fattah, S., & Nirmala. (2023). Analysis of the Effect of Non-cash Payment Transactions, Inflation, Interest Rate on the Money Supply in Indonesia During the Pandemic Covid-19. *In 7th International Conference on Accounting, Management and Economics (ICAME-7 2022).*, 742–752. https://doi.org/10.2991/978-94-6463-146-3

Banda, F. M., & Edriss, A. (2023). How Did Covid-19 Affect the Structural Relationship between Exchange Rates and Money Supply ? Evidence from Malawi. *International Journal of Economic and Financial Issues*, *13*(1), 199–205. https://doi.org/10.32479/ijefi.13679

Buthelezi, E. M. (2023). Impact of Money Supply in Different States of Inflation and Economic Growth in South Africa. *Economies*, *11*(2), 63. https://doi.org/10.3390/economies11020064

Cigdem, G., & Orhan, O. Z. (2022). Relationship Between Covid-19 And Money Supply In Turkey: Evidence From ARDL Bounds Testing Approach. *Journal of Economics, Finance and Accounting*, *9*(2), 82–94. https://doi.org/10.17261/Pressacademia.2022.1568

Czudaj, R. L. (2020). Is the negative interest rate policy effective ? *Journal of Econimic Behavior and Organization*, *174*(September 2014), 75–86. https://doi.org/10.1016/j.jebo.2020.03.031

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

Daboh, F., & Duramany-lakkoh, E. K. (2023). Performance Evaluation of The Sierra Leone Banking Sector Using Camel Rating Framework. *Journal of Applied Finance & Banking*, *13*(3), 1–18. https://doi.org/10.47260/jafb/1331

Das, R. (2023). Inflation and UK Economy in 2023. *International Journal of Research Publication and Reviews*, *4*(7), 78–85. https://doi.org/10.55248/gengpi.4.723.47663

Dinh, D. Van. (2019). Analysed Money Supply And Inflation Evidence From Vietnam Economy. *Advances and Applications in Statistics*, *56*(2), 125–142. https://doi.org/10.17654/AS056020125

Fisher, I. (1930). The Theory of Interest, as determined by Impatience to Spend Income and Opportunity to Invest it. *Online Library of Liberty*.

George, C., Tema, L., & Boloekeye, M. (2018). *Impact of Money Supply on Some Macroeconomic Variables on The Nigerian Economy*. *2*(5), 32–46. https://doi.org/10.29226/TR1001.2018.32

Harahap, M. A., & Hafizh, M. (2020). Pengaruh Pembiayaan Bank Syariah, Suku Bunga dan GDP Terhadap Uang Beredar di Indonesia. *Jurnal Ekonomi Islam*, *1*(1), 64–86.

Hastuti, D. R. D., Darma, R., Salman, D., Santosa, S., & Rahmadanih. (2021). Regression Application On The Farmers ' Household Consumption Expenditure Model Regression Application On The Farmers ' Household Consumption Expenditure Model. *Turkish Journal of Computer and Mathematics Education*, *12*(4), 593–599.

He, Y. (2017). A Study on the Relationship between Money Supply and Macroeconomic Variables in China. *Mediterranean Journal of Social Sciences*, *8*(6), 99–107. https://doi.org/10.1515/mjss-2017-0046

Höflmayr, M. (2022). *Inflation explained : What lies behind and what is ahead ? August*.

Ifionu, E., & Akinpelumi, O. F. (2015). Macroeconomic Variables and Money Supply : Evidence from Nigeria. *An International Multidisciplinary Journal*, *9*(4), 288–307.

Jathurika, G. M. (2022). The Impact Of Banking Sector Stability On Economic Growth- Evidence From Sri Lankia For The Post War Period. *International Research Journal of Modernization in Engineering Technology and Science*, *4*(12), 945–950. https://doi.org/10.56726/IRJMETS32275

Kenevongphachanh, L., Chanthavong, I., Douangphachanh, S., Thi Nguyen, H. T., & Sengsouriya, P. (2024). The Impact Of The Covid-19 Pandemic On Inflation The Case Of ASEAN-6 Economies. *Tra Vinh University Journal Of Science*, *14*(3), 1–16. https://doi.org/10.35382/TVUJS.14.3.2024.2

Keynes, B., Tarmizi, H. B., & Yuliaty, T. (2023). Analysis of the Influence of Economic Growth , Inflation and Unemployment on Poverty in the Regencies / Cities of North Sumatra Province. *International Journal of Research and Review*, *10*(7), 10–123. https://doi.org/10.52403/ijrr.20230717

Kumar, K., Corresponding, J., & Dubey, K. K. (2021). Impact of The Global Financial Crisis on The Indian Economy. *International Journal of Accounting, Business and Finance*, *1*(1), 15–23.

Kunwar, K. B. (2020). Money supply and economic growth of Nepal : ARDL approach 1. *Contemporary Research: An Interdisciplinary Academic Journal*, *4*(1), 76–94. https://link.lens.org/dkHh1STQMqj

Le Ha, T., & Finch, N. (2022). Effects of trend inflation on monetary policy and fiscal policy shocks in Vietnam. *Journal of Economics and Development*, *24*(2), 158–175. https://doi.org/10.1108/JED-04-2021-0052

Mishkin, F. S. (2019). *THE ECONOMICS OF MONEY , BANKING , AND The Pearson Series in Economics*.

