

Income Inequality in the Expanded BRICS: A Panel Analysis with Indonesia as a New Entrant

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ABSTRACT

Purpose: This paper investigates the effect of GDP per capita, foreign direct investment (FDI), government expenditure, and inflation on income inequality in BRICS countries.

Method: This research utilized a random effects model (REM) estimated using generalized least squares (GLS) with an autoregressive (AR(1)) disturbance to analyze panel data from six BRICS member countries from 1992 to 2017.

Results: The findings indicate that GDP per capita has a significant negative influence on income inequality, while government expenditure has a significant positive impact on income inequality. However, FDI and inflation do not significantly affect income inequality.

Practical Implications for Economic Growth and Development: The results suggest that the governments of Brazil, Russia, India, Indonesia, China, and South Africa should maintain their policies on micro, small, and medium enterprises (MSMEs) and develop strategies for the informal sector. This can be achieved by employing programs from the BRICS Bank that support sustainable development with a focus on inclusive economic growth. Encouraging non-governmental organizations (NGOs) that work in poverty alleviation, education, health, and the environment to secure funding from the New Development Bank could optimize expenditure directed towards sectors that enhance the income of impoverished populations, particularly in education and health.

Originality/Value: This study contributes to the existing literature on the dominant BRICS countries, including Indonesia, by employing a new indicator for per capita income based on purchasing power parity and applying a GLS estimation specifically for addressing first-order autoregressive issues.

Keywords: *Income Inequality, GDP Per Capita, FDI, Inflation, Government Expenditure*

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INTRODUCTION

One of the negative effects of economic development is income inequality, as rapid economic progress is not always accompanied by equitable distribution of development outcomes. The impact of this inequality underscores the importance of policies aimed at addressing it. Social jealousy and poverty can lead to civil unrest and even separatist movements. Low-income households miss opportunities to improve their health, resulting in diminished human physical capital, which may in turn slow down economic growth (Haya et al., 2022).

Since the 2000s, the economic development of countries that joined BRICS (Brazil, Russia, India, China, and South Africa), previously known as BRIC, has garnered attention as these nations emerged as significant players on the global stage (Fundira, 2023). These countries are characterized by large populations, vast territories, and high economic growth rates. Today, BRICS nations account for more than 40% of the world's population and 25% of the global economy (Ratriani, 2024c). The robust economic growth of BRICS countries has made



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substantial contributions, shaping the global economic landscape (Priangani, 2015). In 2022, the five founding members of BRICS held over 14% of the voting power in the World Bank and more than 14% of the total shares in the International Monetary Fund (IMF) (Respati & Pratama, 2023). In 2023, Saudi Arabia, Iran, the United Arab Emirates, Egypt, Ethiopia, and Argentina joined BRICS (Kenny, 2025; Ratriani, 2024).

Indonesia officially became a part of BRICS on January 6, 2025. The Ministry of Foreign Affairs of Indonesia emphasizes the significance of BRICS as a platform for supporting the interests of Global South countries (Faridz, 2025). Indonesia's membership in BRICS is expected to yield significant benefits. One of the main opportunities includes access to funding, which can be utilized to support sustainable development and accelerate national economic transformation (Suhada, 2025).

Table 1 shows that the total population of BRICS countries contributes to more than 40% of the world population, and their GDP accounts for approximately 25% of the global GDP. Table 2 indicates that income inequality in South Africa is categorized as high, while the other BRICS countries are classified as moderate.

Table 1. Population and GDP of Six BRICS Countries and the World in 2023

Information	BRICS	World	BRICS Share of World
Population (billion people)	3.54	8.02	44.11%
Nominal GDP (trillion \$)	27.30	106.17	25.71%
Real GDP (trillion \$)	25.41	93.35	27.22%
PPP Nominal GDP (international trillion \$)	65.48	184.11	35.57%
PPP Real GDP (international trillion \$)	59.01	166.11	35.52%

Notes: (1) BRICS share of world is a calculation from this research. (2) The six BRICS members are Brazil, Russia, India, Indonesia, China, and South Africa.

