

Government Revenue, Institutional Quality and Poverty in Sub-Saharan Africa

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ABSTRACT

Sub-Saharan Africa, a region characterized by vast diversity in geography, culture, and resources, has long grappled with the challenge of poverty despite being rich in natural wealth, while government revenue, consisting of taxes, grants, and various income sources, stands as a critical instrument in the implementation of poverty alleviation strategies (African Development Bank, 2018). The main objective of this study is to investigate the impact of government revenue and institutional quality on poverty level in 30 selected SSA countries. Here poverty was proxied with final consumption expenditures while government revenue with GDP. In the light of these considerations, this study empirically studied the effects of government revenue and institutional quality on poverty levels in Sub-Saharan Africa by rigorously examining the current state of poverty in the region, assessing the factors contributing to its persistence. Additionally, the study explored the role of external factors, including global economic trends like the foreign direct investment and geopolitical dynamics, in shaping the effectiveness of poverty alleviation efforts. It also interacted institutional quality variables with revenue to determine whether these institutional variables are the channel through which revenue affect poverty in the region. Modified ordinary least square technique was adopted to analyse these relationships. The findings show that increasing government revenue has not significant effect on poverty but both corruption and the interaction of corruption and government revenue were significant. The interaction of corruption and government revenue shows that corruption reduces the impact of government revenue on poverty level in Sub-Saharan Africa. Lastly, the study finds that increasing government expenditure on education would help reduce poverty in the region. The study there recommends that anti-corruption institutions be strengthened in order to curb corruption and that both the government and non-governmental organizations should invest more on education and trainings to reduce poverty in Sub-Saharan Africa.

Keywords: Government Revenue, Poverty, Sub-Saharan and Institutional Quality

INTRODUCTION

Background to The Study

Sub-Saharan Africa, a region characterized by its vast diversity in geography, culture, and resources, has long grappled with the challenge of poverty despite being rich in natural wealth (World Bank, 2020). The persistence of high poverty levels in the region has been a focal point for policymakers, scholars, and international organizations alike. According to the World Bank (2021), over 40% of Sub-Saharan Africa's population lived below the international poverty line in 2019, highlighting the urgency of addressing this issue.

Government revenue, consisting of taxes, grants, and various income sources, stands as a critical instrument in the implementation of poverty alleviation strategies (African Development Bank, 2018). Taxes, a significant component of government revenue, contribute to wealth redistribution and reducing economic disparities. However, tax-to-GDP ratio in Africa was 15.6% in 2023, which falls below the OECD average of 33.9%. Specifically, Nigeria with one of the largest economies in SSAs recorded an average of 10.6% which is one of the lowest in the world. This presents a challenge to financing comprehensive poverty alleviation programs (World Bank, 2024). Grants and aid from international organizations and development partners also play a pivotal role in strengthening government revenue in the region. These external sources of income often

supplement domestic revenues and provide the necessary financial injections for strategic development projects aimed at poverty reduction (Mavrotas & Ouattara, 2019).

Despite relative increased revenue in Sub-Saharan Africa (SSA) in the recent time, the region continues to grapple with widespread poverty. One reason for this paradoxical outcome is the failure of revenue generation to effectively address structural issues underlying poverty. While SSA countries have experienced economic growth and increased revenue from sources such as natural resources and foreign investment, the benefits have often been unevenly distributed, exacerbating income inequality. For instance, according to the World Bank, despite strong economic growth in SSA over the past decade, income inequality has remained persistently high, with the top 10% of earners often capturing a disproportionate share of the gains (World Bank, 2020). This uneven distribution of wealth perpetuates poverty as the majority of the population continues to struggle with low incomes and limited access to essential services such as healthcare and education.

Moreover, the reliance on revenue from extractive industries in many SSA countries has contributed to what economists refer to as the "resource curse." While natural resource extraction can generate substantial revenue for governments, it often leads to a host of negative consequences, including environmental degradation, corruption, and economic instability. In SSA, the resource curse has manifested in various forms, including rampant corruption fueled by the desire to control and exploit valuable resources. According to Transparency International, corruption remains a significant challenge in many SSA countries, with corrupt practices undermining the effectiveness of revenue generation efforts and diverting funds away from poverty alleviation programs (Transparency International, 2021). As a result, despite increased revenue from extractive industries, poverty levels have remained stubbornly high, with little improvement in living standards for the majority of the population.

Furthermore, the failure to effectively mobilize revenue for social spending and poverty alleviation programs has hindered progress in tackling poverty in SSA. While increased revenue could potentially fund investments in education, healthcare, and infrastructure, governments in the region often struggle with issues such as tax evasion, weak institutions, and inefficient public expenditure. According to the International Monetary Fund (IMF), many SSA countries have low tax-to-GDP ratios compared to other regions, reflecting challenges in mobilizing domestic revenue (IMF, 2020). This limited fiscal space constrains governments' ability to invest in social programs that could lift people out of poverty. Additionally, weak governance and institutional capacity undermine the effective implementation of poverty alleviation initiatives, leading to limited impact on the ground. Without addressing these underlying governance and institutional challenges, simply increasing revenue alone is unlikely to significantly reduce poverty in SSA.

The need for effective strategies to alleviate poverty in Sub-Saharan Africa goes beyond regional boundaries and aligns with global initiatives, particularly the United Nations Sustainable Development Goals (SDGs), specifically Goal 1 – "End Poverty in all its forms everywhere" (United Nations, 2015). Recognizing the interconnectedness of global development, understanding the dynamics of poverty and government revenue in Sub-Saharan Africa becomes not only a regional imperative but also a vital element of the broader international development agenda.

The achievement of SDG Goal 1 is integral to fostering a more equitable and sustainable world, acknowledging that poverty reduction is a shared responsibility requiring collaborative efforts on a global scale. Understanding the relationship between government revenue and poverty in Sub-Saharan Africa becomes crucial not only for the well-being of the region's populations but also for advancing the collective goal of eradicating poverty worldwide. As such, the outcomes of this study contribute not only to regional policymaking but also to the broader discourse on global development strategies aimed at fulfilling the SDGs and building a more inclusive and prosperous future for all.

