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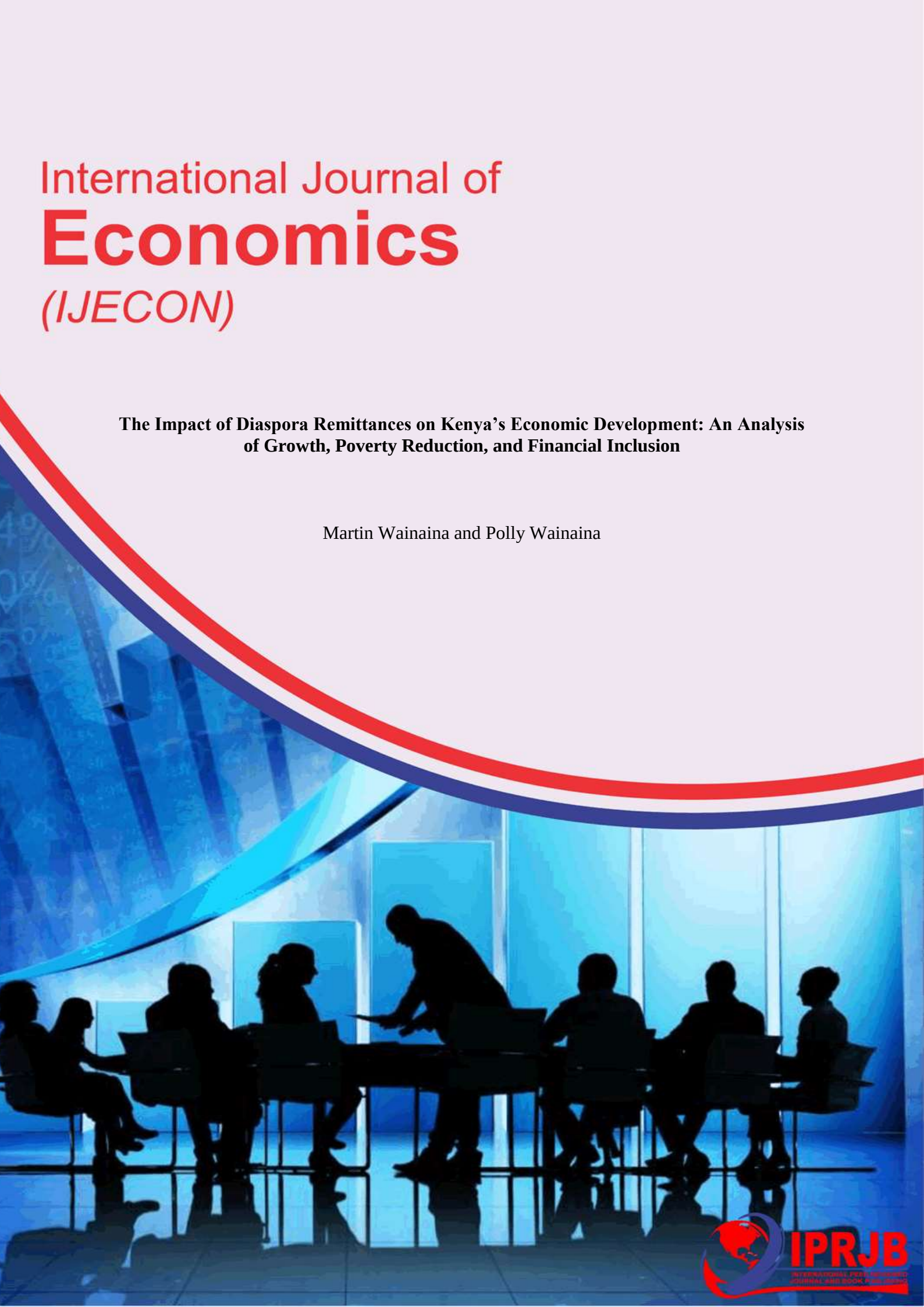

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The Impact of Diaspora Remittances on Kenya's Economic Development: An Analysis of Growth, Poverty Reduction, and Financial Inclusion

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Abstract

Purpose: This study examined the Impact of Diaspora Remittances on Kenya's Economic Development: An Analysis of Growth, Poverty Reduction, and Financial Inclusion in Kenya over the period 2000 to 2025. The analysis focused on how external inflows and key economic variables influence GDP growth, poverty reduction, and financial inclusion.

Methodology: Using annual time series data, the study employed descriptive statistics, unit root tests, and multiple regression models to establish both the stationarity properties of the variables and the nature of their relationships.

Findings: The results reveal that remittances have a positive but statistically insignificant effect on GDP growth and financial inclusion, suggesting that their impact on overall economic performance remains modest when not channeled into productive investment. Foreign direct investment also shows a positive yet insignificant relationship with growth, while official development assistance exhibits a significant negative effect, indicating inefficiencies in the use of aid resources. Inflation rate has a negative and statistically significant influence on both GDP growth and financial inclusion, confirming that macroeconomic instability constrains development outcomes. Conversely, exchange rate stability positively affects financial inclusion, implying that stable currency conditions encourage financial participation. The findings further show that access to health facilities significantly reduces poverty levels, whereas school enrolment has an indirect but positive effect on human development.

Unique Contribution to Theory, Practice and Policy: Overall, the study concludes that while Kenya has achieved progress in expanding financial inclusion and improving social indicators, sustained economic growth and poverty reduction require stable macroeconomic conditions, productive utilization of remittances and aid, and strengthened investment in health and education sectors.

Keywords: *Remittances, GDP Growth, Poverty, Financial Inclusion, Inflation, Exchange Rate, Kenya, Socio-economic Development*

JEL Classification: *F24, O11, O15, E31, E44*

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INTRODUCTION

International migration has become a defining feature of the 21st century, reshaping the global economy through its social, cultural, and financial dimensions. Among the most tangible outcomes of this mobility are the financial transfers known as remittances. These flows have gained prominence in recent decades as a reliable source of external finance for developing economies. Unlike foreign direct investment (FDI), which is often concentrated in specific sectors and subject to global market volatility, or official development assistance (ODA), which depends on donor commitments, remittances are uniquely stable, countercyclical, and directly targeted to households (World Bank, 2023). They often continue to flow even during economic downturns, providing a safety net for recipient families and strengthening resilience in fragile economies. Globally, remittances to low- and middle-income countries reached USD 669 billion in 2023, a figure that far surpassed both aid and many forms of private capital inflows (World Bank, 2023).

