



---

## International Trade Activities as Drivers of Economic Growth: Macro Conditions

Fransisca Sestri Goestjahjanti<sup>✉</sup>, <sup>2</sup>Dewiana Novitasari, <sup>3</sup>Rahmawati

<sup>1,2</sup>Faculty of Business, Universitas Insan Pembangunan Indonesia

<sup>3</sup>Faculty of Economics and Business, Universitas Sebelas Maret

---

### Article Information    Abstract

---

#### History of Article

Received April 2024

Accepted June 2024

Published August 2024

---

#### Keywords:

Export, External Debt,  
International Trade, Money  
Supply

---

Global economic growth has hovered around 2-3% over the past decade, resulting in stagnant GDP growth for Indonesia at approximately 5%. This research aims to analyze the effects of macroeconomic conditions, specifically money supply (M2), foreign debt, and international trade activities, on Indonesia's GDP growth from 1994 to 2023. Utilizing a linear regression method with 30 observations, the study finds significant impacts of the independent variables on GDP growth. M2 influences GDP growth by 93%, foreign debt by 76.6%, and net exports by 92.3%. Simultaneously, changes in these variables explain 93.7% of the variation in Indonesia's GDP. The theoretical foundation of this research is built upon previous studies on economic growth and macroeconomic factors, emphasizing the role of monetary policy, debt management, and export diversification. The findings indicate that the careful management of M2 is critical to fostering investment and consumption, while excessive reliance on foreign debt may hamper long-term growth. Non-oil and gas exports significantly contribute to GDP, underscoring the importance of export diversification. The study concludes that these macroeconomic factors are vital for sustainable economic growth and improving welfare in Indonesia, and recommends policy interventions to optimize their effects.

## INTRODUCTION

Global economic growth has continued to slow down since the subprime mortgage crisis in the United States in 2008, with its effects still being felt even a decade later. Several countries experienced economic growth of only 2.8% (Kohler & Stockhammer, 2022). Similarly, after the COVID-19 pandemic began to subside, there were initial hopes that countries would recover and reorganize their economies to achieve an ideal growth rate of 5-6%. However, these hopes were dashed when the Russia-Ukraine war broke out in 2021, further impacting the global economy ((Derindere Köseoğlu *et al.*, 2024).

Despite the significant impact of these global events, there has been a lack of research specifically examining how macroeconomic factors such as money supply, external debt, and non-oil and gas exports directly affect Indonesia's GDP growth in the long term.

At the time of this research, the Israel-Hamas war in the Middle East was ongoing. This situation is relevant to the economic slowdown in Indonesia, as more than 75% of raw materials and capital goods are imported (Lituhayu *et al.*, 2024). Ukraine, which is a major supplier of raw materials for the food industry, is crucial to Indonesia's export markets, including Europe, the Middle East, and the United States, where demand has not yet fully recovered.

In 2023, global economic growth slowed by 0.2%, from 2.6% to 2.4%. This slowdown is also attributed to extreme weather conditions causing droughts, which have affected food security in many countries, including Indonesia. Indonesia's GDP declined from USD 275.96 billion to USD 259.40 billion in 2023. This decrease is likely to impact income distribution, which may not improve the welfare of the population as hoped.

Inflation also influences Indonesia's GDP, indicated by the circulation of money within society. Monitoring the money supply, known as M2, which includes demand deposits and savings, is a macroeconomic factor that can affect the investment climate and support economic growth in Indonesia. M2 has a positive

relationship with Indonesia's GDP; however, a ratio below 40% could lead to deflation (Farsia, 2021). Recent data shows the M2-to-GDP ratio as follows: 42.12% in 2017, 36.91% in 2018, 38.37% in 2019, 44.68% in 2020, 45.23% in 2021, 47.10% in 2022, and 46.41% in 2023, which could be subject to future analysis.

Indonesia's external debt has been increasing, with most government projects and the need for raw materials, intermediates, and capital goods being financed by external debt rather than foreign direct investment (FDI). Rising costs of obtaining these loans could pressure Indonesia's economic growth (Darmawan, 2022). Since the 1998 reform, Indonesian industries have increasingly relied on external debt, which burdens the economy in the long term. The ratio of external debt to GDP has consistently been above 30%, with figures of 37.64% in 2017, 36.39% in 2018, 33.37% in 2019, 37.90% in 2020, 34.76% in 2021, 34.47% in 2022, and 33.00% in 2023.

International trade activities, represented by net non-oil and gas exports, show an unstable ratio due to the high cost of imported production inputs. The ratio of non-oil and gas exports to Indonesia's GDP fluctuates yearly: 16.33% in 2017, 17.73% in 2018, 13.55% in 2019, 16.48% in 2020, 18.41% in 2021, 23.98% in 2022, and 21.03% in 2023. This decline is suspected to be due to difficulties in importing raw materials and intermediates amid war and extreme weather conditions. The government needs to reduce dependency on imported raw materials to attract foreign investors to produce these materials in Indonesia (Goestjahyanti, 2023).

International trade is crucial for any country, including Indonesia, as it stimulates national production growth and can lead to sustainable and significant exports. Key players in international trade include exporters, importers, multinational companies, and the government (Saleh Mejaya *et al.*, 2016).

Economic growth, as represented by GDP data and involving macroeconomic factors, is detailed in the table below, showing growth over the past 10 years from 2014 to 2023.