The deceleration in the global reduction of extreme poverty presents a significant challenge, particularly evident in Sub-Saharan Africa (World Bank, 2021). Recent estimations reveal a mere 1.6 percentage point decrease in the regional poverty rate from 2015 to 2018. Despite this decline, a staggering 40% of the population still grapples with poverty, defined by the US\$1.90-a-day threshold, by 2018, with Sub-Saharan Africa hosting two-thirds of the global extreme poor. Although there's been a downward trend in poverty rates from 56% in 1990 to

40% in 2018, the absolute number of individuals living in poverty continues to surge. The pace of poverty alleviation hasn't matched the region's population growth, resulting in an estimated 433 million Africans living in extreme poverty by 2018, up from 284 million in 1990.

Moreover, findings from the Poverty and Shared Prosperity report of 2020 underscore that poverty has also intensified at higher thresholds, such as the US\$3.20 and US\$5.50 lines. While there's been a reduction in poverty rates across all three thresholds from 1990 to 2018, the actual number of impoverished individuals has risen. Notably, as illustrated in Figure 1 (World Bank, 2021), the deceleration in poverty reduction is more pronounced at higher thresholds, with a mere 3.3 percentage point decrease at the US\$5.50 line compared to 15 points at the US\$1.90 line.

Consequently, the number of poor individuals has surged by 50% at the US\$1.90 line and doubled at higher thresholds over the past three decades. Despite some strides in curbing extreme poverty in Sub-Saharan Africa, these gains haven't translated into commensurate improvements in consumption levels beyond the US\$3.20 threshold.

The paradox of increasing revenue exacerbating poverty in Sub-Saharan Africa (SSA) underscores the complex dynamics of economic development in the region (World Bank, 2021). As economic growth fails to translate into widespread poverty alleviation, various factors contribute to this disparity. The disproportionate allocation of resources and opportunities, favoring urban centers over rural areas, exacerbates the vulnerability of marginalized communities (Cheeseman & Griffiths, 2018). Additionally, the expansion of extractive industries, such as mining and oil extraction, leads to environmental degradation and displacement of local populations without commensurate benefits reaching affected communities (Oxfam, 2020).

Furthermore, the influx of foreign investment and capital inflows often fails to stimulate sustainable development or poverty reduction due to speculative activities and increased dependence on volatile global markets (UNCTAD, 2019). The lack of effective governance mechanisms and institutional capacity to manage revenues exacerbates the problem, with corruption and mismanagement diverting resources away from poverty reduction programs (Transparency International, 2020). Consequently, while economic growth may generate revenue, its unequal distribution and mismanagement perpetuate poverty in SSA, highlighting the urgent need for comprehensive reforms to ensure inclusive and sustainable development.

Moreover, many African countries rely heavily on foreign trade taxes, such as import duties, as a significant source of tax revenue (Cheeseman & Griffiths, 2018). For instance, in some countries, import duties account for more than 50% of total tax revenue. This reliance on foreign trade taxes has allowed African countries to raise their total level of taxation substantially, but it may also have a significant impact on resource allocation and efficiency.

In recent years, some African countries have made efforts to reduce tariff barriers and promote regional trading blocs, which has further undermined their ability to rely on import duties as a source of revenue (Cheeseman & Griffiths, 2018). However, the reduction in tariff barriers has led to a sharp rise in the quantity of imports, resulting in increased overall tax revenue despite lower tax revenue per item imported.

