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Assessing the Role of Remittances and Selected Major Macroeconomic Factors in South Asia's Economic Growth: Evidence from Panel Data Econometrics

Md. Hazrat Ali[1], Sunamdeb Chandra Pramanik[2], Mehedi Hasan[3], Shafika Rahman[4] & Md. Saddam Hossain[5]

[1,2]*Department of Statistics, Faculty of Science, Mawlana Bhashani Science and Technology University, Post code- 1902, Santosh, Tangail, Bangladesh*

[3]*Department of Economics, Faculty of Social Science, Mawlana Bhashani Science and Technology University, Post code- 1902, Santosh, Tangail, Bangladesh.*

[4]*Department of Statistics, Jahangirnagar University, Savar, Dhaka, Bangladesh.*

[5]*Department of Economics, Faculty of Social Science, Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Post code- 8100, Gopalganj, Bangladesh.*

Correspondence Author: Mehedi Hasan, **Email:** mehedihasan.econ43@mbstu.ac.bd

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Abstract

This study investigates the role of remittances and major macroeconomic factors in driving economic growth in South Asia, focusing on their interrelations and contributions using panel data econometrics. The research employs a dataset of 160 observations from the World Bank, including variables such as GDP, remittances, exports, imports, consumption, capital formation, and inflation. A random effects regression model is utilized, selected through the Hausman test for its robustness over a fixed effects approach. Stationarity tests confirm data suitability for regression analysis. Results reveal that remittances positively and significantly influence GDP, with a 1% increase in remittances leading to a 0.068% rise in GDP. Exports and imports also bolster GDP growth, while inflation exerts a negative impact, highlighting the critical need for macroeconomic stability. However, foreign direct investment (FDI) shows a negative association with GDP, suggesting structural inefficiencies in the region's FDI landscape. The study is constrained by the absence of data on informal remittance flows, which may influence the comprehensiveness of the findings. The results underscore the need for policymakers to optimize remittance utilization, enhance trade policies, and ensure macroeconomic stability to sustain growth. Effective remittance management can enhance household welfare and economic equity in South Asia, fostering inclusive development. This research provides a nuanced analysis of remittances as a growth driver in South Asia, emphasizing their interplay with trade and macroeconomic stability. It offers actionable insights for sustainable economic development in the region.

Keywords: Remittances, Economic Growth, Macroeconomic Factors, South Asia, Panel Data

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INTRODUCTION

Remittances, the financial transfers made by migrant workers to their home countries, have emerged as a cornerstone of global financial systems, particularly for developing economies. Over the last few decades, remittances have demonstrated an upward trajectory, becoming a critical source of foreign exchange and a key contributor to socio-economic development. According to the World Bank (2022), global remittance flows reached an estimated $830 billion in 2022, with South Asia accounting for a substantial share. The growing importance of remittances is underscored by their resilience during the COVID-19 pandemic, when global remittance flows increased by over 10% between 2020 and 2021, despite widespread economic disruptions (World Bank, 2021).

The role of remittances in supporting household consumption, reducing poverty, and addressing macroeconomic challenges has been well-documented (Ratha, 2013). Stark's (1988) seminal work highlighted the dual impact of remittances on family welfare and national development, framing them as a socio-economic safety net. Similarly, studies by Yang (2008) and Docquier et al. (2007) emphasize the potential of remittances to boost foreign exchange reserves, stabilize currency rates, and support human capital development. However, the debate surrounding the socio-economic implications of remittances remains active. While some researchers have focused on their positive impacts, such as poverty alleviation and economic stabilization, others have raised concerns about their potential to exacerbate dependency and contribute to brain drain (Docquier et al., 2007).

In the context of South Asia, remittances play a particularly significant role, given the region's high migration rates and reliance on foreign labor markets (International Organization for Migration, 2019). India, for instance, is the largest global recipient of remittances, accounting for $111 billion in 2022, which constituted 3.3% of its GDP (World Bank, 2024). Similarly, Pakistan and Bangladesh received $30.18 billion and $22.1 billion, respectively, underscoring the substantial reliance of these economies on remittance inflows (World Bank, 2022). The increasing prominence of remittances in South Asia demands a deeper understanding of their dynamics and implications, particularly in light of evolving global labor market trends and economic uncertainties.

The motivation for this study stems from the critical role of remittances in shaping the economic trajectories of developing nations, particularly in South Asia. Despite their growing importance, the academic discourse on the relationship between remittances and economic

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growth remains fragmented. Recent technological advancements in financial services, such as digital remittance platforms, have further transformed the landscape of cross-border financial flows (Rahman & Yeoh, 2008). Additionally, the COVID-19 pandemic has brought new challenges and opportunities to the forefront, highlighting the resilience of remittance flows amid global disruptions (Das & Sutradhar, 2020). This study seeks to address these gaps by exploring the macroeconomic factors that influence remittance flows and their implications for economic growth in South Asia.

