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ARTICLE

Effect of Remittances and External Debt on Economic Growth in Sub-Saharan Africa

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Abstract

Foreign capital inflows have been judged to play a critical role in economic growth providing the necessary capital to fuel economic Sub-Saharan Africa (SSA) has long struggled with volatile and sluggish economic growth, worsened by macroeconomic challenges such as unpredictable foreign capital inflows. These inflows, particularly remittances and external debt are critical to financing development and contribute to economic stability. This study examines the effect of remittances and external debt on economic growth in SSA. To achieve the objectives, panel data was sourced from World Bank Development Indicators (WDI) for 26 SSA countries from 1998 to 2023. The system Generalized Method of Moments (GMM) was used to estimate the relationship and address potential endogeneity and unobserved heterogeneity in the data. The findings from the System GMM model revealed that both remittances and external debt positively and significantly contribute to economic growth in SSA. The study concludes that remittances enhance household consumption and investment, while external debt, when effectively managed, is used to finance productive projects that stimulate economic activity. It is recommended that SSA countries strengthen their financial management and policy frameworks to maximize the benefits of foreign capital inflows while mitigating potential risks associated with volatility and debt sustainability.

Keywords: Economic Growth, External Debt, Remittances, Sub-Saharan Africa
JEL: C58, F43, R42

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1. Introduction

Sub-Saharan Africa (SSA) has long faced significant macroeconomic challenges that have hindered its ability to achieve sustainable economic growth and improve living standards. Among the most pressing issues in the region is the volatile and often sluggish economic growth experienced by many SSA countries over the decades (**Mairafi et al., 2024**). This growth pattern, characterized by brief expansions followed by sharp contractions, has made it difficult for countries in the region to build momentum toward long-term development goals. Several factors contribute to this challenge, with one key issue being the role of foreign capital inflows—specifically,

remittances and external debt (**Ocampo & Griffith-Jones, 2022**). These forms of foreign capital are essential for financing critical investments and infrastructure necessary for economic development (**Addison & Tarp, 2019**). However, the unpredictable nature of these inflows can also contribute to economic instability in SSA (**Mairafi et al., 2024**). For instance, remittances, though often stable, can fluctuate due to global economic conditions affecting migrant workers' earnings (**Ratha et al., 2020**). Similarly, external debt, while providing much-needed capital, can become a burden if not properly managed, leading to debt crises and fiscal stress (**Azenabor et al., 2021**).

Hence, the reliance on these forms of foreign capital presents both opportunities and risks for SSA countries. **Chami et al., (2018)** opined that remittances are a crucial source of income for many households, often used to support consumption, education, and healthcare, thereby contributing indirectly to economic growth. However, their impact on long-term growth is less clear, as they may not always be channeled into productive investments. On the other hand, external debts are often used to finance large-scale projects that drive economic development, but they can also lead to economic vulnerability if the debt-servicing costs become unsustainable (**Mbaye et al., 2018**). The volatility of these inflows complicates long-term planning and economic stability, as countries cannot reliably predict the availability of funds to support their development agendas (**World Bank, 2023**).

While there is extensive literature on the impact of foreign capital on economic growth in SSA, much of it has focused on remittances and external debt in isolation, often overlooking the combined effects of these capital sources (**Meyer & Shera, 2017; Ratha & Mohapatra, 2022**). This narrow focus has been identified as a limitation in literature. For instance, **Ketkar and Ratha (2019)** argue that existing studies often emphasize remittances' positive effects on poverty reduction while neglecting their broader economic impact. Similarly, **Becker et al. (2021)** note that analyses of external debt often fail to account for the interplay between debt and other forms of foreign capital, such as remittances, which could influence overall economic outcomes.

Moreover, empirical findings regarding the effects of remittances and external debt on economic growth have been mixed. Some studies have shown that remittances can significantly boost economic growth by increasing household consumption and investment in human capital (**Adams & Cuecuecha, 2013**). Others, however, suggest that remittances may have only a marginal impact on growth, as they are often spent on consumption rather than productive investments (**Giuliano & Ruiz-Arranz, 2020**). Similarly, the impact of external debt on economic growth has been found to vary depending on the country's debt management and economic policies (**Pattillo et al., 2019**). For instance, **Ostry et al. (2021)** found that external debt could enhance growth if used for productive investments but could also lead to economic crises if mismanaged.

