ECONOMICS

Macroeconomic Drivers of GDP per Capita Growth in Five Middle-Income ASEAN Countries

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ABSTRACT

Purpose: This study aims to analyze the influence of Gross Fixed Capital Formation, exports of goods and services, remittances, and inflation on Gross Domestic Product per capita in five middle-income ASEAN countries: Malaysia, Thailand, Indonesia, Vietnam, and the Philippines.

Method: A quantitative approach is employed utilizing panel data regression analysis. The Fixed Effects Model (FEM) is applied, selected based on the outcomes of the Chow and Hausman tests. Secondary data are sourced from the World Bank, encompassing the period from 2000 to 2023, yielding a total of 120 observations (5 countries over 24 years).

Result: The empirical findings indicate that Gross Fixed Capital Formation, exports of goods and services, and remittances each have a positive and statistically significant effect on GDP per capita. Conversely, inflation exhibits a significantly negative impact. These results underscore that investments, export activities, and remittance inflows contribute to economic growth, whereas inflation diminishes purchasing power and may impede progress beyond the middle-income trap.

Practical Implications for Economic Growth and Development: Governments in middle-income ASEAN countries should prioritize physical investment, enhance export markets, direct remittances toward human capital development, and implement effective monetary policies to regulate inflation and foster sustainable growth.

Originality/Value: This study provides a novel contribution by integrating four key macroeconomic variables into a cohesive cross-country panel framework focused on ASEAN. It offers updated empirical evidence to enhance the understanding of the dynamics of GDP per capita and its correlation with the risks associated with the middle-income trap in the region.

Keywords: GDP per Capita, GFCF, Exports, Remittances, Inflation, Middle-income Trap

INTRODUCTION

In recent decades, the accelerating pace of global economic development has profoundly transformed the structure and trajectory of economic growth across nations. Advancements in technology, the liberalization of trade, and the integration of global markets have generated both unprecedented opportunities and complex challenges, particularly for developing economies. To maintain competitiveness and ensure long-term economic progress, these countries are compelled to undertake comprehensive and strategic economic transformations. In the absence of sustained reform initiatives, economies may become susceptible to stagnation, a condition commonly referred to as the middle-income trap. This phenomenon is characterized by a deceleration of income growth following a country's attainment of middle-income status, thereby hindering its advancement into the high-income bracket.

Countries entrenched in the middle-income trap typically encounter persistent structural impediments, including stagnant productivity, limited innovation capacity, increasing income inequality, and inadequate institutional frameworks (Agénor, 2017). These constraints can significantly obstruct long-term economic transformation and development. The failure to implement timely and comprehensive reforms may result in prolonged economic deceleration and heightened marginalization within the competitive global economy.

In this context, the Association of Southeast Asian Nations (ASEAN) assumes strategic significance due to its demographic weight and substantial market potential. To deepen regional integration, ASEAN established the ASEAN Economic Community (AEC), which aims to facilitate the free movement of goods, services, investment capital, and skilled labor. This integration initiative is designed not only to enhance regional economic resilience but also to position ASEAN as a dynamic and influential global economic actor. Sustainable and inclusive economic growth is widely recognized as a central indicator of developmental success, reflecting not only rising income levels but also the equitable distribution of economic benefits across diverse segments of the population (Suidarma, 2019).

The World Bank categorizes economies according to Gross National Income (GNI) per capita, functioning as both a global economic classification system and a framework for the formulation of development strategies, the allocation of international aid, and the facilitation of cross-border investments. This classification delineates countries into four income categories: low income (defined as less than USD 1,135), lower-middle income (ranging from USD 1,136 to USD 4,465), upper middle income (spanning USD 4,466 to USD 13,845), and high income (exceeding USD 13,845). A significant number of ASEAN member states are situated within the middle-income category, thereby positioning the region at a pivotal moment in its developmental trajectory.

Table 1. Classification of ASEAN Countries by Income Group in 2023

| Income Group	GNI per Capita (USD)	ASEAN Countries
Low Income	< 1,135	–
Lower-Middle Income	1,136 – 4,465	Cambodia, Laos, Myanmar, Philippines, Vietnam
Upper-Middle Income	4,466 – 13,845	Indonesia, Malaysia, Thailand
High Income	> 13,845	Brunei Darussalam, Singapore

Source: World Bank (2023)

As demonstrated in Table 1, no ASEAN country was classified as low income in 2023. The majority of member states remained within the lower-middle-income category. This trend highlights the ongoing disparities in economic welfare among ASEAN nations, particularly in comparison to high-income members such as Singapore and Brunei Darussalam. Achieving

the ASEAN Economic Community's (AEC) vision of becoming one of the world's largest economic blocs necessitates significant growth in per capita income. Such growth is essential not only for fostering broader economic development but also for mitigating the risks associated with prolonged stagnation, commonly referred to as the middle-income trap.

