# DETERMINANTS OF GDP PER CAPITA IN BRICS AND ASEAN COUNTRIES: A QUANTILE REGRESSION APPROACH

Ratika Auderi[1], Mohammad Aulia Rachman[2]
**Ekonomi Pembangunan, Universitas Negeri Semarang, Indonesia**
tikaauderi@students.unnes.ac.id

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## ABSTRACT

This study investigates the determinants of GDP per capita in BRICS and ASEAN countries by accounting for heterogeneity across income levels. While previous research predominantly relies on mean-based estimation methods, such approaches may conceal variations in how growth factors operate across different stages of development. Using panel data from 21 countries over the period 2010–2023, this study applies quantile regression to examine how macroeconomic factors, labor productivity, and institutional quality influence GDP per capita at the 0.25, 0.50, and 0.75 quantiles.

The results reveal that household consumption significantly promotes GDP per capita only in middle- and upper-income countries, while foreign direct investment and government expenditure show no significant effects across quantiles. In contrast, labor productivity and political stability consistently exert strong positive influences at all income levels, indicating their fundamental role in sustaining economic growth. Government effectiveness becomes significant only in higher-income countries, suggesting that institutional capacity yields greater returns as economies mature.

These findings highlight that productivity enhancement and institutional stability, rather than capital inflows alone, are the primary drivers of income growth in emerging economies. The study underscores the importance of policies focused on human capital development, structural transformation, and governance improvement to achieve inclusive and sustainable economic growth.

**Keywords:** GDP per capita, Quantile Regression, BRICS and ASEAN, Economic Growth
**JEL Classification: C23, O40, O11**

## INTRODUCTION

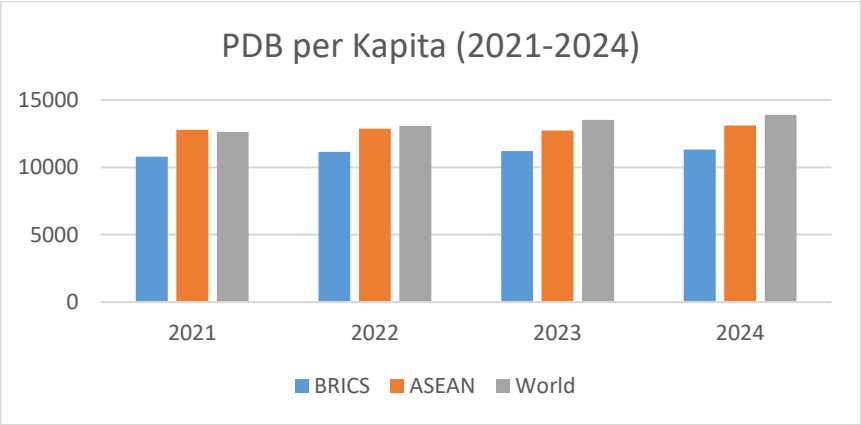
Economic growth is one indicator of a country's economic development success, as it reflects the economy's ability to generate output and improve people's welfare. One measure of aggregate economic growth is gross domestic product per capita, which describes the value of goods and services produced that can be directly attributed to each individual, thereby reflecting that individual's ability to generate economic output (Sukirno, 2006). GDP per capita measures the level of national economic progress, community prosperity, and compares welfare levels between regions and countries (Central Jakarta Statistics Agency, 2025). Globally, GDP per capita shows an upward trend, including in developing countries. Despite the significant contribution of BRICS and ASEAN to global output, disparities in

GDP per capita remain substantial, indicating that aggregate growth does not necessarily translate into improved individual welfare Data from the World Bank 2024 shows that there was a significant increase in global GDP per capita from around US$10,800 in 2010 to US$12,600 in 2023. This phenomenon illustrates an upward economic trend driven by cross-border investment, globalization, and international trade. The post-2008 financial crisis period also reflects the resilience of the global economic system in the face of economic shocks, with 60-70% of global GDP growth contributed by emerging markets (Aslam & Brooks, 2024). According to the (International Monetary Fund, 2023), there is an imbalance between developed and developing countries in the global economic recovery after the pandemic. Developed countries experienced a faster economic recovery due to strong fiscal support and equitable access to vaccines, while developing countries were hampered by productivity and limited fiscal space. This gap reflects that economic recovery is not only influenced by the size of output, but also by how a country makes decisions regarding its economic policies.

From the perspective of endogenous growth theory, long-term economic growth is not only determined by the accumulation of physical capital, but also by internal factors such as household consumption, investment, labor productivity, and the role of government policy in driving economic activity (Lucas, 1988; Romer, 1990). Household consumption represented by Household and NPISHs Final Consumption Expenditure reflects the aggregate demand side that plays a role in driving output growth. Meanwhile, foreign direct investment (FDI) plays a role in increasing production capacity through capital flows, technology transfer, and efficiency improvements. Government expenditure is also an important instrument in supporting growth through the provision of infrastructure, public services, and economic stabilization.

In addition to macroeconomic factors, modern growth theory also emphasizes the importance of productivity and institutional quality. Labor productivity, which in this study is measured by GDP per Person Employed, reflects the efficiency of factor utilization and is a key determinant of per capita income growth. On the other hand, the institutional approach states that political stability and government effectiveness play an important role in creating an economic environment conducive to investment, production activities, and sustainable economic growth. Differences in the quality of institutions and public policies between countries can lead to variations in GDP per capita, even though these countries have a large aggregate output contribution.

