

The Effect of Foreign Debt, Foreign Direct Investment, Trade Openness, Labor, and Government Expenditure on Economic Growth in Lower Middle and Upper Middle Income ASEAN Countries

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Abstract

This study examines the effect of foreign debt, foreign direct investment (FDI), trade openness, labor force, and government expenditure on the economic growth of lower-middle and upper-middle-income ASEAN countries (Indonesia, Thailand, Malaysia, the Philippines, Vietnam, and Cambodia) from 2000 to 2019. Utilizing panel data—comprising time-series and cross-sectional data sourced from the World Bank and the Malaysian Authority—this study employs a multiple linear regression analysis. Based on model estimation tests, the Fixed Effect Model (FEM) was selected as the optimal approach. The findings indicate that, simultaneously, foreign debt, FDI, trade openness, labor force, and government expenditure significantly affect economic growth in the observed region. Partially, FDI, labor force, and government expenditure exert a positive and significant impact. Trade openness demonstrates a positive but non-significant effect, whereas foreign debt negatively and insignificantly impacts economic growth. These results highlight the crucial role of domestic fiscal management and investment in driving sustainable growth and avoiding the middle-income trap.

Keywords: Economic Growth, Foreign Investment, Labor, Government Expenditures, and ASEAN Economies.

JEL Classification: F43, H50, O11, O47, and O53.

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Introduction

Economic growth constitutes a fundamental indicator for assessing a country's economic development, as it reflects the capacity of economic activities to generate additional income over time. The most widely used measure of economic growth is the Gross Domestic Product (GDP) growth rate, which captures changes in GDP relative to previous periods. Todaro & Smith (2011) argues that an economy is considered to be expanding when its GDP exhibits a positive year-to-year increase. In the context of developing economies, GDP growth not only signifies the effective utilization of economic resources but also represents an essential condition for alleviating poverty and reducing income inequality (C. T. Nguyen & Bui, 2021). Moreover, sustained increases in GDP, coupled with macroeconomic stability, are

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widely recognized as key characteristics of a resilient economy (Glawe & Wagner, 2020).

According to the World Bank classification, countries are grouped into four income categories: low income, lower-middle income, upper-middle income, and high income. These classifications are based on per capita income, which is typically measured by dividing Gross Domestic Product (GDP) by the total population. GDP per capita serves as a key indicator of economic performance and is frequently used to evaluate a country's success in managing its economy and improving the welfare of its population. The income thresholds used for this classification are summarized in Table 1.

Table 1. Income Classification

Category	GDP Per Capita
Low Income	< US\$ 995
Lower-Middle Income	US\$ 996 - US\$ 3,895
Upper-Middle Income	US\$ 3,896 - US\$ 12,055
High Income	> US\$ 12,056

Source: World Bank, 2020.

Lower-middle-income and upper-middle-income countries are particularly susceptible to the middle-income trap phenomenon. Productivity stagnation can undermine their competitiveness relative to both labor-intensive low-income economies and innovation-driven advanced economies, thereby constraining their transition to high-income status (Yilmaz, 2021). Moreover, the persistence of middle-income trap conditions may lead to macroeconomic instability and heightened social conflict, posing significant challenges to long-term and sustainable development (Kharas & Kohli, 2023; Lumbangaol & Pasaribu, 2018).

The Association of Southeast Asian Nations (ASEAN) serves as a regional framework for cooperation among ten countries in Southeast Asia. Its economic integration efforts originated with the adoption of the Bangkok Declaration in 1967, which sought to promote economic growth, social progress, and cultural development throughout the region. In pursuit of these objectives, ASEAN member states have consistently implemented policies and strategies aimed at enhancing economic performance and increasing their competitiveness both regionally and internationally.

This study focuses on ASEAN countries categorized as lower-middle-income and upper-middle-income economies, namely Indonesia, Thailand, Malaysia, the Philippines, Vietnam, and Cambodia. The selection of these countries ensures greater comparability, given that Indonesia belongs to the same income classification. Moreover, economies within these income groups are considered particularly vulnerable to the middle-income trap, a condition that can hinder their transition to high-income and developed-country status. Beyond its economic consequences, the middle-income trap may also exacerbate social tensions and reduce national competitiveness relative to both developed and developing economies, thereby posing significant challenges to long-term development (Lumbangaol & Pasaribu, 2018). To provide a clearer understanding of the economic growth dynamics of ASEAN lower-middle-income and upper-middle-income countries, Figure 1 illustrates their economic growth trends over the period 2000-2019.

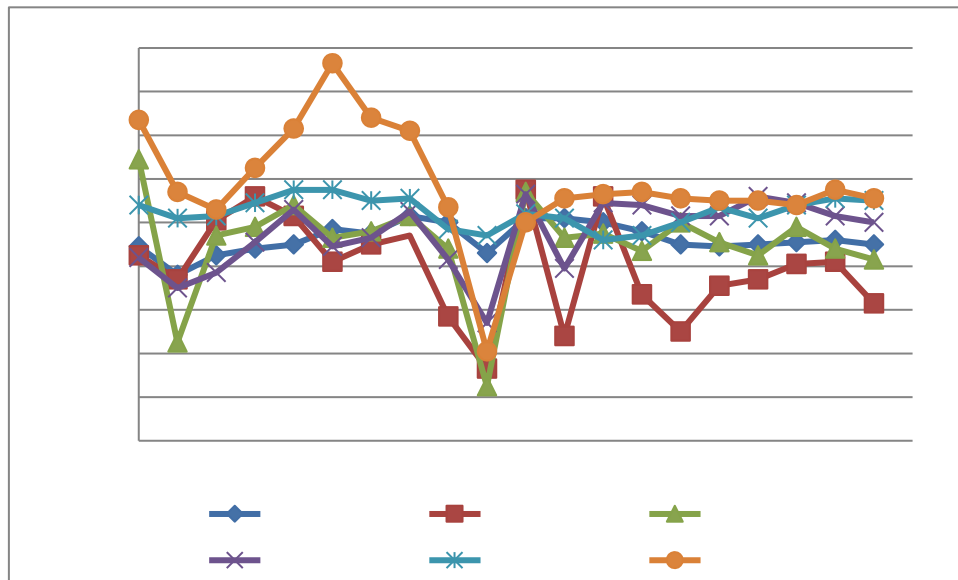


Figure 1. Economic Growth in ASEAN

Source: World Bank, 2020.