Kenya stands out as one of Africa's leading recipients of diaspora remittances. Over the last two decades, remittance inflows have expanded remarkably, rising from less than USD 500 million in the early 2000s to over USD 5 billion by mid-2025 (Central Bank of Kenya [CBK], 2025). According to CBK statistics, remittances reached Kshs.666.7 billion (USD 4.9 billion) in 2024, equivalent to roughly 4% of the country's GDP (CBK, 2025). More recently, in June 2025 alone, Kenyans abroad remitted Kshs.54.68 billion (USD 423 million), marking a 13.8% increase compared to June 2024. Cumulatively, the 12 months ending June 2025 recorded remittances worth USD 5.084 billion, up from USD 4.535 billion in the previous year (Kenya Times, 2025; Streamline Feed, 2025). These inflows have surpassed traditional foreign exchange earners such as tea, coffee, and tourism, making them the single largest source of foreign currency for the nation.

The developmental importance of remittances extends beyond foreign exchange earnings. At the macroeconomic level, remittances provide liquidity for the financial system, help stabilize the balance of payments, and strengthen foreign exchange reserves. This resilience was recently reflected in the August 2025 upgrade of Kenya's long-term sovereign credit rating by S&P Global Ratings from 'B−' to 'B'. The rating agency cited robust export performance and rising remittance inflows as major contributors to easing the country's external liquidity pressures (Reuters, 2025). Thus, remittances not only support immediate household consumption but also contribute to Kenya's macroeconomic stability and creditworthiness.

At the household level, remittances serve as a vital lifeline for millions of families. Evidence across Sub-Saharan Africa shows that these inflows are primarily directed toward meeting essential needs such as education, healthcare, housing, and food security (African Futures & Innovation Programme, 2025). In Kenya, remittances play a crucial role in poverty alleviation and welfare enhancement, enabling families to invest in long-term human capital development. For instance, households receiving remittances are more likely to keep children in school, access healthcare services, and improve their overall living standards compared to non-recipient households.

Remittances also have significant implications for financial inclusion. Kenya has made remarkable progress in expanding access to financial services, with over 80% of adults now financially included, largely due to innovations such as M-Pesa and agency banking (UNCDF, 2025). The integration of remittance services into digital and formal banking platforms has further accelerated this inclusion by encouraging savings, facilitating credit access, and

reducing reliance on informal money transfer channels. Bett & Musau (2020) argue that remittances, when channelled through formal systems, enhance financial sector development by deepening liquidity and expanding financial products available to households.

Nevertheless, the benefits of remittances are not without caveats. Some scholars caution that large inflows may contribute to exchange-rate appreciation, making exports less competitive, a phenomenon commonly referred to as the Dutch Disease effect (Barajas et al., 2011). Overdependence on remittances can also create vulnerabilities, particularly when recipient economies fail to channel these funds into productive investment (Ochieng, 2020).

In the context of this study, Dutch Disease refers to the economic risk that arises when substantial inflows of foreign currency, such as diaspora remittances, lead to an appreciation of the real exchange rate. When the Kenyan shilling strengthens because of sustained high remittance inflows, the country's export-oriented sectors become less competitive globally because an appreciated currency makes Kenyan goods more expensive for international buyers.

In Kenya, several key sectors are especially vulnerable to this risk. Tea, horticulture, coffee, and export-oriented manufacturing face declining competitiveness when the shilling appreciates. Tea exports, traditionally among Kenya's strongest foreign-exchange earners, lose price competitiveness against major producers such as India and Sri Lanka under an appreciated currency regime. The horticulture industry, particularly cut flowers exported to European markets, is notably sensitive to exchange-rate movements, with an overvalued shilling increasing production and logistics costs relative to competitors like Ethiopia and Colombia. The specialty coffee sector similarly experiences lower farm-gate prices and reduced investment incentives when the currency strengthens. Export-oriented manufacturing, including textiles, processed foods, and light industrial products, also risks losing competitiveness as rising unit costs make Kenyan goods less attractive compared to regional competitors such as Ethiopia and Tanzania.

While evidence indicates that remittances stimulate consumption and improve household welfare, the extent to which they promote long-term economic growth and structural transformation remains contested (Nyamongo et al., 2012). Additionally, remittances are unevenly distributed across the population; urban households tend to benefit more than rural households, and significant gender disparities persist in both the sending and receiving of remittances.

Recognizing both the opportunities and risks associated with diaspora remittances, the Kenyan government has developed policy and institutional frameworks aimed at harnessing this resource more effectively (Abigael, 2024). Initiatives such as the Diaspora Investment Fund, diaspora bonds, and targeted financial products seek to mobilize remittance flows toward infrastructure development, national savings, and broader economic transformation. However, these efforts remain in their early stages and continue to face challenges, including high transfer costs, regulatory barriers, and limited trust between diaspora communities and financial institutions.