These differences between countries can also be seen from a comparison of global average GDP per capita with the GDP per capita of BRICS and ASEAN. BRICS and ASEAN member countries play an important role in the world economy, with these two groups of countries contributing to global output and experiencing growth over the past few decades. According to the BRICS Report (2024), BRICS contributed about 29% of the world's GDP in 2023, while according to ASEAN (2024), ASEAN contributed about 3.6% of global GDP in 2023. This illustrates their relatively strong position in the world economy.




**Gambar 1.1 PDB per kapita BRICS dan ASEAN 2021-2025 (USD)**

*Sumber: World Bank, 2023*

Based on World Bank 2024 data, ASEAN's GDP per capita is higher than BRICS, with an average GDP per capita of US$ 12,874.625 for ASEAN and US$ 11,117.819 for BRICS, which is still far below the global average of US$ 13,280.125. Although BRICS and ASEAN contribute to global output, the per capita income level in both regions is still below the global average. These figures also show that although GDP per capita has grown, the increase in prosperity has not been evenly distributed across all member countries (D'Aloia & Gugler, 2024). These differences reflect differences in industrial structure, economic development, and productivity levels between regions.

The size of the contribution of these two economic groups indicates that the scale of the economy and the high population of member countries have a major impact on the global economy, even though per capita productivity is well below the global average. The BRICS bloc has a strategic position in the global economy and economic growth, where this contribution is not only significant in aggregate terms, but also has implications for per capita income dynamics. According to a statement on the official BRICS Brazil (2025), the bloc's GDP accounts for 40% of the world's total economy, with a projected increase to 41% by 2025 based on purchasing power parity. However, there are differences in GDP per capita among BRICS member countries, indicating that individual welfare levels are still low and uneven.

This condition is also experienced by another group of developing countries, namely ASEAN. ASEAN's contribution to total global output is not as large as that of BRICS, but this group of countries still has a strategic position in the world economy. AMRO (2025) notes that over the past 10 years, the ASEAN region has contributed nearly 45% to total global economic growth. The inequality between the two regions confirms that GDP per capita in the BRICS and ASEAN regions is not only determined by the size of output, but also by structural factors such as investment, government effectiveness, government spending, and the quality of human resources.

Although various studies have examined economic growth and GDP per capita in developing countries, most research still focuses on average approaches and specific regions separately (Ali, 2024; Alili Sulejmani & Thaci, 2020; Syam & Abdur-Rabb, 2025). Research that comparatively analyzes BRICS and ASEAN

countries by considering differences in GDP per capita distribution is still relatively limited. In addition, the use of quantile regression allows for a more comprehensive analysis in capturing the heterogeneity of the influence of structural factors on GDP per capita at various quantile distribution levels (SITASI). Therefore, this study aims to analyze the determinants of GDP per capita in the BRICS and ASEAN regions using a quantile regression approach. Novelty of Using Quantile Regression By examining different points of the income distribution, quantile regression allows identification of whether growth drivers differ between lower-income and higher-income countries, which cannot be captured by conventional mean regression models. This limitation may lead to biased policy implications, particularly for countries located at lower and upper ends of the income distribution.

## METHOD

This study employs a quantitative research design using panel data analysis to examine the determinants of GDP per capita in BRICS and ASEAN countries over the period 2010–2023. The analysis focuses on the effects of macroeconomic, productivity, and institutional variables, namely Household and NPISHs Final Consumption Expenditure (X1), Foreign Direct Investment (X2), Government Expenditure (X3), GDP per Person Employed (X4), Political Stability (X5), and Government Effectiveness (X6), on GDP per capita (Y).

The study utilizes secondary data obtained from international databases, including the World Bank, International Labour Organization (ILO), United Nations Conference on Trade and Development (UNCTAD), and International Monetary Fund (IMF). The dataset consists of a panel of 21 BRICS and ASEAN member countries, combining cross-sectional (country) and time-series (annual) observations. Countries were selected using purposive sampling based on their official membership in BRICS or ASEAN and the availability of consistent data throughout the study period.

Data were collected through a documentation method by compiling relevant statistical reports and databases. To capture potential heterogeneity in the relationship between explanatory variables and GDP per capita across different income levels, this study applies quantile regression analysis. This approach allows estimation at various points of the conditional income distribution, providing more robust insights than conventional mean-based models. All estimations were conducted using Stata 17 software.

Quantile regression is an approach in regression analysis used to estimate the relationship between independent variables and dependent variables in a specific conditional quantile function. Through this approach, the quantile function can be estimated from the conditional distribution of independent variables at each quantile value. Quantile regression is very useful if the data is heterogeneous, does not follow a standard distribution curve, and has heavy tails (heavy-tailed distribution). Quantile regression has the advantage of minimizing the influence of outliers and the number of errors for absolute weighting and estimating the model using a conditional quantile function on a data distribution. The use of quantile regression becomes relevant when the data has characteristics that do not meet classical assumptions, such as normality and heteroscedasticity. Quantile regression provides more stable estimates because it does not depend on a specific error distribution and is more resistant to outliers. Therefore, quantile regression

will provide an overview of the relationship between variables at various levels of data distribution.

This study uses the quantile regression method to analyze the effect of independent variables on dependent variables at various quantile distribution levels in BRICS and ASEAN countries. To see how the effect of independent variables can differ at GDP per capita distribution levels in low-, middle-, and high-income countries, quantiles of 0.25, 0.50, and 0.75 are used. These quantile levels were selected so that the analysis would not only focus on the mean value but also capture the variation in the influence of independent variables in the lower, middle, and upper distribution groups of countries.

