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Effects of remittances and democracy on income inequality in Sub-Saharan Africa.



BENJAMIN ADUSEI NSIAH

MASTER OF PHILOSOPHY

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**EFFECTS OF REMITTANCES AND DEMOCRACY ON INCOME
INEQUALITY IN SUB-SAHARAN AFRICA.**



**BENJAMIN ADUSEI NSIAH
(8230180004)**

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School of Graduate Studies, in partial fulfilment
of the requirement for award of
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DECLARATION

Student's Declaration

I, **BENJAMIN ADUSEI NSIAH**, declare that this thesis entitled “Effects of Remittance and Democracy on Income Inequality in Sub-Saharan Africa”, with the exception of quotation and references contained in published works which have been identified and duly acknowledged, is entirely my original work, and it has not been submitted either in part or whole for another degree elsewhere.

Signature:

Date:

Supervisor's Declaration

I declare that the preparation and presentation of this thesis work was supervised in accordance with the guidelines for supervision of thesis/dissertation/project as laid down by the University of Education, Winneba.

Supervisor's Name: Dr. Anthony Abbam (Principal Supervisor)

Signature:

Date:

Supervisor's Name: Dr. Eric Justice Eduboah (Co-Supervisor)

Signature:

Date:

DEDICATION

To my parents Mr. & Mrs. Nsiah and Siblings



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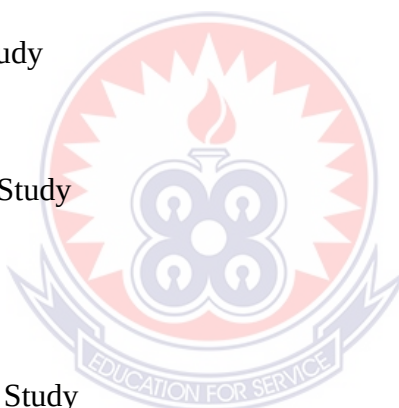
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LIST OF ACRONYMS

2SLS	Two-Stage Least Squares
AR	Autoregressive
ARDL	Autoregressive distributed lag
CADF	Cross-Sectional Augmented Dickey-Fuller
CD	Cross-Sectional Dependence.
CIPS	Cross-Sectional Augmented IPS (CIPS) test
FDI	Foreign Direct Investment
GCIP	Global Consumption and Income Project
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
IDI	Income Disparity Index
IMF	International Monetary Fund
MLM	Maximum Likelihood Method
MMQR	Moments Quantile Regression
NELM	New Economics of Labour Migration
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
RMG	Ready-Made Garments
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
SWIID	Standardized World Income Inequality Database

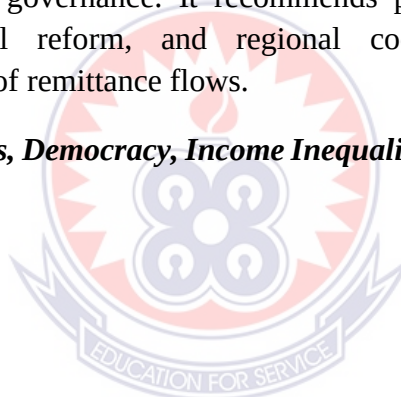
UN	United State
WDI	World Development Indicators
WID	World Income Database



ABSTRACT

Income inequality remains persistently high in Sub-Saharan Africa, despite substantial remittance inflows and the widespread adoption of democratic governance. Therefore, this study seeks to investigate the effect of remittances and democracy on income inequality in Sub-Saharan Africa (SSA), using panel data from 35 countries covering the years 2000 to 2022. Employing the Two-Step System GMM estimator and the Driscoll-Kraay method, the research addresses endogeneity and cross-sectional dependence. The analysis focuses on the individual and combined effects of remittances and democracy on income distribution, using the Palma index as the primary inequality measure, with Gini, Theil, and Atkinson indices as robustness checks. The findings reveal that remittances significantly reduce income inequality, and that their effect is amplified in countries with stronger democratic institutions. Political rights and civil liberties are found to be associated with more equitable income distribution. The study further shows that while GDP per capita is linked to lower income inequality, industrialization and education tend to widen the income gap. The conclusion emphasizes that the income inequality-reducing potential of remittances depends on the quality of democratic governance. It recommends policies that promote financial inclusion, institutional reform, and regional coordination to maximize the developmental impact of remittance flows.

Keywords: *Remittances, Democracy, Income Inequality, Sub-Saharan Africa, GMM.*



CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In recent decades, there has been an unparalleled increase in the flow of migrants around the world; People are increasingly looking for better economic opportunities and improved quality of life in foreign countries, leading to a significant increase in foreign capital inflows, primarily comprising remittances (Von-Ehrlich & Seidel, 2015). Remittances are money or other forms of financial support that migrants send back to their families or communities in their home countries (Kunz, Maisenbacher & Paudel, 2022). According to International Monetary Fund (2023) Global remittances have steadily grown since 2021, rebounding to USD 781 billion. They are estimated to have increased by 5% to USD 831 billion in 2022 and are projected to increase by a small 1% to USD 840 billion in 2023. These remittances have become a lifeline for many developing economies, contributing to household consumption, education, healthcare, and small business development (Lu, 2013).

The benefits and costs of migration are not evenly distributed, contributing to global inequality which has become a major concern worldwide (International Organization for Migration, 2023). This inequality encompasses various dimensions, including economic inequality, which manifests in disparities in income, wealth, and opportunities among individuals and communities. Economic inequality, in turn, often exacerbates income inequality, where certain groups within societies receive disproportionately higher incomes compared to others (Sahu & Mahalik, 2024). This widening gap in income distribution can perpetuate social and economic disparities, hindering efforts towards poverty alleviation and sustainable development (Nae, Florescu & Bălăsoiu, 2024).

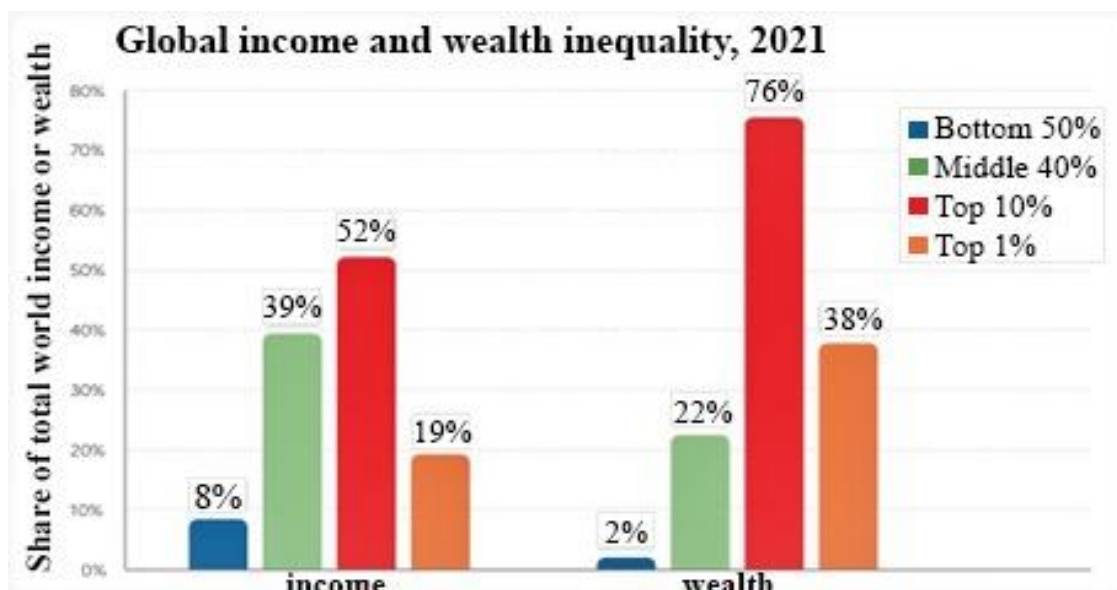


Figure 1.1: Global Income and Wealth Inequality (2022)

Source: World Inequality Report (2021)

Global income inequality has remained consistently high over the past two centuries, with the top 10% capturing between 50 to 60% of global income and the bottom 50% receiving less than 10% (Chancel & Piketty, 2021). While overall global inequality has slightly declined since 2000 mainly due to China's economic growth (Milanovic, 2024). Income disparities within countries have worsened, as the gap between the bottom 50% and top 10% has nearly doubled in the last two decades (Ferreira, Salvucci & Tarp, 2023).

A broad consensus in the literature indicates that income inequality in Sub-Saharan Africa is among the highest globally after Latin America. with countries like South Africa, Namibia, and Zambia consistently appearing at the top of inequality indices (Odusanya & Akinlo, 2021). Historical legacies such as apartheid, especially in South Africa, continue to shape unequal access to wealth and opportunities (Bundy, 2020), while the top 1% increasingly capture a larger share of income as the bottom 50% stagnates (Igbatayo, 2022). Remittances have emerged as a potential tool for reducing

inequality by supporting investments in health, education, and small businesses (Khan, 2024). However, their effectiveness is often hindered by high transaction costs and the economic conditions in host countries, which can limit access and drive reliance on informal transfer channels (Kpodar & Imam, 2024; Elorabi et al., 2023). Addressing these barriers is crucial not only for promoting inclusive development but also for aligning with Sustainable Development Goal 10 (SDGs 10), which emphasizes reducing income inequality by lowering the cost of remittance transfers and ensuring that these funds reach and benefit lower-income households.

The relationship between remittances and changes in income inequality shows different patterns based on the specific circumstances. The flow of remittances helps reduce economic disparities by enhancing poor household incomes which supports capital investment and consumer protection during economic turbulences (Portes, 2009). Remittances fall into two different trends depending on which household groups can access migration opportunities: Middle or high-income households tend to receive remittances which solidify existing social hierarchies (Borja & Hall, 2018). The two-sided functionality of remittances warrants investigation into the circumstances which lead to fair economic results.

One such condition lies in the broader political and institutional environment in which remittances are received. Governance systems that promote transparency, accountability, and equal access to opportunities may enhance the ability of households to use remittances productively. In particular, democratic settings where civil liberties, rule of law, and participatory institutions are more likely to be upheld can play a crucial role in shaping how remittances are distributed and utilized within society (George, Rao & Sharan, 2024). Democracies may also foster policies that ensure remittance inflows

contribute to inclusive development and reduce structural barriers that perpetuate inequality (Choutagunta & Gutmann, 2024).

Moreover, remittances can themselves contribute to political engagement and institutional development. As households become more financially empowered, their expectations for government performance may rise, leading to increased demand for political accountability and inclusive reforms (Bastiaens & Tirone, 2019; Williams, 2017). When flows of remittances take effect they shape both economic results and also the development of recipient countries' governance systems and public policies.

Despite the significance of these linkages, much of the existing research has focused narrowly on the economic effects of remittances, with limited attention to the role of political institutions in shaping their broader impact. This is particularly true in the context of Sub-Saharan Africa, where both remittance dependency and income inequality are high, and where governance structures vary widely across countries.

This study, therefore, seeks to explore the effect of remittance inflows on income inequality in Sub-Saharan Africa, while paying close attention to how democratic institutions influence this relationship. By examining the intersection flows of remittances, democratic governance, and income inequality, the research aims to offer deeper insights into the conditions that enable remittances to serve as a tool for equitable development.

1.2 Statement of the Problem

Inequality is a major issue in sub-Saharan Africa, affecting various aspects of life, including access to basic services, education, and income (Dossou, 2023). According to the World Inequality Report (2022). Income inequality is high around the globe particularly, in Sub-Saharan Africa. The top 10 percent richest people received 52% of

total national income whilst the middle 40 percent income earners received 39% of total national income and the bottom 50 percent income earners received less than 8% of the national income distribution (Chancel et al., 2022). The Graph below indicates the income distribution trend across the globe particularly in Sub-Saharan Africa since 2021.

The poorest half lags behind: Bottom 50%, middle 40% and top 10% income shares across the world in 2021

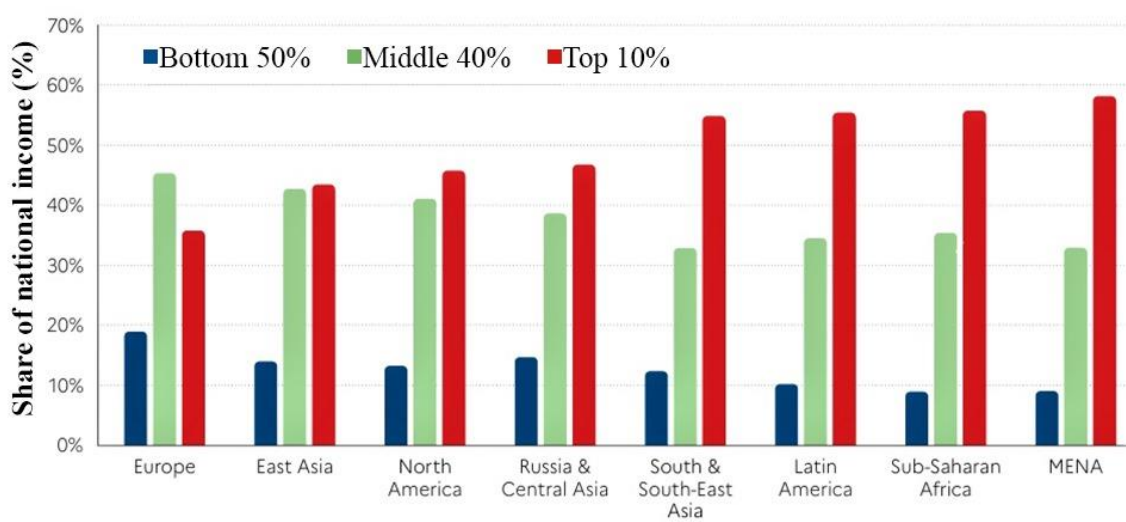


Figure 1.2: Global Income Inequality trend (2022)

Source: World Inequality Report (2021)

It is well known that there is a dominant political-economic theory that states that countries with extreme inequality ought to implement democratic systems as a way to address these income inequalities (Acemoglu & Robinson, 2005). In response to this request, many countries in the Sub-Saharan African region have adopted democratic government, seeing it as a possible means of reducing inequality and promoting shared prosperity. Despite these political transitions, the anticipated reduction in inequality has not materialized as expected.

Moreover, according to the International Monetary Fund (2023), global remittances increased from US\$726 billion in 2019 to US\$831 billion in 2022 of which US\$647

billion went to developing countries, with Sub-Saharan Africa receiving a substantial portion of US\$53 billion. Remittance flows to Sub-Saharan Africa grew by 6.1% in 2022. Despite receiving a lot of remittances, income inequality still remains high in Sub-Saharan Africa (Ofori, Gbolonyo, Dossou & Nkrumah, 2022).

It is important to note that some empirical evidence on remittances, democracy, and income inequality exists in Africa (Al-Majali, 2023; Lankoande, 2023; Portes, 2009). For instance, Al-Majali (2023) analyzed data from 114 countries (2010–2021) and found that higher levels of democracy significantly reduce income inequality. Specifically, a one-point increase in the democracy index leads to a 0.487-point decrease in the Gini index, indicating improved income distribution. On their part, Lankoande (2023) examined the impact of migrant remittances on income inequality in 34 Sub-Saharan African countries from 2005 to 2019. Using fixed effects with Driscoll-Kraay errors, it found that remittances help reduce inequality by lowering the income share of the richest 10% and increasing the share for the poorest 90%, especially those just above the bottom 50%. Also, Portes (2009) examined the effect of remittances on income distribution across 46 countries from 1970 to 2000 and found a non-linear relationship, especially in low-income countries. The study revealed that remittances positively impact the income of the poorest 70% while negatively affecting the top 20%, thereby contributing to a reduction in income inequality

While previous studies have significantly advanced our understanding of remittances, democracy, and income inequality, they often examine these components in isolation, failing to address their potential interactions and mutually beneficial effects. Therefore, this study explores how remittances and democracy together shape income inequality in Sub-Saharan Africa (SSA), offering a broader perspective than those that consider each factor individually. In democratic environments, remittances are more likely to be

used productively due to greater transparency, stronger institutions, and individual economic freedoms (Ofori et al., 2022; Acemoglu, Naidu, Restrepo & Robinson, 2015). The study focuses on SSA, where income inequality remains high, remittance inflows are substantial, and democratic governance varies across countries. By examining the influence of civil liberties, political rights, and regime authority alongside remittances, the study highlights how democratic setting can affect the distributional impact of remittances. It also utilizes a range of inequality measures Palma, Theil, Atkinson, and Gini indices to provide a richer and more detailed picture of income inequality within Sub-Saharan Africa.

1.3 Objectives of the study

The general objective of the study is to examine the effect of remittances and democracy on income inequality in the context of the Sub-Saharan Africa region using 35 countries over a period spanning 2000 to 2022.

However, the study has the following specific objective:

1. To assess the effect of remittances on income inequality in Sub-Saharan Africa.
2. To examine the effect of a democratic system of governance on income inequality in Sub-Saharan Africa.
3. To investigate the interactive effect of remittances and democratic governance on income inequality in Sub-Saharan Africa.

1.4 Research Questions

1. What is the effect of remittances on income inequality in Sub-Saharan Africa?

2. What is the effect of a democratic system of governance on income inequality in Sub-Saharan Africa?
3. Is there an interactive effect of remittances and a democratic system of governance on income inequality in Sub-Saharan Africa?

1.5 Significance of the Study

The importance of this study cannot be overstated given the persistent challenge of income inequality in Sub-Saharan Africa, despite increasing remittance inflows and ongoing democratic transitions. By examining how remittances can be better utilized within democratic settings to enhance income equity, the study provides practical knowledge for financial institutions, remittance service providers, civil society organizations, and government agencies responsible for economic planning, governance, and social welfare. These groups can benefit from the findings to design targeted programs that ensure remittances reach underserved communities and are used productively to uplift low-income households.

Additionally, the study will be of relevance to development practitioners, NGOs, and community leaders working to promote inclusive growth and reduce economic disparities across the region. It also offers valuable guidance for central banks and financial regulators on how to improve the remittance ecosystem such as lowering transaction costs and expanding access to digital remittance services so that more households, particularly in rural and marginalized areas, can benefit.

Also, the study enhances the existing literature by combining the dimensions of remittances, democracy, and income inequality in a single framework, specifically focusing on Sub-Saharan Africa. This method uses a combination of inequality indices including Palma, Theil, Atkinson and Gini indices to expand understanding of

population inequalities in their various forms. This will serve as a useful resource for scholars, graduate students, and research institutions exploring the intersection of remittances, democratic governance, and income inequality in the Sub-Saharan African.

1.6 Scope of the Study

To examine the effect of remittances and democracy on income inequality, the study used data from 35 Sub-Saharan African (SSA) nations from 2000 to 2022 to investigate this relationship. The countries were selected mainly due to the availability of data for the selected countries from various sources.

1.7 Delimitation

The study is concentrated on the effect of remittances and democracy on income inequality in Sub-Saharan Africa. The study measured democracy using the Civil liberty and political rights indices. Also, the study used personal remittances received in (% GDP) to measure remittances. Finally, the study used various inequality measures to measure income inequality; the Palma index of income, Gini index of income, Theil index of income, and Atkinson index of income. The data for the study is sourced from Freedom House score for democracy, Global Consumption and Income Project (GCIP) for all the income indices, and World Development Indicators (WDI) for Remittances and other control variables

1.8 Organization of the Study

There are five chapters in the study. The background upon which this study is conducted is presented in chapter one. Also, the problem statement, the objectives, the research questions, the significance, the scope, and the organization of the investigation are all presented in the subsections of chapter one. Chapter two contained the review of related

concepts, theories and empirical literature. The research philosophy, research design, methodology and estimation techniques for the research were captured in the chapter three. The results obtained from the estimations are then presented and discussed in the chapter four and the chapter five summarized drew conclusions and provided recommendations for future research.



CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter provides an overview of the available literature on the relationship between remittances, democracy, and income inequality. The chapter reviewed the

concepts, theories, and empirical studies relating to income inequality, remittance, and the democratic system of governance. The aim is to support this thesis with the theoretical and empirical foundations. The chapter is divided into five sections. The first section reviews the concept of the variables. The second section reviews various theories to support the theoretical framework of this study. The third section explores existing empirical research related to this study. The fourth section developed hypothetical analysis to back the conceptual framework. Lastly, the fifth section delves into the conceptual framework that will guide the study.

2.1 Conceptual Reviews

2.1.1 Income inequality

Income inequality refers to the unequal distribution of income among individuals within a population. This has substantial implications for economic growth, social cohesion, and political stability. High levels of income inequality can result in reduced welfare spending, diminished public investment, and heightened political polarization (Stiglitz, 2012). Besides, it might slow down the economic development by reducing people's chances to get an education or a job, decreasing the rate of innovation, and destabilizing long term investments (Rodríguez-Pose & Tselios, 2010). Equality is also associated with poor social consequences which include; poverty, material disadvantage, and slow social mobility (Atkinson, 2016). To measure income inequality different indices exists, such as the Gini-coefficient which varies from 0 (equality) to 1 (extreme inequality) and the Palma-ratio which shows the pro capita income form the top 10% compared to the bottom 40%. The Atkinson index and the Theil index are also used to offer other measurements of the inequality of income and the impacts which it has. If incomes are very uneven, it is impossible to achieve efficient economic growth and social peace (Piketty, 2014).

2.1.1.1 Gini coefficient of Income

The Gini coefficient is a statistical measure of income inequality within a population, ranging from 0 to 1. A Gini coefficient of 0 indicates perfect equality, where all individuals have the same income, while a coefficient of 1 signifies perfect inequality, where one individual has all the income and others have none. The Gini coefficient is calculated as the area between the Lorenz curve, which represents the distribution of income, and the line of equality (45-degree line), divided by the total area under the line of equality. It can also be presented as a percentage, with higher values indicating greater levels of inequality (Ali et al., 2022; Regidor et al., 2003).

2.1.1.2 Palma Ratio Index of Income

The Palma ratio, introduced by economist Gabriel Palma in 2006, is a measure of income inequality that focuses on the income shares of the top 10% and the bottom 40% of the population. It is calculated as the ratio of the income of the top 10% to that of the bottom 40%, providing insight into the concentration of wealth among the wealthiest compared to the majority. A Palma ratio greater than 1 indicates that the top 10% controls a disproportionately large share of income relative to the bottom 40%, while a ratio less than 1 suggests a more equitable income distribution (Palma, 2011).

2.1.1.3 Atkinson Index of Income

Atkinson's Index, a widely-used welfare-based method for measuring inequality, quantifies society's aversion to inequality through a theoretical parameter (epsilon). A higher epsilon value indicates greater willingness among residents to accept reduced income shares for a more equitable distribution. This index allows for decomposition into within-group and between-group disparities and incorporates varying sensitivity to

inequality across different income distribution segments, with values typically ranging from 0 (indifference) to infinity (concern for the lowest income levels). For example, an Atkinson index value of 0.30 implies that achieving the same social welfare level would require only 70% of the current income under perfect distribution. The index's flexibility makes it valuable for analyzing income inequality, as demonstrated by Regidor et al. (2003), who used it to study the relationship between income inequality and life expectancy in Spain.

