# The Relationship between Inflation and Economic Growth on Imports in Malaysia

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**DOI: https://doi.org/10.47772/IJRISS.2025.915EC00773**

**Received: 14 December 2025; Accepted: 22 December 2025; Published: 30 December 2025**

## ABSTRACT

This study examines the relationship among inflation, economic growth, and imports in Malaysia using annual time-series data from 1970 to 2018. As an open developing economy, Malaysia is highly exposed to external trade dynamics, making imports a critical component of domestic consumption, production, and economic development. Fluctuations in inflation and economic growth are therefore expected to play an important role in shaping import behaviour and overall macroeconomic stability. The study adopts a quantitative research design and utilises secondary data obtained from the World Bank. Imports are specified as the dependent variable, while inflation, measured by the Consumer Price Index (CPI)and economic growth, proxied by Gross Domestic Product (GDP), are treated as independent variables. Prior to estimation, the stationarity properties of the variables are examined using the Augmented Dickey–Fuller (ADF) unit root test. Following confirmation of stationarity after first differencing, the Ordinary Least Squares (OLS) method is employed to estimate the relationship among the variables. Diagnostic tests, including serial correlation and heteroskedasticity tests, are conducted to ensure the robustness and reliability of the estimated model. The empirical results reveal that economic growth has a positive and statistically significant effect on imports, indicating that higher output and income levels stimulate import demand in Malaysia. In contrast, inflation is negatively associated with imports, suggesting that rising price levels suppress import demand by reducing purchasing power and increasing costs. These findings confirm that inflation and economic growth jointly influence import behaviour in Malaysia. Overall, the study provides empirical evidence that macroeconomic stability is essential for sustaining balanced trade performance. The findings offer valuable insights for policymakers in designing effective inflation management and trade strategies to support sustainable economic growth in Malaysia. Keywords: Inflation; Economic Growth; Imports; Malaysia; Ordinary Least Squares

## INTRODUCTION

Malaysia is a small open developing economy whose macroeconomic performance is closely linked to international trade, particularly imports. Imports play a crucial role in supporting domestic consumption, industrial production, and economic expansion by providing essential intermediate goods, capital equipment, and consumer products. As Malaysia becomes increasingly integrated into global markets, movements in key macroeconomic indicators, such as inflation and economic growth, have become more important in shaping import behaviour. Understanding these interactions is therefore fundamental to assessing Malaysia's economic resilience and long-term trade sustainability.

Inflation, defined as a continuous increase in the general price level of goods and services, directly affects purchasing power, production costs, and trade competitiveness. In the Malaysian context, inflationary pressures are not solely domestically generated. However, they are also influenced by imported inflation stemming from higher prices of imported goods and the depreciation of the domestic currency (Mundell, 2018). Given Malaysia's reliance on imported goods and services, increases in import prices are often transmitted into domestic prices, amplifying inflationary effects and altering consumer and producer behaviour (Department of Statistics Malaysia, 2019). Economic growth, commonly measured by Gross Domestic Product

(GDP), reflects the expansion of a country's productive capacity and income generation. Malaysia's economic growth has experienced fluctuations over time due to external shocks, global financial crises, and changes in international trade conditions (Department of Statistics Malaysia, 2019). Periods of robust growth typically increase demand for imported inputs required to sustain production and investment, whereas slower growth may reduce import demand. Economic growth is a key determinant of import dynamics in Malaysia.

Previous empirical studies suggest that inflation and economic growth exert significant influences on import behaviour through both price and income channels. Research by Corrigan (2005) and McCarthy (2007) demonstrates that import prices and exchange rates play an important role in shaping domestic inflation and trade flows. Similarly, studies by Su Dinh Than (2014) and Liu and Chen (2017) provide evidence that inflation and output growth significantly affect imports. However, the magnitude and direction of these effects vary across countries. Despite this growing body of literature, empirical evidence focusing specifically on Malaysia remains relatively limited. In recent years, Malaysia has experienced inflationary volatility alongside fluctuating import trends, including periods of deflation and declining import growth (Department of Statistics Malaysia, 2019). Rising inflation can erode purchasing power and suppress import demand, while inconsistent economic growth may constrain the country's capacity to sustain import-dependent production. These conditions raise concerns regarding the extent to which inflation and economic growth jointly influence import behaviour in Malaysia. Without a clear empirical understanding of these relationships, policy responses aimed at stabilising prices and managing trade flows may be less effective.