While extensive research has been conducted on remittances, significant gaps remain in understanding their nuanced impact on economic growth, particularly in the context of South Asia. Existing studies often focus on aggregate trends without delving into the underlying factors that mediate the relationship between remittances and macroeconomic outcomes. For instance, Ratha (2013) notes that while remittances contribute to economic stabilization, their potential to induce exchange rate appreciation and reduce competitiveness in international trade remains underexplored. Furthermore, as highlighted by Docquier et al. (2007), the migration of skilled labor raises concerns about brain drain, which can offset the benefits of remittance inflows.

Addressing these gaps is critical for both theoretical and practical reasons. Theoretically, this study contributes to the ongoing discourse on the role of financial inflows in economic development. Practically, it provides valuable insights for policymakers seeking to optimize the benefits of remittances while mitigating their adverse effects. By employing a panel data econometrics approach, this study bridges the gap in existing literature and offers a comprehensive analysis of the factors influencing remittances and their impact on South Asian economies.

The primary aim of this study is to examine the relationship between remittances and economic growth in South Asia, with a specific focus on macroeconomic factors such as consumption, investment, and human capital formation. This study addresses the gaps identified in previous research by providing an in-depth analysis of the channels through which remittances influence economic outcomes.

This study aims to explore how remittance inflows impact GDP growth in South Asia and to identify the key macroeconomic factors that mediate this relationship. By examining the influence of remittances on economic growth, the research seeks to provide insights into the role of these inflows in shaping the region's economic trajectory. Additionally, it will

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investigate which macroeconomic variables, such as inflation, exchange rates, and investment levels, play a significant role in mediating the effects of remittances on growth. These questions are informed by previous research, including Stark (1988) and Yang (2008), who highlighted the multifaceted impacts of remittances on socio-economic development.

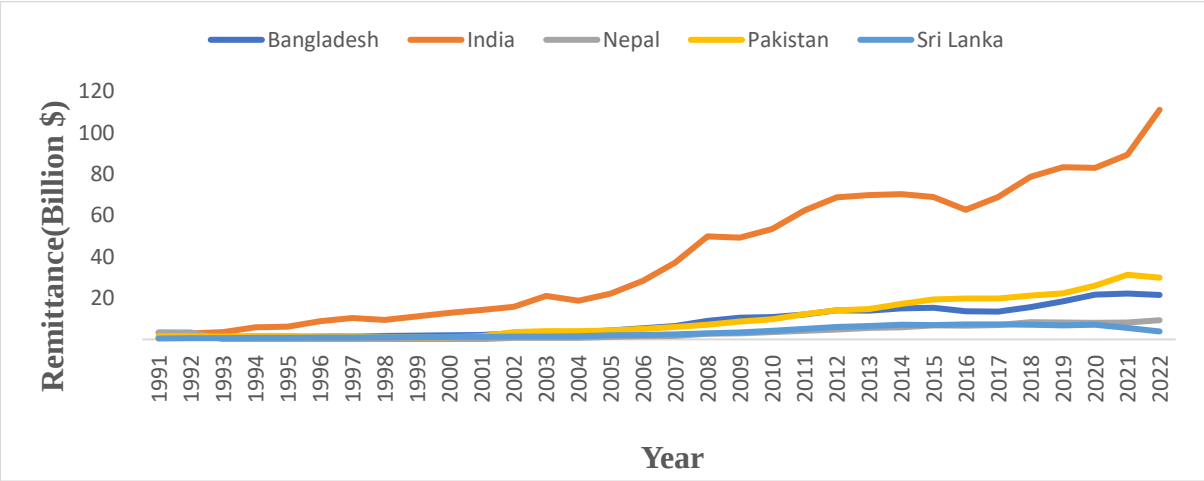

Figure 1: Remittance to SA5 1991-20221(in Billion US$)

Source: World Bank 2024

There is a significant disparity in remittances between India and the other four nations because India is the world's top recipient of remittances. Figure 1 shows the pattern of remittance in five selected countries, with India receiving the biggest amount of remittances.