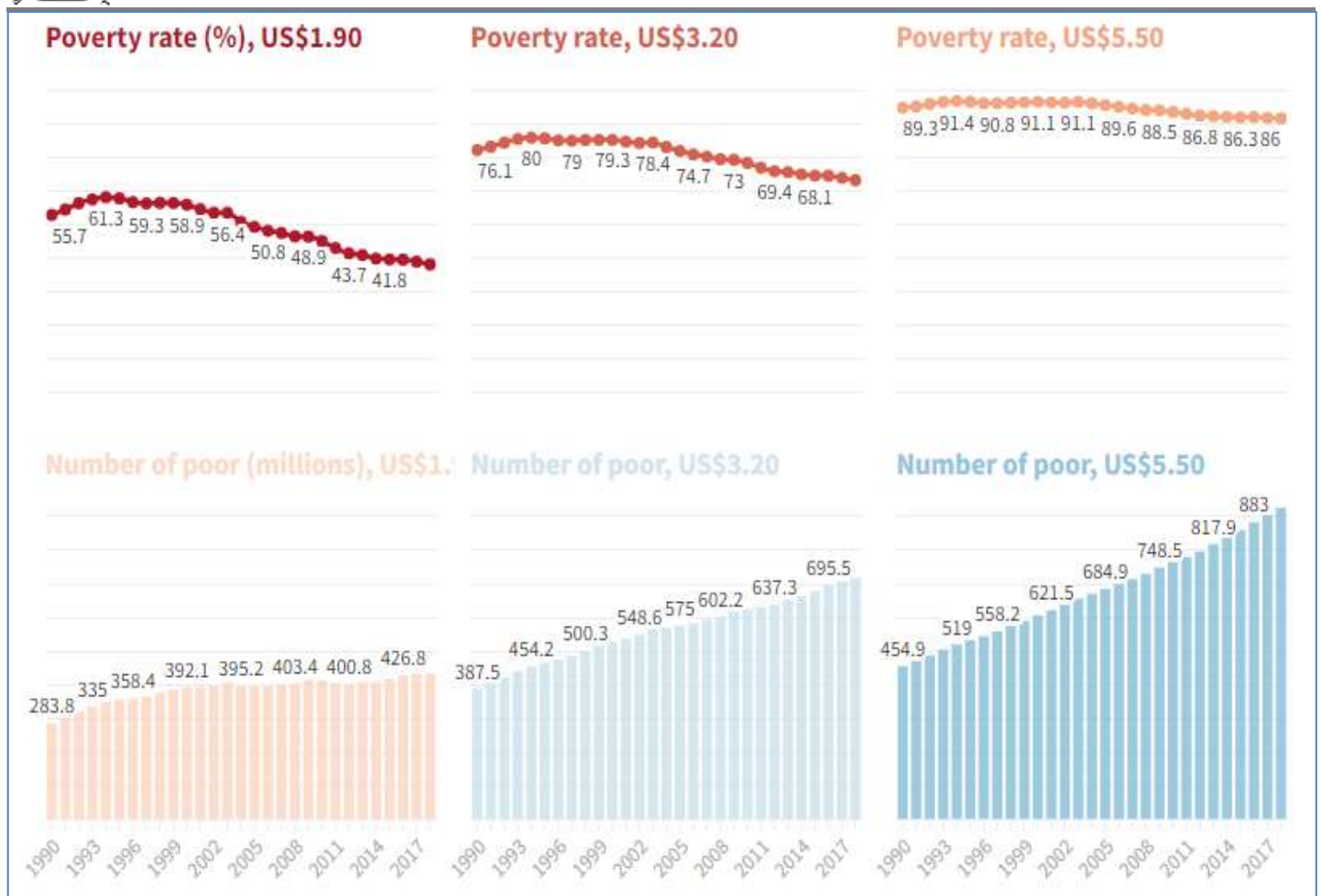


Figure 1: Poverty rates and number of poor at the three lines, Sub-Saharan Africa 1990-2018

Source: World Bank, 2021.

Moreover, the influence of external factors, such as global economic trends and geopolitical dynamics, on poverty levels in Sub-Saharan Africa introduces additional layers of complexity to the problem (Collier, 2007). Fragility, conflict, and violence: Fragility, conflict, and violence, or the lack of peace and security, is one of the key barriers to poverty reduction in Sub-Saharan Africa (World Bank, 2023). The World Bank's list of fragile, conflict-affected, and violent (FCV) countries in 1998 included four low-income countries in the region, which had an average extreme poverty rate as high as 73% in 1998. In 2021, these four countries still had a high extreme poverty rate of 58% (World Bank, 2023). The COVID-19 pandemic further exacerbated poverty levels in the region, with the number of poor people rising by 50% at the US\$1.90 line and doubling at the higher lines (World Bank, 2020). However, the reduction in poverty rates resumed the following year, at a similar rate as before the pandemic (UNICEF, 2023). The region's vulnerability to external shocks and fluctuations in commodity prices can undermine local efforts to address poverty, highlighting the need for a comprehensive analysis that considers both internal and external factors (Sachs, 2005; Barro, 2008).

In light of these considerations, this study seeks to empirically understand the effects of government revenue and institutional quality on poverty levels in Sub-Saharan Africa. By rigorously examining the current state of poverty in the region, assessing the factors contributing to its persistence. Additionally, the study will explore the role of external factors, including global economic trends like the foreign direct investment and geopolitical dynamics, in shaping the effectiveness of poverty alleviation efforts. Through this empirical investigation, the research endeavours to provide valuable insights that contribute to the ongoing discourse on poverty reduction and offer evidence-based recommendations for policymakers in the region.

LITERATURE REVIEW

Theoretical Literature

The examination of the effects of increasing government revenue on poverty levels in Sub-Saharan Africa involves delving into various economic and social theories that provide frameworks for understanding the dynamics at play. This section reviews relevant theories that contribute to elucidating the relationships between government revenue and poverty in the context of Sub-Saharan Africa.

Fiscal Policy and Economic Growth Theory

Fiscal policy, as a crucial component of economic management, plays a significant role in shaping a nation's economic growth trajectory. This subsection delves into the theoretical underpinnings of the relationship between fiscal policy and economic growth, exploring key concepts that guide policymakers and economists in understanding this intricate connection.

Public Finance Management Theory

Public finance management theory delves into the principles and frameworks that govern the allocation, utilization, and management of public resources by governments. This section explores key concepts within public finance management theory, shedding light on how governments can optimize fiscal policies to enhance economic development and address societal needs.

One of the central tenets of public finance management theory is the use of fiscal policy as a tool for economic stabilization. Governments employ fiscal measures, such as changes in taxation and government spending, to influence aggregate demand and counteract economic fluctuations. During economic downturns, expansionary fiscal policies, involving increased government spending and tax cuts, aim to stimulate economic activity. Conversely, contractionary fiscal policies, including reduced government spending and increased taxes, are deployed during periods of economic overheating to curb inflationary pressures (Musgrave, 1959). Public finance management theory guides policymakers in designing and implementing these measures to maintain macroeconomic stability.

Public finance management theory addresses the provision of public goods, goods and services that benefit society as a whole. Public goods exhibit non-excludability and non-rivalry, necessitating government intervention for their provision. The theory explores optimal strategies for financing and delivering public goods, considering issues such as equity, efficiency, and the role of the government in correcting market failures (Samuelson, 1954). Public finance management principles guide policymakers in devising mechanisms to ensure the equitable distribution of public goods and services.

Social Welfare Theory

Social welfare theory is a branch of economic thought that explores the principles and frameworks guiding decisions about the distribution of resources and the well-being of individuals within a society. This theory delves into the ethical foundations of economic policies and seeks to identify mechanisms for achieving social objectives.

A foundational concept within social welfare theory is utilitarianism, which proposes that the goal of economic and social policies should be to maximize overall happiness or well-being. The utilitarian perspective is grounded in the principle of the greatest happiness for the greatest number. According to utilitarianism, the value of an economic policy is determined by its impact on the overall welfare of society, with a focus on the aggregate satisfaction of individuals' preferences and desires (Bentham, 1789).

Social welfare theory recognizes the importance of equity and fairness in resource distribution. While utilitarianism emphasizes maximizing overall happiness, concerns about inequality and the distribution of well-being lead to the consideration of alternative principles. The Rawlsian approach, articulated by John Rawls,

introduces the concept of the "veil of ignorance," suggesting that just and fair economic policies should be designed without knowledge of individuals' specific circumstances. This ensures that policies are impartial and considerate of the least advantaged members of society (Rawls, 1971).

Amartya Sen's capability approach provides another perspective within social welfare theory. Sen argues that the focus should shift from merely measuring utility or happiness to considering individuals' capabilities—their ability to achieve valuable functionings such as health, education, and personal fulfillment. The capability approach emphasizes enhancing people's freedom to lead the kind of lives they value, rather than solely focusing on aggregate welfare measures (Sen, 1985).