Several variables in this study were transformed into natural logarithms to improve the linearity between variables, reduce skewness, and improve variance stability. In describing the relationship between the dependent variable and its independent variables, the quantile regression equation model can be formulated as follows:

$$Q_\tau(ln\ GDPPC_{it} \mid X_{it}) = \beta_0^{(\tau)} + \beta_1^{(\tau)} lnHH_{it} + \beta_2^{(\tau)} asinhFDI_{it} + \beta_3^{(\tau)} lnGE_{it} + \beta_4^{(\tau)} lnGPE_{it} + \beta_5^{(\tau)} PS_{it} + \beta_6^{(\tau)} GEF_{it} + \mathcal{E}_{it}^{(\tau)}$$

Where:

$Q_\tau(\ln GDPPC_{it} \mid X_{it})$ is the τ-th quantile value of the natural logarithm of GDP per capita for country i and year t

$\ln GDPPC_{it}$ is the natural logarithm of GDP per capita

$\tau$ is the quantile levels used, namely 0.25; 0.50; and 0.75

i is the country

t is the year

$\beta_0^{(\tau)}$ is a constant at the τ-th quantile

$\ln HH_{it}$ is the natural logarithm of Household and NPISHs Final Consumption Expenditure

$asinhFDI_{it}$ is reverse hyperbolic foreign direct investment

$lnGE_{it}$ is the natural logarithm of Government Expenditure

$lnGPE_{it}$ is the natural logarithm of GDP per Person Employed

$PS_{it}$ is Political Stability

$GEF_{it}$ is Government Effectiveness

$\mathcal{E}_{it}^{(\tau)}$ is the error term at the τ-th quantile reflecting the absolute deviation from the quantile line.

## RESULTS AND DISCUSSION

### Descriptive Analysis

The results of the descriptive analysis for all variables can be seen in Table 1.

Tabel 1 Descriptive Analysis Results

| Variabel | Mean | Std. Deviasi | Nilai Minimum | Nilai Maksimum |
|---|---|---|---|---|
| lnGDPPC | 8,571799 | 1,201293 | 6,084013 | 11,13048 |
| lnHH | 25,59289 | 1,995226 | 20,51305 | 29,60474 |
| asinhFDI | 21,70375 | 8,658188 | -25,1003 | 27,25727 |
| lnGE | 22,93461 | 5,282467 | 2,086525 | 28,68214 |
| lnGPE | 10,45679 | 0,9866465 | 8,056872 | 12,32734 |
| PS | 47,20502 | 26,67015 | 5,660378 | 100 |
| GEF | 61,77442 | 21,79792 | 8,056872 | 100 |

Source: Data processed using Stata MP 17, 2025

GDP per capita has an average of 8.571 with a standard deviation of 1.201, reflecting the variation in GDP per capita between countries with a minimum value of 6.084013 and a maximum of 11.13048. The Household and NPISHs Final Consumption Expenditure variable has an average of 25.59289 with a standard deviation of 1.995226, reflecting relatively moderate differences in household consumption conditions, with a range between 20.51305 and 29.64074. Foreign Direct Investment (FDI) has an average of 21.70375 and a standard deviation of 8.65188, indicating considerable fluctuations in foreign investment with a minimum value of -25.1003 and a maximum value of 27.25277. Government Expenditure has an average of 22.93461 with a standard deviation of 5.282467, indicating a fairly high variation in government spending with a range of 2.086525 to 28.68214. Meanwhile, GDP per Person Employed has an average of 10.45679 and a standard deviation of 0.9866465, indicating a relatively small spread, with a minimum value of 8.068943 and a maximum of 12.32734. Political Stability has an average of 47.20502 with a standard deviation of 26.67015, indicating varying levels of political stability between regions, with a minimum value of 5.668378 and a maximum value of 100. Finally, Government Effectiveness has an average of 61.77442 with a standard deviation of 21.79792, reflecting a fairly high variation in government effectiveness with a minimum value of 8.656872 to a maximum of 100. These results indicate the heterogeneity of economic, political, and institutional conditions that need to be analyzed further.

### Classical Assumption Test Results

Classical assumption testing in this study is limited to multicollinearity testing, because quantile regression does not require the assumptions of residual normality and homoscedasticity as in OLS regression. Quantile regression is robust to non-normal error distributions and the presence of heteroscedasticity, so multicollinearity testing is necessary to ensure the stability and validity of coefficient estimates between independent variables. Multicollinearity testing was performed by looking at the Variance Inflation Factor (VIF) and Tolerance values. The decision criteria state that if the VIF value is > 10 and the Tolerance is < 0.1, then multicollinearity occurs, whereas if the VIF value is < 10 and the Tolerance is

> 0.1, then multicollinearity does not occur. The results of the multicollinearity test can be seen in Table 2.

Tabel 2 Multicollinearity Results

| Variabel | VIF | 1/VIF |
|---|---|---|
| lnHH | 2,47 | 0,404822 |
| asinhFDI | 1,21 | 0,828599 |
| lnGE | 1,19 | 0,839162 |
| lnGPE | 2,15 | 0,466196 |
| PS | 3,26 | 0,306966 |
| GEF | 3,51 | 0,284901 |
| Mean VIF | 2,30 | |

Source: Data processed using Stata MP 17, 2025

Based on Table 2, the results of the multicollinearity test show that all independent variables have a VIF value < 10 and a Tolerance value > 0.10, so it can be concluded that there is no multicollinearity problem in this research model.