2.1.1.4 Theil index of Income

The Theil index of income is a measure of income inequality that takes into account both the distribution of income across different groups and the level of income achieved within those groups. It was first introduced by German economist, Herman Theil, in 1967. The Theil index ranges from 0 (indicating perfect equality, where everyone has the same level of income) to 1 (indicating maximum inequality, where one group has all the income and the others have none). The Theil index of income can be used to compare the level of income inequality across different groups, such as different regions or socio-economic groups within a country. For example, a higher Theil index value for a particular region or group indicates how much individual income varies from the average level of income within a given population or sample.

2.1.2 The Freedom House Index.

The Freedom House Index is a widely used measure of democracy that evaluates the level of political rights and civil liberties in countries across the globe. The index is scored on a scale from 0 to 7, with higher scores reflecting lower levels of freedom (Freedom House, 2023). It is based on a comprehensive set of indicators that assess the extent to which individuals can participate in the political process, freely express their

opinions, and enjoy equal protection under the law. These indicators help to capture the degree of freedom and democratic governance in each country.

2.1.3 Democracy

Democracy, fundamentally, is a system of government in which political power is vested in the hands of the people, either directly or through elected representatives. It is characterized by rule of law, civil liberties, human rights, allowing citizens to express their political preference (Kharel, 2019). It embodies principles of political equality, popular sovereignty, and respect for individual rights and freedoms. In a democratic society, citizens have the right to participate in decision-making processes, hold government officials accountable, and enjoy basic civil liberties such as freedom of expression, assembly, and association. As such, measuring democracy requires assessing the extent to which these principles are upheld in practice. Some of the commonly used approach to measure democracy is through quantitative indices such as political rights and civil liberties. These indices offer an in-depth analysis of the condition of democracy and human rights by assessing the degree to which people are free from governmental intervention and enjoy fundamental freedoms. Until early's 2000, countries and territories whose combined average ratings for political right and civil liberties fell between 1 and 2.5 were designated "Free"; between 3 and 5.5 "Partly Free", and between 5.5 and 7 "Not Free" (Freedom house world report, 2023).

2.1.3.1 Political Right Index

Political Rights Index, as utilized by organizations like Freedom House, has evolved over time, with its development ongoing since the founding of Freedom House in 1941. The Political Rights Index, often referred to as the Political Rights Score, is a measurement used by organizations such as Freedom House to assess the level of

political freedom and civil liberties within a country. This index evaluates various aspects of political rights, including the freedom to participate in political processes, the right to free and fair elections, the ability to form and join political parties and organizations, and the extent of governmental interference in political activities. The Political Rights Index typically assigns countries a score on a scale from 0 to 7, with 0 representing the highest level of political rights and 7 indicating the lowest level.

2.1.3.2 Civil Liberty Index

The Civil Liberty Index, also known as the Civil Liberties Score or Civil Liberties Index, is a measurement used by organizations such as Freedom House to assess the level of protection and respect for civil liberties within a country. This index evaluates various aspects of civil liberties, including freedom of expression, assembly, association, religion, and the right to privacy, among others. Scores are assigned based on a combination of expert analysis, empirical data, and qualitative assessments of each country's legal framework, government practices, and societal norms regarding civil liberties. The Civil Liberty Index typically assigns countries a score on a scale from 0 to 7, with higher scores indicating restrictions or violations of these rights and with lower score indicating greater protection and respect for civil liberties.

2.1.4 Remittance

Remittances are defined as funds sent by migrants working abroad to their families or communities back home (Monsutti, 2019). They serve as a crucial source of income for recipient households, helping alleviate poverty, invest in human capital, and stimulate local economies, thus contributing to a more equitable distribution of income within communities (Borja and Hall, 2018). While remittances can play a significant role in reducing poverty and improving living standards, their impact on income inequality

depends on factors such as the distribution of remittance flows, household dynamics, and broader economic conditions (Ofori et al., 2022).

2.1.5 The Impact of Democratic Governance on Income Inequality.

Democratic governments, in theory, tend to be more transparent and accountable to their citizens, which can enhance oversight of remittance inflows and their allocation, reducing the risk of corruption and ensuring that funds reach their intended recipients (Acemoglu et al., 2012). Democratic systems also provide greater opportunities for citizen participation and representation, including for low-income groups who often rely on remittances. This empowerment enables them to advocate for policies that address their needs and reduce inequality (Norris, 2012). Additionally, democratic governments are more likely to support redistribution policies, such as progressive taxation and social safety nets, which can reduce income inequality. Remittances contribute to national income, potentially increasing resources for such programs that can help narrow the income gap (World Bank, 2020). Moreover, democratic governments are more inclined to invest in public goods like education, healthcare, and infrastructure, benefiting all citizens, including remittance recipients, thereby improving their economic opportunities and fostering upward mobility (Stiglitz, 2012).

2.2 Review of Theoretical Literature.

This section reviews theories supporting the relationship between Remittances and income inequality: the role of a democratic system of governance.

2.2.1 Neoclassical Migration Theory

Neoclassical Migration Theory, rooted in the foundations of neoclassical economics, emerged in the late 19th and early 20th centuries through the works of economists like Alfred Marshall and Leon Walras, who emphasized individual rationality, utility

maximization, and market efficiency (Marshall, 1890; Walras, 1954). The theory was later applied to migration studies, notably by Todaro (1969), who posited that migration is a rational economic decision undertaken by individuals seeking to improve their income by relocating from low-wage to high-wage regions.

According to the theory, this movement of labor leads to a more efficient allocation of resources and a gradual convergence of income levels between sending and receiving regions. Migrants, by accessing better-paying jobs abroad, increase their income and often send a portion of it back home in the form of remittances. These remittance flows serve as a crucial mechanism in reducing income disparities between households, particularly in developing countries.

Remittances provide recipient households with additional financial resources that can be used for consumption, investment in education, healthcare, and small businesses, thereby improving living standards and enhancing economic mobility. For low-income families, these inflows can significantly boost income, reducing poverty and narrowing the income gap within and across regions (Borjas, 1989).

Thus, the Neoclassical Migration Theory indirectly supports the view that remittances can reduce income inequality in migrant-sending countries. The theory assumes that as remittances flow back to origin countries, they enhance household income and help smooth consumption, particularly for the poor. However, this income equalizing effect depends on factors such as access to migration opportunities, cost of remitting, and the distribution of remittance inflows across income groups.

While the theory assumes a positive redistributive impact of migration through remittances, real-world dynamics such as unequal access to migration networks, the high cost of remitting, and limited financial infrastructure may moderate these effects

(Harris & Todaro, 1970; Stark & Bloom, 1985). Nonetheless, where remittances reach the poor and are used productively, they hold significant potential in addressing income inequality.

2.2.2 Institutional Economics Theory

Institutional economics theory, initially proposed by Thorstein Veblen in the late 19th century and significantly advanced by Douglass North in the 1990s, emphasizes the role of institutions comprising formal laws, informal norms, and organizational structures in shaping economic performance and development (North, 1990; Veblen, 2017). This theory posits that the quality and effectiveness of institutions determine economic outcomes by ensuring secure property rights, enforcing contracts, reducing transaction costs, and limiting corruption (Douglass, 1991). Institutional Economics Theory offers a comprehensive framework for understanding how democratic institutions facilitate the flow and productive use of remittances.

Democracies promote political stability and good governance, both of which are essential for creating an environment conducive to economic activities. Stable political environments reduce risks associated with investment and financial transfers, enabling individuals to plan long-term economic activities, including migration (Acemoglu, Johnson, & Robinson, 2001). Democracies also establish the rule of law and transparent, accountable institutions that build trust among citizens and diaspora communities. This trust encourages migration for better economic opportunities, as individuals know that their remittances will reach their families without being diverted through corruption or mismanagement (North, 1991). A study by Rodrik and Wacziarg (2005) found that democracies experience higher levels of political stability and good governance, both of which are associated with better economic outcomes due to

democratic institutions providing checks and balances that reduce the likelihood of sudden, destabilizing policy shifts.

Institutional Economics Theory operates through several steps. First, democratic institutions provide political stability and governance needed to foster a secure and predictable environment. This stability makes it easier for people to obtain visas, permits, and other necessary documentation for international travel, enabling them to seek employment abroad. Second, democratic countries often have better financial and regulatory systems that facilitate the safe and efficient transfer of remittances. These systems include secure banking services, lower transaction costs, and transparent regulatory frameworks that protect both senders and recipients of remittances (Beck, Demirgüç-Kunt, & Levine, 2009). Once remittances are sent, their impact on income inequality becomes evident. Remittances provide households, particularly in lower-income regions, with additional income that can be used for immediate consumption needs, reducing poverty (Adams & Page, 2005). Moreover, these funds are often invested in education, healthcare, and small businesses, which enhance human capital and promote local economic development. The cumulative effect of these investments leads to improved economic opportunities and a reduction in income inequality (Giuliano & Ruiz-Arranz, 2009).

2.2.3 Redistribution theory

Redistribution theory has been explored by various scholars over time. One notable proponent is John Rawls, whose influential work on justice and fairness has significantly contributed to the understanding of redistribution. Rawls proposed his theory of justice in his seminal work, *A Theory of Justice*, published in 1971. In this work, Rawls introduces the concept of justice as fairness, arguing that societal institutions should be arranged to benefit the least advantaged members of society

(Rawls, 1971). He suggests that inequalities are permissible only to the extent that they benefit the least well-off and that individuals would agree to such arrangements from behind a "veil of ignorance," where they are unaware of their own position in society.

According to this theory, the redistribution of resources and wealth within a society is a fundamental aspect of achieving social justice and equity. The theory posits that inequalities in wealth and income are not only undesirable but also unjust; therefore, mechanisms should be in place to redistribute resources from the wealthy to the less affluent or disadvantaged members of society (Rawls, 1971). Redistribution theory suggests that the distribution of resources is not solely determined by market forces or individual merit but is influenced by societal structures, historical factors, and power dynamics.

The theory emphasizes the role of government intervention through taxation, social welfare programs, and other policies to address inequality and ensure a more equitable distribution of resources (Piketty, 2014). From a utilitarian perspective, redistribution is justified on the grounds of maximizing overall societal welfare by transferring resources from those with diminishing marginal utility to those with greater need (Mill, 1863). Rawlsian justice, on the other hand, advocates for restructuring societal inequalities to benefit the least advantaged, grounding its principles in a hypothetical scenario of impartial decision-making behind a "veil of ignorance" (Rawls, 1971). Marxist theory views capitalism as inherently exploitative and calls for the redistribution of wealth and power from the capitalist class to the working class, ultimately aiming for a classless society (Marx & Engels, 1848).

In contrast, libertarianism challenges the legitimacy of coerced redistribution through taxation, emphasizing individual liberty and voluntary forms of resource reallocation

(Nozick, 1974). This concept reveals democracy as a critical factor in determining the use of remittance inflows and the execution of redistribution plans. Democratic regimes that prioritize social welfare and economic justice can formulate redistributive policies through inclusive decision-making processes and government accountability (Rodrik & Wacziarg, 2005). In such contexts, remittances can act as a stimulant to lower income inequality when paired with democratic governance, providing funds for infrastructure development, healthcare, education, and social welfare initiatives (Acosta, Calderón, Fajnzylber, & López, 2008). Furthermore, democracy ensures that policies are open, responsible, and sensitive to the demands of the most disadvantaged groups in society, which has an impact on the durability and efficacy of redistribution initiatives. On the other hand, remittance payments might be misdirected toward elite interests under non-democratic regimes, worsening income inequality and jeopardizing long-term hopes for equitable development (Busygina & Filippov, 2023).

2.2.4 Push-Pull Model

The push-pull theory, also known as the push-pull model or push-pull factors, has been a central framework in migration studies. This theoretical perspective was first introduced by British demographer Ernst Georg Ravenstein in the late 19th century and has since been refined by scholars in fields such as sociology, economics, and geography (Ravenstein, 1885). The push-pull theory argues that migration is influenced by a combination of "push" factors, which drive individuals away from their place of origin, and "pull" factors, which attract them to a destination (Lee, 1966). Push factors are negative conditions in the home country, such as poverty, lack of job opportunities, political instability, violence, or natural disasters, which compel individuals to leave. These are often the primary drivers behind migration as people seek to escape unfavorable circumstances in their home country.

On the other hand, pull factors are positive conditions in the destination country that attract migrants, such as better job opportunities, higher wages, political stability, safety, and an improved quality of life (Massey et al., 1993). Pull factors often influence the choice of destination for migrants. Additionally, remittances, or funds sent by migrants to their home countries, can act as significant pull factors by promising improved economic prospects and livelihoods. Furthermore, democracy in both origin and destination countries can moderate the relationship between remittances and income inequality, as democratic institutions may facilitate the equitable distribution of remittance funds and foster inclusive economic policies (Acemoglu & Robinson, 2012).

2.2.5 Modernization theory

Modernization theory, developed primarily by Walt Rostow in his work *The Stages of Economic Growth: A Non-Communist Manifesto* (1960), outlines a linear progression of societies from traditional agrarian structures to modern industrialized states. At the core of the theory is the idea that economic development drives broader societal advancements, including improvements in governance, institutions, and social norms. Rostow envisioned that capitalism and democratic governance would not only spur economic growth but also reduce social disparities like income inequality. The theory emphasizes that as nations develop economically, they are likely to adopt democratic governance, which in turn implements policies that mitigate inequality through mechanisms such as progressive taxation and social welfare programs.

Modernization theory also incorporates the idea that remittances, or the transfer of money from migrants in developed countries, can act as catalysts for economic development in receiving nations. When remittances are channeled effectively, they have the potential to uplift the less affluent and reduce income inequality by promoting inclusive economic development (Islam & Lee, 2023). However, the theory also

highlights the role of strong democratic institutions in ensuring the equitable distribution of remittance-driven gains. Without good governance, elite capture or corruption may prevent remittances from benefiting the broader population, thus exacerbating inequality (Acemoglu & Robinson, 2005).

The distribution of remittances, particularly in education, plays a critical role. While remittances can provide educational opportunities, unequal access to resources can widen educational disparities, ultimately affecting income distribution. Thus, the realization of the positive outcomes predicted by modernization theory depends on the effective use of remittances, robust democratic institutions, and inclusive development policies. Remittances can promote entrepreneurship, local investment, and technological advancement, contributing to economic growth and reducing inequality (Islam & Lee, 2023). Ultimately, modernization theory suggests that as societies progress economically and develop strong governance structures, they create conditions that foster democracy and reduce income inequality through broader political participation and an empowered middle class (Lipset, 1959).

2.2.6 Dependency theory

Dependency Theory, developed by Raúl Prebisch, critically analyzes the economic and political dynamics of underdevelopment in post-colonial nations. This theory emerged as a significant challenge to dominant development narratives, particularly modernization theory. Prebisch's version of dependency theory was deeply concerned with addressing the persistent economic disparities and challenges faced by developing countries (Prebisch, 1962). His work, alongside that of scholars like André Gunder Frank, sought to expose the complexities of global economic structures, arguing that

the integration of developing nations into the global capitalist system often perpetuates economic and political dependency (Frank, 1967).

The core belief of Dependency Theory is that underdevelopment is not simply a stage in a linear path to progress but a consequence of structural imbalances and exploitation. This view fundamentally challenges the idea that all societies would follow a similar development route as Western nations, instead focusing on systemic inequalities, power imbalances, and external influences shaping the historical context of underdevelopment (Dos Santos, 1970). The theory posits that developing nations, including those in Sub-Saharan Africa, are trapped in economic and political dependencies on more advanced countries.

When examining income inequality, Dependency Theory suggests a dual impact of remittances. On one hand, remittances can act as an economic lifeline for families and communities, alleviating poverty, improving access to education and healthcare, and enhancing economic opportunities, which could reduce income inequality (Ratha, 2013). However, for remittances to have an equalizing effect, their distribution must be equitable; concentration of remittances within specific families or regions could exacerbate existing economic disparities. Furthermore, over-reliance on remittances may create vulnerabilities, particularly if remittance flows fluctuate due to external shocks, such as global recessions or changes in migration policies (Giuliano & Ruiz-Arranz, 2009).

Political structures also play a critical role in Dependency Theory. Effective democratic governance is posited to lead to policies that foster social welfare, equitable resource allocation, and inclusive economic development, thereby reducing income inequality. However, issues such as corruption or poor policy implementation can impede the

benefits of democratic governance, potentially exacerbating income inequality (Acemoglu & Robinson, 2012). The interaction between remittances and democracy is crucial for understanding their combined impact on inequality. A positive interaction, where democratic governments create policies encouraging the productive use of remittances, can reinforce economic development and reduce income inequality. Conversely, weak democratic institutions or political instability may undermine the potential benefits of remittances, exacerbating inequality.

External economic pressures, a key aspect of Dependency Theory, also shape the dynamics. Remittances can act as a stabilizing force during economic downturns or external shocks, reducing income inequality. However, if global economic conditions worsen, or migration policies in developed countries become restrictive, remittance flows can become volatile, potentially increasing inequality (Machasio & Tillmann, 2023). Thus, the impact of remittances and democracy on income inequality in Sub-Saharan Africa, viewed through the lens of Dependency Theory, depends on factors such as the equitable distribution of remittances, the strength of democratic institutions, and external economic forces. This necessitates a refined, country-specific analysis to understand these dynamics fully.

2.3 Review of Empirical Literature

2.3.1 Remittance and income inequality

Remittances received by members of wealthy households lead to an increase in income inequality. On the other hand, when remittances are received by the lower and middle classes, income inequality is reduced (Heinzen & Schreyer, 2020). The effect of remittances on income inequality in both the developed and developing worlds has been the subject of various studies over the past few decades. For many developing countries, remittances are a vital component of their sustainable economies. When

compared to foreign direct investment, these transfers are a far more reliable source of income at the national level since they boost economic growth and decrease balance of payment deficits (Borja, 2012).

Stark, Taylor, and Yitzhaki (1986) investigated the impact of remittances on income inequality in two Mexican villages with varying remittance-to-income ratios, using the Gini coefficient to assess total income (including remittances) and non-remittance income. They found that remittances reduced income inequality, especially in the village with a higher remittance-to-income ratio. However, the distribution of remittances was uneven, benefiting wealthier families in the village with a lower migration ratio, indicating that while remittances can support communities, they may also deepen existing inequalities. Despite these findings the study does not sufficiently explore mechanisms for more equitable distribution of remittances, which could enhance their positive impact on reducing income inequality.

Stark et al. (1988) employed the extended Gini inequality index to assess how the distributional impact of migrant remittances on household income varies with different value judgments about inequality. Their study found that the influence of remittances on village income distribution depends significantly on the type of migration and the stage of a village's migration history. Notably, remittances from Mexico-to-U.S. migrants were found to improve income distribution overall; however, when greater weight is placed on the poorest households, the perceived positive effect diminishes. This suggests that remittance benefits are less accessible to the poorest groups, likely due to barriers that prevent them from participating in more lucrative migration opportunities. The study highlights the importance of considering inequality measurement sensitivity and the structural constraints faced by low-income households when evaluating the redistributive effects of remittances.

Adams (1989) created a predictive model for family income distribution in three Egyptian villages, finding that while remittances increased the expected mean income for the lowest income group by only 0.18%, the top quintile's income rose by 10.1%, thereby widening the income gap. While the study effectively highlights the unequal impact of remittances, it may overlook other socio-economic factors influencing income distribution and does not discuss potential policy solutions to address this inequality.

Adams (1992) studied the effects of migration and remittances on income inequality in rural Pakistan from 1987 to 1989, involving 727 households. The study found that remittances had a neutral effect on income distribution. However, the focus on rural areas limits the generalizability of the findings.

Taylor (1992) proposed and tested a methodological framework to assess the direct, indirect, and intertemporal effects of migrant remittances on income distribution, using the Gini coefficient as a measure. By applying this method to matched longitudinal data from Mexico, the study demonstrated that remittances exert not only immediate but also enduring effects on household income. The findings suggest that, beyond their short-term consumption impact, remittances contribute to long-term asset accumulation, which in turn influences the distribution of household-farm income.

Gustafsson and Makonnen (1994) examined the role of remittances in influencing economic well-being and income inequality in Lesotho, utilizing data from the 1986/87 Household Budget Survey. Their findings revealed significant levels of inequality, with a substantial number of households relying on remittances from miners working in South Africa. The study concluded that remittances played a crucial role in reducing income inequality in the country. Moreover, a regional decomposition of the data

indicated that the inequality-reducing impact of remittances was more pronounced in rural areas than in urban centers, although the extent of the effect varied within rural regions.

Taylor and Wyatt (1996) analyzed the effects of remittances on income inequality, finding that remittances positively impact income, especially in impoverished households with limited assets and credit access, thereby narrowing the income gap. However, while the study highlights important dynamics, it may overlook the potential for dependency on remittances and the varying effects across different socio-economic contexts, limiting the generalizability of the findings.

Ravanilla and Pano (2005) explored whether remittances from Filipino workers abroad decrease or increase income inequality by breaking down total inequality into wages, other income, entrepreneurial income, and remittances using decomposition formulas. The study found that remittances initially benefit wealthier groups but gradually reduce the impact of inequality over time. While the findings indicate a positive shift, the analysis is limited by the assumption that all income categories are evenly correlated with total income, which may overlook region-specific or socio-economic variations in remittance distribution.

Koechlin and Leon (2007) used cross-sectional and panel data to demonstrate an inverse U-shaped relationship between income inequality and overseas remittances in 78 countries. They found that remittances initially increase inequality during early migration stages but eventually reduce it as migration becomes more accessible. The study also suggests that growth in the financial sector and education can help countries reach the inequality-reducing part of the curve more quickly. However, the focus on

aggregate data may overlook important country-specific factors influencing these dynamics.

Acosta et al. (2008) examined the impact of remittances on income inequality and poverty in 18 Latin American and Caribbean countries from 1980 to 2003, using a fixed-effects model. The study found that remittances significantly reduce income inequality. However, the findings may not apply to regions with different migration patterns or socio-economic structures.

Taylor, Mora, Adams, and Lopez-Feldman (2008) investigated the distributional and poverty-reducing effects of migration and remittances using data from the 2003 Mexico National Rural Household Survey. By applying Gini and poverty decomposition techniques, the study assessed both international and internal remittance flows. While previous research on remittances and inequality yielded mixed results, this study adds clarity by distinguishing between the effects of international and internal remittances. The authors found that international remittances tend to reduce income inequality and alleviate rural poverty, especially in regions with a high proportion of households receiving such transfers. Conversely, internal remittances did not demonstrate a similar equalizing effect, highlighting the importance of migration patterns in shaping the socioeconomic impact of remittance flows.

