

Determinants of Economic Growth in ASEAN-5: The Role of Foreign Direct Investment, Government Expenditure, and Per Capita Income

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Abstract: *This study aims to analyze the effects of Foreign Direct Investment (FDI), government expenditure, and per capita income on economic growth in ASEAN-5 countries during the 2019–2024 period. The study employs a quantitative approach using panel data regression analysis covering Indonesia, Malaysia, Singapore, Thailand, and Vietnam. Secondary data were obtained from the World Development Indicators (WDI) database published by the World Bank. The analytical methods applied include the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM), with the FEM selected as the most appropriate model based on the Chow and Hausman tests. The findings indicate that FDI has a positive effect on economic growth, suggesting that foreign investment contributes to production expansion, technology transfer, and job creation in ASEAN-5 countries. In contrast, government expenditure exerts a negative effect on economic growth, indicating inefficiencies in public spending allocation during the post-pandemic recovery period. Meanwhile, per capita income does not have a significant effect on economic growth. This study provides empirical evidence regarding the dynamics of economic growth in the post-pandemic era and offers policy implications for strengthening inclusive and sustainable economic development strategies in the ASEAN region.*

INTRODUCTION

Economic growth is a fundamental indicator for assessing a country's development performance and reflects the success of efforts to improve societal welfare. From the perspective of development economics, economic growth not only represents an increase in aggregate output but also serves as a primary instrument for improving quality of life, reducing poverty, and creating employment opportunities (Zhu et al., 2022). Consequently, most countries, both developing and developed, regard economic growth as a central objective of macroeconomic policy (Ehigiamusoe & Samsurijan, 2021; Hanan & Prastowo, 2025). However, in an

increasingly complex era of globalization, the dynamics of economic growth are no longer determined solely by domestic factors but are also influenced by interactions with external factors.

One of the external determinants that plays a strategic role in promoting economic growth is economic openness through Foreign Direct Investment (FDI) inflows (Banday et al., 2021; Raza et al., 2021; Rao et al., 2023). FDI functions not only as a source of development financing but also as a channel for technology transfer, enhancement of production capacity, and integration into global value chains (Negash et al., 2020; Sultana & Turkina, 2020; Osabohien et al., 2025). In developing countries, FDI constitutes an important instrument for overcoming domestic savings constraints, as explained in the Harrod–Domar growth theory (Le-Van & Tran-Nam, 2023). Nevertheless, the effectiveness of FDI in stimulating economic growth largely depends on domestic absorptive capacity and the extent of its linkage with productive sectors (Gupta et al., 2022).

World Bank data (2024) indicate that FDI inflows in the ASEAN-5 region, comprising Indonesia, Malaysia, Singapore, Thailand, and Vietnam, exhibit heterogeneous patterns. Singapore consistently dominates FDI inflows with values substantially higher than those of other countries. This condition reflects the country's structural advantages in institutional stability, ease of doing business, and global competitiveness. In contrast, Indonesia and Malaysia display fluctuating patterns, while Thailand experienced a sharp contraction during periods of global crisis. Meanwhile, Vietnam demonstrates a relatively stable upward trend. These differences suggest that the impact of FDI on economic growth is not uniform but rather influenced by the structural characteristics of each country.

In addition to external factors, fiscal policy through government expenditure also plays a significant role in promoting economic growth (Ahuja & Pandit, 2020; Poku et al., 2022; Cooray & Nam, 2025). Government expenditure functions as an instrument to stimulate aggregate demand while simultaneously enhancing supply-side capacity through the provision of infrastructure, education, and healthcare services. Previous studies indicate that the effectiveness of government expenditure is largely determined by the quality of budget allocation (Dahan & Strawczynski, 2020; Adegboye & Akinyele, 2022). Productive expenditure tends to generate more substantial long-term effects on economic growth than consumptive expenditure.