**Table 1.** M2, Foreign Debt, Export, and GDP Data 2014-2023

Year	M2	External Debt	Export	GDP
2014	4,076,000.0	3,649,000.3	1,815,756.1	10,688,792.0
2015	4,174,200.0	4,286,520.4	1,818,067.9	11,673,530.1
2016	5,303,300.0	4,251,244.5	1,774,639.0	12,546,336.0
2017	5,350,000.0	4,780,791.1	2,073,982.0	12,700,306.0
2018	5,533,700.0	5,456,440.8	2,358,100.5	14,991,200.0
2019	6,136,000.0	5,328,148.0	2,166,923.8	15,992,460.0
2020	6,900,000.0	5,852,025.3	2,544,950.2	15,439,815.0
2021	7,687,100.0	5,907,368.1	3,130,078.9	16,996,538.9
2022	8,525,500.0	6,242,690.0	4,341,126.8	18,099,867.9
2023	8,824,700.0	6,275,853.6	3,998,941.2	19,013,911.3

Source: Bank Indonesia, BPS-Statistics Indonesia, Ministry of Trade Indonesia, 2024 (Processed)

Based on the introduction, this research aims to determine the extent to which the determinants of money supply M2, foreign debt, and non-oil and gas exports contribute—both partially and simultaneously to Indonesia's Gross Domestic Product (GDP) over the period from 1994 to 2023.

The theoretical review provides a scientific foundation, which can include quotes from books or previous research on economic development and its impact on society. In the digital era, this information is globally accessible through advancements in Information and Communication Technology (ICT) (Dewi *et al.*, 2022). GDP is a crucial indicator for measuring a country's economic growth over a specific period. It represents the total value added from all economic units within a country. GDP can be defined as the total value of final goods and services produced by a country in a given situation (Ministry of Finance, 2021).

Indonesia's economy uses GDP growth as an indicator for measuring economic trends (Azwar, 2016). Song & Guo (2020) explored the correlation between foreign direct investment, foreign exchange reserves, GDP, total imports and exports, money supply, and foreign debt using data from 2000 to 2019. They suggested that adopting a modified scale for China's foreign exchange reserves could help manage and use its reserves more methodically and efficiently, consistent with current conditions. This would foster strong economic growth and a robust foreign exchange market in China.

In this context, the research seeks to answer the fundamental question: To what extent do the variables of money supply M2, foreign debt, and non-oil and gas exports contribute to GDP growth in Indonesia? This question is increasingly relevant given the significant changes in the global economy and the instability caused by external factors.

Money supply M2 includes a broad range of money, encompassing currency held by the public, electronic money, savings, deposits, and checking accounts in banks (Rully R. Ramli, 2024). Thus, money supply is crucial as it represents the total amount of money available for investment within a country over a specific period (Manihuruk *et al.*, 2024).

Economic development in an era of openness encourages businesses and governments to utilize foreign capital, such as foreign debt, for trade and investment, which ultimately impacts GDP growth (Waluyo & Ekananda, 2006). Maintaining a consistent and controlled money supply is essential for ensuring national currency stability and price setting. Therefore, monetary policies in many countries, including the Republic of Uzbekistan, can be assessed by examining money supply growth rates. Uzbekistan experienced a high and volatile money supply growth rate of 13.8% annually in 2019 (Bobakulov, 2020). This high growth rate has adverse effects on national economic development, necessitating methods to ensure a consistently stable and moderate money supply growth rate.

Todaro & Smith (2012) argues that foreign debt represents the flow of funds from developed countries to developing countries to enhance welfare through real development in those developing countries. International trade in the era of Free Trade Agreements (FTA) has become a focus for businesses aiming to market goods and services globally. Therefore, developing non-oil and gas industries, such as coconut processing, remains available opportunity for export to meet market demand (Hestina et al., 2023). Similarly, research by Baier et al. (2019) found ex-post consequences of previous free trade agreements (FTAs) and predictions of future FTA impacts. They identified 908 different forecasts of FTA effects on trade from 1986 to 2006.

Regarding the relationship between foreign debt and GDP, Muflihul Khail (2016) found a positive correlation, suggesting that increases in foreign debt can boost Indonesia's GDP. However, this study found a negative and non-unidirectional relationship between foreign debt and GDP. Similarly, research on the relationship between M2 and GDP showed that increasing money supply, both in the short and long term, leads to higher prices, indicating a significant and negative effect of money supply (M1) on Indonesia's GDP (Christianingrum & Syafri, 2019). Research by Rosyadi et al. (2022) using data from 1988 to 2019 explains that there is a positive and significant relationship between net exports and economic growth, but the effect is not significant. Rosyadi et al. (2022) considers that the insignificance of net exports to economic growth is because Indonesian exports are still dominated by primary goods with low added value and productivity.

Previous research findings show contradictory results. Some studies suggest a positive relationship between foreign debt and Indonesia's economic growth, while others indicate negative effect, reflecting uncertainties due to external factors and the private sector's focus on industrial working capital financing, as opposed to government infrastructure and other spending needs (Basten et al., 2021).

Inconsistencies in previous research findings regarding the impact of external debt and

money supply on Indonesia's GDP highlight a significant research problem. Some studies suggest a positive correlation, while others indicate a negative or negligible effect. This inconsistency creates a gap in the literature that needs to be addressed to better understand the macroeconomic dynamics affecting Indonesia's economic growth.