Figure 1 illustrates that ASEAN lower-middle-income and upper-middle-income economies generally experienced positive economic growth during 2000-2019, despite periods of significant deceleration. The first major slowdown occurred in 2001, when regional growth declined from 6.7% to 4.0%, reflecting the adverse effects of the economic turbulence that affected Asian economies at the beginning of the decade. A more pronounced contraction emerged during the 2008-2009 global financial crisis, with growth falling from 7.0% in 2007 to 4.9% in 2008 and further to 1.6% in 2009. This decline was largely attributable to the global recession triggered by financial instability in the United States and subsequent economic downturns in Europe, which generated widespread effects across both developed and developing economies, including those in Southeast Asia.

Traditional growth theory identifies population growth and labor force expansion as key determinants of economic growth (Todaro & Smith, 2011). A growing labor force increases production capacity, while a larger population expands the domestic market and creates greater demand for goods and services. Beyond demographic factors, government expenditure also constitutes an important component of economic activity. According to Swaramarinda & Indriani (2011), routine government spending can stimulate household consumption by increasing employee and public expenditures. Through its effect on aggregate demand, such spending contributes to higher national income and promotes economic growth.

Government intervention extends beyond the regulation of economic activities to the management of aggregate expenditure, making it a key determinant of economic performance (Todaro & Smith, 2011). Public expenditure, particularly recurrent government spending, can stimulate consumption through increased employee compensation and public spending, thereby boosting aggregate demand and national income. In addition, government expenditure on infrastructure development plays a strategic role in supporting economic growth. According to Hariyani et al (2012), investments in infrastructure improve the efficiency of production processes and

facilitate the delivery of goods and services. These improvements enhance productive capacity, stimulate economic activity, and contribute to sustained economic growth.

Foreign Direct Investment (FDI) constitutes a key source of capital that can significantly promote economic growth. Through the inflow of foreign resources, FDI contributes to employment creation, increases production output, mitigates domestic savings shortages, strengthens foreign exchange reserves, enhances public revenues, and facilitates the transfer of managerial knowledge and expertise to the host country (Jaya, 2014). As a result, FDI can improve productive capacity and support sustained economic expansion. Empirical evidence provided by Putri (2014) further suggests a positive relationship between FDI and economic growth, implying that greater investment inflows are associated with higher levels of economic performance.

Foreign debt constitutes a major source of external financing for developing economies and is frequently employed to support infrastructure development, expand productive capacity, generate employment, and enhance foreign exchange reserves (Saputra & Kesumajaya, 2016). Nevertheless, its contribution to economic growth has been widely debated in the development economics literature. Proponents argue that external borrowing provides governments with additional resources to finance development programs, accelerate economic growth, and increase per capita income. Conversely, critics contend that prolonged reliance on foreign debt may create significant economic and political vulnerabilities. In the long run, excessive debt accumulation can impose substantial repayment obligations that constrain public spending, hinder economic growth, and reduce societal welfare, particularly in developing countries (Febrianti, 2012).

Trade openness is widely recognized as a key determinant of economic growth and is often described as an engine of economic development. It reflects the degree to which an economy engages in international trade through exports and imports, allowing countries to exploit comparative advantages and allocate resources more efficiently (Astuti, 2020). Increased trade openness can broaden access to international markets, enhance the competitiveness of domestic industries, and encourage innovation through greater exposure to global competition. These mechanisms contribute to higher productivity and economic growth. Nonetheless, the relationship between trade openness and economic performance remains context-dependent. Kim (2011) suggests that in certain developing economies, trade liberalization may have adverse effects when domestic industries lack the capacity to compete effectively with imported goods. While such vulnerabilities may constrain short-term growth, the expansion of trade-driven economic activity generally promotes job creation, poverty reduction, improved welfare, and greater economic independence.

Economic growth is shaped by various macroeconomic determinants, including foreign debt, foreign direct investment (FDI), trade openness, labor force dynamics, and government expenditure. Despite extensive scholarly attention, the relationship between these variables and economic growth remains a subject of ongoing debate due to inconsistent empirical findings across countries and periods. These discrepancies underscore the importance of further empirical assessment, particularly among developing economies that remain vulnerable to the middle-income trap. Therefore, this study, entitled “*The Impact of Foreign Debt, Foreign Direct Investment, Trade Openness, Labor Force, and Government Expenditure on the Economic Growth of Lower-Middle- and Upper-Middle-Income ASEAN Countries*,” seeks to analyze the extent to which these factors influence economic growth in selected ASEAN

economies, namely Indonesia, Thailand, Malaysia, the Philippines, Vietnam, and Cambodia, over the period 2000-2019.

Literature Review

Economic growth is defined as an increase in a country's productive capacity that leads to a sustained rise in economic output, typically measured by Gross Domestic Product (GDP). As one of the most widely used indicators of economic performance, GDP reflects the overall value added generated by all sectors of an economy during a specific period. It can also be interpreted as the total value of final goods and services produced within a country (Central Bureau of Statistics, 2020). Therefore, changes in GDP provide a comprehensive measure of fluctuations in production activity and are commonly used to evaluate the progress of economic development.