However, the application of Gross National Income (GNI) per capita for analytical purposes presents certain limitations, particularly when addressing structural economic challenges such as the middle-income trap. Because GNI encompasses income earned abroad, it may not accurately reflect a country's internal productive capacity or the robustness of its domestic economic structure. Consequently, numerous studies have adopted Gross Domestic Product (GDP) per capita as a more appropriate metric for evaluating the dynamics of the middle-income trap (Kabir & Ahmed, 2019). Unlike GNI, GDP per capita accounts exclusively for the total value of goods and services produced within a country's borders, irrespective of ownership. Thus, it provides a more precise representation of domestic productivity, economic efficiency, and structural transformation factors deemed critical in overcoming the middle-income trap.

In the empirical literature, GDP per capita is frequently employed as a benchmark to ascertain whether a country has entered a phase of growth stagnation after achieving middle-income status. For instance, Hanifah and Yasin (2024) assert that both the level and growth rate of GDP per capita are closely linked to industrial restructuring and economic complexity, which are key indicators in identifying conditions associated with the middle-income trap. Similarly, Glawe and Wagner (2016) argue that GDP per capita more effectively captures structural transformation in middle-income economies than GNI per capita, as it more directly reflects domestic economic output and performance.

Figure 1. Gross Domestic Product (GDP) of ASEAN Countries during 2014 to 2023
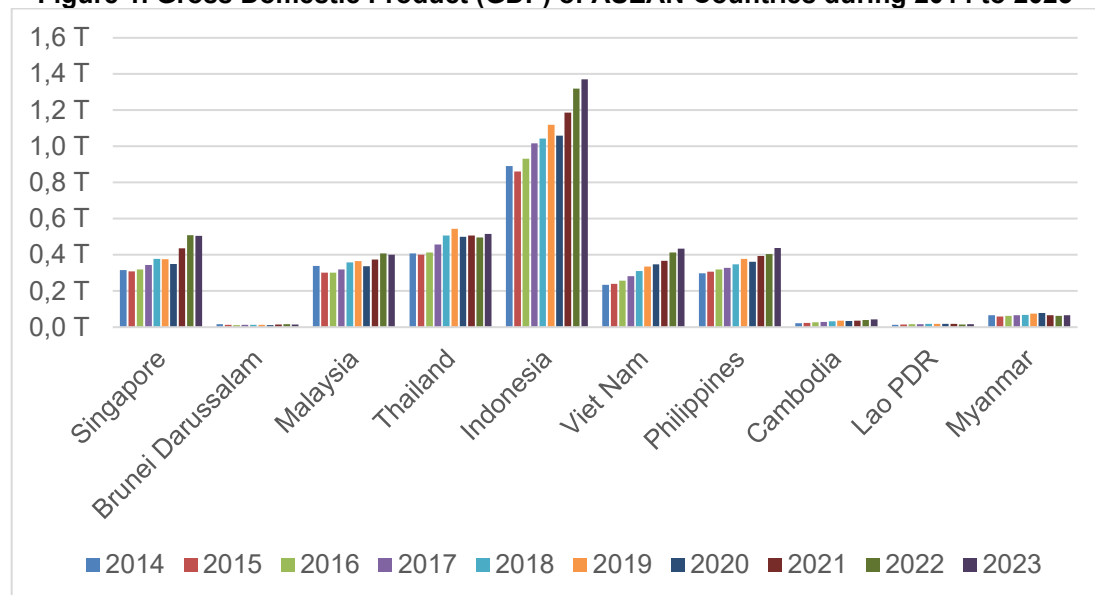
Source: World Bank, processed by the authors (2025)

The figure presents the GDP trends of ASEAN member states from 2014 to 2023. It is evident that Indonesia, Malaysia, Thailand, the Philippines, and Vietnam consistently contribute the largest share to the region's total GDP. These five nations not only exhibit higher GDP values than their ASEAN counterparts but also collectively account for over 80% of the region's total GDP. Given their demographic significance and economic weight, they serve as a reliable proxy for assessing regional economic dynamics. Consequently, this study concentrates on

these five middle-income ASEAN countries, which share similar developmental challenges, particularly in sustaining economic growth and avoiding the middle-income trap.