Given these mixed findings and the gap in the literature regarding the combined effects of remittances and external debt, this study aims to provide a comprehensive analysis of how these forms of foreign capital influence economic growth in SSA. By examining the interaction between remittances and external debt, this research seeks to offer new insights into how these inflows can be harnessed to promote sustainable growth in the region. The population of the study in this instance consists of all SSA countries while 26 SSA countries with complete data set were sampled in a panel framework.

The main objective of this study is to examine the effect of remittances and external debt on economic growth in SSA countries. The specific objectives are to examine the individual effect of remittances and external debt on economic growth in Sub Saharan African countries.

Literature Review

Conceptual Review

Remittances

Remittances refer to the transfer of money or goods by migrant workers to their families or friends in their home countries. These transfers serve as an essential source of income for many households in developing countries, contributing to poverty reduction, improving living standards, and supporting economic development (**Jongwanich & Kohpaiboon, 2019**). Remittances can be sent through various channels, including banks, money transfer operators, online platforms, or informal channels such as hand-delivery.

World Bank (2024) described remittances as “transfers and compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from non-resident households”. This definition distinguishes between two main components of remittance: personal transfers and compensation of employees. Personal transfers include any current transfers of money or goods between households, which can be either sent or received. The compensation of employees’ component covers wages and salaries sent home by migrant workers, representing a significant part of remittances from those employed abroad.

Bucevska (2022) view remittances as “sum of two different items from the Balance of Payments (BOP): personal transfers, which are current transfers in cash or in-kind between resident and non-resident households." This definition situates remittances within the framework of the Balance of Payments, which records all economic transactions between residents and non-residents. It specifies that remittances include personal transfers, which encompass all forms of current transfers—both cash and goods—that do not require a quid pro quo.

Taylor and Mora (2023) defined remittances to include all current transfers in cash or in kind made or received by resident households to or from non-resident households. This definition broadens the concept to include not only money sent by migrants but also any transfers received, providing a more comprehensive view of the financial exchanges between migrants and their home countries. By mentioning both "made" and "received" transfers, it encapsulates the bidirectional flow of resources, which might include, for example, families back home sending goods or money to migrants abroad as well.

External Debt

External debt refers to the total amount of debt a country owes to foreign creditors, which can include foreign governments, international financial institutions such as the International Monetary Fund (IMF) and the World Bank, as well as private sector entities like banks and bondholders (**Agyeman et al., 2022**).

According to **Wijeweera et al. (2005)**, external debt is the total debt owed to foreign creditors by a country. This includes all financial obligations a country owes to foreign entities. This definition provides a broad view of external debt, emphasizing that it encompasses total debt owed to foreign creditors. It highlights that external debt includes all financial obligations, which covers various forms of liabilities such as loans, bonds, and other financial instruments.

Ellyne & Flinch (1990) view gross external debt as “the amount, at any given time, of disbursed and outstanding financial liabilities owed to non-residents." This definition specifies gross external debt as the total amount of disbursed and outstanding financial liabilities. The term disbursed refers to funds that have been made available to the borrower, while outstanding indicates the portion of the debt that remains unpaid.

Empirical Review

Remittances and Economic Growth

Bucevska (2022) empirically investigates the role of remittances in stimulating economic growth in six Southeast European (SEE) countries: Albania, Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, and Serbia, covering the period from 2008 Q1 to 2020 Q2. Using panel regression with fixed effects, the study accounts for cross-sectional heterogeneity among these nations. The results indicate a significant positive impact of remittances on economic growth in the region, underscoring the importance of remittances in stimulating economic activity even during periods of crisis, such as the global financial crisis and the COVID-19 pandemic. While the use of fixed-effects models helps account for unobserved heterogeneity, it may not fully address the potential endogeneity between remittances and economic growth. Remittances might both influence and be influenced by growth, leading to possible biased estimates. The study could have strengthened its findings by employing more robust econometric techniques such as Instrumental Variable (IV) estimation or system Generalized Method of Moments (GMM).