Economic growth has been explained through various theoretical perspectives, notably the Classical, Harrod-Domar, and Neoclassical growth models. The Classical theory of economic growth underscores the importance of population growth in shaping economic performance. It posits that when labor remains relatively scarce, returns on capital tend to rise, thereby generating greater investment incentives and fostering economic expansion. However, excessive population growth may exert downward pressure on productivity and reduce overall economic welfare (Todaro & Smith, 2011). In contrast, the Harrod-Domar model emphasizes the central role of capital accumulation as a driver of economic growth. Within this framework, capital accumulation contributes both to income generation and to the expansion of productive capacity through increases in the stock of physical capital (Tarigan, 2014).

The Neoclassical growth model developed by Solow posits that long-run economic growth is determined by the combined effects of capital accumulation, labor force growth, and technological progress, with savings serving as a key mechanism for capital formation (Mankiw, 2007). Within this framework, economic output evolves through the interaction of these factors, while technological advancement remains the primary source of sustained growth in the long run. Collectively, Classical, Harrod-Domar, and Neoclassical growth theories highlight the fundamental importance of capital, labor, and technology in driving economic development. More specifically, the Harrod-Domar model stresses the necessity of continuous investment and capital accumulation to expand productive capacity, accelerate output growth, and mitigate the risk of prolonged income stagnation (Tarigan, 2014).

Investment constitutes a fundamental driver of economic growth, particularly in developing economies where financial constraints often limit the government's capacity to finance development programs. In such contexts, investment provides an important source of external and domestic funding that can accelerate economic development, promote industrialization, facilitate technology transfer, and strengthen private sector involvement in achieving national development objectives. Moreover, foreign capital inflows contribute to job creation and the enhancement of labor skills, thereby improving productive capacity and economic competitiveness (Jhingan, 2000). For this reason, foreign direct investment (FDI) is widely regarded as an essential mechanism for supporting development activities that exceed the financial and technological capabilities available within the domestic economy.

Foreign Direct Investment (FDI) is widely regarded as a strategic driver of economic growth and inclusive development. By stimulating business activity and

creating employment opportunities, FDI can strengthen economic participation and contribute to higher national income. In addition, FDI plays a crucial role in addressing the savings-investment gap that commonly constrains growth in developing economies. Beyond its contribution as a source of capital, recent studies highlight the multifaceted benefits of FDI, including the transfer of advanced technologies, the dissemination of managerial knowledge and organizational practices, and greater integration into global value chains. These spillover effects enhance productive efficiency, improve competitiveness, and foster sustained economic growth over the long term.

Empirical studies have consistently identified Foreign Direct Investment (FDI) as a key driver of industrialization and productive capacity expansion in developing economies (Comes et al., 2018; Dinh et al., 2019). Beyond its conventional role in addressing domestic savings constraints, FDI serves as a critical mechanism for modernizing the private sector through capital accumulation, technology transfer, and improvements in managerial and operational efficiency. These effects contribute significantly to the expansion of national output and the enhancement of economic competitiveness. For ASEAN lower-middle-income and upper-middle-income countries, such benefits are particularly relevant, as increased productive capacity and structural upgrading can facilitate the transition toward higher-income status and help mitigate the risks associated with the middle-income trap (Qiu et al., 2021; Sapuan & Roly, 2021).

Demographic expansion and labor force growth have long been recognized as key determinants of economic growth. An increasing labor force contributes to higher production capacity, while population growth enlarges the domestic market and stimulates aggregate demand. Theoretical support for the role of labor in economic development is provided by Lewis's dual-sector model, which conceptualizes developing economies as consisting of a traditional sector characterized by surplus labor and a more productive modern sector. Economic growth occurs as excess labor is gradually transferred from the traditional to the modern sector, leading to higher productivity, increased output, and structural transformation. Moreover, this process is expected to narrow income disparities between sectors and support broader economic development (Todaro & Smith, 2011).

Endogenous growth theory extends the analysis of labor beyond its numerical size by emphasizing the importance of human capital quality as a fundamental driver of economic growth. Under this perspective, a demographic dividend in the form of a large working-age population can generate substantial economic benefits only if labor is efficiently allocated to productive and high-value-added sectors. A labor market that effectively responds to evolving industrial needs can increase marginal productivity, leading to higher output and sustained economic expansion (Ali et al., 2018). Empirical studies further indicate that the successful absorption of surplus labor into productive economic activities remains a central pillar of output growth in ASEAN economies. These findings support the view that labor abundance, when combined with enhanced productivity and innovation capacity, can serve as a significant source of comparative advantage and a key determinant of long-term economic growth in middle-income countries (Maestas et al., 2023). Furthermore, government expenditure remains an essential policy instrument influencing economic performance and development outcomes.

Government intervention extends beyond the regulation of economic activities to the management of aggregate demand through fiscal policy. By collecting taxes and redistributing public resources through expenditure programs, governments can significantly influence economic performance (Todaro & Smith, 2011). Although taxation may reduce private sector spending in the short run, its reallocation through government expenditure can offset this effect and stimulate economic activity. Furthermore, Mankiw (2007) argues that government spending, particularly in the form of subsidies and productive public investment, can enhance output by supporting production activities. Through the fiscal multiplier mechanism, increased government expenditure generates economy-wide effects that promote consumption, investment, and production, thereby fostering economic growth. This mechanism is further corroborated by the findings of Simarmata & Iskandar (2022), which emphasize that targeted government expenditure, when combined with strategic investments and managed population dynamics, plays a pivotal role in accelerating not only economic growth but also broader human development outcomes.