The growth of GDP per capita is influenced by multiple interrelated macroeconomic factors, notably investment, exports, remittances, and inflation. Among these factors, Gross Fixed Capital Formation (GFCF) is commonly utilized as a proxy for domestic investment, representing a nation's commitment to enhancing its long-term productive capacity. Productive investment constitutes a foundational pillar of sustainable development. An increase in GFCF is perceived as a strategic pathway to escaping the middle-income trap, as capital accumulation stimulates industrial growth, generates employment, and enhances societal welfare (Nujum & Rahman, 2019; Siregar et al., 2024). Several empirical studies corroborate the positive and significant impact of GFCF on GDP, particularly within middle-income economies (Mongi & Saidi, 2023).

Exports also play a crucial role in facilitating countries' transitions beyond the middle-income threshold. As noted by Khoirudin and Widyastuti (2023), export activities foster deeper integration into global value chains, thereby enhancing competitiveness and innovation. Increased demand for domestically produced goods and services enables firms to achieve economies of scale, adopt advanced technologies, and improve labor productivity (Yuni et al., 2025). Numerous studies highlight the robust positive impact of exports on GDP per capita, identifying them as a central driver of income and economic growth (Fitri & Lutfi, 2024).

In addition to internal economic forces, external financial inflows, particularly remittances, have emerged as a vital source of growth in many developing countries. Remittances, defined as financial transfers sent by migrant workers to their home countries, not only support household consumption but also enhance national savings, financial inclusion, physical capital investment, and human capital development. In various ASEAN economies, remittances are increasingly recognized as a reliable and countercyclical component of long-term development (Jamaluddin et al., 2025).

On the other hand, macroeconomic stability, particularly concerning price levels, is essential for sustaining economic growth. Uncontained inflation undermines purchasing power, distorts resource allocation, and diminishes investor confidence. Empirical research conducted by Pranada and Sukadana (2021) demonstrates that inflation has a statistically significant negative effect on GDP per capita in ASEAN developing countries. This finding indicates that inflationary pressures present a substantial threat to upward income mobility and may entrench economies within the middle-income trap (Sitanggang et al., 2022).

This study contributes to the existing literature by simultaneously incorporating four critical macroeconomic indicators—Gross Fixed Capital Formation (GFCF), exports, remittances, and inflation—within a unified panel data framework to evaluate their influence on GDP per capita across five middle-income ASEAN nations: Malaysia, Thailand, Indonesia, Vietnam, and the Philippines. The primary objective is to assess both the magnitude and direction of these variables' effects, thereby generating empirical insights that can inform more effective economic policymaking and assist ASEAN countries in overcoming the middle-income trap.

In contrast to previous studies, which often analyze these variables in isolation or within a single-country context, this research adopts a broader, cross-national perspective. For instance, Fitri and Lutfi (2024) examined the impact of exports and investment on GDP per capita in several ASEAN economies, while Purwanti and Kurnia (2024) investigated the role of capital formation and technological advancement in economic growth within the ASEAN-8. Furthermore, Zardoub and Sboui (2023) assessed the joint effects of GFCF, remittances, and inflation on economic growth across developing countries. While their focus on macroeconomic variables within a single model across multiple countries is noteworthy, this study provides a more comprehensive regional assessment and addresses a significant gap in the literature regarding strategies to escape the middle-income trap.

Hypotheses Development

Gross Fixed Capital Formation (GFCF) and GDP per Capita

Physical investment is widely acknowledged as a fundamental driver of economic growth, particularly in developing economies. Gross Fixed Capital Formation (GFCF), which encompasses investments in long-term fixed assets such as infrastructure, machinery, equipment, and industrial facilities, serves as a primary indicator of capital accumulation and productive capacity within a nation (Stupnikova & Sukhadolets, 2019). The process of capital formation entails the allocation of a portion of national financial resources toward the acquisition of productive assets that are subsequently utilized in the production of goods and services, thereby facilitating economic expansion (Poudel, 2025).

The theoretical foundation of this relationship is articulated in the Solow-Swan growth model, which underscores the critical role of capital accumulation in enhancing per capita output, particularly when integrated with labor growth and technological advancements. Investment in fixed capital not only improves productive efficiency but also catalyzes industrial development and supports broader structural transformation (Du et al., 2022). This dynamic is particularly salient in capital-scarce economies, where increased investment directly contributes to economic performance and income growth.

H1: Gross Fixed Capital Formation (GFCF) exerts a positive and statistically significant effect on GDP per capita.