While previous studies have explored the relationship between external debt, money supply (M2), and exports with GDP growth, few have conducted a comprehensive long-term analysis covering key global economic events over an extended period. Furthermore, most research has primarily focused on oil and gas exports, neglecting the increasingly important role of non-oil and gas exports in Indonesia's economic sustainability. This study addresses these gaps by examining the impact of external debt, money supply, and non-oil and gas exports on Indonesia's GDP from 1994 to 2023, taking into account significant global economic disruptions such as the 2008 financial crisis, the COVID-19 pandemic, and the Russia-Ukraine war.

Financial crises can be analyzed by examining World Bank data on six key economic factors: foreign capital expenditure, exports, imports, money supply volume, debt payments, and inflation. By examining their relationship with per capita GDP, insights into the impact of crises can be gained. To address current and future crises, measures such as reducing debt obligations, promoting foreign capital cultivation (FCM), and regulating money supply are proposed (Khalife et al., 2023).

Cointegration coefficients suggest that the accumulation of foreign reserves is significantly influenced by economic activity measured by GDP. This influence is secondary to money supply growth, as indicated by the monetary aggregate M2/GDP and price pressures on the dinar (Kovacevic, Radovan 2021). Significant implications for policymakers suggest that increasing money supply and implementing appropriate interest rate policies could enhance the attractiveness of foreign portfolio investments in the future (Nguyen, 2023).

Given the significant shifts in global economic conditions, this study aims to examine the extent to which key macroeconomic variables, such as money supply (M2), external debt, and non-oil and gas exports, influence Indonesia's GDP growth from 1994 to 2023. Specifically, this research seeks to answer the question: To what extent do these variables, both individually and collectively, impact Indonesia's economic performance? This analysis is crucial in understanding the role of domestic and international factors in promoting sustainable growth in Indonesia, particularly in the face of global economic disruptions.

## RESEARCH METHODS

The descriptive quantitative method in research is a method aimed at illustrating or describing a situation objectively using numerical data. It begins with data collection, followed by interpretation, analysis, and presentation of results (Arikunto, 2011). The quantitative method, grounded in positivist philosophy, is used in research involving a specific population or sample, typically selected randomly. The data analysis is quantitative in nature, with the primary goal being hypothesis testing (Sugiyono, 2016). This study uses secondary data in the form of time series over a 30-year period from 1994 to 2023, employing independent variables such as money supply M2 ("X1"), foreign debt ("X2"), and non-oil and gas exports ("X3"), with GDP ("Y") as the dependent variable.

**Table 2.** Operational Definition for Each Variable

Variable	Definition	Source	Measurement
(X <sub>1</sub> )	Money in circulation M2, in the form of M1 plus Quasi Money	Bank Indonesia (Central Bank of Indonesia)	Trillion Rupiah
(X <sub>2</sub> )	External Debt, all financing that comes from abroad	Bank Indonesia	Trillion Rupiah
(Y)	Non-oil and gas exports, net exports other than gas and mining products	Ministry of Trade Indonesia	Billion USD
(Z)	Gross Domestic Product	BPS-Statistics Indonesia	Trillion Rupiah

Source: Data Processed, 2024

The research data were sourced from Bank Indonesia, including money supply M2, foreign debt recorded in the Balance of Payments, net non-oil and gas export data representing international economic activities, and Gross Domestic Product (GDP) data obtained from BPS (Statistics Indonesia). The research took three months to complete, from February to April 2023. The secondary annual time series data covering a 30-year period were obtained from relevant national institutions. Linear regression was the analytical technique used in this study, employing SPSS-22 and E-Views 10 software. The analysis began with the BLUE

(Best Linear Unbiased Estimation) test to ensure the accuracy of the linear regression model (Bauwens et al., 2006).

The normality test used the Jarque-Bera method. If the probability result is greater than 0.05, the data in the research model is normally distributed (Winarno, 2017). The linearity test applied the Ramsey Method to determine whether the independent variables in the model are linear, showing no multicollinearity, with the criteria being (1)  $F_{table} < F_{calculated}$  (Ramsey) with  $Sig. < 0.05$  (Gujarati, 2007). The heteroskedasticity test used the Park Method with the logarithm of all variables. If the Sig.

value is greater than the p-value ( $\alpha = 0.05$ ), the research model is considered free from heteroskedasticity (Suliyanto, 2011). The autocorrelation test used the Breusch-Godfrey (B-G Test). If the  $X^2$  calculated is less than the  $X^2$  table, the data used in the research is free from autocorrelation.

Statistical tests for correlation, determination, regression equation, and hypotheses were measured. To analyze the relationship between money supply (M2), external debt, and non-oil and gas exports on Indonesia's GDP, this study employs an Ordinary Least Squares (OLS) linear regression model. OLS was chosen for its ability to effectively estimate the relationships between continuous dependent and independent variables. The OLS method minimizes the sum of squared differences between observed and predicted values, providing an optimal linear fit for the data. This approach is particularly suitable for analyzing the macroeconomic factors in this study (Pezzey, 2015; Rusmawati & Hartono, 2021). The research model is formulated as follows:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \epsilon \dots\dots\dots(1)$$

The foundation of thought in research is built upon a research paradigm that provides guidance on methods, as well as the ideas and

concepts, leading to meaningful research (Handi et al., 2018). The flow of this research explains the causal structure between the variables of Money Supply "X1" and Foreign Debt "X2" on Indonesia's Non-Oil and Gas Exports "Y" and the relationship between Exports and Indonesia's GDP "Z".