Government expenditure, particularly in the form of infrastructure investment, constitutes a key instrument for stimulating private-sector activity and supporting long-term economic growth. Within the frameworks of Wagner's Law and Keynesian economics, expansionary fiscal interventions are expected to generate multiplier effects that offset economic downturns by increasing aggregate demand. Nevertheless, the growth-enhancing impact of public expenditure is highly contingent upon effective policy implementation, including efficient resource allocation, bureaucratic quality, and strong governance mechanisms that limit rent-seeking behavior and corruption (d'Agostino et al., 2016; Hasnul, 2015). Empirical studies conducted in developing ASEAN economies provide robust support for the fiscal multiplier hypothesis, showing that strategically targeted government spending can enhance market liquidity, raise household purchasing power, and stimulate domestic demand. These findings underscore the pivotal role of fiscal policy as a countercyclical tool for sustaining economic activity and supporting long-term development objectives (Hayat, 2019).

Classical trade theory suggests that international trade fosters production specialization and improves resource allocation efficiency through the principle of comparative advantage. Consequently, economies that are more integrated into global markets tend to achieve higher growth rates than relatively closed economies with limited trade engagement (Todaro & Smith, 2011). Trade openness enables countries to concentrate on the production and export of goods for which they possess a productivity advantage, thereby increasing national output and per capita income. Simultaneously, imports provide access to goods whose domestic production would be inefficient due to limited resources or high production costs. Through these mechanisms, trade openness enhances productive efficiency, maximizes aggregate output, and contributes to greater economic welfare (Salvatore, 1997).

Contemporary economic studies highlight the role of trade openness in promoting innovation and productive efficiency by exposing domestic industries to greater competitive pressures. As firms compete in international markets, they are incentivized to adopt new technologies, improve operational efficiency, and enhance product quality. Nevertheless, the growth-enhancing effects of trade liberalization remain highly contingent upon the readiness of domestic infrastructure and the strength of institutional frameworks (Keho, 2017; Kong et al., 2021). While classical trade theory emphasizes welfare gains derived from specialization and comparative

advantage, empirical evidence indicates that these gains are not universally realized. Positive yet insignificant findings in some contexts imply that trade openness alone is insufficient to drive economic growth. In the absence of supportive industrial policies and efficient resource allocation mechanisms, increased integration into global markets may expose structural weaknesses, create economic distortions, and hinder the accumulation of output. Consequently, for middle-income ASEAN economies, the effectiveness of trade openness as a growth strategy depends critically on complementary reforms that strengthen domestic productive capacity and institutional quality (C. T. Nguyen & Bui, 2021).

Foreign debt constitutes an important source of external financing for governments, particularly in developing economies facing domestic resource constraints. By financing public expenditure and development projects, external borrowing can support productive activities and contribute to economic growth (Arsyad, 2010). Nevertheless, the impact of external debt on economic performance remains theoretically and empirically contested. From the perspective of development financing, external debt can contribute to economic growth by supplementing domestic savings, financing investment, and expanding productive capacity. However, excessive reliance on external borrowing may generate debt overhang and crowding-out effects, which can weaken investment and productivity and create long-term macroeconomic vulnerabilities. Recent evidence from developing economies in Asia indicates that the relationship between external debt and economic growth is nonlinear, with its effects depending on the level of indebtedness and the channels through which external debt is utilized (Dawood et al., 2024). Moreover, sustainable debt management requires adequate fiscal capacity and effective domestic revenue mobilization to maintain macroeconomic stability (Gwaindepi, 2021). In addition, the Ricardian perspective suggests that the short-term benefits of external debt may be offset by future repayment obligations, implying that foreign borrowing does not necessarily increase long-run consumption or income and may instead transfer fiscal burdens to future generations (Mankiw, 2007).

Recent developments in the external debt literature highlight the existence of a nonlinear relationship between foreign debt and economic growth in developing countries. The debt-overhang hypothesis suggests that external borrowing contributes positively to economic growth only when debt levels remain within manageable limits. Beyond a certain threshold, however, rising debt obligations can discourage investment by increasing uncertainty and diverting financial resources toward debt servicing rather than productive activities ((Ndoricimpa, 2020; Senadza et al., 2018). Empirical evidence from developing economies, including those in the ASEAN region, largely supports this proposition and reinforces the implications of both Classical and Ricardian perspectives. While foreign debt may provide short-term financing for development and economic expansion, excessive debt accumulation that is not accompanied by productivity-enhancing investments can generate crowding-out effects, reduce fiscal space, and weaken domestic investment incentives. As a result, external debt may become a constraint on rather than a catalyst for long-term economic growth in lower-middle-income and upper-middle-income ASEAN economies (Makiela & Ouattara, 2018; Tamimi & Jaradat, 2019)

Research Method

This study adopts a quantitative research design and applies panel data regression techniques to analyze the determinants of economic growth in selected ASEAN economies. The dataset combines time-series observations from 2000 to 2019 with cross-sectional data from six lower-middle-income and upper-middle-income ASEAN countries: Indonesia, Thailand, Malaysia, the Philippines, Vietnam, and Cambodia. The use of panel data offers several methodological advantages, including a larger number of observations, greater variability in the data, and reduced multicollinearity among independent variables, thereby improving the efficiency and reliability of the estimation results (Baltagi, 2021). Economic growth, measured by Gross Domestic Product (GDP) at current prices (billion US dollars), serves as the dependent variable. The explanatory variables consist of foreign debt (billion US dollars), foreign direct investment (billion US dollars), trade openness (the ratio of total exports and imports to GDP), labor force size (million persons), and government expenditure (billion US dollars). The analysis is based on annual secondary data sourced from the official databases of the World Bank and the Malaysian Ministry of Finance.