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Trends in Remittances and Economic Growth

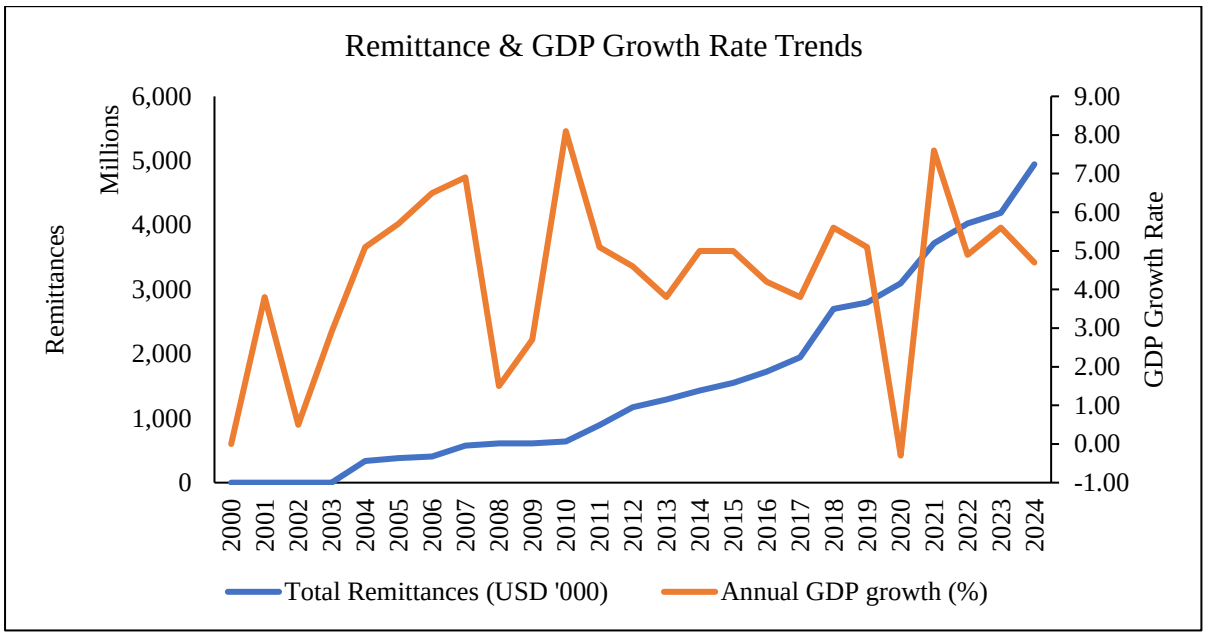

Figure 1: Trends of Remittances and Economic Growth (2000 - 2025)

Source: Central Bank of Kenya, 2025

Figure 1 shows that remittances have grown steadily from USD 3.8 billion in 2000 to approximately USD 5 billion by 2025, making them Kenya's largest foreign exchange earner. In contrast, GDP growth has been more volatile, dipping during crises such as the 2008 financial downturn and the COVID-19 pandemic in 2020. Remittances display a consistent upward trend, highlighting their countercyclical role in cushioning households and supporting economic stability. This pattern demonstrates the importance of policies that channel remittances beyond consumption into productive investments to sustain long-term growth.

Against this backdrop, they sought to provide an in-depth analysis of the role of diaspora remittances in Kenya's economic development. The research specifically focuses on three interconnected dimensions: (i) economic growth, particularly how remittances influence GDP, investment, and household consumption patterns; (ii) poverty reduction and welfare improvement, emphasizing household income, education, healthcare, and living standards; and (iii) financial inclusion, particularly the extent to which remittance inflows facilitate access to formal financial services, savings, and credit. In addition, the study develops evidence-based policy recommendations to maximize the developmental benefits of remittances while mitigating associated risks.

By addressing these objectives, the study makes two key contributions. First, it provides updated empirical evidence in a rapidly changing economic context, marked by global uncertainties, inflationary pressures, and structural shifts in migration flows. Second, it offers policy insights for Kenyan regulators and stakeholders on how to harness diaspora remittances not only as a consumption-smoothing mechanism but also as a driver of long-term, inclusive economic growth.

Problem Statement

Despite Kenya receiving record-breaking volumes of diaspora remittances over the past two decades, the study finds that their multiplier effect on GDP growth remains statistically insignificant. Although remittances have grown to become the country's largest source of foreign exchange, their ability to translate into meaningful and sustained economic expansion appears limited. The regression results show that while remittances exert a *positive* influence on GDP growth, this effect is not statistically significant, suggesting that these inflows are not being effectively channelled into productive investment or long-term economic activities. This mismatch between rising remittance inflows and their modest impact on macroeconomic performance exposes a critical development gap. The problem this study addresses, therefore, is the disconnect between the rising magnitude of diaspora remittances and their limited contribution to Kenya's economic growth, as well as the underlying structural, financial, and policy constraints that weaken the transformative potential of these inflows.

LITERATURE REVIEW

Theoretical Literature

The analysis of remittances and their impact on economic development is underpinned by several theoretical frameworks, each offering unique insights into the mechanisms through which external transfers influence growth, welfare, and financial inclusion. Among the most relevant are the Neoclassical Growth Theory, Keynesian Consumption Theory, Dependency Theory, Financial Intermediation Theory, and the Dutch Disease Hypothesis.

Neoclassical Growth Theory

The Neoclassical Growth Theory, advanced by Robert Solow (1956) and Trevor Swan (1956), emphasizes the role of capital accumulation, labor, and technological progress in driving long-term growth. Within this framework, remittances are viewed as an external source of capital that supplements domestic savings, thereby enhancing investment and productivity. The theory assumes rational household savings behavior and diminishing returns to capital, predicting that economies receiving significant remittance inflows will experience higher output until they converge to a steady state. Subsequent adaptations have extended the theory to incorporate international financial flows, positioning remittances as a crucial driver of capital deepening in developing economies. While this framework has been validated in contexts where remittances are channelled into investment, it faces limitations in cases where funds are largely consumed rather than invested. In Kenya, this theory remains valuable as it helps to evaluate whether remittances contribute meaningfully to long-run capital accumulation and growth.

Keynesian Consumption Theory

The Keynesian Consumption Theory, articulated by John Maynard Keynes (1936), provides a complementary perspective by focusing on the relationship between income and consumption. It posits that households adjust their consumption in response to changes in disposable income, with remittances serving as a direct injection into household budgets. Through the marginal propensity to consume, remittance inflows stimulate aggregate demand and have an immediate expansionary effect on GDP. Later refinements, such as Friedman's Permanent Income Hypothesis and Modigliani's Life Cycle Hypothesis, suggest that the way households perceive remittances, either as temporary windfalls or permanent income, shapes their spending patterns (Modigliani et al., 1954 & Friedman, 1957). The Keynesian framework is particularly relevant for understanding the welfare-enhancing role of remittances in Kenya, where they are often

used to finance education, healthcare, and food security. However, its focus on short-run consumption means it may understate the long-term structural implications of remittance inflows.