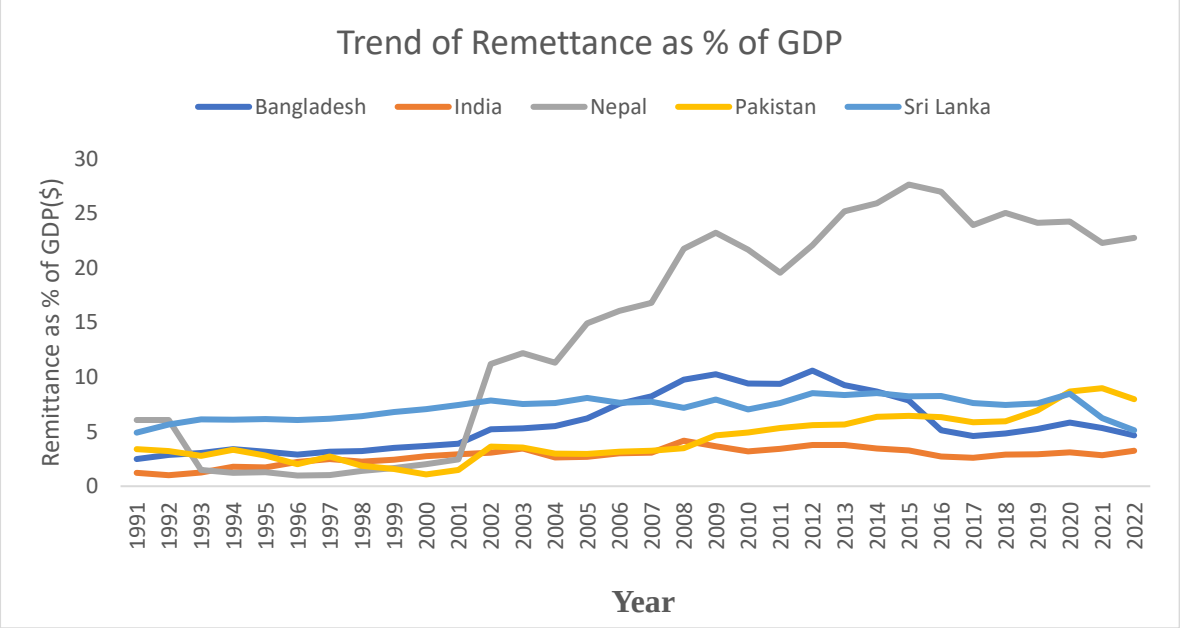

Figure 2: Trend of Remittances as % of GDP (US $) in SA5,1991-2021

Source: World Bank 2024

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As seen in Figure 2, Nepal, Sri Lanka, Bangladesh, and Pakistan are most dependent on personal remittances from SA5. India relies less on these outside sources of revenue.