The hypotheses were evaluated using a multiple linear regression model for panel data within a log-linear framework. The natural logarithmic transformation was employed to address data heterogeneity, reduce the impact of extreme observations, and enable direct interpretation of estimated coefficients as elasticities (Gujarati & Porter, 2015; Wooldridge, 2020). Model selection was performed through a sequential specification-testing procedure. Initially, the Chow test was conducted to determine the preference between the Common Effects Model (CEM) and the Fixed Effects Model (FEM). Subsequently, the Hausman test was applied to assess whether the Fixed Effects Model (FEM) or the Random Effects Model (REM) provided a more consistent estimator (Hsiao, 2022). The results confirmed the superiority of the Fixed Effects Model, indicating that country-specific heterogeneity plays a significant role in explaining economic growth across the sample countries. Accordingly, the estimated regression equation is formulated as follows:

$$\begin{aligned} \text{LogPDBit} = & \beta_0 + \beta_1 \text{LogULN}_{it} + \beta_2 \text{LogPMA}_{it} + \beta_3 \text{LogTO}_{it} \\ & + \beta_4 \text{LogTK}_{it} + \beta_5 \text{LogPP}_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

where LogPDB = log GDP per capita (billion US\$), LogULN = log foreign debt (billion US\$), LogPMA = log foreign direct investment (billion US\$), LogTO = log trade openness (%), LogTK = log labor force (million), and LogPP = log government expenditure (billion US\$).

The empirical analysis is conducted using a multiple linear panel data regression model specified in logarithmic form. The use of a natural logarithmic transformation is methodologically advantageous because it facilitates estimation, mitigates heteroscedasticity and skewness, and permits the interpretation of estimated coefficients as elasticity measures (Gujarati & Porter, 2015; Wooldridge, 2020). To ensure consistency in functional form and improve the robustness of the estimation results, all variables were transformed into natural logarithms, including Trade Openness (TO), despite its original measurement as a percentage ratio. This transformation yields a constant-elasticity specification and helps reduce distortions arising from the considerable cross-country variation in trade intensity among ASEAN economies.

The use of natural logarithmic transformations for variables expressed as ratios or percentages, such as Trade Openness, is theoretically and empirically justified within the econometric literature. Cross-country measures of trade openness often display substantial dispersion and right-skewed distributions, reflecting differences in economic structure, trade intensity, and market size. For example, highly open economies may exhibit trade-to-GDP ratios exceeding 100 percent, whereas larger domestic-oriented economies typically record considerably lower values. Under such circumstances, logarithmic transformation serves to compress the data range, mitigate the influence of outliers, and reduce distributional asymmetry (Gujarati & Porter, 2015).

Results and Discussion

Best Estimation Model Selection

Considering the limited dimensions of the panel dataset, characterized by a relatively small number of cross-sectional units (N) and a short observation period (T), panel unit root testing was not undertaken. Existing econometric studies indicate that standard panel stationarity tests often suffer from low power and substantial finite-sample distortions under such data conditions, thereby reducing the reliability of the resulting inferences (Baltagi, 2021; Pesaran, 2015). Consequently, the empirical analysis focused directly on the selection of the most appropriate panel data estimation framework. Three alternative specifications were considered: the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM). The model selection process followed established econometric procedures, beginning with the Chow test to evaluate the preference between CEM and FEM, and subsequently applying the Hausman test to determine whether FEM or REM provided the most consistent and efficient estimator. The results of the Chow test are reported in Table 2.

Table 2. The Result of OLS

Test Summary	Chi-Sq. Statistic	Prob.
Cross-section F	103.473642	0.0000
Cross-section Chi-square	209.830861	0.0000

The Chow test results reported in Table 2 reveal a Chi-square statistic of 209.830861 with a corresponding probability value of 0.0000, which is substantially lower than the prescribed significance level of 5% ($\alpha = 0.05$). Accordingly, the null hypothesis (H_0) is rejected, indicating the presence of significant cross-sectional heterogeneity and confirming that the Fixed Effects Model (FEM) is preferred over the Common Effects Model (CEM). This finding suggests that country-specific effects play an important role in explaining variations in economic growth across the sample countries. Following the model selection procedure, the Hausman test is subsequently employed to determine whether the Fixed Effects Model (FEM) or the Random Effects Model (REM) provides the most consistent and efficient estimator. The results of the Hausman test are presented in Table 3.

Table 3. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Prob.
Cross-section random	517.368036	0.0000

As presented in Table 3, the Hausman test yields a Chi-square statistic of 517.368036 with a corresponding probability value of 0.0000, which is substantially below the conventional significance threshold of 5% ($\alpha = 0.05$). Consequently, the null hypothesis (H_0), which favors the Random Effects Model (REM), is rejected in favor of the alternative hypothesis (H_1), supporting the use of the Fixed Effects Model (FEM). This finding indicates that the unobserved country-specific effects are systematically correlated with the explanatory variables, thereby violating the assumptions underlying REM. Accordingly, the Fixed Effects Model is identified as the most consistent and appropriate estimator for analyzing the determinants of economic growth in the selected ASEAN countries.

Classical Assumption Test

Normality Test

To evaluate whether the regression residuals satisfy the assumption of normality, a Jarque-Bera test was performed. This test examines the extent to which the residual distribution deviates from normality based on its skewness and kurtosis characteristics. The results of the normality assessment are presented in Figure 2.