**Quantile Regression Analysis Results**

The following are the results of multiple linear regression analysis stated in the statement of Table 1 as follows:

Tabel 3 Quantile Regression Analysis Results

| Variabel | Q 0.25 | | Q 0.50 | | Q 0.75 | |
|---|---|---|---|---|---|---|
| | Coefficient | Sig | Coefficient | Sig | Coefficient | Sig |
| Cons | -2,306665 | 0,062 | -3,316467 | 0,000 | -3,66958 | 0,000 |
| lnHH | 0,0175151 | 0,644 | 0,069952 | 0,040 | 0,105254 | 0,000 |
| asinhFDI | 0,0035376 | 0,136 | 0,0001887 | 0,936 | 0,0005777 | 0,548 |
| lnGE | -0,0104484 | 0,072 | -0,0124022 | 0,096 | -0,0061277 | 0,116 |
| lnGPE | 0,9324952 | 0,000 | 0,9314526 | 0,000 | 0,8654117 | 0,000 |
| PS | 0,0083202 | 0,040 | 0,0089428 | 0,026 | 0,009817 | 0,000 |
| GEF | 0,0054225 | 0,183 | 0,0050096 | 0,225 | 0,005932 | 0,000 |

Source: Data processed using Stata MP 17, 2025

Based on the data analysis results, the regression equation can be written as follows:

Quantil 0.25

$$Q_{0.25}(lnGDPPC) = -2{,}306665 + 0{,}0175151\ lnHH_{it} + 0{,}0035376\ FDI_{it} - 0{,}0104484\ GE_{i}t + 0{,}9324952\ GPE_{it} + 0{,}0083202\ PS_{it} + 0{,}0054225\ GEF_{it} + \mathcal{E}_{it}^{(0.25)}$$

Interpretation of regression coefficients:

1. Constant (α) : -2.306665, this shows that if both independent variables are zero, then the value of the dependent variable will be 2.306665, ceteris paribus.
2. Regression coefficient for HH (β1) : 0,0175151, indicating that a 1% increase in HH increases GDP per capita by 0,0175151, ceteris paribus.

3. Regression coefficient for FDI (β2) : 0,0035376, indicating that a 1% increase in FDI increases GDP per capita by 0,0035376, ceteris paribus.

4. Regression coefficient for GE (β3) : -0,0104484, indicating that a 1% increase in GE descreases GDP per capita by 0,0104484, ceteris paribus.

5. Regression coefficient for GPE (β2) : 0,9324952, indicating that a 1% increase in GPE increases GDP per capita by 0,9324952, ceteris paribus.

6. Regression coefficient for PS (β2) : 0,0083202 indicating that a 1% increase in PS increases GDP per capita by 0,0083202, ceteris paribus.

7. Regression coefficient for GEF (β2) : 0,0054225, indicating that a 1% increase in GEF increases GDP per capita by 0,0054225, ceteris paribus.

Quantil 0.50

$$Q_{0.50}(lnGDPPC) = -3{,}316476 + 0{,}069952\ lnHH_{it} + 0{,}0001887\ FDI_{it} - 0{,}0124022\ lnGE_{it} + 0{,}9314526\ lnGPE_{it} + 0{,}0089428\ PS_{it} + 0{,}0050096\ GEF_{it} + \mathcal{E}_{it}^{(0.50)}$$

Interpretation of regression coefficients:

1. Constant (α) : -3,316476, this shows that if both independent variables are zero, then the value of the dependent variable will be 3,316476, ceteris paribus.

2. Regression coefficient for HH (β1) : 0,069952, indicating that a 1% increase in HH increases GDP per capita by 0,069952, ceteris paribus.

3. Regression coefficient for FDI (β2) : 0,0001887, indicating that a 1% increase in FDI increases GDP per capita by 0,0001887, ceteris paribus.

4. Regression coefficient for GE (β3) : -0,0124022, indicating that a 1% increase in GE decreases GDP per capita by 0,0124022, ceteris paribus.

5. Regression coefficient for GPE (β2) : 0,9314526, indicating that a 1% increase in GPE increases GDP per capita by 0,9314526, ceteris paribus.

6. Regression coefficient for PS (β2) : 0,0089428, indicating that a 1% increase in PS increases GDP per capita by 0,0089428, ceteris paribus..

7. Regression coefficient for GEF (β2) : 0,0050096, indicating that a 1% increase in GEF increases GDP per capita by 0,0050096, ceteris paribus.

Quantile 0.75

$$Q_{0.75}(lnGDPPC) = -3{,}66958 + 0{,}105254\ lnHH_{it} + 0{,}0005777\ FDI_{it} - 0{,}0061277\ lnGE_{it} + 0{,}8654117\ lnGPE_{it} + 0{,}009817\ PS_{it} + 0{,}0059632\ GEF_{it} + \mathcal{E}_{it}^{(0.50)}$$

Interpretation of regression coefficients:

1. Constant (α) : -3,66958, this shows that if both independent variables are zero, then the value of the dependent variable will be 3,66958.

2. Regression coefficient for HH (β1) : 0,105254, indicating that a 1% increase in HH increases GDP per capita by 0,105254, ceteris paribus.

3. Regression coefficient for FDI (β2) : 0,0005777, indicating that a 1% increase in FDI increases GDP per capita by 0,0005777, ceteris paribus.

4. Regression coefficient for GE (β3) : -0,0061277, indicating that a 1% increase in GE decreases GDP per capita by 0,0061277, ceteris paribus.

5. Regression coefficient for GPE (β2) : 0,854117, indicating that a 1% increase in GPE increases GDP per capita by 0,854117, ceteris paribus.

6. Regression coefficient for PS (β2) : 0,009817, indicating that a 1% increase in PS increases GDP per capita by 0,009817, ceteris paribus.

