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Key Drivers of Growth in Promoting Economic Growth Amid the Middle-Income Trap Challenges in ASEAN

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ABSTRACT

This study examines the effects of trade openness, interest rates, exchange rates, fiscal policy, the digital economy, and political stability on economic growth in middle-income ASEAN countries amid the challenges of the middle-income trap. Using a quantitative explanatory design, the study analyzes panel data from Indonesia, Malaysia, and Thailand over the 2014–2023 period. Secondary data were obtained from the World Development Indicators and Worldwide Governance Indicators and analyzed using panel data regression. The fixed effects model results show that trade openness has a positive and statistically significant effect on economic growth, whereas interest rates and fiscal policy have significant negative effects. Exchange rates, the digital economy, and political stability do not have statistically significant effects at the 5% significance level. Simultaneously, the six independent variables significantly explain variations in economic growth, with an adjusted coefficient of determination of 0.6753. These findings highlight the importance of international trade integration, manageable financing costs, and effective government expenditure in supporting economic growth. Addressing the middle-income trap requires not only expanding economic activity but also improving productivity, resource allocation, and the effectiveness of growth-enhancing policies.

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1. INTRODUCTION

Economic growth is one of the main indicators of successful development because it is closely associated with increases in production capacity, income, productivity, and societal welfare [1]. Economic growth is influenced by various *key drivers of growth* arising from macroeconomic, structural, and institutional dimensions [2]. These factors include trade openness, interest rates, exchange rates, fiscal policy, the digital economy, and political stability [3]. The relevance of these six factors is particularly important for *Middle-Income Countries* in the ASEAN region, as most ASEAN countries fall within the

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middle-income group, although they differ in terms of economic characteristics and levels of development. According to the World Bank classification, middle-income economies are divided into *lower-middle-income* and *upper-middle-income* categories based on gross national income (GNI) per capita calculated using the Atlas method [4]. However, being classified as a middle-income economy does not automatically guarantee sustained income growth. Countries in this group face challenges in maintaining productivity and economic growth in order to continue converging toward higher income levels [5]. The slowdown in economic growth after reaching middle-income status is commonly associated with the *middle-income trap*, which may be related to limitations in productivity, structural transformation, institutional quality, and the macroeconomic environment [6],[7].

These challenges are reflected in the economic growth dynamics of ASEAN countries. Based on data reported by [8], the average economic growth of ASEAN countries remained relatively stable at approximately 4–6% during 1967–2019, with the highest average growth rate of 5.99% recorded during 2000–2009. However, average growth declined sharply to 1.14% during 2020–2022. This change indicates that economic growth in the region remains exposed to various pressures and is influenced by both global and domestic economic conditions. For middle-income economies, sustaining growth requires more than the accumulation of production factors; it also requires improvements in productivity, economic diversification, competitiveness, and transformation toward higher value-added economic activities [9]. Therefore, identifying the factors that drive economic growth is important for understanding the capacity of ASEAN countries to address the challenges associated with the *middle-income trap*.

Trade openness is one of the factors widely associated with economic growth because it can expand market access, improve specialization and production efficiency, and facilitate knowledge and technology transfer [10]. Several studies have shown that trade openness can increase output and productivity through greater export and import activities [11],[12]. However, this relationship is not necessarily uniform, as the benefits of trade may depend on export quality and the characteristics of individual economies [9]. In addition to trade, macroeconomic conditions also play an important role in determining economic growth. Interest rates affect the cost of capital, investment, consumption, and savings, meaning that changes in interest rates can have significant implications for economic activity [13],[14]. Real exchange rates are also associated with external competitiveness, as competitive exchange rates can stimulate exports, production, investment, and structural transformation [15],[16].

Furthermore, fiscal policy, through government expenditure, taxation, and deficit management, can influence aggregate demand, investment, and capital accumulation. The effectiveness of fiscal policy depends not only on the magnitude of fiscal stimulus but also on the stability and composition of government expenditure [17],[18]. Thus, trade openness, interest rates, exchange rates, and fiscal policy represent important macroeconomic dimensions that may influence the growth capacity of middle-income economies in ASEAN.