This study proposes several hypotheses: Hypothesis 1 predicts that there is a significant effect, both partially and simultaneously, of Money Supply "X1" and Foreign Debt "X2" on Non-Oil and Gas Exports in Indonesia. Hypothesis 2 predicts that there is a significant effect of Non-Oil and Gas Exports "Y" on Indonesia's GDP "Z".

### RESULTS AND DISCUSSION

The discussion phase gathers variables that have causal relationships, which are then processed using the SPSS-22 and E-Views 10 statistical programs. Descriptive statistical analysis in this quantitative research discusses secondary data by openly presenting the original results.

Subsequently, the linear regression test begins with the examination of classical assumptions as a requirement for the analytical technique used in this model. Multiple regression models were also applied in the study conducted by (Goestjahjanti et al., 2023).

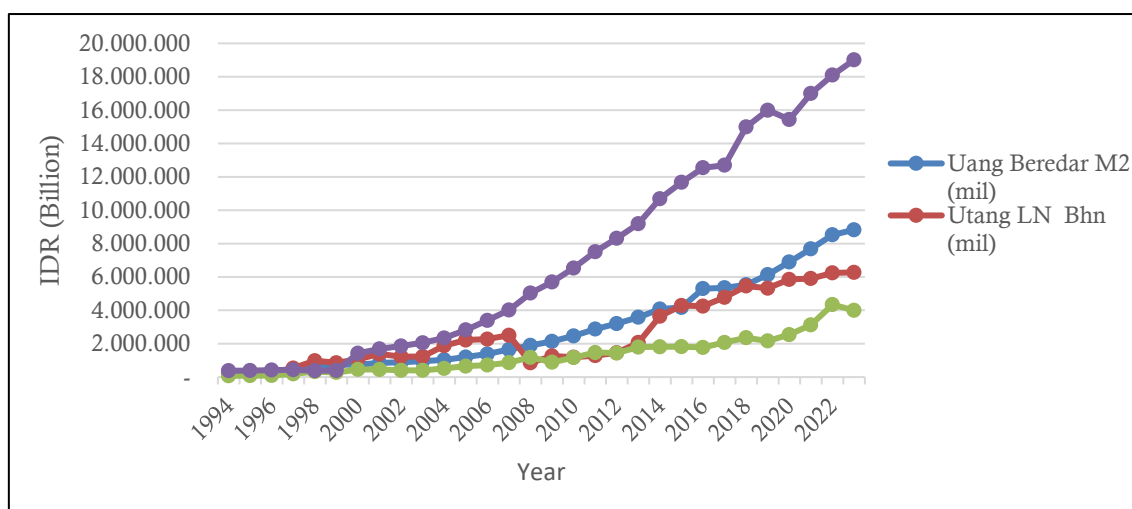
**Table 3.** Descriptive Statistics Test

	M2	External Debt	Export	GDP
Mean	14.41526	14.38289	13.62174	15.13567
Median	14.51607	14.31971	13.83324	15.49341
Maximum	15.99307	15.65222	15.28364	16.76068
Minimum	12.21156	12.35777	11.24482	12.85254
Std. Dev.	1.122070	0.964464	1.118969	1.365131
Skewness	-0.36159	-0.453914	-0.612539	-0.564829
Kurtosis	2.080737	2.477833	2.551630	1.966017
Jarque-Bera	1.710043	1.371011	2.127315	2.931558
Probability	0.425274	0.503835	0.345191	0.230898
Sum	432.4578	431.4868	408.6521	454.0701
Sum Sq. Dev.	36.51218	26.97555	36.31065	54.04388
Observations	30	30	30	30

Source: Data Processed, 2024

The money supply, with 30 observations, had a minimum value of 12.21% in 1994 and a maximum value of 15.99% in 2023, with a mean of 14.42% and a standard deviation of 1.12%. Foreign debt had a minimum value of 12.36%, a maximum of 15.65%, an average of 14.38%, and a standard deviation of 0.96%. Non-oil and gas exports had a minimum value of 11.24%, a maximum of 15.28%, and an average of 13.62%, with a standard deviation of 1.12%. GDP had a

minimum value of 12.85%, a maximum of 16.76%, an average of 15.14%, and a standard deviation of 1.37%. These results indicate that, over the 30 years from 1994 to 2023, the money supply, foreign debt, and non-oil and gas exports contributed to an average GDP of 15.14%, which is higher than the averages of the independent variables: money supply at 14.42%, foreign debt at 14.38%, and non-oil and gas exports at 13.62%.



**Figure 1.** Money Supply, Debt, Exports, and GDP 1994-2023

Source: Data Processed, 2024

Descriptive analysis shows that the average GDP growth rate of 15.14% exceeds the average growth rates of money supply (14.42%), foreign debt (14.38%), and non-oil and gas exports (13.62%). This indicates that overall, the independent variables contribute to increasing Indonesia's GDP.