Exports of Goods and Services and GDP per Capita

Within the context of an open economy, exports of goods and services represent a crucial element of national economic performance. Engaging in international trade allows countries to access broader markets, generate foreign exchange earnings, and enhance domestic production efficiency (Ji et al., 2022). Increased export activity enables firms to leverage economies of scale, improve productivity, and expand employment opportunities. These dynamics are particularly significant for developing economies striving to accelerate structural transformation and reduce reliance on domestic demand alone.

The theoretical underpinning of this relationship is encapsulated in the Export-Led Growth (ELG) hypothesis, which asserts that sustained export expansion functions as a primary engine of economic growth. Exports are regarded not only as a source of income but also as a conduit for the dissemination of technological advancements, improved resource allocation, and enhanced competitiveness within the domestic economy (Li & Adam, 2025). Furthermore, export activities facilitate the importation of capital goods and intermediate inputs, thereby supporting industrial upgrading and long-term development (Pane & Patunru, 2023).

In this framework, enhancements in the quality and sophistication of export products are anticipated to exert a positive influence on per capita income growth. As countries diversify into higher-value goods and services, the benefits of trade are more likely to translate into sustainable increases in GDP per capita.

H2: Exports of goods and services exert a positive and significant effect on GDP per capita.

Remittances and GDP per Capita

Remittance financial transfers sent by migrant workers to their home countries represent a crucial source of external income, particularly in developing and middle-income economies. These inflows are often utilized by recipient households to fulfill basic needs such as food, education, and healthcare, while also facilitating small-scale entrepreneurial activities (Abrha & Weldeyohans, 2025). Consequently, remittances contribute not only to immediate consumption but also to long-term economic development through capital formation and the enhancement of human capacity (Amjad, 2021).

The theoretical foundation for this relationship can be found in Human Capital Theory, which underscores the significance of investment in education, skills, and health as drivers of individual productivity and national income growth (Khan, 2025). Remittances function as an essential financial instrument that alleviates liquidity constraints faced by low- and middle-income households, enabling them to invest in education and overall well-being. In contexts where formal welfare institutions are weak or inadequate, these private transfers provide an alternative mechanism for improving social outcomes and promoting inclusive growth.

Within the broader framework of structural transformation, the productive utilization of remittances plays a strategic role in facilitating upward income mobility. By promoting investments in human capital and the development of small-scale enterprises, remittance flows can contribute to a sustained increase in GDP per capita and aid in efforts to escape the middle-income trap.

H3: Remittances have a positive and significant effect on GDP per capita.

### *Inflation and GDP per Capita*

Inflation exerts a significant influence on GDP per capita, primarily through its effects on purchasing power and aggregate consumption behavior. According to the Pigou Effect, an increase in the general price level diminishes the real value of nominal financial assets, including cash and savings. This reduction in purchasing power constrains household consumption, weakens aggregate demand, and ultimately curtails productive activity, thereby impeding economic growth (Olusola et al., 2022).

When inflation persists without corresponding adjustments in nominal income, its detrimental effects become increasingly pronounced. Real income stagnates, consumption contracts, and output growth weakens. These effects are particularly disruptive in middle-income economies, where a substantial portion of household incomes is allocated to basic necessities. In this context, inflation has been demonstrated to exert a markedly negative impact on GDP per capita, particularly in environments characterized by stronger institutional frameworks (Yilmazkuday, 2022).

In addition to the erosion of consumption, persistent inflation introduces uncertainty into economic decision-making. It distorts long-term investment planning, undermines confidence among consumers and investors, and hampers the effective allocation of resources (Kamasa et al., 2022). Such instability can limit productivity gains and delay structural transformation, particularly in countries where monetary institutions and inflation targeting frameworks remain in the developmental stage.

H4: Inflation has a negative and significant effect on GDP per capita.

Figure 2. Research Framework
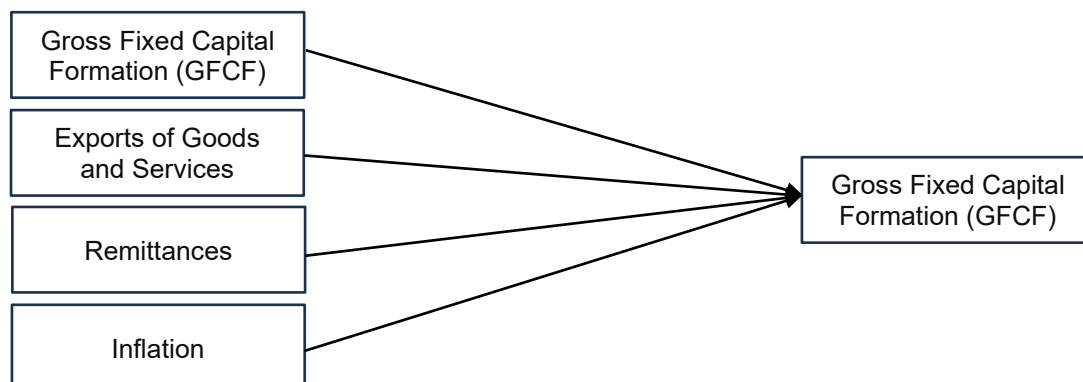
Source: Developed by the authors (2025)

