

# The Influence of Macroeconomic Conditions on Export Performance in the ASEAN Region from 2017 to 2024

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## Abstract

This study aims to analyze the influence of macroeconomic conditions on export performance in the ASEAN region for the period 2017–2024, taking into account the variables Gross Domestic Product (GDP), exchange rate, and inflation. The research employs a descriptive quantitative approach with panel data analysis. Quantitative analysis is conducted using panel data regression techniques to examine the relationship between the dependent variable, namely export volume, and the independent variables, namely GDP, exchange rate, and inflation. The results show that GDP has a positive and significant effect on export volume, while the exchange rate has a negative but significant effect. Inflation, although included as an independent variable, does not show a significant influence on export volume. These findings indicate that GDP and the exchange rate are key factors affecting export performance in the ASEAN region, while inflation does not play an individual role within the examined period.

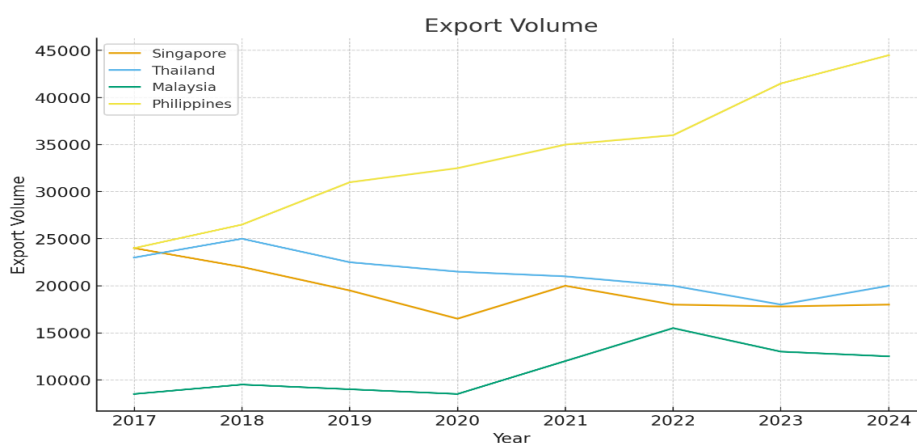
## Introduction Section

Countries that adopt an open economic framework are inherently linked to global trade practices. By engaging in international trade, a nation can obtain various benefits, including access to products that cannot be produced domestically, increased productivity through specialization, expanded markets that boost national income, and the facilitation of advanced technology exchange. Moreover, international trade provides countries with opportunities to enhance their production methods and adopt more contemporary management practices (1). As a result, global trade is essential for countries with open economic structures, as it enables them to meet demands that cannot be satisfied locally while offering numerous economic advantages such as improved efficiency, broader market access, technology transfer, and advancements in production methods and modern management skills.

In the current era of global integration and open markets, exports play a crucial role in enhancing a country's economic development. Export potential reflects how effectively a nation can sell its goods and services abroad. A strong export landscape can generate various benefits, including higher national income, increased job creation, and faster economic progress. International trade theories, such as comparative advantage and competitive advantage, help explain trade relations among countries. Elements such as natural resources, technological advancement, and the growth of the creative sector highlight Indonesia's key industries compared to other ASEAN countries. To remain competitive in the global trade arena, Indonesia must continuously improve the competitiveness of its domestic products, especially since its large population presents valuable opportunities to support the national economy (2). By leveraging export potential through natural resource advantages, technology, and the creative economy, Indonesia can strengthen the competitiveness of its products in global markets. Moreover, supporting the development of the export sector will contribute positively to increasing national income, creating employment opportunities, and ensuring sustainable economic growth in an era of globalization and free trade. Increased exports can also help curb inflation by boosting foreign exchange reserves, whereas high inflation can weaken export competitiveness.