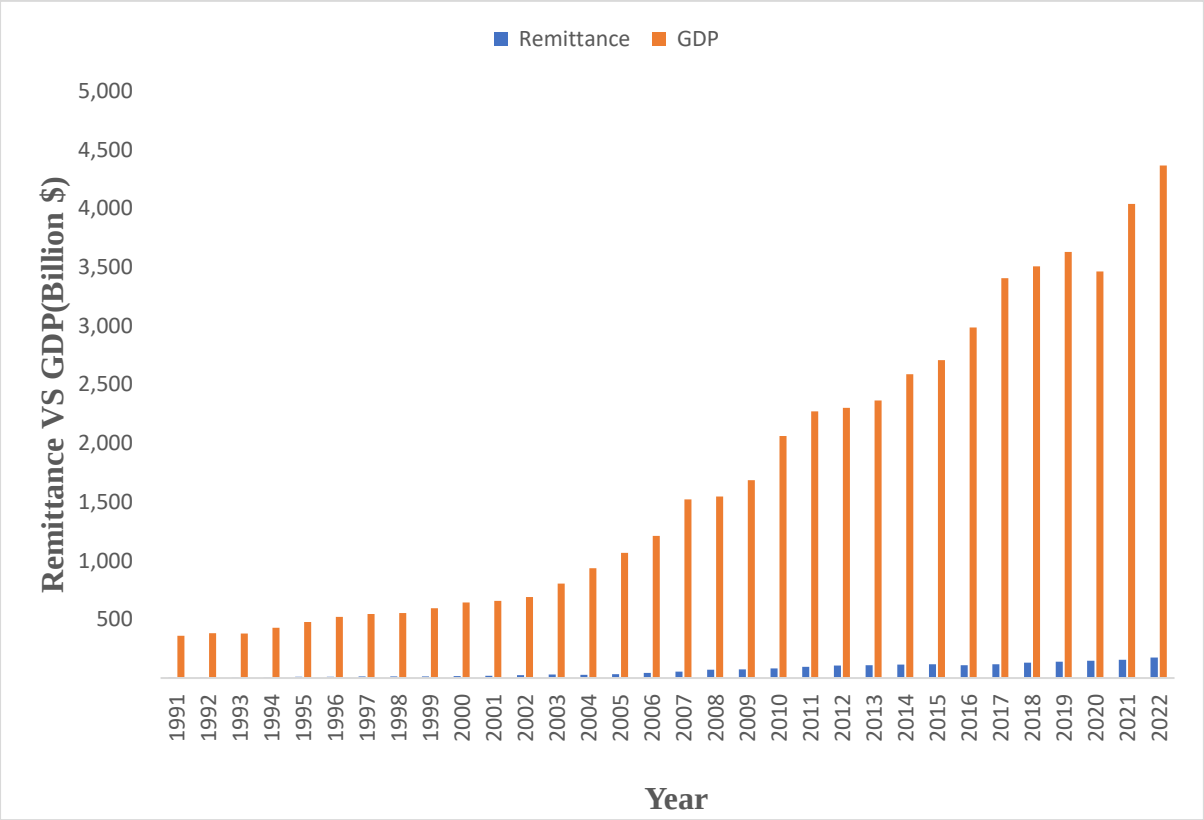

Figure 3: Total Remittances Vs Total GDP to SA5, 1991- 2022 (In Billion US$)

Source: World Bank 2024

Remittance inflows and GDP growth appear to be positively correlated, as evidenced by the graph's positive trend, which demonstrates that remittances rise as GDP rises. This suggests that improved economic performance in the region is linked to higher remittance levels. The graph might show how variations in remittance levels affect the GDP of South Asian nations. The substantial contribution of remittances to economic growth would be demonstrated by a sharp increase in remittances that results in a noticeable increase in GDP.

This study is significant for several reasons. First, it contributes to the growing body of literature on the economic implications of remittances, offering new insights into their role in fostering sustainable development. Second, it provides valuable policy recommendations for South Asian governments, emphasizing the need to create enabling environments that maximize the benefits of remittance inflows. Policymakers, development practitioners, and financial institutions can leverage these findings to design strategies that enhance the developmental impact of remittances while addressing their potential downsides.

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By exploring the macroeconomic factors associated with remittance flows, this study also supports the broader discourse on financial inclusion and economic resilience. For instance, insights from this research could inform the development of digital remittance platforms, which have the potential to reduce transaction costs and enhance accessibility (Rahman & Yeoh, 2008). Overall, this study offers a comprehensive framework for understanding the role of remittances in South Asia's economic growth, with implications for scholars and practitioners alike.

The scope of this study is confined to South Asian countries, specifically India, Pakistan, Bangladesh, Nepal, and Sri Lanka. This geographic focus ensures a detailed examination of the region's unique socio-economic dynamics. Methodologically, the study employs panel data econometrics, which provides robust insights into cross-country trends and causal relationships. However, the study is limited by its reliance on secondary data, which may not capture the full complexity of informal remittance channels. Additionally, the findings may have limited generalizability to other regions, given the distinct characteristics of South Asian economies.

The paper is structured as follows: Section 2 reviews relevant literature on remittances and economic growth. Section 3 outlines the methodology, including data sources and econometric techniques. Section 4 presents the results, followed by a discussion in Section 5. Finally, Section 6 concludes with policy implications and suggestions for future research.

LITERATURE REVIEW

Theoretical Framework

The theoretical foundation of this study is rooted in the neoclassical theory of migration, which posits that labor mobility between low-wage and high-wage regions arises due to wage differentials, as workers seek better economic opportunities (Kurekova, 2011). This theory highlights the dual impact of migration: while migrants send financial remittances to support their families, they also contribute to the economies of their host countries. Remittances act as a countercyclical flow, supporting recipient countries during periods of economic distress by stabilizing household consumption and alleviating poverty (Chami, Fullenkamp, & Jahjah, 2005). Building on this perspective, Stark (1988) emphasizes the socio-economic significance of remittances, suggesting that they not only bridge economic disparities but also promote human capital development through investments in education and healthcare. These

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frameworks underscore remittances as a pivotal component in addressing global inequalities and facilitating sustainable economic development in labor-exporting nations.

Additionally, this study integrates the dependency theory to examine the potential challenges associated with remittance inflows. While remittances can significantly boost household income and macroeconomic stability, over-reliance on these funds may create structural dependencies that hinder long-term development. As highlighted by Ratha (2013), remittances may lead to reduced labor force participation among recipient families, fostering a cycle of dependency. Furthermore, the potential for "brain drain," as described by Docquier, Lohest, and Marfouk (2007), suggests that the emigration of skilled labor can erode the economic capacity of source countries, offsetting the benefits of remittance inflows. By juxtaposing these theoretical lenses, this study provides a nuanced understanding of the role of remittances, examining both their contributions and limitations in fostering economic growth in South Asia.

Selected Literature Review:

Remittances have long been a vital source of external finance for many economies, particularly in the developing world. Extensive research has demonstrated their role in stabilizing economies by stimulating consumption, savings, and investments. In regions vulnerable to economic shocks, remittances act as a lifeline, supporting household welfare and contributing to national income. However, the magnitude of their impact often depends on the structural composition of the recipient economy, the proportion of remittances to GDP, and how effectively these inflows are utilized (Barajas et al., 2009).