Dependency Theory

In contrast, the Dependency Theory, associated with scholars such as Frank (1966) and Dos Santos (1970), offers a more critical perspective. It argues that reliance on external financial inflows perpetuates structural dependency, reinforcing the peripheral status of developing countries in the global economy. From this perspective, remittances, much like foreign aid, can create consumption dependency, reduce labor supply incentives, and undermine local production capacity. Although this view highlights the risks of overdependence on diaspora inflows, it has been criticized for being overly deterministic and for neglecting empirical cases where remittances have fostered entrepreneurship, investment, and financial inclusion. In Kenya, while remittances have undoubtedly improved welfare, the dependency framework serves as a cautionary lens, warning against overreliance on external income at the expense of domestic productivity.

Financial Intermediation Theory

The Financial Intermediation Theory, pioneered by Gurley et al. (1960) and later expanded by McKinnon (1973) and Shaw (1973), emphasizes the role of financial systems in mobilizing savings and allocating credit. When remittances are channelled through formal financial institutions, they increase liquidity, expand deposit bases, and improve credit availability, thereby stimulating both financial development and inclusion. This framework is particularly applicable in the Kenyan context, where innovations such as M-Pesa and agency banking have integrated remittance flows into the formal financial system, significantly expanding access to financial services. However, the effectiveness of this theory depends on the robustness of financial institutions. Where informal channels dominate, much of the developmental potential of remittances is lost, limiting their transformative role.

Dutch Disease Hypothesis

Finally, the Dutch Disease Hypothesis, developed by Corden & Neary (1982), explains how large foreign currency inflows can lead to real exchange rate appreciation, thereby undermining the competitiveness of export sectors. Initially formulated to explain resource booms, the hypothesis has been extended to remittances, which, when received in large volumes, can distort trade balances and weaken the tradable sector. For Kenya, where remittances now surpass traditional export earners like tea and tourism, this framework provides an important cautionary note. While the welfare and financial stability benefits of remittances are evident, there remains a risk that excessive inflows could erode export competitiveness if not managed with appropriate macroeconomic policies. Empirical evidence on this effect in Sub-Saharan Africa remains mixed, with some studies suggesting minimal impact, but the framework nonetheless underscores the importance of balancing short-term welfare gains with long-term structural stability.

Theoretical Synthesis

The theories reviewed present both complementary and conflicting perspectives on how remittances influence economic development. Neoclassical Growth Theory views remittances as a source of additional capital that enhances savings, investment, and productivity, thereby stimulating long-run economic growth through capital accumulation. In contrast, Keynesian

Consumption Theory emphasizes the short-term demand-side effects of remittances, arguing that increased household income boosts consumption and aggregate demand rather than long-term structural transformation. Dependency Theory, however, challenges these optimistic views by suggesting that reliance on external inflows may weaken local productive capacity, reduce labor incentives, and entrench structural dependence, potentially hindering growth rather than promoting it. Financial Intermediation Theory adds yet another dimension by proposing that the growth-enhancing effects of remittances depend on whether they pass through formal financial institutions, thereby expanding credit markets and financial inclusion. Meanwhile, the Dutch Disease Hypothesis warns that large remittance inflows can appreciate the real exchange rate, undermining export competitiveness and slowing industrial development. Together, these theories reveal that the developmental impact of remittances is neither uniform nor guaranteed; instead, it depends on how effectively the inflows are absorbed, intermediated, and directed within the broader macroeconomic and institutional environment.

Theoretical Justification for the Multiple Regression (Gamma) Model

The choice of a multiple-regression (Gamma) model in this study is theoretically grounded in frameworks that emphasize economic volatility and the non-linear responses of macroeconomic variables to external financial inflows. From a Keynesian perspective, remittances act as an exogenous injection into household income, generating fluctuations in consumption, aggregate demand, and short-run economic output. These dynamic and potentially volatile effects justify the use of a model capable of capturing simultaneous interactions among several macroeconomic indicators. Similarly, the Dutch Disease hypothesis highlights the possibility of non-linear and asymmetric effects of large foreign currency inflows, such as real exchange rate appreciation, suppressed export competitiveness, and sectoral distortions, which require a regression framework that can estimate the distinct marginal effects of variables like exchange rate movements, inflation volatility, and remittance shocks. By allowing the assessment of multiple channels through which remittances influence growth, poverty, and financial inclusion, the multiple-regression approach aligns well with these theoretical expectations and provides a robust empirical strategy for examining complex, interdependent economic relationships.

Empirical Review

Remittances: Global and African Context

The global importance of remittances has grown steadily over the past two decades, making them one of the largest and most stable sources of external finance for developing countries. According to the World Bank (2023), remittances to low- and middle-income countries reached USD 669 billion in 2023, surpassing official development assistance and rivaling foreign direct investment. Unlike capital flows that tend to be volatile and procyclical, remittances are countercyclical, often rising during periods of economic downturn to cushion households against shocks. This resilience demonstrates their role not only as a financial transfer but also as a stabilizing mechanism in times of crisis.

The African context further illustrates the transformative power of remittances. The African Futures & Innovation Program (2025) highlights that inflows to the continent grew from USD 53 billion in 2010 to nearly USD 95 billion in 2024, representing more than 5% of Africa's GDP. For many countries, including Kenya, remittances have overtaken traditional foreign exchange sources such as commodities. International institutions such as IFAD and the Global

Partnership for Financial Inclusion (GPFI) have also stressed the potential of digital remittance channels to broaden financial inclusion and reduce transaction costs, particularly through initiatives like the 2023 Global Forum on Remittances in Nairobi (IFAD/GPFI, 2023). In addition, recent UN analyses demonstrate that for at least 17 African nations, remittances contribute more than 4% of GDP, making them critical to national balance-of-payments stability (IFAD, 2023). Collectively, these findings establish remittances as a cornerstone of African economic resilience.