7. Regression coefficient for GEF (β2) : 0,0059632, indicating that a 1% increase in GEF increases GDP per capita by 0,0059632, ceteris paribus.

**Pseudo-$R^2$ Coefficient of Determination**

The values Pseudo-$R^2$obtained are presented in Table 4:

Tabel 4 Results of the Determination Coefficient Test (Pseudo-$R^2$)

| **Pseudo-$R^2$** | **0.25** | **0.50** | **0.75** |
|---|---|---|---|
| | 0.7718 | 0.7850 | 0.8215 |

Source: Data processed using Stata MP 17, 2025

1. The Pseudo-$R^2$ coefficient at the 0.25 quantile is 0.7718, meaning that 77.18% of the independent variables in this regression model are able to explain the variation in GDP per capita among low GDP per capita countries that are members of BRICS and ASEAN from 2010 to 2023, while the remaining 22.82% is explained by other variables that are not included in the research model.

2. The Pseudo-$R^2$ coefficient at the 0.50 quantile is 0.7850, meaning that 78.50% of the independent variables in this regression model are able to explain the variation in GDP per capita among low GDP per capita countries that are members of BRICS and ASEAN from 2010 to 2023, while the remaining 21,5% is explained by other variables that are not included in the research model.

3. The Pseudo-$R^2$ coefficient at the 0.75 quantile is 0.8215, meaning that 82.15% of the independent variables in this regression model are able to explain the variation in GDP per capita among low GDP per capita countries that are members of BRICS and ASEAN from 2010 to 2023, while the remaining 17.85% is explained by other variables that are not included in the research model.

**Hypothesis Test (T-Test)**

The t-test in quantile regression is used to determine whether each independent variable has a significant effect on the dependent variable at a certain

quantile. The test is conducted by looking at the significance value (p-value) at each quantile. The following are the conditions for this test:

a. If the p-value (probability) is ≤ 0.05, it can be concluded that variable X has a significant effect on variable Y.

b. If the p-value (probability) is > 0.05, it can be concluded that variable X does not have a significant effect on variable Y.

Based on Table 3, the t-test results are as follows:

1. The results of testing the hypothesis of the Household and NPISHs Final Consumption Expenditure (X1) variable on GDP per capita at the 0.25 quantile show a Sig. value of 0.644 > α 0.05. This indicates that, partially, the X1 variable does not have a significant effect on GDP per capita. At the 0.50 and 0.75 quantiles, the Sig. values are 0.040 < α 0.05 and 0.000 < α 0.05, respectively. This indicates that, partially, variable X1 has a significant effect on GDP per capita.

2. The results of testing the hypothesis of the Foreign Direct Investment (X2) variable on GDP per capita at the 0.25, 0.50, and 0.75 quantiles have Sig. values of 0.136 > α 0.05, 0.936 > α 0.05, and 0.548 > α 0.05, respectively. This indicates that partially, variable X2 does not have a significant effect on GDP per capita at all quantiles.

3. The results of testing the hypothesis of the Government Expenditure variable (X3) on GDP per capita at the 0.25, 0.50, and 0.75 quantiles have Sig. values of 0.072 > α 0.05, 0.096 > α 0.05, and 0.116 > α 0.05, respectively. This indicates that, partially, variable X3 does not have a significant effect on GDP per capita at all quantiles.

4. The results of testing the hypothesis of the GDP per Person Employed variable (X4) on GDP per capita at the 0.25, 0.50, and 0.75 quantiles have a Sig. value of 0.000 < α 0.05. This indicates that, partially, variable X4 has a significant effect on GDP per capita at all quantiles.

5. The results of testing the hypothesis of the Political Stability variable (X5) on GDP per capita at the 0.25, 0.50, and 0.75 quantiles have Sig. values of 0.040 < α 0.05, 0.026 < α 0.05, and 0.000 < α 0.05, respectively. This indicates that, partially, variable X5 has a significant effect on GDP per capita at all quantiles.

6. The results of testing the hypothesis of the Government Effectiveness variable (X6) on GDP per capita at the 0.25 and 0.50 quantiles show that the Sig. values are 0.183 > α 0.05 and 0.225 > α 0.05, respectively. This indicates that, partially, variable X6 does not have a significant effect on GDP per capita. At the 0.75 quantile, the Sig. value is 0.000 < α 0.05. This indicates that, partially, variable X6 has a significant effect on GDP per capita.

**Effect of Household and NPISHs Final Consumption Expenditure on GDP per capita**

Based on the results of quantile regression estimates in Table 3, it can be seen that the effect of Household and NPISHs Final Consumption Expenditure on GDP per capita differs at each level of national income. At the 0.25 quantile, which represents countries with low GDP per capita, this variable has a positive but statistically insignificant effect (coefficient 0.0175151; p-value 0.644). This indicates that increased household consumption has not been able to significantly boost GDP per capita due to limited production capacity and high dependence on imports. At this quantile, household consumption is still dominated by the fulfillment of basic needs and consumer goods, most of which are imported. As a result, increased consumption does not fully create domestic added value, but instead increases foreign income. In addition, limited production capacity and low labor productivity mean that increased consumption demand is not accompanied by a commensurate increase in national output. Thus, household consumption in low-income countries tends to be consumptive rather than productive, resulting in a low multiplier effect on GDP per capita (Blancas & Castro, 2024).