Furthermore, welfare indicators such as per capita income constitute important variables in explaining the dynamics of economic growth (Rahmawati et al., 2024). Per capita income reflects the real purchasing power of society as well as domestic consumption capacity, which is a major component in the formation of aggregate demand. An increase in per capita income can encourage production expansion through rising demand for goods and services, thereby reinforcing sustainable economic growth (Aulya et al., 2025). Nevertheless, global economic shocks, particularly during the COVID-19 pandemic and the economic recovery period of 2019–2024, exerted significant pressure on real household income across the ASEAN-5 region. This condition necessitates stronger policy synergy to maintain the stability and sustainability of economic growth.

Several previous studies have examined the relationship between FDI, government expenditure, and per capita income on economic growth, either partially or within specific regional contexts (Gupta et al., 2022; Poku et al., 2022; Rao et al., 2023; Rahmawati et al., 2024; Cooray & Nam, 2025). However, most of these studies still exhibit several limitations, such as the use of data periods that do not yet encompass the post-pandemic recovery phase and analytical approaches that have not simultaneously integrated these three variables within a comprehensive empirical framework. In addition, differences in economic structures among

ASEAN-5 countries have not been fully considered, resulting in findings that inadequately capture the distinct characteristics of each country.

Based on the foregoing discussion, a research gap remains, particularly in understanding the simultaneous effects of external factors in the form of FDI, fiscal policy through government expenditure, and welfare indicators represented by per capita income on economic growth in the ASEAN-5 region during the post-pandemic period. This study offers several novel contributions. First, the use of the most recent data up to 2024 enables a more up-to-date analysis in capturing the dynamics of post-pandemic economic recovery. Second, this study simultaneously integrates FDI, government expenditure, and per capita income within a single empirical model, thereby providing a more comprehensive perspective than previous studies. Third, the application of a robust panel data regression approach is expected to generate more reliable estimates and provide relevant policy implications for ASEAN-5 countries in addressing global uncertainty.

Accordingly, this study aims to analyze the effects of Foreign Direct Investment (FDI), government expenditure, and per capita income on economic growth in ASEAN-5 countries during the 2019–2024 period. The findings are expected to provide empirical contributions and policy recommendations for formulating inclusive, sustainable, and resilient economic development strategies in the Southeast Asian region.

LITERATURE REVIEW

Foreign Direct Investment (FDI) and Economic Growth

Foreign Direct Investment (FDI) is regarded as one of the key determinants of economic growth, particularly in developing regions such as ASEAN countries. Within the framework of endogenous growth theory, foreign investment functions not only as an additional source of physical capital but also as a channel for technology transfer, workforce skill enhancement, and knowledge diffusion, all of which contribute to improvements in total factor productivity (Obeng-Amponsah & Owusu, 2025). Furthermore, the Monopolistic Advantage Theory posits that multinational corporations possess firm-specific advantages, including advanced technology and managerial capabilities, which can enhance production efficiency in host countries (Pitelis & Piteli, 2024). The Eclectic OLI Paradigm likewise emphasizes that FDI generates an optimal impact on economic growth when supported by locational advantages such as economic stability, high-quality infrastructure, and conducive investment policies (Batschauer et al., 2022). Accordingly, FDI has the potential to expand national production capacity, create employment opportunities, and strengthen the competitiveness of domestic industries through spillover effects.

Empirical evidence indicates a positive relationship between FDI and economic growth. Rao et al. (2023) found that FDI positively influences economic growth in Southeast Asia and South Asia. Similar findings were reported by Banday et al. (2021) and Raza et al. (2021), who demonstrated that FDI stimulates national output expansion through increased productive investment. Nevertheless, the effectiveness of FDI is strongly influenced by the quality of human capital and domestic policies capable of maximizing the benefits of foreign investment. Based on the theoretical framework and empirical evidence discussed above, the following hypothesis is proposed:

H₁: Foreign Direct Investment (FDI) has a positive effect on economic growth.