Remittances and Economic Growth in Kenya

Kenya has consistently ranked among the top five African remittance recipients, with inflows surpassing USD 4 billion annually in recent years. The Central Bank of Kenya (n.d.) notes that remittances accounted for approximately 3.4%–3.9% of GDP in 2022, exceeding earnings from major export sectors such as tea and horticulture. Several empirical studies affirm the contribution of these flows to economic growth. Issack & Nzai (2023), employing econometric causality tests, found that per capita remittances have a statistically significant impact on GDP and national income, while also reducing absolute poverty levels. Their results emphasize the macroeconomic importance of diaspora inflows as a driver of development.

Similarly, Kiiru (2010), using instrumental variable methods with Kenyan household data, demonstrated that remittances significantly reduce poverty while simultaneously increasing investment in human capital through education and health expenditures. More recent diagnostics by RemitSCOPE (2023) position Kenya as the fifth largest African remittance recipient, with inflows amounting to over USD 4 billion in 2022 and 3.4% of GDP. Complementary insights from the Mastercard Economics Institute (2025) reveal that remittances accounted for 3.9% of GDP in 2023, underscoring their role in enhancing macroeconomic resilience during global and domestic shocks. Taken together, this body of evidence shows that remittances in Kenya not only sustain consumption but also stimulate broader economic activity.

Contribution of Remittances to Kenya's Economic Growth

Kenya has become one of Sub-Saharan Africa's most dynamic remittance destinations, with inflows exceeding USD 4 billion annually in recent years. The Central Bank of Kenya (n.d.) reports that remittances accounted for approximately 3.4%–3.9% of the country's GDP in 2022, making them the largest source of foreign exchange, surpassing tea, coffee, and horticulture exports.

A growing body of empirical research demonstrates the positive contribution of remittances to Kenya's economic growth. Issack and Nzai (2023) found that remittances have a significant and positive impact on GDP and national income, while also supporting household consumption stability. Their results show that diaspora inflows complement foreign exchange reserves, helping to stabilize the economy against external shocks. Similarly, Kiiru (2010) highlighted that remittances contribute to long-term economic growth by financing education and health, thereby investing in human capital formation.

Macro-level analyses support these findings. RemitSCOPE (2023) confirmed that remittance inflows to Kenya reached USD 4 billion in 2022, positioning the country as the fifth-largest remittance recipient in Africa. The Mastercard Economics Institute (2025) further reported that remittances accounted for 3.9% of GDP in 2023, underlining their contribution to resilience and growth during a period of global inflationary pressures. Collectively, these studies illustrate

that diaspora inflows play a dual role in Kenya: supporting short-term consumption while also facilitating longer-term investments that contribute to GDP growth and economic stability.

Remittances, Poverty Reduction, and Household Welfare

Beyond macroeconomic stability, remittances exert a powerful influence on poverty reduction and household welfare. Kiiru (2010) provides some of the earliest robust evidence for Kenya, showing that remittances reduce poverty by enabling households to increase consumption, invest in education, and access healthcare. Mwangi et al. (2021) & Issack et al. (2023) extend this analysis, confirming that remittance inflows enhance income levels and improve household resilience against shocks, particularly in rural and peri-urban settings where formal safety nets are weak.

Institutional reports also demonstrate this welfare-enhancing role. The United Nations Capital Development Fund (UNCDF, 2025) emphasizes that remittances are not merely survival income but catalysts for socioeconomic uplift, supporting both household expenditures and small-scale investment. The Mastercard Economics Institute (2025) further observes that by accounting for nearly 4% of GDP in 2023, remittances provided vital financial stability to households amidst global inflationary pressures. Together, these findings position remittances as an indispensable contributor to human development in Kenya, bridging gaps left by limited social protection systems.

Remittances and Financial Inclusion

Kenya's experience with financial inclusion provides a compelling case of how remittances can reinforce access to formal finance. Misati (2019), using quarterly Kenyan data between 2006 and 2016, demonstrated a strong positive relationship between remittance inflows and financial development indicators, including private sector credit, deposits, and mobile money transactions. Similarly, Musau et al. (2020) found that diaspora remittances significantly improve financial inclusion, particularly when moderated by diaspora policy frameworks that encourage integration into formal financial systems.

Cross-country evidence also aligns with these findings. Odhiambo (2024), examining Sub-Saharan economies, concluded that remittances are strongly linked to financial inclusion outcomes, though the magnitude depends on institutional quality and regulatory frameworks. Complementing these studies, UNCDF (2025) highlighted that over 80% of Kenyan adults are now financially included, attributing part of this achievement to remittance-linked payment infrastructure and digital channels. These studies affirm that remittances play a critical role not only in deepening banking penetration but also in supporting the broader digital finance ecosystem.

Gaps and Emerging Challenges

Despite significant progress, challenges in harnessing the full potential of remittances persist. One major issue is the continued reliance on informal transfer channels, which, according to a 2024 IOSR study, account for 20–26% of Kenya's total remittance flows. This raises concerns over data quality and underreporting, a problem also highlighted by the World Bank (2024), which points to persistent discrepancies between gross and net flows across countries. Furthermore, while remittances clearly reduce short-term poverty, their role in promoting long-term structural transformation remains contested. Issack & Nzai (2023) caution that unless channelled into productive investments, remittances may foster dependency rather than entrepreneurship.

The rise of digital finance introduces both opportunities and risks. GPFI (2023) acknowledges that digital remittance platforms lower costs and increase access but also notes regulatory gaps that could expose users to fraud or over-indebtedness. Additionally, FSD Kenya (2024) highlights that while savings and credit cooperatives (SACCOs) could play a stronger role in mobilizing remittances for productive use, regulatory and operational challenges limit their effectiveness. These gaps indicate the need for stronger data systems, regulatory oversight, and innovative financial products that align remittances with Kenya's development goals.