Source: World Bank (2024)

Table 2. Gini Coefficient of Six BRICS Member Countries

Country	Year	Gini Coefficient	Inequality Category
Brazil	2023	45.4	Moderate
Russia	2022	31.0	Moderate
India	2021	41.9	Moderate
Indonesia	2023	46.1	Moderate
China	2022	40.8	Moderate
South Africa	2017	62.4	High

Source: Harvard Dataverse (2024)

Research on income inequality within BRICS nations has been explored in various studies (Acheampong et al., 2023; Berisha et al., 2020; Cevik & Correa-Caro, 2020; Chotia & Rao, 2017; Kum, 2024; Walayat et al., 2022). Some of this research has expanded the BRICS framework to include Turkey, resulting in the designation BRICS-T (Bahadir & Dereli, 2021; Şenol & Onaran, 2023; Uzar, 2023).

The factors examined in these studies are diverse, including GDP per capita, growth per capita, total GDP, government expenditure as a percentage of GDP, tax revenue as a percentage of GDP, GDP growth, poverty rates, consumer price index, inflation, real interest rates, Foreign Direct Investment (FDI) as a percentage of GDP, total trade, trade openness, Purchasing Power Parity (PPP), human capital index, financial development index, KOF indices of de jure and de facto economic globalization, unemployment, age dependency ratio, infrastructure development, informal economy, domestic credit to GDP ratio, private domestic

credit to GDP ratio, broad money to GDP ratio, stock market turnover, total assets and liabilities, capital account openness, institutional quality, and press freedom (Acheampong et al., 2023a; Bahadir & Dereli, 2021a; Berisha et al., 2020a; Cevik & Correa-Caro, 2020a; Chotia & Rao, 2017a; Kum, 2024a; Priangani, 2015; Şenol & Onaran, 2023; Uzar, 2023a; Walayat et al., 2022; Younsi & Bechtini, 2020).

Studies investigating income inequality in rapidly developing countries, or emerging economies, have employed various methodologies. Some researchers have utilized Dynamic Ordinary Least Squares (DOLS) (Chotia & Rao, 2017), Panel Fully Modified Ordinary Least Squares (Kum, 2024), Fixed Effects Model (FEM) (Berisha et al., 2020; Walayat et al., 2022), Random Effects Model (REM) (Şenol & Onaran, 2023), Generalized Method of Moments (GMM) (Cevik & Correa-Caro, 2020), Panel Corrected Standard Errors (PCSE) (Bahadir & Dereli, 2021), Augmented Mean Group (AMG) (Uzar, 2023), and Quantile-on-Quantile Regression (QQR) (Acheampong et al., 2023). One study that employed both FEM and GMM also applied Pooled Ordinary Least Squares (POLS) (Younsı & Bechtini, 2020).

To date, there has been no research studying Indonesia as part of BRICS, with the exception of Hamdi et al. (2014), who examined the causal relationship between per capita electricity consumption and GDP growth rather than income inequality. For societal welfare, this research uses a new indicator for per capita income, specifically GDP in PPP (Purchasing Power Parity). Moreover, this research utilizes a Random Effects Model estimated by the Generalized Least Squares (GLS) method, specifically for first-order autoregressive (AR(1)) disturbances. Thus, this research aims to investigate the effects of per capita income, FDI, government expenditure, and inflation on income inequality in six BRICS countries: Brazil, Russia, India, Indonesia, China, and South Africa.

Hypotheses Development

GDP Per Capita and Income Inequality

An increase in GDP per capita that is driven by productivity improvements can generally be interpreted as a sign of economic growth within a region. The relationship between economic growth and income inequality has been extensively discussed in the literature, notably through three growth typologies proposed by Todaro and Smith (2020): modern-sector enrichment, traditional-sector enrichment, and modern-sector enlargement.

In the modern-sector enrichment typology, growth occurs only in the modern sector, while the traditional sector remains stagnant in both labor quantity and wage levels. As a result, incomes rise for workers in the modern sector but remain unchanged for those in the traditional sector, thereby exacerbating income inequality (Amar et al., 2020; Jhaveri & Mehta, 2024; Todaro & Smith, 2020). In the traditional-sector enrichment typology, economic growth primarily occurs in the traditional sector, while the modern sector experiences low or no growth. Consequently, incomes increase more significantly among traditional-sector workers, resulting in a reduction in income inequality (Amar et al., 2020; Jhaveri & Mehta, 2024; Todaro & Smith, 2020). In the third case, modern-sector enlargement, growth begins in the modern sector while wages remain constant in both sectors. This initially increases income inequality. However, as the modern sector continues to expand and requires more labor, workers from the traditional sector are absorbed, eventually reducing inequality. Thus, the effect of economic growth on income inequality may be either positive or negative, depending on the structural dynamics of sectoral development (Amar et al., 2020; Todaro & Smith, 2020).