At the 0.50 and 0.75 quantiles, which represent the groups of countries with medium and high GDP per capita in the BRICS and ASEAN countries, Household and NPISHs Final Consumption Expenditure shows a positive and significant effect on GDP per capita. The coefficient value increases from 0.069952 at the 0.50 quantile (p-value 0.040) to 0.105254 at the 0.75 quantile (p-value 0.000), indicating that the influence of household consumption becomes stronger as the country's income level increases. In contrast, at the 0.50 and 0.75 quantiles, household consumption has a positive and significant effect on GDP per capita, with the magnitude of the coefficient increasing at higher income levels. This finding indicates that in more developed economies within BRICS and ASEAN, consumption is supported by stronger industrial bases and more integrated supply chains, allowing increased demand to stimulate domestic production, employment, and value-added activities. This finding shows that in countries with more advanced economic structures, household consumption becomes the main driver of economic growth through a greater multiplier effect. In this group of countries, increased household consumption is supported by a more developed domestic production base, so that consumption demand can be responded to by an increase in national output. Consumption is not only focused on basic needs, but also includes high value-added goods and services, which drive the sustainable expansion of the industrial and service sectors.

The results of this study are in line with Keynesian Theory, which emphasizes the role of household consumption as a major component of aggregate demand in driving economic activity. Increased household consumption boosts demand for goods and services, drives expansion in output and employment, and ultimately increases national income and GDP per capita through the multiplier effect (Hashani et al., 2022). This study is in line with previous studies, namely those by (Mourad & Trabulsi, 2019), (McKibbin & Fernando, 2023), (Cardani et al., 2023), and (Kaya & Engkuchik, 2021), which state that household consumption has a

strong contribution to increasing GDP per capita because it acts as the main driver of aggregate demand in developing and developed countries, so that its influence on middle-income countries tends to be high, stable, and significant. Meanwhile, in low-income countries, the effect of household consumption is positive but insignificant. This is because consumption is consumptive, not productive, so it does not lead to increased output, does not expand production capacity, and flows into imports. Therefore, the multiplier effect of consumption will be small or even disappear.

This study aligns with prior empirical research highlighting the positive role of consumption in middle- and high-income economies, while demonstrating that such effects are conditional on economic maturity and production capabilities. From a policy perspective, the findings imply that stimulating consumption alone is insufficient for low-income countries unless accompanied by measures to strengthen domestic industries, improve productivity, and reduce import dependency. Policies aimed at expanding local production capacity and enhancing value chains are therefore essential to transform consumption growth into sustainable increases in GDP per capita.

**Effect of Foreign Direct Investment on GDP per capita**

Based on the results of quantile regression estimation at the 0.25 quantile in Table 4.9, where this quantile represents the group of countries with low GDP per capita in the BRICS and ASEAN countries. The Foreign Direct Investment (FDI) coefficient value is 0.0035376 with a p-value of 0.136, which means that Foreign Direct Investment (FDI) has a positive but statistically insignificant effect. This condition illustrates that in countries with low GDP per capita, an increase in FDI inflows has not had a significant impact on economic growth. This condition is common in developing countries in the ASEAN and BRICS regions, which still face structural challenges in managing and absorbing foreign investment productively. The weak influence of FDI is related to limited technological capacity and low quality of human resources, so that the transfer of technology and knowledge from foreign investment cannot be optimally utilized. In addition, inadequate institutional and infrastructure quality causes FDI to tend to be enclave-oriented and have low connectivity with the domestic economy. As a result, the added value generated by FDI is not widely distributed to other economic sectors and does not have a significant impact on increasing GDP per capita.

At the 0.50 and 0.75 quantiles, which represent the groups of countries with medium and high GDP per capita in the BRICS and ASEAN countries, Foreign Direct Investment (FDI) shows a positive but insignificant effect on GDP per capita. The FDI coefficient values are relatively small and accompanied by p-values well above the 5% significance level, indicating that additional foreign capital inflows have not been able to make a meaningful contribution to per capita GDP growth. This condition shows that in countries with relatively stable economic structures and mature production capacities, an increase in FDI does not automatically drive output growth, because the role of FDI tends to be complementary and not a major factor driving economic growth. Economic growth in this group of countries is

driven more by internal factors such as domestic consumption, domestic investment, and technological advances, so that the additional contribution from FDI is relatively limited. In addition, FDI in middle- and high-income countries tends to go to sectors that are already developed, so it does not create a significant surge in output or a large multiplier effect on GDP per capita.

This study is in line with previous studies, namely those by (Lutfi, 2024), (Baiashvili & Gattini, 2020), (Demir & Lee, 2022), which state that FDI has a negative effect on GDP per capita due to several factors, such as low spillover effects, FDI directed towards less productive primary sectors, and the weak quality of institutions in the recipient country. However, the results of this study reject the results of studies conducted by (Chizema, 2025) and (Sakyi & Egyir, 2017), which stated that FDI has a significant positive effect on GDP per capita. This difference in results may be due to variations in economic characteristics between countries and differences in the research period. Theoretically, Foreign Direct Investment (FDI) is one of the main drivers of economic growth through increased capital, technology transfer, and productivity spillovers. However, the results of this study show that FDI does not have a significant effect on GDP per capita. These results confirm that there is an inflow of FDI, but its contribution will greatly depend on the economic structure and the host country's ability to utilize the capital effectively. Emako et al. (2022) argue that the impact of FDI depends on the sector in which it is invested. FDI in the manufacturing sector will have a significant positive impact, while FDI in the primary and tertiary sectors will tend to have less impact on output growth. Rismawan et al. (2021) state that the positive effects of FDI through technology transfer and human capital improvement will only occur if the recipient country has adequate absorption capacity, such as high-quality institutions and human resources. Sustainability in domestic policies that can strengthen the integration of foreign investment with structural economic needs is essential so that incoming foreign capital can drive an increase in GDP per capita. Thus, the role of internal factors within a country is very important in determining the effectiveness of foreign capital in driving economic growth.