Social choice theory, a branch of social welfare theory, examines how collective preferences and decisions are made in a society. Arrow's Impossibility Theorem, developed by Kenneth Arrow, highlights the challenges in designing a social welfare function that satisfies a set of desirable properties. Arrow's theorem suggests that there is no perfect way to aggregate individual preferences into a consistent and fair social order, leading to ongoing debates about the trade-offs and limitations inherent in collective decision-making (Arrow, 1951).

Therefore, social welfare theory provides a framework for evaluating economic policies based on ethical considerations and the well-being of individuals in society. From utilitarianism's emphasis on overall happiness to Rawlsian justice, Sen's capability approach, and social choice theory, these perspectives contribute to the ongoing discourse on how to design and assess policies that enhance social welfare while considering principles of fairness and equity.

Empirical Literature

Poverty dynamics in Sub-Saharan Africa (SSA) have been a subject of extensive research, with scholars investigating various factors influencing poverty levels in the region. This section reviews the empirical literature, categorizing studies into those conducted within SSA and those focusing on the rest of the world. The aim is to provide a comprehensive understanding of existing research on the multifaceted aspects of poverty dynamics, government interventions, and the role of different factors in shaping socio-economic conditions in SSA and beyond.

Studies in SSA

Osundina, Ebere and Osundina (2014) conducted a study to investigate the relationship between government spending on infrastructure and poverty reduction in Nigeria. The study employed per capita income as a proxy for poverty reduction, while government spending on infrastructure was proxied by expenditures on building and construction, transportation, education, and health. Using time series data spanning 43 years, the study conducted an Augmented Dickey Fuller unit root test, revealing that the variables were not stationary at the level but became stationary at the first difference, indicating an order of integration of $I(1)$. The Vector Autoregressive model, with a lag length of one, was employed to select the lag. The Vector Error Correction model indicated a long-run relationship between government spending on infrastructure and poverty reduction in Nigeria. The regression results demonstrated that government spending on building and construction had a positive and significant effect on poverty reduction, while spending on transportation had a negative and significant effect. However, the effects of spending on education and health were insignificantly negative and positive, respectively. The study recommended an increase in government spending on building and construction as an effective means of poverty reduction in Nigeria.

Omodero (2019) conducted an examination of the role of government sectoral expenditure in poverty alleviation, utilizing secondary data spanning a millennium period from 2000 to 2017. The study employed the ordinary least squares technique, and the regression results indicated that government expenditures on agriculture, building and construction, education, and health did not exhibit a significant impact on poverty alleviation in Nigeria. The findings led to the conclusion that the current level of government spending in these crucial sectors of the economy is insufficient to effectively address the issue of poverty in the country. As a recommendation, the study proposed an increase in budgetary allocations to these sectors to enhance their capacity and contribute to the eradication of poverty in Nigeria.

In Stephen and Simoen's study (2019), the focus was on investigating the potential relationship between economic growth and poverty in SSA. Utilizing standard econometric methods, specifically Ordinary Least Squares multiple regression (OLS), the study sought to provide empirical insights into the question of whether economic growth reduces poverty in SSA. Stationarity and co-integration tests were applied to assess the time series secondary data, confirming their suitability for analysis. The empirical findings revealed a significant and direct relationship between economic growth and poverty in SSA. Contrary to the expectation that economic growth would alleviate poverty, the study indicated that the impressive economic growth observed in recent times did not translate into a reduction in poverty. The study challenged the validity of the "trickle-down" phenomenon, suggesting that the notion that growth automatically benefits the poor was not supported by SSA's data. The conclusion underscored the importance for policymakers to prioritize equitable distribution and allocation of national income. The study advocated for a careful evaluation of public expenditure patterns to ensure they favor the poor. Additionally, recognizing the positive relationship between literacy rates and poverty reduction, the study recommended efforts to achieve higher literacy rates in SSA.

Aloui (2019) examined the relationship between governance and poverty reduction in sub-Saharan Africa. The study aimed to provide clear answers to key questions, primarily focusing on the direct impact of governance indicators on poverty reduction. The investigation employed a static model applied to available data spanning from 1996 to 2016 for sub-Saharan African countries. The regression results revealed a dual effect of governance indicators on poverty reduction in the region—both positive and negative. This suggests that governance factors, particularly government effectiveness, play a pivotal role in addressing poverty. Notably, the study observed variations in the relationship between governance and poverty reduction across different stages of development and significant disparities among African regions. The impact of governance on poverty reduction was found to be more pronounced in poorer regions compared to wealthier sub-Saharan Africa. For instance, the relationship between government effectiveness and poverty reduction was positive and significant in Central and Eastern Africa, not significant in Southern Africa, and negative yet significant in West Africa. These findings underscore the nuanced and context-specific nature of the governance-poverty dynamics in sub-Saharan Africa.

Dankumo et al. (2021) conducted a study to assess the impact of governance, public expenditure, and trade on poverty reduction in selected Sub-Saharan African (SSA) countries, employing the Pool Mean Group (PMG) method with data spanning 24 years (1996-2019). The findings revealed a long-term association between governance, public expenditure, trade, and poverty reduction in SSA. Specifically, control of corruption, political stability, government expenditure, and trade were identified as factors reducing poverty by enhancing the Human Development Index (HDI) over the long term. The results imply that improving governance, particularly in terms of controlling corruption and ensuring political stability, is crucial for poverty reduction as it enhances the effective performance of public expenditure and promotes trade in the SSA region.

Nsiah et al. (2021) conducted a study examining the threshold effect of financial inclusion on poverty reduction in sub-Saharan Africa (SSA). Utilizing annual data from 2010 to 2017, the researchers employed Hansen's estimation and Differenced Generalized Method of Moments (GMM) methods to determine the threshold level of financial inclusion conducive to poverty reduction and to identify factors influencing financial inclusion, respectively. The findings indicated that beyond a threshold level of 0.365, financial inclusion contributes to poverty reduction, with money supply showing positive significance in this regard in SSA. Additionally, the results highlighted that domestic credit to the private sector positively influences financial inclusion. The study suggests that development partners and governments in the sub-region should implement policies fostering an environment conducive to financial institutions, ensuring the availability and affordability of financial services to the public, ultimately realizing the desired poverty reduction effects of financial inclusion.