Adams, Cuecuecha and Page (2008) used a two-stage multinomial logit model to examine the effects of internal and international remittances on poverty and inequality in Ghana. They found that while both types of remittances increase income inequality, they reduce the level, depth, and severity of poverty. The study provides valuable insights but may overlook region-specific differences in the effects of remittances within Ghana.

Portes (2009) analyzed the effect of remittances on income inequality in 46 countries from 1970 to 2000, using a fixed-effects model for panel data. The study found that remittances significantly reduce income inequality. However, the broad time period may mask short-term fluctuations or regional variations in the effects of remittances.

Shen et al. (2010) studied the effects of migration and remittances on inequality in origin communities. The study found that wealth inequality decreases over time, with short- and long-term effects on income inequality potentially having opposite impacts. However, the study lacks specific details on the timeframe, which could affect the understanding of these opposite effects.

Anyanwu (2011) analyzed the relationship between migrant remittances and income disparities in African nations from 1960 to 2006, finding that remittances significantly reduce income inequality, with a 10% increase in remittances leading to a 0.013% decrease in inequality. The study also identified initial per capita GDP and inflation as major drivers of inequality, while education helps reduce it. However, the findings may not fully address the varying impacts of remittances across different African regions.

Adenutsi (2011) investigated the impact of international remittances on income inequality and poverty in Sub-Saharan Africa using dynamic panel-data models, finding that remittances significantly reduce poverty but benefit the poorest households the least and can worsen inequality in countries with wider income gaps. While the study highlights the potential of remittances to promote income equality, it also cautions against over-reliance on them for sustainable development, which may overlook other essential factors influencing poverty and inequality in the region. However, a deeper exploration of how remittance usage varies across different socio-economic frameworks could enhance the findings.

Ebeke and Le Goff (2011) explore the ambiguous relationship between remittances and income inequality, emphasizing the importance of country-specific structural factors in determining distributional outcomes. While previous studies have suggested that the effect of remittances on inequality may depend on the socioeconomic position of migrants in the income distribution of their origin countries, macro-level empirical work has often overlooked this dimension. Addressing this gap, the authors introduce non-linearities into their inequality model by considering the level of development, migration costs, and the extent of brain drain in the recipient countries. Using a panel dataset of 80 developing countries between 1970 and 2000, and accounting for the endogeneity of remittances, their findings indicate that the inequality-reducing impact of remittances is more likely in countries with specific structural characteristics. In particular, countries in the Mediterranean Basin exhibit conditions under which remittance inflows are associated with a decrease in income inequality. This suggests that the developmental context and composition of migration flows are critical to understanding the redistributive potential of remittances.

Akobeng (2016) evaluates the effectiveness of remittances from a macro perspective, prioritizing poverty reduction over economic growth as the primary performance indicator. The study finds that remittances contribute to income equalization and that their effectiveness is enhanced by a robust financial sector in Sub-Saharan Africa. While the focus on poverty reduction provides a valuable lens for assessing remittances, the study may benefit from a more comprehensive analysis of how varying economic conditions and financial infrastructures across different countries impact the overall effectiveness of remittances.

Agwu et al. (2018) examined the impact of remittances on income inequality using instrumental variable quintile regression. The study found that remittances increase the

income gap. However, the focus on income distribution across different quintiles may limit the broader applicability of the findings to other socio-economic contexts.

Vacaflares (2018) used dynamic panel data techniques and macro-level data from 18 Latin American countries between 2000 and 2013 to assess the effect of international remittances on poverty and inequality. The study found that remittances significantly reduce overall poverty and inequality, though they may simultaneously intensify moderate poverty in some contexts. While the findings highlight the importance of remittances as stable income sources, the paper notes that financial development plays a limited role in enhancing their inequality-reducing potential. Although the study offers important regional insights, its focus on Latin America limits its applicability to Sub-Saharan African settings, where remittance dynamics and institutional environments may differ.

Kousar et al. (2019) examined the impact of financial development and foreign remittances on poverty and income inequality in Pakistan using the ARDL-Bounds testing approach. The study found that in the short run, remittances exacerbate both poverty and income inequality, and these effects persist in the long run. The analysis supported the Kuznets hypothesis, showing an inverted U-shaped relationship between per capita income and income inequality in the short run, which transitions to a U-shaped relationship in the long run. Education was found to significantly reduce income inequality across both periods but surprisingly increased poverty in the long run. Additionally, high unemployment worsened both inequality and poverty, disproportionately affecting the poor. Financial development was shown to reduce poverty and inequality in the short run, emphasizing its potential role in promoting equitable growth. While the findings are specific to Pakistan, they highlight the difficult and sometimes contradictory roles remittances can play in development. The study

underscores the importance of pro-poor policies, rational income distribution, and employment generation to mitigate the adverse distributional effects of remittances.

Ofori et al. (2021) used the Generalized Method of Moments (GMM) estimator with macro data from 42 African countries to examine how financial development interacts with remittances to influence income inequality. They found that remittances ultimately increase income inequality across the continent, despite suggesting potential contributions to income equalization. While the study provides valuable understanding into the relationship between remittances and inequality, it may overlook the role of specific socio-economic settings within individual countries, limiting the generalizability of its findings.

Koczan and Loyola (2021) examined the impact of remittances on inequality in Mexico using household-level data, focusing on the effects of internal and external crises, including the 1994 peso crisis and the global financial crisis. Their findings indicate that remittances reduce inequality and become increasingly pro-poor over time, reinforcing their role as a financial safety net that mitigates the adverse effects of economic shocks on vulnerable populations. However, the study may not fully explore how varying migration patterns or regional differences within Mexico influence the effectiveness of remittances in addressing inequality.

Song et al. (2021) investigated the effects of remittance inflows, foreign direct investment (FDI), and economic growth on income inequality in developing economies using a panel cointegration model. They found that increases in FDI inflows and remittances contribute to higher income inequality. However, the study may not adequately address the specific socio-economic situations that influence how these factors interact and affect inequality across different developing countries.

Azizi (2021) studied the effects of worker remittances on poverty and inequality in 103 developing countries from 1990 to 2014, addressing endogeneity by estimating bilateral remittances and constructing weighted indicators for remittance-sending nations. The findings indicate that a 10% increase in per capita remittances leads to a 1% decrease in poverty headcount, with remittances also reducing the Gini coefficient and increasing the income share of the poorest decile while decreasing that of the richest. However, the study may not fully consider how different remittance utilization strategies impact poverty and inequality across varying perspectives.

Ofori et al. (2021) analyzed the relationship between remittances and financial development in 42 African countries using macrodata and the dynamic GMM estimator. The study found that remittances increase income inequality in Africa and that the financial system is not strong enough to facilitate the equalization of incomes through remittances. However, the reliance on macrodata and the dynamic GMM technique may limit the analysis, as they might not capture the nuances of individual-level variations or address potential endogeneity issues effectively.

Pal et al. (2022) explored the impact of remittance inflows on economic growth, unemployment, and income inequality in high, low, and middle-income countries using annual data from 1980 to 2016. They found that increased remittances and foreign direct investment (FDI) raise income inequality, while economic growth reduces it. However, the study may not sufficiently consider the socio-economic conditions that influence these effects across different income groups.

Pal et al. (2022) used fixed effects, random effects, and fully modified ordinary least squares estimates to analyze the impact of remittance inflows on economic growth, unemployment, and income inequality from 1991 to 2020 across high-, low-, and

middle-income countries. They found that remittances boost economic growth in both high- and low-income countries, increase unemployment in high-income countries, and decrease it in low- and middle-income countries. The study also confirms that remittances help reduce income inequality, but it may not fully address the mechanisms driving these effects in different perspectives.

Akcay (2022) investigated the relationship between international remittances and income inequality in the Philippines, a nation heavily reliant on remittances and out-migration. The study found robust results across various measures of income inequality, indicating an inverse U-shaped relationship where remittances only have an income-equalizing effect after reaching a certain threshold, thereby validating the remittance Kuznets Curve. However, the study's reliance on aggregate data may overlook individual-level dynamics and the potential influence of local economic conditions on the effectiveness of remittances in reducing inequality.

Sweeting (2022) examined the impact of remittances on income inequality in 18 emerging economies from 1985 to 2019, finding that increased remittance inflows are associated with reduced income inequality. The study also highlighted that factors such as trade openness, foreign direct investment, and economic liquidity contribute to this reduction. However, it noted that rising GDP per capita, increasing government spending, and inflation could potentially widen the income gap between the rich and poor in these countries. While the study provides valuable insights, it may not fully address how these macroeconomic factors interact with remittance flows to influence inequality dynamics over time.

Kratou and Khlass (2023) investigated the impact of remittance costs on income distribution in low-income countries using ordinary least squares (OLS) and

instrumental variables. They found that remittances, often sent by low-paid workers, contribute to reducing income inequality in the home country, while high transaction fees likely undermine this positive effect. However, the study may not fully account for the broader economic contexts that influence remittance flows and their impact on inequality.

Islam and Azad (2023) examined the contributions of personal remittances and ready-made garments (RMG) export income to reducing income inequality in Bangladesh using an autoregressive distributed lag (ARDL) approach. The study found that personal remittances significantly contribute to closing the income gap and decreasing overall income inequality in society. However, the analysis may not fully explore the potential impacts of external factors, such as global market fluctuations or local economic conditions, on the effectiveness of remittances in addressing inequality.

Elorabi, Ishak and Ibrahim (2023) used the pooled mean group (PMG) technique to analyze the impact of inward remittances on income inequality in thirteen Middle Eastern and North African (MENA) economies from 1996 to 2020, finding that remittances contribute to increasing income inequality as they primarily benefit wealthier households. The study suggests addressing challenges faced by low-income individuals and implementing policies to mitigate the adverse effects of remittances on income distribution. However, while the recommendations are valuable, the analysis may not fully explore the broader economic and social dynamics that contribute to these inequalities in the MENA region.

Mallela, Singh, and Srivastava (2023) examined the joint impact of remittances and financial development on income inequality across 70 developing countries from 1984 to 2019. Unlike earlier studies that explored these variables separately, their research

uniquely analyzed whether remittances and financial development act as substitutes or complements in addressing inequality. The findings revealed that in highly unequal countries, remittances substitute for financial development in reducing inequality, while in less unequal countries, remittances complement financial development in promoting equity. Notably, the substitution effect was found to be stronger than the complementary one. Additionally, the study demonstrated that the effects of both remittances and financial development on inequality are heterogeneous across the income distribution. This study adds to the literature by challenging the assumption of homogeneity and suggesting that the inequality-reducing potential of remittances is contingent on both the existing level of inequality and the development of financial systems. While insightful, its global focus may limit direct policy applications to Sub-Saharan Africa, where financial infrastructure and institutional quality vary significantly across countries.

Lakoande (2023) employed the fixed effects method with Driscoll-Kraay standard errors to examine the impact of migrant remittances on income inequality in 34 Sub-Saharan African (SSA) countries from 2005 to 2019. The study found that remittances contribute to reducing income inequality by decreasing the income share of the richest 10% while increasing the share held by the poorest 90%, particularly benefiting the 40% of the population just above the bottom half. The findings were robust to the use of the two-stage system GMM, and the study recommends promoting policies such as bi-banking and mobile remittance platforms to facilitate the flow of remittances in the region.

Usman (2023) examined the conditional role of institutional and financial infrastructure in shaping the development outcomes of remittances across developing countries. By using both micro- and macro-level data with panel and cross-sectional estimation

techniques, the study explored how remittances influence entrepreneurship, poverty, and income inequality, particularly when mediated by e-government development, financial sector depth, and labor market responses. The findings suggest that remittances contribute more positively to development outcomes in countries with robust digital governance systems and well-functioning financial institutions. Additionally, remittances are found to stimulate a shift toward non-agricultural self-employment, especially within Nigeria's informal sector. While this research adds valuable insight into the mechanisms through which remittances can spur inclusive growth, its emphasis on technological and institutional frameworks suggests that remittance effectiveness is highly context-dependent, potentially limiting its applicability to regions where such structures are underdeveloped.

Anwar, Mang, and Plaza (2024) analyzed the relationship between remittances and inequality by examining 578 estimates from 45 studies using Bayesian model averaging. They found that remittances generally have a small negative effect on inequality, but regional variations exist: they increase inequality in South Asia and reduce it in East Asia, Eastern Europe, and Latin America, while having marginal impacts in the Middle East, North Africa, and Sub-Saharan Africa. However, the study may overlook specific country-level factors that influence these dynamics.

Li and Yu (2024) examined urban deprivation in Sub-Saharan Africa, revealing that 53.4% of the urban population resides in slums, surpassing the UN's estimate of 44.9%. Their study showed that poor access to essential services like water, sanitation, and housing exacerbates inequality, especially in areas with a high prevalence of slums. However, the reliance on aggregated statistics underestimates the severity of under-serviced slums, leading to ineffective efforts in reducing inequality and building

prosperity. A critique could be that while their methodology is comprehensive, the findings call for more region-specific interventions instead of broad generalizations.

Ali et al. (2022) investigate the effects of urbanization and industrialization on income inequality within the Kuznets curve framework across low-, middle-, and high-income countries from 1990 to 2014. The study utilizes method of moments quantile regression (MMQR) and finds mixed results: urbanization increases inequality in high-income countries, while industrialization reduces inequality in lower quantiles but not in higher ones. The findings reveal an inverted Kuznets curve relationship in upper- and lower-middle-income countries and suggest that income level differentials should be considered when analyzing these effects. However, the study may benefit from a broader exploration of other socio-economic factors influencing these dynamics beyond urbanization and industrialization alone.

Elorabi et al. (2025) employed the Pooled Mean Group (PMG) estimator with panel data from Middle East and North Africa (MENA) countries between 1996 and 2022 to investigate the moderating role of political stability in the remittance–inequality relationship. The study found that remittances tend to increase income inequality, particularly in politically unstable environments where affluent households are more likely to receive remittances. Political stability, on the other hand, was shown to mitigate inequality.

Uche et al. (2025) examined the interconnected roles of remittances, GDP, and technological advancement in shaping the relationship between globalization and income inequality in the top three remittance-receiving countries China, India, and Mexico. Employing a multivariate quantile-on-quantile regression and causality-in-quantile approach across four decades of annual data, the study revealed that inequality

is self-reinforcing in China and Mexico. It further uncovered asymmetric effects of globalization across the income distribution spectrum in all three countries, with remittances and technology exerting significant negative effects on inequality in Mexico, while GDP positively influenced inequality. For China and India, remittances and technology showed varying effects across different income levels.

Mili and Tarchoun (2025) explored the interconnected roles of financial development and remittances in shaping income inequality across low- and middle-income countries from 1990 to 2020. Using a panel threshold regression model, the study provided novel insights into how these two variables function either as substitutes or complements depending on the level of inequality present in a country. Specifically, the results showed that in highly unequal nations, remittances tend to act as a substitute for financial development, helping to reduce inequality where financial access is weak. In contrast, in countries with relatively lower inequality, remittances and financial development work together to narrow income disparities. Importantly, the substitution effect of remittances was found to be stronger than their complementary role. The findings challenge earlier assumptions of homogenous effects and highlight the importance of country-specific inequality dynamics in policy formulation. While the study contributes to a deeper understanding of the dual pathways through which remittances and financial development affect inequality, its threshold-based approach also underscores the non-linear and context-specific nature of these relationships.

2.3.2 Democracy and Income Inequality

Bollen and Jackman (1985) conducted an empirical analysis on the extent freedom and income distribution within the political democracy between 1960 and 1970 by employing the method of 2SLS. In their study, analysis of causes of income difference failed to give direct correlation with political democracy. However, the absence of an

impact might point to a dire need to look at other related socio-political factors that can moderate this association in other settings.

Chong and Calderon (2000) analyzed the relationship between institutions and inequality in about 80 countries from 1970 to 1995, finding a nonlinear correlation where institutional quality has minimal effect on reducing inequality during early development stages. They also noted limited evidence that the impact of foreign aid on income inequality is influenced by institutional quality (Calderon et al., 2009). However, the studies could benefit from exploring specific institutional types and regional variations in their effects on inequality.

Using pooled regression on an International Panel dataset, Kemp-Benedict (2011) put forward theoretical model to examine income distribution and has found that it is influenced by the nature of the political regime: extractive, redistributive or reinvestment types. However, the study could extend the knowledge of the ways through which these regimes impact inequality across different settings.

Reuveny and Li (2003) conducted a pioneering empirical investigation into the joint effects of economic openness and democracy on national income inequality. Using a comprehensive Gini coefficient dataset across 69 countries over the period 1960 to 1996, the study systematically analyzed how trade flows, foreign direct investment (FDI), and financial capital inflows interact with democratic institutions to influence inequality. Their findings reveal that while both democracy and trade are associated with reductions in income inequality, FDI tends to increase it, and financial capital inflows show no significant effect. The study highlights the importance of considering multiple dimensions of globalization and governance simultaneously to understand

their combined distributive outcomes, offering critical insights for policymakers aiming to foster inclusive growth in an increasingly interconnected world.

Acemoglu et al. (2015) examined the relationship between democracy, redistribution, and income inequality in OECD countries using a generalized method of moments (GMM) approach. They found that democracy helps reduce income inequality by promoting higher levels of redistribution. However, the study may benefit from a deeper analysis of the varying effects of different democratic institutions on redistribution policies across countries.

Nikoloski (2015) analyzed the relationship between democracy and income inequality in the US and South Africa from 1962 to 2006 using the System GMM approach. The study found no evidence that democracy is linked to tighter income distribution in these countries. However, this lack of correlation may warrant further investigation into other factors influencing income inequality beyond democratic governance.

Islam in 2016 investigates the relationship between political freedom and income disparity arguing that redistribution acts as a moderator, using GMM estimation on 83 states. The study establishes that freedom is negatively correlated with inequality; one percent of freedom leads to a loss of one point three three percent of inequality within five years but in a curvilinear fashion. They pointed out, however, that liberty minimises the poverty gap mainly in democracies: the study could delve deeper into how different types of political freedom may affect redistribution policies across countries.

Balcázar (2016) explores the relationship between democracy and inequality in Latin America, analyzing how the level of democracy experienced by birth cohorts affects later labor income distribution. Using pseudo-panel data from fifteen Latin American

nations (1995-2011), the study finds that cohorts with higher cumulative democracy values exhibit less income disparity, particularly among those benefiting from the democratic movements of the late 20th century. While the findings underscore the importance of democracy and education in influencing income distribution, the analysis could be enhanced by examining regional differences in democratic quality and educational access.

Aslan (2017) investigates how the features of redistribution and inequality affect economic growth at one and the same time, using system-GMM estimation on the cross country panel data set of 110 countries during 1960-2010, as well as the sample of 43 developed democratic countries for the same period. This work concludes that the governments of democracies redistribute more and that net inequality has a significant negative impact on economic growth in the following five years for both samples. That said, a strength of the findings lies in identifying the value of redistribution for supporting growth, and there could be added value explored further how certain forms of redistribution varies across democracies and their resulting effects on the economy.

Ahmad (2017) investigates the relationship between economic freedom, democracy, and income disparity using the dynamic panel GMM estimation method on SWIID data for up to 115 countries from 1970 to 2014. The study finds that economic freedom positively affects income inequality, with annual increases of 3% to 5%, but that this effect is mitigated in democratic regimes. Sensitivity tests reveal that market deregulation and international trade freedom are the most significant liberalization policies affecting income distribution.

Muftuoglu (2007) investigate the impact of political institutions, including regime type (autocracy vs. democracy) and electoral systems (majoritarian vs. proportional

representation), on within-country income inequality. Using a panel database of 121 nations from 1960 to 2007, the study finds that the de facto allocation of political power is crucial for understanding income inequality, linking reduced inequality to more even distributions of political power among socioeconomic groups. However, the evidence regarding the influence of government type and electoral systems on income inequality is inconsistent, suggesting the need for further research to clarify these relationships.

Borga and Hall (2008) contribute to the ongoing debate regarding the distributional impact of remittances by examining how institutional quality shapes the effectiveness of remittance inflows in addressing income inequality. While remittances are widely recognized for their potential to enhance development outcomes such as reducing poverty, increasing educational attainment, and supporting entrepreneurship their influence on income distribution remains ambiguous. Some studies argue that remittances reach the most vulnerable households and thus reduce inequality, while others contend that they are primarily received by relatively wealthier families, thereby exacerbating disparities. Borga and Hall offer a more perspective by emphasizing the role of governance structures in mediating these outcomes. They suggest that in environments with weak institutions, remittances are less likely to be channeled into productive or equity-enhancing uses, particularly among poor households. In contrast, higher-income groups tend to be more capable of mitigating the adverse effects of institutional inefficiencies and are better positioned to invest remittances in ways that further their economic advantage. Utilizing instrumental variable techniques and a two-stage least squares (2SLS) estimation framework across a sample incorporating 25 institutional indicators, the authors find that the inequality-reducing impact of remittances is significantly stronger in countries with more robust institutional frameworks. This effect is especially pronounced in economies that are heavily reliant

on remittance inflows, underscoring the importance of institutional quality in maximizing the developmental and distributive benefits of migrant transfers.

Aleman and Woods (2018) investigated the relationship between income inequality and redistributive policies across countries and over time. Challenging the assumption of a uniform effect, their analysis utilized cross-nationally comparable data and several statistical models to uncover both short-term and long-term dynamics. They found a positive short-term association between income inequality and redistribution when controlling for endogeneity. However, their results also revealed significant heterogeneity: while higher inequality tends to lead to greater redistribution in developed democracies, the opposite trend is observed in many developing countries, where inequality appears to reduce redistributive efforts. This suggests that institutional capacity, political will, and governance structures may mediate the responsiveness of redistribution to inequality across different regions.

Dorsch and Maarek (2019) found no significant effect of democratization on income inequality, despite theoretical expectations that it would equalize distributions. Their study reveals that democratization reduces inequality in highly unequal autocracies but increases it in egalitarian autocracies, suggesting that changes in market opportunities, rather than direct redistribution, drive these outcomes. However, the findings indicate that more nuanced factors may influence these dynamics, highlighting the need for further research.

Hartwell, Horvathova, and Popova (2019) explored the moderating role of democratic institutions in the relationship between natural resource endowments and income inequality. Building on prior literature, the study used cross-country regression analysis and found that democracy significantly conditions the effect of natural resources on

inequality. Specifically, in countries with stronger democratic institutions, natural resources tend to reduce income inequality, whereas in less democratic settings, the inequality-reducing potential of natural resources is diminished or reversed. This research underscores the importance of institutional quality in shaping distributive outcomes and opens up new avenues for investigating how governance structures can mitigate the adverse effects of resource-driven growth.

Bahamonde and Trasberg (2021) analyzed the link between democracy and income disparity in 126 industrial and developing nations from 1970 to 2013 through fixed effects panel estimations. There is evidence that with both these indicators of democracy and high state capacities, income inequalities are bound to widen over time. However, that and other potentially useful sources may help the study to examine how certain characteristics of democracy and governance affect these dynamics or what factors can explain the variation of results cross-nationally.