Ur Rehman and Hysa (2021) investigate the effects of financial development and remittances on economic growth in six Western Balkan countries (WBC) from 2000 to 2017. Using the System GMM method, they examine how financial development (measured by the broad money stock ratio) and remittances interact to influence economic growth. The results show that both remittances and financial development positively impact growth, but the interaction between them has a negative effect, suggesting that remittances might crowd out the financial sector’s role in economic growth in less developed financial systems. The study’s limited data on financial system depth in Western Balkan countries could lead to misinterpretations of the interaction effects. Additionally, the study would benefit from a deeper exploration of institutional quality as a mediating factor between remittances, financial development, and growth, considering the variability of financial sector robustness across countries.

Sutradhar (2020) investigates the impact of workers' remittances on economic growth in four South Asian countries—Bangladesh, Pakistan, Sri Lanka, and India—over the period 1977 to 2016. Using the fixed-effect panel method, the study finds a negative effect of remittances on economic growth in Bangladesh, Pakistan, and Sri Lanka, while observing a positive impact in India. The study suggests that remittances in the former countries

may not be productively invested, leading to a weaker impact on growth. The study's focus on only four South Asian countries limits the generalizability of the findings to other emerging or developed economies. The cultural and economic contexts of these countries are unique and may not reflect broader global trends. Additionally, the use of a fixed-effect model may not adequately address endogeneity issues, which could have been mitigated by employing techniques like GMM.

Cazachevici et al. (2020) examines the impact of expatriate workers' remittances on economic growth in low- and middle-income countries. Analyzing 95 studies and 538 regression equations, the authors find that approximately 40% of studies report a positive effect of remittances on growth, 40% report no effect, and 20% report a negative effect. The analysis reveals significant publication bias favoring positive results, suggesting that the impact of remittances on growth may be more nuanced than is often reported. The aggregation bias inherent in meta-analyses could lead to the oversimplification of complex relationships between remittances and growth, particularly in diverse country contexts. The results did not capture context-specific factors such as institutional quality, governance, or economic policies, which are crucial to understanding the varied impacts of remittances on growth.

Abduvaliev and Bustillo (2020) evaluate the influence of remittances on economic growth and poverty reduction in 10 post-Soviet states, focusing on the Commonwealth of Independent States (CIS). Using panel data from 1990 to 2018, the study finds that a 1% increase in remittance flows leads to a 0.25% increase in per capita GDP and a 2% decrease in poverty severity. The results suggest that remittances play a crucial role in elevating income levels and stabilizing consumption patterns in the CIS. The study's focus on post-Soviet states may not capture the broader implications of remittances in regions with differing political and economic structures. Furthermore, the reliance on remittances as the primary source of foreign capital limits the scope of the study, as other external flows such as FDI or foreign aid may also play critical roles in influencing economic growth and poverty.

Adjei et al. (2020) investigate the relationship between remittances and economic growth in seven West African countries (Burkina Faso, Ghana, Guinea, Guinea-Bissau, Mali, Nigeria, and Togo) from 2004 to 2018. Using dynamic panel econometric techniques, including GMM, the study finds that remittances have a significant positive effect on economic growth in the region, with remittance inflows enhancing both household consumption and investment. Although the study uses advanced dynamic panel methods, its generalized approach might overlook specific institutional or economic frameworks unique to each West African country. The findings could be more insightful if the analysis had been tailored to account for local factors such as governance, political stability, or exchange rate volatility in individual countries.

External Debt and Economic Growth

Arjun and Mishra (2024) investigate the relationship between external debt and economic growth across 18 emerging economies from 1996 to 2020, focusing on the moderating role of institutional quality. They employ OLS regression to analyze the data and find that an increase in external debt negatively impacts economic growth. However, this adverse effect is moderated by improvements in institutional quality, particularly in areas such as anti-corruption measures, voice and accountability, and perceptions of the rule of law. The study concludes that institutional reforms can help countries manage the detrimental effects of external debt by fostering transparency and better governance, thus improving economic growth outcomes. However, the use of OLS regression fails to address the potential endogeneity between external debt and economic growth, where both variables may be mutually influencing each other. This methodological flaw could lead to biased estimates. Moreover, the study does not account for external shocks or global economic conditions that may affect both debt levels and growth, thus limiting the scope of its findings.