Structural and institutional transformations have also become increasingly important for economic growth amid changes in the global economy [19]. The

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development of the digital economy through information and communication technologies, internet connectivity, digital platforms, and data-driven innovation has the potential to enhance productivity, efficiency, financial inclusion, and access to international markets [20]. Nevertheless, the benefits of digitalization remain influenced by digital infrastructure, digital literacy, internet access, and innovation capacity, making the digital divide a potential constraint for middle-income economies. Political stability, meanwhile, contributes to policy certainty, investor confidence, capital accumulation, and the effectiveness of economic institutions [21]. Conversely, political instability may increase uncertainty and hinder investment and the efficient allocation of resources [22]. These findings indicate that economic growth is not determined by a single factor but rather reflects the interaction of economic openness, macroeconomic conditions, digital transformation, and the quality of the institutional environment. However, previous studies have reported varying findings regarding the direction and magnitude of the effects of individual factors. Moreover, many studies have examined these variables separately or have incorporated only several determinants within a single empirical model. Consequently, the simultaneous integration of these six factors in explaining economic growth among middle-income ASEAN countries remains relatively limited.

Based on this research gap, this study examines trade openness, interest rates, exchange rates, fiscal policy, the digital economy, and political stability as *key drivers of growth* in promoting economic growth among *middle-income countries* in the ASEAN region during the 2014–2023 period. This period is selected to capture economic growth dynamics before, during, and after major global economic disruptions, while also considering changes in the regional digital economy and macroeconomic policy environment. The novelty of this study lies in integrating these six economic and institutional factors within a single empirical framework to examine economic growth among middle-income ASEAN countries amid the challenges of the *middle-income trap*. This approach is expected to provide a more comprehensive understanding of the factors that contribute to sustaining economic growth, improving productivity, strengthening competitiveness, and supporting economic transformation toward more sustainable growth.

2. METHOD

This study employs a quantitative approach with an explanatory research design to analyze the effects of international trade, interest rates, exchange rates, fiscal policy, the digital economy, and political stability on economic growth in developing ASEAN countries during the 2013–2023 period. The study uses panel data, which combines cross-sectional data across countries and time-series data across periods [23].

The population of this study consists of developing countries in the ASEAN region. The sample was selected using purposive sampling based on the criteria of being middle-income countries, being included in the study period, and having complete and consistent data for all research variables. Based on these criteria, three countries were selected as the research sample.

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The dependent variable is economic growth, measured by real GDP growth. The independent variables consist of *trade openness*, *interest rate*, *exchange rate*, *fiscal policy*, *digital economy*, and *political stability*.

The variables are measured as follows:

a. *Trade Openness* (TO) = exports and imports relative to GDP.
b. *Interest Rate* (IR) = *real interest rate*.
c. *Exchange Rate* (ER) = *official exchange rate* (LCU per US$).
d. *Fiscal Policy* (FP) = government expenditure relative to GDP.
e. *Digital Economy* (DE) = percentage of internet users relative to the population.
f. *Political Stability* (PS) = *Political Stability and Absence of Violence/Terrorism* indicator.

The operational measurement formulas are presented in the following figure.

This study uses secondary data collected through documentation. Data on economic growth, trade, interest rates, exchange rates, fiscal policy, and the digital economy were obtained from the *World Development Indicators* (WDI), while political stability data were obtained from the World Bank's *Worldwide Governance Indicators* (WGI).

The data were analyzed using descriptive statistics and panel data regression. Model selection was conducted by comparing the *Common Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM) using the Chow test, Hausman test, and Lagrange Multiplier (LM) test. The regression model is specified as follows:

$$GE_{it} = \beta_0 + \beta_1 TO_{it} + \beta_2 IR_{it} + \beta_3 ER_{it} + \beta_4 FP_{it} + \beta_5 DE_{it} + \beta_6 PS_{it} + \varepsilon_{it}$$

Model adequacy was assessed using normality, multicollinearity, and heteroscedasticity tests. Hypothesis testing was subsequently conducted using the *t*-test, *F*-test, and coefficient of determination (R^2) at a 5% significance level.

The research framework illustrates the conceptual relationship between the dependent variable, Economic Growth (Y), and the independent variables consisting of International Trade (X1), Interest Rate (X2), Exchange Rate (X3), Fiscal Policy (X4), Digital Economy (X5), and Political Stability (X6). These variables are analyzed using a panel data regression model to examine their influence on economic growth.