H1: GDP per capita affects income inequality.

FDI and Income Inequality

Investment plays a crucial role in enabling developing countries to narrow the gap with developed economies (Mankiw, 2018). In this context, investment is fundamental to fostering economic growth. The impact of investment on income inequality, however, depends on its

allocation. As discussed previously, if investment promotes modern-sector enrichment or enlargement, it may either increase or reduce inequality. In contrast, if investment targets traditional-sector enrichment, it tends to reduce inequality (Amar et al., 2020; Jhaveri & Mehta, 2024; Todaro & Smith, 2020).

H2: Foreign Direct Investment (FDI) affects income inequality.

Government Expenditure and Income Inequality

GDP can be measured using various approaches, one of which is the expenditure approach, where government expenditure constitutes a key component (Mankiw, 2018). Hence, an increase in government expenditure typically leads to higher GDP. The impact of government expenditure on income inequality depends on how the funds are allocated. When targeted toward poverty alleviation programs—such as food assistance, cash transfers, or educational scholarships—government spending can increase the income of lower-income groups and thereby reduce inequality (Jung et al., 2015). Alternatively, when government expenditure is used for investment purposes, its effect on inequality mirrors that of private investment: depending on whether it enriches the modern sector, the traditional sector, or both, it may raise or lower inequality (Amar et al., 2020; Jhaveri & Mehta, 2024; Todaro & Smith, 2020).

H3: Government expenditure affects income inequality.

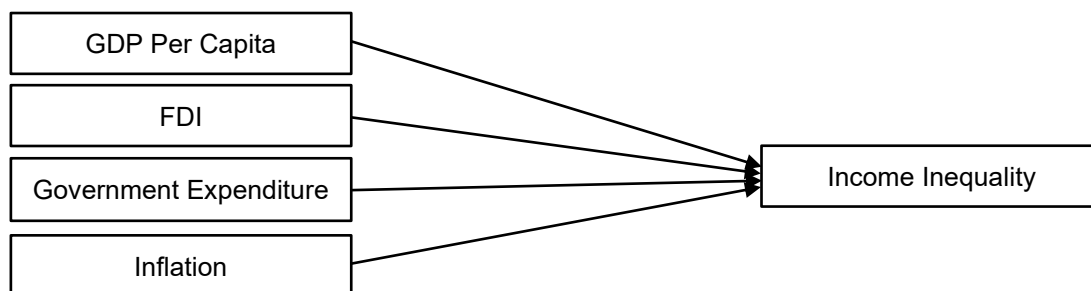
Inflation and Income Inequality

From a theoretical perspective, inflation can arise from two primary sources: demand-pull inflation and cost-push inflation. Demand-pull inflation occurs when aggregate demand exceeds supply, typically in a growing economy (Chen, 2025). Cost-push inflation results from increased production costs that lead to a decline in aggregate supply, while demand remains constant (Amadeo, 2022). According to Bacquer (2024), demand-pull inflation tends to reduce income inequality, whereas cost-push inflation exacerbates it. Similarly, Ali and Asfaw (2023) assert that the impact of inflation on income inequality can be either positive or negative, depending on the underlying cause.

Demand-pull inflation encourages increased production to meet higher demand, reflecting rising incomes and greater purchasing power—particularly among lower-income groups—thus potentially reducing inequality. Conversely, cost-push inflation suppresses production, leading to supply shortages and a decline in real income. This disproportionately affects lower-income households, whose purchasing power diminishes more severely than that of higher-income groups, thereby increasing inequality.

H4: Inflation affects income inequality.

Figure 1. Research Framework



Source: Developed by the authors (2025)

METHOD

This study adopts a quantitative approach and utilizes a panel data regression model, specifically the Random Effects Model (REM), estimated using the Generalized Least Squares (GLS) method with an autoregressive disturbance of order one [AR(1)].