Iwegbu and Dauda (2022) conducted a study focusing on the effectiveness of foreign aid in poverty reduction in Africa, particularly examining the role of regional fiscal policy in education and health. Utilizing the panel dynamic ordinary least squares (DOLS) estimation technique, the study covered the period from 1980 to 2017. The findings indicated that foreign aid, when combined with effective fiscal policy in education, significantly improved income levels in all regions except Central Africa and consumption in the Western and Central regions. Similarly, when combined with effective fiscal policy in health, foreign aid enhanced households' income in West and Central Africa and consumption in West and Southern regions. Moreover, foreign aid, when augmented with effective fiscal policy in education (health), was found to reduce poverty headcount in the West

and Central (in all regions except Central) regions of Africa. The study concludes that sustaining the effectiveness of foreign aid in Africa requires an improvement in government allocations to the health and education sectors to deepen households' income.

Nnam and Inyang (2022) conducted a study investigating the relationship between economic growth and poverty in Nigeria spanning the period 1980-2019. The researchers utilized quantitative data sourced from secondary references such as the World Bank Development Indicators and the National Bureau of Statistics (NBS) annual reports. Various statistical tests, including the Augmented Dickey Fuller test, Phillips-Quliaris cointegration test, and cointegration regression (specifically, Dynamic Least Square analysis - DOLS), were employed for analysis. The results indicated an indirect long-term relationship between economic growth and the poverty rate in Nigeria throughout the study period. This relationship was statistically significant, aligning with prior expectations. Furthermore, the study revealed that unemployment and population growth rate had a significant negative impact on the poverty rate, while secondary school enrollment and foreign direct investment had a positive impact and were statistically significant contributors to poverty reduction in Nigeria. Interestingly, the study found no causality between economic growth and poverty in Nigeria, suggesting that economic growth and poverty levels operate independently. The conclusion drawn from the findings emphasizes the importance of economic growth for poverty reduction in Nigeria. The study recommends, among other things, that the Nigerian government adopt a comprehensive approach to poverty reduction with a focus on pro-poor growth initiatives.

Yaru and Adisa-Ohiaka (2022) conducted a study to explore the effects of revenue mobilization from indirect taxes on poverty, utilizing panel data regression analysis covering the period from 1990 to 2020 for 29 selected Sub-Saharan African (SSA) countries. The panel regression estimates, obtained from the random effects model (REM), revealed that GDP per capita had negative and significant impacts on poverty across all estimated models. The impacts of customs and import duties, as well as domestic goods and services taxes, were negative but significant in only one of the six models. The findings suggest that customs and import duties, along with domestic goods and services taxes, could serve as effective fiscal policy tools for governments in SSA to raise revenue without necessarily exacerbating the poverty situation.

Saidi, Labidi, and Ochi (2023) conducted a thorough examination of the triangular relationship among extreme poverty, governance quality, and economic growth in sub-Saharan African countries during the period 2010–2019. A distinctive aspect of this research is the application of the Panel Threshold Regression (PTR) and Panel Smooth Transition Regression (PSTR) models to identify the optimal level of the governance index. This optimal level, once achieved, was found to lead to a decrease in extreme poverty coupled with simultaneous economic growth and improved governance quality. The study unveiled a nonlinear nexus between these three variables. The results indicated a statistically significant negative relationship between governance and extreme poverty beyond the threshold levels of 0.314 for the Global Governance Index (GGI) and 66.9 for the Ibrahim Index of African Governance (IIAG). Above these thresholds, governance quality was observed to decrease extreme poverty. Additionally, the findings demonstrated that economic growth commenced reducing extreme poverty when governance reached a threshold level of 0.367 for GGI and 63.2 for IIAG. The study highlighted that enhanced governance performance contributes to improved economic growth and a reduction in poverty levels.

Mustapha, Sani, and Kwairanga (2023) conducted a study focusing on the effects of financial sector development on poverty in developing countries, with sub-Saharan Africa (SSA) as a case study. Employing dynamic panel generalized method of moment (GMM) estimation for data analysis, the study sought to answer the crucial question of whether financial sector development serves as a catalyst for poverty reduction in SSA. The findings revealed that financial development and trade openness exerted strong and positive effects on poverty reduction in SSA, while a high population growth rate had a negative impact on poverty reduction in the region. This suggests that the extent of financial development and the degree of trade openness are crucial determinants of the poverty rate, whereas a high population growth rate leads to a decrease in per capita income, thereby intensifying the rate of poverty. The study recommends appropriate financial reforms focusing on effective financial intermediation and inclusion for poverty reduction in SSA countries. By incorporating macroeconomic variables such as trade openness, population, and inflation to account for policy and macroeconomic shocks, this study provides valuable insights into the effects of the financial sector on poverty.

In the study conducted by Mogess, Eshete, and Alemaw (2023), the primary objective was to analyze the impact of recent economic growth on poverty reduction in 27 Sub-Saharan African (SSA) countries, employing a novel dynamic panel dataset. The study utilized System GMM estimation methodology and revealed a positive association between economic growth and poverty reduction. Additionally, the research identified that the preceding level of poverty had a substantial influence on the existing poverty status in the region. Notably, both nonmonetary measures and income-based measures of poverty yielded similar results, indicating a reduction in poverty. However, the study highlighted that nonincome poverty, particularly destitution data, suggested that SSA countries may be even poorer than previously understood. As a policy recommendation, the authors suggested that SSA countries should prioritize income-enhancing strategies, such as fostering economic growth, to effectively bolster poverty reduction efforts.

Ayana, Demissie, and Sore (2023) conducted a comprehensive investigation into the effects of the interaction between government revenue and institutional quality on the economic growth of 43 Sub-Saharan African (SSA) countries over the period 2012–2022. Employing the System Generalized Method of Moment (SGMM) as the chosen methodology, the study utilized panel data from reputable sources such as the World Development Indicator and the Heritage Economic Freedom Index. Notably, the research made a distinctive contribution by introducing the revenue-institutional quality interaction into the economic growth model tailored for SSA. The findings of the study revealed that, individually, government revenue had a negative impact on economic growth, while institutional quality exhibited a positive influence on economic growth. However, the interactive coefficient of government revenue and economic growth demonstrated a positive effect on the real GDP growth rate of SSA countries throughout the study period. Specifically, in the absence of interaction with institutional quality, a percentage change in government revenue resulted in a 0.0866 percent decline in economic growth, whereas in the presence of institutional quality, it led to a 0.2329 percent increase in economic growth. Additionally, the study highlighted that government revenue contributed positively to the economic growth of the region when combined with institutional quality. On the other hand, foreign direct investment and openness to trade were identified as crucial drivers of economic growth, while the population growth rate exerted an adverse impact on economic growth in SSA countries.