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Source: Statistics Indonesia (Badan Pusat Statistik)

Based on export data from four ASEAN countries—Singapore, Thailand, Malaysia, and the Philippines—for the period 2017–2024, distinct dynamics can be observed in each country. The Philippines shows a significant upward trend, with export values rising from 22,356.6 million USD in 2017 to 44,307.7 million USD in 2024. Malaysia also experienced growth, although with fluctuations, reaching its highest increase in 2022 at 15,672.7 million USD before slightly declining in 2024. Meanwhile, Singapore and Thailand display relatively stable patterns but tend to decline in the middle of the period. Singapore’s export value decreased from 24,034.2 million USD in 2017 to 17,993.0 million USD in 2024, while Thailand’s exports fell from 22,411.5 million USD to 19,988.3 million USD over the same period. Overall, the Philippines recorded the fastest export growth compared to the other three countries, reflecting a strong improvement in export competitiveness during the study period.

Inflation is highly important for the economy because it serves as an indicator of expansion and influences how investments are made. In general, inflation refers to a sustained and widespread increase in the cost of goods and services, which affects market stability. Moderate inflation can stimulate economic expansion by increasing income and investment, while high inflation leads to reduced purchasing power, economic instability, and rising poverty levels. Although controlled inflation can accelerate production and create employment opportunities, inflation that is not accompanied by an increase in real income has the potential to hinder development and disrupt banking stability. Therefore, controlled inflation can promote economic growth through increased income and productivity, whereas high inflation creates negative effects such as declining purchasing power, economic instability, and obstructed development. Thus, maintaining inflation at a stable level is essential to support sustainable economic growth. The inflation rate correlates with GDP growth because price changes influence consumption and investment within the economy.

The economy is one of the most important aspects of modern society. Therefore, economic growth becomes a key indicator in assessing a country’s level of development. Economic growth is a measure that shows how much the value of Gross Domestic Product (GDP) changes from year to year, expressed as a percentage. One of the metrics used to evaluate the level of economic expansion is Gross Domestic Product (GDP), which represents the total value of all goods and services produced within a country during a specific period and serves as a primary gauge of a nation’s economic progress. Thus, GDP has consistently been the focus and subject of various economic studies. An increase in economic growth is viewed as one of the signs of a country’s development progress. Various theories state that higher growth rates can promote income distribution through the trickle-down effect mechanism. Consequently, income inequality is believed to decrease naturally as the benefits of growth flow to the population through job creation and other economic opportunities. In general, economic progress is assessed through the Gross Domestic Product metric.

In previous periods, the global economic slowdown caused a decline in the prices of Indonesia’s raw commodities. This price decline had a significant impact on the current account balance and resulted in a reduced supply of U.S. dollars amid increasing demand for the currency from domestic economic actors such as companies, foreign investors, the government, and the public. This situation caused the Indonesian rupiah to tend to depreciate against the U.S. dollar.

## Literature Review

### International Trade

International trade provides various benefits to a country, including encouraging specialization in the efficient and competitive production of goods and services, expanding export activities, and increasing national income, foreign exchange reserves, and employment opportunities. Furthermore, trade between countries creates an increasingly competitive global situation, forcing local businesses to compete with international goods (7). Thus, exports and imports become important means of meeting a country's economic needs. Overall, international trade has a positive impact on economic growth, but it also requires improving the quality of human talent to compete effectively in the international market.

Previous studies support these findings. Krugman and Obstfeld (8) emphasize that international trade creates efficiency through comparative advantage. Arsyad (9) shows that an increase in exports is directly related to economic growth. Yuliana's research (10) also found that exports and imports have a significant impact on the GDP of ASEAN countries. Based on this synthesis, international trade contributes positively to economic growth. However, improving human resource quality and industrial competitiveness remains necessary for a country to compete in the global market.

### Export

Export refers to the process of selling goods from one country to another based on regulations set by the authorities, with the aim of receiving payment in foreign currency and requiring cross-language communication. The result of export activities is foreign exchange, namely a sum of money in foreign currency which is one of the sources of state income (11). More broadly, exports also play a role as a trading activity that can encourage increased domestic demand, spur the growth of large industries, and contribute to political stability and the efficiency of social institutions in a country.