In developed economies, remittances form a smaller percentage of GDP and have a relatively muted impact on macroeconomic stability. Barajas et al. (2009) and Giuliano and Ruiz-Arranz (2009) highlight that in countries with strong financial markets, remittances are supplementary income rather than a primary source of economic stability. Conversely, in developing nations, remittances often constitute a significant share of GDP. Ratha (2013) asserts that remittances alleviate poverty, enhance household consumption, and promote human capital development through improved access to education and healthcare. Moreover, their countercyclical nature helps recipient countries weather economic downturns and natural disasters (Chami, Fullenkamp, & Jahjah, 2005). However, overreliance on remittances raises concerns about reduced labor force participation and potential dependency (Amuedo-Dorantes & Pozo, 2006).

South Asia is one of the largest recipients of global remittances, with countries like India, Bangladesh, Pakistan, Nepal, and Sri Lanka relying heavily on these flows to support

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household consumption and national development. In Bangladesh, remittances significantly improve household welfare by reducing poverty and increasing consumption (Raihan et al., 2009). Siddique, Selvanathan, and Selvanathan (2012) further highlight their positive impact on GDP growth through improved balance of payments and increased domestic demand. However, the challenge of channeling remittances into productive investments remains a critical issue. Similarly, India, as the world's largest recipient of remittances, benefits greatly from these inflows, which support rural household consumption and essential services like education and healthcare (Ong, 2021; Kumar & Stauvermann, 2014). Rajan and Subramanian (2005) stress the importance of robust institutional frameworks to maximize the productive utilization of remittances in India.

While Pant (2008) acknowledges their contributions to poverty reduction and resilience against economic shocks, Joshi and Piya (2021) highlight concerns over long-term sustainability as heavy reliance on remittances may discourage domestic production and employment, posing challenges for Nepal's economic growth. Similarly, remittances in Pakistan stabilize the economy during periods of macroeconomic instability, yet their limited use in productive investments undermines their long-term benefits (Javid, Arif, & Qayyum, 2012). In Sri Lanka, remittances have been instrumental in reducing poverty and promoting household welfare, yet their primary use in consumption rather than investment limits their broader developmental impact (Sutradhar, 2020; Paranavithana, 2014).

While existing literature underscores the critical role of remittances in economic growth, particularly in South Asia, several gaps remain. First, most studies focus on the aggregate impact of remittances on GDP without delving into the channels through which these inflows influence economic outcomes, such as consumption, investment, and human capital formation. Second, the role of institutional quality and financial infrastructure in mediating the impact of remittances remains underexplored. As Rajan and Subramanian (2005) suggest, effective utilization of remittances depends on the strength of local institutions, yet comparative analyses across South Asia are limited. Third, little attention has been given to the adverse effects of remittances, such as dependency and brain drain, in shaping long-term economic trajectories. Addressing these gaps requires a nuanced approach to understanding the dual-edged nature of remittances and their interaction with macroeconomic variables.

This study seeks to fill these gaps by employing a panel data econometrics approach to examine the relationship between remittances and GDP growth in South Asia. By analyzing key

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macroeconomic factors, this research contributes to the broader discourse on optimizing remittance flows for sustainable economic development.

METHODOLOGY

This study employs a robust methodological framework to investigate the relationship between remittances and key macroeconomic variables in driving economic growth. A panel data econometrics approach is adopted to facilitate a nuanced analysis of the interactions between these variables across multiple observations. The dataset comprises 160 observations, encompassing macroeconomic indicators such as Gross Domestic Product (GDP), remittances (REM), exports (EX), imports (IM), consumption (CON), capital formation (CF), and inflation (INF). All data were sourced from the World Bank and transformed into logarithmic form to normalize the distribution and enhance interpretability.

The analysis begins with a descriptive statistical assessment to summarize the dataset's core characteristics, providing insights into central tendencies, variability, and the overall economic environment under study. Skewness and kurtosis tests were conducted to evaluate whether the data adhered to a normal distribution. To ensure the reliability of regression analysis, several unit root tests—including the Im-Pesaran-Shin, Fisher-type Dickey-Fuller, Fisher-type Phillips-Perron, and Hadri LM tests—were applied. These tests confirmed that most variables were stationary, a prerequisite for robust econometric modeling.

To examine the impact of remittances and other macroeconomic variables on GDP, three panel data models were estimated: pooled Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE). The Hausman test was performed to determine the most appropriate model, comparing the Fixed Effects and Random Effects specifications. Based on the test results, the most suitable model was selected, ensuring an accurate and reliable assessment of the relationships among the variables. This methodological approach provides a comprehensive framework for understanding the dynamic influence of remittances on economic growth.