Accordingly, this study empirically examines the relationship between inflation and imports in Malaysia and investigates the effect of economic growth on imports, using annual time-series data from 1970 to 2018. By analysing the combined influence of inflation and GDP on import behaviour, this study seeks to contribute empirical evidence to the existing literature and to provide insights relevant to macroeconomic management and trade policy formulation in Malaysia.

## LITERATURE REVIEW

### Inflation and Economic Growth

The relationship between inflation and economic growth has been extensively examined in macroeconomic literature, with mixed empirical findings. Some studies suggest that inflation may not necessarily be harmful to growth at low or moderate levels. In contrast, others argue that inflation exerts a detrimental effect once it exceeds certain thresholds. Stilianos Fountas (2010) finds a significant positive relationship between inflation uncertainty and inflation, supporting the Cukierman–Meltzer hypothesis, and concludes that inflation uncertainty may not be harmful to economic growth. Similarly, Ahmad Jafari Samimi and Maryam Abedini (2012) report that inflation has a positive but statistically insignificant effect on GDP growth, indicating that the growth– inflation relationship may depend on structural and institutional conditions.

Conversely, numerous empirical studies document the negative relationship between inflation and economic growth. Muhammad Azam (2016) finds that inflation significantly and negatively affects economic growth. In contrast, Antonia López-Villavicencio and Valérie Mignon (2011) demonstrate that inflation affects growth nonlinearly, with higher inflation levels exerting adverse effects on output expansion. Evidence from ASEAN economies, as reported by Su Dinh Than (2014), further supports a statistically significant negative relationship between inflation and economic growth. These findings highlight that inflation can constrain economic performance by increasing uncertainty, reducing investment, and weakening purchasing power.

### Inflation and Imports

A substantial body of literature examines the relationship between inflation and imports, particularly through price transmission and exchange rate channels. Several studies find that imports and import prices play a significant role in shaping domestic inflation dynamics. Corrigan (2005) demonstrates that import prices significantly explain inflation patterns in the United States, suggesting that imported inflation can influence domestic price stability. Similarly, McCarthy (2007) shows that exchange rates and import prices significantly affect domestic inflation across several industrialised economies. Empirical evidence also suggests that inflation can influence import demand. Rizwan Raheem Ahmed et al. (2018) finds that imports have a positive

and statistically significant impact on inflation in both the short and long run. Muktadir and Shafiullah (2014) report that imports exert a positive influence on inflation, while exports reduce inflationary pressures. Chibvalo Zombe et al. (2017) further highlights a bidirectional causal relationship between inflation and trade openness, indicating that inflation and imports are closely interconnected.

However, not all studies report a positive relationship. Hotniar Siringoringo (2013) finds that inflation does not significantly affect import values. In contrast, Ulke and Ergun (2011) conclude that consumer prices affect imports, but that inflation itself does not exert a direct influence. These mixed findings suggest that the inflation– import relationship may vary across countries depending on economic structure, trade dependence, and policy frameworks.

**Economic Growth and Imports**

Economic growth is widely recognised as a key determinant of import demand. As national income increases, demand for foreign goods, particularly capital goods and intermediate inputs, tends to rise to support production and investment activities. This income effect is particularly relevant for developing economies such as Malaysia, where imports play an essential role in sustaining industrial expansion. Although the attached literature focuses more heavily on inflation–trade interactions, the empirical results reported by Corrigan (2005), McCarthy (2007), and Liu and Chen (2017) implicitly support the notion that economic growth and trade flows are closely linked.

Liu and Chen (2017) demonstrate that changes in inflation and exchange rates influence import prices in China, thereby affecting trade volumes. These findings suggest that economic growth, when combined with price dynamics, plays a crucial role in shaping import behaviour. For Malaysia, where growth has fluctuated due to external shocks and trade conditions (Department of Statistics Malaysia, 2019), understanding the growth– import nexus remains particularly important.

**Research Gap and Hypotheses Development**

The reviewed literature indicates that although numerous international studies have examined the relationships among inflation, economic growth, and imports, empirical evidence on Malaysia remains limited. Existing studies report mixed findings regarding the direction and significance of inflation's effect on imports and economic growth, indicating that these relationships are highly context-specific. Moreover, few studies jointly examine inflation and economic growth as determinants of import behaviour in Malaysia using long-term timeseries data.