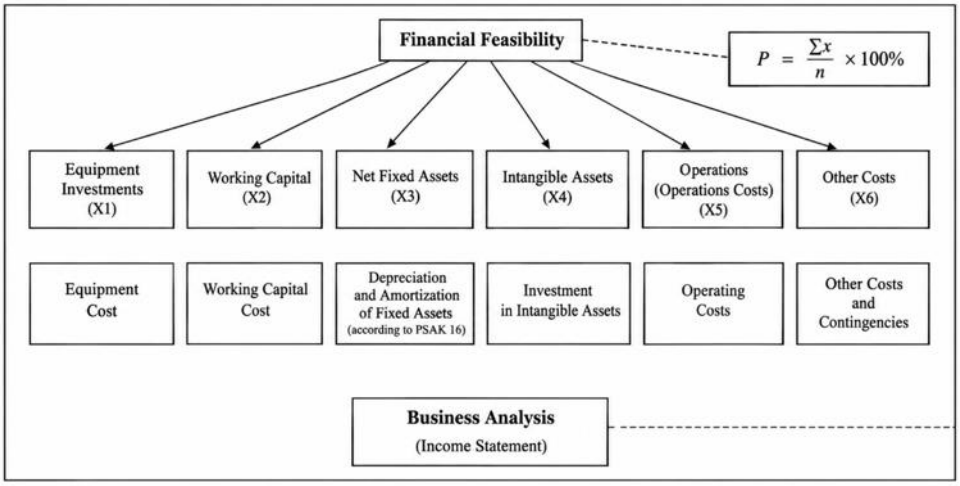


Figure 1. Research Framework

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3. RESULTS AND DISCUSSION

3.1. Results

Overview of the Research Object

This study examines the determinants of economic growth in three upper-middle-income ASEAN countries, Indonesia, Malaysia, and Thailand during the 2014–2023 period. The countries were selected using purposive sampling based on the World Bank income classification and the availability of complete and consistent data for all research variables. The analysis includes trade openness, interest rates, exchange rates, fiscal policy, digital economy, political stability, and economic growth as the dependent variable. The selected countries exhibit different economic characteristics in terms of trade integration, monetary policy, fiscal capacity, digital development, and institutional stability. These differences provide the basis for employing panel data regression to identify the factors influencing economic growth across ASEAN middle-income economies.

Table 1. Research Objects

Country	World Bank Classification	Observation Period
Indonesia	Upper-middle income	2014–2023
Malaysia	Upper-middle income	2014–2023
Thailand	Upper-middle income	2014–2023

Source: Processed research data (2026)

Descriptive Statistical Analysis

Descriptive statistics were employed to provide an overview of the characteristics of the research data prior to conducting the panel regression analysis. The results indicate substantial variation in the economic conditions of the three sample countries.

Table 2. Average Value of Economic Growth Determinants

No	Country	Average Value
1	Indonesia	26.04
2	Malaysia	45.46
3	Thailand	42.24

Source: Processed data (2026).

Malaysia recorded the highest average value of the economic growth determinants at 45.46, followed by Thailand at 42.24, while Indonesia recorded the lowest average value at 26.04. This finding indicates differences in the average conditions of the economic growth determinants across the three countries during the observation period.

Table 3. Summary of Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Economic Growth (EG)	3.09	3.58	-6.10	9.00
Trade Openness (TO)	97.47	41.85	33.00	146.00
Interest Rate (IR)	3.86	3.27	-2.20	10.00
Exchange Rate (ER)	17.09	12.35	3.27	35.30
Digital Economy (DE)	63.86	23.85	17.00	98.00
Political Stability (PS)	58.60	7.61	46.10	70.10

Source: EViews 12 output, processed data (2026)

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The average economic growth of the sample countries was 3.09%, with a standard deviation of 3.58, indicating considerable variation across countries and years. Trade openness and the digital economy exhibited relatively high variability, reflecting differences in trade integration and digital development among the sample countries.