Manasseh et al. (2022) assess the impact of external debt and its volatility on economic growth in 30 Sub-Saharan African (SSA) countries over the period 1997–2020. They use the Dynamic System Generalized Method of Moments (GMM) to analyze how fluctuations in external debt and governance quality interact to influence economic growth. Their findings indicate that both external debt and its volatility negatively affect economic growth, with debt volatility exacerbating the adverse impacts. However, they also find that governance quality (i.e., strong institutional frameworks) can help mitigate these negative effects by improving resource allocation and reducing uncertainty, ultimately promoting growth. One limitation of the study is its focus solely on external debt as a source of foreign capital, neglecting other important forms such as Foreign Direct Investment (FDI), which may also significantly impact growth. Additionally, the precision challenge in measuring governance quality and how it interacts with debt complicates the study's conclusions, as governance metrics can be subjective or inconsistently measured across countries.

Makun (2021) explores the relationship between external debt and economic growth in Fiji from 1980 to 2018, using the neoclassical growth framework and the Autoregressive Distributed Lag (ARDL) model. The study investigates both linear and nonlinear associations between external debt and economic growth over the long term. The findings show that external debt negatively affects growth in a linear model, confirming the crowding-out effect of debt. In the nonlinear analysis, the study reveals that once external debt surpasses a certain threshold, it becomes detrimental to growth, reflecting the debt overhang hypothesis. The threshold analysis emphasizes that while some debt may be necessary for development, excessive borrowing leads to inefficiencies and economic stagnation. While the ARDL model is effective for examining long-run relationships, it does not adequately address endogeneity issues that may arise from the interaction between external debt and growth. Additionally, the study lacks a post-estimation sensitivity analysis, which could have tested the robustness of the results across different model specifications.

Mohsin et al. (2021) examine the relationship between external debt and economic growth in South Asian countries (Afghanistan, Bangladesh, Bhutan, India, Pakistan, Sri Lanka, Maldives, and Nepal) from 2000 to 2018. Using multiple econometric techniques, including panel OLS, fixed effects, quantile regression, and robust output regression, the study finds that while external debt generally has a negative impact on economic growth, external debt stock exhibits a positive relationship with growth under certain conditions. This suggests that countries with better debt management practices may leverage external debt for development without facing the typical growth trade-offs. The study also explores how debt servicing costs can undermine the positive effects of debt stock accumulation. Despite the study's use of a broad range of econometric techniques, it fails to address endogeneity concerns that arise from the complex relationship between external debt and economic growth. The contradictory results between debt stock and overall debt also suggest potential omitted variable bias, as other factors, such as political stability or fiscal policies, may be influencing the results.

Zaghdoudi (2020) investigates the nonlinear relationship between external debt and economic growth in middle- and low-income countries from 2002 to 2016. Utilizing a dynamic panel threshold model, the study finds that external debt has a threshold level (15.28%), beyond which it starts to negatively affect economic growth. Below this threshold, external debt can contribute positively to growth by financing development projects and infrastructure. However, once the debt surpasses this level, the burden of repayment and interest costs outweighs the benefits, leading to a decline in growth. The selection of countries in the panel appears arbitrary, as the study does not provide a clear rationale or systematic criteria for choosing the sample. Additionally, the lack of sensitivity analysis leaves questions about the robustness of the results, particularly regarding whether the threshold effect is consistent across different subgroups of countries or time periods.

Theoretical Literature

Solow – Swan Exogenous Growth theory

The theoretical framework of this study is that of the Solow-Swan exogenous growth model. The Solow-Swan exogenous growth model, introduced in 1956 by Robert Solow and Trevor Swan, provides a fundamental framework for analyzing the effect of foreign capital inflows on economic growth (**Solow, 1956**).

The model highlights the critical role of foreign capital inflows in boosting economic growth by increasing the capital stock (**Joseph & Obikaonu, 2021**). Furthermore, the model emphasizes the role of technological progress in achieving sustainable long-term economic growth which can be improved through foreign capital such as external debt for infrastructural development and remittances (**Ratha & Mohapatra, 2022**). This aligns with the Solow-Swan theory, which explains the importance of combining foreign capital with efforts to enhance productivity through innovation and skill development.

Methodology

This study adopts ex post facto research design. The independent variables are remittances and external debt, while the dependent variable is economic growth proxied with Real Gross Domestic Product (RGDP). The study employed annual secondary data which were sourced from the World Bank Development Indicator database between 1998 and 2023 for 26 countries. The General Method of Moment was employed to estimate the relationship given that it addresses potential endogeneity and heterogeneity issues in the model.