The linear regression analysis began with the classical assumption tests: (a) The normality test using the Jarque-Bera method. If Sig. > 0.05, the data are normally distributed. The normality test results show that M2 had a Sig. value of 0.425, foreign debt 0.50, non-oil and gas exports 0.345, and GDP 0.23. All variables are normally distributed. (b) The Ramsey Linearity Test

indicated that the calculated F value of 460.87 > F table value of 2.960, concluding that there is no multicollinearity. (c) The heteroskedasticity test used the Park Method (Suliyanto, 2011). The results show that the logarithms of the money supply (Sig. 0.425 > 0.05), foreign debt (Sig. 0.503 > 0.05), non-oil and gas exports (Sig. 0.345 > 0.05), and GDP (Sig. 0.231 > 0.05) all indicate no heteroskedasticity. (d) The autocorrelation test using the Breusch-Godfrey (B-G Test) method showed that the calculated  $X^2$  value of 15.93 <  $X^2$  table value of 40.113, concluding that the model is free from autocorrelation. The data were transformed into logarithmic form to obtain more accurate results (Berg et al., 2012).

**Table 4.** Correlation and Contribution Test of Money Supply to GDP

Model	R	R-Square	Adj. R Square	Std. Error of the Estimate
	.970	.941	.931	.33678

Predictors: (Constant), M2

Source: Data Processed, 2024

The analysis shows that among the independent variables, money supply (M2) had the most significant positive effect on Indonesia's GDP, with an adjusted R-squared value of 0.930, indicating that 93% of the variation in GDP can be explained by changes in M2. This suggests that the flow of money in the economy plays a crucial

role in promoting economic growth, as it facilitates provides, investment and consumption. However, it should be noted that a potential risk of deflation exists if money supply is not carefully monitored, as indicated by the low inflation rates observed in recent years.

**Table 5.** Correlation and Contribution Test of Foreign Debt to GDP

Model	R	R-Square	Adj. R Square	Std. Error of the Estimate
	.880	.775	.766	.65969

Predictors: (Constant), External Debt

Source: Data Processed, 2024

External debt (X2) shows a strong relationship with GDP growth, with an R value of 0.880 and an adjusted R-squared of 0.766, meaning that 76.6% of the variation in GDP can be explained by changes in external debt. While external debt can provide necessary funds for

infrastructure and development projects, its impact on long-term growth may depend on whether the debt is used effectively. If the reliance is on short-term debt, it might not generate immediate economic benefits and could burden the economy in the long run.

**Table 6.** Correlation and Contribution Test of Exports to GDP

Model	R	R-Square	Adj. R Square	Std. Error of the Estimate
	.962	.926	.923	.37906

Predictors: (Constant), Export

Source: Data Processed, 2024

Moreover, non-oil and gas exports (X3) contributed positively to GDP with an adjusted R-squared of 0.923, further emphasizing the importance of diversifying Indonesia's export base. While oil and gas have traditionally been the dominant export sectors, these findings

highlight the significant role that non-oil and gas exports play in bolstering the country's economic performance. This reinforces the need for the government to continue promoting industrial diversification to enhance export growth and reduce dependency on raw material imports.



**Table 7.** Multiple Regression Estimation Result

Variables	Coefficient	Std. Error	T-statistic	Prob.
C	-1.278636	1.001672	-1.276502	0.2131
M2	1.05818	0.36864	2.8705	0.008
External Debt	-0.154634	0.172246	-0.897751	0.3776
Export	0.24846	0.362739	0.684954	0.4994
Adjusted R-square		0.937044		
F-Statistics		0.0000		

Source: Data Processed, 2024

In the test using the E-Views 10 program, the multiple correlation between the independent variables money supply M2 (X1), external debt (X2), and non-oil and gas exports (X3) on the dependent variable GDP (Y) is shown in Table 7. The analysis results from SPSS 22 show an R value of 0.9710, indicating a very strong, nearly perfect relationship. The adjusted R-square value from the simultaneous model in Table 7 is 0.9370, meaning that the independent variables simultaneously explain 93.70% of the variation in Indonesia's GDP.

Partial hypothesis testing was conducted with the following statistical values:  $n = 30$ ,  $k = 3$ , with  $\alpha = 0.05$ . The t-table value ( $n-k-1$ ) = 2.052, while the t-statistic for model 1 is 21.79, for model 2 is 9.807, and for model 3 is 18.658, all of which are greater than the t-table value of 2.052. With a significance level of  $0.00 < 0.05$ , it can be concluded that the alternative hypothesis ( $H_a$ ) is accepted, meaning there is a significant partial effect of money supply M2 (X1), external debt (X2), and non-oil and gas exports (X3) on Indonesia's GDP (Y) from 1994 to 2023.

Simultaneous hypothesis testing shows an F-statistic of 144.88, with a P-value of 0.000, and an F-table value of 2.960. Since the F-statistic is greater than the F-table value, and the significance level is  $0.000 < 0.05$ , it can be concluded that there is a significant simultaneous effect of money supply M2 (X1), external debt (X2), and non-oil and gas exports (X3) on Indonesia's GDP (Y).

The combined contribution of the independent variables to the dependent variable is very significant, indicating that these factors are crucial in promoting economic growth by

increasing Indonesia's GDP, which ultimately enhances public welfare.

This equation shows that every 1 trillion Rupiah increase in money supply M2 leads to a 1.058 trillion Rupiah increase in GDP. The money supply positively impacts economic growth when it is maintained at an optimal level—neither too high nor too low. However, if the money supply increases excessively, it will reduce the value of the currency, leading to inflation. Inflation lowers purchasing power, which prevents goods from being fully absorbed by the market, resulting in reduced production. A sustained decline in production will, in turn, decrease national income and, over time, slow down economic growth. The result are consistent with research conducted by (Adam *et al.*, 2018; Febriani *et al.*, 2020; Handoko *et al.*, 2023; Kurniasih, 2019).