METHODOLOGY

Variables, Data Type, and Sources

This study adopts a quantitative econometric research design to examine the role of diaspora remittances in Kenya's economic development. The analysis combines time-series macroeconomic data with household-level welfare indicators, enabling both aggregate and micro-level insights. The approach is grounded in the framework that remittances affect the economy through three primary channels: (i) macroeconomic growth, (ii) poverty reduction and welfare enhancement, and (iii) financial inclusion.

The study obtained data from multiple credible sources:

- Central Bank of Kenya (CBK): Monthly and annual remittance inflows, exchange rates, and financial sector statistics.
- Kenya National Bureau of Statistics (KNBS): GDP growth, household survey data, poverty indicators, and welfare statistics.
- World Bank and IMF databases: Complementary indicators such as inflation, FDI, ODA, and international remittance trends.
- United Nations Capital Development Fund (UNCDF) & FSD Kenya: Financial inclusion data, particularly on mobile money and banking penetration.

The dataset covers the period 2000–2025, capturing both long-run dynamics and recent structural shifts in Kenya's financial system.

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Table 1: Variables, Measurement, and Source

Category	Variable	Measurement/Indicator	Source
Dependent Variables	Economic Growth	GDP growth rate (%), Gross Capital Formation (% of GDP), Household consumption expenditure	KNBS, World Bank
	Poverty & Welfare	Poverty headcount ratio (%), School enrollment rate (%), Healthcare access (per 1,000), Household income distribution	KNBS, World Bank, Household Surveys
	Financial Inclusion	Bank account ownership (% of adults), Mobile money usage (% of adults), Access to credit (%), Savings rate (%)	CBK, UNCDF, FSD Kenya
Independent Variable	Remittance inflows	Total remittances (USD millions), Remittances as % of GDP	CBK, World Bank
Control Variables	Exchange Rate	Ksh/USD official exchange rate	CBK
	Inflation	Consumer Price Index (CPI), annual inflation rate (%)	KNBS, IMF
	Foreign Direct Investment (FDI)	Net inflows (% of GDP)	World Bank
	Official Development Assistance (ODA)	Net ODA received (% of GNI)	World Bank
	Trade Balance	Exports minus imports (% of GDP)	KNBS, CBK

Empirical Strategy

To empirically assess the impact of diaspora remittances on Kenya's economic development, the study specifies three econometric models corresponding to the research objectives: economic growth, poverty/welfare, and financial inclusion.

Remittances and Economic Growth

The relationship between remittances and macroeconomic performance is modeled as:

$$GDP_t = \alpha_0 + \alpha_1 REM_t + \alpha_2 FDI_t + \alpha_3 ODA_t + \alpha_4 INF_t + \alpha_5 EXR_t + \mu_t \qquad (1)$$

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Where:

$$GDP_t = GDP\ growth\ rate\ at\ time\ t$$
$$REM_t = Remittance\ inflows\ (\%\ of\ GDP)$$
$$FDI_t = Foreign\ Direct\ Investment\ (\%\ of\ GDP)$$
$$ODA_t = Official\ Development\ Assistance\ (\%\ of\ GNI)$$
$$INF_t = Inflation\ rate\ (\%)$$
$$EXR_t = Exchange\ rate\ (KES/USD)$$
$$\mu_t = Error\ term$$

Remittances and Poverty/Welfare

To evaluate the welfare effects of remittances, the following model is specified:

$$POV_t = \beta_0 + \beta_1 REM_t + \beta_2 GDP_t + \beta_3 EDU_t + \beta_4 HC_t + \epsilon_t \quad (2)$$

Where:

$$POVt = Poverty\ headcount\ ratio\ (\%)\ at\ time\ t$$
$$REM_t = Remittance\ inflows\ (\%\ of\ GDP)$$
$$GDP_t = GDP\ growth\ rate$$
$$EDU_t = School\ enrollment\ rate\ (\%)$$
$$HC_t = Healthcare\ access\ (per\ 1{,}000\ population)$$
$$\epsilon_t = Error\ term$$

Remittances and Financial Inclusion

The effect of remittances on financial access is examined through:

$$FIN_t = \gamma_0 + \gamma_1 REM_t + \gamma_2 GDP_t + \gamma_3 EXR_t + \gamma_4 INF_t + \nu_t \quad (3)$$

Where:

$$FIN_t = Financial\ inclusion\ index$$
$$REM_t = Remittance\ inflows\ (\%\ of\ GDP)$$
$$GDP_t = GDP\ growth\ rate$$
$$EXR_t = Exchange\ rate\ (KES/USD)$$
$$INF_t = Inflation\ rate\ (\%)$$
$$\nu_t = Error\ term$$

RESULTS

This section presents the results derived from the analysis of the study variables and interprets their implications in relation to the study objectives. The findings are discussed systematically, highlighting the key statistical outcomes, observed patterns, and relationships among variables.

Descriptive Statistics Results

This subsection presents the descriptive statistics of the study variables to provide an overview of their general characteristics before conducting further econometric analysis. The descriptive results summarize the data in terms of measures such as the mean, standard deviation, minimum, and maximum values, offering insights into the central tendency and variability of

each variable. This preliminary analysis helps in understanding the distributional properties of the study data.

Table 2: Summary Statistics

	Minimum	Maximum	Mean	Median	Standard Deviation	Variance	Skewness
Remittances ($Bn)	0.000	4.945	1.501	1.031	1.484	2.203	0.886
GDP Growth Rate	-0.300	8.100	4.336	4.900	2.169	4.707	-0.601
School Enrolment Rate	78.839	112.314	101.701	104.050	8.819	77.769	-1.318
Poverty Rate	33.600	53.500	41.334	39.550	6.281	39.455	0.590
Health Facility Access	65.000	89.400	83.031	86.500	7.709	59.423	-0.996
Financial Inclusion	26.000	85.000	57.746	59.000	23.013	529.616	-0.096
Exchange Rate	67.318	139.846	91.669	86.123	19.445	378.115	0.966
Inflation Rate	3.743	14.278	7.468	6.576	3.010	9.060	1.291
FDI Net Inflows ($Million)	-5.400	1450.470	483.328	463.440	465.807	216976.500	0.756
Net ODA ($Mn)	388.220	3990.600	1938.234	2325.975	1060.777	1125249.000	-0.031

Source: World Bank & Central Bank

Table 2 presents the descriptive statistics of the key macroeconomic and socio-economic variables used in the study for the period under review. The results show that remittance inflows ranged between USD 0.00 billion and USD 4.95 billion, with an average of USD 1.50 billion, indicating a steady but modest growth in foreign remittances over time. The GDP growth rate averaged about 4.34 percent, suggesting moderate economic performance with fluctuations reflected by a relatively wide range (–0.3 percent to 8.1 percent). The school enrolment rate had a mean of 101.7 percent, implying near-universal access to primary education, while its negative skewness (–1.318) suggests that most years recorded high enrolment levels.