In their 2023 study, Dankumo et al. explored the influence of governance on the outcomes of government expenditure on poverty. Employing a system Generalised Methods Moments econometric technique with unbalanced panel data spanning from 1996 to 2019 and encompassing 46 countries in the Sub-Saharan African region, the researchers found that good governance played a pivotal role in fostering growth and development, particularly in the context of poverty reduction. The investigation disclosed that governance challenges, specifically corruption and political instability, intensified the plight of poverty. The study demonstrated that, at both medium and minimum levels, governance, embodied by corruption and political instability, significantly heightened poverty. Notably, the impact of governance became negligible at maximum levels. This suggests a noteworthy role for corruption and political instability in mediating the effects of government expenditure on poverty in the surveyed countries. Consequently, the research underscores the imperative of addressing corruption and enhancing political stability as fundamental responsibilities of governments. These efforts are deemed essential not only for direct advancements in economic performance but also for indirect impacts through poverty reduction.

Studies in The Rest of World

Celikay and Gumus (2017) aimed to contribute new empirical evidence regarding the relationship between social expenditure and poverty in Turkey. Given the plethora of studies in the literature with contradictory results, the authors employed panel error correction models and utilized Turkish statistical territorial units data covering 26 regions for the period 2004-2011. The findings of the study revealed that, in the short run, there was a negative relationship between social expenditure and poverty, aligning with expectations. However, in the long run, the authors identified a positive relationship between them. Specifically, when considering education expenditure as one component of social expenditure, the study observed a negative relationship between education expenditure and poverty, both in the short run and the long run. The study underscored the social implications of poverty as a significant issue that warranted further exploration from various angles. Moreover, it emphasized the need for policy measures to address and alleviate the challenges associated with poverty.

Dung and Le (2023) conducted a study aiming to investigate the relationship between government spending and poverty reduction in the 63 provinces of Vietnam from 2010 to 2020. Utilizing a fixed effects model and a fixed effects quantile regression, the research argues and establishes that government spending significantly contributes to reducing the poverty rate in Vietnam. The study suggests that income per capita serves as a reliable proxy for the poverty rate. Notably, the research highlights the challenge of income inequality faced by the Vietnamese government and underscores its influential role in impeding poverty reduction efforts. The findings of this study make valuable contributions to the existing literature on public finance in Vietnam and other emerging markets. Furthermore, it offers important policy implications for policymakers in these economies, providing insights into addressing challenges related to poverty alleviation and income inequality

Elshahawany and Elazhary (2023) conducted a study with the objective of analyzing the impact of government spending on alleviating regional poverty in Egypt. The research utilized a panel dataset covering 27 Egyptian governorates from 2010 to 2018. The two-way fixed effect regression model was employed to capture the variations between regions over time. The findings revealed that, at the national level, only social government spending exhibited a significant impact on poverty reduction. Specifically, health, education, and social government spending demonstrated significant negative impacts on poverty at the regional level, particularly in Upper Egypt and Cairo. The study provides valuable insights into the effectiveness of government spending in addressing regional poverty disparities in Egypt, emphasizing the varying impacts across different sectors and regions.

Anderson et al. (2018) conducted a meta-regression analysis to examine the relationship between government spending and income poverty, focusing on low- and middle-income countries. The study identified 19 cross-country econometric studies with a total of 169 estimates of this relationship through a rigorous search and screening process. The findings revealed that the size and direction of the estimated relationship are influenced by various factors, including the composition of the sample used, control variables in the regression model, and the type of government spending. Overall, there was no clear evidence suggesting that higher government spending significantly contributed to reducing income poverty in low- and middle-income countries. This aligns with the perspective that fiscal policy has a more limited redistributive role in developing countries compared to OECD countries. Additionally, the study observed that the relationship between government spending and poverty is, on average, less negative for Sub-Saharan African countries and more negative for countries in Eastern Europe and Central Asia compared to other regions. The analysis also indicated that the relationship is less negative for government consumption spending compared to other sectors.

Gap in Literature and Value Added

Despite a considerable body of literature examining poverty dynamics, there is a distinct gap that this study seeks to address, particularly within the context of Sub-Saharan Africa (SSA). While previous studies have frequently explored the relationship between economic growth and poverty, there is a noticeable lack of comprehensive investigations into the role of government revenue in shaping poverty levels in SSA. Most existing research has tended to focus on economic growth and government expenditure as the primary drivers of poverty reduction, overlooking the potential significance of government revenue in this context. This is because government revenue may not translate to government expenditures due to corruption and other institutional factors

Also, a critical gap emerges in the limited consideration of institutional factors within the poverty-growth nexus in SSA. Existing studies often overlook the moderating influence of institutional factors on the relationship between government revenue and poverty levels. This study aims to fill this gap by explicitly analyzing how institutional factors moderate the impact of government revenue on poverty in SSA, providing a more understanding of the interplay between governance structures and poverty outcomes

METHODOLOGY

This study is anchored on Fiscal redistribution theory and the human capital theory. This theory argues that increase in government revenue resulting from progressive tax system would increase social programs of the government through cash transfer, food assistance and housing subsidies thereby reducing poverty. Also, the human capital theory argues that investment in education and healthcare can be financed through government

revenue. An increase in government revenue increases investment in education and healthcare, which raises individual earning potential which reduces poverty. Therefore, according to these theories, a country's poverty rate is affected by the amount of revenue generated by the government.

$$\text{Poverty} = f(\text{revenue}) \quad (1)$$

Expanding Equation (1) to accommodate other determinants of poverty level, we have;

$$\text{Poverty} = f(\text{revenue}, FDI, CORR, GOVEFF, GEDUEXP, CHEXPPC) \quad (1)$$