The selection of the model involved several diagnostic steps. First, the Levin, Lin, and Chu (LLC) test was applied to assess the stationarity of the panel data. Subsequently, the Chow test, the Breusch–Pagan Lagrange Multiplier test, and the Hausman test were conducted to determine the most appropriate model specification. Based on the results, the REM was identified as the best-fitting model. Thus, the regression equation is as follows:

$$Gini_{it} = \beta_{0i} + \beta_{1i}GDP_{it} + \beta_{2i}FDI_{it} + \beta_{3i}Inflation_{it} + \beta_{4i}GovExp_{it} + e_{it} \dots \dots \dots (1)$$

Where: *Gini* = Gini Coefficient, *GDP* = GDP per capita, PPP (constant 2021 international \$), *FDI* = net inflows FDI (% of GDP), *Inflation* = inflation, GDP deflator (annual %), *GovExp* = general government final consumption expenditure (% of GDP), β_0 = intercept in the regression model, β_k = regression coefficient of k^{th} independent variable, e = error (residual), i = index for country = {Brazil, Russia, Indonesia, India, China, South Africa}, t = index for year = {1992, ..., 2017}, k = index for independent variable = {*GDP*, *FDI*, *Inflation*, *GovExp*}, with: $\beta_{0i} = \beta_0 + u_{0i}$ and $\beta_{ki} = \beta_k + u_{ki}$, where: β_{0i} = intercept in the regression model for i^{th} country, β_{ki} = regression coefficient of k^{th} variable for i^{th} country, u_{0i} = constant variety for i^{th} country and u_{ki} = regression coefficient variety of k^{th} variable for i^{th} country.

We use real GDP calculated in 2021 prices to ensure that increases reflect changes in production quantities. The international dollar serves as the unit of measurement for GDP assessed in purchasing power parity (PPP), allowing for consistent purchasing power across countries. Next, Model 1 was estimated using the generalized least squares (GLS) method, and we tested whether it satisfied the classical assumptions. During this process, we identified an autocorrelation issue; therefore, Model 1 was re-estimated using GLS with an autoregressive term of order 1 (AR(1)).

This research utilizes data from Brazil, Russia, India, Indonesia, China, and South Africa (six BRICS members with dominant populations and economies) spanning from 1992 to 2017. These years were selected because Foreign Direct Investment (FDI) data for Russia has been available only since 1992, and income inequality data for South Africa is available only until 2017. Most of the data are sourced from the World Development Indicators database (World Bank, 2024), which includes real GDP per capita (PPP), net FDI inflows, inflation (GDP deflator), and general government final consumption expenditure. The Gini coefficient, an indicator of income inequality, is obtained from the Standardized World Income Inequality Database (SWIID) (Harvard Dataverse, 2024).

RESULT AND DISCUSSION

Panel Data Stationarity Test

The stationarity test for panel data employs the Levin, Lin, and Chu (LLC) test. The LLC test is recommended for panel data with between 10 and 250 cross-sections and a period ranging from 25 to 250 for each cross-section (StataCorp, 2025). In this research, the cross-section consists of only 6 countries, but the period spans 26 years. Additionally, the LLC test assumes that the number of cross-sections remains constant while the period approaches infinity, which is suitable for macroeconomic data (StataCorp, 2025), such as the data used in this study. Based on Table 4, all p-values are smaller than the significance levels of $\alpha = 0.05$ and 0.01, allowing us to conclude that all variables are stationary.

Table 4. Stationarity Test

Variable	Statistics	p-Value
Gini	-2.0451	0.0204**
GDP	-16.7196	0.0000***
FDI	-2.4870	0.0064***
Inflation	-14.3739	0.0000***
GovExp	-2.9495	0.0016***

Note: **, *** consecutively means significant at $\alpha = 0.05$ and 0.01 .

Source: Processed data (2025)

Panel Data Regression Model Selection

To obtain a suitable regression model for the panel data used in this research, alternative models must be selected through these tests (Wooldridge, 2020).

Chow Test

The Chow test is used to evaluate the null hypothesis (H_0), which posits that the Common Effect Model (CEM) is superior to the Fixed Effect Model (FEM). Based on the results presented in Table 5, the null hypothesis is rejected, indicating that the FEM is more effective than the CEM at $\alpha = 0.01$.

Table 5. Chow Test

Test Description	F-Statistic	Degrees of Freedom	p-Value
F-test for the null hypothesis, $u_i = 0$	208.28	(5, 146)	0.0000***

Note: *** means significant at $\alpha = 0.01$.

Source: Processed data (2025)

Breusch-Pagan Lagrange Multiplier Test

The Breusch-Pagan Lagrange Multiplier test is used to test the null hypothesis (H_0) that the Common Effects Model (CEM) is better than the Random Effects Model (REM). Based on Table 6, the null hypothesis is rejected, indicating that the Random Effects Model is superior to the Common Effects Model at $\alpha = 0.01$.