Wong (2022) argues that democratic redistribution is essential for democracy and examines its impact on inequality. The study finds that when redistribution is viewed as vital, inequality decreases; however, results vary depending on how indicators are operationalized. Surprisingly, when more people believe redistribution is necessary for democracy, there is a correlation between increased inequality and democracy, suggesting that authoritarian leaders may exploit this perspective.

Ongo and Song (2022) highlight the role of institutional quality in reducing inequality in Africa, incorporating Piketty's (2014) concepts of income disparities along with housing and environmental inequalities. Analyzing a sample of 48 African nations from 1996 to 2016 using the Maximum Likelihood Method (MLM), the study finds that while governance indices worsen housing and environmental disparities, they help

reduce income inequality. Additionally, the length of the regime and the ruling party's term in office exacerbates all forms of inequality. However, the study could benefit from exploring the specific mechanisms through which institutional quality influences these different types of inequality.

In the study of Susanti and Bariyah (2023), the focus is on the effectiveness of the Indonesian democracy (ID) 2009-2019 in reducing income inequality; Analysis of components of Civil liberties; Political rights how parliamentary and presidential systems affect the Hawaii Democratic Party. From 15 provinces, there is a positive relationship between IDI and income inequality while for 19 provinces the relationship is negative. That is why the findings of this study are supposed to shed light upon how elements of democracy factor into income distribution in Indonesia, so that more efficient approaches to addressing the issue of inequality can be developed in the country. Nevertheless, it is clear that future studies should elaborate contextual factors that can explain these relations.

Ofori et al. (2023) investigated the relationship between tourism development, governance, and income inequality in 48 African countries from 1996 to 2020 using the GMM estimator. The study found that both tourism development and effective governance contribute to reducing income inequality in Africa. However, further exploration of how specific governance practices and tourism strategies can enhance their impact on inequality would strengthen the findings.

Al-Majali (2023) conducted a static panel data analysis of 114 countries from 2010 to 2021 to examine the impact of democracy on income inequality. Using the Global State of Democracy Indices (GSDI) to represent democracy and the Gini Index for wealth inequality, the study found that all variables are stationary and showed no cross-

sectional dependency. The results indicated a significant negative relationship between the Democracy Index and the Gini Index, with a one basis point increase in democracy correlating to a 0.487 basis point decrease in income inequality. However, the study could further explore how specific democratic practices influence these dynamics across different regions.

Trinugroho et al. (2023) also investigate whether democracy provides positive incentives to human rights, equitable income, and economic growth in Indonesia while acknowledging the mixed empirical evidence regarding the impact of democracy on growth in developing countries. Based on the results of the panel data estimation of 34 provinces for a total of 335 province year observations, this study further postulates that increased democratization is actually harmful to regional economic growth because of the financial costs involved. But it also discovers that income inequality within provinces is lower in countries with democracy. However, the study will benefit from examining how various dimensions of democracy affect growth and distribution differentially in various regions.

Dossou (2023) investigated how governance quality moderates the effect of urbanization on income inequality in Africa using a two-stage system GMM estimation approach. The study found that urbanization positively affects income inequality, indicating that increased urbanization leads to greater inequality. However, it also revealed that improved governance quality can reduce income inequality, suggesting that good governance may mitigate the negative impact of urbanization. While these findings are important, the study could further explore specific governance practices that effectively address the challenges posed by urbanization on income inequality.

Han and Kim (2023) examine the directions of Democracy and income inequality and whether Kuznets hypothesized curvilinear association. By applying the panel data estimation and ordinary least squares (OLS), the authors work out which specification is most suitable for this case. Their examination of a cross-sectional dependence of 136 countries for the period 1980–2018 shows a negative quadratic pattern, meaning inequality increases with democracy but decreases afterwards. The paper discovers that the extent of democracy has a negligible influence on income distribution, such that there is even less influence that reduces further in semi-democracies compared with full democracies and autocracies. That being said, the recognized findings would significantly extend knowledge further research on the underlying characteristics of this relation in other political circumstances might contribute to a better understanding of the matter.

2.4 Conceptual Framework

The conceptual framework suggests that several factors can play a role in reducing income inequality. Some of the factors are remittances and democracy.

Remittances and income inequality in Sub-Saharan Africa are often examined through two opposing theoretical perspectives: the optimistic and pessimistic viewpoints (Ofori et al., 2022). The optimistic perspective argues that remittances reduce income inequality by enabling poor and financially excluded households to overcome liquidity constraints and invest in physical and human capital (Mohammed, 2022). These investments can stimulate local economic activity, foster job creation, and enhance entrepreneurship, thereby narrowing the income gap between rich and poor households (De Haas, 2007). When remittance-receiving households increase their consumption of local goods and services, it generates a multiplier effect that boosts community development and creates employment (Mendola, 2012). At the macroeconomic level,

remittances have been found to promote economic growth and stability by raising household consumption and investment (Mishra, 2005). Furthermore, remittances enable the establishment of small-scale businesses, offering capital to start and grow enterprises, which diversifies income and stimulates local economies (Ncube & Gomez, 2011; Adams & Page, 2005).

Conversely, the pessimistic view contends that remittances can exacerbate income inequality. This is because wealthier households are more likely to afford the high costs associated with migration, thus receiving more remittances (Cepulis, 2011). Poorer households often face greater financial and policy barriers, resulting in limited access to migration opportunities and remittance flows. This dynamic disproportionately benefits higher-income families and may widen the income gap. Additionally, remittance inflows can increase local prices, reducing affordability for non-recipient households, while also fostering dependency, especially when recipients reduce labor market participation (Barham & Boucher, 1998; Acosta, Calderón & Mejía, 2017). These outcomes indicate that remittances can reinforce existing economic advantages among the better-off, intensifying income disparities.

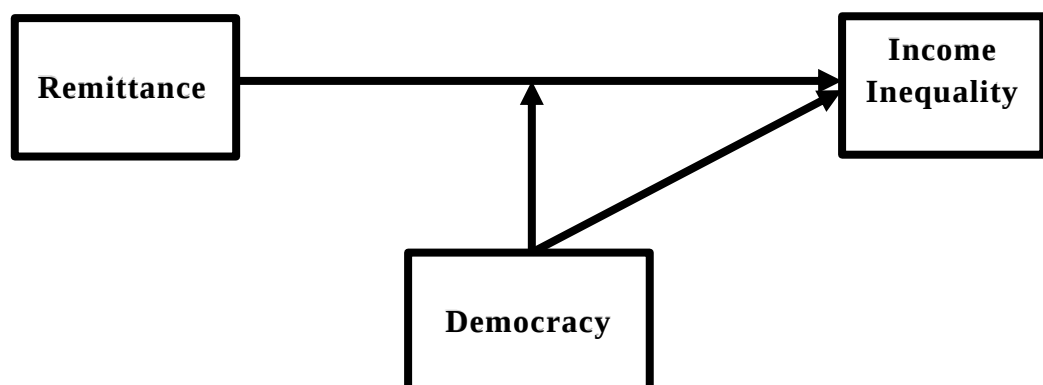


Figure 2.1: Conceptual Framework

Source: Author's own construct (2025)

This framework suggests that remittances can either reduce or increase income inequality depending on the income level of the households that receive them. When low-income households are the main recipients of remittances, these transfers help to improve their financial situation relative to higher-income households, thereby reducing income inequality. However, if remittances are disproportionately received by already well-off households, the additional income they gain will widen the gap between the rich and the poor, leading to an increase or persistence in income inequality. Therefore, the impact of remittances on income inequality is not uniform but depends on who receives the remittance income.

Democracy then comes into the picture as a moderating factor that can shape how remittances influence income inequality. From the optimistic perspective, strong democratic institutions marked by transparency, inclusion, and accountability can ensure that the benefits of remittances are more evenly spread across society. These institutions may help create systems and policies that encourage equitable distribution, ensuring that poorer households are not left behind. In such settings, democracy enhances the income inequality-reducing effect of remittances. On the other hand, the pessimistic perspective holds that in weak or elite-captured democracies, remittances might fail to translate into broad-based development. Even if poorer households receive remittances, weak institutions may allow the wealthy or politically connected to capture most of the gains indirectly through better access to opportunities, influence, or services. As a result, in the absence of strong democratic governance, remittances can end up reinforcing or even increasing income inequality.

2.6 Chapter Summary

This Chapter provides an extensive review of literature examining the relationship between remittances, democracy, and income inequality. It begins with a conceptual

clarification of the key variables, highlighting income inequality as a major development concern, measurable through indices such as the Gini coefficient, Palma ratio, Atkinson, and Theil indices. Democracy is discussed using the Freedom House Index, emphasizing the importance of political rights and civil liberties. The chapter underscores that democratic institutions can influence income inequality by promoting inclusive governance, accountability, and redistributive policies that channel remittance inflows toward equity-enhancing outcomes.

The theoretical review draws on five key frameworks Neoclassical Migration Theory, Institutional Economics, Redistribution Theory, Push-Pull Model, and Modernization Theory to explain the channels through which remittances and democratic governance may impact income inequality. These theories collectively emphasize that while remittances can serve as tools for poverty reduction and development, their long-term effect on income distribution is shaped by institutional quality, governance structures, and access to migration. Empirical literature from across regions, including Sub-Saharan Africa, Latin America, and Asia, presents mixed findings, showing that remittances can reduce or increase inequality depending on who receives them, how they are used, and the broader political and economic context (Tung &Thang, 2023; Elorabi, Ishak and Ibrahim, 2023; Sweeting, 2022; Kousar et al.,2019). The chapter also reviews how democratic regimes influence income inequality, with evidence showing that in some contexts, democracy contributes to redistribution and social equity, while in others, especially where institutions are weak or elite-dominated, it may fail to narrow income gaps (Al-Majali, 2023; Trinugroho et al., 2023; Han & Kim, 2023; Wong, 2022).

The conceptual framework synthesizes these insights, proposing that remittances affect income inequality depending on the income level of the recipients. Democracy plays a

moderating role in this relationship: strong democratic institutions can enhance the equitable distribution of remittances, while weak democratic systems may allow elite capture or inefficient allocation, exacerbating inequality. Both the optimistic and pessimistic perspectives are reflected in the framework, showing that the outcomes of remittance flows are conditional on governance quality and institutional effectiveness.



CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presented the testing methodology for the research questions described in chapter one. The research began with the selection of research philosophy and continued with the design and approach selected for this study. Detailed descriptions were provided to bring forth the theoretical together with empirical dimensions of this study. The chapter proceeded by discussing measurement approaches for research variables and their corresponding justifications along with conducted tests. The final section of the chapter discussed how the empirical model received its estimation technique.

3.2 Research design

A research design explains how data is collected, the types of instruments used, and the intended approach for analyzing the data (Gravetter, Forzano & Rakow, 2009). It is the general plan for implementing a research strategy (Pandey & Pandey, 2021). It stipulates what the study involves, whether it will be done in groups or individual subjects and specifies how many variables will be included in the study. To effectively address the problem of the research, there should be an overarching plan that is adopted to allow for the integration of all aspects of the research in a way that is systematic and consistent. This study adopted explanatory research design since this study examined the effect of remittances and democracy on income inequality. Explanatory research design is a method used to investigate a phenomenon that has not been studied or explained in detail, with the goal of understanding why and how it occurs. This type of research is designed to explore a topic and develop a deeper understanding of it, often

by establishing cause-and-effect relationships between different study variables. According to Johnson and Christensen (2019), explanatory research design seeks to explain why certain events occur and what factors contribute to them. This design allowed the researcher to examine changes in income inequality in Sub-Saharan Africa over time by analyzing data from 2000- 2022.

3.3 Research Approach

A quantitative research approach was adopted in this work. It is a systematic investigation that primarily focuses on quantifying data and using statistical methods to analyze relationships between variables, tests hypotheses, and make predictions (Creswell & Creswell, 2017). This approach helped to analyze and examine numerical data from the World Development Indicator (WDI), Freedom House and Global Consumption and Income Project (GCIP) to investigate the effect of remittances and democracy on income inequality in Sub-Saharan Africa. The quantitative research approach involved using statistical techniques to analyze the data collected from the said data source from 2000 to 2022. Various income inequality measures such as the, Palma ratio, Atkinson index, Gini coefficient, and Theil index were employed to assess the level of income inequality across various countries. By adopting a positivist approach, researchers aim to uncover objective truths and establish relationships through rigorous data analysis. To address this issue, empirical research employing the positivist research philosophy is essential.

3.4 Source of Data

The research sets its analysis on a balanced panel dataset spanning from 2000–2022 across 35 Sub-Saharan African (SSA) countries. The analysis relied on data obtained from respected international databases which established reliable variables for measurement purposes.

Income inequality (measured by the Palma ratio, Gini coefficient, Theil and Atkinson Indices) was obtained from the Global Consumption and Income Project (GCIP). Data on remittances (personal remittances received as a percentage of GDP), democracy indicators (including civil liberties, and political rights), and control variables such as GDP per capita, education, urbanization, and were extracted from the Freedom House databases and World Development Indicators (WDI).

The research features full data coverage because each one of the 35 included countries maintains consistent observations throughout the study period. The study uses a balanced country selection that enables superior robustness and efficiency of the estimations as well as two-step System GMM methodology in particular.

The countries included in the sample are: Angola, Benin, Botswana, Burkina Faso, Burundi, Carbo Verde, Cameroon, Comoros, Democratic Republic of Congo, Congo Republic, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Mali, Mauritania, Mauritius, Namibia, Niger, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Uganda and Zambia.

The sample selection was made on grounds of data availability and consistent measurements for all variables including remittances together with inequality and democracy indicators.

3.5 Model Specifications for Objective 1

3.5.1 Theoretical framework for objective 1

The first objective of this study is to examine the effect of remittances on income inequality in Sub-Saharan Africa. This objective seeks to determine whether inflows of

remittances, often sent directly to households by migrants, help to reduce or exacerbate disparities in income distribution within countries in the region.

Remittances serve as an alternative source of income for many households in developing countries and are often viewed as a financial lifeline that supplements household consumption, education, health care, and investment in small businesses. These transfers have the potential to either reduce income inequality by uplifting poorer households or increase it if only better-off households have the networks and resources to send or receive them. Understanding the net effect of remittances on inequality is thus crucial for inclusive policy design.

This study is guided by the New Economics of Labor Migration (NELM) theory, which posits that migration decisions and remittance flows are often household-level strategies to overcome market failures, especially in credit and insurance. According to NELM, remittances are not simply individual altruistic transfers but are embedded in family arrangements aimed at diversifying income sources and reducing vulnerability (Stark & Bloom, 1985).

In this context, income inequality is viewed as a macroeconomic outcome influenced by micro-level decisions to migrate and remit. The household-level effects of remittances aggregate to shape country-level income distribution patterns, particularly in regions where formal redistribution mechanisms may be weak.

The baseline theoretical model can be represented as follows:

$$Ineq_{it} = f (Remit_{it}, X_{it}) \quad (1)$$

Where:

- $Ineq_{it}$ represents income inequality in country i at time t , proxied by the Palma ratio.
- $Remit_{it}$ refers to remittance inflows measured as a percentage of GDP.
- X_{it} is a vector of control variables that influence income inequality (education, FDI, GDP per capita, Industrialization).

3.5.2 Empirical model specifications for objective 1

To empirically test the first objective, the following dynamic panel model is specified and estimated using two-step system GMM by following Ofori et al. (2022)

$$Ineq_{it} = \beta_0 + \beta_1 Ineq_{it-1} + \beta_2 REM_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln EDU_{it} + \beta_5 \ln IND_{it} + \beta_6 FDI_{it} + V_i + U_t + \epsilon_{it} \quad (2)$$

Where, $(Ineq_{it})$ represents income inequality measured by Palma Index with other three indices as robustness check, Gini coefficient, Theil index, and Atkinson index; $Ineq_{it-1}$ is the lag of the dependent variable which is the income inequality β_0 is the constant or intercept, β_1 is the co-efficient of the lags form of the dependent variables Income Inequality; β_2 is the coefficient of the interest variable “remittance”, $\beta_3 - \beta_6$ are the co-efficient of the respective control variables; V_i and U_t account for country-fixed effects and time-specific shocks respectively and ϵ_{it} is the idiosyncratic error term which allows us to examine whether remittances have a significant direct effect on reducing or increasing income inequality over time, accounting for country-specific heterogeneity and endogeneity of regressors.

The estimator takes the transformed model through first differencing. Following (Amègnonna & Dossou, 2023; Kratou & Khlass, 2023) the model is expanded as the transformed model is specified as:

$$\Delta Ineq_{it} = \beta_0 + \beta_1 \Delta Ineq_{it-1} + \beta_2 \Delta REM_{it} + \beta_3 \Delta \ln GDP_{it} + \beta_4 \Delta \ln EDU_{it} + \beta_5 \Delta \ln IND_{it} + \beta_6 FDI_{it} + \epsilon_{it} \quad (3)$$

3.6 Model Specification for Objective 2

This objective seeks to determine whether the presence and quality of democratic institutions influence how income is distributed across households.

3.6.1 Theoretical Model for Objective 2

In theory, democracy can reduce income inequality through inclusive institutions, equitable policy-making, improved access to public services, and stronger rule of law. Democratic systems are generally associated with broader political participation, checks and balances, and mechanisms for holding leaders accountable, all of which may lead to redistributive policies that favour low-income populations. On the other hand, some scholars argue that in certain contexts, democracy may fail to address inequality due to elite capture, weak institutions, or clientelism (Acemoglu & Robinson, 2005).

This study is grounded in Institutional Economic Theory, particularly the framework developed by Acemoglu, Johnson, and Robinson (2001; 2005), which posits that institutions including political institutions like democracy are critical determinants of long-run economic and social outcomes. Within this framework, democratic institutions shape the distribution of political power, which in turn determines the distribution of economic resources.

To formally represent the theoretical relationship:

$$Ineq_{it} = f(Demo_{it}, X_{it}) \quad (4)$$

Where:

- $Ineq_{it}$ represents income inequality in country i at time t , by the measured by Palma ratio.
- $Demo_{it}$ Refers to Democratic system of governance measured by Civil liberty and Political right indices.
- X_{it} Is a vector of control variables that influence income inequality (education, FDI, GDP per capita, and Industrialization).

3.6.1 Empirical model specifications for objective 2

The corresponding dynamic panel model estimated using two-step system GMM is:

$$Ineq_{it} = \alpha_0 + \alpha_1 Ineq_{it-1} + \alpha_2 Demo_{it} + \alpha_3 \ln GDP_{it} + \alpha_4 \ln EDU_{it} + \alpha_5 \ln IND_{it} + \alpha_6 FDI_{it} + \mu_i + \delta_t + \epsilon_{it} \quad (5)$$

Where, $Ineq_{it}$ is indicators for income inequality captured by the Palma index, Gini index, Atkinson index and Theil index which is the dependent variable, $Demo_{it}$ is democracy which is the variable of interest measured with Political right and Civil liberty indices index, $\alpha_3 - \alpha_6$ are the co-efficient of the respective control variables; μ_i and δ_t account for country-fixed effects and time-specific shocks respectively and ϵ_{it} is the idiosyncratic error term, $\ln EDU_{it}$ is an education indicator captured by enrollment rates % (gross) measures of secondary enrollment, FDI_{it} is an net inflow of Foreign direct investment as (% GDP) , $\ln IND_{it}$, is an indicator of industrialization measure by Industry (including construction), value added (% of GDP) and $\ln GDP_{it}$ is an indicator for Gross Domestic Product per capita (constant 2015 US\$) ; are the control variables for the study that can affect income inequality $i= 1, 2, 3, \dots, 35$ is the cross-sectional dimension of countries, $t= 1, 2, 3, \dots, 23$ represent time.

The model is then transformed to first difference following Arellano and Blundell (1998)

$$\Delta Ineq_{it} = \alpha_0 + \alpha_1 \Delta Ineq_{it-1} + \alpha_2 \Delta Demo_{it} + \alpha_3 \Delta \ln GDP_{it} + \alpha_4 \Delta \ln EDU_{it} + \alpha_5 \Delta \ln IND_{it} + \alpha_6 \Delta FDI_{it} + \Delta \epsilon_{it} \quad (6)$$

3.7 Model Specification for Objective 3

The third objective of this study is to assess how democracy moderates the effect of remittances on income inequality in Sub-Saharan Africa

3.7.1 Theoretical Model for Objective 3

This objective seeks to understand whether democratic institutions strengthen or weaken the relationship between remittances and inequality.

Remittances are often viewed as a source of income smoothing income inequality reduction (Adams & Page, 2005). However, the extent to which remittances affect income inequality can vary depending on the political and institutional environment of the recipient country. In countries with strong democratic institutions, remittance inflows may be more effectively channeled into productive uses (e.g., education, health, small businesses), supported by transparent governance and public accountability. In contrast, in weak democracies or autocratic regimes, remittance inflows may reinforce inequality if elites capture the benefits indirectly or if public services remain inadequate (Chowdhury, 2021).

This analysis is informed by Institutional Economic Theory, which posits that the outcomes of economic flows (like remittances) are shaped by the institutional and political structures in place (North, 1990). Democratic institutions can create enabling

environments where remittances are utilized in ways that promote inclusive growth and equity.

To capture this theoretically, we specify an interaction model as follows:

$$Ineq_{it} = (Rem_{it}, Demo_{it}, Rem_{it} \times Demo_{it}, X_{it}) \quad (7)$$

Where:

- $Ineq_{it}$ is the income inequality measures
- Rem_{it} is personal remittances received (% of GDP)
- $Demo_{it}$ represents democracy (Political right and Civil liberty)
- $Rem_{it} \times Demo_{it}$ is the interaction term between remittances and democracy capturing the moderating effect
- X_{it} is a vector of control variables.

3.7.1 Empirical model specifications for objective 3

The dynamic panel model, estimated using two-step system GMM, is:

$$\begin{aligned} Ineq_{it} = & \theta_0 + \theta_1 Ineq_{it-1} + \theta_2 Rem_{it} + \theta_3 Demo_{it} + \\ & + \theta_4 \ln GDPPC_{it} + \theta_5 \ln EDU_{it} + \theta_6 \ln IND_{it} + \theta_6 FDI_{it} + \gamma (Rem_{it} \times Demo_{it}) + \mu_i + \\ & \delta_t + \epsilon_{it} \end{aligned} \quad (8)$$

Where, θ_2 and θ_3 reflect the direct effect of remittance and democracy, $\theta_4 - \theta_6$ represent the direct effect of the control variables and γ represent the interactive effect of remittance and democracy.