Where

Poverty is proxy by final consumption expenditure

Revenue is to be proxy by Gross Domestic Product per capita

FDI is foreign direct investment net inflow

CORR is corruption which measures the quality of government institution

GOVEFF is government effectiveness which also measure the quality of government institution

GEDUEXP is government expenditure on education (percentage of total expenditure)

CHEXPPC is current health expenditure per capita

$$Poverty_{it} = \beta_0 + \beta_1 revenue_{it} + \beta_2 FDI_{it} + \beta_3 corr_{it} + \beta_4 goveff_{it} + \beta_5 geduexp_{it} + \beta_6 chexppc_{it} + \epsilon_t + \mu_{it} \quad (3)$$

Equation (3) was estimated using panel fully modified ordinary least square method. Panel Fully Modified Ordinary Least Squares (FMOLS), developed by Pedroni (2000, 2001), is an advanced panel data estimation technique designed to estimate long-run relationships among variables that are non-stationary but cointegrated. This was chosen because we are interested in a long-run relationship and the variables are cointegrated. It also provides consistent and efficient estimates of long-run coefficients. Also, the study conducted descriptive statistics of the variables, panel unit root test.

RESULTS

Descriptive statistics of the variables

Table 1 shows the descriptive statistics of the variables in the model

	LNPOVERTY	LNREVENUE	FDI	CORRUP	GOVEFF	GEXPEDU	CHEXPPC
Mean	22.63963	8.191799	9.98E+08	35.12653	28.92751	16.91693	118.8839
Median	23.26447	8.016612	3.80E+08	32.14245	24.28572	16.85584	54.46455
Maximum	26.47486	10.44424	4.07E+10	125.5499	84.61539	47.04520	784.7324
Minimum	-2.680843	6.720053	-7.40E+09	0.947867	1.421801	2.510600	-14.84978
Std. Dev.	4.221209	0.823596	2.56E+09	22.95815	19.80561	6.030995	174.4179
Skewness	-5.036550	0.725917	8.164907	0.598171	0.914199	0.497939	2.302293
Kurtosis	29.17602	3.072667	123.4177	2.768660	2.983330	4.421544	7.009911
Jarque-Bera	15733.03	42.26200	295341.7	29.69500	66.86631	60.25123	745.6321
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	10867.02	3932.063	4.79E+11	16860.74	13885.20	8120.128	57064.28
Sum Sq. Dev.	8535.111	324.9109	3.14E+21	252469.7	187893.6	17422.62	14571956
Observations	480	480	480	480	480	480	480

Authors, 2025

Table 1 shows the descriptive statistics of poverty, revenue, foreign direct investment (FDI), corruption (corrupt), government effectiveness (GOVEFF), government expenditure on education (GEXPEDU), and current health expenditure per capita (CHEXPPC). It could be observed that the log of poverty and revenue have mean values of 22.6 and 8.2 respectively. The mean value of corruption and government effectiveness are 35.1 percent and 28.9 percent respectively. However, the mean value of current government expenditure is 118.9 while that of government expenditure on education is 16.9 respectively. The median, maximum and minimum values of the variables were duly presented and most of the variables cluster around their mean except government expenditure on health that showed very high departure from the mean. Interestingly, most of the variables showed positive skewness except poverty. The distribution of the variables showed that poverty, revenue, FDI, GEXPEDU, CHEXPPC were leptokurtic while CORRUP and GOVEFF were from platykurtic distribution. It therefore means that individually, the variables are not from normal distribution. This is evident from the probability of the Jarque-Bera statistics. The study used a total of 480 observations which is large enough to address loss of degrees of freedom

Correlation Matrix

The study conducted correlation test using pairwise correlation matrix. This is to ensure that the variables are free from multicollinearity. The result of pairwise correlation is presented on table 2.

	LNPOVERTY	LNREVENUE	FDI	CORRUP	GOVEFF	GEXPEDU	CHEXPPC
LNPOVERTY	1.000000	-0.075301	0.156161	-0.393117	0.094355	-0.058256	0.114337
LNREVENUE	-0.075301	1.000000	0.081205	0.532341	0.659444	-0.124622	0.780049
FDI	0.156161	0.081205	1.000000	0.020350	0.103641	0.083469	0.176812
CORRUP	-0.393117	0.532341	0.020350	1.000000	0.737309	0.164692	0.496983
GOVEFF	0.094355	0.659444	0.103641	0.737309	1.000000	0.066065	0.723815
GEXPEDU	-0.058256	-0.124622	0.083469	0.164692	0.066065	1.000000	-0.048281
CHEXPPC	0.114337	0.780049	0.176812	0.496983	0.723815	-0.048281	1.000000

Author, 2025

Table 2 shows the result of pairwise correlation of the variables. It could be observed that the pairwise correlation of the variables are all less than 0.80 which indicates that there is no high collinearity among the variables in the model.

Unit Root Test

The stationarity test of the variables was conducted using Fisher Augmented Dickey Fuller unit root test. This test is presented on table 3.

Table 3: Fisher Augmented Dicky-Fuller Unit root Test

Variable	Level				First Difference				Order of integration
	ADF-Fisher-Chi-square		ADF-Choi-Z-stat		ADF-Fisher-Chi-square		ADF-Choi-Z-stat		
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.	
lnrevenue	77.0038	0.0687	-0.49855	0.3090	110.156	0.0001	-4.77773	0.0000	I(1)
lnpoverty	60.9704	0.3019	0.75915	0.7761	136.153	0.0000	-6.21851	0.0000	I(1)
FDI	90.8191	0.0063	-2.14802	0.0159					I(0)
Corrup	59.4852	0.4945	0.52315	0.6996	136.778	0.0000	-6.13709	0.0000	I(1)
Goeff	54.7634	0.6669	0.76968	0.7793	167.803	0.0000	-7.62698	0.0000	I(1)
Gexpedu	129.895	0.0000	-2.95627	0.0016					I(0)
chexppc	63.2805	0.3614	1.76480	0.9612					I(0)

Authors, 2025

Table 3 shows the result of Fisher ADF unit root test. It could be observed that FDI, Gexpedu and Chexppc were stationary in their level and are said to be integrated of order zero while lnrevenue, lnpoverty, corrupt and Goveff were stationary in their first difference and are said to be integrated of order one.