Table 6. Breusch-Pagan Lagrange Multiplier Test

Statistic	Value
Variance of Gini	77.8294
Standard Deviation of Gini	8.8221
Variance of e (idiosyncratic error)	6.5750
Standard Deviation of e	2.5642
Variance of u (random effect)	57.6746
Standard Deviation of u	7.5944
Chi-square (χ^2) Statistic	791.13
Degrees of Freedom	1
p-value	0.0000***

Note: *** denotes significance at the 1% level.

Source: Processed data (2025)

Hausman Test

The Hausman test is employed to evaluate the null hypothesis (H_0) that the random effects model (REM) is more appropriate than the fixed effects model (FEM). Based on the results presented in Table 7, the null hypothesis cannot be rejected, indicating that the REM provides a more consistent and efficient estimation than the FEM at the 10% significance level ($\alpha = 0.1$).

Table 7. Hausman Test

Variable	FEM (b)	REM (B)	Difference (b – B)	Std. Error
GDP	-0.0000289	-0.0000365	0.00000758	0.00000675
FDI	0.0093100	0.0009291	0.00838080	0.01239600
GovExp	0.0017572	0.0017199	0.00003730	0.00007610
Inflation	0.5886980	0.5917815	-0.00308350	0.04699790
Test Summary				
Chi-square statistic (χ^2)	4.15			
Degrees of freedom	2			
p-value	0.2461			
Decision at $\alpha = 0.1$	Do not reject H_0			
Conclusion	REM preferred over FEM			

Notes: 1) H_0 : Differences in coefficients are not systematic $\rightarrow$ REM is appropriate, 2) b: Coefficients from FEM (consistent under H_0 and H_a), and 3) B: Coefficients from REM (efficient under H_0 , inconsistent under H_a).

Source: Processed data (2025)

Classical Assumption Test

Autocorrelation Test

Table 8 presents the results of the Wooldridge test for detecting first-order autocorrelation in panel data. The null hypothesis (H_0) of this test posits that there is no first-order autocorrelation. As shown in the table, the test yields a statistically significant result, indicating that the null hypothesis is rejected at the 1% significance level. This finding implies the presence of first-order autocorrelation in the panel data, suggesting that the assumption of no autocorrelation is violated and must be addressed in subsequent model estimation.

Table 8. Wooldridge Test for First-Order Autocorrelation in Panel Data

Test Statistic	Degrees of Freedom	p-Value	Significance Level
F = 268.677	(1, 5)	0.0000	*** ($\alpha = 0.01$)

Source: Processed data (2025)

To address the issue of autocorrelation identified in the panel data, regression model (1) is re-estimated using the Generalized Least Squares (GLS) method with an AR(1) correction (see Table 11).

Normality Test

The normality test is conducted to evaluate the null hypothesis (H_0) that the regression model's error terms are normally distributed (Wooldridge, 2020). Table 9 presents the results of the normality test applied to the residuals from regression model (1), which has been estimated using the GLS method with AR(1) correction. As shown in Table 9, the null hypothesis is not rejected for both the overall residuals and the country-specific residuals.

This indicates that the distribution of error terms, both at the aggregate and disaggregated levels, does not significantly deviate from normality. Therefore, it can be concluded that the overall and country-level residuals are normally distributed.

Table 9. Normality Test

Statistic	Observed coefficient	Bootstrap std. error	z	P > z	Normal-based [95% conf. interval]	
Skewness_e	-2.1346	4.97	-0.43	0.667	-11.867	7.598
Kurtosis_e	-3.0613	34.48	-0.09	0.929	-70.642	64.520
Skewness_u	182.0521	134.43	1.35	0.176	-81.423	445.527
Kurtosis_u	-492.5388	2,816.05	-0.17	0.861	-6,011.895	5,026.818
Joint test for Normality on e:			chi ² (2) = 0.19		Prob > chi ² = 0.9082	
Joint test for Normality on u:			chi ² (2) = 1.86		Prob > chi ² = 0.3936	

Source: Processed data (2025)

Multicollinearity Test

The multicollinearity test is conducted to determine whether there is a strong linear correlation between any pair of independent variables, which is typically indicated by a Pearson correlation coefficient (r) greater than 0.9 (Wooldridge, 2020). Table 10 presents the Pearson correlation coefficients among the independent variables used in the regression model. As shown in the table, all r values are below the 0.9 threshold, indicating that no pair of independent variables exhibits a high degree of correlation. Therefore, it can be concluded that the model does not suffer from multicollinearity.