Empirical results and interpretations

Table 1: *Descriptive Statistics*

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP	160	25.185	1.711	21.947	28.86

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REM	160	22.238	1.656	17.603	25.435
EX	160	23.302	1.71	19.926	27.381
IM	160	23.716	1.565	20.59	27.529
CON	160	24.957	1.66	21.832	28.516
CF	160	23.694	1.798	20.296	27.627
INF	160	1.917	.526	.697	3.906

Source: Authors Calculation using STATA 17.0

The dataset encompasses key macroeconomic indicators across 160 observations, with all variables converted into logarithmic form. This transformation not only normalizes the data distribution but also enables the interpretation of changes in terms of percentages, enhancing the analytical precision of the study.

Among the variables, GDP exhibits the highest mean value (25.185), reflecting its substantial contribution to economic output, followed closely by Consumption (24.957), which underscores its pivotal role in driving overall economic activity. The means of Imports (23.716) and Exports (23.302) are relatively close, indicating a balanced trade scenario across the sample. However, the slightly higher mean for Imports suggests a potential inclination toward trade deficits within certain economies.

Personal Remittances, with a mean of 22.238, have a relatively lower average compared to other variables, though their range (17.603 to 25.435) demonstrates significant variation. This variability likely captures the diverse remittance patterns across different economies or time periods, reflecting heterogeneity in remittance inflows among the observed nations.

Inflation Rate records the lowest mean (1.917) and standard deviation (0.526), pointing to generally low and stable inflation levels across the sample. However, the maximum value of 3.906 highlights occasional spikes in inflation, which could influence macroeconomic stability.

The standard deviations for most variables range from 1.565 to 1.798, indicating similar levels of variability across the dataset. This consistency in variability facilitates meaningful comparisons among the variables, providing a robust foundation for subsequent econometric analysis.

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Table 2: *Test for Normality (Skewness/Kurtosis tests for Normality)*

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj_chi2(2)	Prob>chi2
GDP	160	0.322	0.044	5.050	0.080
REM	160	0.005	0.153	8.970	0.011
EX	160	0.017	0.786	5.640	0.060
IM	160	0.012	0.875	6.130	0.047
CON	160	0.341	0.017	6.340	0.042
CF	160	0.077	0.215	4.740	0.093
INF	160	0.730	0.164	2.080	0.353

Source: Authors Calculation using STATA 17.0

The Skewness/Kurtosis tests conducted on the dataset revealed some deviations from normality in several variables, notably remittances (REM), imports (IM), and consumption (CON). While non-normality is acknowledged, it does not significantly undermine the validity of the analysis. The large sample size, combined with the logarithmic transformation applied to all variables, mitigates the impact of these deviations, ensuring the robustness of statistical inferences.

Given the primary focus of this study—examining the relationship between remittances and GDP—the statistical methods employed are deemed appropriate for the data structure. The econometric models utilized account for potential non-normality, enabling reliable estimation of relationships among the variables. Consequently, the analysis remains concentrated on interpreting the dynamic impacts of remittances and other macroeconomic factors on GDP while acknowledging the minor deviations from normality.

Table 3: *Unit Root Test*

Variable	Statistics & P value	IM-Pesaran-ShINF	Fisher-type Dickey-Fuller tests	Fisher-type Phillips-Perron tests	Hadri LM test
GDP	Statistics	-2.68	167.93	167.93	-2.25
	P value	0.00	0.00	0.00	0.98
REM	Statistics	-2.16	103.10	103.10	-1.90

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	P value	0.00	0.00	0.00	0.97
EX	Statistics	-2.82	197.03	197.03	- -2.79
	P value	0.00	0.00	0.00	0.99
IM	Statistics	-2.71	177.15	177.15	-2.42
	P value	0.00	0.00	0.00	0.99
CON	Statistics	-2.78	183.74	183.74	-2.19
	P value	0.00	0.00	0.00	0.98
CF	Statistics	-2.22	108.62	108.62	-1.33
	P value	0.00	0.00	0.00	0.90
INF	Statistics	-2.14	188.47	188.47	2.11
	P value	0.10	0.00	0.00	0.01

Source: Authors Calculation using STATA 17.0

To ensure the reliability of the econometric analysis, unit root tests were conducted on key macroeconomic variables, including GDP, remittances (REM), exports (EX), imports (IM), consumption (CON), capital formation (CF), and inflation (INF). These tests are essential to verify the stationarity of the variables, a prerequisite for robust regression modeling. The analysis employed multiple approaches, including the Im-Pesaran-Shin, Fisher-type Dickey-Fuller, Fisher-type Phillips-Perron, and Hadri LM tests.