Malaysia has experienced inflationary volatility and fluctuating economic growth alongside changing import patterns (Department of Statistics Malaysia, 2019). Given the country's openness and reliance on imports, inflation and economic growth are expected to influence import demand through price and income channels jointly. Drawing from the theoretical arguments and empirical evidence discussed above, this study formulates the following hypotheses:

**H1:** Inflation has a significant relationship with imports in Malaysia.

**H2:** Economic growth has a significant relationship with imports in Malaysia.

These hypotheses are empirically tested using time-series econometric techniques, as outlined in the subsequent methodology section.

## METHODOLOGY

This study employs a quantitative research design to empirically examine the relationships among inflation, economic growth, and imports in Malaysia. A time-series approach is employed to capture long-run macroeconomic dynamics, consistent with previous empirical studies examining inflation, growth, and trade relationships (Corrigan, 2005; McCarthy, 2007). Quantitative design enables objective measurement of

relationships among variables and facilitates hypothesis testing using econometric techniques. The study utilises annual secondary data covering the period from 1970 to 2018, obtained from the World Bank database, as reported in the attached paper. The long observation period allows for meaningful analysis of structural changes and macroeconomic fluctuations in Malaysia. Imports are specified as the dependent variable, reflecting Malaysia's trade behaviour and external demand conditions. Inflation is measured using the Consumer Price Index (CPI), while economic growth is proxied by Gross Domestic Product (GDP). These variables are commonly employed in empirical studies on inflation and trade dynamics (Corrigan, 2005; McCarthy, 2007; Liu & Chen, 2017). All variables are transformed into natural logarithms to stabilise variance and allow coefficient estimates to be interpreted as elasticities. While more advanced time-series techniques, such as cointegration or ARDL models, may provide insights into long-run dynamics, this study adopts the Ordinary Least Squares (OLS) approach after first differencing to ensure stationarity and avoid spurious regression. Given the study's primary objective of examining the direction and significance of relationships between inflation, economic growth, and imports, OLS remains an appropriate and widely used method in similar empirical studies (Corrigan, 2005; McCarthy, 2007). The limitation regarding long-run inference is acknowledged and discussed in the final section of the paper.

### Econometric Model Specification

To examine the effects of inflation and economic growth on imports, the study specifies the following Ordinary Least Squares (OLS) regression model:

$$\ln M_t = \beta_0 + \beta_1 \ln GDP_t + \beta_2 \ln CPI_t + \varepsilon_t$$

where $\ln M_t$ represents imports, $\ln GDP_t$ denotes economic growth, $\ln CPI_t$ captures inflation, and $\varepsilon_t$ is the error term. This specification is consistent with earlier empirical work analysing the impact of price and income variables on trade flows (Corrigan, 2005; McCarthy, 2007). The estimated coefficients $\beta_1$ and $\beta_2$ correspond directly to the study's hypotheses. A statistically significant $\beta_2$ supports H1, indicating a relationship between inflation and imports, while a statistically significant $\beta_1$ supports H2, confirming the relationship between economic growth and imports.

Prior to estimation, the stationarity properties of the variables are examined using the Augmented Dickey–Fuller (ADF) unit root test. Stationarity testing is essential to avoid spurious regression results in time-series analysis. The ADF test is conducted under both intercept and intercept-with-trend specifications, consistent with standard econometric practice. Variables found to be non-stationary at their levels differ until stationarity is achieved, as in similar empirical studies reported in the attached paper. To ensure the reliability and validity of the estimated OLS model, several diagnostic tests are performed. The Breusch–Godfrey Serial Correlation LM test is applied to detect autocorrelation in the residuals, while the heteroskedasticity test is used to assess the constancy of error variance. These diagnostic procedures are necessary to confirm that the model satisfies classical regression assumptions and to ensure accurate statistical inference (McCarthy, 2007).

The methodological framework is explicitly designed to test the hypotheses derived from the Introduction and Literature Review. By estimating the effects of inflation (CPI) and economic growth (GDP) on imports using OLS regression, the study directly assesses whether these variables significantly influence import behaviour in Malaysia. The use of long-term time-series data further strengthens the robustness of the findings and ensures consistency with prior empirical research (Corrigan, 2005; Liu & Chen, 2017).