Previous research supports the importance of exports in economic development. Salvatore (12) states that exports enhance a country's production capacity and economic standing. Krugman and Obstfeld (13) emphasize that exports reflect a country's comparative advantage. Mankiw (14) also shows that exports play a role in output growth and employment opportunities. Furthermore, Yuliana (15) found that exports have a significant impact on the GDP of ASEAN countries. Based on the synthesis of these studies, exports are proven to play a crucial role in strengthening the economy through increased foreign exchange, productivity, and national competitiveness.

### Gross Domestic Product

Gross Domestic Product (GDP) in Indonesia refers to the total value of all goods and services produced by various economic entities in a country, regardless of their country of origin, during a given year. There are two methods for calculating GDP: using constant prices and current prices (16). GDP at constant prices shows the added value of goods and services evaluated at prices in a given base year, which indicates actual economic growth. On the other hand, GDP at current prices shows the added value of goods and services evaluated at prices prevailing in that year.

Several recent studies indicate that GDP has a significant impact on the dynamics of exports and imports. Hidayat and Sari (17) found that an increase in GDP stimulates the growth of Indonesia's exports through enhanced production capacity. Similar findings were reported by Putri (18), who explained that GDP growth leads to an increase in the import of industrial raw materials. In addition, Wijayanto's (19) study on ASEAN countries shows that GDP is one of the strongest macroeconomic factors influencing regional exports. Thus, the synthesis of these studies confirms that GDP is not only a key indicator of economic health but also plays an important role in driving a country's international trade activities.

### Exchange rate

An exchange rate refers to the comparison of values between different currencies, specifically how many Rupiah are needed to buy one US Dollar. This difference in currency value can affect the demand for goods, as changes in the exchange rate will impact the overall price of goods. Price increases or decreases due to exchange rate changes can be a factor in triggering inflation. Exchange rates play an important role in economic and spending decisions, as they allow for price comparisons between countries using a common standard of value (20). Exchange rates can appreciate, which is an increase in the value of the local currency compared to a foreign currency, or depreciate, which refers to a decrease in the value of the local currency against a foreign currency, measured by how much foreign currency can be obtained.

Yuliana (21) shows that changes in GDP are closely related to the dynamics of international trade in the ASEAN region. Putra and Widodo (22) found that GDP movements serve as a basis for evaluating the effectiveness of fiscal policies. In addition, the study by Sari and Rahmawati (23) reveals that GDP growth reflects the performance of the national production sector and serves as an important indicator in development planning. From this synthesis, GDP is proven to be a fundamental instrument in analyzing economic growth, policy effectiveness, and changes in a country's production structure.

## Inflation

Inflation refers to a situation where there is a sustained and widespread increase in the prices of goods and services over a period of time. This price increase reduces people's purchasing power, as money loses its value. Inflation can be caused by various factors, including rising production costs, an increase in the money supply, or a surge in demand for goods and services. Overall, inflation serves as a crucial measure in evaluating a country's economic health. Therefore, it is crucial to manage inflation effectively to avoid adverse economic impacts. Extremely high inflation can reduce people's purchasing power, hinder investment, and cause economic instability (24). On the other hand, well-controlled inflation can stimulate economic growth by ensuring stable prices and increasing economic actors' confidence in their production and consumption activities.

In macroeconomic studies, inflation is regarded as an important indicator that affects economic stability, consumer behavior, and investment decisions. Several recent studies indicate that inflation is closely related to economic performance, including economic growth, exchange rates, and trade activities. Research by Lestari and Pratama (25) shows that high inflation tends to suppress economic growth by reducing household consumption. Similarly, Rahman (26) found that inflation significantly affects exchange rates, which in turn influences Indonesia's exports and imports. Another study by Widodo (27) on ASEAN countries confirms that controlled inflation can support a stable economic climate and encourage foreign investment. The synthesis of these studies indicates that inflation not only reflects domestic price conditions but also has a major impact on broader economic dynamics, making its management a key factor in maintaining stability and promoting sustainable economic growth.