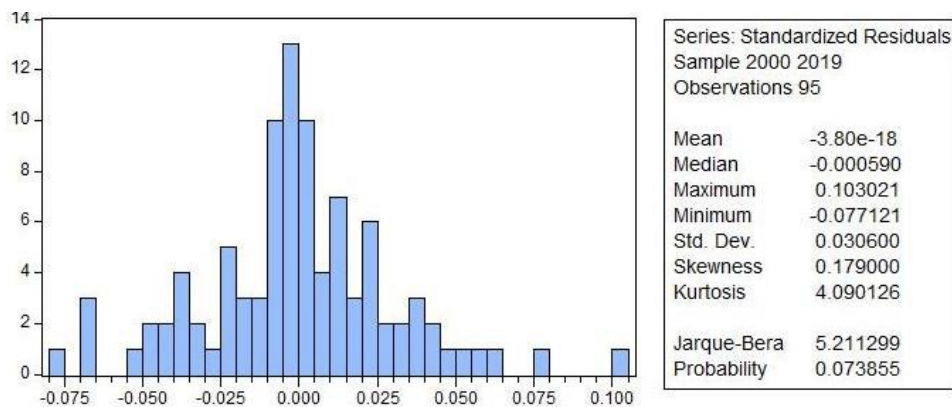


Figure 2. Normality Test Results

As shown in Figure 2, the Jarque-Bera test yields a statistic of 5.211299 with a probability value of 0.073855, which is greater than the specified significance level of 5% ($\alpha = 0.05$). Consequently, the null hypothesis that the residuals are normally distributed cannot be rejected. This result suggests that the residuals follow a normal distribution and confirms that the normality assumption underlying the regression model is fulfilled.

Multicollinearity Test

To assess the potential presence of multicollinearity, a correlation analysis was conducted among the independent variables. Multicollinearity arises when explanatory variables are highly correlated, potentially leading to unstable coefficient estimates and reduced inferential accuracy. Following standard econometric practice, this study evaluates multicollinearity using a correlation matrix of pairwise correlation coefficients among the regressors. The results of this assessment are reported in Table 4.

Table 4. Multicollinearity Test

	ULN	PMA	TO	TK	PP
ULN	1.000000	0.277271	0.101489	0.485568	0.388015
PMA	0.277271	1.000000	0.174714	0.121667	0.204694
TO	0.101489	0.174714	1.000000	0.048457	-0.057264
TK	0.485568	0.121667	0.048457	1.000000	0.325479
PP	0.388015	0.204694	-0.057264	0.325479	1.000000

As reported in Table 4, the results of the multicollinearity assessment indicate that, following variable transformation, none of the pairwise correlation coefficients among the explanatory variables exceeded the conventional threshold value of 0.80. This finding suggests the absence of serious multicollinearity, indicating that the independent variables provide sufficiently distinct information for parameter estimation.

Heteroscedasticity Test

Subsequently, a heteroskedasticity test was conducted to evaluate the constancy of the error variance across observations. The presence of heteroskedasticity may lead to inefficient estimates and unreliable standard errors, thereby affecting statistical inference. To address this issue, the Glejser test was employed, whereby the absolute values of the regression residuals were regressed against the explanatory variables. The results of the heteroskedasticity analysis are presented in Table 5.

Table 5. Heteroskedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ULN	-18.05626	16.16851	-1.116754	0.2673
PMA	3.201448	3.020454	1.059923	0.2922
TO	15.46941	52.48126	0.294761	0.7689
TK	18.16480	67.13085	0.270588	0.7874
PP	-0.018386	8.899966	-0.002066	0.9984

Based on the heteroskedasticity test results in Table 5, after corrections were made using the variable transformation method, it shows that all independent variables have probability values greater than the significance level ($\alpha = 0.05$), which means that the residual variance is homoscedastic; therefore, there is no heteroskedasticity in the model.

Autocorrelation Test

To examine the presence of serial correlation in the regression residuals, an autocorrelation test was performed using the Durbin-Watson (DW) statistic. Autocorrelation refers to the correlation between error terms across time periods and, if present, may lead to inefficient parameter estimates and biased statistical inference. The test was conducted at the 5% significance level using a model consisting of five explanatory variables ($k = 5$) and 120 observations ($n = 120$). Based on the corresponding Durbin-Watson critical value table, the lower bound (dL) and upper bound (dU) were 1.6164 and 1.7896, respectively. The results of the autocorrelation analysis are reported in Table 6.

Table 6. Autocorrelation Test

DW	dL	dU	4-dU	4-dL
2.017602	1.6164	1.7896	2.2104	2.3836

Based on the autocorrelation test results in Table 6, after corrections were made using the variable transformation method, a Durbin-Watson (DW) value of 2.017602 was obtained. When compared to values in the Durbin-Watson table, the DW value is greater than the DL value or lies between the dU and 4 - dU values, meaning that the autocorrelation coefficient is equal to zero, so there is no autocorrelation.

Fixed Effect Model (FEM) Estimation Results

The purpose of this analysis is to empirically evaluate the proposed research hypotheses by investigating the extent to which foreign debt, foreign direct investment (FDI), trade openness, labor force size, and government expenditure influence economic growth in selected lower-middle-income and upper-middle-income ASEAN countries during the 2000-2019 period.

Table 7. Fixed Effect Model (FEM) Estimation Results

Variable	Coefficient	t-Statistic	Prob.
ULN	-0.245844	-1.402518	0.1638
PMA	1.247048	3.830290	0.0002**
TO	0.204893	1.182537	0.2397
TK	5.975993	2.891710	0.0047**
PP	8.555585	16.82165	0.0000**
R-squared	0.839102		
Adjusted R-squared	0.823481		
F-statistic	53.71568		
Prob(F-statistic)	0.000000		
Durbin-Watson stat	2.017602		

** Significant at $\alpha=1\%$, * Significant at $\alpha=1\%$

The estimation results indicate an adjusted R^2 of 0.823481, suggesting that approximately 82.35% of the variation in economic growth is explained by the set of explanatory variables included in the model. This relatively high explanatory power reflects the model's ability to capture the key determinants of economic growth across the sampled countries. The remaining 17.65% of the variation is explained by other factors not incorporated into the analysis. In addition, the joint significance test confirms that foreign debt, foreign direct investment (FDI), trade openness, labor force size, and government expenditure collectively have a statistically significant influence on the economic growth of lower-middle-income and upper-middle-income ASEAN economies during the study period.