Panel Data Regression Results

Panel data regression was conducted to examine the effects of six independent variables on economic growth. Based on the estimation results, the regression equation is expressed as follows:

$$EG = 20.1987 + 0.0969TO - 0.4048IR - 0.0459ER - 1.6197FP - 0.0605DE + 0.2445PS$$

Table 4. Panel Data Regression Results (Fixed Effect Model)

Variable	Coefficient	Direction	Significance
Constant	20,1987	Positive	-
Trade Openness (TO)	0,0969	Positive	Significant
Interest Rate (IR)	-0,4048	Negative	Significant
Exchange Rate (ER)	-0,0459	Negative	Not significant
Fiscal Policy (FP)	-1,6197	Negative	Significant
Digital Economy (DE)	-0,0605	Negative	Not significant
Political Stability (PS)	0,2445	Positive	Not significant

Source: EViews 12 output, processed data (2026).

The regression results indicate that trade openness has a positive and statistically significant effect on economic growth. A one-unit increase in trade openness is associated with a 0.0969 percentage-point increase in economic growth, holding other variables constant. Conversely, interest rates and fiscal policy have significant negative effects on economic growth. Meanwhile, exchange rates, the digital economy, and political stability do not have statistically significant effects on economic growth.

Model Selection

The appropriate panel data model was determined using the Chow test, which compares the Common Effect Model (CEM) and the Fixed Effect Model (FEM).

Table 5. Chow Test Results

Test	Value	Decision
Probability (Chow Test)	0.0039	Fixed Effect Model

The Chow test produced a probability value of 0.0039, which is lower than the 5% significance level. Therefore, the Fixed Effect Model (FEM) was selected over the Common Effect Model (CEM). The Hausman test could not be performed due to limitations related to the variance–covariance matrix in the Random Effect Model. Consequently, the FEM was retained as the final estimation model.

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Classical Assumption Tests

Prior to hypothesis testing, the regression model was evaluated using normality, multicollinearity, and heteroscedasticity tests.

Table 6. Summary of Classical Assumption Tests

Test	Result	Conclusion
Normality (Jarque–Bera)	Prob. = 0.0685	Normally residual
Multicollinearity	Highest correlation = 0.8903	No multicollinearity
Heteroscedasticity	All Prob. > 0.05	No heteroscedasticity

Source: EViews 12 output, processed data (2026).

The model satisfies the classical assumption tests presented above. The Jarque–Bera probability value of 0.0685 exceeds 0.05, indicating that the residuals are normally distributed. Furthermore, the results of the heteroscedasticity test show that all independent variables have probability values above 0.05, indicating no evidence of heteroscedasticity. The correlation results also do not indicate multicollinearity based on the criterion applied in this study.

Hypothesis Testing

Table 7. Partial Hypothesis Testing Results

Variable	Coefficient	Probability	Decision
Trade Openness	0.0969	0.0003	Positive and significant
Interest Rate	-0.4048	0.0253	Negative and significant
Exchange Rate	-0.0459	>0.05	Not significant
Fiscal Policy	-1.6197	0.0000	Negative and significant
Digital Economy	-0.0605	>0.05	Not significant
Political Stability	0.2445	>0.05	Not significant

Source: EViews 12 output, processed data (2026).

The t-test results indicate that trade openness has a positive and statistically significant effect on economic growth. In contrast, interest rates and fiscal policy have statistically significant negative effects. Exchange rates, the digital economy, and political stability do not have statistically significant effects on economic growth at the 5% significance level.

Simultaneous Test (F-test)

Table 8. F-test Results

Indicator	Value
F-statistic	11.0539
Probability (F-statistic)	0.000008
Durbin–Watson	1.6111

Source: EViews 12 output, processed data (2026).

The F-test results indicate that the independent variables jointly have a statistically significant effect on economic growth, as indicated by the probability value of 0.000008,

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which is below the 5% significance level. Therefore, the independent variables jointly contribute to explaining variations in economic growth within the estimated model.

Coefficient of Determination

Table 9. Coefficient of Determination (Adjusted R^2)

Indicator	Value
Adjusted R^2	0.6753
Explained Variation	67.53%
Unexplained Variation	32.47%

Source: EViews 12 output, processed data (2026).