The model is then transformed to first difference following Blundell and Bond (1998)

$$\begin{aligned} \Delta Ineq_{it} = & \theta_0 + \theta_1 \Delta Ineq_{it-1} + \theta_2 \Delta Rem_{it} + \theta_3 \Delta Demo_{it} + \theta_4 \Delta \ln GDPPC_{it} + \\ & \theta_5 \Delta \ln EDU_{it} + \theta_6 \Delta \ln IND_{it} + \theta_6 \Delta FDI_{it} + \gamma \Delta (Rem_{it} \times Demo_{it}) + \Delta \epsilon_{it} \end{aligned} \quad (9)$$

From Equation (8), I differentiate income inequality to remittances to obtain Eq. **(10)**. Therefore, Eq. **(10)** is the marginal effect equation for calculating the marginal or net effects of remittances on income inequality based on the interaction between remittances and democracy. In this study, I evaluated the net effect of remittances on income inequality at the maximum values of democracy variable. Following Acheampong et al. (2023).

$$\frac{\partial Ineq_{it}}{\partial \ln REM_{it}} = \theta_2 + \gamma \times (\mathbf{Demo})$$

(10)





Table 3.1: Definition and Measurement of Variables

Variable	Definition	Description	Source	Expected sign
Outcome Variable				
Inequ	Income inequality			
Palma index		National income shares that focuses on the top 10 Percent of households too those of the bottom 40 percent	GCIP (2024)	N/A
Gini index		The Gini coefficient is calculated as the area between the Lorenz curve, which represents the distribution of income, and the line of equality (45-degree line), divided by the total area under the line of equality. It ranges from 0 to 1. A Gini coefficient of 0 indicates perfect equality, where all individuals have the same income, while a coefficient of 1 signifies perfect inequality, where one individual has all the income and others have none	GCIP (2024)	N/A
Theil index		It takes into account both the distribution of income across different groups and the level of income achieved with in those groups. It ranges from 0 to 1, with 0 (perfect equality) and 1(Perfect inequality).	GCIP (2024)	N/A

Cont.				
Atkinson index		It measures income inequality based on society's aversion to inequality using a sensitivity parameter (epsilon). It ranges from 0 to 1, where higher values reflect greater concern for the poorest.	GCIP (2024)	N/A
Independent Variable				
Rem	Remittance	Personal remittance received (% of GDP)	WDI (2024)	Negative
Moderating variable				
Political right	Political right index	The Political Rights Index, measured on a 0–7 scale where 0 indicates the most political freedom and 7 the least, assesses a country's political rights by evaluating free elections, political participation, and government interference.	Freedom House Score (2024)	Negative
Civil liberty	Civil liberty index	The Civil Liberty Index, rated from 0 (most free) to 7 (least free), measures a country's respect for civil liberties such as freedom of expression, association, and privacy based on expert analysis and legal assessments.	Freedom House Score (2024)	Negative

 Cont.

**Control
variables**

FDI	Foreign direct investment	Foreign direct investment, net inflows (% GDP)	WDI (2024)	Negative
LnEDU	Education	Secondary enrollment (% Gross)	WDI (2024)	Negative
LnGDPPC	Economic growth	GDP per capita (constant 2015 US\$)	WDI (2024)	Negative
LnInd	Industrialization		WDI (2024)	Negative

Source: Author's Construct (2025)




3.8 Estimation Technique

To achieve the objectives of this study, the System Generalized Method of Moments (System GMM) estimator is employed to analyze the moderating role of democracy in the relationship between remittance and income inequality in Sub-Saharan Africa (SSA). The choice of System GMM, developed by Arellano and Bover (1995) and Blundell and Bond (1998), is motivated by several methodological advantages that align with the nature of the study's data and research questions. First, endogeneity poses a significant concern in this context, as Remittance, democracy, and income inequality may influence one another simultaneously, creating potential bias in the estimates. System GMM addresses this issue by using internal instruments, particularly lagged values of the explanatory variables, which help mitigate reverse causality and measurement error, thereby improving the reliability of the coefficient estimates (Roodman, 2009).

Moreover, income inequality tends to be persistent over time, especially in SSA, where historical, structural, and institutional factors play significant roles. As a result, past income inequality level may directly affect current outcomes. The dynamic nature of the data necessitates a technique that can efficiently handle the inclusion of a lagged dependent variable, a task for which System GMM is particularly well-suited (Bond et al., 2001). In addition, the estimator effectively controls for unobserved country-specific effects, such as institutional characteristics, social norms, or geographic factors, through first-differencing and appropriate instrumentation, thus reducing the risk of omitted variable bias (Baltagi, 2008).

System GMM is also preferred due to its superior efficiency in panels with small time dimensions and a relatively large number of cross-sectional units, a common structure in SSA panel data. Unlike Difference GMM, System GMM incorporates additional

moment conditions by combining equations in levels and first differences, which enhances the estimator's performance and yields more precise estimates (Blundell & Bond, 1998). Furthermore, the study explicitly accounts for potential cross-country dependence, a crucial concern given the regional integration, policy diffusion, and shared external shocks prevalent among SSA countries. By clustering standard errors at the country level and accounting for correlated errors across units, System GMM ensures robust inference even in the presence of cross-sectional interdependence (Abotsi, 2023; Oduola, Bello, Popoola, 2022). Taken together, these features make System GMM a robust and reliable estimation strategy for examining the dynamic relationships central to this study.

3.9 Pre-estimation Tests

The study employed three pre-estimation tests to ensure the reliability and robustness of the regression analysis, as these checks are essential for producing credible results. First, a multicollinearity test was conducted to assess the degree of correlation among the independent variables, since high multicollinearity can destabilize coefficient estimates. Second, an endogeneity test was performed to detect any unobserved factors that might influence the independent variables and bias the results. Finally, a cross-sectional dependence test was carried out to examine whether observations across countries were interrelated, which is crucial when working with panel data involving multiple nations. Addressing the outcomes of these tests helps to strengthen the accuracy and validity of the regression analysis

3.9.1 Multicollinearity Test

Resorting to correlation analysis only for the detection of multicollinearity may have its limitation as the relationship among the explanatory variables may be a complex one (Kraha et al., 2012). Multicollinearity arises when there is an approximate linear

relationship among 2 or more independent variables. This test was necessary because of the measures of education variables which are likely to suffer from multicollinearity. This is due to the fact that there is a transition from one level of education to the other and the educational index created from the levels using the principal component analysis still keeps the properties of the various levels.

3.9.2 Cross-Sectional Dependence Test

In panel data analysis, one of the major issues dealing with parameter estimation and inference is cross-sectional dependence among the individual units (Sarafidis & Wansbeek, 2012). Cross-sectional relations describe the situation in which there exists correlation among the error terms due to some common model exclusions, some form of spatial interaction, or interactions within socio-economic networks (Chudik & Pesaran, 2013). Such dependence may result from some global shock, for example, the oil crises or financial crises, which these countries all responded to in a similar manner regardless of distance. Within-country or regional spillover interdependencies further enhance cross-sectional dependence among countries or regions (Eberhardt & Teal, 2011).

For this study which examines cross-sectional dependence among the variables, the "xtcsd" tool (De Hoyos & Sarafidis, 2006) providing Frees' statistic, Friedman's test, and Pesaran's test was employed. This is an ex-ante evaluation approach which tests the null hypothesis of no dependence among the components of the unit panel, which determines the choice of the tests because unit root tests differ in their assumption of cross-section independence. Frees' test is based on rank correlation and Pesaran's test is based on the average pairwise correlation method (Mehmood et al., 2017).

3.9.3 Endogeneity test

Endogeneity of the regression model refers to the case when an independent variable correlate with the error term. In more advanced terms, it also covers correlation between two error terms in structural equation modeling. Endogeneity or the lack thereof determines whether parameter estimates can be deemed consistent as well as unbiased and accurate or not. Different approaches to resolve endogeneity have been suggested, including conditional estimating equations models with endogenous selection (Berger & Patilea, 2022), instrumental variables in panel data estimation (Barros et al., 2020), and Gaussian Processes Regression for normative modeling (Xu et al., 2021).

In the last two decades, over 75 percent of scholarly articles focused on the concept of endogeneity featured in leading academic journals, leading to an astonishing five-fold increase. Regardless of the increased focus, the discussions around endogeneity remain a narrowly scoped topic in analysis frameworks. Research conducted by Wooldridge (2010), Roberts and Whited (2013), and Ullah et al. (2018) point out that Endogeneity stems from an assortment of issues, including common-method variance, omitted variables, simultaneity, and measurement error.

In this study, it set out to look for possible endogeneity issues using the Durbin-Wu-Hausman test. The Durbin-Wu-Hausman test is one of the most prominent techniques in the literature that deals with the identification of endogeneity within individual regressors of a linear regression model (Ullah et al., 2018).

3.10 Estimation Procedure

Before the primary estimation, the study performed a complete data assessment using a number of pre-estimation diagnostics. These included tests for cross-sectional dependence, endogeneity, and multicollinearity to ensure that the results were reliable

and valid. The multicollinearity test detected any significant correlations between explanatory variables, while cross-sectional dependence and endogeneity checks addressed concerns that might undermine model accuracy. Additionally, panel unit root tests, notably the CIPS and CADF tests, were utilized to assess the dataset's stationarity. The study used the two-step system GMM estimator to evaluate the relationship between remittances and democracy on income inequality. Supplementary estimations were carried out to ensure robustness using other income inequality indices namely; Gini, Theil and Atkinson.

3.11 Panel Unit Root Tests

3.9.1 Cross-sectional Augmented Dickey- Fuller (CADF) and Cross-sectional Augmented IPS Panel Unit root test.

To address the issue of cross-sectional dependence in panel data, this study adopts the Cross-sectional Augmented Dickey-Fuller (CADF) and the Cross-sectional Augmented IPS (CIPS) unit root tests, as proposed by Pesaran (2007). These tests improve upon traditional unit root tests by accounting for unobserved common factors that may induce cross-sectional dependence among countries. The CADF test augments the standard Augmented Dickey-Fuller (ADF) regression with cross-sectional averages of both lagged levels and first differences of the individual series. This helps to eliminate the influence of common shocks or correlated residuals across cross-sectional units. The test has a null hypothesis of non-stationarity ($H_0: \beta_1 = 0$ for all $i=1 \dots N$) against the alternate hypothesis that a fraction of the series is stationary ($H_1: \beta_1 < 0$ for $i=1 \dots N$). Pesaran test denoted as CADF is based on the estimation of the following p^{th} order cross-section/ time series augmented regression.

$$\Delta y_{it} = \alpha_i + k_i y_{i,t-1} + c_i \bar{y}_{t-1} + \sum_{j=0}^p d_{j+1} \Delta \bar{y}_{t-j} + \sum_{k=1}^p \phi_k \Delta y_{i,t-k} + \varepsilon_{it} \quad (11)$$

Where $\bar{y}_i$ is the cross-section mean of y_{it} which helps to asymptotically take out the effects of the unobserved common factor. The test averages the individual CADF test statistics for all cross-section units in the heterogeneous panel. Also, Pesaran (2007) proposed a cross-sectional augmented version of the test denoted as CIPS.

$$\text{CIPS} = \frac{1}{N} \sum_{i=1}^N t_i(N, T)$$

(13)

Where, $t_i(N, T)$ is cross-sectionally Augmented Dickey-Fuller statistics for i^{th} cross-section unit given by the t-ratio of the coefficient of $y_{i,t-1}$ in the CADF regression above. The testing procedure has several advantages. Firstly, cross-sectionally augmented panel unit root tests have satisfactory size and power even for relatively small value of N and T and also, It allows for cross-sectional heterogeneity in the intercept, trend and autoregressive coefficient.

3.12 Post-Estimation (Robustness Checks)

To validate the robustness and reliability of the coefficients obtained from the two-step System GMM regression, the study follows the approach of prior empirical works (Dossou, 2023; Acheampong et al., 2023; Ofori et al., 2022) by employing several diagnostic tests and alternative model specifications. Specifically, the Arellano-Bond test for serial correlation is conducted to detect autocorrelation in the differenced residuals, where the presence of first-order autocorrelation (AR (1)) is expected, but the absence of second-order autocorrelation (AR (2)) is critical for model validity (Arellano & Bond, 1991). Additionally, the Hansen test for overidentifying restrictions is used to assess the validity of the instruments, with a p-value greater than 0.05 indicating that the instruments are appropriate and the model is not overfitted (Hansen, 1982). These

robustness checks, along with the use of alternative governance and inequality indicators, ensure that the estimated results are consistent, reliable, and robust.

3.13 Chapter Summary

This chapter presents the methodological framework employed for conducting the study, tailored to its specific objectives. The theoretical foundations of the model utilized in this research draw from Institutional Economic theory and Neo-Classical theory of Migration. These theories provide a conceptual basis for understanding the relationship between remittances, democracy and Income Inequality.

The study utilized panel data consisting of annual time series data spanning from 2000 to 2022, encompassing 35 sub-Saharan African countries. The selected variables for analysis include the personal remittances received as (% GDP), Civil and Political right indices, secondary enrollment, GDP per capita, Industrialization and FDI. These variables were chosen to capture relevant aspects of remittances, democracy and income inequality, as well as their potential determinants.

To ensure the reliability of the analysis, the study conducted Cross-sectional independence test, including the Pesaran, Friedman and Free's test, to verify whether some countries depends on other also, the study conducted panel unit root tests, including the CIPS and CADF tests, to verify that the variables were not integrated at higher orders than one, thereby avoiding spurious regression.

The primary estimation technique employed in this study was the two-step system GMM. This methodological approach allows for efficient estimation while considering potential endogeneity and other econometric challenges. Robustness checks were also performed to validate the accuracy and consistency of the estimates derived from the two-step system GMM.

The systematic framework presented in this chapter establishes a strong foundation for examining the relationship between remittances, democracy, and income inequality. It not only guides the estimation process but also informs the interpretation of the results in subsequent chapters.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This section presents and interprets the results obtained from the estimating approaches described in the previous chapter. Theoretical and empirical models presented in the methodological framework were applied to the dataset, and the results were assessed appropriately. The discussion begins with descriptive statistics and pre-estimation diagnostic results, then moves on to panel unit root tests and the Generalized Method of Moments (GMM) approach, which assesses income inequality using four separate indices.

4.1 Descriptive Statistics

Table 4.1 provides descriptive statistics, taking into consideration the panel data structure for the various variables across 35 countries in Sub-Saharan Africa (SSA) using secondary data from 2000 to 2022. It presents country-level statistics, allowing us to observe variations within individual countries over time. The within-country patterns represent deviations from each country's average across the observed time period. The primary descriptive statistics considered include the mean, standard deviation, minimum, and maximum values for each variable.

Table 4.1: Descriptive Statistics

Variable		Mean	Std. dev.	Min	Max	Obs.
<i>Dependent variable</i>						
Palma	Overall	6.7730	2.2105	2.4835	22.3510	N = 805
	between		1.5272	4.4720	10.9300	n = 35
	within		1.6179	1.0696	18.1940	T = 23
Gini	Overall	0.5947	0.0468	0.4408	0.8683	N = 805
	between		0.0328	0.5391	0.6795	n = 35
	within		0.0338	0.4811	0.7886	T = 23
Theil	Overall	0.6698	0.0933	0.3501	1.1652	N = 805
	between		0.0693	0.5488	0.8168	n = 35
	within		0.0636	0.4396	1.0182	T = 23
Atkinson	Overall	0.7077	0.0644	0.4440	0.9087	N = 805
	between		0.0488	0.6003	0.8207	n = 35
	within		0.0428	0.5025	0.9058	T = 23
<i>Independent variable</i>						
Remittance	Overall	3.6149	6.1473	0.0001	53.8264	N = 805
	between		5.6350	0.0441	30.1571	n = 35
	within		2.6278	-11.8018	27.2842	T = 23
<i>Moderating variable</i>						
Political right	Overall	4.1217	1.9252	0	7	N = 805
	between		1.8145	1	7	n = 35
	within		0.7100	0.8608	8.2521	T = 23
Civil liberty	Overall	3.8869	1.5343	0	7	N = 805
	between		1.8145	1.1304	7	n = 35
	within		0.6057	-0.5043	7.5826	T = 23
<i>Control variables</i>						
LnIndustrialization	Overall	3.1038	0.4866	1.0406	4.2787	N = 805
	between		0.4444	2.0910	4.0257	n = 35
	within		0.2113	1.7630	4.2996	T = 23
LnEducation	Overall	3.7100	0.5245	1.8105	4.7212	N = 805
	between		0.4426	2.6238	4.5210	n = 35
	within		0.2907	2.6842	4.6311	T = 23
FDI	Overall	3.5015	4.9389	-17.2921	56.2882	N = 805
	between		2.6663	0.54519	12.2960	n = 35
	within		4.1807	-19.3596	47.4937	T = 23
LnGdppc	Overall	7.0268	1.0693	4.7046	9.7321	N = 805
	between		0.9977	5.2748	9.4069	n = 35
	within		0.4185	5.5672	8.0757	T = 23

Source: Author's Estimation, 2025

This section presents the descriptive statistics of the main variables used in the analysis, based on a balanced panel dataset of 805 observations across 35 Sub-Saharan African countries from 2000 to 2022. Table 4.1 summarizes the mean, standard deviation,

minimum, and maximum values for each variable, along with the between and within variation, which captures heterogeneity across countries and over time.

The study's outcome variable, income inequality, is measured using the Palma ratio. On average, the Palma ratio is 6.77, with a minimum of 2.48 and a maximum of 22.35, suggesting substantial income disparities across countries. The high upper bound indicates extreme inequality in some SSA countries, particularly where the income share of the top 10% far outweighs that of the bottom 40%. According to Figure 4.1, Botswana, Burkina Faso and South Africa recorded the highest Palma values while Ethiopia and Sao Tome and Principe has recorded the minimum value, emphasizing the entrenched inequality linked to historical and structural conditions.

To provide a more comprehensive understanding of income inequality patterns, additional indices are examined. The Gini coefficient, a widely used measure that ranges from 0 (perfect equality) to 1 (perfect inequality), has a mean value of 0.59. The values span from 0.44 to 0.87, reflecting moderate to high inequality levels across the region. The between-country standard deviation of 0.05 suggests notable structural differences in inequality across countries, while a within-country deviation of 0.03 reveals some degree of variation over time.

The Theil index, which is particularly sensitive to income extremes and allows for decomposition into within- and between-group inequality, presents a mean of 0.67. Observed values range from 0.35 to 1.16, with a standard deviation of 0.09. The between-country variation (0.069) slightly outweighs the within-country variation (0.064), suggesting that cross-country disparities are more prominent.

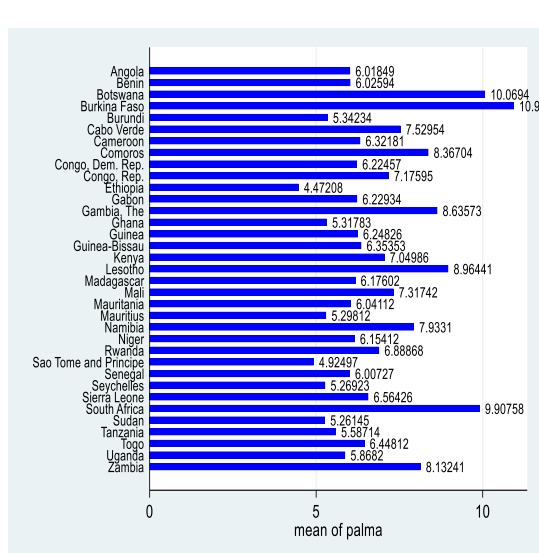


Figure 4.1: Palma index

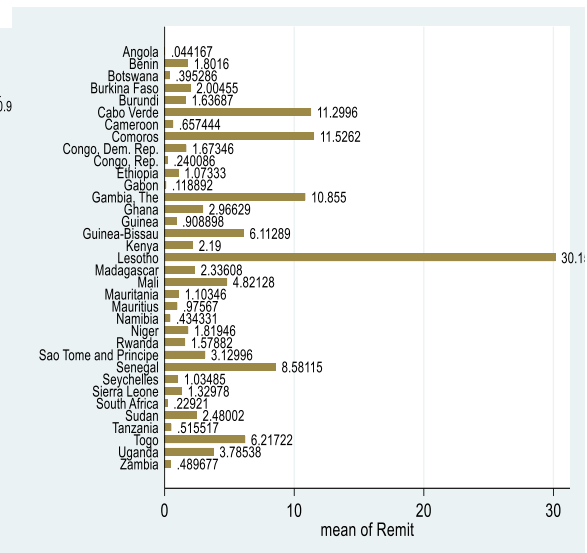


Figure 4.2: Remittance

Similarly, the Atkinson index, which emphasizes inequality at the lower end of the distribution and incorporates society's aversion to inequality, records a mean value of 0.71, with minimum and maximum values of 0.44 and 0.91, respectively. The standard deviation is 0.06, with the between-country component (0.05) exceeding the within-country variation (0.04), consistent with the trends observed in the other indices.

The main explanatory variable of interest, remittances (measured as a percentage of GDP), has a mean of 3.61%, underscoring its growing relevance as an external source of finance. However, remittance inflows vary greatly across countries and over time, ranging from a minimum of 0.0001% to a maximum of 53.83%. Lesotho stands out as the country with the highest remittance-to-GDP ratio, reflecting its strong dependence on remittances to support household income and Angola receiving the lowest as shown in Figure 4.2. The high within-country variation (2.63) and between-country variation (5.64) further highlight the uneven reliance on remittances across SSA.

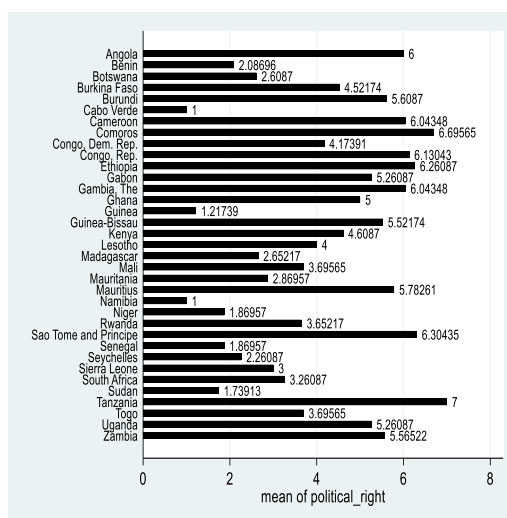


Figure 4.3: Political right index

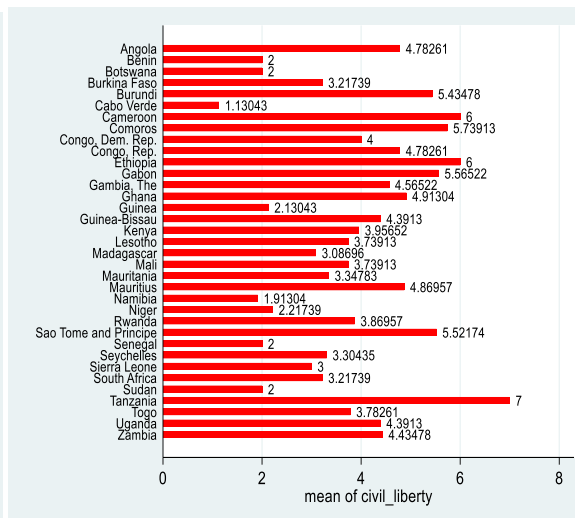


Figure 4.4: Civil liberty index

The study considers three democracy indicators to explore the role of democracy in shaping income distribution: Political Rights and Civil Liberties indices. The Political Rights index has a mean of 4.12, with values ranging from 0 (most free) to 7 (least free), suggesting a moderate level of political openness across the region. Countries such as Cabo Verde and Namibia demonstrated relatively higher levels of political rights, while Tanzania and Comoros maintained more restricted systems as indicated in Figure 4.3. Similarly, the Civil Liberties index averages 3.89, also on a scale from 0 to 7, indicating that most SSA countries exhibit moderate respect for individual rights, including freedom of expression and association. Cabo Verde again ranks highest in civil liberties, while Tanzania records the lowest as shown in Figure 4.4, reinforcing a pattern of regional political divergence.