**Effect of Government Expenditure on GDP per capita**

Based on the quantile regression results, government expenditure shows a negative and insignificant effect on GDP per capita across all quantiles in BRICS and ASEAN countries. At the 0.25 quantile, the coefficient is negative with a p-value above the 5% significance level, indicating that government spending in low-income countries has not been able to effectively boost GDP per capita. This condition occurs because government spending allocation is still dominated by routine spending and consumptive subsidies, while the portion of productive spending such as education, health, and infrastructure is relatively limited. At the 0.50 and 0.75 quantiles, government expenditure remains negatively and insignificantly related to GDP per capita. This finding shows that in middle- and high-income countries, an increase in government spending does not automatically increase GDP per capita because economic activity is driven more by the private sector, international trade, and investment. In addition, spending inefficiencies, budget leaks, and low institutional quality also contribute to government spending

not producing a strong multiplier effect. Overall, these results confirm that the effectiveness of government spending is determined more by the quality and composition of spending than by the amount of expenditure itself.

This study is in line with previous studies, namely those by Owusu-Mensah et al. (2023), Jamshed et al. (2024), and Chizema (2025), which state that government spending in developing countries has a negative effect on economic growth because it is allocated more to non-productive rather than productive expenditures, such as bureaucratic spending and consumptive subsidies. Therefore, an increase in government spending is not able to significantly boost GDP per capita growth. However, the results of this study reject the results of studies conducted by Ansari et al. (2021) and Mourad & Trabulsi (2019), which stated that government expenditure has a significant positive effect on GDP per capita. The results of this study can be supported by Public Choice Theory, which states that fiscal policy and government spending are not always oriented towards economic efficiency, but are often influenced by political interests and bureaucratic behavior. In this theory, the government is viewed as a rational actor with its own interests, so that government spending tends to be directed towards consumptive expenditure and populist programs. This condition is relevant to BRICS and ASEAN countries, especially low- and middle-income countries, where government spending is dominated by routine expenditures and subsidies that have a low multiplier effect. As a result, increased government spending is unable to optimally drive per capita GDP and economic growth.

**Effect of GDP per Person Employed on GDP per capita**

Based on the results of quantile regression estimates, GDP per person employed has a positive and significant effect on GDP per capita across all quantiles. These findings indicate that labor productivity is a key factor in driving economic growth in BRICS and ASEAN countries at all levels of development, whether in countries with low, medium, or high GDP per capita. In low-income countries, increased labor productivity serves as a means to catch up economically through improvements in human resource quality, skills enhancement, and the adoption of basic technologies. Meanwhile, in middle-income countries, labor productivity supports the structural transformation process from low-productivity sectors to higher value-added sectors, particularly manufacturing and services (Rahman & Schmillen, 2023). In high-income countries, these results confirm that labor productivity remains a major factor in maintaining competitiveness and economic growth amid global competition.

The results of this study are in line with endogenous growth theory, which emphasizes that economic growth is greatly influenced by internal factors, particularly labor productivity, human resource quality, and knowledge accumulation. According to this theory, GDP per person employed represents the level of labor productivity, which reflects the ability of each worker to generate economic output. If labor productivity increases, the output produced by each worker will also increase without having to increase the number of workers, thereby driving a sustainable increase in GDP per capita. The endogenous growth theory

explains that increases in labor productivity are not temporary, but can create long-term effects through learning by doing, technology transfer, and skills improvement. A more productive workforce will be faster in diffusing knowledge and innovation, thereby increasing aggregate production efficiency. This process will create a spillover effect that will strengthen national production and drive economic growth, especially in developing countries (Arcos-Guanga et al., 2024).

This study is in line with previous studies, namely those by Fahri et al. (2022), McKibbin & Fernando (2023), Celik et al. (2024), and Gil-Alana et al. (2023), which state that labor productivity has a positive and significant relationship with GDP per capita, both in the short and long term. This increase in labor productivity will drive GDP per capita growth and economic welfare, while a decline in labor productivity will suppress economic performance and may reduce GDP per capita. According to Compagnucci et al. (2021), labor productivity is a fundamental factor in long-term economic growth. Increased output per worker has proven to be a major driver of per capita GDP growth, despite changes in labor market dynamics and industrial structure due to technological developments. The positive relationship between labor productivity remains positive and is a major factor in a country's economic performance.

**Effect of Political Stability on GDP per capita**

Based on the results of quantile regression estimates, political stability has a positive and significant effect on GDP per capita across all quantiles. These findings indicate that political stability is an important factor in driving economic growth in BRICS and ASEAN countries at all levels of development, whether in countries with low, medium, or high GDP per capita. In low-income countries, political stability plays a major role as a prerequisite for creating a conducive economic climate by reducing uncertainty risks, increasing investor confidence, and facilitating domestic economic activity. Stable political conditions enable the government to implement sustainable development policies and encourage productive sector activity. Meanwhile, in countries with medium GDP per capita, political stability contributes to strengthening the economic development process through increased investment, public policy efficiency, and the smooth structural transformation towards higher value-added sectors. Political stability also supports the coordination of medium and long-term policies needed in the process of industrialization and service sector development. In countries with high GDP per capita, these results confirm that political stability remains an important factor in maintaining market confidence, strengthening global competitiveness, and ensuring sustainable economic growth amid international economic dynamics.