The Adjusted R^2 value of 0.6753 indicates that approximately 67.53% of the variation in economic growth is explained by trade openness, interest rates, exchange rates, fiscal policy, the digital economy, and political stability. The remaining 32.47% is attributable to other factors not included in the regression model. Thus, the estimated model accounts for a substantial proportion of the variation in economic growth during the observation period.

3.2. Discussion

This section discusses the panel regression results by relating the findings to economic theories, previous empirical studies, and the economic conditions of developing ASEAN countries. The discussion focuses on the direction and statistical significance of each independent variable in explaining economic growth.

The Effect of Trade Openness on Economic Growth

The regression results show that trade openness has a positive and significant effect on economic growth, with a coefficient of 0.096921 and a probability value of 0.0003 < 0.05. This finding indicates that an increase in trade openness, measured by the ratio of exports and imports to GDP, is associated with higher economic growth in the ASEAN countries included in the sample.

This relationship can be explained by the endogenous growth theory developed by Grossman and Helpman (1991), which emphasizes that international trade can promote economic growth through specialization, technology transfer, knowledge diffusion, market expansion, and productivity improvements. In the ASEAN context, greater trade openness allows countries to obtain raw materials, capital goods, and technology from international markets, thereby increasing productive capacity.

This finding is consistent with [24], which found a positive relationship between trade and economic growth in developing countries, and [25], which showed that the benefits of trade openness are related to the quality and structure of trade. The finding is also supported by [26] in the context of ASEAN countries.

At the macroeconomic level, this mechanism can be illustrated through the national income identity:

$$\mathbf{Y = C + I + G + (X - M)}$$

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An increase in exports can raise demand for domestic output, while imports of capital goods and intermediate inputs can increase productive capacity. Therefore, the findings indicate that international trade is an important factor supporting economic growth in developing ASEAN countries.

The Effect of Interest Rates on Economic Growth

Interest rates have a negative and significant effect on economic growth, with a coefficient of -0.404795 and a probability value of 0.0253 < 0.05. This result indicates that an increase in the *real interest rate* is associated with lower economic growth.

The negative relationship can be explained through the investment and consumption channels. Higher interest rates increase borrowing costs, causing firms to reduce or postpone investment, while households may reduce credit-financed consumption. The decline in investment and consumption can subsequently reduce aggregate demand and economic output.

This finding is consistent with [27], which found a negative relationship between the real interest rate and economic growth. This mechanism is particularly relevant for developing ASEAN countries because investment remains an important source of capital accumulation, productive capacity, and productivity improvement.

At the macroeconomic level, the mechanism is related to the national income identity $\mathbf{Y = C + I + G + (X - M)}$, particularly through its effects on **I (investment)** and **C (consumption)**. Therefore, the findings suggest that higher financing costs can become one of the factors constraining economic growth in developing ASEAN countries.

The Effect of Exchange Rates on Economic Growth

The exchange rate has a coefficient of **-0.045857** with a probability value of 0.6172 > 0.05, indicating that it has no statistically significant effect on economic growth. Although the coefficient is negative, the relationship is not statistically strong enough to support a significant effect.

Theoretically, currency depreciation can improve export competitiveness because domestic products become relatively cheaper in international markets. However, depreciation can also increase the domestic currency cost of imported raw materials, energy, machinery, and capital goods. These two mechanisms may offset each other, resulting in a relatively weak overall effect on economic growth.

This finding is consistent with [28], which found that the relationship between exchange rates and economic growth varies across countries and depends on economic characteristics.

This condition is particularly relevant to ASEAN economies because countries differ in their trade structures, export orientation, and dependence on imported inputs. Therefore, exchange rate movements may generate different economic effects across countries.

Overall, the findings indicate that exchange rate movements were not a major determinant of economic growth in the estimated model. The insignificant result suggests

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that changes in the exchange rate were not directly translated into significant changes in economic growth during the observation period.

The Effect of Fiscal Policy on Economic Growth

Fiscal policy, measured by the ratio of government expenditure to GDP, has a negative and significant effect on economic growth, with a coefficient of -1.619690 and a probability value of 0.0000 < 0.05.

This result indicates that an increase in the government expenditure-to-GDP ratio is associated with lower economic growth in the sample. The finding can be explained by considering not only the size of government expenditure but also its composition and effectiveness.