The results indicate that GDP, REM, EX, IM, CON, and CF exhibit stationarity, as evidenced by p-values significantly below the 0.05 threshold across most tests. This confirms the absence of unit roots in these variables, ensuring the validity of subsequent econometric modeling. However, the results for INF (inflation) were mixed, suggesting potential non-stationarity in certain cases. This inconsistency highlights the need for caution in interpreting the role of inflation within the analysis and may warrant additional transformations or alternative approaches to account for its behavior.

By confirming the stationarity of the majority of variables, these tests provide a strong foundation for the panel data analysis, ensuring the robustness and reliability of the results.

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Table 4: *Regression Result*

	Fixed Effects Model	Random Effects Model
	GDP	GDP
REM	0.041*	0.068*
	(0.028)	(0.000)
EX	0.350*	0.314*
	(0.000)	(0.000)
IM	0.159*	0.328*
	(0.030)	(0.000)
CF	0.195*	0.145
	(0.000)	(0.001)
INF	-0.080*	-0.038*
	(0.001)	(0.044)
GOVCON	0.199*	0.131*
	(0.000)	(0.000)
FDI	-2.462*	-2.526*
	(0.000)	(0.000)
_cons	6.535*	5.517*
	(0.000)	(0.000)
Hausman (1978) specification test		
Chi-square test value	10.26	
P-value	0.1744	

p-values in parentheses

* $p < 0.05$, $p < 0.01$, * $p < 0.001$

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Source: Authors Calculation using STATA 17.0

To examine the relationship between macroeconomic factors and GDP, three panel data models—pooled Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE)—were estimated. The pooled OLS model, which treats all observations as independent, fails to account for unobserved heterogeneity across countries or regions. This limitation often leads to biased and inconsistent estimates, particularly when unobserved factors like institutional quality or political stability are correlated with key variables such as remittances and government spending (Barro & Sala-i-Martin, 2004).

The FE and RE models offer more robust alternatives by addressing unobserved heterogeneity. The FE model accounts for time-invariant characteristics within each entity, focusing exclusively on within-entity variations (Wooldridge, 2010). This approach ensures that differences across countries do not bias the results. On the other hand, the RE model assumes that unobserved effects are uncorrelated with the explanatory variables, enabling it to utilize both within- and between-entity variations. This makes the RE model more efficient if the assumption holds (Baltagi, 2008). To determine the appropriate model, the Hausman test was employed. With a chi-square statistic of 10.26 and a p-value of 0.1744, the test supported the use of the RE model. This choice allows for a more comprehensive understanding of the factors influencing GDP while incorporating time-invariant variables such as geographic or institutional factors.

The Random Effects GLS regression provides critical insights into the dynamics between GDP and macroeconomic variables, including remittances, exports, imports, capital formation, inflation, government consumption, and foreign direct investment (FDI). The model exhibits a robust fit, with R-squared values (within = 0.9953, between = 0.9956, overall = 0.9953) indicating that the selected variables explain a substantial proportion of GDP variance. The Wald chi-square statistic (32340.09, $p < 0.000$) confirms the collective significance of the independent variables.

The coefficient for remittances (0.0683) reveals a positive and significant impact on GDP, suggesting that a 1% increase in remittance inflows corresponds to a 0.0683% increase in GDP, holding other factors constant. This finding aligns with Ratha (2013) and Chami et al. (2005), who argue that remittances enhance economic growth by bolstering household consumption and investments. While the magnitude appears modest, it is economically meaningful for developing economies, where remittances act as a financial lifeline during economic shocks.

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However, concerns about endogeneity persist, as remittances may correlate with unobserved factors like economic or political instability. Future studies could address these concerns through instrumental variable techniques to ensure unbiased estimations.

Exports (0.314) and imports (0.328) exhibit positive and significant coefficients, underscoring the importance of trade in driving economic growth. A 1% increase in exports results in a 0.314% rise in GDP, while a similar increase in imports contributes to a 0.328% GDP increase. These findings challenge traditional views of imports as a drain on economic output, instead highlighting their role in accessing essential inputs, technology, and consumer goods. This is consistent with the literature emphasizing the complementary nature of trade openness in fostering economic growth (Krueger, 1998). The results suggest that policies promoting open and competitive trade environments can yield significant economic benefits by stimulating both export-driven production and import-driven technological adoption.

The inflation coefficient (-0.0381) indicates a negative relationship with GDP, albeit with a small magnitude. Higher inflation reduces purchasing power, heightens economic uncertainty, and discourages investment, leading to contractionary effects on growth. While the relationship is weakly significant ($p = 0.044$), the result aligns with economic theories emphasizing the importance of macroeconomic stability for sustainable growth (Fischer, 1993). Policymakers should prioritize maintaining inflation at moderate levels to preserve economic stability and encourage investment.