The Effect of Foreign Direct Investment on the Economic Growth of Lower Middle-Income and Upper Middle-Income ASEAN Countries

The regression results reveal that Foreign Direct Investment (FDI) has a positive and statistically significant impact on the economic growth of lower-middle-income and upper-middle-income ASEAN countries. Specifically, the estimated coefficient of 1.247048 suggests that a 1% increase in FDI leads to an approximately 1.25% increase

in economic growth, *ceteris paribus*. This result highlights the critical role of foreign investment in fostering capital accumulation, expanding productive capacity, and supporting economic development. Accordingly, the empirical findings provide strong support for the hypothesis that FDI positively influences economic growth in the selected ASEAN economies.

The empirical results further demonstrate that Foreign Direct Investment (FDI) has a significant positive effect on economic growth in lower-middle-income and upper-middle-income ASEAN countries. This finding supports the Harrod-Domar growth model, which identifies investment as a fundamental driver of economic expansion through capital accumulation. Within this theoretical framework, additional investment increases the stock of capital available for production, thereby enhancing productive capacity and generating higher output. The expansion of investment activity also creates incentives for private firms and households to utilize available resources more efficiently, stimulating broader economic activity. Consequently, increased capital formation contributes to higher GDP and sustained economic growth, reinforcing the critical role of FDI as a catalyst for development in emerging economies.

The results of this study contribute to the growing body of empirical evidence demonstrating that Foreign Direct Investment (FDI) generates benefits that extend beyond its conventional role in addressing domestic savings constraints. Specifically, FDI functions as a key mechanism for private sector modernization through capital deepening, technological transfer, and the enhancement of productive efficiency. These findings reinforce the theoretical proposition that foreign capital inflows accelerate the expansion of production capacity, thereby promoting long-term economic growth. For lower-middle-income and upper-middle-income ASEAN countries, such effects are particularly significant, as improvements in productivity and industrial capability are essential for achieving structural transformation, strengthening international competitiveness, and mitigating the risk associated with the middle-income trap (Qiu et al., 2021; Sapuan & Roly, 2021).

The Effect of Labor Force on the Economic Growth of Lower Middle - Upper Middle Income ASEAN Countries

The regression results reveal that labor force size exerts a positive and statistically significant impact on economic growth in lower-middle-income and upper-middle-income ASEAN countries. This finding is broadly consistent with both Todaro's development theory and Lewis's dual-sector model, which emphasize the contribution of labor force expansion to economic development. From a theoretical perspective, a growing labor force enhances productive capacity and enlarges the domestic market, thereby facilitating higher output and economic growth (Todaro & Smith, 2011). Moreover, the empirical evidence supports the proposition that the effective absorption of surplus labor into productive sectors remains a fundamental driver of economic expansion in ASEAN economies. These results highlight that labor abundance can become a source of comparative advantage only when supported by productivity improvements, efficient resource allocation, and structural transformation. Under such conditions, labor force growth serves as a critical determinant of sustainable economic growth and long-term development (Maestas et al., 2023).

The Effect of Government Expenditure on the Economic Growth of Lower Middle - Upper Middle Income ASEAN Countries

The regression results reveal that government expenditure exerts a positive and statistically significant influence on economic growth in lower-middle-income and upper-middle-income ASEAN countries. This finding suggests that public spending serves as an important instrument for stimulating economic activity and promoting output growth. Productive government expenditures, particularly those allocated to infrastructure development, subsidies, and economic support programs, can enhance aggregate demand, increase market liquidity, and improve the efficiency of production processes. Through these channels, government spending contributes to higher GDP and national income. The results are consistent with the broader empirical literature, which highlights the growth-enhancing role of fiscal expenditure in developing economies. As argued by Hariyani et al. (2012), increased government investment in infrastructure facilitates the production and distribution of goods and services, strengthens productive capacity, and ultimately promotes sustained economic growth. Furthermore, these findings support Keynesian and Wagnerian perspectives, which emphasize the strategic role of government intervention in stimulating economic activity and sustaining long-term development.

The empirical evidence generated by this study further reinforces the central propositions of Keynesian macroeconomic theory, particularly regarding the effectiveness of the fiscal multiplier mechanism. The results demonstrate that government intervention through targeted public expenditure can significantly influence economic performance by enhancing liquidity, stimulating aggregate demand, and supporting productive economic activities. These findings suggest that, in the presence of economic slowdown risks, fiscal policy remains one of the most effective instruments available to policymakers for stabilizing economic conditions and promoting growth. Consequently, the study provides additional empirical support for the argument that well-designed government expenditure programs play a pivotal role in maintaining economic resilience and fostering sustainable development (Hayat, 2019).

The Effect of Foreign Debt on the Economic Growth of Lower Middle - Upper Middle Income ASEAN Countries

The regression results reveal that foreign debt exerts a negative, yet statistically insignificant, impact on economic growth in lower-middle-income and upper-middle-income ASEAN countries. This finding is broadly consistent with the Ricardian view, which suggests that external borrowing may fail to generate sustainable long-term growth when it does not contribute to productivity-enhancing investments. From a structural perspective, the insignificant relationship may indicate inefficiencies in the allocation of borrowed funds within several ASEAN economies. Rather than being directed primarily toward productive capital expenditures, external debt resources are often utilized to finance budget deficits and recurrent government obligations. Consequently, the expected growth-enhancing effects of foreign borrowing may not fully materialize, limiting its effectiveness as an instrument for promoting economic growth and structural transformation.