Mumtaz, M. Z., & Smith, Z. A. (2020). Empirical examination of the role of fintech in monetary policy. *Pacific Economic Review*, *25*(5), 620–640. https://doi.org/10.1111/1468-0106.12319

Nguyen, V. A. T., Hoang, T. T., & Le, D. A. (2022). A Study On The Relationship Between Money Supply and Inflation in Vietnam From 2005 to 2021. *Accounting*, *8*(4), 395–402. https://doi.org/10.5267/j.ac.2022.7.001

Pandey, S. (2024). Financial Crises and Their Impacts on Global Economies: Lessons from the 2008 Financial Crisis. *International Journal for Research Publication and Seminar*, *15*(2), 150–156. https://doi.org/https://doi.org/10.36676/jrps.v15.i2.19

e-ISSN: 2961-712X
Vol. 4 Issue 1, January-June 2025
DOI: **10.55299/ijec.v4i1.1291**

Parulian, T., & Fuji, U. (2024). Pengaruh Inflasi , Tingkat Suku Bunga , dan E-Money Terhadap Jumlah Uang Beredar di Indonesia. *Jurnal Ekonomi & Ekonomi Syariah*, *7*(1), 1105–1116. https://doi.org/10.36778/jesya.v7i1.1535 Pengaruh

Permana, R. (2024). Analysis of Money Demand and Supply on International Trade In Five Asean Countries. *International Journal of Management Research and Economics*, *2*(2), 182–190. https://doi.org/https://doi.org/10.54066/ijmre-itb.v2i2.1789

Rahim, A., Hastuti, D. R. D., Astuty, S., & Kamaruddin, C. A. (2023). The Approach of Dummy Variable Regression with Exponential Function: An Estimated of the Marketing Margin of Fresh Marine Fish. *AIP Conference Proceedings*, *2798*(1), 1–8. https://doi.org/10.1063/5.0154328

Rahman, M. S. (2023). Effect of Lending Rate and Deposit Interest Rate on Inflation to the Economy of Bangladesh : An Assessment from 1990 to 2022. *International Journal of Science and Research (IJSR)*, *12*(9), 2053–2059. https://doi.org/10.21275/SR23924001937

Ramadhani, R., & Nugroho, W. (2019). Analysis of The Effect of Exchange Rates, E-Money and Interest Rates on The Amount of Money Supply and Its Implications on The Inflation Level in Indonesia 2012-2017 Period. *International Journal Of Accounting & Finance in Asia Pasific*, *2*(1), 1–17.

Raul, A. (2022). GDP. *International Journal for Research in Applied & Engineering Technology*, *10*(January), 1137–1138. https://doi.org/https://doi.org/10.22214/ijraset.2022.39968

Salsabila, S., & Muttaqin, M. I. (2023). Impact of Russia-Ukraine Conflict on Turkey ' s Economic Stability. *International Journal of Social Service and Research*, *03*(07), 1642–1652. https://doi.org/https://doi.org/10.46799/ijssr.v3i7.453

Serhii, S. (2021). How Excessive Endogenous Money Supply Can Contribute To Global Financial Crises. *Journal Banks and Bank Systems*, *16*(3), 23–33. https://doi.org/10.21511/bbs.16(3).2021.03

Suid, H. L. M. (2021). The Money Supply and Economic Activities in Malaysia. *International Journal of Management , Finance and Accounting*, *2*(2). https://doi.org/https://doi.org/10.33093/ijomfa.2021.2.2.2

Suoyai, E., A, A. F., Tema, L., & Boloekeye, M. (2018). Impact of Money Supply on Some Macroeconomic Variables on the Nigerian Economy. *International Journal of Scientific and Research Publications*, *8*(8), 607–617. https://doi.org/10.29322/IJSRP.8.8.2018.p8079

Ungson, G. R., & Soorapanth, S. (2022). Asia and the Global Economy The ASEAN blockchain roadmap. *Asia and the Global Economy*, *2*(3), 100047. https://doi.org/10.1016/j.aglobe.2022.100047

Wijaya, A. Y., Mukhlis, I., & Seprillina, L. (2021). Analisis Pengaruh E-money, Volume Transaksi Elektronik dan Suku Bunga Terhadap Jumlah Uang Beredar di Indonesia Pada Masa Sebelum dan Sesudah Pandemi COVID-19. *Jurnal Ekonomi, Bisnis Dan Pendidikan*, *1*(2), 135–145. https://doi.org/10.17977/um066v1i22021p135-145

Zhang, Y. (2024). Exploring Determinants of GDP Growth : The Significant Role of Religion. *International Journal of Social Science and Economic Research*, *9*(7), 2297–2319. https://doi.org/10.46609/IJSSER.2024.v09i07.014

Zhukov, P. . (2023). Money Supply, Inflation and Budget Deficit in Russia Compared to the United States. *Review of Business and Economics Studies*, *11*(4), 72–83. https://doi.org/https://doi.org/10.26794/2308-944X-2023-11-4-72-83