Government Expenditure and Economic Growth

Government expenditure constitutes a primary instrument of fiscal policy that plays a crucial role in promoting economic growth through the enhancement of aggregate demand and the provision of public infrastructure. From the perspective of Keynesian theory, government

expenditure generates a multiplier effect capable of increasing national income, particularly when private sector activity has not yet operated optimally (Arestis et al., 2021). Therefore, an increase in public spending can stimulate economic activity through both government consumption and investment. Furthermore, Wagner's Law posits that economic development is accompanied by an expanding role of government in the economy, particularly in the provision of public services such as education, healthcare, and infrastructure (Karceski & Kiser, 2020). Expenditure in these sectors not only improves the quality of human capital but also strengthens the foundation for long-term economic growth.

Empirically, Ahuja and Pandit (2020) found that government expenditure in the social sector significantly contributes to increases in real economic output. Poku et al. (2022), as well as Cooray and Nam (2025), also confirmed that government expenditure exerts a positive effect on economic growth. Nevertheless, the effectiveness of government expenditure is highly dependent on the quality of budget allocation and sound fiscal governance. Based on these theoretical arguments and empirical findings, the following hypothesis is proposed:

H₂: Government expenditure has a positive effect on economic growth.

Per Capita Income and Economic Growth

Per capita income is an important indicator for measuring societal welfare while simultaneously reflecting a country's economic capacity. Within the framework of Kuznets' growth theory, an increase in per capita income reflects improvements in productivity and structural transformation within the economy (Huynh, 2024). Furthermore, Keynesian consumption theory explains that rising income increases aggregate consumption, which subsequently stimulates demand for goods and services and accelerates economic growth (Purba et al., 2024). From the perspective of endogenous growth theory, higher per capita income is also associated with improvements in the quality of human capital through better access to education and healthcare (Osipian, 2023). These conditions create a mutually reinforcing relationship among productivity, human capital investment, and long-term economic growth.

Empirically, Aulya et al. (2025) demonstrated that per capita income positively affects economic growth through increased domestic consumption. Rahmawati et al. (2024) also found that higher per capita income is significantly correlated with stronger national economic growth. However, the magnitude of this effect may vary across countries depending on income distribution and the effectiveness of the fiscal policies implemented. Based on the theoretical framework and empirical evidence, the proposed hypothesis is as follows:

H₃: Per capita income has a positive effect on economic growth.

METHOD

This study employed a quantitative approach to analyze the effects of Foreign Direct Investment (FDI), government expenditure, and per capita income on economic growth in the ASEAN region. A quantitative approach was selected because it enables the generation of measurable empirical evidence and facilitates the examination of relationships among variables using econometric techniques (Lim, 2025). The study focused on five ASEAN member countries (ASEAN-5), namely Indonesia, Malaysia, Singapore, Thailand, and Vietnam, over the 2019–2024 observation period. The study utilized panel data combining cross-sectional data from five countries and time-series data spanning six years, resulting in a total of 30 observations. The use of panel data is considered advantageous because it increases the degree of freedom, improves estimation efficiency, and controls for unobserved individual heterogeneity (Athey et al., 2021). All data used in this study were secondary data obtained from the official publications of the

World Bank through the World Development Indicators (WDI) database.

The dependent variable in this study was economic growth, measured using the GDP growth (annual %) indicator. The independent variables consisted of: (1) Foreign Direct Investment (FDI), measured by Foreign direct investment, net inflows (BoP, current US\$); (2) government expenditure, measured by General government final consumption expenditure (% of GDP); and (3) per capita income, measured by GNI per capita, Atlas method (current US\$). All independent variables were transformed into logarithmic form to construct a log-linear model. The logarithmic transformation was applied to reduce potential heteroskedasticity, stabilize data variance, and facilitate the interpretation of elasticity among variables. A summary of the operational definitions and variable measurements is presented in Table 1.