The poverty rate averaged 41.3 percent, highlighting persistent poverty despite gradual economic growth. Health facility access averaged 83.0 percent, demonstrating significant progress in physical access to healthcare services, though variability (standard deviation = 7.71) indicates unequal distribution across time. Financial inclusion exhibited a mean of 57.7 percent, with values ranging widely from 26 to 85 percent, reflecting Kenya's rapid adoption of digital and mobile-based financial services.

The exchange rate averaged KES 91.7 per USD with positive skewness, suggesting periodic currency depreciations. The inflation rate had a mean of 7.47 percent, showing moderate inflationary pressures, while positive skewness indicates occasional spikes in consumer prices. FDI net inflows recorded high variability (standard deviation = 465.8 million) and a wide range, signifying volatility in foreign investment inflows. Finally, net official development assistance (ODA) averaged USD 1.94 billion, indicating Kenya's consistent reliance on external financial support.

Diagnostic Testing Results

Before conducting the regression analysis, the study conducted diagnostic tests which are presented in the tables below;

Table 3: Unit Root Test GDP Growth Rate (Level)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.684852	0.0116
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

Table 3 presents the Augmented Dickey-Fuller (ADF) unit root test results for GDP growth rate at the level form. The results indicate that the GDP growth rate is stationary at a level, as its test statistic (–3.6848) is less than the 5% critical value (–2.9980) with a p-value of 0.0116.

Table 4: Unit Root Test Exchange Rate (Level)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.812569	0.9921
Test critical values:	1% level	-3.737853	
	5% level	-2.991878	
	10% level	-2.635542	

Table 5: Unit Root Test Exchange Rate (1st Difference)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.342538	0.0026
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

As shown in Table 4, the Augmented Dickey-Fuller (ADF) test statistic for the exchange rate at level (0.8126) is higher than the 5% critical value (–2.9919) with a p-value of 0.9921, indicating non-stationarity of the variable in its level form. However, after first differencing (Table 5), the test statistic (–4.3425) becomes lower than the 1% critical value (–3.7529) with a p-value of 0.0026, confirming stationarity at first difference.

Table 6: Unit Root Test FDI Net Inflows

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.010206	0.0007
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

The Augmented Dickey-Fuller (ADF) statistic of –5.0102 is less than the 1% critical value (–3.7880) with a p-value of 0.0007, indicating that FDI net inflows are stationary at level. This implies that the FDI series does not have a unit root and fluctuates around a stable mean.

Table 7: Financial Inclusion

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.241602	0.0033
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

The ADF test statistic (–6.1661) is lower than the 1% critical value (–3.7529) with a p-value of 0.0000, indicating strong stationarity at level. Therefore, health care facility access is stationary and suitable for direct use in regression analysis.

Table 8: Health Care Facility Access

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.166069	0.0000
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

The ADF test statistic (–6.1661) is lower than the 5% critical value (–3.7529) with a p-value of 0.0000, indicating strong stationarity at the level.

Table 9: Inflation Rate

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.625815	0.0000
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

The test statistic (–8.6258) is far below the 1% critical value (–3.5784), and the p-value is 0.0000, meaning the inflation rate is stationary at the level.

Table 10: Net Official Development Assistance

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.619109	0.0015
Test critical values:	1% level	-3.769597	
	5% level	-3.004861	
	10% level	-2.642242	

The ADF statistic (–4.6191) is lower than the 1% critical value (–3.7696) with a p-value of 0.0015. This indicates that ODA is stationary at level, suggesting stability in donor inflows over time.

Table 11: Poverty Rate

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.029278	0.0051
Test critical values:	1% level	-3.737853	
	5% level	-2.991878	
	10% level	-2.635542	

The ADF test statistic (–4.0298) is less than the 1% critical value (–3.7379) with a p-value of 0.0051, showing that the poverty rate series is stationary at level.

Table 12: Remittances

		t-Statistic
Augmented Dickey-Fuller test statistic		-3.725662
Test critical values:	1% level	-3.737853
	5% level	-2.991878
	10% level	-2.635542

The test statistic (–3.7257) is slightly above the 1% critical value (–3.7379) but below the 5% level (–2.9919), with an implied p-value < 0.05. This indicates that remittances are stationary at the 5% level.

Table 13: Primary School Enrollment Rate

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.700972	0.0412
Test critical values:	1% level	-5.119808	
	5% level	-3.519595	
	10% level	-2.898418	

The ADF statistic (–3.7010) is lower than the 5% critical value (–3.5199) with a p-value of 0.0412, implying that the school enrollment rate is stationary at the level.