Table 10. Multicollinearity Test

Variable	GDP	FDI	GovExp	Inflation
GDP	1.0000			
FDI	0.0842	1.0000		
GovExp	0.6072	0.2504	1.0000	
Inflation	0.0858	-0.1906	0.1079	1.0000

Source: Processed data (2025)

Regression Model Estimation Result

Table 11 presents the estimation results of the random effects model (REM), which is estimated using the Generalized Least Squares (GLS) method with AR(1) correction. The results indicate that, collectively, GDP per capita, foreign direct investment (FDI), government expenditure, and inflation have a statistically significant effect on income inequality, as evidenced by the p-value of 0.0008, which is lower than the significance level of $\alpha = 0.01$. The explanatory power of the independent variables is reflected in the overall R-squared value of 0.1294, implying that approximately 12.94% of the variation in income inequality can be explained by the independent variables included in the model. The remaining 87.06% is attributed to other factors not captured in the model. The overall R-squared is a weighted average of the within-country and between-country R-squared values. Individually, GDP per capita is found to have a statistically significant negative effect on income inequality, with a p-value of 0.016, which is below the 5% significance threshold. The estimated coefficient of -0.0002 implies that an increase of one dollar in GDP per capita is associated with a 0.0002% reduction in income inequality. Interpreted differently, an increase of \$1,000 in GDP per capita would lead to a 0.2% decrease in income inequality. Therefore, H1 is supported. In contrast, FDI does not have a significant effect on income inequality, as indicated by a p-value of 0.192, which exceeds the 10% significance level. Thus, H2 is rejected. Government expenditure

exhibits a significant positive influence on income inequality, with a p-value of 0.007, which is below the 1% level. The regression coefficient of 0.1795 suggests that a 1% increase in government expenditure is associated with a 0.1795% increase in income inequality. Consequently, H4 is accepted. Finally, inflation does not significantly affect income inequality, as evidenced by a p-value of 0.300, which is greater than 0.1. Accordingly, H3 is rejected.

Table 11. Regression Results (GLS with AR(1) Correction)

Variable	Coefficient	Std. Error	z	p-value	Significance
GDP	-0.0002	0.0001	-2.40	0.016	**
FDI	0.0726	0.0556	1.30	0.192	
GovExp	0.1795	0.0660	2.72	0.007	***
Inflation	-0.0003	0.0003	-1.04	0.300	
_cons	44.6265	3.8061	11.73	0.000	***
Model Summary					
Number of observations	156				
Number of groups	6 (countries)				
Observations per group	26				
Wald chi ² (5)	21.04				
Prob > chi ²	0.0008				
R-squared (Between)	0.0038				
R-squared (Within)	0.1845				
R-squared (Overall)	0.1294				

Note: **, *** consecutively means significant at $\alpha = 0.05$ and 0.01.

Source: Processed data (2025)

Discussion

The negative impact of GDP per capita on income inequality contradicts the findings of Berisha et al. (2020), Kum (2024), and Şenol & Onaran (2023), which assert that GDP per capita has a significant positive effect on income inequality. This observation aligns with the traditional-sector enrichment growth typology, wherein economic growth within the traditional sector results in a reduction of absolute poverty and a decrease in income inequality. Economic growth generates new employment opportunities, thereby enhancing purchasing power and productivity, ultimately contributing to a reduction in income inequality.

The six dominant BRICS nations—Brazil, Russia, India, Indonesia, China, and South Africa—exhibit a significant negative influence of per capita income on income inequality, likely due to policy frameworks that support the development of Micro, Small, and Medium Enterprises (MSMEs). According to the OECD (2020), Brazil's policy for small businesses is founded on the principle of special treatment for micro and small enterprises as enshrined in the federal constitution. The Brazilian government has initiated the "Acredita" program, which facilitates credit access for small businesses at lower interest rates (Ayres, 2024). In India, MSMEs play a crucial role in economic growth, contributing 30% of the country's GDP and providing employment for over 110 million individuals. Consequently, the Indian government has implemented policies to enhance access to credit, promote market opportunities, and support skill development initiatives for MSMEs, thereby fostering sustainable growth, technological innovation, job creation, and global competitiveness of MSMEs (IIFL Finance, 2024).