METHOD

This study employs a quantitative research approach characterized by a unidirectional hypothesis framework, with the objective of empirically analyzing the effects of Gross Fixed Capital Formation (GFCF), exports of goods and services, remittances, and inflation on GDP per capita. The research design is anchored in panel data analysis, which integrates time series data from 2000 to 2023 with cross-sectional data from five middle-income ASEAN countries: Malaysia, Thailand, Indonesia, Vietnam, and the Philippines, resulting in a total of 120 balanced observations.

All data utilized in this analysis are secondary and were obtained from the World Bank's World Development Indicators (WDI) database. To address skewness and attain linearity in estimation, a log-linear multiple regression model is applied to normalize the distribution of monetary variables, thereby enhancing estimation accuracy.

The panel data estimation process encompasses three primary steps. First, the Chow test is employed to ascertain whether the Fixed Effects Model (FEM) offers a superior fit compared to the Pooled Ordinary Least Squares (OLS) model. Second, the Hausman test is conducted to differentiate between the FEM and the Random Effects Model (REM), based on the assumptions of consistency in linear regression. Following these steps, the Fixed Effects Model (FEM) is identified as the most appropriate estimation method.

All quantitative analyses were conducted using EViews 12, a software program extensively utilized in econometric analysis that facilitates advanced panel regression, diagnostic testing, and model selection. The analytical method employed is multiple linear regression utilizing a log-linear panel data estimation model, which can be expressed as follows:

$$lnGDPC_{it} = \beta_0 + \beta_1 GFCF_{it} + \beta_2 lnEXP_{it} + \beta_3 lnPR_{it} + \beta_4 INF_{it} + \varepsilon_{it}$$

In the estimation model, the dependent variable is GDP per capita (measured in US dollars), while the independent variables encompass Gross Fixed Capital Formation (GFCF) as a percentage of GDP, exports of goods and services (measured in US dollars), remittances (measured in US dollars), and inflation (expressed as a percentage). The term β_0 denotes the constant, while β_1 to β_4 represent the regression coefficients, and ε signifies the error term. In this context, *i* refers to the cross-sectional units (the ASEAN-5 countries), and *t* indicates the time period extending from 2000 to 2023.

Table 2. Operational Variables

No.	Variable	Symbol	Measurement/Unit	Operational Definition	Source
1.	Gross Domestic Product per Capita	GDPC	USD (log-transformed)	The natural log of GDP divided by total population, representing income per person	World Bank
2.	Gross Fixed Capital Formation	GFCF	% of GDP	Investment in physical assets such as infrastructure, machinery and equipment	World Bank
3.	Export Goods and Services	EXP	USD (log-transformed)	The natural log of total value of goods and services sold to the rest of the world	World Bank
4.	Remittances	PR	USD (log-transformed)	The natural log of personal remittances received from abroad	World Bank
5.	Inflation	INF	%	Annual percentage change in Consumer Prices Index (CPI),	World Bank

No.	Variable	Symbol	Measurement/Unit	Operational Definition	Source
				reflecting price level movements	

Source: Compiled by the authors (2025)

RESULT AND DISCUSSION

Model Selection

To ascertain the most suitable panel data regression model for this study, a comprehensive series of model selection tests were conducted, specifically including the Chow test and the Hausman test. These assessments are designed to identify the optimal model among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM).

Chow Test

Based on the results of the Chow test presented in Table 3, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted at a statistically significant level, as indicated by a probability value of 0.0000, which is below the 0.05 threshold. Consequently, the Fixed Effect Model (FEM) is identified as the most appropriate estimation model for this study.

Table 3. Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	300.688551	(4,111)	0.0000
Cross-section Chi-square	296.533670	4	0.0000

Source: Processed data (2025)

Hausman Test

The results of the Hausman test, as displayed in Table 4, indicate a chi-square value of 1202.754 with a probability value of 0.0000, which is below the 5% significance threshold ($p < 0.05$). This outcome suggests the rejection of the null hypothesis (H0) in favor of the alternative hypothesis (H1), thereby confirming that the Fixed Effect Model (FEM) is the most suitable estimation model for this study.