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www.iprjb.org

Regression Analysis

Table 14: Regression Model Output

Variables	GDP Growth	Poverty Rate	Financial Inclusion
Remittances ($Bn)	0.759	-2.291	2.556
	(1.029)	(1.611)	(4.482)
FDI Net Inflows ($Million)	0.00163		
	(0.000998)		
Net ODA ($Mn)	-0.00217**		
	(0.000739)		
Inflation Rate	-0.282*		-1.623*
	(0.151)		(0.772)
Exchange Rate	-0.00831		0.601*
	(0.0640)		(0.304)
GDP Growth Rate		0.0867	-1.696
		(0.158)	(1.063)
Primary School Enrollment		-0.0499	
		(0.0739)	
Health Care Facility Access		-0.614***	
		(0.163)	
Constant	10.47**	98.73***	22.21
	(4.557)	(6.126)	(21.95)
Observations	20	20	20
R-squared	0.460	0.982	0.849

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Model 1: GDP Growth

The coefficient for remittances (0.759) suggests that a one-billion-dollar increase in remittance inflows is associated with a 0.76% rise in GDP growth, though the relationship is not statistically significant. FDI inflows (0.00163) also have a positive but insignificant coefficient, implying a minimal short-run effect on growth. Net ODA (–0.00217) has a significant negative coefficient at the 5% level, meaning that a one-million-dollar increase in aid inflows is associated with a 0.002% decline in GDP growth, possibly reflecting inefficiencies in aid utilization. Inflation rate (–0.282) is negative and significant at the 10% level, indicating that a one-percentage-point increase in inflation reduces GDP growth by 0.28%. Exchange rate (–0.00831) is negative but insignificant, suggesting a minimal direct effect. Moreover, the estimated $R^2 = 0.460$ implies that 46% of the variation in GDP growth is explained by the included variables, showing moderate explanatory power of the model.

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Model 2: Poverty Rate

The coefficient for remittances (–2.291) implies that a one-billion-dollar increase in remittances reduces the poverty rate by 2.29%, though insignificantly. FDI inflows (0.00163) and GDP growth (0.0867) show positive but insignificant coefficients, suggesting a limited direct impact on poverty. Inflation rate (–0.282) is negative but insignificant, indicating minimal short-term influence. The most important result is health care facility access (–0.614), which is highly significant (p<0.01), showing that a one-percent increase in health access reduces poverty by about 0.61%. Primary school enrollment (–0.0499) has a small negative but insignificant effect, meaning educational improvements have a mild but consistent poverty-reducing effect. In addition, the estimated $R^2 = 0.982$ indicates that 98.2% of the variation in poverty rate is explained by the model, demonstrating a very strong fit and reliability in predicting poverty outcomes.

Model 3: Financial Inclusion

The coefficient for remittances (2.556) suggests that a one-billion-dollar increase in remittances is associated with a 2.56% rise in financial inclusion, though not statistically significant. FDI inflows (–1.696) have a negative and insignificant effect, implying that foreign investments may not directly improve household-level access to financial services. Inflation rate (–1.623) is negative and significant at the 10% level, showing that a one-percent increase in inflation reduces financial inclusion by 1.62%, likely due to declining purchasing power. Conversely, the exchange rate (0.601) has a positive and significant effect at the 10% level, meaning that favorable or stable exchange rates enhance access to financial services. The $R^2 = 0.849$ implies that 84.9% of the variation in financial inclusion is explained by the model, signifying a strong explanatory power and robustness of the fitted equation.

Discussion

The findings of this study provide meaningful insights into the relationship between remittances, macroeconomic variables, and socio-economic outcomes in Kenya. The results reveal that remittances exert a positive but statistically insignificant influence on both GDP growth and financial inclusion. This implies that while remittances support household consumption and financial liquidity, their overall macroeconomic impact remains moderate, possibly due to limited investment diversification or channeling into non-productive sectors. These results align with studies that highlight remittances as important for household welfare but are less effective in driving long-term economic growth unless supported by strong financial and investment frameworks.

The analysis further indicates that foreign direct investment (FDI) contributes positively to GDP growth but is insignificant, suggesting that the benefits of FDI are either delayed or constrained by institutional and infrastructural bottlenecks. On the other hand, official development assistance (ODA) shows a significant negative relationship with GDP growth, supporting the argument that excessive reliance on aid may crowd out domestic efforts and create dependency rather than fostering sustainable growth.

Inflation rate consistently exhibits a negative effect across models, significantly reducing both GDP growth and financial inclusion. This demonstrates that price instability erodes purchasing power, discourages savings, and weakens the functioning of financial markets. The exchange rate, however, positively influences financial inclusion, suggesting that currency stability and favorable exchange conditions enhance access to financial services and confidence in the formal financial system.

Social indicators also play a key role. The study found that health care facility access significantly reduces poverty, emphasizing the importance of improved health infrastructure in enhancing productivity and welfare. Likewise, primary school enrollment has a negative, though insignificant, relationship with poverty, implying that educational improvements have long-term but gradual poverty-reducing effects. These findings align with empirical literature that associates human capital development with sustained economic progress and social equity.

CONCLUSION AND RECOMMENDATIONS

The study set out to examine the relationship between remittances, macroeconomic factors, and socio-economic development in Kenya for the period 2000 to 2025. The results indicate that remittances and FDI have a positive but limited effect on economic growth, while foreign aid negatively influences growth outcomes. Inflation emerged as a major constraint, exerting a dampening effect on both GDP growth and financial inclusion. Conversely, exchange rate stability enhances financial inclusion by encouraging trust and participation in formal financial systems. On the social front, access to health facilities was found to significantly reduce poverty levels, while educational improvements, though less statistically significant, demonstrate long-term potential in alleviating deprivation and promoting equality.

The findings imply that Kenya's economic and social progress is closely tied to macroeconomic stability and the effective management of external inflows. Remittances, though growing steadily, must be directed toward productive uses such as small business financing and infrastructure investment to yield sustainable growth benefits. Likewise, aid resources should be integrated into development planning frameworks that prioritize self-reliance and reduce dependency. Further evidence suggests that maintaining low and stable inflation, alongside a predictable exchange rate, is essential for fostering an enabling environment for inclusive finance and private sector participation.

Human capital development remains at the heart of Kenya's poverty reduction and growth strategy. Strengthening access to health care and improving the quality of education will not only enhance welfare but also boost productivity and economic resilience. Equally, expanding access to digital financial services can deepen inclusion, empower low-income households, and improve the effectiveness of remittance and investment channels. In conclusion, the study establishes that while Kenya has made substantial progress in achieving financial inclusion and human development, consolidating these gains requires disciplined macroeconomic management, stronger institutional frameworks, and the strategic harnessing of external financial resources to promote sustainable and inclusive economic transformation.

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