Panel Cointegration Test

The Pedroni residual cointegration test was used to ensure that the variables in the model has long run association. This test is presented on table 4. The null hypothesis for this test is that there is no long run association among the variables. The null hypothesis is to be rejected if the probability value of *Panel v-Statistic*, *Panel rho-Statistic*, *Panel PP-Statistic* and *Panel ADF-Statistic* are respectively less than 0.05, otherwise there is no long run association among the variables.

Table 4: Pedroni residual cointegration test

Alternative hypothesis: common AR coefs. (within-dimension)					
				Weighted	
		Statistic	Prob.	Statistic	Prob.
Panel v-Statistic		-3.839054	0.0003	-3.337687	0.0005
Panel rho-Statistic		9.407782	0.0000	5.279037	0.0000
Panel PP-Statistic		7.792277	0.0000	-4.116373	0.0000
Panel ADF-Statistic		-1.841652	0.0328	2.226722	0.0040
Alternative hypothesis: individual AR coefs. (between-dimension)					
		Statistic	Prob.		
Group rho-Statistic		7.376823	0.0000		
Group PP-Statistic		-6.971663	0.0000		
Group ADF-Statistic		1.228893	0.0204		

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Table 4 shows that the probability values of *Panel v-Statistic*, *Panel rho-Statistic*, *Panel PP-Statistic* and *Panel ADF-Statistic* are respectively less than 0.05. This means that the null hypothesis of no cointegration among the variables are to be rejected at 5 percent.

Regression Result

The study used panel fully modified ordinary least square regression method to determine the effect of revenue on poverty in Sub-Saharan Africa. The coefficient of covariance was computed using default method and the long run covariance estimates were based on Bartlett Kernel, Newey-West fixed bandwidth.

Table 5: Panel Fully Modified Least Squares (FMOLS) regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNREVENUE	0.324253	1.460287	0.222047	0.8244
LNREVENUE*GOVEFF	0.046988	0.030625	1.534303	0.1257
LNREVENUE*CRRUP	-0.056977	0.018952	-3.006376	0.0028
FDI	4.74E-13	5.15E-11	0.009222	0.9926
CRRUP	0.433355	0.162739	2.662877	0.0081
GOVEFF	-0.354150	0.250923	-1.411393	0.1589
GEXPEDU	-0.059257	0.027398	-2.162861	0.0311
CHEXPPC	0.003287	0.002931	1.121329	0.2628
R-squared	0.868549	Mean dependent var		22.61233

Adjusted R-squared	0.856743	S.D. dependent var	4.346919
S.E. of regression	1.645276	Sum squared resid	1115.257
Long-run variance	4.309065		

Authors, 2025

Table 5 shows the result of panel fully modified OLS regression. It could be observed that the log of revenue, interaction of the log of revenue and government effectiveness, foreign direct investment, government effectiveness, and current health expenditure per capita were statistically insignificant at 5 percent while the interaction of corruption and the log of revenue, corruption and government expenditure on education were statistically significant. Most of the variables have signs that are in line with a priori except for the current expenditure on health per capita.

The study shows that revenue has positive but statistically insignificant effect on poverty in Sub-Sahara Africa. This is not surprising at all since most of the countries in the region record high revenue but the rate of poverty in the region continued to soar high. This may be as a result of diversion of government revenue, embezzlement of public funds, huge spending on projects that do not impact on the life of the poor masses like building of international conference centres, renovating and building new government lodges, high administrative cost, etc.

The effect of institutional quality on the effectiveness of revenue in reducing poverty was examined and the study shows that the interaction of corruption with revenue was statistically significant at 5 percent. This interaction term examines whether corruption influences the effect of revenue on the level of poverty in SSA countries. Specifically, the negative coefficient shows that a one-unit increase in corruption reduces the marginal effect of revenue on poverty level by approximately 0.057 units.

Corruption significantly weakens the positive relationship between revenue and poverty level in SSA. Even if revenue increases, higher levels of corruption reduce its effectiveness in improving the outcome on the welfare of the people. This suggests that corruption undermines the benefits derived from revenue expansion.

This shows that 1-percent increase in both the rank of corruption and the revenue generated in Sub-Sahara would increase poverty by 0.05 percent. Corruption in Sub-Sahara Africa was observed to increase poverty. The study shows that 1-percent increase in the rank of corruption increases poverty by 0.43 percent. Government expenditure on education was in tandem with the assumption of human capital theory. This study shows that 1-unit unit increase in government expenditure decreases poverty by 0.05 percent.

CONCLUSION

Government revenue has been an instrument for poverty reduction of most economies in the world. This is because with increased government revenue, there would be adequate provision of infrastructures, social security nets and other programs that would reduce poverty. This study examines government revenue, institutional quality and poverty level in Sub-Sahara Africa. The study made use of 30 countries in Sub-Sahara. The choice of 30 countries was based on the availability of data for analysis. The study adopted panel fully modified ordinary least square method to examine the effect of government revenue and institutional quality on poverty. The study also interacted institutional quality variables with revenue to determine whether these institutional variables are the channel through which revenue affect poverty in the region. The findings show that increasing government revenue has not significant effect on poverty. This is not surprising at all since most of the countries in the region record high revenue but the rate of poverty in the region continued to soar high. This may not be unrelated to diversion of government revenue, embezzlement of public funds, huge spending on projects that do not impact on the life of the poor masses like building of international conference centres, renovating and building new government lodges, high administrative cost, etc. Also, the interaction of corruption and government revenue was significant

This shows that corruption does not only increase the rate of poverty in SSA but also weakens the ability of government revenue to be used to improve the welfare of the masses. Lastly, the study finds that increasing government expenditure on education would help reduce poverty in the region.

RECOMMENDATION

Sequel to our findings, we recommend that the rising government revenue in SSAs should be channelled to areas that will have direct effect in improving the welfare of the citizens instead of on white elephant projects. In addition, government institutions should be strengthened in order to curb corruption and its consequences on the welfare of the ordinary man. Also, we recommend that both the government and non-governmental organisations should invest more on education and trainings to reduce poverty in Sub-Sahara Africa.

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