Regarding control variables, the log of GDP per capita (LnGDPpc) has a mean of 7.03, with both minimum and maximum values indicating significant disparities in economic development levels among countries. The standard deviation between countries is 0.9977, reinforcing these structural differences. The log of education (LnEducation) averages 3.71, suggesting moderate educational enrollment in the region, with notable

variations across and within countries. Log of industrialization (LnIndustrialization) records a mean of 3.10, reflecting a moderate level of industrial sector contribution, again with some cross-country variation. Lastly, foreign direct investment (FDI) as a percentage of GDP (logged) averages 3.50, with values ranging from -17.29% to 56.29%, highlighting uneven FDI inflows in the region over time.

4.2 Pre-estimation Test Results

4.2.1 Multicollinearity Test Results

Table 4.2: Result for Variance Inflation Factor (VIF) Test for Multicollinearity

VARIABLE	VIF
REMITTANCE	1.130
POLITICAL RIGHT	3.560
CIVIL LIBERTY	3.610
LNINDUSTRIALIZATION	1.300
LNEDUCATION	2.470
FDI	1.040
LNGDPPC	2.660

Note: LNINDUSTRIALIZATION: Log of Industrialization, FDI: Foreign Direct Investment, LNGDPPC: Log of Gross Domestic Product per Capita

Source: Author's own computation, 2025

To assess the presence of multicollinearity among the explanatory variables, the study employed the Variance Inflation Factor (VIF) test. According to Hair et al. (1995) and O'Brien (2007), a VIF value exceeding 4 may indicate potential multicollinearity concerns. As shown in the table 4.2, all VIF values fall below this threshold, with the highest being 3.61 for Civil Liberty. This suggests that the independent variables used in the analysis do not suffer from problematic multicollinearity. Consequently, no corrective measures such as variable transformation or exclusion were necessary.

4.2.2 Cross- Sectional Dependence Test Results

Table 4.3: Cross-Sectional Dependence Test

Test	Test Value	Pr.
Pesaran's Test of Cross-Sectional Independence	4.282	0.000
Friedman's Test of Cross-Sectional Independence	56.799	0.0084
Free's Test of Cross-Sectional Independence		
Critical Values from Free's Q Distribution		Test Value
Alpha=0.10	0.112	8.972
Alpha=0.05	0.147	
Alpha=0.01	0.213	

Source: Author's own computation, 2025

The results from Pesaran's, Friedman's, and Frees' tests all provide strong evidence of cross-sectional dependence in the panel data, as the null hypothesis of cross-sectional independence is rejected at 5% significance levels. This indicates the presence of contemporaneous correlation among the cross-sectional units, likely due to common shocks or unobserved global factors affecting the units simultaneously. According to Pesaran (2007), failure to account for such dependence may lead to biased standard errors and invalid inference. Consequently, the use of estimation methods that are robust to cross-sectional dependence such as including time dummies (Roodman, 2009) or employing Driscoll-Kraay standard errors (Driscoll & Kraay, 1998) was introduced to improve the reliability of the results.

4.2.3 Endogeneity Test

The regression analysis revealed a significant distinction in terms of endogeneity among the variables. The results show that a clear distinction exists between the

variables exhibiting endogeneity and those that do not. Specifically, Remittance, GDPPC, Industrialization, FDI and Education were identified as endogenous variables, with their residuals displaying a high degree of statistical significance. This indicates that these variables may be affected by unobserved factors not fully accounted for within the model, thus leading to endogeneity issues. In contrast, the variables Political Rights and Civil Liberty were found to be exogenous, as the insignificance of their residuals implies an absence of endogeneity.

4.2.4 Panel Unit Root Test Results

Table 4.4 presents the results of the CIPS and CADF unit root tests with constant only.

The findings clearly show that practically not all the variables are stationary at levels

Table 4.4: Panel Unit Root Test

Variable	Levels (Constant)		First Difference (Constant)	
	CIPS	CADF(T-bar)	CIPS	CADF
PALMA	-2.364***	-1.594	-2.385***	-2.221**
GINI	-2.362***	-1.351	-2.707***	-2.115**
THEIL	-2.336***	-1.594	2.432***	-2.118**
ATKINSON	-2.118**	-1.796	-2.340***	-2.182**
REMITTANCE	2.610***	-1.462	2.610***	-2.237***
POLITICAL RIGHT	-1.417	-0.920	-3.313***	-2.111**
CIVIL LIBERTY	-0.524	-0.095	-2.851***	-2.054*
LNINDUSTRIALIZATION	-1.609	-1.455	-3.542***	-2.432***
LNEDUCATION	4.838***	-2.385***	-6.058***	-3.442***
FDI	-2.379***	-1.729	-5.205***	-2.498***
LNGDPPC	-2.717***	-2.144**	-4.345***	-3.039***

Notes: *, **, and *** indicate significance at 10 %, 5% and 1% respectively.

Source: Author's own computation, 2025

The study came to the conclusion that the Palma, Gini, Theil, Atkinson, Political right, Civil liberty, log of Industrialization, log of GDP per capita, log of Education, FDI, and Remittances, variables are all stationary at first difference levels (i.e., $I(1)$), based on the panel unit root tests.

4.3 Two-Step System GMM Results on the Effect of Remittances and Democracy on Income inequality.

From table 4.5 (and all other subsequent regression tables), the coefficients for the lagged income inequality (L. Palma) variable across all models (Columns 1 to 5) are highly significant at the 1% level, with values ranging from 0.820 to 1.025. This indicates strong persistence in income inequality over time. A one-one increase in the previous year's income inequality is associated with a rise in current income inequality by approximately 0.820 to 1.025. This means past income inequalities tend to reinforce themselves over time due to structural rigidities such as unequal access to education, healthcare, credit, and political influence. The result in Model 1 (1.025) implies that income inequality is particularly resistant to change in the absence of strong policy interventions, while slightly lower values in Models 2 to 5 (0.820 to 0.968) suggest that the inclusion of institutional and governance-related variables such as political rights and civil liberties slightly reduces but does not eliminate this persistence. This shows that income inequality is deeply rooted in Sub-Saharan Africa, where past inequality levels continue to shape current economic conditions. These results align with prior findings from Taylor et al. (2020), Vacaflores (2018), Mahmood & Noor (2014), and Adenutsi (2011), which emphasized the enduring influence of historical inequality on present income distribution.

In Column one, remittances have a statistically significant and negative effect on income inequality. The coefficient for remittances is (-0.044) and statistically significant at 1% level. Implying that a 1% increase in remittance inflows to SSA results in a 0.044 reduction in income inequality, as measured by the Palma index affirming their redistributive potential.

This finding is consistent with earlier empirical studies which argue that remittances flows can help narrow income disparities by increasing the income shares of poorer households. Research by Ebeke and Le Goff (2011) and Azizi (2019) shows similar evidence where remittances are linked to reductions in the Gini index and shifts in income distribution that benefit lower-income groups. One reason for this effect is that low- and middle-income households are more reliant on financial support from migrant family members than wealthier households, who may already have diversified income sources. Additionally, falling global migration costs have increased the accessibility of migration for lower-income individuals, thereby broadening the base of remittance recipients. In regions like Sub-Saharan Africa, where informal and irregular migration is also prevalent, remittance inflows to poorer households are especially critical in supplementing income of the lower household (Jones, 1998). However, this study's results differ from those of previous works like Anyanwu et al. (2016) and Song et al. (2021), who found that remittances tend to widen income disparities. According to Song et al. (2021), migrants from developing countries are often from relatively affluent household, which means remittances are more likely to reinforce existing income advantages. In a similar vein, Ofori et al. (2022) note that the impact of remittances on reducing inequality can be uneven, as they sometimes flow disproportionately to wealthier families.

Table 4.5: Two-Step System GMM results for the effect of Remittances and Democracy on income inequality in Sub-Saharan Africa (Dependent Variable: Palma Index)

Variable	(1)	(2)	(3)	(4)	(5)
L.Palma	1.025*** (0.046)	0.820*** (0.027)	0.842*** (0.022)	0.822*** (0.185)	0.968*** (0.101)
Lnindustrialization	0.644* (0.367)	0.763* (0.400)	0.587** (0.274)	-0.692 (1.484)	-0.127 (0.628)
Lneducation	2.174** (0.838)	0.572*** (0.183)	0.447** (0.198)	-0.861 (0.834)	0.665 (0.980)
LnGDPppc	-0.825** (0.340)	-0.252** (0.117)	-0.212*** (0.088)	-0.445* (0.257)	0.340 (0.296)
FDI	0.064 (0.045)	-0.001 (0.005)	0.014 (0.014)	0.004 (0.022)	-0.013 (0.025)
Remittance	-0.044*** (0.017)			-0.622** (0.272)	-0.450* (0.242)
Political Right		-0.161*** (0.057)		0.284** (0.142)	
Civil Liberty			-0.045** (0.199)		0.825** (0.328)
Rem_PR				-0.074** (0.037)	
Rem_CL					-0.081* (0.047)
Constant	-4.657** (1.857)	-0.965 (1.019)	-0.919 (0.984)	33.932 (42.358)	-0.156 (45.885)
AR (2)	0.076	0.080	0.078	0.190	0.134
Hansen J-OIR	0.304	0.360	0.632	0.345	0.736
Time Effect	-0.014 (0.015)	-0.007 (0.008)	0.054 (0.049)	-0.016 (0.020)	-0.002 (0.023)
Instrument	32	31	34	29	27
Observation	665	665	665	770	770

Source: Author's construct, 2025

*Model 1 captures the effect of remittance on income inequality, Model 2-3 captures the effect of democracy indices on income inequality, and Model 4-5 captures the moderation role of democracy on income inequality. L.Palma denote lag of Palma index, Rem_PR denotes, interactive of Remittance and political right, Rem_CL, denotes, interactive of Remittance and civil liberty. The significance levels 1%, 5% and 10% are denoted by ***, **, and * respectively. Robust standard errors are in parenthesis (), AR (2): Second Order Autocorrelation test, Hansen J-OIR: Hansen test of overidentification restrictions.*

In Column two, the coefficient for Political Rights is (-0.161) and statistically significant at 1% level. This indicates that an improvement in political rights leads to a reduction in income inequality in SSA. A unit improvement in the Political Rights index

reduces income inequality by 0.161. The negative coefficient suggests that political rights, which ensure greater citizen participation in the political process, have the potential to reduce inequality by promoting more inclusive policies and governance. These findings are in line with the argument by Acemoglu et al. (2015), which suggests that democratic systems characterized by political freedoms are more likely to implement policies that prioritize the needs of lower-income populations. These environments foster redistribution through structured mechanisms such as progressive taxation, welfare programs, and universal access to public services. Al-Majali (2024) adds to this by emphasizing that well-functioning democratic institutions not only enhance state accountability and reduce corruption but also ensure that economic policies are inclusive, thereby narrowing income disparities. Furthermore, Trinugroho et al. (2023) explain that democratic governments tend to maintain lower levels of corruption and promote equitable economic development. They point out that in such systems, politicians are often more responsive to voter demands, including the preferences of marginalized groups. The freedom of expression and association embedded in democratic regimes enables organized groups, such as labor unions, to influence policy decisions when the political cost of ignoring them outweighs the risks of adopting redistributive or populist agendas.

In column three, the coefficient for Civil Liberties is -0.045 and statistically significant at the 1% level, indicating that a unit improvement in civil liberties is associated with a 0.045 reduction in income inequality. This finding suggests that stronger civil liberties contribute to narrowing income disparities. Enhanced civil liberties such as freedom of expression, assembly, and association empower citizens to demand transparency, participate in policy discourse, and advocate for redistributive policies that prioritize the needs of lower-income groups. By enabling public accountability and civic

engagement, civil liberties help create a policy environment conducive to inclusive economic development. This result is consistent with Nikoloski (2015), who finds that countries with more robust civil liberties tend to achieve better socio-economic outcomes for marginalized populations. However, the findings are contradictory to the study of (Acheampong et al., 2023; Ziblatt, 2008) who found that democracy in Africa primarily benefits a select few, particularly the educated elite with political affiliations.

Regarding to the control variables from column one to four. The coefficient for log of GDP per capita is statistically significant at 1%, 5% and 10% level in four out of five columns. This suggests that, on average, a one-percent increase in the GDP per capita is associated with a 0.008, 0.003, 0.002 and 0.004 decreases in the income inequality. This finding suggests that economic growth, as measured by GDP per capita, has the potential to contribute to a more equitable distribution of income within a country. This finding is consistent with Agyemang, (2015) which examines and compares the implications of economic growth on income inequality among 76 countries across sub-Saharan Africa (SSA).

The coefficient for industrialization is positive and significant in several models. For example, in Column one, a 1% increase in industrialization leads to a 0.1732 increase in income inequality, significant at the 5% level. This suggests that industrial growth in Sub-Saharan Africa is likely to benefit wealthier groups, exacerbating inequality (Ali, 2022). Furthermore, the results reveal a consistently positive and statistically significant relationship between education (measured in logarithmic form) and income inequality in several model specifications. Specifically, in Models one to three, the coefficients of the education variable are positive and significant at the 1% or 5% level, indicating that increases in education levels are associated with widening income inequality in Sub-Saharan Africa. This finding suggests that, contrary to expectations that education

should promote equitable income distribution, the benefits of education may be disproportionately accruing to individuals in higher income brackets, thereby reinforcing existing disparities. One possible reason is the unequal access to quality education across regions and socioeconomic groups. In many Sub-Saharan African countries, wealthier families often have access to better schools, private tutoring, and overseas education, which provide greater returns in the labor market. As a result, education amplifies income disparities rather than reducing them. This finding is aligns with (Tansel, 2002; Knight & Sabot, 1983.) However, foreign direct investment (FDI) has no statistically significant effect on income inequality in Sub-Saharan Africa.

From column four to five, shows the interactive effect of remittance and democracy on income inequality. The interaction terms in table explore the moderating effect of various measures of democracy on the relationship between remittances and income inequality in Sub-Saharan Africa. Specifically, the research examines how Political Rights and Civil Liberties moderate the effect of remittances on income inequality. The interaction terms allow us to determine whether the effect of remittances on income inequality is strengthened or weakened in more democratic settings. Below is an interpretation of each interaction term, along with the calculated net effects.

$$\text{Remittances*Political right } \left(\frac{\partial(Palma_{it})}{\partial(remittance_{it})} \right) = -0.622 + (-0.074 \times 4.122) = -0.927$$

$$\text{Remittances*Civil liberty } \left(\frac{\partial(Palma_{it})}{\partial(remittance_{it})} \right) = -0.450 + (-0.0315 \times 3.887) = -0.765$$

The interactive terms of remittance and democracy (**Rem_PR & Rem_CL**) are both statistically significant at 5% and negative in the regression results. This indicates that the effect of remittances on reducing income inequality in Sub-Saharan Africa becomes

stronger when democratic institutions (specifically, political rights and civil liberties) are more effective.

The negative coefficient on these interaction terms suggests that remittances are more effective at reducing income inequality in environments where democracy is stronger. This can be explained by the fact that democratic environments tend to have better transparency, accountability, and governance structures, which improve how remittances are used such as for investment in education, health, and small businesses rather than being captured by elites or misused due to corruption. In essence, these findings support the idea that institutional quality enhances the inequality-reducing effect of remittances. Where democratic governance is stronger, remittances are more likely to be channeled into productive and equitable uses, contributing more effectively to reducing income disparities.

The marginal effect of remittances on income inequality is -0.927 , indicating that at the average level of political rights (4.122) in Sub-Saharan Africa, remittances play a significant role in reducing income inequality. In countries with moderate political freedoms, remittances tend to have a stronger impact on narrowing the income gap. This may be attributed to the presence of democratic institutions that promote transparency and fair distribution of resources. Similarly, at the average level of civil liberties (3.887), the marginal effect of remittances is -0.765 . This also confirms a strong inequality-reducing effect in environments where civil freedoms such as freedom of expression, association, and access to independent media are more prevalent. These freedoms can improve how remittances are channeled and utilized, often encouraging their use for household welfare, education, and productive investments. Such uses ultimately contribute to reducing income disparities and fostering inclusive development.

4.4 Driscoll-Kraay Results on the Effect of Remittances and Democracy on Income inequality.

Table 4.6 shows the results from the Driscoll-Kraay estimation, which was used to correct for cross-sectional dependence identified in the earlier model shown in Table 4.5. This method helps to produce more reliable results when countries in the panel dataset are not independent of each other.

Table 4.6: Driscoll-Kraay results for the effect of Remittances and Democracy on income inequality in Sub-Saharan Africa (Dependent Variable: Palma Index)

Variable	(1)	(2)	(3)	(4)	(5)
Lnindustrialization	0.640* (0.366)	0.762* (0.400)	0.586** (0.274)	-0.690 (1.480)	-0.125 (0.626)
Lneducation	2.154*** (0.835)	0.570*** (0.183)	0.445** (0.197)	-0.858 (0.835)	0.663 (0.978)
LnGDPpc	-0.813** (0.343)	-0.249** (0.110)	-0.206*** (0.008)	-0.402* (0.250)	0.333 (0.285)
FDI	-0.062 (0.046)	-0.001 (0.004)	-0.013 (0.0014)	-0.004 (0.023)	-0.012 (0.026)
Remittance	-0.043*** (0.011)			-0.592*** (0.138)	0.450* (0.240)
Political Right		-0.111*** (0.048)		-0.162*** (0.057)	
Civil Liberty			-0.248*** (0.043)		-0.329*** (0.040)
Rem_PR				-0.016** (0.007)	
Rem_CL					-0.030*** (0.008)
Time effect	-0.029 (0.970)	-0.023 (0.115)	-0.025 (0.110)	-0.026 (0.150)	-0.028 (0.111)
Constant	5.549*** (1.465)	6.171*** (1.531)	6.803*** (1.595)	6.086*** (1.508)	6.829*** (1.530)
Observation	805	805	805	805	805

Source: Author's construct, 2025

The key findings remain consistent with Two-Step system GMM results in Table 4.5. Remittances continue to show a negative and statistically significant effect on income inequality, suggesting that remittance inflows help reduce the income gap across Sub-Saharan African countries. Similarly, the independent effects of political rights and civil

liberties are also negative and significant, indicating that stronger democratic institutions are associated with lower income inequality.

Importantly, the interaction between remittances and democracy both political rights and civil liberties remains negative and significant, confirming that remittances are more effective at reducing inequality when democratic institutions are functioning well. This supports the earlier conclusion that remittances and democracy together can play a complementary role in narrowing income disparities.

The results for control variables such as GDP per capita, education, and industrialization are largely consistent with the baseline model, though a few minor changes in their levels of significance and direction are observed in some models. This indicates that the core relationships in the study are robust to changes in the estimation technique.

4.5 Robustness Check

The post-estimation diagnostic checks provide strong support for the robustness and reliability of the Two-Step System GMM results reported in Table 4.5. First, the Arellano-Bond test for second-order serial correlation (AR (2)) reveals statistically insignificant p-values across all model specifications, confirming the absence of second-order autocorrelation in the residuals. This satisfies a key requirement for the validity of the GMM estimator.

The Hansen test for over-identifying restrictions also produced statistically insignificant results across all specifications. This indicates that the instruments used in the models are valid and not correlated with the error term, reinforcing the credibility of the estimates and addressing potential endogeneity concerns.

Furthermore, the lagged dependent variable was included in the models and found to be highly statistically significant at the 1% level in all five specifications. Importantly, all models controlled for time-specific effects, which account for macroeconomic shocks and unobserved heterogeneity across periods. The inclusion of time dummies helps isolate the pure effect of remittances and democratic institutions on income inequality by removing time-variant biases, thus improving the precision and relevance of the estimates.

To further assess the robustness of the findings, alternative income inequality measures such as the Atkinson index, Theil index, and Gini coefficient were employed. The results, presented in Appendices B, C, and D, exhibit a consistent pattern with those obtained using the Palma Index in Table 4.5, confirming the stability of the main conclusions across different inequality measures.

4.6 Chapter Summary

This chapter discussed results based on the objectives for the study. The Two-Step system GMM estimator was used for the objectives together with Discroll-Kray estimator to treat for cross-sectional dependence. The descriptive statistics on variables used for the estimations were discussed. It encompassed the mean, standard deviation, maximum values and minimum values. Pre-estimation tests results and the results on the estimations were further discussed in the chapter. The post-estimation (robustness check) test results were finally discussed to complete the chapter.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

This last chapter concludes the study on the effects of remittance and democracy on income inequality in Sub-Saharan Africa. It, first, presents a summary of the various findings of this study and the conclusions that were drawn based on the objectives outlined in this study. This will then be followed by policy recommendations from the practical implications and findings from this study to governments and various policy makers who are operating and may be operating in the sub-Saharan Africa territory. The limitations and direction for future studies finally concludes this study.

5.1 Summary

Objective 1: To assess the effect of remittances on income inequality in Sub-Saharan Africa

The study found that remittance inflows significantly reduce income inequality across Sub-Saharan African countries. This supports the view that remittances act as a redistributive financial mechanism, particularly when effectively used for consumption, education, health, and productive investments by recipient households. The findings imply that remittances can play a meaningful role in narrowing the income gap, especially in contexts where access to credit and public welfare is limited.

Objective 2: To examine the effect of democratic governance (measured by political rights and civil liberties) on income inequality

The analysis revealed that both political rights and civil liberties have a statistically significant and negative effect on income inequality. This indicates that stronger democratic institutions are associated with more equitable income distribution.

Democratic environments promote transparency, accountability, and inclusive policy-making, all of which contribute to improved access to services and opportunities for disadvantaged groups.

Objective 3: To explore the interaction between remittances and democracy in influencing income inequality.

The interaction terms between remittances and democracy were found to be statistically significant and negative. This confirms that democracy amplifies the inequality-reducing effect of remittances. In countries with stronger political rights and civil liberties, remittances are more likely to be used productively, benefiting lower-income households through increased investment in human capital and small enterprises. This interaction highlights the importance of institutional quality in shaping the developmental impact of remittance flows.