Table 4. Hausman Test Result

Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1202.754204	4	0.0000

Source: Processed data (2025)

Classical Assumption Test

Multicollinearity Test

The multicollinearity test was performed to assess the presence of excessively strong correlations among the independent variables in the regression model. As presented in Table 5, all correlation coefficients among the independent variables are below the established threshold of 0.85. This finding indicates an absence of multicollinearity within the model, thereby affirming the suitability of all independent variables for inclusion in the regression analysis.

Table 5. Multicollinearity Test

	GFCF	Exports	Remittances	Inflation
GFCF	1.000000	0.109744	0.149009	0.204657
Exports	0.109744	1.000000	0.003398	0.137596
Remittances	0.149009	0.003398	1.000000	-0.245664
Inflation	0.204657	0.137596	-0.245664	1.000000

Source: Processed data (2025)

Heteroscedasticity Test

The analysis of the residual graph derived from the heteroscedasticity test reveals that the residual values are confined within the interval of -500 to 500 and do not exceed the established threshold. This observation suggests that the variance of the residuals is stable, indicating no evidence of heteroscedasticity. Consequently, the model successfully meets the criteria of the heteroscedasticity test.

Figure 3. Residual Graph of the Heteroscedasticity Test
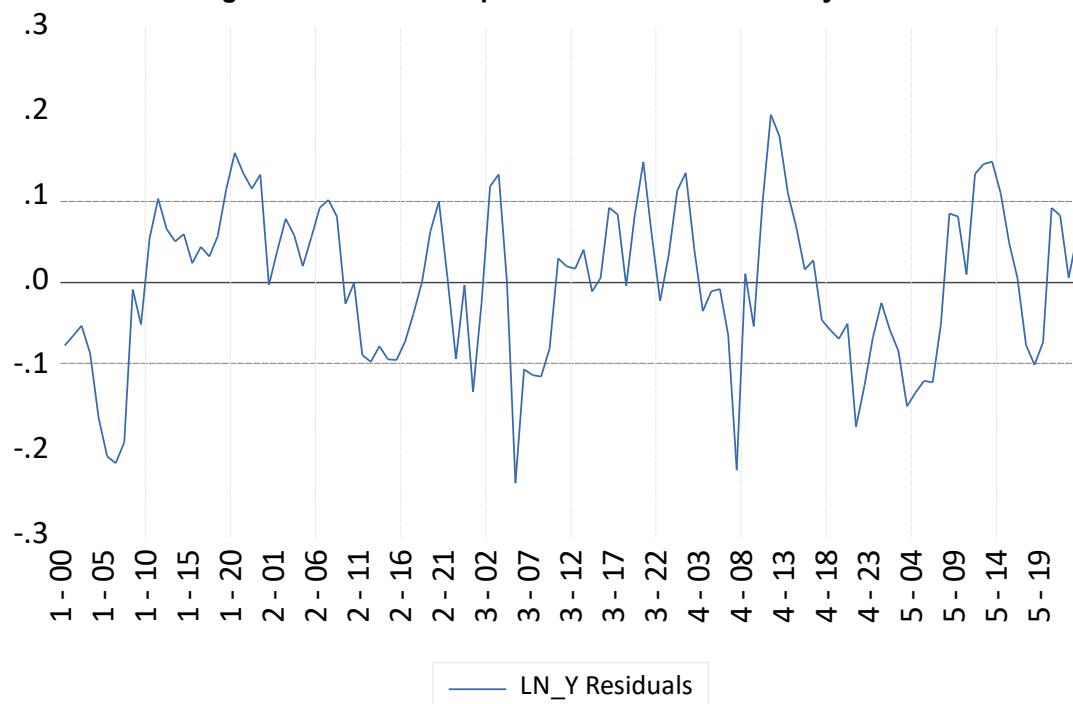
Source: Processed data (2025)

Coefficient of Determination (R-Squared Test)

The results of the coefficient of determination analysis indicate that the R² value is 0.987112. This suggests that the independent variables collectively account for approximately 98.71% of the variation in GDP per capita across the five ASEAN countries (Malaysia, Thailand, Indonesia, Vietnam, and the Philippines). The remaining 1.29% of the variation is attributed to factors not encompassed within the model.