The basic model is as stated in equation (1):

$$RGDP_{it} = \alpha + \Phi RGDP_{it-1} + \beta_1 Rimittances_{it} + \beta_2 EXTD_{it} + \lambda_i + \mu_{it} \quad \ldots\ldots\ldots\ldots (1)$$

where; y_{it} = Real GDP and α is the intercept, Φ = the coefficient of the lagged Real GDP. $Remittances_{i,t}$ represent remittances, $EXTD_{it}$ represent external debt.

Equation (1) can be remodeled to capture more efficient moment conditions as given in equation (2 & 3).

$E[RGDP_{i,t-j}(\mu_{i,t} - \mu_{i,t-1})] = 0$; if t =4, ….T, j ≥ 3…… (2)

$E[Remittances, EXTD_{i,t-j}(\mu_{i,t} - \mu_{i,t-1})] = 0$; if, t =4, ….T, j ≥ 3, …… (3)

Where:
RGDP = Real Gross Domestic Product
Remittances = Remittances
EXTD = External Debt
t = Periods covered by the study
α = Intercept of the regression,
μ_{it} = Residuals
λ_i = individual country-specific effects in the panel,
β_{1-2}, = coefficients of the independent variables.

Results and Discussion

This section will present and discuss the result from the findings. The section starts with presentation and discussion of the results focusing first on the preliminary test and gradually moving to the actual estimated result.

Table 1: Descriptive Statistics

Variables	Mean	Std. Dev	Min	Max	Skewness	Kurtosis	Prob.
Rgdp	47800000.0	90800000	697000.0	551000000.0	0.271	3.618	0.180
extd	15700000.0	25600000.0	276000.0	191000000.0	1.854	6.879	0.200
Remittance ($10,000)	2.028	2.408	19.43	25.97	-0.006	2.665	0.130

Source: Author Schematization based on Stata output

Table 1 presents the descriptive statistics result. The result from Table 1, revealed that the mean value of RGDP is $47.8 million, indicating the average size of the economy during the period under review. The standard deviation of $9.8 million demonstrates substantial variability in economic output, implying significant fluctuations in the country's economic performance. The minimum value of RGDP is $697,000, while the maximum reaches $551 million, indicating a wide range between the smallest and largest economic outputs recorded. The skewness of 0.271 suggests a slightly positive skew, meaning the distribution is almost symmetrical but with a few higher RGDP values. The kurtosis of 3.618, slightly above the normal threshold of 3. The probability value of 0.180 suggests that the data is normally distributed.

Similarly, the mean of external debt is $15.7 million. The standard deviation is $25.6 million, indicating high volatility in debt levels, suggesting that the country's external debt fluctuated significantly. The minimum external debt is $276,000, while the maximum value is $191 million, highlighting a substantial gap between the lowest and highest debt levels. The skewness of 1.854 indicates a strong positive skew, meaning that the distribution is heavily skewed to the right, with more occurrences of lower external debt levels and a few exceptionally high values. The kurtosis of 6.879 suggests a leptokurtic distribution with significantly heavier tails than a normal distribution, indicating the presence of extreme values in external debt.

The mean remittance is 2.028, which corresponds to $20,280 when, reflecting the average amount of remittances received during the period. The standard deviation of 2.408 (equivalent to $24,080) highlights moderate variability in remittance inflows. The minimum value of 19.43 ($194,300) and the maximum value of 25.97 ($259,700) indicate a relatively small range of remittance inflows compared to the other variables. The skewness of -0.006 suggests that the distribution of remittances is almost perfectly symmetrical, with no significant skew toward either high or low values. The kurtosis of 2.665, slightly below the normal value of 3, implies that the distribution is nearly normal with thinner tails, suggesting fewer extreme values in remittances. The probability value of 0.130 indicates that the distribution does not significantly differ from normality.

Multicollinearity Test

Table 2: Multicollinearity test using the Variance Inflation (VIF)

Variables	VIF	1/VIF
Remittances	1.45	0.432
LEXTD	1.64	0.523
Mean VIF	1.58	

Source: Author Schematization based on Stata output

Table 3: Correlation Matrix

	LRGDP	Remittances	LEXTD
LRGD	1		
Remittances	0.159***	1	
LEXTD	0.742***	-0.031**	1

Note: Significance is indicated as follows: ***, ** and * for 1%, 5% and 10% respectively.