Table 1. Operational Definitions and Variable Measurements

Variable	Operational Definition	Measurement	Source
Economic Growth	Annual growth of a country's Gross Domestic Product	GDP growth (annual %)	WDI
Foreign Direct Investment	Inflows of foreign direct investment into a country	Foreign direct investment, net inflows (BoP, current US\$)	WDI
Government Expenditure	Government final consumption expenditure as a percentage of GDP	General government final consumption expenditure (% of GDP)	WDI
Per Capita Income	Average gross national income per capita	GNI per capita, Atlas method (current US\$)	WDI

The analytical method employed in this study was panel data regression using three primary approaches: the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM) (Baltagi, 2021; Breuer & DeHaan, 2024). The optimal model was determined through a series of specification tests, namely the Chow test to identify the preferred model between CEM and FEM, and the Hausman test to determine the most appropriate model between FEM and REM. Hypothesis testing was conducted using the simultaneous significance test (F-test) to assess the collective influence of all independent variables on the dependent variable, and the partial significance test (t-test) to evaluate the effect of each independent variable individually. The significance level applied in this study was 5% ($\alpha = 0.05$). All data analyses were conducted using EViews 13. The econometric model employed in this study is formulated as follows:

$$GDP_{it} = \beta_0 + \beta_1 \log FDI_{it} + \beta_2 \log GEXP_{it} + \beta_3 \log GNI_{it} + \varepsilon_{it} \quad (1)$$

Where:

- GDP_{it} = economic growth of country t in year i
 $\log FDI_{it}$ = logarithm of foreign direct investment in country t in year i
 $\log GEXP_{it}$ = logarithm of government expenditure in country t in year i
 $\log GNI_{it}$ = logarithm of per capita income in country t in year i
 β_0 = constant
 $\beta_1 \dots \beta_3$ = regression coefficients
 ε_{it} = error term

RESULT AND DISCUSSION

The results of the panel data regression estimation using three approaches—namely the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM)—along with the model selection test results, are presented in Table 2.

Table 2. Estimation Results of Panel Data Regression Models

Variable	Regression Coefficient		
	CEM	FEM	REM
C	-19.559	-102.285	-43.075
<i>logFDI</i>	1.805	5.769	3.149
<i>logGEXP</i>	-3.066	19.139	-3.339
<i>logGNI</i>	-1.501	7.566	-2.242
R ²	0.264	0.690	0.290
Prob. F-statistic	0.044	0.000	0.028
Model Selection Tests:			
Chow Test = Cross-section F(4, 22) = 7.566; Prob. F = 0.001			
Hausman Test = Cross-section random $\chi^2(3) = 21.822$; Prob. $\chi^2 = 0.000$			
Source: Processed using EViews 13.			

Following the estimation using the CEM, FEM, and REM approaches, further testing was conducted to determine the most appropriate model for the panel data analysis. The first test employed was the Chow Test to identify the preferred model between CEM and FEM. The second test used the Hausman Test to determine the most suitable model between FEM and REM.

The Chow Test results presented in Table 2 indicate a Cross-section F-statistic of 7.566 with a probability value of 0.001, which is lower than the significance level of 0.05. These findings suggest that the FEM is more appropriate than the CEM. Furthermore, the Hausman Test results show a χ^2 value of 21.822 with a probability value of 0.000, which is also below 0.05. Therefore, the FEM is again selected as the most appropriate model.

Based on these two tests, it can be concluded that the Fixed Effects Model (FEM) is the most suitable model for this study, as it is capable of capturing heterogeneity across ASEAN countries. Each country possesses distinct economic characteristics, such as fiscal policy orientation, levels of foreign investment, and national income, all of which may exert different effects on economic growth. Consequently, the FEM is considered more relevant than the CEM and REM, both of which rely on simpler assumptions regarding individual effects. A summary of the FEM estimation results is presented in Table 3.

Table 3. Estimation Results of the Fixed Effects Model (FEM)

$GDP_{it} = -102.285 + 5.761logFDI_{it} - 19.139logGEXP_{it} + 1.581logGNI_{it}$
(0.000) (0.046) (0.837)
R ² = 0.690; F-Statistic = 7.004; Prob. F = 0.000
Source: Processed using EViews 13.