The observed structural conditions imply that debt accumulation has not generated sufficient productivity-enhancing effects to significantly increase GDP

growth. Moreover, the findings lend empirical support to the crowding-out hypothesis, which posits that excessive public indebtedness can suppress private investment by diverting financial resources toward debt servicing obligations (Makiela & Ouattara, 2018; Tamimi & Jaradat, 2019). These results reinforce the implications of Classical economic theory and the Ricardian view within the context of developing ASEAN economies. Specifically, the evidence suggests that foreign debt has not served as an effective instrument for promoting sustained long-term economic growth. Rather, when debt accumulation is not matched by productivity-enhancing investments, it may reduce fiscal flexibility, limit the government's capacity to finance productive expenditures, and weaken the investment climate. As a result, external debt may become a constraint on economic growth rather than a driver of development, particularly in lower-middle-income and upper-middle-income ASEAN countries.

From a structural perspective, the insignificant relationship between foreign debt and economic growth may indicate inefficiencies in the utilization of borrowed funds within several lower-middle-income ASEAN economies, such as Cambodia and the Philippines. A considerable share of external debt is frequently directed toward financing budgetary deficits associated with recurrent expenditures and subsidy programs rather than productivity-enhancing capital investments. As a result, the accumulation of foreign debt does not necessarily translate into substantial increases in productive capacity or value-added output, thereby limiting its contribution to economic growth. This finding suggests that the effectiveness of external borrowing depends not only on the volume of debt but also on the quality and productivity of its allocation.

The Effect of Foreign Debt on the Economic Growth of Lower Middle - Upper Middle Income ASEAN Countries

The regression results reveal that trade openness exerts a positive but statistically insignificant influence on economic growth in lower-middle-income and upper-middle-income ASEAN countries. While classical trade theory predicts welfare gains and economic expansion through specialization based on comparative advantage, the empirical findings suggest that trade liberalization alone is insufficient to stimulate sustained economic growth (C. T. Nguyen & Bui, 2021). The growth-enhancing effects of openness are highly contingent upon the strength of domestic productive capacity, industrial competitiveness, and institutional readiness (M. L. T. Nguyen, 2021). In many ASEAN developing economies, export structures remain concentrated in primary commodities and low-value-added manufacturing activities, limiting the potential for substantial productivity gains and technological upgrading. Moreover, increased import penetration, particularly in consumer goods sectors, may place additional competitive pressure on domestic industries and contribute to external imbalances. These structural constraints weaken the transmission of trade-related benefits to the broader economy, indicating that the positive spillover effects of trade openness can only be fully realized when supported by industrial upgrading, efficient supply chains, and complementary development policies (C. T. Nguyen & Bui, 2021).

The present findings are in line with the results of Bibi et al. (2014), who found that trade openness does not necessarily promote economic growth when trade liberalization is accompanied by persistent trade balance deficits. From a structural perspective, the insignificant effect of trade openness in lower-middle-income and

upper-middle-income ASEAN countries may reflect the limited transformation of their production and export structures. Economies such as Indonesia and Vietnam continue to rely substantially on primary commodities and low-value-added manufacturing exports, thereby restricting the productivity gains typically associated with greater integration into international markets. Furthermore, the increasing penetration of imported consumer goods and intermediate inputs can weaken domestic industrial competitiveness and contribute to external imbalances. These conditions suggest that the economic benefits of trade openness are not automatic; rather, they depend on the ability of domestic industries to upgrade technologically, move up the value chain, and enhance productive efficiency. Without such structural adjustments, trade openness may generate only limited contributions to long-term economic growth.

Conclusion

The findings of the Fixed Effects Model (FEM) indicate that foreign debt, foreign direct investment (FDI), trade openness, labor force, and government expenditure collectively have a significant impact on economic growth in lower-middle-income and upper-middle-income ASEAN countries over the 2000-2019 period. The model exhibits a high degree of explanatory power, accounting for 82.35% of the variation in economic growth. The partial regression results reveal that FDI, labor force size, and government expenditure positively and significantly contribute to economic growth, highlighting their importance as key drivers of economic performance. Conversely, trade openness is positively associated with economic growth but lacks statistical significance, whereas foreign debt displays a negative and insignificant relationship. Overall, the results underscore the critical roles of investment inflows, labor force absorption, and effective fiscal policy in promoting economic growth, while suggesting that the benefits of trade openness and external borrowing depend on broader structural and institutional conditions within the economy.

The results of this study provide several strategic policy implications, particularly for Indonesia as it seeks to achieve sustained economic growth and avoid the middle-income trap. First, the observed negative association between foreign debt and economic growth underscores the importance of prudent fiscal policy. External borrowing should be carefully managed and directed toward productivity-enhancing investments to prevent the emergence of fiscal constraints and crowding-out effects that may hinder private sector development. Second, the significant contributions of FDI and labor force expansion highlight the need to leverage Indonesia's demographic dividend through reforms that improve the investment environment, facilitate technology transfer, strengthen human capital, and promote employment-intensive industries. Third, the insignificant effect of trade openness suggests that trade liberalization alone is insufficient to accelerate growth. To fully capture the benefits of global market integration, policymakers must strengthen domestic industrial capabilities, accelerate downstream industrialization, and encourage the production and export of higher value-added goods. Finally, the strong positive effect of government expenditure confirms the critical role of fiscal policy in supporting economic growth. Accordingly, public spending should be targeted toward productive infrastructure, social protection, and labor-intensive development programs that generate broad multiplier effects, enhance domestic demand, and foster long-term economic resilience.

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