The Variance Inflation Factor (VIF) results indicate that multicollinearity is not a significant concern in this model, as the VIF values for remittances (1.45) and external debt (Lextd) (1.64) are well below the common threshold of 10. The mean VIF of 1.58 further confirms that the independent variables are not highly correlated with each other, allowing for reliable regression estimates.

The correlation matrix shows a positive and significant relationship between LRGDP and external debt (LEXTD) with a correlation of 0.742, indicating that higher external debt is associated with higher real GDP. There is also a weak but significant positive correlation between LRGDP and remittances (0.159). However, the negative correlation between remittances and LEXTD (-0.031) is weak and suggests a slight inverse relationship, though its practical significance may be minimal.

Table 4: Panel Unit Root test Using IPS and Fisher Approach/ AIC Criteria

Variables	IPS @ Level Statistics/P-value	IPS @ 1st Difference Statistics/P-value	Fisher @ Level Statistic/P-value	Fisher @ First Difference Statistics/ P-value
LRGDP	-6.968(0.000)***	-9.252 (0.000)***	-5.452 (0.000)***	-8.833 (0.000)***
LEXTD	-4.227 (0.025)**	-11.136 (0.000)***	-4.192 (0.031)**	-10.552 (0.000)***
LRemm	-1.5944 (0.054)*	-10.831 (0.000)***	-2.244 (0.064)*	-9.920 (0.000)***

Notes: The P-value is enclosed in the parentheses. All variables are logged, and significance is indicated as follows: ***, ** and * for 1%, 5%, and 10%, respectively.

Table 5: Kao and Pedroni Cointegration Test

Kao-cointegration	**z-test (p-value)**
Modified Dickey-Fuller t	-4.259 (0.000)
Dickey-Fuller t	-2.185 (0.041)
Augmented Dickey-Fuller	-1.780 (0.094)
Unadjusted Modified Dickey-Fuller t	-4. 015 (0.000)
Unadjusted Dickey-Fuler t	-2.847 (0.006)
Pedroni Cointegration	
Modified Phillips-Perron t	7.284 (0.000)
Phillips-Perron t	-2.632 (0.018)
Augmented Dickey-Fuller t	-4.041 (0.012)

Source: Author

The panel unit root test results using both the IPS and Fisher approaches reveal that LRGDP and LRemm are stationary at the level, as indicated by their p-values being less than the 0.05 significance level. This suggests that these variables do not have a unit root and are stable over time in their level form. After first differencing, all variables, including those that were not initially stationary, became significant, confirming their stationarity at the first difference. This ensures that the data is suitable for further time series or panel data analysis.

The cointegration test results, using both the Kao and Pedroni approaches, provide strong evidence of a long-term equilibrium relationship among the variables. The significant p-values across the various tests (e.g., Modified Dickey-Fuller t-test with a p-value of 0.000 in both Kao and Pedroni tests) indicate that the null

hypothesis of no cointegration can be rejected. This suggests that despite being non-stationary at their levels, the variables are cointegrated, meaning they move together over time, maintaining a stable long-term relationship.

Table 6: Estimated models OLS, Fixed Effect, and System GMM: RGDP = Dependent Variable

Variables	1 (OLS)	2 (Fixed Effect)	3 (Difference GMM)	4 (System GMM)
lrgdp	0.677*** (0.000)	0.641*** (0.000)	0.622** (0.000)	0.609*** (0.000)
Remittances	0.078** (0.024)	0.071** (0.022)	0.041** (0.033)	0.071*** (0.021)
LEXTD	0.311*** (0.007)	0.056*** (0.000)	0.083** (0.032)	0.143** (0.014)
_cons	6.43*** (0.000)	14.93** (0.033)	8.62*** (0.023)	24.7*** (0.061)
Observation	228	228	228	228
F* (P-value)	(0.000)***	(0.000)	(0.000)	(0.000)
AR (1)			0.427	0.117
AR (2)			0.268	0.216
Sargan test			0.273	0.216
Hansen test			0.210	0.317

P-value in parentheses, p<0.10=*, P<0.05 = **, p<0.01 = ***, eqtn(1) represent the OLS model, (2) represents fixed effect, (3) represents difference GMM model, (4) represents system GMM.