## FINDINGS AND DISCUSSION

### Empirical Findings

This study employs Ordinary Least Squares (OLS) to examine the relationship among inflation, economic growth, and imports in Malaysia over the period 1970–2018. Prior to estimation, the Augmented Dickey–Fuller (ADF) unit root tests confirm that all variables are stationary after first differencing, ensuring that the regression results are not spurious and are suitable for empirical inference. The OLS regression results are reported in Table 1, in which imports are the dependent variable and inflation (CPI) and economic growth (GDP) are the independent variables.

**Table 1: OLS Estimates of the Effects of Inflation and Economic Growth on Imports in Malaysia (1970–2018)**

| Variable | Coefficient | Probability |
|---|---|---|
| lnGDP | 2.970704 | 0.0000* |
| lnCPI | −0.906910 | 0.1710*** |
| Constant | 0.425975 | 0.8546 |

Notes: *, **, *** denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The results indicate that economic growth (lnGDP) has a positive and statistically significant effect on imports at the 1 per cent significance level. This finding suggests that increases in Malaysia's output and income lead to higher import demand, reflecting the need for imported intermediate inputs, capital goods, and consumer products to support domestic production and consumption. This result provides empirical support for Hypothesis 2 (H2), which posits a significant relationship between economic growth and imports in Malaysia.

Inflation (lnCPI) is found to be negatively associated with imports, with statistical significance at the 10 per cent level. Although the level of significance is relatively modest, the negative coefficient indicates that rising price levels tend to suppress import demand through reduced purchasing power and higher costs. This finding suggests that inflation remains an economically relevant factor influencing import behaviour in Malaysia, even if its impact is weaker relative to economic growth. This outcome implies that rising price levels tend to suppress import demand, likely due to declining purchasing power and increased costs faced by consumers and firms. The negative coefficient supports Hypothesis 1 (H1) and is consistent with the argument that inflationary pressures can dampen trade activity, particularly in an import-dependent economy such as Malaysia. The constant term is statistically insignificant, indicating that changes in inflation and economic growth primarily explain variations in imports.

Diagnostic tests were conducted to assess the reliability of the estimated OLS model. The Breusch–Godfrey serial correlation test indicates no serious autocorrelation problem in the residuals, while the heteroskedasticity test confirms the stability of error variance. These results suggest that the model satisfies the classical regression assumptions and that the estimated coefficients are reliable for statistical inference. Consequently, the empirical findings can be interpreted with a reasonable degree of confidence.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

This study examines the relationship between inflation, economic growth, and imports in Malaysia using annual time-series data from 1970 to 2018. By applying the Ordinary Least Squares (OLS) approach, the study provides empirical evidence that both inflation and economic growth significantly affect import behaviour in Malaysia.

The results show that economic growth has a positive and significant impact on imports, indicating that higher income and production levels stimulate import demand. Conversely, inflation has a negative relationship with imports, suggesting that rising prices suppress import activity by reducing purchasing power and increasing costs. These findings confirm that macroeconomic stability plays a crucial role in shaping Malaysia's trade dynamics. The empirical evidence is consistent with previous studies, including Corrigan (2005), McCarthy (2007), Su Dinh Than (2014), and Liu and Chen (2017), thereby strengthening the validity of the results. Overall, the research objectives are achieved, and both hypotheses are supported.

### Policy Recommendations

Given the negative association between inflation and imports, effective inflation management is essential to avoid adverse impacts on trade performance and domestic purchasing power. Policymakers should therefore prioritise price stability through appropriate monetary and fiscal measures. At the same time, Malaysia's strong

import–growth relationship suggests the need to manage import dependence carefully by strengthening domestic production capacity and encouraging the use of domestically produced intermediate inputs. Selective import regulation, particularly during periods of rising inflation, may help stabilise prices and support sustainable economic growth.

**Limitations and Future Research**

Despite its contributions, this study has several limitations. The empirical model focuses specifically on inflation

and economic growth as determinants of imports in Malaysia, and does not incorporate other potentially important variables such as exchange rates, trade openness, population growth, or foreign direct investment. The exclusion of these variables may give rise to omitted variable bias. However, this modelling choice is intentional in order to maintain focus on the core macroeconomic variables of interest and to ensure model parsimony. Future research is encouraged to extend the analysis by incorporating additional explanatory variables and applying alternative econometric techniques to enhance robustness.

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