Moreover, every 1% increase of external debt results in a 0.155 trillion Rupiah decrease in GDP. This is in line with Pattillo *et al.* (2002) which states that when additional debt slows growth and when debt contributes negatively to growth, it makes the country worse off. A widely recognized explanation stems from the "debt overhang" theory (Cordella *et al.*, 2005). This theory proposes that if a country's future debt obligations are anticipated to exceed its ability to repay, the expected costs of servicing that debt will discourage both domestic and foreign investment, especially for developing country. As a result, the country's economic prospects will deteriorate. Potential investors may be reluctant to invest due to concerns that the more the country produces, the higher the pressure from creditors to repay foreign debt, making them hesitant to invest in hopes of future growth. This

concept is illustrated by the debt "Laffer curve", which suggests that a larger debt burden correlates with a reduced likelihood of full repayment (Calvo, 1998). On the curve's upward-sloping section, an increase in the debt's nominal value leads to higher expected debt servicing. However, on the downward-sloping side, further increases in debt reduce the likelihood of debt servicing.

On the other hand, every 1 trillion USD increase in non-oil and gas exports contributes to a 0.248 trillion Rupiah increase in GDP. The study by Novitasari & Aji (2023) supports this finding by explaining that non-oil and gas exports have a positive effect on economic growth. An increase in non-oil and gas exports corresponds with economic growth, while a decrease in non-oil and gas exports leads to a decline in economic growth. Other studies also support the findings of this research, indicating that exports have a positive and significant effect on economic growth. Both oil and gas exports, along with non-oil and gas exports, contribute to enhancing economic growth in Indonesia (Ajija *et al.*, 2021; Rudy & Masaru, 2011).

The interpretation of this regression model indicates that if X1, X2, and X3 are zero, the predicted GDP (Y) will be negative at -1.279 trillion Rupiah. Using the given coefficients, the predicted GDP (Y) can be calculated as  $1.058 \text{ money supply M2} - 0.155 \text{ external debt} + 0.248 \text{ non-oil and gas exports}$ , assuming other factors remain stable.

The findings of this study indicate that the management of money supply has not been optimal, leading to deflation, as inflation rates over the past 5 years have been very low, potentially hindering economic growth. Meanwhile, external debt, when used simultaneously with other variables, has an inverse relationship with economic growth in Indonesia, as short-term debt is used for infrastructure spending that is still in progress. However, non-oil and gas exports, which have a positive relationship with GDP, have not yet been fully maximized.

## CONCLUSION

This study empirically investigates the impact of money supply (M2), foreign debt, and non-oil and gas exports on Indonesia's GDP growth from 1994 to 2023 using a quantitative approach with Ordinary Least Squares (OLS) regression analysis. The findings reveal that money supply (M2) exerts the strongest influence on GDP, contributing 93% to economic growth. An increase in M2 significantly stimulates investment and consumption, highlighting the critical role of monetary policy in promoting economic stability. Specifically, the analysis shows that for every 1 trillion Rupiah increase in M2, GDP increases by 1.058 trillion Rupiah. This underscores the importance of maintaining optimal levels of liquidity to support growth while avoiding inflationary risks.

Foreign debt, however, presents a more complex relationship with GDP growth. While it provides necessary funds for infrastructure and development, excessive reliance on foreign debt negatively affects GDP. The study finds that for every 1 trillion Rupiah increase in external debt, GDP decreases by 0.155 trillion Rupiah, supporting the "debt overhang" theory, where excessive debt burdens the economy and discourages both domestic and foreign investment. This suggests that while foreign debt can be beneficial, its long-term impact depends on its effective and productive utilization.

Non-oil and gas exports also play a significant role in driving GDP growth. The results indicate that every 1 trillion USD increase in non-oil and gas exports leads to a 0.248 trillion Rupiah rise in GDP, underscoring the importance of export diversification. By reducing dependency on oil and gas sectors and promoting the export of higher value-added non-oil products, Indonesia can enhance its economic resilience and growth prospects.

In conclusion, the study highlights the need for careful management of the money supply to prevent deflationary pressures while ensuring sufficient liquidity for economic growth. Reducing reliance on foreign debt, optimizing its usage for productive sectors, and promoting the diversification of non-oil and gas

exports are vital strategies for fostering long-term sustainable economic growth in Indonesia. Policymakers must consider these findings in formulating strategies to bolster GDP growth, enhance economic stability, and improve the welfare of the Indonesian population amidst global economic uncertainties.