Table 3 demonstrates that the FEM yields an F-statistic value of 7.004 with a Prob. F-statistic of 0.000. This probability value is lower than the significance level of $\alpha = 0.05$. These findings indicate that Foreign Direct Investment (FDI), government expenditure, and per capita income simultaneously exert a significant effect on the economic growth of ASEAN countries

during the study period. Therefore, the estimated model can be considered statistically valid and fit for explaining the relationships among the variables examined in this study.

In addition, the FEM produces a coefficient of determination (R^2) value of 0.690. This result indicates that approximately 69% of the variation in economic growth can be explained by FDI, government expenditure, and per capita income. Meanwhile, the remaining 31% of the variation in economic growth is influenced by other factors outside the research model that were not included in the analysis.

Table 4. Results of the Partial t-Test

Variable	Coefficient	Sig. t	Criterion	Conclusion
<i>logFDI</i>	5.761	0.000	$\alpha = 0.05$	Positive effect
<i>logGEXP</i>	-19.139	0.046	$\alpha = 0.05$	Negative effect
<i>logGNI</i>	1.581	0.837	$\alpha = 0.05$	No significant effect

Source: Processed using EViews 13.

Table 4 shows that the FDI variable has a positive effect on economic growth, whereas government expenditure has a negative effect. Meanwhile, per capita income does not exhibit a significant effect on economic growth. More specifically, the FDI variable has a regression coefficient of 5.761 with a significance level of 0.000, which is lower than 0.05. This result indicates that a 1% increase in FDI is associated with an increase in economic growth of approximately 0.058 percentage points. In contrast, the government expenditure variable has a regression coefficient of -19.138 with a significance level of 0.046, which is also below 0.05. This finding suggests that a 1% increase in government expenditure leads to a decrease in economic growth of approximately 0.191 percentage points.

Discussion

The findings indicate that Foreign Direct Investment (FDI) has a positive effect on economic growth in the ASEAN-5 countries during the 2019–2024 period. These results suggest that increasing inflows of foreign investment are capable of stimulating economic activity through enhanced production capacity, technology transfer, expanded employment opportunities, and improved efficiency within the industrial sector. Therefore, the first hypothesis (H_1), which posits that FDI positively affects economic growth, is accepted. These findings are consistent with the Harrod–Domar growth model, which emphasizes the importance of investment as a primary driver of economic growth through capital accumulation (Le-Van & Tran-Nam, 2023). In developing countries, FDI functions as a source of external financing capable of overcoming limitations in domestic savings while simultaneously accelerating the modernization of production sectors. In addition to increasing physical capital, foreign investment also promotes technology transfer and enhances the quality of human resources, which ultimately strengthens the economic productivity of ASEAN-5 countries.

The results are supported by the study of Rao et al. (2023), which found that FDI positively influences economic growth in Southeast and South Asia through increased production capacity and technological integration. Studies by Banday et al. (2021) and Raza et al. (2021) further demonstrate that FDI contributes significantly to economic growth through increased investment in productive sectors, job creation, and strengthened industrial competitiveness. Accordingly, the present findings reinforce the view that FDI constitutes one of the strategic instruments for promoting economic growth in the ASEAN region.

Conversely, the findings reveal that government expenditure has a negative effect on

economic growth in the ASEAN-5 during the study period. These results indicate that increases in government spending have not been fully directed toward productive sectors capable of generating optimal economic multiplier effects. Therefore, the second hypothesis (H_2), which states that government expenditure positively affects economic growth, is rejected. These findings are consistent with the crowding-out effect perspective, which explains that inefficient government expenditure can reduce the effectiveness of economic growth (Park & Meng, 2024). Government spending that is predominantly allocated to consumptive expenditures, short-term subsidies, or bureaucratic financing tends to generate relatively lower economic impacts compared to productive expenditures such as infrastructure development, education, and investment in the real sector. In the ASEAN-5 during the 2019–2024 period, this condition was further intensified by the COVID-19 pandemic, which prompted governments to refocus budgets toward healthcare management and social assistance programs, thereby making public expenditure more defensive than productive in nature.