In South Africa, MSMEs significantly contribute to poverty alleviation, job creation, and account for 40% of the nation's GDP. Accordingly, the South African government has introduced policies to broaden financial access for MSMEs and cooperatives, increase the number of small businesses, mitigate monopoly power in specific economic sectors, transform ownership patterns, and address financial literacy challenges within both formal and informal sectors through educational initiatives, particularly in underserved regions, while guiding small businesses toward regulatory compliance (DSBD South Africa, 2023).

In China, MSMEs encompass 98.5% of all businesses, contribute to 60% of GDP, and provide 75% of employment. The Chinese government is committed to collaborating with international organizations, such as the United Nations Development Programme (UNDP), to strengthen MSMEs. This collaboration focuses on enhancing the resilience of MSMEs and positioning them as drivers of green growth through policy research, community awareness, capacity development, and the establishment of cooperative and exchange platforms (UNDP, 2024).

In Indonesia, MSMEs represent a foundational element of the national economy, demonstrating resilience during crises and serving as a catalyst for economic recovery. MSMEs account for 99% of all businesses, contribute 60.5% of GDP, and provide 96.9% of employment. To bolster the MSME sector, the Indonesian government has enacted policies encompassing infrastructure development, financing programs, and digitalization, with an emphasis on synergy and coordination with the public sector. These initiatives aim to ensure that MSMEs continue to contribute to both national and regional economic growth (Ariyanti, 2023). Conversely, despite being classified as a high-income country, Russia has identified SMEs as a national priority and has implemented supportive policies for SMEs that have been in effect for over a decade. However, the development of MSMEs has yet to yield significant results. Over 5.7 million SMEs employ nearly 19 million workers, which constitutes only one-third of the total labor force. It is estimated that informal labor in Russia ranges from 15.4 to 30 million individuals, with the SME sector contributing approximately 22% to the nation's GDP (Elgar Research Agendas, 2020).

The insignificant impact of foreign direct investment (FDI) on income inequality corroborates the findings of Bahadir & Dereli (2021), which indicate that FDI does not significantly affect income inequality. While foreign investment is generally considered a mechanism for economic growth, the modern-sector enlargement growth typology posits that investment aimed at expanding the modern sector does not guarantee a corresponding increase or decrease in income inequality. Foreign investments are typically concentrated in capital-intensive sectors, such as manufacturing and technology. If the profits derived from foreign investments accrue solely to capital owners, local workers may not experience direct benefits, potentially explaining the lack of influence of foreign investment on income inequality. Numerous foreign corporations operate within dominant BRICS nations, including General Motors and Dell in Brazil (Rodriguez, 2025b), Coca-Cola, Nestlé, and Unilever in India (Rodriguez, 2025a), Astra, Google, Toyota, Adidas, and Nike in Indonesia (Cekindo, 2025), and BMW, Apple, and Samsung in China (Ford Media Center, 2024; Hoonstra, 2024). In South Africa, Ford Motor Company also represents a significant presence (Ford Media Center, 2024).

The positive correlation between government expenditure and income inequality aligns with the research conducted by Cevik & Correa-Caro (2020), indicating that government expenditure significantly contributes to income inequality. Government spending is allocated toward various sectors, including economic development, public services, health, and education. When government expenditure fails to prioritize the income enhancement of low-income groups, the benefits are disproportionately enjoyed by medium- and high-income groups, resulting in an exacerbation of income inequality.

The positive effect of government expenditure on income inequality may stem from the varying allocations of government spending among dominant BRICS member countries, particularly regarding programs aimed at elevating the income of low-income groups. In Russia, government expenditure for national defense is projected to increase to 6.3% of GDP in 2025, the highest level since the Cold War between Russia and the USA, while allocations for health and education are anticipated to be 0.8% and 0.7% of GDP, respectively (Korsunskaya & Bryanski, 2024). India's budget allocates Rs 6.21 trillion, constituting 12.9% of the total government budget for 2024-2025, toward defense, while only Rs 1.48 trillion is designated for education, employment, and skill development, indicating a disproportionate allocation favoring defense (TOI, 2024). In contrast, Indonesia prioritizes education within its state budget (Safitri, 2025), and China has consistently allocated the largest portion of its

budget to education over several years (C. Textor, 2025). South Africa has also prioritized health, increasing its budget by \$1.5 million in 2025 (Gumede, 2025).