Table 6. Coefficient of Determination Test

Model Summary	Value
R-squared	0.987112
Adjusted R-squared	0.986183

Source: Processed data (2025)

Hypotheses Testing

The t-test results from the panel data regression reveal that all independent variables significantly affect GDP per capita at the 5% significance level. Gross Fixed Capital Formation (GFCF) has a positive coefficient of 0.017979 with a t-statistic of 5.502 and a p-value of 0.0000, indicating that increases in capital investment are associated with higher GDP per capita. Exports of goods and services (LN_EXP) also show a significant positive effect, with a coefficient of 0.226086, a t-statistic of 7.894, and a p-value of 0.0000. Remittances (LN_PR) have the largest positive impact, with a coefficient of 0.647331, a t-statistic of 20.960, and a p-value of 0.0000. In contrast, inflation (INF) negatively affects GDP per capita, as shown by a coefficient of -0.008345, a t-statistic of -2.953, and a p-value of 0.0038. These statistical findings confirm that capital formation, exports, and remittances are key drivers of economic growth, while inflation poses a significant constraint for middle-income ASEAN countries.

Table 7. Hypotheses Testing Result

Variable	Coefficient	t-Statistic	p-Value	Significance (α = 0.05)	Conclusion
GFCF	0.017979	5.502	0.0000	Significant	GFCF has a positive and significant effect on GDP per capita
LN_EXP	0.226086	7.894	0.0000	Significant	Exports have a positive and significant effect on GDP per capita
LN_PR	0.647331	20.960	0.0000	Significant	Remittances have a positive and significant effect on GDP per capita
INF	-0.008345	-2.953	0.0038	Significant	Inflation has a negative and significant effect on GDP per capita

Source: Processed data (2025)

Discussion

The Effect of GFCF on GDP per Capita

The findings indicate that Gross Fixed Capital Formation (GFCF) exerts a positive and statistically significant impact on GDP per capita among the five ASEAN middle-income countries examined. This supports the hypothesis that capital accumulation plays a central role in driving per capita income growth.

These results align with the Solow-Swan growth model, which posits that physical investment is a crucial determinant of output expansion. Alami and Mohammad (2024) report a strong positive correlation between increased investment in physical capital and GDP per capita in developing Asian economies. Furthermore, Brunner et al. (2022) emphasize that fixed investment, particularly in infrastructure, machinery, and productive facilities, enhances national production capacity and boosts labor productivity. Within the ASEAN context,

Purwanti and Kurnia (2024) confirm that elevated levels of GFCF facilitate structural transformation, thereby contributing to inclusive and sustainable economic growth.

The acceptance of this hypothesis can be elucidated by the fundamental nature of GFCF as a critical input for productive capacity. In the five ASEAN countries analyzed, investments in capital goods not only promote output expansion but also underpin long-term industrial development. These investments mitigate infrastructure deficits, enhance production networks, and stimulate both domestic and export-oriented sectors. Consequently, GFCF operates as a strategic mechanism for overcoming the middle-income trap and accelerating per capita income growth.

The Effect of Exports of Goods and Services on GDP per Capita

The empirical results indicate that the exports of goods and services exert a positive and statistically significant effect on GDP per capita in the five selected ASEAN middle-income countries. This finding is consistent with the central tenet of the Export-Led Growth (ELG) hypothesis, which posits that an expansion of export activities stimulates domestic production, fosters employment, and enhances economic performance by facilitating access to larger international markets.

Numerous empirical studies substantiate this conclusion. Ginting (2017) demonstrates that in Southeast Asia, an increase in export volume, particularly in value-added goods, plays a crucial role in elevating per capita income by augmenting industrial output. Adelakun et al. (2025) further contend that exports generate the foreign exchange necessary for the importation of capital goods and technologies, thereby accelerating long-term productivity gains. Additionally, Arina Nur Fitri and Muhammad Yudhi Lutfi (2024) emphasize that export growth, particularly in high-tech manufacturing, significantly contributes to income expansion and enhances regional competitiveness among ASEAN nations.

The endorsement of this hypothesis is well-founded, given ASEAN's dependence on international trade as a catalyst for growth. For countries such as Vietnam and Malaysia, sustained export expansion has been accompanied by substantial increases in per capita income and enhancements in industrial capacity. Furthermore, export diversification into more sophisticated product categories fosters technological spillovers, supports private sector upgrading, and bolsters economic resilience—factors that collectively reinforce upward mobility and mitigate the risk of stagnation within the middle-income trap.

The Effect of Remittances on GDP per Capita

The results indicate that remittances exert a positive and statistically significant influence on GDP per capita among the ASEAN-5 countries. This finding suggests that financial inflows from migrant workers serve not only as a crucial source of external income but also contribute significantly to long-term economic performance at both household and national levels.