5.2 Conclusions

This study provides compelling evidence that remittance inflows play an increasingly important role in shaping income distribution in Sub-Saharan Africa. However, their capacity to reduce inequality is not unconditional. The institutional environment within which these transfers operate significantly influences their effectiveness. In particular, democratic features such as respect for civil liberties and political participation create conditions that enhance the positive impact of remittances by improving accountability, inclusiveness, and equitable resource allocation.

The persistent structural disparities across countries in the region marked by uneven access to opportunity, weak governance, and social exclusion continue to undermine efforts aimed at creating a fairer economic landscape. Where institutional quality is lacking, even well-meaning financial flows can be diluted or diverted, reducing their

transformative potential. This underscores the importance of strengthening governance systems as a parallel objective in efforts to leverage remittances for inclusive development.

Beyond institutional considerations, the study also points to the need for comprehensive approaches that address the broader social and economic architecture. Unequal educational access and skewed industrial development often reinforce existing income gaps, making it difficult for vulnerable populations to benefit from national growth or international financial transfers. Addressing these structural issues is therefore essential to achieving long-term equity.

Ultimately, the findings suggest that promoting income equality in Sub-Saharan Africa requires more than facilitating remittance flows. It demands intentional investment in democratic governance, social inclusion, and institutional resilience. National governments, in collaboration with development stakeholders, must focus on building systems that not only attract resources but also manage and distribute them fairly. Doing so will enhance the impact of remittances and ensure that they contribute meaningfully to reducing inequality and promoting sustainable, inclusive development.

5.3 Recommendations

Based on the study's findings, the following recommendations are proposed to guide policy actions and institutional reforms aimed at reducing income inequality in Sub-Saharan Africa:

- **Strengthening the Role of Remittances in Addressing Income Inequality**

Given the proven potential of remittances to reduce income inequality in Sub-Saharan Africa, national governments particularly through their Ministries of Finance, central banks, and diaspora engagement agencies should go beyond the conventional focus on reducing remittance transfer costs and instead adopt a comprehensive policy framework that formally integrates remittances into national development planning. This involves developing structured remittance-linked investment platforms that allow recipients to channel part of their inflows into secure, interest-bearing financial products tied to community infrastructure, education, or health development bonds. In addition, governments through the ministry of Finance should partner with financial institutions and fintech innovators to deepen financial inclusion through mobile banking tailored to rural and low-income recipients who are often excluded from formal financial services. These efforts must be supported by financial literacy initiatives, particularly in remittance-dependent regions, to help households convert short-term financial support into long-term assets.

- **Promoting Democratic Institutions to Improve Income Equality.**

The evidence shows that political rights and civil liberties are critical in mitigating income inequality. Based on this, it is recommended that ministries of justice, parliaments, and civil society organizations work collaboratively to deepen democratic governance. This includes safeguarding electoral integrity, ensuring press freedom, and enforcing laws that protect civil and political rights. These institutions should also focus on citizen engagement and public accountability to ensure that governance structures are inclusive and responsive to the needs of marginalized groups.

- **Aligning Democratic Governance with Remittance Flows**

The interactive analysis reveals that the impact of remittances on income inequality becomes stronger in environments with high levels of democracy. This finding underscores the need for ministries of interior and governance-focused agencies to create enabling environments where remittances can be effectively channeled to development outcomes. Strengthening anti-corruption institutions, enhancing transparency in public spending, and empowering local governments to partner with diaspora communities will reinforce the synergistic benefits of democracy and remittances in reducing inequality.

- **Expanding Inclusive Economic Growth**

Given the negative association between GDP per capita and income inequality, ministries of economic planning and development must design growth strategies that prioritize equity. They should focus on inclusive job creation, rural development, and investments in social safety nets to ensure that the benefits of growth reach the bottom 40% of the population.

- **Reforming the Education System to Curb Inequality**

The study finds that higher education levels are associated with increased income inequality, indicating unequal access and uneven returns to education. To address this, ministries of education and labor should work toward equitable access to quality education by improving public education funding, particularly in low-income and rural communities. Moreover, reforms should align curricula with labor market needs and expand vocational and technical training to bridge opportunity gaps.

- **Ensuring Broad-Based Benefits from Industrialization**

The positive and significant relationship between industrialization and inequality suggests that industrial growth is not currently inclusive. Ministries of trade and industry should implement policies that promote equitable employment opportunities and support small-scale enterprises in rural and low-income areas. Special attention should be given to industrial policies that integrate marginalized communities through skill development programs and inclusive supply chains.

5.4 Limitations of the Study

While this study examines the relationship between remittances, democracy, and income inequality in Sub-Saharan Africa, several limitations must be acknowledged.

Firstly, the analysis relies on longitudinal macroeconomic data covering 35 countries from 2000 to 2022. However, due to issues with data availability and missing values, some countries were excluded from the study. This may limit the generalizability of the results, as the conclusions may not fully reflect the social, economic, and institutional conditions of the omitted countries. In addition, by focusing on broader regional patterns, the study may overlook important country-level differences in how remittances and democratic institutions interact to shape income inequality.

Secondly, although the study uses established indicators such as political rights and civil liberties as proxies for democracy, these measures may not capture all relevant aspects of democratic governance. Other factors, including judicial independence, rule of law, and administrative capacity, may also influence how democratic systems affect the distributional impact of remittances.

Finally, the use of aggregated national-level data restricts the study's ability to examine differences within countries. Micro-level or household data would offer a more detailed view of how remittances are utilized, who benefits from them, and how these patterns

vary by income group, gender, or location. Therefore, while the macroeconomic approach provides valuable insights for regional policy discussions, it may understate the disparities that exist within individual countries.

5.5 Direction for Future Research

Building upon the limitations identified in this study, several avenues exist for future research. First, subsequent studies should consider expanding the country coverage to include nations that were excluded due to data constraints. Second, future research should employ more comprehensive indicators of democratic quality. While this study utilized political rights and civil liberties as proxies, incorporating additional institutional dimensions such as judicial independence, rule of law, regulatory quality, and government effectiveness can provide a more nuanced assessment of how democratic governance shapes the distributional effects of remittance flows.

Finally, future work would benefit from the use of household-level or micro-panel data. This would allow researchers to assess the heterogeneity of remittance impacts across different demographic and socioeconomic groups within countries. Disaggregated data can provide deeper understanding of how remittances influence inequality by gender, rural-urban location, education level, or household wealth. Such analysis would be critical for designing more targeted and inclusive policy interventions that address not just regional income inequality, but also disparities within countries and communities.

REFERENCES

- Abotsi, A. K. (2023). Fiscal policy sustainability and public debt in Africa. *SN Business & Economics*, 4(1), 5.
- Acemoglu, D., & Robinson, J. A. (2005). *Economic origins of dictatorship and democracy*. Cambridge university press.
- Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *American economic review*, 91(5), 1369-1401.
- Acemoglu, D., Naidu, S., Restrepo, P., & Robinson, J. A. (2012). Democracy, public policy and inequality. *American Political Science Review*, 106, 495-516.
- Acemoglu, D., Naidu, S., Restrepo, P., & Robinson, J. A. (2015). Democracy, redistribution, and inequality. In *Handbook of income distribution* (Vol. 2, pp. 1885-1966). Elsevier.
- Acheampong, A. O., Dzator, J., Abunyewah, M., Erdiaw-Kwasie, M. O., & Opoku, E. E. O. (2023). Sub-Saharan Africa's tragedy: Resource curse, democracy and income inequality. *Social Indicators Research*, 168(1), 471-509.
- Acosta, N., Jaramillo Calderón, D., & Mejía, R. (2017). El efecto de la Gran Recesión sobre la oferta laboral en Ecuador. *Atlantic Review of Economics*, 1.
- Acosta, P., Calderon, C., Fajnzylber, P., & Lopez, H. (2008). What is the impact of international remittances on poverty and inequality in Latin America? *World Development*, 36(1), 89-114.
- Adams Jr, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries?. *World development*, 33(10), 1645-1669.
- Adams Jr, R. H., Cuecuecha, A., & Page, J. (2008). The impact of remittances on poverty and inequality in Ghana. *World Bank Policy Research Working Paper*, (4732).
- Adams, R. H., Jr. (1992). The effects of migration and remittances on inequality in rural Pakistan. *The Pakistan Development Review*, 31, 1189-1206.
- Adenutsi, D. E. (2011). *Do remittances alleviate poverty and income inequality in poor countries?* Empirical evidence from sub-Saharan Africa.
- Agwu, G. A., Yuni, D. N., & Anochiwa, L. (2018). Do remittances improve income inequality? An instrumental variable quantile analysis of the Senegalese case. *International Migration*, 56(1).

- Agyemang, E. (2015). *Economic growth, income inequality and poverty reduction: a regional comparative analysis*. University of Lethbridge (Canada).
- Ahmad, M. (2017). Economic freedom and income inequality: Does political regime matter?. *Economies*, 5(2), 18.
- Akcay, S. (2022). Remittances and income inequality in the Philippines. *Asian-Pacific Economic Literature*, 36(1), 30-47.
- Akobeng, E. (2016). Out of inequality and poverty: Evidence for the effectiveness of remittances in Sub-Saharan Africa. *The quarterly review of economics and finance*, 60, 207-223.
- Aleman, J., & Woods, D. (2018). A comparative analysis of inequality and redistribution in democracies. *International Studies Quarterly*, 62(1), 171-181
- Ali, I. M. A., Attiaoui, I., Khalfaoui, R., & Tiwari, A. K. (2022). The effect of urbanization and industrialization on income inequality: an analysis based on the method of moments quantile regression. *Social Indicators Research*, 161(1), 29-50.
- Al-Majali, A. A. (2023). The Effect of Democracy and Income Inequality (Gini Index). *Jordanian Journal of Law & Political Science*, 15(4).
- Anwar, A., Mang, C. F., & Plaza, S. (2024). Remittances and inequality: A meta-analytic investigation. *The World Economy*.
- Anyanwu, J. C. (2011). International remittances and income inequality in Africa. *Review of Economic and Business Studies (REBS)*, (7), 117-148.
- Anyanwu, J. C., Erhijakpor, A. E., & Obi, E. (2016). Empirical analysis of the key drivers of income inequality in West Africa. *African Development Review*, 28(1), 18-38.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies*, 58(2), 277-297.
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of econometrics*, 68(1), 29-51.
- Aslan, G. (2017). The Effects of Income Inequality and Redistribution in Democracies: A Dynamic Panel Data Approach. *Dynamic Econometric Models*, 17, 19-39.
- Atkinson, A. B. (2016). Inequality: What can be done. *Practice*, 40(2), 289-292.

- Azizi, S. (2021). The impacts of workers' remittances on poverty and inequality in developing countries. *Empirical Economics*, 60(2), 969-991.
- Bahamonde, H., & Trasberg, M. (2021). Inclusive institutions, unequal outcomes: Democracy, state capacity, and income inequality. *European Journal of Political Economy*, 70, 102048.
- Balcázar, C. F. (2016). Long-run effects of democracy on income inequality in Latin America. *The Journal of Economic Inequality*, 14, 289-307.
- Baltagi, B. H. (2008). Forecasting with panel data. *Journal of forecasting*, 27(2), 153-173.
- Barham, B., & Boucher, S. (1998). Migration, remittances, and inequality: estimating the net effects of migration on income distribution. *Journal of development economics*, 55(2), 307-331.
- Bastia, T., & Skeldon, R. (2022). International and internal migration. In *The Routledge Handbook of Global Development* (pp. 533-544). Routledge.
- Bastiaens, I., & Tirone, D. C. (2019). Remittances and varieties of democratization in developing countries. *Democratization*, 26(7), 1132-1153.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2009). Financial institutions and markets across countries and over time. *Policy research working paper*, 4943, 4-46.
- Berger, Y. G., & Patilea, V. (2022). A semi-parametric empirical likelihood approach for conditional estimating equations under endogenous selection. *Econometrics and Statistics*, 24, 151-163.
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics*, 87(1), 115-143.
- Bollen, K. A., & Jackman, R. W. (1985). Political democracy and the size distribution of income. *American Sociological Review*, 438-457.
- Bond, S. R., Hoeffler, A., & Temple, J. R. (2001). GMM estimation of empirical growth models. *Available at SSRN 290522*.
- Borja, K. (2012a). What drives remittances to Latin America? A review of the literature. *International Journal of Business and Social Science*, 3(17), 33-44.
- Borja, K., & Hall, J. D. (2018). Remittances, institutions, and inequality in developing countries. *Journal of Economic Studies*, 45(1), 2-19.
- Borjas, G. J. (1989). Immigrant and emigrant earnings: A longitudinal study. *Economic inquiry*, 27(1), 21-37.

- Bundy, C. (2020). Poverty and inequality in South Africa: A history. In *Oxford Research Encyclopedia of African History*.
- Busygina, I., & Filippov, M. (2023). *Non-Democratic Federalism and Decentralization in Post-Soviet States*. Taylor & Francis.
- Cepulis, A. (2011). *Development Through Migration And Remittances: The Impact on Inequality* (Doctoral dissertation, Central European University).
- Chancel, L., Piketty, T., Saez, E., & Zucman, G. (Eds.). (2022). *World inequality report 2022*. Harvard University Press.
- Chong, A., & Calderon, C. (2000). Institutional quality and income distribution. *Economic Development and Cultural Change*, 48(4), 761-786.
- Chong, A., Gradstein, M., & Calderon, C. (2009). Can foreign aid reduce income inequality and poverty?. *Public choice*, 140, 59-84.
- Choutagunta, A., & Gutmann, J. (2024). Democracy and economic freedom. In *Handbook of Research on Economic Freedom* (pp. 133-143). Edward Elgar Publishing.
- Chowdhury, S. (2021). India: Liberal Economic Development, Inequality, and Imperialism. In *The Palgrave Encyclopedia of Imperialism and Anti-Imperialism* (pp. 1293-1307). Cham: Springer International Publishing.
- Chudik, A., & Pesaran, M. H. (2013). Econometric analysis of high dimensional VARs featuring a dominant unit. *Econometric Reviews*, 32(5-6), 592-649.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- De Haas, H. (2007). Remittances, migration and social development. *A conceptual review of the literature*, 1-46.
- De Hoyos, R. E., & Sarafidis, V. (2006). Testing for cross-sectional dependence in panel-data models. *The stata journal*, 6(4), 482-496.
- Dorsch, M. T., & Maarek, P. (2019). Democratization and the conditional dynamics of income distribution. *American Political Science Review*, 113(2), 385-404.
- Dossou, T. A. M. (2023). Income inequality in Africa: Exploring the interaction between urbanization and governance quality. *Social Indicators Research*, 167(1), 421-450.
- Dos, S. T. (1970). The structure of dependence. *American economic review*, 60(2), 231.

- Douglass, C. (1991). Douglass C. North. *The Journal of Economic Perspectives*, 5(1), 97-112.
- Driscoll, J. C., & Kraay, A. C. (1998). Consistent covariance matrix estimation with spatially dependent panel data. *Review of economics and statistics*, 80(4), 549-560.
- Duquette-Rury, L. (2016). Migrant transnational participation: how citizen inclusion and government engagement matter for local democratic development in Mexico. *American Sociological Review*, 81(4), 771-799.
- Ebeke, C. H., & Le Goff, M. (2011). Why Migrants' Remittances Reduce Income Inequality in some Countries and not in Others?.
- Eberhardt, M., & Teal, F. (2011). Econometrics for grumblers: a new look at the literature on cross-country growth empirics. *Journal of economic Surveys*, 25(1), 109-155.
- Elorabi, K., Ishak, S., Nor, N. M., & Ibrahim, S. (2023). Do Migrant Remittances Decline Income Gap in the MENA Region?. *International Journal of Academic Reserach in Economics and Management Sciences*, 12(4).
- Elorabi, K., Ishak, S., Alhasnawi, M. Y., Somod Dapo, O., & Maher, M. (2025). Relationship between international remittances, political stability and income inequality: evidence from MENA countries. *Journal of Economic and Administrative Sciences*.
- Ferreira, I. A., Salvucci, V., & Tarp, F. (2023). Poverty, inequality, and growth: trends, policies, and controversies. In *Handbook of Labor, Human Resources and Population Economics* (pp. 1-45). Cham: Springer International Publishing.
- Freedom House. (2023). *Freedom House World Report 2023*. Retrieved from <https://freedomhouse.org/report/freedom-world/2023>
- Frank, A. G. (1967). *Capitalism and Underdevelopment in Latin America*. Monthly Review Press
- George, S., Rao, V., & Sharan, M. R. (2024). Two Hundred and Fifty-Thousand Democracies. *Development Research*.
- Giuliano, P., & Ruiz-Arranz, M. (2009). Remittances, financial development, and growth. *Journal of development economics*, 90(1), 144-152.
- Gustafsson, B., & Makonnen, N. (1994). The importance of remittances for the level and distribution of economic well-being in lesotho. *Journal of international Development*, 6(4), 373-397.

- Gravetter, F. J., Forzano, L. A. B., & Rakow, T. (2009). *Research methods for the behavioral sciences* (p. 656). Belmont, CA: Wadsworth Cengage Learning.
- Han, Y., & Kim, M. H. (2023). Income inequality and polity—an empirical analysis of political Kuznets curve. *Journal of Economic Studies*, 50(8), 1730-1747.
- Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. *Econometrica: Journal of the econometric society*, 1029-1054.
- Harris, J. R., & Todaro, M. P. (1970). Migration, unemployment and development: a two-sector analysis. *The American economic review*, 60(1), 126-142.
- Hartwell, C. A., Horvath, R., Horvathova, E., & Popova, O. (2019). Democratic institutions, natural resources, and income inequality. *Comparative Economic Studies*, 61, 531-550.
- Heinzen, L., & Schreyer, S. (2020). How Do Personal Remittances Affect Income Inequality?. *SACAD: John Heinrichs Scholarly and Creative Activity Days*, 2020(2020), 32.
- Hsiao, Cheng. *Analysis of panel data*. Cambridge university press, 2022.
- Igbatayo, S. (2022). Income Inequality in Emerging Market Economies: A Multi-Country Study of Brazil, India and South Africa. *Journal of Pharmaceutical Negative Results*, 183-204
- International Monetary Fund. (2023). *Global remittances: Trends and impacts*. Retrieved from <https://www.imf.org/en/Publications>
- International Organization for Migration. (2023). *World migration report 2024*. International Organization for Migration. Retrieved from <https://worldmigrationreport.iom//about>.
- Islam, M. N. (2016). Does democracy reduce income inequality?. *Empirical Economics*, 51, 1299-1318.
- Islam, M. R., & Lee, K. K. (2023). Do Foreign Remittances Promote Democracy? A Dynamic Panel Study of Developing Countries. *Hitotsubashi Journal of Economics*, 64(1), 59-85.
- Islam, M. S., & Azad, A. K. (2023). The impact of personal remittance and RMG export income on income inequality in Bangladesh: evidence from an ARDL approach. *Review of Economics and Political Science*, 9(2), 134-150.
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage publications.

- Keho, Y. (2017). Effect of remittances on household consumption in African and Asian countries: A quantile regression approach. *Economics Bulletin*, 37(3), 1753-1767.
- Kemp-Benedict, E. (2011). Political regimes and income inequality. *Economics Letters*, 113(3), 266-268.
- Khan, M. A. (2024). The impact of migrant remittances on economic development: empirical evidence from the developing world. *Journal of Social and Economic Development*, 1-29.
- Kharel, A. B. (2019). Facets of Democracy: An Overview. *Molung Educational Frontier*, 9, 15-29.
- Knight, J. B., & Sabot, R. H. (1983). Educational expansion and the Kuznets effect. *The American Economic Review*, 73(5), 1132-1136.
- Knutsen, C. H. (2015). Reinvestigating the reciprocal relationship between democracy and income inequality. *Review of Economics and Institutions*, 6(2), 37.
- Koczan, Z., & Loyola, F. (2021). How do migration and remittances affect inequality? A case study of Mexico. *Journal of International Development*, 33(2), 360-381.
- Koechlin, V., & Leon, G. (2007). International remittances and income inequality: An empirical investigation. *Journal of Economic Policy Reform*, 10(2), 123-141.
- Kousar, R., Rais, S. I., Mansoor, A., Zaman, K., Shah, S. T. H., & Ejaz, S. (2019). The impact of foreign remittances and financial development on poverty and income inequality in Pakistan: Evidence from ARDL-bounds testing approach. *The Journal of Asian Finance, Economics and Business*, 6(1), 71-81.
- Kpodar, K., & Imam, P. A. (2024). How do transaction costs influence remittances?. *World Development*, 177, 106537.
- Kraha, A., Turner, H., Nimon, K., Zientek, L. R., & Henson, R. K. (2012). Tools to support interpreting multiple regression in the face of multicollinearity. *Frontiers in psychology*, 3, 44.
- Kratou, H., & Khlass, N. (2023). Does the cost of remitting matter? Evidence from low-income countries on the effect of remittances on income distribution. *Development Studies Research*, 10(1), 2241641.
- Kunz, R., Maisenbacher, J., & Paudel, L. N. (2022). Remittances, development and financialisation beyond the Global North. *Environment and Planning A: Economy and Space*, 54(4), 693-701.

- LANKOANDE, L. S. (2023). Effects of remittances on income inequality in Sub-Saharan Africa. *Reseachsquare.com*.
- Lee, E. S. (1966). A theory of migration. *Demography*, 3, 47-57.
- Li, Q., Chen, W., Zhang, S., & Shi, H. (2023). Achieving sustainable development by reducing income inequality: The differential impact of industrial land expansion in urban agglomerations. *Sustainable Development*, 31(4), 2770-2783.
- Lipset, S. M. (1959). Some social requisites of democracy: Economic development and political legitimacy¹. *American political science review*, 53(1), 69-105.
- Lu, Y. (2013). Household migration, remittances and their impact on health in Indonesia 1. *International Migration*, 51, e202-e215.
- Mahmood, S., & Noor, Z. M. (2014). Human Capital and Income Inequality in Developing Countries: New Evidence using the Gini Coefficient. *Journal of Entrepreneurship & Business*, 2(1).
- Marshall, A. (1890). Principles of economics Macmillan. London (8th ed. Published in 1920), 3.
- Marx, K., & Engels, F. (1848). THE COMMUNIST MANIFESTO. *Selected Works bu Karl Marx and Frederick Engels Neu York: International Publishers*, 1363.
- Massey, D. S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., & Taylor, J. E. (1993). Theories of international migration: A review and appraisal. *Population and development review*, 431-466.
- Mehmood, B., Aleem, M., & Rafaqat, M. (2017). Steel Augmented Production Function: Robust Analysis for European Union. *Statistika: Statistics & Economy Journal*, 97(1).
- Mendola, M. (2012). Rural out-migration and economic development at origin: A review of the evidence. *Journal of International Development*, 24(1), 102-122.
- Michael, Dorsch., Paul, Maarek. (2019). Democratization and the Conditional Dynamics of Income Distribution. *American Political Science Review*, 113(2):385-404.
- Miguel Niño-Zarazúa, Francesca Scaturro, Vanesa Jordá, Finn Tarp. (2023). Income Inequality and Redistribution in Sub-Saharan Africa, *Journal of African Economies*, Volume 32.
- Milanovic, B. (2024). The three eras of global inequality, 1820–2020 with the focus on the past thirty years. *World Development*, 177, 106516.