The dominance of defense sector budgets in Russia and India enhances national security; however, this allocation does not directly contribute to the social sector, thereby having limited impact on income inequality. Conversely, the education sector budget in Indonesia and China has proven effective in reducing inequality over time. A robust educational framework fosters qualified human resources and enhances job opportunities. Similarly, South Africa's budget allocation for health is crucial for improving quality of life and labor productivity, which may also contribute to a long-term reduction in income inequality.

The insignificant influence of inflation on income inequality contradicts the findings of Berisha et al. (2020) and Younsi & Bechtini (2020), which suggest that inflation has a significant positive effect on income inequality. Inflation represents a general increase in the prices of goods and services. When price increases occur uniformly across all regions and demographics, they can directly influence inequality. Economic theory identifies two types of inflation: demand-pull inflation and cost-push inflation. Demand-pull inflation, occurring alongside stable economic growth, tends to exert minimal impact on income inequality, whereas cost-push inflation can exacerbate economic conditions, particularly affecting low-income individuals who experience greater declines in real income when living costs rise without corresponding income increases. The negligible influence of inflation on income inequality may result from the diverse factors contributing to inflation across the dominant BRICS countries.

In Brazil, inflation is frequently driven by cost-push factors, with reliance on imported materials and energy often leading to increased production costs (Aldila, 2021). Similarly, in Russia, inflation is influenced by rising food prices when the costs of essential goods escalate (Zadorozhnyy, 2024). India has experienced inflation due to supply chain disruptions during the COVID-19 pandemic and the Russia-Ukraine conflict, resulting in increased production costs and subsequent cost-push inflation (Dhristi The Vision, 2024). Indonesia faces both demand-pull and cost-push inflation; during holiday periods, heightened demand for basic goods leads to price increases, while surges in fossil fuel prices elevate transport costs in various sectors, contributing to cost-push inflation. The COVID-19 pandemic further exacerbated price increases for raw materials and disrupted global supply chains, resulting in cost-push inflation (Dwi, 2021). Nonetheless, strong economic growth and domestic consumption can also generate demand-pull inflation. South Africa predominantly faces cost-push inflation, particularly affecting food and non-alcoholic beverage prices, especially for unprocessed goods, fruits, beans, and vegetables (Meyer, 2023). Consequently, inflation does not exert an indirect effect on income inequality, as its impact is contingent upon the type of inflation prevalent in the BRICS countries.

CONCLUSION

The objective of this research is to examine the effects of GDP per capita, foreign direct investment (FDI), government expenditure, and inflation on income inequality among the six most populous and economically dominant members of the BRICS grouping, namely Brazil, Russia, India, Indonesia, China, and South Africa. The findings of this study indicate that collectively, GDP per capita, FDI, government expenditure, and inflation exert a significant influence on income inequality within BRICS countries. Specifically, GDP per capita is found to have a significant negative effect on income inequality, whereas government expenditure demonstrates a significant positive effect. Additionally, FDI and inflation are shown to have no impact on income inequality.

This research highlights the critical role that the governments of these six populous and economically influential BRICS members play in mitigating income inequality through the enhancement of GDP per capita. According to growth typology theory, income inequality may be alleviated if growth occurs within the traditional sector. Consequently, it is imperative for the governments of these nations to maintain their focus on the development of micro, small,

and medium enterprises (MSMEs) and to formulate policies that also support the informal sector. Furthermore, they should leverage programs offered by the New Development Bank (NDB), which aims to promote sustainable development, foster a green recovery, and achieve balanced and inclusive economic growth (NDB, 2025). Collaboration with non-governmental organizations (NGOs) involved in poverty alleviation, health, and environmental initiatives is essential to secure financial assistance from the New Development Bank (Funds for NGOs, 2025). The governments of these six dominant BRICS countries should optimize their expenditure by addressing income inequality among disadvantaged populations, particularly in the areas of education and health.

This research has certain limitations, including the exclusion of variables with the potential to influence income inequality, such as population size, broad money supply, tax revenue, and interest rates. Therefore, future studies should consider incorporating these variables. Additionally, future research could expand to include other BRICS nations not covered in this study, such as Ethiopia, Egypt, the United Arab Emirates, Saudi Arabia, and Iran.

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