## REFERENCES

- Adam, P., Rafiy, M., Sani, A., Rosnawintang, R., & Saenong, Z. (2018). An econometric analysis of the effect of government expenditure and money supply on the interest rate in Indonesia. *Journal of Applied Economic Sciences*, 13(January), 954–960.
- Ajija, S. R., Zakia, A. F., & Purwono, R. (2021). The impact of opening the export promotion agencies on Indonesia's non-oil and gas exports. *Heliyon*, 7(8), e07756. <https://doi.org/https://doi.org/10.1016/j.heliyon.2021.e07756>
- Arikunto, S. (2011). [*Prosedur penelitian: suatu pendekatan praktik*] (6th ed.). Rineka Cipta.
- Azwar, A. (2016). [*Peran Alokatif Pemerintah melalui Pengadaan Barang/Jasa dan Pengaruhnya Terhadap Perekonomian Indonesia*]. *Kajian Ekonomi Dan Keuangan*, 20(2), 149–167. <https://doi.org/10.31685/kek.v20i2.186>
- Baier, S. L., Yotov, Y. V., & Zylkin, T. (2019). On the widely differing effects of free trade agreements: Lessons from twenty years of trade integration. *Journal of International Economics*, 116, 206–226. <https://doi.org/https://doi.org/10.1016/j.jinteco.2018.11.002>
- Basten, E. Van, Hudayah, S., & Gani, I. (2021). [*Pengaruh utang luar negeri terhadap pertumbuhan ekonomi dan dampaknya pada pengangguran terbuka di indonesia*] <https://api.semanticscholar.org/CorpusID:236229218>
- Bauwens, L., Laurent, S., & Rombouts, J. V. K. (2006). Multivariate GARCH models: A survey. *Journal of Applied Econometrics*, 21(1), 79–109. <https://doi.org/10.1002/jae.842>
- Berg, A., McMurry, T., & Politis, D. N. (2012). Testing Time Series Linearity. Traditional and Bootstrap Methods. In *Handbook of Statistics* (Vol. 30, Issue 1997). Elsevier B.V. <https://doi.org/10.1016/B978-0-444-53858-1.00002-8>
- Bobakulov, T. I. (2020). *Current Issues of Money Regulation in Uzbekistan*. <https://api.semanticscholar.org/CorpusID:225644016>
- Calvo, G. A. (1998). Growth, Debt and Economic Transformation: The Capital Flight Problem BT - New Theories in Growth and Development. In F. Coricelli, M. di Matteo, & F. Hahn (Eds.), *New Theories in Growth and Development* (pp. 251–269). Palgrave Macmillan UK. [https://doi.org/10.1007/978-1-349-26270-0\\_10](https://doi.org/10.1007/978-1-349-26270-0_10)
- Christianingrum, R., & Syafri, R. A. (2019). [*Faktor-Faktor Yang Memengaruhi Inflasi Inti Di Indonesia. Jurnal Budget : Isu Dan Masalah Keuangan Negara*. <https://api.semanticscholar.org/CorpusID:267379848>
- Cordella, T., Ricci, L. A., & Ruiz-arranz, M. (2005). *Debt Overhang or Debt Irrelevance? Revisiting the Debt-Growth Link* (No. 05).
- Darmawan, I. (2022). [*Dampak Utang Luar Negeri Terhadap Perekonomian Indonesia*]. *Jurnal Pendidikan Ekonomi Dan Akuntansi*, 15(2), 57–69. <https://doi.org/10.24071/jpea.v15i2.5077>
- Derindere Köseoğlu, S., Mercangöz, B. A., Khan, K., & Sarwar, S. (2024). The impact of the Russian-Ukraine war on the stock market: a causal analysis. *Applied Economics*, 56(21), 2509–2519. <https://doi.org/10.1080/00036846.2023.2188168>
- Dewi, D. M., Setiadi, Y., Ikhwanuddina, M., & Fadhilah, L. A. (2022). Contribution of Information and Communication Technology to Income Inequality Groups. *Jurnal Ekonomi Dan Pembangunan Indonesia*, 22(2), 221–242. <https://doi.org/https://doi.org/10.21002/jepi.2022.13>
- Farsia, L. (2021). The Role of International Monetary Fund (IMF) in Economic Recovery During Economic Crisis of Indonesia. *Student Journal of International Law*, 1(1), 13–32. <https://doi.org/10.24815/sjil.v1i1.18074>
- Febriani, A. D. B., Daud, D., Rauf, S., Nawing, H. D., Ganda, I. J., Salekede, S. B., Angriani, H., Maddeppungeng, M., Juliaty, A., Alasiry, E., Artaty, R. D., Lawang, S. A., Ridha, N. R., Laompo, A., Rahimi, R., Aras, J., & Sarmila, B. (2020). Risk Factors and Nutritional Profiles Associated with Stunting in Children. *Pediatric Gastroenterology, Hepatology & Nutrition*, 23(5), 457–463. <https://doi.org/10.5223/pghn.2020.23.5.457>
- Goestjahjanti, F. S., Novitasari, D., Srinita, & Winanti. (2023). Increasing Foreign Direct Investment in Indonesia Through Non-Oil and Gas Export: Effects of Fluctuations in Credit Interest and Fuel Prices. *General Management*, 12(6). <https://doi.org/10.47750/QAS/24.195.36>
- Goestjahyanti, F. S. (2023). [*Kenaikan Foreign Direct Investment (PMA) Menjadi Solusi Pengurangan Utang Indonesia*] (Issue November). Universitas Insan Pembangunan Indonesia.
- Gujarati, D. (2007). *Dasar-dasar ekonometrika, jilid 2*. Erlangga. <https://api.semanticscholar.org/CorpusID:157687924>
- Handi, H., Hendratono, T., Purwanto, E., & Ihalauw, J. (2018). The Effect of E-WOM and Perceived Value on the Purchase Decision of Foods by Using the Go-Food Application as Mediated by Trust. *Quality Innovation Prosperity*, 22, 112. <https://doi.org/10.12776/qip.v22i2.1062>
- Handoko, B. L., Angella, A., & Tandika, S. (2023). The Influence of Monetary Policy, Exchange Rates, and Renewable Energy toward Sustainable Economic Growth in Indonesia. *ACM International Conference Proceeding Series*,