- Mill, J. S. (1863). *Utilitarianism*. London: Parker, Son, and Bourn. *West Strand*.
- Mili, H., & Tarchoun, M. (2025). The Impact of Remittances and Financial Development on Income Inequality: Evidence from Low-and Middle-Income Economies Using a Dynamic Panel Threshold. *Journal of Ecohumanism*, 4(1), 1751-1764.
- Mishra, P. (2005). *Macroeconomic impact of remittances in the Caribbean*. IMF Working Paper.
- Mohammed, U. (2022). Remittances, institutions and human development in Sub-Saharan Africa. *Journal of Economics and Development*, 24(2), 142-157.
- Monsutti, A. (2019). Remittances. In *Oxford Research Encyclopedia of Anthropology*.
- Muftuoglu, Y. (2007). Autocracy vs. Democracy. *New Perspectives Quarterly*, 24(3), 12-15.
- Nae, T. M., Florescu, M. S., & Bălăsoiu, G. I. (2024). Towards social justice: Investigating the role of labor, globalization, and governance in reducing socio-economic inequality within post-communist countries. *Sustainability*, 16(6), 2234.
- Ncube, G., & Gomez, G. (2011). *Local economic development and migrant remittances in rural Zimbabwe*. ISS Working Paper Series/General Series, 523, 1-26.
- Nel, P., & Nel, P. (2008). *Democratization to the Rescue?*. The Politics of Economic Inequality in Developing Countries, 95-116.
- Nikoloski, Z. (2015). Democracy and income inequality: revisiting the long and short-term relationship. *Review of Economics and Institutions*, 6(2), 1-24.
- Norris, P. (2012). *Making democratic governance work: How regimes shape prosperity, welfare, and peace*. Cambridge University Press.
- North, D. C. (1991). *Institutions, institutional change and economic performance* (Vol. 332). Cambridge university press.
- Nozick, R. (1974). *Anarchy, state, and utopia*. New York, NY: Basic Books.
- Oduola, M., Bello, M. O., & Popoola, R. (2022). Foreign direct investment, institution and industrialisation in Sub-Saharan Africa. *Economic Change and Restructuring*, 1-30.
- Odusanya, I. A., & Akinlo, A. E. (2021). *Income inequality and population health in sub-Saharan Africa: A test of income inequality-health hypothesis*. SSRN

- Ofori, I. K. (2021). *Towards building shared prosperity in Sub-Saharan Africa: How does the effect of economic integration compare to social equity policies?* SSRN. 3879961.
- Ofori, I. K., & Asongu, S. A. (2021). ICT diffusion, foreign direct investment and inclusive growth in sub-Saharan Africa. *Telematics and Informatics*, 65, 101718.
- Ofori, I. K., Dossou, T. A. M., & Akadiri, S. S. (2023). Towards the quest to reduce income inequality in Africa: is there a synergy between tourism development and governance?. *Current Issues in Tourism*, 26(3), 429-449.
- Ofori, I. K., Gbolonyo, E. Y., Dossou, T. A. M., & Nkrumah, R. K. (2022). Remittances and income inequality in Africa: Financial development thresholds for economic policy. *Research in Globalization*, 4, 100084.
- Ongo Nkoa, B. E., & Song, J. S. (2022). Does institutional quality increase inequalities in Africa?. *Journal of the Knowledge Economy*, 13(3), 1896-1927.
- Pal, S., Villanthenkodath, M. A., Patel, G., & Mahalik, M. K. (2022). The impact of remittance inflows on economic growth, unemployment and income inequality: An international evidence. *International Journal of Economic Policy Studies*, 16(1), 211-235.
- Palma, J. G. (2011). Homogeneous middles vs. heterogeneous tails, and the end of the 'inverted-U': It's all about the share of the rich. *development and Change*, 42(1), 87-153.
- Pandey, P., & Pandey, M. M. (2021). *Research methodology tools and techniques*. Bridge Center.
- Pernia, E. M. (2008). *Migration remittances, poverty and inequality: The Philippines* (No. 2008, 01). UPSE Discussion Paper.
- Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal of applied econometrics*, 22(2), 265-312.
- Pesaran, M. H. (2004). General diagnostic tests for cross section dependence in panels. Cambridge Working Papers. *Economics*, 1240(1), 1.
- Piketty, T. (2014). Capital in the twenty-first century. *Trans Arthur Goldhammer/Belknap*.
- Portes, L. S. V. (2009). Remittances, poverty and inequality. *Journal of Economic Development*, 34(1), 127.

- Prebisch, R. (1962). *The economic development of Latin America and its principal problems*. New York, NY: United Nations.
- R., C., Sweeting. (2022). Impact of Remittances on Income Inequality: *Empirical Evidence from Emerging Economies*. 287-297.
- Ratha, D. (2013). The impact of remittances on economic growth and poverty reduction. *Policy Brief*, 8(1), 1-13.
- Ratha, D., Plaza, S., Ju Kim, E., Chandra, V., Kurasha, N., & Pradhan, B. (2023). Remittances remain resilient but are slowing. *Migration and Development Brief*, 38.
- Ravanilla, N. M., & de Pano Robleza, E. J. (2005). The contribution of OFW remittances to income inequality: a decomposition analysis. *Philippine Review of Economics (Online ISSN 2984-8156)*, 42(2).
- Ravenstein, E. G. (1885). The laws of migration. *Journal of the Statistical Society of London*, 48(2), 167–235.
- Rawls, J. (1971). *A Theory of Justice*. Cambridge (Mass.): Harvard University Press. *Rawls A Theory of Justice*.
- Regidor, E., Calle, M. E., Navarro, P., & Domínguez, V. (2003). Trends in the association between average income, poverty and income inequality and life expectancy in Spain. *Social science & medicine*, 56(5), 961-971.
- Reuveny, R., & Li, Q. (2003). Economic openness, democracy, and income inequality: An empirical analysis. *Comparative Political Studies*, 36(5), 575-601.
- Roberts, A. (2009). *The quality of democracy in Eastern Europe: public preferences and policy reforms*. Cambridge University Press.
- Roberts, M. R., & Whited, T. M. (2013). Endogeneity in empirical corporate finance¹. In *Handbook of the Economics of Finance* (Vol. 2, pp. 493-572). Elsevier.
- Rodríguez-Pose, A., & Tselios, V. (2010). Inequalities in income and education and regional economic growth in western Europe. *The annals of regional science*, 44, 349-375.
- Rodrik, D., & Wacziarg, R. (2005). Do democratic transitions produce bad economic outcomes?. *American Economic Review*, 95(2), 50-55.
- Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *The stata journal*, 9(1), 86-136.

- Rostow, W. W. (1990). *The stages of economic growth: A non-communist manifesto*. Cambridge university press.
- Sahoo, M., & Sethi, N. (2020). Does remittance inflow promote human development in sub-Saharan Africa? An empirical insight. *Global Economy Journal*, 20(04), 1-23.
- Sahu, A. K., & Mahalik, M. K. (2024). What drives more for macroeconomic instability-carbon inequality or income inequality? Panel evidence from emerging economies. *Environment, Development and Sustainability*, 1-24.
- Sarafidis, V., & Wansbeek, T. (2012). Cross-sectional dependence in panel data analysis. *Econometric Reviews*, 31(5), 483-531.
- Seo, H. J., Lee, Y. S., & Kim, H. S. (2022). Why the Equalizing Effects of Democracy Do Not Work. *Korea and the World Economy*, 23(3), 137-165.
- Sharma, B., & Abekah, J. (2017). Foreign direct investment, foreign aid and incomes inequality: Empirical insights from African and South American countries. *Transnational Corporations Review*, 9(1), 1-7.
- Shen, I. L., Docquier, F., & Rapoport, H. (2010). Remittances and inequality: a dynamic migration model. *The Journal of economic inequality*, 8, 197-220.
- Song, Y., Paramati, S. R., Ummalla, M., Zakari, A., & Kummitha, H. R. (2021). The effect of remittances and FDI inflows on income distribution in developing economies. *Economic Analysis and Policy*, 72, 255-267.
- Stark, O., & Bloom, D. E. (1985). The new economics of labor migration. *The American Economic review*, 75(2), 173-178.
- Stark, O., Taylor, J. E., & Yitzhaki, S. (1988). Migration, remittances and inequality: A sensitivity analysis using the extended Gini index. *Journal of Development Economics*, 28(3), 309-322.
- Stark, O., Taylor, J., & Yitzhaki, S. (1986). Remittances and inequality. *Economic Journal*, 96(383), 722-40.
- Stiglitz, J. E. (2012). The price of inequality: How today's divided society endangers our future.
- Susanti, E., & Bariyah, N. (2023). DEMOCRACY AND POVERTY IN INDONESIA. In *Prosiding Seminar Nasional Seminar Akademik Tahunan Ilmu Ekonomi dan Studi Pembangunan* (Vol. 6, p. 111).

- Tansel, A. (2002). Determinants of school attainment of boys and girls in Turkey: individual, household and community factors. *Economics of education review*, 21(5), 455-470.
- Tavares, J., & Wacziarg, R. (2001). How democracy affects growth. *European economic review*, 45(8), 1341-1378.
- Taylor, J. E. (1992). Remittances and inequality reconsidered: direct, indirect and intertemporal effects. *Journal of Policy Modelling*, 14(2), 187-208.
- Taylor, J. E., & Wyatt, T. J. (1996). The shadow value of migrant remittances, income and inequality in a household-farm economy. *The Journal of Development Studies*, 32(6), 899- 912.
- Taylor, J. E., Mora, J., Adams, R., & Lopez-Feldman, A. (2008). Remittances, inequality and poverty: Evidence from rural Mexico. *Migration and development within and across borders: Research and policy perspectives on internal and international migration*, 101-130.
- Tansel, A. (2002). Determinants of school attainment of boys and girls in Turkey: individual, household and community factors. *Economics of education review*, 21(5), 455-470.
- Todaro, M. P. (1969). A model of labor migration and urban unemployment in less developed countries. *The American economic review*, 59(1), 138-148.
- Trinugroho, I., Achsanta, A. F., Pamungkas, P., Saputro, N., & Yuniarti, S. (2023). Democracy, economic growth, and income inequality: Evidence from province level data. *Cogent Economics & Finance*, 11(1), 2220244.
- Tung, L. T., & Thang, P. N. (2022, March). Impact of remittances on income inequality: empirical evidence from emerging economies. In *International Conference on Business Excellence* (pp. 287-297).
- Uche, E., Das, N., Cifuentes-Faura, J., & Osabohien, R. (2025). Globalization, Remittances, and Income Inequality: A Novel Multivariate Quantile-on-Quantile Regression (M-QQR) Perspective for Top Receiving Countries. *Journal of the Knowledge Economy*, 1-29.
- Ullah, S., Akhtar, P., & Zaefarian, G. (2018). Dealing with endogeneity bias: The generalized method of moments (GMM) for panel data. *Industrial Marketing Management*, 71, 69-78.
- Usman, A. L. H. A. S. S. A. N. (2023). *An Assessment of the Conditional Impact of Remittances on Formal Entrepreneurship, Poverty, and Income Inequality in Developing Countries*.

- Vacaflares, D. E. (2018). Are remittances helping lower poverty and inequality levels in Latin America?. *The Quarterly Review of Economics and Finance*, 68, 254-265.
- van der Hoeven, R. (2017). Can the SDGs stem rising income inequality in the world?. *In Sustainable Development Goals and income inequality* (pp. 192-218). Edward Elgar Publishing.
- Veblen, T. (2017). *The theory of the leisure class*. Routledge.
- Verbeek, M. (2017). *A guide to modern econometrics*. John Wiley & Sons.
- Vomberg, A., & Wies, S. (2021). Panel data analysis: a non-technical introduction for marketing researchers. *In Handbook of Market Research* (pp. 411-467). Cham: Springer International Publishing.
- von Ehrlich, M., & Seidel, T. (2015). Regional implications of financial market development: Industry location and income inequality. *European economic review*, 73, 85-102.
- Walras, L. (1954). *Elements of Pure Economics: Or, the Theory of Social Wealth*. Translated by William Jaffe. Published for the American Economic Association and the Royal Economic Society.
- Walras, L. (2013). *Elements of pure economics*. Routledge.
- Williams, K. (2017). Do remittances improve political institutions? Evidence from Sub-Saharan Africa. *Economic Modelling*, 61, 65-75.
- Wong, M. Y. (2022). Democracy, belief in democratic redistribution, and income inequality. *European Political Science*, 1-20.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.
- World Bank. (2020). *Towards safer and more productive migration for South Asia*. World Bank.
- World Inequality Lab. (2022). *World Inequality Report 2022*. Retrieved from <https://wir2022.wid.world>.
- Xu, C., Han, M., Amegnonna, T., Dossou, M., & Bekun, F. V. (2021). Trade openness, FDI, and income inequality: Evidence from sub-Saharan Africa. *African Development Review*, 33(1), 193-203.

- Zhang, F. (2022). *Foreign direct investment, democracy, and income inequality in Latin America and the Caribbean from 1991 to 2017* (Doctoral dissertation, The Claremont Graduate University).
- Zhang, S., Bani, Y., Izah Selamat, A., & Abdul Ghani, J. (2023). Exploring the effect of industrial agglomeration on income inequality in China. *Plos one*, 18(6), e0287910.
- Ziblatt, D. (2008). Does landholding inequality block democratization?: A test of the “bread and democracy” thesis and the case of prussia. *World Politics*, 60(4), 610-64



APPENDICES**APPENDIX A****Matrix of correlation**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PALMA	1.000											
GINI	0.938	1.000										
THEIL	0.960	0.962	1.000									
ATKINSON	0.865	0.826	0.884	1.000								
REMITTANCE	0.176	0.149	0.159	0.254	1.000							
POLITICAL RIGHT	-0.096	-0.114	-0.108	-0.092	0.003	1.000						
CIVIL LIBERTY	-0.174	-0.205	-0.208	-0.214	-0.060	0.844	1.000					
POLITY IV	0.074	0.097	0.102	0.108	0.203	-0.223	-0.264	1.000				
LNINDUSTRIALIZATION	0.108	0.072	0.100	0.214	-0.095	-0.002	-0.013	-0.181	1.000			
LNEDUCATION	-0.024	0.015	0.020	0.039	0.114	-0.022	-0.051	0.430	0.037	1.000		
FDI	-0.086	-0.092	-0.090	-0.075	-0.003	-0.074	-0.027	0.057	-0.021	0.142	1.000	
LNGDPPC	0.048	0.047	0.066	0.106	-0.097	-0.117	-0.124	0.303	0.323	0.704	0.151	1.000

APPENDIX B

Two-Step System GMM results for the effect of Remittances and Democracy on income inequality in Sub-Saharan Africa (Dependent Variable: Gini Index)

Variable	(1)	(2)	(3)	(4)	(5)
L.Gini	1.057*** (0.040)	1.073*** (0.124)	1.057*** (0.041)	0.828*** (0.075)	1.090*** (0.014)
Lnindustrialization	0.010 (0.007)	0.0004 (0.027)	-0.001 (0.018)	0.006 (0.011)	-0.033*** (0.011)
Lneducation	0.035** (0.015)	0.034** (0.013)	0.015 (0.014)	-0.006 (0.008)	0.018* (0.010)
LnGDPppc	-0.013** (0.006)	-0.015** (0.006)	-0.015** (0.007)	0.002 (0.003)	0.0006 (0.003)
FDI	0.001** (0.0006)	-0.001 (0.0008)	0.0009 (0.0004)	0.0004* (0.0002)	-0.0002 (0.0004)
Remittance	-0.0008*** (0.0003)			0.008* (0.004)	0.003** (0.001)
Political Right		-0.005* (0.003)		0.007** (0.003)	
Civil Liberty			-0.008* (0.004)		-0.002 (0.002)
Rem_PR				-0.001** (0.0006)	
Rem_CL					-0.0007** (0.0003)
Constant	-0.107** (0.040)	-0.045 (0.087)	-0.807 (0.439)	0.040 (0.057)	0.855 (0.515)
AR (2)	0.643	0.258	0.315	0.247	0.219
Hansen J-OIR	0.446	0.765	0.899	0.808	0.315
Time Effect	-0.0003 (0.0006)	-0.0002 (0.0005)	0.0004 (0.002)	-0.0001 (0.0004)	-0.0004 (0.0002)
Instrument	32	31	26	31	27
Observation	665	770	770	770	770

*Model 1 captures the effect of remittance on income inequality, Model 2-3 captures the effect of democracy indices on income inequality, and Model 4-5 captures the moderation role of democracy on income inequality. L.Gini denote lag of Gini index, Rem_PR denotes, interactive of Remittance and political right, Rem_CL, denotes, interactive of Remittance and civil liberty. The significance levels 1%, 5% and 10% are denoted by ***, **, and * respectively. Robust standard errors are in parenthesis (), AR (2): Second Order Autocorrelation test, Hansen J-OIR: Hansen test of overidentification restrictions*

APPENDIX C

Two-Step System GMM results for the effect of Remittances and Democracy on income inequality in Sub-Saharan Africa (Dependent Variable: Theil Index)

Variable	(1)	(2)	(3)	(4)	(5)
L.Theil	1.042*** (0.042)	0.956*** (0.056)	0.949*** (0.064)	0.655*** (0.151)	0.875*** (0.044)
Lnindustrialization	0.017 (0.014)	0.049** (0.022)	0.049** (0.021)	0.009 (0.013)	0.052** (0.024)
Lneducation	0.073*** (0.022)	0.098*** (0.031)	0.099*** (0.033)	0.088*** (0.024)	0.138*** (0.027)
LnGDPppc	-0.027*** (0.008)	-0.046*** (0.016)	-0.047** (0.017)	-0.023** (0.011)	-0.060*** (0.012)
FDI	0.002* (0.001)	-0.0001 (0.0002)	0.0001 (0.0002)	0.0002 (0.0006)	-0.0001 (0.0002)
Remittance	-0.0015** (0.0006)			0.014*** (0.004)	0.011* (0.006)
Political Right		-0.0006 (0.0026)		0.014** (0.006)	
Civil Liberty			-0.001 (0.004)		-0.011** (0.005)
Rem_PR				-0.003*** (0.001)	
Rem_CL					-0.002 (0.001)
Constant	-0.107*** (0.045)	0.909 (1.067)	1.058 (1.094)	3.362 (1.572)	1.838 (1.179)
AR (2)	0.108	0.238	0.259	0.332	0.267
Hansen J-OIR	0.512	0.466	0.503	0.498	0.862
Time Effect	-0.001 (0.001)	-0.0005 (0.0005)	-0.0006 (0.0005)	-0.002 (0.007)	-0.0009 (0.0005)
Instrument	32	32	32	26	32
Observation	665	770	770	770	770

*Model 1 captures the effect of remittance on income inequality, Model 2-3 captures the effect of democracy indices on income inequality, and Model 4-5 captures the moderation role of democracy on income inequality. L.Theil denote lag of Theil index, Rem_PR denotes, interactive of Remittance and political right, Rem_CL, denotes, interactive of Remittance and civil liberty. The significance levels 1%, 5% and 10% are denoted by ***, **, and * respectively. Robust standard errors are in parenthesis (), AR (2): Second Order Autocorrelation test, Hansen J-OIR: Hansen test of overidentification restriction.*

APPENDIX D

Two-Step System GMM results for the effect of Remittances and Democracy on income inequality in Sub-Saharan Africa (Dependent Variable: Atkinson Index)

Variable	(1)	(2)	(3)	(4)	(5)
L.Atkinson	1.074*** (0.033)	0.957*** (0.071)	0.951*** (0.028)	0.954*** (0.037)	0.887*** (0.004)
Lnindustrialization	0.005 (0.006)	0.043** (0.018)	0.041*** (0.012)	0.041** (0.016)	0.033* (0.019)
Lneducation	0.025** (0.011)	0.059*** (0.019)	0.059*** (0.009)	0.081*** (0.014)	0.084*** (0.021)
LnGDPppc	-0.011** (0.004)	-0.031*** (0.010)	-0.031*** (0.005)	-0.037*** (0.008)	-0.035*** (0.010)
FDI	0.0009 (0.0007)	-0.001 (0.001)	9.55e-06 (0.0001)	0.0001 (0.0001)	-0.0001 (0.0002)
Remittance	-0.0005** (0.0002)			-0.003*** (0.001)	-0.007 (0.004)
Political Right		-0.0007 (0.0022)		-0.002 (0.002)	
Civil Liberty			-0.001 (0.001)		-0.007* (0.004)
Rem_PR				-0.0005 (0.0003)	
Rem_CL					-0.001 (0.001)
Constant	-0.093*** (0.029)	0.078 (0.712)	0.066 (0.432)	0.053 (0.663)	0.944 (0.805)
AR (2)	0.245	0.478	0.528	0.518	0.613
Hansen J-OIR	0.150	0.619	0.664	0.829	0.877
Time Effect	-0.0004 (0.0003)	-0.0001 (0.0003)	-0.0001 (0.0001)	-0.0001 (0.0005)	-0.001 (0.006)
Instrument	32	32	32	32	32
Observation	665	770	770	770	770

*Model 1 captures the effect of remittance on income inequality, Model 2-3 captures the effect of democracy indices on income inequality, and Model 4-5 captures the moderation role of democracy on income inequality. L.Atkinson denote lag of Atkinson, Rem_PR denotes, interactive of Remittance and political right, Rem_CL, denotes, interactive of Remittance and civil liberty. The significance levels 1%, 5% and 10% are denoted by ***, **, and * respectively. Robust standard errors are in parenthesis (), AR (2): Second Order Autocorrelation test, Hansen J-OIR: Hansen test of overidentification restrictions*

APPENDIX E**LIST OF THIRTY-FIVE (35) SUB SAHARA AFRICAN COUNTRIES USED IN THE STUDY**

No.	Country
1	Angola
2	Benin
3	Botswana
4	Burkina Faso
5	Burundi
6	Carbo Verde
7	Cameroon
8	Comoros
9	Democratic Republic of the Congo
10	Congo, Rep
11	Ethiopia
12	Gabon
13	Gambia
14	Ghana
15	Guinea
16	Guinea-Bissau
17	Kenya
18	Lesotho
19	Madagascar
20	Mali
21	Mauritania
22	Mauritius
23	Nambia
24	Niger
25	Rwanda
26	Sao Tome and Principe
27	Senegal
28	Seychelles
29	Sierra Leone
30	South Africa
31	Sudan
32	Tanzania
33	Togo
34	Uganda
35	Zambia