The results of this study are in line with political stability theory, which emphasizes that legal certainty, security, and policy consistency play an important role in creating a conducive climate for investment and economic activity. In BRICS and ASEAN countries, a higher level of political stability can reduce uncertainty and investment risk, thereby encouraging production and GDP per capita growth, while weak political stability and institutional quality have the potential to hamper economic growth. This study is in line with previous studies,

namely those by Ritahi & Echaoui (2024), Karim et al. (2024), and Syam & Abdur-Rabb (2025), which state that political stability has a significant positive effect on GDP per capita. This relationship demonstrates a country's ability to maintain sustainable economic development amid complex social and political dynamics. Political stability enables the government to implement development programs consistently, so that the impact of economic policies can be felt in the short and long term. In addition, political stability plays a role in reducing economic volatility arising from changes in government or social unrest in the BRICS and ASEAN regions. Given that countries in these regions have different levels of institutions and political dynamics, political stability is an important factor in maintaining a relatively stable economic environment. Countries with maintained political stability tend to be able to maintain their GDP per capita growth rate even when facing external pressures such as global crises or global economic slowdowns.

**Effect of Government Effectiveness on GDP per capita**

Based on the quantile regression results, the effect of government effectiveness on GDP per capita in BRICS and ASEAN countries varies at different quantile levels. At the 0.25 and 0.50 quantiles, government effectiveness has a positive but insignificant effect, indicating that in countries with low and medium GDP per capita in the BRICS and ASEAN regions, improvements in government effectiveness have not been able to have a tangible impact on GDP per capita. This condition reflects the limitations in institutional and bureaucratic capacity still faced by most low- and middle-income ASEAN countries, so that policy effectiveness has not fully driven increases in productivity and economic output. Furthermore, at the 0.75 quantile, which represents the group of countries with high GDP per capita in the BRICS and ASEAN regions, government effectiveness has a significant positive effect on GDP per capita. This shows that government effectiveness plays an increasingly important role in economic growth. In BRICS and ASEAN countries that have achieved high levels of development, government effectiveness is an important factor in driving economic performance. Governments that are able to formulate and implement policies consistently, improve the quality of bureaucracy, and provide efficient public services will create a more conducive business environment, which will drive productivity growth and ultimately trigger an increase in GDP per capita.

The results of this study are supported by the theory of government effectiveness, which states that the effectiveness of the government in carrying out its duties in formulating and implementing policies is an important driving factor in increasing economic growth. The results of this study are in line with previous studies, namely those by Ritahi & Echaoui (2024), Syam & Abdur-Rabb (2025), Sitohang & Wiwoho (2022) and Mahran (2023), which state that government effectiveness has a significant positive effect on GDP per capita. An effective government tends to be able to plan, formulate, and implement development policies more appropriately, so that the impact on increasing people's income becomes more apparent.

## CONCLUSION

Based on data analysis conducted using quantile regression methods through Stata 17 software, this study found several key findings related to the influence of Household and NPISHs Final Consumption Expenditure, Foreign Direct Investment (FDI), Government Expenditure, GDP per Person Employed, Political Stability, and Government Effectiveness on GDP per capita in BRICS and ASEAN member countries from 2010 to 2023. The main conclusions of this study are as follows:

1. Household and NPISHs Final Consumption Expenditure had a significant positive effect, it had an insignificant positive effect on GDP per capita at various quantile distribution levels in BRICS and ASEAN countries from 2010 to 2023. This indicates that the role of consumption as a driver of economic growth is stronger in countries with more advanced economic structures. Therefore, the government needs to maintain people's purchasing power through job creation, inflation control, and income improvement, as well as strengthening domestic production capacity so that increased consumption is not only consumptive and dependent on imports, especially in low-income countries.
2. Foreign Direct Investment had a positive but insignificant effect on GDP per capita at various quantile distribution levels in BRICS and ASEAN countries from 2010 to 2023. This indicates that FDI inflows have not yet had an optimal economic impact. Therefore, FDI policies need to focus on improving the quality of investment, particularly those that encourage technology transfer, increase labor productivity, and strengthen links with local industries so that the benefits of FDI can spread more widely in the domestic economy.
3. Government expenditure had an insignificant negative effect on GDP per capita at various quantile distribution levels in BRICS and ASEAN countries from 2010 to 2023. This indicates that public spending has not been fully productive. Therefore, governments need to improve the effectiveness and quality of spending by directing budgets to productive sectors such as education, health, and infrastructure so that government spending can make a real contribution to increasing GDP per capita.
4. GDP per Person Employed has a significant positive effect on GDP per capita at various quantile distribution levels in BRICS and ASEAN countries from 2010 to 2023. This indicates that labor productivity is a key factor in economic growth. Therefore, improving the quality of human resources through investment in education, training, skills enhancement, and technology adoption needs to be a top priority for development policies in BRICS and ASEAN countries.
5. Political stability has a significant positive effect on GDP per capita at various quantile distribution levels in BRICS and ASEAN countries from 2010 to 2023. This confirms the importance of a stable political environment in supporting economic growth. Governments need to maintain political stability, legal certainty, and policy consistency in order to increase investor confidence, reduce economic uncertainty, and support long-term growth.
6. Government Effectiveness had a positive but insignificant effect, it had a significant positive effect on GDP per capita at various quantile distribution levels in BRICS and ASEAN countries from 2010 to 2023. This indicates the need to strengthen governance, particularly in low- and middle-income countries, through bureaucratic reform, improved quality of public services, and

policy consistency so that government effectiveness can contribute more significantly to increasing GDP per capita.

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