Several studies corroborate this conclusion. Zardoub and Sboui (2023) found that remittance inflows consistently enhance per capita income in lower-middle-income countries by alleviating household liquidity constraints and facilitating greater investment in human capital. Additionally, Ali Bare et al. (2022) emphasize that remittances support education and health expenditures, which are closely linked to enhancements in labor productivity. Furthermore, Mega (n.d) asserts that in ASEAN countries, remittances are increasingly allocated not only for consumption but also for small-scale investments that stimulate local economic activity.

This positive effect is theoretically grounded in Human Capital Theory, which posits that educational attainment, skill development, and health improvement are fundamental to increasing individual productivity and economic mobility. In countries such as the Philippines and Indonesia, remittances frequently function as a substitute for underfunded public programs, covering expenses such as school fees, healthcare access, and small enterprise funding. When utilized productively, remittances can accelerate structural change, enabling

families to transition into higher-income activities. Consequently, remittances represent more than mere short-term income supplements; they are enablers of long-term growth and critical instruments in mitigating the persistence of the middle-income trap.

The Effect of Inflation on GDP per Capita

The estimation results of this study indicate that inflation exerts a negative and statistically significant effect on GDP per capita in the five analyzed ASEAN middle-income countries: Malaysia, Thailand, Indonesia, Vietnam, and the Philippines. This finding suggests that rising prices diminish real purchasing power, consequently reducing household consumption and investment, which ultimately suppresses per capita income growth.

This conclusion is consistent with the classical Pigou Effect, which posits that a general increase in the price level diminishes the real value of money holdings, resulting in reduced consumption and weakened aggregate demand. Empirical support for this phenomenon is provided by Zheng et al. (2023), who demonstrate that persistent inflation adversely affects output growth in various developing economies due to its dampening effect on spending. Inflationary pressures, particularly when not accompanied by wage adjustments, contribute to stagnation in real income (Rofiqoh et al., 2025). Although not all inflation effects exhibit statistically significant strength, volatility in price levels introduces macroeconomic uncertainty and undermines investor confidence (Pappas & Boukas, 2025).

The negative relationship identified in this study is particularly salient for ASEAN middle-income countries, where monetary institutions may encounter challenges in effectively managing price stability. In economies such as Vietnam and Indonesia, inflation not only increases the cost of living but also diminishes the capacity of low- and middle-income households to save and invest in human capital. Furthermore, inflation often deters long-term investment due to unpredictable returns and policy instability. These conditions constrain productivity growth and impede the structural transformation necessary to transcend the middle-income trap. Therefore, managing inflation is essential not only for macroeconomic stability but also for safeguarding per capita income levels in the long term.

In alignment with the Pigou Effect, inflation erodes the real value of financial assets held by households, thereby weakening aggregate consumption. In developing economies, where a substantial portion of household income is allocated to basic necessities, such erosion in purchasing power can significantly impair living standards and reduce overall economic activity.

Moreover, high and persistent inflation generates economic uncertainty, which may deter both domestic and foreign investment. Price volatility can distort market efficiency, exacerbate income disparities, and undermine investor confidence in the sustainability of economic growth. These dynamics are particularly critical for countries striving to escape the middle-income trap, as inflation-induced instability may obstruct structural transformation and long-term development.

CONCLUSION

This study aims to examine the impact of Gross Fixed Capital Formation (GFCF), exports of goods and services, remittances, and inflation on GDP per capita in five middle-income ASEAN countries: Malaysia, Thailand, Indonesia, Vietnam, and the Philippines. The research is motivated by the necessity to understand the economic dynamics that may facilitate these countries' transition out of the middle-income trap.

The findings reveal that all independent variables exert a statistically significant influence on GDP per capita. Specifically, GFCF, exports, and remittances demonstrate positive and significant effects, indicating that physical capital accumulation, engagement in international trade, and financial inflows from migrant workers contribute substantially to economic growth.

In contrast, inflation presents a negative and significant effect, suggesting that price instability can hinder income growth and national productivity.

These results hold important policy implications for ASEAN economies, particularly for those classified as middle-income countries. Governments should prioritize domestic investment by enhancing infrastructure and creating a more favorable environment for capital formation. Furthermore, bolstering high value-added exports and strategically leveraging remittances for productive use are critical avenues for increasing national income. Concurrently, effective monetary policy is essential to manage inflation and maintain macroeconomic stability, thereby establishing a robust foundation for long-term economic development.

However, this study has several limitations. It is restricted to five ASEAN countries and focuses solely on four macroeconomic variables. To provide a more comprehensive understanding of the factors influencing economic growth and structural transformation in developing economies, future research is encouraged to broaden the scope by incorporating additional explanatory variables or exploring more extensive regional comparisons.

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