Table 6 presents the results of an analysis of the impact of foreign capital inflows on economic growth in Sub-Saharan Africa (SSA), with real GDP (RGDP) as the dependent variable. The independent variables include remittances (remittances) and external debt (LEXTD). The results are reported across four different models: Ordinary Least Squares (OLS), Fixed Effects, Difference GMM, and System GMM. While the OLS (column 1), Fixed Effects (column 3), and Difference GMM (column 3), models provide useful benchmarks, the focus of the discussion is on the System GMM results (Column 4), which are particularly important due to their ability to address endogeneity and control for unobserved heterogeneity.

The results from the System GMM model reveal important economic insights into the factors influencing real GDP (RGDP). The positive and significant coefficient of lagged GDP (0.609) indicates strong persistence in economic growth, meaning that past economic performance has a substantial and lasting influence on current GDP. This suggests that economies with higher growth in previous periods are likely to continue growing, highlighting the importance of maintaining consistent economic policies and conditions that support sustained growth. The positive and significant coefficient for remittances (0.071) suggests that a 1 percent increase in remittances leads to a 7.1 percent increase in economic growth. This elasticity indicates that remittances from individuals working abroad play a role in fostering economic development in the receiving country. These inflows not only boost household consumption but also provide vital capital for small businesses and investment in productive sectors, thus supporting overall economic growth.

Similarly, the coefficient for external debt (LEXTD) is 0.143, which is also positive and significant. This implies that a 1 percent increase in external debt results in a 14.3 percent increase in economic growth. The elasticity indicates that, in this context, external borrowing has been effectively utilized to spur growth. The funds acquired through external debt are likely being channeled into productive investments such as infrastructure, education, and healthcare, which in turn stimulate economic activity and contribute to long-term economic development.

The validity of the System GMM results, confirmed by the AR(1), AR(2), Sargan, and Hansen tests, indicates that the model effectively addresses potential endogeneity issues, making these economic interpretations robust and reliable. This suggests that policymakers should consider the long-term effects of GDP, the beneficial role of remittances, and the careful management of external debt in formulating strategies for sustained economic growth. The findings of this study align with existing empirical literature on the positive impact of foreign capital inflows on economic growth in Sub-Saharan Africa (SSA). The present study finding is consistent with the work of **Adams and Cuecuecha (2019)** and **Giuliano and Ruiz-Arranz (2020)**, who found that remittances positively contribute to economic growth by increasing household consumption and investment. Similarly, the findings on external debt align with those of **Ostry et al. (2021)**, who concluded that external debt could enhance economic growth when used for productive investments, indicating that debt has been effectively utilized in SSA to stimulate economic activity.

Conclusion and Recommendations

The study concludes that both remittances and external debt have significant and distinct contributions to economic growth in Sub-Saharan Africa (SSA). Remittances play a vital role by providing households with additional income that can be used for consumption or reinvested in small businesses, which in turn stimulates local economic activity. The inflow of remittances not only helps improve the standard of living for recipients but also acts as an important source of capital for micro-entrepreneurship and local investments, fostering broader economic development. Given this, it is crucial for policymakers to implement mechanisms that channel remittances into more productive sectors of the economy, such as formal investment opportunities, rather than relying solely on their use for consumption.

On the other hand, external debt has also shown to positively influence economic growth, if it is effectively managed and allocated towards productive projects. The study concludes that when external debt is directed towards infrastructure, education, healthcare, or other critical development projects, it can significantly enhance economic activity and improve long-term growth prospects. However, the benefits of external borrowing are contingent on its sustainable management. Mismanagement or excessive borrowing can lead to debt distress, which may undermine long-term economic stability. Therefore, SSA countries must develop strong fiscal policies to ensure that external debt is utilized efficiently and that debt levels remain sustainable.

Based on these findings, the study recommends that SSA countries adopt targeted financial policies that maximize the economic benefits of both remittances and external debt. For remittances, creating financial products and services that encourage savings and investments can help channel these funds into areas that support sustained economic growth. For external debt, governments should focus on improving public financial management systems and ensuring transparency in borrowing practices. Additionally, external debt should be directed toward projects with high economic returns to ensure that borrowed funds contribute effectively to national development and do not jeopardize debt sustainability. By strengthening financial management frameworks and maintaining fiscal discipline, SSA countries can leverage foreign capital inflows to support sustained, long-term economic growth while minimizing associated risks.

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