According to Keynesian theory, government expenditure can stimulate aggregate demand. However, the impact of fiscal expenditure on economic growth depends on how effectively government spending contributes to productivity and productive capacity. If higher expenditure does not generate proportional improvements in productivity, infrastructure, human capital, or productive investment, its contribution to economic growth may be limited.

This finding is consistent with [29], which showed that the relationship between government expenditure and economic growth depends strongly on expenditure composition. [30] also found that government expenditure could exert pressure on economic growth in ASEAN countries during certain periods.

Therefore, the negative coefficient does not imply that all government expenditure is unproductive. Rather, it indicates that higher aggregate government expenditure did not generate a positive growth effect in the estimated model. In addressing the *middle-income trap*, the quality and allocation of public expenditure may therefore be more important than simply increasing the amount of government spending.

The Effect of the Digital Economy on Economic Growth

The digital economy has a coefficient of -0.060519 with a probability value of 0.0554 > 0.05, indicating a negative but statistically insignificant effect on economic growth at the 5 percent significance level.

According to Romer's [31] endogenous growth theory, technological progress and knowledge accumulation are important sources of long-term economic growth. Internet access can potentially improve efficiency, expand markets, reduce transaction costs, and support innovation. However, greater internet penetration does not automatically translate into higher productivity because its economic impact depends on how digital technology is utilized.

This finding is consistent with [32], which found that the relationship between internet use and economic growth is not necessarily positive. Meanwhile, [33] found a relationship between digitalization and economic growth in ASEAN countries, although the magnitude of the effect depends on differences in digital development and country characteristics.

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Therefore, the negative and insignificant coefficient in this study may indicate that increasing internet penetration has not yet been fully accompanied by productive use of digital technology. Limitations in digital infrastructure, human capital, digital literacy, and firms' ability to adopt technology may prevent greater internet access from being fully translated into higher economic productivity.

The Effect of Political Stability on Economic Growth

Political stability has a coefficient of 0.244457 with a probability value of 0.1756 > 0.05, indicating that it has no statistically significant effect on economic growth. The positive coefficient is consistent with the expected theoretical direction, but the relationship is not statistically significant.

According to North's (1990) institutional theory, institutional conditions and the certainty of rules influence economic decision-making. Political stability can create a more predictable environment for investment and economic activity. However, political stability alone may not be sufficient if it is not accompanied by government effectiveness, legal certainty, regulatory quality, and protection of property rights.

This interpretation is consistent with [34], which found that the relationship between political stability and economic growth is associated with other factors, including human capital, foreign investment, trade openness, and tourism. [35] also showed that the economic benefits associated with political stability can depend on government effectiveness and institutional quality.

Therefore, the insignificant result in this study suggests that relatively stable political conditions do not automatically generate higher productivity and economic growth. Political stability needs to be supported by effective economic institutions so that it can be translated into greater investment, productivity, and sustainable economic growth.

Overall, the results indicate that trade openness has a positive and significant effect, while interest rates and fiscal policy have negative and significant effects on economic growth in the developing ASEAN countries examined. Meanwhile, exchange rates, the digital economy, and political stability do not have statistically significant effects.

These findings suggest that economic growth in developing ASEAN countries is influenced not only by the scale of economic activity but also by the ability of countries to improve productivity, allocate resources efficiently, utilize technology productively, maintain manageable financing costs, and develop effective institutions. These factors are particularly important in addressing the *middle-income trap*, as sustainable economic growth requires improvements in the quality and productivity of growth drivers rather than merely an expansion of economic activity.

4. CONCLUSION

Based on the panel data regression analysis of Indonesia, Malaysia, and Thailand during 2014–2023, trade openness has a positive and significant effect on economic growth, while interest rates and fiscal policy have negative and significant effects. Meanwhile, exchange rates, the digital economy, and political stability do not have statistically significant effects on economic growth. Simultaneously, the six independent

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variables significantly affect economic growth, with an F-statistic probability of 0.000008. The model has an Adjusted R^2 of 0.6753, indicating that 67.53% of the variation in economic growth is explained by the variables included in the model, while 32.47% is explained by other factors. These findings suggest that sustaining economic growth in middle-income ASEAN countries requires greater trade integration, supportive financing conditions, effective fiscal expenditure, productive digitalization, and stronger economic institutions.

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