## Methods

The data used in this study is secondary data collected from various sources, such as the Central Statistics Agency (BPS), scientific articles, and other relevant literature on this topic. The dataset for this study consists of panel data spanning eight years, from 2017 to 2024. The data was reprocessed to meet the requirements of the model used. This study uses an econometric analysis approach using Eviews 10 software, specifically a multiple regression model using the ordinary least squares (OLS) method. OLS estimation provides the most accurate linear unbiased estimator (BLUE) (11).

Gross Domestic Product (GDP) is the total value of goods and services produced by all economic activities in a country during a specific period, usually one year. The exchange rate refers to the value of a country's currency against other currencies, which affects export and import competitiveness and overall economic health. Inflation describes a scenario where there is a sustained and widespread increase in the prices of goods and services over a period of time. Exports involve the sale of domestically produced goods or services to foreign markets to generate foreign exchange and expand market reach. These exports are then used in the development of econometric models or estimation frameworks.

Dynamic panel data models are used to explain the relationships between economic variables that change over time. The dynamic nature of these models is reflected in the inclusion of a lagged dependent variable as one of the independent variables (12). The linear regression model for panel data can be written as follows:

$$EKS_{it} = \alpha + \beta_1 GDP_{it} + \beta_2 KURS_{it} + \beta_3 INF_{it} + e_{it}$$

The regression model above is used to analyze the influence of several macroeconomic variables on export value (EKS). In the equation,  $EKS_{it}$  is the dependent variable that shows the export value of country  $i$  in period  $t$ . This variable is influenced by three independent variables, namely  $GDP_{it}$ ,  $EXCHANGE\ CURRENCY_{it}$ , and  $INF_{it}$ . The constant  $\alpha$  represents the export value when all independent variables are zero. The coefficient  $\beta_1$  shows how much exports change due to changes in Gross Domestic Product (GDP). The coefficient  $\beta_2$  describes the effect of the exchange rate (EKS) on exports, while  $\beta_3$  shows the impact of the inflation rate (INF) on exports. Meanwhile,  $e$  or  $e_{it}$  is an error term that captures other factors outside the model that also affect export value but are not included in the equation. This model is generally used to examine international economic relations, specifically how a country's domestic conditions can affect its export performance over time.

## Results and Discussion

**Table 1. Panel Data Regression Model Estimation Results**

Variables	Regression Coefficient		
	CEM	FEM	REM
C	11920,14	22369,54	11920,14
GDP	0,128460	0,560307	0,128460
Kurs	-0,124206	-0,8506740	-0,124206
Inflaation	1933,184	-154,1872	1933,184
<i>Adjusted. R<sup>2</sup></i>	0,111003	0,856945	0,111003
<i>F-statistics</i>	2,290251	31,94986	2,290251
<i>Prob. F-statistics</i>	0,100037	0,000000	0,100037
<b>Model Selection Test</b>			
1) Chow <i>Cross-section F (3,25) = 49,667286 ; Prob. F (3,25) = 0,0000</i>			
2) Hausman <i>Cross-section random X<sup>2</sup> (3) = 149,001859 ; Prob. X<sup>2</sup> (3) = 0,0000</i>			

Source: Eviews Data Processing Results (processed 2025)

Based on Table 1, the results of the Chow and Hausman tests indicate that the Fixed Effect Model (FEM) is the most appropriate estimation model to use in this study. The selection of FEM is supported by the F and  $\chi^2$  probability values being below the 0.05 significance level, indicating that this model is able to capture the characteristics of panel data more accurately than the Common Effect Model and Random Effect Model. To clarify the modeling results, details of the FEM estimation are presented in Table 2.