Capital formation (0.145) and government consumption (0.131) are positively associated with GDP, reaffirming the critical role of investments in infrastructure and public goods in promoting economic development. A 1% increase in capital formation leads to a 0.145% increase in GDP, while a similar rise in government consumption contributes to a 0.131% increase. However, the relatively modest coefficient for capital formation may reflect inefficiencies in resource allocation or diminishing returns on investment. Optimizing the effectiveness of public expenditures and fostering an environment conducive to private sector investment should be key policy priorities.

The coefficient for FDI (-2.5262) is both negative and highly significant, presenting an intriguing paradox. Contrary to conventional expectations, a 1% increase in FDI is associated with a 2.526% decrease in GDP. This finding challenges the typical view of FDI as a driver of economic growth and suggests potential structural issues in how FDI is utilized in the region. Similar to findings by Alfaro et al. (2004), this result may reflect the dominance of resource-

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seeking FDI, which prioritizes short-term profits and leads to capital flight or crowding out of domestic investment. Policymakers should re-evaluate the quality of FDI inflows and implement measures to channel foreign investments into sectors that promote sustainable, inclusive growth.

CONCLUSION AND RECOMMENDATIONS

This study provides a comprehensive analysis of the impact of remittances and other macroeconomic variables on GDP across South Asia, employing robust econometric models to uncover key insights. The findings confirm that remittances are a significant driver of economic growth, underlining their critical role as a financial resource for recipient economies. By enhancing household consumption and investment, remittances contribute positively to GDP, especially in developing economies where they act as a stabilizing force during economic downturns. The study also highlights the positive contributions of trade variables—exports and imports—challenging traditional notions of imports as purely detrimental and underscoring the importance of global integration and open trade policies for economic development.

Inflation, on the other hand, exhibits a negative relationship with GDP, reinforcing the importance of maintaining macroeconomic stability. High inflation can erode purchasing power, create uncertainty, and hinder growth. Investments in capital formation and government consumption further demonstrate their importance in fostering economic growth, though the relatively modest impact of capital formation suggests potential inefficiencies in resource allocation. Interestingly, the negative relationship between foreign direct investment (FDI) and GDP raises concerns about the nature and quality of FDI flows into the region. These findings emphasize the need for a more targeted approach to attracting FDI, ensuring it aligns with the long-term development goals of recipient economies.

Recommendations

1. **Policy Support for Remittances**: Governments should enhance the efficiency of remittance flows by reducing transaction costs, promoting formal transfer channels, and creating favorable financial environments. Encouraging the use of remittances for productive investments, such as entrepreneurship and education, can amplify their impact on long-term growth.
2. **Trade Policies**: Policymakers should pursue open and competitive trade policies, fostering an environment conducive to both exports and imports. Diversifying export

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products and improving access to essential imports can maximize the benefits of global trade.

3. **Macroeconomic Stability**: Central banks should prioritize sound monetary policies to maintain inflation at moderate levels, preserving purchasing power and fostering a stable economic environment that supports growth.

4. **Infrastructure and Public Investments**: Continued investment in infrastructure and public goods is crucial. Policymakers must enhance the efficiency of capital expenditures to ensure that such investments yield maximum economic benefits.

5. **Targeted FDI Strategies**: Governments should adopt strategies to attract high-quality FDI that contributes to sustainable development. Policies should prioritize sectors with high growth potential and inclusive development impacts while minimizing profit repatriation and capital flight.

Limitations

Despite its comprehensive approach, this study faces several limitations. First, the dataset does not capture informal remittance flows, which are prevalent in many South Asian countries and could influence the overall findings. Second, potential endogeneity issues in the relationship between remittances and GDP, such as reverse causality, are acknowledged but not fully addressed. Third, the analysis focuses on aggregate impacts and does not explore heterogeneity across different income groups or regions within countries.

Future Research Directions

Future studies should address these limitations by incorporating informal remittance channels into the analysis, using more granular data to capture intra-country variations. Employing advanced econometric techniques, such as instrumental variable regression, can help mitigate endogeneity concerns and provide more robust estimates. Additionally, exploring the interplay between remittances and other socio-economic factors, such as education, health, and gender dynamics, can offer deeper insights into their broader development impacts. Research could also focus on the quality of FDI inflows and their sectoral allocation to better understand their paradoxical relationship with GDP in the region.

Declaration of Interest Statement:

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The authors declare that they have no known competing financial interests or personal conflicts that could have appeared to influence the work reported in this paper.

Ethical Approval and consent to participate:

This research is based on secondary data and data were taken from World Development Indicators (WDI). As there are no human participations were involved or any kinds of clinical trials in this research; therefore, to follow any ethical guideline or ethical approval was not required for this study.

Competing Interests:

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