These findings are supported by Sadeh et al. (2020), who argue that fiscal expansion without optimization of productive sectors may create structural inefficiencies and reduce the contribution of government expenditure to economic growth. Chugunov et al. (2021) also emphasize that inefficient increases in government spending have the potential to burden national fiscal conditions and hinder the efficiency of economic activities. Therefore, the effectiveness of government expenditure is largely determined by the quality of budget allocation and the government's ability to manage spending productively.

Meanwhile, the findings indicate that the per capita approach does not have a significant effect on economic growth in the ASEAN-5 during the study period. Accordingly, the third hypothesis (H_3), which states that per capita income positively affects economic growth, is rejected. These findings are aligned with the Solow neoclassical growth model, which emphasizes that long-term economic growth is more strongly influenced by capital accumulation, labor productivity, and technological progress than by per capita income alone (Segura et al., 2023). In this study, increases in GNI per capita were not able to directly stimulate economic output expansion because a substantial proportion of household income continued to be allocated toward post-pandemic economic recovery.

The findings are further supported by Yu et al. (2022), who argue that under conditions of global crisis, increases in per capita income do not automatically promote economic growth due to disruptions in production and distribution activities. Huda et al. (2025) also demonstrate that the relationship between national income and economic growth tends to weaken during structural shocks such as the COVID-19 pandemic. Thus, these findings indicate that increases in public income do not necessarily generate significant economic growth when economic conditions remain in a phase of recovery and instability.

CONCLUSION

This study aims to analyze the effects of Foreign Direct Investment (FDI), government expenditure, and per capita income on economic growth in the ASEAN-5 countries during the 2019–2024 period. Based on the estimation results of panel data regression using the Fixed Effects Model (FEM) approach, the findings indicate that Foreign Direct Investment (FDI) has a positive effect on economic growth. These results suggest that increased inflows of foreign investment can stimulate economic activity through enhanced production capacity, technology transfer, expanded employment opportunities, and improved efficiency within the industrial sector across the ASEAN-5 region. In contrast, government expenditure exerts a negative effect on economic growth. This finding indicates that the increase in public spending during the

observation period was not fully allocated to productive sectors capable of generating optimal economic multiplier effects. Meanwhile, per capita income does not have a significant effect on economic growth. This condition implies that improvements in household income during the post-pandemic period have not yet been sufficient to directly stimulate economic output expansion in the ASEAN-5 countries.

The findings of this study provide several practical implications. Governments in the ASEAN-5 countries need to strengthen policies aimed at enhancing the attractiveness of foreign investment through improvements in the investment climate, regulatory certainty, infrastructure development, and the quality of human capital, thereby optimizing the contribution of FDI to economic growth. In addition, governments should improve the effectiveness of public expenditure by prioritizing productive spending, such as infrastructure development, education, healthcare, and real-sector development, rather than consumptive or short-term-oriented expenditures. Furthermore, although per capita income was found to have no significant effect, efforts to improve social welfare should continue to be promoted through employment creation policies and productivity enhancement strategies in order to achieve inclusive and sustainable economic growth.

This study still has several limitations. First, the relatively short observation period of 2019–2024 limits the study's ability to comprehensively capture the long-term dynamics among the variables. Second, the study only incorporates FDI, government expenditure, and per capita income as explanatory variables, and therefore does not fully account for other factors influencing economic growth in the ASEAN-5 countries, such as inflation, trade openness, institutional quality, political stability, and technological development. Third, the use of a static panel data regression approach remains limited in capturing potential dynamic and nonlinear relationships among economic variables. Therefore, future studies are recommended to extend the observation period, incorporate more comprehensive macroeconomic variables, and employ more robust methodological approaches, such as dynamic panel models or nonlinear approaches, in order to provide deeper insights into the determinants of economic growth in the ASEAN region.

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