**Table 2. Fixed Effect Model (FEM) Estimation**

$Y = 22369.54 + 0.5603 \text{ GDP} - 8,5067 \text{ KURS} - 154.1871 \text{ INF}$ $(0,0011)^{***} \quad (0,0029)^{***} \quad (0,7213)$
$R^2 = 0,856945 ; DW = 0,907041 ; F\text{-stat} = 31,94986 ; Prob. F\text{-stat} = 0,00000$

Source: Eviews Data Processing Results (processed 2025)

Based on Table 2, the significant F-statistic probability value confirms that GDP, exchange rates, and inflation simultaneously influence exports. The high Adjusted R<sup>2</sup> of 0.857 indicates that export fluctuations are closely related to domestic macroeconomic dynamics. This finding aligns with international trade theory, which emphasizes that a country's ability to export is strongly influenced by production capacity (represented by GDP) and price competitiveness (which is influenced by the exchange rate). In this context, macroeconomic stability plays a crucial role in maintaining export performance.

**Table 3. t-Test Results**

Variables	Coefficient	Sig.t	Description	Conclusion
GDP	0,560307	0,0011	$\alpha = 0,05$	Significant

Kurs	-8,506740	0,0029	$\alpha = 0,05$	Significant
Inflation	-154,1872	0,7213	$\alpha = 0,05$	Not Significant

Source: *Eviews Data Processing Results (processed 2025)*

The partial test results show that GDP and exchange rates have a significant effect on exports, while inflation has no significant effect. The significance of GDP indicates that an increase in domestic economic capacity is directly related to the ability to generate surplus production for export. This finding is consistent with previous research in reference (13), which shows that United States GDP has a significant effect on Indonesian rubber commodity exports to the destination country. Theoretically, an increase in a country's output, both domestically (Indonesia's GDP in this study) and in the destination country (US GDP in study (13)), provides support for export demand and supply.

The exchange rate variable also proved significant, indicating that domestic currency depreciation can increase product price competitiveness in the international market. This finding is in partial agreement with the study in reference (14), which stated that the exchange rate has a positive influence on non-oil and gas exports in the short term, although not significant. The difference between the results of these studies. However, the same direction of influence strengthens the position of the exchange rate as a key component in determining export performance.

Meanwhile, the inflation variable did not show a significant effect on exports. This may occur because domestic inflation does not directly affect the production costs of export goods, especially if the export sector being analyzed is not very sensitive to changes in domestic costs or if the company has the ability to absorb increases in input prices. This finding supports the results of the study in reference (15), which concluded that inflation had no significant effect on rubber exports when tested partially. However, when evaluated simultaneously with the exchange rate and production level, all three variables had a significant effect on rubber exports as a whole. This consistency suggests that inflation often only has an effect when viewed in interaction with other macroeconomic variables, rather than as a single factor.

Overall, the results of this study confirm that the dynamics of Indonesian exports are highly dependent on exchange rate stability and domestic economic capacity. Both are key factors determining the competitiveness of Indonesian products in the global market. On the other hand, inflation does not appear to be a direct determinant in the short or medium term, especially when the analyzed export sector has a relatively stable cost structure or is able to efficiently divert inflationary pressures. Consistency with previous studies (13), (14), and (15) provides strong empirical support for these findings, thus enriching the literature on the relationship between macroeconomic variables and export performance in Indonesia.

## Conclusion

Based on the research findings for the period 2017 to 2024, this study examines how gross domestic product (GDP), exchange rates, and inflation influence export volume in Thailand, Malaysia, Singapore, and the Philippines. These elements were analyzed using panel data analysis. The results indicate that the export volume of these countries is strongly affected by GDP and exchange rates. However, economic growth is not influenced by inflation alone.

In conclusion, it can be stated that export volume is significantly affected by the combined effects of GDP, exchange rates, and inflation. The Adjusted R<sup>2</sup> value of 0.857 or 85.7% shows that the explanatory power of GDP, exchange rates, and inflation on changes in export volume is 85.7%. This means that approximately 14.3% of the variation in export volume is influenced by other factors not examined in this study. It was also found that GDP and exchange rates are variables with t-statistic probability values of less than 0.05. Conversely, inflation does not have a significant effect on export volume, either individually or when combined with other variables.

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