- 489–496. <https://doi.org/10.1145/3629378.34>
- Hestina, J., Purba, H. J., Yusuf, E., Dabukke, F. B. M., Erwidodo, N., Azhari, D., & Darwis, V. (2023). [Industri Kelapa Indonesia: Kinerja Dan Perspektif Pengembangan Menuju Peningkatan Nilai Tambah Dan Daya Saing]. *Forum Penelitian Agro Ekonomi*, 40(1), 55. <https://doi.org/10.21082/fae.v40n1.2022.55-69>
- Khalife, D., Richard, E., & Charles, Y. (2023). What are the Financial Causes of the Lebanese Economic Crisis and How Can it be Resolved or Avoided in the Future? *Journal of Law and Sustainable Development*, 11, e1221. <https://doi.org/10.55908/sdgs.v11i6.1221>
- Kohler, K., & Stockhammer, E. (2022). Growing differently? Financial cycles, austerity, and competitiveness in growth models since the Global Financial Crisis. *Review of International Political Economy*, 29(4), 1314–1341. <https://doi.org/10.1080/09692290.2021.1899035>
- Kurniasih, E. P. (2019). The long-run and short-run impacts of investment, export, money supply, and inflation on economic growth in Indonesia. *Journal of Economics, Business, and Accountancy Ventura*, 22(1), 21–28. <https://doi.org/10.14414/jebav.v22i1.1589>
- Lituhayu, B. N. A., Nayla, N. M., & Park, H. K. (2024). Analysis of the Iran-Israel War Conflict on Economic Implications in Indonesia. *JURNAL HUKUM IN CONCRETO*, 3(2), 149–161.
- Ministry of Finance. (2021). *Tinjauan Ekonomi, Keuangan, & Fiskal*. In E. Larasati, R. Zulfadin, T. N. P. . Keraf, W. Utomo, & Widiyanto (Eds.), *Badan Kebijakan Fiskal (IV)*, p. 57). Badan Kebijakan Fiskal. [https://fiskal.kemenkeu.go.id/files/tekf/file/1640921394\\_tekf\\_iv\\_2021.pdf](https://fiskal.kemenkeu.go.id/files/tekf/file/1640921394_tekf_iv_2021.pdf)
- Nguyen, C. D. T. (2023). Impact of Money supply and Macroeconomic Indicators on foreign portfolio investment: Evidence from Vietnam. *Banks and Bank Systems*, 18, 2023. [https://doi.org/10.21511/bbs.18\(4\).2023.09](https://doi.org/10.21511/bbs.18(4).2023.09)
- Novitasari, D. E., & Aji, T. S. (2023). The Relationship between Inflation , Exchange Rates , Non-Oil and Gas Exports and Economic Growth in Indonesia. *Journal of Economics, Finance and Management Studies*, 06(11), 5513–5524. <https://doi.org/10.47191/jefms/v6-i11-27>
- Pattillo, C., Ricci, L., & Poirson. (2002). *External Debt and Growth* (No. 2).
- Pezzey, J. J. (2015). *Economic Analysis of Sustainable Growth and Sustainable Development* (Issue December).
- Rosyadi, Hutagaol, P. J., & Putra, W. (2022). *The Effect of External Debt , Net Exports on Exchange Rates and Indonesia ' s Economic Growth*. 05(07), 1756–1766. <https://doi.org/10.47191/ijmra/v5-i7-21>
- Rudy, R., & Masaru, I. (2011). Exports and economic growth in Indonesia: A causality approach based on multi-variate error correction model. *Jurnal Kinerja* 17(2), 53–73.
- Rusmawati, E., & Hartono, D. (2021). Food Security : The Role of Social Capital in Indonesia Rural Area. *Economics Development Analysis Journal*, 3(3).
- Saleh Mejaya, A., Fanani, D., & Mawardi, K. (2016). [Pengaruh Produksi, Harga Internasional, dan Nilai Tukar terhadap Volume Ekspor]. *Jurnal Administrasi Bisnis*, 35(2), 20–29.
- Song, D., & Guo, X. (2020). *Research of the influencing factors of China's foreign exchange reserves based on Multiple linear regression analysis model*. <https://doi.org/10.1109/DFHMC52214.2020.00042>
- Sugiyono. (2016). *Metode Penelitian dan Pengembangan Research dan Development* (2nd ed.). Alfabeta.
- Suliyanto. (2011). *Ekonometrika Terapan: Teori dan Aplikasi Dengan SPSS*. <https://api.semantic scholar.org/CorpusID:220866345>
- Todaro, M. P., & Smith, S. C. (2012). *The Developed and Developing World Income*.
- Waluyo, K., & Ekananda, M. (2006). [Pengaruh utang luar negeri terhadap pertumbuhan ekonomi Indonesia periode 1999-2004] [Universitas Indonesia]. <https://lib.ui.ac.id/detail?id=88247&lokasi=lokal>
- Winarno, W. W. (2017). *Analisis Ekonometrika dan Statistika Dengan EVIEWS (Edisi 5)* (5th ed., Vol. 102, Issue 1). UPP STIM YKPN Yogyakarta. [https://www.belbuk.com/analisaekonometrik dan-statistika-dengan-evIEWS-edisi-4-p-10](https://www.belbuk.com/analisaekonometrik-dan-statistika-dengan-evIEWS-edisi-4-p-10).